



CITY OF INDIANOLA BOARD OF ADJUSTMENT MEETING

June 4, 2025

6:00 PM

City Council Chambers

Agenda

- 1. Call to Order**
- 2. Roll Call**
- 3. Agenda Approval**
 - A. Approval of the June 4, 2025 meeting agenda.
- 4. Minutes Approval**
 - A. Approval of the February 19, 2025 meeting minutes.
- 5. New Business**
 - A. Consider Special Use Permit from Deven Sapkota to operate a liquor store in a C-2 district at 1709 North Jefferson Way.
 - B. Consider Variance Request from Pizza Ranch at 1709 North Jefferson Way from Section 165.10 to permit signage that exceeds the maximum allowable square footage.
 - C. Consider Variance Request from Joseph and Kristi Kerner at 1008 North 7th Court from Section to permit an addition that would not meet the required rear yard setbacks.
 - D. Consider Special Use Permit from Tower North Development, LLC for a wireless telecommunications facility in the C-2 district at 1801 West 2nd Avenue.
- 6. Comments**
- 7. Adjourn**



CITY OF INDIANOLA BOARD OF ADJUSTMENT MEETING

February 19, 2025

6:00 PM

City Council Chambers

Minutes

1. Call to Order

The meeting was called to order at 6:02 PM.

2. Roll Call

Members present: Amy Mitchell, Rene Soldwisch, and Lee Bash.

Members not present: Jane Whalen, Deidre Hoover.

Staff members present: Bill Mettee, Tara Bosteder, Wade Wagoner.

3. Agenda Approval

A. Approval of the February 19, 2025 agenda.

Soldwisch made a motion to approve the agenda.

Mitchell seconded the motion.

Motion was passed with a unanimous vote.

4. Minutes Approval

A. Approval of the January 8, 2025 meeting minutes.

Mitchell made a motion to approve the meeting minutes.

Soldwisch seconded the motion.

Motion was passed with a unanimous vote.

5. New Business

A. Consider Variance Request from Emily Nash at 116 South P Street from Section 165.05 to permit a covered deck that would not meet the front yard setback.

Mettee presented the request and related staff report.

There were no comments or questions.

Soldwisch made a motion to approve the request as submitted.

Mitchell seconded the motion.

Motion was passed by a unanimous vote.

B. Consider Variance Request from Reed Thacker at 1400 East Iowa Avenue from Section 165.05 to permit a subdivision where the existing structures would not meet the side yard setbacks.

Mettee presented the request and related staff report.

If this subdivision is approved, each parcel would have a side yard setback of five feet, where

20 feet is the requirement, thus creating the variance request.

Spacing requirements for access drives would need to be addressed if this were approved. An ingress/egress access agreement would cover this if a second access drive would not be permitted by the city.

If this subdivision is approved, and for some reason a building needs to be reconstructed in the same location, the variance to do so would come back before this board. A fire rating would be required on the secondary wall upon the rebuild. If the building is damaged by more than 50%, a rebuild would be needed and the new building would be subject to all current codes and ordinances. If damaged less than 50%, it could be rebuilt in the same footprint without being subject to current codes and ordinances.

Mitchell made a motion to approve the request as submitted.

Soldwisch seconded the motion.

Motion was passed by a unanimous vote.

- C. Consider Variance Request from Ryan Gross at 515 North I Street from Section 165.05 to permit construction of a new dwelling that would not meet the front or rear yard setbacks.

Mettee presented the request and related staff report.

Adequate space for vehicles in the driveway portion of the plans was discussed as a potential drawback of the proposed plans. This lot is an older lot and the sidewalk sits further back on the property. The 15 foot setback doesn't start until the sidewalk as shown in the presented picture; therefore, allowing the adequate space needed for vehicles in the driveway. The garage planned also allows for adequate space for parking inside of the garage for the vehicles that will generally be parked at this property. In addition, with the way the front slopes away, it's not ideal to push the structure any further north, and with the nonconforming garage that sits on the property line to the west, it's not ideal to push the structure any further west in effort to create extra space for a fire barrier.

Mr. Gross initially bought this property as a remodel, but over the course of three years, it's become clear that the condition of the home warrants a complete rebuild. He stated that he has worked with a builder as well as a realtor to come up with the most economical plan while minimizing as much loss as possible.

There were no further comments or questions.

Soldwisch made a motion to approve the request as submitted.

Mitchell seconded the motion.

Motion was passed by a unanimous vote.

- D. Consider Variance Request from Ralph and Sonja Blackman at 400 East Clinton Avenue to allow a garage addition that will exceed maximum lot coverage and square footage for accessory structures.

Mettee presented the request and related staff report.

Mr. Blackman presented his case, stating that where he lives is not surrounded by residential

properties. There is Aubert's Towing to the north, Warren Co. Oil has a storage tank to the north, a police/fire building, and the Ace Hardware parking lot. He added that his lot is a double wide lot. He continued that his property sees a lot of foot traffic come through and with that comes vandalism. He said in the proposed building, he would like to put his 1976 truck, a golf cart he uses to get around the city, and his riding lawnmower. By being able to keep these items inside, it would protect them from the weather as well as preventing any potential vandalism.

The addition to the building will match the existing building exactly.

Mr. Blackman also added that his lot was sloped in such a way that you would not be able to see the addition from the street very well.

With this lot being a double-size lot and really close to a commercial area, the addition would not interfere with a residential atmosphere.

The open space requirement is still being met, it's just the accessory structure coverage that is requiring the variance request.

There were no further comments or questions.

Mitchell made a motion to approve the request as submitted.

Soldwisch seconded the motion.

Motion was passed by a unanimous vote.

- E. Consider Special Use Permit from Emerald Bay, LLC for temporary concrete batch plant in PUD district.

Mettee presented the request and related staff report.

Jesse Rognes of Synergy Contracting addressed the board. He wanted to bring this forward to the board as they've never done this in Indianola before. This permit, if approved, with help with production and saves wear and tear on the city streets. He said they wanted to be forthright with what they're doing and they will pull it out as soon as they're done. He shared that the build schedule is a 90-day timeline, and they plan to begin mid-March. He added that there is another upcoming project to this area as well that this plant will potentially feed.

If approved, the timeframe for the permit was requested for two years. However, if needed, the permit could be revisited with the board after a period of one year. Typically a special use permit, when approved, is for the life of the property or project.

If the plant needs to move sites, or if more projects come forward that extend the need for the plant to remain, then this permit will be brought back before this board for approval.

There were no further comments or questions.

Soldwisch made a motion to approve the request as submitted.

Mitchell seconded the motion.
Motion was passed by a unanimous vote.

6. Comments

Mettee notified the board that Amy Mitchell has given notice that she would not be renewing her term on this board, and he thanked her for her service. Mitchell's term on the board ends June 30, 2025.

7. Adjourn

Mitchell made a motion to adjourn the meeting.
Soldwisch seconded the motion.
The meeting was adjourned at 6:49 PM.



STAFF REPORT

TO: Board of Adjustment	PREPARED BY: Bill Mettee, Senior Planner
RE: 1709 North Jefferson Way	DATE: June 4, 2025

GENERAL INFORMATION:

Applicant / Owner: Deven Sapkoda (Applicant) | Indianola RE, LLC (Owner)

Requested Action(s) Special Use Permit in accordance with §165.02(3)(B)(3) of the Indianola Municipal Code. The applicant is seeking a Special Use Permit to operate a retail liquor store in the C-2 district.

Location and Size: Addressed as 1709 North Jefferson Way, property which is located west of North Jefferson Way and south of Hillcrest Avenue

Land Uses and Zoning:

Location	Existing Land Use	Comprehensive Plan	Current Zoning
Property in Question	Commercial	Regional Mixed-Use	C-2
North	Car Wash	Regional Mixed-Use	C-2
South	Hotel	Regional Mixed-Use	C-2
East	Commercial	Regional Mixed-Use	C-2 & M-1
West	Single-Family Residential	Low-Density Residential	R-1

ANALYSIS:

Deven Sapkoda, the applicant, has submitted the attached Board of Adjustment application form dated May 16, 2025, requesting the special use permit. Notice of the proposed special use permit request was mailed to surrounding property owners within a 200-foot radius on Wednesday May 21, 2025. At the time this report was written, staff has not received any correspondence for or against the request.

The current multi-tenant building has approximately ten spaces for commercial and retail uses. The applicant wishes to operate a retail liquor store in Suite 300. No site improvements or exterior modifications are proposed. Interior tenant finishes are not part of this application. The proposed use is not expected to generate overwhelming traffic and the site was designed to accommodate parking for a variety of commercial uses.

The proposed use is consistent with the zoning ordinance and comprehensive plan.



ABOVE: The **RED** line shows the location of the proposed property line.

FINDINGS:

1. The proposed use, site improvements and site plan comply with the minimum requirements of the zoning district in which it is proposed to be located.

Staff Response: The proposed use as a retail liquor store is consistent with the zoning ordinance and comprehensive plan. The site has adequate parking to serve the use.

2. The property is of adequate size to accommodate the proposed use and site improvements including setbacks, open space, stormwater management and off-street parking.

Staff Response: The multi-tenant building has adequate space for multiple retail businesses and was constructed as such.

3. The proposed use and site improvements will not unduly impact the health, safety and general welfare of persons residing or working in adjoining properties or surrounding areas.

Staff Response: No site improvements are proposed. Liquor stores are a commercial operation and will be operated in a commercial district.

4. The proposed use and site improvements shall not unduly increase traffic congestion.

Staff Response: The proposed use will not increase traffic congestion.

5. The proposed use and site improvements will not unduly burden public utilities or increase risk to flooding.

Staff Response: No site improvements are proposed.

6. The proposed use and site improvements are compatible with the surrounding neighborhood and shall not diminish or impair established property values in adjoining or surrounding properties.

Staff Response: Liquor stores are permitted with a special use permit in the C-2 district.

7. The issuance of the Special Use Permit will not endanger, jeopardize or harm the health, safety or welfare of the properties and the community.

Staff Response: The multi-tenant building has multiple commercial uses. The liquor store will not have on-site consumption. Adverse effects would be non-existent.

General findings of fact:

- The applicant is requesting to operate a retail liquor store at 1709 North Jefferson Way.
- The subject property is zoned C-2. Liquor stores are permitted with an SUP in the C-2 district.
- Staff sees no adverse effects in allowing a retail liquor store in this location.
- No exterior site improvements are proposed, except signage.
- The site was developed with adequate parking to allow for a mix of commercial uses.

Staff Recommendation

Staff recommends **approval** of the special use permit request as presented.

CITY OF INDIANOLA

Bill Mettee
Senior Planner

Attachments

- I. Completed Board of Adjustment Application – Dated 05/16/2025
- II. Public Notice sent by City – 05/21/2025

BOARD OF ADJUSTMENT APPLICATION

Community Development

110 North 1st Street, Indianola, Iowa 50125-0299
 (515) 961-9430 • comdev@indianolaiowa.gov



PROPERTY OWNER

(Last Name) _____
 (First Name) _____
 (Address) _____
 (City) _____ (State) _____ (Zip) _____
 (Phone) _____ (Email) _____

APPLICANT (if not Property Owner)

(Last Name) Sapkota
 (First Name) Deven
 (Address) 2460 Gaylov road
 (City) Des Moines (State) Ia (Zip) 50313
 (Phone) 5157712593 (Email) dandm5220@gmail.com

APPEAL

Submittal Requirements:
 All submittal requirements must be completed.
 Incomplete applications will not be considered

Completed Application
 Filing Fee: \$300 per request
 Written narrative indicating where it is alleged there is error in any order, requirement, decision, or determination made by the Administrative Officer in the enforcement of this Code of Ordinances of Indianola, Iowa.
 Other Information as required by Director

SPECIAL USE PERMIT

Submittal Requirements:
 All submittal requirements must be completed.
 Incomplete applications will not be considered

Property Address: 1709 N Jefferson way
Suite 300 INDIANOLA 50125
 Completed Application
 Filing Fee: \$300 per request
 Site Plan and Elevations as outlined in 165.06
 Written narrative indicating the special use permit sought and response to the criteria outlined in Section 165.02(3)(B)(3)(c)(v) of the Code of Ordinances of Indianola, Iowa
 Other Information as required by Director

VARIANCE

Submittal Requirements:
 All submittal requirements must be completed.
 Incomplete applications will not be considered

Property Address: _____
 Completed Application
 Filing Fee: \$300 per request
 Site Plan and Elevations
 Written narrative indicating justification for proposed variance and response to the criteria outlined in Section 165.02(3)(B)(3)(b) of the Code of Ordinances of Indianola, Iowa
 Other Information as required by Director

I certify that the information and exhibits submitted are true and correct to the best of my knowledge and that in filing this application I am acting with the knowledge, consent and authority of the owner(s) of the property. Pursuant to said authority, I hereby permit City officials to enter upon the property for the purpose of inspection related to this application.

Signature [Signature]
 Name (printed) Deven Sapkota

Date 05/15/2025

FOR OFFICE USE ONLY: Code to 45180

Date Received: 5/16/25
 Receipt No: _____
 Receipt Amount: 300
 BOA Agenda Date: June 4, 2025



NOTICE OF PUBLIC HEARING

May 21, 2025

Re: Proposed Special Use Permit – 1709 North Jefferson Way

Dear Property Owner:

The City of Indianola has received a special use permit application from Deven Sapkota, proposed tenant of 1709 North Jefferson Way, Suite 300, which is located west of North Jefferson Way and south of Hillcrest Avenue. The applicant has filed for a special use permit in accordance with §165.02(C) of the Indianola Zoning Code. The applicant requests to operate a retail liquor store in the multi-tenant building. Liquor stores are a Special Use in the C-2 district.

The Indianola Board of Adjustment will hold a public hearing at 6:00 p.m., Wednesday, June 4, 2025, at Indianola City Hall, City Council Chambers, 110 North 1st Street, Indianola, IA.

§165.02 of the Indianola Municipal Code states that the Board of Adjustments has the power to “review and consider approval of a Special Use Permit” for a Special Use as identified in the Permitted and Special Uses Table contained in Chapter 165.05 of the Zoning Regulations.”

All interested parties are invited to attend the public hearing and express their opinions pro or con. Any written comments received on or before this date by the City Zoning Administrator will be considered to be part of the hearing as well. If you have any questions concerning the application or if you would like additional information, please call the Community Development Department at 515-962-9430.

Sincerely,

Bill Mettee
Senior Planner





ABOVE: Subject property (outlined in **RED**). Proposed location of the Temporary Concrete Batch Plant in **GREEN**.



STAFF REPORT

TO: Board of Adjustment	PREPARED BY: Bill Mettee, Senior Planner
RE: 1709 North Jefferson Way	DATE: June 4, 2025

GENERAL INFORMATION:

Applicant / Owner: Pizza Ranch

Requested Action(s) Variance from §165.10 of the Indianola Municipal Code which states that “Building signs may be located on any side of a building so long as the total sign area does not exceed the total allowed for the building.” The applicant wishes to install wall signage exceeding the 100-square foot maximum allowable size. The proposed sign is 142.1 square feet.

Location and Size: Addressed as 1709 North Jefferson Way, property which is located west of North Jefferson Way and south of Hillcrest Avenue, containing 3.34 acres.

Land Uses and Zoning:

Location	Existing Land Use	Comprehensive Plan	Current Zoning
Property in Question	Multi-Tenant Commercial	Regional Mixed-Use	C-2
North	Commercial	Regional Mixed-Use	C-2
South	Hotel	Regional Mixed-Use	C-2
East	Commercial	Regional Mixed-Use	M-1 and C-2
West	Single Family Residential	Low-Density Residential	R-1

BACKGROUND:

Pizza Ranch has been in Indianola since 2014 and has made multiple improvements to the property. In 2017, they acquired an adjacent tenant space to expand the restaurant with an arcade. In 2022, they acquired an additional tenant space to expand the dining room. In 2022, Pizza Ranch purchased the entire property, replaced the roof and parking lot, updated landscaping and in process of updating the façade to the Pizza Ranch space. With the additional acquisitions, the total tenant frontage for Pizza Ranch is approximately 90-feet.

As part of the façade update, Pizza Ranch will be updating the wall signage for the space. The applicant is proposing two wall signs on the front façade and one sign on the side façade. The total of the three signs is 204.5 square feet. Two signs are 31.2 square feet, and the primary sign is 142.1 square feet. The sign ordinance states that building signs may be located on any side of a building so long as the total sign area does not exceed the total allowed for the building. The sign calculation is 1.5 square feet of signage allowed per linear foot of tenant frontage for a maximum sign area of 100-square feet. If there wasn’t a maximum allowable square footage, Pizza Ranch would be permitted approximately 135-square feet of signage.

Additionally, the code dictates that properties which exceed 200-feet of street frontage and are setback 250-feet or more are permitted up to 200-square feet of signage. While Pizza Ranch doesn't meet these criteria, here are some measurements to consider:

- a. 167-feet; distance from building to property line.
- b. 218-feet; distance from building to center line of southbound lanes of Highway 65/69.
- c. 270-feet; distance from building to center line of northbound lanes of Highway 65/69

CODE SECTIONS RELATED TO THE REQUESTED VARIANCE:

§165.10 Sign Regulations. "Building signs may be located on any side of a building so long as the total sign area does not exceed the total allowed for the building. 1.5 sq. ft./lin. ft. of the wall of a principal building facing a public street, for a maximum sign area of 100 Square Feet. For properties which exceed 200 feet in street frontage and is setback from the front property line over 250 feet, the maximum sign area shall be 200 square feet."



ABOVE: Site plan of the property showing the requested sign variance.

ANALYSIS:

Variances are designed to grant relief from the Ordinance, which if strictly imposed would deny a property owner reasonable use of the land and would therefore create undo hardship. An applicant is required to prove that a hardship exists by demonstrating that the overall integrity of the area will not be diminished, a reasonable use cannot be made, the situation is unique, and the hardship is not self-imposed. Pizza Ranch, the property owner, has submitted the attached Board of Adjustment application form dated May 19, 2025, stating arguments in favor of the requested variance. Notice of the proposed variance request was mailed to surrounding property owners

within a 200-foot radius on Wednesday May 21, 2025. At the time this report was written, staff has not received any correspondence for or against the request.

Hardship

In order to prove that a hardship exists and is not self-imposed, the applicants must prove that a literal interpretation of the provisions of the Ordinance deprive the applicants' rights commonly enjoyed by other properties in the same district. The applicant has noted that other retail spaces, such as Wal-Mart, are afforded extra signage space. If there were no maximum allotment, the applicant would be permitted about 135 square feet of signage. The measurements indicated above provide defense of this variance application.

Uniqueness

In order to prove that the requested variance is unique to the property, the applicants must indicate proof of special conditions and circumstances that exist which are peculiar to the land, structure, or building involved and which are not applicable to other lands, structures or buildings. The applicant has noted that they are performing façade improvements including replacing signage. The applicant has continuously expanded operations to adjacent tenant spaces and a larger sign helps to indicate the size of the restaurant operation.

Public Interest and Integrity

The applicant has noted that the granting of the variance will not be contrary to the public interest or overall neighborhood integrity.

Staff Recommendation

Staff recommends **approval** of the variance request as presented.

General findings of fact:

- The applicant wishes to install three wall signs – two on the front façade and one of the north façade. The two smaller signs are 31.2 square feet and the larger sign is 142.1 square feet.
- If the two smaller signs removed “Pizza Ranch” and only had “Fun Zone” they would not be included in these calculations.
- 142.1 square feet is over the maximum allowable square footage by 42.1 square feet.
- The building is set back from the property line approximately 167 feet.
- More or less, Pizza Ranch is the anchor tenant for this multi-tenant facility.

If there is information related to the application that has not been included with the packet that you feel would be beneficial to have available to you at the meeting, please contact me with those items and I will attempt to arrange for their availability.

CITY OF INDIANOLA

Bill Mettee
Senior Planner

Attachments

- I. Completed Board of Adjustment Application – Dated 05/19/2025
- II. Public Notice sent by City – 05/21/2025

BOARD OF ADJUSTMENT APPLICATION

Community Development

110 North 1st Street, Indianola, Iowa 50125-0299
 (515) 961-9430 • comdev@indianolaiowa.gov



PROPERTY OWNER

(Last Name) _____
 (First Name) _____
 (Address) _____
 (City) _____ (State) _____ (Zip) _____
 (Phone) _____ (Email) _____

APPLICANT (if not Property Owner)

(Last Name) _____
 (First Name) _____
 (Address) _____
 (City) _____ (State) _____ (Zip) _____
 (Phone) _____ (Email) _____

APPEAL

Submittal Requirements:

*All submittal requirements must be completed.
 Incomplete applications will not be considered*

- Completed Application
- Filing Fee: \$300 per request
- Written narrative indicating where it is alleged there is error in any order, requirement, decision, or determination made by the Administrative Officer in the enforcement of this Code of Ordinances of Indianola, Iowa .
- Other Information as required by Director

SPECIAL USE PERMIT

Submittal Requirements:

*All submittal requirements must be completed.
 Incomplete applications will not be considered*

- Property Address:

- Completed Application
- Filing Fee: \$300 per request
- Site Plan and Elevations as outlined in 165.06
- Written narrative indicating the special use permit sought and response to the criteria outlined in Section 165.02(3)(B)(3)(c)(v) of the Code of Ordinances of Indianola, Iowa
- Other Information as required by Director

VARIANCE

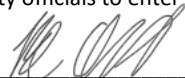
Submittal Requirements:

*All submittal requirements must be completed.
 Incomplete applications will not be considered*

- Property Address:

- Completed Application
- Filing Fee: \$300 per request
- Site Plan and Elevations
- Written narrative indicating justification for proposed variance and response to the criteria outlined in Section 165.02(3)(B)(3)(b) of the Code of Ordinances of Indianola, Iowa
- Other Information as required by Director

I certify that the information and exhibits submitted are true and correct to the best of my knowledge and that in filing this application I am acting with the knowledge, consent and authority of the owner(s) of the property. Pursuant to said authority, I hereby permit City officials to enter upon the property for the purpose of inspection related to this application.

Signature 
 Name (printed) _____ Date _____

FOR OFFICE USE ONLY: Code to 45180

Date Received: _____
 Receipt No: _____
 Receipt Amount: _____
 BOA Agenda Date: _____

Indianola Community Development,

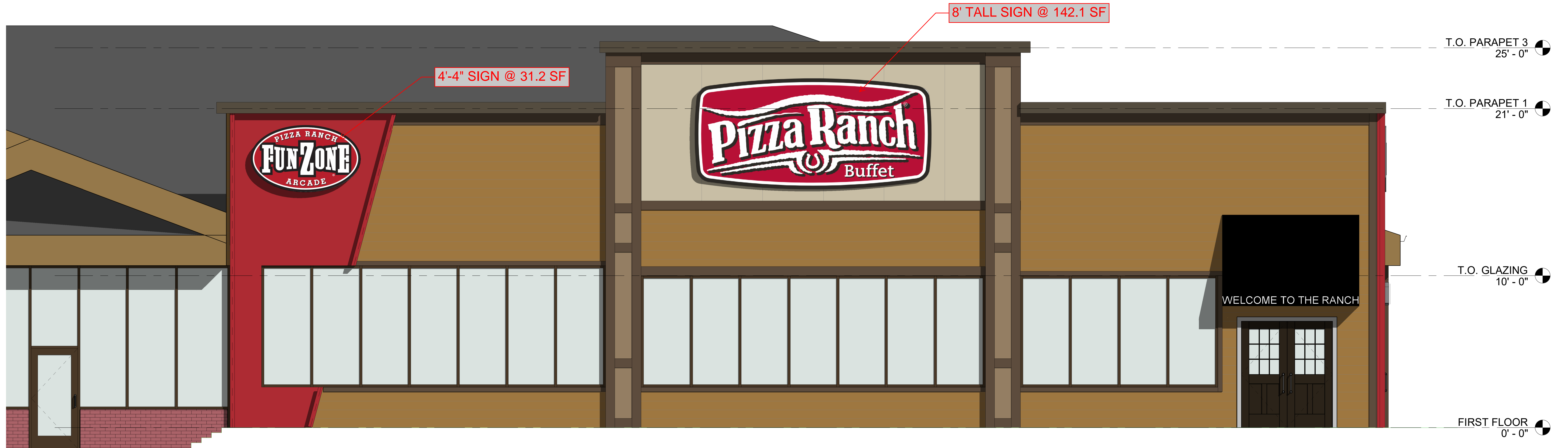
We are reaching out from the Pizza Ranch in Indianola. We are working with our corporate office to update the Indianola Pizza Ranch building front to better represent the Pizza Ranch Brand. Due to the design, we need an 8' tall Pizza Ranch sign, at 140 sf, to promote our brand the best and most effective way. We understand that the city has a 100 sf sign limit, but I would like to request a variance from city. Pizza Ranch is proud to be in Indianola and we are hoping the city will approve this as a way to help support our business in your community. To explain the need more below are a few bullet points.

- in many Pizza Ranch locations we are able to brand multiple sides of the building, but the building here only allows for one side.
- The way the building sits down off Jefferson Way, we feel that this location deserves our normal sign size, to go smaller will be a disservice to the business there.
- In 2017 Pizza Ranch took over an additional lease space next door to expand our business with a 1,400 square foot arcade. Then in 2022 Pizza Ranch took over another adjacent lease space of 700 square feet to expand our dining room. Between those two additions we have removed an entire suite and consolidated this into Pizza Ranch. As you will see based on the attached elevation drawings our store front with my much larger with this additional suite and we would like our sign to be proportionate to the size of the building.
- In 2022 we purchased the real estate from our landlord. We had owned the Pizza Ranch in Indianola since 2014 and we did not like the way the property was being managed or the shape it was in. Since purchasing the property we have replaced the roof and parking lot, refreshed the landscape, and repainted the exterior. We have now filled all lease spaces. Our ownership group owns the Pizza Ranch as well as the Jersey Mike's that we will be opening in July. We have loved being a part of the Indianola community and plan to continue investing in our property and businesses to better serve the community.

If you could please consider a variance on this project we would appreciate it.

Thank you for your consideration,

Brandi Baker, Tyler Sickles, Brad Cleveringa



T.O. PARAPET 3
25' - 0"

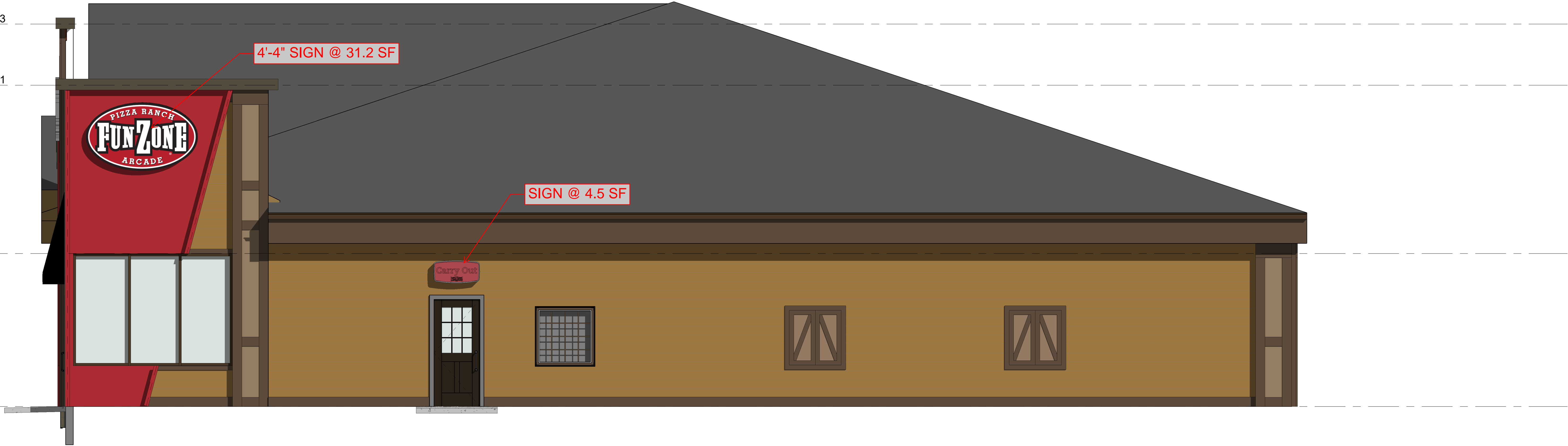
T.O. PARAPET 1
21' - 0"

T.O. GLAZING
10' - 0"

FIRST FLOOR
0' - 0"

4'-4" SIGN @ 31.2 SF

SIGN @ 4.5 SF





NOTICE OF PUBLIC HEARING

May 21, 2025

Re: Proposed Variance – 1709 North Jefferson Way

Dear Property Owner:

The City of Indianola has received a variance application from Pizza Ranch, property tenants of 1709 North Jefferson Way, Suite 1000, which is located west of North Jefferson Way and south of Hillcrest Avenue. The owner has filed for a variance from §165.10(8) of the Indianola Municipal Code which states that “Building signs may be located on any side of a building so long as the total sign area does not exceed the total allowed for the building.” The C-2 district allows 1.5 sq. ft. of signage for every linear foot of tenant frontage, up to 100-square feet. The applicant is requesting the variance to permit building signage that would exceed the 100-square feet maximum allowable area.

The Indianola Board of Adjustment will hold a public hearing at **6:00 p.m., Wednesday, June 4, 2025, at Indianola City Hall, City Council Chambers, 110 North 1st Street, Indianola, IA.**

§165.02 of the Indianola Municipal Code states that the Board of Adjustment has the power to “To grant a variance from the terms of the Zoning Ordinance when a property owner can show that the owner’s property was acquired in good faith and where by reason of exceptional narrowness, shallowness, or shape of a specific piece of property, or where by reason of exceptional topographical conditions or other extraordinary or exceptional situation, the strict application of the terms of the Zoning Ordinance actually prohibits the use of such property in a manner reasonably similar to that of other property in the same district, and where the Board is satisfied under the evidence before it that a literal enforcement of the provisions of the Zoning Ordinance would result in unnecessary hardship; provided, however, all variations granted under this clause shall be in harmony with the general purpose and intent of the Zoning Ordinance..” Such a variance cannot be granted unless it meets certain criteria.

All interested parties are invited to attend the public hearing and express their opinions pro or con. Any written comments received on or before this date by the City Zoning Administrator will be considered to be part of the hearing as well. If you have any questions concerning the application or if you would like additional information, please call the Community Development Department at 515-962-9430.

Sincerely,

Bill Mettee
Senior Planner



ABOVE: Subject property (outlined in **RED**).



STAFF REPORT

TO: Board of Adjustment	PREPARED BY: Bill Mettee, Senior Planner
RE: 1008 North 7 th Court	DATE: June 4, 2025

GENERAL INFORMATION:

Applicant / Owner: Joseph and Kristi Kerner

Requested Action(s) Variance from §165.04 of the Indianola Municipal Code which states that “Accessory buildings and structures within 10 feet from any principal structure must meet the setback standards required of the principal structure.” The applicant wishes to construct a three seasons room that extends into the required rear yard setback.

Location and Size: Addressed as 1008 North 7th Court, property legally described as Lot 16 of Treeline Plat 1, which is located south of East Kentucky Avenue and east of North Jefferson Way, containing 0.17 acres.

Land Uses and Zoning:

Location	Existing Land Use	Comprehensive Plan	Current Zoning
Property in Question	Single Family Residential	Low-Density Residential	R-2
North	Single Family Residential	Low-Density Residential	R-2
South	Single-Family Residential	Low-Density Residential	R-2
East	Vacant / Undeveloped	Low-Density Residential	R-2
West	Single Family Residential	Low-Density Residential	R-2

BACKGROUND:

The subject property is located on the east side of North 7th Court south of East Kentucky Avenue. The property is approximately 65’ x 125’ and 0.17-acres in area. The property has an existing single-family home built on it, as well as an attached garage. The applicant is requesting a variance to allow the construction of a 14’ x 14’ addition to the rear that will encroach into the required rear yard by approximately 14 feet. The rear yard setback requirement is 35 feet.

CODE SECTIONS RELATED TO THE REQUESTED VARIANCE:

§165.04 Accessory Buildings and Structures. “Accessory buildings and structures within 10 feet from any principal structure must meet the setback standards required of the principal structure.”



ABOVE: Site plan of the property showing the requested accessory structure variance. The **RED** square shows the location of the proposed covered porch.

ANALYSIS:

Variations are designed to grant relief from the Ordinance, which if strictly imposed would deny a property owner reasonable use of the land and would therefore create undo hardship. An applicant is required to prove that a hardship exists by demonstrating that the overall integrity of the area will not be diminished, a reasonable use cannot be made, the situation is unique, and the hardship is not self-imposed. Joseph and Kristi Kerner, the property owners, have submitted the attached Board of Adjustment application form dated May 19, 2025, stating arguments in favor of the requested variance. Notice of the proposed variance request was mailed to surrounding property owners within a 200-foot radius on Wednesday May 21, 2025. At the time this report was written, staff has not received any correspondence for or against the request.

Hardship

In order to prove that a hardship exists and is not self-imposed, the applicants must prove that a literal interpretation of the provisions of the Ordinance deprive the applicants' rights commonly enjoyed by other properties in the same district. The applicant has noted the desire to create additional living space to enjoy as a growing family. If uncovered, this would be allowed to extend 20 feet into the rear yard setback.

Uniqueness

In order to prove that the requested variance is unique to the property, the applicants must indicate proof of special conditions and circumstances that exist which are peculiar to the land, structure, or building involved and which are not applicable to other lands, structures or buildings. The applicant has noted a desire to increase living space for the family. The situation is not unique but not uncommon to desire more space for growing families.

Public Interest and Integrity

The applicant has noted that the granting of the variance will not be contrary to the public interest or overall neighborhood integrity. The property abuts a mostly vacant property and won't have any adverse effects.

Staff Recommendation

Staff recommends **approval** of the variance request as presented.

General findings of fact:

- The applicant wishes to construct a 14' x 14' three seasons room attached to the rear of the home.
- Attached and covered additions must meet the rear yard setbacks of the primary structure.
- The addition, once constructed, will extend approximately 14' into the required rear yard setback, a variance of 14 feet.
- The home was built in 2022 and currently meets all zoning requirements.

If there is information related to the application that has not been included with the packet that you feel would be beneficial to have available to you at the meeting, please contact me with those items and I will attempt to arrange for their availability.

CITY OF INDIANOLA

Bill Mettee
Senior Planner

Attachments

- I. Completed Board of Adjustment Application – Dated 05/19/2025
- II. Public Notice sent by City – 05/21/2025

BOARD OF ADJUSTMENT APPLICATION

Community Development

110 North 1st Street, Indianola, Iowa 50125-0299
 (515) 961-9430 • comdev@indianolaiowa.gov



PROPERTY OWNER

(Last Name) Kerner
 (First Name) Joseph
 (Address) 1008 N 7th Ct
 (City) Indianola (State) IA (Zip) 50125
 (Phone) 6412189530 (Email) Joseph.Kerner.1@gmail.com

APPLICANT (if not Property Owner)

(Last Name) _____
 (First Name) _____
 (Address) _____
 (City) _____ (State) _____ (Zip) _____
 (Phone) _____ (Email) _____

APPEAL

Submittal Requirements:

*All submittal requirements must be completed.
 Incomplete applications will not be considered*

- Completed Application
- Filing Fee: \$300 per request
- Written narrative indicating where it is alleged there is error in any order, requirement, decision, or determination made by the Administrative Officer in the enforcement of this Code of Ordinances of Indianola, Iowa .
- Other Information as required by Director

SPECIAL USE PERMIT

Submittal Requirements:

*All submittal requirements must be completed.
 Incomplete applications will not be considered*

- Property Address: _____
- Completed Application
- Filing Fee: \$300 per request
- Site Plan and Elevations as outlined in 165.06
- Written narrative indicating the special use permit sought and response to the criteria outlined in Section 165.02(3)(B)(3)(c)(v) of the Code of Ordinances of Indianola, Iowa
- Other Information as required by Director

VARIANCE

Submittal Requirements:

*All submittal requirements must be completed.
 Incomplete applications will not be considered*

- Property Address: 1008 N 7th Ct
- Completed Application
- Filing Fee: \$300 per request
- Site Plan and Elevations
- Written narrative indicating justification for proposed variance and response to the criteria outlined in Section 165.02(3)(B)(3)(b) of the Code of Ordinances of Indianola, Iowa
- Other Information as required by Director

I certify that the information and exhibits submitted are true and correct to the best of my knowledge and that in filing this application I am acting with the knowledge, consent and authority of the owner(s) of the property. Pursuant to said authority, I hereby permit City officials to enter upon the property for the purpose of inspection related to this application.

Signature _____
 Name (printed) Joseph Kerner

Date May 15, 2025

FOR OFFICE USE ONLY: Code to 45180

Date Received: May 19, 2025
 Receipt No: _____
 Receipt Amount: \$ 300
 BOA Agenda Date: June 4, 2025

Dear Board of Adjustment,

I am writing to respectfully request a variance of approximately 9 feet beyond the current building setback limit in my backyard. The purpose of this request is to create a small extension that will allow space for a table and chairs, providing a much-needed area for my growing family to gather, dine, and enjoy outdoor time together.

As our family continues to grow, it has become increasingly important to have a functional outdoor living space that supports quality time, especially in a safe, private environment. Unfortunately, the existing setback restrictions limit our ability to create such a space. The additional 9 feet would not significantly impact neighboring properties nor the character of the neighborhood, but it would greatly improve the livability of our home.

We are committed to maintaining the aesthetics of the property and ensuring that any additions are in harmony with the surrounding environment. We respectfully ask for your consideration in granting this variance so we can provide our family with a comfortable space to gather and grow.

Thank you for your time and consideration.

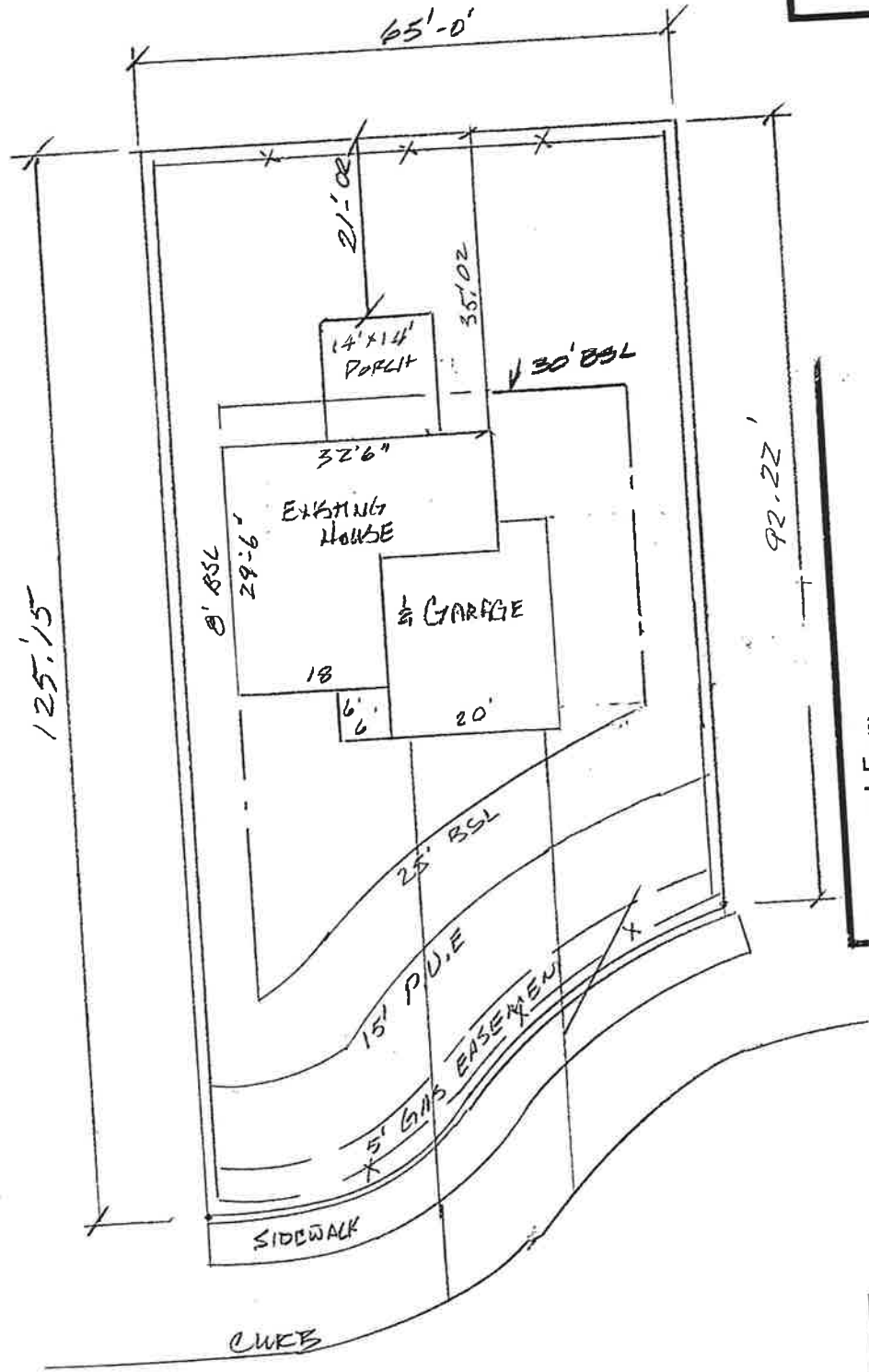
Sincerely,
Joseph Kerner
1008 N 7th Ct



Kristi
Kerner

Jordan
Kerner
8 y.o.

Riley
Kerner
2 y.o.



Fleishman Construction Inc.
 General Contractor and Construction Services
 150 Jefferson St, P.O. Box C
 Carlisle, IA 50047
 515-490-9651

Prepared For:
Kristi & Joe Kerner
 1008 N. 7th Court
 Indianola, IA 50125

SITE PLAN
 LOT 16, TREELINE PLAT 1
 1008 N. 7th COURT
 INDIANOLA, IOWA
 LOT SIZE: 7220 SQ. FT.

Project Number:
 Date: 2/12/2025
 Revisions:
 Drawing Title: Site Plan & Garage Level
 Drawing Number: 1



NOTICE OF PUBLIC HEARING

May 21, 2025

Re: Proposed Variance – 1008 North 7th Court

Dear Property Owner:

The City of Indianola has received a variance application from Joseph and Kristi Kerner, property owners of 1008 North 7th Court, which is located east of North Jefferson Way and south of East Kentucky Avenue. The owner has filed for a variance from §165.04(2)(D) of the Indianola Municipal Code which states that “Accessory buildings and structures within 10 feet from any principal structure must meet the setback standards required of the principal structure.” The applicant is requesting the variance to permit an addition to the rear of the home that would encroach 14-feet into the required 30-foot rear yard setback.

The Indianola Board of Adjustment will hold a public hearing at **6:00 p.m., Wednesday, June 4, 2025, at Indianola City Hall, City Council Chambers, 110 North 1st Street, Indianola, IA.**

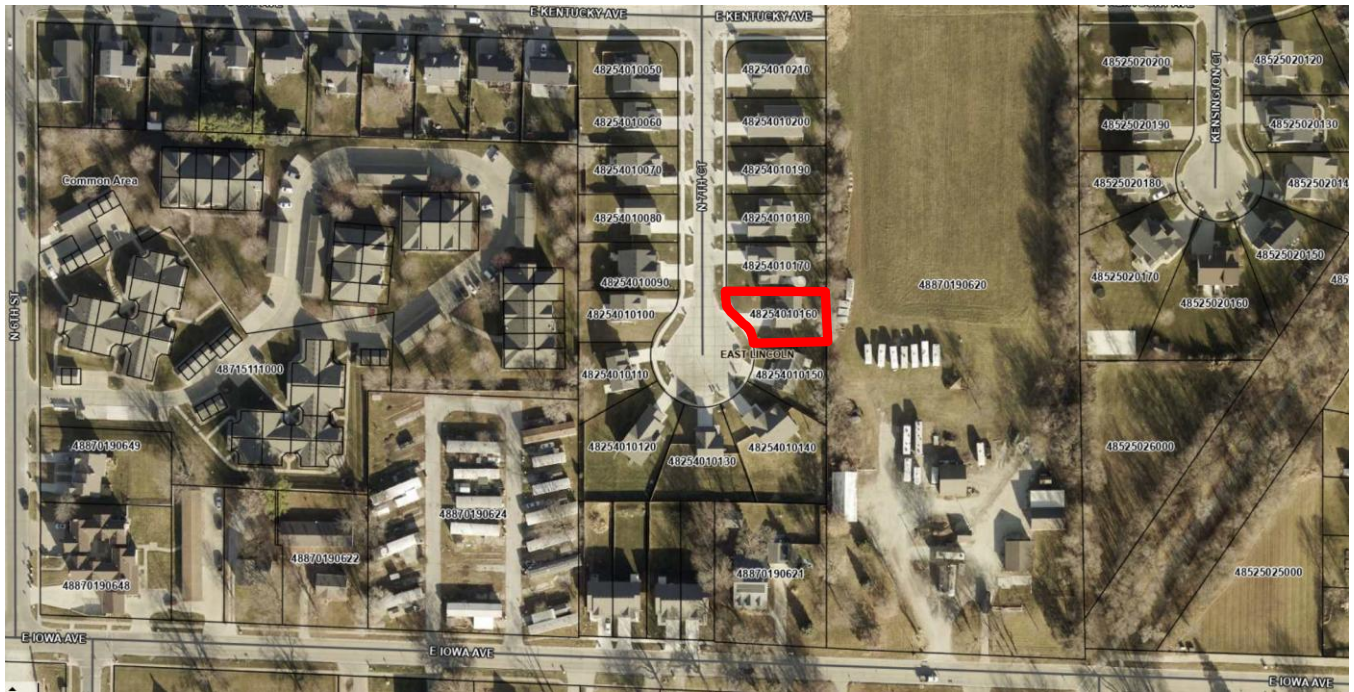
§165.02 of the Indianola Municipal Code states that the Board of Adjustment has the power to “To grant a variance from the terms of the Zoning Ordinance when a property owner can show that the owner’s property was acquired in good faith and where by reason of exceptional narrowness, shallowness, or shape of a specific piece of property, or where by reason of exceptional topographical conditions or other extraordinary or exceptional situation, the strict application of the terms of the Zoning Ordinance actually prohibits the use of such property in a manner reasonably similar to that of other property in the same district, and where the Board is satisfied under the evidence before it that a literal enforcement of the provisions of the Zoning Ordinance would result in unnecessary hardship; provided, however, all variations granted under this clause shall be in harmony with the general purpose and intent of the Zoning Ordinance..” Such a variance cannot be granted unless it meets certain criteria.

All interested parties are invited to attend the public hearing and express their opinions pro or con. Any written comments received on or before this date by the City Zoning Administrator will be considered to be part of the hearing as well. If you have any questions concerning the application or if you would like additional information, please call the Community Development Department at 515-962-9430.

Sincerely,

Bill Mettee
Senior Planner





ABOVE: Subject property (outlined in **RED**).



STAFF REPORT

TO: Board of Adjustment	PREPARED BY: Bill Mettee, Senior Planner
RE: 1801 West 2 nd Avenue	DATE: June 4, 2025

GENERAL INFORMATION:

Applicant / Owner: Tower North Development, LLC | West Roads Center, LLC

Requested Action(s) Special Use Permit in accordance with §165.02(3)(B)(3) of the Indianola Municipal Code. The applicant is seeking a Special Use Permit for a Wireless Telecommunications Facility.

Location and Size: Addressed as 1801 West 2nd Avenue, which is located south of West 2nd Avenue and west of South P Street, containing 6.35 acres.

Land Uses and Zoning:

Location	Existing Land Use	Comprehensive Plan	Current Zoning
Property in Question	West Roads Retail Plaza	Regional Mixed-Use	C-2
North	Automotive Sales and Restaurant	Regional Mixed-Use	C-2 | R-2
South	Vacant / Undeveloped	Low-Density Residential	R-1
East	Single and Multi-Family Residential	Low / Medium-Density Residential and Medium / High-Density Residential	R-1 & R-3
West	TruBank and Vacant / Undeveloped	Regional Mixed-Use	C-2

ANALYSIS:

Tower North Development, LLC, the applicant, has submitted the attached Board of Adjustment application form dated May 19, 2025, requesting the special use permit for a wireless telecommunications facility. Notice of the proposed special use permit request was mailed to surrounding property owners within a 200-foot radius on Wednesday May 21, 2025.

The City of Indianola does not have requirements regulating wireless telecommunication facilities except that they are a special use in all zoning districts. The applicant is showing a proposal for a 195’ tall monopole at the southwest corner of the site. In addition to the tower, the carrier will also install all necessary ancillary ground equipment within a shelter. The primary carrier at this time will be Verizon. The site plan shows lease space for three additional carriers, therefore, the monopole will have co-location abilities. The fence elevations are provided on Sheet 9 of the site plan. All necessary cautionary signage will be placed on site.

At the time this report was written, staff has received one phone call and email against the request. That email is included in the packet.



ABOVE: Site plan of the property showing the requested location of the wireless telecommunications facility. The **RED** box shows the location of the tower.

FINDINGS:

1. The proposed use, site improvements and site plan comply with the minimum requirements of the zoning district in which it is proposed to be located.

Staff Response: The facility will comply with all minimum requirements of the commercially zoned district, except for total height. Wireless towers are generally taller than buildings, unless flush-mounted to an existing structure. The front, side and rear setbacks will all be met with this facility. The proposed height is 195-feet.

The tower will have the following setbacks:

- a. North: 422'
- b. South: 39'
- c. West: 58'
- d. East: 539'

2. The property is of adequate size to accommodate the proposed use and site improvements including setbacks, open space, stormwater management and off-street parking.

Staff Response: The subject property is approximately 6.35 acres and is of adequate size to justify this location. The property is zoned C-2 and wireless facilities are a compatible use in this district. Wireless facilities are unmanned and are visited only for standard maintenance, repairs and upgrades. The existing driveway off of West 4th Avenue will serve to access the site. Stormwater management and open space requirements are not applicable.

The lease area will be 1,940 square feet and enclosed with a fence. Additional easements are shown for access and utilities.

3. The proposed use and site improvements will not unduly impact the health, safety and general welfare of persons residing or working in adjoining properties or surrounding areas.

Staff Response: The facility will operate within all local, state and federal requirements and will not have a detrimental impact to the health, safety or general welfare of those working or residing in adjacent or surrounding properties.

4. The proposed use and site improvements shall not unduly increase traffic congestion.

Staff Response: Once constructed, the facility is designed to operate autonomously and will only require periodic, routine maintenance which will not have an impact on traffic congestion.

5. The proposed use and site improvements will not unduly burden public utilities or increase risk to flooding.

Staff Response: The proposed facility will not be connected to public utilities outside of power and fiber, which will be metered and paid for independently. Stormwater management is incorporated into the facility design and will not increase the risk to flooding.

6. The proposed use and site improvements are compatible with the surrounding neighborhood and shall not diminish or impair established property values in adjoining or surrounding properties.

Staff Response: The proposed facility is compatible and relied on by the surrounding community and will not diminish or impair property values in the surrounding area.

7. The issuance of the Special Use Permit will not endanger, jeopardize or harm the health, safety or welfare of the properties and the community.

Staff Response: The facility will operate within all local, state and federal requirements and will not have a detrimental impact to the health, safety or general welfare of those working or residing in adjacent or surrounding properties.

General findings of fact:

- The applicant is requesting to install a 195' monopole and associated equipment for a wireless telecommunications facility.
- The tower will have the ability to co-locate.
- The City does not have regulations on wireless telecommunication facilities.
- Wireless telecommunication facilities are permitted in all zoning districts with a special use permit.
- Staff can make the findings that support all criteria required for approval of a special use permit.
- A building permit will be required from Community Development prior to any construction.
- Staff has asked the applicant for a structural analysis and propagation map to provide additional details on the tower and proposed location.

Staff Recommendation

Staff recommends **approval** of the special use permit request as presented.

CITY OF INDIANOLA

Bill Mettee

Senior Planner

Attachments

- I. Completed Board of Adjustment Application – Dated 05/19/2025
- II. Public Notice sent by City – 05/21/2025
- III. Tower Fall Zone Letter
- IV. Construction Documents
- V. Structural Analysis

TowerNorth is proposing to construct a telecommunications facility which includes a 195' monopole within a fenced compound behind the Westroads Shopping Center located at 3928 140th Street. Adequate cellular coverage has become an absolute necessity that the community relies on. From public safety and emergency services, work from home, school from home and a multitude of other uses, the community requires a strong cellular network. This demand on the network continues to grow exponentially and this proposed facility is necessary in order to provide the coverage and capacity that the residents have come to rely on and to ensure public safety as well as improve quality of life.

Special Use Permit Questions

1 - The proposed use, site improvements, and site plan comply with the minimum requirements of the zoning district in which it is proposed to be located;

This facility will comply with all minimum requirements of the commercially zoned district.

2 - The property is of adequate size to accommodate the proposed use and site improvements including setbacks, open space, stormwater management, and off-street parking;

The property is 6.35 acres and adequate in size to accommodate the proposed facility and will meet all required setbacks, open space, stormwater management, and off-street parking requirements.

3 - The proposed use and site improvements will not unduly impact the health, safety, and general welfare of persons residing or working in adjoining property or surrounding area;

This facility will operate within all local, state and federal requirements and will not have a detrimental impact to the health, safety or general welfare of those working or residing in adjacent or surrounding properties.

4 - The proposed use and site improvements shall not unduly increase traffic congestion;

Once constructed, the facility is designed to operate autonomously and will only require periodic, routine maintenance which will not have an impact on traffic congestion.

5 - The proposed use and site improvements will not unduly burden public utilities or increase risk to flooding;

The proposed facility will not be connected to public utilities outside of power and fiber which will be metered and paid for independently. Storm water management is incorporated into the facility design and will not increase the risk to flooding.

6 - The proposed use and site improvements are compatible with the surrounding neighborhood and shall not diminish or impair established property values in adjoining or surrounding property; and,

The proposed facility is compatible and relied on by the surrounding community and will not diminish or impair property values in the surround area.

7 - The issuance of the Special Use Permit will not endanger, jeopardize or harm the health, safety or welfare of the properties and the community.

This facility will operate within all local, state and federal requirements and will not endanger, jeopardize or harm the health, safety or welfare of the properties and the community.

SHEET INDEX

NO.:	SHEET TITLE
G-001	TITLE SHEET
G-002	GENERAL SPECIFICATIONS
G-003	GENERAL SPECIFICATIONS
TN C-101	SITE PLAN
TN C-102	ENLARGED SITE PLAN
TN C-103	COMPOUND PLAN
TN C-104	GRADING PLAN
TN C-501	CONSTRUCTION DETAILS
TN C-502	FENCE DETAILS
TN C-503	SITE SIGNAGE
TN C-504	GRADING DETAILS
TN A-101	EQUIPMENT PAD DETAILS
TN A-102	GENERATOR PAD DETAILS
TN T-201	TOWER ELEVATION
TN E-101	GROUNDING PLAN
TN E-102	UTILITY PLAN
TN E-103	ENLARGED UTILITY PLAN
TN E-501	GROUNDING DETAILS
TN E-502	UTILITY DETAILS
TN E-503	UTILITY RACK DETAILS
TN R-901	SITE PHOTOS
1-3	SURVEY *

TOWER OWNER CONSTRUCTION SECTION

C-101	SITE PLAN
C-102	ENLARGED SITE PLAN
C-103	COMPOUND PLAN
C-501	ICE BRIDGE AND GPS DETAILS
A-101	EQUIPMENT PAD LAYOUT
A-201	EQUIPMENT PAD ELEVATIONS
T-001	ANTENNA SPECIFICATIONS
T-002	EQUIPMENT SPECIFICATIONS
T-003	MOUNTING SPECIFICATIONS
T-201	TOWER ELEVATION
T-301	ANTENNA CONFIGURATION
T-501	ANTENNA AND EQUIPMENT SUMMARY
E-001	GENERATOR SPECIFICATIONS
E-002	GENERATOR SPECIFICATIONS
E-003	GENERATOR CANOPY DETAILS
E-101	GROUNDING PLAN
E-102	UTILITY PLAN
E-501	GROUNDING DETAILS
E-502	GROUNDING DETAILS
E-503	GROUNDING DETAILS
E-504	UTILITY DETAILS
E-505	ELECTRICAL DETAILS

VERIZON CONSTRUCTION SECTION

* COMPLETED BY OTHERS
 CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS/CONDITIONS ON SITE, IMMEDIATELY NOTIFY ENGINEER OF ANY DISCREPANCIES PRIOR TO PERFORMING ANY WORK OR BE RESPONSIBLE FOR THE SAME.



**DES WILDER (TN #: IA0178)
 DES WILDER (VzW #:15969075)
 INDIANOLA, IOWA
 CONSTRUCTION DRAWINGS
 195' MONOPOLE TOWER**

I HEREBY CERTIFY THAT THIS ENGINEERING DOCUMENT WAS PREPARED BY ME OR UNDER MY DIRECT PERSONAL SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF IOWA.

(SIGNATURE) _____ (DATE) _____

PRINTED OR TYPED NAME: _____

LICENSE NUMBER: _____

MY LICENSE RENEWAL DATE IS DECEMBER 31, _____

PAGES OR SHEETS COVERED BY THIS SEAL:
 ALL SHEETS LISTED IN THE SHEET INDEX EXCEPT SHEETS NOTED AS COMPLETED BY OTHERS

CONSULTANT:

 624 WATER STREET
 PRAIRIE DU SAC, WI 53578
 608.644.1449 VOICE
 608.644.1549 FAX
 www.edgeconsult.com

CLIENT:

ENGINEER SEAL:

I HEREBY CERTIFY THAT THIS PLAN SET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION OTHER THAN THE EXCEPTIONS NOTED IN THE SHEET INDEX, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF IOWA.

**TITLE SHEET
 DES WILDER (TN #: IA0178)
 DES WILDER (VzW #:15969075)
 INDIANOLA, IOWA**

INT.	DATE	DESCRIPTION:
CV	04/11/25	REV. A

CHECKED BY	PCM
PLOT DATE	4/11/2025
PROJECT NUMBER	42052
SET TYPE	DRAFT
SHEET NUMBER	G-001

SITE LOCATION MAP



DIRECTORY

TOWER OWNER:
 TOWNORTH DEVELOPMENT, LLC
 2400 ANSYS DRIVE, SUITE 102
 CANONSBURG, PA 15317
 CONTACT: LIZ RUTKOWSKI
 PHONE: 1-800-821-5825 x 2
 EMAIL: siteaccess@townorth.com
 SITE NAME: DES WILDER
 SITE NUMBER: IA0178

LESSEE:
 VERIZON WIRELESS
 10801 BUSH LAKE ROAD
 BLOOMINGTON, MN 55438
 CONTACT: JOSEPH ESPINOSA

ENGINEERING COMPANY:
 EDGE CONSULTING ENGINEERS, INC.
 624 WATER STREET
 PRAIRIE DU SAC, WI 53578
 PROJECT MANAGER: PAUL MOLITOR
 PHONE: 608.644.1449
 FAX: 608.644.1549

SURVEYOR:
 MERIDIAN SURVEYING, LLC
 N9637 FRIENDSHIP DRIVE
 KAUKAUNA, WI 54130
 CONTACT: CRAIG KEACH
 PHONE: 920.993.0881

SITE ACQUISITION:
 THE GRINNELL GROUP
 1515 LINDEN ST. SUITE 210
 DES MOINES, IA 50309
 CONTACT: ALEX TRUEMAN
 EMAIL: ALEX@TRUEMANSAC.COM

PROJECT INFO

SITE LOCATION:
 1801 W. 2ND AVE
 INDIANOLA, IA 50125

E911 ADDRESS: TBD

VERIZON PSLC #: 619479

VERIZON MDG LOCATION ID #: 5000068308

PROPERTY OWNER:
 WESTROADS CENTER LLC.
 3928 140TH STREET
 URBANDALE, IA 50323

SITE COORDINATES (PER SURVEY):
 AT TOWER BASE (CENTER OF LEASE PARCEL)
 LAT: 41°-21'-17.44"
 LONG: 93°-35'-07.30"
 GROUND ELEVATION (NAVD 88): 960.8'

PLSS INFORMATION:
 PART OF THE NW1/4 OF THE SE1/4,
 AND THE SW1/4 OF THE SE1/4,
 SECTION 26, T.76N., R.24W., 5TH P.M.,
 CITY OF INDIANOLA,
 WARREN COUNTY
 IOWA

TAX KEY NUMBER:
 4850000081

ZONED:
 X

UTILITY INFORMATION

ELECTRIC SERVICE PROVIDER
 INDIANOLA MUNICIPAL UTILITIES
 CONTACT: MIKE METCALF
 PHONE: 515.961.9444
 WORK ORDER #: N/A

FIBER SERVICE PROVIDER
 TBD
 CONTACT:
 PHONE:
 WORK ORDER #:



TO OBTAIN LOCATION OF PARTICIPANTS' UNDERGROUND FACILITIES BEFORE YOU DIG IN IOWA, CALL DIGGER'S HOTLINE

TOLL FREE: 1-800-292-8989
 FAX A LOCATE: 1-319-322-2400

IOWA STATUTE 480.4 (1993) REQUIRES MIN. OF 2 WORK DAYS NOTICE BEFORE YOU EXCAVATE

SCOPE OF WORK

PROJECT DESCRIPTION
 PROJECT TYPE: 195' MONOPOLE TOWER
 EQUIPMENT: 4'-0" x 8'-0" CONC. EQUIP. PAD WITH CABINETS
 GENERATOR: EXTERIOR DIESEL GENERATOR

RF DESCRIPTION (VERIFY WITH RFDS)
 PRO. ANTENNA C/L: 190' AGL
 ANTENNAS: (6) PRO. PANEL ANTENNA(S)
 (3) PRO. AIR6419 ANTENNA/RADIO(S)

CABLES: (2) PRO. HYBRID LINE(S)
EQUIPMENT: (1) PRO. SURGE PROTECTOR(S)
 (6) PRO. REMOTE RADIO UNIT(S)

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GENERAL

THE CONSTRUCTION DRAWINGS AND SPECIFICATIONS ARE INTERRELATED WHEN PERFORMING THE WORK. EACH CONTRACTOR MUST REFER TO ALL DRAWINGS. COORDINATION IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR.

DIVISION 1: GENERAL REQUIREMENTS

SECTION 01700 - PROJECT CLOSEOUT

PART 1 - GENERAL

1. OBTAIN AND SUBMIT RELEASES ENABLING THE OWNER UNRESTRICTED USE OF THE WORK AND ACCESS TO SERVICES AND UTILITIES. INCLUDE OCCUPANCY PERMITS, OPERATING CERTIFICATES, AND SIMILAR RELEASES.
2. SUBMIT RECORD DRAWINGS, DAMAGE, OR SETTLEMENT SURVEY, PROPERTY SURVEY, AND SIMILAR FINAL RECORD INFORMATION.
3. COMPLETE FINAL CLEAN-UP REQUIREMENTS, INCLUDING TOUCH-UP PAINTING. TOUCH-UP AND OTHERWISE REPAIR AND RESTORED MARRED EXPOSED FINISHES.

PART 2 - FINAL CLEANING/PROJECT CLOSEOUT

1. COMPLETE THE FOLLOWING OPERATIONS BEFORE REQUESTING INSPECTION FOR CERTIFICATE OF COMPLETION:
 - A. CLEAN THE PROJECT SITE, YARD AND GROUNDS IN AREAS DISTURBED BY CONSTRUCTION ACTIVITIES, INCLUDING LANDSCAPE DEVELOPMENT, AREAS OF RUBBISH, WASTE MATERIALS, LITTER AND FOREIGN SUBSTANCES. SWEEP PAVED AREAS BROOM CLEAN. REMOVE PETRO-CHEMICAL SPILLS, STAINS AND OTHER FOREIGN DEPOSITS. RAKE GROUNDS THAT ARE NEITHER PLANTED NOR PAVED TO A SMOOTH, EVEN-TEXTURED SURFACE.
 - B. REMOVE TOOLS, CONSTRUCTION EQUIPMENT, MACHINERY, AND SURPLUS MATERIAL FROM THE SITE.
 - C. REMOVE SNOW AND ICE TO PROVIDE SAFE ACCESS TO THE SITE AND EQUIPMENT BUILDING.
 - D. CLEAN EXPOSED EXTERIOR AND INTERIOR HARD-SURFACED FINISHES TO A DIRT-FREE CONDITION, FREE OF STAINS, FILMS AND SIMILAR FOREIGN SUBSTANCES. AVOID DISTURBING NATURAL WEATHERING OF EXTERIOR SURFACES.
 - E. REMOVE DEBRIS FROM LIMITED ACCESS SPACES, INCLUDING ROOFS, EQUIPMENT BUILDING, MANHOLES AND SIMILAR SPACES.
 - F. REMOVE LABELS THAT ARE NOT PERMANENT LABELS.
 - G. TOUCH-UP AND OTHERWISE REPAIR AND RESTORE MARRED EXPOSED FINISHES AND SURFACES. REPLACE FINISHES AND SURFACES THAT CAN NOT BE SATISFACTORILY BE REPAIRED OR RESTORED, OR THAT SHOW EVIDENCE OF REPAIR OR RESTORATION. DO NO PAINT OVER "UL" AND SIMILAR LABELS, INCLUDING ELECTRICAL NAME PLATES.
 - H. LEAVE THE PROJECT CLEAN AND READY FOR OCCUPANCY.
 - I. DUST OFF ALL EQUIPMENT, INCLUDING BATTERY PACKS, WITHIN EQUIPMENT BUILDING.
 - J. GENERAL CONTRACTOR TO CLEAN AND APPLY STATIC-FREE WAX TO THE FLOORS ONCE FINAL SHELTER EQUIPMENT AND ACCESSORIES ARE COMPLETED.
2. REMOVAL OF PROTECTION

REMOVE TEMPORARY PROTECTION AND FACILITIES INSTALLED DURING CONSTRUCTION TO PROTECT PREVIOUSLY COMPLETED INSTALLATIONS DURING THE REMAINDER OF THE CONSTRUCTION PERIOD.

DIVISION 2: SITE WORK

SECTION 02200 - EARTHWORK AND DRAINAGE

PART 1 - GENERAL

1. WORK INCLUDED - SEE SITE PLAN

2. DESCRIPTIONS

ACCESS DRIVE WITH TURN-AROUND AREA, LEASE AREA, AND, IF APPLICABLE, UNDERGROUND UTILITY EASEMENTS ARE TO BE CONSTRUCTED TO PROVIDE A WELL-DRAINED, EASILY MAINTAINED, EVEN SURFACE FOR MATERIAL AND EQUIPMENT DELIVERIES AND MAINTENANCE PERSONNEL ACCESS.

3. QUALITY ASSURANCE

- A. APPLY SOIL STERILIZER IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS (AS NEEDED).
- B. APPLY AND MAINTAIN GRASS SEED AS RECOMMENDED BY THE SEED PRODUCER (AS NEEDED).
- C. PLACE AND MAINTAIN VEGETATION LANDSCAPING, IF INCLUDED WITHIN THE CONTRACT, AS RECOMMENDED BY NURSERY INDUSTRY STANDARDS.

4. SEQUENCING

- A. CONFIRM SURVEY STAKES AND SET ELEVATIONS STAKES PRIOR TO ANY CONSTRUCTION.
- B. COMPLETELY GRUB THE ACCESS DRIVE WITH TURN-AROUND, UNDERGROUND UTILITY EASEMENTS (IF APPLICABLE), AND LEASE AREA PRIOR TO FOUNDATION CONSTRUCTION, PLACEMENT OF BACKFILL AND SUB-BASE MATERIAL.
- C. CONSTRUCT TEMPORARY CONSTRUCTION AREA ALONG ACCESS DRIVE.
- D. BRING THE LEASE AREA AND ACCESS DRIVE WITH TURN-AROUND TO BASE COURSE ELEVATION PRIOR TO INSTALLING FOUNDATION.
- E. APPLY SOIL STERILIZER PRIOR TO PLACING BASE MATERIALS SUCH THAT THE STERILIZER ONLY COMES IN CONTACT WITH PROPOSED GRAVEL SURFACES
- F. GRADE, SEED, FERTILIZE, AND MULCH ALL AREAS DISTURBED BY CONSTRUCTION (INCLUDING UNDERGROUND UTILITY EASEMENTS) IMMEDIATELY AFTER BRINGING LEASE AND ACCESS DRIVE WITH TURN-AROUND TO BASE COURSE ELEVATION. WATER TO ENSURE GROWTH.
- G. REMOVE GRAVEL FROM TEMPORARY CONSTRUCTION ZONE TO AN AUTHORIZED AREA OR AS DIRECTED BY THE PROJECT MANAGER.
- H. AFTER APPLICATIONS OF FINAL SURFACES, APPLY SOIL STERILIZER TO STONE SURFACES.

5. SUBMITTALS

- A. BEFORE CONSTRUCTION
IF LANDSCAPING IS APPLICABLE TO THE CONTRACT, SUBMIT TWO (2) COPIES OF THE LANDSCAPE PLAN UNDER NURSERY LETTERHEAD. IF LANDSCAPE ALLOWANCE WAS INCLUDED IN THE CONTRACT, PROVIDE AN ITEMIZED LISTING OF PROPOSED COSTS ON NURSERY LETTERHEAD. REFER TO PLANS FOR LANDSCAPING REQUIREMENTS.
- G. PLACE FILL OR STONE IN SIX (6) INCH MAXIMUM LIFTS, AND COMPACT BEFORE PLACING NEXT LIFT.
- B. AFTER CONSTRUCTION
 1. MANUFACTURER'S DESCRIPTION OF PRODUCT AND WARRANTY STATEMENT ON SOIL STERILIZED.
 2. MANUFACTURER'S DESCRIPTION OF PRODUCT ON GRASS SEED AND FERTILIZER.
 3. LANDSCAPING WARRANTY STATEMENT.

6. WARRANTY

- A. IN ADDITION TO THE WARRANTY ON ALL CONSTRUCTION COVERED IN THE CONTRACT DOCUMENTS, THE CONTRACTOR SHALL REPAIR ALL DAMAGE AND RESTORE AREAS AS CLOSE TO ORIGINAL CONDITION AS POSSIBLE AT SITE AND SURROUNDINGS.
- B. SOIL STERILIZATION APPLICATION TO GUARANTEE VEGETATION FREE ROAD AND SITE AREAS FOR ONE YEAR FOM DATE OF FINAL INSPECTION.
- C. DISTURBED AREAS WILL REFLECT GROWTH OF NEW GRASS PRIOR TO FINAL INSPECTION.
- D. LANDSCAPING, IF INCLUDED WITHIN THE SCOPE OF THE CONTRACT, WILL BE GUARANTEED FOR ONE YEAR FROM THE DATE OF FINAL INSPECTION.

DIVISION 2: SITE WORK (CONTINUED)

SECTION 02200 - EARTHWORK AND DRAINAGE (CONTINUED)

PART 2 - PRODUCTS

1. MATERIALS

A. SOIL STERILIZER SHALL BE AN EPA REGISTERED, PRE-EMERGENCE LIQUID:
 TOTAL KILL PRODUCT 910 PHASAR CORPORATION
 EPA 10292-7 DEARBORN, MI 48128
 313.563.8000

AMBUSH HERBICIDE FRAMAR INDUSTRIAL PRODUCTS
 EPA REGISTERED 1435 MORRIS AVENUE
 UNION, NJ 07083
 800.526.4924

B. ROAD AND SITE MATERIALS SHALL CONFORM TO DOT SPECIFICATIONS (UNLESS OTHERWISE NOTED). ACCEPTABLE SELECT FILL SHALL BE IN ACCORDANCE WITH STATE DEPARTMENT OF HIGHWAY AND TRANSPORTATION STANDARD SPECIFICATIONS.

C. SOIL STABILIZED FABRIC SHALL BE MIRAFI - 500X.

PART 3 - EXECUTION

1. PREPARATION

- A. CLEAR TREES, BRUSH AND DEBRIS FROM LEASE AREA, ACCESS DRIVE WITH TURN-AROUND, AND UNDERGROUND UTILITY EASEMENTS AS REQUIRED FOR CONSTRUCTION.
- B. PRIOR TO OTHER EXCAVATION AND CONSTRUCTION, GRUB ORGANIC MATERIAL TO A MINIMUM OF SIX (6) INCHES BELOW GRADE.
- C. UNLESS OTHERWISE INSTRUCTED BY LEASEE, TRANSPORT ALL REMOVED TREES, BRUSH AND DEBRIS FROM THE PROPERTY TO AN AUTHORIZED LANDFILL.
- D. PRIOR TO PLACEMENT OF FILL OR BASE MATERIALS, ROLL THE SOIL.
- E. WHERE UNSTABLE SOIL CONDITIONS ARE ENCOUNTERED, LINE THE AREAS WITH A STABILIZED MAT PRIOR TO PLACEMENT OF FILL OR BASE MATERIAL.
- F. PRIOR TO PLACEMENT OF FILL OR BASE MATERIALS, REMOVE SOFT SPOTS, PLACE SELECT FILL, AND COMPACT TO 95% MODIFIED PROCTOR.

2. INSTALLATION

- A. GRADE OR FILL THE LEASE AREA AND ACCESS DRIVE WITH TURN-AROUND AS REQUIRED IN ORDER THAT UPON DISTRIBUTION OF SPOILS RESULTING FROM EXCAVATIONS, THE RESULTING GRADE WILL CORRESPOND WITH SAID SUB-BASE COURSE. ELEVATIONS ARE TO BE CALCULATED FROM BENCHMARK, FINISHED GRADES, OR INDICATED SLOPES.
- B. CLEAR EXCESS SPOILS, IF ANY, FROM JOB SITE AND DO NOT SPREAD BEYOND THE LIMITS OF PROJECT AREA UNLESS AUTHORIZED BY PROJECT MANAGER AND AGREED TO BY LANDOWNER.
- C. BRING THE ACCESS DRIVE WITH TURN-AROUND TO BASE COURSE ELEVATION TO FACILITATE CONSTRUCTION AND OBSERVATION DURING CONSTRUCTION OF THE SITE.
- D. AVOID CREATING DEPRESSIONS WHERE WATER MAY POND.
- E. THE CONTRACT SHALL INCLUDE GRADING, BANKING, AND DITCHING, UNLESS OTHERWISE NOTED.
- F. WHEN IMPROVING AN EXISTING ACCESS DRIVE, GRADE THE EXISTING DRIVE TO REMOVE ANY ORGANIC MATTER AND SMOOTH THE SURFACE BEFORE PLACING FILL OR STONE.
- H. THE TOP SURFACE COURSE SHALL EXTEND A MINIMUM OF ONE (1) FOOT BEYOND THE SITE FENCE, UNLESS OTHERWISE NOTED, AND SHALL COVER THE AREA AS INDICATED.
- I. NO SLOPES ARE TO BE GREATER THAN 3:1.
- J. APPLY RIP-RAP TO THE SIDES OF DITCHES AND DRAINAGE SWALES WHERE INDICATED ON THE DRAWINGS.
- K. RIP-RAP ENTIRE DITCH FOR SIX (6) FEET IN ALL DIRECTIONS AT CULVERT OPENINGS. (WHEN APPLICABLE)
- L. APPLY SEED, FERTILIZER, AND STRAW COVER TO ALL OTHER DISTURBED AREAS, DITCHES, AND DRAINAGE SWALES, NOT OTHERWISE RIP-RAPPED.
- M. UNDER NO CIRCUMSTANCES WILL DITCHES, SWALES, OR CULVERTS BE PLACED SO THAT THEY DIRECT WATER TOWARDS, OR PERMIT STANDING WATER IMMEDIATELY ADJACENT TO SHELTER OR EQUIPMENT. IF DESIGNS OR ELEVATIONS ARE IN CONFLICT WITH THIS, ADVISE CONSTRUCTION MANAGER IMMEDIATELY.

CONSULTANT:



CLIENT:



ENGINEER SEAL:

PRELIMINARY - NOT FOR CONSTRUCTION

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GENERAL SPECIFICATIONS
DES WILDER (TN #: IA0178)
DES WILDER (IzW #: 15969075)
INDIANOLA, IOWA

SUBMITTAL:

INT.	DATE:	DESCRIPTION:
CV	04/11/25	REV. A

CHECKED BY	PCM
PLOT DATE	4/11/2025
PROJECT NUMBER	42052
SET TYPE	DRAFT
SHEET NUMBER	G-002

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DIVISION 2: SITE WORK (CONTINUED)

SECTION 02200 - EARTHWORK AND DRAINAGE (CONTINUED)

PART 2 - PRODUCTS (CONTINUED)

2. INSTALLATION (CONTINUED)

- N. IN DITCHES WITH SLOPES GREATER THAN 10%, MOUND DIVERSIONARY HEADWALLS IN THE DITCH AT AN ANGLE NO GREATER THAN 60° OFF THE DITCH LINE. RIP-RAP THE UPSTREAM SIDE OF THE HEADWALL AS WELL AS THE DITCH FOR SIX (6) FEET ABOVE THE CULVERT ENTRANCE.
- O. APPLY SEED AND FERTILIZER TO SURFACE CONDITIONS WHICH WILL ENCOURAGE ROOTING. RAKE AREAS TO BE SEEDED TO EVEN THE SURFACE AND LOOSEN THE SOIL.
- P. SOW SEED IN TWO DIRECTIONS IN TWICE THE QUANTITY RECOMMENDED BY THE SEED PRODUCER.
- Q. ENSURE GROWTH OF SEEDED AND LANDSCAPED AREAS BY WATERING UP TO THE POINT OF RELEASE FROM THE CONTRACT. CONTINUE TO REWORK THE BARE AREAS UNTIL COMPLETE COVERAGE IS OBTAINED.

3. FIELD QUALITY CONTROL

COMPACT SOILS TO MAXIMUM DENSITY IN ACCORDANCE WITH ASTM D-1557. AREAS OF SETTLEMENT WILL BE EXCAVATED AND REFILLED AT CONTRACTOR'S EXPENSE. INDICATE PERCENTAGE OF COMPACTION ACHIEVED ON AS-BUILT DRAWINGS.

4. PROTECTION

- A. PROTECT SEEDED AREAS FROM EROSION BY SPREADING STRAW TO A UNIFORM LOOSE DEPTH OF 1-2 INCHES, STAKE AND TIE DOWN AS REQUIRED. USE OF EROSION CONTROL MESH OR MULCH NET WILL BE AN ACCEPTABLE ALTERNATE.
- B. ALL TREES PLACED IN CONJUNCTION WITH A LANDSCAPE CONTRACT WILL BE WRAPPED, TIED WITH HOSE PROTECTED WIRE, AND SECURED TO 2" x 2" x 4' - 0" WOODEN STAKES EXTENDING TWO-FEET INTO THE GROUND ON FOUR SIDES OF THE TREE.
- C. PROTECT ALL EXPOSED AREAS AGAINST WASHOUTS AND SOIL EROSION. ALL EROSION CONTROL METHODS SHALL CONFORM TO APPLICABLE BUILDING CODE REQUIREMENTS.

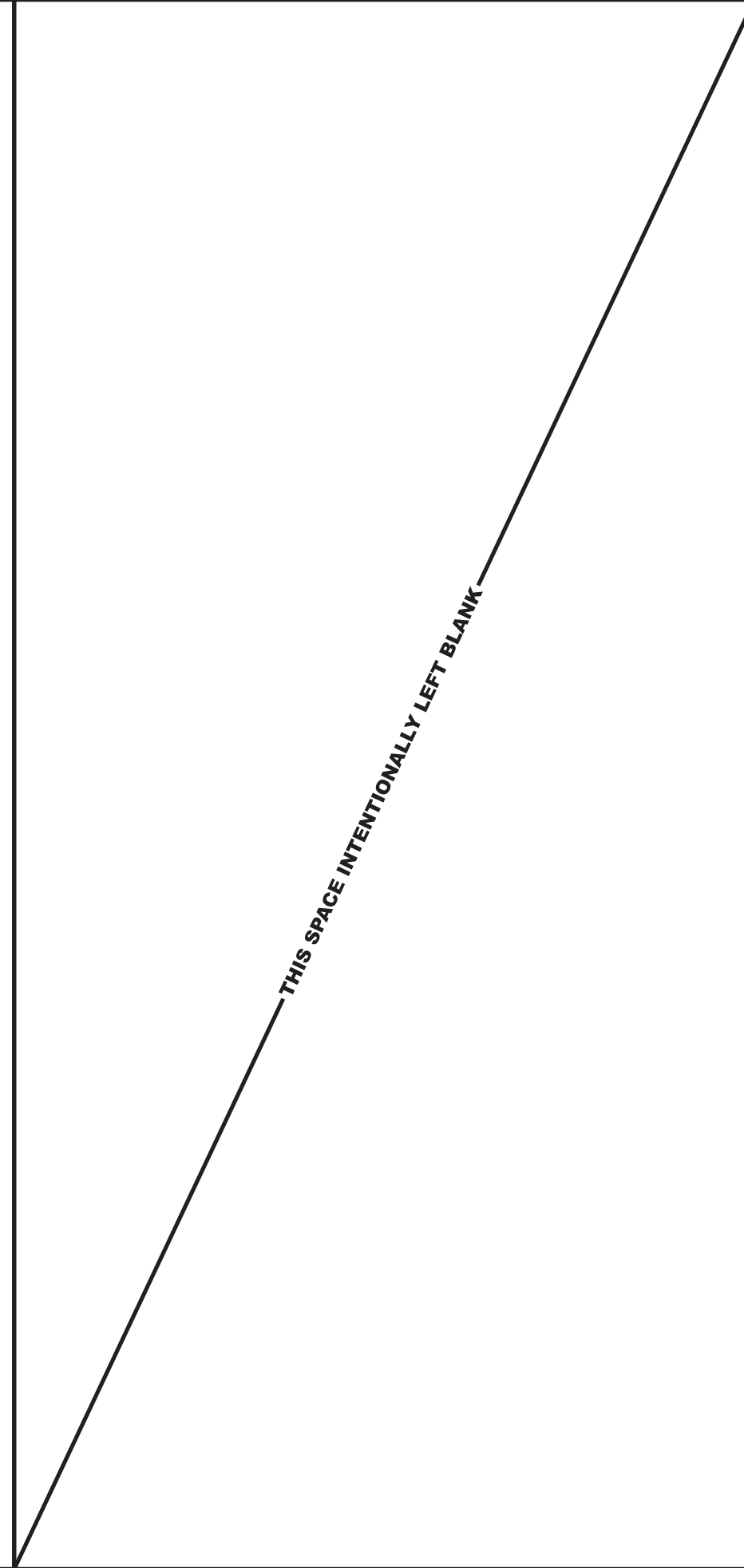
DIVISION 16: UTILITY

SECTION 16050 - BASIC UTILITY MATERIALS AND METHODS

- 1. CONTRACTOR SHALL REVIEW THE CONTRACT DOCUMENTS PRIOR TO ORDERING THE UTILITY EQUIPMENT AND STARTING THE ACTUAL CONSTRUCTION. CONTRACTOR SHALL ISSUE A WRITTEN NOTICE OF ALL FINDINGS TO THE ARCHITECT/ENGINEER LISTING ANY DISCREPANCIES OR CONFLICTING INFORMATION.
- 2. UTILITY PLANS, DETAILS AND DIAGRAMS ARE DIAGRAMMATIC ONLY. VERIFY EXACT LOCATIONS AND MOUNTING HEIGHTS OF UTILITY EQUIPMENT WITH OWNER PRIOR TO INSTALLATION.
- 3. EACH CONDUCTOR OF EVERY SYSTEM SHALL BE PERMANENTLY TAGGED IN EACH PANELBOARD, PULLBOX, JUNCTION BOX, SWITCH BOX, ETC. THE TYPE OF TAGGING METHODS SHALL BE IN COMPLIANCE WITH OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (O.S.H.A.).
- 4. ALL MATERIALS AND EQUIPMENT SHALL BE NEW AND IN GOOD WORKING CONDITION WHEN INSTALLED AND SHALL BE OF THE BEST GRADE AND OF THE SAME MANUFACTURER THROUGHOUT FOR EACH CLASS OR GROUP OF EQUIPMENT. MATERIALS SHALL BE LISTED "J" WHERE APPLICABLE. MATERIALS SHALL MEET WITH APPROVAL OF ALL GOVERNING BODIES HAVING JURISDICTION. MATERIALS SHALL BE MANUFACTURED IN ACCORDANCE WITH APPLICABLE STANDARDS ESTABLISHED BY ANSI, NEMA, NBFU AND "UL" LISTED.
- 5. ALL CONDUIT SHALL HAVE A PULL CORD.
- 6. PROVIDE PROJECT MANAGER WITH ONE SET OF COMPLETE UTILITY "AS INSTALLED" DRAWINGS AT THE COMPLETION OF THE JOB, SHOWING ACTUAL DIMENSIONS, ROUTINGS, AND CIRCUITS.

TOWNORTH EXPECTATIONS FOR GENERAL CONTRACTORS

- GC TO PROVIDE A BID THAT COVERS ALL LABOR AND MATERIALS (WITH EXCEPTION OF THE TOWER) TO COMPLETE THE ENTIRE TOWER, COMPOUND, ACCESS ROAD, CONDUITS, PADS, AND UTILITIES SCOPE FOR SELF-SUPPORT OR MONOPOLE TOWER OUTLINES IN THE CD'S.
- SUBMIT BIDS TO: bid@townorth.com
- GC TO PROVIDE CX SCHEDULE, MUST PROVIDE WEEKLY UPDATES AND PHOTOS.
- MATERIALS: THE ONLY EXCLUSION ON MATERIALS IS THE TOWER WHICH WILL BE DELIVERED TO THE SITE. REMEMBER GC TO ORDER AND INSTALL ALL SIGNS.
- TOWNORTH CM WILL NEED TO BE NOTIFIED WHEN TOWER REACHES FULL HEIGHT. AS SOON AS THE TOWER IS TOPPED OUT, GC TO SEND OVER THE TOWER HEIGHT VERIFICATION FORM AND OVERALL PICTURE OF THE TOWER.
- GC IS RESPONSIBLE FOR CONTROLLING RUN-OFF, A NEAT WORK SITE, ANY TEMPORARY SIGNAGE FOR DELIVERIES, KEEPING THE MAIN ROAD CLEAN, PROTECTING DRAIN BASINS, ADHERING TO INDUSTRY QUALITY STANDARDS, COMPLETE RESTORATION, AND SUPPLYING ANYTHING/EVERYTHING TO MAKE THE WORK SITE COMPLIANT AND SAFE
- INCLUDE AND INSPECTION FEES IN YOUR BID. GC WILL BE RESPONSIBLE FOR THE SCHEDULING OF ALL SPECIAL INSPECTIONS, BREAK TEST, ETC. AS REQUIRED BY CODE ENFORCEMENT/CARRIER, OR TOWNORTH AND THE COSTS ASSOCIATED WITH ALL 3RD PARTY INSPECTIONS/TESTING. TOWNORTH REQUIRES FOUNDATION INSPECTION, REBAR INSPECTION, AND CONCRETE TESTING. ALL INSPECTION REPORT/CERTIFICATES WILL BE REQUIRED TO BE SUBMITTED WITH YOUR COP ITEMS.
- GC TO OFFLOAD AND INSPECT TOWER AND ALL HARDWARE UPON DELIVERY TO THE SITE TO ENSURE ALL APPROPRIATE ITEMS ARE PRESENT AND IN GOOD SHAPE (NO WEAR AND TEAR, STRAIGHT NOT BENT, SKEWED, SCRAPES, MARKS (BASICALLY ANYTHING UNACCEPTABLE UPON DELIVERY). IF ANY OF THESE ITEMS ARE PRESENT, PLEASE IMMEDIATELY NOTIFY TOWNORTH SO WE CAN CONTACT THE MANUFACTURER, PLEASE TAKE PRECAUTION BEFORE SIGNING OFF ON THE DELIVERY. ANCHOR BOLTS WILL BE SHIPPED DIRECT TO THE GC.
- FLASH WILL BE THE LIGHTING MANUFACTURER. THE SOW WILL BE TO PROVIDE AND INSTALL THE BREAKER IN THE HOUSE PANEL (LABELLED), PROVIDE/INSTALL A GROUND LEAD FOR THE LIGHT CONTROLLER, WEATHERHEAD, CONDUIT W/ PULL-STRING TO THE LIGHT CONTROL ENCLOSURE ON H-FRAME PER CD'S. COORDINATION WITH FLASH WILL BE NEEDED ONCE LAST GATING ITEM IS COMPLETED.
- GC'S TO PROVIDE PAD AND PIER AND/OR DRILLED PIER IN FULL FOR THE TOWER FOUNDATION INFO PROVIDED. PLEASE NOTE THE RECOMMENDATIONS & SUBSURFACE INFORMATION IN THE GEOTECH REPORT.
- THE COMPOUND SHOULD BE LEVEL AND FLAT (PER CD'S), THE BENCHMARK ELEVATION ON THE SURVEY SHOULD BE USED TO ENSURE THE PROPER GRADE IS MAINTAINED IN THE COMPOUND ALL PER CD'S. PLEASE INCLUDE PROGRESS PHOTOS SHOWING THE FLAT LEVEL COMPACTED BASE AS WELL AS THE GEO FABRIC PLACED IN ITS ENTIRETY.
- GC IS RESPONSIBLE FOR POWER COORDINATION. VERIFY UTILITY TRENCHING/CONDUIT LENGTHS IN THE FIELD AS REQUIRED. WORK WITH THE LOCAL POWER REPRESENTATIVE TO MEET EXPECTATIONS, CLARIFY SOW, ADHERE TO UTILITY COMPANY SPECIFICATIONS, AND ENSURE WE ARE WORKING TO THE COMMON GOAL OF OBTAINING COMMERCIAL POWER.
- THE GC IS REQUIRED TO PROVIDE AN ABBREVIATED PHOTO COP ONCE THE SITE HAS BEEN BUILT TO A LEVEL OF READINESS MEETING THE VERIZON OBJECTIVE OF CARRIER READY. MEANING THAT YOU PROVIDE PHOTO EVIDENCE OF ACCESS (PASSABLE), COMPOUND (LEVEL CLEAN BASE AT MINIMUM), COMPOUND CONDUITS, CARRIER PAD, GROUNDING, METER, AND TOWER (IN FULL) TO ALLOW THE VERIZON TOWER INSTALLATION TO BEGIN WITHOUT ISSUE.
- WEEKLY PICTURES (PHOTO DUMP) AND UPDATES SHOULD BE UPLOADED TO A SHARED DATABASE WHILE ON SITE. A ONE DRIVE FOLDER FOR PHOTOS WILL BE SHARED WITH GC TO UPLOAD. GC IS EXPECTED TO TAKE VERY DETAILED "PRE" & "POST" PHOTOS CAPTURING SITE, ACCESS, & ROAD CONDITIONS TO COVER YOU SHOULD THERE BE AN ISSUE THAT NEEDS TO BE RESOLVED. BE SURE TO ACCURATELY CAPTURE ALL UNDERGROUND ITEMS: ACCESS AND COMPOUND BASES, CONDUITS, GROUNDING, REBAR, FOUNDATIONS, GEO-FABRIC, ETC.
- DAILY MORNING SITE LOGIN IS PART OF OUR NEW SAFETY PROTOCOL. THE GC WILL BE RESPONSIBLE FOR SENDING EMAILS WITH A BRIEF SOW & NUMBER OF WORKERS ON SITE FOR THE DAY. PLEASE EMAIL Newbuild@townorth.com



CONSULTANT:

624 WATER STREET
PRAIRIE DU SAC, WI 53578
608.644.1449 VOICE
608.644.1549 FAX
www.edgeconsult.com

CLIENT:

ENGINEER SEAL:

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GENERAL SPECIFICATIONS
DES WILDER (TN #: IA0178)
DES WILDER (VzW #: 15969075)
INDIANOLA, IOWA

SUBMITTAL:

INT.	DATE:	DESCRIPTION:
CV	04/11/25	REV. A

CHECKED BY:	PCM
PLOT DATE:	4/11/2025
PROJECT NUMBER:	42052
SET TYPE:	DRAFT
SHEET NUMBER:	G-003



DISTANCE FROM TOWER CENTER TO PROPERTY LINES:

- DISTANCE FROM TOWER CENTER TO NORTH PROPERTY LINE = 422'-3" ±
- DISTANCE FROM TOWER CENTER TO SOUTH PROPERTY LINE = 39'-0" ±
- DISTANCE FROM TOWER CENTER TO WEST PROPERTY LINE = 58'-2" ±
- DISTANCE FROM TOWER CENTER TO EAST PROPERTY LINE = 539'-5" ±

CONSULTANT:

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CLIENT:

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SITE PLAN
DES WILDER (TN #: IA0178)
DES WILDER (VzW #: 15969075)
INDIANOLA, IOWA

SUBMITTAL:

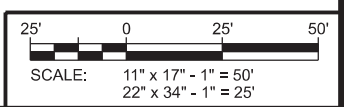
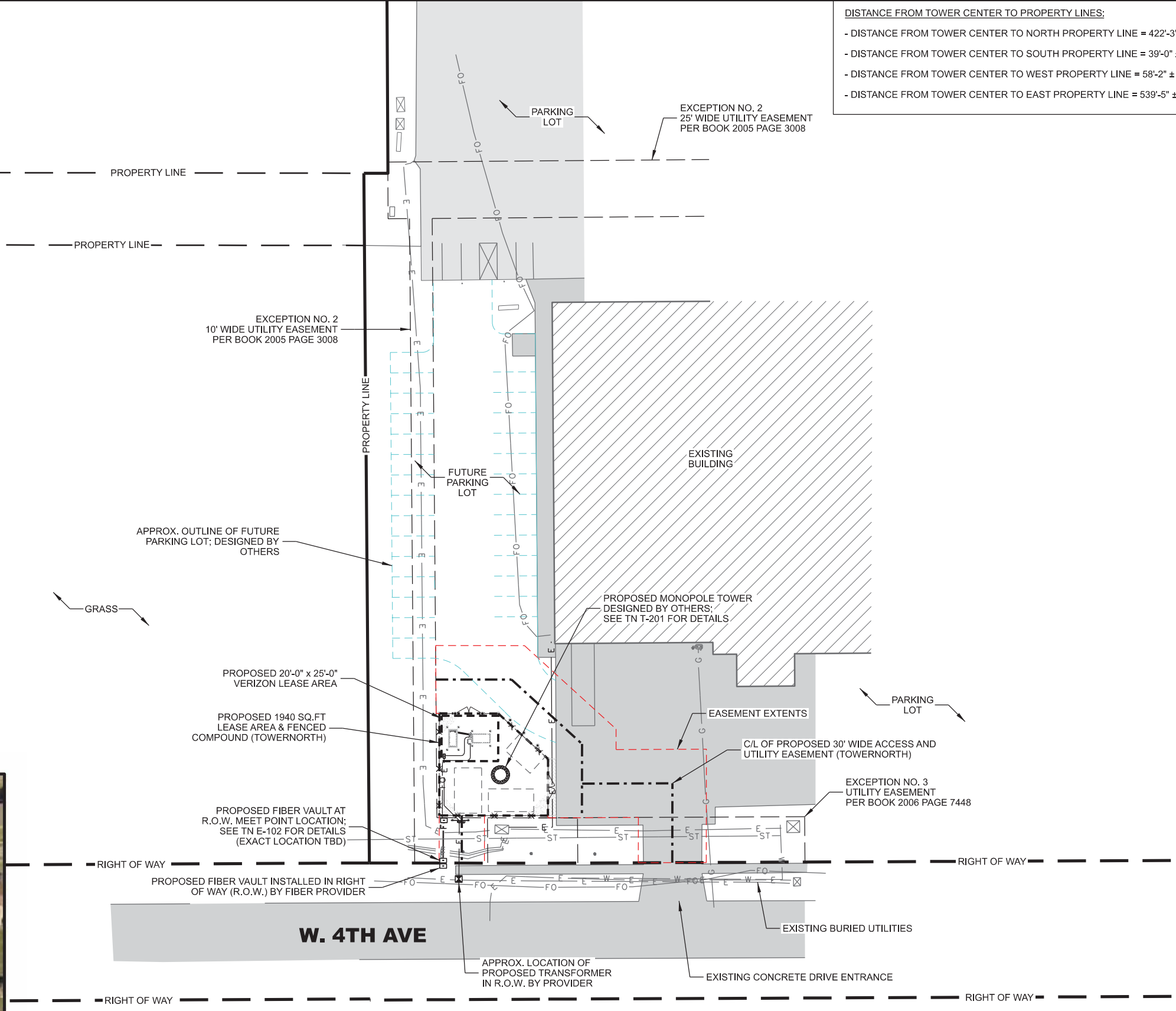
INT.	DATE:	DESCRIPTION:
CV	04/11/25	REV. A

CHECKED BY:	PCM
PLOT DATE:	4/11/2025
PROJECT NUMBER:	42052
SET TYPE:	DRAFT
SHEET NUMBER:	TN C-101

- GENERAL NOTES: (THIS SHEET)
- NORTH ARROW SHOWN AS APPROXIMATE.
- FIBER NOTES: (THIS SHEET)
- FIBER COORDINATION IS NOT COMPLETE (PENDING FIBER CONTACT). PRIOR TO CONSTRUCTION, CONTACT DESIGNER FOR UPDATE.



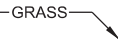
A **AERIAL OVERVIEW OF SITE**



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NORTH



GRASS

GENERAL NOTES: (THIS SHEET)

1. NORTH ARROW SHOWN AS APPROXIMATE.

FIBER NOTES: (THIS SHEET)

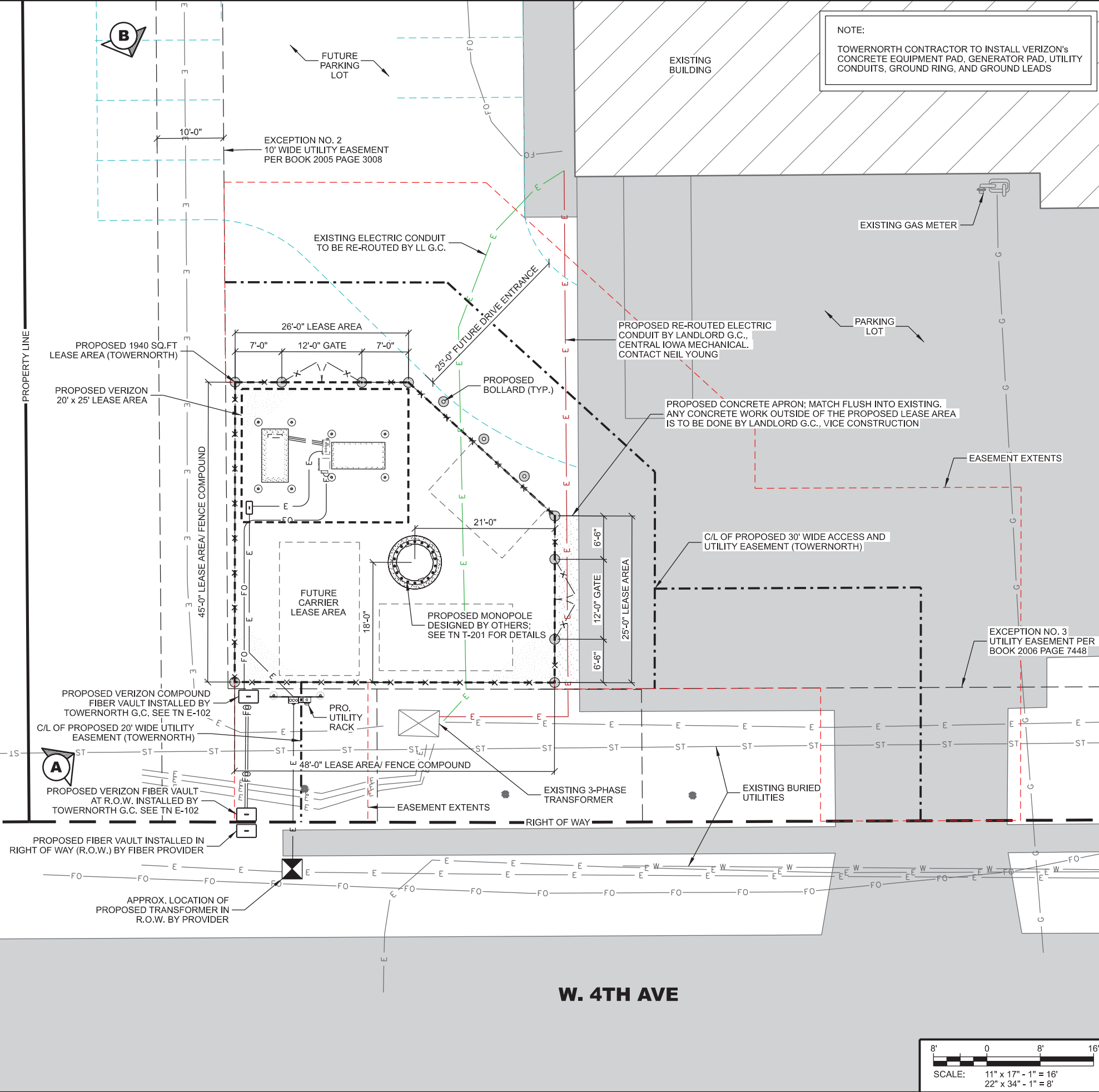
1. FIBER COORDINATION IS NOT COMPLETE (PENDING FIBER CONTACT). PRIOR TO CONSTRUCTION, CONTACT DESIGNER FOR UPDATE.



A SITE OVERVIEW



B PROPOSED LEASE AREA



NOTE:
 TOWNORTH CONTRACTOR TO INSTALL VERIZON'S CONCRETE EQUIPMENT PAD, GENERATOR PAD, UTILITY CONDUITS, GROUND RING, AND GROUND LEADS

CONSULTANT:
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CLIENT:

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ENGINEER SEAL:
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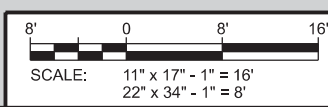
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ENLARGED SITE PLAN
 DES WILDER (TN #: IA0178)
 DES WILDER (VzW #: 15969075)
 INDIANOLA, IOWA

SUBMITTAL:

INT.	DATE:	DESCRIPTION:
CV	04/11/25	REV. A

CHECKED BY:	PCM
PLOT DATE:	4/11/2025
PROJECT NUMBER:	42052
SET TYPE:	DRAFT
SHEET NUMBER:	TN C-102



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EXCEPTION NO. 2
10' WIDE UTILITY EASEMENT
PER BOOK 2005 PAGE 3008

NOTE:
TOWNORTH CONTRACTOR TO INSTALL VERIZON'S
CONCRETE EQUIPMENT PAD, GENERATOR PAD, CANOPY
SUPPORT POSTS & FOUNDATIONS, UTILITY CONDUITS,
GROUND RING, AND GROUND LEADS

CONSULTANT:

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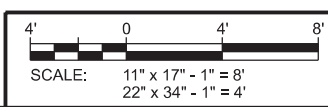
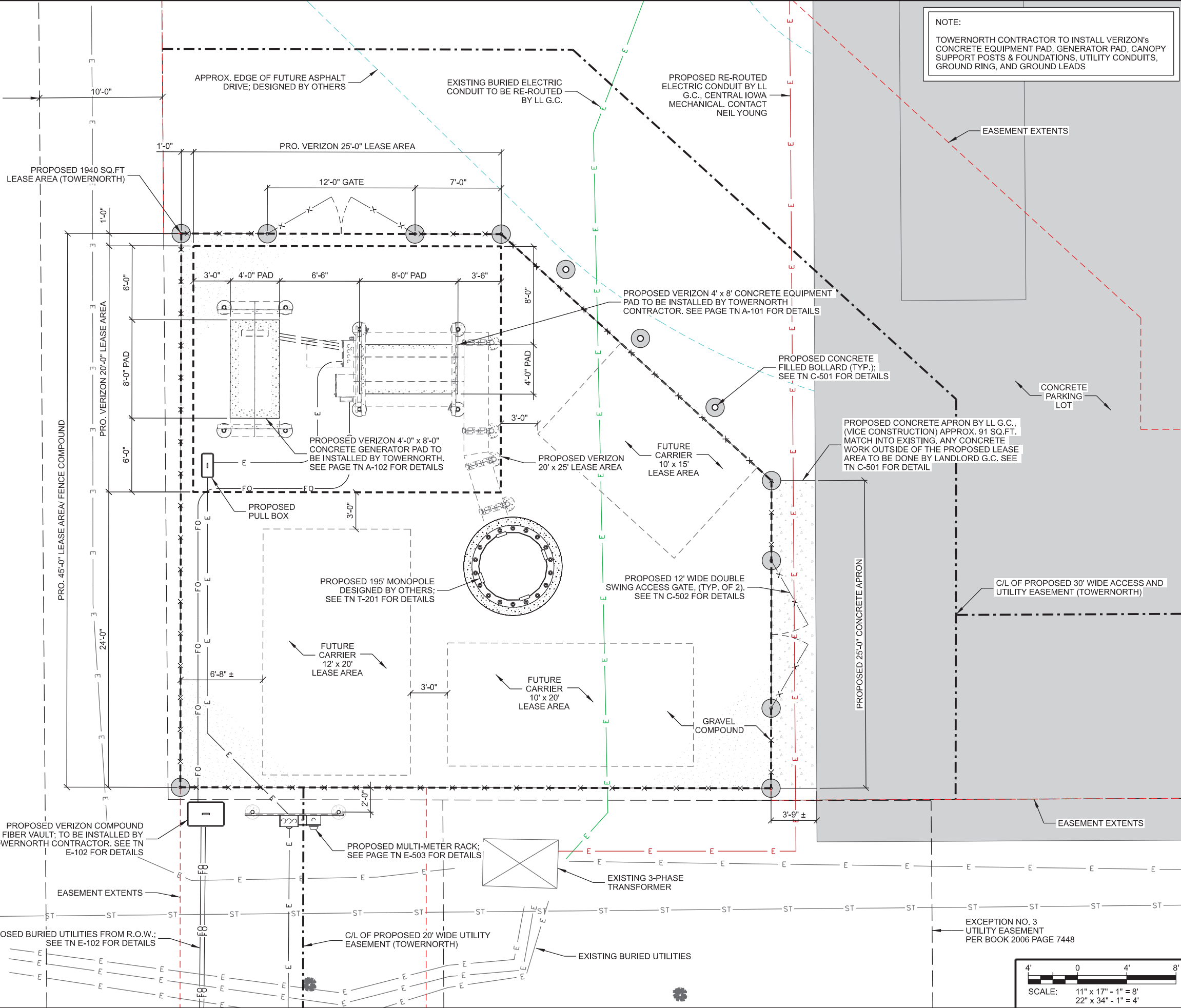
COMPOUND PLAN
DES WILDER (TN #: IA0178)
DES WILDER (vzw #:15969075)
INDIANOLA, IOWA

SUBMITTAL:

INT.	DATE	DESCRIPTION:
CV	04/11/25	REV. A

CHECKED BY:	PCM
PLOT DATE:	4/11/2025
PROJECT NUMBER:	42052
SET TYPE:	DRAFT
SHEET NUMBER:	TN C-103

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NOTE:

1. THIS GRADING PLAN WAS PREPARED PRIOR TO RECEIPT OF TOWER FOUNDATION DESIGN AND GEOTECHNICAL REPORT. PROPOSED GRADES, ELEVATIONS AND CORRESPONDING SOIL COVER MAY REQUIRE FINAL ADJUSTMENT ONCE THE ABOVE NOTED DOCUMENTS ARE AVAILABLE. RECOMMENDATIONS IN THIS GRADING PLAN SHOULD NOT SUPERCEDE ANY REQUIREMENTS SPECIFIED IN THE FOUNDATION DESIGN.

CONSULTANT:
Edge
Consulting Engineers, Inc
624 WATER STREET
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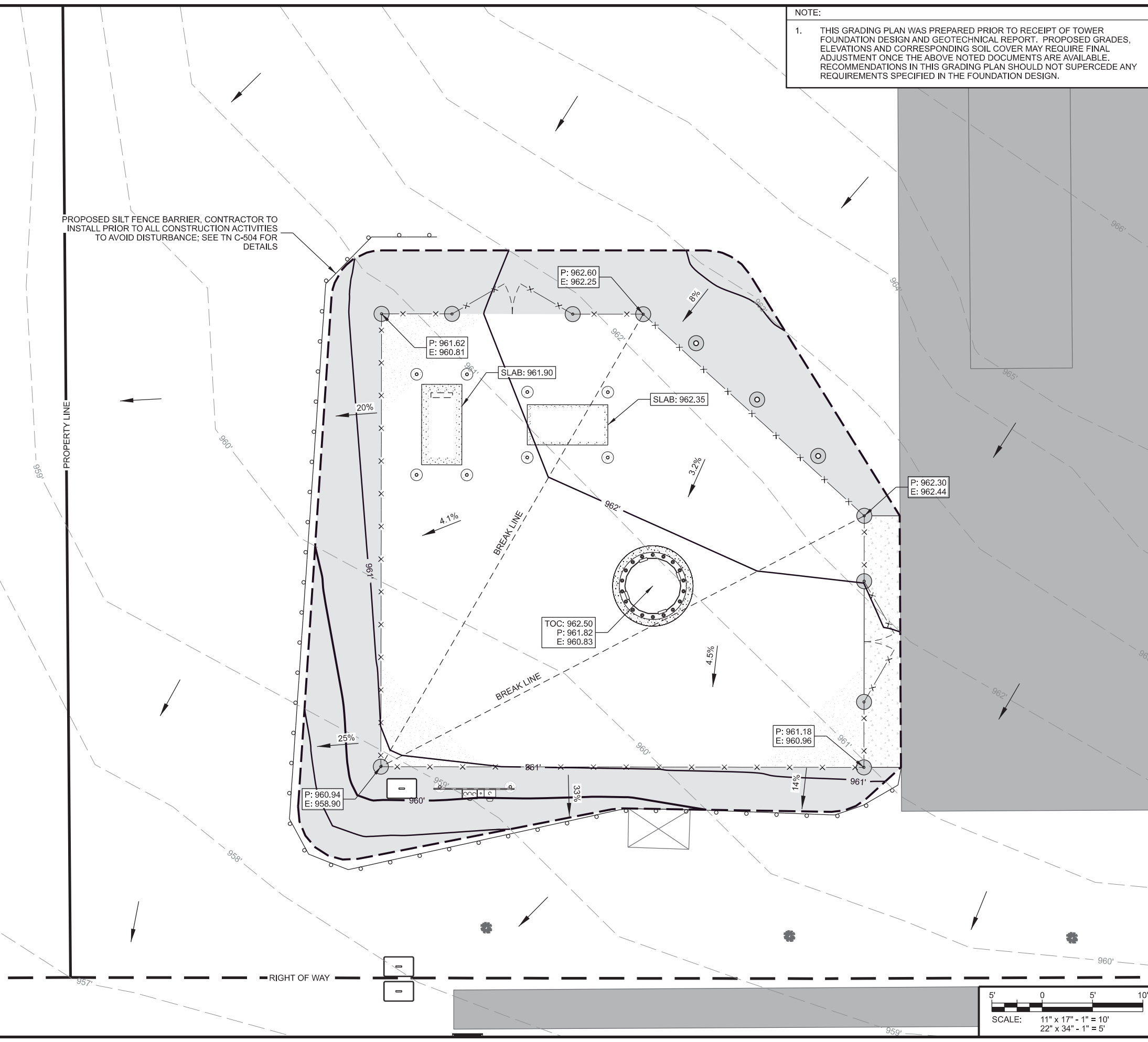
GRADING PLAN
DES WILDER (TN #: IA0178)
DES WILDER (VZW #: 15969075)
INDIANOLA, IOWA

GRADING NOTES: (THIS SHEET)

1. CONTOUR INTERVAL IS 1 FOOT.
2. PERIMETER CONTROLS AND STONE TRACKING PADS SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITIES, INCLUDING CLEARING AND GRUBBING OPERATIONS.
3. CONTRACTOR SHALL GRADUALLY MATCH INTO EXISTING GRADE. NO PROPOSED EARTHWORK SHALL HAVE A GREATER SLOPE THAN 3:1. FINISHED SITE TO BE GRADED TO MAINTAIN POSITIVE DRAINAGE IN ALL AREAS.
4. DRIVEWAY GRADE WITHIN 25 FEET OF PUBLIC ROAD ACCESS POINT SHALL BE LESS THAN 10% (10:1).
5. FINISHED GRADE SLOPES GREATER THAN 4:1, DITCH BOTTOMS AND GRASS SURFACES WITHIN 6 FEET OF ANY PAVED OR GRAVEL SURFACE REQUIRE EROSION MAT (TYPE 2.D - 12 MONTH LONGEVITY, DOUBLE NET EROSION CONTROL BLANKET)
6. ALL DISTURBED GRASS/TURF AREAS SHALL BE RESTORED WITH TOPSOIL, SEED AND MULCH. TOPSOIL TO BE 6-INCHES MINIMUM. SEED TO CONSIST OF NATIVE PURE LIVE SEED (PLS) AT 98% PURITY AND 95% GERMINATION. MULCH TO BE WEED-FREE GRAIN STRAW.
7. CONTRACTOR TO PERFORM MAINTENANCE AND INSPECTION OF EROSION CONTROL DEVICES AND EXPOSED GRADE THROUGHOUT CONSTRUCTION. THE CONTRACTOR SHALL INSPECT THE EROSION AND SEDIMENT CONTROL BEST MANAGEMENT PRACTICES ON A WEEKLY BASIS AND WITHIN 24 HOURS AFTER A PRECIPITATION EVENT 0.5 INCHES OR GREATER WHICH RESULTS IN RUNOFF. CONTRACTOR SHALL CONTINUE MAINTENANCE AND INSPECTION UNTIL FULL VEGETATION ESTABLISHMENT AND/OR PROJECT ACCEPTANCE.
8. CONTRACTOR TO REMOVE EROSION CONTROL MEASURES AFTER PROJECT ACCEPTANCE.
9. SEE SURVEY FOR BENCHMARK LOCATIONS.

LEGEND: (THIS SHEET)

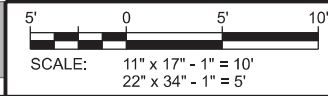
- - - 973'- EXISTING CONTOUR GRADES
- - - 973'- PROPOSED CONTOUR GRADES
- XXXX' SPOT ELEVATIONS
P = PROPOSED ELEV.
E = EXISTING ELEV.
FL = FLOW LINE
IE = INVERT ELEV.
TOC = TOP OF CONC.
- ← PROPOSED DRAINAGE PATH
- SILT FENCE
- - - LIMITS OF DISTURBANCE
- EROSION MAT



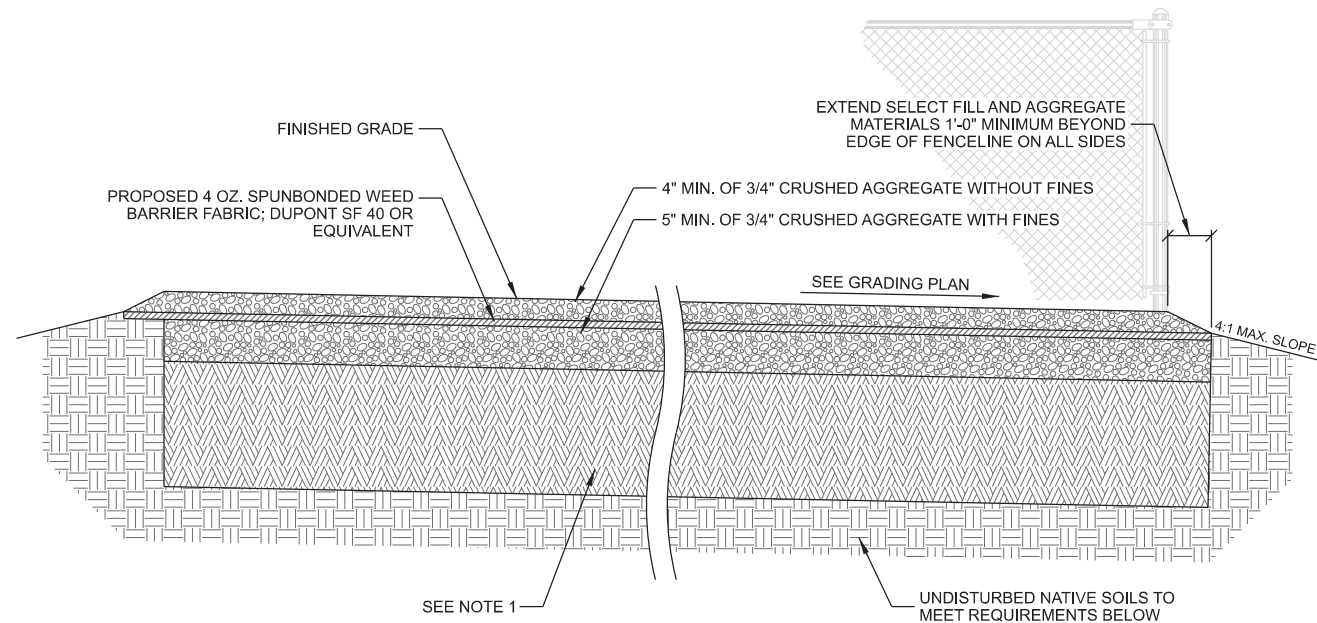
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INT.	DATE	DESCRIPTION:
CV	04/11/25	REV. A

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PLOT DATE	4/11/2025
PROJECT NUMBER	42052
SET TYPE	DRAFT
SHEET NUMBER	TN C-104

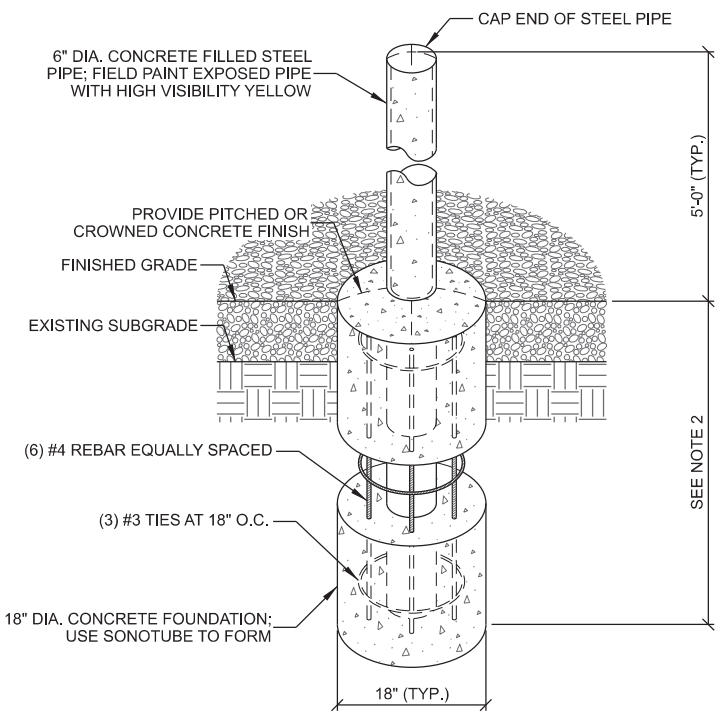


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- NOTES:
1. REMOVE ALL TOPSOIL, ORGANIC MATERIAL AND WET OR POOR SOILS WITHIN COMPOUND AREA. CONTRACTOR TO REVIEW SITE CONDITIONS AND CONSULT GEOTECHNICAL REPORT FOR ANTICIPATED DEPTH OF SOILS THAT WILL REQUIRE REMOVAL. IF POOR SOILS ARE ENCOUNTERED SELECT FILL AND/OR SUBGRADE STABILIZATION MAY BE REQUIRED. CONTACT CONSTRUCTION MANAGER FOR GUIDANCE.
 2. FINAL TOWER FOUNDATION DESIGN RECOMMENDATIONS TO SUPERCEDE GRADING PLAN OR SITE PLAN ELEVATIONS.

A COMPOUND CROSS SECTION

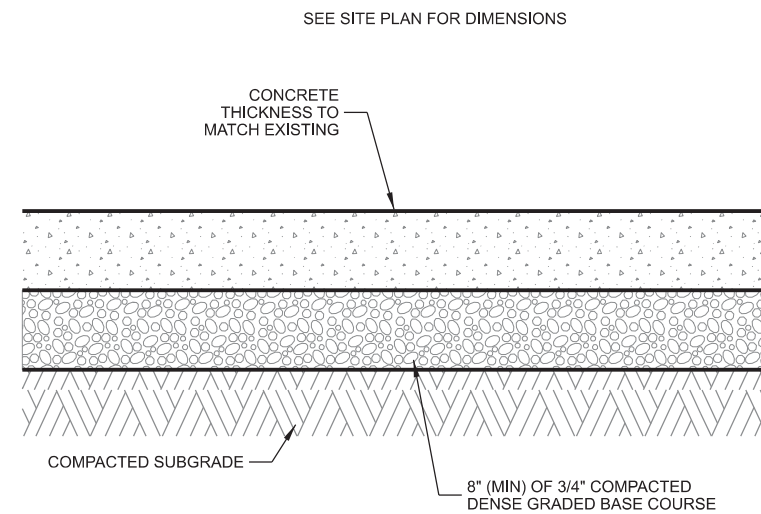


- NOTES:
1. MAINTAIN 3" MINIMUM REBAR COVER IN ALL DIRECTION
 2. PIER FOUNDATION DEPTH TO BE A MINIMUM OF 48"; DEPTH TO EXCEED LOCAL FROST DEPTH
 3. CONCRETE TO BE A MINIMUM OF 2,500 PSI AT 28 DAYS

C PIPE BOLLARD

CONCRETE AND REINFORCING NOTES:

1. ALL CONCRETE CONSTRUCTION SHALL BE IN ACCORDANCE WITH LOCAL CODE REQUIREMENTS AND MOST CURRENT VERSION OF ACI STANDARDS.
2. ALL EXPOSED CONCRETE SURFACES EXPOSED TO VIEW SHALL HAVE A SURFACE FINISH SF-2.0 IN ACCORDANCE WITH ACI 301.
3. ALL CONCRETE UNLESS SPECIFICALLY NOTED SHALL BE NORMAL WEIGHT (145 PCF) AND SHALL ACHIEVE A 28-DAY COMPRESSIVE STRENGTH (f_c) OF 4,000 PSI. EXPOSED EXTERIOR CONCRETE TO BE AIR ENTRAINED WITH 6% AIR CONTENT. CONTRACTOR TO PERFORM CONCRETE SLUMP TEST (5" MAX SLUMP). NO WATER TO BE ADDED AFTER SLUMP HAS BEEN MEASURED.
4. ALL CONCRETE REINFORCING SHALL BE ASTM A615 GRADE 60 AND PLACED IN ACCORDANCE WITH ACI STANDARDS W/ 3" MIN COVERAGE IF CAST AGAINST EARTH AND 2" MIN COVERAGE OTHERWISE.
5. REMOVE ALL ORGANIC MATERIAL, SOFT AREAS, AND POOR SOILS BENEATH FOUNDATION TO A DEPTH OF AT LEAST 2'-0" BELOW FOUNDATION.
6. SLAB NOT SUITABLE AT SITES WITH ORGANIC SOIL, UNCOMPACTED FILL, EXPANSIVE SOIL, OR SOILS SUSCEPTIBLE TO FROST HEAVE.
7. CONTRACTOR TO ENSURE POSITIVE DRAINAGE FROM ALL FOUNDATIONS.



- NOTES:
1. APPLY 2 COATS OF HIGH SOLIDS CURING COMPOUND (ASTM C309)
 2. JOINT SPACING TO BE 6' MAX & RECTANGULAR IN SHAPE (NO SHARP ANGLES)
 3. JOINT DEPTH SHALL BE 1/4" DEEP PER INCH OF PAVEMENT THICKNESS
 4. DO NOT SEAL JOINTS
 5. MEDIUM BROOM FINISH
 6. SEE CONCRETE AND REINFORCING NOTES FOR ADDITIONAL CONCRETE AND ADMIXTURE REQUIREMENTS

D CONCRETE APRON DETAIL

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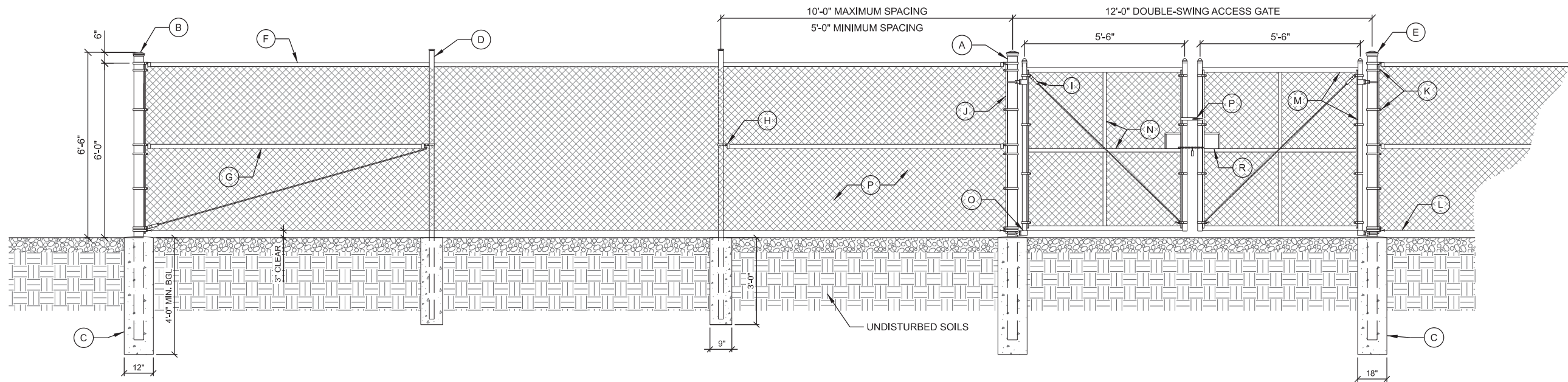
I HEREBY CERTIFY THAT THIS PLAN SET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION OTHER THAN THE EXCEPTIONS NOTED IN THE SHEET INDEX, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF IOWA.

CONSTRUCTION DETAILS
 DES WILDER (TN #: IA0178)
 DES WILDER (VZW #: 15969075)
 INDIANOLA, IOWA

SUBMITTAL:

INT.	DATE	DESCRIPTION:
CV	04/11/25	REV. A

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PLOT DATE	4/11/2025
PROJECT NUMBER	42052
SET TYPE	DRAFT
SHEET NUMBER	TN C-501

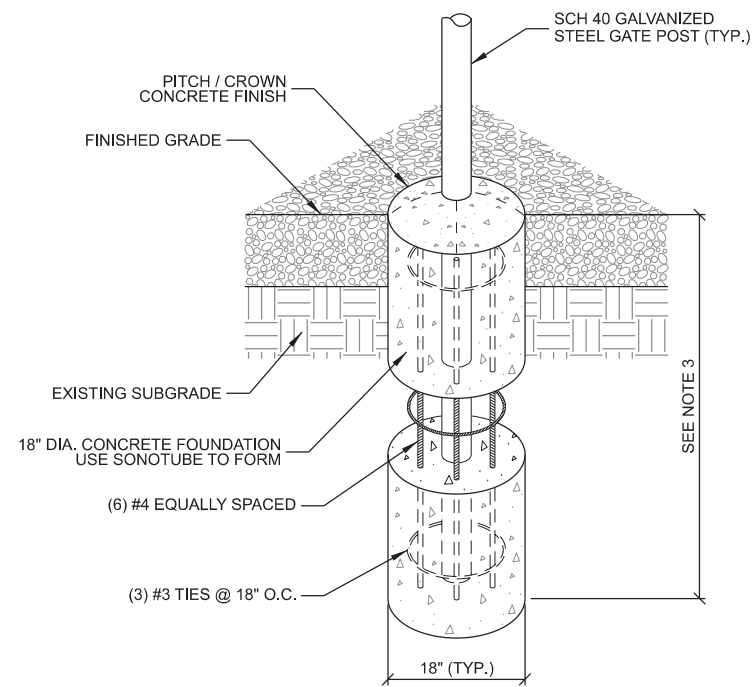


REFERENCE NOTES: (THIS SHEET)

- | | | |
|---|---|--|
| A. 4" (4-1/2" O.D.) SCH. 40 GALV. STEEL GATE POST | G. 1-1/4" (1.66" O.D.) MID BRACE RAIL PIPE. MID BRACE RAIL INSTALLED ONLY ON EACH SIDE OF ACCESS GATE AND FENCE CORNER(S) | M. 1-1/2" (1.9" O.D.) SCH. 40 GALV. STEEL FENCE GATE FRAME |
| B. 3" (3-1/2" O.D.) SCH 40 GALV. STEEL CORNER POST | H. OFFSET BRACE RAIL ENDS FOR MID BRACE RAIL | N. 1-1/4" (1.66" O.D.) SCH. 40 GALV. STEEL HORIZONTAL AND VERTICAL GATE BRACES |
| C. CONCRETE PIER FOUNDATION AT ACCESS GATE; SEE DETAILS BELOW | I. 5/16" O.D. TRUSS ROD WITH TRUSS TIGHTENED ASSEMBLY | O. MALLEABLE BUTT HINGES (TYP.) |
| D. 2-1/2 O.D. SCH. 40 GALV. STEEL INTERMEDIARY LINE POSTS; LINE POSTS SHALL BE EQUALLY SPACED AT MAXIMUM 10'-0" O.C | J. 3/16" x 3/4" STRETCHER BAR; TO EXTEND FULL HEIGHT OF FENCE FABRIC | P. GATE LATCH; VERIFY REQUIREMENTS WITH FENCE MANUFACTURER |
| E. FENCE POST CAP (SIZE VARIES) | K. 3/4" TENSION BAND (TYP.). | Q. #9 GAUGE GALV. CHAIN LINK FENCE FABRIC WITH TWISTED TOP SELVAGE AND KNUCKELD BOTTOM SELVAGE |
| F. 1-1/4" (1.66" O.D.) TOP RAIL PIPE | L. TENSION WIRE | R. 6" x 6" HANDHOLE FOR CHAIN LOCK |

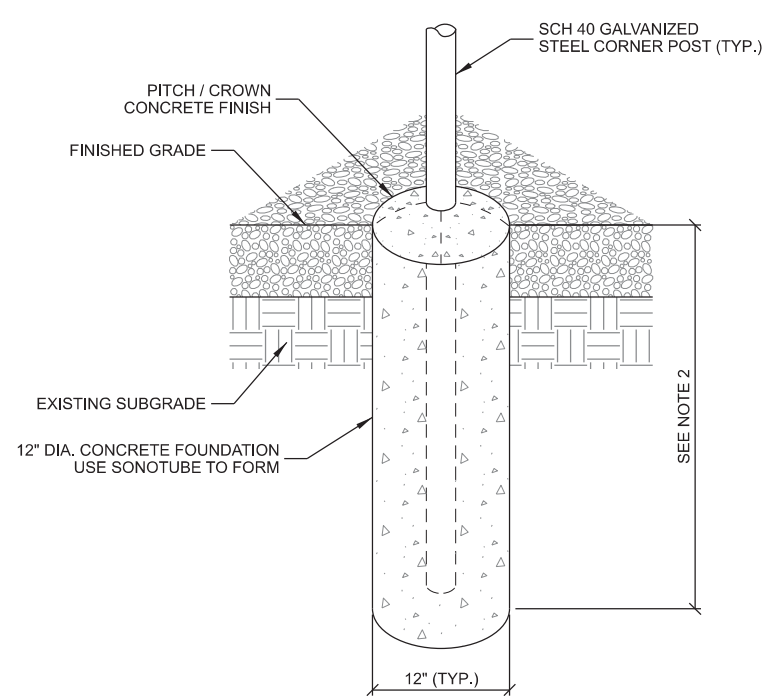
A COMPOUND FENCE

SITE SIGNAGE NOTE:
SEE PAGE TN C-503 FOR REQUIRED SITE SIGNAGE



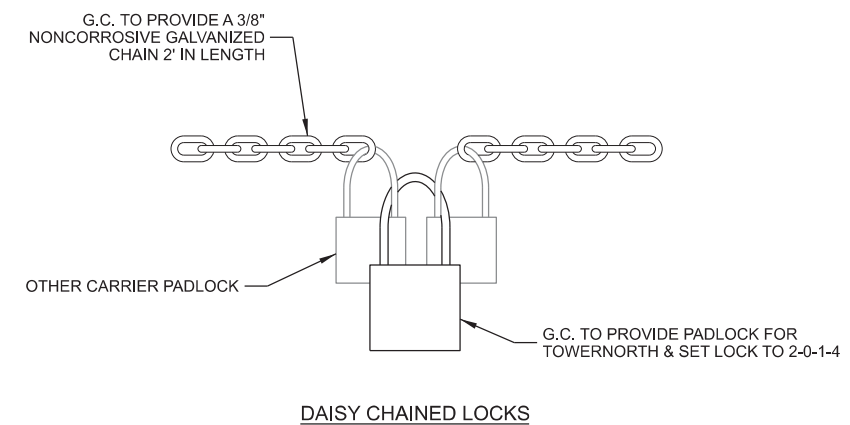
- NOTES:**
1. MAINTAIN 3" MINIMUM REBAR COVER WITH CONCRETE IN ALL DIRECTIONS.
 2. CONCRETE MIX TO BE MINIMUM OF 2,500 PSI @ 28 DAYS.
 3. FOUNDATION DEPTH TO EXCEED LOCAL FROST DEPTH, OR 48" MINIMUM.

B GATE POST PIER FOUNDATION



- NOTES:**
1. CONCRETE MIX TO BE MINIMUM OF 2,500 PSI @ 28 DAYS.
 2. FOUNDATION DEPTH TO EXCEED LOCAL FROST DEPTH, OR 48" MINIMUM.

C CORNER POST PIER FOUNDATION



D GATE LOCK

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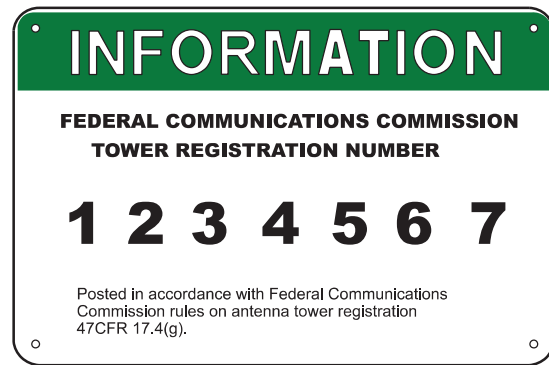
FENCE DETAILS
DES WILDER (TN #: IA0178)
DES WILDER (VzW #: 15969075)
INDIANOLA, IOWA

SUBMITTAL:

INT.	DATE:	DESCRIPTION:
CV	04/11/25	REV. A

CHECKED BY:	PCM
PLOT DATE:	4/11/2025
PROJECT NUMBER:	42052
SET TYPE:	DRAFT
SHEET NUMBER:	TN C-502

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12"

8"

FCC REGISTRATION SIGN

WHITE/GREEN BACKGROUND, WHITE/BLACK LETTERING. MOUNTING LOCATION: GATE & BASE OF TOWER CLOSEST TO THE CLIMBING LEG
QUANTITY: 2

NOTE:
GENERAL CONTRACTOR TO PROVIDE AND INSTALL ALL SIGNS, UNLESS OTHERWISE NOTED

SIGN PLACEMENT OUTLINE:
TOWERNORTH REQUIRES THREE SIGNS ON THE GATE:
- TOWERNORTH MARKETING SIGN
- DANGER NO TRESPASSING
- YELLOW CAUTION RF SIGN
TOWERNORTH REQUIRES TWO SIGNS AT THE TOWER LOCATION CLOSEST TO THE CLIMBING LEG:
- GREEN FCC REGISTRATION SIGN
- YELLOW CAUTION RF SIGN



14"

10"

RFE CAUTION SIGN

WHITE/YELLOW BACKGROUND, BLACK LETTERING. MOUNTING LOCATION: GATE & BASE OF TOWER CLOSEST TO THE CLIMBING LEG
QUANTITY: 2



TOWERNORTH DEVELOPMENT SIGN

WHITE/BLACK BACKGROUND, BLUE LETTERING. MOUNTING LOCATION: GATE
QUANTITY: 1
WHEN AN ENTRANCE TO ACCESS ROAD INCLUDES A GATE, QUANTITY SHOULD BE 2



10"

14"

DANGER NO TRESPASSING SIGN

WHITE/BLACK/RED BACKGROUND, WHITE/BLACK LETTERING. MOUNTING LOCATION: GATE
QUANTITY: 1
WHEN AN ENTRANCE TO THE ACCESS ROAD INCLUDES A GATE, QUANTITY SHOULD BE 2

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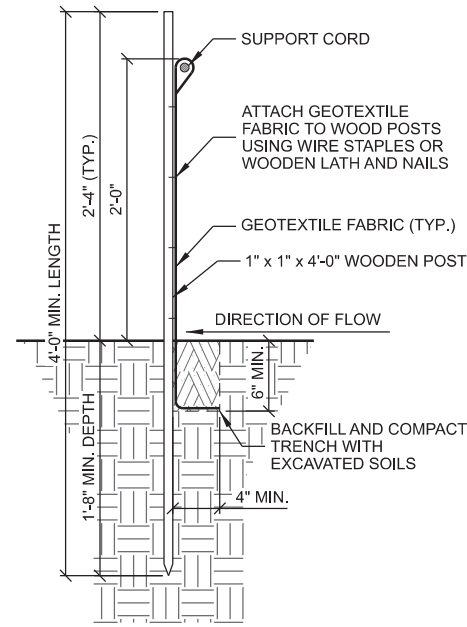
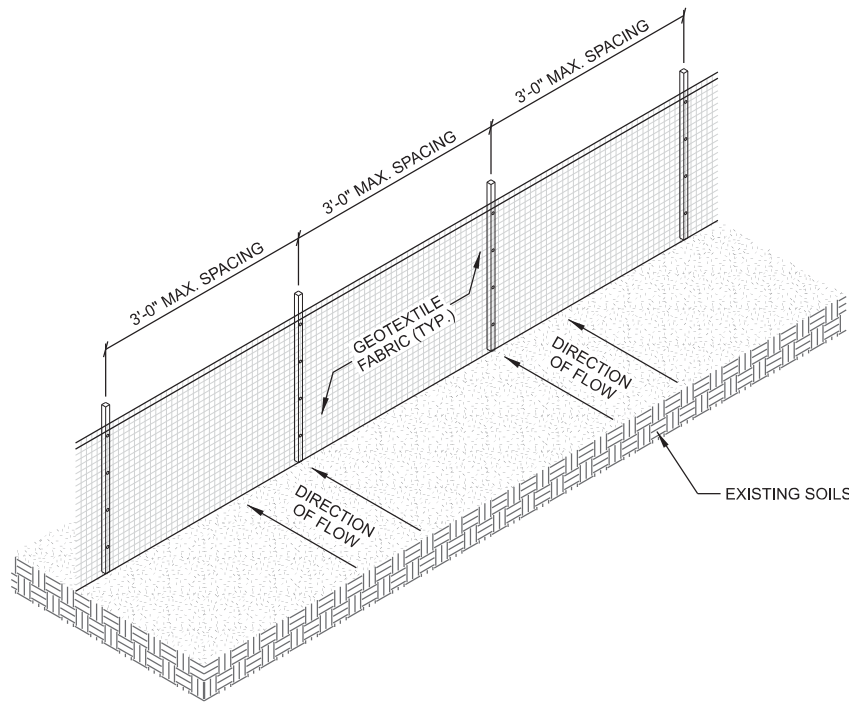
SITE SIGNAGE
DES WILDER (TN #: IA0178)
DES WILDER (VzW #: 15969075)
INDIANOLA, IOWA

SUBMITTAL:

INT.	DATE:	DESCRIPTION:
CV	04/11/25	REV. A

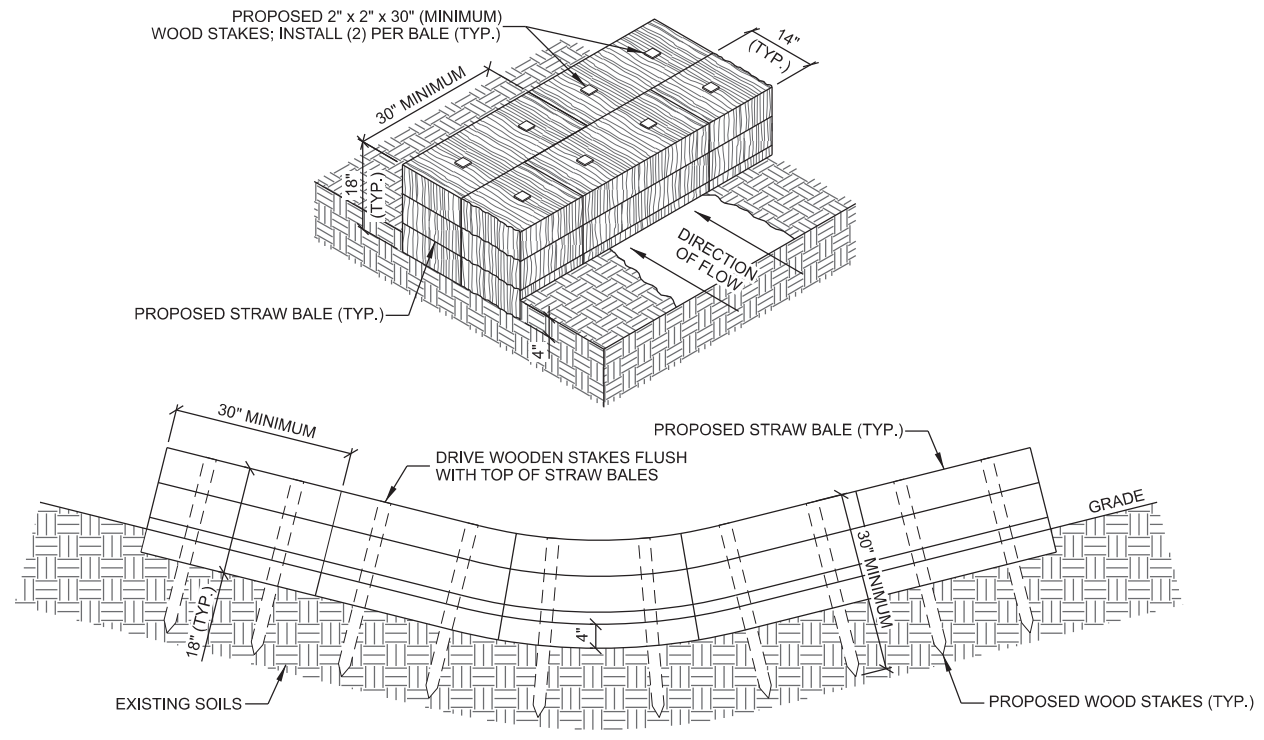
CHECKED BY:	PCM
PLOT DATE:	4/11/2025
PROJECT NUMBER:	42052
SET TYPE:	DRAFT
SHEET NUMBER:	TN C-503

A TYP. SITE SIGNAGE



- NOTES:
1. TRENCH SHALL BE SIZED TO ACHIEVE ADEQUATE GEOTEXTILE FABRIC ANCHORAGE. FOLD MATERIAL TO FIT TRENCH AND BACKFILL AND COMPACT TRENCH WITH EXCAVATED SOIL.
 2. WOOD POSTS SHALL BE HICKORY OR OAK.
 3. 8'-0" POST SPACING IS ALLOWED IF A WOVEN GEOTEXTILE FABRIC IS USED.
 4. ADDITIONAL POST DEPTH OR TIE BACKS MAY BE REQUIRED IN UNSTABLE SOIL CONDITIONS.

A SILTY FENCE



- NOTES:
1. STAGGER JOINTS BETWEEN ADJACENT ROWS OF BALES.
 2. ALL DIMENSIONS ARE APPROXIMATE.

B STRAW BALE DITCH CHECK

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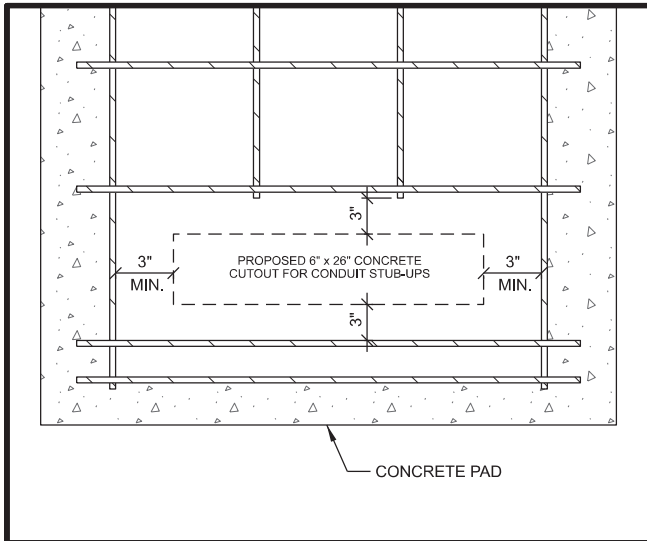
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GRADING DETAILS
 DES WILDER (TN #: IA0178)
 DES WILDER (VzW #: 15969075)
 INDIANOLA, IOWA

SUBMITTAL:

INT.	DATE:	DESCRIPTION:
CV	04/11/25	REV. A

CHECKED BY:	PCM
PLOT DATE:	4/11/2025
PROJECT NUMBER:	42052
SET TYPE:	DRAFT
SHEET NUMBER:	TN C-504



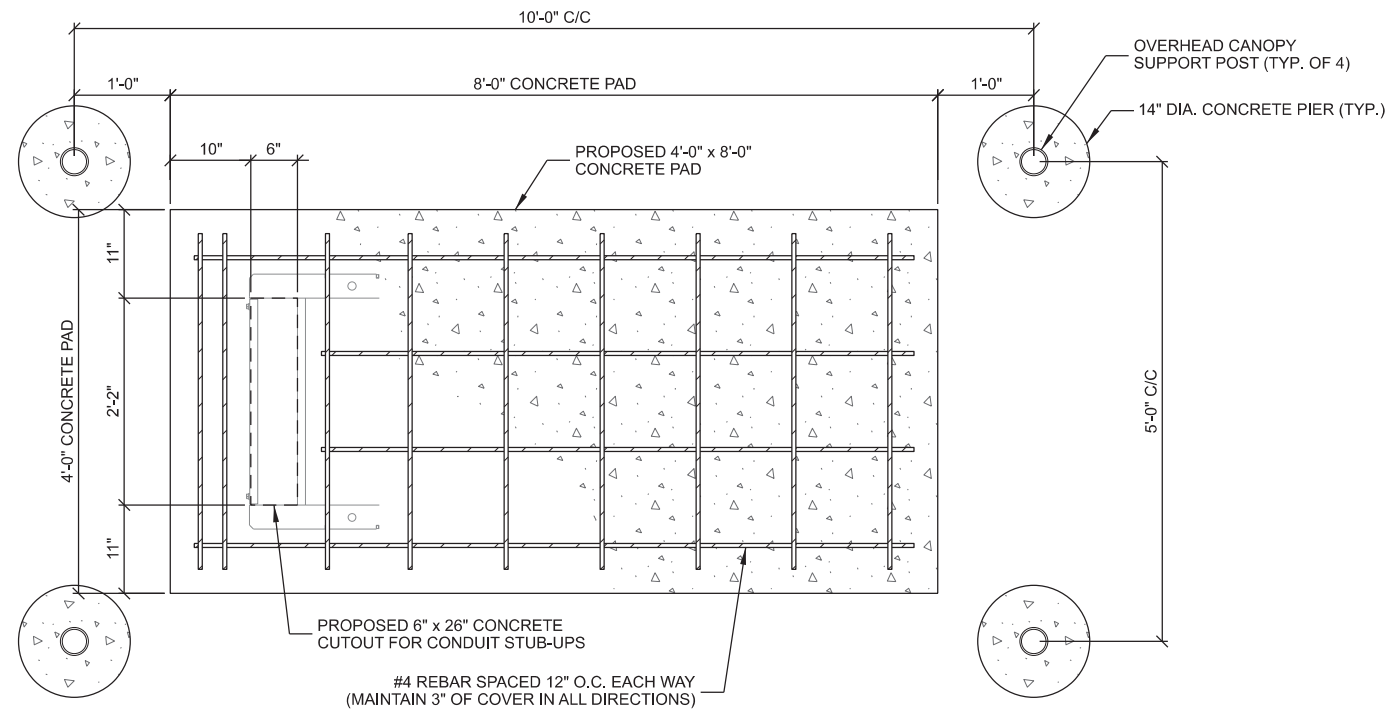
STUB-UP REINFORCEMENT

NOTE:
VERIFY EXACT CONDUIT STUB-UP LOCATIONS WITH GENSET PLANS

GENERATOR CLEARANCE NOTE:
- MINIMUM OF 10' OF CLEARANCE FROM COMBUSTIBLE WALL
- MINIMUM OF 5' OF CLEARANCE FROM A NON-COMBUSTIBLE WALL
- MINIMUM OF 20' OF CLEARANCE FROM AN OUTDOOR ELECTRICAL TRANSFORMER OR NORMAL POWER DISTRIBUTION EQUIPMENT

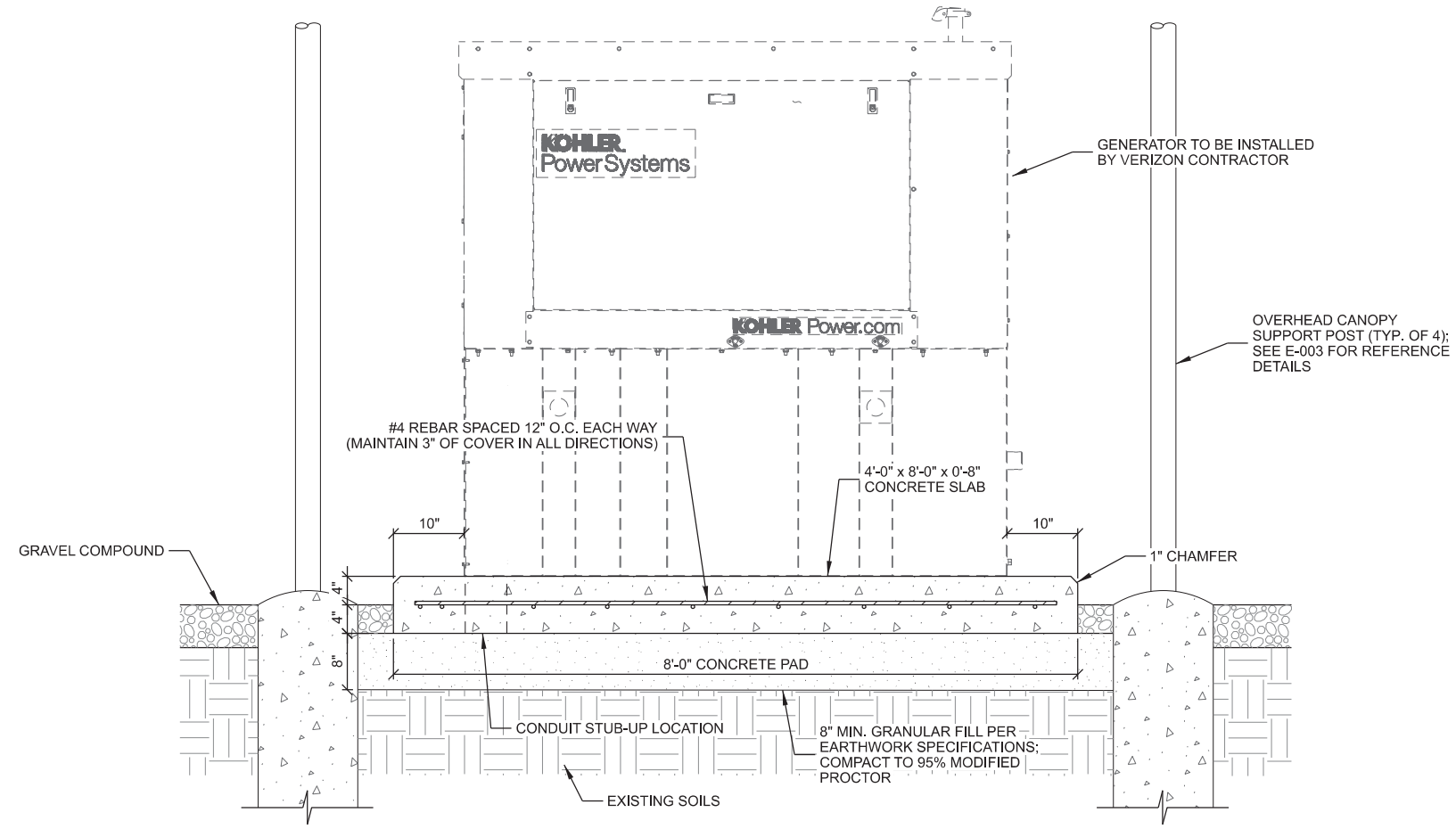
NOTE:
SEE GENERATOR MANUFACTURER'S DRAWINGS FOR PHYSICAL LOCATION OF FUEL LINES, CONTROL AND POWER INTERCONNECTIONS AND OTHER INTERFACES THAT ARE TO BE CAST INTO THE CONCRETE. THE PREFERRED METHOD IS TO BRING THE CONDUIT THROUGH THE CONCRETE PAD TO THE UNDERSIDE OF THE GENERATOR (MINIMIZES RODENT DAMAGE). FINISH CONNECTIONS WITH FLEXIBLE CONDUIT PER GENERATOR MANUFACTURER'S SPECIFICATIONS. RIGID CONDUITS SHALL BE SECURED TO THE EXISTING SLAB, THEN BURIED BETWEEN SLAB AND PLATFORM

NOTE:
SLAB NOT SUITABLE AT SITES WITH ORGANIC SOIL, UNCOMPACTED FILL, EXPANSIVE SOIL, OR SOILS SUSCEPTIBLE TO FROST HEAVE
REMOVE ALL ORGANIC MATERIAL, SOFT AREAS, AND POOR SOILS BENEATH CONCRETE PAD TO A DEPTH OF ATLEAST 2'-0" BELOW CONCRETE PAD



NOTE:
TOWERNORTH CONTRACTOR TO INSTALL VERIZON'S GENERATOR PAD

A KOHLER 30REOZK DIESEL GENERATOR FOUNDATION LAYOUT



B KOHLER 30REOZK DIESEL GENERATOR FOUNDATION DETAIL

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GENERATOR PAD DETAILS
DES WILDER (TN #: IA0178)
DES WILDER (VZW #: 15969075)
INDIANOLA, IOWA

SUBMITTAL:

INT.	DATE	DESCRIPTION:
CV	04/11/25	REV. A

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PLOT DATE	4/11/2025
PROJECT NUMBER	42052
SET TYPE	DRAFT
SHEET NUMBER	TN A-102

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NOTE:
 1. TOWER MANUFACTURER TO INSTALL PORTS NEAR VERIZON ANTENNA C/L. VERIFY FINAL PORT HEIGHT, SIZE, AND ORIENTATION WITH TOWER PLANS.

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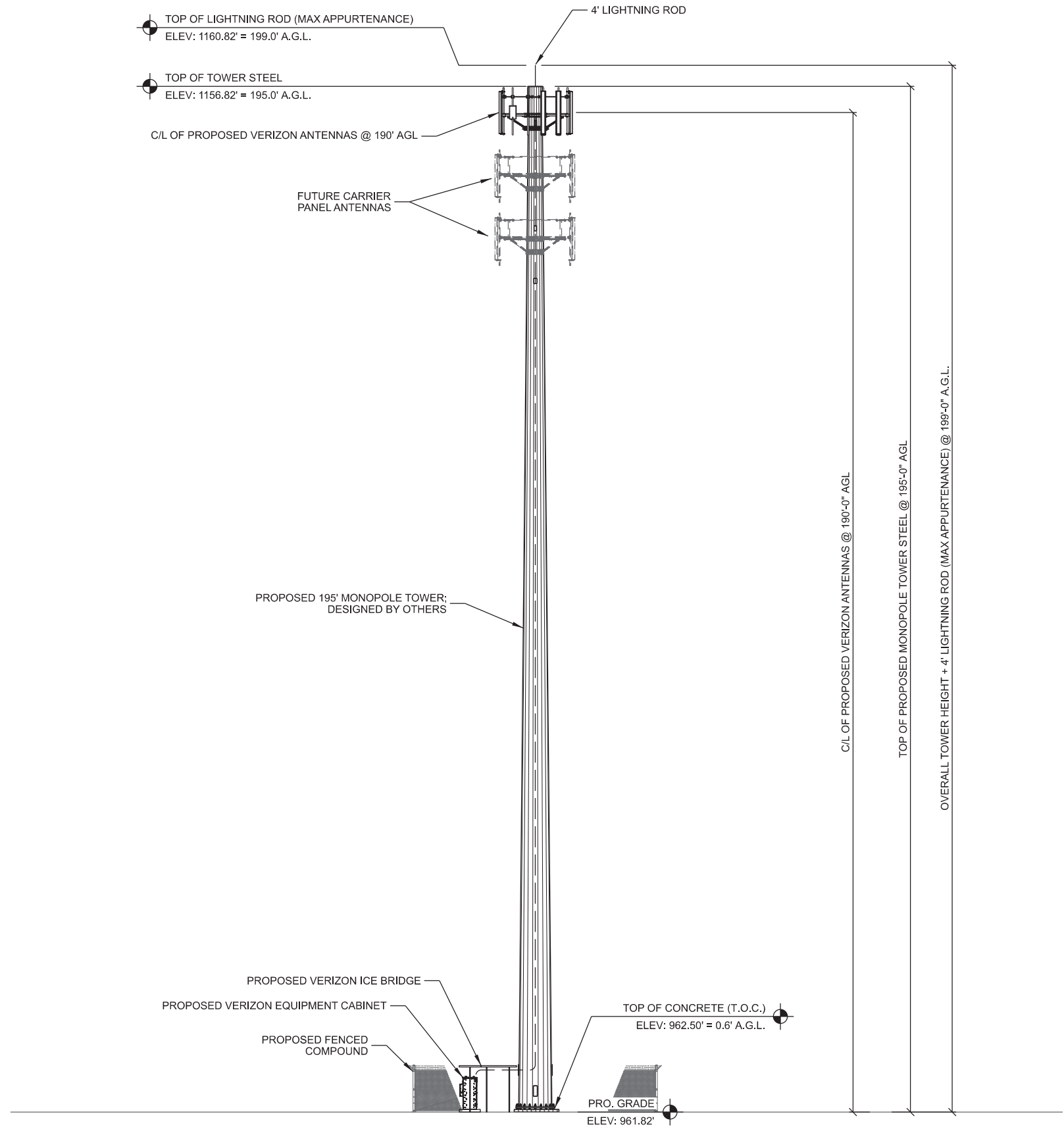

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TOWER ELEVATION
DES WILDER (TN #: IA0178)
DES WILDER (VzW #: 15969075)
INDIANOLA, IOWA

SUBMITTAL:		
INT.	DATE:	DESCRIPTION:
CV	04/11/25	REV. A

CHECKED BY:	PCM
PLOT DATE:	4/11/2025
PROJECT NUMBER:	42052
SET TYPE:	DRAFT
SHEET NUMBER:	TN T-201



A SITE ELEVATION
 SCALE: 11" x 17" - 1" = 24'-0"
 22" x 34" - 1" = 12'-0"

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KEYNOTES: (THIS SHEET)

- (A) MAINTAIN 2-FOOT CLEARANCE FROM ALL STRUCTURES
- (B) TOWER GROUND RING, #2 SOLID BARE TINNED COPPER
- (C) GROUND LEADS FROM TOWER STEEL TO GROUND RING (TYP. OF 3) (USE GROUNDING TABS WHEN AVAILABLE), #2 SOLID BARE TINNED COPPER
- (D) TOWER FOUNDATION GROUND, #2 SOLID BARE TINNED COPPER. SEE PAGE TN E-501 FOR DETAILS
- (E) MULTI-METER RACK POST (TYP.)
- (F) GROUND ELECTRIC METER HOUSING TO (2) INDEPENDENT GROUND RODS, SPACED 10' O.C. WITH #2 SOLID BARE TINNED COPPER
- (G) GATE GROUND LEAD
- (H) PERIPHERAL GROUND RING SHOULD BE INSTALLED 1' TO 2' INSIDE THE FENCED LINE, #2 SOLID BARE TINNED COPPER
- (I) FENCE CORNER GROUND LEAD, GROUND FENCE WITHIN 25- FEET OF TOWER. GROUND FENCE POSTS WITHIN 6- FEET OF EQUIPMENT PAD
- (J) 5/8" DIAMETER x 8' LONG COPPER CLAD GROUND ROD; (MAX. 10' SEPERATION)
- (K) INSPECTION WELL (TYP.). SEE PAGE TN E-501
- (L) 4" x 12" x 1/4" GROUND BAR INSIDE HAND HOLE; CONTRACTOR TO DRIVE 8" GROUND ROD & CLAMP TO GROUND BAR
- (M) (2) #2 SOLID BARE TINNED COPPER GROUND LEADS TO GROUND RING, COIL LEADS FOR FUTURE CARRIER CONNECTION TO LOWER ANTENNA GROUND BAR
- (N) EQUIPMENT GROUND RING #2 AWG SOLID TINNED COPPER GROUND LEAD MIN. 4'-6" BURY OR 6" BELOW FROST WHICH EVER IS GREATER
- (O) COIL GROUND LEAD FOR MASTER GROUND BAR (MGB) MOUNTED VERTICALLY TO FIRST ICE BRIDGE POST ON INSULATORS
- (P) BOND EQUIPMENT GROUND RING TO THE TOWER GROUND RING WITH (2) #2 SOLID BARE TINNED COPPER GROUND LEADS
- (Q) EQUIPMENT CABINET GROUND LEADS, (TYP. OF 4); SEE E-501 FOR DETAILS
- (R) INTEGRATED LOAD CENTER (ILC) GROUND LEAD; SEE E-501 FOR DETAILS
- (S) FIBER ENCLOSURE GROUND LEAD; SEE E-501 FOR DETAILS
- (T) GENERATOR GROUND LEADS, (TYP. OF 2); SEE E-501 FOR DETAILS
- (U) EQUIPMENT PAD REBAR GROUND; SEE E-502 FOR DETAILS
- (V) ICE BRIDGE POST GROUND LEADS; SEE E-501 FOR DETAILS

GROUNDING ELECTRODE SYSTEM NOTES:

1. CONNECTIONS:
ALL CONNECTIONS SHALL BE EXOTHERMICALLY CONNECTED UNLESS NOTED OTHERWISE. CONTRACTOR TO FOLLOW ALL MANUFACTURER'S GUIDELINES & RECOMMENDATIONS.
2. ALL ELECTRICAL AND MECHANICAL GROUND CONNECTIONS SHALL HAVE ANTI-OXIDANT COMPOUND APPLIED TO CONNECTION.
3. FENCE/GATE:
GROUND FENCE POSTS WITHIN 6- FEET OF ENCLOSURE AND 25- FEET OF TOWER. GROUND EACH GATE POST AND CORNER POST. GROUND CONNECTIONS TO FENCE POSTS SHALL BE MADE BY THE EXOTHERMIC PROCESS AND INSTALLED PER MANUFACTURER'S RECOMMENDATIONS AND PROCEDURES.
4. CONTRACTOR SHALL SUBMIT THE GROUND RESISTANCE TEST REPORT AS FOLLOWS:
A. ONE (1) COPY TO THE OWNER REPRESENTATIVE
B. ONE (1) COPY TO THE ENGINEER
C. ONE (1) COPY TO KEEP INSIDE EQUIPMENT ENCLOSURE

NOTES:

1. THE GROUNDING SHALL BE TESTED PRIOR TO FINAL BACKFILLING. DOCUMENTATION OF 5 OHM OR LESS RESISTANCE TO BE PROVIDED TO PROJECT MANAGER.
2. ALL NON-INSULATED GROUND LEADS EXTENDING ABOVE GROUND LEVEL SHALL BE ENCASED IN 3/4" PVC & SEALED WITH SILICONE. PVC SHALL BE MIN. 16" INTO EARTH & EXTEND MIN. 6" ABOVE GROUND.
3. INSTALL 18" X 18" COPPER PLATES IN LIEU OF GROUND RODS WHEN INSTALLING OVER TOWER FOUNDATION OR WHERE DRIVING GROUND RODS IS NOT FEASIBLE.



GROUNDING LEGEND: (THIS SHEET)

- ▲ EXOTHERMIC OR UL RATED IRREVERSIBLE CONNECTION
- MECHANICAL CONNECTION
- - - GROUND LEAD
- ⊗ GROUND INSPECTION WELL
- ⊗ COPPER CLAD GROUND ROD, (5/8" DIA. x 8' LONG) SPACE @ 10' O.C. MAX.

GROUNDING NOTE:

1. THIS GROUNDING PLAN WAS PREPARED PRIOR TO THE COMPLETION OF THE GEOTECHNICAL REPORT AND RECEIPT OF THE TOWER FOUNDATION DESIGN. THE LAYOUT OF RADIALS AND GROUND RODS ARE APPROXIMATE IN NATURE AND MAY NEED TO BE ADJUSTED IN THE FIELD. GROUND RODS SHOULD NOT EXTEND THROUGH THE TOWER FOUNDATION OR OTHER STRUCTURAL ELEMENTS WITHOUT PRIOR APPROVAL FROM THE DESIGN ENGINEER. IN ADDITION, SOME ADJUSTMENT TO THE GROUND METHOD MAY BE REQUIRED IN INSTANCES WHERE SHALLOW BEDROCK OR OTHER UNIQUE CIRCUMSTANCES ARE ENCOUNTERED. CONTRACTOR SHALL CONSULT GEOTECHNICAL REPORT FOR FURTHER DESIGN AND CONSTRUCTION RECOMMENDATIONS.

NOTE:

TOWNORTH CONTRACTOR TO INSTALL BURIED GROUND RINGS/ LEADS AND COIL ABOVE GRADE THAT WILL BE CONNECTED TO VERIZON'S EQUIPMENT. SEE VERIZON GROUNDING DETAILS ON PAGES E-501 - E-503 FOR REFERENCE

VERIZON CONTRACTOR TO CONNECT GROUND LEADS TO EQUIPMENT CABINETS, ICE BRIDGE POSTS, MASTER GROUND BAR, GENERATOR, TOWER GROUND BAR, CHARLES CUBE & ILC CABINET

GRASS

GRAVEL COMPOUND

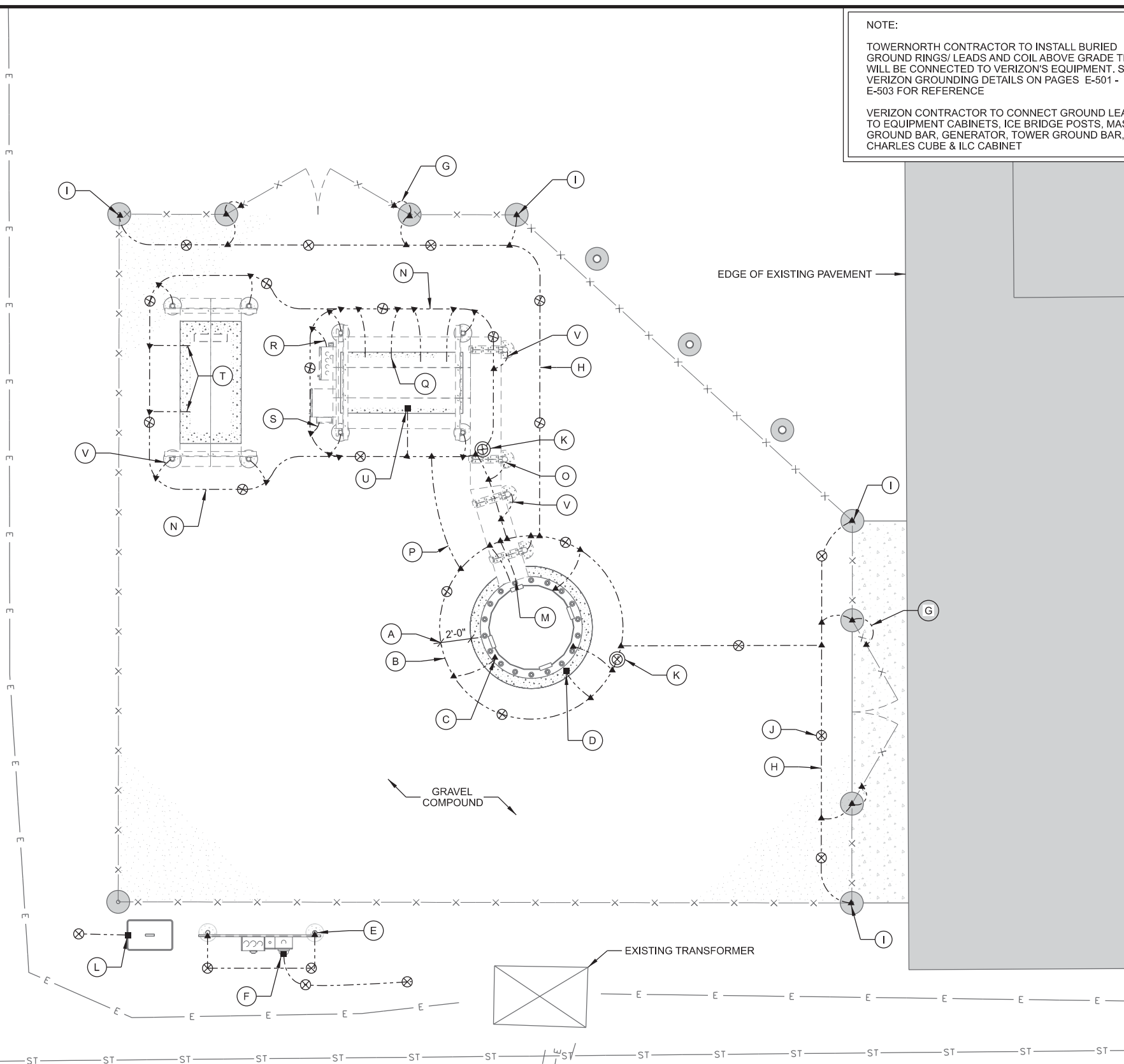
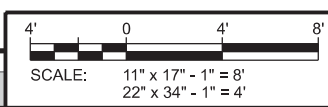
EDGE OF EXISTING PAVEMENT

EXISTING TRANSFORMER

EXISTING BURIED UTILITIES (TYP.)

GRASS

RIGHT OF WAY



CONSULTANT:

 624 WATER STREET
 PRAIRIE DU SAC, WI 53578
 608.644.1449 VOICE
 608.644.1549 FAX
 www.edgeconsult.com

CLIENT:

ENGINEER SEAL:

PRELIMINARY - NOT FOR CONSTRUCTION

I HEREBY CERTIFY THAT THIS PLAN SET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION OTHER THAN THE EXCEPTIONS NOTED IN THE SHEET INDEX, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF IOWA.

GROUNDING PLAN
DES WILDER (TN #: IA0178)
DES WILDER (VzW #:15969075)
INDIANOLA, IOWA

SUBMITTAL:

INT.	DATE:	DESCRIPTION:
CV	04/11/25	REV. A

CHECKED BY:	PCM
PLOT DATE:	4/11/2025
PROJECT NUMBER:	42052
SET TYPE:	DRAFT
SHEET NUMBER:	TN E-101

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UTILITY PROVIDER INFO:
 ELECTRIC PROVIDER: INDIANOLA MUNICIPAL UTILITIES
 CONTACT: MIKE METCALF
 PHONE: 515.961.9444
 FIBER OPTIC PROVIDER: TBD

CONSULTANT:

Edge
 Consulting Engineers, Inc.
 624 WATER STREET
 PRAIRIE DU SAC, WI 53578
 608.644.1449 VOICE
 608.644.1549 FAX
 www.edgeconsult.com

CLIENT:

 TowerNorth
 verizon

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UTILITY PLAN
 DES WILDER (TN #: IA0178)
 DES WILDER (VzW #: 15969075)
 INDIANOLA, IOWA

SUBMITTAL:

INT.	DATE	DESCRIPTION
CV	04/11/25	REV. A

CHECKED BY	PCM
PLOT DATE	4/11/2025
PROJECT NUMBER	42052
SET TYPE	DRAFT
SHEET NUMBER	TN E-102

EXCEPTION NO. 2
 10' WIDE UTILITY EASEMENT
 PER BOOK 2005 PAGE 3008

FUTURE PARKING LOT; DESIGNED BY OTHERS

EXISTING ELECTRIC CONDUIT
 TO BE RE-ROUTED BY LL. G.C.

PROPOSED RE-ROUTED ELECTRIC
 CONDUIT BY LANDLORD G.C.
 APPROX. 105' IN LENGTH.
 CENTRAL IOWA MECHANICAL.
 CONTACT NEIL YOUNG

CONCRETE LOT

EASEMENT EXTENTS

PROPOSED 1940 SQ.FT LEASE AREA (TOWNORTH)

C/L OF PROPOSED 30' WIDE ACCESS AND
 UTILITY EASEMENT (TOWNORTH)

EXCEPTION NO. 3
 UTILITY EASEMENT
 PER BOOK 2006 PAGE 7448

PROPOSED VERIZON COMPOUND FIBER VAULT
 TO BE FURNISHED & INSTALLED BY
 TOWNORTH CONTRACTOR.
 SEE TN E-502 FOR DETAILS

PROPOSED MULTI-METER
 UTILITY RACK; SEE TN E-503
 FOR DETAILS

EXISTING 3-PHASE TRANSFORMER

PROPOSED MEETPOINT FIBER VAULT
 INSTALLED AT R.O.W. BY TOWNORTH
 CONTRACTOR. SEE TN E-502 FOR DETAIL
 (SOURCE TBD)

EASEMENT EXTENTS

C/L OF PROPOSED 20' WIDE UTILITY
 EASEMENT (TOWNORTH)

RIGHT OF WAY

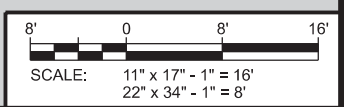
RIGHT OF WAY

HAND DIGGING REQUIRED IN
 THE AREA FROM UTILITY
 SOURCE LOCATION(S) TO THE
 PROPOSED COMPOUND
 LOCATION

PROPOSED FIBER PROVIDER FIBER VAULT
 WITHIN R.O.W. TO BE INSTALLED BY FIBER
 PROVIDER (SOURCE TBD)
 FIBER MMP LAT/LONG:
 LAT: 41°-21'-17.12"
 LONG: 93°-35'-07.58"

APPROX. LOCATION OF
 PROPOSED 50KVA SINGLE
 PHASE TRANSFORMER IN
 R.O.W. BY PROVIDER

EXISTING BURIED UTILITIES



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EXCEPTION NO. 2
10' WIDE UTILITY EASEMENT
PER BOOK 2005 PAGE 3008

PROPOSED 1940 SQ.FT
LEASE AREA (TOWNORTH)

PROPOSED ELECTRIC PULL BOX TO BE INSTALLED
BY TOWNORTH G.C. SEE TN E-502 FOR DETAILS

(1) PROPOSED 2" DIA. SCH. 40 PVC CONDUIT W/
PULL ROPE FOR VERIZON FIBER OPTIC LINE; BY
TOWNORTH CONTRACTOR; APPROX. 47± FROM
VERIZON FIBER VAULT TO VERIZON CHARLES CUBE
(SOURCE TBD). FIBER CABLE PULL & CONNECTION
TO BE COMPLETED BY VERIZON CONTRACTOR

EXISTING BURIED UTILITIES

PROPOSED VERIZON COMPOUND FIBER
VAULT; TO BE INSTALLED BY TOWNORTH
CONTRACTOR. SEE TN E-502 FOR DETAILS

(2) ORANGE 2" DIA. HDPE, SDR 13.5 SMOOTH WALL
CONTINUOUS CONDUITS W/ PULL ROPE FOR FIBER
OPTIC LINE; APPROX. 20± FROM RIGHT OF WAY TO
PROPOSED FIBER VAULT (SOURCE TBD). BY
TOWNORTH CONTRACTOR

EASEMENT EXTENTS

(2) SPARE ORANGE 2" DIA. HDPE, SDR 13.5 SMOOTH
WALL CONTINUOUS CONDUITS W/ PULL ROPES, TO
BE CAPPED FOR FUTURE USE; TO BE INSTALLED BY
TOWNORTH CONTRACTOR (SOURCE TBD)

PROPOSED MEETPOINT FIBER VAULT
INSTALLED AT R.O.W. BY TOWNORTH
CONTRACTOR. SEE TN E-502 FOR DETAIL
(SOURCE TBD)

PROPOSED FIBER PROVIDER FIBER VAULT
WITHIN R.O.W. TO BE INSTALLED BY FIBER
PROVIDER (SOURCE TBD)

EXISTING BURIED UTILITIES

(3) PROPOSED BURIED CONDUITS FROM GENERATOR TO
ILC CABINET: (1) 2" DIA. SCH. 40 PVC CONDUIT & (2) 3/4"
DIA. SCH. 40 PVC CONDUITS BY TOWNORTH
CONTRACTOR; SEE E-505 FOR DETAILS

FUTURE ILC
CABINET

FUTURE
CHARLES
CUBE

(1) PROPOSED 3" DIA. SCH. 40 PVC ELECTRICAL
CONDUIT W/ (2) #3/0 CU, (1) #1/0 CU NEUTRAL, & (1)
#6 GROUND FOR ELECTRIC SERVICE, 42" BELOW
GRADE (MIN.); APPROX. 51' +/- FROM UTILITY RACK
TO INTEGRATED LOAD CENTER (ILC), BY
TOWNORTH CONTRACTOR

GRAVEL
COMPOUND

EXISTING BURIED ELECTRIC
CONDUIT TO BE RE-ROUTED
BY LL G.C.

C/L OF PROPOSED 30' WIDE ACCESS AND
UTILITY EASEMENT (TOWNORTH)

CONCRETE
PARKING
LOT

EASEMENT
EXTENTS

UTILITY PROVIDER INFO:

ELECTRIC PROVIDER: INDIANOLA MUNICIPAL UTILITIES
CONTACT: MIKE METCALF
PHONE: 515.961.9444
FIBER OPTIC PROVIDER: TBD

CONSULTANT:

Edge
Consulting Engineers, Inc
624 WATER STREET
PRAIRIE DU SAC, WI 53578
608.644.1449 VOICE
608.644.1549 FAX
www.edgeconsult.com

CLIENT:

TowerNorth
verizon

ENGINEER SEAL:

**PRELIMINARY -
NOT FOR CONSTRUCTION**

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SET WAS PREPARED BY ME OR
UNDER MY DIRECT SUPERVISION
OTHER THAN THE EXCEPTIONS
NOTED IN THE SHEET INDEX, AND
THAT I AM A DULY LICENSED
PROFESSIONAL ENGINEER
UNDER THE LAWS OF THE
STATE OF IOWA.

**ENLARGED UTILITY PLAN
DES WILDER (TN #: IA0178)
DES WILDER (VzW #:15969075)
INDIANOLA, IOWA**

SUBMITTAL:

INT.	DATE:	DESCRIPTION:
CV	04/11/25	REV. A

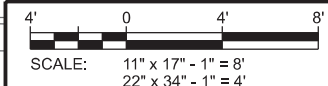
CHECKED BY: PCM

PLOT DATE: 4/11/2025

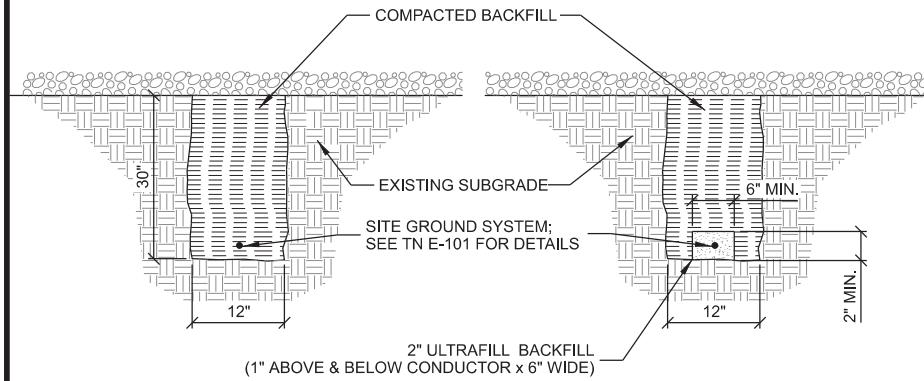
PROJECT NUMBER: 42052

SET TYPE: DRAFT

SHEET NUMBER: **TN E-103**

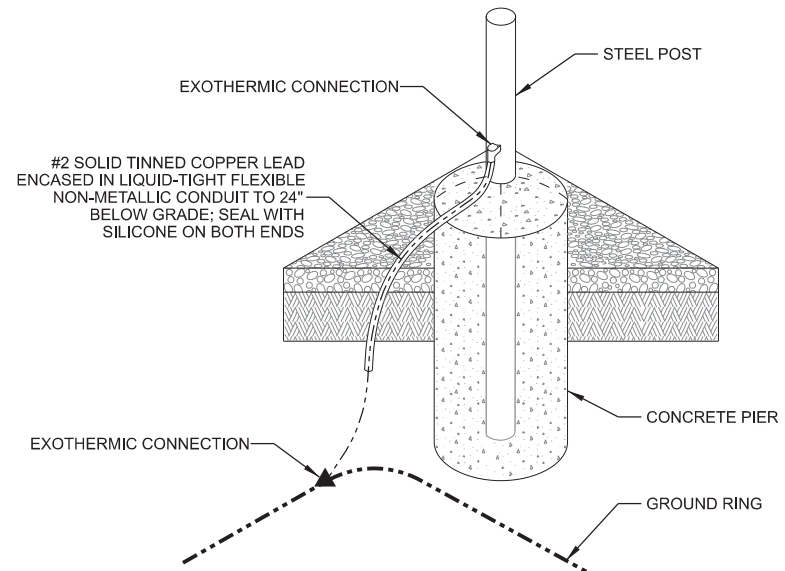


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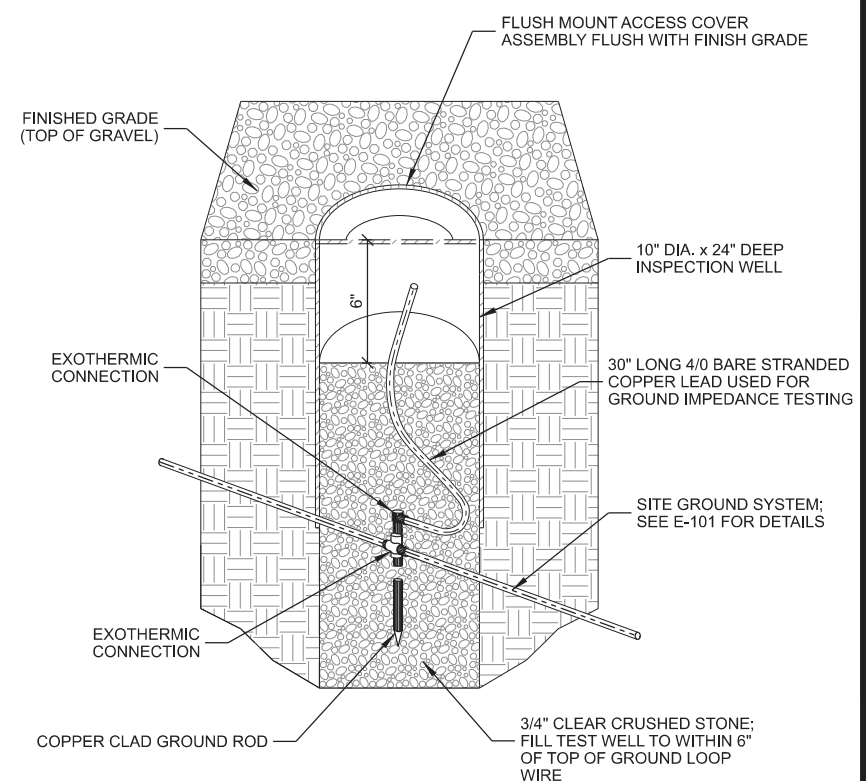


A GROUND TRENCH

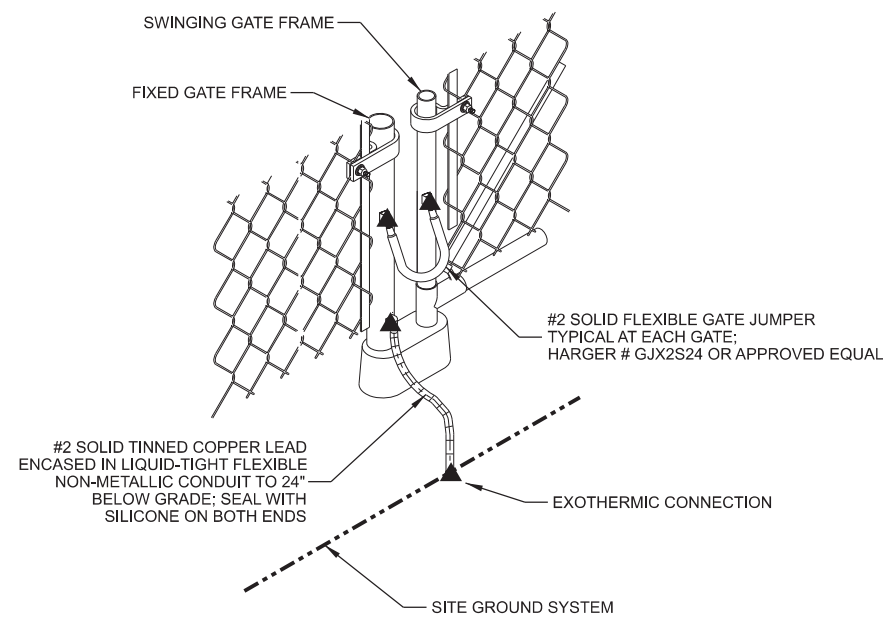
- NOTES:
1. GROUNDING TRENCHES TO BE BACK FILLED WITH NATIVE SOIL.
 2. COMPACT BACK FILL TO 95% MODIFIED PROCTOR.
 3. CONTACT PSC MINIMUM 24HRS NOTICE PRIOR TO BACK FILLING TO ALLOW FOR INSPECTION.



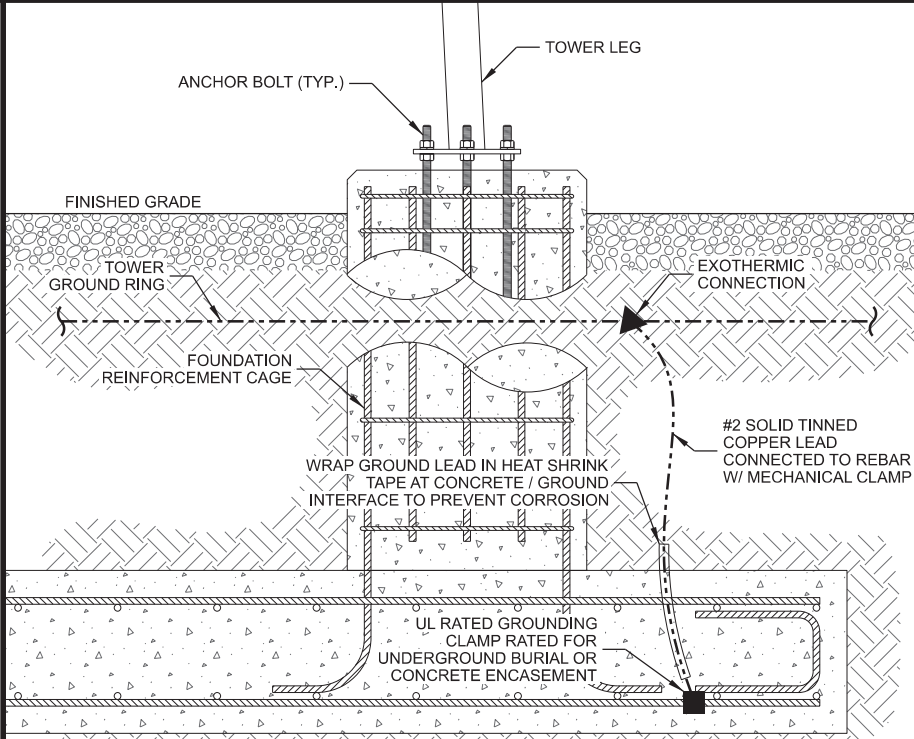
B POST GROUNDING



C INSPECTION WELL



D FENCE GATE GROUNDING



- NOTES:
1. FOUNDATION SHOWN IS TYPICAL. SEE TOWER FOUNDATION PLANS FOR REINFORCEMENT DETAILS.
 2. FOUNDATION GROUNDING PER NEC 250.52(3)(A). GROUNDING CONNECTIONS TO BE COVERED BY A MINIMUM OF 3" CONCRETE AND BE MADE TO A MIN. 20" CONTINUOUS REBAR.

E TOWER FOUNDATION GROUNDING

THIS SPACE INTENTIONALLY LEFT BLANK

CONSULTANT:
Edge
 Consulting Engineers, Inc
 624 WATER STREET
 PRAIRIE DU SAC, WI 53578
 608.644.1449 VOICE
 608.644.1549 FAX
 www.edgeconsult.com

CLIENT:

 TowerNorth
verizon

ENGINEER SEAL:
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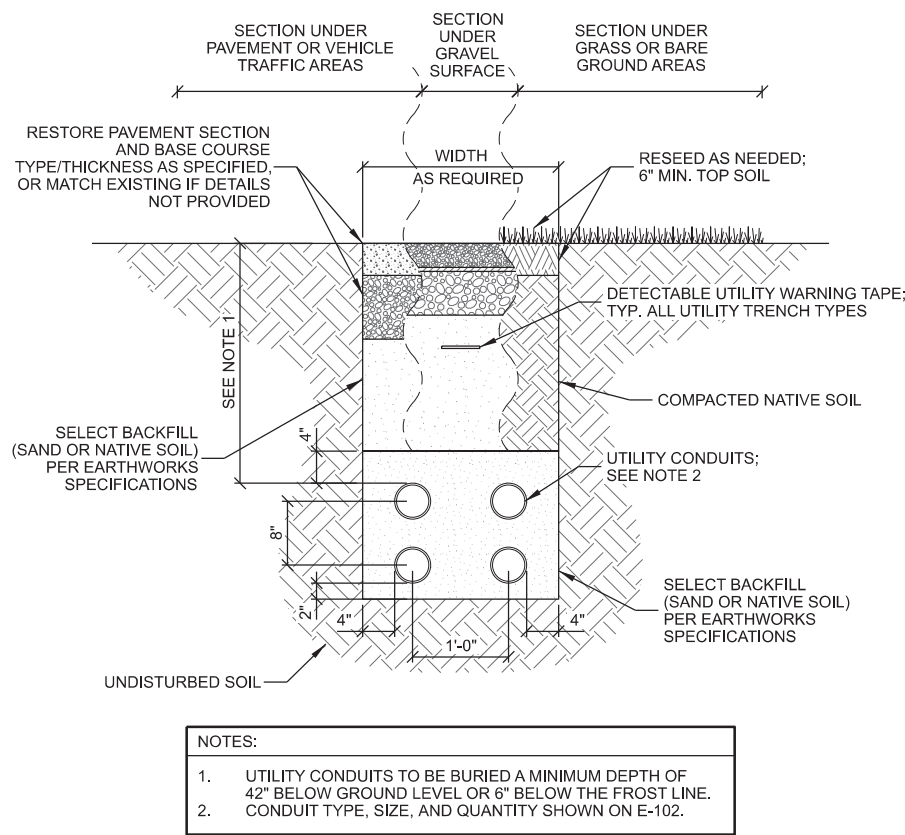
GROUNDING DETAILS
 DES WILDER (TN #: IA0178)
 DES WILDER (VZW #: 15969075)
 INDIANOLA, IOWA

SUBMITTAL:

INT.	DATE:	DESCRIPTION:
CV	04/11/25	REV. A

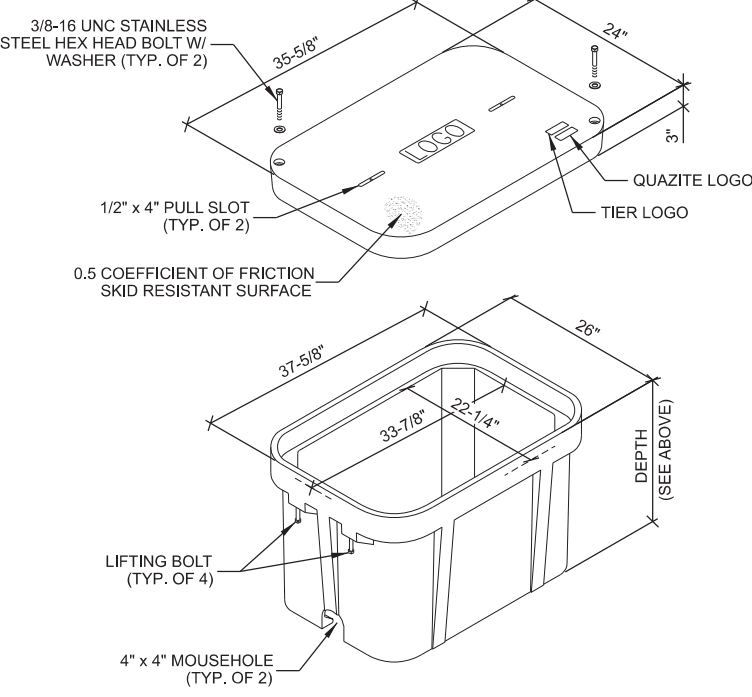
CHECKED BY:	PCM
PLOT DATE:	4/11/2025
PROJECT NUMBER:	42052
SET TYPE:	DRAFT
SHEET NUMBER:	TN E-501

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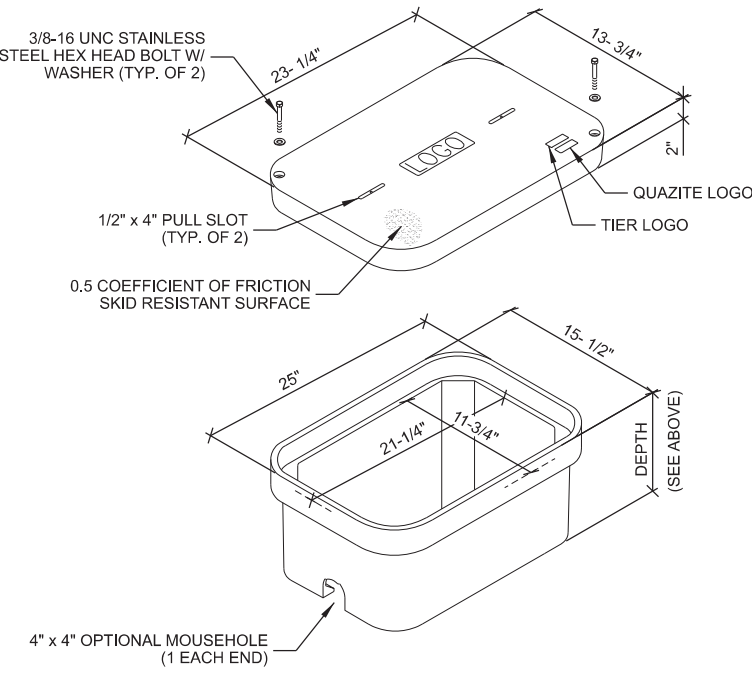
A UTILITY TRENCH

MANUFACTURER: QUAZITE
 MODEL: PG2436BA36 (SPlice BOX)
 PG2436BA24 (PULL BOX)
 PG2436KK00 (COVER)
 INSIDE DIMENSIONS:
 24" x 36" x 36" (L x W x D) SPlice BOX
 24" x 36" x 24" (L x W x D) PULL BOX
 POLYMER CONCRETE BOX WITH OPEN BOTTOM



B UTILITY VAULT

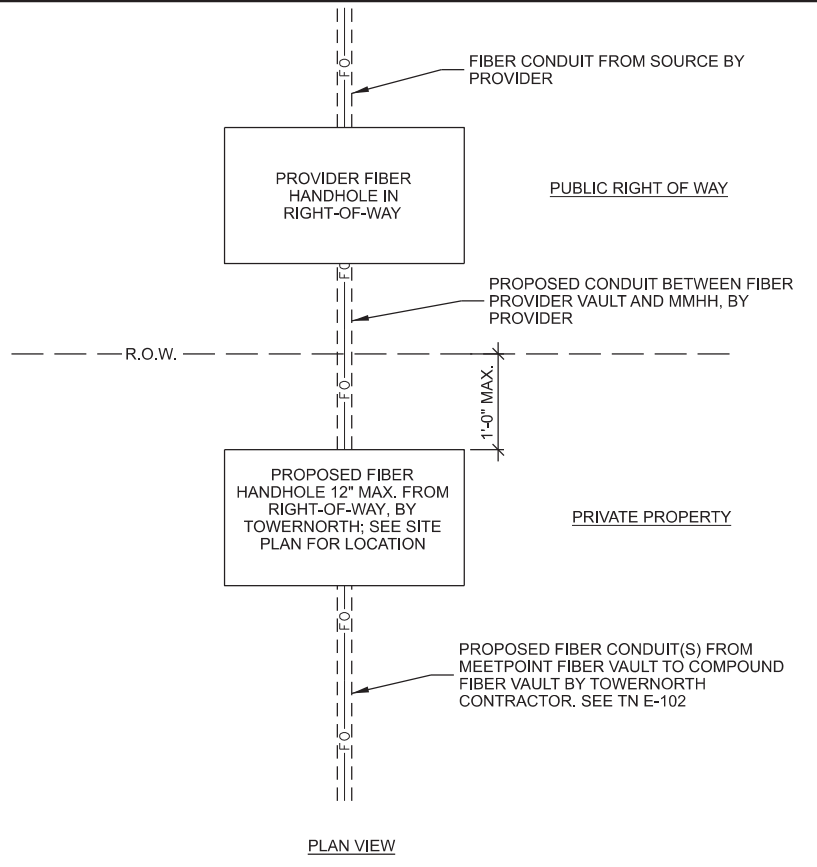
MANUFACTURER: QUAZITE
 MODEL: PG1324BA18 (PULL BOX)
 PG1324CA00 (COVER)
 INSIDE DIMENSIONS:
 13" x 24" x 18" (L x W x D) PULL BOX
 POLYMER CONCRETE BOX WITH OPEN BOTTOM



D PULL BOX

WARNING TAPE & TRACE WIRE NOTES: (THIS SHEET)

- WARNING TAPE TO BE INSTALLED ABOVE THE ELECTRICAL RUN FROM THE GENERATOR TO THE PLATFORM AND ABOVE THE FUEL LINE BETWEEN THE GENERATOR AND FUEL SOURCE.
- WARNING TAPE SHALL BE RUN CONTINUOUSLY ALONG THE ENTIRE LENGTH AND INSTALLED 12 INCHES ABOVE THE TOP OF THE CONDUITS
- TRACER WIRE SHALL RUN CONTINUOUSLY ALONG THE ENTIRE LENGTH OF THE BURIED GAS AND ELECTRIC CONDUITS
- TRACER WIRE SHALL BE SECURED TO THE CONDUIT AND MAINTAINED ABOVE THE CONDUIT CENTERLINE DURING TRENCH BACKFILLING.
- TRACER WIRE TO EXTEND TO THE TOP OF PVC ABOVE CONCRETE ON BOTH ENDS - LOOP AND WRAP AROUND APPROPRIATE CONDUIT.
- TRACER WIRE SHALL CONSIST OF 14GA. SOLID COPPER WIRE WITH A CORROSION PROTECTIVE COATING.
- INSTALL TRACER WIRE WITH SPACER AND SECURE PER MNFG. RECOMMENDATIONS - AT A MIN. EVERY 10' AND AT ALL BENDS. - DO NOT WRAP BURIED CONDUIT WITH TRACER WIRE TO AVOID UNNECESSARY STRESS ON TRACER. - CONTRACTOR TO CHECK CONTINUITY OF TRACER WIRE BEFORE AND AFTER BURIAL AND DOCUMENT RESULTS. 12" ABOVE THE TOP OF THE CONDUITS.



C FIBER HANDHOLE INSTALLATION

THIS SPACE INTENTIONALLY LEFT BLANK

CONSULTANT:
Edge
 Consulting Engineers, Inc.
 624 WATER STREET
 PRAIRIE DU SAC, WI 53578
 608.644.1449 VOICE
 608.644.1549 FAX
 www.edgeconsult.com

CLIENT:
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verizon

ENGINEER SEAL:
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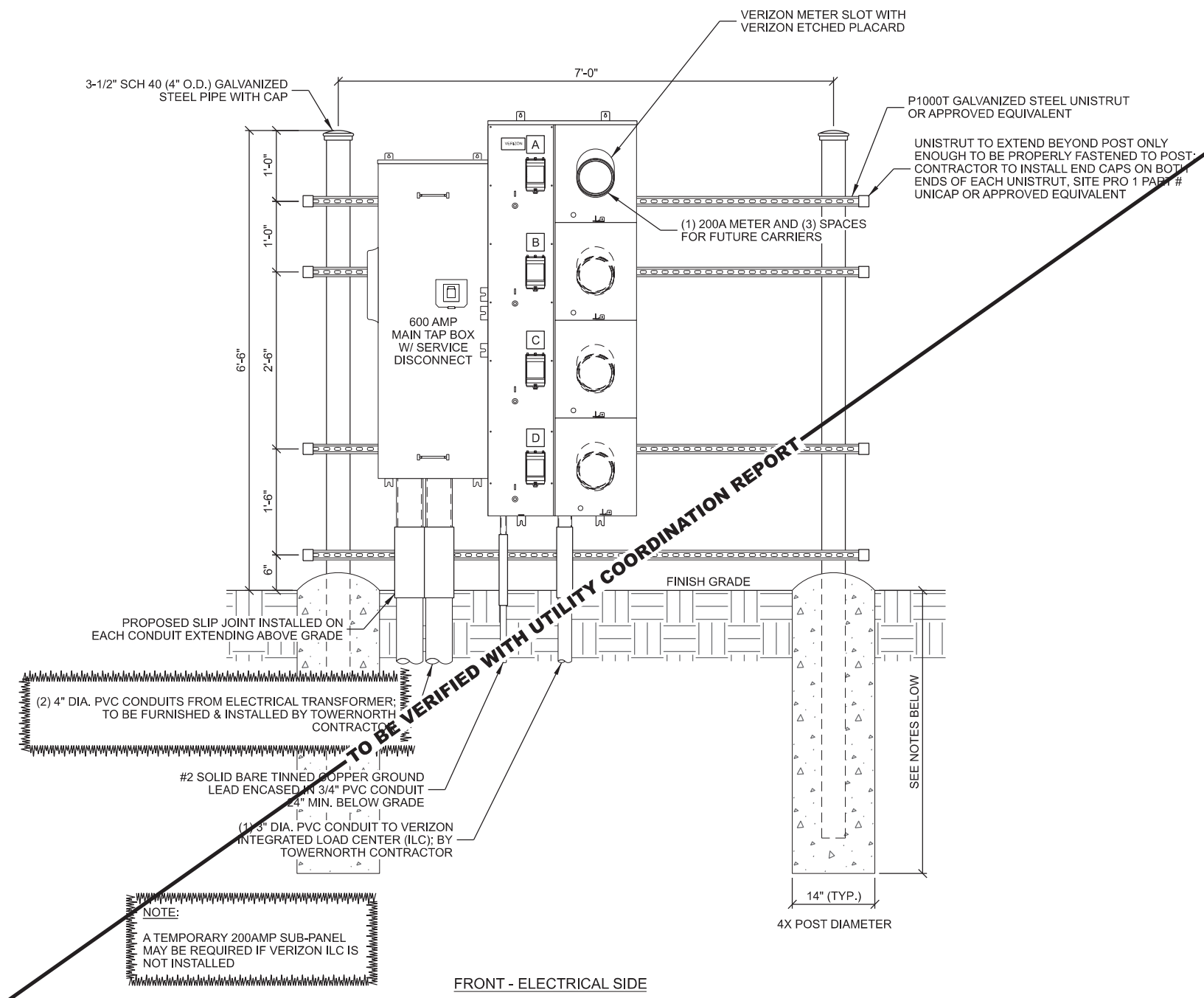
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UTILITY DETAILS
DES WILDER (TN #: IA0178)
DES WILDER (VZW #: 15969075)
INDIANOLA, IOWA

SUBMITTAL:		
INT.	DATE:	DESCRIPTION:
CV	04/11/25	REV. A

CHECKED BY:	PCM
PLOT DATE:	4/11/2025
PROJECT NUMBER:	42052
SET TYPE:	DRAFT
SHEET NUMBER:	TN E-502

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NOTE:
 TOWNORTH CONTRACTOR
 RESPONSIBLE FOR INSTALLING
 VERIZON BREAKER

CONSULTANT:
Edge
 Consulting Engineers, Inc
 624 WATER STREET
 PRAIRIE DU SAC, WI 53578
 608.644.1449 VOICE
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UTILITY RACK DETAILS
 DES WILDER (TN #: IA0178)
 DES WILDER (VZW #:15969075)
 INDIANOLA, IOWA

SUBMITTAL:

INT.	DATE:	DESCRIPTION:
CV	04/11/25	REV. A

CHECKED BY:	PCM
PLOT DATE:	4/11/2025
PROJECT NUMBER:	42052
SET TYPE:	DRAFT
SHEET NUMBER:	TN E-503

NOTE:
 A TEMPORARY 200AMP SUB-PANEL
 MAY BE REQUIRED IF VERIZON ILC IS
 NOT INSTALLED

- NOTE:**
1. INSTALL PVC CONDUITS FOR SERVICE LATERAL CONNECTION TO UTILITY.
 2. EXTEND SERVICE LATERAL CONDUITS UNDERGROUND BEYOND FENCELINE. CAP ENDS (NO DUCT TAPE ALLOWED) AND STAKE. EQUIP WITH PULL CORD. VERIFY REQUIREMENTS W/UTILITY PROVIDER.
 3. MARK CARRIER METER SLOT @ BREAKER OR SOCKET EXTERIOR WITH PLACARD.
 4. SOD EZ METER PAK. 120/240 VAC 1 PHASE. 3 WIRE OR EQUIV. VERIFY REQUIREMENTS WITH UTILITY PROVIDER
 5. FINAL LAYOUT AND DESIGN DETERMINED BY CONTRACTOR/UTILITY. VERIFY FINAL DESIGN WITH THE CARRIER.
 6. CONCRETE FOR PIER TO BE A MINIMUM OF 2,500 PSI AT 28 DAYS.
 7. MAINTAIN 3" MINIMUM REBAR COVER IN ALL DIRECTIONS.
 8. PIER FOUNDATION DEPTH TO BE A MINIMUM OF 48"; DEPTH TO EXCEED LOCAL FROST DEPTH.

A MULTI-METER UTILITY RACK
 SCALE: 11" x 17" - 1/2" = 1'-0"
 22" x 34" - 1" = 1'-0"



A EXISTING DRIVE ENTRANCE



B SITE OVERVIEW (LOOKING NE)



C PROPOSED LEASE AREA LOCATION



D SITE OVERVIEW (LOOKING SOUTH)

CONSULTANT:
Edge
 Consulting Engineers, Inc
 624 WATER STREET
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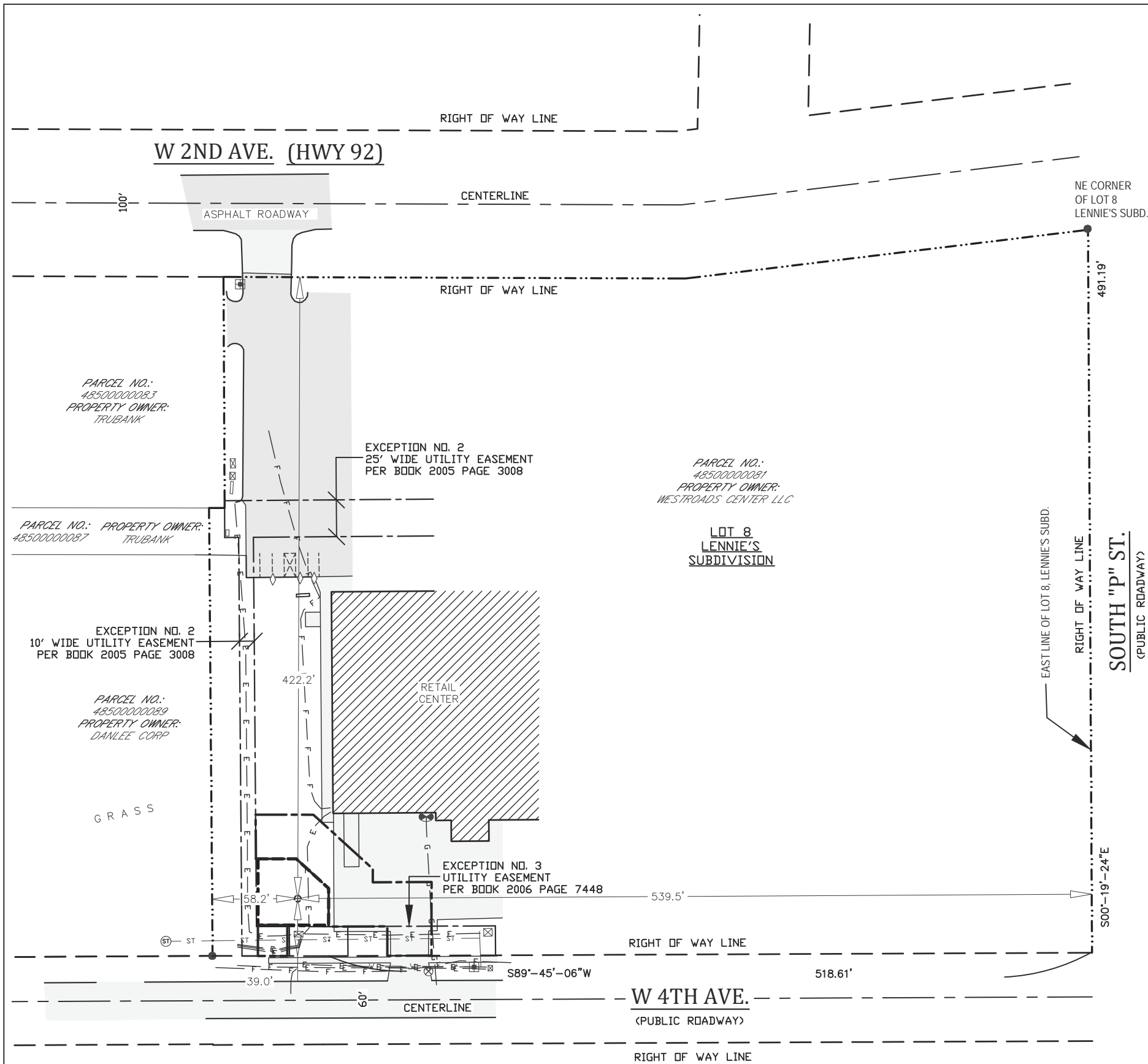
SITE PHOTOS
 DES WILDER (TN #: IA0178)
 DES WILDER (VzW #: 15969075)
 INDIANOLA, IOWA

SUBMITTAL:

INT.	DATE:	DESCRIPTION:
CV	04/11/25	REV. A

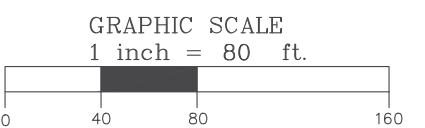
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PLOT DATE:	4/11/2025
PROJECT NUMBER:	42052
SET TYPE:	DRAFT
SHEET NUMBER:	TN R-901

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PROPOSED TOWER BASE
 LATITUDE: 41°-21'-17.44"
 LONGITUDE: 93°-35'-07.30"
 (Per North American Datum of 83/2011)
 Ground Elevation: 960.8'
 (Per North American Vertical Datum of 1988)

- LEGEND—**
- = 1" X 18" IRON PIPE SET
 - = 1" REBAR FOUND
 - = 6" NAIL SET
 - ⊙ = COUNTY MONUMENT FOUND
 - ◇ = TRAFFIC SIGN
 - ⊗ = WATER VALVE
 - ⊕ = STORM MANHOLE
 - ⊖ = MANHOLE
 - ⊙ = GAS METER
 - ⊕ = FIBER OPTIC VAULT
 - ⊗ = ELECTRIC TRANSFORMER
 - ⊕ = STORM INLET (SQUARE)
 - E — F — = BURIED ELECTRIC
 - W — W — = WATER MAIN
 - G — G — = BURIED GAS LINE
 - ST — ST — = STORM SEWER MAIN
 - F — F — = BURIED FIBER OPTIC LINE
 - — — — = PROPERTY LINE
 - 🌳 = EXISTING TREE



PROFESSIONAL LAND SURVEYOR'S CERTIFICATE

I hereby certify that this land surveying document was prepared and the related survey work was performed by me or under my direct personal supervision and that I am a duly licensed Land Surveyor under the laws of the State of Iowa.

Dated this _____ day of _____, 2025.

IOWA PROFESSIONAL LAND SURVEYOR
 Brett J. Becker, License No. P22849
 My license renewal date is December 31, 2026.

SURVEYED FOR:

Edge
 Consulting Engineers, Inc.
 624 Water Street
 Prairie du Sac, WI 53578
 608.644.1449 voice
 608.644.1549 fax
 www.edgeconsult.com

SURVEYED FOR:

TowerNorth
 750 W. Center St. Floor 3
 West Bridgewater, MA 02379
 1-800-821-5825 x2

MERIDIAN
 SURVEYING, LLC

N9637 Friendship Drive Office: 920-993-0881
 Kaukauna, WI 54130 Fax: 920-273-6037

SITE NAME:
DES WILDER

SITE NUMBER:
IA-1078-B

SITE ADDRESS:
**1801 W 2ND AVE
 INDIANOLA, IA 50125**

PROPERTY OWNER:
 WESTROADS CENTER LLC
 3928 140TH ST
 URBANDLAE, IA 50323

PARCEL NO.: 48500000081

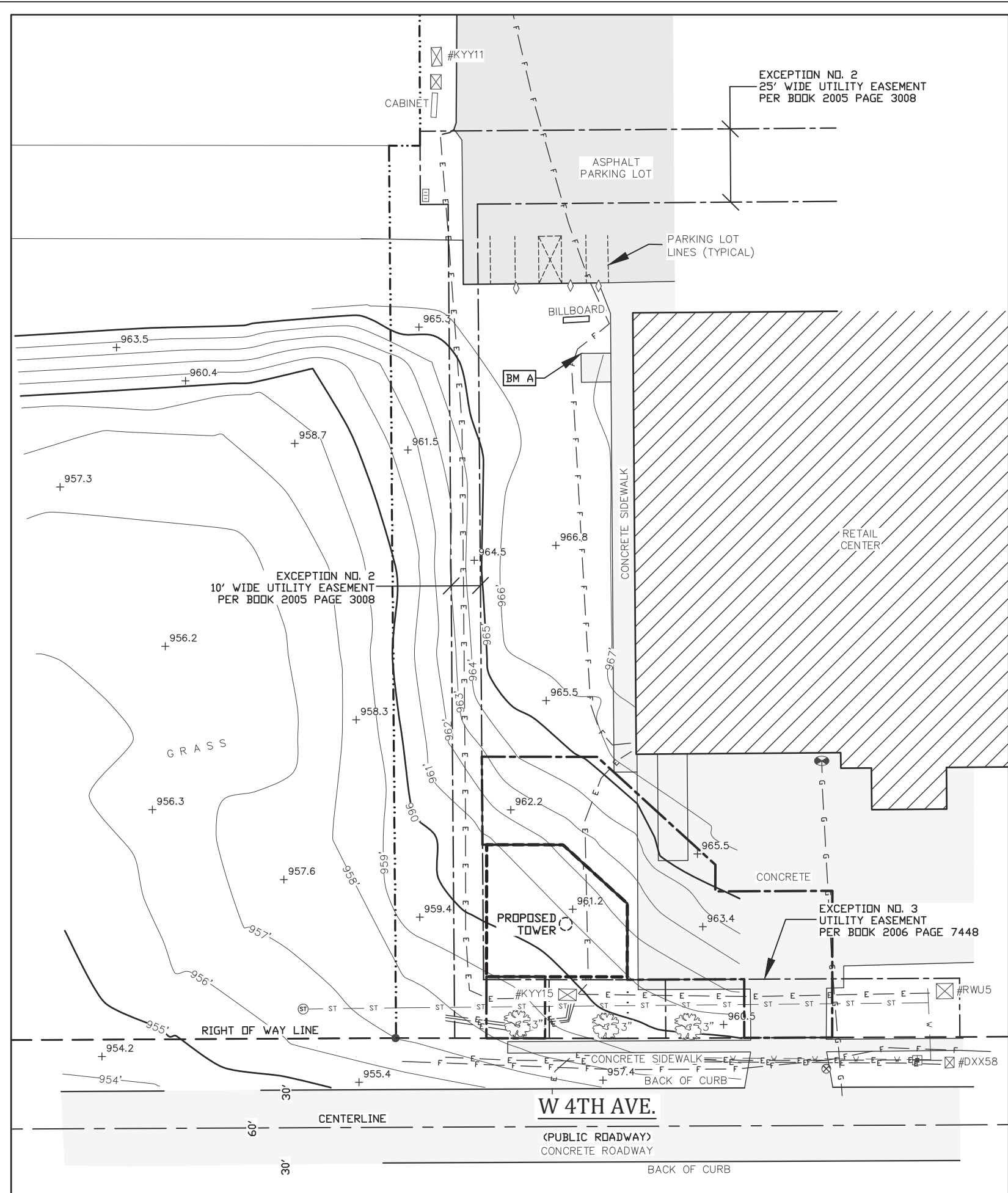
ZONED: X

DEED REFERENCE: BOOK 269 PAGE 201

LEASE EXHIBIT
 FOR
TOWER NORTH
 A PART OF THE NW1/4 OF THE SE1/4
 AND THE SW1/4 OF THE SE1/4,
 SECTION 26, T.76N. R.24W.,
 5TH P.M., CITY OF INDIANOLA,
 WARREN COUNTY, IOWA

NO.	DATE	DESCRIPTION	BY
3	4-10-25	Added Lease & Easement	KR
2	1-21-25	Added Title Report Review	JB
1	12-30-24	Preliminary Survey	KR

DRAWN BY: KR	FIELD WORK DATE: 12-18-24
CHECKED BY: BJB	FIELD BOOK: X
JOB NO.: 15957	SHEET 1 OF 3



SURVEY NOTES:

-THE LOCATION OF THE EXISTING UTILITIES, AS SHOWN ON THIS PLAN, ARE APPROXIMATE ONLY. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY ACTUAL LOCATION AND DEPTH OF ALL EXISTING UTILITIES. THE OWNER AND THE SURVEYOR SHALL NOT BE RESPONSIBLE FOR ANY OMISSION OR VARIATION FROM THE LOCATION SHOWN.

-IOWA ONE CALL TICKET NO. 243451368.

-PRIVATE UTILITIES MARKED ON 12-18-2024.

-THIS IS NOT A BOUNDARY SURVEY OF THE PARENT PARCEL. THIS SURVEY REPRESENTS THE LEASE AREA AND EASEMENTS ONLY.

FEMA NOTE:

-ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) FLOOD MAPS, THE PROPOSED TELECOMMUNICATIONS SITE IS LOCATED IN ZONE "X", FIRM PANEL NO. 19181C0277F, DATED NOVEMBER 16 2018, AND IS NOT IN A SPECIAL FLOOD HAZARD AREA. ZONE "X" IS DESIGNATED AS: "AREA OF MINIMAL FLOOD HAZARD".

WETLAND NOTE:

-THE PRESENCE AND LOCATION OF WETLANDS HAS NOT BEEN DETERMINED ON THIS PROPERTY. WETLANDS SHOULD ONLY BE DETERMINED BY ACTUAL FIELD DELINEATION PERFORMED BY A QUALIFIED WETLAND SPECIALIST.



BENCHMARK INFORMATION

SITE BENCHMARK: (BM A)
SET CHISELED X ON NORTHWEST CORNER OF CONCRETE SQUARE
ELEVATION: 966.77'

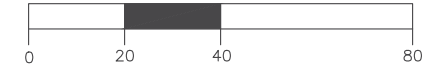
BEARINGS REFERENCED TO THE IOWA STATE PLANE COORDINATE SYSTEM (NAD83/2011) - SOUTH ZONE AND EAST LINE OF LOT 8, LENNIE'S SUBD., SECTION 26, T.76N., R.24W., WHICH BEARS: S00°-19'-24"E



-LEGEND-

- = 1" X 18" IRON PIPE SET
- = 1" REBAR FOUND
- = 6" NAIL SET
- ⊙ = COUNTY MONUMENT FOUND
- ◇ = TRAFFIC SIGN
- ⊗ = WATER VALVE
- ⊕ = STORM MANHOLE
- ⊖ = MANHOLE
- ⊙ = GAS METER
- ⊕ = FIBER OPTIC VAULT
- ⊗ = ELECTRIC TRANSFORMER
- ⊖ = STORM INLET (SQUARE)
- E — E — = BURIED ELECTRIC
- W — W — = WATER MAIN
- G — G — = BURIED GAS LINE
- ST — ST — = STORM SEWER MAIN
- F — F — = BURIED FIBER OPTIC LINE
- - - - - = PROPERTY LINE
- ⊗ = EXISTING TREE

GRAPHIC SCALE
1 inch = 40 ft.



PROFESSIONAL LAND SURVEYOR'S CERTIFICATE

I hereby certify that this land surveying document was prepared and the related survey work was performed by me or under my direct personal supervision and that I am a duly licensed Land Surveyor under the laws of the State of Iowa.

Dated this _____ day of _____, 2025.

IOWA PROFESSIONAL LAND SURVEYOR
Brett J. Becker, License No. P22849
My license renewal date is December 31, 2026.

SURVEYED FOR:

Edge
Consulting Engineers, Inc.
624 Water Street
Prairie du Sac, WI 53578
608.644.1449 voice
608.644.1549 fax
www.edgeconsult.com

SURVEYED FOR:

TowerNorth
750 W. Center St. Floor 3
West Bridgewater, MA 02379
1-800-821-5825 x2

MERIDIAN
SURVEYING, LLC

N9637 Friendship Drive Office: 920-993-0881
Kaukauna, WI 54130 Fax: 920-273-6037

SITE NAME:
DES WILDER

SITE NUMBER:
IA-1078-B

SITE ADDRESS:
1801 W 2ND AVE
INDIANOLA, IA 50125

PROPERTY OWNER:
WESTROADS CENTER LLC
3928 140TH ST
URBANDLAE, IA 50323

PARCEL NO.: 48500000081

ZONED: X

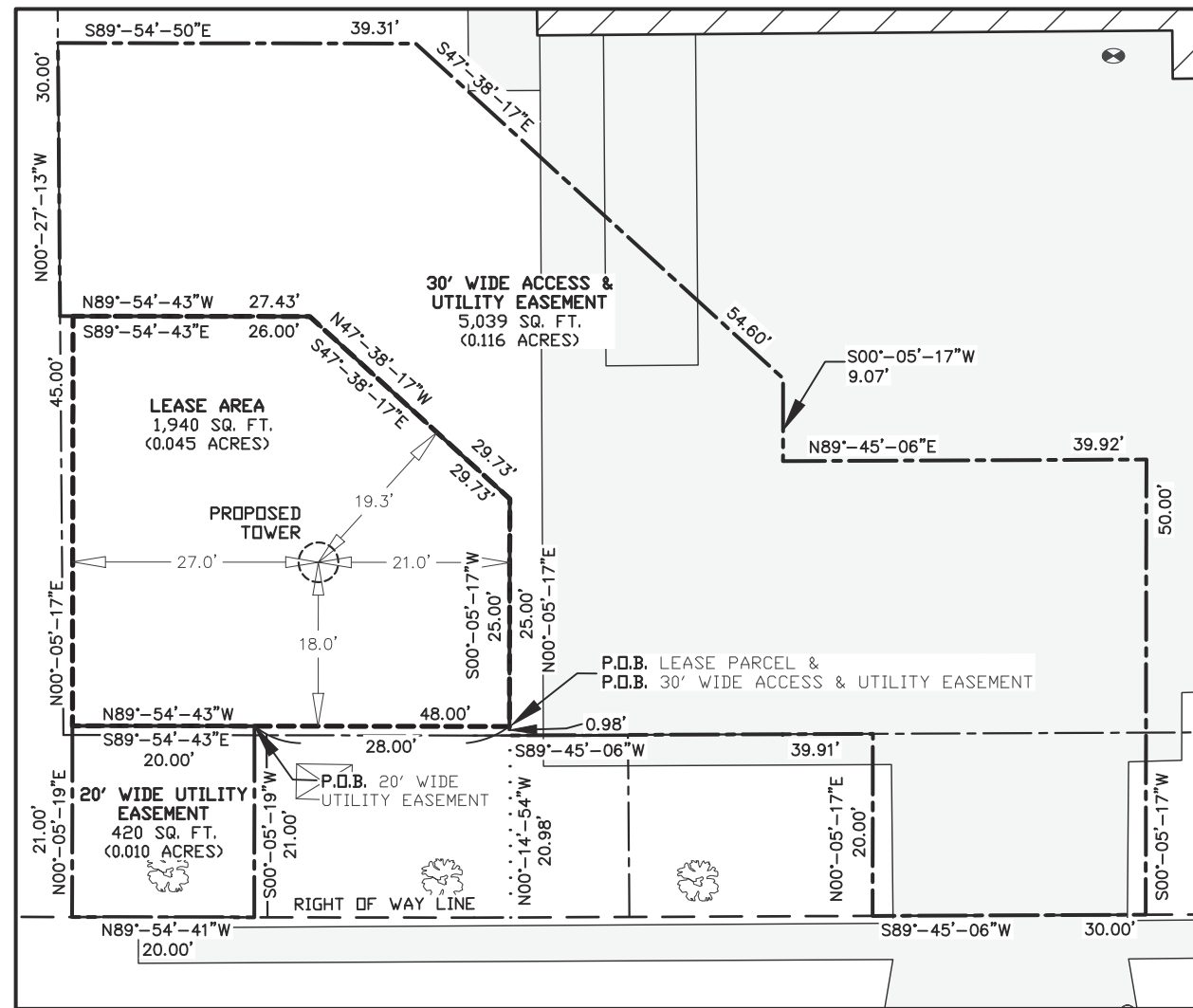
DEED REFERENCE: BOOK 269 PAGE 201

LEASE EXHIBIT
FOR
TOWER NORTH

A PART OF THE NW1/4 OF THE SE1/4
AND THE SW1/4 OF THE SE1/4,
SECTION 26, T.76N. R.24W.,
5TH P.M., CITY OF INDIANOLA,
WARREN COUNTY, IOWA

NO.	DATE	DESCRIPTION	BY
3	4-10-25	Added Lease & Easement	KR
2	1-21-25	Added Title Report Review	JB
1	12-30-24	Preliminary Survey	KR

DRAWN BY: KR	FIELD WORK DATE: 12-18-24
CHECKED BY: BJB	FIELD BOOK: X
JOB NO.: 15957	SHEET 2 OF 3



LEASE AREA
 Part of Lot Eight (8) Lennie's Subdivision; located in the Southwest Quarter (SW1/4) of the Southeast Quarter (SE1/4) of Section Twenty-Six (26), Town Seventy-Six (76) North; Range Twenty-Four (24) West, 5th Principal Meridian, City of Indianola, Warren County, Iowa, containing 1,940 square feet (0.045 acres) of land and being described by:

Commencing at the Northeast Corner of said Lot 8 of Lennie's Subdivision; thence S00°-19'-24"E 491.19 feet along the east line of said Lot 8 to a point on the north line of W. 4th Avenue.; thence S89°-45'-06"W 518.61 feet along said north line of W. 4th Avenue; thence N00°-14'-54"W 20.98 feet to the point of beginning; thence N89°-54'-43"W 48.00 feet; thence N00°-05'-17"E 45.00 feet; thence S89°-54'-43"E 26.00 feet; thence S47°-38'-17"E 29.73 feet; thence S00°-05'-17"W 25.00 feet to the point of beginning. Being subject to any and all easements and restrictions of record.

20' WIDE UTILITY EASEMENT
 Part of Lot Eight (8) Lennie's Subdivision; located in the Southwest Quarter (SW1/4) of the Southeast Quarter (SE1/4) of Section Twenty-Six (26), Town Seventy-Six (76) North; Range Twenty-Four (24) West, 5th Principal Meridian, City of Indianola, Warren County, Iowa, containing 420 square feet (0.010 acres) of land and being described by:

Commencing at the Northeast Corner of said Lot 8 of Lennie's Subdivision; thence S00°-19'-24"E 491.19 feet along the east line of said Lot 8 to a point on the north line of W. 4th Avenue.; thence S89°-45'-06"W 518.61 feet along said north line of W. 4th Avenue; thence N00°-14'-54"W 20.98 feet; thence N89°-54'-43"W 28.00 feet to the point of beginning; thence S00°-05'-19"W 21.00 feet to a point on the north line of W. 4th Avenue; thence N89°-54'-41"W 20.00 feet along said line of W. 4th Avenue; thence N00°-05'-19"E 21.00 feet; thence S89°-54'-43"E 20.00 feet to the point of beginning. Being subject to any and all easements and restrictions of record.

30' WIDE ACCESS & UTILITY EASEMENT
 Part of Lot Eight (8) Lennie's Subdivision; located in the Southwest Quarter (SW1/4) of the Southeast Quarter (SE1/4) of Section Twenty-Six (26), Town Seventy-Six (76) North; Range Twenty-Four (24) West, 5th Principal Meridian, City of Indianola, Warren County, Iowa, containing 5,039 square feet (0.116 acres) of land and being described by:

Commencing at the Northeast Corner of said Lot 8 of Lennie's Subdivision; thence S00°-19'-24"E 491.19 feet along the east line of said Lot 8 to a point on the north line of W. 4th Avenue.; thence S89°-45'-06"W 518.61 feet along said north line of W. 4th Avenue; thence N00°-14'-54"W 20.98 feet to the point of beginning; thence N00°-05'-17"E 25.00 feet; thence N47°-38'-17"W 29.73 feet; thence N89°-54'-43"W 27.43 feet; thence N00°-27'-13"W 30.00 feet; thence S89°-54'-50"E 39.31 feet; thence S47°-38'-17"E 54.60 feet; thence S00°-05'-17"W 9.07 feet; thence N89°-45'-06"E 39.92 feet; thence S00°-05'-17"W 50.00 feet to a point on the line of W. 4th Avenue; thence S89°-45'-06"W 30.00 feet along said north line of W. 4th Avenue; thence N00°-05'-17"E 20.00 feet; thence S89°-45'-06"W 39.91 feet.; Thence N00°-05'-17"E 0.98 feet to the point of beginning. Being subject to any and all easements and restrictions of record.

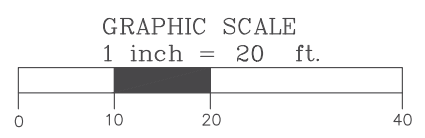
PARENT PARCEL
 A parcel in part of Lot 8, LENNIE'S SUBDIVISION PLAT 1, an Official Plat, now included in and forming a part of the City of Indianola, Warren County, Iowa, more particularly described as follows:

Commencing at the Southwest corner of said Lot 8; thence N90°00'00"E 402.74' to the point of beginning, said point being on the North R-O-W line of West 4th Ave.; thence N0°09'06"W 304.35' to a point on the South line of a parcel described in Book 228, Page 110, in the Office of the Warren County Recorder; thence S89°30'10"E 10.59' along last said line; thence N0°01'25"E 157.00' along the East line of last said parcel to the South R-O-W line of Highway 92; thence S89°30'10"E 313.96' to a corner on last said R-O-W line; thence N83°23'55"E 275.38' to the NE corner of said Lot 8; thence S0°01'17"E 491.19' to the Southeast corner of said Lot 8; thence N89°56'47"W 522.57' along the North R-O-W line of 4th Avenue to a point on said R-O-W; thence N90°00'00"W 75.00 to the Point of Beginning.

TITLE REPORT REVIEW
 TITLE REPORT: BROOKLINE ABSTRACT, LLC
 COMMITMENT NO. 194358-91
 EFFECTIVE DATE: November 22, 2024
 FEE SIMPLE TITLE VESTED IN: Westroads Center LLC

NOTE: THE STATEMENT OF APPLICABILITY REFERS TO THE LEASE SITE AND ANY EASEMENTS PERTINENT THEREUNTO WHERE SPECIFIC ENCUMBRANCES AFFECT THE LEASE SITE AND/OR A PERTINENT EASEMENT, THEY ARE IDENTIFIED AS SUCH.

- (1) Permanent Easement dated 8/10/1998 and recorded at Book 1998, Page 8797. Grant of easement for parking rights. **Does not apply.**
- (2) Easement to City of Indianola dated 3/14/2005 and recorded at Book 2005, Page 3008. **Does apply and is plotted and shown.**
- (3) Easement to City of Indianola dated 7/6/2006 and recorded at Book 2006, Page 7448 **Does apply and is plotted and shown.**
- (4) Easement to City of Indianola dated 3/31/2015 and recorded at Book 2015, Page 4521. Grant of right to install public utilities in 10 foot wide strip. **Does apply but is blanket in nature and cannot be plotted.**
- (5) Affidavit of Possession by Westroads Center, LLC, dated 4/29/2011 and recorded at Book 2011, Page 3383. **Does apply but is not a survey related matter.**



PROFESSIONAL LAND SURVEYOR'S CERTIFICATE
 I hereby certify that this land surveying document was prepared and the related survey work was performed by me or under my direct personal supervision and that I am a duly licensed Land Surveyor under the laws of the State of Iowa.
 Dated this _____ day of _____, 2025.
 IOWA PROFESSIONAL LAND SURVEYOR
 Brett J. Becker, License No. P22849
 My license renewal date is December 31, 2026.

SURVEYED FOR:

Edge
 Consulting Engineers, Inc.
 624 Water Street
 Prairie du Sac, WI 53578
 608.644.1449 voice
 608.644.1549 fax
 www.edgeconsult.com

SURVEYED FOR:

TowerNorth
 750 W. Center St. Floor 3
 West Bridgewater, MA 02379
 1-800-821-5825 x2

MERIDIAN
 SURVEYING, LLC
 N9637 Friendship Drive Office: 920-993-0881
 Kaukauna, WI 54130 Fax: 920-273-6037

SITE NAME:
 DES WILDER
SITE NUMBER:
 IA-1078-B
SITE ADDRESS:
 1801 W 2ND AVE
 INDIANOLA, IA 50125

PROPERTY OWNER:
 WESTROADS CENTER LLC
 3928 140TH ST
 URBANDLAE, IA 50323
PARCEL NO.: 48500000081
ZONED: X
DEED REFERENCE: BOOK 269 PAGE 201

LEASE EXHIBIT
 FOR
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 A PART OF THE NW1/4 OF THE SE1/4
 AND THE SW1/4 OF THE SE1/4,
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NO.	DATE	DESCRIPTION	BY
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DRAWN BY: KR	FIELD WORK DATE: 12-18-24
CHECKED BY: BJB	FIELD BOOK: X
JOB NO.: 15957	SHEET 3 OF 3



CONSULTANT:
Edge
 Consulting Engineers, Inc.
 624 WATER STREET
 PRAIRIE DU SAC, WI 53578
 608.644.1449 VOICE
 608.644.1549 FAX
 www.edgeconsult.com

CLIENT:

 TowerNorth
verizon

ENGINEER SEAL:
PRELIMINARY - NOT FOR CONSTRUCTION

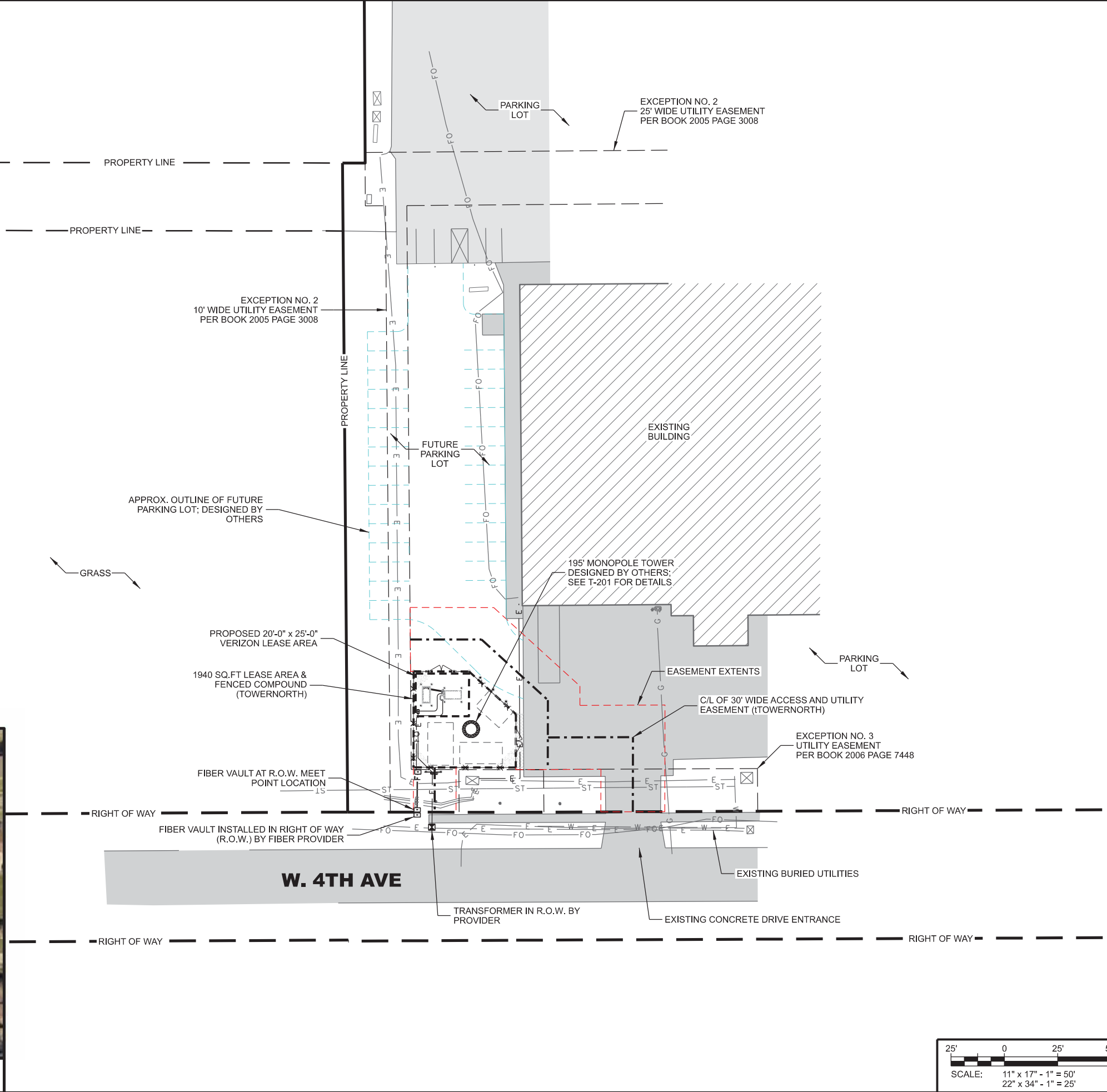
I HEREBY CERTIFY THAT THIS PLAN SET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION OTHER THAN THE EXCEPTIONS NOTED IN THE SHEET INDEX, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF IOWA.

SITE PLAN
 DES WILDER (TN #: IA0178)
 DES WILDER (VzW #: 15969075)
 INDIANOLA, IOWA

- GENERAL NOTES: (THIS SHEET)
- NORTH ARROW SHOWN AS APPROXIMATE.
- FIBER NOTES: (THIS SHEET)
- FIBER COORDINATION IS NOT COMPLETE (PENDING FIBER CONTACT). PRIOR TO CONSTRUCTION, CONTACT DESIGNER FOR UPDATE.



A AERIAL OVERVIEW OF SITE

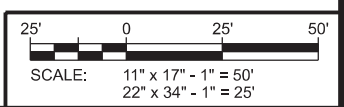


SUBMITTAL:

INT.	DATE:	DESCRIPTION:
CV	04/11/25	REV. A

CHECKED BY:	PCM
PLOT DATE:	4/11/2025
PROJECT NUMBER:	42052
SET TYPE:	DRAFT

SHEET NUMBER: **C-101**



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GENERAL NOTES: (THIS SHEET)

1. NORTH ARROW SHOWN AS APPROXIMATE.

FIBER NOTES: (THIS SHEET)

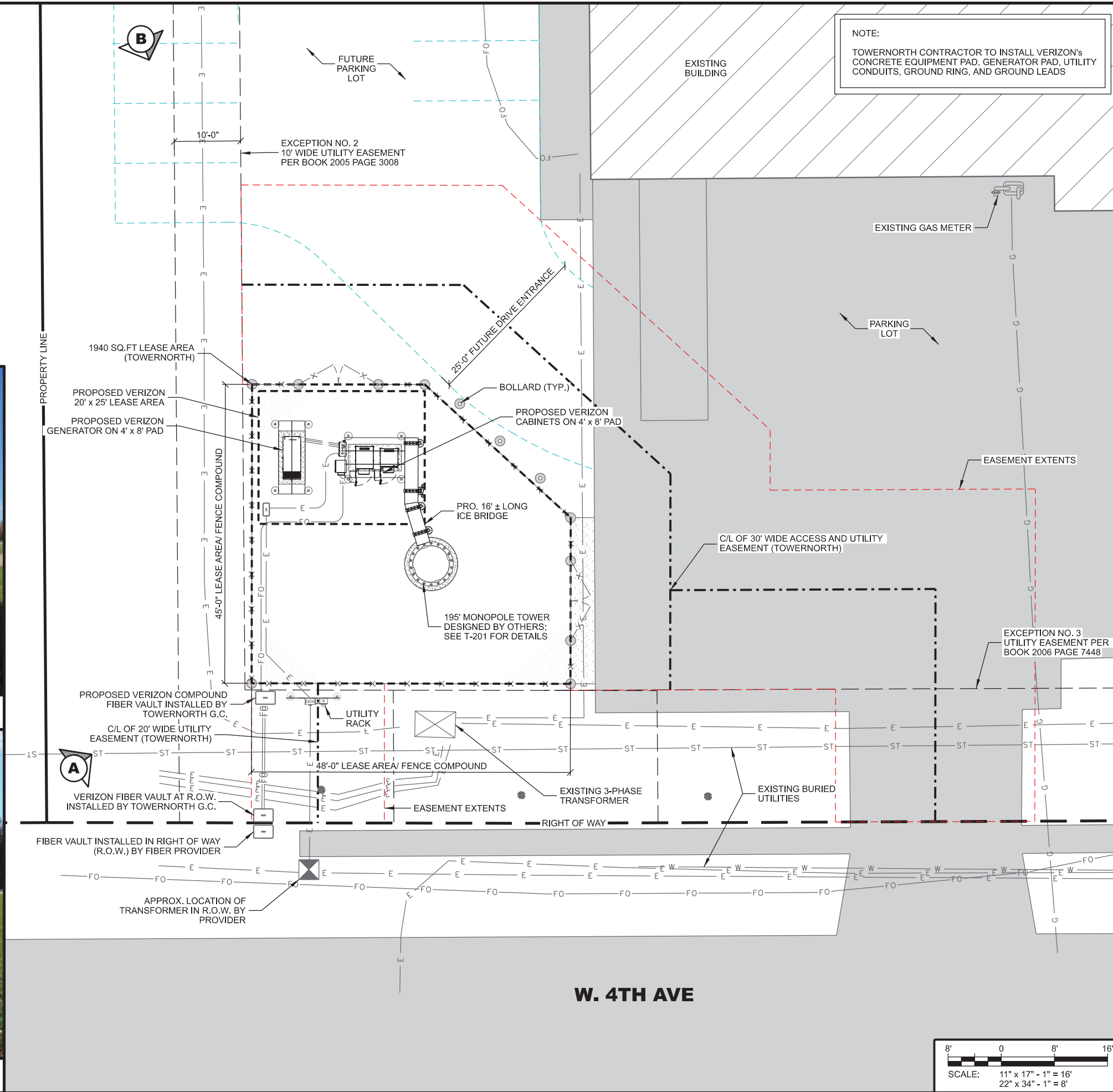
1. FIBER COORDINATION IS NOT COMPLETE (PENDING FIBER CONTACT). PRIOR TO CONSTRUCTION, CONTACT DESIGNER FOR UPDATE.



A SITE OVERVIEW



B PROPOSED LEASE AREA



NOTE:
TOWNORTH CONTRACTOR TO INSTALL VERIZON'S CONCRETE EQUIPMENT PAD, GENERATOR PAD, UTILITY CONDUITS, GROUND RING, AND GROUND LEADS

CONSULTANT:
Edge
Consulting Engineers, Inc
624 WATER STREET
PRAIRIE DU SAC, WI 53578
608.644.1449 VOICE
608.644.1549 FAX
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CLIENT:
TowerNorth
verizon

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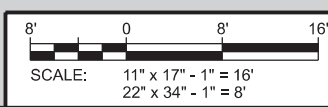
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ENLARGED SITE PLAN
DES WILDER (TN #: IA0178)
DES WILDER (VzW #: 15969075)
INDIANOLA, IOWA

SUBMITTAL:

INT.	DATE:	DESCRIPTION:
CV	04/11/25	REV. A

CHECKED BY:	PCM
PLOT DATE:	4/11/2025
PROJECT NUMBER:	42052
SET TYPE:	DRAFT
SHEET NUMBER:	C-102



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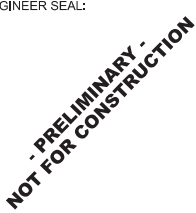
NOTE:
 TOWNORTH CONTRACTOR TO INSTALL VERIZON'S CONCRETE EQUIPMENT PAD, GENERATOR PAD, CANOPY SUPPORT POSTS & FOUNDATION, UTILITY CONDUITS, GROUND RING, AND GROUND LEADS
 PROPOSED BURIED UTILITY CONDUITS FROM VERIZON ILC CABINET AND CHARLES CUBE TO EQUIPMENT CABINETS TO BE INSTALLED BY VERIZON CONTRACTOR

CONSULTANT:

Edge
 Consulting Engineers, Inc.
 624 WATER STREET
 PRAIRIE DU SAC, WI 53578
 608.644.1449 VOICE
 608.644.1549 FAX
 www.edgeconsult.com

CLIENT:

 TowerNorth
verizon

ENGINEER SEAL:

PRELIMINARY - NOT FOR CONSTRUCTION

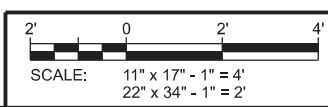
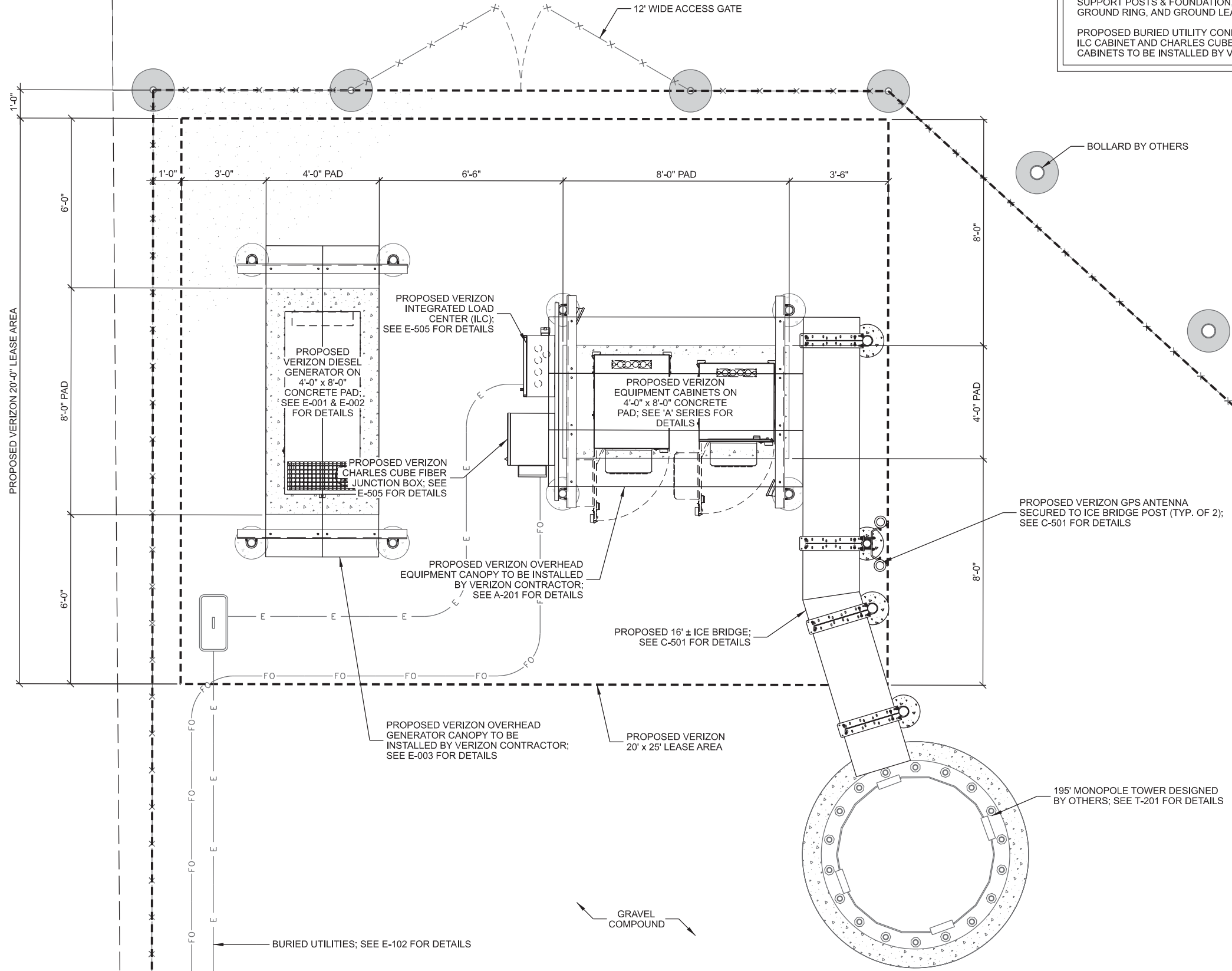
I HEREBY CERTIFY THAT THIS PLAN SET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION OTHER THAN THE EXCEPTIONS NOTED IN THE SHEET INDEX, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF IOWA.

COMPOUND PLAN
 DES WILDER (TN #: IA0178)
 DES WILDER (VzW #:15969075)
 INDIANOLA, IOWA

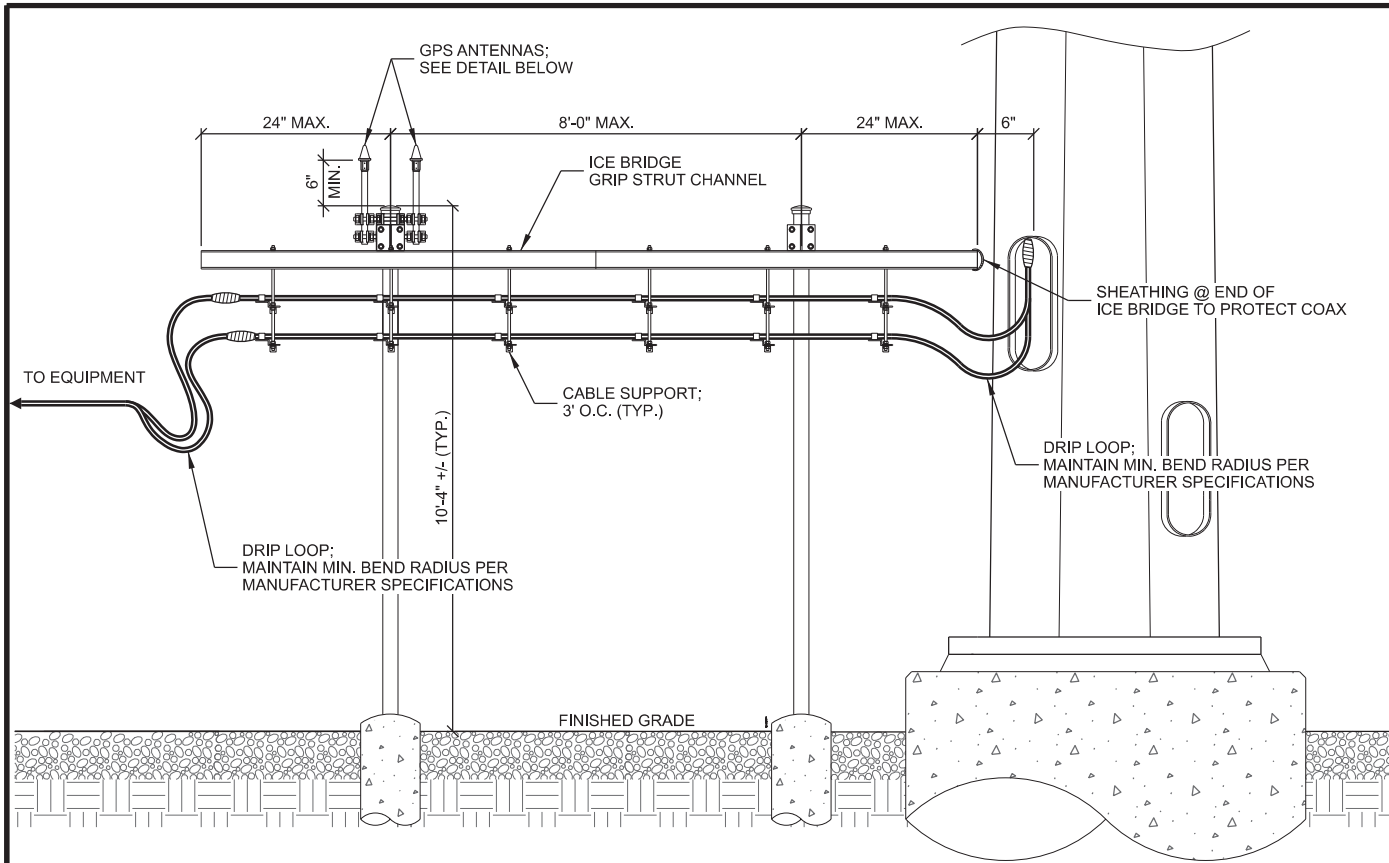
SUBMITTAL:

INT.	DATE	DESCRIPTION:
CV	04/11/25	REV. A

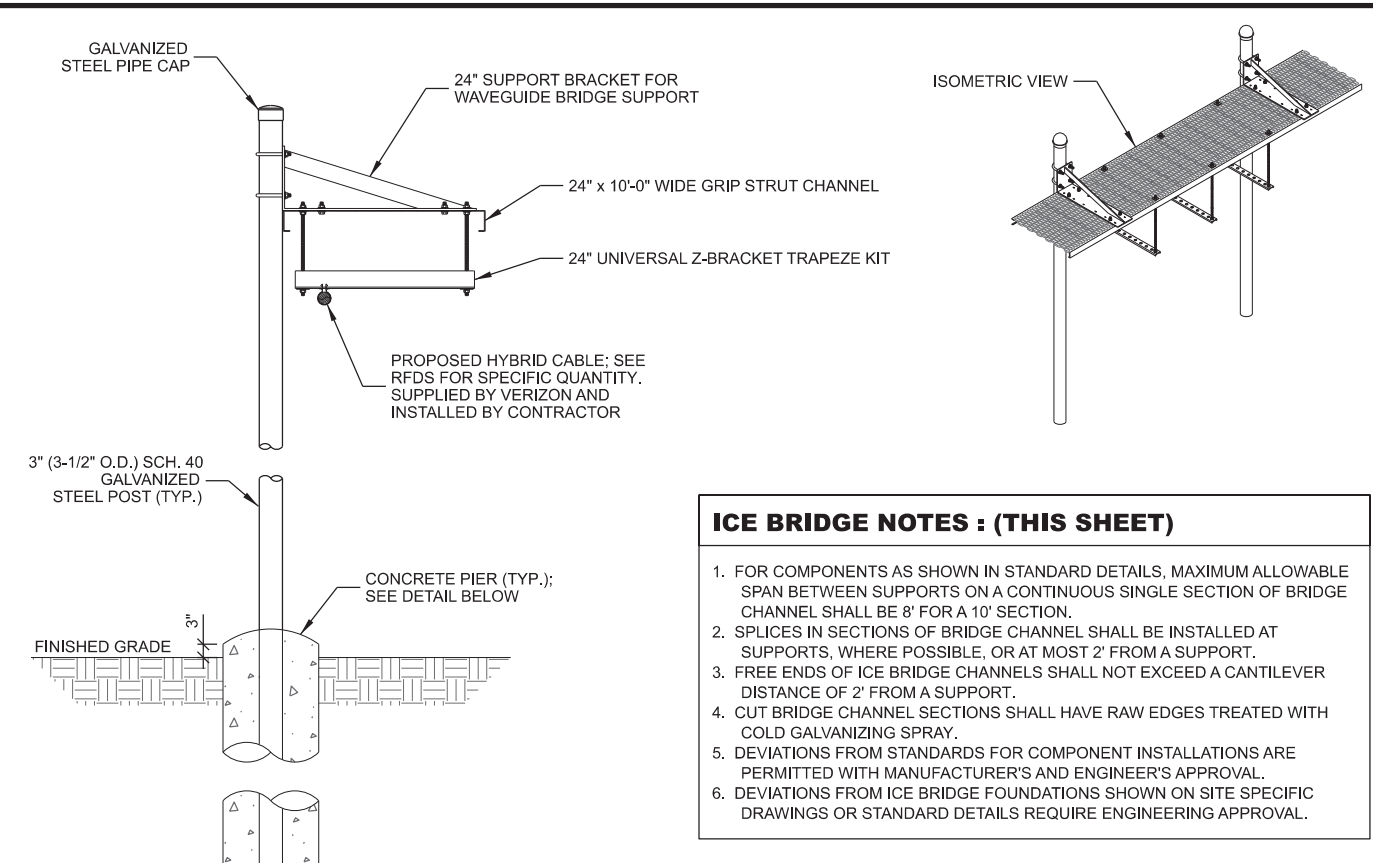
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PROJECT NUMBER	42052
SET TYPE	DRAFT
SHEET NUMBER	C-103



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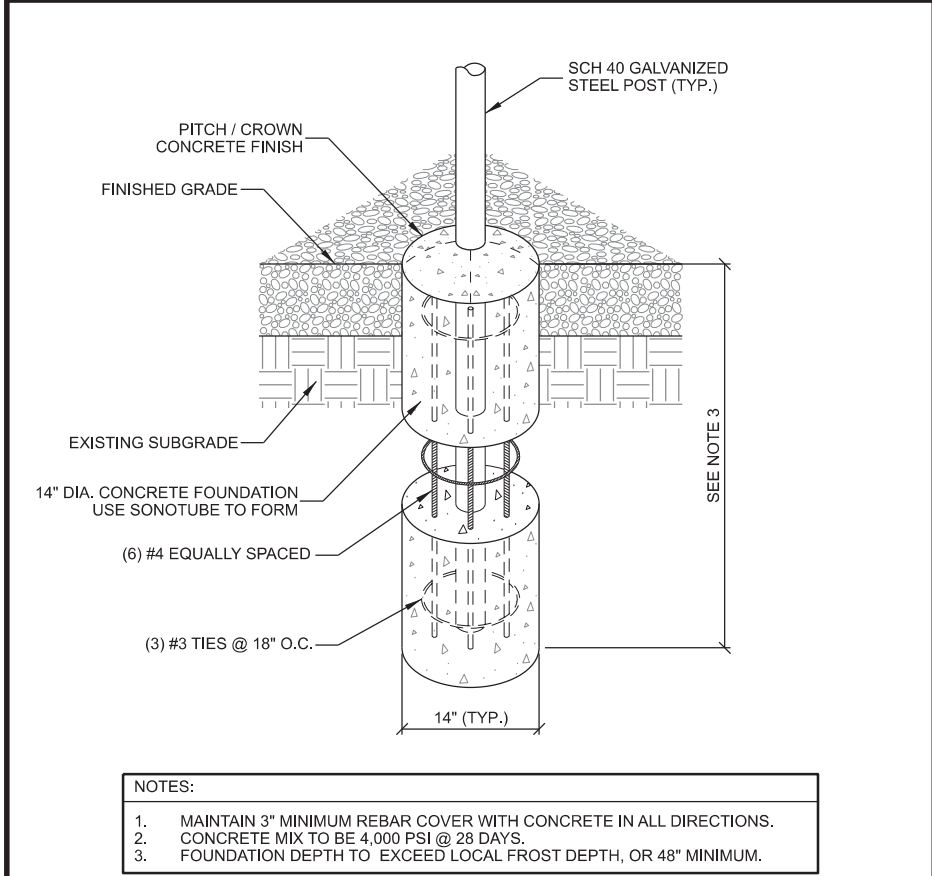


A ICE BRIDGE INSTALLATION



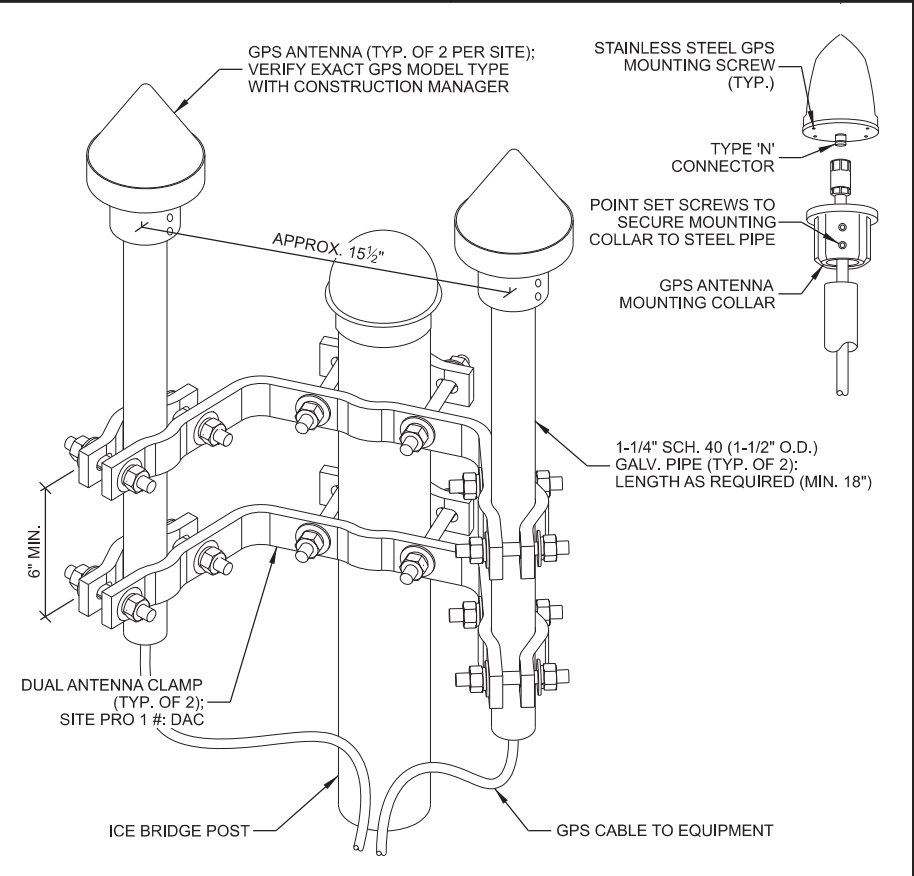
- ICE BRIDGE NOTES : (THIS SHEET)**
1. FOR COMPONENTS AS SHOWN IN STANDARD DETAILS, MAXIMUM ALLOWABLE SPAN BETWEEN SUPPORTS ON A CONTINUOUS SINGLE SECTION OF BRIDGE CHANNEL SHALL BE 8' FOR A 10' SECTION.
 2. SPLICES IN SECTIONS OF BRIDGE CHANNEL SHALL BE INSTALLED AT SUPPORTS, WHERE POSSIBLE, OR AT MOST 2' FROM A SUPPORT.
 3. FREE ENDS OF ICE BRIDGE CHANNELS SHALL NOT EXCEED A CANTILEVER DISTANCE OF 2' FROM A SUPPORT.
 4. CUT BRIDGE CHANNEL SECTIONS SHALL HAVE RAW EDGES TREATED WITH COLD GALVANIZING SPRAY.
 5. DEVIATIONS FROM STANDARDS FOR COMPONENT INSTALLATIONS ARE PERMITTED WITH MANUFACTURER'S AND ENGINEER'S APPROVAL.
 6. DEVIATIONS FROM ICE BRIDGE FOUNDATIONS SHOWN ON SITE SPECIFIC DRAWINGS OR STANDARD DETAILS REQUIRE ENGINEERING APPROVAL.

B ICE BRIDGE



C ICE BRIDGE POST PIER FOUNDATION

- NOTES:**
1. MAINTAIN 3" MINIMUM REBAR COVER WITH CONCRETE IN ALL DIRECTIONS.
 2. CONCRETE MIX TO BE 4,000 PSI @ 28 DAYS.
 3. FOUNDATION DEPTH TO EXCEED LOCAL FROST DEPTH, OR 48" MINIMUM.



D GPS ANTENNA MOUNTING

THIS SPACE INTENTIONALLY LEFT BLANK

CONSULTANT:
Edge
 Consulting Engineers, Inc
 624 WATER STREET
 PRAIRIE DU SAC, WI 53578
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CLIENT:

 TowerNorth
verizon

ENGINEER SEAL:
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I HEREBY CERTIFY THAT THIS PLAN SET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION OTHER THAN THE EXCEPTIONS NOTED IN THE SHEET INDEX, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF IOWA.

ICE BRIDGE AND GPS DETAILS
 DES WILDER (TN #: IA0178)
 DES WILDER (VzW #:15969075)
 INDIANOLA, IOWA

SUBMITTAL:

INT.	DATE:	DESCRIPTION:
CV	04/11/25	REV. A

CHECKED BY:	PCM
PLOT DATE:	4/11/2025
PROJECT NUMBER:	42052
SET TYPE:	DRAFT
SHEET NUMBER:	C-501

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CONSULTANT:
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 624 WATER STREET
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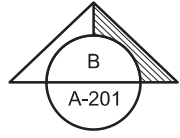
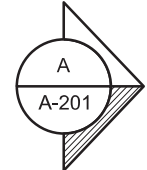
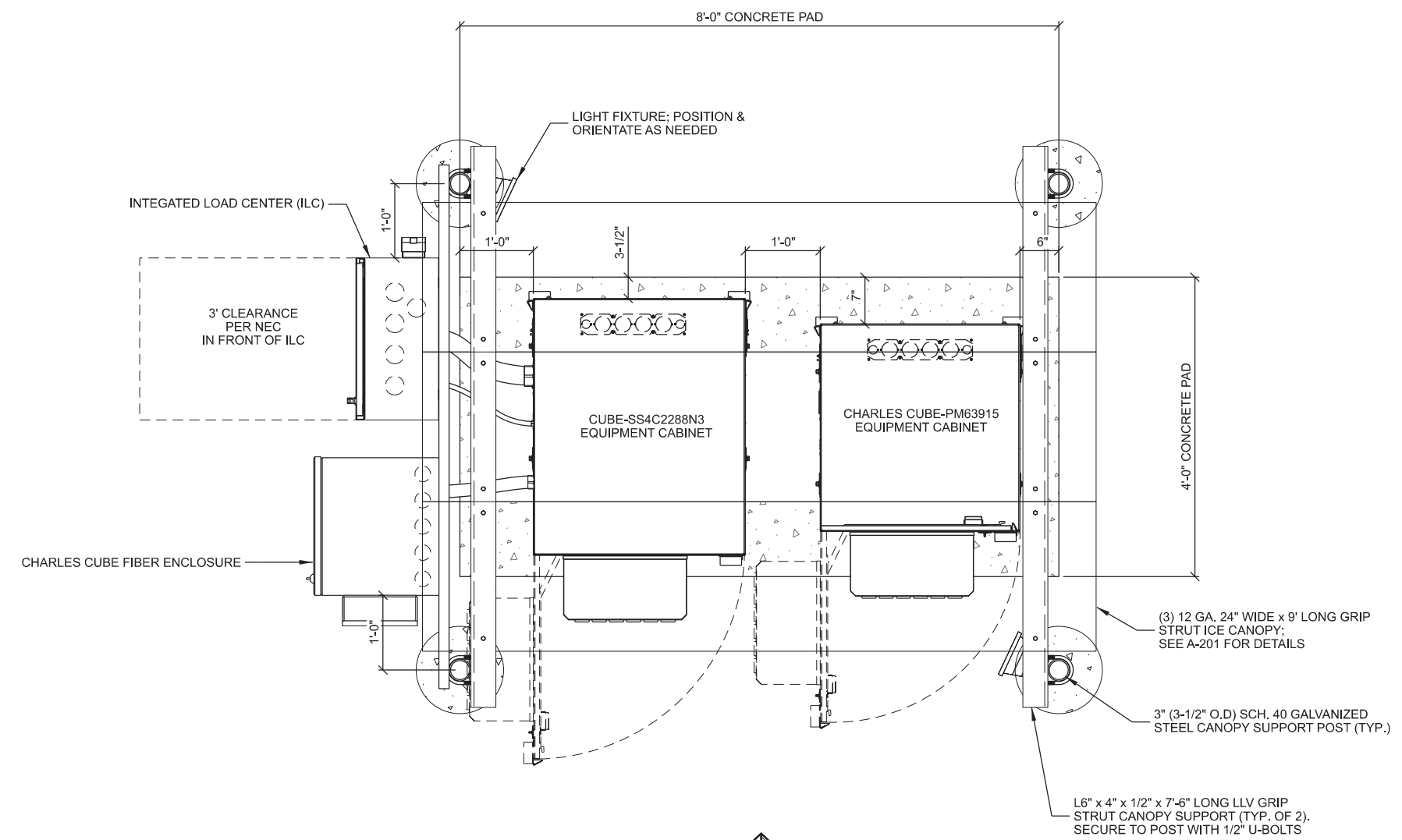
CLIENT:

 TowerNorth


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EQUIPMENT PAD LAYOUT
 DES WILDER (TN #: IA0178)
 DES WILDER (VZW #: 15969075)
 INDIANOLA, IOWA



A **EQUIPMENT PAD LAYOUT**
 SCALE: 11" x 17" - 1/2" = 1'-0"
 22" x 34" - 1" = 1'-0"

SUBMITTAL:

INT.	DATE:	DESCRIPTION:
CV	04/11/25	REV. A

CHECKED BY:	PCM
PLOT DATE:	4/11/2025
PROJECT NUMBER:	42052
SET TYPE:	DRAFT
SHEET NUMBER:	A-101

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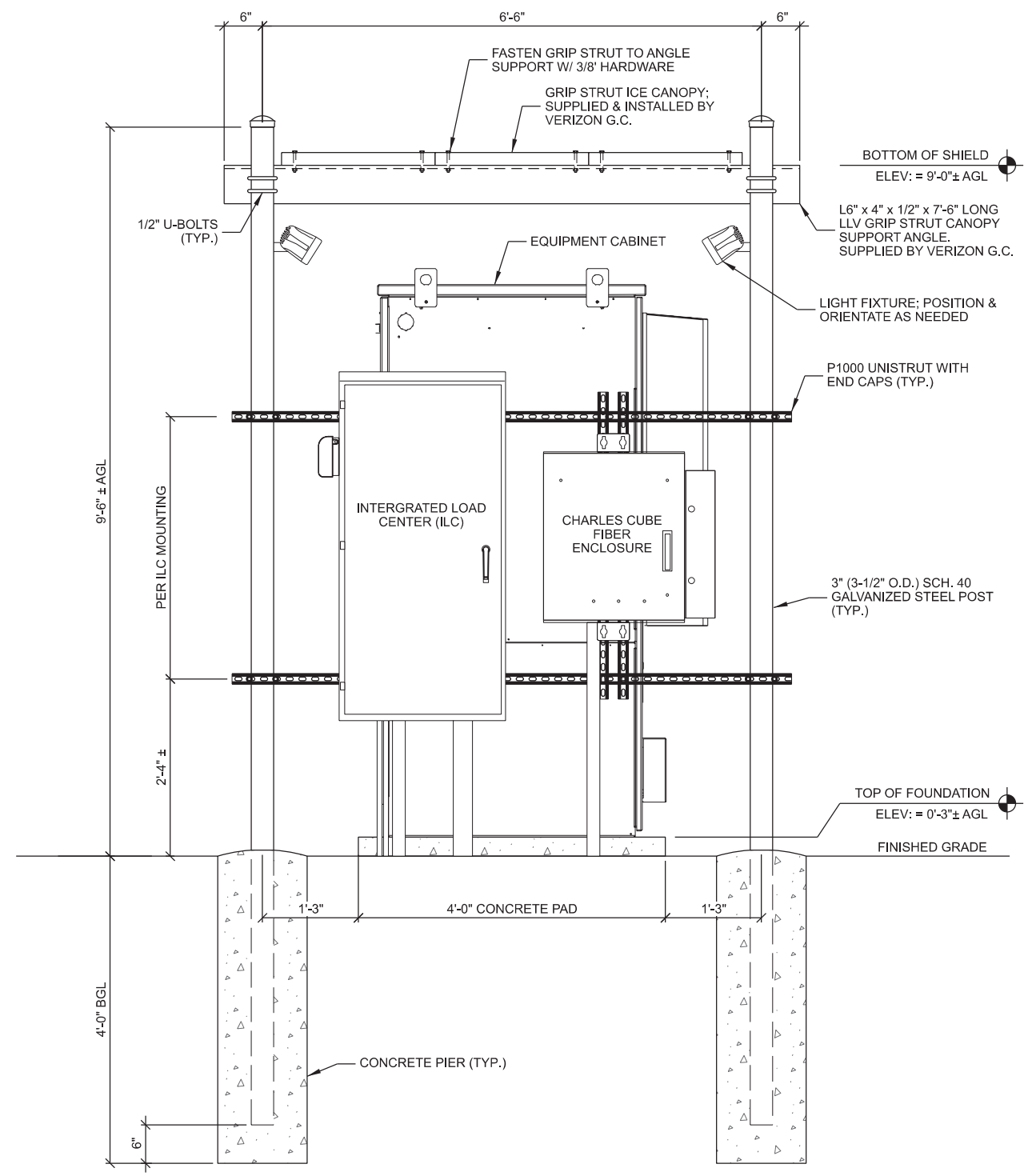
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EQUIPMENT PAD ELEVATIONS
 DES WILDER (TN #: IA0178)
 DES WILDER (VzW #: 15969075)
 INDIANOLA, IOWA

SUBMITTAL:

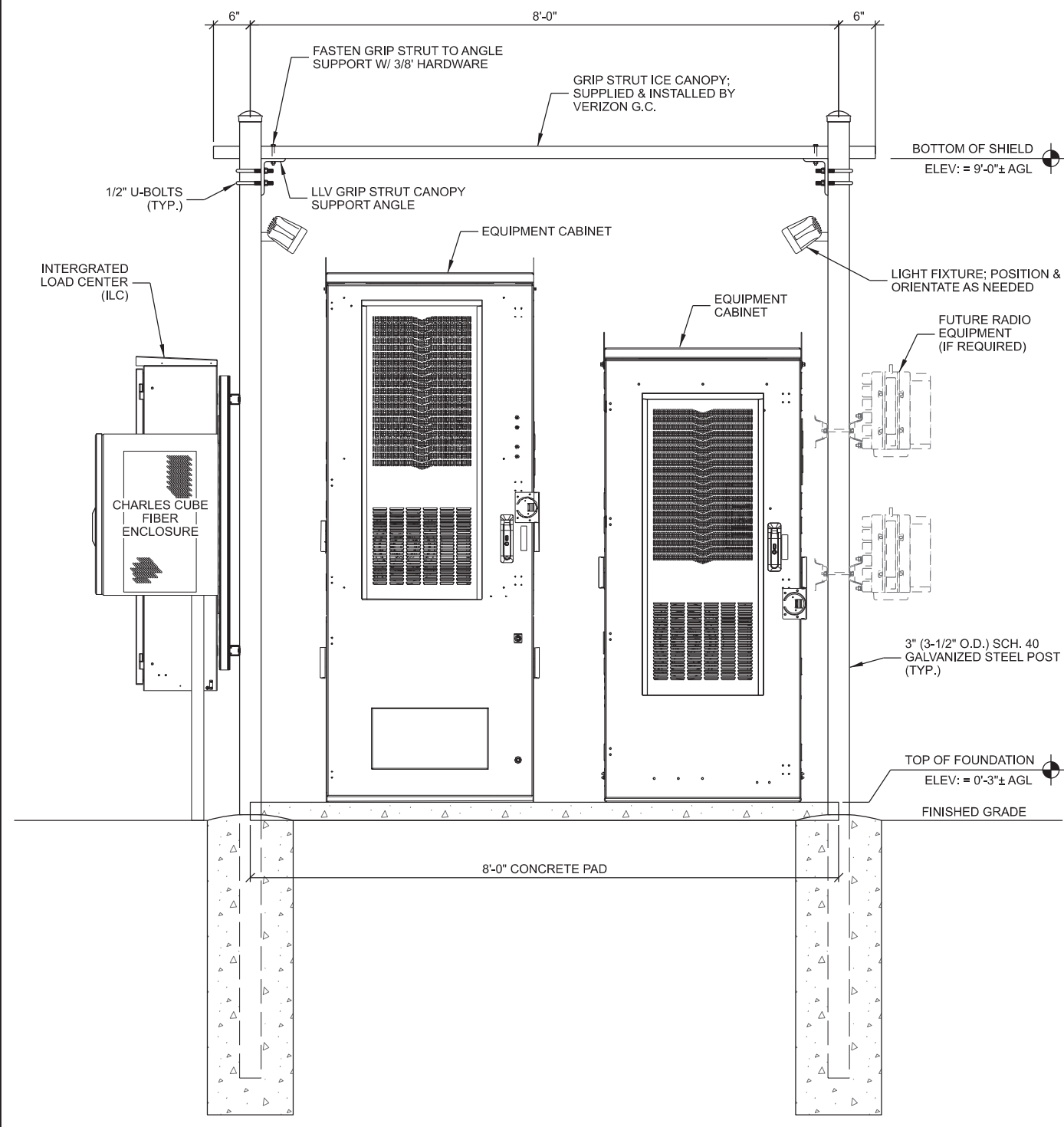
INT.	DATE:	DESCRIPTION:
CV	04/11/25	REV. A

CHECKED BY:	PCM
PLOT DATE:	4/11/2025
PROJECT NUMBER:	42052
SET TYPE:	DRAFT
SHEET NUMBER:	A-201



- NOTES:
1. CONDUITS AND CABLING NOT SHOWN FOR CLARITY.
 2. ELEVATIONS PROVIDED FOR CONVENIENCE ONLY.
 3. SECURE CABINET(S) TO CONCRETE PAD PER MANUFACTURERS SPECIFICATIONS

A EQUIPMENT PAD SIDE ELEVATION



- NOTES:
1. CONDUITS AND CABLING NOT SHOWN FOR CLARITY.
 2. ELEVATIONS PROVIDED FOR CONVENIENCE ONLY.
 3. SECURE CABINET(S) TO CONCRETE PAD PER MANUFACTURERS SPECIFICATIONS

B EQUIPMENT PAD FRONT ELEVATION

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Product Specifications

MX06FRO860-02

NWAV™ X-Pol Antenna | Hex-Port | 8 ft | 60°



X-Pol, Hex-Port 8 ft 60° Fast Roll Off with Smart Bias T

(2) 698–894 MHz & (4) 1695–2180 MHz

- Fast Roll Off (FRO™) Azimuth beam pattern improves Intra- and Inter-cell SINR
- Excellent Passive Intermodulation (PIM) performance reduces harmful interference
- Fully integrated (iRETs) with independent RET control for low and high bands for ease of network optimization
- SON-Ready array spacing supports beamforming capabilities
- Suitable for LTE/CDMA/PCS/UMTS/GSM Air interface technologies
- Integrated Smart BIAS-Ts reduces leasing costs



Electrical Specification (Minimum/ Maximum)	Ports 1,2		Ports 3,4,5,6		
	698–798	824–894	1695–1880	1850–1990	1920–2180
Frequency bands, MHz					
Polarization	± 45°		± 45°		
Average gain over all tilts, dBi	15.9	15.4	17.6	17.9	18.2
Horizontal beamwidth (HBW), degrees ¹	60.0	53.5	55.0	55.0	55.5
Front-to-back ratio, co-polar power @180°± 30°, dB	>22.0	>21.0	>25.0	>25.0	>25.0
X-Pol discrimination (CPR) at boresight, dB	>18.0	>15.0	>18	>18	>15
Sector power ratio, percent	<4.5	<3.5	<3.7	<3.3	<3.6
Vertical beamwidth, (VBW), degrees ¹	9.0	8.3	6.0	5.5	5.5
Electrical downtilt (EDT) range, degrees	2-12	2-12	0-9		
First upper side lobe (USLS) suppression, dB ¹	≤ -15.0	≤ -15.0	≤ -16.0	≤ -16.0	≤ -16.0
Minimum cross polar isolation, port-to-port, dB	25	25	25	25	25
Maximum VSWR/ return loss, dB	1.5/ -14.0	1.5/ -14.0	1.5/ -14.0	1.5/ -14.0	1.5/ -14.0
Maximum passive Intermodulation (PIM), 2x 20W carrier, dBc	-153	-153	-153		
Maximum input power per any port, watts	300		250		
Total composite power all ports, watts	1500				

¹ Typical value over frequency and tilt

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MX06FRO860-02_v3
Page 1

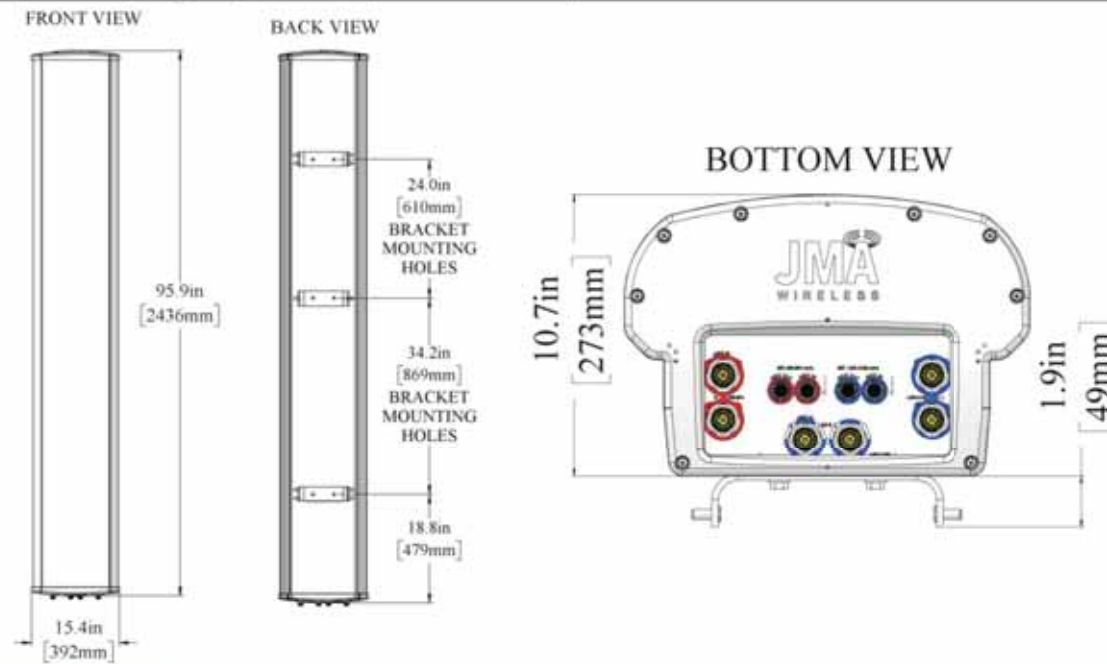
Product Specifications

MX06FRO860-02

NWAV™ X-Pol Antenna | Hex-Port | 8 ft | 60°



Mechanical Specifications	
Dimensions height/ width/ depth, inches (mm)	95.9/ 15.4/ 10.7 (2436/ 392/ 273)
Shipping dimensions length/ width/ height, inches (mm)	106/ 20/ 15 (2692/ 508/ 381)
No. of RF input ports, connector type & location	6 x 4.3-10 female, bottom
RF connector torque	96 lbf-in (10.85 N m or 8 lbf-ft)
Net antenna weight, lb (kg)	79 (35.91)
Shipping weight, lb (kg)	128 (58.18)
Antenna mounting and downtilt kit included with antenna	91900318, 91900319 (middle bracket)
Net weight of the mounting and downtilt kit, lb (kg)	26 (11.82)
Range of mechanical up/ down tilt	-2° to 12°
Rated wind survival speed, mph (km/h)	150 (241)
Frontal, lateral & rear wind loading @ 150 km/h, lbf (N)	208 (925), 98 (435), 212 (943)
Equivalent flat plate @100 mph and Cd=2, sq. ft.	3.46



Ordering Information	
Antenna Model	Description
MX06FRO860-02	8F X- Pol HEX FRO 60° 2-12°/ 0-9° RET, 4.3-10 & SBT
Optional Accessories	
992100-CA030-SC	Optional AISG jumper cable, M/F, 3.0 meters
PCU-1000	Primary control unit, USB

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MX06FRO860-02_v3
Page 2

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ANTENNA SPECIFICATIONS
DES WILDER (TN #: IA0178)
DES WILDER (VzW #:15969075)
INDIANOLA, IOWA

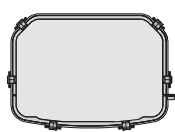
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INT.	DATE	DESCRIPTION:
CV	04/11/25	REV. A

CHECKED BY:	PCM
PLOT DATE:	4/11/2025
PROJECT NUMBER:	42052
SET TYPE:	DRAFT
SHEET NUMBER:	T-001

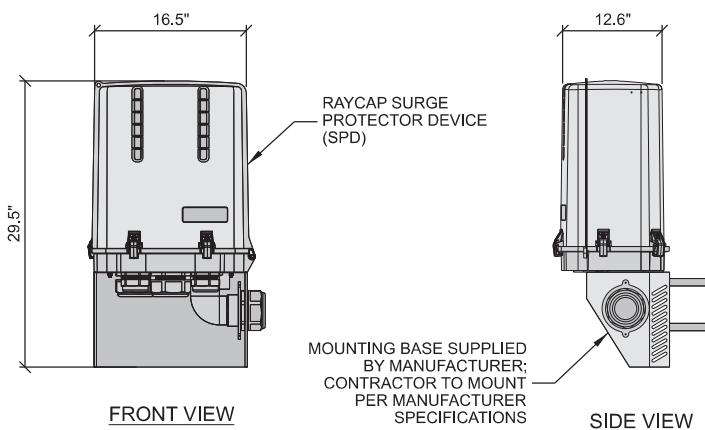
L:\42004\2025\Design\CAD\CDIP\RevIT-001.dgn

A ANTENNA SPECIFICATIONS

MANUFACTURER: RAYCAP
 MODEL: RVZDC-6627-PF-48
 DIMENSIONS: 29.5" x 16.5" x 12.6" (H x W x D)
 WEIGHT: 32 LBS



PLAN VIEW

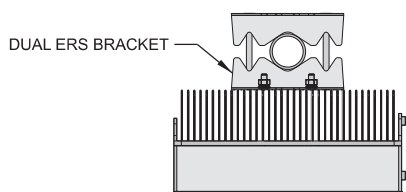


FRONT VIEW

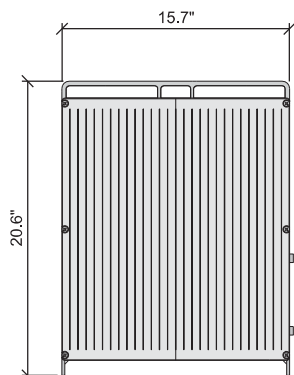
SIDE VIEW

A RAYCAP SURGE PROTECTOR DEVICE (SPD)

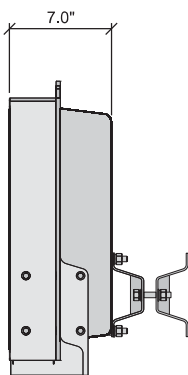
MANUFACTURER: ERICSSON
 MODEL: RADIO 4490
 DIMENSIONS: 20.6" x 15.7" x 7.0" (H x W x D)
 WEIGHT: 68.4 LBS



PLAN VIEW



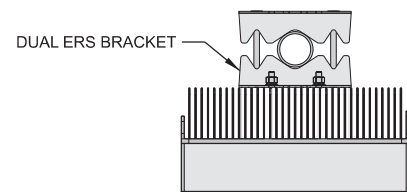
FRONT VIEW



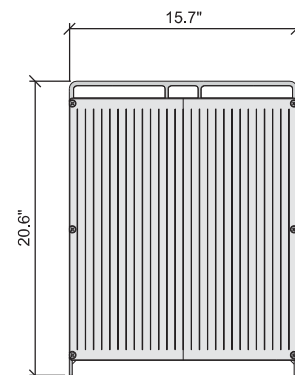
SIDE VIEW

B ERICSSON RADIO 4490

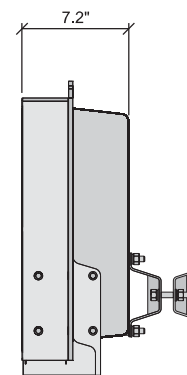
MANUFACTURER: ERICSSON
 MODEL: RADIO 4890
 DIMENSIONS: 20.6" x 15.7" x 7.2" (H x W x D)
 WEIGHT: 69.5 LBS



PLAN VIEW



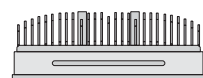
FRONT VIEW



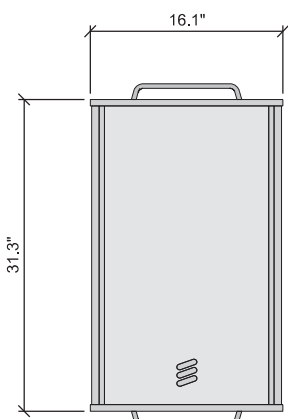
SIDE VIEW

C ERICSSON RADIO 4890

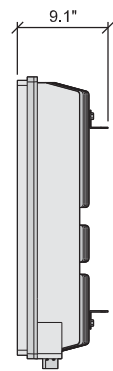
MANUFACTURER: ERICSSON
 MODEL: AIR6419
 DIMENSIONS: 31.3" x 16.1" x 9.1" (H x W x D)
 WEIGHT: 71 LBS.



PLAN VIEW



FRONT VIEW

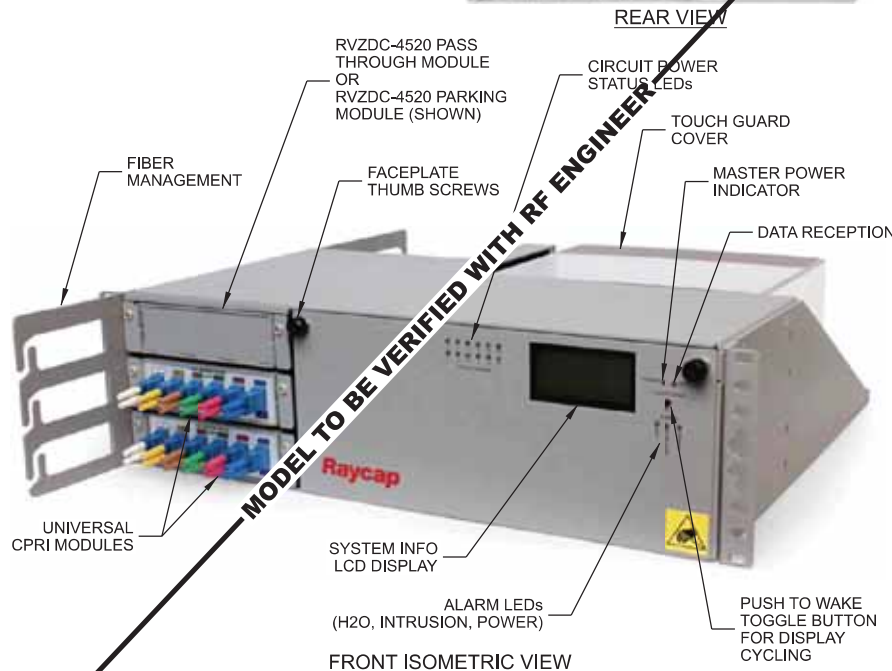


SIDE VIEW

D ERICSSON AIR6419

MANUFACTURER: RAYCAP
 MODEL: RVZDC-4520-RM-48
 DIMENSIONS: 5.18" x 18.32" x 15.80" (H x W x D)
 WEIGHT: 22.10 LBS
 RACK SPACE: 3RU

RACK MOUNTED DISTRIBUTION SURGE PROTECTION FOR (12) RRR DC CIRCUITS.



E RACK MOUNTED SURGE PROTECTOR

THIS SPACE INTENTIONALLY LEFT BLANK

CONSULTANT:



CLIENT:



ENGINEER SEAL:

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EQUIPMENT SPECIFICATIONS
 DES WILDER (TN #: IA0178)
 DES WILDER (VzW #:15969075)
 INDIANOLA, IOWA

SUBMITAL:

INT.	DATE:	DESCRIPTION:
CV	04/11/25	REV. A

CHECKED BY	PCM
PLOT DATE	4/11/2025
PROJECT NUMBER	42052
SET TYPE	DRAFT
SHEET NUMBER	T-002

MANUFACTURER: RAYCAP
 MODEL: MOUNTING BRACKET
 INCLUDED WITH RAYCAP SPD.

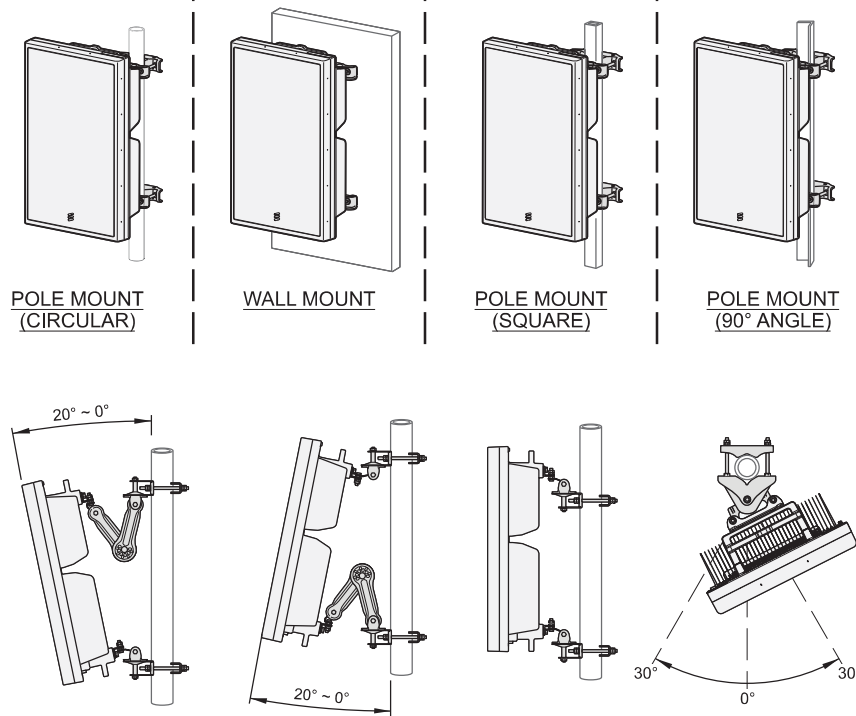
RAYCAP SURGE
 PROTECTOR DEVICE
 (SPD)



A RAYCAP SURGE PROTECTOR DEVICE (SPD) MOUNT

MANUFACTURER: ERICSSON
 MODEL: SXK 109 2064/1 (SWIVEL ANGLE)
 SXK 109 2065/1 (SWIVEL ANGLE AND TILT ANGLE)
 WEIGHT: 9.7 LBS. (SWIVEL ANGLE)
 13.0 LBS. (SWIVEL ANGLE AND TILT ANGLE)

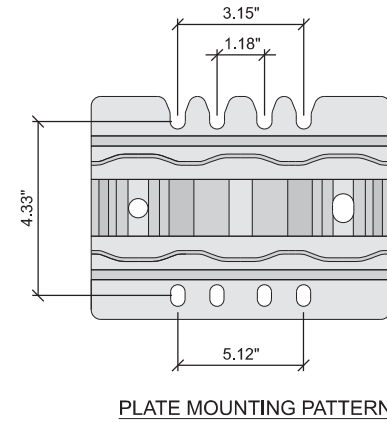
POLE	CICULAR	SQUARE	90° ANGLE
MIN. OUTER DIMENSION	3" DIA.	2" x 2"	2" x 2"
MAX. OUTER DIMENSION	4.5" DIA.	3.15" x 3.15"	3.15" x 3.15"



B ERICSSON SWIVEL MOUNT KIT

MANUFACTURER: ERICSSON
 MODEL: SXK 109 1973/2
 WEIGHT: 3.75 LBS

BRACKET FOR ATTACHING TWO STANDARD OR HEAVY ERS UNITS WITH A HOLE PATTERN OF CC 30 MM AND/OR CC 80 MM., EITHER TO A POLE, WALL, ANGLE TOWER OR SQUARE TUBE.
 BOLTS FOR ATTACHING TWO ERS UNITS ARE SUPPLIED IN THE PACKAGE.



C DUAL ERS BRACKET



DUAL RADIO ATTACHMENT



ISOMETRIC VIEW

CONSULTANT:



CLIENT:



ENGINEER SEAL:

PRELIMINARY - NOT FOR CONSTRUCTION

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MOUNTING SPECIFICATIONS
 DES WILDER (TN #: IA0178)
 DES WILDER (VzW #: 15969075)
 INDIANOLA, IOWA

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SUBMITTAL:

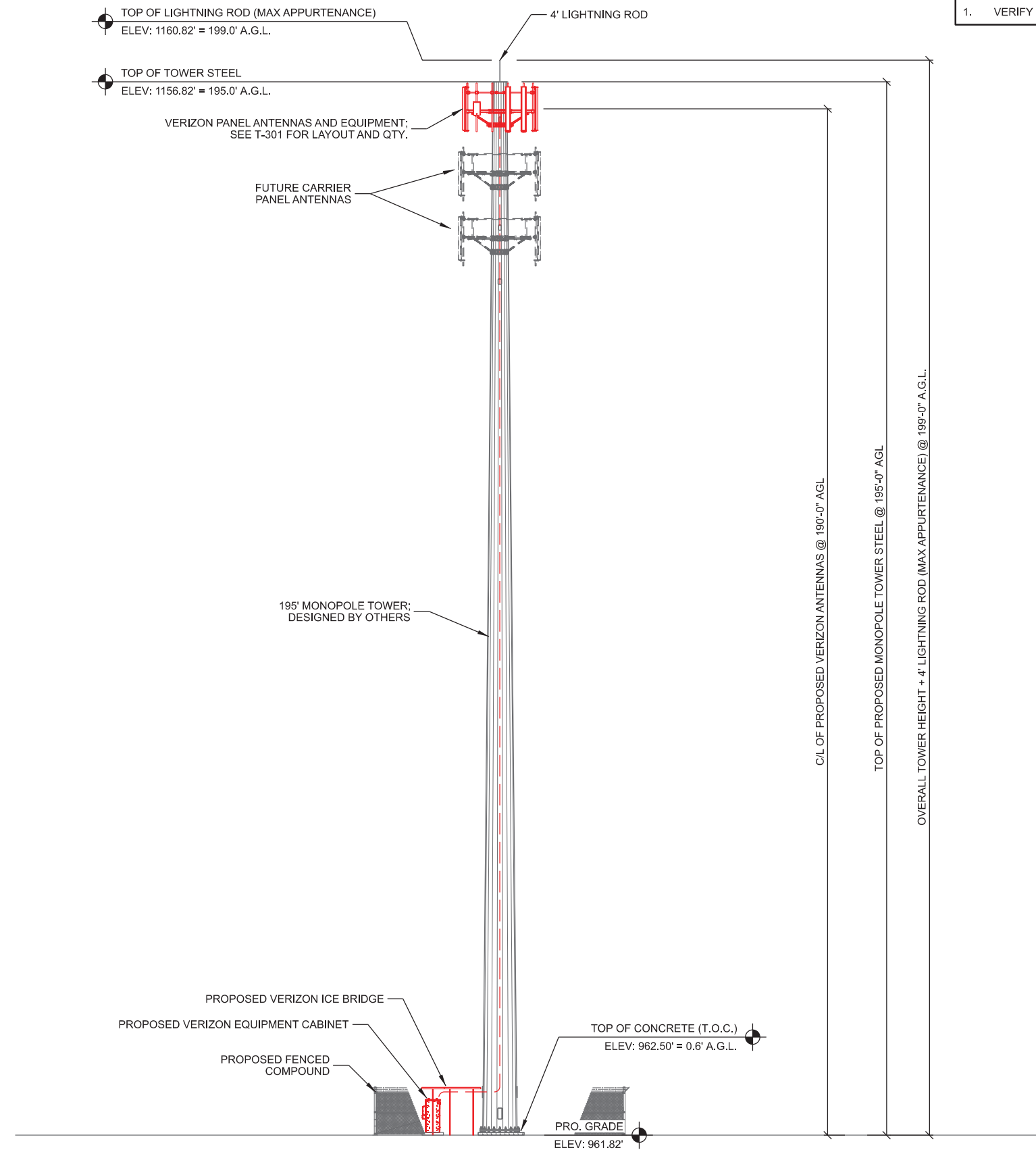
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CV	04/11/25	REV. A

CHECKED BY:	PCM
PLOT DATE:	4/11/2025
PROJECT NUMBER:	42052
SET TYPE:	DRAFT
SHEET NUMBER:	T-003

RF EMISSION REPORT REQUIRED

YES NO
Date: _____

NOTE:
1. VERIFY FINAL PORT HEIGHT, SIZE, AND ORIENTATION WITH TOWER PLANS.



- NOTES:
1. CONTRACTOR TO VERIFY HEIGHT AND DIRECTION OF ANTENNAS WITH PROJECT MANAGER AND FINAL RF DESIGN.
 2. CONTRACTOR TO VERIFY LIGHTNING ROD EXTENDS 2' MIN. ABOVE ALL ANTENNAS & EQUIPMENT.
 3. REFER TO STRUCTURAL REVIEW NOTE ON G-001.

A SITE ELEVATION
SCALE: 11" x 17" - 1" = 24'-0"
22" x 34" - 1" = 12'-0"

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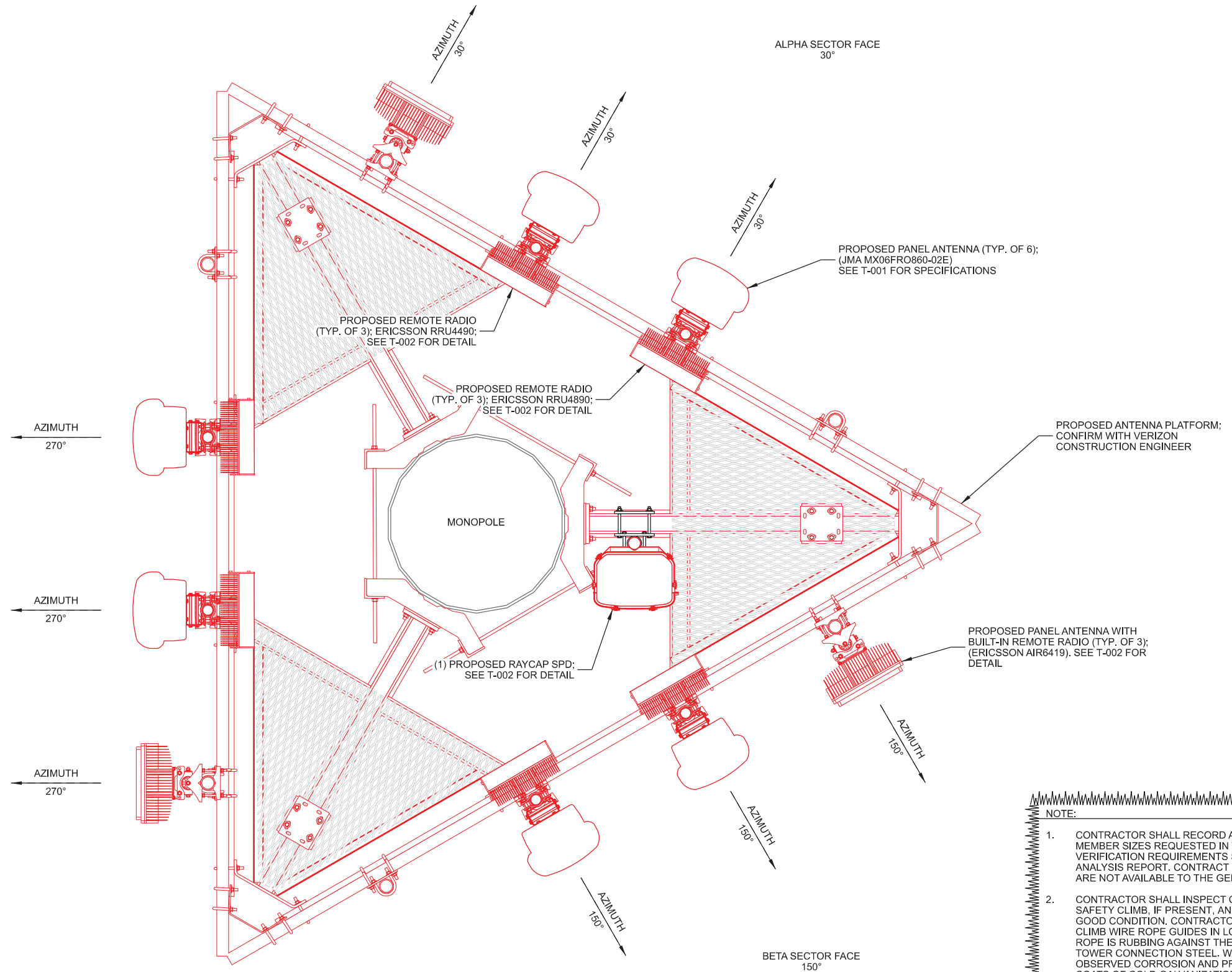
TOWER ELEVATION
DES WILDER (TN #: IA0178)
DES WILDER (VzW #: 15969075)
INDIANOLA, IOWA

SUBMITTAL:

INT.	DATE:	DESCRIPTION:
CV	04/11/25	REV. A

CHECKED BY:	PCM
PLOT DATE:	4/11/2025
PROJECT NUMBER:	42052
SET TYPE:	DRAFT
SHEET NUMBER:	T-201

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- NOTES:**
1. ALL ANTENNA AZIMUTHS TO BE FROM TRUE NORTH.
 2. SEE MOUNT ANALYSIS FOR INSTALLATION REQUIREMENTS OF ANTENNAS AND EQUIPMENT.

A ANTENNA AND EQUIPMENT LAYOUT
 SCALE: 11" x 17" - 1/2" = 1'-0"
 22" x 34" - 1" = 1'-0"

- NOTE:**
1. CONTRACTOR SHALL RECORD ALL DIMENSIONS AND MEMBER SIZES REQUESTED IN THE MOUNT GEOMETRY VERIFICATION REQUIREMENTS SECTION OF THE MOUNT ANALYSIS REPORT. CONTRACT EOR IF THESE DOCUMENTS ARE NOT AVAILABLE TO THE GENERAL CONTRACTOR.
 2. CONTRACTOR SHALL INSPECT CLIMBING FACILITIES AND SAFETY CLIMB, IF PRESENT, AND ENSURE THEY ARE IN GOOD CONDITION. CONTRACTOR SHALL INSTALL SAFETY CLIMB WIRE ROPE GUIDES IN LOCATIONS WHERE WIRE ROPE IS RUBBING AGAINST THE MOUNT OR MOUNT-TO-TOWER CONNECTION STEEL. WIRE BRUSH CLEAN ANY OBSERVED CORROSION AND PROTECT WITH TWO (2) COATS OF COLD GALVANIZATION (ZINGA OR ZINC KOTE). CONTRACTOR SHALL PROVIDE PHOTOS OF WIRE ROPE GUIDE INSTALLATION AS PART OF PMI DOCUMENTS. CONTRACT EOR IF ADDITIONAL GUIDANCE IS REQUIRED.
 3. CONTRACTOR TO PROVIDE AND INSTALL ALL RRU AND ANTENNA MOUNTING HARDWARE AS REQUIRED.
 4. CONTRACTOR TO ENSURE MOUNT DOES NOT IMPEDE SAFETY CLIMB
 5. VERIZON WIRELESS TO PROVIDE PROPOSED MOUNT. PROPOSED MOUNT TO MEET VERIZON MOUNT STANDARD NSTD-445. GC TO REQUEST MOUNT CLASSIFICATION DOCUMENTATION PRIOR TO CONSTRUCTION TO CONFIRM THE MOUNT MEETS NSTD-445. GC TO BRING ANY CONCERNS OR DISCREPANCIES TO THE ATTENTION OF THE CONSTRUCTION ENGINEER AND ENGINEER OF RECORD.

CONSULTANT:
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ANTENNA CONFIGURATION
 DES WILDER (TN #: IA0178)
 DES WILDER (VzW #:15969075)
 INDIANOLA, IOWA

SUBMITTAL:

INT.	DATE	DESCRIPTION:
CV	04/11/25	REV. A

CHECKED BY	PCM
PLOT DATE	4/11/2025
PROJECT NUMBER	42052
SET TYPE	DRAFT
SHEET NUMBER	T-301

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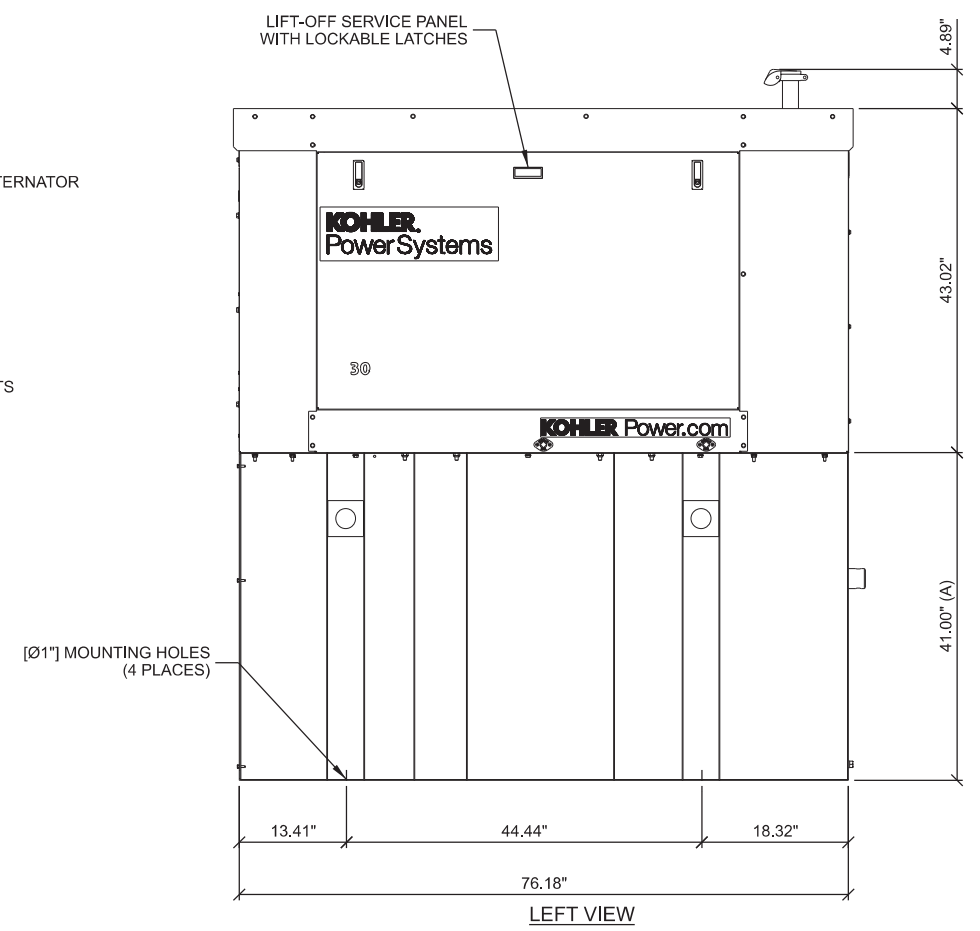
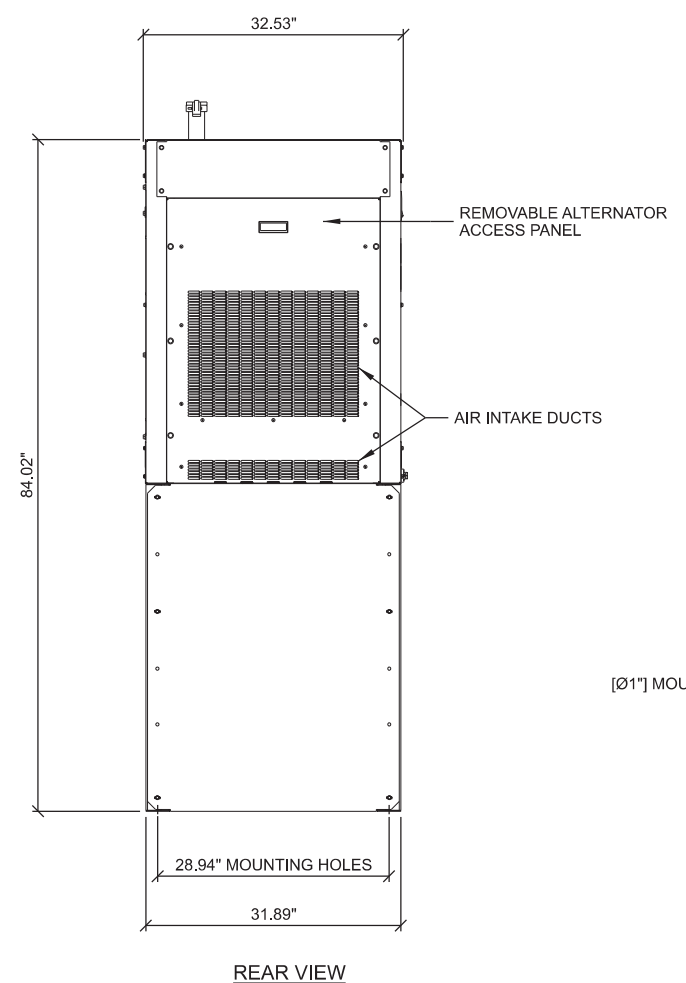
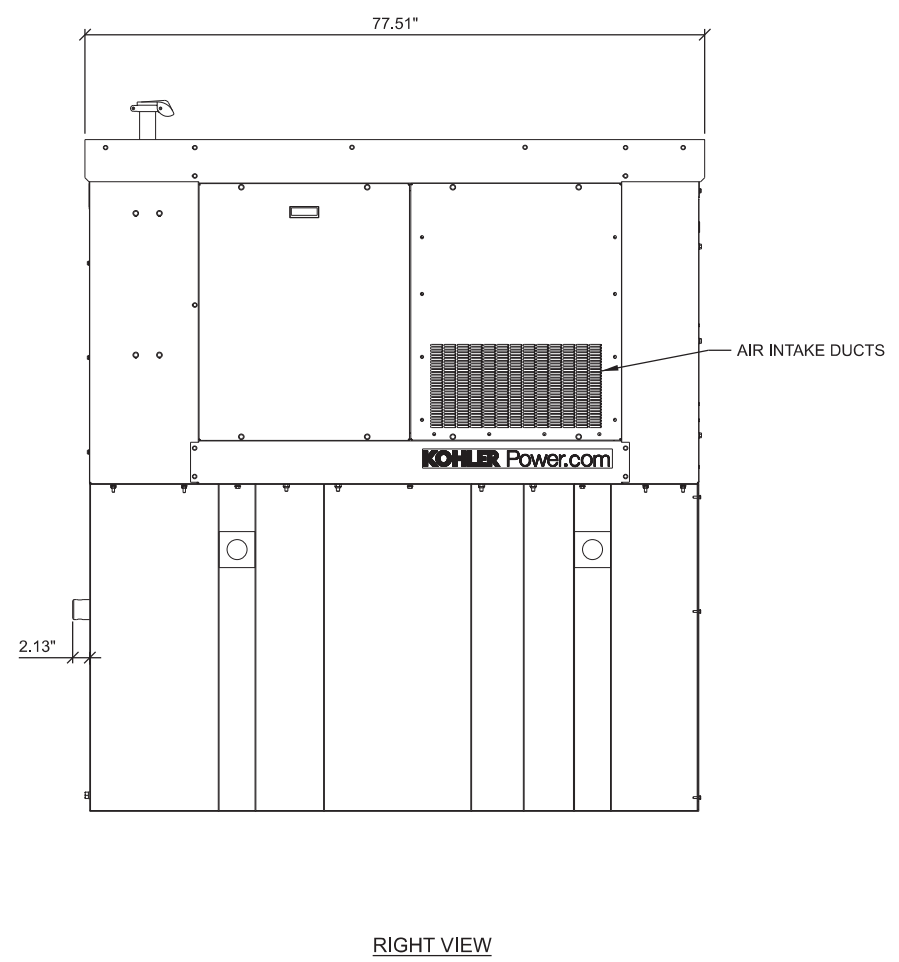
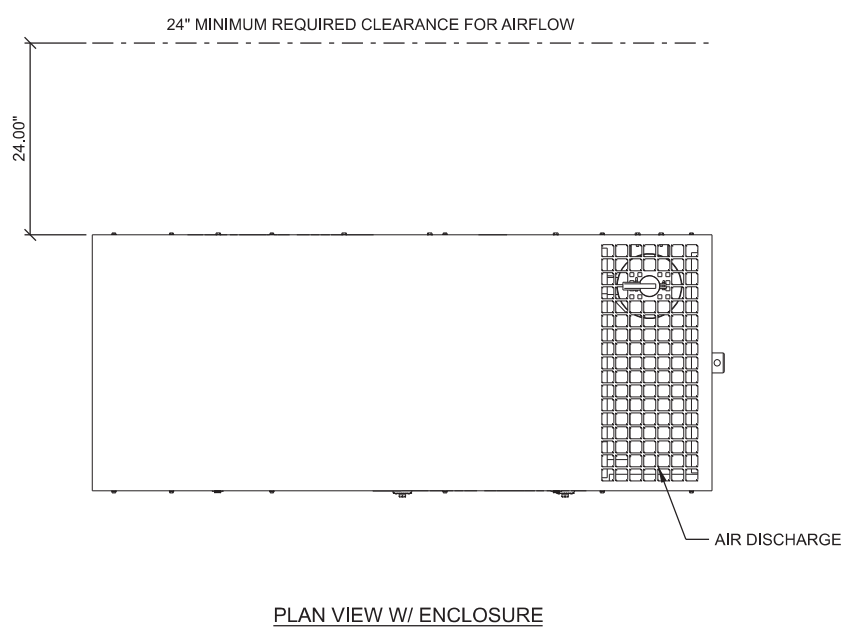
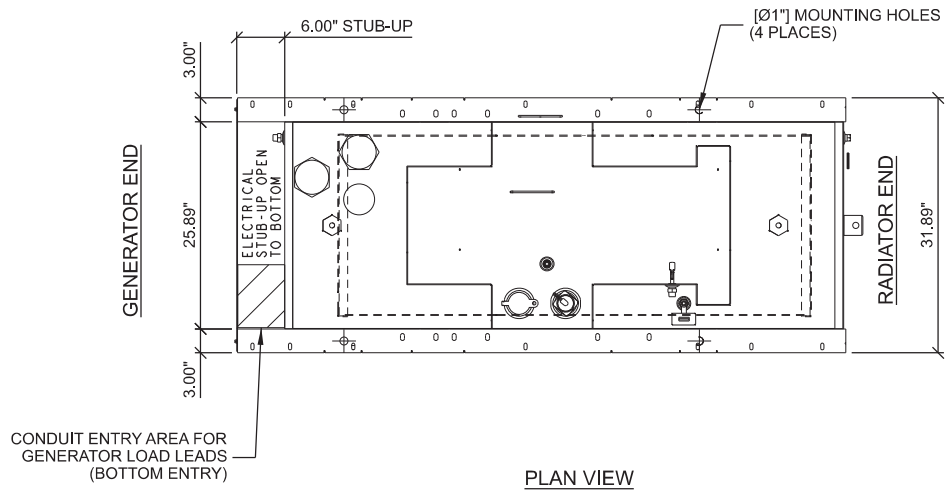
GENERATOR SPECIFICATIONS
 DES WILDER (TN #: IA0178)
 DES WILDER (VzW #:15969075)
 INDIANOLA, IOWA

SUBMITTAL:

INT.	DATE:	DESCRIPTION:
CV	04/11/25	REV. A

CHECKED BY:	PCM
PLOT DATE:	4/11/2025
PROJECT NUMBER:	42052
SET TYPE:	DRAFT
SHEET NUMBER:	E-001

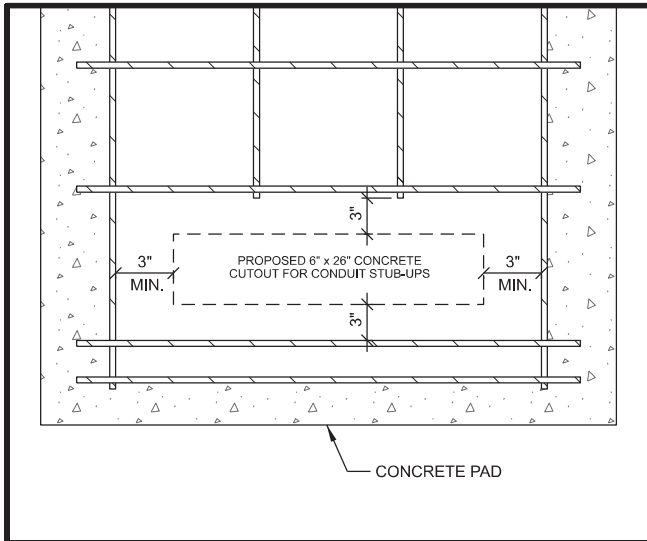
- NOTES:
1. THE RIGHT SIDE OF THE GENERATOR IS SERVICE ACCESSIBLE.
 2. 6 AMP BATTERY CHARGER.
 3. 120VAC ENGINE BLOCK HEATER.
 4. GENERATOR MUST BE GROUNDED.
 5. SOUND ATTENUATED ENCLOSURE STANDARD WITH GENERATOR.
 6. MUST ALLOW FREE FLOW OF DISCHARGE AIR AND EXHAUST.
 7. MUST ALLOW FREE FLOW OF INTAKE AIR.
 8. EASE ACCESS SERVICE PANEL IS LOCATED ON THE RIGHT SIDE OF GENERATOR ONLY.
 9. BASE TANK REQUIRES ALL STUB-UPS TO BE IN RRER TANK STUB-UP AREA.
 10. SEE TABLE FOR SUBBASE FUEL TANK CAPACITY.
 11. TANK EQUIPPED WITH FIRE SAFETY VALVE ON FUEL SUPPLY LINE.
 12. IT IS THE RESPONSIBILITY OF THE INSTALLATION TECHNICIAN TO ENSURE THAT THE GENERATOR INSTALLATION COMPLIES WITH ALL APPLICABLE CODES, STANDARDS, AND REGULATIONS.
 13. GENERATOR IS INSTALLED ON A UL-142 RATE DOUBLE WALL SUBBASE FUEL TANK.



GENSET	TANK P/N	TANK HT (A) IN	DESCRIPTION	ASSY WEIGHT
30REOZK	GM97093-MA2	41.0"	SKID/TANK 203 GAL	2114 LBS
30REOZK	GM97093-MA1	32.0"	SKID/TANK 148 GAL	1969 LBS

A KOHLER 30REOZK DIESEL GENERATOR

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STUB-UP REINFORCEMENT

NOTE:
VERIFY EXACT CONDUIT STUB-UP LOCATIONS WITH GENSET PLANS

GENERATOR CLEARANCE NOTE:

- MINIMUM OF 10' OF CLEARANCE FROM COMBUSTIBLE WALL
- MINIMUM OF 5' OF CLEARANCE FROM A NON-COMBUSTIBLE WALL
- MINIMUM OF 20' OF CLEARANCE FROM AN OUTDOOR ELECTRICAL TRANSFORMER OR NORMAL POWER DISTRIBUTION EQUIPMENT

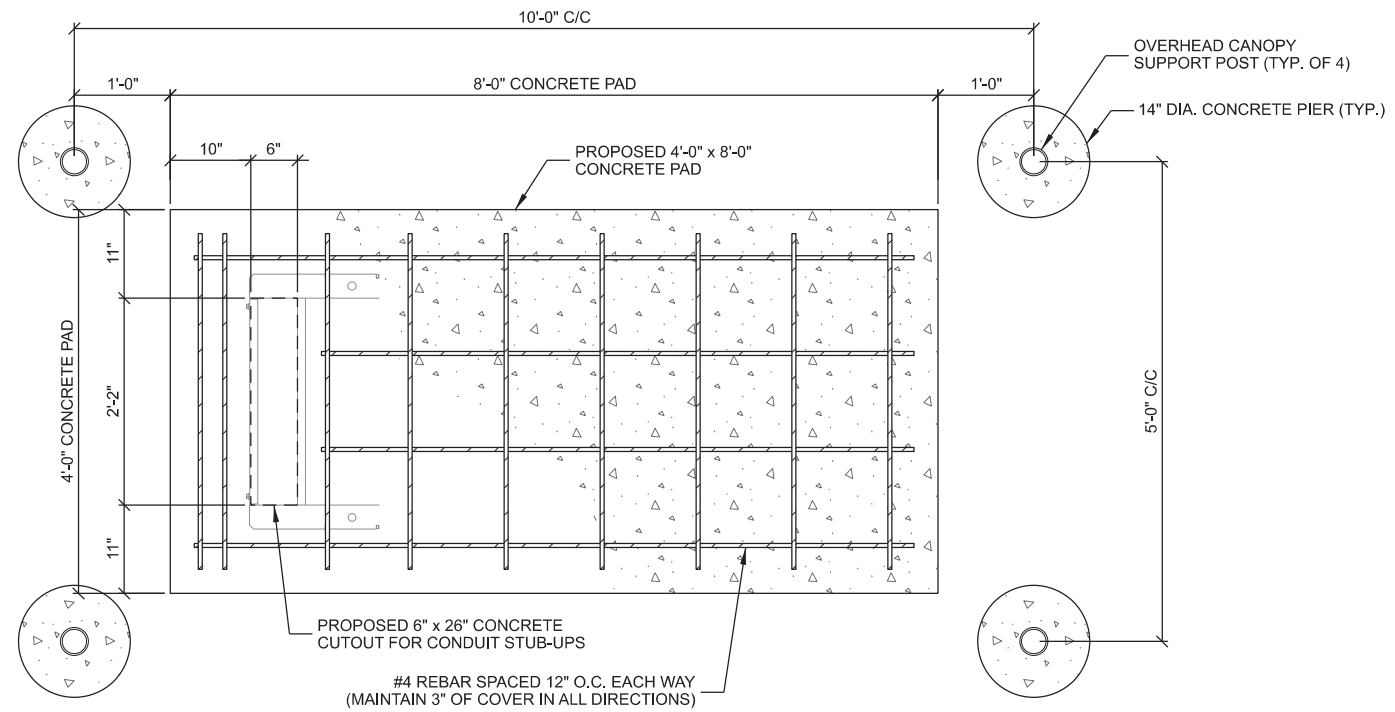
NOTE:

SEE GENERATOR MANUFACTURER'S DRAWINGS FOR PHYSICAL LOCATION OF FUEL LINES, CONTROL AND POWER INTERCONNECTIONS AND OTHER INTERFACES THAT ARE TO BE CAST INTO THE CONCRETE. THE PREFERRED METHOD IS TO BRING THE CONDUIT THROUGH THE CONCRETE PAD TO THE UNDERSIDE OF THE GENERATOR (MINIMIZES RODENT DAMAGE). FINISH CONNECTIONS WITH FLEXIBLE CONDUIT PER GENERATOR MANUFACTURER'S SPECIFICATIONS. RIGID CONDUITS SHALL BE SECURED TO THE EXISTING SLAB, THEN BURIED BETWEEN SLAB AND PLATFORM

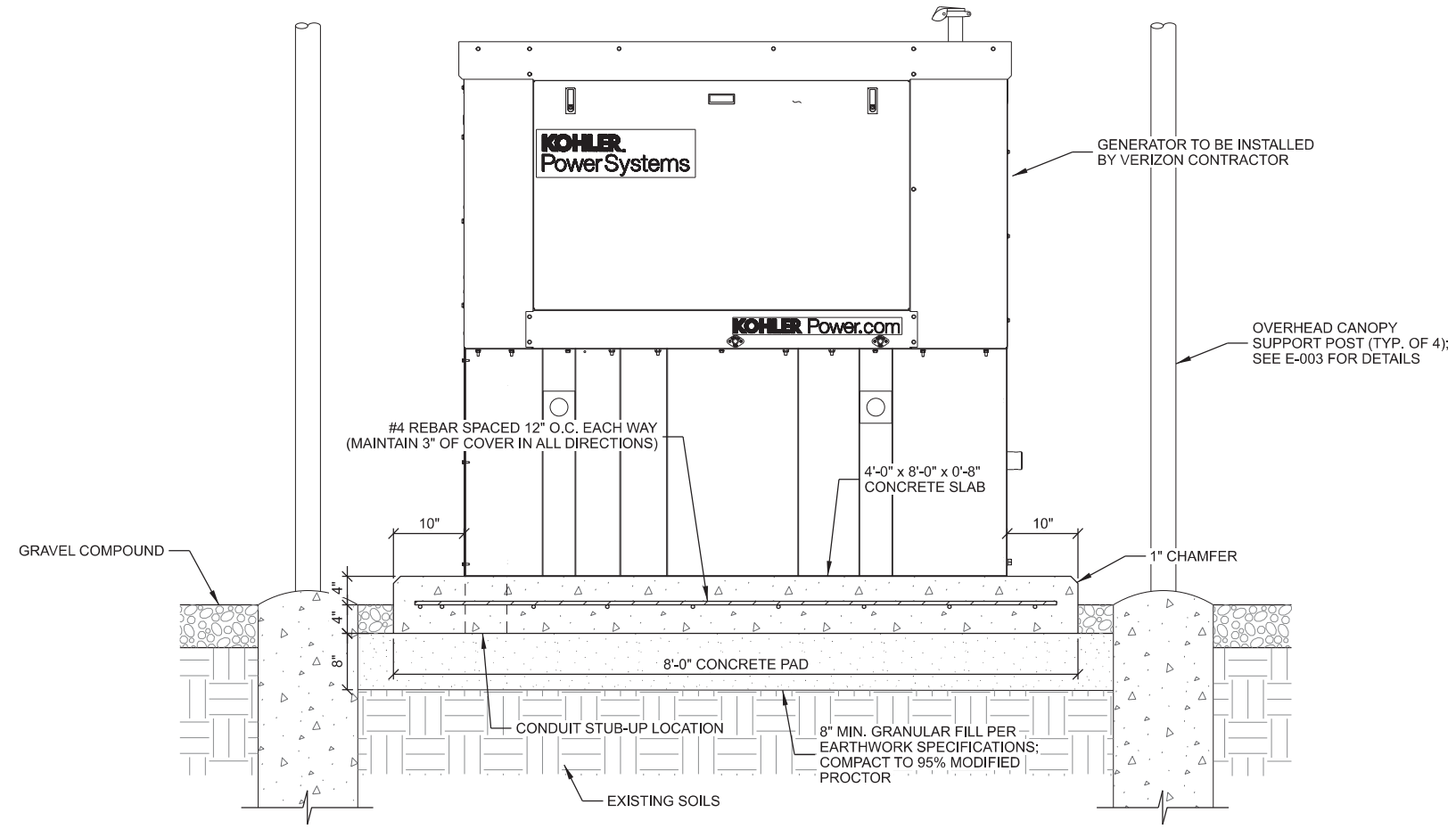
NOTE:

SLAB NOT SUITABLE AT SITES WITH ORGANIC SOIL, UNCOMPACTED FILL, EXPANSIVE SOIL, OR SOILS SUSCEPTIBLE TO FROST HEAVE

REMOVE ALL ORGANIC MATERIAL, SOFT AREAS, AND POOR SOILS BENEATH CONCRETE PAD TO A DEPTH OF ATLEAST 2'-0" BELOW CONCRETE PAD



A KOHLER 30REOZK DIESEL GENERATOR FOUNDATION LAYOUT



B KOHLER 30REOZK DIESEL GENERATOR FOUNDATION DETAIL

NOTE:
TOWERNORTH CONTRACTOR TO INSTALL VERIZON'S GENERATOR PAD

CONSULTANT:

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Consulting Engineers, Inc
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PRAIRIE DU SAC, WI 53578
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CLIENT:

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GENERATOR SPECIFICATIONS
DES WILDER (TN #: IA0178)
DES WILDER (VZW #: 15969075)
INDIANOLA, IOWA

SUBMITTAL:

INT.	DATE:	DESCRIPTION:
CV	04/11/25	REV. A

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PLOT DATE:	4/11/2025
PROJECT NUMBER:	42052
SET TYPE:	DRAFT
SHEET NUMBER:	E-002

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KEYNOTES: (THIS SHEET)

- (A) MASTER GROUND BAR (MGB) MOUNTED VERTICALLY TO ICE BRIDGE POST ON INSULATORS
- (B) EQUIPMENT CABINET GROUND; SEE E-501 FOR DETAILS
- (C) INTEGRATED LOAD CENTER (ILC) GROUND; SEE E-501 FOR DETAILS
- (D) FIBER ENCLOSURE GROUND; SEE E-501 FOR DETAILS
- (E) GENERATOR GROUND; SEE E-501 FOR DETAILS
- (F) GPS GROUND TO ICE BRIDGE POST; SEE E-501 FOR DETAILS
- (G) ICE BRIDGE POST GROUND; SEE E-501 FOR DETAILS
- (H) ICE BRIDGE SECTION GROUND; SEE E-501 FOR DETAILS
- (I) ICE BRIDGE SECTION TO POST; SEE E-501 FOR DETAILS
- (J) TOWER GROUND BAR (TGB) INSTALLED ON TOWER; SEE E-501 FOR DETAILS

NOTE:

TOWNORTH CONTRACTOR TO INSTALL BURIED GROUND RINGS/ LEADS AND COIL ABOVE GRADE THAT WILL BE CONNECTED TO VERIZON'S EQUIPMENT

VERIZON CONTRACTOR TO CONNECT GROUND LEADS TO EQUIPMENT CABINETS, ICE BRIDGE SECTIONS, AND POSTS, MGB, GENERATOR, TOWER GROUND BAR, CHARLES CUBE & ILC CABINET. SEE DETAILS ON E-501 - E-503

GROUNDING NOTE:

- THIS GROUNDING PLAN WAS PREPARED PRIOR TO THE COMPLETION OF THE GEOTECHNICAL REPORT AND RECEIPT OF THE TOWER FOUNDATION DESIGN. THE LAYOUT OF RADIALS AND GROUND RODS ARE APPROXIMATE IN NATURE AND MAY NEED TO BE ADJUSTED IN THE FIELD. GROUND RODS SHOULD NOT EXTEND THROUGH THE TOWER FOUNDATION OR OTHER STRUCTURAL ELEMENTS WITHOUT PRIOR APPROVAL FROM THE DESIGN ENGINEER. IN ADDITION, SOME ADJUSTMENT TO THE GROUND METHOD MAY BE REQUIRED IN INSTANCES WHERE SHALLOW BEDROCK OR OTHER UNIQUE CIRCUMSTANCES ARE ENCOUNTERED. CONTRACTOR SHALL CONSULT GEOTECHNICAL REPORT FOR FURTHER DESIGN AND CONSTRUCTION RECOMMENDATIONS.

NOTES:

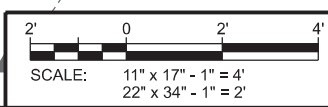
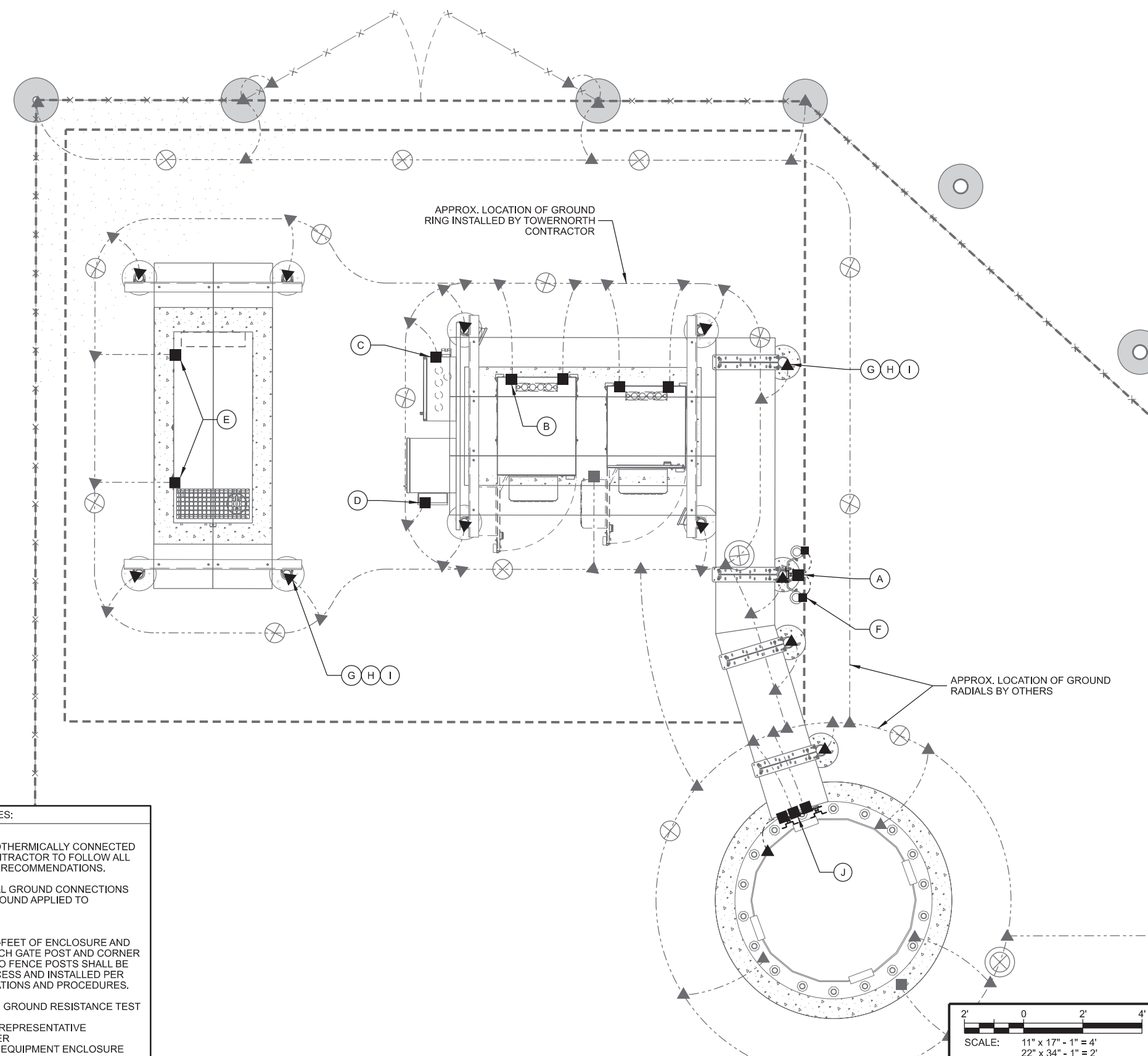
- THE GROUNDING SHALL BE TESTED PRIOR TO FINAL BACKFILLING. DOCUMENTATION OF 5 OHM OR LESS RESISTANCE TO BE PROVIDED TO PROJECT MANAGER.
- ALL NON-INSULATED GROUND LEADS EXTENDING ABOVE GROUND LEVEL SHALL BE ENCASED IN 3/4" PVC & SEALED WITH SILICONE. PVC SHALL BE MIN. 16" INTO EARTH & EXTEND MIN. 6" ABOVE GROUND.
- INSTALL 18" X 18" COPPER PLATES IN LIEU OF GROUND RODS WHEN INSTALLING OVER TOWER FOUNDATION OR WHERE DRIVING GROUND RODS IS NOT FEASIBLE.

GROUNDING LEGEND: (THIS SHEET)

- ▲ EXOTHERMIC OR UL RATED IRREVERSIBLE CONNECTION
- MECHANICAL CONNECTION
- - - GROUND LEAD
- ⊗ INSPECTION WELL
- ⊗ 5/8" DIA. x 10'-0" LONG, STEEL CLAD W/ A PURE COPPER JACKET (10' MAX SEPARATION); TOP OF EACH GROUND ROD SHALL EXTEND NO MORE THAN 6" ABOVE BOTTOM OF TRENCH
- ⊗ 18" X 18" X .032" THK COPPER PLATE (10' MAX SEPARATION)

GROUNDING ELECTRODE SYSTEM NOTES:

- CONNECTIONS: ALL CONNECTIONS SHALL BE EXOTHERMICALLY CONNECTED UNLESS NOTED OTHERWISE. CONTRACTOR TO FOLLOW ALL MANUFACTURER'S GUIDELINES & RECOMMENDATIONS.
- ALL ELECTRICAL AND MECHANICAL GROUND CONNECTIONS SHALL HAVE ANTI-OXIDANT COMPOUND APPLIED TO CONNECTION.
- FENCE/GATE: GROUND FENCE POSTS WITHIN 6- FEET OF ENCLOSURE AND 25- FEET OF TOWER. GROUND EACH GATE POST AND CORNER POST. GROUND CONNECTIONS TO FENCE POSTS SHALL BE MADE BY THE EXOTHERMIC PROCESS AND INSTALLED PER MANUFACTURER'S RECOMMENDATIONS AND PROCEDURES.
- CONTRACTOR SHALL SUBMIT THE GROUND RESISTANCE TEST REPORT AS FOLLOWS:
 - A. ONE (1) COPY TO THE OWNER REPRESENTATIVE
 - B. ONE (1) COPY TO THE ENGINEER
 - C. ONE (1) COPY TO KEEP INSIDE EQUIPMENT ENCLOSURE



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CLIENT:

 TowerNorth
verizon

ENGINEER SEAL:

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GROUNDING PLAN
DES WILDER (TN #: IA0178)
DES WILDER (VzW #:15969075)
INDIANOLA, IOWA

SUBMITTAL:

INT.	DATE:	DESCRIPTION:
CV	04/11/25	REV. A

CHECKED BY:	PCM
PLOT DATE:	4/11/2025
PROJECT NUMBER:	42052
SET TYPE:	DRAFT
SHEET NUMBER:	E-101

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UTILITY PROVIDER INFO:

ELECTRIC PROVIDER: INDIANOLA MUNICIPAL UTILITIES
 CONTACT: MIKE METCALF
 PHONE: 515.961.9444

FIBER OPTIC PROVIDER: TBD

CONSULTANT:

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 Consulting Engineers, Inc
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UTILITY PLAN
DES WILDER (TN #: IA0178)
DES WILDER (VzW #: 15969075)
INDIANOLA, IOWA

SUBMITTAL:

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CV	04/11/25	REV. A

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SET TYPE:	DRAFT
SHEET NUMBER:	E-102

EXCEPTION NO. 2
 10' WIDE UTILITY EASEMENT
 PER BOOK 2005 PAGE 3008

EXISTING BURIED ELECTRIC

UTILITY PULL BOX; INSTALLED BY
 TOWERNORTH CONTRACTOR

(1) 2" DIA. SCH. 40 PVC CONDUIT W/ PULL ROPE FOR
 VERIZON FIBER OPTIC LINE; BY TOWERNORTH
 CONTRACTOR; APPROX. 47'± FROM VERIZON FIBER
 VAULT TO VERIZON FIBER ENCLOSURE BOX
 (SOURCE TBD). FIBER CABLE PULL & CONNECTION
 TO BE COMPLETED BY VERIZON CONTRACTOR

BURIED CONDUITS FROM GENERATOR TO ILC
 CABINET: (1) 2" DIA. SCH. 40 PVC CONDUIT & (2) 3/4"
 DIA. SCH. 40 PVC CONDUITS BY TOWERNORTH
 CONTRACTOR; SEE E-505 FOR DETAILS

PROPOSED ILC CABINET;
 SEE E-505 FOR DETAIL

PROPOSED CHARLES CUBE;
 SEE E-505 FOR DETAIL

PROPOSED (1) 3" & (1) 3/4" LIQUID-TIGHT FLEXIBLE
 CONDUITS ROUTED ABOVE GRADE FROM ILC TO
 EQUIPMENT CABINET; BY VERIZON CONTRACTOR.
 SEE E-505 FOR DETAILS

(1) PROPOSED 3" LIQUID-TIGHT FLEXIBLE CONDUIT
 ROUTED ABOVE GRADE FROM CHARLES CUBE TO
 EQUIPMENT CABINET; BY VERIZON CONTRACTOR

(1) 3" DIA. SCH. 40 PVC ELECTRICAL CONDUIT W/ (2)
 #3/0 CU & (1) #1/0 CU NEUTRAL & (1) #6 GROUND
 FOR ELECTRIC SERVICE, 42" BELOW GRADE (MIN.);
 APPROX. 51' +/- FROM UTILITY RACK TO
 INTEGRATED LOAD CENTER (ILC), BY TOWERNORTH
 CONTRACTOR

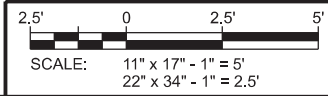
PROPOSED VERIZON COMPOUND FIBER VAULT
 TO BE FURNISHED & INSTALLED BY
 TOWERNORTH CONTRACTOR (SOURCE TBD);
 SEE E-504 FOR DETAILS

MULTI-METER RACK; BY OTHERS

GRAVEL COMPOUND

C/L OF 20' WIDE UTILITY EASEMENT (TOWERNORTH)

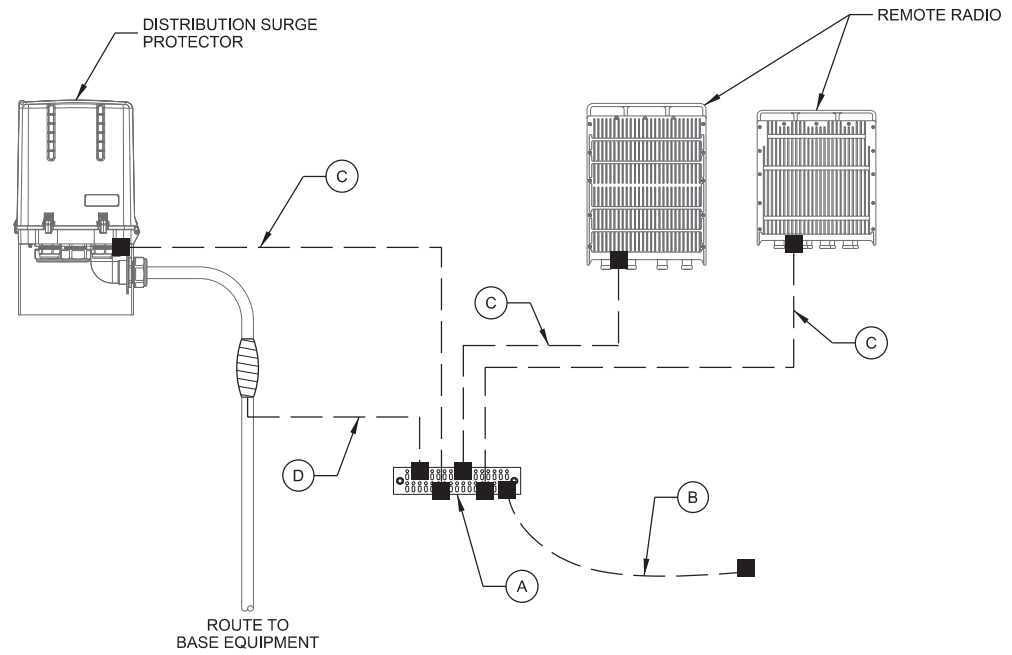
NOTE:
 1. FIBER COORDINATION IS NOT COMPLETE (PENDING FIBER CONTACT).
 PRIOR TO CONSTRUCTION, CONTACT DESIGNER FOR UPDATE.



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KEYNOTES: (THIS SHEET)

- (A) 1/4" x 4" x 12" COLLECTOR GROUND BAR (CGB) FOR CONNECTION OF MULTIPLE GROUND KITS AT ONE LEVEL
- (B) CGB GROUND #2 AWG GREEN-INSULATED STRANDED COPPER LEAD WITH 2 HOLE LONG BARREL AND UL LISTED BONDING CLAMP TO TOWER STEEL AND/OR MOUNT STEEL
- (C) ANCILLARY EQUIPMENT GROUND KIT #2 AWG STRANDED INSULATED LEAD TO GROUND BAR WITH 2 HOLE LONG BARREL LUG (TYP.)
- (D) CABLE GROUND #2 AWG STRANDED INSULATED TO GROUND BAR WITH 2 HOLE LONG BARREL LUG (TYP.)
- (E) 1/4" x 4" x 20" MASTER GROUND BAR (MGB) MOUNTED VERTICALLY TO FIRST ICE BRIDGE POST ON INSULATORS
- (F) EQUIPMENT CABINET GROUND #2 AWG SOLID TINNED COPPER LEAD ENCASED IN LIQUID-TIGHT FLEXIBLE NON-METALLIC CONDUIT TO 24" BELOW GRADE TO EQUIPMENT PAD GROUND RING (TYP. OF 2 PER CABINET)
- (G) INTEGRATED LOAD CENTER (ILC) GROUND #2 AWG SOLID TINNED COPPER LEAD ENCASED IN LIQUID-TIGHT FLEXIBLE NON-METALLIC CONDUIT TO 24" BELOW GRADE TO EQUIPMENT PAD GROUND RING
- (H) FIBER ENCLOSURE GROUND #2 AWG SOLID TINNED COPPER LEAD ENCASED IN LIQUID-TIGHT FLEXIBLE NON-METALLIC CONDUIT TO 24" BELOW GRADE TO EQUIPMENT PAD GROUND RING
- (I) GENERATOR GROUND #2 AWG SOLID TINNED COPPER LEAD ENCASED IN LIQUID-TIGHT FLEXIBLE NON-METALLIC CONDUIT TO 24" BELOW GRADE TO EQUIPMENT PAD GROUND RING (TYP. OF 2)
- (J) CANOPY POST GROUND #2 AWG SOLID TINNED COPPER LEAD ENCASED IN LIQUID-TIGHT FLEXIBLE NON-METALLIC CONDUIT TO 24" BELOW GRADE (TYP. OF 4)
- (K) CANOPY TO POST GROUND #2 AWG GREEN-INSULATED STRANDED COPPER LEAD WITH 2 HOLE LONG BARREL ON EACH END (TYP.);
- (L) EQUIPMENT PAD REBAR GROUND #2 AWG SOLID TINNED COPPER LEAD ENCASED IN LIQUID-TIGHT FLEXIBLE NON-METALLIC CONDUIT TO 24" BELOW GRADE
- (M) CONDUIT GROUND #2 AWG SOLID TINNED COPPER LEAD
- (N) GPS GROUND TO ICE BRIDGE POST #2 AWG GREEN-INSULATED STRANDED COPPER LEAD
- (O) ICE BRIDGE POST GROUND #2 AWG SOLID TINNED COPPER LEAD ENCASED IN LIQUID-TIGHT FLEXIBLE NON-METALLIC CONDUIT TO 24" BELOW GRADE (TYP.)
- (P) ICE BRIDGE SECTION GROUND #2 AWG GREEN-INSULATED STRANDED COPPER LEAD WITH 2 HOLE LONG BARREL ON EACH END (TYP.)
- (Q) ICE BRIDGE SECTION TO POST GROUND #2 AWG SOLID TINNED COPPER LEAD (TYP.); ORIENT LEAD WITH HIGH SIDE TOWARDS TOWER
- (R) 1/4" x 4" x 20" TOWER GROUND BAR (TGB) INSTALLED ON TOWER; FOR LATTICE TOWERS, MOUNT TGB DIAGONALLY AT 12" ABOVE ICE BRIDGE FOR EASIER HOOK-UP OF GROUNDING KIT LEADS
- (S) TGB GROUND #2 AWG SOLID TINNED COPPER LEAD ENCASED IN LIQUID-TIGHT FLEXIBLE NON-METALLIC CONDUIT TO 24" BELOW GRADE FROM TGB TO TOWER GROUND RING (TYP. OF 2)
- (T) TBG GROUND #2 AWG GREEN-INSULATED STRANDED COPPER LEAD WITH 2 HOLE LONG BARREL AND UL LISTED BONDING CLAMP TO FLAT METAL
- (U) SECURE GROUND LEADS TO TOWER WITH BAND STRAPS OR SNAP-IN HANGERS AT GENERAL CONTRACTOR'S DISCRETION. USE MULTIPLE LEVELS OF ATTACHMENT IF GROUND BAR IS ATTACHED HIGH ABOVE GRADE.



- NOTES:**
1. ALL CABLING AND/OR GROUNDING RUNS SHALL BE INSTALLED IN A NEAT AND ORDERLY FASHION.
 2. CONTRACTOR SHALL INSTALL PER LATEST EDITION OF THE N.E.C.
 3. SCHEMATIC DETAIL ONLY. REFER TO ANTENNA AND EQUIPMENT CONFIGURATION FOR EQUIPMENT QUANTITY AND LOCATION.
 4. ALL GROUND LEADS TO BE ROUTED IN A DOWNWARD FASHION.

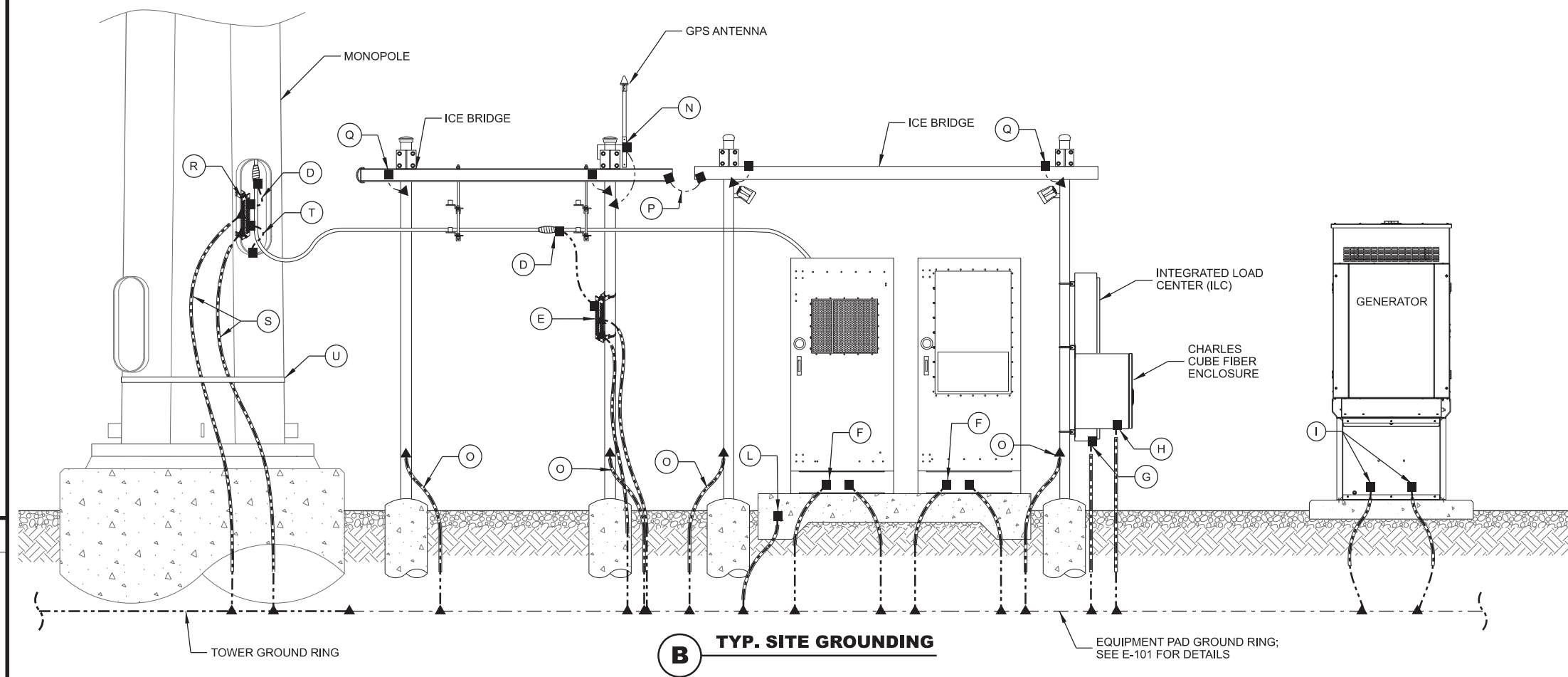
A ANTENNA LEVEL GROUNDING

NOTES: (THIS SHEET)

1. ALL BELOW-GRADE CONNECTIONS ARE TO BE EXOTHERMICALLY WELDED A MINIMUM OF 48" BELOW GRADE.
2. ALL LEADS EXTENDING ABOVE GRADE TO BE ENCASED IN 3/4" CONDUIT AND EXTEND A MINIMUM OF 6" ABOVE FINISHED GRADE AND 24" BELOW FINISHED GRADE.
3. APPLY COLD GALVANIZATION TO ALL ABOVE-GROUND EXOTHERMICALLY WELDED CONNECTIONS.
4. APPLY ANTI OXIDANT COMPOUND TO ALL MECHANICAL CONNECTIONS.
5. UPPER AND LOWER TOWER GROUND BARS TO BE BONDED DIRECTLY TO TOWER STEEL WITH #2 CONDUCTORS.
6. AIR TERMINAL TO EXTEND 2' ABOVE HIGHEST ANTENNA MIN. ON MAST PIPE MECHANICALLY FASTEN AIR TERMINAL TO MAST PIPE, MAST PIPE TO BE MECHANICALLY CONNECTED TO TOWER STEEL

GROUNDING LEGEND: (THIS SHEET)

- ▲ EXOTHERMIC OR UL RATED IRREVERSIBLE CONNECTION
- MECHANICAL CONNECTION
- GROUND LEAD



B TYP. SITE GROUNDING

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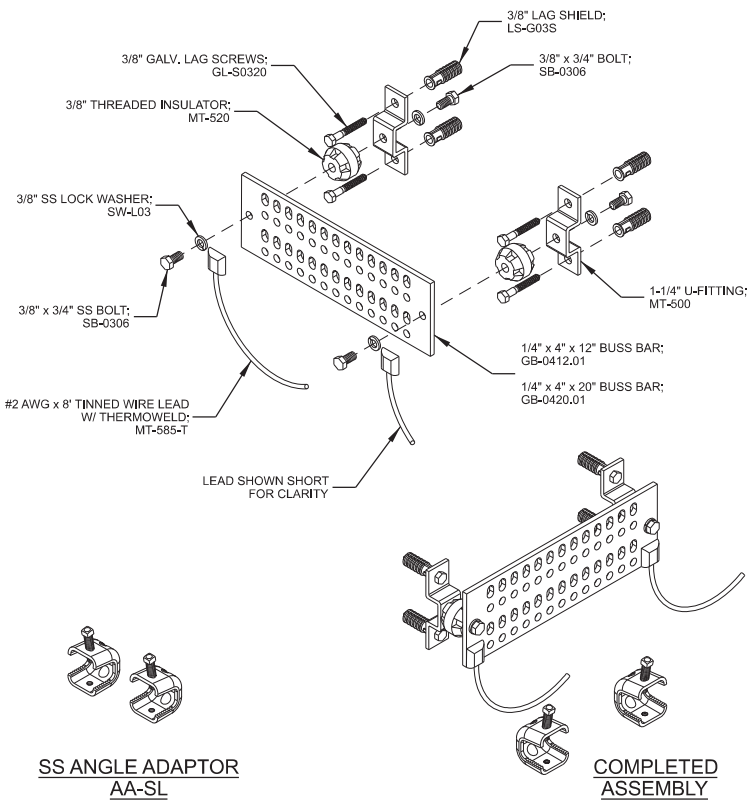
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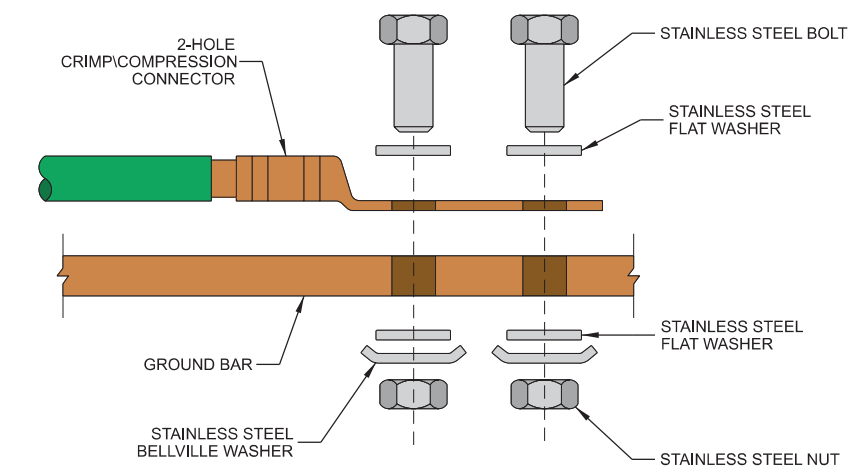
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PLOT DATE:	4/11/2025
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SHEET NUMBER:	E-501

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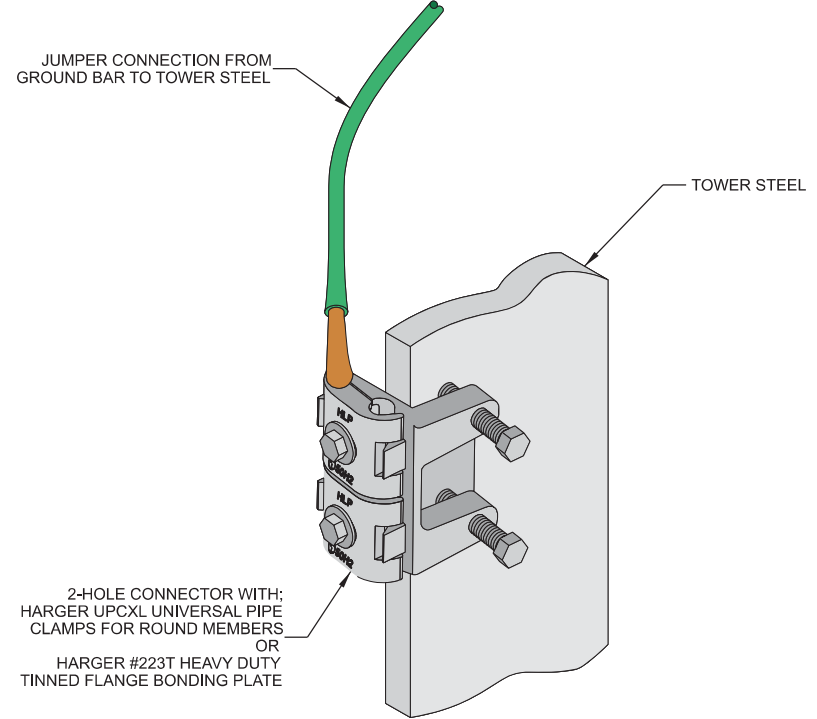


A GROUND AND BUSS BAR



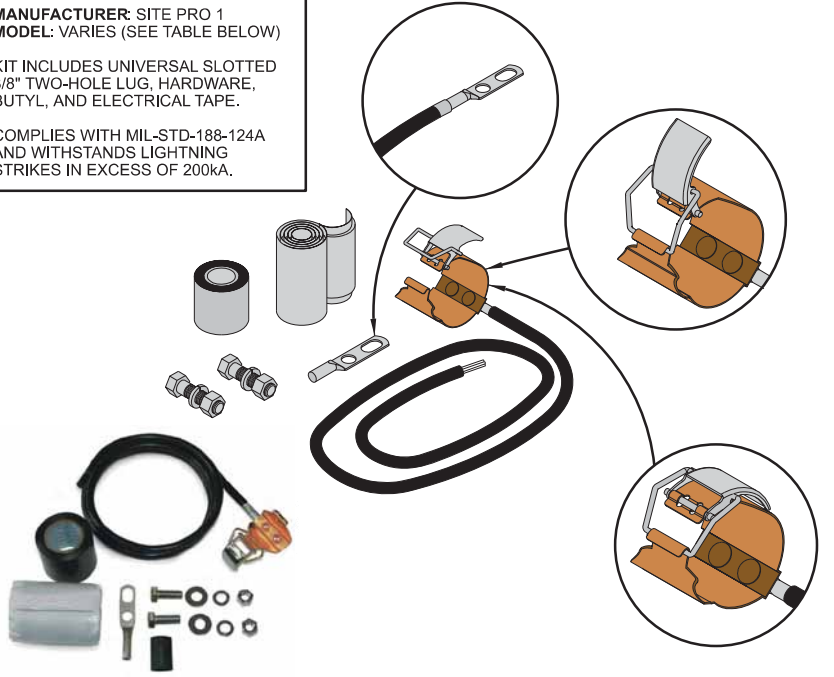
- NOTES:**
1. ALL OUTDOOR HARDWARE (BOLTS, SCREWS, NUTS, WASHERS) SHALL BE 18-8 STAINLESS STEEL TYPE GRADE. INDOORS, GRADE 5 STEEL HARDWARE MAY BE USED.
 2. CHOOSE BOLT LENGTH TO ALLOW THE EXPOSURE OF AT LEAST TWO THREADS.
 3. BACK TO BACK LUG CONNECTIONS ARE AN ACCEPTABLE PRACTICE WHEN BONDED TO A GROUND BAR OR STEEL OBJECTS.
 4. AT CONNECTIONS MADE TO STEEL OR ANY OTHER DISSIMILAR METALS, A DRAGON TOOTH WASHER MEETING VZW PRACTICES SHALL BE USED BETWEEN THE CONNECTOR AND STEEL. IF NOT USING DRAGON TOOTH WASHERS, THOROUGHLY REMOVE A SECTION OF PAINT OR COATING APPROXIMATELY THE SAME SIZE AS CONNECTOR. REMOVE THE PAINT FROM SURFACE USING A DREMEL TYPE TOOL.
 5. USE AN APPROVED ANTI-OXIDATION COMPOUND ON ALL GROUNDING CONNECTIONS. A COPPER COSMOLINE GREASE BASED COMPOUND (NO OX-ID) SHALL BE USED ON ALL COPPER TO COPPER CONNECTIONS. A ZINC BASED (GREY COLORED) COMPOUND SHALL BE USED ON ALL COPPER TO STEEL CONNECTIONS.
 6. WHEN BONDING TO A METALLIC OBJECT WHERE ACCESS IS LIMITED TO ONLY ONE SURFACE, DRILLING & TAPPING OR SELF DRILLING SCREWS ARE THE PREFERRED AND ACCEPTABLE MEANS OF CONNECTION. SHEET METAL SCREWS SHALL NOT BE USED.
 - 7.

B GROUNDING LUG



C GROUND BAR CONNECTION TO TOWER STEEL

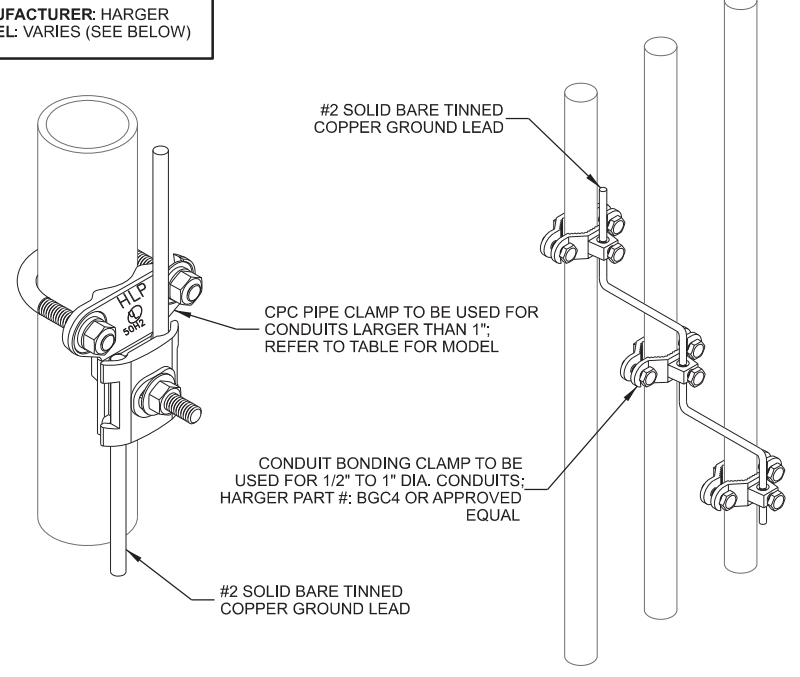
MANUFACTURER: SITE PRO 1
MODEL: VARIES (SEE TABLE BELOW)
 KIT INCLUDES UNIVERSAL SLOTTED 3/8" TWO-HOLE LUG, HARDWARE, BUTYL, AND ELECTRICAL TAPE.
 COMPLIES WITH MIL-STD-188-124A AND WITHSTANDS LIGHTNING STRIKES IN EXCESS OF 200kA.



PART #	CABLE SIZE & TYPE	LENGTH	LUG	WEIGHT
GK-C12	1/2" CORRUGATED	5'	UNATTACHED	1.50 LB.
GK-C78	7/8" CORRUGATED	5'	UNATTACHED	1.65 LB.
GK-C114	1-1/4" CORRUGATED	5'	UNATTACHED	1.70 LB.
GK-C158	1-5/8" CORRUGATED	5'	UNATTACHED	1.70 LB.
GK-C214	2-1/4" CORRUGATED	5'	UNATTACHED	1.80 LB.

D CLIP ON GROUND KIT

MANUFACTURER: HARGER
MODEL: VARIES (SEE BELOW)



PART #	NOMINAL PIPE SIZE RANGE	PIPE OUTSIDE DIAMETER
CPC1/1.25	1" - 1.25"	0.9375" - 1.7"
CPC1.5/2	1.5" - 2"	1.25" - 2.4"
CPC2.5/3	2.5" - 3"	2.5" - 3.5"
CPC3.5/4	3.5" - 4"	3.375" - 4.5"
CPC5/6	5" - 6"	4.75" - 6.63"

E CONDUIT GROUNDING

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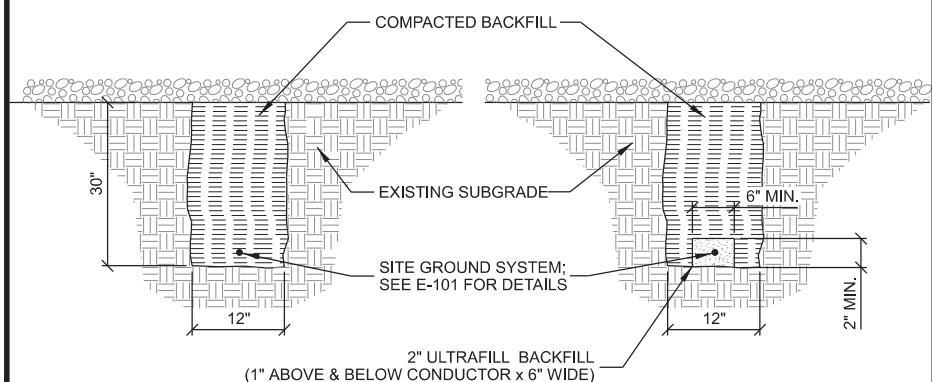
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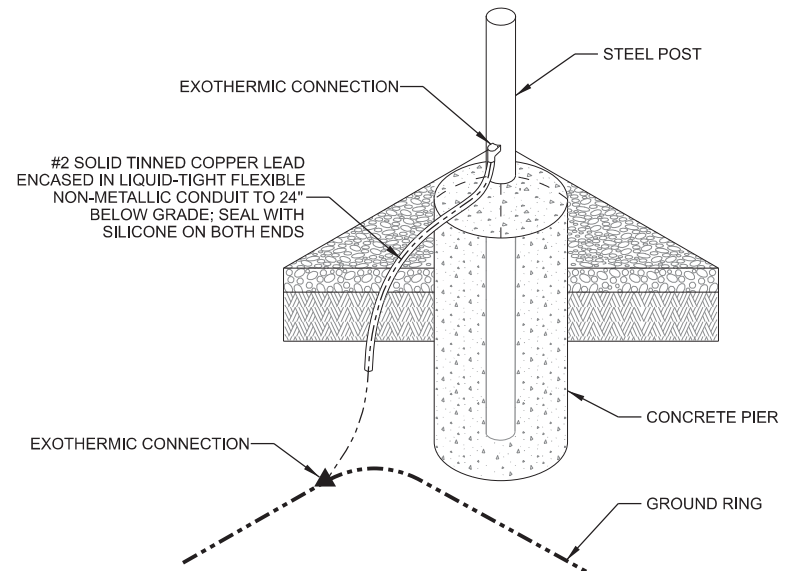
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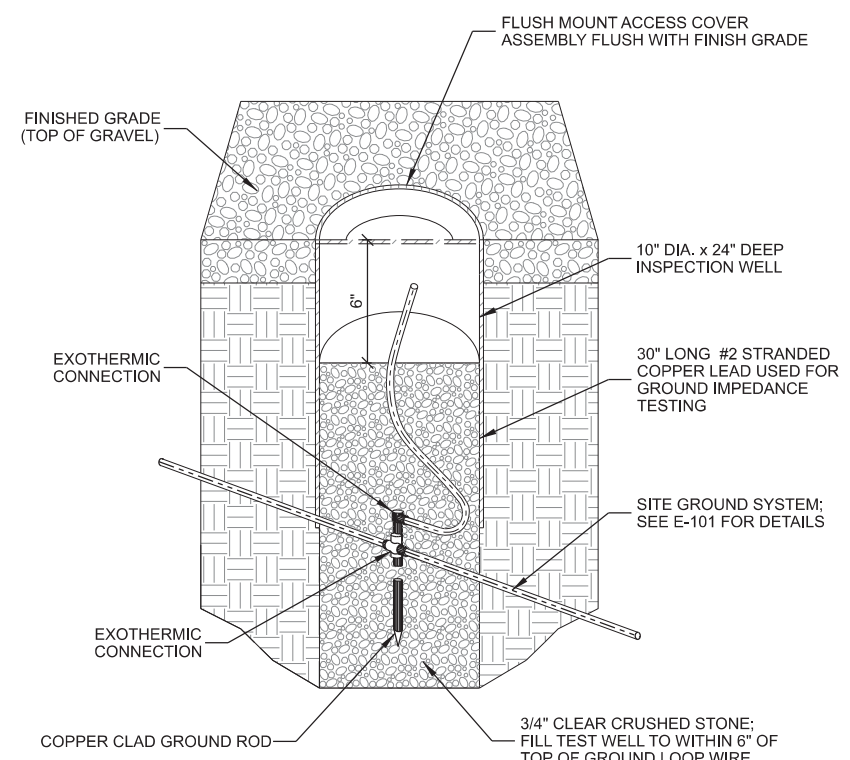


A GROUND TRENCH

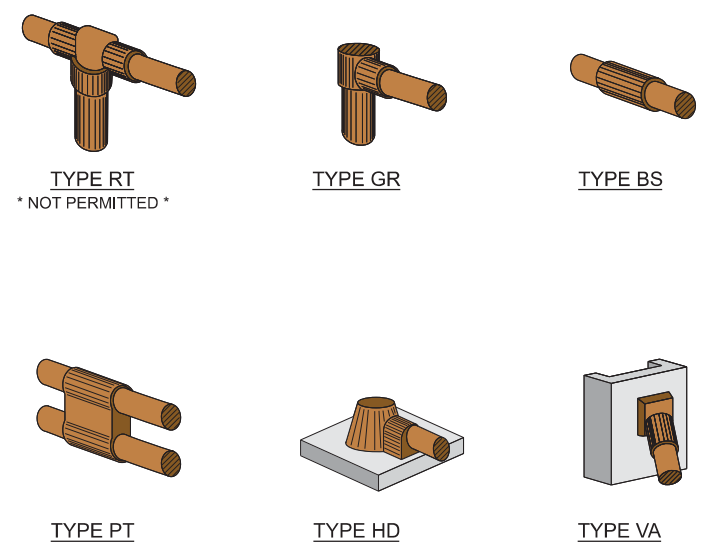
- NOTES:
- GROUNDING TRENCHES TO BE BACK FILLED WITH NATIVE SOIL.
 - COMPACT BACK FILL TO 95% MODIFIED PROCTOR.
 - CONTACT PSC MINIMUM 24HRS NOTICE PRIOR TO BACK FILLING TO ALLOW FOR INSPECTION.



B POST GROUNDING

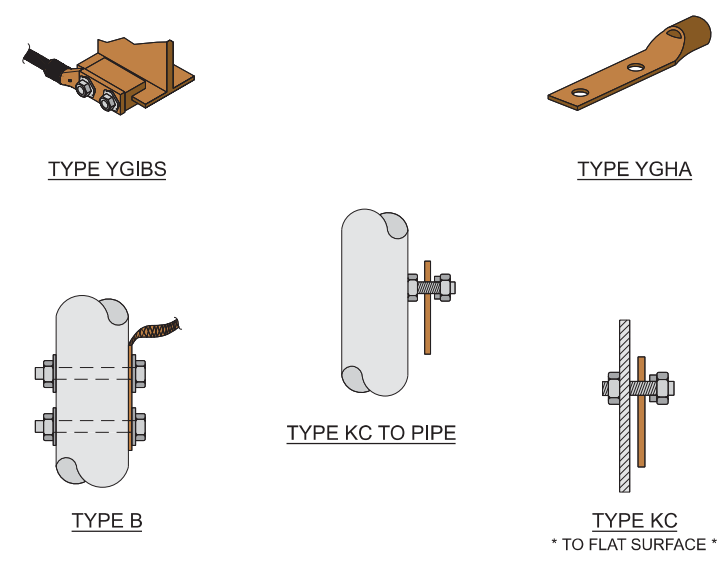


C INSPECTION WELL



D EXOTHERMIC CONNECTIONS

- NOTES:
- EXOTHERMIC "TYPES" SHOWN ARE EXAMPLES. CONSULT WITH PROJECT MANAGER FOR OTHER POSSIBLE TYPES OF EXOTHERMIC CONNECTIONS THAT CAN BE USED IN STANDARD OR SPECIALLY DESIGNED GROUNDING PLANS.
 - CONTRACTOR TO PROVIDE ALL REQUIRED EXOTHERMIC CONNECTIONS.



E MECHANICAL CONNECTIONS

- NOTES:
- MECHANICAL "TYPES" SHOWN ARE EXAMPLES. CONSULT WITH PROJECT MANAGER FOR OTHER POSSIBLE TYPES OF MECHANICAL CONNECTIONS THAT CAN BE USED IN STANDARD OR SPECIALLY DESIGNED GROUNDING PLANS.
 - CONTRACTOR TO PROVIDE ALL REQUIRED MECHANICAL CONNECTIONS.

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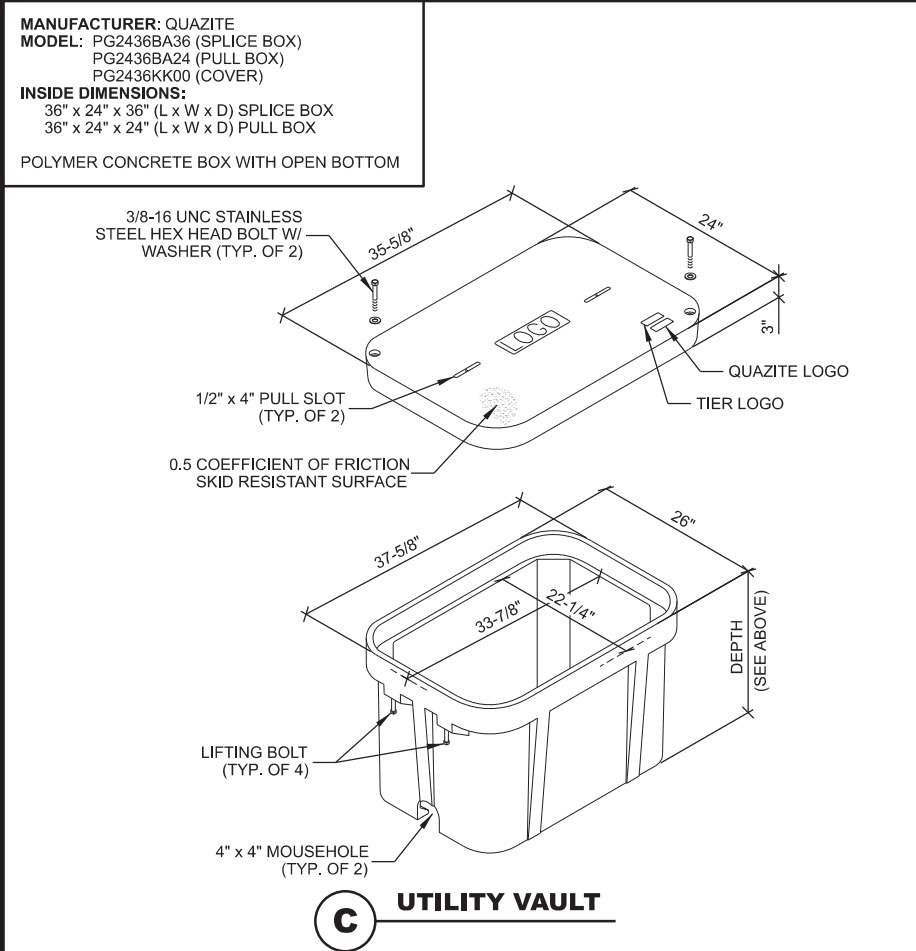
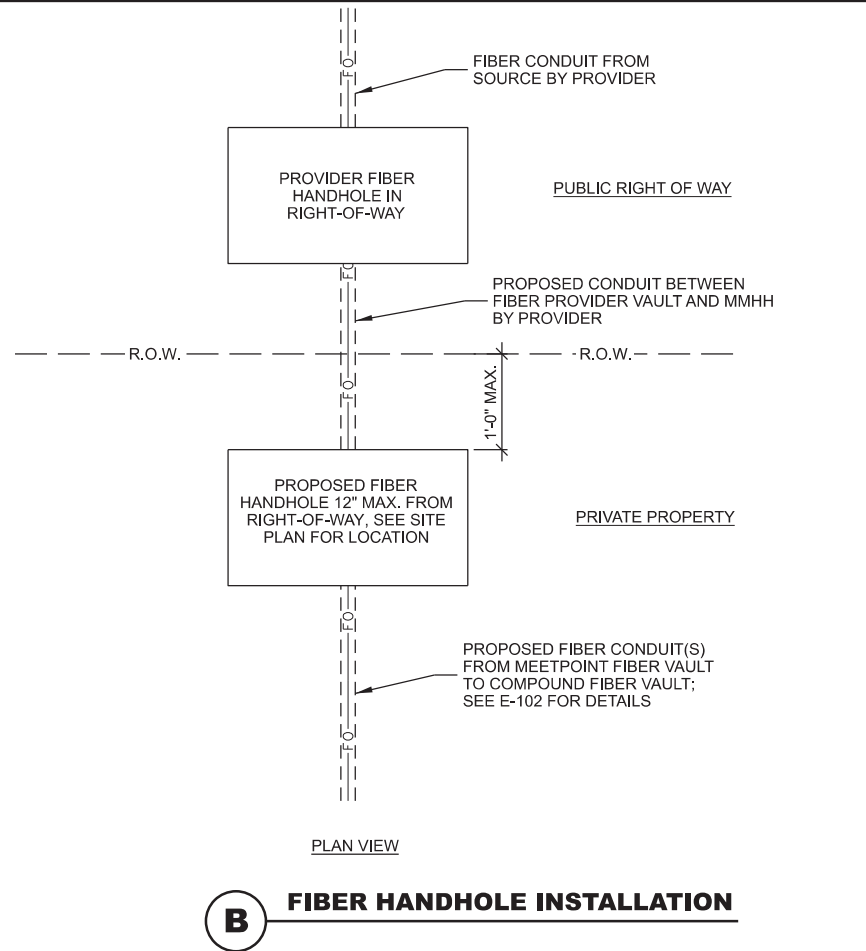
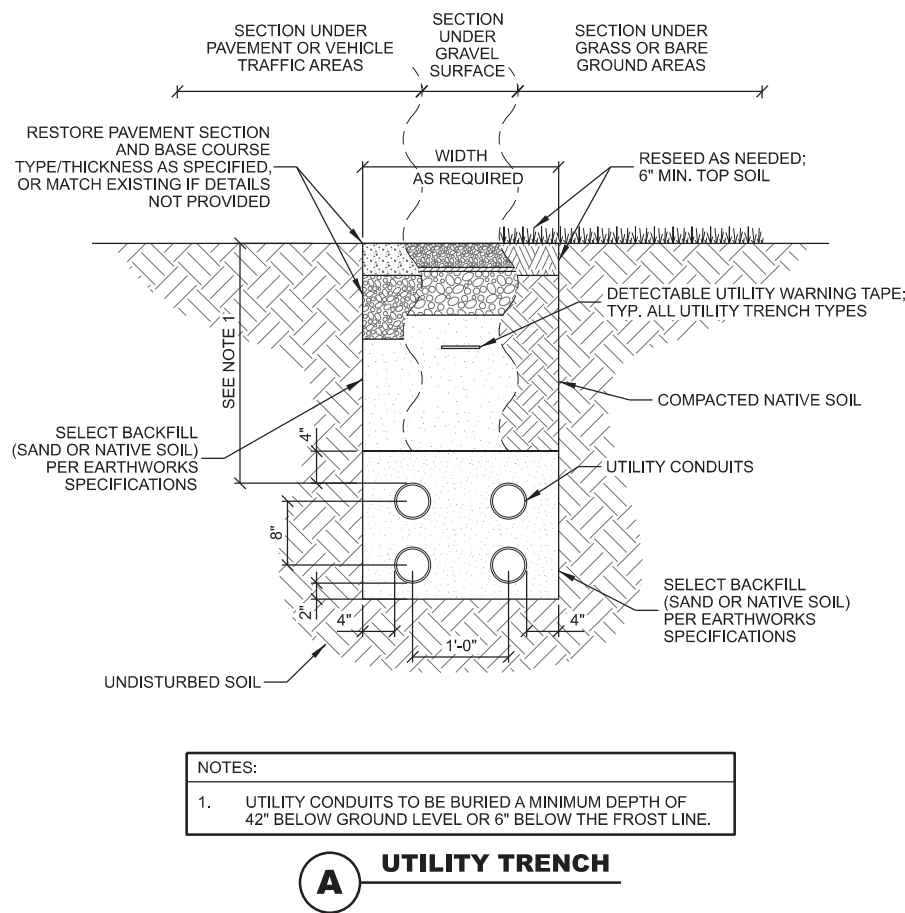
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SHEET NUMBER:	E-503

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WARNING TAPE & TRACE WIRE NOTES: (THIS SHEET)

- WARNING TAPE TO BE INSTALLED ABOVE THE ELECTRICAL RUN FROM THE GENERATOR TO THE PLATFORM AND ABOVE THE FUEL LINE BETWEEN THE GENERATOR AND FUEL SOURCE.
- WARNING TAPE SHALL BE RUN CONTINUOUSLY ALONG THE ENTIRE LENGTH AND INSTALLED 12 INCHES ABOVE THE TOP OF THE CONDUITS
- TRACER WIRE SHALL RUN CONTINUOUSLY ALONG THE ENTIRE LENGTH OF THE BURIED GAS AND ELECTRIC CONDUITS
- TRACER WIRE SHALL BE SECURED TO THE CONDUIT AND MAINTAINED ABOVE THE CONDUIT CENTERLINE DURING TRENCH BACKFILLING.
- TRACER WIRE TO EXTEND TO THE TOP OF PVC ABOVE CONCRETE ON BOTH ENDS - LOOP AND WRAP AROUND APPROPRIATE CONDUIT.
- TRACER WIRE SHALL CONSIST OF 14GA. SOLID COPPER WIRE WITH A CORROSION PROTECTIVE COATING.
- INSTALL TRACER WIRE WITH SPACER AND SECURE PER MNFG. RECOMMENDATIONS - AT A MIN. EVERY 10' AND AT ALL BENDS. - DO NOT WRAP BURIED CONDUIT WITH TRACER WIRE TO AVOID UNNECESSARY STRESS ON TRACER. - CONTRACTOR TO CHECK CONTINUITY OF TRACER WIRE BEFORE AND AFTER BURIAL AND DOCUMENT RESULTS. 12" ABOVE THE TOP OF THE CONDUITS.

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ENGINEER SEAL:
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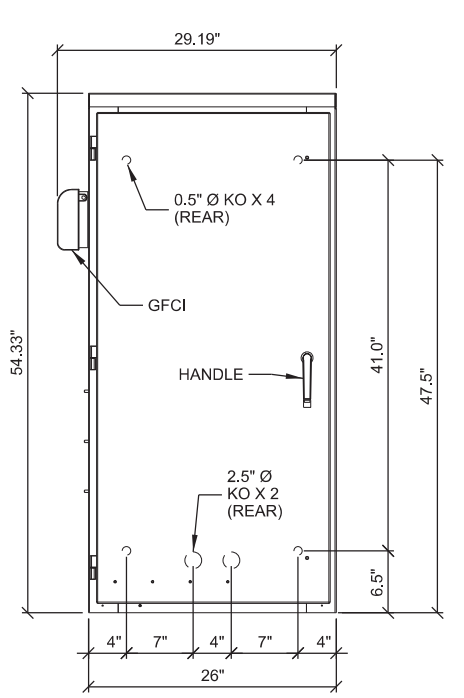
I HEREBY CERTIFY THAT THIS PLAN SET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION OTHER THAN THE EXCEPTIONS NOTED IN THE SHEET INDEX, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF IOWA.

UTILITY DETAILS
DES WILDER (TN #: IA0178)
DES WILDER (VzW #: 15969075)
INDIANOLA, IOWA

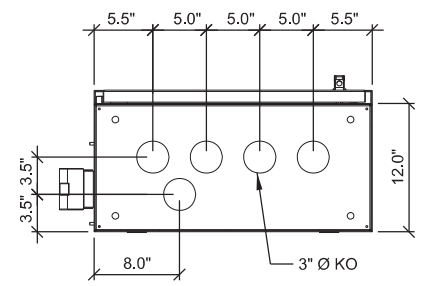
SUBMITTAL:

INT.	DATE:	DESCRIPTION:
CV	04/11/25	REV. A

CHECKED BY:	PCM
PLOT DATE:	4/11/2025
PROJECT NUMBER:	42052
SET TYPE:	DRAFT
SHEET NUMBER:	E-504



MANUFACTURER: INTERSECT, INC.
 MODEL: 112200-30-42-ATS-3R
 DIMENSIONS: 54.33" x 26.0" x 12.0" (H x W x D)
 TYPE 3R ENCLOSURE
 ATS 1-PHASE, 42 POSITION LOAD CENTER



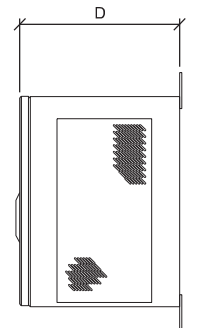
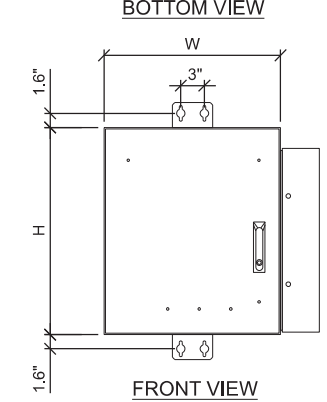
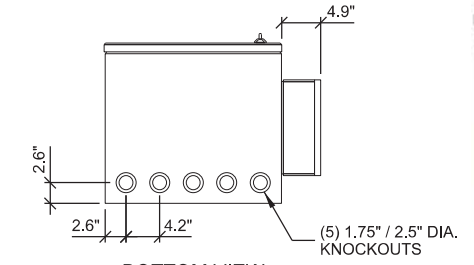
FRONT VIEW

BOTTOM VIEW

A INTEGRATED LOAD CENTER (ILC)

MANUFACTURER: CHARLES INDUSTRIES
 MODEL: CUBE-RL1003
 DIMENSIONS: 26.3" x 22.1" x 20.0" (H x W x D)
 RACK SPACE: 14RU

ACCESSORIES
 POLE MOUNT KIT: 97-CABPMKIT
 H-FRAME HARDWARE KIT: 97-001971-A
 SLIDE OUT TRAY: 97-001990-A
 10" PLINTH KIT: 97-002127-A



BOTTOM VIEW

FRONT VIEW

SIDE VIEW

B FIBER ENCLOSURE



THIS SPACE INTENTIONALLY LEFT BLANK

CONSULTANT:
Edge
 Consulting Engineers, Inc.
 624 WATER STREET
 PRAIRIE DU SAC, WI 53578
 608.644.1449 VOICE
 608.644.1549 FAX
 www.edgeconsult.com

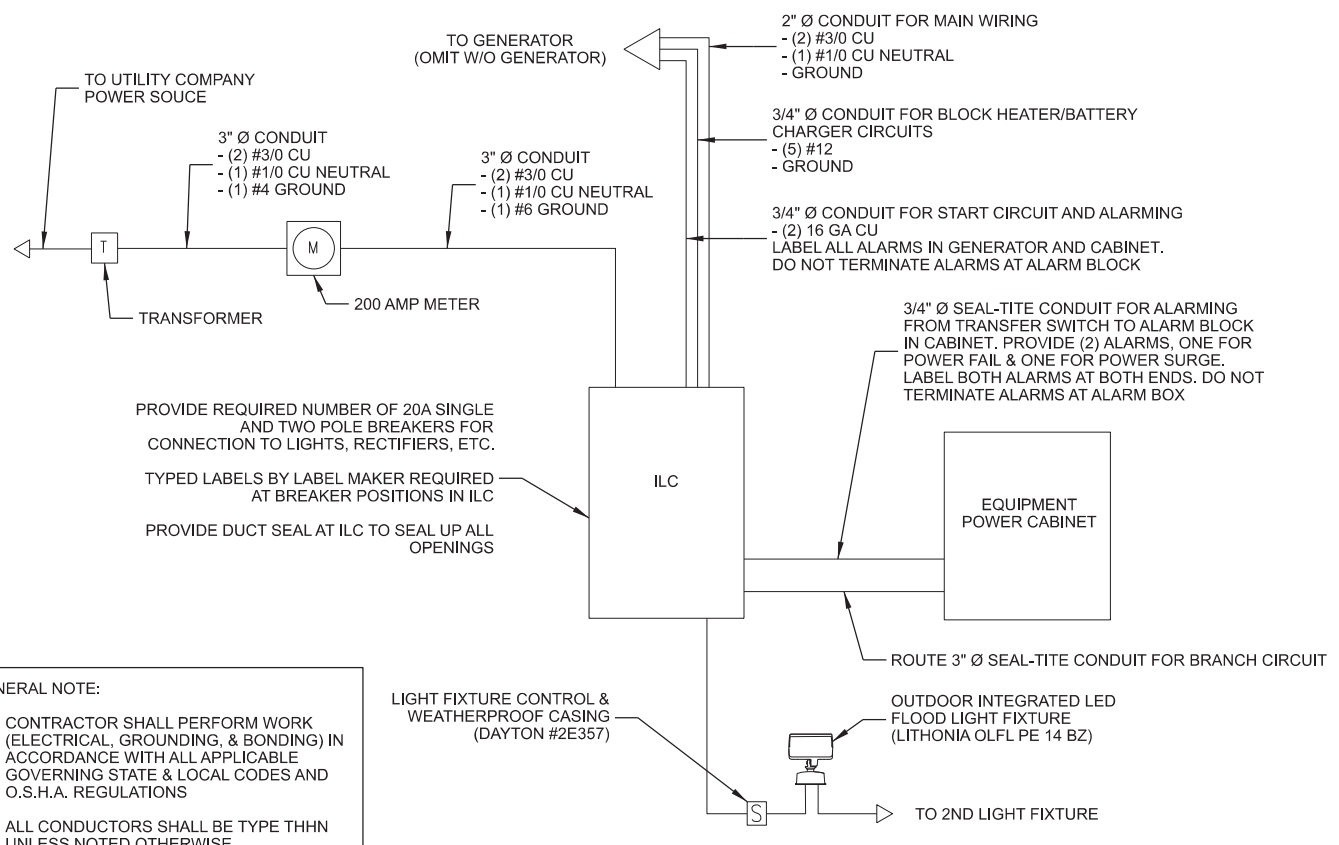
CLIENT:

 TowerNorth
verizon

ENGINEER SEAL:
 PRELIMINARY - NOT FOR CONSTRUCTION

I HEREBY CERTIFY THAT THIS PLAN SET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION OTHER THAN THE EXCEPTIONS NOTED IN THE SHEET INDEX, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF IOWA.

ELECTRICAL DETAILS
 DES WILDER (TN #: IA0178)
 DES WILDER (VzW #: 15969075)
 INDIANOLA, IOWA



PROVIDE REQUIRED NUMBER OF 20A SINGLE AND TWO POLE BREAKERS FOR CONNECTION TO LIGHTS, RECTIFIERS, ETC.
 TYPED LABELS BY LABEL MAKER REQUIRED AT BREAKER POSITIONS IN ILC
 PROVIDE DUCT SEAL AT ILC TO SEAL UP ALL OPENINGS

3/4" Ø SEAL-TITE CONDUIT FOR ALARMING FROM TRANSFER SWITCH TO ALARM BLOCK IN CABINET. PROVIDE (2) ALARMS, ONE FOR POWER FAIL & ONE FOR POWER SURGE. LABEL BOTH ALARMS AT BOTH ENDS. DO NOT TERMINATE ALARMS AT ALARM BOX

2" Ø CONDUIT FOR MAIN WIRING
 - (2) #3/0 CU
 - (1) #1/0 CU NEUTRAL
 - GROUND

3/4" Ø CONDUIT FOR BLOCK HEATER/BATTERY CHARGER CIRCUITS
 - (5) #12
 - GROUND

3/4" Ø CONDUIT FOR START CIRCUIT AND ALARMING
 - (2) 16 GA CU
 LABEL ALL ALARMS IN GENERATOR AND CABINET. DO NOT TERMINATE ALARMS AT ALARM BLOCK

3" Ø CONDUIT FOR MAIN WIRING
 - (2) #3/0 CU
 - (1) #1/0 CU NEUTRAL
 - (1) #4 GROUND

3" Ø CONDUIT
 - (2) #3/0 CU
 - (1) #1/0 CU NEUTRAL
 - (1) #6 GROUND

TO GENERATOR (OMIT W/O GENERATOR)

TO UTILITY COMPANY POWER SOURCE

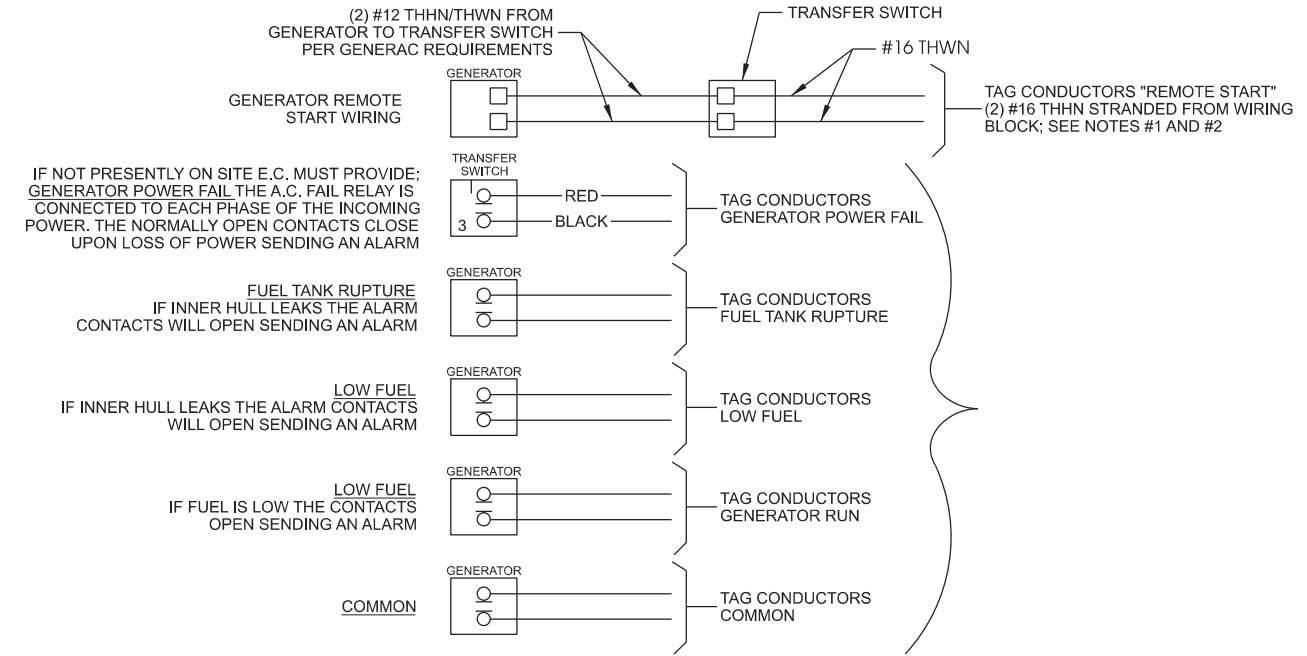
- GENERAL NOTE:
- CONTRACTOR SHALL PERFORM WORK (ELECTRICAL, GROUNDING, & BONDING) IN ACCORDANCE WITH ALL APPLICABLE GOVERNING STATE & LOCAL CODES AND O.S.H.A. REGULATIONS
 - ALL CONDUCTORS SHALL BE TYPE THHN UNLESS NOTED OTHERWISE
 - LABEL METER & DISCONNECT PER NEC.
 - EQUIPMENT AND MATERIALS SHOWN (OR APPROVED EQUAL) TO BE PROVIDED BY CONTRACTOR UNLESS NOTED OTHERWISE

LIGHT FIXTURE CONTROL & WEATHERPROOF CASING (DAYTON #2E357)

OUTDOOR INTEGRATED LED FLOOD LIGHT FIXTURE (LITHONIA OLFL PE 14 BZ)

TO 2ND LIGHT FIXTURE

C ONE-LINE ELECTRICAL DIAGRAM



IF NOT PRESENTLY ON SITE E.C. MUST PROVIDE: GENERATOR POWER FAIL THE A.C. FAIL RELAY IS CONNECTED TO EACH PHASE OF THE INCOMING POWER. THE NORMALLY OPEN CONTACTS CLOSE UPON LOSS OF POWER SENDING AN ALARM

FUEL TANK RUPTURE IF INNER HULL LEAKS THE ALARM CONTACTS WILL OPEN SENDING AN ALARM

LOW FUEL IF INNER HULL LEAKS THE ALARM CONTACTS WILL OPEN SENDING AN ALARM

LOW FUEL IF FUEL IS LOW THE CONTACTS OPEN SENDING AN ALARM

- NOTES:
- STANDARD DIAGRAM PROVIDED BY CLIENT, INCLUDED HERE FOR CONVENIENCE ONLY.
 - ELECTRICAL CONTRACTOR TO PULL (1) #16 AWG SOLID RED AND (1) #16 AWG SOLID BLACK FROM THE TRANSFER SWITCH TO ALARM WIRING BLOCK FOR REMOTE START.
 - ELECTRICAL CONTRACTOR TO PULL ALL ALARM LEADS TO EXISTING ALARM WIRING BLOCK. LEAVE A MINIMUM OF 24" PIGTAILS AT ALARM WIRING BLOCK AND TAG CONDUCTORS AS INDICATED. TERMINATIONS ON ALARM POINT WIRING BLOCK BY OTHERS. CONDUCTORS CAN BE RUN EXPOSED. THEY SHALL BE BUNDLED NEATLY USING TIES AND SUPPORTED AT 24" INTERVALS FOR NEAT INSTALLATION.

D GENERATOR ALARM WIRING

SUBMITTAL:

INT.	DATE:	DESCRIPTION:
CV	04/11/25	REV. A

CHECKED BY:	PCM
PLOT DATE:	4/11/2025
PROJECT NUMBER:	42052
SET TYPE:	DRAFT
SHEET NUMBER:	E-505

L:\42000\42052\Design\CAD\CD\PI\etE-505.dgn



Structural Design Report

195' Monopole

Site: Des Wilder, IA

Site Number: IA0178-B


Prepared for: TOWERNORTH DEVELOPMENT, LLC

by: Sabre Industries™

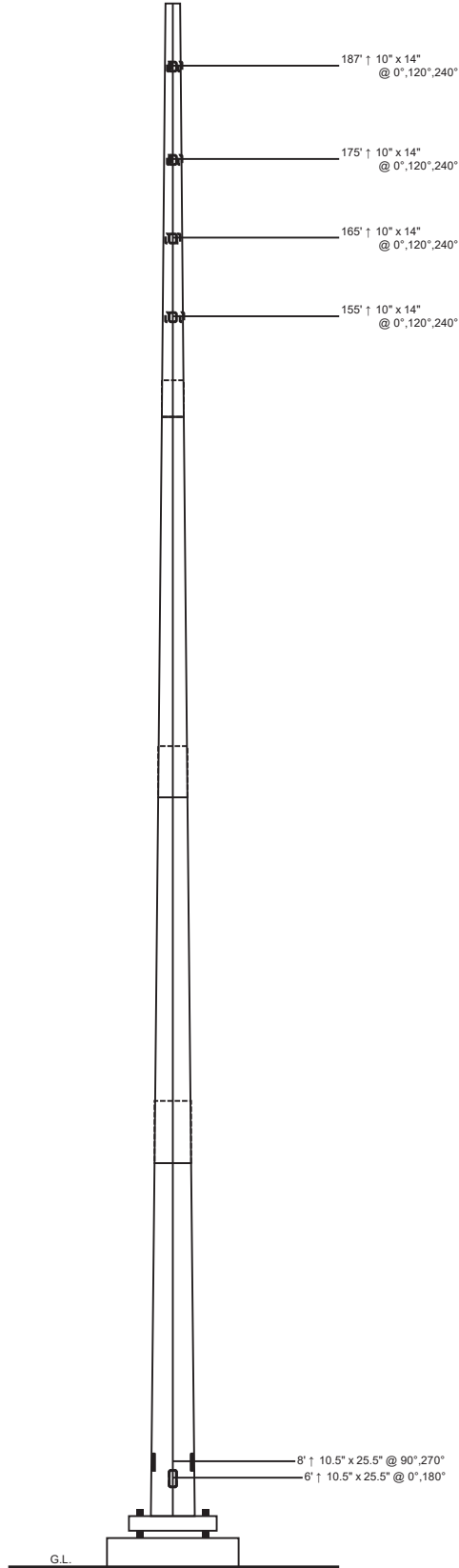
Job Number: 559144

April 4, 2025

Monopole Profile.....	1
Pole Calculations.....	2-19

	<p>I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the Laws of the State of Iowa.</p>
	<p><i>Thomas Theodore Wilson</i> (signature)</p>
	<p>4/4/2025 (dated)</p>
	<p>THOMAS THEODORE WILSON</p>
<p>My license renewal date is <u>December 31, 2026.</u></p>	
<p>Pages or sheets covered by this seal: <u>1-19</u></p>	

Length (ft)	53'-3"	53'-6"	53'-0"
Number Of Sides	18		
Thickness (in)	7/16"	3/8"	5/16"
Lap Splice (ft)	8'-0"	6'-6"	A
Top Diameter (in)	54.87"	44.07"	21"
Bottom Diameter (in)	68.53"	57.79"	34.6"
Taper (in/ft)		0.2566	
Grade		A572-65	
Weight (lbs)	18412	13540	9027
Overall Steel Height (ft)			57.60



Designed Appurtenance Loading

Elev	Description	Tx-Line
190	(1) 42,000 Sq. Inches (12,000 lbs) (below top)	(20) 1 5/8"
190	(1) 30 sq.ft. EPA	
178	(1) 30,000 sq. in. (5000 lbs) (below top)	(20) 1 5/8"
178	(1) 30 sq.ft. EPA	
168	(1) 20,000 sq. in. (4000 lbs) (below top)	(12) 1 5/8"
168	(1) 30 sq.ft. EPA	
158	(1) 15,000 sq. in. (3000 lbs) (below top)	(12) 1 5/8"
158	(1) 30 sq.ft. EPA	

Design Criteria - ANSI/TIA-222-H

Wind Speed (No Ice)	110 mph
Wind Speed (Ice)	40 mph
Design Ice Thickness	1.50 in
Risk Category	II
Exposure Category	C
Topographic Factor Procedure	Method 1 (Simplified)
Topographic Category	1
Ground Elevation	960 ft
Seismic Importance Factor, Ie	1.00
0.2-sec Spectral Response, Ss	0.064 g
1-sec Spectral Response, S1	0.054 g
Site Class	D (DEFAULT)
Seismic Design Category	B
Basic Seismic Force-Resisting System	Telecommunication Tower (Pole: Steel)

Limit State Load Combination Reactions

Load Combination	Axial (kips)	Shear (kips)	Moment (ft-k)	Deflection (ft)	Sway (deg)
1.2 D + 1.0 Wo	94.41	49.6	7983.56	17.72	10.55
0.9 D + 1.0 Wo	70.92	49.73	7764.39	17.03	10.07
1.2 D + 1.0 Di + 1.0 Wi	154.84	11.62	2059.1	4.92	2.95
1.2 D + 1.0 Ev + 1.0 Eh	95.68	2.37	446.08	1.08	0.65
0.9 D - 1.0 Ev + 1.0 Eh	69.4	2.37	430.45	1.03	0.61
1.0 D + 1.0 Wo (Service @ 60 mph)	78.73	13.18	2104.84	4.77	2.8

Base Plate Dimensions

Shape	Diameter	Thickness	Bolt Circle	Bolt Qty	Bolt Diameter
Round	81.5"	2.25"	75.75"	22	2.25"

Anchor Bolt Dimensions

Length	Diameter	Hole Diameter	Weight	Type	Finish
84"	2.25"	2.625"	2664.2	A615-75	Galv

Material List

Display	Value
A	4' - 9"

Notes

- 1) Antenna Feed Lines Run Inside Pole
- 2) All dimensions are above ground level, unless otherwise specified.
- 3) Weights shown are estimates. Final weights may vary.
- 4) Full Height Step Bolts
- 5) This tower design and, if applicable, the foundation design(s) shown on the following page(s) also meet or exceed the requirements of the 2015 International Building Code.
- 6) Tower Rating: 99.2%

 <p>Sabre Industries 7101 Southbridge Drive P.O. Box 658 Sioux City, IA 51102-0658 Phone: (712) 258-6690 Fax: (712) 279-0814</p> <p><small>Information contained herein is the sole property of Sabre Communications Corporation, constitutes a trade secret as defined by Iowa Code Ch. 550 and shall not be reproduced, copied or used in whole or part for any purpose whatsoever without the prior written consent of Sabre Communications Corporation.</small></p>	Job:	559144
	Customer:	TOWNORTH DEVELOPMENT, LLC
	Site Name:	Des Wilder, IA IA0178-B
	Description:	195' Monopole
	Date:	4/4/2025	By: TTW

Tel: (416) 736-7453 Fax: (416) 736-4372 Web: www.guymast.com

Processed under license at:

Sabre Towers and Poles on: 4 apr 2025 at: 14:57:16
 =====

195' Monopole / Des Wilder, IA

* All pole diameters shown on the following pages are across corners.
 See profile drawing for widths across flats.

POLE GEOMETRY
 =====

ELEV	SECTION	No.	OUTSIDE	THICK	RESISTANCES		SPLICE	..OVERLAP...		w/t
ft	NAME	SIDE	DIAM	-NESS	*Pn	*Mn	TYPE	LENGTH	RATIO	
			in	in	kip	ft-kip		ft		
194.0	A	18	21.32	0.312	1524.5	644.2				10.8
			33.89	0.312	2375.6	1612.8				
145.7	A/B	18	33.89	0.312	2375.6	1612.8	SLIP	4.75	1.68	
			34.51	0.375	2972.1	2048.1				
141.0	B	18	34.51	0.375	2972.1	2048.1				15.0
			45.50	0.375	3699.3	3378.8				
98.7	B/C	18	45.50	0.375	3699.3	3378.8	SLIP	6.50	1.71	
			46.45	0.438	4570.8	4252.2				
92.2	C	18	46.45	0.438	4570.8	4252.2				17.6
			56.59	0.438	5250.9	5971.4				
53.2	C/D	18	56.59	0.438	5250.9	5971.4	SLIP	8.00	1.69	
			57.81	0.438	5325.0	6188.6				
45.2	D	18	57.81	0.438	5325.0	6188.6				22.1
			69.59	0.438	5950.3	8345.7				
0.0										

POLE ASSEMBLY
 =====

SECTION	BASE	.....BOLTS AT BASE OF SECTION.....				CALC
NAME	ELEV	NUMBER	TYPE	DIAM	STRENGTH	BASE
	ft			in	ksi	ELEV
						ft
A	141.000	0	A325	0.00	92.0	141.000
B	92.250	0	A325	0.00	92.0	92.250
C	45.250	0	A325	0.00	92.0	45.250
D	0.000	0	A325	0.00	92.0	0.000

POLE SECTIONS
 =====

SECTION	No. of	LENGTH	OUTSIDE DIAMETER		BEND	MAT-	FLANGE ID		FLANGE WELD	
NAME	SIDES		BOT	TOP	RAD	ERIAL	BOT	TOP	..GROUP ID..	
		ft	*	*	in	ID			BOT	TOP
			in	in						
A	18	53.00	35.13	21.32	0.625	1	0	0	0	0
B	18	53.50	47.20	33.26	0.625	2	0	0	0	0
C	18	53.50	58.69	44.75	0.625	3	0	0	0	0
D	18	53.25	69.59	55.71	0.625	4	0	0	0	0

* - Diameter of circumscribed circle

MATERIAL TYPES

=====

TYPE OF SHAPE	TYPE NO	NO OF ELEM.	ORIENT & deg	HEIGHT in	WIDTH in	.THICKNESS.		IRREGULARITY .PROJECTION. % OF ORIENT AREA	
						WEB	FLANGE	in	in	deg
PL	1	1	0.0	35.13	0.31	0.312	0.312	0.00	0.0
PL	2	1	0.0	47.20	0.38	0.375	0.375	0.00	0.0
PL	3	1	0.0	58.69	0.44	0.438	0.438	0.00	0.0
PL	4	1	0.0	69.59	0.44	0.438	0.438	0.00	0.0

& - With respect to vertical

MATERIAL PROPERTIES

=====

MATERIAL TYPE NO.	ELASTIC MODULUS ksi	UNIT WEIGHT pcf	.. STRENGTH ..		THERMAL COEFFICIENT /deg
			Fu ksi	Fy ksi	
1	29000.0	490.0	80.0	65.0	0.00001170
2	29000.0	490.0	80.0	65.0	0.00001170
3	29000.0	490.0	80.0	65.0	0.00001170
4	29000.0	490.0	80.0	65.0	0.00001170

* Only 5 condition(s) shown in full

* Some concentrated wind loads may have been derived from full-scale wind tunnel testing

LOADING CONDITION A

110 mph wind with no ice. Wind Azimuth: 0° (1.2 D + 1.0 Wo)

LOADS ON POLE

=====

LOAD TYPE	ELEV ft	APPLY. RADIUS ft	LOAD. AZI	AT AZI	..... FORCES .....		..... MOMENTS	
					HORIZ kip	DOWN kip	VERTICAL ft-kip	TORSNAL ft-kip
C	192.000	0.00	0.0	0.0	0.0133	0.0067	0.0000	0.0000
C	189.000	0.00	0.0	0.0	0.0000	4.7174	0.0000	0.0000
C	189.000	0.00	0.0	0.0	11.9258	14.7600	0.0000	0.0000
C	185.000	0.00	0.0	0.0	0.0329	0.0168	0.0000	0.0000
C	177.000	0.00	0.0	0.0	0.0000	4.4179	0.0000	0.0000
C	177.000	0.00	0.0	0.0	8.7864	6.3600	0.0000	0.0000
C	175.000	0.00	0.0	0.0	0.0325	0.0168	0.0000	0.0000
C	167.000	0.00	0.0	0.0	0.0000	2.5010	0.0000	0.0000
C	167.000	0.00	0.0	0.0	6.2279	5.1600	0.0000	0.0000
C	165.000	0.00	0.0	0.0	0.0321	0.0168	0.0000	0.0000
C	157.000	0.00	0.0	0.0	0.0000	2.3512	0.0000	0.0000
C	157.000	0.00	0.0	0.0	4.9376	3.9600	0.0000	0.0000
C	155.000	0.00	0.0	0.0	0.0317	0.0168	0.0000	0.0000
C	145.000	0.00	0.0	0.0	0.0312	0.0168	0.0000	0.0000
C	135.000	0.00	0.0	0.0	0.0308	0.0168	0.0000	0.0000
C	125.000	0.00	0.0	0.0	0.0303	0.0168	0.0000	0.0000
C	115.000	0.00	0.0	0.0	0.0297	0.0168	0.0000	0.0000
C	105.000	0.00	0.0	0.0	0.0292	0.0168	0.0000	0.0000
C	95.000	0.00	0.0	0.0	0.0286	0.0168	0.0000	0.0000
C	85.000	0.00	0.0	0.0	0.0279	0.0168	0.0000	0.0000
C	75.000	0.00	0.0	0.0	0.0272	0.0168	0.0000	0.0000
C	65.000	0.00	0.0	0.0	0.0264	0.0168	0.0000	0.0000
C	55.000	0.00	0.0	0.0	0.0255	0.0168	0.0000	0.0000
C	45.000	0.00	0.0	0.0	0.0244	0.0168	0.0000	0.0000
C	35.000	0.00	0.0	0.0	0.0232	0.0168	0.0000	0.0000
C	25.000	0.00	0.0	0.0	0.0216	0.0168	0.0000	0.0000
C	15.000	0.00	0.0	0.0	0.0194	0.0168	0.0000	0.0000
D	194.000	0.00	180.0	0.0	0.0531	0.0877	0.0000	0.0000

D	145.750	0.00	180.0	0.0	0.0749	0.1302	0.0000	0.0000
D	145.750	0.00	180.0	0.0	0.0775	0.2968	0.0000	0.0000
D	141.000	0.00	180.0	0.0	0.0775	0.2968	0.0000	0.0000
D	141.000	0.00	180.0	0.0	0.0788	0.1673	0.0000	0.0000
D	98.750	0.00	180.0	0.0	0.0937	0.2120	0.0000	0.0000
D	98.750	0.00	180.0	0.0	0.0956	0.4722	0.0000	0.0000
D	92.250	0.00	180.0	0.0	0.0956	0.4722	0.0000	0.0000
D	92.250	0.00	180.0	0.0	0.0964	0.2611	0.0000	0.0000
D	53.250	0.00	180.0	0.0	0.1036	0.3094	0.0000	0.0000
D	53.250	0.00	180.0	0.0	0.1036	0.6339	0.0000	0.0000
D	45.250	0.00	180.0	0.0	0.1036	0.6339	0.0000	0.0000
D	45.250	0.00	180.0	0.0	0.1036	0.3246	0.0000	0.0000
D	11.312	0.00	180.0	0.0	0.0934	0.3654	0.0000	0.0000
D	11.312	0.00	180.0	0.0	0.0940	0.3736	0.0000	0.0000
D	0.000	0.00	180.0	0.0	0.0961	0.3818	0.0000	0.0000

LOADING CONDITION M

110 mph wind with no ice. Wind Azimuth: 0° (0.9 D + 1.0 Wo)

LOADS ON POLE

LOAD TYPE	ELEV ft	APPLY RADIUS ft	LOAD AT AZI	LOAD AZI	FORCES		MOMENTS	
					HORIZ kip	DOWN kip	VERTICAL ft-kip	TORSNAL ft-kip
C	192.000	0.00	0.0	0.0	0.0133	0.0050	0.0000	0.0000
C	189.000	0.00	0.0	0.0	0.0000	3.5381	0.0000	0.0000
C	189.000	0.00	0.0	0.0	11.9258	11.0700	0.0000	0.0000
C	185.000	0.00	0.0	0.0	0.0329	0.0126	0.0000	0.0000
C	177.000	0.00	0.0	0.0	0.0000	3.3134	0.0000	0.0000
C	177.000	0.00	0.0	0.0	8.7864	4.7700	0.0000	0.0000
C	175.000	0.00	0.0	0.0	0.0325	0.0126	0.0000	0.0000
C	167.000	0.00	0.0	0.0	0.0000	1.8757	0.0000	0.0000
C	167.000	0.00	0.0	0.0	6.2279	3.8700	0.0000	0.0000
C	165.000	0.00	0.0	0.0	0.0321	0.0126	0.0000	0.0000
C	157.000	0.00	0.0	0.0	0.0000	1.7634	0.0000	0.0000
C	157.000	0.00	0.0	0.0	4.9376	2.9700	0.0000	0.0000
C	155.000	0.00	0.0	0.0	0.0317	0.0126	0.0000	0.0000
C	145.000	0.00	0.0	0.0	0.0312	0.0126	0.0000	0.0000
C	135.000	0.00	0.0	0.0	0.0308	0.0126	0.0000	0.0000
C	125.000	0.00	0.0	0.0	0.0303	0.0126	0.0000	0.0000
C	115.000	0.00	0.0	0.0	0.0297	0.0126	0.0000	0.0000
C	105.000	0.00	0.0	0.0	0.0292	0.0126	0.0000	0.0000
C	95.000	0.00	0.0	0.0	0.0286	0.0126	0.0000	0.0000
C	85.000	0.00	0.0	0.0	0.0279	0.0126	0.0000	0.0000
C	75.000	0.00	0.0	0.0	0.0272	0.0126	0.0000	0.0000
C	65.000	0.00	0.0	0.0	0.0264	0.0126	0.0000	0.0000
C	55.000	0.00	0.0	0.0	0.0255	0.0126	0.0000	0.0000
C	45.000	0.00	0.0	0.0	0.0244	0.0126	0.0000	0.0000
C	35.000	0.00	0.0	0.0	0.0232	0.0126	0.0000	0.0000
C	25.000	0.00	0.0	0.0	0.0216	0.0126	0.0000	0.0000
C	15.000	0.00	0.0	0.0	0.0194	0.0126	0.0000	0.0000
D	194.000	0.00	180.0	0.0	0.0531	0.0657	0.0000	0.0000
D	145.750	0.00	180.0	0.0	0.0749	0.0976	0.0000	0.0000
D	145.750	0.00	180.0	0.0	0.0775	0.2226	0.0000	0.0000
D	141.000	0.00	180.0	0.0	0.0775	0.2226	0.0000	0.0000
D	141.000	0.00	180.0	0.0	0.0788	0.1255	0.0000	0.0000
D	98.750	0.00	180.0	0.0	0.0937	0.1590	0.0000	0.0000
D	98.750	0.00	180.0	0.0	0.0956	0.3542	0.0000	0.0000
D	92.250	0.00	180.0	0.0	0.0956	0.3542	0.0000	0.0000
D	92.250	0.00	180.0	0.0	0.0964	0.1959	0.0000	0.0000
D	53.250	0.00	180.0	0.0	0.1036	0.2320	0.0000	0.0000
D	53.250	0.00	180.0	0.0	0.1036	0.4754	0.0000	0.0000
D	45.250	0.00	180.0	0.0	0.1036	0.4754	0.0000	0.0000
D	45.250	0.00	180.0	0.0	0.1036	0.2434	0.0000	0.0000
D	11.312	0.00	180.0	0.0	0.0934	0.2741	0.0000	0.0000
D	11.312	0.00	180.0	0.0	0.0940	0.2802	0.0000	0.0000
D	0.000	0.00	180.0	0.0	0.0961	0.2863	0.0000	0.0000

LOADING CONDITION Y

40 mph wind with 1.5 ice. Wind Azimuth: 0° (1.2 D + 1.0 Di + 1.0 Wi)

LOADS ON POLE

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LOAD TYPE	ELEV ft	APPLY. RADIUS ft	LOAD. AZI	AT AZIFORCES.....	MOMENTS.....	
					HORIZ kip	DOWN kip	VERTICAL ft-kip	TORSNAL ft-kip
C	192.000	0.00	0.0	0.0	0.0141	0.0187	0.0000	0.0000
C	189.000	0.00	0.0	0.0	0.0000	4.7174	0.0000	0.0000
C	189.000	0.00	0.0	0.0	2.5757	36.2035	0.0000	0.0000
C	185.000	0.00	0.0	0.0	0.0349	0.0288	0.0000	0.0000
C	177.000	0.00	0.0	0.0	0.0000	4.4179	0.0000	0.0000
C	177.000	0.00	0.0	0.0	1.8612	14.8816	0.0000	0.0000
C	175.000	0.00	0.0	0.0	0.0343	0.0288	0.0000	0.0000
C	167.000	0.00	0.0	0.0	0.0000	2.5010	0.0000	0.0000
C	167.000	0.00	0.0	0.0	1.2813	12.2204	0.0000	0.0000
C	165.000	0.00	0.0	0.0	0.0337	0.0288	0.0000	0.0000
C	157.000	0.00	0.0	0.0	0.0000	2.3512	0.0000	0.0000
C	157.000	0.00	0.0	0.0	0.9897	9.2229	0.0000	0.0000
C	155.000	0.00	0.0	0.0	0.0331	0.0288	0.0000	0.0000
C	145.000	0.00	0.0	0.0	0.0325	0.0288	0.0000	0.0000
C	135.000	0.00	0.0	0.0	0.0318	0.0288	0.0000	0.0000
C	125.000	0.00	0.0	0.0	0.0311	0.0288	0.0000	0.0000
C	115.000	0.00	0.0	0.0	0.0303	0.0288	0.0000	0.0000
C	105.000	0.00	0.0	0.0	0.0295	0.0288	0.0000	0.0000
C	95.000	0.00	0.0	0.0	0.0286	0.0288	0.0000	0.0000
C	85.000	0.00	0.0	0.0	0.0277	0.0288	0.0000	0.0000
C	75.000	0.00	0.0	0.0	0.0267	0.0288	0.0000	0.0000
C	65.000	0.00	0.0	0.0	0.0256	0.0288	0.0000	0.0000
C	55.000	0.00	0.0	0.0	0.0243	0.0288	0.0000	0.0000
C	45.000	0.00	0.0	0.0	0.0229	0.0288	0.0000	0.0000
C	35.000	0.00	0.0	0.0	0.0213	0.0288	0.0000	0.0000
C	25.000	0.00	0.0	0.0	0.0193	0.0288	0.0000	0.0000
C	15.000	0.00	0.0	0.0	0.0166	0.0288	0.0000	0.0000
D	194.000	0.00	180.0	0.0	0.0142	0.1401	0.0000	0.0000
D	187.107	0.00	180.0	0.0	0.0142	0.1401	0.0000	0.0000
D	187.107	0.00	180.0	0.0	0.0151	0.1509	0.0000	0.0000
D	180.214	0.00	180.0	0.0	0.0151	0.1509	0.0000	0.0000
D	180.214	0.00	180.0	0.0	0.0159	0.1617	0.0000	0.0000
D	173.321	0.00	180.0	0.0	0.0159	0.1617	0.0000	0.0000
D	173.321	0.00	180.0	0.0	0.0167	0.1724	0.0000	0.0000
D	166.429	0.00	180.0	0.0	0.0167	0.1724	0.0000	0.0000
D	166.429	0.00	180.0	0.0	0.0175	0.1830	0.0000	0.0000
D	159.536	0.00	180.0	0.0	0.0175	0.1830	0.0000	0.0000
D	159.536	0.00	180.0	0.0	0.0183	0.1937	0.0000	0.0000
D	152.643	0.00	180.0	0.0	0.0183	0.1937	0.0000	0.0000
D	152.643	0.00	180.0	0.0	0.0191	0.2042	0.0000	0.0000
D	145.750	0.00	180.0	0.0	0.0191	0.2042	0.0000	0.0000
D	145.750	0.00	180.0	0.0	0.0197	0.3738	0.0000	0.0000
D	141.000	0.00	180.0	0.0	0.0197	0.3738	0.0000	0.0000
D	141.000	0.00	180.0	0.0	0.0200	0.2458	0.0000	0.0000
D	98.750	0.00	180.0	0.0	0.0233	0.3075	0.0000	0.0000
D	98.750	0.00	180.0	0.0	0.0237	0.5702	0.0000	0.0000
D	92.250	0.00	180.0	0.0	0.0237	0.5702	0.0000	0.0000
D	92.250	0.00	180.0	0.0	0.0238	0.3603	0.0000	0.0000
D	53.250	0.00	180.0	0.0	0.0253	0.4209	0.0000	0.0000
D	53.250	0.00	180.0	0.0	0.0252	0.7470	0.0000	0.0000
D	45.250	0.00	180.0	0.0	0.0252	0.7470	0.0000	0.0000
D	45.250	0.00	180.0	0.0	0.0252	0.4386	0.0000	0.0000
D	11.312	0.00	180.0	0.0	0.0225	0.4805	0.0000	0.0000
D	11.312	0.00	180.0	0.0	0.0226	0.4847	0.0000	0.0000
D	0.000	0.00	180.0	0.0	0.0230	0.4853	0.0000	0.0000

LOADING CONDITION AK

Seismic - Azimuth: 0° (1.2 D + 1.0 Ev + 1.0 Eh)

LOADS ON POLE

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LOAD TYPE	ELEV ft	APPLY. RADIUS ft	LOAD. AZI	AT AZIFORCES.....	MOMENTS.....	
					HORIZ kip	DOWN kip	VERTICAL ft-kip	TORSNAL ft-kip

C	192.000	0.00	0.0	0.0	0.0003	0.0068	0.0000	0.0000
C	189.000	0.00	0.0	0.0	0.2198	4.7850	0.0000	0.0000
C	189.000	0.00	0.0	0.0	0.6876	14.9716	0.0000	0.0000
C	185.000	0.00	0.0	0.0	0.0007	0.0170	0.0000	0.0000
C	177.000	0.00	0.0	0.0	0.1805	4.4812	0.0000	0.0000
C	177.000	0.00	0.0	0.0	0.2599	6.4512	0.0000	0.0000
C	175.000	0.00	0.0	0.0	0.0007	0.0170	0.0000	0.0000
C	167.500	0.00	0.0	0.0	0.2153	5.9691	0.0000	0.0000
C	167.000	0.00	0.0	0.0	0.0910	2.5368	0.0000	0.0000
C	167.000	0.00	0.0	0.0	0.1877	5.2340	0.0000	0.0000
C	165.000	0.00	0.0	0.0	0.0006	0.0170	0.0000	0.0000
C	157.000	0.00	0.0	0.0	0.0756	2.3850	0.0000	0.0000
C	157.000	0.00	0.0	0.0	0.1273	4.0168	0.0000	0.0000
C	155.000	0.00	0.0	0.0	0.0005	0.0170	0.0000	0.0000
C	145.000	0.00	0.0	0.0	0.0005	0.0170	0.0000	0.0000
C	135.000	0.00	0.0	0.0	0.0004	0.0170	0.0000	0.0000
C	125.000	0.00	0.0	0.0	0.0003	0.0170	0.0000	0.0000
C	119.000	0.00	0.0	0.0	0.1880	10.3260	0.0000	0.0000
C	115.000	0.00	0.0	0.0	0.0003	0.0170	0.0000	0.0000
C	105.000	0.00	0.0	0.0	0.0002	0.0170	0.0000	0.0000
C	95.000	0.00	0.0	0.0	0.0002	0.0170	0.0000	0.0000
C	85.000	0.00	0.0	0.0	0.0002	0.0170	0.0000	0.0000
C	75.000	0.00	0.0	0.0	0.0001	0.0170	0.0000	0.0000
C	72.000	0.00	0.0	0.0	0.1033	15.4969	0.0000	0.0000
C	65.000	0.00	0.0	0.0	0.0001	0.0170	0.0000	0.0000
C	55.000	0.00	0.0	0.0	0.0001	0.0170	0.0000	0.0000
C	45.000	0.00	0.0	0.0	0.0000	0.0170	0.0000	0.0000
C	35.000	0.00	0.0	0.0	0.0000	0.0170	0.0000	0.0000
C	26.620	0.00	0.0	0.0	0.0171	18.7167	0.0000	0.0000
C	25.000	0.00	0.0	0.0	0.0000	0.0170	0.0000	0.0000
C	15.000	0.00	0.0	0.0	0.0000	0.0170	0.0000	0.0000
D	194.000	0.00	180.0	180.0	0.0000	0.0000	0.0000	0.0000
D	0.000	0.00	180.0	180.0	0.0000	0.0000	0.0000	0.0000

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LOADING CONDITION AL =====

Seismic - Azimuth: 0° (0.9 D - 1.0 Ev + 1.0 Eh)

LOADS ON POLE
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LOAD TYPE	ELEV ft	APPLY. RADIUS	LOAD. ft	.AT AZI	LOAD AZIFORCES.....	MOMENTS.....	
						HORIZ kip	DOWN kip	VERTICAL ft-kip	TORSNAL ft-kip
C	192.000	0.00	0.0	0.0	0.0	0.0003	0.0049	0.0000	0.0000
C	189.000	0.00	0.0	0.0	0.0	0.2198	3.4705	0.0000	0.0000
C	189.000	0.00	0.0	0.0	0.0	0.6876	10.8584	0.0000	0.0000
C	185.000	0.00	0.0	0.0	0.0	0.0007	0.0124	0.0000	0.0000
C	177.000	0.00	0.0	0.0	0.0	0.1805	3.2501	0.0000	0.0000
C	177.000	0.00	0.0	0.0	0.0	0.2599	4.6788	0.0000	0.0000
C	175.000	0.00	0.0	0.0	0.0	0.0007	0.0124	0.0000	0.0000
C	167.500	0.00	0.0	0.0	0.0	0.2153	4.3293	0.0000	0.0000
C	167.000	0.00	0.0	0.0	0.0	0.0910	1.8400	0.0000	0.0000
C	167.000	0.00	0.0	0.0	0.0	0.1877	3.7960	0.0000	0.0000
C	165.000	0.00	0.0	0.0	0.0	0.0006	0.0124	0.0000	0.0000
C	157.000	0.00	0.0	0.0	0.0	0.0756	1.7298	0.0000	0.0000
C	157.000	0.00	0.0	0.0	0.0	0.1273	2.9132	0.0000	0.0000
C	155.000	0.00	0.0	0.0	0.0	0.0005	0.0124	0.0000	0.0000
C	145.000	0.00	0.0	0.0	0.0	0.0005	0.0124	0.0000	0.0000
C	135.000	0.00	0.0	0.0	0.0	0.0004	0.0124	0.0000	0.0000
C	125.000	0.00	0.0	0.0	0.0	0.0003	0.0124	0.0000	0.0000
C	119.000	0.00	0.0	0.0	0.0	0.1880	7.4892	0.0000	0.0000
C	115.000	0.00	0.0	0.0	0.0	0.0003	0.0124	0.0000	0.0000
C	105.000	0.00	0.0	0.0	0.0	0.0002	0.0124	0.0000	0.0000
C	95.000	0.00	0.0	0.0	0.0	0.0002	0.0124	0.0000	0.0000
C	85.000	0.00	0.0	0.0	0.0	0.0002	0.0124	0.0000	0.0000
C	75.000	0.00	0.0	0.0	0.0	0.0001	0.0124	0.0000	0.0000
C	72.000	0.00	0.0	0.0	0.0	0.1033	11.2394	0.0000	0.0000
C	65.000	0.00	0.0	0.0	0.0	0.0001	0.0124	0.0000	0.0000
C	55.000	0.00	0.0	0.0	0.0	0.0001	0.0124	0.0000	0.0000
C	45.000	0.00	0.0	0.0	0.0	0.0000	0.0124	0.0000	0.0000
C	35.000	0.00	0.0	0.0	0.0	0.0000	0.0124	0.0000	0.0000
C	26.620	0.00	0.0	0.0	0.0	0.0171	13.5746	0.0000	0.0000
C	25.000	0.00	0.0	0.0	0.0	0.0000	0.0124	0.0000	0.0000

C	15.000	0.00	0.0	0.0	0.0000	0.0124	0.0000	0.0000
D	194.000	0.00	180.0	180.0	0.0000	0.0000	0.0000	0.0000
D	0.000	0.00	180.0	180.0	0.0000	0.0000	0.0000	0.0000

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195' Monopole / Des Wilder, IA

MAXIMUM POLE DEFORMATIONS CALCULATED(w.r.t. wind direction)

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MAST ELEV ft	DEFLECTIONS (ft)			ROTATIONS (deg)		
	HORIZONTAL ALONG	ACROSS	DOWN	TILT ALONG	ACROSS	TWIST
194.0	17.72H	0.080	2.32C	10.55H	0.040	0.01L
187.1	16.49H	0.080	2.09C	10.54H	0.040	0.01L
180.2	15.27H	0.070	1.87C	10.44H	0.040	0.01L
173.3	14.07H	0.070	1.65C	10.24H	0.040	0.01L
166.4	12.89H	0.070	1.44C	9.94H	0.040	0.01L
159.5	11.75H	0.060	1.25C	9.55H	0.040	0.01L
152.6	10.65H	0.060	1.07C	9.09H	0.040	0.01L
145.7	9.62H	0.050	0.91C	8.56H	0.040	0.01L
141.0	8.94H	0.050	0.81C	8.24H	0.040	0.01L
135.0	8.11H	0.050	0.70C	7.80H	0.040	0.00L
128.9	7.32H	0.040	0.59C	7.34H	0.040	0.00L
122.9	6.59H	0.040	0.50C	6.89H	0.040	0.00L
116.9	5.89H	0.040	0.42C	6.43H	0.030	0.00L
110.8	5.25H	0.030	0.35C	5.99H	0.030	0.00L
104.8	4.65H	0.030	0.29C	5.55H	0.030	0.00L
98.7	4.09H	0.030	0.24C	5.11H	0.030	0.00L
92.2	3.53H	0.020	0.19C	4.72H	0.030	0.00L
86.7	3.10H	0.020	0.16C	4.38H	0.030	0.00L
81.1	2.69H	0.020	0.13C	4.04H	0.020	0.00L
75.5	2.31C	0.020	0.10C	3.72H	0.020	0.00L
70.0	1.97C	0.010	0.08C	3.40H	0.020	0.00L
64.4	1.65C	0.010	0.06C	3.09H	0.020	0.00L
58.8	1.37C	0.010	0.05C	2.79H	0.020	0.00L
53.2	1.11C	0.010	0.03C	2.50C	0.020	0.00L
45.2	0.79C	-0.01I	0.02C	2.09C	0.010	0.00L
39.6	0.60C	0.00I	0.01C	1.80C	0.010	0.00L

33.9	0.44C	0.00I	0.01C	1.52C	-0.01I	0.00L
28.3	0.30C	0.00I	0.01C	1.25C	-0.01I	0.00L
22.6	0.19C	0.00I	0.00C	0.98C	-0.01I	0.00L
17.0	0.11C	0.00I	0.00C	0.73C	-0.01I	0.00L
11.3	0.05C	0.00I	0.00AA	0.48C	0.00I	0.00L
5.7	0.01C	0.00I	0.00AB	0.24C	0.00I	0.00L
0.0	0.00A	0.00A	0.00A	0.00A	0.00A	0.00A

MAXIMUM POLE FORCES CALCULATED(w.r.t. to wind direction)

MAST ELEV ft	TOTAL AXIAL kip	SHEAR.w.r.t.WIND.DIR ALONG kip	WIND.DIR ACROSS kip	MOMENT.w.r.t.WIND.DIR ALONG ft-kip	WIND.DIR ACROSS ft-kip	TORSION ft-kip
194.0	0.03 U	-0.02 U	0.01 Q	-0.07 I	0.04 Q	-0.01 Q
187.1	41.90 AG	12.32 C	0.01 Q	-30.07 C	-0.05 Q	0.02 L
	41.91 AJ	12.36 X	-0.05 T	-30.12 E	-0.06 Q	0.03 L
180.2	42.97 AJ	12.79 X	-0.05 T	-138.67 L	0.30 T	0.09 L
	42.97 AB	12.79 X	-0.03 R	-138.64 L	0.28 T	0.08 L
173.3	63.41 AB	22.03 X	-0.03 R	-288.80 L	0.39 T	0.15 I
	63.42 AG	22.07 E	0.07 F	-288.77 L	0.45 T	0.16 I
166.4	79.32 AG	28.74 E	0.07 F	-480.26 L	-0.62 F	0.25 I
	79.33 AG	28.78 H	0.07 F	-480.28 L	0.65 R	0.27 I
159.5	80.62 AG	29.27 H	0.07 F	-721.08 L	-1.06 F	0.38 L
	80.62 AB	29.28 C	0.12 F	-720.85 H	-0.95 F	0.39 L
152.6	93.55 AB	34.73 C	0.12 F	-989.47 L	-1.76 F	0.51 L
	93.56 AB	34.70 T	0.10 I	-989.42 L	-1.81 F	0.50 L
145.7	94.97 AB	35.20 T	0.10 I	-1275.28 L	-2.08 F	0.73 I
	94.97 AB	35.26 C	-0.14 N	-1274.87 H	-2.10 F	0.71 I
141.0	96.77 AB	35.66 C	-0.14 N	-1473.89 C	2.45 N	0.87 I
	96.79 AB	35.66 T	0.27 X	-1473.96 C	2.47 N	0.87 I
135.0	98.32 AB	36.17 T	0.27 X	-1727.41 L	3.29 N	1.18 L
	98.33 AB	36.20 I	0.24 O	-1727.60 L	3.33 N	1.17 L
128.9	99.89 AB	36.69 I	0.24 O	-1983.69 H	-4.19 B	1.47 L
	99.89 AB	36.62 P	0.34 O	-1983.94 H	-4.10 B	1.46 L
122.9	101.54 AB	37.16 P	0.34 O	-2242.24 H	-5.41 B	1.70 L
	101.53 AB	37.33 P	0.38 O	-2242.52 H	-5.27 B	1.70 L
116.9	103.20 AB	37.85 P	0.38 O	-2503.52 H	-6.78 O	1.87 L
	103.20 AB	37.82 L	0.34 O	-2503.75 H	-6.73 O	1.85 L
110.8	104.96 AB	38.38 L	0.34 O	-2766.20 H	-8.81 O	1.97 L
	104.96 AB	38.51 H	0.39 O	-2766.17 H	-8.66 O	1.97 L
104.8	106.76 AB	39.08 H	0.39 O	-3031.71 H	-11.05 O	2.10 L

	106.76	AB	39.31	P	0.33	O	-3031.72	H	-10.99	O	2.11	L
	108.59	AB	39.86	P	0.33	O	-3299.37	H	-13.03	O	2.22	L
98.7	108.59	AB	39.88	H	0.44	O	-3299.43	H	-13.02	O	2.22	L
	112.33	AB	40.53	H	0.44	O	-3591.78	H	-15.91	O	2.32	L
92.2	112.33	AB	40.42	P	-0.43	I	-3591.66	H	-15.96	O	2.31	L
	114.36	AB	40.96	P	-0.43	I	-3844.41	H	-18.11	O	2.44	L
86.7	114.36	AB	41.03	H	-0.45	I	-3844.34	H	-18.02	O	2.45	L
	116.47	AB	41.60	H	-0.45	I	-4099.26	H	-20.17	O	2.53	L
81.1	116.46	AB	41.66	H	-0.49	I	-4099.10	H	-20.16	O	2.54	L
	118.59	AB	42.21	H	-0.49	I	-4355.99	H	-22.23	O	2.60	L
75.5	118.59	AB	41.96	P	-0.59	I	-4356.00	H	-22.21	O	2.60	L
	120.80	AB	42.54	P	-0.59	I	-4613.58	H	-24.72	O	2.61	L
70.0	120.80	AB	42.61	C	-0.55	I	-4613.74	H	-24.44	O	2.62	L
	123.05	AB	43.20	C	-0.55	I	-4872.08	H	-27.24	O	2.64	L
64.4	123.05	AB	43.23	C	-0.58	I	-4872.14	H	-27.28	O	2.65	L
	125.32	AB	43.79	C	-0.58	I	-5132.92	H	-29.59	O	2.65	L
58.8	125.32	AB	43.75	C	-0.57	I	-5133.01	H	-29.57	O	2.65	L
	127.67	AB	44.35	C	-0.57	I	-5395.33	H	-32.06	O	2.66	L
53.2	127.67	AB	44.40	P	-0.53	I	-5395.29	H	-32.01	O	2.65	L
	133.65	AB	45.23	P	-0.53	I	-5775.22	H	-35.37	O	2.68	L
45.2	133.65	AB	45.23	P	-0.53	I	-5775.28	H	-35.38	O	2.68	L
	136.18	AB	45.83	P	-0.53	I	-6046.00	H	-37.59	O	2.69	L
39.6	136.18	AB	45.88	P	-0.59	I	-6046.00	H	-37.52	O	2.69	L
	138.74	AB	46.47	P	-0.59	I	-6318.93	C	-40.15	O	2.70	L
33.9	138.74	AB	46.40	P	-0.67	I	-6318.91	C	-40.16	O	2.70	L
	141.32	AB	46.96	P	-0.67	I	-6593.53	C	-42.87	O	2.71	L
28.3	141.32	AB	46.95	P	-0.71	I	-6593.59	C	-42.85	O	2.71	L
	143.97	AB	47.52	P	-0.71	I	-6869.17	C	-45.66	O	2.72	L
22.6	143.97	AB	47.50	P	-0.73	I	-6869.15	C	-45.67	O	2.72	L
	146.63	AB	48.05	P	-0.73	I	-7146.07	C	48.76	I	2.72	L
17.0	146.63	AB	48.11	P	-0.70	I	-7146.08	C	48.78	I	2.72	L
	149.36	AB	48.67	P	-0.70	I	-7424.30	C	52.78	I	2.73	L
11.3	149.36	AB	48.66	P	-0.70	I	-7424.30	C	52.78	I	2.73	L
	152.10	AB	49.19	P	-0.70	I	-7703.48	C	56.78	I	2.73	L
5.7	152.10	AB	49.19	P	-0.71	I	-7703.48	C	56.78	I	2.73	L
	154.84	AB	49.73	P	-0.71	I	-7983.56	C	60.79	I	2.74	L

base
reaction 154.84 AB -49.73 P 0.71 I 7983.56 C -60.79 I -2.74 L

COMPLIANCE WITH 4.8.2 & 4.5.4
=====

ELEV AXIAL BENDING SHEAR + TOTAL SATISFIED D/t (w/t) MAX

ft	TORSIONAL					ALLOWED	
194.00	0.00U	0.00I	0.00U	0.00I	YES	10.79A	45.2
	0.03AG	0.04C	0.01C	0.05C	YES	11.79A	45.2
187.11	0.03AJ	0.04E	0.01X	0.05E	YES	11.79A	45.2
	0.02AJ	0.16L	0.01X	0.17L	YES	12.79A	45.2
180.21	0.02AB	0.16L	0.01X	0.17L	YES	12.79A	45.2
	0.03AB	0.28L	0.02X	0.30L	YES	13.79A	45.2
173.32	0.03AG	0.28L	0.02E	0.30L	YES	13.79A	45.2
	0.04AG	0.41L	0.03E	0.43L	YES	14.78A	45.2
166.43	0.04AG	0.41L	0.03H	0.43L	YES	14.78A	45.2
	0.04AG	0.55L	0.03H	0.57L	YES	15.78A	45.2
159.54	0.04AB	0.55H	0.03C	0.57H	YES	15.78A	45.2
	0.04AB	0.67L	0.03C	0.70L	YES	16.78A	45.2
152.64	0.04AB	0.67L	0.03T	0.70L	YES	16.78A	45.2
	0.04AB	0.79L	0.03T	0.81L	YES	17.78A	45.2
145.75	0.03AB	0.65H	0.02C	0.66H	YES	14.76A	45.2
	0.03AB	0.69C	0.02C	0.71C	YES	15.33A	45.2
141.00	0.03AB	0.72C	0.02T	0.74C	YES	15.04A	45.2
	0.03AB	0.77L	0.02T	0.79L	YES	15.76A	45.2
134.96	0.03AB	0.77L	0.02I	0.79L	YES	15.76A	45.2
	0.03AB	0.82H	0.02I	0.83H	YES	16.49A	45.2
128.93	0.03AB	0.82H	0.02P	0.83H	YES	16.49A	45.2
	0.03AB	0.86H	0.02P	0.88H	YES	17.22A	45.2
122.89	0.03AB	0.86H	0.02L	0.88H	YES	17.22A	45.2
	0.03AB	0.89H	0.02L	0.91H	YES	17.95A	45.2
116.86	0.03AB	0.90H	0.02L	0.91H	YES	17.95A	45.2
	0.03AB	0.93H	0.02L	0.94H	YES	18.68A	45.2
110.82	0.03AB	0.93H	0.02H	0.94H	YES	18.68A	45.2
	0.03AB	0.95H	0.02H	0.97H	YES	19.40A	45.2
104.79	0.03AB	0.95H	0.02P	0.97H	YES	19.40A	45.2
	0.03AB	0.98H	0.02P	0.99H	YES	20.13A	45.2
98.75	0.02AB	0.80H	0.02H	0.82H	YES	17.21A	45.2
	0.02AB	0.82H	0.02H	0.83H	YES	17.88A	45.2
92.25	0.02AB	0.85H	0.02C	0.86H	YES	17.58A	45.2
	0.02AB	0.86H	0.02C	0.87H	YES	18.15A	45.2
86.68	0.02AB	0.86H	0.02H	0.87H	YES	18.15A	45.2
	0.02AB	0.87H	0.02C	0.88H	YES	18.73A	45.2
81.11	0.02AB	0.87H	0.02H	0.88H	YES	18.73A	45.2
	0.02AB	0.88H	0.02C	0.89H	YES	19.31A	45.2
75.54	0.02AB	0.88H	0.02H	0.89H	YES	19.31A	45.2

69.96	0.02AB	0.88H	0.02H	0.90H	YES	19.88A	45.2
	0.02AB	0.88H	0.02C	0.90H	YES	19.88A	45.2
64.39	0.02AB	0.89H	0.02C	0.91H	YES	20.46A	45.2
	0.02AB	0.89H	0.02C	0.91H	YES	20.46A	45.2
58.82	0.02AB	0.90H	0.02C	0.91H	YES	21.03A	45.2
	0.02AB	0.90H	0.02C	0.91H	YES	21.03A	45.2
53.25	0.02AB	0.90H	0.02C	0.92H	YES	21.61A	45.2
	0.02AB	0.90H	0.02C	0.92H	YES	21.61A	45.2
45.25	0.02AB	0.91H	0.02C	0.93H	YES	22.44A	45.2
	0.03AB	0.93H	0.02C	0.95H	YES	22.08A	45.2
39.59	0.03AB	0.94H	0.02C	0.95H	YES	22.67A	45.2
	0.03AB	0.94H	0.02P	0.95H	YES	22.67A	45.2
33.94	0.03AB	0.94C	0.02C	0.96C	YES	23.25A	45.2
	0.03AB	0.94C	0.02C	0.96C	YES	23.25A	45.2
28.28	0.03AB	0.94C	0.02C	0.96C	YES	23.84A	45.2
	0.03AB	0.94C	0.02C	0.96C	YES	23.84A	45.2
22.62	0.03AB	0.95C	0.02C	0.96C	YES	24.42A	45.2
	0.03AB	0.95C	0.02C	0.96C	YES	24.42A	45.2
16.97	0.03AB	0.95C	0.02C	0.97C	YES	25.01A	45.2
	0.03AB	0.95C	0.02C	0.97C	YES	25.01A	45.2
11.31	0.03AB	0.95C	0.02C	0.97C	YES	25.59A	45.2
	0.03AB	0.95C	0.02C	0.97C	YES	25.59A	45.2
5.66	0.03AB	0.95C	0.02C	0.97C	YES	26.18A	45.2
	0.03AB	0.95C	0.02C	0.97C	YES	26.18A	45.2
0.00	0.03AB	0.96C	0.02C	0.97C	YES	26.76A	45.2

MAXIMUM LOADS ONTO FOUNDATION(w.r.t. wind direction)

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DOWN kip	SHEAR.w.r.t.WIND.DIR		MOMENT.w.r.t.WIND.DIR		TORSION ft-kip
	ALONG kip	ACROSS kip	ALONG ft-kip	ACROSS ft-kip	
154.84 AB	49.73 P	-0.71 I	-7983.56 C	60.79 I	2.74 L

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195' Monopole / Des Wilder, IA

 ***** Service Load Condition *****

* Only 1 condition(s) shown in full
 * Some concentrated wind loads may have been derived from full-scale wind tunnel testing

LOADING CONDITION A =====

60 mph wind with no ice. Wind Azimuth: 0° (1.0 D + 1.0 Wo)

LOADS ON POLE
 =====

LOAD TYPE	ELEV ft	APPLY. RADIUS ft	LOAD. AT AZI	LOAD AZI	.....FORCES.....		.....MOMENTS.....	
					HORIZ kip	DOWN kip	VERTICAL ft-kip	TORSNAL ft-kip
C	192.000	0.00	0.0	0.0	0.0035	0.0056	0.0000	0.0000
C	189.000	0.00	0.0	0.0	0.0000	3.9312	0.0000	0.0000
C	189.000	0.00	0.0	0.0	3.1747	12.3000	0.0000	0.0000
C	185.000	0.00	0.0	0.0	0.0088	0.0140	0.0000	0.0000
C	177.000	0.00	0.0	0.0	0.0000	3.6816	0.0000	0.0000
C	177.000	0.00	0.0	0.0	2.3390	5.3000	0.0000	0.0000
C	175.000	0.00	0.0	0.0	0.0087	0.0140	0.0000	0.0000
C	167.000	0.00	0.0	0.0	0.0000	2.0842	0.0000	0.0000
C	167.000	0.00	0.0	0.0	1.6579	4.3000	0.0000	0.0000
C	165.000	0.00	0.0	0.0	0.0085	0.0140	0.0000	0.0000
C	157.000	0.00	0.0	0.0	0.0000	1.9594	0.0000	0.0000
C	157.000	0.00	0.0	0.0	1.3144	3.3000	0.0000	0.0000
C	155.000	0.00	0.0	0.0	0.0084	0.0140	0.0000	0.0000
C	145.000	0.00	0.0	0.0	0.0083	0.0140	0.0000	0.0000
C	135.000	0.00	0.0	0.0	0.0082	0.0140	0.0000	0.0000
C	125.000	0.00	0.0	0.0	0.0081	0.0140	0.0000	0.0000
C	115.000	0.00	0.0	0.0	0.0079	0.0140	0.0000	0.0000
C	105.000	0.00	0.0	0.0	0.0078	0.0140	0.0000	0.0000
C	95.000	0.00	0.0	0.0	0.0076	0.0140	0.0000	0.0000
C	85.000	0.00	0.0	0.0	0.0074	0.0140	0.0000	0.0000
C	75.000	0.00	0.0	0.0	0.0072	0.0140	0.0000	0.0000
C	65.000	0.00	0.0	0.0	0.0070	0.0140	0.0000	0.0000
C	55.000	0.00	0.0	0.0	0.0068	0.0140	0.0000	0.0000
C	45.000	0.00	0.0	0.0	0.0065	0.0140	0.0000	0.0000
C	35.000	0.00	0.0	0.0	0.0062	0.0140	0.0000	0.0000
C	25.000	0.00	0.0	0.0	0.0057	0.0140	0.0000	0.0000
C	15.000	0.00	0.0	0.0	0.0052	0.0140	0.0000	0.0000
D	194.000	0.00	180.0	0.0	0.0141	0.0730	0.0000	0.0000
D	145.750	0.00	180.0	0.0	0.0199	0.1085	0.0000	0.0000
D	145.750	0.00	180.0	0.0	0.0206	0.2473	0.0000	0.0000
D	141.000	0.00	180.0	0.0	0.0206	0.2473	0.0000	0.0000
D	141.000	0.00	180.0	0.0	0.0210	0.1394	0.0000	0.0000
D	98.750	0.00	180.0	0.0	0.0250	0.1767	0.0000	0.0000
D	98.750	0.00	180.0	0.0	0.0254	0.3935	0.0000	0.0000
D	92.250	0.00	180.0	0.0	0.0254	0.3935	0.0000	0.0000
D	92.250	0.00	180.0	0.0	0.0257	0.2176	0.0000	0.0000
D	53.250	0.00	180.0	0.0	0.0276	0.2578	0.0000	0.0000
D	53.250	0.00	180.0	0.0	0.0276	0.5282	0.0000	0.0000
D	45.250	0.00	180.0	0.0	0.0276	0.5282	0.0000	0.0000
D	45.250	0.00	180.0	0.0	0.0276	0.2705	0.0000	0.0000
D	11.312	0.00	180.0	0.0	0.0249	0.3045	0.0000	0.0000
D	11.312	0.00	180.0	0.0	0.0250	0.3113	0.0000	0.0000
D	0.000	0.00	180.0	0.0	0.0256	0.3181	0.0000	0.0000

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MAXIMUM POLE DEFORMATIONS CALCULATED (w.r.t. wind direction)

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MAST ELEV ftDEFLECTIONS (ft).....		ROTATIONS (deg).....		
	HORIZONTAL ALONG	ACROSS	DOWN	TILT ALONG	ACROSS	TWIST
194.0	4.77B	0.02I	0.17B	2.80B	0.01I	0.00H
187.1	4.44B	0.02I	0.16B	2.80B	0.01I	0.00H
180.2	4.10B	0.02I	0.14B	2.77B	0.01I	0.00H

173.3	3.77B	0.02I	0.12B	2.72B	0.01I	0.00H
166.4	3.45B	0.02I	0.11B	2.64B	0.01I	0.00H
159.5	3.14B	0.02I	0.09B	2.53B	0.01I	0.00C
152.6	2.84B	0.02I	0.08B	2.41B	0.01I	0.00C
145.7	2.56B	0.01I	0.07B	2.27B	0.01I	0.00C
141.0	2.38B	0.01I	0.06B	2.18B	0.01I	0.00C
135.0	2.16B	0.01I	0.05B	2.06B	0.01I	0.00I
128.9	1.95B	0.01I	0.05B	1.94B	0.01I	0.00I
122.9	1.75B	0.01I	0.04B	1.82B	0.01I	0.00I
116.9	1.56B	0.01I	0.03B	1.70B	0.01I	0.00I
110.8	1.39B	0.01I	0.03B	1.58B	0.01I	0.00I
104.8	1.23B	0.01I	0.02B	1.46B	0.01I	0.00I
98.7	1.08B	0.01I	0.02B	1.35B	0.01I	0.00I
92.2	0.93B	0.01I	0.02B	1.25B	0.01I	0.00I
86.7	0.82B	0.01I	0.01B	1.15B	0.01I	0.00I
81.1	0.71B	0.00I	0.01B	1.07B	0.01I	0.00I
75.5	0.61B	0.00I	0.01B	0.98B	0.01I	0.00I
70.0	0.52B	0.00I	0.01B	0.90B	0.01I	0.00I
64.4	0.44B	0.00I	0.01B	0.81B	0.01I	0.00I
58.8	0.36B	0.00I	0.00B	0.74B	0.00I	0.00I
53.2	0.29B	0.00I	0.00B	0.66B	0.00I	0.00I
45.2	0.21B	0.00I	0.00B	0.55B	0.00I	0.00I
39.6	0.16B	0.00I	0.00B	0.48B	0.00I	0.00I
33.9	0.12B	0.00I	0.00B	0.40B	0.00I	0.00I
28.3	0.08B	0.00I	0.00B	0.33B	0.00I	0.00I
22.6	0.05B	0.00I	0.00B	0.26B	0.00I	0.00I
17.0	0.03B	0.00I	0.00B	0.19B	0.00I	0.00I
11.3	0.01B	0.00I	0.00B	0.13B	0.00I	0.00I
5.7	0.00B	0.00I	0.00H	0.06B	0.00I	0.00I
0.0	0.00A	0.00A	0.00A	0.00A	0.00A	0.00A

MAXIMUM POLE FORCES CALCULATED(w.r.t. to wind direction)

MAST ELEV ft	TOTAL AXIAL kip	SHEAR.w.r.t.WIND.DIR ALONG kip	WIND.DIR ACROSS kip	MOMENT.w.r.t.WIND.DIR ALONG ft-kip	WIND.DIR ACROSS ft-kip	TORSION ft-kip
194.0	0.00 K	-0.01 E	0.00 B	0.02 D	0.01 B	0.00 B
187.1	16.76 D	3.28 K	0.00 B	-7.95 K	-0.01 B	0.00 H
180.2	16.76 H	3.29 B	0.01 L	-7.96 D	-0.02 B	0.00 C
173.3	17.33 H	3.40 B	0.01 L	-36.62 B	-0.07 K	0.01 L
166.4	17.33 H	3.41 E	-0.01 C	-36.65 B	-0.06 K	0.01 L

173.3	26.92 H	5.86 E	-0.01 C	-76.36 B	-0.09 K	0.01 L
	26.92 B	5.87 C	0.01 H	-76.36 E	-0.08 K	-0.01 B
166.4	33.93 B	7.65 C	0.01 H	-126.93 B	-0.14 K	0.02 H
	33.93 E	7.66 E	0.02 F	-126.95 E	-0.14 K	0.02 H
159.5	34.61 E	7.80 E	0.02 F	-190.80 E	-0.20 K	0.02 L
	34.61 E	7.79 E	0.02 F	-190.89 E	-0.19 E	0.02 H
152.6	40.58 E	9.24 E	0.02 F	-261.98 E	-0.27 E	0.03 H
	40.58 H	9.24 E	0.01 F	-262.05 E	-0.26 F	0.04 H
145.7	41.31 H	9.37 E	0.01 F	-337.55 E	-0.34 F	0.04 H
	41.31 E	9.42 B	0.04 B	-337.52 E	-0.34 F	0.04 H
141.0	42.50 E	9.52 B	0.04 B	-389.99 E	-0.38 F	0.05 H
	42.51 E	9.53 B	0.04 I	-390.00 E	-0.44 F	0.05 H
135.0	43.38 E	9.67 B	0.04 I	-457.11 E	-0.48 K	0.05 H
	43.37 E	9.67 B	-0.04 K	-457.11 E	-0.48 F	0.05 H
128.9	44.26 E	9.80 B	-0.04 K	-524.69 B	-0.58 I	0.05 H
	44.26 H	9.79 B	0.05 C	-524.70 B	-0.57 I	0.05 H
122.9	45.20 H	9.94 B	0.05 C	-592.97 B	-0.85 I	0.06 H
	45.20 H	9.89 B	0.05 C	-592.96 B	-0.88 I	0.05 H
116.9	46.15 H	10.03 B	0.05 C	-661.52 B	-1.13 I	0.06 H
	46.16 H	10.05 B	-0.07 L	-661.49 B	-1.17 I	0.06 H
110.8	47.16 H	10.20 B	-0.07 L	-730.63 B	-1.57 I	0.07 H
	47.16 H	10.22 B	-0.11 E	-730.62 B	-1.57 I	0.07 H
104.8	48.19 H	10.38 B	-0.11 E	-800.33 B	-2.18 I	0.08 C
	48.19 H	10.40 B	0.12 I	-800.35 B	-2.20 I	0.08 C
98.7	49.24 H	10.54 B	0.12 I	-870.75 B	-2.93 I	0.09 C
	49.24 H	10.58 B	0.12 I	-870.74 B	-2.92 I	0.09 C
92.2	51.81 H	10.75 B	0.12 I	-947.36 B	-3.74 I	0.11 C
	51.81 H	10.70 B	0.12 I	-947.39 B	-3.73 I	0.11 C
86.7	53.04 H	10.85 B	0.12 I	-1013.47 B	-4.43 I	0.12 C
	53.04 H	10.89 B	0.13 I	-1013.45 B	-4.41 I	0.12 C
81.1	54.31 H	11.04 B	0.13 I	-1080.21 B	-5.12 I	0.13 C
	54.31 H	11.01 B	0.11 I	-1080.28 B	-5.19 I	0.13 C
75.5	55.60 H	11.16 B	0.11 I	-1147.57 B	-5.79 I	0.14 C
	55.60 H	11.13 B	0.12 F	-1147.60 B	-5.82 I	0.14 C
70.0	56.94 H	11.29 B	0.12 F	-1215.19 B	-6.44 I	0.14 C
	56.94 H	11.34 B	0.17 I	-1215.14 B	-6.39 I	0.14 C
64.4	58.31 H	11.50 B	0.17 I	-1283.47 B	-7.33 I	0.15 I
	58.31 H	11.47 B	0.14 I	-1283.40 B	-7.28 I	0.15 I
58.8	59.70 H	11.62 B	0.14 I	-1352.06 B	-8.08 I	0.16 I
	59.70 H	11.60 B	0.11 I	-1352.05 B	-8.12 I	0.16 I
	61.13 H	11.76 B	0.11 I	-1421.22 B	-8.73 I	0.17 I

53.2	61.13 H	11.78 A	-0.12 H	-1421.20 B	-8.74 I	0.17 I
	65.36 H	12.00 A	-0.12 H	-1521.53 B	-9.68 I	0.18 I
45.2	65.36 H	12.00 A	-0.12 H	-1521.52 B	-9.67 I	0.18 I
	66.92 H	12.16 A	-0.12 H	-1593.07 B	-10.33 I	0.18 I
39.6	66.92 H	12.17 A	-0.12 H	-1593.08 B	-10.30 I	0.18 I
	68.51 H	12.33 A	-0.12 H	-1665.00 B	-11.00 I	0.19 I
33.9	68.51 H	12.28 A	0.13 I	-1665.01 B	-10.99 I	0.19 I
	70.12 H	12.43 A	0.13 I	-1737.30 B	-11.71 I	0.19 I
28.3	70.12 H	12.46 A	0.13 I	-1737.29 B	-11.70 I	0.19 I
	71.78 H	12.61 A	0.13 I	-1810.03 B	-12.44 I	0.19 I
22.6	71.78 H	12.61 A	0.13 I	-1810.04 B	-12.45 I	0.19 I
	73.45 H	12.76 A	0.13 I	-1883.23 B	-13.16 I	0.20 I
17.0	73.45 H	12.75 A	0.14 I	-1883.22 B	-13.16 I	0.20 I
	75.17 H	12.90 A	0.14 I	-1956.77 B	-13.94 I	0.20 I
11.3	75.17 H	12.90 A	0.13 I	-1956.77 B	-13.94 I	0.20 I
	76.94 H	13.04 A	0.13 I	-2030.62 B	-14.67 I	0.20 I
5.7	76.94 H	13.04 A	0.13 I	-2030.62 B	-14.67 I	0.20 I
	78.73 H	13.18 A	0.13 I	-2104.84 B	-15.43 I	0.20 I

base	78.73 H	-13.18 A	-0.13 I	2104.84 B	15.43 I	-0.20 I
reaction						

COMPLIANCE WITH 4.8.2 & 4.5.4
=====

ELEV	AXIAL	BENDING	SHEAR + TORSIONAL	TOTAL	SATISFIED	D/t (w/t)	MAX ALLOWED
ft							
194.00	0.00K	0.00D	0.00E	0.00D	YES	10.79A	45.2
	0.01D	0.01K	0.00K	0.02K	YES	11.79A	45.2
187.11	0.01H	0.01D	0.00B	0.02D	YES	11.79A	45.2
	0.01H	0.04B	0.00B	0.05B	YES	12.79A	45.2
180.21	0.01H	0.04B	0.00E	0.05B	YES	12.79A	45.2
	0.01H	0.07B	0.01E	0.09B	YES	13.79A	45.2
173.32	0.01B	0.07E	0.01C	0.09E	YES	13.79A	45.2
	0.02B	0.11B	0.01C	0.13B	YES	14.78A	45.2
166.43	0.02E	0.11E	0.01E	0.13E	YES	14.78A	45.2
	0.02E	0.14E	0.01E	0.16E	YES	15.78A	45.2
159.54	0.02E	0.14E	0.01E	0.16E	YES	15.78A	45.2
	0.02E	0.18E	0.01E	0.20E	YES	16.78A	45.2
152.64	0.02H	0.18E	0.01E	0.20E	YES	16.78A	45.2
	0.02H	0.21E	0.01E	0.23E	YES	17.78A	45.2
145.75	0.01E	0.17E	0.01B	0.19E	YES	14.76A	45.2
	0.01E	0.18E	0.01B	0.20E	YES	15.33A	45.2

141.00	0.01E	0.19E	0.01B	0.20E	YES	15.04A	45.2
	0.01E	0.20E	0.01B	0.22E	YES	15.76A	45.2
134.96	0.01E	0.20E	0.01B	0.22E	YES	15.76A	45.2
	0.01E	0.22B	0.01B	0.23B	YES	16.49A	45.2
128.93	0.01H	0.22B	0.01B	0.23B	YES	16.49A	45.2
	0.01H	0.23B	0.01B	0.24B	YES	17.22A	45.2
122.89	0.01H	0.23B	0.01B	0.24B	YES	17.22A	45.2
	0.01H	0.24B	0.01B	0.25B	YES	17.95A	45.2
116.86	0.01H	0.24B	0.01B	0.25B	YES	17.95A	45.2
	0.01H	0.24B	0.01B	0.26B	YES	18.68A	45.2
110.82	0.01H	0.24B	0.01B	0.26B	YES	18.68A	45.2
	0.01H	0.25B	0.01B	0.26B	YES	19.40A	45.2
104.79	0.01H	0.25B	0.01B	0.26B	YES	19.40A	45.2
	0.01H	0.26B	0.01B	0.27B	YES	20.13A	45.2
98.75	0.01H	0.21B	0.00B	0.22B	YES	17.21A	45.2
	0.01H	0.22B	0.00B	0.23B	YES	17.88A	45.2
92.25	0.01H	0.22B	0.00B	0.23B	YES	17.58A	45.2
	0.01H	0.23B	0.00B	0.24B	YES	18.15A	45.2
86.68	0.01H	0.23B	0.00B	0.24B	YES	18.15A	45.2
	0.01H	0.23B	0.00B	0.24B	YES	18.73A	45.2
81.11	0.01H	0.23B	0.00B	0.24B	YES	18.73A	45.2
	0.01H	0.23B	0.00B	0.24B	YES	19.31A	45.2
75.54	0.01H	0.23B	0.00B	0.24B	YES	19.31A	45.2
	0.01H	0.23B	0.00B	0.24B	YES	19.88A	45.2
69.96	0.01H	0.23B	0.00B	0.24B	YES	19.88A	45.2
	0.01H	0.23B	0.00B	0.25B	YES	20.46A	45.2
64.39	0.01H	0.23B	0.00B	0.25B	YES	20.46A	45.2
	0.01H	0.24B	0.00B	0.25B	YES	21.03A	45.2
58.82	0.01H	0.24B	0.00B	0.25B	YES	21.03A	45.2
	0.01H	0.24B	0.00B	0.25B	YES	21.61A	45.2
53.25	0.01H	0.24B	0.00A	0.25B	YES	21.61A	45.2
	0.01H	0.24B	0.00A	0.25B	YES	22.44A	45.2
45.25	0.01H	0.25B	0.00A	0.26B	YES	22.08A	45.2
	0.01H	0.25B	0.00A	0.26B	YES	22.67A	45.2
39.59	0.01H	0.25B	0.00A	0.26B	YES	22.67A	45.2
	0.01H	0.25B	0.00A	0.26B	YES	23.25A	45.2
33.94	0.01H	0.25B	0.00C	0.26B	YES	23.25A	45.2
	0.01H	0.25B	0.00C	0.26B	YES	23.84A	45.2
28.28	0.01H	0.25B	0.00A	0.26B	YES	23.84A	45.2
	0.01H	0.25B	0.00A	0.26B	YES	24.42A	45.2
22.62							

	0.01H	0.25B	0.00A	0.26B	YES	24.42A	45.2
	0.01H	0.25B	0.00A	0.26B	YES	25.01A	45.2
16.97	.....	.....	.....	.....	.....	.....	.....
	0.01H	0.25B	0.00A	0.26B	YES	25.01A	45.2
	0.01H	0.25B	0.00A	0.26B	YES	25.59A	45.2
11.31	.....	.....	.....	.....	.....	.....	.....
	0.01H	0.25B	0.00A	0.26B	YES	25.59A	45.2
	0.01H	0.25B	0.00A	0.26B	YES	26.18A	45.2
5.66	.....	.....	.....	.....	.....	.....	.....
	0.01H	0.25B	0.00A	0.26B	YES	26.18A	45.2
	0.01H	0.25B	0.00A	0.27B	YES	26.76A	45.2
0.00	.....	.....	.....	.....	.....	.....	.....

MAXIMUM LOADS ONTO FOUNDATION (w.r.t. wind direction)

DOWN	SHEAR.w.r.t.WIND.DIR		MOMENT.w.r.t.WIND.DIR		TORSION
	ALONG	ACROSS	ALONG	ACROSS	
kip	kip	kip	ft-kip	ft-kip	ft-kip
78.73	13.18	0.13	-2104.84	-15.43	0.20
H	A	I	B	I	I

=====

Round Base Plate and Anchor Rods, per ANSI/TIA 222-H

Pole Data

Diameter: 68.530 in (flat to flat)
Thickness: 0.4375 in
Yield (Fy): 65 ksi
of Sides: 18 "0" IF Round
Strength (Fu): 80 ksi

Reactions

Moment, Mu: 7983.56 ft-kips
Axial, Pu: 94.41 kips
Shear, Vu: 49.6 kips

Anchor Rod Data

Quantity: 22
Diameter: 2.25 in
Rod Material: A615
Strength (Fu): 100 ksi
Yield (Fy): 75 ksi
BC Diam. (in): 75.75 BC Override:

Plate Data

Diameter (in): 81.5 Dia. Override:
Thickness: 2.25 in
Yield (Fy): 50 ksi
Eff Width/Rod: 9.89 in
Drain Hole: 2.625 in. diameter
Drain Location: 32.25 in. center of pole to center of drain hole
Center Hole: 56.5 in. diameter

Anchor Rod Results

(per 4.9.9)

Maximum Put: 226.73 Kips
 $\Phi_t^*R_{nt}$: 243.75 Kips
Vu: 2.25 Kips
 $\Phi_v^*R_{nv}$: 149.10 Kips
Tension Interaction Ratio: 0.87
Maximum Puc: 234.24 Kips
 $\Phi_c^*R_{nc}$: 268.39 Kips
Vu: 2.25 Kips
 $\Phi_c^*R_{nc}$: 120.77 Kips
Compression Interaction Ratio: 0.87
Maximum Interaction Ratio: **87.3% Pass**

Base Plate Results

Base Plate (Mu/Z): 43.6 ksi
Allowable Φ^*F_y : 45.0 ksi (per AISC)
Base Plate Interaction Ratio: **96.8% Pass**

May 19, 2025

Liz Rutkowski
 Townorth Development, LLC
 2400 Ansys Drive, Suite 102
 Canonsburg, PA 15317

RE: Proposed 195' Sabre Monopole for Des Wilder, IA

Dear Mary Caulfield,


Upon receipt of order, we propose to design and supply the above referenced Sabre monopole for an Ultimate Wind Speed of 110 mph with no ice and 40 mph + 1.5" ice, Risk Category II, Exposure Category C, and Topographic Category 1, in accordance with the Telecommunications Industry Association Standard ANSI/TIA 222-H-2017 "Structural Standard for Antenna Supporting Structures and Antennas" and to support at least (4) wireless carriers.

When designed according to this standard, the wind pressures and steel strength capacities include several safety factors. Therefore, it is highly unlikely that the monopole will fail structurally in a wind event where the design wind speed is exceeded within the range of the built-in safety factors.

Should the wind speed increase beyond the capacity of the built-in safety factors, to the point of failure of one or more structural elements, the most likely location of the failure would be within the monopole shaft, above the base plate. Assuming that the wind pressure profile is similar to that used to design the monopole, the monopole will buckle at the location of the highest combined stress ratio within the monopole shaft. This is likely to result in the portion of the monopole above leaning over and remaining in a permanently deformed condition. This would effectively result in a fall radius of 35' or less at ground level. *Please note that this letter only applies to the above referenced monopole designed and manufactured by Sabre Industries.*

Sincerely,

Thomas T. Wilson, P.E.
 Design Engineer

	I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the Laws of the State of Iowa.			
	<table border="0"> <tr> <td><i>Thomas T. Wilson</i></td> <td>(signature)</td> </tr> <tr> <td>5/19/2025</td> <td>(dated)</td> </tr> </table>	<i>Thomas T. Wilson</i>	(signature)	5/19/2025
<i>Thomas T. Wilson</i>	(signature)			
5/19/2025	(dated)			
THOMAS THEODORE WILSON				
My license renewal date is <u>December 31, 2026</u> .				
Pages or sheets covered by this seal: <u>1</u>				



NOTICE OF PUBLIC HEARING

May 21, 2025

Re: Proposed Special Use Permit – 1801 West 2nd Avenue

Dear Property Owner:

The City of Indianola has received a special use permit application from Tower North Development, LLC, at 1801 West 2nd Avenue, which is located south of West 2nd Avenue and west of South P Street. The applicant has filed for a special use permit in accordance with §165.02(C) of the Indianola Zoning Code. The applicant requests to construct a 195' wireless telecommunication monopole facility and associated equipment. Wireless telecommunication facilities are a Special Use in the C-2 district.

The Indianola Board of Adjustment will hold a public hearing at 6:00 p.m., Wednesday, June 4, 2025, at Indianola City Hall, City Council Chambers, 110 North 1st Street, Indianola, IA.

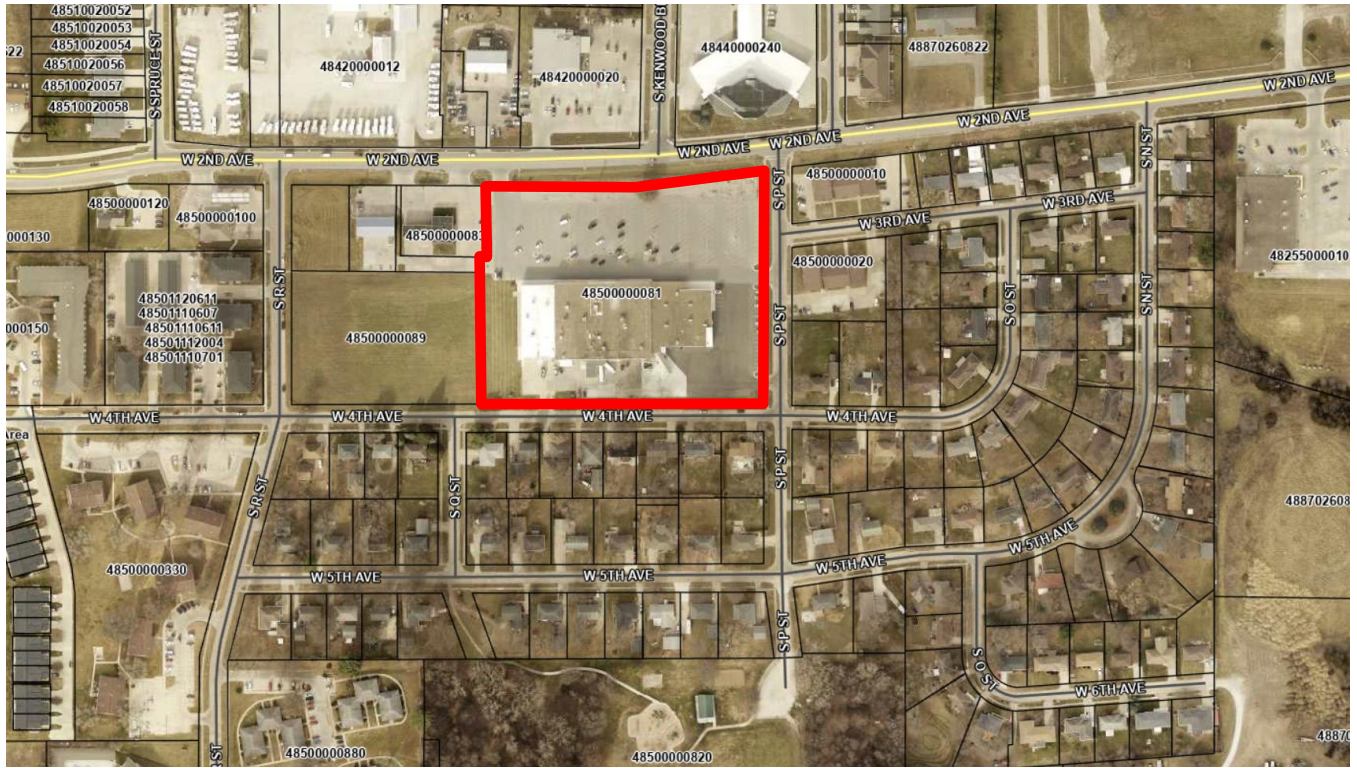
§165.02 of the Indianola Municipal Code states that the Board of Adjustments has the power to “review and consider approval of a Special Use Permit” for a Special Use as identified in the Permitted and Special Uses Table contained in Chapter 165.05 of the Zoning Regulations.”

All interested parties are invited to attend the public hearing and express their opinions pro or con. Any written comments received on or before this date by the City Zoning Administrator will be considered to be part of the hearing as well. If you have any questions concerning the application or if you would like additional information, please call the Community Development Department at 515-962-9430.

Sincerely,

Bill Mettee
Senior Planner





ABOVE: Subject property (outlined in **RED**).

Bill Mettee

From: Carrie La Rue <carrie.larue77@gmail.com>
Sent: Thursday, May 29, 2025 2:49 PM
To: Community Development
Cc: Bill Mettee
Subject: Cell Tower Letter

[Some people who received this message don't often get email from carrie.larue77@gmail.com. Learn why this is important at <https://aka.ms/LearnAboutSenderIdentification>]

Community Development-

I talked with Bill Mettee today at approximately 1:30pm today about concerns with the letter I received about the 195' cell tower to be constructed. Please take this as my written notice I do not want the tower near my neighborhood due to health, ascetic and property value concerns.

Please note the office phone given on the letter to contact Bill direct was incorrect- 962-9430.

I had to find the staff directory online to call Bill direct. I also left a voice mail at 8am at the 961-9410 number letting them know the phone 962-9430 was not going thru.

Signed Sincerely Concerned,

Carrie La Rue

1700 W 5th Ave, Indianola resident since Oct. 2021, property owner since 2023, resident of the Des Moines area since 1998, owned homes in Grimes & Altoona before moving to Indianola, Iowa native.

515-707-6657

Sent from my iPhone