



**A PERFECT ENVIRONMENT**

**Residential      Recreational      Responsible**

**Chair**  
Edward Kranick  
**Supervisors**  
Steve Michels  
Joe Woelfle  
Magalie Miller  
Terri Mahoney-Ogden  
**Administrator**  
Dan Green

**TOWN OF DELAFIELD BOARD OF SUPERVISORS MEETING  
TUESDAY, AUGUST 15, 2023**

**6:30 PM**

**DELAFIELD TOWN HALL – W302 N1254 MAPLE AVENUE, DELAFIELD, WI  
AGENDA**

1. Call to Order
2. Pledge of Allegiance
3. Roll Call
4. Citizen Comments: Public comments from citizens regarding items on, or not on the agenda. The Board may not engage in a discussion with the citizen making the comments. Individual presentations are limited to three minutes and citizens shall follow the rules set forth in Section 2.04(1)(d) of the Town Code.
5. Approval of Minutes:
  - a. July 25, 2023, Town Board Minutes
6. Action on vouchers submitted for payment:
  - a. Report on budget sub-accounts and action to amend the 2023 budget
  - b. 1) Accounts payable; 2) Payroll
7. Communications (for discussion and possible action)
  - a. Town's Association Annual Convention and Fall Workshops
  - b. Town Communications Update
8. Unfinished Business: None
9. New Business
  - a. Russell and Lora Wankowski, W293 N3112 Poplar Drive, Re: Consideration and possible action on the approval of a Certified Survey Map to reconfigure multiple existing lots located at W293 N3112 Poplar Drive into two lots. Tax Key Nos. DELT0764-022 and 0764-040.
  - b. US Cellular, by Gara Fluitt, Faulk and Foster, Re: Consideration and possible action on a request to install six new "short panel" antennas and one GPS antenna on the communication tower located at N44 W29190 Oxford Drive, Tax Key No. 0728-998-001
  - c. Discussion and possible action on the adoption Resolution 23-665, a resolution accepting the roads in the White Oak Conservancy.
10. Announcements and Planning items
  - a. Plan Commission – Tuesday, September 5, 2023 @ 6:30 PM
  - b. Town Board – Tuesday, September 12, 2023 @ 6:30 PM
  - c. Budget Workshop immediately preceding Town Board – Tuesday, September 26, 2023 @ 5:30 PM
11. Adjournment

Dan Green  
Town of Delafield Administrator/Clerk/Treasurer

**PLEASE NOTE:**

- ✓ It is possible that action will be taken on any of the items on the agenda and that the agenda may be discussed in any order. It is also possible that a quorum of other governmental bodies of the municipality may be in attendance at the above-stated meeting to gather information; no action will be taken by any governmental body at the above-stated meeting other than the governmental body specifically referred to above in this notice.
- ✓ Also, upon reasonable notice, efforts will be made to accommodate the needs of disabled individuals through appropriate aids and services. For additional information or to request this service, contact Town Clerk Dan Green (262) 646-2398.

**TOWN OF DELAFIELD BOARD OF SUPERVISORS MEETING**  
**JULY 25, 2023 @ 6:30 PM**

**Video Link:** <https://www.youtube.com/watch?v=GGd7PEIWpYk>

**First order of business:** Call to Order

Chairperson Kranick called the meeting to order at 6:30 p.m.

**Second order of business:** Pledge of Allegiance

**Third order of business:** Roll Call

Present: Supervisor Mahoney-Ogden, Supervisor Woelfle, Supervisor Michels, and Chairperson Kranick. Also present was Administrator Dan Green.

Excused: Supervisor Miller

**Fourth order of business:** Citizen Comments: None

**Fifth order of business:**

- a. Approval of the June 27, 2023, Town Board Minutes

*Motion by Supervisor Michels to approve the June 27, 2023, minutes. Seconded by Supervisor Woelfle. Motion passed 4-0.*

**Sixth order of Business:** Action on vouchers submitted for payment:

- a. Report on budget sub-accounts and action to amend 2023 budget.
- b. 1) Accounts payable; 2) Payroll

*Motion by Supervisor Michels to payment of checks #66871-#66876 and checks #66879 - #66903 in the amount of \$181,783.39, and payments of checks #66904-#66906 and checks #66908-#66926 in the amount of \$131,361.27, and payrolls dated July 7, 2023, in the amount of \$16,725.54 and payrolls dated July 21, 2023, in the amount of \$17,450.80. Seconded by Supervisor Miller. Motion passed 4-0.*

**Seventh order of Business:** Communications

- a. Wisconsin Town's Association Meeting: Wednesday, July 26 @ 6:30 PM  
Chairman Kranick stated Joe Ruth from the Town's Association Advocacy Committee will be present to talk about shared revenue and transportation aids.
- b. Newsletter and Town Communications Update  
The board discussed possible updates to the website once Chairman Kranick and Administrator Green have a discussion with the website vendor on getting metrics and understand who is using the site. Dan is working on what we want to put in the 1-page insert. Supervisor Woelfle discussed using a QR code to direct people to sign up online. He also suggested a generic email account they can use to sign up. Supervisor Mahoney-Ogden called a group of municipalities to see what they do with their tax inserts. She stated the Town has their one chance to get it right. She is interested in education and the only way to do that is to get them to the website. She stated she doesn't think we need to do a newsletter, but some communities did seasonal emails. The board discussed tax mailers that could be put on people's refrigerators with information for the year. This item will remain on the agenda.
- c. Lake Country Fire & Rescue Update  
Chairman Kranick gave an update to the board on the City of Delafield Council meeting and the Fire Board meeting.

**Eighth order of Business:** Unfinished Business:

**Ninth order of Business:** New Business:

- a. Discussion and possible action on a contract with Waukesha County for tax assessment and billing for 2024-2025.

*Motion by Supervisor Woelfle to approve a contract with Waukesha County for tax assessment and billing for 2024-2025. Seconded by Supervisor Mahoney-Ogden. Motion passed 4-0.*

- b. Discussion and possible action on approving a quote from Toepfer Security for the purchase and installation of a 4-image IP Dome Camera and mount for the northern parking lot and skate park.

Chairman Kranick stated this item came up because of the recent vandalism to the skate park. There is currently a gap in our camera system that needs to be closed. Administrator Green explained the company who quoted the project installed all of the other cameras on the building. Supervisor Mahoney-Ogden suggested getting additional quotes, and to possibly tie in any virtual meeting upgrades to the Town Hall infrastructure with the camera install. Supervisor Woelfle stated he was concerning about timing if this item was not approved.

*Motion by Supervisor Woelfle to approve the quote from Toepfer Security quote. Seconded by Supervisor Michels. Motion passed 3-1 with Supervisor Mahoney-Ogden opposing.*

- c. Supervisor Mahoney-Ogden's request for discussion on residential lighting.

Supervisor Mahoney-Ogden stated this was something she ran on and is grateful to have a chance to talk about it. She spent a number of hours retrieving some preliminary information. In terms of lighting, there is a sense that Lake County has changed, and lights are everywhere. There are movements around the County to monitor lighting. She stated she is glad the Town is monitoring businesses. She described the Town of Delafield as the gateway for Lake County. She stated the Town has made mistakes, but they have an opportunity to restrict the residences. She reviewed notes, including information from Jeff Hermann from the Town of Oconomowoc. They have an ordinance that was adopted a number of years ago. They restrict lights to 11 pm, with no lights on the lake. They regulate their ordinance by a complaint basis. Oconomowoc gave a couple of years for existing homes to come into compliance. Chenequa has a long list of rules regarding light. Supervisor Mahoney-Ogden asked Sharon Lear from Genesee, who stated she is interested in what the Town decides to do.

Supervisor Woelfle asked what the ramifications are of a violation in Oconomowoc. Supervisor Mahoney-Ogden stated they receive a letter. Supervisor Michels thought restricting lighting in residential neighborhoods was a heavy-handed government restriction. He had concerns about the darkness and the time limits. He used an example of not being able to leave a light on for a child coming home late. These restrictions would be putting the Town in the middle of neighbor disputes that the State's nuisance laws already address. He stated the ultimate goal of a residential community with a low standard he is in favor of, and agrees with Supervisor Mahoney-Ogden's goal. He explained a lighting ordinance would feel like we are becoming an HOA. Rural areas are different than other denser areas. He stated there are some tweaks we can make, but had concerns about telling people they can't have a light on at a certain time.

Supervisor Woelfle stated he would love to see some places with less lights, but thinks the better option is educating residents. He was not interested in a scenario where every Monday the Administrator comes into an inbox full of lighting complaints. There should be a fine line and appropriate balance. Supervisor Michels added that perhaps the CUP for the Yacht Club may need to be changed to fit this ordinance. He also brought

up fireworks being a potential issue. Soft lighting concepts are good goals, but he was not interested in wholesale dark sky concepts.

Chairman Kranick explained it comes down to education and guidelines for new construction. We are a little different than Chenequa given our location. We are right in the middle of big cities. The Town is still not as bright, but there are some offenders that would be great to educate. The board asked that more research was done by Supervisor Mahoney-Ogden to be discussed at a later meeting.

d. Supervisor Mahoney-Ogden's request for discussion on virtual attendance of board meetings

Supervisor Mahoney-Ogden reviewed the research she did with other municipalities, some who have zoom video attendance, and some who do not. She used Lisbon and Genesee as examples of technology that has worked for their communities. Those that use zoom meetings are typically hybrid, so attendance is not required. Lisbon recommended the OWL system where the camera moves around the room, making it feel like a real meeting. Chenequa does all virtual meetings. The reason she is bringing it up is because of how hard it is to find people to do this job. People are too busy to be a board supervisor. She mentioned a resident who was interested in running for the board, but was retired, and was traveling a lot.

Supervisor Michels stated he is not interested in snowbirds serving on the Town Board. Supervisor Woelfle added that those people only reside in the Town half the year. Joe stated he does not think it is a necessity. We have 18 to 20 meetings in a year. If you are putting yourself out there to serve the community, you can make it to these meetings. If things come up, we are an accommodating board. There is a concern that if you are streaming live, but no one can see what you are doing, it opens up questions. Supervisor Michels expressed concern about audience participation. He agreed there is a discourse when we have people speaking virtually opposed to being present in the room. He stated he enjoys coming to Town Hall and communicating directly with residents. He thinks it is a good standard that people have to come to Town Hall. Supervisor Michels also did not want meetings to be like an internet forum where people can come yell at their government. He explained that it took an IT expert to run the background of a public hearing hybrid on the Thomas Farm in 2021, which we don't have the staff to do.

Chairman Kranick explained that the attorney's concern was licensing. Supervisor Mahoney-Ogden stated that Eric Larson worked with Genessee on their policy to make virtual meeting work. Supervisor Woelfle stated that the attorney may have made a recommendation to them as well, but they chose not to follow it. He reiterated his concerns of participation and transparency. He explained if any of us miss a meeting here and there, no one gets upset. He stated he does not have an appetite for exploring the concept much further. Administrator Green stated that the other communities mentioned had clerks present, as well as their administrators. The Town has an Administrator and Clerk combined position, and does not have staff to run the zoom program, take minutes, control the cameras, and give updates.

**Tenth order of Business:** Announcements and Planning items

- a. Plan Commission – Tuesday, August 1, 2023 @ 6:30 PM
- b. Town Board – Tuesday, August 15, 2023 @ 6:30 PM (Combined August 8<sup>th</sup> & August 22<sup>nd</sup> meetings)
- c. Plan Commission – Tuesday, September 5, 2023 @ 6:30 PM

**Eleventh order of Business:** Adjournment:

*Motion by Supervisor Woelfle to adjourn the Tuesday, June 27, 2023, Town Board meeting at 7:36 PM. Seconded by Supervisor Michels. Motion passed 4-0.*

Respectfully submitted:

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Dan Green, CMC/WCMC, Administrator - Town Clerk/Treasurer

**Town of Delafield Application for Plan Commission Agenda**

**Attachment**

This attachment is intended to expound on the second intention of the Certified Survey Map, as described on the face of the application, namely “adjust[ing] the lot line in the northeast quadrant of Proposed Lot 1 which will resolve a longstanding encroachment issue.” Owner/applicant owns parcel no. DELT0764040, which includes an existing house and existing garage.

Owner/applicant has owned the property since 1981. The parcel immediately to the north is owned by Woodridge Estates HOA. It appears the lot is largely an outlot/conservancy for the existing subdivision. Owner/applicant’s existing garage extends onto the Woodridge Estates Parcel by between 5 and 8 feet from the nearest boundary which runs west to east, and by about 7 feet from the nearest boundary which runs north to south. This issue should be well-known to the Town of Delafield. The main residence was constructed in approximately the late 1800s. The garage, by owner/applicant’s estimation, was constructed in the 1930s or 1940s. Please see attached previous Plan Commission meeting minutes regarding this issue.

Owner/applicant, the developer of the northern parcel which preceded the HOA, and the Town attempted to resolve this boundary issue in the past. At the time the subdivision was developed, the owner, developer, and Town had engaged in attempts to adjust the boundary so that owner’s garage would be entirely on owner’s parcel. These discussions did not result in an actionable item at the time, and the subdivision development continued. The issue remains.

As owner/applicant now desires to move forward with an internal lot reconfiguration via Certified Survey Map, they would also like to use this opportunity to finish what was started several years ago and resolve this boundary issue. Owner/applicant understands the adjustment is subject to obtaining the written agreement and consent of Woodridge Estates HOA regarding this lot line adjustment. The adjustment contemplated herein meets the requirements of Town of Delafield Code Section 18.11, regarding the Town’s prior review of sales or exchanges of parcels between adjoining lot owners, in that it (1) results in the same number of lots prior to and after the conveyance; (2) all resulting lots all legal and conforming; (3) existing improvements do not violate applicable open space requirements; (4) the conveyance does not create or increase a new or preexisting legal non-conformity.

DS  
RW

# Town Board-Report for August 15, 2023

## **Wankowski Certified Survey Map Agenda Item No. 5. A.**

Applicant: Russ and Lora Wankowski  
Project: Lot Reconfiguration  
Requested Action: Approval of Certified Survey Map  
Zoning: R-3 (County Zoning)  
Location: W293 N3112 Poplar Drive

### **Report**

The property owners are requesting approval of a Certified Survey Map (CSM) to reconfigure various lots and vacated right-of-way that were part of the Pewaukee Highlands subdivision to create two lots. The CSM also incorporates land that is located in Outlot 9 of Woodridge Estates subdivision on which improvements made by the Wankowski's have encroached. The current configuration of lots are identified under two separate tax key numbers. The westerly tax key grouping is adjacent to Poplar Drive and only contains a shed. The easterly lot contains a house which is accessed via Poplar Drive and Hill Street, but also abuts Orchard Avenue on the southeast.

The CSM creates two lots oriented in an east/west direction, with frontage on Poplar Drive. The lot sizes are 31,820 s.f. and 39,348 s.f. for Lots 1 and 2, respectively. There is a navigable waterway through the easterly portion of Lot 2 that limits the buildable area on lot 2. All lands for both lots are in the Waukesha County Shoreland and Floodland Protection jurisdiction.

I have performed a technical review of the CSM and have provide my comments to the surveyor and to Waukesha County. The only significant comment is that the land in Outlot 9 on which the Wankowski's have encroached should be transferred by deed to the Wankowski's prior to the Town recording the CSM.

### **Staff Recommendation:**

The current configuration of lots by tax key numbers has two lots. The proposed CSM results in 2 lots. This CSM "cleans" up multiple lots lines and resolves the encroachment issue. I recommend approval of the CSM prepared by V2G Surveying, LLC., dated July 3, 2023, subject to satisfaction of all outstanding review comments from the Town enumerated in my letter to the surveyor dated July 19, 2023, Village of Hartland (extra-territorial plat review) and Waukesha County Department of Parks and Land Use prior to the Town executing the document.

Recently, I had a visit from one of the neighbors to Mr. and Mrs. Wankowski. The neighbor expressed concern about a drainage ditch along the south side of the property that needs to remain in place and maintained regularly in order to lands to the north and northwest to drain properly. Since this is new information that was unknown at the time of the Plan Commission

consideration, I am recommending that a restriction be placed on the face of the CSM for that area that would read something to the effect of: "Owner shall not place any improvements that would obstruct water flow in the drainage ditch. Owner must maintain the ditch such that water flows freely through the culvert and ditch to the navigable stream located east of this ditch." I have shown the location of the drainage ditch on the attached drawing.

In a related matter, when I was in the field looking at the drainage ditch, another neighbor spoke to me about the use of the private road (Poplar Drive) for construction access. Poplar Drive will be the only way to get to new Lot No. 2. That neighbor requested that a note be placed on the CSM that states, "Any damage to the Poplar Drive during improvement construction shall be repaired to the satisfaction of the property owners on Poplar Drive."

Tim Barbeau, Town Engineer  
August 9, 2023

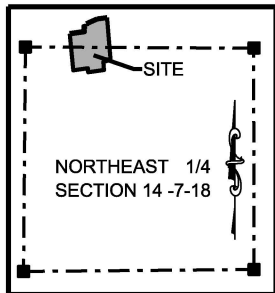


# PRELIMINARY

## CERTIFIED SURVEY MAP NO. \_\_\_\_\_

PART OF THE SOUTHEAST 1/4 OF SECTION 11 AND LOT "A", LOTS 23, 24, 25 AND 26 IN PEWAUKEE HIGHLANDS, BEING A SUBDIVISION IN PART OF THE SOUTHEAST 1/4 OF SECTION 11 AND THE NORTHEAST 1/4 OF SECTION 14, TOWN 7 NORTH, RANGE 18 EAST, ALL IN THE TOWN OF DELAFIELD, WAUKESHA COUNTY, WISCONSIN. TOGETHER WITH INTEREST IN VACATED ORCHARD AVENUE. TOGETHER WITH INTEREST IN VACATED HILL STREET.

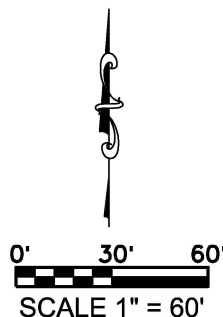
### LOCATION MAP



**SURVEYOR:**  
V2G SURVEYING, LLC.  
550 BAYVIEW ROAD  
SUITE B  
MUKWONAGO, WI 53149  
262-378-5097  
V2G-SURVEYING.COM

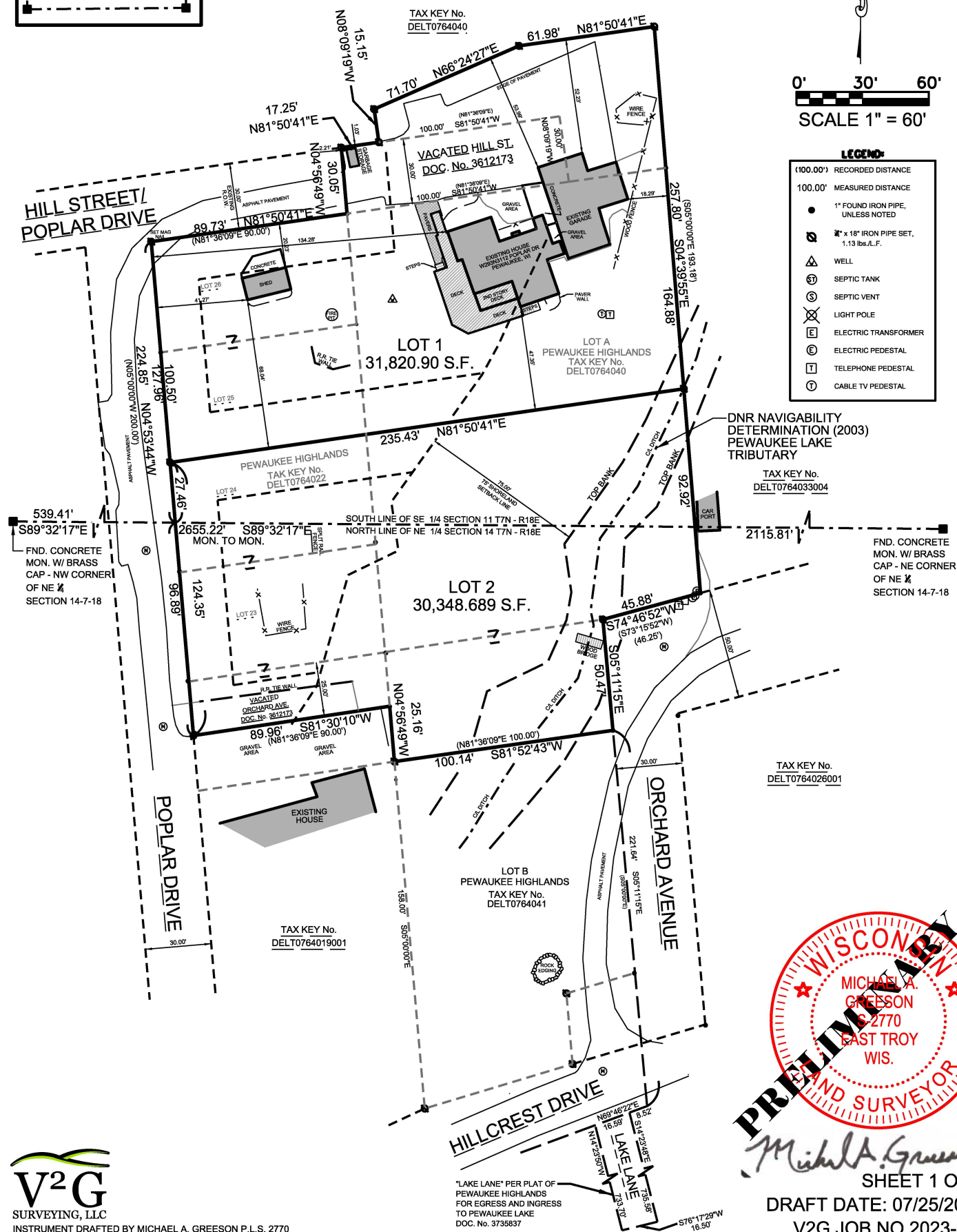
**OWNERS:**  
RUSSELL A WANKOWSKI  
LORA L WANKOWSKI  
W293N3112 POPLAR DR  
PEWAUKEE, WI 53072

**BASIS OF BEARING:**  
BEARINGS BASED ON GRID NORTH OF WISCONSIN COUNTY COORDINATE SYSTEM, WAUKESHA COUNTY ZONE (NAD83 WISCORS 2011) AND REFERENCED TO THE NORTH LINE OF THE NE 1/4 SECTION 14, 7-18. MEASURED AS S89°32'17"E.



**LEGEND:**

- (100.00') RECORDED DISTANCE
- 100.00' MEASURED DISTANCE
- 1" FOUND IRON PIPE, UNLESS NOTED
- ⊗ 3" x 18" IRON PIPE SET, 1.13 LBS./L.F.
- ⊕ WELL
- ⊙ SEPTIC TANK
- ⊖ SEPTIC VENT
- ⊗ LIGHT POLE
- ⊠ ELECTRIC TRANSFORMER
- ⊙ ELECTRIC PEDESTAL
- ⊠ TELEPHONE PEDESTAL
- ⊙ CABLE TV PEDESTAL



INSTRUMENT DRAFTED BY MICHAEL A. GRESSON P.L.S. 2770



SHEET 1 OF 3  
DRAFT DATE: 07/25/2023  
V2G JOB NO. 2023-081



# PRELIMINARY

## CERTIFIED SURVEY MAP NO. \_\_\_\_\_

PART OF THE SOUTHEAST 1/4 OF SECTION 11 AND LOT "A", LOTS 23, 24, 25 AND 26 IN PEWAUKEE HIGHLANDS, BEING A SUBDIVISION IN PART OF THE SOUTHEAST 1/4 OF SECTION 11 AND THE NORTHEAST 1/4 OF SECTION 14, TOWN 7 NORTH, RANGE 18 EAST, ALL IN THE TOWN OF DELAFIELD, WAUKESHA COUNTY, WISCONSIN. TOGETHER WITH INTEREST IN VACATED ORCHARD AVENUE. TOGETHER WITH INTEREST IN VACATED HILL STREET.

### TOWN OF DELAFIELD PLAN COMMISSION APPROVAL CERTIFICATE:

APPROVED BY THE PLAN COMMISSION OF THE TOWN OF DELAFIELD, THIS \_\_\_\_\_ DAY OF \_\_\_\_\_, 2023.

\_\_\_\_\_  
EDWARD KRANICK - CHAIRPERSON

\_\_\_\_\_  
DAN GREEN - CLERK/TREASURER

### TOWN OF DELAFIELD BOARD APPROVAL CERTIFICATE:

APPROVED BY THE TOWN BOARD OF THE TOWN OF DELAFIELD, THIS \_\_\_\_\_ DAY OF \_\_\_\_\_, 2023.

\_\_\_\_\_  
RON TROY - CHAIRPERSON

\_\_\_\_\_  
DAN GREEN - CLERK/TREASURER

### CITY OF DELAFIELD PLAN COMMISSION APPROVAL CERTIFICATE (EXTRATERRITORIAL):

APPROVED BY THE CITY OF DELAFIELD PLAN COMMISSION, THIS \_\_\_\_\_ DAY OF \_\_\_\_\_, 2023.

\_\_\_\_\_  
EDWARD KRANICK - CHAIRPERSON

\_\_\_\_\_  
MOLLY SCHNEIDER - CITY CLERK

### VILLAGE OF HARTLAND PLAN COMMISSION APPROVAL CERTIFICATE (EXTRATERRITORIAL):

APPROVED BY THE VILLAGE OF HARTLAND PLAN COMMISSION, THIS \_\_\_\_\_ DAY OF \_\_\_\_\_, 2023.

\_\_\_\_\_  
JEFFERY PFANNERSTILL - CHAIRPERSON

\_\_\_\_\_  
MOLLY SCHNEIDER - CITY CLERK

### WAUKESHA COUNTY DEPARTMENT OF PARKS AND LAND USE:

THE ABOVE, WHICH HAS BEEN FILED FOR APPROVAL AS REQUIRED BY CHAPTER 236 OF THE WISCONSIN STATE STATUTES, IS HEREBY APPROVED ON THIS \_\_\_\_\_ DAY OF \_\_\_\_\_, 2023.

\_\_\_\_\_  
DALE R. SHAVER, DIRECTOR



*Michael A. Greeson*





# TOWN OF DELAFIELD

## APPLICATION FOR PLAN COMMISSION AGENDA

*Plan Commission meetings are typically held the first Tuesday of every month. All applications must be submitted at least 3 weeks before a Plan Commission meeting to make the agenda. Any late submittals will be considered at the following meeting.*

(PLEASE PRINT)

Owner Information	Applicant
Name: Russell A Wankowski & Lora L Wankowski	Name: Russell A Wankowski & Lora L Wankowski
Address W293N3112 Poplar Dr	Address W293N3112 Poplar Dr
City State Zip Pewaukee WI 53072	City State Zip Pewaukee WI 53072
Telephone Number 262-719-0708	Telephone Number 262-719-0708
Email: beastud10@yahoo.com	Email: beastud10@yahoo.com

**APPLICATION TYPE AND FEE (CHECK ALL THAT APPLY)**

\*Application fees are non-refundable. Fees cover costs associated with public notification, postage, copies, and document recording, however, applicants agree to pay all additional expenses that the Town may incur by virtue of contracted plan review services including but not limited to: legal, surveying and engineering costs.

- |   |  |
|---|--|
| <input type="checkbox"/> Site Plan.....\$150.00                       | <input type="checkbox"/> Home Occupation.....\$50.00           |
| <input type="checkbox"/> Site Grading Plan.....\$50.00                | <input type="checkbox"/> Zoning Amendment.....\$300.00         |
| <input type="checkbox"/> Lighting Plan.....\$50.00                    | <input type="checkbox"/> Land Use Amendment.....\$300.00       |
| <input type="checkbox"/> Signage Plan.....\$75.00                     | <input type="checkbox"/> Conditional Use.....\$225.00          |
| <input type="checkbox"/> Preliminary Plat.....\$300.00                | <input type="checkbox"/> Plan of Operation.....\$150.00        |
| <input type="checkbox"/> Final Plat.....\$150.00                      | <input type="checkbox"/> Planned unit Development.....\$225.00 |
| <input checked="" type="checkbox"/> Certified Survey Map.....\$250.00 | <input type="checkbox"/> Conceptual Plan Review.....\$50.00    |
| <input type="checkbox"/> Developer's Agreement.....\$100.00           | <input type="checkbox"/> Other.....\$50.00 minimum             |

**PROJECT NAME:** Wankowski 2-Lot Certified Survey Map

**Property Address:** W293N3112 Poplar Drive, Pewaukee, WI 53072

**Tax ID/Parcel ID:** DELT0764040 & DELT0764022 **Lot Size:** 62,169.589 S.F.

**Current Zoning:** R-3 (Waukesha County Shoreland & Floodland) **Proposed Zoning (if applicable)** n/a

**Present Use:** Residential **Intended Use (if applicable):** n/a

A complete application along with the appropriate fees shall be submitted by the deadline outlined at the top of the application. In order for an application to be considered complete, the application shall include the required number of site plans/maps, and all of the necessary supporting information as indicated on the project review checklist. If applying for a conditional use or development agreement, a document showing vested interest in the property is required. The Town of Delafield reserves the right not to accept an application that is deemed incomplete.



# **TOWN OF DELAFIELD PLAN COMMISSION APPLICATION**

## **Project Description**

Please answer the questions below that pertain to your request. If necessary, please attach a separate sheet.

### **PETITION FOR REZONING**

In the space below, please describe the purpose of the rezoning.

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### **PETITION FOR LAND USE AMENDM**

In the space below, please describe the purpose of the Land Use Amendment.

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### **PETITION FOR CONDITIONAL USE**

In the space below, please describe the purpose of the Conditional Use.

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### **PETITION FOR CERTIFIED SURVEY MAP / PRELIMINARY PLAT / FINAL PL**

In the space below, please describe the intention of the land division.

The owner/applicant owns the two current underlying parcels. The purpose of the Certified Survey Map is two-fold: (1) to reconfigure the internal boundaries of the existing lots such that they result in two separate buildable lots; and (2) to, with the consent of the adjoining property owner Woodridge Estates HOA adjust the lot line in the northeast quadrant of Proposed Lot 1 which will resolve a longstanding encroachment issue.

### **PETITION FOR SITE PLAN / PLAN OF OPERATION / OTHER APPLICATION**

In the space below, please describe the intention for the site plan, plan of operation, or other application.

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# Required Forms for Submittal

### Required Forms Checklist:

- Legal Description (all applications)
- Professional Staff/Fees Chargeback Acknowledgement (all applications)
- Certification for Division of Land (Certified Survey Map land splits)

### Submittal Information:

- One (1) copy of this application (signed & dated)
- One (1) electronic copy of all supporting materials, i.e., drawings, plans and written documentation (via email to dgreen@townofdelafield.org).
- Two (2) full size hard copies of all supporting materials, i.e., drawings, plans and written documentation of plans 11"x17" and smaller.
- Seven (7) copies of supporting materials larger than 11"x17".

I understand that this form shall be on file in the office of the Town Administrator by 4:00 p.m. on the 21st day before the meeting on which I desire to be heard or as required in the Land Division or Zoning Ordinance, whichever is longer. Plan Commission meetings are held the first Tuesday of each month. Furthermore, I understand that any engineering or legal review fees associated with this project may be charged to me.

FAILURE TO PROVIDE ALL REQUIRED MATERIALS AND INFORMATION CAN RESULT IN THIS APPLICATION BEING WITHDRAWN FOR CONSIDERATION BY THE PLAN COMMISSION.

DocuSigned by:

7/10/2023

Signature of Owner

Date

**Russell A Wankowski**

Print Name

## For Office Use Only

Application Received \_\_\_\_\_  
 Date Received \_\_\_\_\_  
 PC Meeting Date \_\_\_\_\_  
 Public Hearing Date \_\_\_\_\_

Amount Received \_\_\_\_\_  
 Received by \_\_\_\_\_  
 Board Meeting Date \_\_\_\_\_

Publication Date (if required) \_\_\_\_\_



**TOWN OF DELAFIELD**


**PROFESSIONAL STAFF FEES CHARGEBACK ACKNOWLEDGEMENT**

**PLEASE BE ADVISED**

That pursuant to the Town of Delafield Code of Ordinances, the Town of Delafield Town Board has determined that whenever the services of the Town Attorney, Town Engineer or any of the other Town's professional staff results in a charge to the Town for that professional's time and services, and such service is not a service supplied to the Town as a whole, the Town Clerk shall charge that service and the fees incurred by the Town to the owner of the property. Also be advised that pursuant to the Town of Delafield Code of Ordinances certain other fees, costs and charges are the responsibility of the property owner.

\*\*\*\*\*

I, the undersigned, have been advised that, pursuant to the Town of Delafield Code of Ordinances, if the Town Attorney, Town Engineer or any other Town professional provides services to the Town as a result of my activities, whether at my request or at the request of the Town, I shall be responsible for the fees incurred by the Town. Also, I have been advised that pursuant to the Town of Delafield Code of Ordinances, certain other fees, costs and charges are my responsibility.

DocuSigned by:  
  
Signature of Owner

7/10/2023  
Date

**Russell A. Wankowski**  
Owner's name (please print)

Form received by: \_\_\_\_\_

Date: \_\_\_\_\_



# DELAFIELD (784310) PEWAUKEE, WISCONSIN C-BAND & DoD ADDITION DRAWINGS 250' GUYED TOWER

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:  
**uscellular**  
 U.S. CELLULAR  
 8410 W. BRYN MAWR AVE.  
 SUITE 700  
 CHICAGO, IL 60631

ENGINEER SEAL:  

 MICHAEL R. MUEHRER  
 43316  
 FITCHBURG, WI  
 PROFESSIONAL ENGINEER  
 6-21-23

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 WISCONSIN.

**TITLE SHEET  
 DELAFIELD (784310)  
 PEWAUKEE, WISCONSIN**

INT.	DATE:	DESCRIPTION:
JSM	05/23/23	REV. A
JSM	06/07/23	REV. B
JSM	06/20/23	REV. 0

CHECKED BY:	PCM
PLOT DATE:	6/20/2023
PROJECT NUMBER:	34698
SET TYPE:	FINAL

SHEET NUMBER **G-001**

SCOPE OF WORK			
<b>TOWER SCOPE</b>			
<b>C-Band &amp; DoD SCOPE (TO BE INSTALLED)</b>			
ANTENNA(S)/EQUIP.	3	C-BAND RADIO(S) W/ BUILT-IN ANTENNA(S)	TO BE INSTALLED
	3	DoD RADIO(S) W/ BUILT-IN ANTENNA(S)	TO BE INSTALLED
<b>MODERNIZATION SCOPE (REMAIN/RELOCATE)</b>			
ANTENNA(S)/EQUIP.	3	RAYCAP SPD(S)	TO REMAIN
TRANSMISSION CABLE(S)	3	1-1/4" EUPEN HYBRID CABLE(S)	TO REMAIN
<b>COMPOUND SCOPE</b>			
	QTY.	EQUIPMENT	ACTION
GPS ANTENNA(S):	1	CDMA GPS ANTENNA(S)	TO REMAIN
	1	LTE GPS ANTENNA(S)	TO REMAIN
	1	C-BAND & DoD GPS ANTENNA(S)	TO BE INSTALLED
CABLE ROUTE:	-	ICE BRIDGE HANGERS	ADEQUATE - TO REMAIN
	-	SHELTER COAX PORT	ADEQUATE - TO REMAIN
	-	SHELTER EXTERIOR GROUND BAR*	ADEQUATE - TO REMAIN
GROUND BAR(S):	-	SHELTER EXTERIOR GROUND BAR*	ADEQUATE - TO REMAIN
<b>SHELTER INTERIOR SCOPE</b>			
<b>MODERNIZATION SCOPE (REMAIN/RELOCATE)</b>			
EQUIPMENT:	3	RAYCAP SPD(S)	TO REMAIN
GROUND BAR(S):	-	GROUND BAR AT COAX PORT*	TO REMAIN
<b>C-Band &amp; DoD SCOPE (TO BE INSTALLED)</b>			
AUX RACK:	-	BASE BAND UNIT (BBU)	BY OTHERS
* BRING UP TO U.S. CELLULAR STANDARDS AS NECESSARY			
<b>SPECIAL REQUIREMENTS</b>			
EXISTING ANTENNA AZIMUTH(S) TO BE ADJUSTED TO MATCH MODERNIZATION RF DESIGN.			
AT THE TOP AND BOTTOM RAYCAPS PER SECTOR DOUBLE TAP 4449 RADIOS FOR EACH SECTOR ONTO A SINGLE POSITION.			
NEW 2-1/2" SCH 40 (2-7/8" O.D.) MAST PIPE (3 TOTAL)			



DIRECTORY
CLIENT: U.S. CELLULAR 8410 W. BRYN MAWR AVE., SUITE 700 CHICAGO, IL 60631 CONTACT: RANDY MATTON
ENGINEERING COMPANY: EDGE CONSULTING ENGINEERS, INC. 624 WATER STREET PRAIRIE DU SAC, WI 53578 PROJECT MANAGER: PAUL MOLITOR
SITE ACQUISITION: FAULK & FOSTER 1811 AUBURN AVE. MONROE, LA 71201 CONTACT: DAN HOOVER

PROJECT INFO
SITE LOCATION: N44/W29190 OXFORD DR. PEWAUKEE, WI 53072 WAUKESHA COUNTY
SITE #: 784310
FCC #: 1047997
STRUCTURE OWNER: U.S. CELLULAR 8410 W. BRYN MAWR AVE., SUITE 700 CHICAGO, IL 60631
SITE COORDINATES: LAT: 43.096669° LONG: -88.326385°

STRUCTURAL
INVENTORY REPORT: EDGE CONSULTING ENGINEERS, INC. REPORT #: 34698 DATED: 05/18/2023
TOWER ANALYSIS: EDGE CONSULTING ENGINEERS, INC. REPORT #: 34698 DATED: 06/06/2023 CONCLUSION: STRUCTURALLY ADEQUATE
MOUNT ANALYSIS (EXISTING): EDGE CONSULTING ENGINEERS, INC. REPORT #: 34698 DATED: 06/06/2023 CONCLUSION: STRUCTURALLY ADEQUATE
CONTRACTOR TO REVIEW STRUCTURAL REPORT IN ITS ENTIRETY. ANY DISCREPANCIES OR DISAGREEMENTS BETWEEN THE REPORT AND THESE PLANS SHOULD BE RESOLVED PRIOR TO CONSTRUCTION.

APPLICABLE CODES
THESE SITE PLANS ADHERE TO ALL OF THE REQUIREMENTS CALLED OUT IN THE JURISDICTION, PLANNING, AND ZONING FOR ANTENNAS AND SUPPORT STRUCTURE WHERE SITE IS LOCATED.
ALL WORK SHALL COMPLY WITH THE FOLLOWING:
- 2015 INTERNATIONAL BUILDING CODE
- 2017 NATIONAL ELECTRIC CODE
IN THE EVENT OF CONFLICT THE MOST RESTRICTIVE CODE SHALL PREVAIL.

TO OBTAIN LOCATION OF PARTICIPANTS' UNDERGROUND FACILITIES BEFORE YOU DIG IN WISCONSIN, CALL DIGGERS HOTLINE

TOLL FREE: 1-800-242-8511  
FAX A LOCATE: 1-800-242-5811

WI STATUTE 182.0175 (1974) REQUIRES MIN. OF 3 WORK DAYS NOTICE BEFORE YOU EXCAVATE





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CLIENT:  
  
 U.S. CELLULAR  
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 CHICAGO, IL 60631

ENGINEER SEAL:

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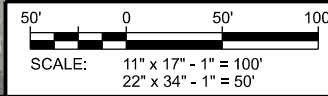
**SITE PLAN**  
**DELAFIELD (784310)**  
**PEWAUKEE, WISCONSIN**

SUBMITTAL:

INT.	DATE	DESCRIPTION:
JSM	05/23/23	REV. A
JSM	06/07/23	REV. B
JSM	06/20/23	REV. 0

CHECKED BY	PCM
PLOT DATE	6/20/2023
PROJECT NUMBER	34698
SET TYPE	FINAL
SHEET NUMBER	<b>C-101</b>

- NOTES:
1. AERIAL IMAGERY FROM GOOGLE EARTH.
  2. NORTH ARROW SHOWN AS APPROXIMATE.
  3. SITE PHOTOS PROVIDED BY EDGE CONSULTING ENGINEERS, INC.
  4. NO SURVEY AVAILABLE. SITE LAYOUT BASED ON FIELD MEASUREMENTS AND SITE PHOTOS.



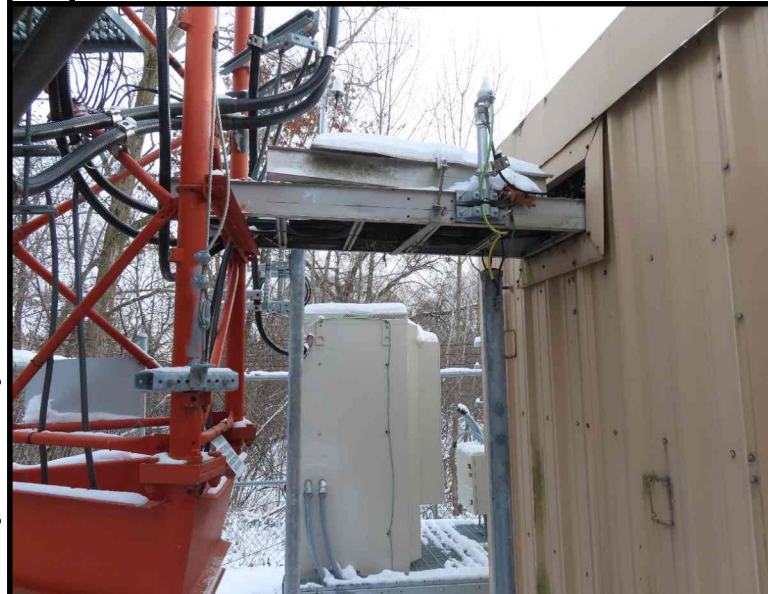
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**A** COMPOUND OVERVIEW



**B** COMPOUND OVERVIEW



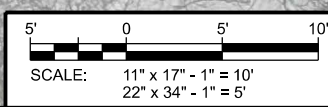
**C** ICE BRIDGE



NORTH

**NOTES:**

1. NORTH ARROW SHOWN AS APPROXIMATE.
2. SITE PHOTOS PROVIDED BY EDGE CONSULTING ENGINEERS, INC.
3. THE ENTIRE SITE SHALL BE RESTORED TO PRE-PROJECT CONDITION AT THE COMPLETION OF THE PROJECT.
4. NO SURVEY AVAILABLE. SITE LAYOUT BASED ON FIELD MEASUREMENTS, UAS-DRONE PHOTOGRAMMETRY, AND SITE PHOTOS.



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 8410 W. BRYN MAWR AVE.  
 SUITE 700  
 CHICAGO, IL 60631

ENGINEER SEAL:  
**- APPROVED -**  
 SEE C-501 FOR ENGINEER'S  
 STAMP AND SIGNATURE

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**ENLARGED SITE PLAN**  
**DELAFIELD (784310)**  
**PEWAUKEE, WISCONSIN**

SUBMITTAL:

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JSM	06/07/23	REV. B
JSM	06/20/23	REV. 0

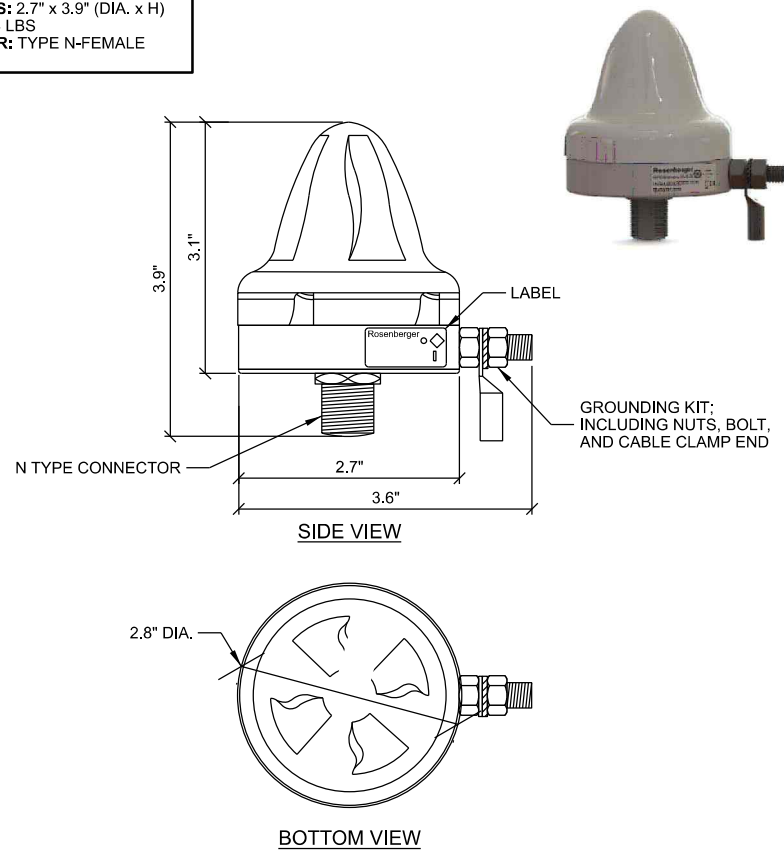
CHECKED BY	PCM
PLOT DATE	6/20/2023
PROJECT NUMBER	34698
SET TYPE	FINAL
SHEET NUMBER	<b>C-102</b>

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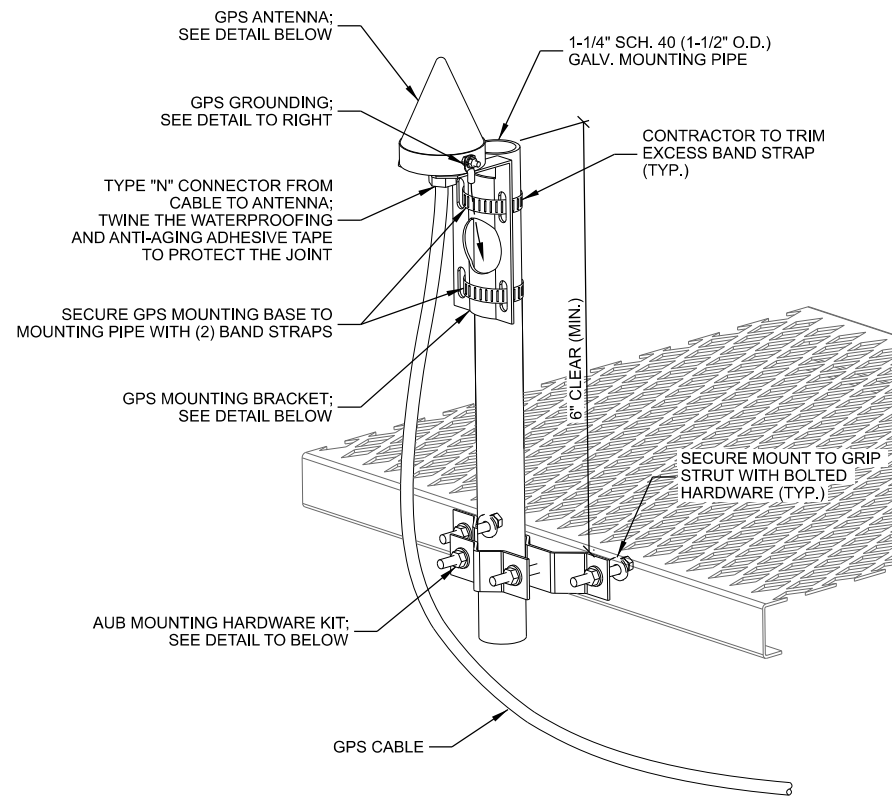


**A** PROPOSED GPS ANTENNA LOCATION

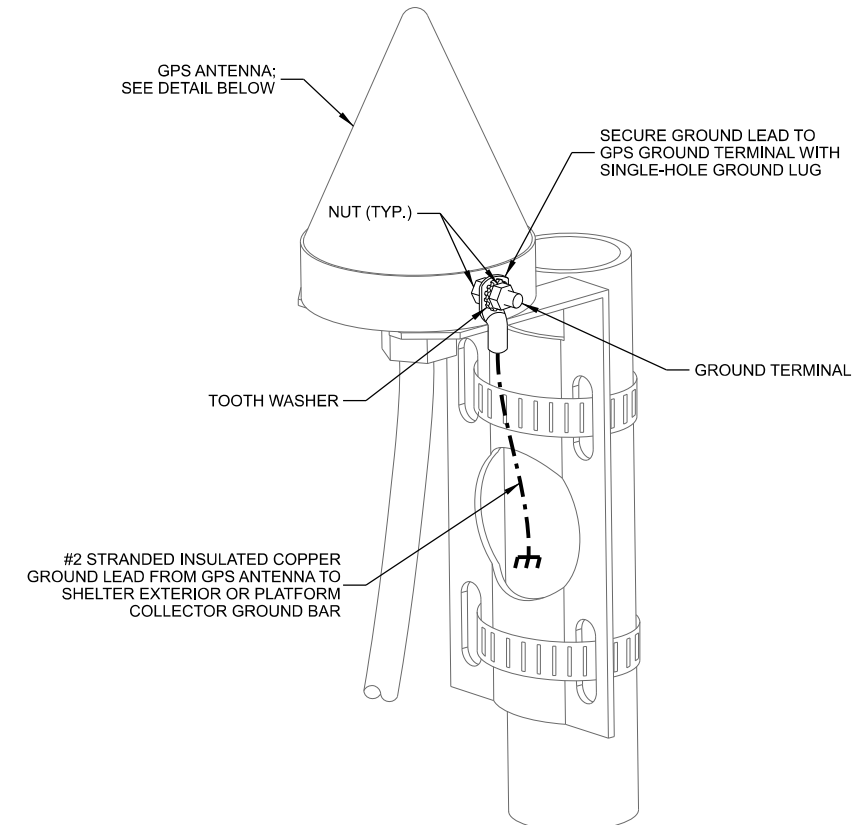
DIMENSIONS: 2.7" x 3.9" (DIA. x H)  
 WEIGHT: 0.4 LBS  
 CONNECTOR: TYPE N-FEMALE



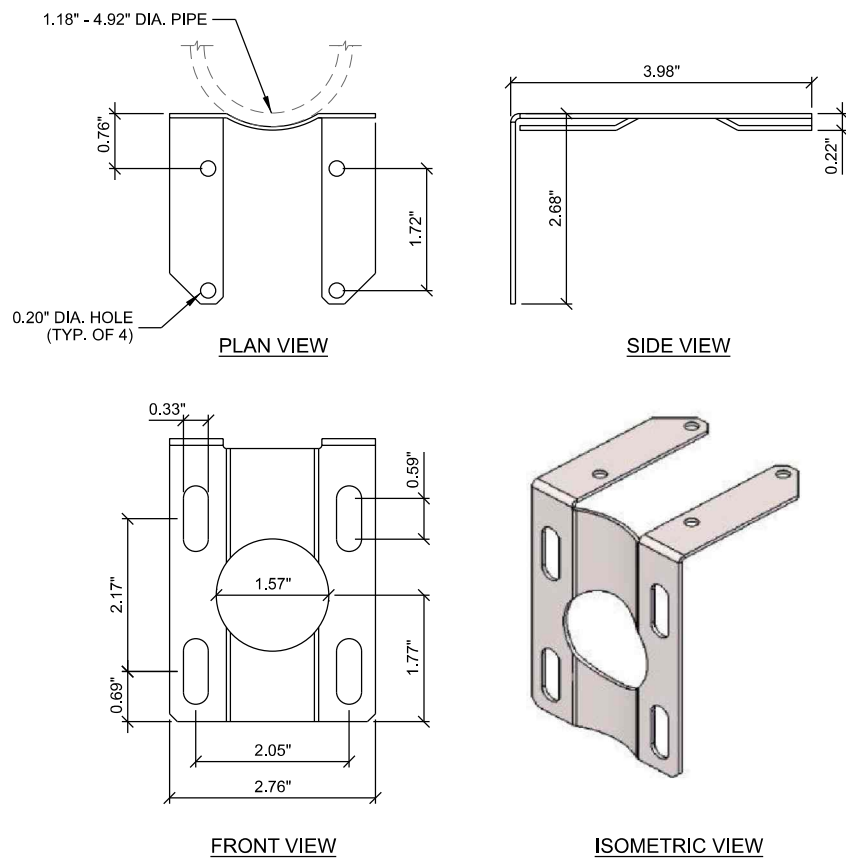
**D** GPS ANTENNA



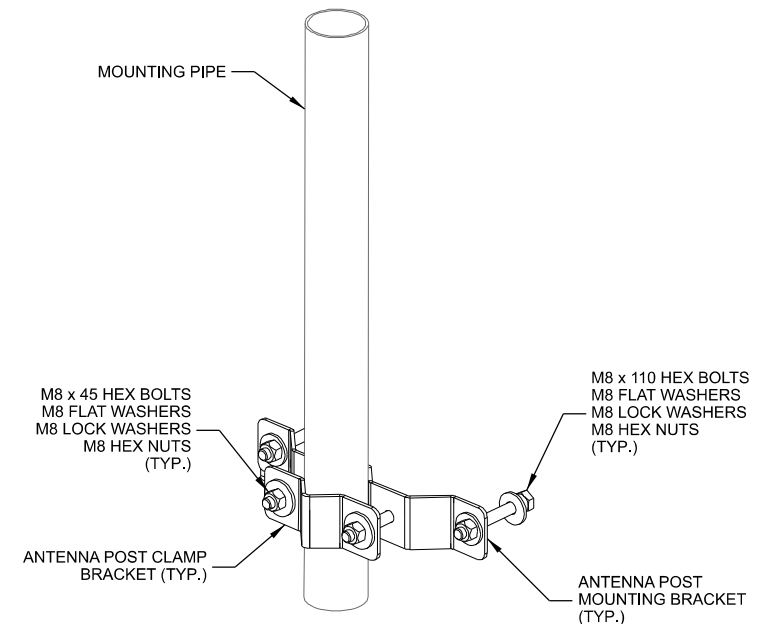
**B** GPS ANTENNA MOUNTING



**C** GPS GROUNDING



**E** GPS MOUNTING BRACKET



- NOTES:
- ANCHOR FASTENERS TO MOUNT BRACKET KIT TO WALL MUST BE SELECTED ACCORDINGLY FOR WALL MATERIAL.
  - WALL ANCHOR FASTENERS SUPPLIED BY GENERAL CONTRACTOR.
  - PREFERRED INSTALLATION METHOD WITH (2) ANTENNA POST BRACKETS.

**F** AUB MOUNTING HARDWARE KIT

CONSULTANT:  
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 608.644.1549 FAX  
 www.edgeconsult.com

CLIENT:  
**uscellular**  
 U.S. CELLULAR  
 8410 W. BRYN MAWR AVE.  
 SUITE 700  
 CHICAGO, IL 60631

ENGINEER SEAL:  
 - APPROVED -  
 SEE G-001 FOR ENGINEER'S  
 STAMP AND SIGNATURE

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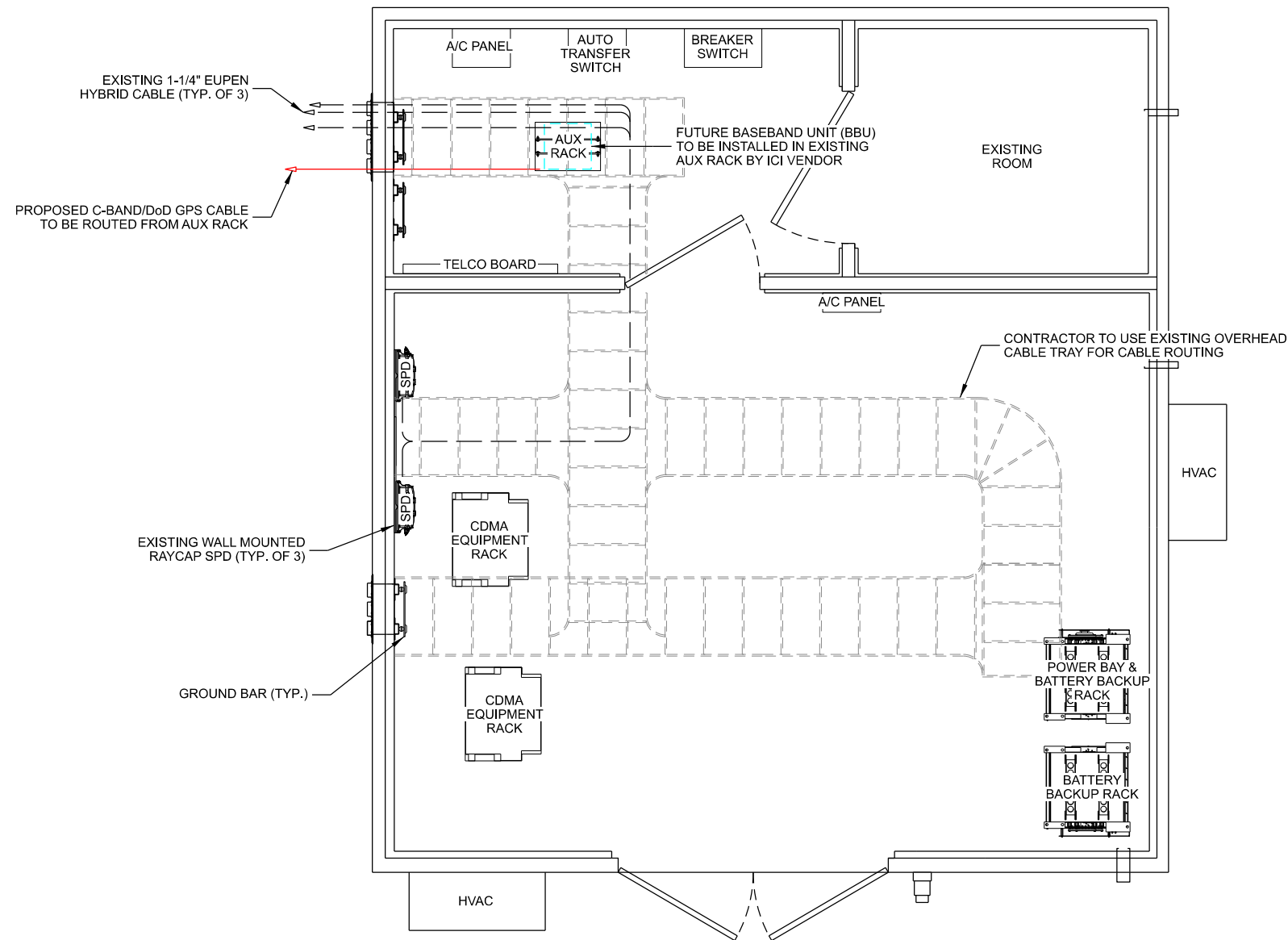
**GPS DETAILS**  
 DELAFIELD (784310)  
 PEWAUKEE, WISCONSIN

SUBMITTAL:

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JSM	05/23/23	REV. A
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JSM	06/20/23	REV. 0

CHECKED BY	PCM
PLOT DATE	6/20/2023
PROJECT NUMBER	34698
SET TYPE	FINAL
SHEET NUMBER	<b>C-501</b>

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**A SHELTER INTERIOR LAYOUT**  
 SCALE: 11" x 17" - 3/8" = 1'-0"  
 22" x 34" - 3/4" = 1'-0"



**B EXISTING AUX EQUIPMENT RACK**



**C EXISTING POWER BAY RACK**

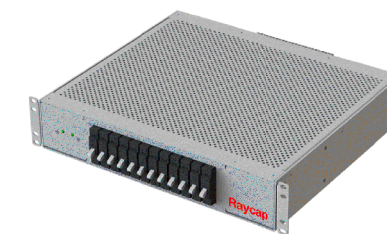


**D EXISTING RAYCAP(S)**

**MANUFACTURER:** RAYCAP  
**MODEL:** RUSDC-1176-PDU-48 (BREAKERS NOT INCLUDED)  
 RUSDC-1176-PDU-48-AMCB-1240 (12 x 40A BREAKERS INCLUDED)  
**DIMENSIONS:** 18.99" x 19.00" x 3.48" (D x W x H)  
**WEIGHT:** 22 LBS (WITHOUT BREAKERS)

**OPTIONAL ACCESSORIES**  
 12 BREAKER KIT FOR ERICSSON RADIO SET: AMCB-48-1225-KIT  
 9 BREAKER KIT FOR NOKIA RADIO SET: AMCB-48-0640-0325-KIT  
 40A CIRCUIT BREAKER: AMCB-48-0140  
 25A CIRCUIT BREAKER: AMCB-48-0125  
 CABLE STORAGE: RTF-6601

2RU RACK MOUNTED DC SURGE SUPPRESSION AND POWER DISTRIBUTION SYSTEM FOR USE IN REMOTE RADIO HEAD (RRH) AND MULTI-CIRCUIT, DISTRIBUTED ANTENNA SYSTEMS.



**E RAYCAP POWER DISTRIBUTION UNIT (PDU)**

CONSULTANT:  
**Edge**  
 Consulting Engineers, Inc.  
 624 WATER STREET  
 PRAIRIE DU SAC, WI 53578  
 608.644.1449 VOICE  
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 U.S. CELLULAR  
 8410 W. BRYN MAWR AVE.  
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 CHICAGO, IL 60631

ENGINEER SEAL:  
**APPROVED FOR ENGINEER'S STAMP AND SIGNATURE**

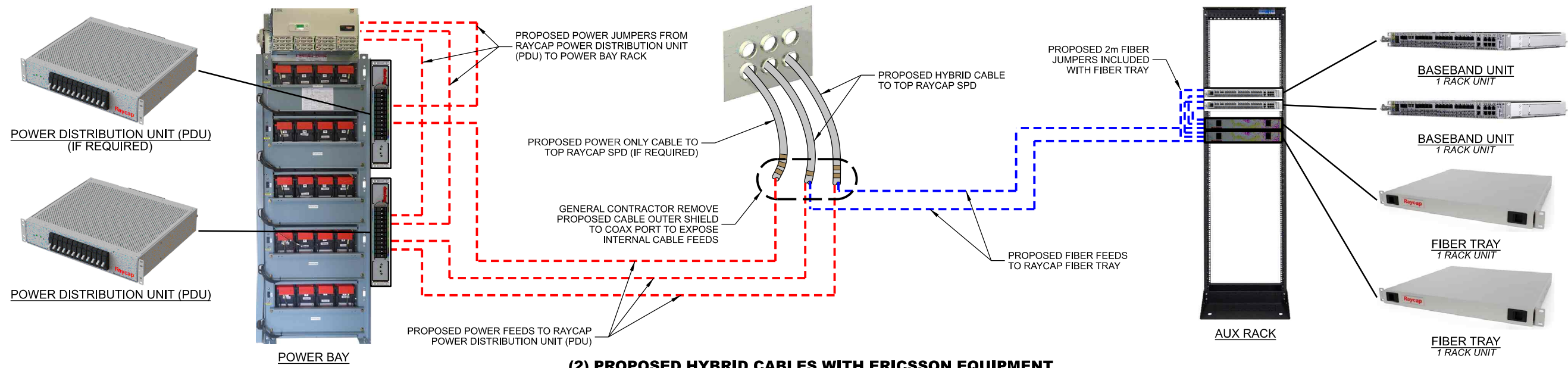
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**SHELTER INTERIOR PLAN**  
 DELAFIELD (784310)  
 PEWAUKEE, WISCONSIN

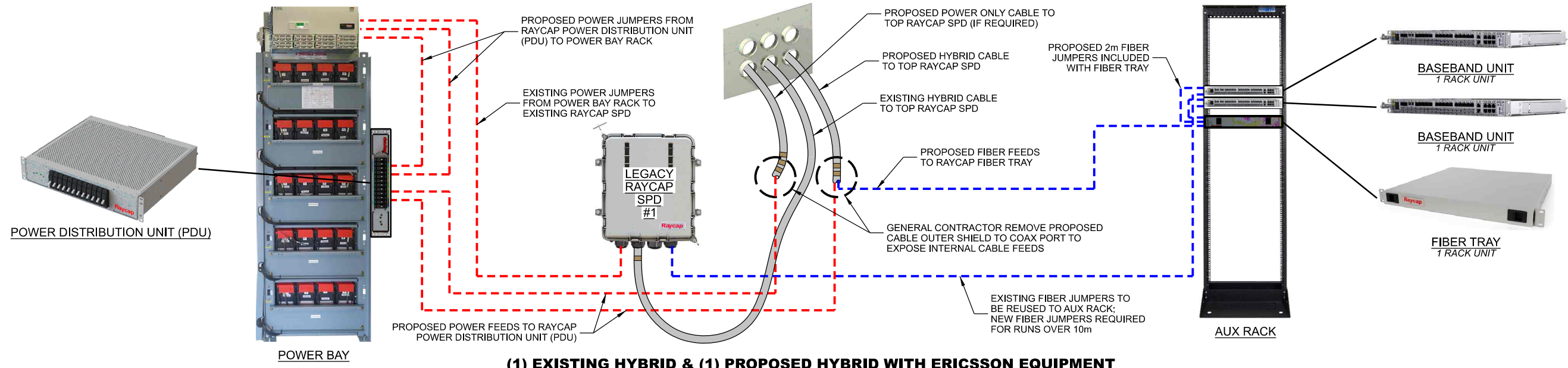
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JSM	06/20/23	REV. 0

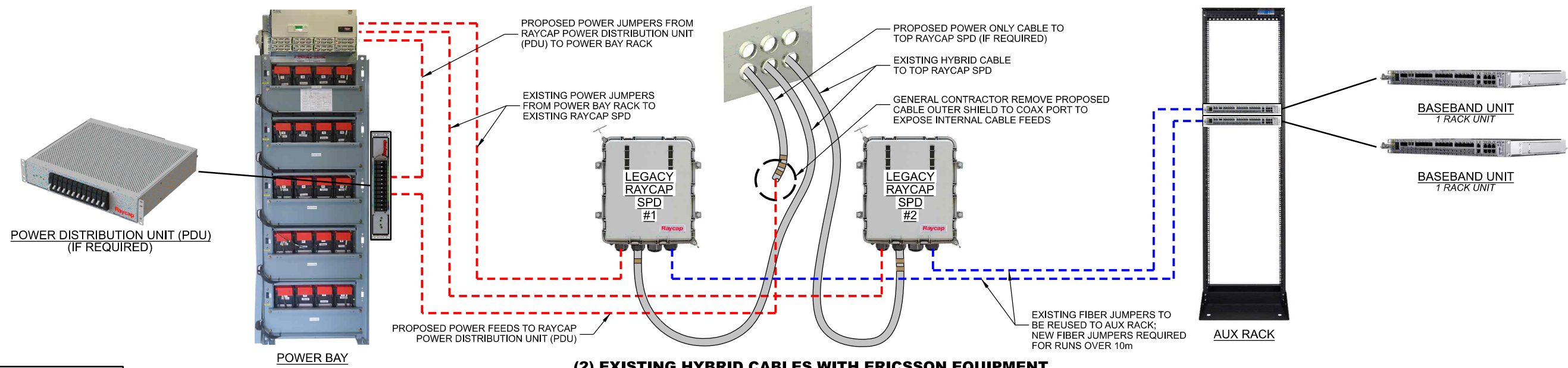
CHECKED BY	PCM
PLOT DATE	6/20/2023
PROJECT NUMBER	34698
SET TYPE	FINAL
SHEET NUMBER	<b>A-101</b>



**(2) PROPOSED HYBRID CABLES WITH ERICSSON EQUIPMENT**



**(1) EXISTING HYBRID & (1) PROPOSED HYBRID WITH ERICSSON EQUIPMENT**



**(2) EXISTING HYBRID CABLES WITH ERICSSON EQUIPMENT**

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**BLOCK DIAGRAM**  
 DELAFIELD (784310)  
 PEWAUKEE, WISCONSIN

SUBMITTAL:

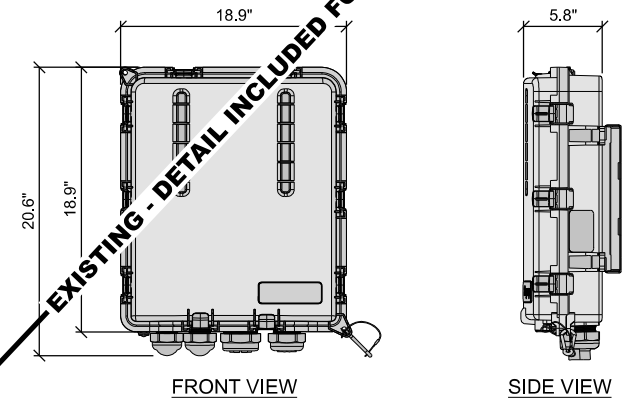
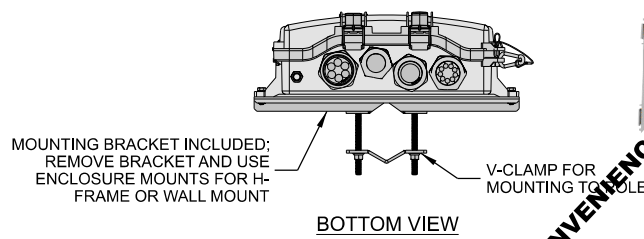
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JSM	06/07/23	REV. B
JSM	06/20/23	REV. 0

CHECKED BY	PCM
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SET TYPE	FINAL
SHEET NUMBER	<b>A-501</b>

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DATE CREATED: 03/01/2022

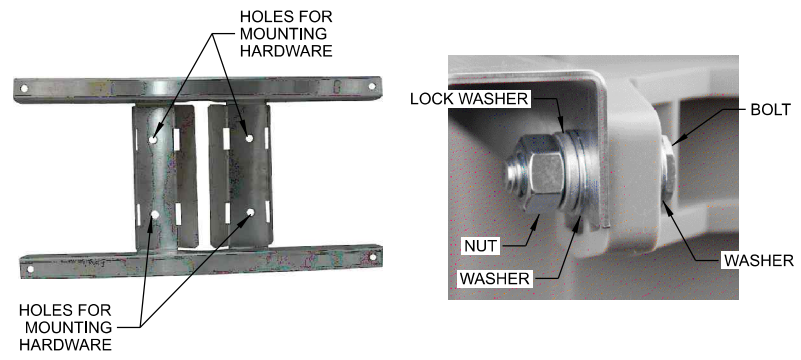
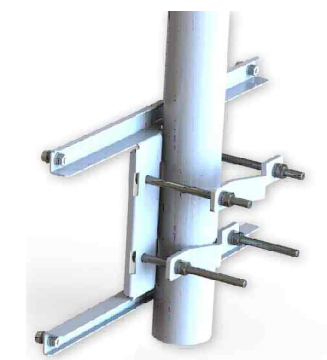
MANUFACTURER: RAYCAP  
 MODEL: RUSDC-6267-PF-48  
 DIMENSIONS: 20.6" x 18.9" x 5.8" (H x W x D)  
 WEIGHT: 19.95 LBS



**A** RAYCAP SURGE PROTECTOR DEVICE (SPD)

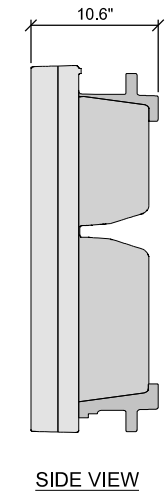
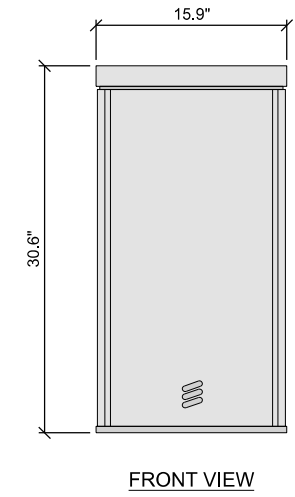
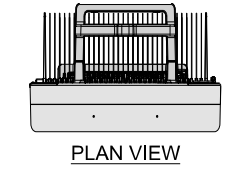
EXISTING - DETAIL INCLUDED FOR CONVENIENCE ONLY

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



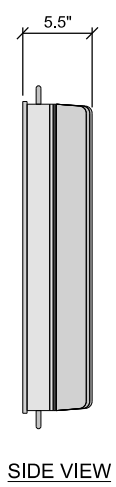
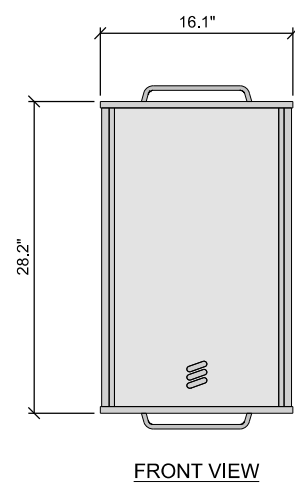
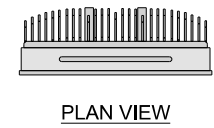
**B** RAYCAP SURGE PROTECTOR DEVICE (SPD) MOUNT

MANUFACTURER: ERICSSON  
 MODEL: AIR6449  
 DIMENSIONS: 30.6" x 15.9" x 10.6" (H x W x D)  
 WEIGHT: 82.7 LBS.



**C** ERICSSON AIR6449

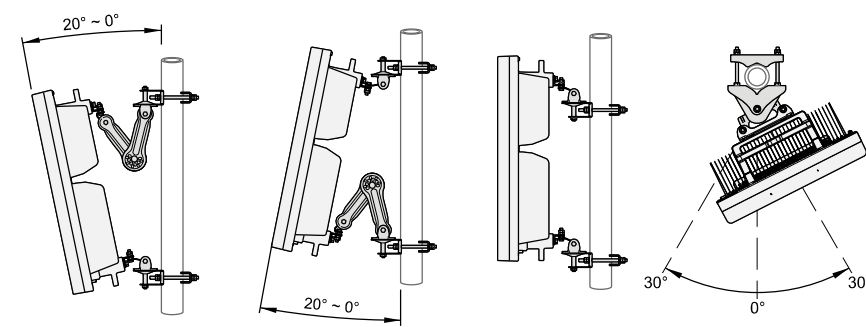
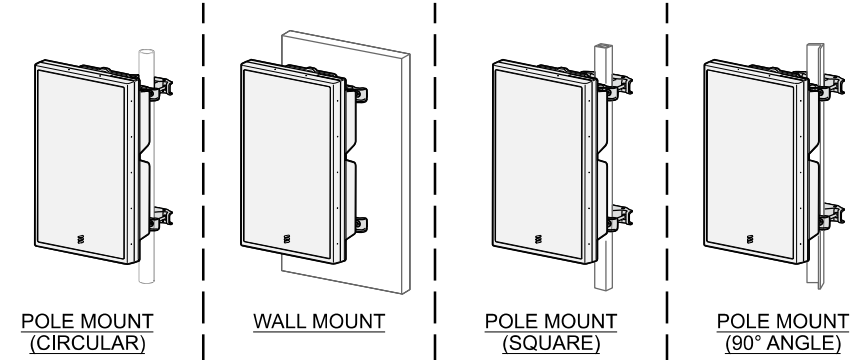
MANUFACTURER: ERICSSON  
 MODEL: AIR6419  
 DIMENSIONS: 28.2" x 16.1" x 5.5" (H x W x D)  
 WEIGHT: 44.1 LBS.



**D** ERICSSON AIR6419

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"	



**E** ERICSSON SWIVEL MOUNT KIT

THIS SPACE INTENTIONALLY LEFT BLANK

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ENGINEER SEAL:  
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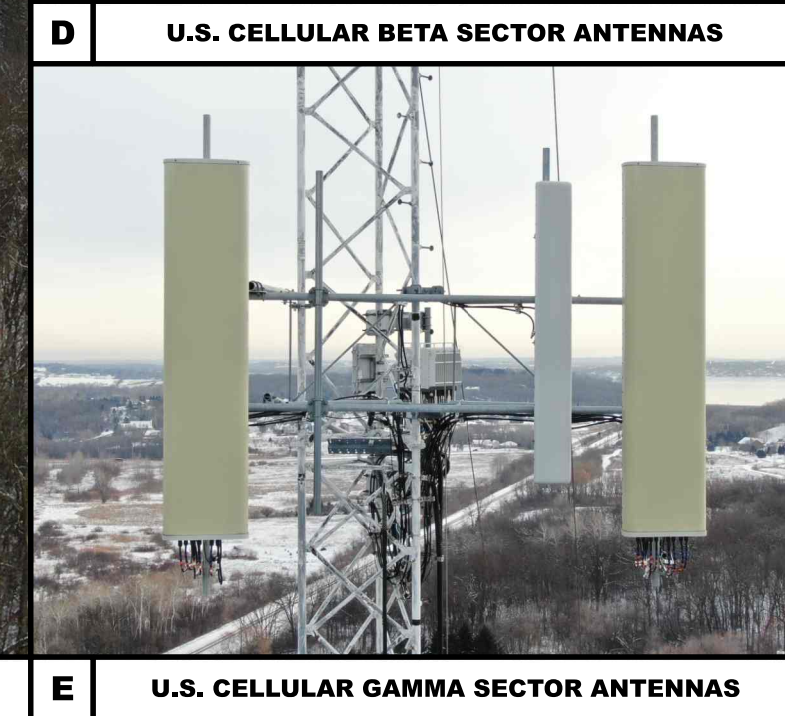
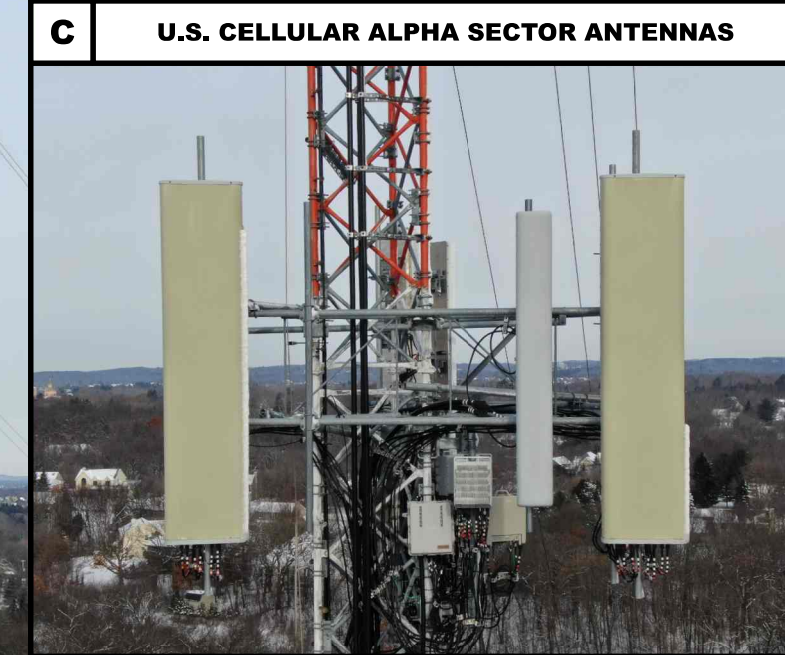
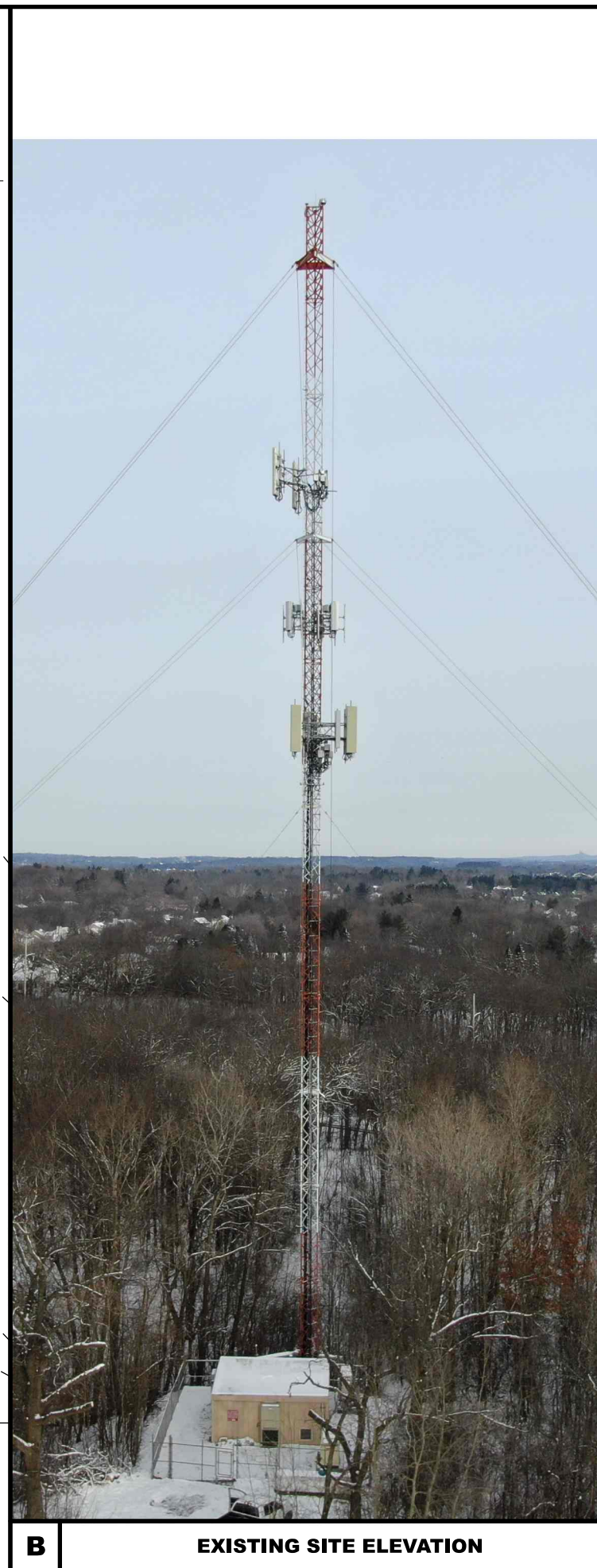
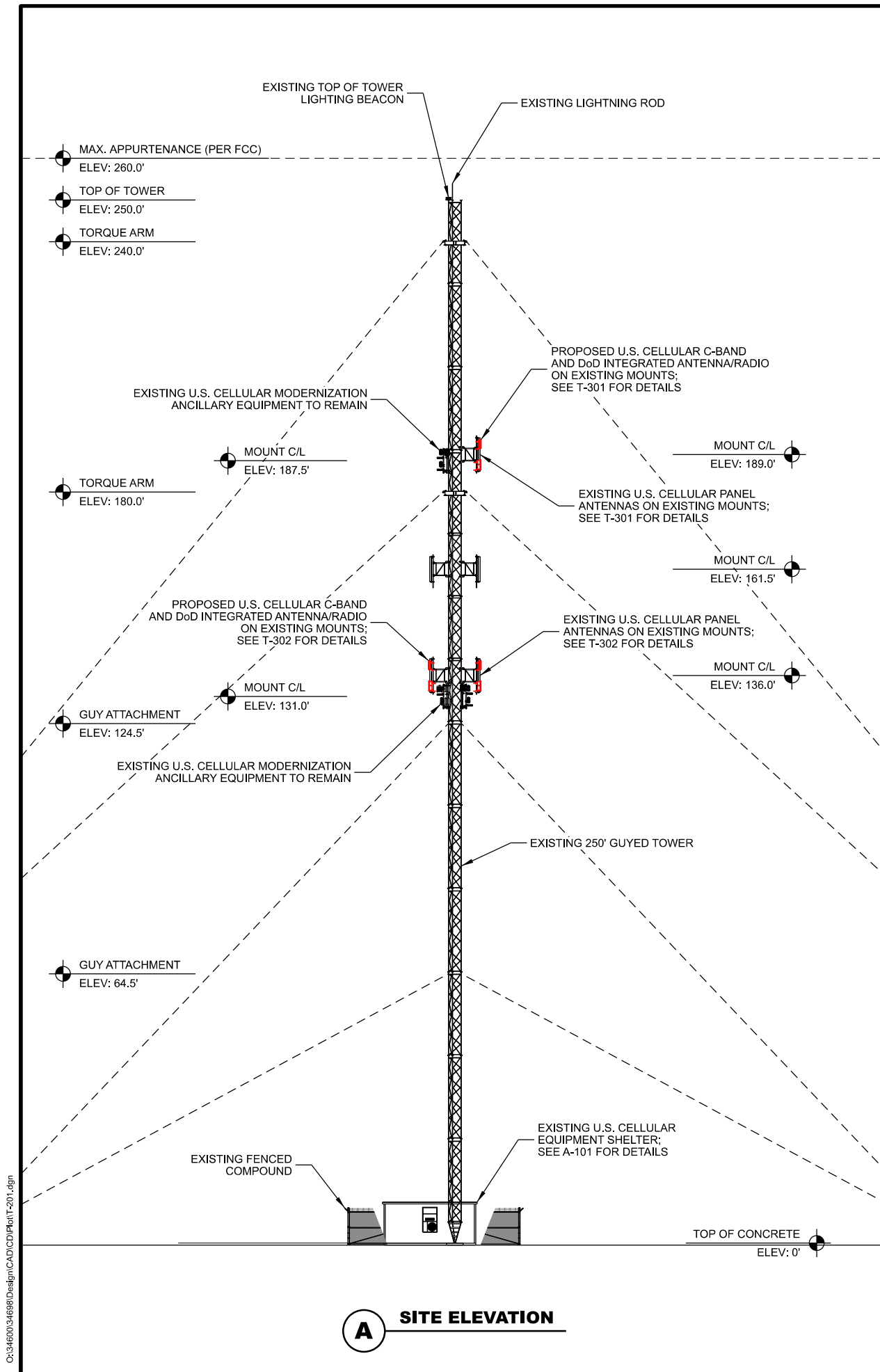
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EQUIPMENT SPECIFICATIONS  
 DELAFIELD (784310)  
 PEWAUKEE, WISCONSIN

SUBMITTAL:

INT.	DATE	DESCRIPTION:
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PLOT DATE	6/20/2023
PROJECT NUMBER	34698
SET TYPE	FINAL
SHEET NUMBER	<b>T-001</b>



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:  
**uscellular**  
 U.S. CELLULAR  
 8410 W. BRYN MAWR AVE.  
 SUITE 700  
 CHICAGO, IL 60631

ENGINEER SEAL:  

 - APPROVED -  
 SEE C-001 FOR ENGINEER'S  
 STAMP AND SIGNATURE

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 WISCONSIN.

**SITE ELEVATION**  
**DELAFIELD (784310)**  
**PEWAUKEE, WISCONSIN**

SUBMITTAL:

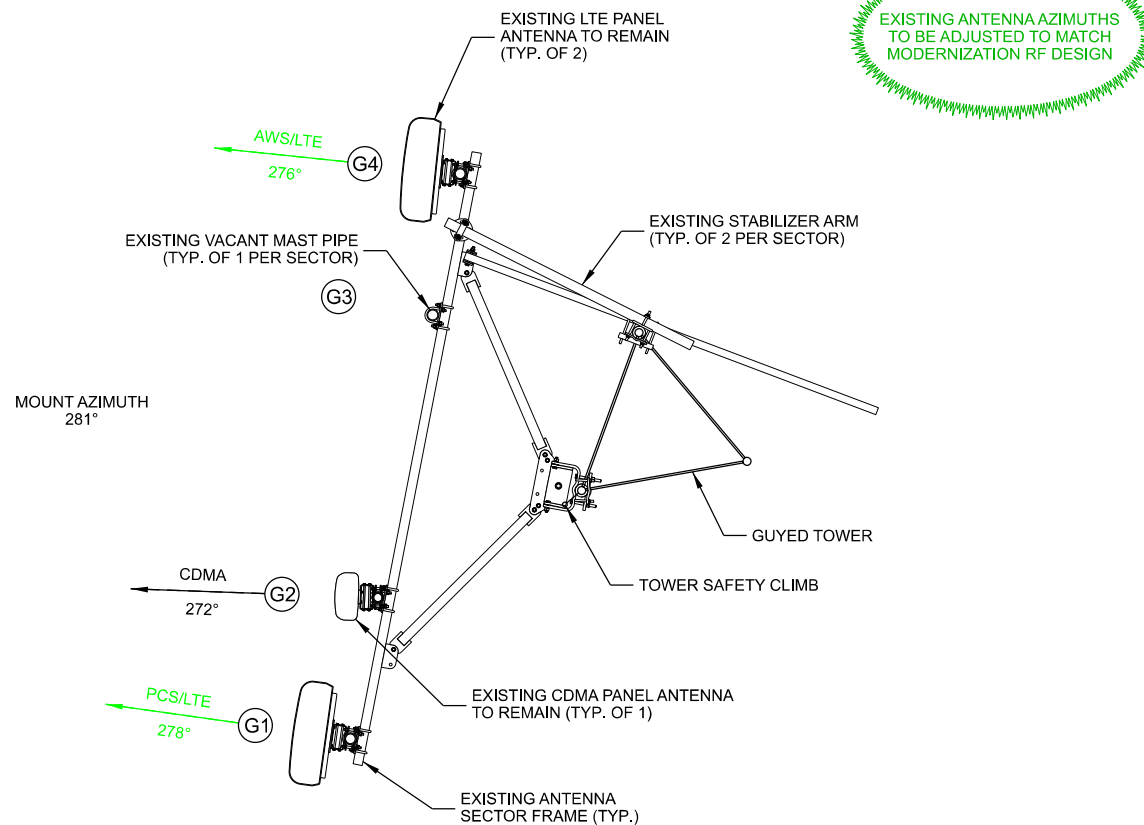
INT.	DATE	DESCRIPTION:
JSM	05/23/23	REV. A
JSM	06/07/23	REV. B
JSM	06/20/23	REV. 0

CHECKED BY	PCM
PLOT DATE	6/20/2023
PROJECT NUMBER	34698
SET TYPE	FINAL
SHEET NUMBER	<b>T-201</b>

C:\34698\34698\Design\CAD\CAD\Plot\T-201.dgn



NORTH



	Antenna Position	Technology	Antenna Model	Antenna Quantity	RAD Center	Azimuth	Surge Protector Qty.	B71/B12 Radio	Radio Qty.	B2/B4 Radio Qty.	B5 Radio Qty.	Cable Type	Cable Qty.
GAMMA	G1	PCS/LTE	Amphenol TWIN6510LU000G-T	1	189'	278°	1	RRU4449	1	RRU8843	1	1-1/4" Hybrid	1
	G2	CDMA	Antel BXA-70063-8CF-EDIN	1	189'	272°	-	-	-	-	-	1-5/8" Coax	2
	G3	-	-	-	-	-	-	-	-	-	-	-	-
	G4	AWS/LTE	Amphenol TWIN6510LU000G-T	1	189'	276°	Shared	-	-	Shared	-	RRU11	1
Total:				3			1		1	1			3

Black Text = Existing Green Text = To Be Rotated

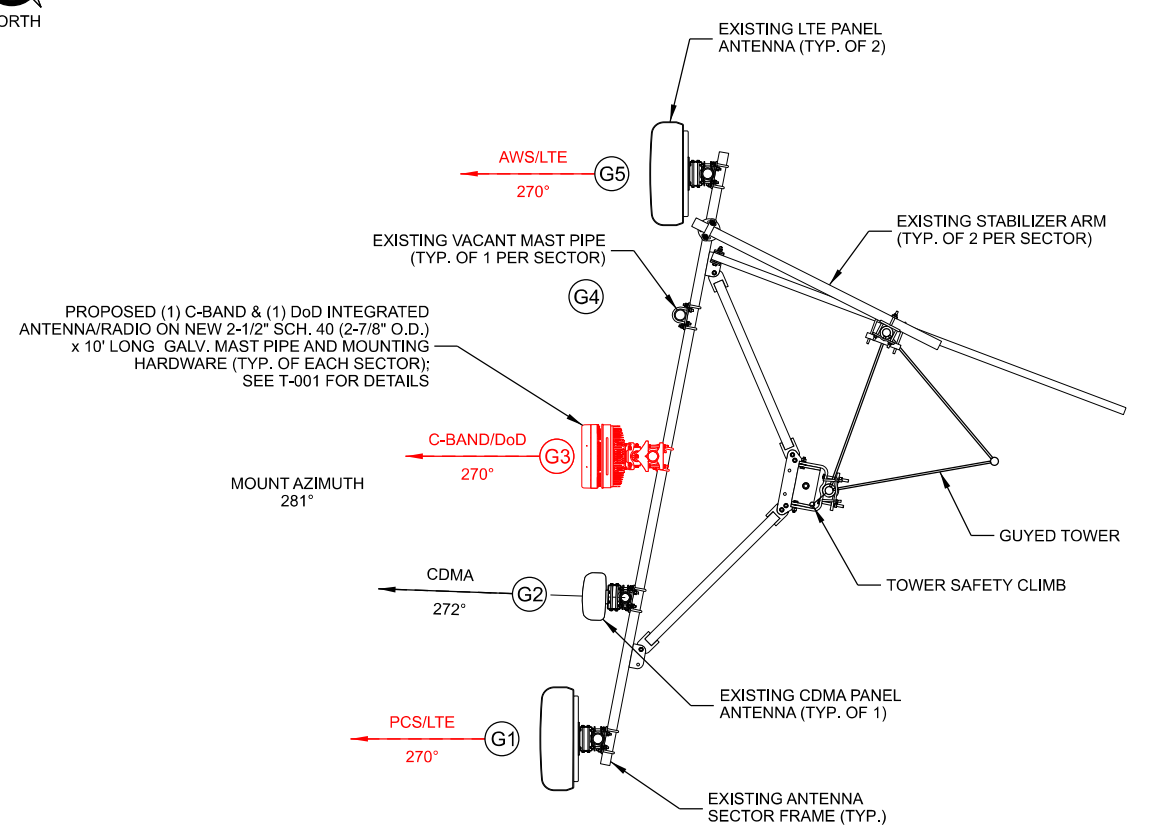
AX110-SS

NOTES:  
1. ALL ANTENNA AZIMUTHS TO BE FROM TRUE NORTH.

**A EXISTING ANTENNA LAYOUT**  
SCALE: 11" x 17" - 1/4" = 1'-0"  
22" x 34" - 1/2" = 1'-0"



NORTH



	Antenna Position	Technology	Antenna Model	Antenna Quantity	RAD Center	Azimuth	Surge Protector Qty.	B71/B12 Radio	Radio Qty.	B2/B4 Radio Qty.	B5 Radio Qty.	Cable Type	Cable Qty.	
GAMMA	G1	PCS/LTE	Amphenol TWIN6510LU000G-T	1	189'	270°	1	RRU4449	1	RRU8843	1	1-1/4" Hybrid	1	
	G2	CDMA	Antel BXA-70063-8CF-EDIN	1	189'	272°	-	-	-	-	-	1-5/8" Coax	2	
	G3	C-BAND	Integrated Antenna/Radio	-	191.5'	270°	Shared	-	-	-	-	AIR6449	1	Shared
		DoD	Integrated Antenna/Radio	-	186.5'	270°	Shared	-	-	-	-	AIR6419	1	Shared
	G5	AWS/LTE	Amphenol TWIN6510LU000G-T	1	189'	270°	Shared	-	-	Shared	-	RRU11	1	Shared
Total:				3			1		1	1			3	

Black Text = Existing Red Text = Proposed

AX110-SS - (C-BAND) - DoD

NOTES:  
1. ALL ANTENNA AZIMUTHS TO BE FROM TRUE NORTH.

**B PROPOSED ANTENNA LAYOUT**  
SCALE: 11" x 17" - 1/4" = 1'-0"  
22" x 34" - 1/2" = 1'-0"

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SUITE 700  
CHICAGO, IL 60631

ENGINEER SEAL:  
**APPROVED**  
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**ANTENNA CONFIGURATION @ 189.0'**  
**DELAFIELD (784310)**  
**PEWAUKEE, WISCONSIN**

SUBMITTAL:

INT.	DATE	DESCRIPTION
JSM	05/23/23	REV. A
JSM	06/07/23	REV. B
JSM	06/20/23	REV. 0

CHECKED BY	PCM
PLOT DATE	6/20/2023
PROJECT NUMBER	34698
SET TYPE	FINAL
SHEET NUMBER	<b>T-301</b>

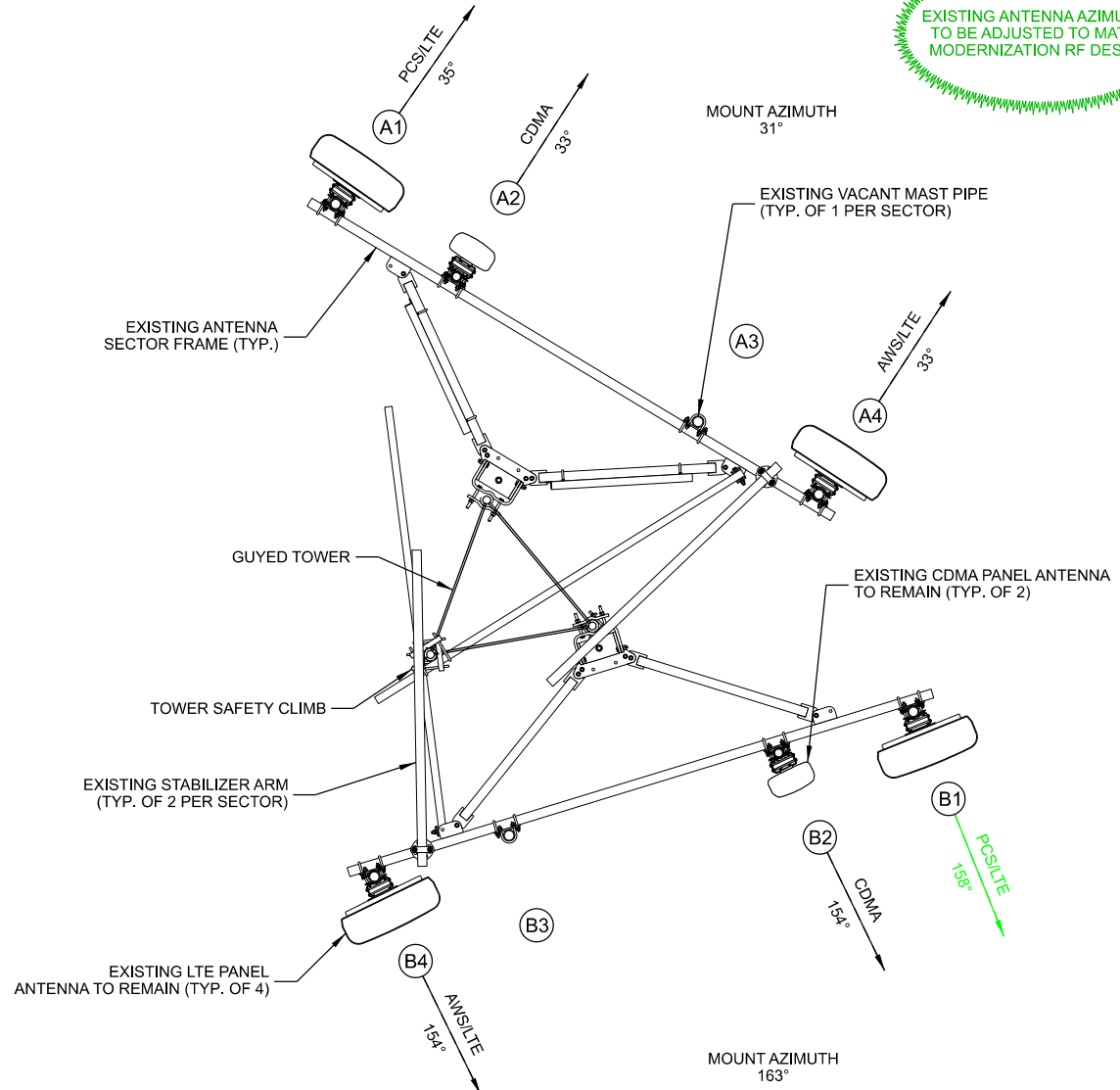
C:\3460\34698\Design\CAD\CDD\PlatT-301.dgn





NORTH

EXISTING ANTENNA AZIMUTHS TO BE ADJUSTED TO MATCH MODERNIZATION RF DESIGN



Antenna Position	Technology	Antenna Model	Antenna Qty.	RAD Center	Azimuth	Surge Protector Qty.	B71/B12 Radio	Radio Qty.	B2/B4 Radio	Radio Qty.	B5 Radio	Radio Qty.	Cable Type	Cable Qty.
ALPHA	A1	PCS/LTE	Amphenol TWIN6510LU000G-T	1	136'	35°	1	RRU4449	1	RRU8843	1	-	1-1/4" Hybrid	1
	A2	CDMA	Antel BXA-70063-8CF-EDIN	1	136'	33°	-	-	-	-	-	-	1-5/8" Coax	2
	A3	-	-	-	-	-	-	-	-	-	-	-	-	-
	A4	AWS/LTE	Amphenol TWIN6510LU000G-T	1	136'	33°	Shared	-	-	Shared	-	RRU11	1	Shared
BETA	B1	PCS/LTE	Amphenol TWIN6510LU000G-T	1	136'	158°	1	RRU4449	1	RRU8843	1	-	1-1/4" Hybrid	1
	B2	CDMA	Antel BXA-70063-8CF-EDIN	1	136'	154°	-	-	-	-	-	-	1-5/8" Coax	2
	B3	-	-	-	-	-	-	-	-	-	-	-	-	-
	B4	AWS/LTE	Amphenol TWIN6510LU000G-T	1	136'	154°	Shared	-	-	Shared	-	RRU11	1	Shared
<b>Total:</b>														

Black Text = Existing Green Text = To Be Rotated

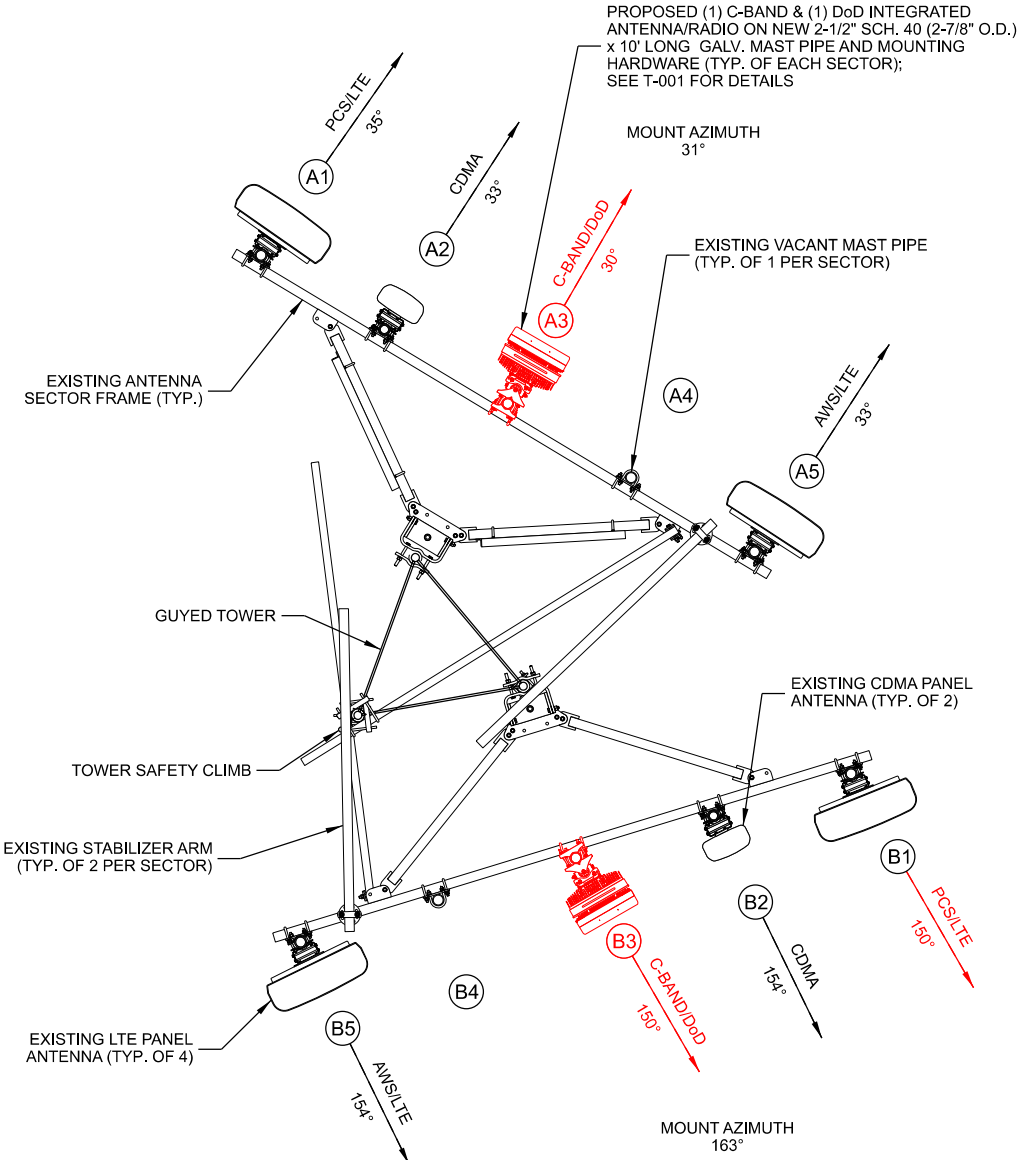
AX110-SS

NOTES:  
1. ALL ANTENNA AZIMUTHS TO BE FROM TRUE NORTH.

**A** EXISTING ANTENNA LAYOUT  
SCALE: 11" x 17" - 1/4" = 1'-0"  
22" x 34" - 1/2" = 1'-0"



NORTH



Antenna Position	Technology	Antenna Model	Antenna Qty.	RAD Center	Azimuth	Surge Protector Qty.	B71/B12 Radio	Radio Qty.	B2/B4 Radio	Radio Qty.	B5 Radio	Radio Qty.	C-Band & DoD Radio	Filter Qty.	Cable Type	Cable Qty.
ALPHA	A1	PCS/LTE	Amphenol TWIN6510LU000G-T	1	136'	35°	1	RRU4449	1	RRU8843	1	-	-	-	1-1/4" Hybrid	1
	A2	CDMA	Antel BXA-70063-8CF-EDIN	1	136'	33°	-	-	-	-	-	-	-	-	1-5/8" Coax	2
	A3	C-BAND	Integrated Antenna/Radio	-	138.5'	30°	Shared	-	-	-	-	-	AIR6449	1	Shared	-
	A3	DoD	Integrated Antenna/Radio	-	133.5'	30°	Shared	-	-	-	-	-	AIR6419	1	Shared	-
	A4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A5	AWS/LTE	Amphenol TWIN6510LU000G-T	1	136'	33°	Shared	-	-	Shared	-	RRU11	1	-	-	Shared	-
BETA	B1	PCS/LTE	Amphenol TWIN6510LU000G-T	1	136'	150°	1	RRU4449	1	RRU8843	1	-	-	-	1-1/4" Hybrid	1
	B2	CDMA	Antel BXA-70063-8CF-EDIN	1	136'	154°	-	-	-	-	-	-	-	-	1-5/8" Coax	2
	B3	C-BAND	Integrated Antenna/Radio	-	138.5'	150°	Shared	-	-	-	-	-	AIR6449	1	Shared	-
	B3	DoD	Integrated Antenna/Radio	-	133.5'	150°	Shared	-	-	-	-	-	AIR6419	1	Shared	-
	B4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B5	AWS/LTE	Amphenol TWIN6510LU000G-T	1	136'	154°	Shared	-	-	Shared	-	RRU11	1	-	-	Shared	-
<b>Total:</b>																

Black Text = Existing Red Text = Proposed

AX110-SS - (C-BAND) - DoD

NOTES:  
1. ALL ANTENNA AZIMUTHS TO BE FROM TRUE NORTH.

**B** PROPOSED ANTENNA LAYOUT  
SCALE: 11" x 17" - 1/4" = 1'-0"  
22" x 34" - 1/2" = 1'-0"

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CHICAGO, IL 60631

ENGINEER SEAL:  
**- APPROVED -**  
SEE G-001 FOR ENGINEER'S STAMP AND SIGNATURE

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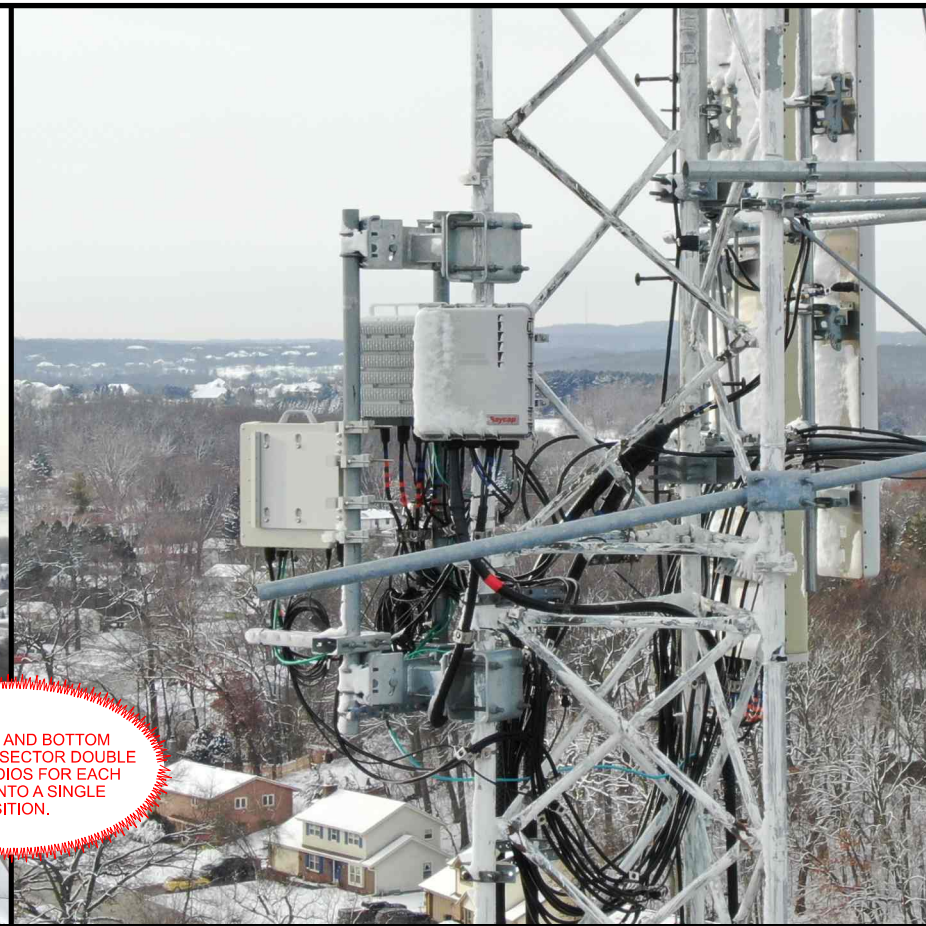
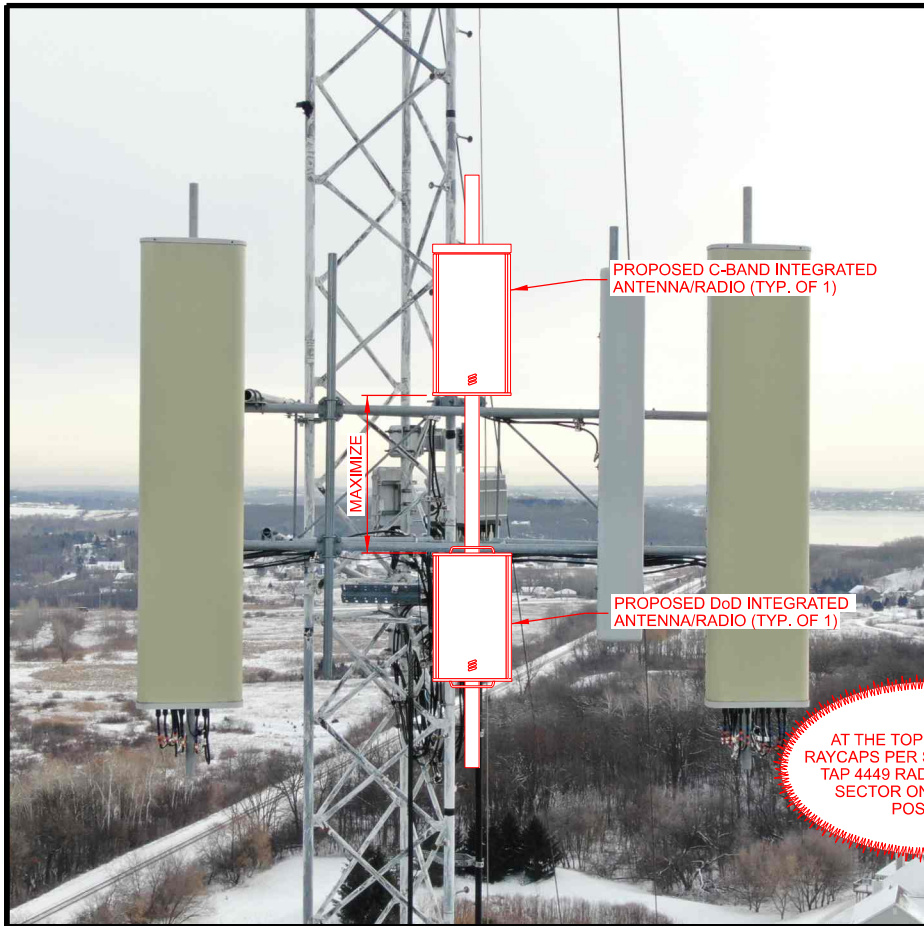
**ANTENNA CONFIGURATION @ 136.0'**  
**DELAFIELD (784310)**  
**PEWAUKEE, WISCONSIN**

SUBMITTAL:

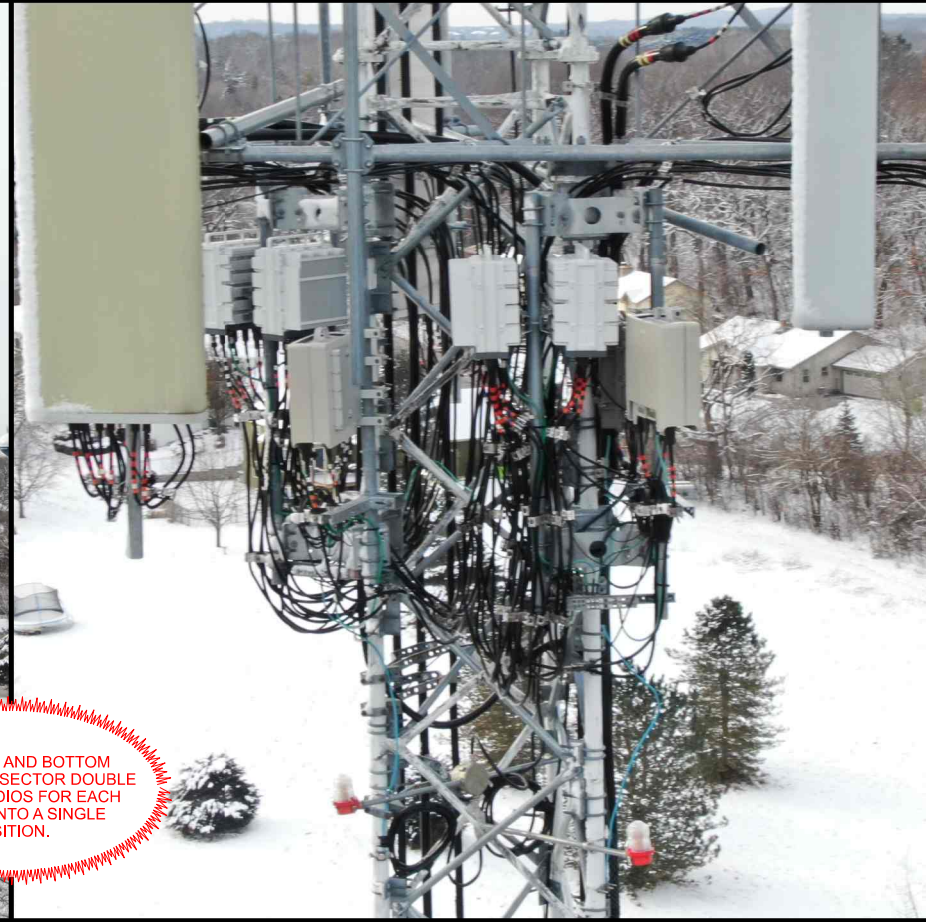
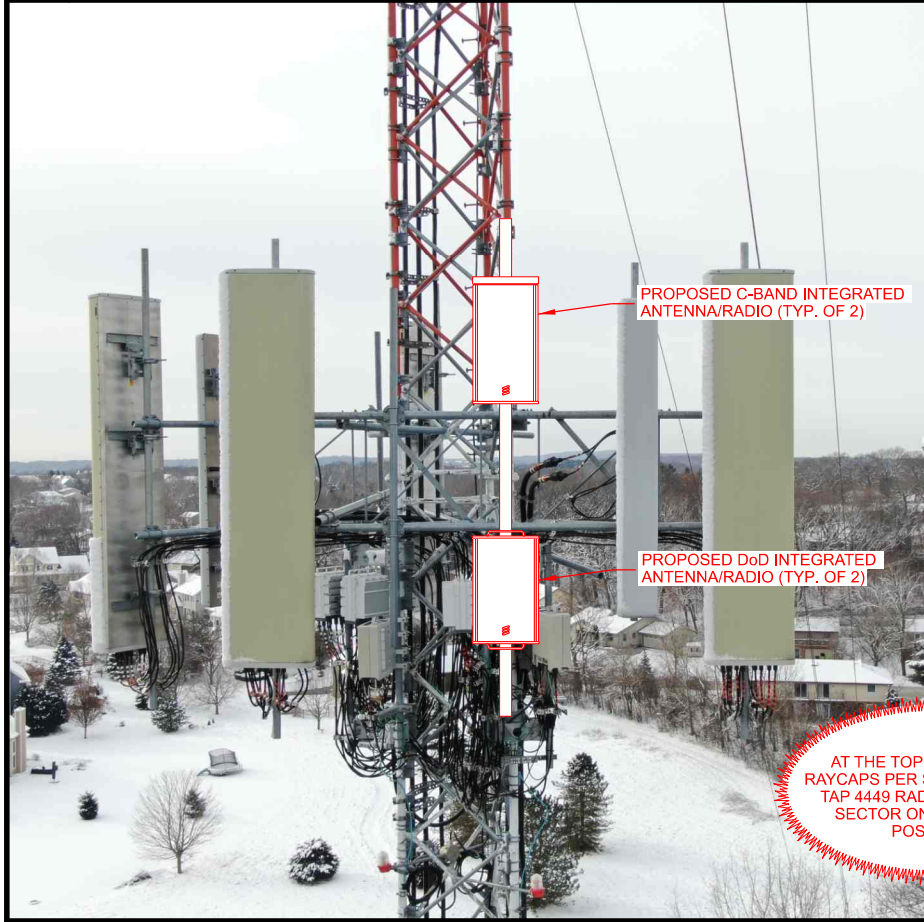
INT.	DATE:	DESCRIPTION:
JSM	05/23/23	REV. A
JSM	06/07/23	REV. B
JSM	06/20/23	REV. 0

CHECKED BY: PCM  
PLOT DATE: 6/20/2023  
PROJECT NUMBER: 34698  
SET TYPE: FINAL  
SHEET NUMBER: **T-302**

C:\34698\Design\CAD\CDD\Plan\T-302.dgn



**A** PROPOSED INSTALLATION @ 189.0'



**C** PROPOSED INSTALLATION @ 136.0'

**MANUFACTURER:** SABRE  
**MODEL:** VARIES (SEE TABLE TO RIGHT)

USED TO ATTACH ROUND MEMBERS PERPENDICULAR TO OTHER ROUND MEMBERS.

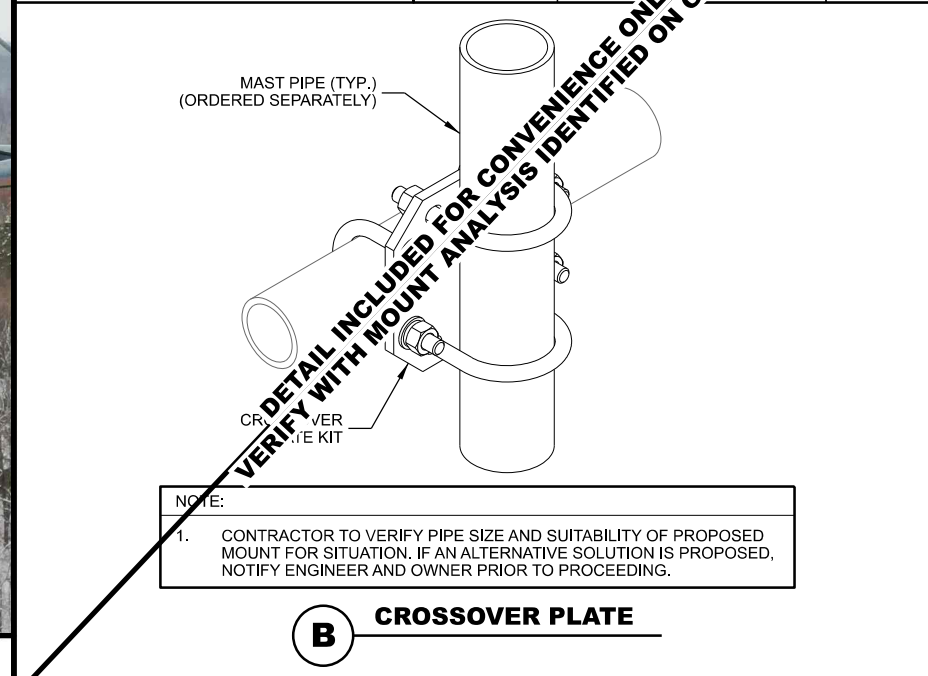
EACH KIT INCLUDES ONE (1) PLATE AND FOUR (4) U-BOLT ASSEMBLIES.

ASSEMBLY HARDWARE INCLUDED

MOUNTING PIPES SOLD SEPARATELY

SUPPLIED BY GENERAL CONTRACTOR

PART #	PIPE SIZE	PIPE SIZE	HARDWARE
C10902021	1.9" O.D.	2-3/8" O.D.	1/2"
C10902011DP	2-3/8" O.D.	2-3/8" O.D.	1/2"
C10902001DP	2-3/8" O.D.	2-3/8" O.D.	5/8"
C10902012DP	2-3/8" O.D.	2-7/8" O.D.	1/2"
C10902002DP	2-3/8" O.D.	2-7/8" O.D.	5/8"
C10902013DP	2-3/8" O.D.	3-1/2" O.D.	1/2"
C10902003DP	2-3/8" O.D.	3-1/2" O.D.	5/8"
C10902004DP	2-3/8" O.D.	3-1/2" O.D.	5/8"
C10902331DP	2" O.D.	2-3/8" O.D.	5/8"



**B** CROSSOVER PLATE

**MANUFACTURER:** SITE PRO 1  
**MODEL:** CWT8

LEG DIAMETER 1-1/2" TO 4-1/2" OR 3" ANGLE LEGS

ACCEPTS 2-3/8", 2-7/8", OR 3-1/2" O.D. PIPES

PURCHASE MAST PIPES SEPARATELY

AS NEEDED

**MANUFACTURER:** SITE PRO 1  
**MODEL:** CWT8-LL

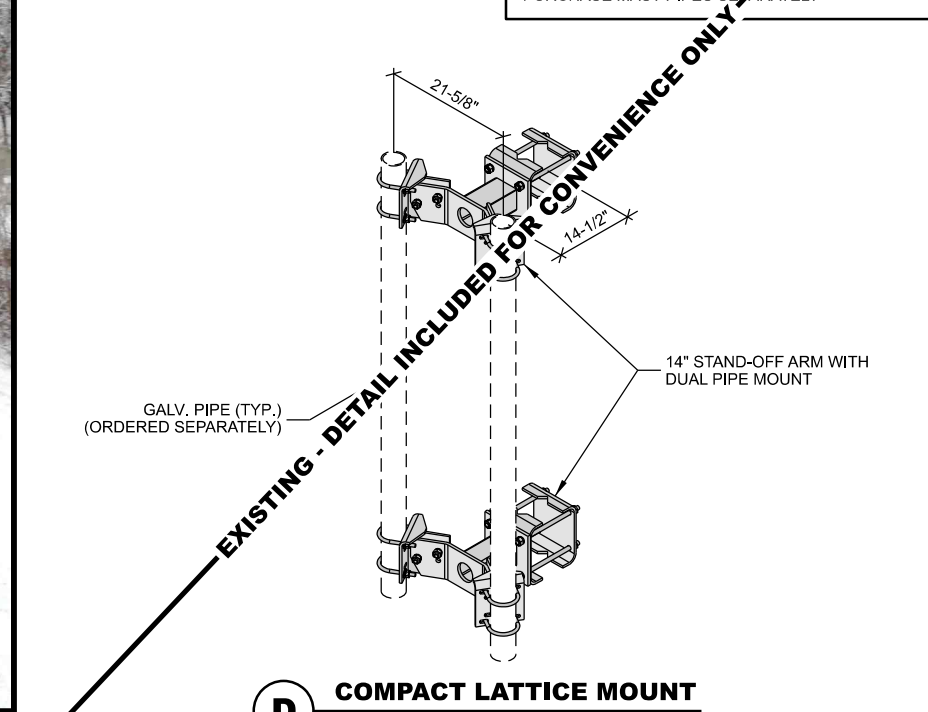
LEG DIAMETER

ROUND LEGS: 2-1/2" TO 10-3/4"

ANGLED LEGS: 2" TO 8"

ACCEPTS 2-3/8", 2-7/8", OR 3-1/2" O.D. PIPES

PURCHASE MAST PIPES SEPARATELY



**D** COMPACT LATTICE MOUNT

**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:**

**uscellular**  
U.S. CELLULAR  
8410 W. BRYN MAWR AVE.  
SUITE 700  
CHICAGO, IL 60631

**ENGINEER SEAL:**

**APPROVED**  
SEE G-001 FOR ENGINEER'S  
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**INSTALLATION DETAILS**  
**DELAFIELD (784310)**  
**PEWAUKEE, WISCONSIN**

**SUBMITTAL:**

INT.	DATE	DESCRIPTION:
JSM	05/23/23	REV. A
JSM	06/07/23	REV. B
JSM	06/20/23	REV. 0

CHECKED BY	PCM
PLOT DATE	6/20/2023
PROJECT NUMBER	34698
SET TYPE	FINAL
SHEET NUMBER	<b>T-501</b>

EUPEN CABLE LENGTH	
EXISTING HYBRID CABLE QUANTITY	3

E// C-Band JUMPER CABLE INFO			
FIBER JUMPER: RAYCAP SPD TO ANTENNA/RADIO (C-Band)			
	QUANTITY	LENGTH	
ALPHA	1	32.8 FT	10 m
BETA	1	32.8 FT	10 m
GAMMA	1	32.8 FT	10 m

ALL SECTORS MUST HAVE THE SAME JUMPER LENGTHS

E// DoD JUMPER CABLE INFO			
FIBER JUMPER: RAYCAP SPD TO ANTENNA/RADIO (DoD)			
	QUANTITY	LENGTH	
ALPHA	1	32.8 FT	10 m
BETA	1	32.8 FT	10 m
GAMMA	1	32.8 FT	10 m

ALL SECTORS MUST HAVE THE SAME JUMPER LENGTHS

**A HIGH BAND CABLE LENGTHS**

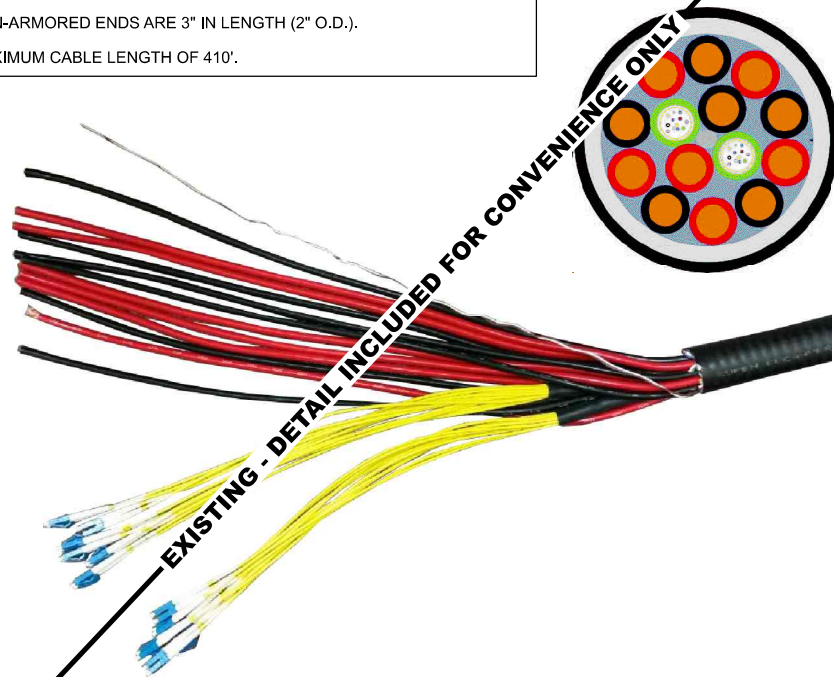
MANUFACTURER: EUPEN  
 MODEL: EUCAHYBRID 114-12AWG6  
 MINIMUM BENDING RADIUS: 360mm (14")  
 MAXIMUM PULLING STRENGTH: 150 daN  
 MAXIMUM HANGER SPACING: 1.0 m  
 APPROX. WEIGHT: 2300 kg/km (1.55 LB/FT)

1-1/4" HYBRID FIBER OPTIC CABLE WITH 48V ENERGY FEEDER IN CORRUGATED ALUMINUM SHIELDING WITH UV RESISTANT PE JACKET.

SHIPPED WITH 4' PROTECTED JACKET (2.25" O.D.) AT EACH END.

NON-ARMORED ENDS ARE 3" IN LENGTH (2" O.D.).

MAXIMUM CABLE LENGTH OF 410'.



**B EUPEN HYBRID CABLE**

UNIVERSAL STANDOFF KIT, SITE PRO 1 PART # STK2-U OR APPROVED EQUIVALENT

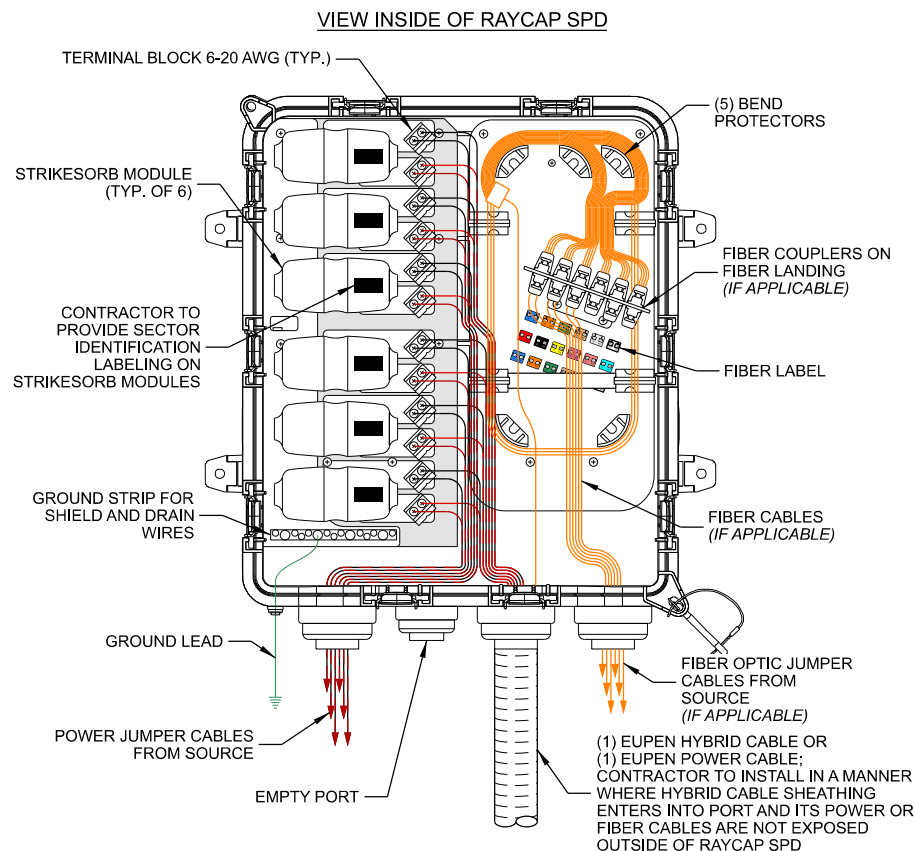


7/8" STACKABLE SNAP-IN HANGER, SITE PRO 1 PART # 78SS-A OR APPROVED EQUIVALENT

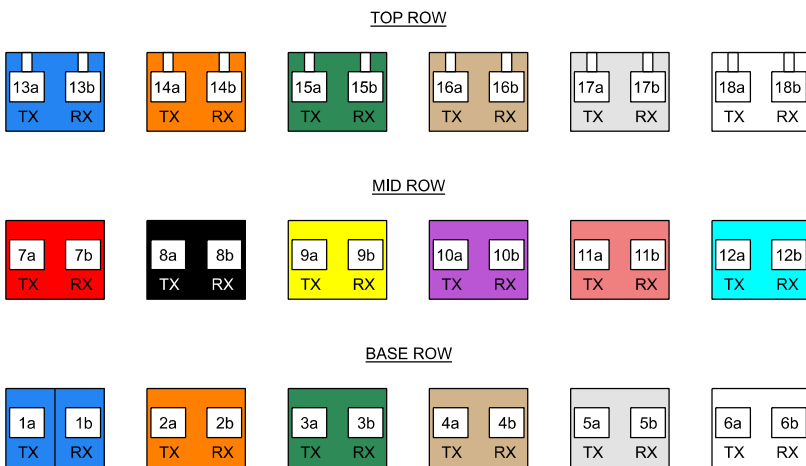
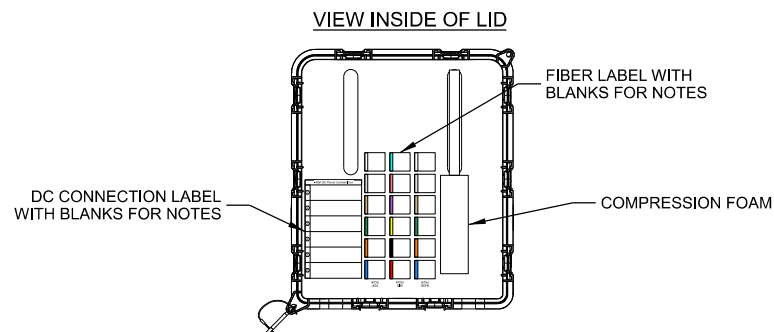


UNIVERSAL BARREL CUSHIONS, SITEPRO1 PART # BCU78X; ACCEPTS 0.16" TO 0.55" O.D. CABLES; MATING HANGER SIZE 7/8"

**C JUMPER ATTACHMENT**



**D RAYCAP SURGE PROTECTOR DEVICE (SPD) CABLING**



**E FIBER LABEL**

THIS SPACE INTENTIONALLY LEFT BLANK

MANUFACTURER: SITE PRO 1  
 MODEL: STK2-U  
 UNIVERSAL TOWER STANDOFF KIT FITS 1-1/2" DIA. TO 3" DIA. ROUND MEMBERS

MODEL: 78SS-A  
 7/8" STACKABLE SNAP-IN HANGER

MODEL: BCU78X  
 UNIVERSAL BARREL CUSHION ACCEPTS 0.16" TO 0.55" O.D. CABLES  
 7/8" MATING HANGER

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ENGINEER SEAL:  
 - APPROVED -  
 SEE G-001 FOR ENGINEER'S  
 STAMP AND SIGNATURE

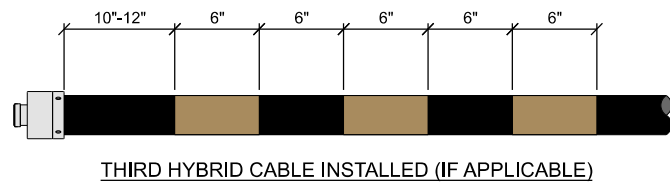
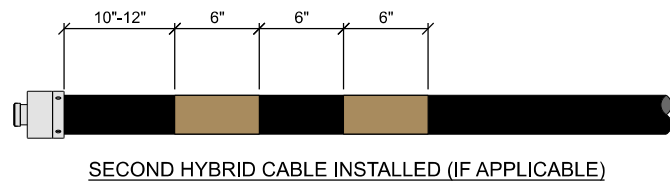
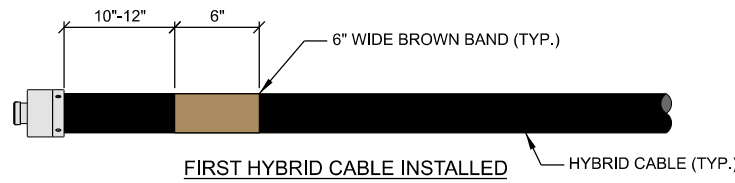
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**CABLE DETAILS**  
 DELAFIELD (784310)  
 PEWAUKEE, WISCONSIN

SUBMITTAL:

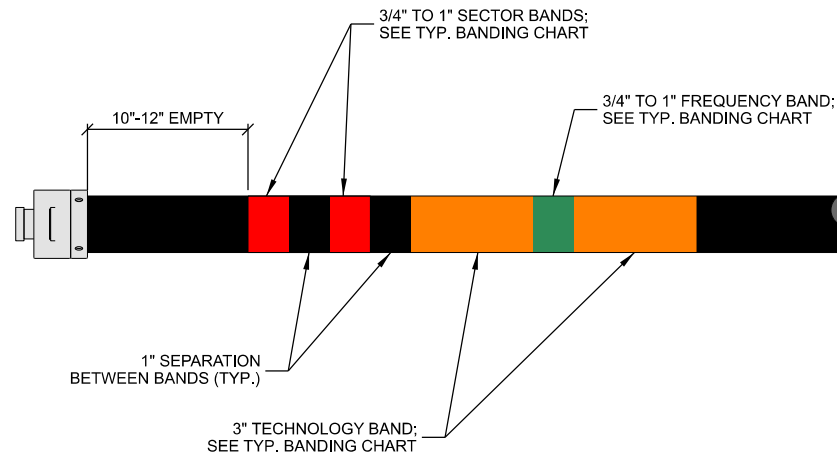
INT.	DATE	DESCRIPTION:
JSM	05/23/23	REV. A
JSM	06/07/23	REV. B
JSM	06/20/23	REV. 0

CHECKED BY	PCM
PLOT DATE	6/20/2023
PROJECT NUMBER	34698
SET TYPE	FINAL
SHEET NUMBER	<b>T-502</b>

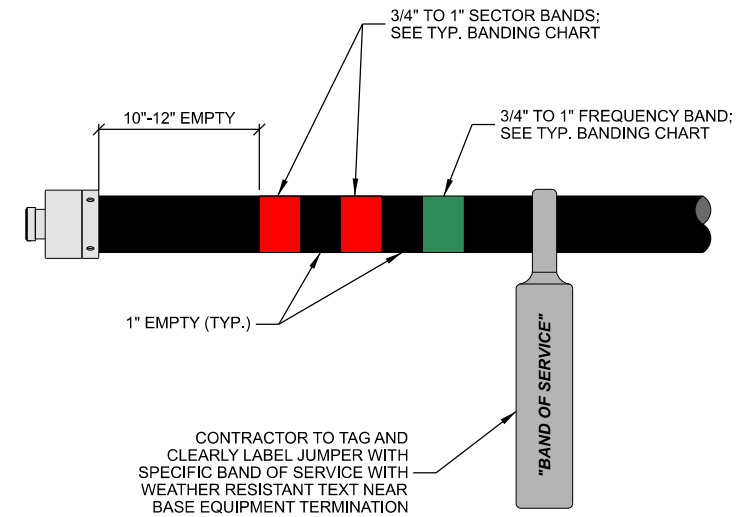


- NOTES:**
1. AT THE TOP OF THE TOWER/BUILDING/WATER TOWER AND AT THE ENTRY POINT OF THE GROUND LEVEL JUNCTION BOX, HYBRID CABLES MUST BE Banded IN ACCORDANCE TO THE ILLUSTRATION ABOVE.
  2. REFER TO LATEST EDITION OF U.S. CELLULAR STANDARD: STD72 TO VERIFY CURRENT COLOR CODING

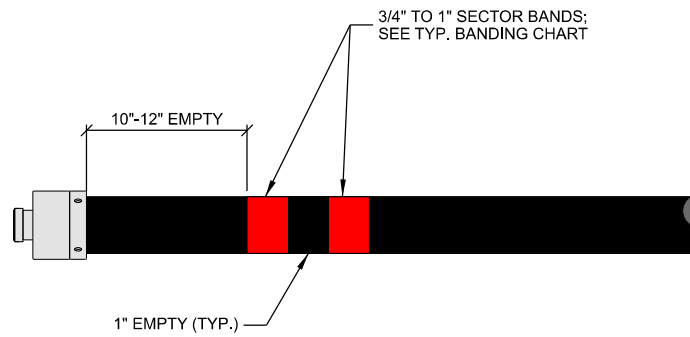
**A TYP. HYBRID COLOR CODE**



**B TYP. COAX JUMPER BANDING**



**C TYP. POWER & FIBER JUMPER BANDING**



RET SECTOR BAND			
SECTOR	ASSIGNED COLOR	LINE 1	LINE 2
ALPHA	RED	(1) RED BAND	(2) RED BANDS
BETA	WHITE	(1) WHITE BAND	(2) WHITE BANDS
GAMMA	BLUE	(1) BLUE BAND	(2) BLUE BANDS

**D TYP. RET CABLE BANDING**

SECTOR BAND (MOST COMMON CASE: SINGLE TECHNOLOGY WITHIN THE SECTOR)					
SECTOR	ASSIGNED COLOR	LINE 1	LINE 2	LINE 3	LINE 4
ALPHA	RED	(1) RED BAND	(2) RED BANDS	(3) RED BANDS	(4) RED BANDS
BETA	WHITE	(1) WHITE BAND	(2) WHITE BANDS	(3) WHITE BANDS	(4) WHITE BANDS
GAMMA	BLUE	(1) BLUE BAND	(2) BLUE BANDS	(3) BLUE BANDS	(4) BLUE BANDS
DELTA (IF APPLICABLE)	GREEN	(1) GREEN BAND	(2) GREEN BANDS	(3) GREEN BANDS	(4) GREEN BANDS
EPSILON (IF APPLICABLE)	VIOLET	(1) VIOLET BAND	(2) VIOLET BANDS	(3) VIOLET BANDS	(4) VIOLET BANDS
ZETA (IF APPLICABLE)	BROWN	(1) BROWN BAND	(2) BROWN BANDS	(3) BROWN BANDS	(4) BROWN BANDS

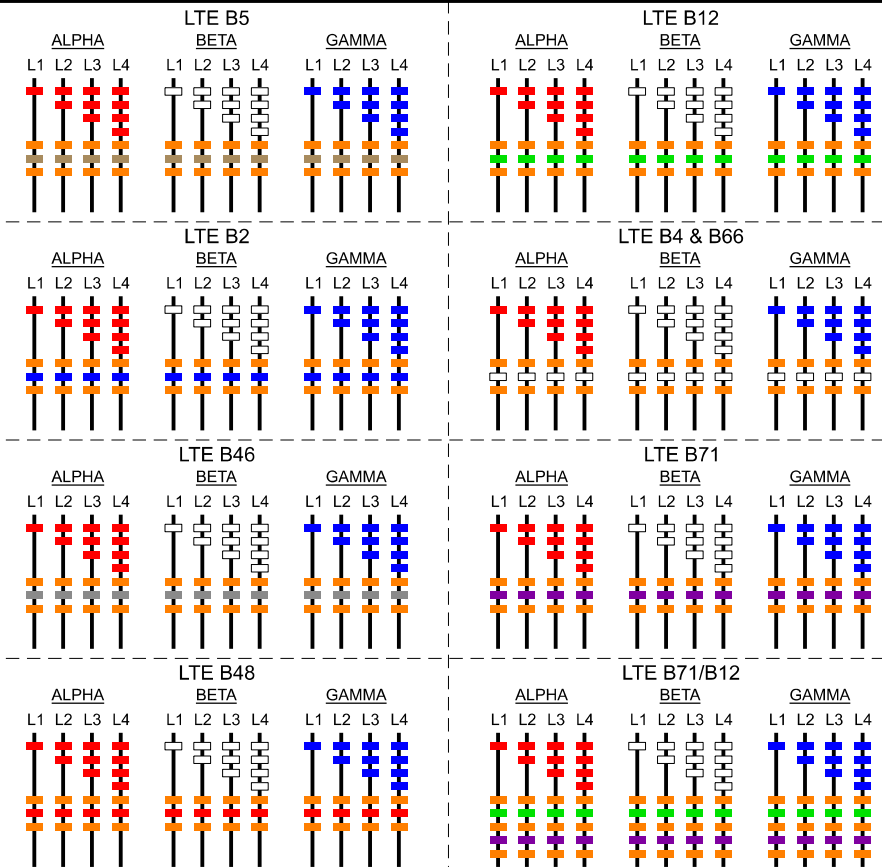
SECTOR BAND (EXCEPTION CASE: ALPHA SECTOR CDMA ON 1 & 4, LTE ON 2 & 3)					
SECTOR	ASSIGNED COLOR	LINE 1 (CDMA)	LINE 2 (LTE)	LINE 3 (LTE)	LINE 4 (CDMA)
ALPHA	RED	(1) RED BAND	(1) RED BAND	(2) RED BANDS	(2) RED BANDS

TECHNOLOGY BAND	
TECHNOLOGY	BANDING
CDMA	YELLOW
GSM	VIOLET
LTE	ORANGE

FREQUENCY BAND		
FREQUENCY	BAND	BANDING
600	B71	VIOLET
700	B12	GREEN
800/850	B5	BROWN
1900	B2	BLUE
2100	B4 & B66	WHITE
3500	B48 - CBRS	RED
5100	B46 - LAA	GREY

- NOTE:**
1. REFER TO LATEST EDITION OF U.S. CELLULAR STANDARD: STD72 TO VERIFY CURRENT COLOR CODING

**E TYP. BANDING CHART**



**F TYP. COAX COLOR CODE STANDARD**

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 608.644.1549 FAX  
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**uscellular**  
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 SUITE 700  
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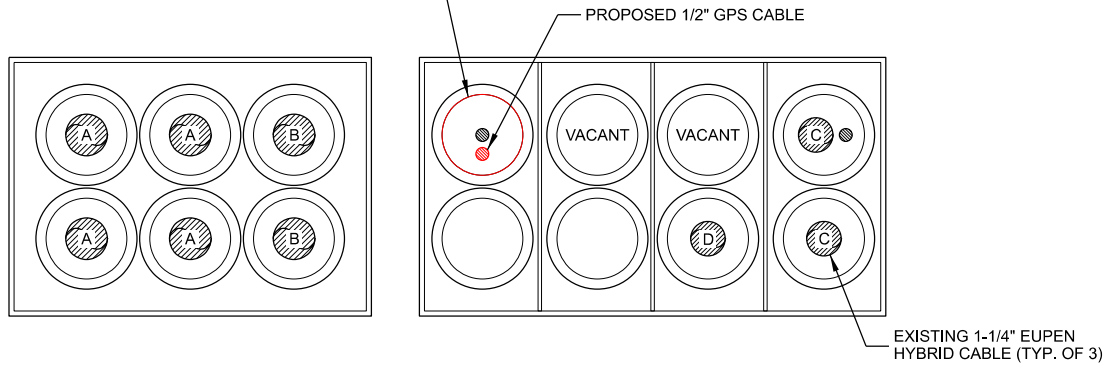
**CABLE BANDING DETAILS**  
**DELAFIELD (784310)**  
**PEWAUKEE, WISCONSIN**

**SUBMITTAL:**

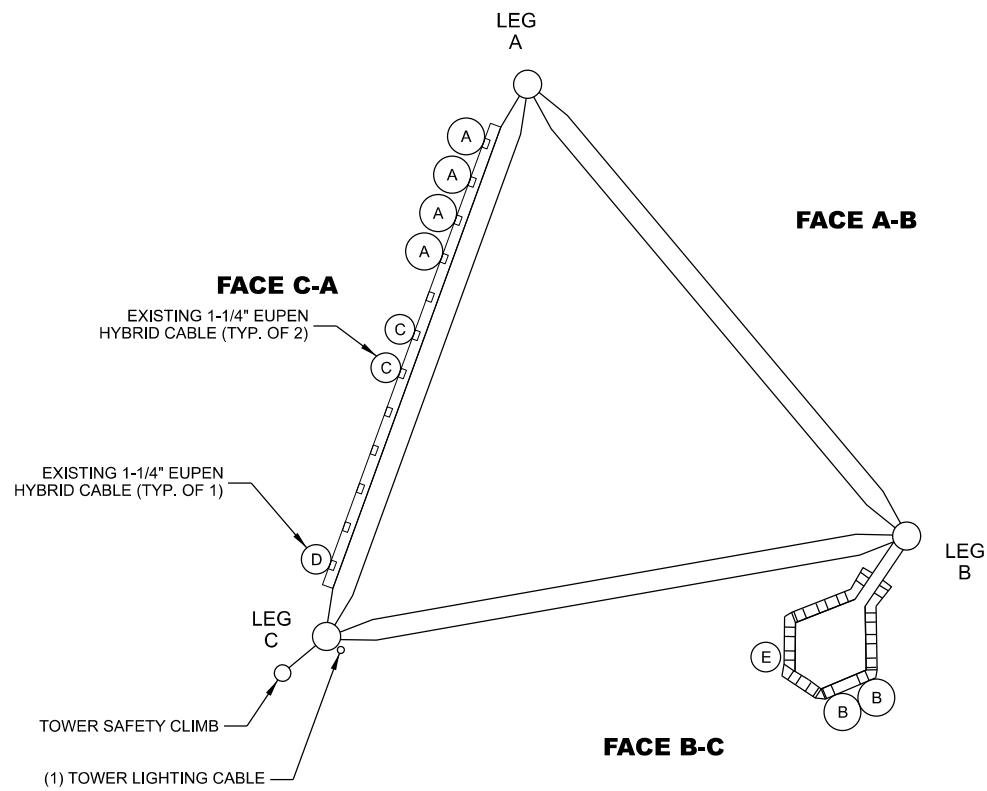
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JSM	06/07/23	REV. B
JSM	06/20/23	REV. 0

CHECKED BY:	PCM
PLOT DATE:	6/20/2023
PROJECT NUMBER:	34698
SET TYPE:	FINAL
SHEET NUMBER:	<b>T-503</b>

CONTRACTOR TO REPLACE CUSHION INSERTS AT PORTS OF DECOMMISSIONED LINES; SITE PRO 1 #: SRZERO OR APPROVED EQUAL



**A** PROPOSED SHELTER COAX PORT (INTERIOR VIEW)

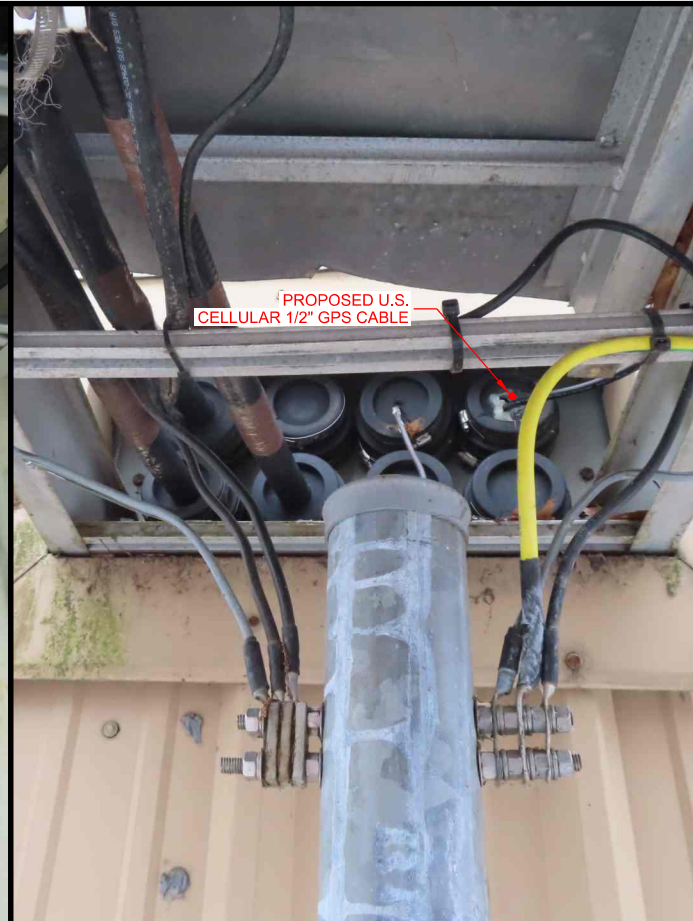


**B** PROPOSED TOWER CABLE LAYOUT

COAX SYMBOL	(#) SIZE	MOUNTING TYPE	CARRIER / OWNER	TECHNOLOGY	MOUNT HEIGHT
A	(4) 1-5/8"	SNAP-INS	U.S. CELLULAR	CDMA	136'
B	(2) 1-5/8"	SNAP-INS	U.S. CELLULAR	CDMA	189'
C	(2) 1-1/4"	SNAP-INS	U.S. CELLULAR	HYBRID	131'
D	(1) 1-1/4"	SNAP-INS	U.S. CELLULAR	HYBRID	187.5'
E	(1) 1.75"	SNAP-INS	DISH	HYBRID	161'



**C** SHELTER COAX PORT (SHELTER INTERIOR)



**D** SHELTER COAX PORT (SHELTER EXTERIOR)



**E** ICE BRIDGE HANGER



**F** CABLE ROUTING UP TOWER FACE

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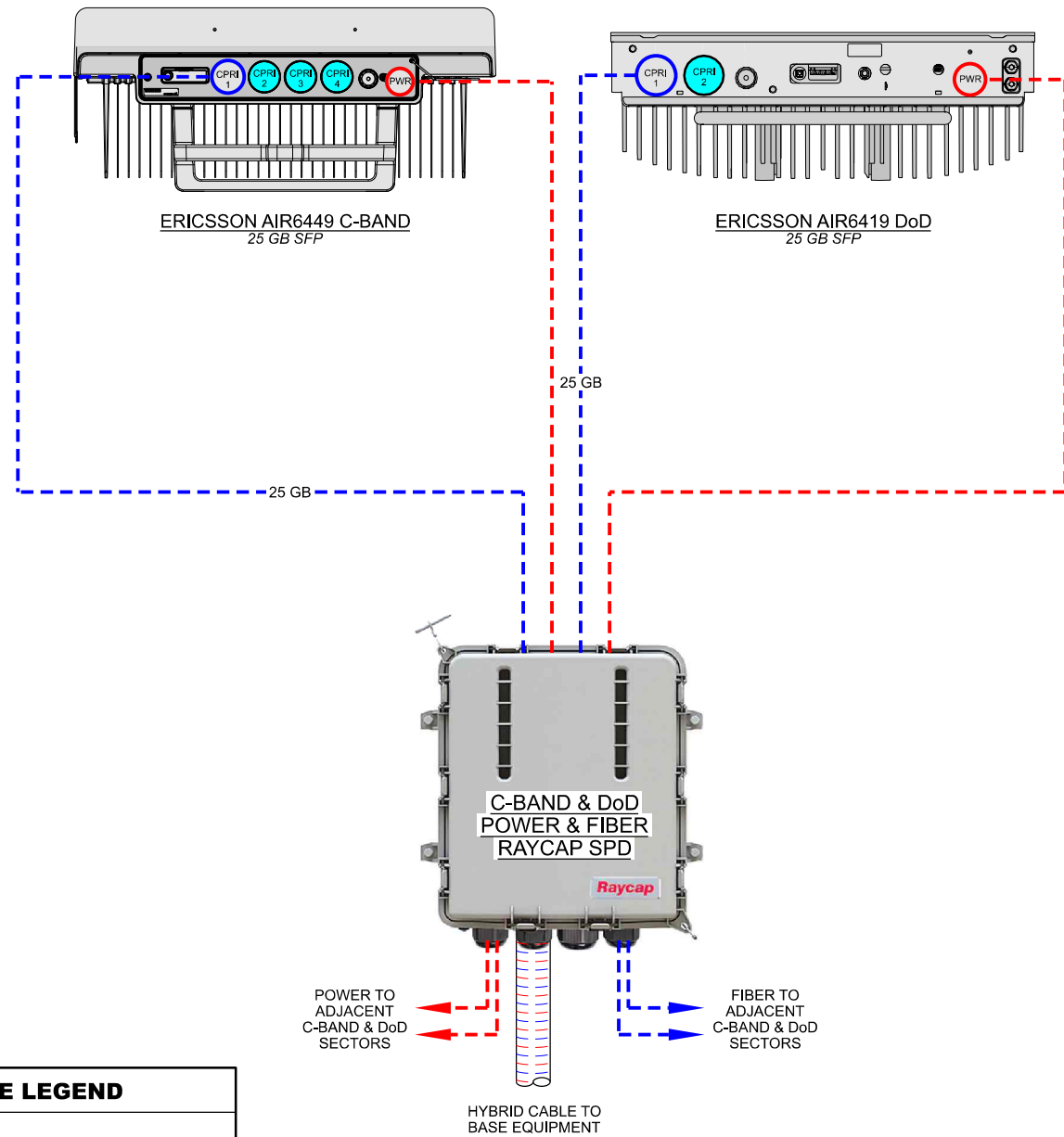
**CABLE ROUTING**  
 DELAFIELD (784310)  
 PEWAUKEE, WISCONSIN

SUBMITTAL:

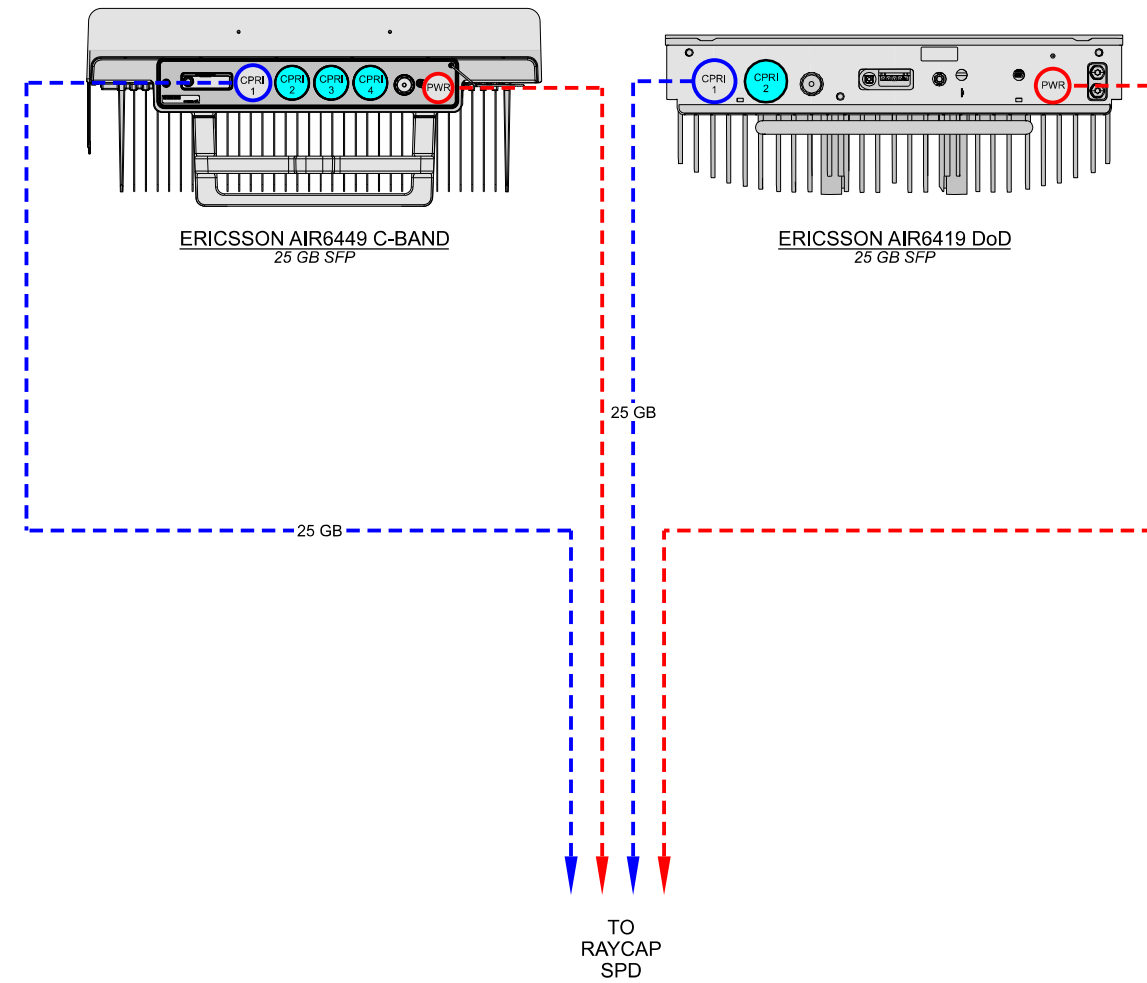
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SHEET NUMBER:	<b>V-501</b>

**E// C-BAND & DoD WITH DEDICATED RAYCAP SPD  
PER SECTOR CONFIGURATION**



**E// C-BAND & DoD WITH SHARED RAYCAP SPD  
PER SECTOR CONFIGURATION**



**CABLE LEGEND**

	EUPEN HYBRID CABLE
	FIBER JUMPER
	POWER JUMPER
	WEATHERPROOF CAP

DATE CREATED: 09/29/2022

**PLUMBING DIAGRAM: ERICSSON C-BAND & DoD**

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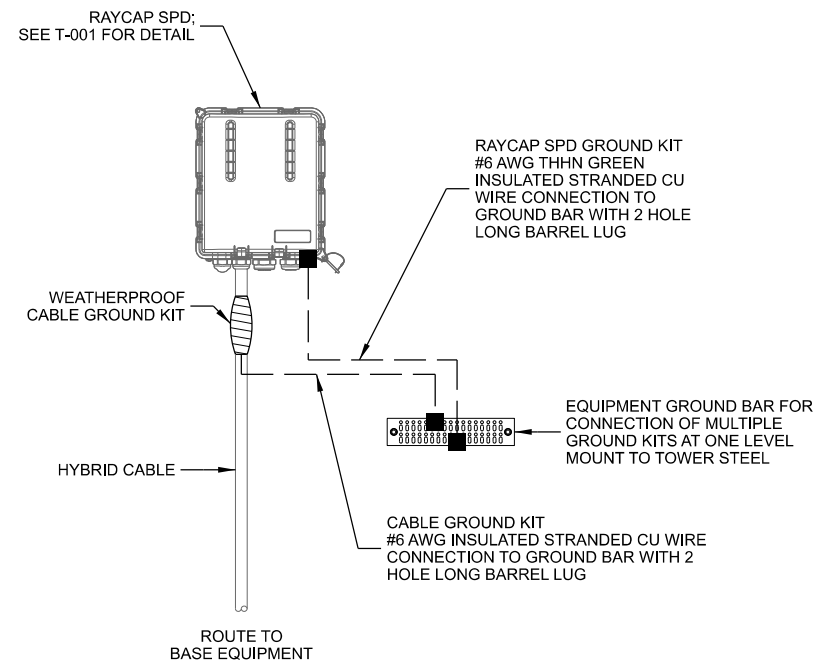
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**PLUMBING DIAGRAM  
DELAFIELD (784310)  
PEWAUKEE, WISCONSIN**

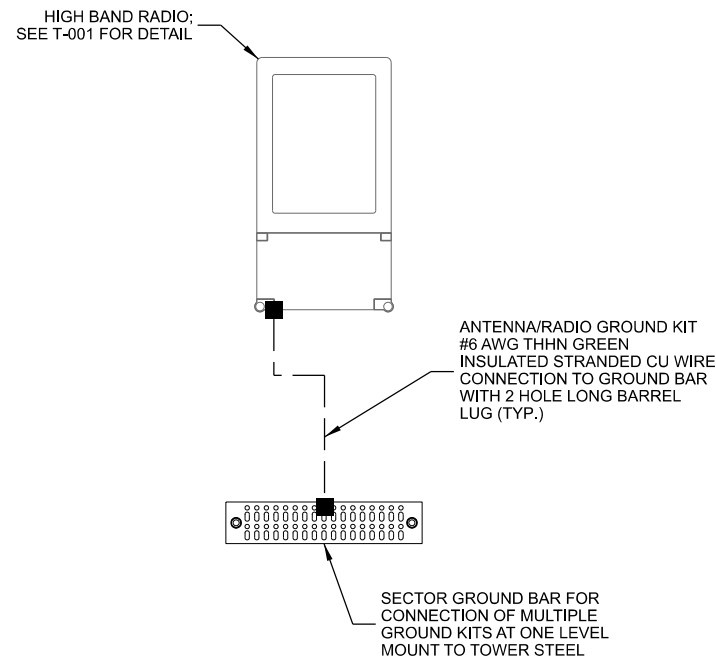
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PLOT DATE	6/20/2023
PROJECT NUMBER	34698
SET TYPE	FINAL
SHEET NUMBER	<b>P-501</b>



**A TYPICAL UPPER RAYCAP SPD GROUNDING**

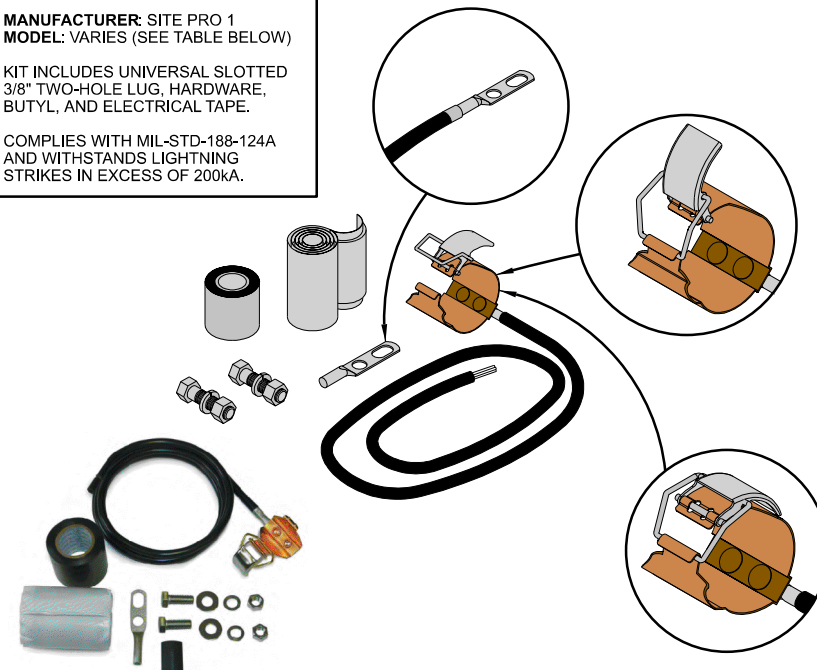


**B TYPICAL UPPER RADIO GROUNDING**

MANUFACTURER: SITE PRO 1  
MODEL: VARIES (SEE TABLE BELOW)

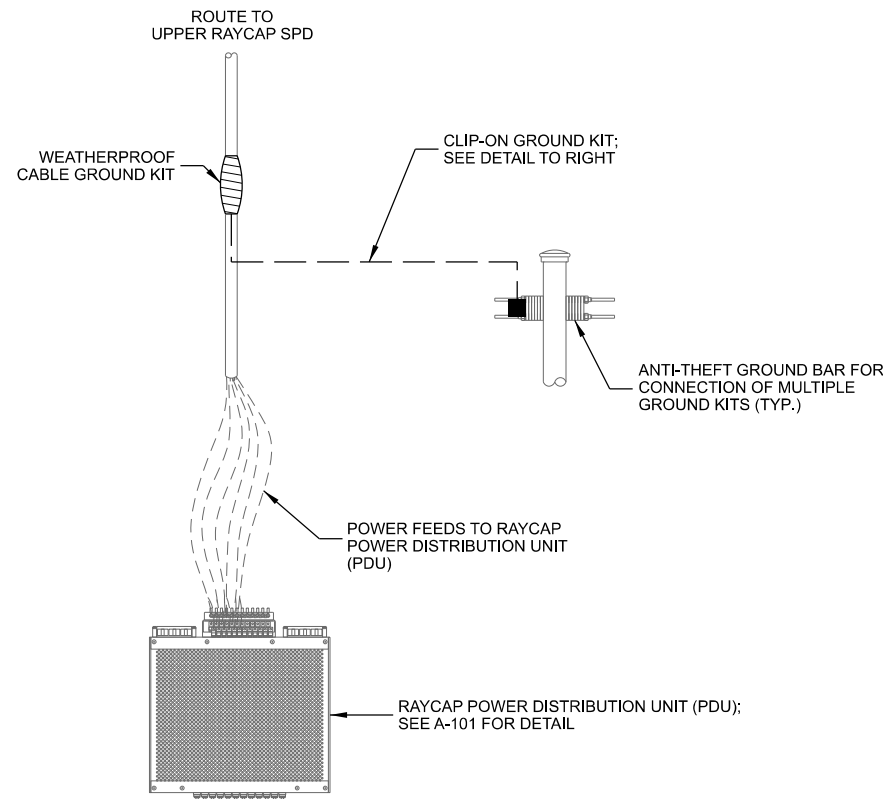
KIT INCLUDES UNIVERSAL SLOTTED 3/8" TWO-HOLE LUG, HARDWARE, BUTYL, AND ELECTRICAL TAPE.

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.

**C CLIP ON GROUND KIT**



**D TYPICAL LOWER EQUIPMENT GROUNDING**

**THIS SPACE INTENTIONALLY LEFT BLANK**

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**GROUNDING DETAILS**  
DELAFIELD (784310)  
PEWAUKEE, WISCONSIN

SUBMITTAL:

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JSM	06/07/23	REV. B
JSM	06/20/23	REV. 0

CHECKED BY	PCM
PLOT DATE	6/20/2023
PROJECT NUMBER	34698
SET TYPE	FINAL
SHEET NUMBER	<b>E-501</b>

PREPARED FOR:



# STRUCTURAL ANALYSIS REPORT

250 FT GUYED TOWER  
C-BAND & DoD INSTALLATION  
DELAFIELD (784310)  
DELAFIELD, WISCONSIN

EDGE PROJECT NUMBER:  
34698

JUNE 6, 2023



**Edge**

Consulting Engineers, Inc.

624 Water Street  
Prairie du Sac, Wisconsin 53578  
608.644.1449 Phone  
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**Exceeding Expectations**



# STRUCTURAL ANALYSIS REPORT

Project Information:

Delafield  
Delafield, WI  
43.09659, -88.32682

Client/Tower Owner:

U.S. Cellular  
8410 W. Bryn Mawr Ave., Suite 700  
Chicago, IL 60631  
Contact: Randy Mattson

Client Project Number:

784310

Consultant:

Edge Consulting Engineers  
624 Water Street  
Prairie du Sac, WI 53578  
Contact: Paul C. Molitor  
Phone: (608) 644-1449

Edge Project Number:

34698

Date:

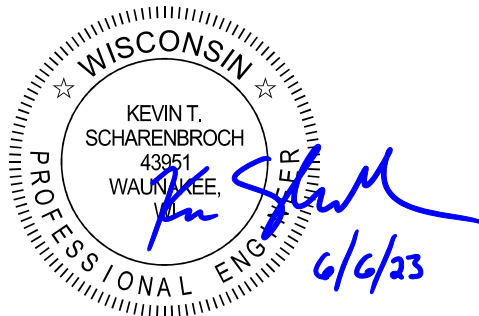
June 6, 2023



\_\_\_\_\_  
Tyler A. Clausen, E.I.T.  
Project Engineer

6/6/23

\_\_\_\_\_  
Date



\_\_\_\_\_  
Kevin T. Scharenbroch, P.E.  
Professional Engineer

6/6/23

\_\_\_\_\_  
Date

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## FIGURES

Figure 1: Feedline Placement Diagram

## APPENDICES

Appendix A: Structural Calculations

# SECTION 1

## EXECUTIVE SUMMARY

**Site Name:** Delafield  
**Site Location:** Delafield, Wisconsin  
**Tower Type:** 250 ft. Guyed Tower

A structural analysis for the above-described tower pursuant to the ANSI/TIA-222-G standard (TIA-222) was completed. One loading scenario was considered in the analysis. This is further described in Section 3.2, with reference to the feedline placement diagram (Figure 1).

The analysis was completed per the TIA-222 standard and is considered a rigorous analysis.

The results of our analysis indicate that the existing tower **is structurally adequate** to support the described loading. Refer to Section 3.5 for additional information regarding assumptions for this analysis.

Please refer to the report which follows this summary for further information. Feel free to contact us if you have any questions or concerns.

## SECTION 2 INTRODUCTION

### 2.1 PURPOSE OF REPORT

Edge Consulting Engineers (Edge) performed a structural analysis for the existing tower to determine whether the tower is structurally adequate to support the loading condition referenced in Section 3.2, pursuant to the TIA-222 standard. This assessment was completed using background information provided by the client and/or obtained in the field (where noted) and in conformance with current applicable codes, client directed protocols, and the judgment of the structural engineer.

### 2.2 SCOPE OF SERVICES

The scope of services for this project included a structural analysis and modeling of the tower structure and foundation systems in accordance with client supplied information. This type of analysis, under the TIA-222 standard, is considered to be a “rigorous” analysis of the tower.

This report summarizes the structural analysis results.

## SECTION 3 ANALYSIS

### 3.1 BACKGROUND INFORMATION

The subject tower is an existing Rohn 250 foot tall, model #80 guyed tower which was originally designed in November of 1983. It is our understanding that the tower geometry has been altered from the original design. We were provided the following information at the project outset:

1. Tower & foundation drawings: Rohn Eng. File: 18844JC dated 11/8/1983
2. Structural analysis/mod.: Edge Eng. File: 21295 dated 8/29/2019 \*
3. Structural analysis: Mission 1 Eng. File: 784310.01.DISH dated 8/13/2021
4. Tower inventory confirmation per Edge site visit dated 12/21/2022
5. Proposed antenna and feedline loading configuration
6. Geotechnical report: STS Eng. File: 81698-F dated 10/25/1983

\*This modification design was verified to have been installed in a modification inspection report completed by Edge dated 12/19/2019. It was generally found to conform to the required modifications detailed in the associated modification report.

### 3.2 LOADING CONDITION

The listed heights for appurtenances are representative of the centerline.

The following loading condition was considered during this analysis:

Ant. Height	#	Manufacturer & Model #	Mounting Type	Technology / Notes	Feedline (#) Size	Owner	Status
<b>191.5'</b>	<b>1</b>	<b>Ericsson AIR 6449</b>	<b>12' HD V-Boom</b>	<b>C-Band</b>		<b>U.S. Cellular</b>	<b>Proposed</b>
189'	2	Amphenol TWIN6510LU000G	12' HD V-Boom	Panel		U.S. Cellular	Existing
189'	1	Amphenol BXA-70063/8CF-E-DIN	12' HD V-Boom	CDMA	(2) 1-5/8"	U.S. Cellular	Existing
<b>187.5'</b>	<b>1</b>	<b>Raycap RUSDC-6267-PF-48</b>	<b>Lattice Mount</b>	<b>SPD</b>	<b>(1) Hybrid</b>	<b>U.S. Cellular</b>	<b>Proposed</b>
187.5'	1	Raycap RUSDC-6267-PF-48	Lattice Mount	SPD	(1) Hybrid	U.S. Cellular	Existing
187.5'	1	Ericsson RRU-4449	Lattice Mount	RRU		U.S. Cellular	Existing
187.5'	1	Ericsson RRU-8843	Lattice Mount	RRU		U.S. Cellular	Existing
187.5'	1	Ericsson RRU-11	Lattice Mount	RRU		U.S. Cellular	Existing
<b>186.5'</b>	<b>1</b>	<b>Ericsson AIR 6419</b>	<b>12' HD V-Boom</b>	<b>DoD</b>		<b>U.S. Cellular</b>	<b>Proposed</b>
161.5'	3	JMA MX08FRO665-21	8' V-Frame	Panel		DISH	Existing
161.5'	3	Fujitsu TA08025-B605	8' V-Frame	RRH		DISH	Existing
161.5'	3	Fujitsu TA08025-B604	8' V-Frame	RRH		DISH	Existing
161.5'	1	Raycap RDIDC-9181-PF-48	8' V-Frame	SPD	(1) 1-3/4" Hybrid	DISH	Existing
<b>138.5'</b>	<b>2</b>	<b>Ericsson AIR 6449</b>	<b>12' HD V-Boom</b>	<b>C-Band</b>		<b>U.S. Cellular</b>	<b>Proposed</b>
136'	4	Amphenol TWIN6510LU000G	12' HD V-Boom	Panel		U.S. Cellular	Existing
136'	2	Amphenol BXA-70063/8CF-E-DIN	12' HD V-Boom	CDMA	(4) 1-5/8"	U.S. Cellular	Existing
<b>133.5'</b>	<b>2</b>	<b>Ericsson AIR 6419</b>	<b>12' HD V-Boom</b>	<b>DoD</b>		<b>U.S. Cellular</b>	<b>Proposed</b>
<b>131'</b>	<b>1</b>	<b>Raycap RUSDC-6267-PF-48</b>	<b>Lattice Mount</b>	<b>SPD</b>	<b>(1) Hybrid</b>	<b>U.S. Cellular</b>	<b>Proposed</b>
131'	2	Raycap RUSDC-6267-PF-48	Lattice Mount	SPD	(2) Hybrid	U.S. Cellular	Existing
131'	2	Ericsson RRU-4449	Lattice Mount	RRU		U.S. Cellular	Existing
131'	2	Ericsson RRU-8843	Lattice Mount	RRU		U.S. Cellular	Existing
131'	2	Ericsson RRU-11	Lattice Mount	RRU		U.S. Cellular	Existing

The loading condition detailed in the table above is representative of the final loading condition of all other carriers which have loading changes that have been detailed and approved in structural analyses completed by other parties.

If the loading condition is altered from that analyzed, this report shall be deemed obsolete and further analysis will be required.

The feedline placement associated with the loading condition which was considered in this analysis is attached as Figure 1. The loading condition is further described in the Designed Appurtenance Loading table provided in Appendix A.

### 3.3 ANALYSIS CRITERIA

This analysis used the following structural design criteria:

#### Location

Waukesha County, WI

#### Governing Code/Standard Used

TIA-EIA Rev. G

#### General Structural Design Criteria

Importance/Risk Category	II
Wind Speed	115 mph (Ultimate/Strength Level)
Exposure Category	C
Topographic Category	1 - Flat/Rolling
Ice Thickness	0.75"
Wind Speed w/ Ice	40 mph

These criteria were selected based on the location and use of the subject tower. The client and/or tower owner **must** review these criteria for applicability and notify Edge if a different tower structure class, topographic category, or exposure criteria are warranted.

### 3.4 ANALYSIS METHOD

Structural analysis computations and modeling of the tower structure were performed using TNX Tower Version 8.0 software. TNX Tower is a general-purpose modeling, analysis, and design program created specifically for communications towers using the TIA-222-H or any previous TIA/EIA Standards back to RS-222 (1959). Steel design is checked using the referenced AISC Specifications. This program automatically generates nodes and elements for a subsequent finite element analysis (FEA) for standard tower types including self-support towers, guyed towers and monopoles. It allows entry of dishes, feedlines, discrete loads (loads from appurtenances) and user defined loads anywhere on the tower. TNX Tower uses wind effects from multiple directions and ice loads to develop pressure coefficients, wind pressures, ice loads and resulting forces on the tower per TIA-222 requirements.

The tower foundation system was also reviewed for the resulting applied forces due to the described loading condition. Items reviewed include checking the global overturning and shear of the foundation system. In addition, the anchor bolts and guy anchors (where applicable) were also reviewed for structural adequacy.

### 3.5 ASSUMPTIONS

For the purpose of this analysis, it has been assumed that the tower and foundation have been properly installed and maintained per the manufacturer's specifications and recommendations. Further limitations and restrictions have been provided in Section 5.

## SECTION 4 RESULTS

### 4.1 TOWER STRUCTURE

The analysis results of the existing tower structure when considering the described loading condition indicate the tower structure **is structurally adequate**. Refer to Section 3.5 for additional information regarding assumptions for this analysis.

The results of the analysis are shown in the following table. The ratio listed for each tower element represents the capacity ratio calculated for the controlling member(s) for each element type.

<b>Capacity - Results</b>		
<b>Tower Structure Elements</b>	<b>Capacity Ratio (%)</b>	<b>Comment</b>
<b>Legs</b> 85'-105'	<b>77.3%</b>	<b>Adequate</b>
Diagonals 125'-140.2'	74.8%	Adequate
Horizontals 0.1'-1.9'	17.4%	Adequate
Girts 3.5'-5'	64.3%	Adequate
Guys 124'	64.9%	Adequate
Top Guy Pull-Off 124'	11.4%	Adequate
Torque Arm Top 180'	52.9%	Adequate
Bolts 5'-25' (Bottom Girt Member Bearing)	76.5%	Adequate

Diagrams of the tower's maximum deflection, tilt, and twist are provided in Appendix A.



## 4.2 TOWER FOUNDATIONS

The results of the analysis indicate that the tower base foundation **is adequate**. From this analysis it was determined that the foundation meets strength requirements per the current ACI specification. However, it was also determined that the area of steel provided in the pad is less than the minimum required by the same standard.

The existing guy anchors were evaluated for both sliding and uplift as per the given soil properties from the geotechnical report. The reactions in the guy anchors from the described loading condition are less than the allowable. Therefore, the anchors **are considered structurally adequate**.

Refer to Appendix A for support calculations and to Section 3.5 for additional information regarding assumptions for this analysis.

## 4.3 RECOMMENDATIONS

The client and tower owner shall closely review this report including assumptions made, analysis criteria selected and loading conditions modeled. Any questions or discrepancies with these items shall be clarified with the engineer.

Edge recommends that qualified personnel assess the physical condition of the tower, in accordance with the guidelines and frequency provided in the TIA-222 standard.

## SECTION 5

# LIMITATIONS AND RESTRICTIONS

1. This report was prepared in accordance with generally accepted structural engineering practices common to the tower industry and makes no other warranties, either expressed or implied, as to the professional advice provided under the terms of the agreement between Engineer and Client. This report has not been prepared for uses or parties other than those specifically named, or for uses or applications other than those enumerated herein. The report may contain insufficient or inaccurate information for other purposes, applications, and/or other uses.
2. This report is intended for the use of the client, and cannot be utilized or relied upon by other parties without the written consent of Edge Consulting Engineers.
3. Edge Consulting Engineers is not responsible for any, and all, tower modifications completed prior to, or hereafter, which Edge Consulting Engineers was not, or will not, be directly involved.
4. The model, conclusions, and recommendations contained within this report are based upon the supplied and attained information as described within the report and supplemented with historical information available to Edge Consulting Engineers. If it is known, or becomes known, that any item(s) are in conflict with what is described within this document, this report should be considered void and Edge Consulting Engineers should be contacted immediately.
5. Edge Consulting Engineers disclaims all liability for any information, conclusion, or recommendation that is not expressly stated or represented within this report.
6. Edge Consulting Engineers shall not be liable for any incidental, consequential, indirect, special or punitive damages arising out of any claim associated with the use of this report.
7. The scope of work performed for this analysis is limited to the items in which we were furnished complete and accurate information.
8. Accessories and appurtenances such as antenna mounts, feed line ladders, climbing ladders, lighting mounts, etc. were not analyzed as part of this work, and Edge Consulting Engineers makes no claim as to their adequacy of their design or their installation.
9. This analysis was performed under the assumption that all tower elements are in like new condition, free from rust and other deterioration. Additionally, this analysis assumes that all installed modification designs were thoroughly reviewed and approved by the respective engineer of record and they are able to carry their intended design capacity. It is also assumed the tower was properly installed per construction documents, and that the tower and all associated appurtenances were originally designed and fabricated in accordance with all applicable codes and standards. Edge Consulting Engineers cannot account for, nor be held responsible, if tower elements are deteriorated, damaged, and/or missing.
10. This tower analysis was performed based upon the antenna, feed line and other appurtenance loading and placement as described within this report. Any alterations to the described loading or placement will require re-analysis of the tower, and the findings contained in this report are not valid.
11. The loading conditions utilized for this analysis is based on information provided by the client, and readily available manufacturer/vendor information (antenna and mount projected areas, weight and shape factors). However, if the described loading criteria and design assumptions within this report are not accurate, are altered, or changed in any form, this analysis shall be considered void and an additional analysis must be performed.
12. It is the responsibility of the client and the tower owner to thoroughly review the existing and proposed loading, and bring any discrepancy to the attention of Edge Consulting Engineers.
13. Modification designs are to be based upon a rigorous or comprehensive analysis per the referenced TIA-222 standard. As such designs assume any suggested modifications are installed as recommended and are not intended to address temporary conditions on the tower as modifications are being performed. It is strongly recommended that the Installer of any tower modification thoroughly assess installation procedures and how temporary conditions present while modifications are being performed influence tower members. Installer is responsible for sequence of operation and any required temporary bracing or strengthening of tower during modification operations.
14. Site-specific loading or local building code requirements may be more stringent than the minimum loading requirements specified in the Standard. These and other unique loads or loading combination requirements are to be specified by the owner (in the procurement specifications).
15. Supplementary rime ice and in-cloud ice loadings (including thickness, density, escalation with height and corresponding wind speed) are to be included in the procurement specification when appropriate for a given site location.
16. The service loads and deformation limits specified in the Standard are the minimum requirements for communication structures. When more stringent requirements are required for a specific application, the serviceability limit state basic wind speed and, if required, the serviceability limit state design ice thickness; the deformation limitations (twist, sway and horizontal displacement) and the location/elevation where the deformation limitations apply are to be included in the procurement specification.

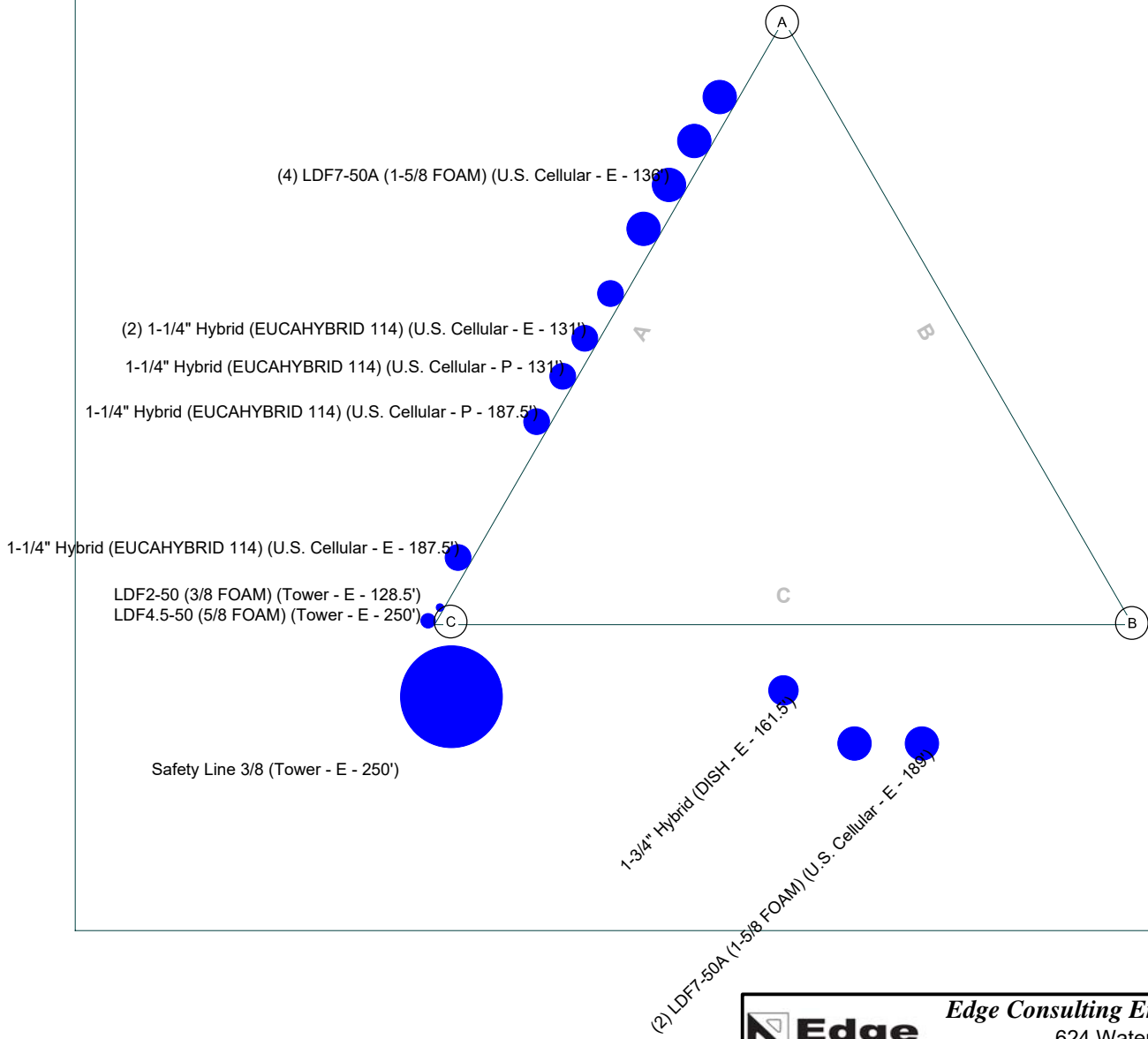
# Figure 1

## Feedline Placement Diagram

# Feed Line Plan 25'

\_\_\_\_\_ Round   
 \_\_\_\_\_ Flat   
 \_\_\_\_\_ App In Face   
 \_\_\_\_\_ App Out Face

## Section @ 25'

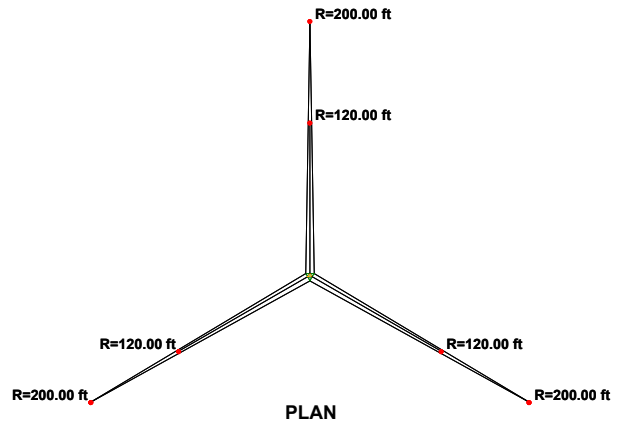
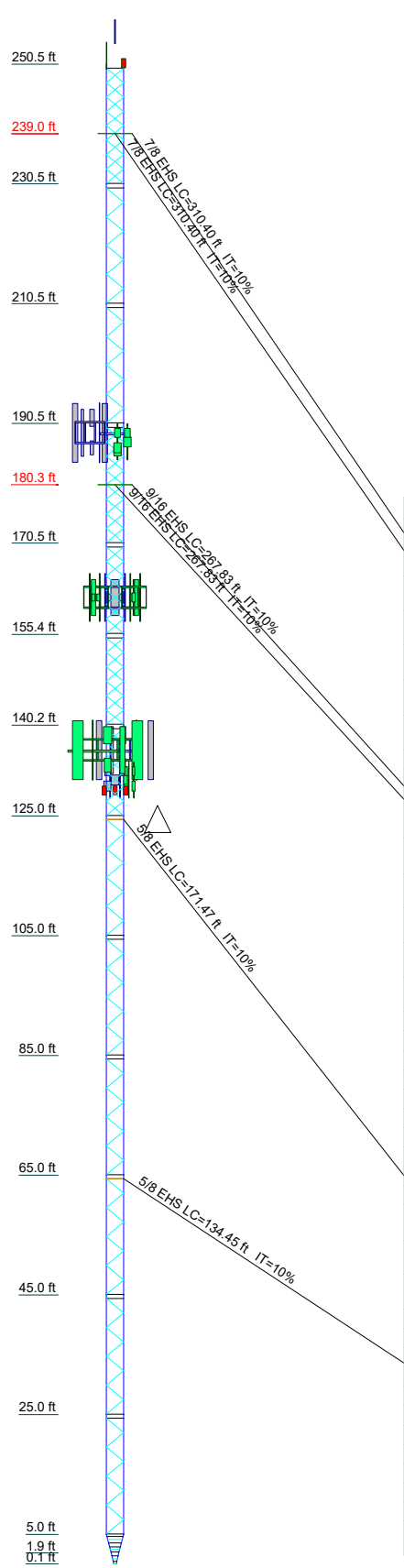


	<b>Edge Consulting Engineers, Inc.</b>		<b>Delafield (784310)</b>	
	624 Water St Prairie Du Sac, WI 53578 Phone: (608) 644-1449 FAX: (608) 644-1549		Project: <b>34698</b>	
		Client: U.S. Cellular	Drawn by: tclausen	App'd:
		Code: TIA-222-G	Date: 06/01/23	Scale: NTS
		Path:		Dwg No. E-7

# Appendix A

## Structural Calculations

Section	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	T11	T12	T13
Legs	Pipe 2-1/2 XS		Pipe 2-1/2 STD		Pipe 2-1/2 XS		Pipe 2-1/2 XS		Pipe 3 XS		Pipe 3 XS		
Leg Grade	L2x2x1/4		L2x2x1/4		L2x2x1/4		L2x2x1/4		A572-50		A572-50		
Diagonals	A36		A36		A36		A36		ROHN TS1.5x16 ga		ROHN TS1.5x16 ga		
Diagonal Grade	L2x2x1/4		L2x2x1/4		L2x2x1/4		L2x2x1/4		A53-B-42		A53-B-42		
Top Girts	L2x2x1/4		L2x2x1/4		L2x2x1/4		L2x2x1/4		ROHN TS1.5x16 ga		ROHN TS1.5x16 ga		
Bottom Girts	L2x2x1/4		L2x2x1/4		L2x2x1/4		L2x2x1/4		ROHN TS1.5x16 ga		ROHN TS1.5x16 ga		
Horizontal	N.A.		N.A.		N.A.		N.A.		N.A.		N.A.		
Top Guy Pull-Offs	N.A.		N.A.		N.A.		N.A.		4 1/2x3/8		4 1/2x3/8		
Face Width (ft)	3.4167		3.4167		3.4167		3.4167		98 @ 2.40885		98 @ 2.40885		
# Panels @ (ft)	2881.6		2881.6		2881.6		2881.6		831.3		831.3		
Weight (lb)	2881.6		2881.6		2881.6		2881.6		779.1		779.1		




**DESIGNED APPURTENANCE LOADING**

TYPE	ELEVATION	TYPE	ELEVATION
Lightning Rod 5/8x4' (Tower)	250	AIR 6449 w/ mounting pipe (U.S. Cellular)	138.5
Flash Beacon Lighting (Tower)	250	10'x2" Antenna Mount Pipe (U.S. Cellular)	136
4'6"x3" Pipe Mount (Tower)	250	10'x2" Antenna Mount Pipe (U.S. Cellular)	136
AIR 6449 w/ mounting pipe (U.S. Cellular)	191.5	TWIN6510LU000G w/ mount pipe (U.S. Cellular)	136
10'x2" Antenna Mount Pipe (U.S. Cellular)	189	TWIN6510LU000G w/ mount pipe (U.S. Cellular)	136
TWIN6510LU000G w/ mount pipe (U.S. Cellular)	189	BXA-70063/8CF-E-DIN w/ Mount Pipe (U.S. Cellular)	136
BXA-70063/8CF-E-DIN w/ Mount Pipe (U.S. Cellular)	189	BXA-70063/8CF-E-DIN w/ Mount Pipe (U.S. Cellular)	136
Sabre C10857111 (12' HD V-Frame, No Pipes) (U.S. Cellular)	189	10'x2 1/2" Pipe Mount (U.S. Cellular)	136
10'x2 1/2" Pipe Mount (U.S. Cellular)	189	Sabre C10857111 (12' HD V-Frame, No Pipes) (U.S. Cellular)	136
TWIN6510LU000G w/ mount pipe (U.S. Cellular)	189	10'x2 1/2" Pipe Mount (U.S. Cellular)	136
Site Pro CWT8 (No Pipes) (U.S. Cellular)	187.5	10'x2 1/2" Pipe Mount (U.S. Cellular)	136
Site Pro CWT8 (No Pipes) (U.S. Cellular)	187.5	TWIN6510LU000G w/ mount pipe (U.S. Cellular)	136
6'x2" Antenna Mount Pipe (U.S. Cellular)	187.5	TWIN6510LU000G w/ mount pipe (U.S. Cellular)	136
6'x2" Antenna Mount Pipe (U.S. Cellular)	187.5	AIR 6419 (U.S. Cellular)	133.5
Raycap RUSDC-6267-PF-48 (U.S. Cellular)	187.5	AIR 6419 (U.S. Cellular)	133.5
Raycap RUSDC-6267-PF-48 (U.S. Cellular)	187.5	Site Pro CWT8 (No Pipes) (U.S. Cellular)	131
Ericsson RRU-4449 (U.S. Cellular)	187.5	Site Pro CWT8 (No Pipes) (U.S. Cellular)	131
Ericsson RRU-8843 (U.S. Cellular)	187.5	Site Pro CWT8 (No Pipes) (U.S. Cellular)	131
Ericsson RRU-11 (U.S. Cellular)	187.5	Site Pro CWT8 (No Pipes) (U.S. Cellular)	131
AIR 6419 (U.S. Cellular)	186.5	Site Pro CWT8 (No Pipes) (U.S. Cellular)	131
Site Pro VFA8-HD (No Pipes) (DISH)	161.5	6'x2" Antenna Mount Pipe (U.S. Cellular)	131
Site Pro VFA8-HD (No Pipes) (DISH)	161.5	6'x2" Antenna Mount Pipe (U.S. Cellular)	131
Site Pro VFA8-HD (No Pipes) (DISH)	161.5	6'x2" Antenna Mount Pipe (U.S. Cellular)	131
8'x2 1/2" Pipe Mount (DISH)	161.5	6'x2" Antenna Mount Pipe (U.S. Cellular)	131
8'x2 1/2" Pipe Mount (DISH)	161.5	Raycap RUSDC-6267-PF-48 (U.S. Cellular)	131
8'x2 1/2" Pipe Mount (DISH)	161.5	Raycap RUSDC-6267-PF-48 (U.S. Cellular)	131
MX08FRO665-21 w/ Mount Pipe (DISH)	161.5	Raycap RUSDC-6267-PF-48 (U.S. Cellular)	131
MX08FRO665-21 w/ Mount Pipe (DISH)	161.5	Ericsson RRU-4449 (U.S. Cellular)	131
Fujitsu TA08025-B605 (DISH)	161.5	Ericsson RRU-8843 (U.S. Cellular)	131
Fujitsu TA08025-B605 (DISH)	161.5	Ericsson RRU-11 (U.S. Cellular)	131
Fujitsu TA08025-B605 (DISH)	161.5	Ericsson RRU-4449 (U.S. Cellular)	131
Fujitsu TA08025-B604 (DISH)	161.5	Ericsson RRU-8843 (U.S. Cellular)	131
Fujitsu TA08025-B604 (DISH)	161.5	Ericsson RRU-11 (U.S. Cellular)	131
Fujitsu TA08025-B604 (DISH)	161.5	Ericsson RRU-4449 (U.S. Cellular)	131
8'x2 1/2" Pipe Mount (DISH)	161.5	Mid Beacon (Tower)	128.5
8'x2 1/2" Pipe Mount (DISH)	161.5	Mid Beacon (Tower)	128.5
8'x2 1/2" Pipe Mount (DISH)	161.5	Mid Beacon (Tower)	128.5
6'x2" Antenna Mount Pipe (DISH)	161.5	Mid Beacon (Tower)	128.5
Raycap RDIDC-9181-PF-48 (DISH)	161.5	Mid Beacon (Tower)	128.5
AIR 6449 w/ mounting pipe (U.S. Cellular)	138.5	Mid Beacon (Tower)	128.5

**SYMBOL LIST**

MARK	SIZE	MARK	SIZE
A	Rohn 80 Base (Mod Angle) - Bent Plates	D	3 @ 0.453958
B	Rohn 80 Base (Mid Section) - Bent Plate	E	4 @ 0.452667
C	3 @ 0.537292		



**Edge Consulting Engineers, Inc.**

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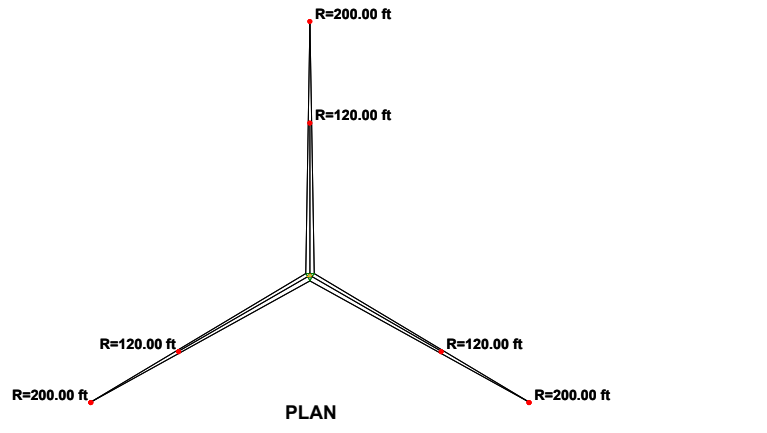
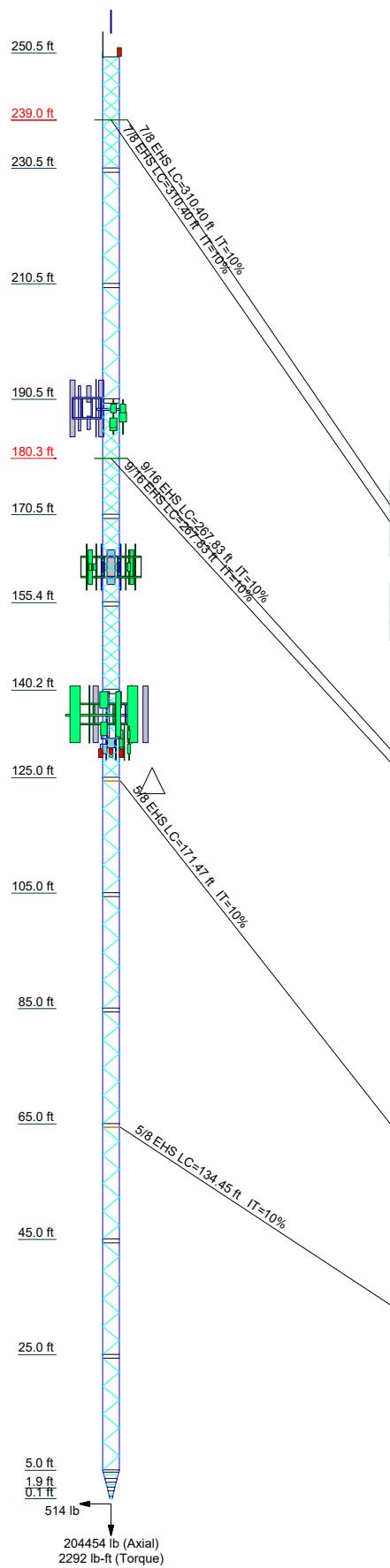
624 Water Street  
Prairie du Sac, WI 53578  
Phone: (608) 644-1449  
FAX: (608) 644-1549

Job: **Delatfield (784310)**

Project: **34698**

Client: U.S. Cellular	Drawn by: kscharenbroch	App'd:
Code: TIA-222-G	Date: 06/06/23	Scale: NTS
Path:		Dwg No. E-1

Section	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	T11	T12	T13
Legs	2-1/2 XS	2-1/2 STD	2-1/2 STD	2-1/2 STD	2-1/2 XS	2-1/2 XS	2-1/2 XS	2-1/2 XS	2-1/2 XS	2-1/2 XS	2-1/2 XS	2-1/2 XS	2-1/2 XS
Leg Grade	L2x2x1/4	L2x2x1/4	L2x2x1/4	L2x2x1/4	A572-50	A572-50	A572-50	A572-50	A572-50	A572-50	A572-50	A572-50	A572-50
Diagonals	A36	A36	A36	A36	ROHN TS1.5x16 ga	ROHN TS1.5x16 ga	ROHN TS1.5x16 ga	ROHN TS1.5x16 ga	ROHN TS1.5x16 ga	ROHN TS1.5x16 ga	ROHN TS1.5x16 ga	ROHN TS1.5x16 ga	ROHN TS1.5x16 ga
Top Girts	L2x2x1/4	L2x2x1/4	L2x2x1/4	L2x2x1/4	A572-50	A572-50	A572-50	A572-50	A572-50	A572-50	A572-50	A572-50	A572-50
Bottom Girts	L2x2x1/4	L2x2x1/4	L2x2x1/4	L2x2x1/4	A572-50	A572-50	A572-50	A572-50	A572-50	A572-50	A572-50	A572-50	A572-50
Horizontals	L2x2x1/4	L2x2x1/4	L2x2x1/4	L2x2x1/4	A572-50	A572-50	A572-50	A572-50	A572-50	A572-50	A572-50	A572-50	A572-50
Top Guy Pull-Offs	L2x2x1/4	L2x2x1/4	L2x2x1/4	L2x2x1/4	A572-50	A572-50	A572-50	A572-50	A572-50	A572-50	A572-50	A572-50	A572-50
Face Width (ft)	1.26	1.26	1.26	1.26	1.26	1.26	1.26	1.26	1.26	1.26	1.26	1.26	1.26
# Panels @ (ft)	12	12	12	12	12	12	12	12	12	12	12	12	12
Weight (lb)	11760	11760	11760	11760	11760	11760	11760	11760	11760	11760	11760	11760	11760



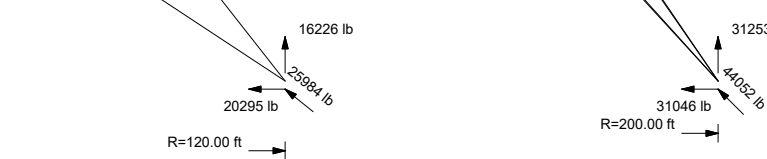
**SYMBOL LIST**

MARK	SIZE	MARK	SIZE
A	Rohn 80 Base (Mod Angle) - Bent Plates	D	3 @ 0.453958
B	Rohn 80 Base (Mid Section) - Bent Plate	E	4 @ 0.452667
C	3 @ 0.537292		

**MATERIAL STRENGTH**

GRADE	Fy	Fu	GRADE	Fy	Fu
A572-50	50 ksi	65 ksi	A53-B-42	42 ksi	63 ksi
A36	36 ksi	58 ksi			

- TOWER DESIGN NOTES**
1. Tower is located in Waukesha County, Wisconsin.
  2. Tower designed for Exposure C to the TIA-222-G Standard.
  3. Tower designed for a 115 mph basic wind in accordance with the TIA-222-G Standard.
  4. Tower is also designed for a 40 mph basic wind with 0.75 in ice. Ice is considered to increase in thickness with height.
  5. Deflections are based upon a 60 mph wind.
  6. Tower Risk Category II.
  7. Topographic Category 1 with Crest Height of 0.00 ft
  8. Weld together tower sections have flange connections.
  9. Connections use galvanized A325 bolts, nuts and locking devices. Installation per TIA/EIA-222 and AISC Specifications.
  10. Tower members are "hot dipped" galvanized in accordance with ASTM A123 and ASTM A153 Standards.
  11. Welds are fabricated with ER-70S-6 electrodes.
  12. TOWER RATING: 77.3%



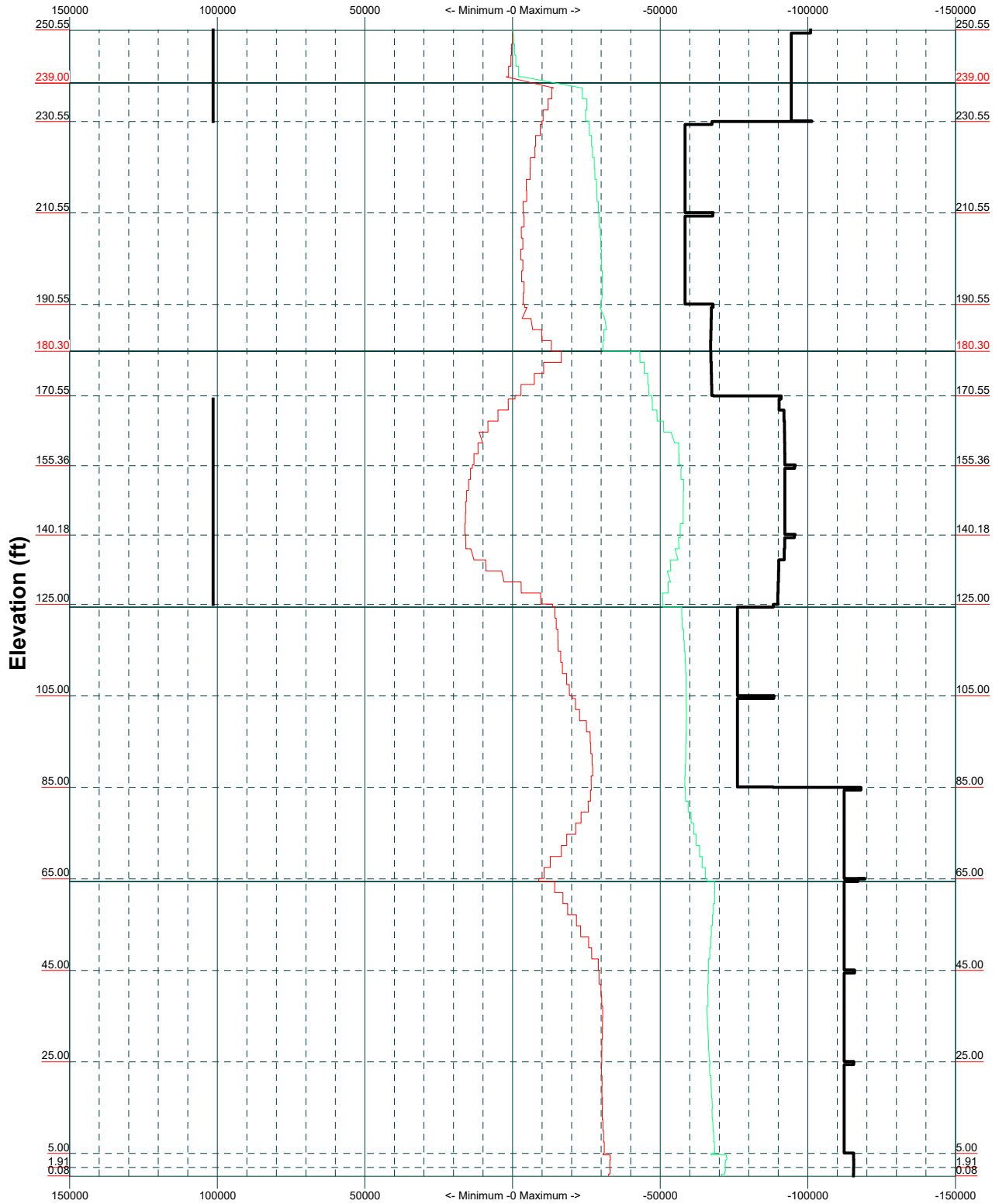
ALL REACTIONS ARE FACTORED

	<b>Edge Consulting Engineers, Inc.</b> 624 Water Street Prairie du Sac, WI 53578 Phone: (608) 644-1449 FAX: (608) 644-1549		Job: <b>Delafield (784310)</b> Project: <b>34698</b>
	Client: U.S. Cellular Code: TIA-222-G Path:	Drawn by: kscharenbroch Date: 06/06/23	App'd: Scale: NTS Dwg No. E-1

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# TIA-222-G - 115 mph/40 mph 0.7500 in Ice Exposure C

Leg Capacity
Leg Compression (lb)

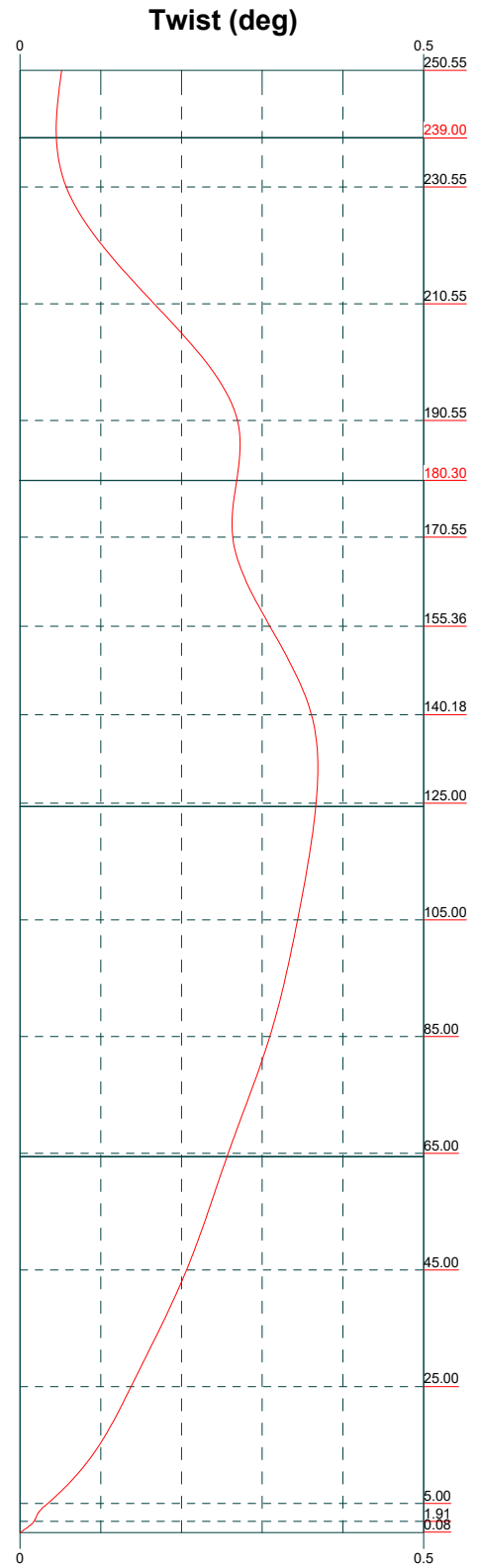
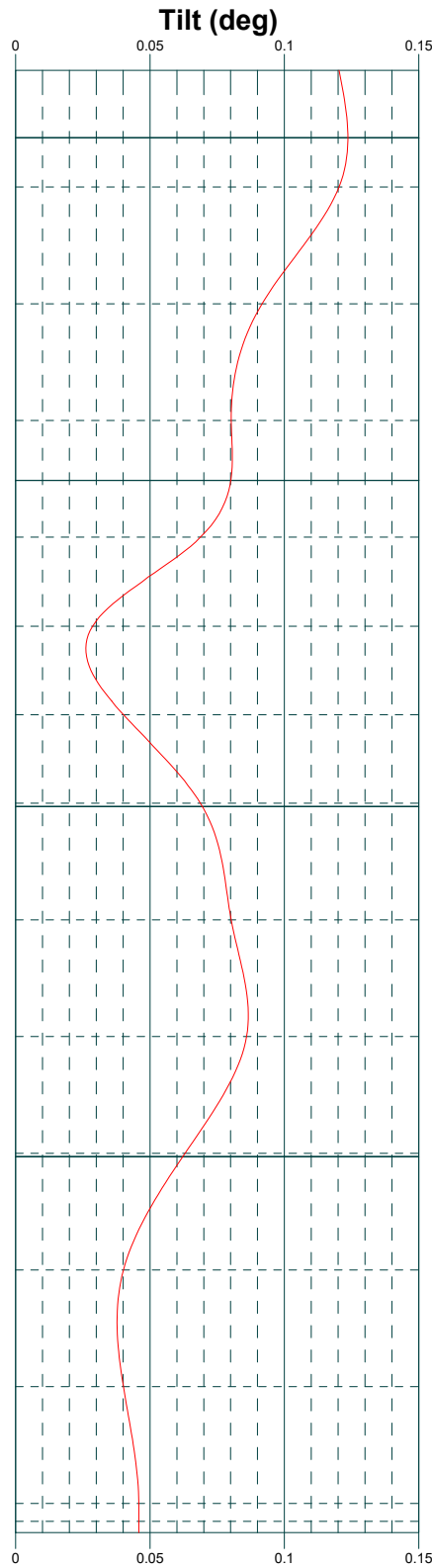
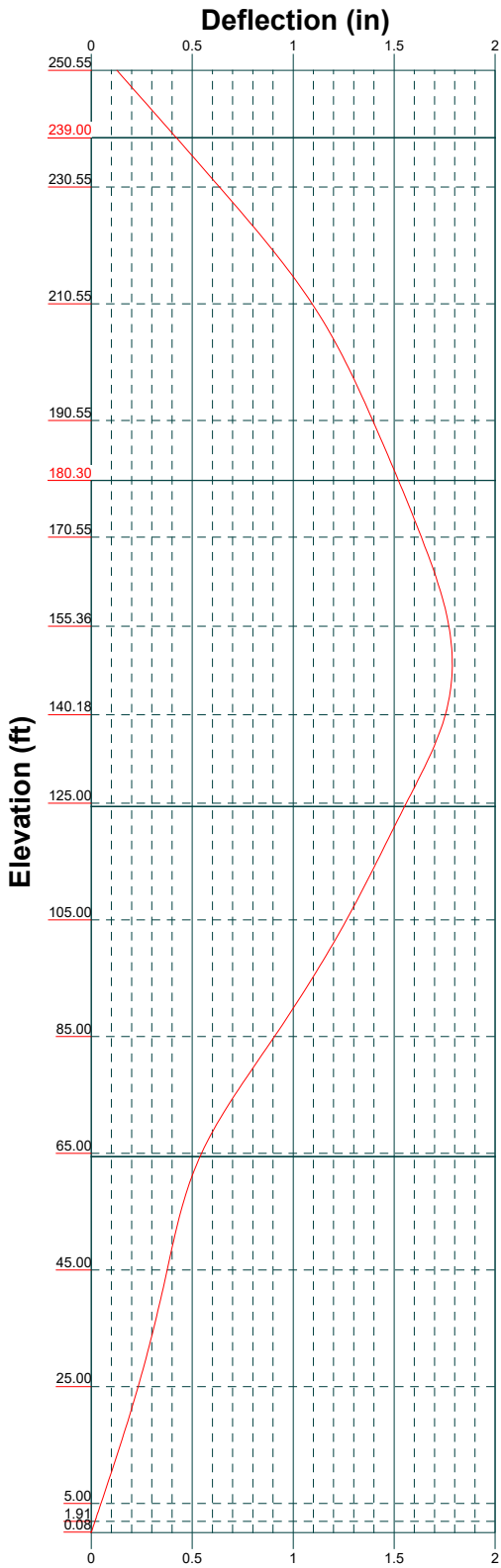



SA-3

<b>Edge</b> Consulting Engineers, Inc.	<b>Edge Consulting Engineers, Inc.</b>		624 Water Street Prairie du Sac, WI 53578 Phone: (608) 644-1449 FAX: (608) 644-1549		Job: <b>Delafield (784310)</b>
	Project: <b>34698</b>		Client: U.S. Cellular      Drawn by: kscharenbroch      App'd:		
	Code: TIA-222-G		Date: 06/06/23      Scale: NTS		
	Path:		Dwg No. E-3		

© 2023 Edge Consulting Engineers, Inc. All rights reserved. TIA-222-G - 115 mph/40 mph 0.7500 in Ice Exposure C - Delafield (784310) - Tower Analysis - Tower Model 34698 - 06/06/23 - 09:51:01



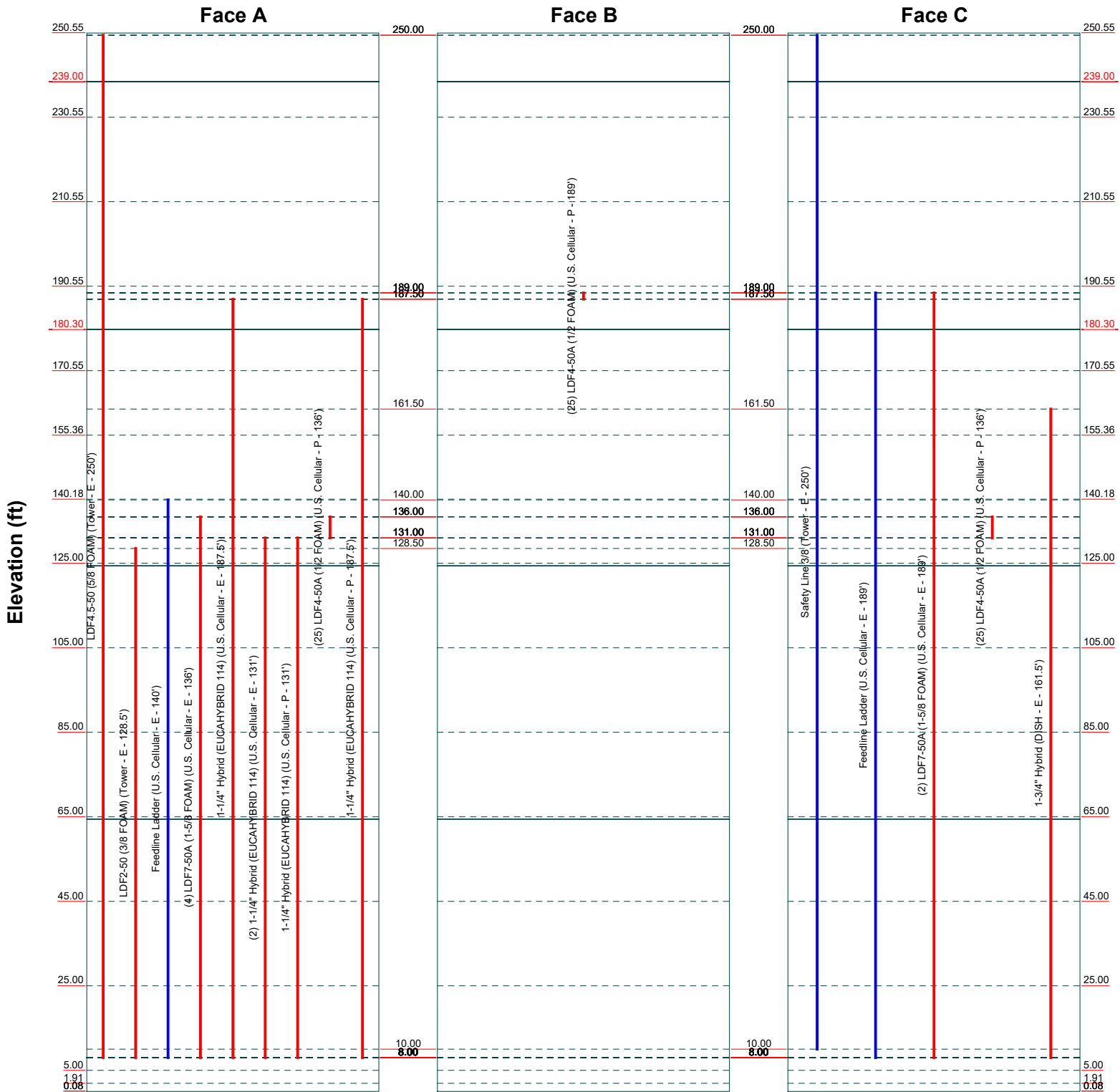


	<b>Edge Consulting Engineers, Inc.</b> 624 Water Street Prairie du Sac, WI 53578 Phone: (608) 644-1449 FAX: (608) 644-1549		Job: <b>Delafield (784310)</b>
	Project: <b>34698</b>		
Client: U.S. Cellular	Drawn by: kscharenbroch	App'd:	
Code: TIA-222-G	Date: 06/06/23	Scale: NTS	
Path:	Dwg No. E-5		

# Feed Line Distribution Chart

## 31/32" - 250'6-19/32"

— Round   
 — Flat   
 — App In Face   
 — App Out Face   
 — Truss Leg



SA-5

	<b>Edge Consulting Engineers, Inc.</b>		<b>Job: Delafield (784310)</b>		
	624 Water Street		Project: <b>34698</b>		
	Prairie du Sac, WI 53578		Client: U.S. Cellular	Drawn by: kscharenbroch	App'd:
	Phone: (608) 644-1449		Code: TIA-222-G	Date: 06/06/23	Scale: NTS
	FAX: (608) 644-1549		Path:	Dwg No. E-7	

©: 34698\34698\Structural\2023-05-30\_Tower Analysis\Tower Model\34698\_Delafield\_(784310)\_TNX Tower\_2023-05-30.dwg

# Foundation Analysis

Project Name - DELAFIELD (784310)  
 DELAFIELD, Wisconsin  
 Edge #34698



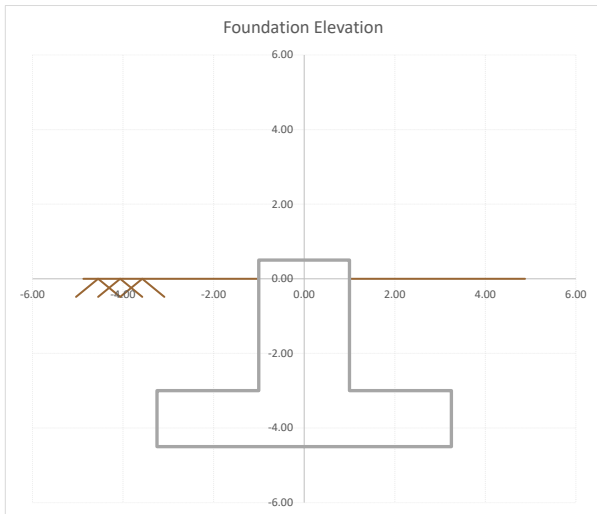
Completed By: TAC  
 Checked By: KTS

## General Information:

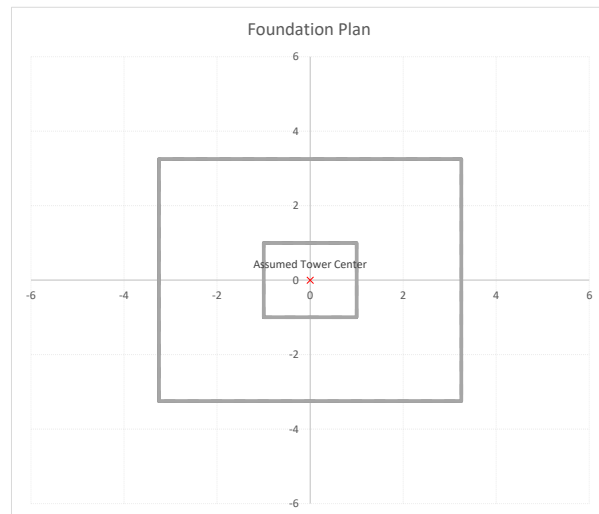
Design Code: ACI 318-14  
 Footing Type: Spread Footing  
 Column Type: Pedestal

## Geometry:

Existing Foundation		
Foundation Depth =	4.50	ft
Slab Length (Z) =	6.50	ft
Slab Width (X) =	6.50	ft
Slab Thickness =	18.00	in
Pier Height =	3.50	ft
Pier Shape =	Square	
Pier Width (Square) =	2.00	ft



Note: Vertical Axis is Y Axis and Horizontal Axis is Z Axis



Note: "Vertical" Axis is X Axis and "Horizontal" Axis is Z Axis

## Materials:

Existing Foundation		
Concrete Strength ( $f'_c$ ) =	3000	psi
Concrete Unit Weight ( $w_c$ ) =	150	pcf --> Normal Weight
Concrete Elasticity Modulus ( $E_c$ ) =	3320.6	ksi
Steel Elasticity Modulus ( $E_s$ ) =	29000	ksi
Pad, Steel Yield Stress ( $f_y$ ) =	40	ksi
Pier Vert. Bars, Steel Yield Stress ( $f_y$ ) =	40	ksi
Pier Ties, Steel Yield Stress ( $f_y$ ) =	40	ksi

## Soil Parameters:

Unit Weight of Soil ( $\gamma_{soil}$ ) =	100	pcf
Submerged soil unit weight ( $\gamma_{sub,soil}$ ) =	60	pcf
Coefficient of Friction Against Sliding =	0.25	Assumed
Depth to Water Table =	12	ft

# Foundation Analysis

Project Name - DELAFIELD (784310)  
 DELAFIELD, Wisconsin  
 Edge #34698



Completed By: TAC  
 Checked By: KTS

## Reinforcement Details:

**Existing Footing Reinforcement**

---

Clear Cover: 3 in  
 Bottom Reinf.Parallel to X Axis: #5 @ 10.2"  
 Bottom Reinf.Parallel to Z Axis: #5 @ 10.2"

**Existing Pedestal Reinforcement**

---

Clear Cover: 3 in  
 Vertical Reinforcement: (8) #6 Bars  
 Provided Area: 3.52 in<sup>2</sup>  
 Transverse Reinforcement: (5) #3 Ties  
 Legs Parallel to X Axis: 2  
 Legs Parallel to Z Axis: 2

## Loading Conditions to be Included in Design:

### Service Load Combinations:

- S1..... 1.0 D + 1.0 G
- S2..... 1.0 D + 1.0 G + 0.7 I
- S3..... 1.0 D + 1.0 G + 0.6 Wo\_x
- S4..... 1.0 D + 1.0 G + 0.6 Wo\_z
- S5..... 1.0 D + 1.0 G + 0.7 I + 0.7 Wi\_x
- S6..... 1.0 D + 1.0 G + 0.7 I + 0.7 Wi\_z
- S7..... 0.6 D + 0.6 G + 0.6 Wo\_x
- S8..... 0.6 D + 0.6 G + 0.6 Wo\_z
- S9..... 0.6 D + 0.6 G + 0.7 I + 0.7 Wi\_x
- S10..... 0.6 D + 0.6 G + 0.7 I + 0.7 Wi\_z

### Design Load Combinations:

- D1..... 1.2 D + 1.0 G + 1.0 Wo\_x
- D2..... 1.2 D + 1.0 G + 1.0 Wo\_z
- D3..... 1.2 D + 1.0 G + 1.0 I + 1.0 Wi\_x
- D4..... 1.2 D + 1.0 G + 1.0 I + 1.0 Wi\_z
- D5..... 1.2 D + 1.0 G

### Applied Loads:

Condition	Axial (kip)	Mxx (kip*ft)	Mzz (kip*ft)	Vx (kip)	Vz (kip)
Dead Load (DL)	28.92	0	0	0	0
Ice Load (IL)	102.26	0	0	0	0
Guy Load (G)	65.13	0	0	0	0
Wind w/out Ice (X-Dir.)	22.74	0	0	0.11	0
Wind w/out Ice (Z-Dir.)	22.74	0	0	0	0.11
Wind with Ice (X-Dir.)	2.36	0	0	0.08	0
Wind with Ice (Z-Dir.)	2.36	0	0	0	0.08

# Foundation Analysis

Project Name - DELAFIELD (784310)  
 DELAFIELD, Wisconsin  
 Edge #34698



Completed By: TAC  
 Checked By: KTS

**Results:**

**Soil Bearing:**

Eccentricity in Z Direction = 0.0015 ft  
 Kern for Z Direction = 1.08 ft

Maximum Gross Bearing Pressure = 4,512 psf  
 ASD Allowable, Gross Bearing Capacity = 10,000 psf

DCR = 45.12%

**Foundation Sliding Check:**

**In Z Direction**

Controlling Load Combination: S8  
 Force Resisting Sliding = 20.98 kip  
 Sliding Force = 0.07 kip

Factor of Safety = 317.89 > 1.50

**In X Direction**

Controlling Load Combination: S7  
 Force Resisting Sliding = 20.98 kip  
 Sliding Force = 0.07 kip

Factor of Safety = 317.89 > 1.50

**Foundation Overturning Check:**

**About X-X Axis**

Controlling Load Combination: S8  
 Restoring Moment = 272.75 kip-ft  
 Overturning Moment = 0.33 kip-ft

Factor of Safety = 826.51 > 1.50

**About Z-Z Axis**

Controlling Load Combination: S7  
 Restoring Moment = 272.75 kip-ft  
 Overturning Moment = 0.33 kip-ft

Factor of Safety = 826.51 > 1.50

**Footing Flexure Checks:**

Reduction Factor: 0.90

Direction	Controlling Load Combination	Location	Flexural Demand ( $M_u$ , kip)	Flexural Capacity ( $\phi M_n$ , kip)	DCR $M_u / \phi M_n$	Check	
Bending About X Axis	D3	Pier Face	80.15	102.77	78.0%		
Bending About Z Axis	D3	Pier Face	80.15	102.77	78.0%		

**Shear Checks (One-Way Shear):**

Reduction Factor: 0.75  
 Shear Area: 1,097 in<sup>2</sup>

Direction	Controlling Load Combination	Location	Shear Demand ( $V_u$ , kip)	Shear Capacity ( $\phi V_c$ , kip)	DCR $V_u / \phi V_c$	Check	
Bending About X Axis	D3	Critical Section	34.14	90.12	37.9%		
Bending About Z Axis	D3	Critical Section	34.14	90.12	37.9%		

**Punching Shear Checks (Two-Way Shear):**

Reduction Factor: 0.75

Controlling Load Combination	Location	Perimeter at Critical Section ( $b_c$ , in)	Punching Shear Area ( $A_{cs}$ , in <sup>2</sup> )	Shear Demand ( $V_u$ , kip)	Shear Capacity ( $\phi V_c$ , kip)	DCR $V_u / \phi V_c$	Check	
D3	Existing Pier	153.50	2,207	155.78	362.58	43.0%		

# Guy Anchor Calculations

Project Name - DELAFIELD (784310)  
 DELAFIELD, Wisconsin  
 Edge #34698



Completed By: TAC  
 Checked By: KTS

## Guy Anchor Reactions (120 ft. Radius):

Uplift (U) =	16.23	kip	*Per TNX Tower Output
Shear (V) =	20.30	kip	

## Soil Properties:

Soil Unit Weight ( $\gamma_{soil}$ ) =	120	lb/ft <sup>3</sup>
Effective Soil Unit Weight ( $\gamma'_{soil}$ ) =	60	lb/ft <sup>3</sup>
Depth to Water Table ( $D_{water}$ ) =	12	ft
Soil Friction Angle ( $\Phi_{soil}$ ) =	30	°
Ultimate Passive Earth Pressure ( $\sigma_p$ ) =	360	psf/ft of soil depth
Ultimate Skin Friction ( $\sigma_s$ ) =	0.0	psf
Horizontal Plane Friction Coefficient ( $\mu_h$ ) =	0.00	
Vertical Plane Friction Coefficient ( $\mu_v$ ) =	0.00	
phi factor ( $\Phi$ ) =	0.75	

## Guy Anchor Geometry:

Depth to Bottom of Guy Anchor (h) =	7.00	ft
Guy Anchor Depth (d) =	2.00	ft
Guy Anchor Width (b) =	3.00	ft
Guy Anchor Length (L) =	7.50	ft
Guy Anchor Toe Height (t) =	0.00	ft

## Calculated Geometry

		$w = \tan(\phi_{soil}) \cdot l$
Soil Wedge Height Above Anchor ( $l_{min}$ ) =	5.00	ft
Soil Wedge Height From Bottom ( $l_{max}$ ) =	7.00	ft
Wet Soil Wedge Height Above Anchor ( $l_w$ ) =	0.00	ft
Wet Soil Wedge Height From Bottom ( $l_{m,w}$ ) =	0.00	ft
Soil Wedge Width Above Anchor ( $w_{min}$ ) =	2.89	ft
Soil Wedge Width From Bottom ( $w_{max}$ ) =	4.04	ft
Wet Soil Wedge Width Above Anchor ( $w_w$ ) =	0.00	ft
Wet Soil Wedge Width From Bottom ( $w_{m,w}$ ) =	0.00	ft

## Guy Anchor Forces:

$$W_{concrete} = d \cdot b \cdot L \cdot (\gamma_c = 150pcf)$$

Effective Weight of Concrete Block ( $W_{concrete}$ ) =	6.8	klps
Effective Weight of Soil in Block ( $W_{block}$ ) =	5.4	klps

\*If below water table, reduced by the weight of water  
 \*Weight of Anchor Block if it was soil for later calc.

$$W_i = \frac{1}{3} \cdot l_i \cdot \left( b \cdot L + \sqrt{b \cdot L \cdot (b + 2w_i) \cdot (L + 2w_i)} + (b + 2w_i) \cdot (L + 2w_i) \right) \cdot \frac{\gamma_i}{1000}$$

Dry Weight of Soil Above Anchor ( $W_{min}$ ) =	38.0	klps
Dry Weight of Soil From Bottom ( $W_{max}$ ) =	72.1	klps
Buoyed Weight of Soil Above Anchor ( $W_w$ ) =	0.0	klps
Buoyed Weight of Soil From Bottom ( $W_{m,w}$ ) =	0.0	klps

$$W_{top} = W_{min} - W_w \quad W_{add} = W_{max} - W_{m,w} - W_{top} - W_{block}$$

Net Weight of Soil Above Anchor ( $W_{top}$ ) =	38.0	klps
Max Weight Increase to Bottom ( $W_{add}$ ) =	28.7	klps

\*Can't be less than zero

$$V_{toe} = 0.6 \cdot \frac{4}{3} \cdot \sqrt{f'_c} \cdot 2 \cdot (b + L) \cdot (t - 2in)$$

Concrete Toe Capacity ( $V_{toe}$ ) =	0.0	klps
---------------------------------------	-----	------

\*Can't be less than zero

$$W_{soil} = W_{top} + \min(W_{add}, V_{toe})$$

Effective Weight of Soil on Anchor ( $W_{soil}$ ) =	38.0	klps
---	------	------

$$W_{dir} = (b \cdot L) \cdot ((l_{min} - l_w) \cdot \gamma_{soil} + l_w \cdot \gamma'_{soil})$$

Weight Directly on Block ( $W_{dir}$ ) =	13.5	klps
--	------	------

$$N_{comp} = W_{concrete} + W_{dir} - U$$

Net Compression Force ( $N_{comp}$ ) =	4.0	klps
--	-----	------

\*Can't be less than zero

$$F_{sf} = d \cdot (2 \cdot b + L) \cdot \sigma_s$$

Skin Friction on Block ( $F_{sf}$ ) =	0.0	klps
---------------------------------------	-----	------

$$R_{soil} = \frac{1}{2} (\sigma_{p,top} + \sigma_{p,bottom}) \cdot d \cdot L$$

Passive Soil Pressure at Top of Block ( $\sigma_{p,top}$ ) =	1800	psf
Passive Soil Pressure at Bottom of Block ( $\sigma_{p,bottom}$ ) =	2520	psf
Soil Resistance ( $R_{soil}$ ) =	32.4	klps

## Guy Anchor Uplift Case:

$$\phi U = \phi (\mu_v \cdot \max(V - \mu_h \cdot N_{comp}, 0) + W_{concrete} + \max(W_{soil}, W_{dir} + F_{sf}))$$

Uplift Resistance ( $\Phi U$ ) =	33.6	klps
----------------------------------	------	------

Unity = 0.48 **OK**

## Guy Anchor Slippage Case:

$$\phi V = \phi (R_{soil} + \mu_h \cdot N_{comp})$$

Shear Resistance ( $\Phi V$ ) =	24.3	klps
---------------------------------	------	------

Unity = 0.84 **OK**

# Guy Anchor Calculations

Project Name - DELAFIELD (784310)  
 DELAFIELD, Wisconsin  
 Edge #34698



Completed By: TAC  
 Checked By: KTS

## Guy Anchor Reactions (200 ft. Radius):

Uplift (U) =	31.25	kip	*Per TNX Tower Output
Shear (V) =	31.05	kip	

## Soil Properties:

Soil Unit Weight ( $\gamma_{soil}$ ) =	120	lb/ft <sup>3</sup>
Effective Soil Unit Weight ( $\gamma'_{soil}$ ) =	60	lb/ft <sup>3</sup>
Depth to Water Table ( $D_{water}$ ) =	12	ft
Soil Friction Angle ( $\Phi_{soil}$ ) =	30	°
Ultimate Passive Earth Pressure ( $\sigma_p$ ) =	360	psf/ft of soil depth
Ultimate Skin Friction ( $\sigma_s$ ) =	0.0	psf
Horizontal Plane Friction Coefficient ( $\mu_h$ ) =	0.00	
Vertical Plane Friction Coefficient ( $\mu_v$ ) =	0.00	
phi factor ( $\Phi$ ) =	0.75	

## Guy Anchor Geometry:

Depth to Bottom of Guy Anchor (h) =	11.00	ft
Guy Anchor Depth (d) =	2.00	ft
Guy Anchor Width (b) =	3.50	ft
Guy Anchor Length (L) =	10.00	ft
Guy Anchor Toe Height (t) =	0.00	ft

## Calculated Geometry

		$w = \tan(\phi_{soil}) \cdot l$
Soil Wedge Height Above Anchor ( $l_{min}$ ) =	9.00	ft
Soil Wedge Height From Bottom ( $l_{max}$ ) =	11.00	ft
Wet Soil Wedge Height Above Anchor ( $l_w$ ) =	0.00	ft
Wet Soil Wedge Height From Bottom ( $l_{m,w}$ ) =	0.00	ft
Soil Wedge Width Above Anchor ( $w_{min}$ ) =	5.20	ft
Soil Wedge Width From Bottom ( $w_{max}$ ) =	6.35	ft
Wet Soil Wedge Width Above Anchor ( $w_w$ ) =	0.00	ft
Wet Soil Wedge Width From Bottom ( $w_{m,w}$ ) =	0.00	ft

## Guy Anchor Forces:

$$W_{concrete} = d \cdot b \cdot L \cdot (\gamma_c = 150pcf)$$

Effective Weight of Concrete Block ( $W_{concrete}$ ) =	10.5	klps
Effective Weight of Soil in Block ( $W_{block}$ ) =	8.4	klps

\*If below water table, reduced by the weight of water  
 \*Weight of Anchor Block if it was soil for later calc.

$$W_i = \frac{1}{3} \cdot l_i \cdot \left( b \cdot L + \sqrt{b \cdot L \cdot (b + 2w_i) \cdot (L + 2w_i)} + (b + 2w_i) \cdot (L + 2w_i) \right) \cdot \frac{\gamma_i}{1000}$$

Dry Weight of Soil Above Anchor ( $W_{min}$ ) =	150.4	klps
Dry Weight of Soil From Bottom ( $W_{max}$ ) =	227.2	klps
Buoyed Weight of Soil Above Anchor ( $W_w$ ) =	0.0	klps
Buoyed Weight of Soil From Bottom ( $W_{m,w}$ ) =	0.0	klps

$$W_{top} = W_{min} - W_w \quad W_{add} = W_{max} - W_{m,w} - W_{top} - W_{block}$$

Net Weight of Soil Above Anchor ( $W_{top}$ ) =	150.4	klps
Max Weight Increase to Bottom ( $W_{add}$ ) =	68.3	klps

\*Can't be less than zero

$$V_{toe} = 0.6 \cdot \frac{4}{3} \cdot \sqrt{f'_c} \cdot 2 \cdot (b + L) \cdot (t - 2in)$$

Concrete Toe Capacity ( $V_{toe}$ ) =	0.0	klps
---------------------------------------	-----	------

\*Can't be less than zero

$$W_{soil} = W_{top} + \min(W_{add}, V_{toe})$$

Effective Weight of Soil on Anchor ( $W_{soil}$ ) =	150.4	klps
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$$W_{dir} = (b \cdot L) \cdot ((l_{min} - l_w) \cdot \gamma_{soil} + l_w \cdot \gamma'_{soil})$$

Weight Directly on Block ( $W_{dir}$ ) =	37.8	klps
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$$N_{comp} = W_{concrete} + W_{dir} - U$$

Net Compression Force ( $N_{comp}$ ) =	17.0	klps
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\*Can't be less than zero

$$F_{sf} = d \cdot (2 \cdot b + L) \cdot \sigma_s$$

Skin Friction on Block ( $F_{sf}$ ) =	0.0	klps
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$$R_{soil} = \frac{1}{2} (\sigma_{p,top} + \sigma_{p,bottom}) \cdot d \cdot L$$

Passive Soil Pressure at Top of Block ( $\sigma_{p,top}$ ) =	3240	psf
Passive Soil Pressure at Bottom of Block ( $\sigma_{p,bottom}$ ) =	3960	psf
Soil Resistance ( $R_{soil}$ ) =	72.0	klps

## Guy Anchor Uplift Case:

$$\phi U = \phi (\mu_v \cdot \max(V - \mu_h \cdot N_{comp}, 0) + W_{concrete} + \max(W_{soil}, W_{dir} + F_{sf}))$$

Uplift Resistance ( $\Phi U$ ) =	120.7	klps
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Unity = 0.26 **OK**

## Guy Anchor Slippage Case:

$$\phi V = \phi (R_{soil} + \mu_h \cdot N_{comp})$$

Shear Resistance ( $\Phi V$ ) =	54.0	klps
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Unity = 0.57 **OK**

# Guy Wire Tensions

Project Name - DELAFIELD (784310)  
 DELAFIELD, Wisconsin  
 Edge #34698



Completed By: TAC

Checked By: KTS

## Guy Wire Tensions

The given tension values are for the A anchor\*. The tensions should be maintained as close as possible for these guys, while the remaining guys are used to plumb the tower. Check tension in all guy wires and adjust as appropriate.

\*For tower orientation refer to Figure 1: Feedline Placement Diagram.

Guy Elevation (ft)	Anchor Location	Approx. Radius (ft)	Approx. Elev Change (ft)	Guy Size	Tension at Temperature of Tensioning, lbs.						
					0°F	20°F	40°F	60°F	80°F	100°F	120°F
239.0	A	200	239	7/8 EHS	9224	8800	8382	7970	7565	7169	6782
180.3	A	200	180	9/16 EHS	4293	4024	3759	3500	3247	3003	2768
124.4	A	120	124	5/8 EHS	5123	4827	4532	4240	3950	3665	3383
64.4	A	120	64	5/8 EHS	5683	5198	4716	4240	3771	3313	2873



**TOWN OF DELAFIELD  
BUILDING INSPECTOR****SAFEbuilt**

**Inspection request must be received by 4 pm,  
for possible next business day inspection  
Next day inspections are not guaranteed  
For Inspections call 262-420-4732 or  
WInspections@safebuilt.com**

PERMIT NO: \_\_\_\_\_

PROPERTY TYPE: \_\_\_\_\_

OCCUPANCY TYPE: UNMANNED CELL TOWER

SQUARE FOOTAGE: 700

ESTIMATED COST: \$20,000.00

TAX KEY NO: DELT0728998001

The undersigned hereby applies for a permit to do the work herein described and hereby agrees that all work will be done in accordance with all the laws of the State of Wisconsin and all the ordinances of the Town of Delafield

JOB ADDRESS: N44W29190 OXFORD DR

OWNER NAME:

OWNER PHONE:

UNITED STATES CELLULAR

318-807-2631

CONTRACTOR:

LICENSE #:

Capital Tower &amp; Communications Inc.

ADDRESS: (STREET, CITY AND ZIP CODE)

13330 Amberly Road, Waverly, NE 68462

PHONE:

EMAIL:

402-786-3333

joef@capitaltower.com

**WORK CONSISTS OF:**

- New Building  
 Addition  
 Accessory Building  
 Roofing/Siding/Fence  
 Alteration/Repair  
 Deck/Pool  
 Electrical  
 Plumbing  
 HVAC  
 Other Existing  
 Cell Tower

**COMMENTS/ADDITIONAL CONTRACTORS /WORK DESCRIPTION:**

US CELLULAR TO INSTALL 7 ANTENNAS TO EXISTING 250' GUYED  
 CELL TOWER.

CK#

FROM

RECEIVED

APPLICANT'S SIGNATURE:

DATE:

7/12/23

**FEES:**

Building \_\_\_\_\_

Electric \_\_\_\_\_

Plumbing \_\_\_\_\_

HVAC \_\_\_\_\_

Zoning \_\_\_\_\_

Total \_\_\_\_\_

INSPECTOR'S SIGNATURE:

CERTIFICATION NUMBER

DATE:





# TOWN OF DELAFIELD PLAN COMMISSION APPLICATION

## Project Description

Please answer the questions below that pertain to your request. If necessary, please attach a separate sheet.

### **PETITION FOR REZONING**

In the space below, please describe the purpose of the rezoning.

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### **PETITION FOR LAND USE AMENDM**

In the space below, please describe the purpose of the Land Use Amendment.

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### **PETITION FOR CONDITIONAL USE**

In the space below, please describe the purpose of the Conditional Use.

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### **PETITION FOR CERTIFIED SURVEY MAP / PRELIMINARY PLAT / FINAL PL**

In the space below, please describe the intention of the land division.

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### **PETITION FOR SITE PLAN / PLAN OF OPERATION / OTHER APPLICATION**

In the space below, please describe the intention for the site plan, plan of operation, or other application.

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# Required Forms for Submittal

## **Required Forms Checklist:**

- Legal Description (all applications)
- Professional Staff/Fees Chargeback Acknowledgement (all applications)
- Certification for Division of Land (Certified Survey Map land splits)

## **Submittal Information:**

- One (1) copy of this application (signed & dated)
- One (1) electronic copy of all supporting materials, i.e., drawings, plans and written documentation (via email to dgreen@townofdelafeld.org).
- Two (2) full size hard copies of all supporting materials, i.e., drawings, plans and written documentation of plans 11"x17" and smaller.
- Seven (7) copies of supporting materials larger than 11"x17".

I understand that this form shall be on file in the office of the Town Administrator by 4:00 p.m. on the 21st day before the meeting on which I desire to be heard or as required in the Land Division or Zoning Ordinance, whichever is longer. Plan Commission meetings are held the first Tuesday of each month. Furthermore, I understand that any engineering or legal review fees associated with this project may be charged to me.

**FAILURE TO PROVIDE ALL REQUIRED MATERIALS AND INFORMATION CAN RESULT IN THIS APPLICATION BEING WITHDRAWN FOR CONSIDERATION BY THE PLAN COMMISSION.**

\_\_\_\_\_  
Signature of Owner

\_\_\_\_\_  
Date

\_\_\_\_\_  
Print Name

## **For Office Use Only**

Application Received \_\_\_\_\_  
 Date Received \_\_\_\_\_  
 PC Meeting Date \_\_\_\_\_  
 Public Hearing Date \_\_\_\_\_

Amount Received \_\_\_\_\_  
 Received by \_\_\_\_\_  
 Board Meeting Date \_\_\_\_\_

Publication Date (if required) \_\_\_\_\_



**TOWN OF DELAFIELD**

**PROFESSIONAL STAFF FEES CHARGEBACK ACKNOWLEDGEMENT**

**PLEASE BE ADVISED**

That pursuant to the Town of Delafield Code of Ordinances, the Town of Delafield Town Board has determined that whenever the services of the Town Attorney, Town Engineer or any of the other Town's professional staff results in a charge to the Town for that professional's time and services, and such service is not a service supplied to the Town as a whole, the Town Clerk shall charge that service and the fees incurred by the Town to the owner of the property. Also be advised that pursuant to the Town of Delafield Code of Ordinances certain other fees, costs and charges are the responsibility of the property owner.

\*\*\*\*\*

I, the undersigned, have been advised that, pursuant to the Town of Delafield Code of Ordinances, if the Town Attorney, Town Engineer or any other Town professional provides services to the Town as a result of my activities, whether at my request or at the request of the Town, I shall be responsible for the fees incurred by the Town. Also, I have been advised that pursuant to the Town of Delafield Code of Ordinances, certain other fees, costs and charges are my responsibility.

\_\_\_\_\_  
Signature of Owner

\_\_\_\_\_  
Date

\_\_\_\_\_  
Owner's name (please print)

Form received by: \_\_\_\_\_

Date: \_\_\_\_\_

# Plan Commission Report for August 1, 2023

## **US Cellular Antenna Installation Agenda Item No. 5. B.**

Applicant: US Cellular, Tower Owner, US Cellular, applicant, Gara Fluitt agent

Project: US Cellular Tower

Requested Action: Approval for the installation of six antennas and one GPS antenna.

Zoning: A-2

Location: N44 W29190 Oxford Dr.

### **Report**

US Cellular, through their authorized agent, is requesting approval to six short panel antennas on the tower located at N44 W29190 Oxford Drive, as well as one GPS antenna near the equipment panels. Wireless communication facilities are regulated by State Statutes as well as Section 17.06 6. of the Town Code. I have determined that the proposed work will not be a substantial modification on the basis that it does not meet the definition of “substantial modification” as defined in Section 66.0404(1) (s) of the Wisconsin Statutes (not raising the tower more than 20 feet, not increasing the width by 20 feet or more at the location of the appurtenance, not increasing the area of the equipment compound by more than 2,500 square feet). I have reviewed their application and find it to be complete as required by the code.

The Town is to review this item subject to the limitations imposes in Section 66.04040 (4) of the Wisconsin Statutes. I have reviewed the application in light of the 24 limitations noted in the State Statutes and find that by approving this application as presented, we are not in violation of any of the limitations in 66.0404 (4).

### **Staff Recommendation:**

The applicant has submitted a complete application and meets all Town requirements; therefore, I recommend that the Plan Commission approve the installation of six antennas and provide a positive recommendation for approval to the Town Board.

Tim Barbeau, Town Engineer  
July 25, 2023

RESOLUTION NO. 23-665

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RESOLUTION OF TOWN OF DELAFIELD  
ACCEPTING THE ROADS IN THE WHITE OAK CONSERVANCY

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**WHEREAS**, the Town of Delafield Board of Supervisors approved the final plat of the following subdivision: White Oak Conservancy, and;

**WHEREAS**, construction of public roads in the subdivision has been completed, and;

**WHEREAS**, the developer has satisfied all requirements of the developers agreement related to the public road construction.

**NOW, THEREFORE, BE IT RESOLVED**, by the Town of Delafield Board of Supervisors that the following roads which are part of the White Oak Conservancy subdivision are hereby accepted by the Town of Delafield:

**Rustic Court  
Riemer Court  
Four Seasons Road**

**PASSED AND ADOPTED** by the Town Board of the Town of Delafield, Waukesha County, Wisconsin this \_\_\_\_ day of \_\_\_\_\_, 2023.

TOWN OF DELAFIELD

\_\_\_\_\_  
Edward Kranick, Town Chairman

ATTEST:

\_\_\_\_\_  
Dan Green, Administrator-Clerk/Treasurer