



A PERFECT ENVIRONMENT

Residential Recreational Responsible

Chair
Edward Kranick
Supervisors
Steve Michels
Joe Woelfle
Magalie Miller
Terri Mahoney-Ogden
Clerk/Treasurer
Dan Green

TOWN OF DELAFIELD PLAN COMMISSION MEETING
Tuesday, August 1, 6:30 p.m.
Town of Delafield Town Hall W302 N1254 Maple Avenue, Delafield, WI 53018

AGENDA

1. Call to Order and Pledge of Allegiance
2. Approval of the minutes of July 11, 2023.
3. Communications (for discussion and possible action): None
4. Unfinished Business: None
5. 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.
6. Discussion: None
7. Announcements and Planning Items: Next meeting: September 5, 2023.
8. Adjournment

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 members of and possible 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
PLAN COMMISSION MEETING
TUESDAY, JULY 11, 2023, 6:30 P.M.**

Video Link: <https://www.youtube.com/watch?v=hkVVZc5WhIE>

Public Hearing:

Ben Greenberg, Senior Planner for Waukesha County, explained the Pewaukee Yacht Club requests to amend an existing conditional use and plan of operation. The applicants met with the County multiple times over the winter to discuss site plan and operation changes. In terms of operational changes, they are updating piers to 4 from 3. There was a restriction on pier placement that it must be within the extended lot lines. The proposal would require a 25-foot setback from the property lines, but allow the property to the west to be included for pier placement. This would give flexibility between the yacht club and sailing school. They are proposing the word “dingy” be added to the CUP to reflect modern craft. They are asking to increase the amount of safety and support boats on premise on the southerly lots for events requiring more safety craft. All of this will need to be detailed on a site plan. They are requesting to strike language regarding seasonal operations. They want to strike “primarily on weekends”, looking for more flexibility. They are also amending the stop and start dates of the sailing school and yacht club and are requesting more boats on lifts and sailing school support piers. They would like some off-season storage for shrink wrapped boats.

The Yacht Club also noted they would like 6-11 pm and outdoor music occasionally until 10 pm. They are looking to extend special events to the winter months. They also are looking to hold maintenance-type events. There was a request about removing the requirement to notify the Town 1-month in advance of events. He asked that the applicant speak more about that request.

Cody Ziegler, Commadore of the Pewaukee Yacht Club, W284N3214 Lakeside Road, explained the property west of yacht club is owned by a Pewaukee Lake Sailing School. They operate the sailing school out of the yacht club facilities. The Yacht Club is requesting that the requirement for notification to the Town of special events be eliminated. Most events during the winter would be working days for cleaning up the yard and inside the club. How the Conditional Use is written now, if someone was going to the club to do touch ups, they would need to notify the Town 30 days prior. He explained work events would range from 5 to 30 people. He anticipated having event once a month or less. Starting November 1st, they will lock the club up, and restrict access. They want to have the ability to do a social event here and there during the off season. Commissioner Janusiak asked about a New Year’s Eve Party that was in the engineer’s report. Cody explained that the total membership is 350. Chairperson Fitzgerald questioned if the Plan Commission could require notification of events with 50 or more participants. Chairperson Kranick questioned if the bars that are near by have similar hours for live music as what the Yacht Club are proposing. The bars in the City cut music off at 10 pm while the yacht club is proposing 11 pm. Any outdoor music will be light, typically an acoustic guitar and one singer.

Ben Greenberg asked what daytime hours they would be proposing. Mr. Ziegler explained daytime workers would mostly be on weekends from approximately 9am to noon. Mr. Greenberg stated the County would feel more comfortable setting some parameters in which flexibility is given.

Chairperson Fitzgerald closed the public hearing at 6:48 PM.

First order of business: Call to Order and Pledge of Allegiance

Chairperson Fitzgerald called the meeting to order at 6:48 p.m. and led all in the Pledge of Allegiance.

Members present: Chairperson Kranick, Supervisor Michels, Commissioner Dickenson, Commissioner Mihalovich, Commissioner Cummings, Commissioner Janusiak, and Plan Commission Chairperson Fitzgerald.

Also present: Engineer Tim Barbeau and Administrator Dan Green.

Second order of business: Approval of the minutes of June 6, 2023.

Motion by Supervisor Michels to approve the minutes from June 6, 2023. *Seconded by Chairman Kranick. Motion passed 7-0.*

Third order of business: Communications (for discussion and possible action): None

Fourth order of business: Unfinished Business: NONE

Fifth order of business: New Business:

- A. Natalie Peters, N7 W29938 Bryn Drive, Re: Consideration and possible action on a request for a Home Occupation to operate an aesthetics and skin care business.

Engineer Barbeau explained, on the screen was the location on Bryn Drive near Kingsway. This is adjacent to the power lines that run in that area. Ms. Peters is seeking a home occupation to do aesthetics and skin care. There are a number of conditions which she provided responses to. His recommendation is approval as presented.

Chairperson Fitzgerald asked what the practice entails, and asked if drugs will be administered, and what, if any, medical waste will be onsite. She explained her practice has morphed more into a wellness practice. She stated she has needle boxes, that is the only waste, and is collected when it fills up once a year by a medical waste company. She explained she does a lot of acute and chronic care. She does mole removal, checks for skin cancer, and other comprehensive care. Commissioner Janusiak asked what the needles are used for. She explained they are used for injections such as joint and aesthetic injections. She stated she never has anything left in her vials, and that nothing gets wasted.

Motion by Supervisor Michels to approve the proposed Home Occupation as proposed to operate an aesthetics and skin care business. Seconded by Chairman Kranick. Motion passed 7-0.

- B. Pewaukee Yacht Club, N22 W28204 Edgewater Drive, by Cody Ziegler, Commodore, Consideration and possible action to amend their Conditional Use Permit to update certain language in the current CUP that will reflect the current operation and to extend hours of operation to full year use.

Chairman Fitzgerald explained that this is not the Town's conditional use permit, it is the County's. They are looking for the Town's recommendation. Engineer Barbeau stated he has some conditions in his report to consider. The Pewaukee Yacht Club has three parcels. They refer to one tax key in the CUP and should note all three. He explained that he has no issues with giving flexibility with events. He noted clarification on the parking lot use. The Town wants to allow car parking and boat parking so there is no street parking. Cody Ziegler stated, for large events, once every other year, they clear the dry sail yachts so they can utilize that parking area. Engineer Barbeau explained there are references to Pewaukee Lake Sailing School, but they are not a part of the conditional use. Cody Ziegler explained, it is referenced that the school is part of the CUP.

Commissioner Janusiak asked how many parking spaces were on the site. Mr. Ziegler stated approximately 65 stalls and an additional 45 stalls of dry sail parking. Commissioner Janusiak questioned what point the Town should be notified of a big event. She offered that they are required to give a 7-day notice if they cannot provide parking. Mr. Ziegler stated they provide their schedule to the police and fire department. Commissioner Cummings asked how many people attend a large part in the summer. Mr. Ziegler stated between 130 to 200. For regular functions, they never have issues with their current

parking. He explained they have a lot of “snowbird” members as well. It would be a limited capacity if they had any special events in the winter.

Motion by Supervisor Michels to recommend a positive recommendation for approval of the Conditional Use document subject to the following comments into the document:

- *Notice will be provided to Town Police and fire if event exceeds 150 people within 7 days.*
- *Property description should include all Tax Identification Numbers owned by PYC (DELT 0722-027; DELT 0813-998-001; DELT 0813-007)*
- *Add the following to Conditions A. 3. (G) and (H): “During the “off season” special events, on an occasional basis, such as social functions, winter get together, or a New Year’s Eve party shall be allowed without Town approval.”*
- *Condition A. 4.: Lot 4 Located south of Edgewater and is the easternmost parking lot. Add under (A): “Lot 4 shall be used primarily for automobile parking; however, boat and trailer parking may be allowed in lots 2 and 4 for special events that are small and not a strain on parking.”*
- *Condition A. 7., remove the reference to PLSS since they are not a party to this CUP.*
- *Revise signature page to reflect the current Commodore.*

Seconded by Chairman Kranick. Motion passed 7-0.

- B. Nathan Strom, W303 N2606 Maple Avenue, Re: Consideration and possible action on a request to install a six-foot tall fence along the sides of his lot between the roadside face of his house and the Town right-of-way line and between the lakeside face of his house and a point 75 feet from the ordinary high-water mark.

Engineer Barbeau showed the commission the location of the fence. The low point of the fence is 75 feet from the high-water mark and extends to the 33 foot right of way line. The other side is only 26 feet long from the front of the garage to the 33 foot right of way line. The fence will be white and 6 feet tall. The house to the north is 12.6 feet from the lot line and those to the south is 5.6 feet from the lot line. There are other fences in the area that do not look bad. He recommends allowing the fence to be greater than 3 feet as proposed. There were some concerns about how close these homes are, and this would be for privacy. Neighbors may appreciate a fence because of how close to the house they are.

Chairperson Kranick asked if there were any issues with snow removal. Engineer Barbeau said there will be no issues with the fence being 18 to 20 feet off the road. Chairperson Fitzgerald questioned if the house to the north was okay with the fence. Mr. Strom stated he talked to his neighbor, and they are okay with the fence. Their deck is elevated and will not impede their view. Engineer Barbeau stated the neighbor to the south does not live at their house full time, and the southern fence does not impede the back yard view.

Motion by Chairman Kranick to approve the request for a 6-foot-high fence to be located along the sides of his lot between the roadside face of his house and the Town right-of-way line and between the lakeside face of his house and a point 75 feet from the ordinary high-water mark. Seconded by Commissioner Dickenson. Motion passed 7-0.

Sixth Order of Business Discussion: None

Seventh Order of Business: Announcements and Planning Items: Next meeting: August 1, 2023.

Eighth Order of Business: Adjournment

Motion by Chairperson Kranick to adjourn the July 11, 2023, Plan Commission meeting at 7:17 p.m. Seconded by Supervisor Michels. Motion passed 7-0.

Respectfully submitted,

Dan Green, CMC, WCMC
Administrator-Clerk/Treasurer

Plan Commission Report for August 1, 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.

Tim Barbeau, Town Engineer
July 21, 2023

July 19, 2023

Michael Greeson, P.L.S. (via email)
V2G Surveying, LLC
550 Bayview Road
Suite B
Mukwonago, WI 53149

Dear Mr. Greeson,

I have reviewed the Certified Survey map (CSM) for the Wankowski property in the Town of Delafield and offer the following technical comments.

General

1. In the general description of the location, the reference Town 14 North shall be changed to Town 7 North (all pages).
2. In the general description there is a reference to Lake Lane; however; there is no indication of where Lake Lane is located (all pages).
3. In the general description, there is mention of “vacated Orchard Avenue.” There is a notation for the recording information for the vacation of Hill Street, but no notation for Orchard Avenue. Add the recording information.
4. Under the words sheet 1 of 3, the draft date is not complete. Once revisions are made, a final date shall be placed on the survey (all pages).

Sheet 1 of 3

5. The note “area to be transferred to Wankowski 5,156.81 S.F.” points to an area with no boundaries. I recommend that the land be transferred by deed prior to approval of the CSM and the note removed from the CSM. If that can take place, then there is no need for the Woodridge Estates Homeowners Association, Inc. to be listed as an owner. We have contacted the Town Attorney for input as to how to address this situation. If the transfer does not take place, I’m not sure how a portion of Lot 1 can be owned by Mr. Wankowski and the Woodridge Estates HOA. Also, depending on where the lot line is located, we would not be able to approve the CSM unless the new lot and all setbacks and offsets are conforming to the Waukesha County Shoreland and Floodland Ordinance since they have zoning jurisdiction on the land.
6. The overall distance for the west lines of Lots 1 and 2 should be 224.85, not 224.86 as shown.
7. The distance along the west line of Lot 2, between the northwest corner and the section line is shown as “124.35” but scales to approximately 26 feet.
8. Remove the words “Proposed” for each lot that is being created.

Sheet 2 of 3

9. 3rd line of legal description: change Town 14 North to Town 7 North.
10. 4th line of legal description: Lake Lane should be shown on CSM
11. 5th line of legal description: vacated Orchard Avenue does not include recording information on Sheet 1 of 3.

12. 11th line of legal description: add a distance after the bearing N81°50'41"E
13. 19th line of legal description: distance after the bearing N04°53'44"W is incorrect.
14. Surveyor's Certificate notes that the CSM has complied with City of Delafield (Extraterritorial) requirements; however, the Village of Hartland is closer to the subject property, so the Village of Hartland (Extraterritorial) should be listed.
15. Owner's Certificate notes that the CSM has to be submitted to the City of Delafield (Extraterritorial); however, the Village of Hartland is closer to the subject property, so the Village of Hartland (Extraterritorial) should be listed.

Sheet 3 of 3

16. Owner's Certificate notes that the CSM has to be submitted to the City of Delafield (Extraterritorial); however, the Village of Hartland is closer to the subject property, so the Village of Hartland (Extraterritorial) should be listed.
17. The Chairperson for the Town of Delafield is now Edward Kranick.
18. Village of Hartland approval certificate(s) are required.

This matter is scheduled for action by the Town Plan Commission on August 1, 2023. If the review comments noted above and issues related to the deed transfer can be addressed, and a revised CSM provided to me via email by 9:00am on Tuesday, July 25, 2023, then we will include the revised document in the Plan Commission packets; otherwise, the Plan Commission would have to consider approval subject to resolution of all outstanding comments prior to Town Board approval.

Should you have any questions, please contact me.

Sincerely,



Timothy G. Barbeau, P.E., P.L.S.
Town of Delafield Engineer

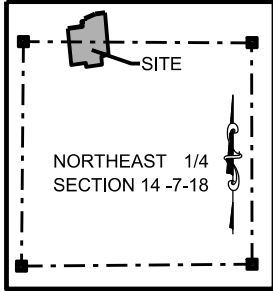
c: Dan Green, Town Administrator/Clerk (via email)
Matt Gralinski (via email)
Jasion Fruth, Waukesha County Parks and Land Use (via email)

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 14 NORTH, RANGE 18 EAST, ALL IN THE TOWN OF DELAFIELD, WAUKESHA COUNTY, WISCONSIN. TOGETHER WITH A NON-EXCLUSIVE RIGHT OF WAY IN COMMON WITH OTHERS OVER LAKE LANE. TOGETHER WITH INTEREST IN VACATED ORCHARD AVENUE. TOGETHER WITH INTEREST IN VACATED HILL STREET.

LOCATION MAP

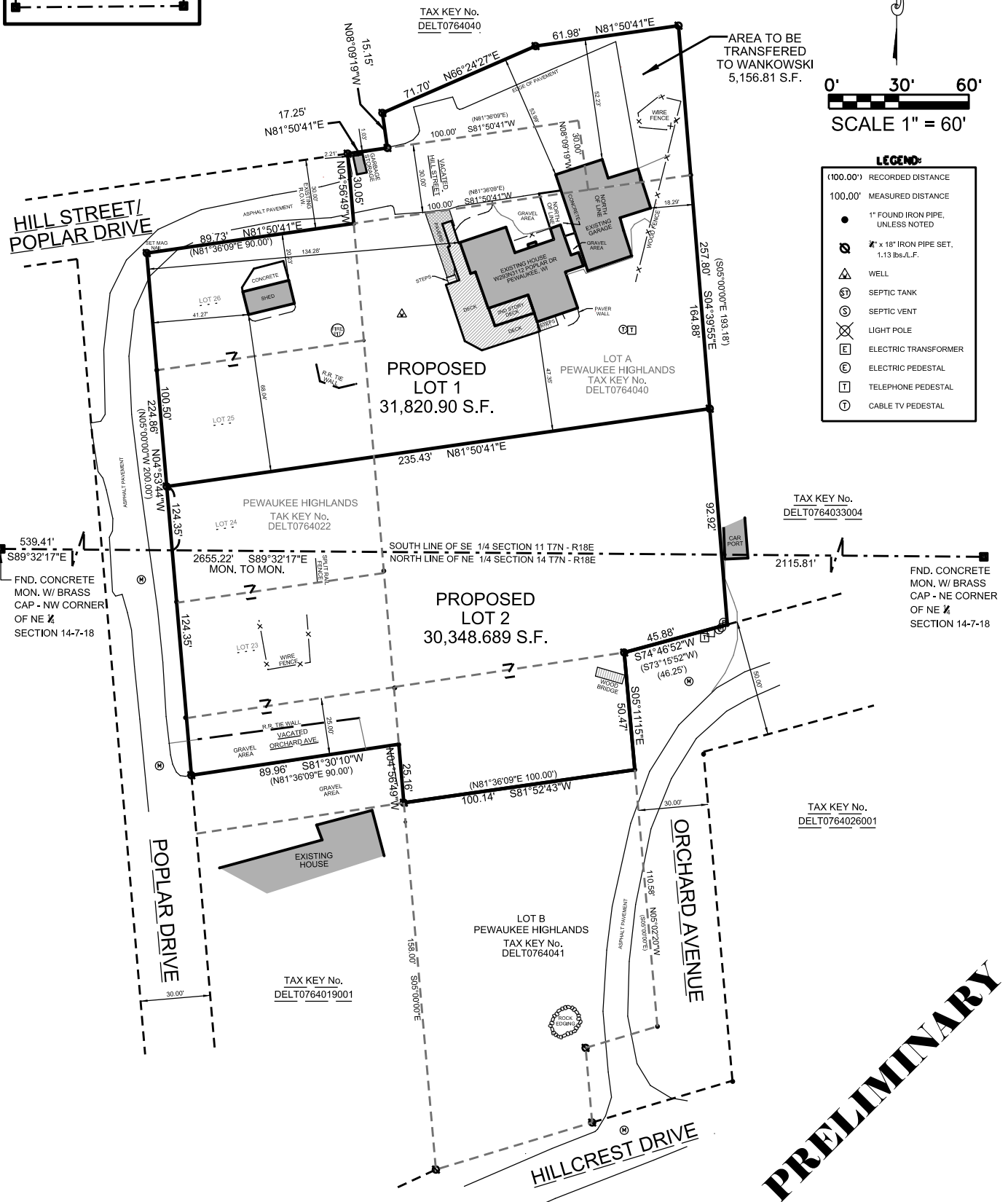


SURVEYOR:
V2G SURVEYING, LLC.
550 BAYVIEW ROAD
SUITE B
MUKWONAGO, WI 53149
262-378-5097
V2G-SURVEYING.COM

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

OWNERS:
WOODRIDGE ESTATES
HOMEOWNERS ASSOCIATION INC
700 LARRY CT C/O ELITE PROPERTIES
WAUKESHA, WI 53186

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.



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

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 14 NORTH, RANGE 18 EAST, ALL IN THE TOWN OF DELAFIELD, WAUKESHA COUNTY, WISCONSIN. TOGETHER WITH A NON -EXCLUSIVE RIGHT OF WAY IN COMMON WITH OTHERS OVER LAKE LANE. TOGETHER WITH INTEREST IN VACATED ORCHARD AVENUE. TOGETHER WITH INTEREST IN VACATED HILL STREET.

SURVEYORS CERTIFICATE:

I, MICHAEL A. GREESON, PROFESSIONAL LAND SURVEYOR, HEREBY CERTIFY THAT I HAVE SURVEYED, DIVIDED AND MAPPED THE FOLLOWING LAND BOUNDED AND DESCRIBED AS FOLLOWS:

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 14 NORTH, RANGE 18 EAST, ALL IN THE TOWN OF DELAFIELD, WAUKESHA COUNTY, WISCONSIN. TOGETHER WITH A NON -EXCLUSIVE RIGHT OF WAY IN COMMON WITH OTHERS OVER LAKE LANE. TOGETHER WITH INTEREST IN VACATED ORCHARD AVENUE. TOGETHER WITH INTEREST IN VACATED HILL STREET. COMMENCING AT THE NORTHWEST CORNER OF THE NORTHEAST 1/4 OF SECTION 14, TOWNSHIP 7 NORTH, RANGE 18 EAST; THENCE ALONG THE NORTH LINE OF SAID NORTHEAST 1/4, 539.41' TO THE POINT OF BEGINNING; THENCE N04°53'44"W, 224.85' TO THE NORTHWEST CORNER OF LOT 26, PEWAUKEE HIGHLANDS SUBDIVISION; THENCE N81°50'41"E ALONG THE SOUTH LINE OF HILL STREET AS PLATTED, 89.73' TO THE NORTHEAST CORNER OF SAID LOT 26, SAID POINT BEING THE SOUTHWEST CORNER OF VACATED HILL STREET; THENCE N04°56'49"W, 30.05' TO A POINT ON THE NORTH LINE OF HILL STREET; THENCE N81°50'41"E ALONG THE NORTH LINE OF VACATED HILL STREET; THENCE N08°09'19"W, 15.15' TO A POINT; THENCE N66°24'27"E, 71.70' TO A POINT; THENCE N81°50'41"E, 61.98' TO A POINT; THENCE S04°39'55"E, 257.80' TO A POINT ON THE NORTHERLY LINE OF ORCHARD AVENUE; THENCE S74°46'52"W ALONG SAID NORTHERLY LINE, 45.88' TO A POINT; THENCE S05°11'15"E, 50.47' TO THE NORTHEAST CORNER OF LOT B, PEWAUKEE HIGHLANDS SUBDIVISION; THENCE S81°52'43"W, 100.14' TO THE SOUTHEAST CORNER OF ORCHARD AVENUE; THENCE N04°56'49"W, 25.16' TO A POINT ON THE CENTERLINE OF VACATED ORCHARD AVENUE; THENCE S81°30'10"W, 89.96' TO A POINT ON THE EASTERLY RIGHT OF WAY FOR POPLAR DRIVE; THENCE N04°53'44"W, 1235.35' TO THE POINT OF BEGINNING. DESCRIBED LANDS HAVING AN AREA OF 62,169.59 SQUARE FEET OR 1.43 ACRES MORE OR LESS.

THAT I HAVE MADE SAID SURVEY BY THE DIRECTION OF RUSSELL A WANKOWSKI, LORA L WANKOWSKI AND WOODRIDGE ESTATES HOMEOWNERS ASSOCIATION, INC..

THAT SUCH MAP IS A CORRECT REPRESENTATION OF THE EXTERIOR BOUNDARIES OF THE LAND SURVEYED AND THE DIVISION THEREOF.

THAT I HAVE FULLY COMPLIED WITH PROVISIONS OF S. 236.34 OF THE WISCONSIN STATUES AND THE SUBDIVISION CONTROL ORDINANCE OF WAUKESHA COUNTY AND THE TOWN OF DELAFIELD AND THE CITY OF DELAFIELD (EXTRATERRITORIAL) IN SURVEYING AND MAPPING THE SAME.

DATED THIS _____ DAY OF _____, 2023.

MICHAEL A. GREESON P.L.S. 2770

OWNERS CERTIFICATE:

AS OWNERS RUSSELL A. AND LORA L. WANKOWSKI WE HEREBY CERTIFY THAT WE CAUSED SAID LANDS TO BE SURVEYED AND MAPPED AS SHOWN ON THIS MAP. WE ALSO CERTIFY THAT THIS CSM IS REQUIRED TO BE SUBMITTED TO THE FOLLOWING FOR APPROVAL: WAUKESHA COUNTY, TOWN OF DELAFIELD AND CITY OF DELAFIELD (EXTRATERRITORIAL).

WITNESS THE HAND AND SEAL OF SAID OWNWERS:

THIS _____ DAY OF _____, 2023.

RUSSELL A. WANKOWSKI, OWNER

LORA L. WANKOWSKI, OWNER

STATE OF WISCONSIN)
) ss.
_____ COUNTY)

PERSONALLY CAME BEFORE ME THIS ___ DAY OF _____, 2023, THE ABOVE NAMED RUSSELL A. AND LORA L. WANKOWSKI, TO ME KNOWN TO BE THE PERSONS WHO EXECUTED THE FOREGOING INSTRUMENT AND ACKNOWLEDGED THE SAME.

NOTARY SIGNATURE _____

PRINT NAME _____

MY COMMISSION EXPIRES _____



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 14 NORTH, RANGE 18 EAST, ALL IN THE TOWN OF DELAFIELD, WAUKESHA COUNTY, WISCONSIN. TOGETHER WITH A NON -EXCLUSIVE RIGHT OF WAY IN COMMON WITH OTHERS OVER LAKE LANE. TOGETHER WITH INTEREST IN VACATED ORCHARD AVENUE. TOGETHER WITH INTEREST IN VACATED HILL STREET.

OWNERS CERTIFICATE:

AS AGENT FOR WOODRIDGE ESTATES HOMEOWNERS ASSOCIATION INC. I, HEREBY CERTIFY THAT WE CAUSED SAID LANDS TO BE SURVEYED AND MAPPED AS SHOWN ON THIS MAP. WE ALSO CERTIFY THAT THIS CSM IS REQUIRED TO BE SUBMITTED TO THE FOLLOWING FOR APPROVAL: WAUKESHA COUNTY, TOWN OF DELAFIELD AND CITY OF DELAFIELD (EXTRATERRITORIAL).

WITNESS THE HAND AND SEAL OF SAID OWNERS:

THIS _____ DAY OF _____, 2023.

_____, AGENT

_____, (PRINT NAME)

STATE OF WISCONSIN)
) ss.
_____ COUNTY)

PERSONALLY CAME BEFORE ME THIS _____ DAY OF _____, 2023, THE ABOVE NAMED RUSSELL A. AND LORA L. WANKOWSKI, TO ME KNOWN TO BE THE PERSONS WHO EXECUTED THE FOREGOING INSTRUMENT AND ACKNOWLEDGED THE SAME.

NOTARY SIGNATURE _____

PRINT NAME _____

MY COMMISSION EXPIRES _____

TOWN OF DELAFIELD PLAN COMMISSION APPROVAL CERTIFICATE:

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

KEVIN FITZGERLAD - 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.

KENT ATTWELL - MAYOR

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





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.

PETITION FOR LAND USE AMENDM

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

PETITION FOR CONDITIONAL USE

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

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.



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:

Russ Wankowski *RW*

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: _____

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 OF DELAFIELD PLAN COMMISSION MEETING
Tuesday September 15, 2015
7:00 p.m.
Town of Delafield Town Hall

1. Call to Order and Pledge of Allegiance
2. Approval of the minutes of August 4, 2015
3. Communications (for discussion and possible action): None
4. Unfinished Business: None
5. New Business:
 - A. HSI Properties, Ryan Schultz, agent, Re: Consideration and possible action on the approval of revised site plan to allow the construction of a micro-bulk oxygen system on the north side of the Orthopaedic Associates of Wisconsin medical clinic/surgery center located on the north side of Golf Road, approximately 1800 feet west of CTH SS.
 - B. Cory O'Donnell, Neumann Properties, Re: Consideration and possible action on the following items:
 1. Quit Claim Deed for lands that encroach into Outlot 9 of the Woodridge Estates Subdivision.
 2. Revisions to the Woodridge Estates II landscape plan due to the County not allowing trees to be planted on the berms surrounding the stormwater ponds.
 - C. Lois M McClellan Life Trust, Lisa McClellan-Tomann agent, Re: Consideration and possible action on a request to consider an accessory building to be rustic as defined in Section 17.02 the Town Zoning Code, located at W329 S152 Kettle Moraine Drive (CTH C).
6. Discussion:
 - A. Sundance Enterprises, by Lisa McClellan-Tomann, agent for the property located at W329 S152 Kettle Moraine Drive (CTH C), Re: Discussion related to potential development of a 15.6 acre parcel located south and east of the above noted address into four residential home sites.
 - B. Daniel Reehoff, Dayspring Baptist Church, Re: Discussion related to the development of a church facility on lands currently owned by Pro Healthy Care located on the south side of Silvernail Road approximately 2,300 feet west of Elmhurst Road.
7. Announcements and Planning Items:

Next meeting - Tuesday, October 6, 2015
8. Adjournment

Mary T. Elsner, CMC, WCMC
Town Clerk

The Plan Commission may take action on any item on the agenda. It is possible that members of and possibly a quorum of members 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. Please note that, 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 Mary Elsner, Town Clerk, at W302 N1254 Maple Avenue, Delafield, WI 53018-2117. This agenda is for informational purposes only. Posted on 9/11/15

**TOWN OF DELAFIELD
PLAN COMMISSION MEETING
Tuesday, September 15, 2015**

Members present: L. Krause, P. Kanter, C. Dundon, E. Kranick, B. Cooley, G. Reich
Member excused: T. Oberhaus
Also present: T. Barbeau, *Town Engineer*, 7 citizens

First order of business: Call to Order and Pledge of Allegiance

Acting Chairman Kanter called the meeting to order at 7:00 p.m. and led all in the Pledge of Allegiance.

Second order of business: Approval of the minutes of August 5, 2015

MOTION BY MR. REICH, SECONDED BY MR. COOLEY, TO APPROVE THE MINUTES OF THE AUGUST 5, 2015 PLAN COMMISSION MEETING. MOTION CARRIED.

Third order of business: Communications (for discussion and possible action): None

Fourth order of business: Unfinished Business: None

Fifth order of business: New Business:

- A. HSI Properties, Ryan Schultz, agent
Re: Consideration and possible action on the approval of revised site plan to allow the construction of a micro-bulk oxygen system on the north side of the Orthopaedic Associates of Wisconsin medical clinic/surgery center located on the north side of Golf Road, approximately 1800 feet west of CTH SS.

Engineer Barbeau reported the architect for the OAW building submitted information for the construction of a micro-bulk oxygen system that would be located on the north side of the building, 18 ft. west of the brick dumpster enclosure. The location of the proposed equipment is at the least intrusive location around the building. This was not presented to the Town during the initial reviews of the project since a room for the oxygen had originally been planned inside the building. It has been determined that it would be better for OAW to have a larger supply of oxygen available and the equipment needs to be positioned outside. Some of the equipment will rise above the fence height and cannot be tightly screened like the dumpster enclosure. The National Fire Prevention Association suggests having a block wall between the tanks and the dumpster area. The Town Fire Chief would like the wall to be 12 ft. tall. Engineer Barbeau asked the architect to consider other options for screening. He recommends that the equipment be screened to the greatest extent practicable and that additional landscaping be done in a location to be determined once the equipment is in place in order to make sure the actual site lines are softened. If the sight lines to the equipment are determined by the Town to be adequate once the construction is complete, then the additional landscaping could be placed in different locations on the site.

T.J. Morley, Eppstein Uhen : Architects representing OAW, presented a photo of Orsogril (pattern: Talia-80) as an enclosure option. Responding to questions from Plan Commission members, he stated proper clearance for ventilation is needed no matter where the tanks are placed on the property. Making the enclosure taller is possible, but creates a larger, more visible item. The garbage enclosure is 8 ft. high and the oxygen tank enclosure could match that. The tanks are permanent – a tanker will pull up and fill them. He is confident that the elevation drawing of the proposed enclosure is a good representation. The tree planned for this area will be moved to another location. Mr. Morley thinks the staff recommendation of waiting to see what's necessary for screening and then planting what's needed is a good idea.

MOTION MADE BY MR. KRAUSE, SECONDED BY MS. DUNDON, TO APPROVE THE REVISED SITE PLAN TO ALLOW THE CONSTRUCTION OF A MICRO-BULK OXYGEN SYSTEM ON THE NORTH SIDE

OF THE ORTHOPAEDIC ASSOCIATES OF WISCONSIN MEDICAL CLINIC/SURGERY CENTER WITH THE MODIFICATION THAT IT INCLUDE THE ORSOGRIL ENCLOSURE AT THE HEIGHT OF 8 FT. TO BE CONSISTENT WITH THE HEIGHT OF THE DUMPSTER ENCLOSURE AND THAT IT MEET THE NATIONAL FIRE PREVENTION ASSOCIATION (NFA) REQUIREMENTS INCLUDING A STATEMENT FROM THE ARCHITECT THAT THESE REQUIREMENTS HAVE BEEN MET. MOTION CARRIED.

Mr. Kranick recused himself and left the room

B. Cory O'Donnell, Neumann Properties

Re: Consideration and possible action on the following items:

1. Quit Claim Deed for lands that encroach into Outlot 9 of the Woodridge Estates Subdivision.
2. Revisions to the Woodridge Estates II landscape plan due to the County not allowing trees to be planted on the berms surrounding the stormwater ponds.

At the time that Woodridge Estates Phase I was recorded, it was noted that there was an encroachment into Outlot 9 from a resident who lives at the end of Poplar Drive. The Neumann Companies retained Outlot 9 until they could resolve the encroachment on behalf of the future owners of Outlot 9 (Woodridge Estates subdivision property owners). After negotiating with the property owner, Neumann Companies has decided to quit claim deed a 1,327 sq. ft. portion of Outlot 9 to the homeowner such that there will be no encroachment of the existing house into Outlot 9. The resultant land area will be slightly different than the description in the CUP, thereby requiring notification and approval by the Plan Commission. The house is located in a R-3 zoning district which requires a 20 ft. offset. The proposed quit claim deed provides a 21 ft. offset (20 ft. required). They are also proposing to create a driveway and parking easement since some pavement will remain within the boundaries of Outlot 9. Town Plan Commission approval of the change is needed.

Engineer Barbeau explained that the proposed change in the area was anticipated and does not affect the required open space on the entirety of the development. He recommended that the CUP be re-recorded with the new legal description that excepts the land transferred by the quit claim deed.

The Town Attorney has expressed concerns as to the legality of the proposed quit claim. No action can be taken at this time. The Plan Commission agreed in concept of what Mr. O'Donnell was proposing.

MOTION BY MS. DUNDON, SECONDED BY MR. COOLEY, TO DIRECT THE TOWN ENGINEER TO WORK OUT THE DETAILS WITH THE PROPERTY OWNERS AND THE TOWN ATTORNEY. MOTION CARRIED.

The Neumann Companies also submitted a revised landscape plan for the Woodridge Estates II subdivision. Waukesha County Land Resources Division has requested that no trees with substantial roots be planted in the compacted soil of the stormwater basin berms. The revised plans include split rail fence and shrubs in place of the proposed trees on the berm.

Cory O'Donnell, Neumann Companies, Inc., stated it is their intention to add some shrubbery, especially along Franciscan Rd. No trees can be on the berm. The north side of Franciscan Rd. will still have trees; the other areas will have trees removed and replaced by split rail fencing and shrubbery. Neither the County nor the Town has encountered this situation before. Shrubs often provide more screening than trees so they anticipate nice screening from the revised plantings.

MOTION BY MS. DUNDON, SECONDED BY MR. KRAUSE, TO APPROVE THE REVISED WOODRIDGE ESTATES II LANDSCAPE PLAN. MOTION CARRIED.

Mr. Kranick returned to the room.

C. Lois M McClellan Life Trust, Lisa McClellan-Tomann, agent

Re: Consideration and possible action on a request to consider an accessory building to be rustic as defined in Section 17.02 the Town Zoning Code, located at W329 S152 Kettle Moraine Drive (CTH C).

Engineer Barbeau explained that the applicant is seeking approval from the Plan Commission to consider an existing accessory structure to be a rustic structure. This would allow them to build an addition to the structure or a separate structure for storage of equipment that is currently stored outside. The accessory structure is a compilation of an older structure and a number of additions. He has visited the site and considers a portion of the structure to be rustic based on the foundation wall and some of the wood siding. The base of the structure that is close to Hwy. C is old, stacked stone. The Town has allowed property owners to improve their barns in the past. Some of this building is old, but does not have the same construction techniques as the westerly portion. Rustic Buildings and Structures are defined and restrictions are explained in Section 17.02 2 of the Town Zoning Code. A decision from the Plan Commission is needed in order to declare part of the building "rustic". He recommended that a portion of the structure be designated as rustic. That portion being the northwest part of the structure that is approximately 20 ft. by 40 ft. The balance of the building would not be considered rustic. Declaring part of the building "rustic" would place some restrictions on the building for the future.

Tim Tomann, representing Lois McClellan, stated the original cornerstone was laid around 1840. Several additions to the building have been made but it still looks like the original. They want to keep the look of the old barn but need to expand it so they can store all of their equipment inside where it will be secure. The timbers in the original part of the building date to the 1840s. He wants to change the property restrictions so he can have more space and will be able to close the doors on the finished structure. The property is next to a public park and the owner is having a problem with theft. Having a portion declared "rustic" would allow them to build the size of structure that they need.

Plan Commission comments included:

- Having a stone foundation doesn't necessarily qualify this as a rustic structure;
- The actual foundation is load-bearing on all four sides. The proposed construction will make the building look more age-appropriate (1840s). The photos presented were discussed.
- This is not what the Town intended when it created the Ordinance to preserve rustic structures. The intent was to preserve historical and rustic structures, not to recognize a modern building that is placed on an old foundation. The Ordinance should not be used as a way for a property owner to get around the Town's open space requirements. Visually, there is nothing about this building that separates it from any other free-standing garage anywhere in the Town.

MOTION BY MR. REICH, SECONDED BY MR. COOLEY, NOT TO APPROVE THE REQUEST TO CONSIDER THIS ACCESSORY BUILDING TO BE RUSTIC. MOTION CARRIED WITH MR. REICH, MR. COOLEY, MR. KRAUSE AND MR. KANTER VOTING "YES" AND MS. DUNDON AND MR. KRANICK VOTING "NO".

Sixth order of business:

Discussion:

- A. Sundance Enterprises, by Lisa McClellan-Tomann, agent for the property located at W329 S152 Kettle Moraine Drive (CTH C)
Re: Discussion related to potential development of a 15.6 acre parcel located south and east of the above noted address into four residential home sites.

Tim Tomann represented the property owners. The first parcel was purchased by Ms. McClellan-Tomann's father who wanted his descendants to eventually move into homesteads on the property. One relative would like to build on a 3 acre parcel out of the total 16 acres. A wetland area was delineated on this property in 2005. After a study by the DNR, a different area was declared wetland. The family hired R.A. Smith National to delineate the wetland. The family would like to create lots on the property without creating a subdivision. The County will allow a culvert/driveway as was permitted in 1994.

The Plan Commission responded that Town Code allows properties not abutting a road to have a 66 ft. wide permanent easement for access. Emergency vehicles need to be able to pass on the road. The wetland area could be made part of one of the lots the family creates. The family should talk with the Town Assessor regarding their concerns about paying taxes on the wetland area. The Plan Commission stated it is designed to receive proposals, not to negotiate the development of a property or to save the developers money. Members encouraged the owners to work with a designer to lay their development out once they determine how many lots they want to have.

B. Daniel Reehoff, Dayspring Baptist Church

Re: Discussion related to the development of a church facility on lands currently owned by ProHealth Care located on the south side of Silvernail Road approximately 2,300 feet west of Elmhurst Road.

Rev. Reehoff explained the background of Dayspring Baptist Church. They currently lease a building on the east side of Waukesha. The church holds traditional Sunday services, a Wednesday night Bible study, a Friday night outreach program. The administrative offices are open during normal business hours on weekdays and on Sunday. Many members homeschool, but he anticipates the possibility of a school (30-50 students); a daycare program; potluck dinners (nothing for sale); occasional outdoor picnics and services; a playground (swing sets) and a possible baseball field (not a football field) in the future. With the noise from I-94, he doesn't expect the neighbors to notice a difference in sound/noise level in the area. He showed a rendering of a possible church building and stated that as the church grows they may need a larger building with added parking. The church likes to be involved in the community and help with area needs. They are open to the use of the building as a Town polling location. The parcel is approximately 35.8 acres. For now, much of the property would continue to be farmed. There are no immediate plans for development south of the tree lines or where the former farm buildings were located.

Engineer Barbeau explained that Silvernail Rd. is a County-controlled road. The Town planned for access to this property to be off Cross Creek Ct. so an additional entrance would not be added on Silvernail Rd. There is currently one driveway for this property on Silvernail Rd. Typical commercial entrances are at least 600 ft. apart per WisDOT. The land is zoned A-1 with the land use plan calling for office type commercial, low-key use. With residential properties on 3 sides of this parcel, lighting is a concern. Limitations could be placed in the Conditional Use Permit regarding activities, athletic events, lighting, and low-impact use except on Sunday morning.

Plan Commission members encouraged Rev. Reehoff to work with Engineer Barbeau to create the Conditional Use documents. They stated the Town is welcoming to churches and this is a great use for that property.

Seventh order of business: Announcements and Planning Items:

Next meeting – Tuesday, October 6, 2015
Election for State Assembly District 99 – September 29

Eighth order of business: Adjournment

MOTION BY MR. KRANICK, SECONDED BY MR. REICH, TO ADJOURN AT 9:04 P.M. MOTION CARRIED.

Respectfully submitted,

Lauren Beale
Deputy Clerk/Treasurer

Minutes approved on: October 6, 2015

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 66.0404 (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



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.

PETITION FOR LAND USE AMENDMENT

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

PETITION FOR CONDITIONAL USE

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

PETITION FOR CERTIFIED SURVEY MAP / PRELIMINARY PLAT / FINAL PLAT

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

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.



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.
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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: _____

**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 & 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:



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

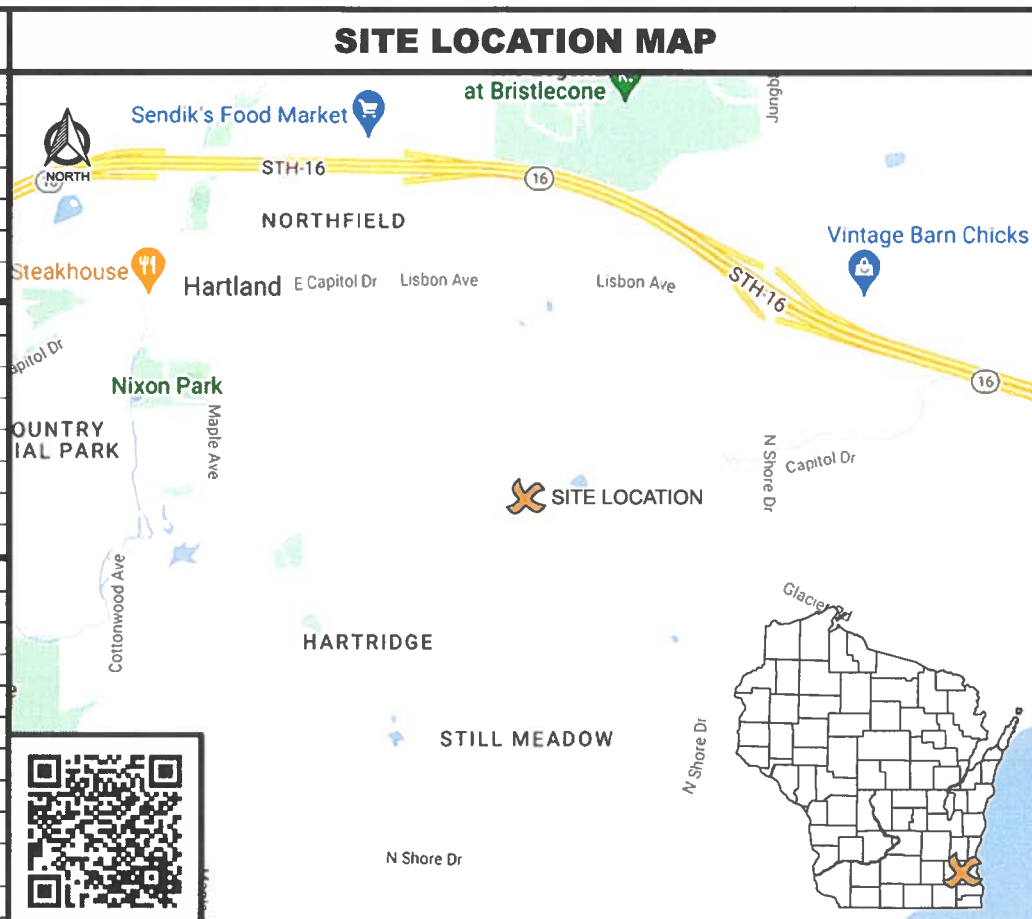
CLIENT:
uscellular
 U.S. CELLULAR
 8410 W. BRYN MAWR AVE.
 SUITE 700
 CHICAGO, IL 60631

ENGINEER SEAL:

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**

SCOPE OF WORK			
TOWER SCOPE			
C-Band & DoD SCOPE (TO BE INSTALLED)			
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
MODERNIZATION SCOPE (REMAIN/RELOCATE)			
ANTENNA(S)/EQUIP.	3	RAYCAP SPD(S)	TO REMAIN
TRANSMISSION CABLE(S)	3	1-1/4" EUPEN HYBRID CABLE(S)	TO REMAIN
COMPOUND SCOPE			
	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
SHELTER INTERIOR SCOPE			
MODERNIZATION SCOPE (REMAIN/RELOCATE)			
EQUIPMENT:	3	RAYCAP SPD(S)	TO REMAIN
GROUND BAR(S):	-	GROUND BAR AT COAX PORT*	TO REMAIN
C-Band & DoD SCOPE (TO BE INSTALLED)			
AUX RACK:	-	BASE BAND UNIT (BBU)	BY OTHERS
* BRING UP TO U.S. CELLULAR STANDARDS AS NECESSARY			
SPECIAL REQUIREMENTS			
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°

SHEET INDEX	
NO.:	SHEET TITLE
G-001	TITLE SHEET
C-101	SITE PLAN
C-102	ENLARGED SITE PLAN
C-501	GPS DETAILS
A-101	SHELTER INTERIOR PLAN
A-501	BLOCK DIAGRAM
T-001	EQUIPMENT SPECIFICATIONS
T-201	SITE ELEVATION
T-301	ANTENNA CONFIGURATION @ 189.0'
T-302	ANTENNA CONFIGURATION @ 136.0'
T-501	INSTALLATION DETAILS
T-502	CABLE DETAILS
T-503	CABLE BANDING DETAILS
V-501	CABLE ROUTING
P-501	PLUMBING DIAGRAM
E-501	GROUNDING DETAILS

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

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

CHECKED BY:	PCM
PLOT DATE:	6/20/2023
PROJECT NUMBER:	34698
SET TYPE:	FINAL
SHEET NUMBER:	G-001

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



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-101 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.

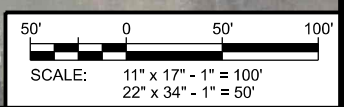
SITE PLAN
DELAFIELD (784310)
PEWAUKEE, WISCONSIN

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	C-101

- 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.



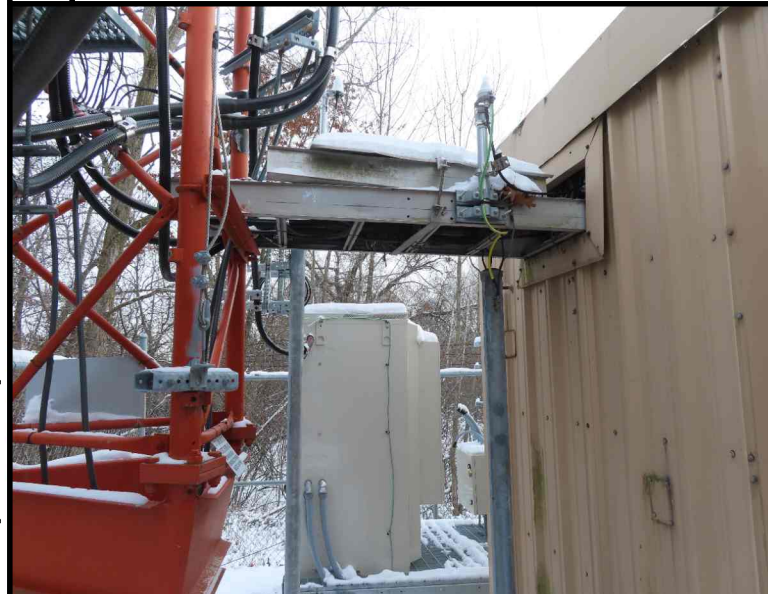
C:\34698\34698\Design\CAD\CDD\Plan\C-101.dgn



A COMPOUND OVERVIEW



B COMPOUND OVERVIEW



C ICE BRIDGE



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.

CONSULTANT:
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 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-102 FOR ENGINEER'S
 STAMP AND SIGNATURE

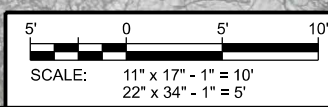
I HEREBY CERTIFY THAT THIS PLAN SET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION OTHER THAN THE EXCEPTIONS NOTED IN THE SHEET INDEX, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF WISCONSIN.

ENLARGED SITE PLAN
DELAFIELD (784310)
PEWAUKEE, WISCONSIN

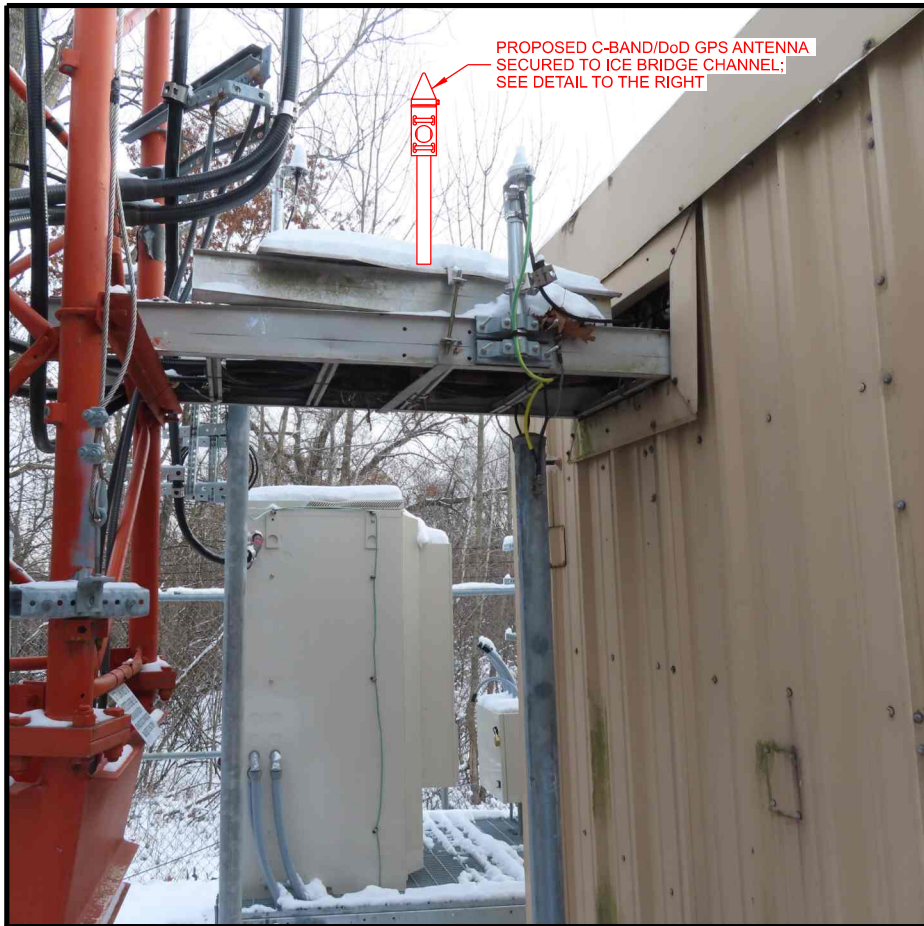
SUBMITTAL:

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	C-102

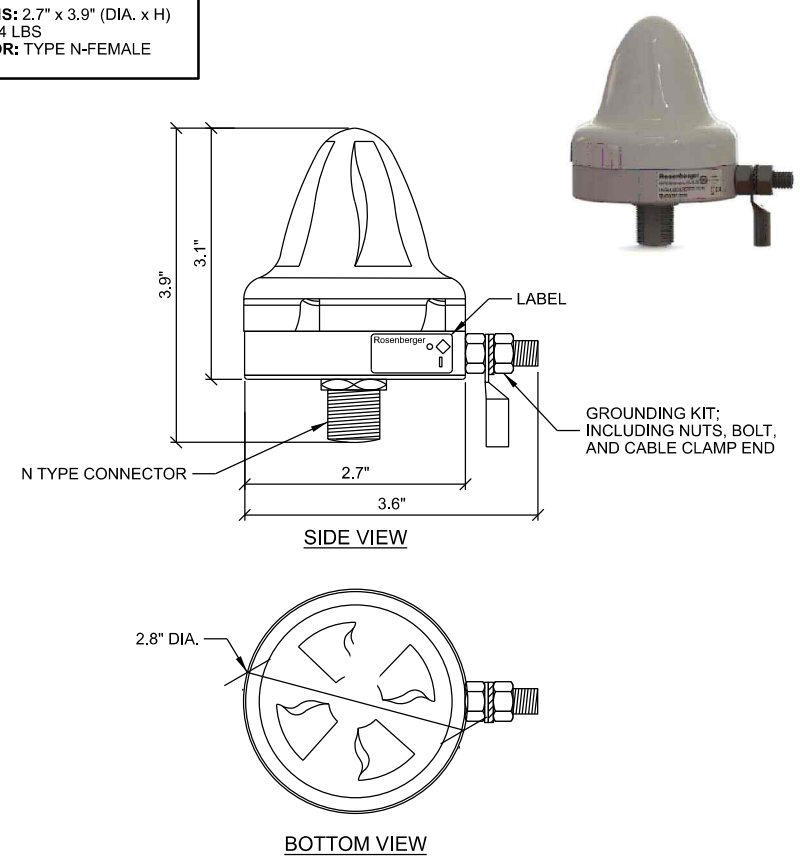


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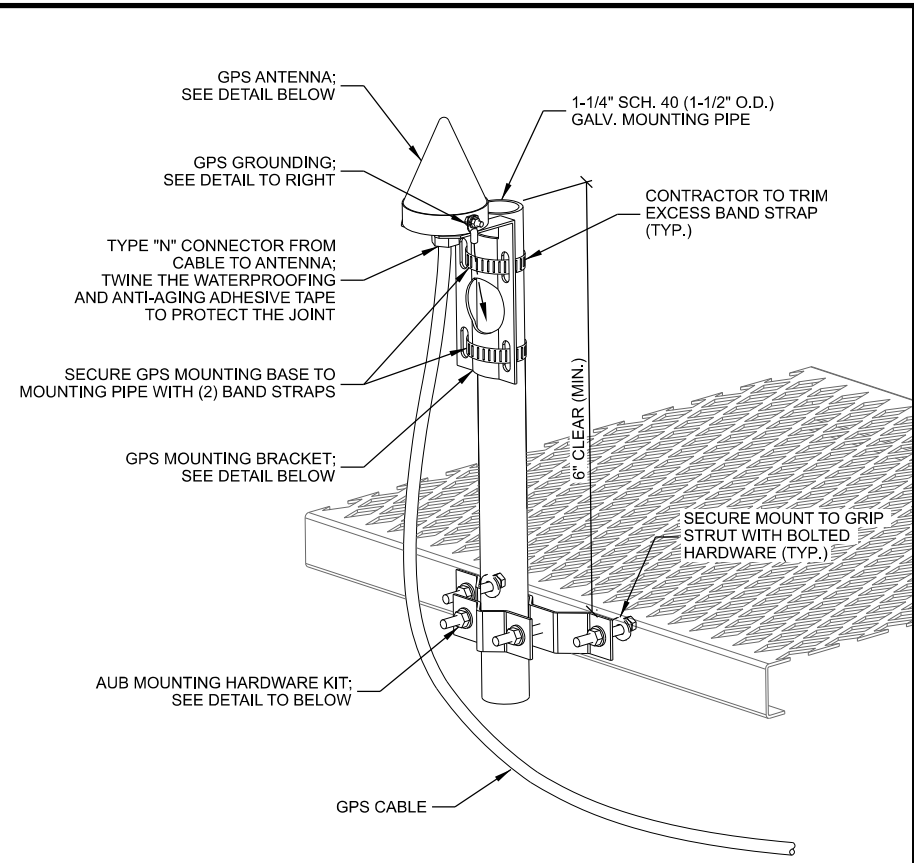


A PROPOSED GPS ANTENNA LOCATION

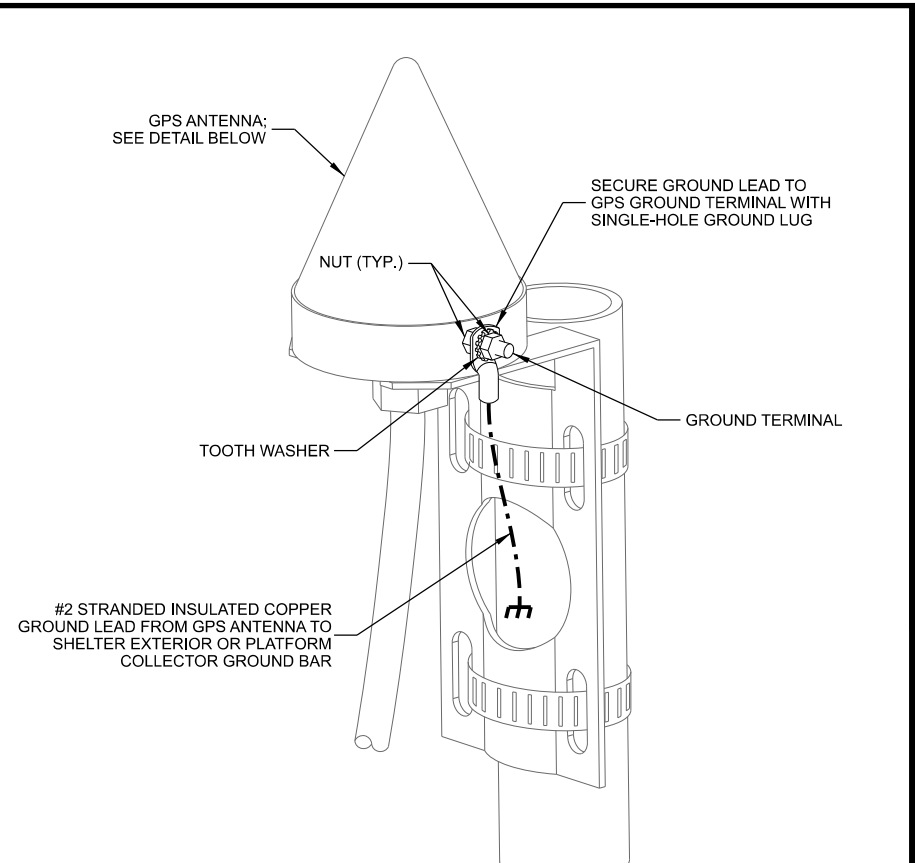
DIMENSIONS: 2.7" x 3.9" (DIA. x H)
 WEIGHT: 0.4 LBS
 CONNECTOR: TYPE N-FEMALE



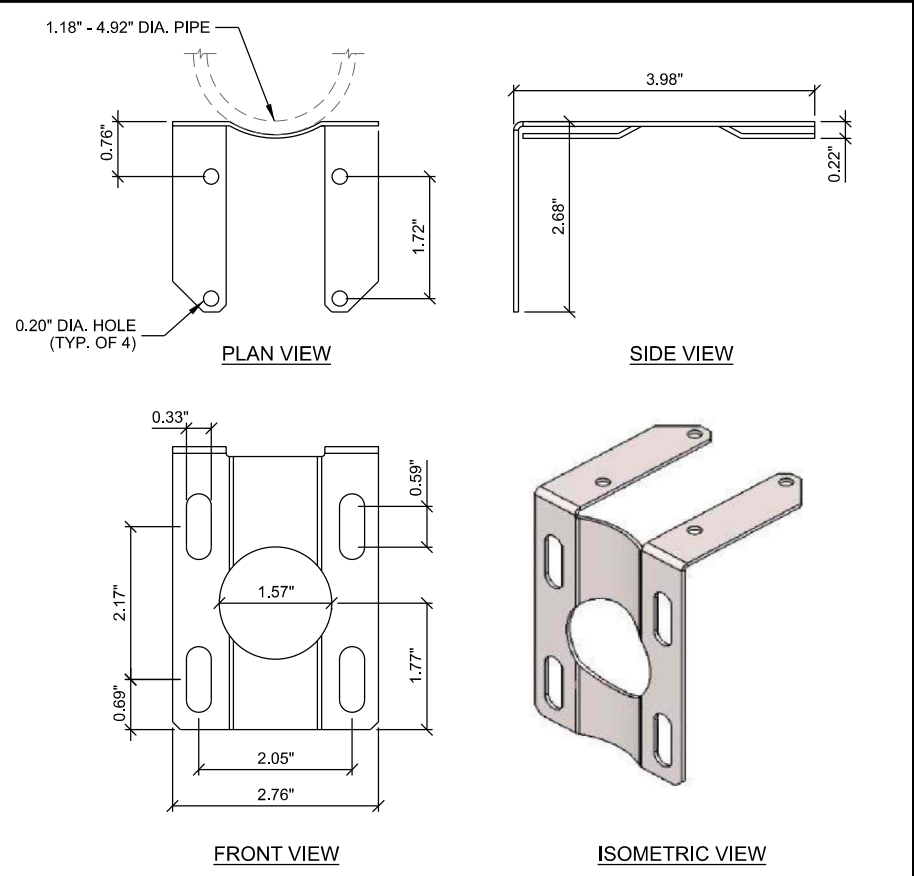
D GPS ANTENNA



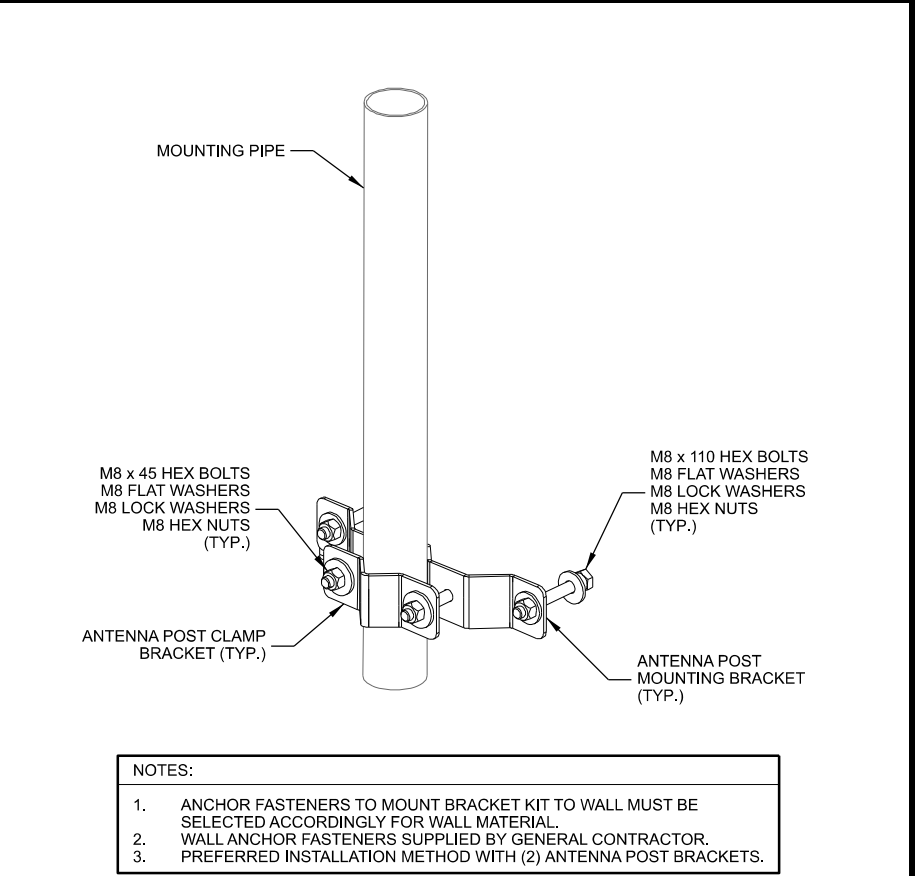
B GPS ANTENNA MOUNTING



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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 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 G-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.

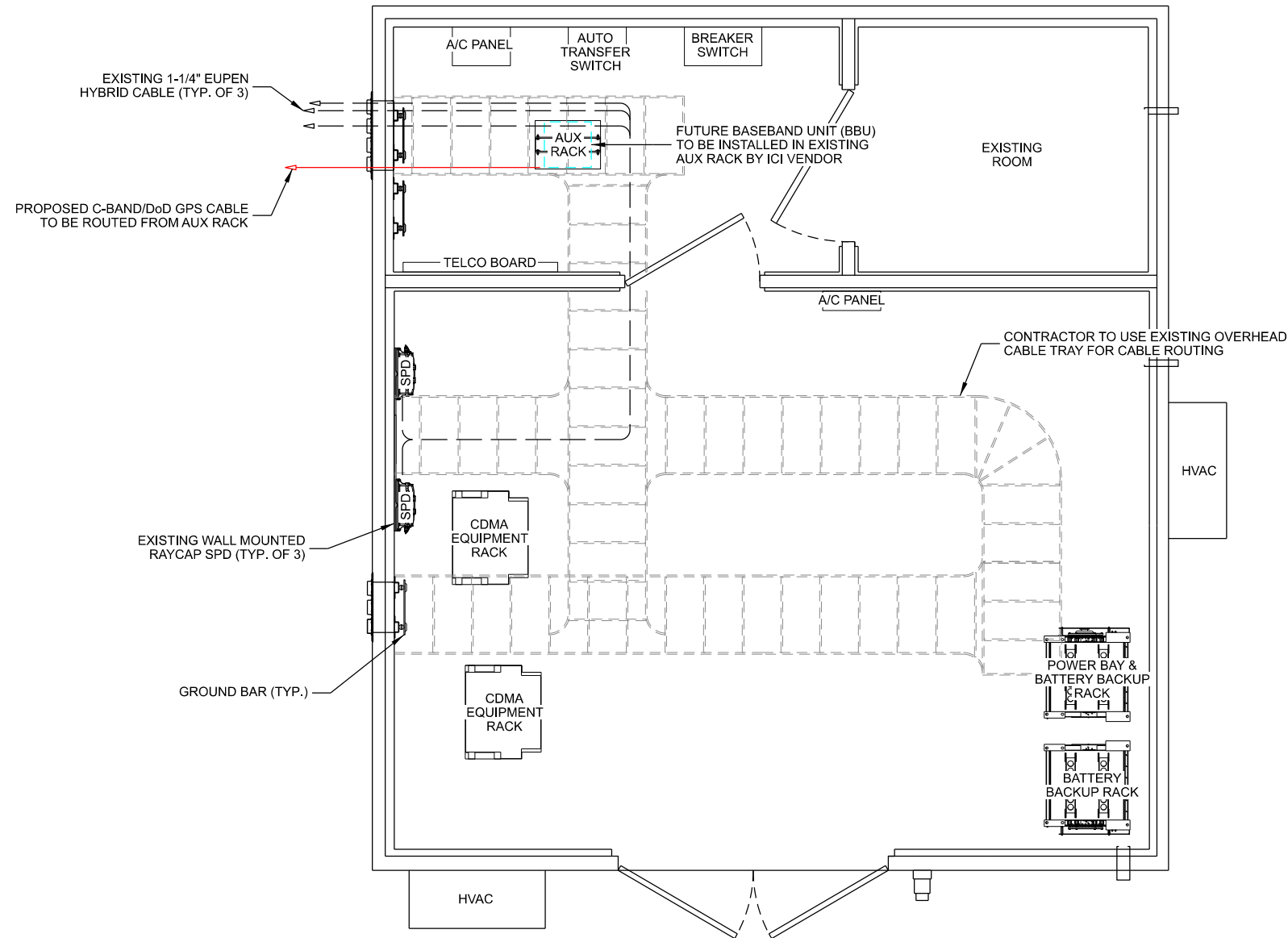
GPS DETAILS
 DELAFIELD (784310)
 PEWAUKEE, WISCONSIN

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	C-501

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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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 CHICAGO, IL 60631

ENGINEER SEAL:
 - APPROVED -
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 STAMP AND SIGNATURE

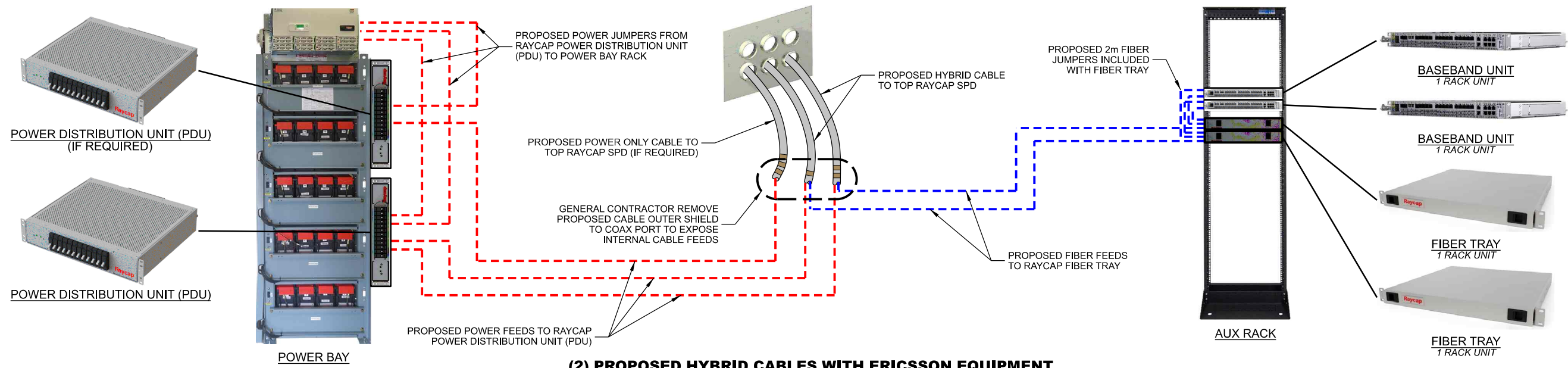
I HEREBY CERTIFY THAT THIS PLAN SET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION OTHER THAN THE EXCEPTIONS NOTED IN THE SHEET INDEX, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF WISCONSIN.

SHELTER INTERIOR PLAN
 DELAFIELD (784310)
 PEWAUKEE, WISCONSIN

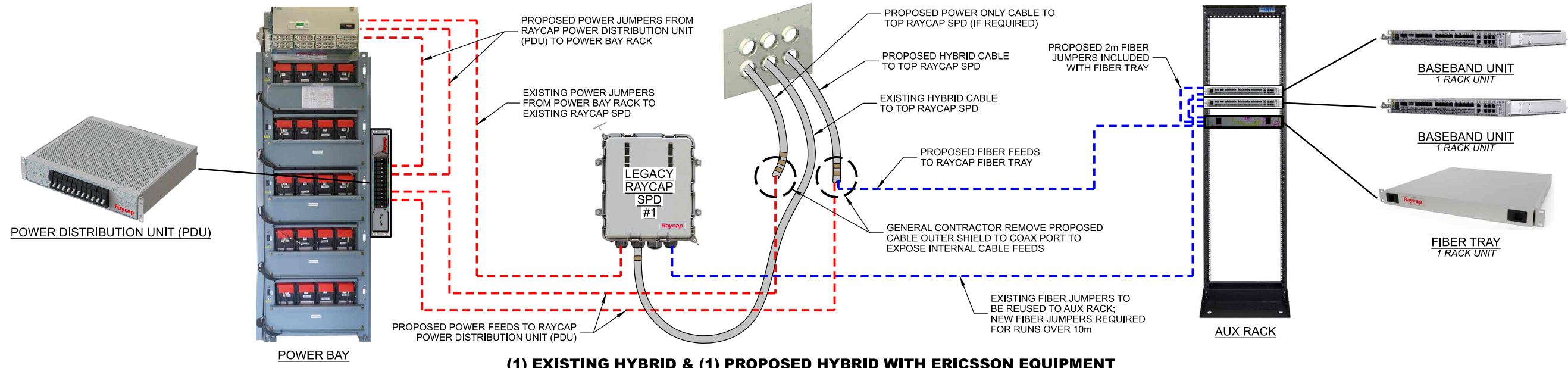
SUBMITTAL:

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

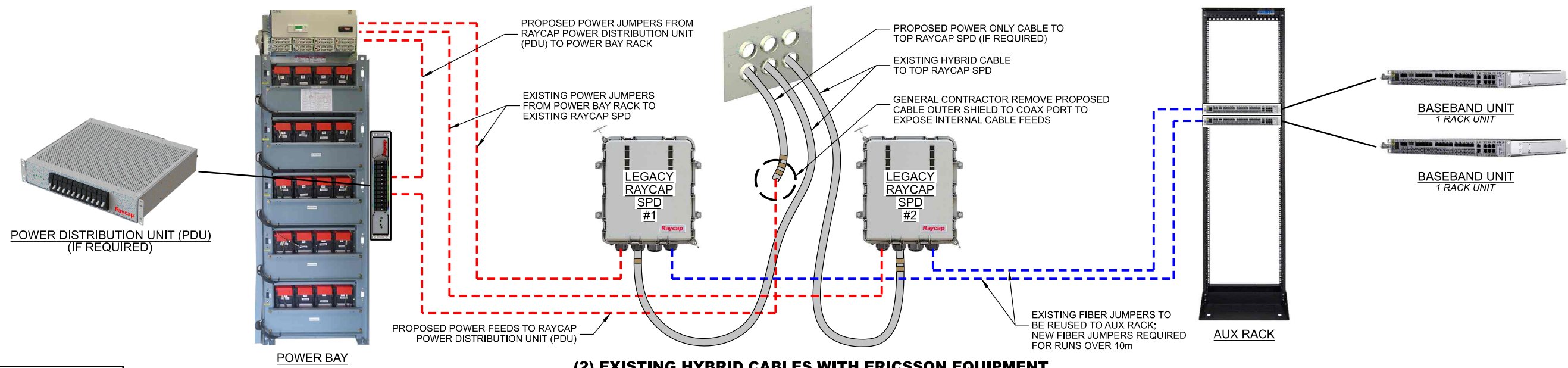
CHECKED BY	PCM
PLOT DATE	6/20/2023
PROJECT NUMBER	34698
SET TYPE	FINAL
SHEET NUMBER	A-101



(2) PROPOSED HYBRID CABLES WITH ERICSSON EQUIPMENT



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



(2) EXISTING HYBRID CABLES WITH ERICSSON EQUIPMENT

CONSULTANT:
Edge
 Consulting Engineers, Inc.
 624 WATER STREET
 PRAIRIE DU SAC, WI 53578
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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
 STAMP AND SIGNATURE

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BLOCK DIAGRAM
 DELAFIELD (784310)
 PEWAUKEE, WISCONSIN

SUBMITTAL:

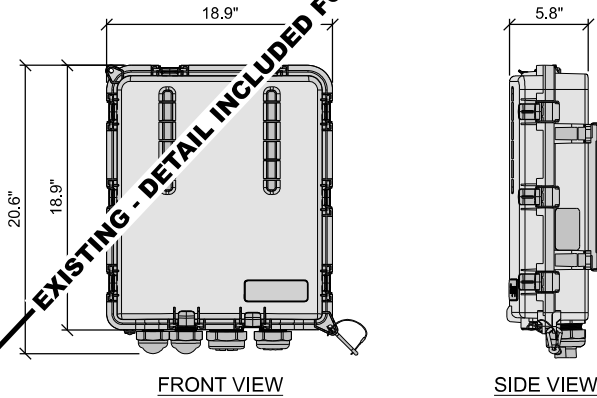
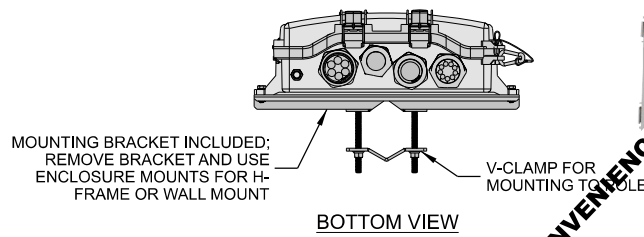
INT.	DATE	DESCRIPTION:
JSM	05/23/23	REV. A
JSM	06/07/23	REV. B
JSM	06/20/23	REV. 0

CHECKED BY	PCM
PLOT DATE	6/20/2023
PROJECT NUMBER	34698
SET TYPE	FINAL
SHEET NUMBER	A-501

C:\34698\Design\CAD\CDD\Plan\A-501.dgn

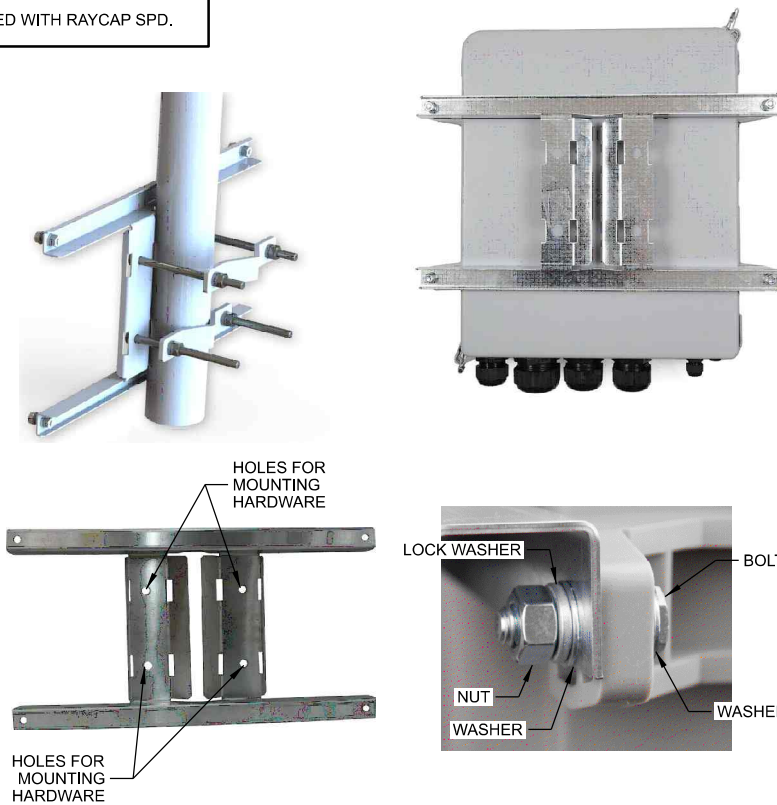
DATE CREATED: 03/01/2022

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



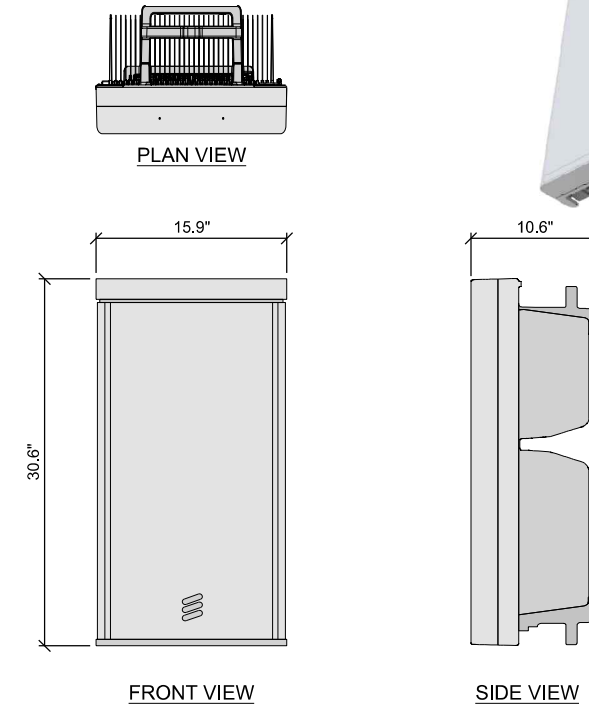
A RAYCAP SURGE PROTECTOR DEVICE (SPD)

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



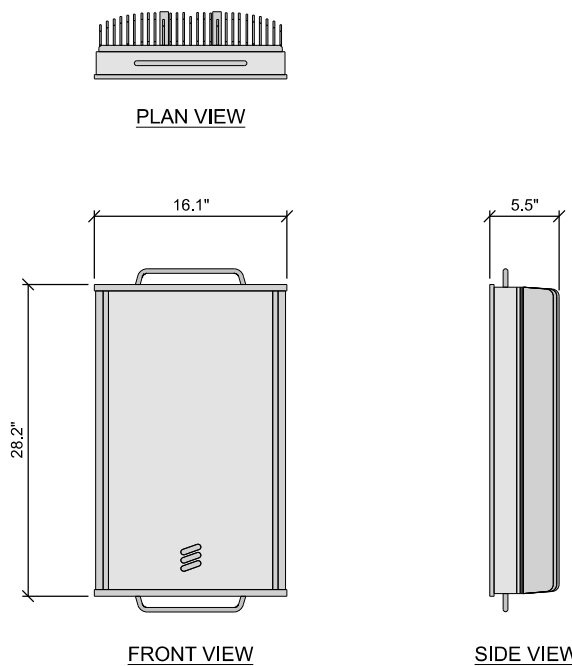
B RAYCAP SURGE PROTECTOR DEVICE (SPD) MOUNT

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

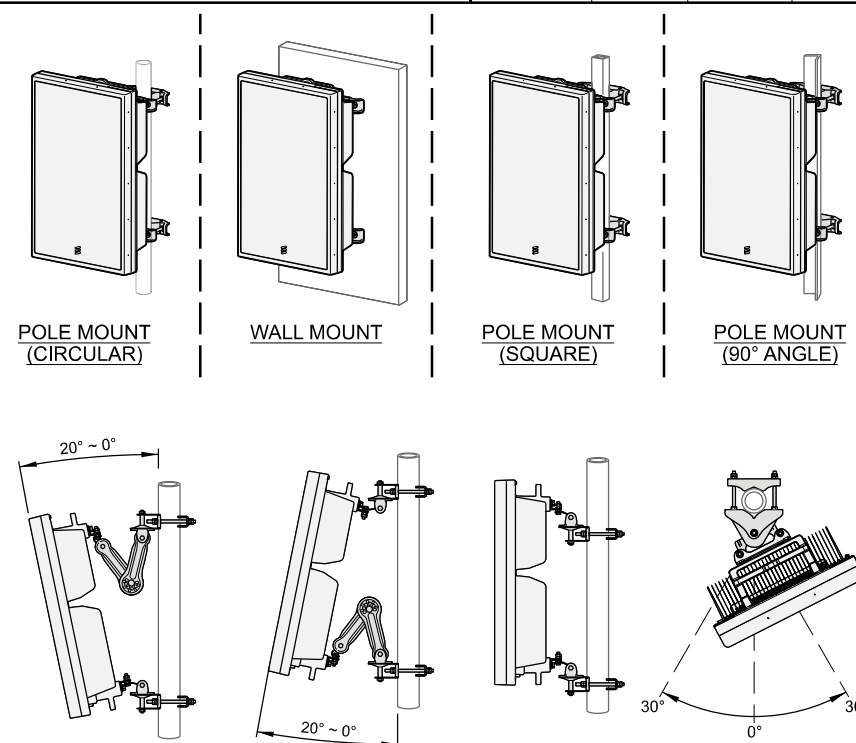
MANUFACTURER: ERICSSON
 MODEL: AIR6419
 DIMENSIONS: 28.2" x 16.1" x 5.5" (H x W x D)
 WEIGHT: 44.1 LBS.



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

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 G-001 FOR ENGINEER'S
 STAMP AND SIGNATURE

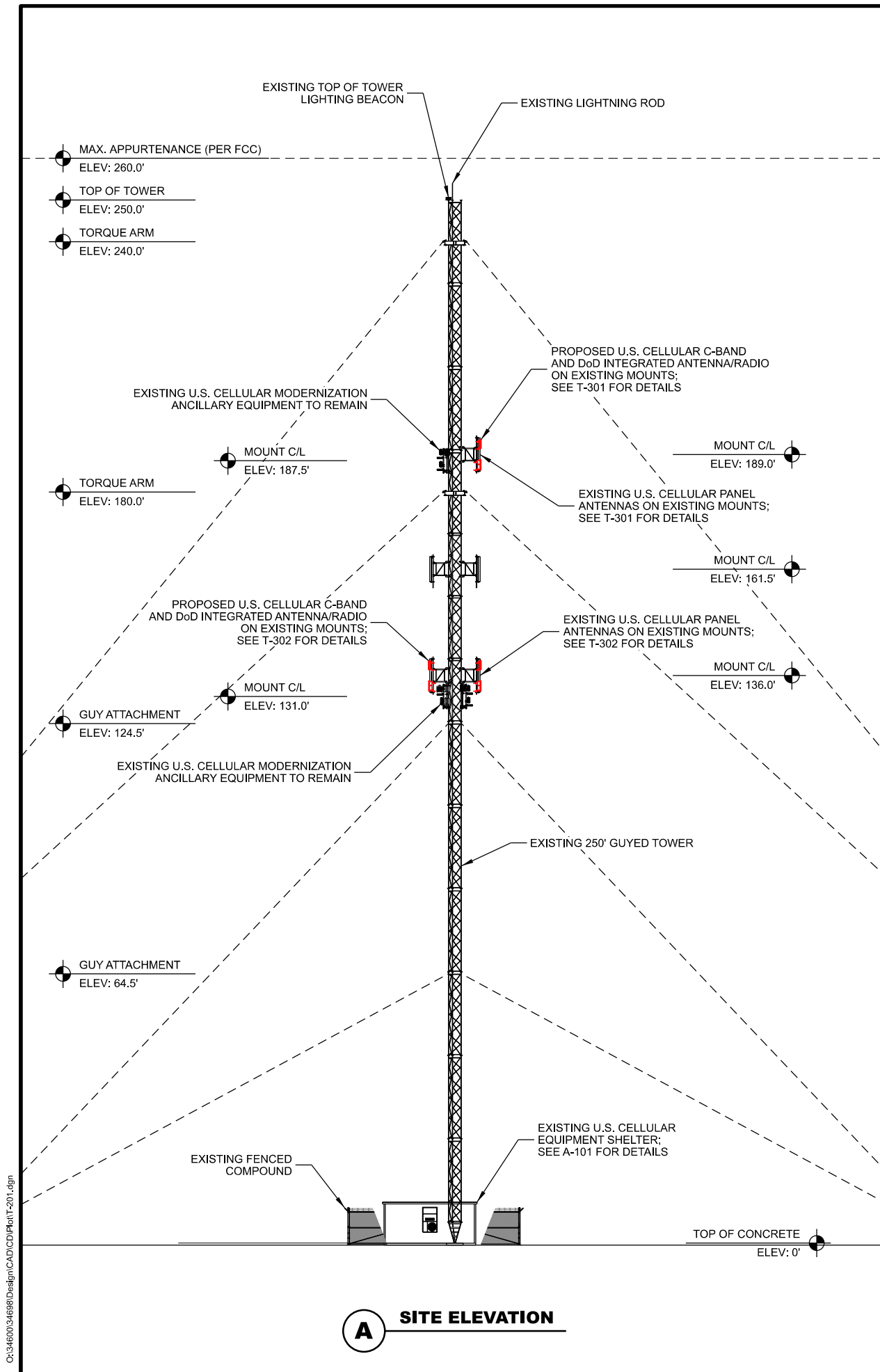
I HEREBY CERTIFY THAT THIS PLAN SET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION OTHER THAN THE EXCEPTIONS NOTED IN THE SHEET INDEX, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF WISCONSIN.

EQUIPMENT SPECIFICATIONS
 DELAFIELD (784310)
 PEWAUKEE, WISCONSIN

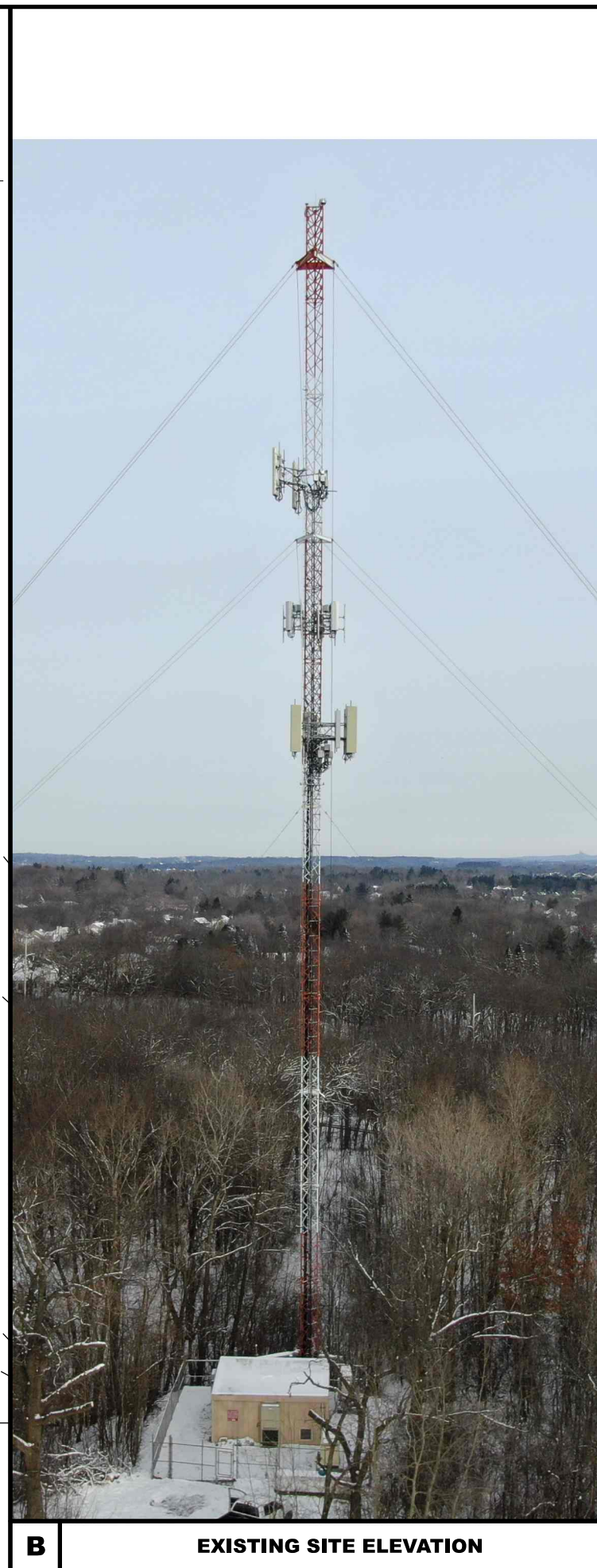
SUBMITTAL:

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-001



A SITE ELEVATION



B EXISTING SITE ELEVATION



C U.S. CELLULAR ALPHA SECTOR ANTENNAS



D U.S. CELLULAR BETA SECTOR ANTENNAS



E U.S. CELLULAR GAMMA SECTOR ANTENNAS

CONSULTANT:
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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

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SITE ELEVATION
DELAFIELD (784310)
PEWAUKEE, WISCONSIN

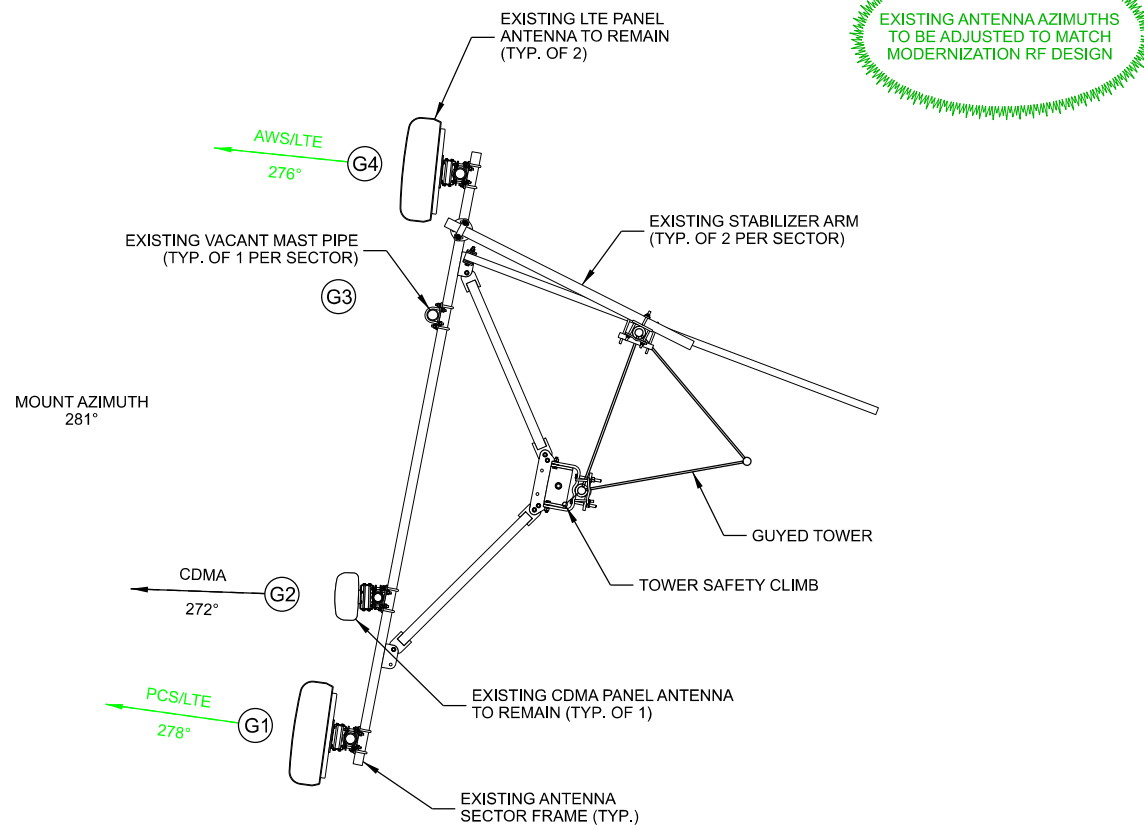
SUBMITTAL:

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 **T-201**

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EXISTING ANTENNA AZIMUTHS
TO BE ADJUSTED TO MATCH
MODERNIZATION RF DESIGN

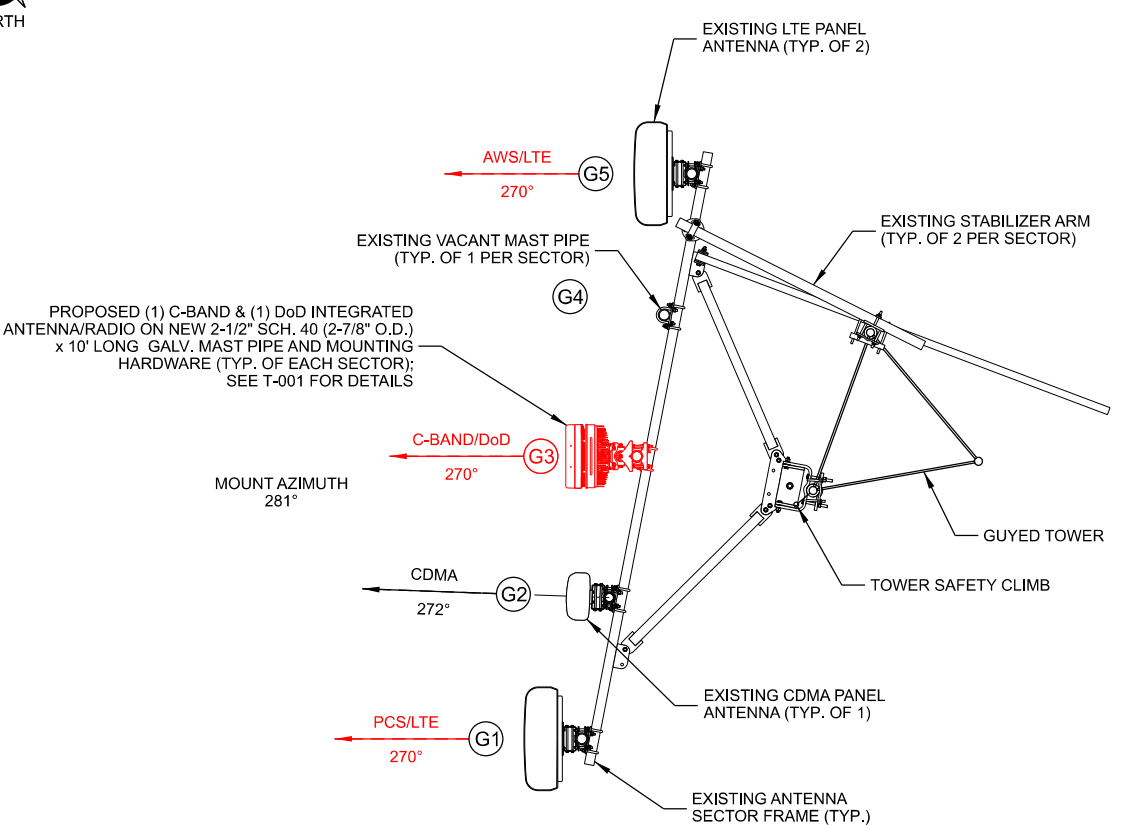
	Antenna Position	Technology	Antenna Model	Antenna Quantity	RAD Center	Azimuth	Surge Protector Qty.	B71/B12 Radio	Radio Qty.	B2/B4 Radio Qty.	B5 Radio Qty.	Cable Type	Cable Qty.
GAMMA	G1	PCS/LTE	Amphenol TWIN6510LU000G-T	1	189'	278°	1	RRU4449	1	RRU8843	1	1-1/4" Hybrid	1
	G2	CDMA	Antel BXA-70063-8CF-EDIN	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"



	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.	C-Band & DoD Radio	Filter 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	-
	G4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
G5	AWS/LTE	Amphenol TWIN6510LU000G-T	1	189'	270°	Shared	-	-	Shared	-	RRU11	1	-	Shared	-	
Total:				3			1		1	1		1	2		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"

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 G-001 FOR ENGINEER'S
STAMP AND SIGNATURE

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ANTENNA CONFIGURATION @ 189.0'
DELAFIELD (784310)
PEWAUKEE, WISCONSIN

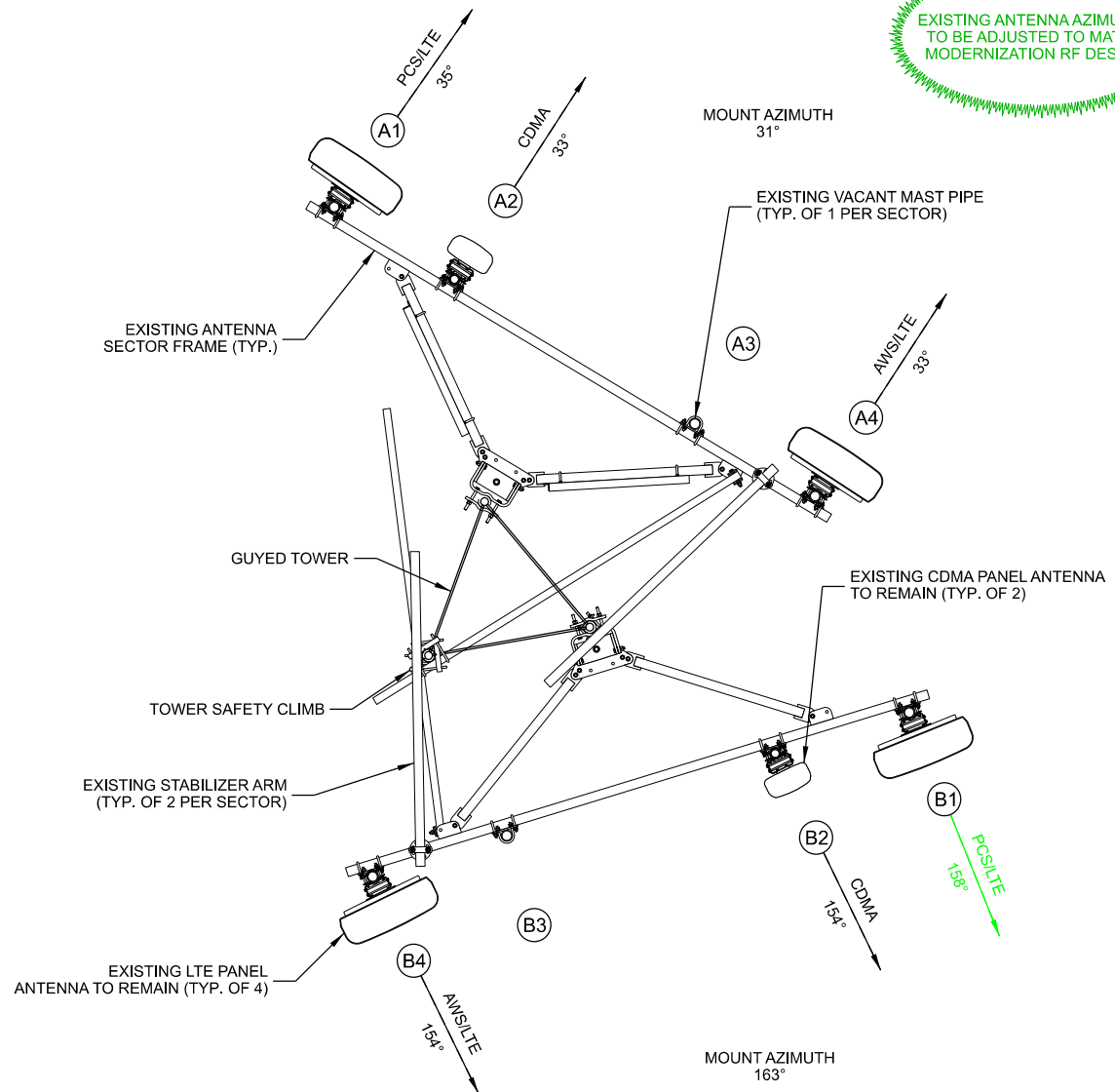
SUBMITTAL:

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	T-301



EXISTING ANTENNA AZIMUTHS
TO BE ADJUSTED TO MATCH
MODERNIZATION RF DESIGN



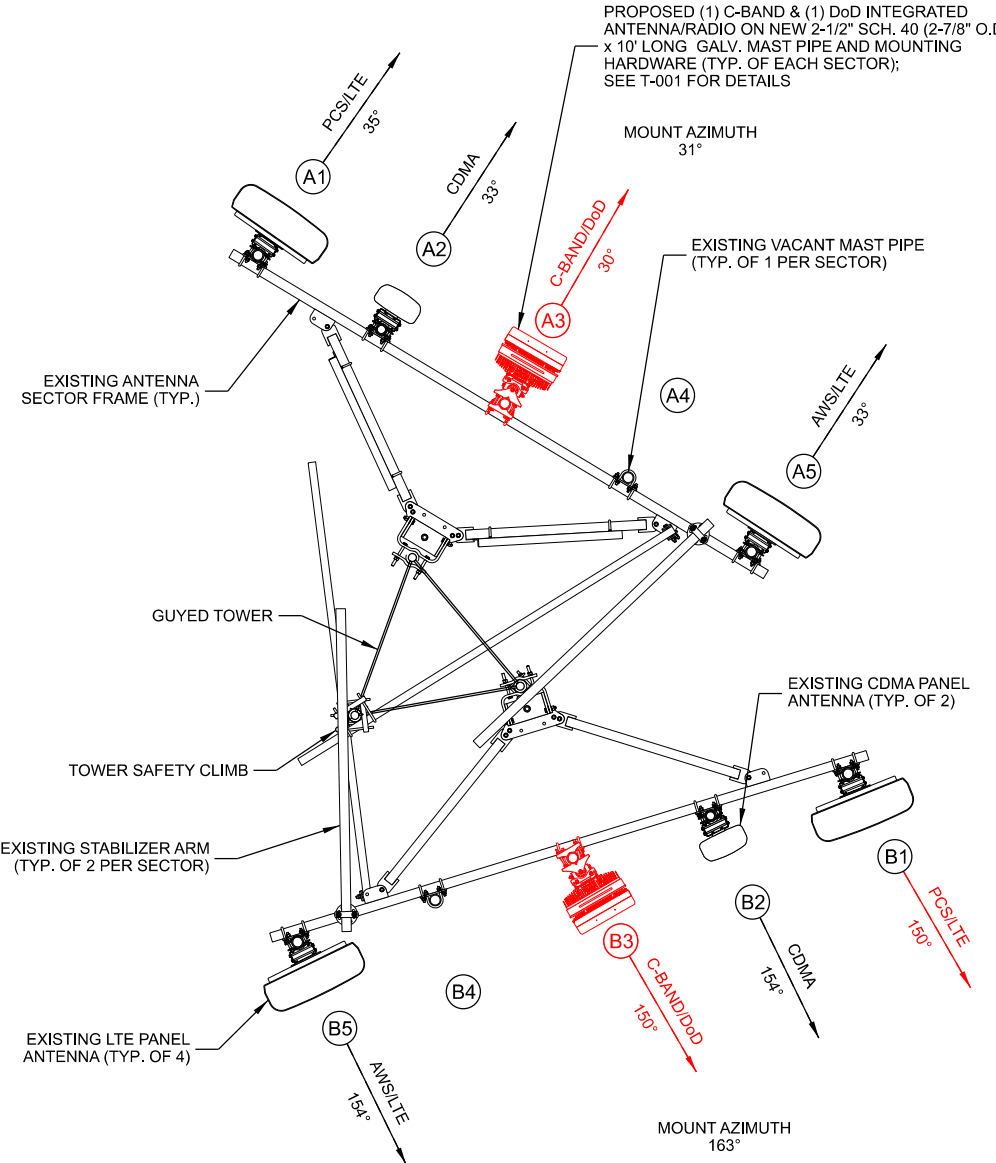
Antenna Position	Technology	Antenna Model	Antenna Qty.	RAD Center	Azimuth	Surge Protector Qty.	B71/B12 Radio	Radio Qty.	B2/B4 Radio	Radio Qty.	B5 Radio	Radio Qty.	Cable Type	Cable Qty.
ALPHA	A1	PCS/LTE	Amphenol TWIN6510LU000G-T	1	136'	35°	1	RRU4449	1	RRU8843	1	-	1-1/4" Hybrid	1
	A2	CDMA	Antel BXA-70063-8CF-EDIN	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
Total:			6			2		2		2			6	

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"



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	-
Total:			6			2		2		2		2		4		6

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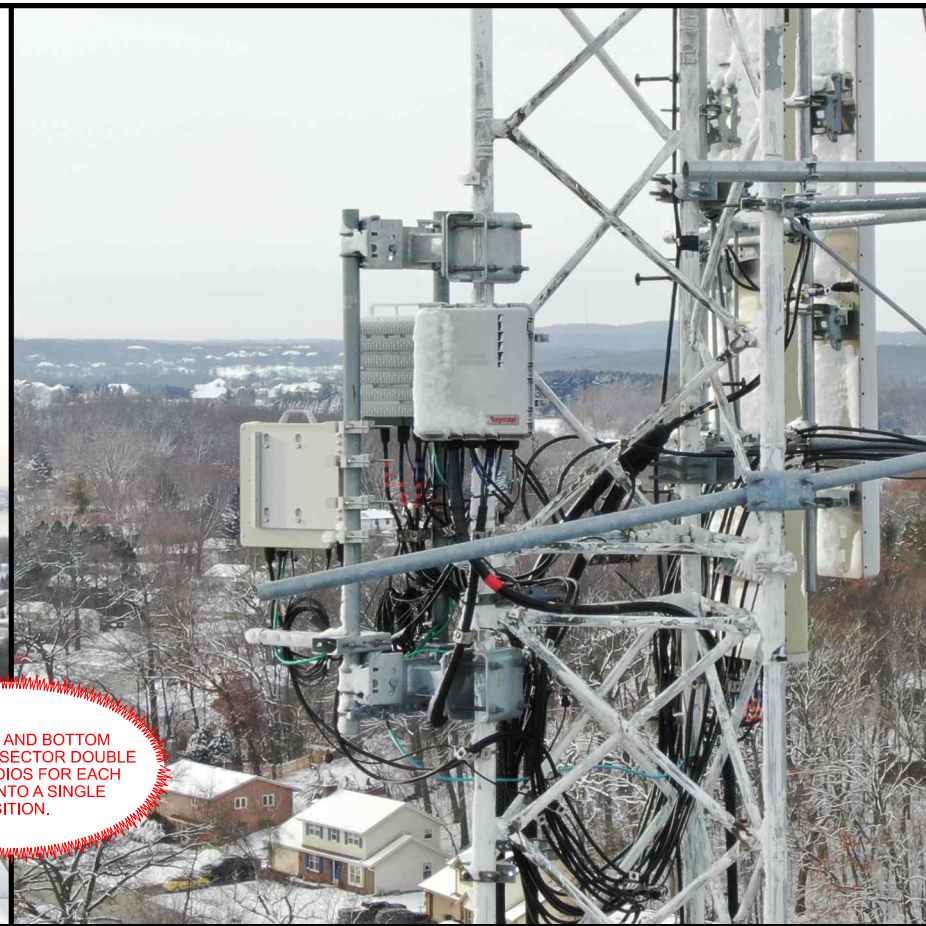
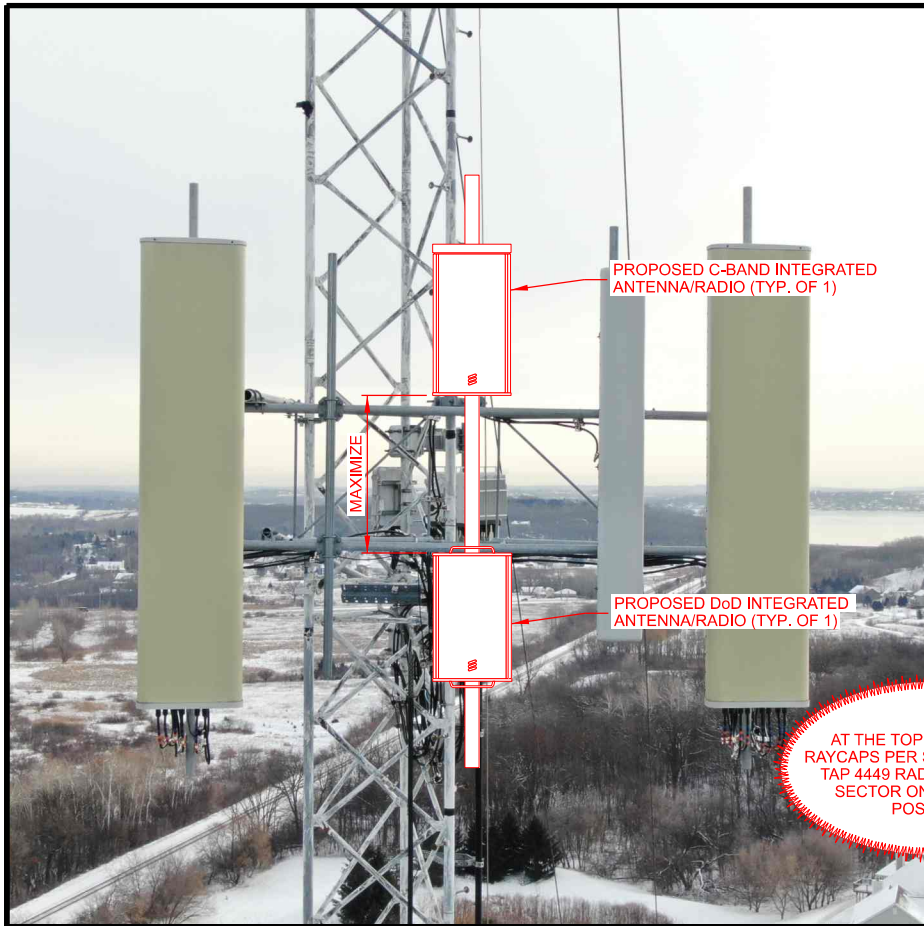
ANTENNA CONFIGURATION @ 136.0'
DELAFIELD (784310)
PEWAUKEE, WISCONSIN

SUBMITTAL:

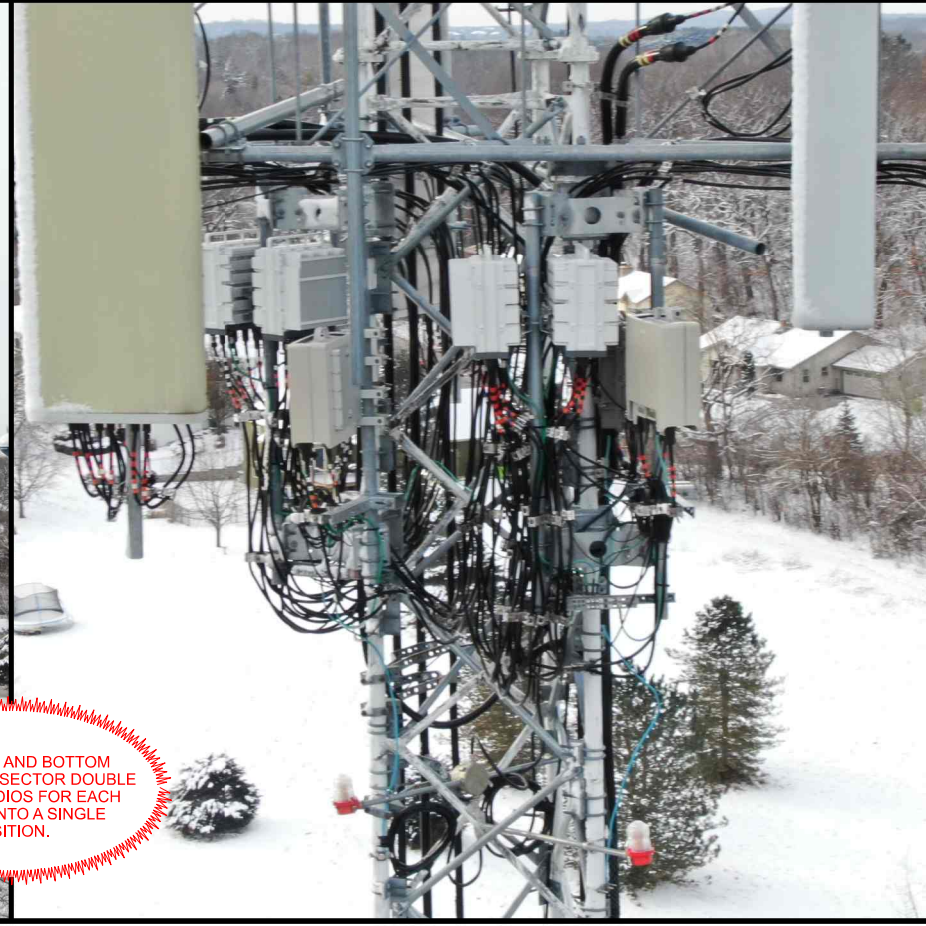
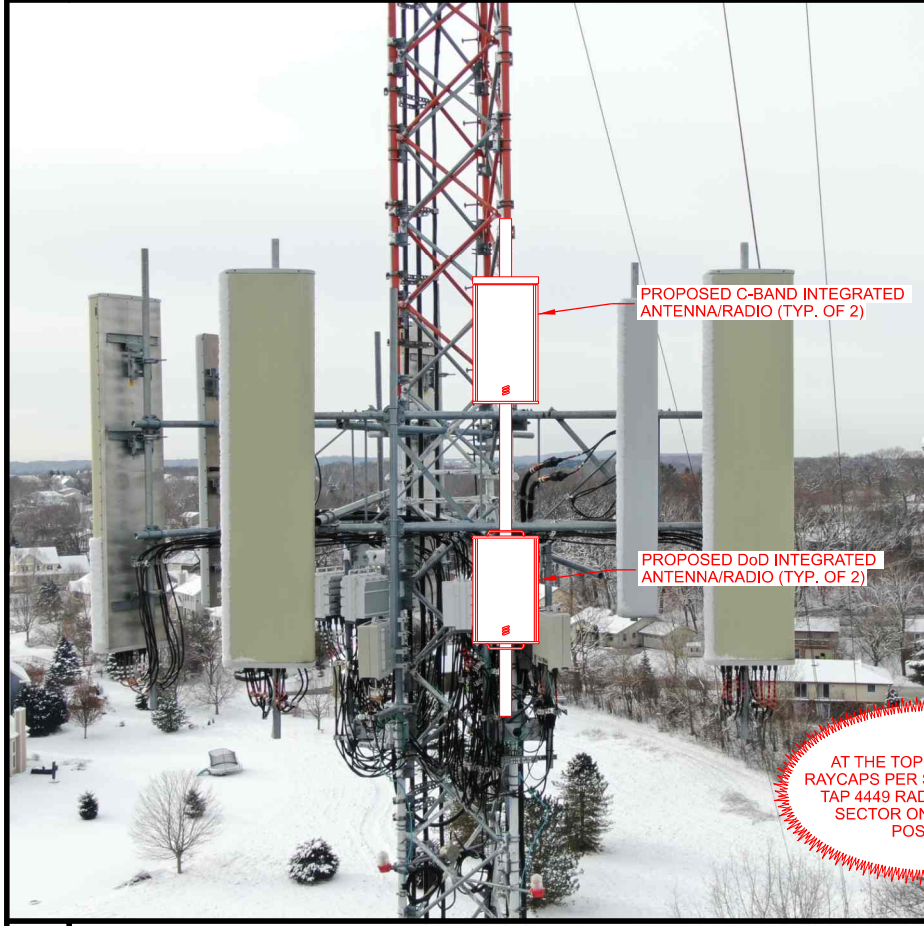
INT.	DATE	DESCRIPTION:
JSM	05/23/23	REV. A
JSM	06/07/23	REV. B
JSM	06/20/23	REV. 0

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.

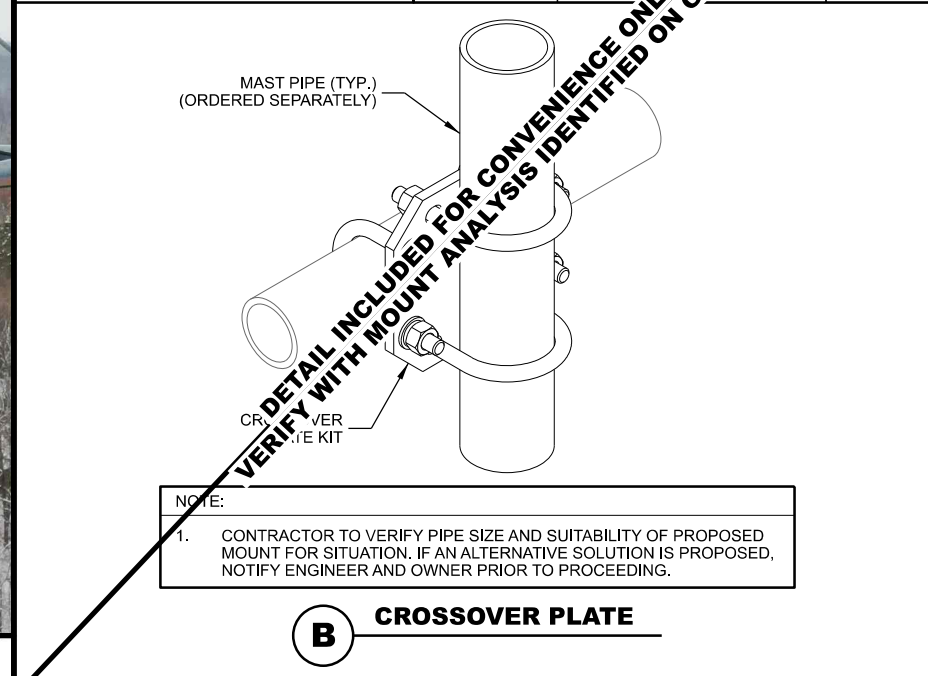
EACH KIT INCLUDES ONE (1) PLATE AND FOUR (4) U-BOLT ASSEMBLIES.

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

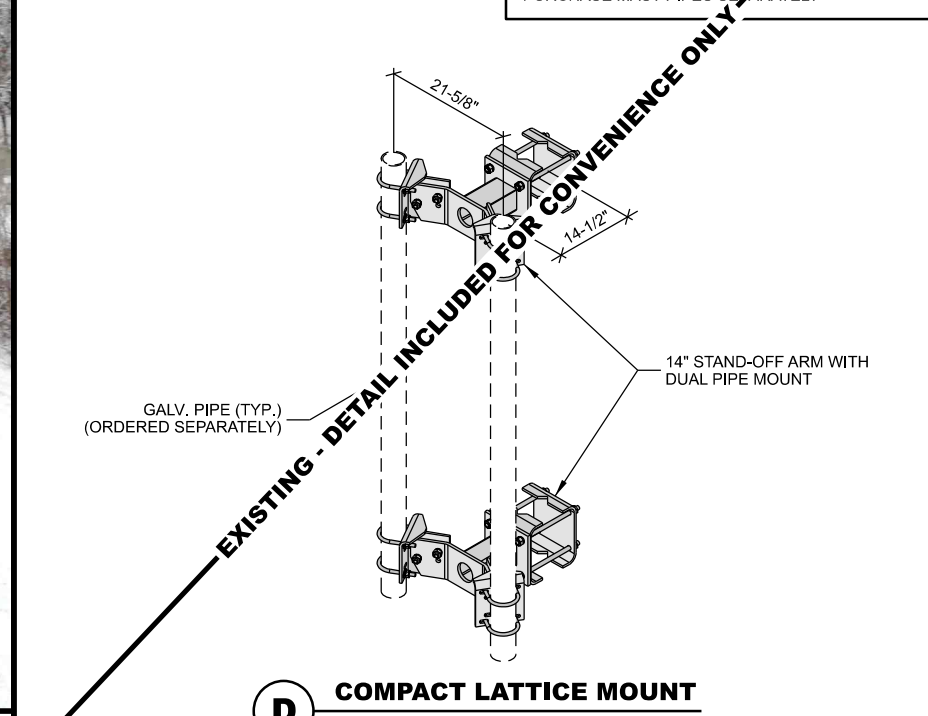
LEG DIAMETER

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:

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SUITE 700
CHICAGO, IL 60631

ENGINEER SEAL:

- APPROVED -
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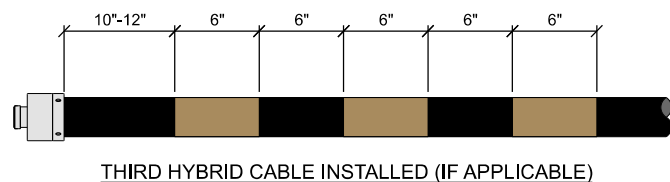
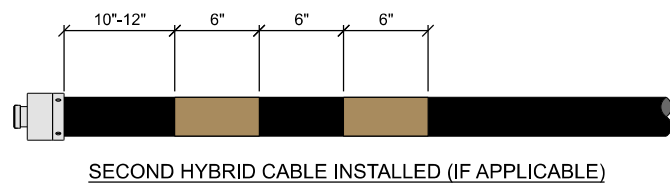
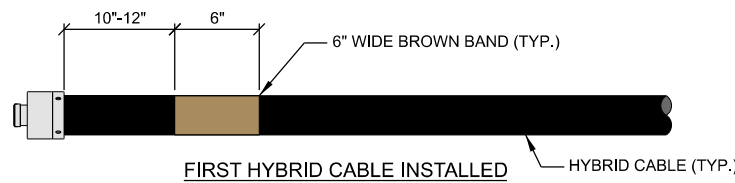
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INSTALLATION DETAILS
DELAFIELD (784310)
PEWAUKEE, WISCONSIN

SUBMITTAL:

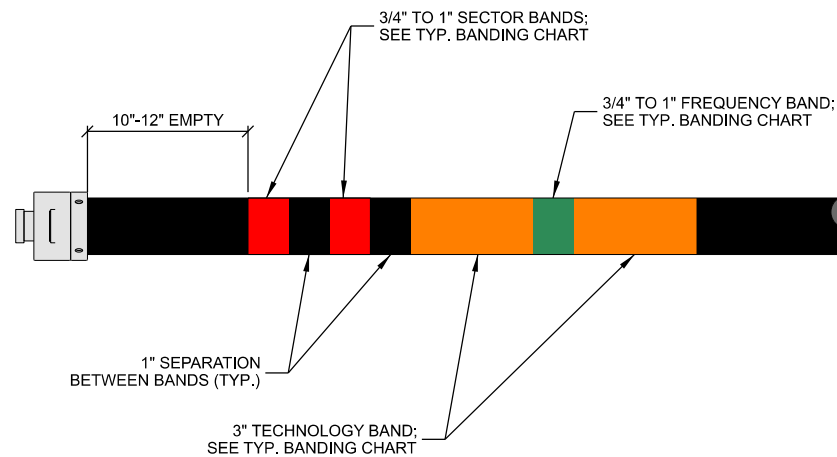
INT.	DATE	DESCRIPTION:
JSM	05/23/23	REV. A
JSM	06/07/23	REV. B
JSM	06/20/23	REV. 0

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

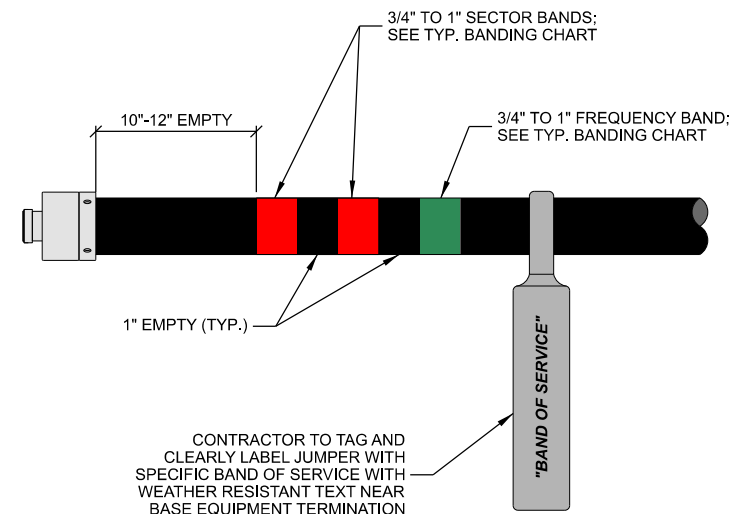


- NOTES:**
1. AT THE TOP OF THE TOWER/BUILDING/WATER TOWER AND AT THE ENTRY POINT OF THE GROUND LEVEL JUNCTION BOX, HYBRID CABLES MUST BE Banded IN ACCORDANCE TO THE ILLUSTRATION ABOVE.
 2. REFER TO LATEST EDITION OF U.S. CELLULAR STANDARD: STD72 TO VERIFY CURRENT COLOR CODING

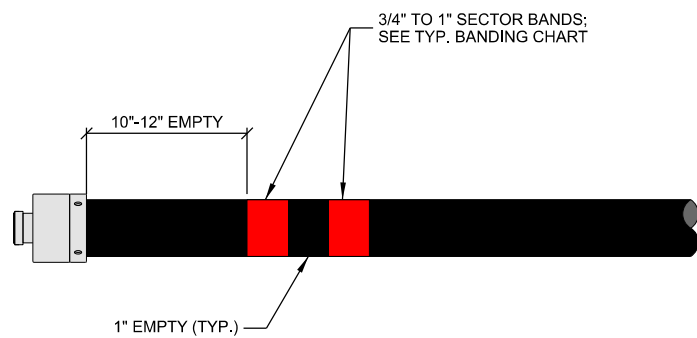
A TYP. HYBRID COLOR CODE



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

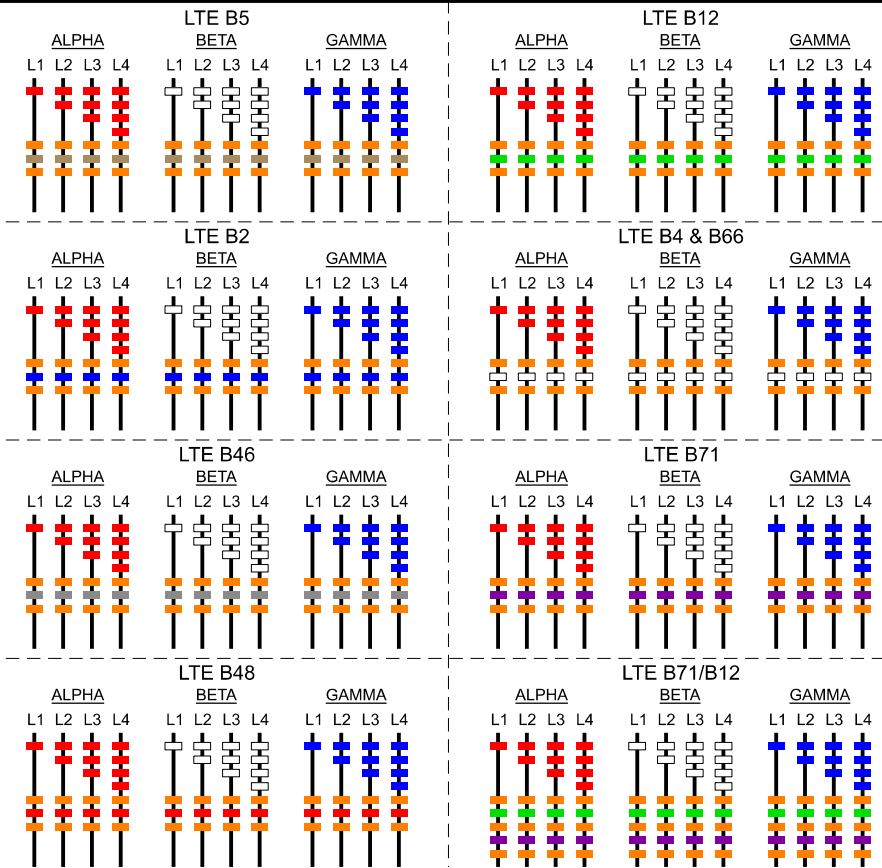
SECTOR BAND (EXCEPTION CASE: ALPHA SECTOR CDMA ON 1 & 4, LTE ON 2 & 3)					
SECTOR	ASSIGNED COLOR	LINE 1 (CDMA)	LINE 2 (LTE)	LINE 3 (LTE)	LINE 4 (CDMA)
ALPHA	RED	(1) RED BAND	(1) RED BAND	(2) RED BANDS	(2) RED BANDS

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

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

ENGINEER SEAL:
 - APPROVED -
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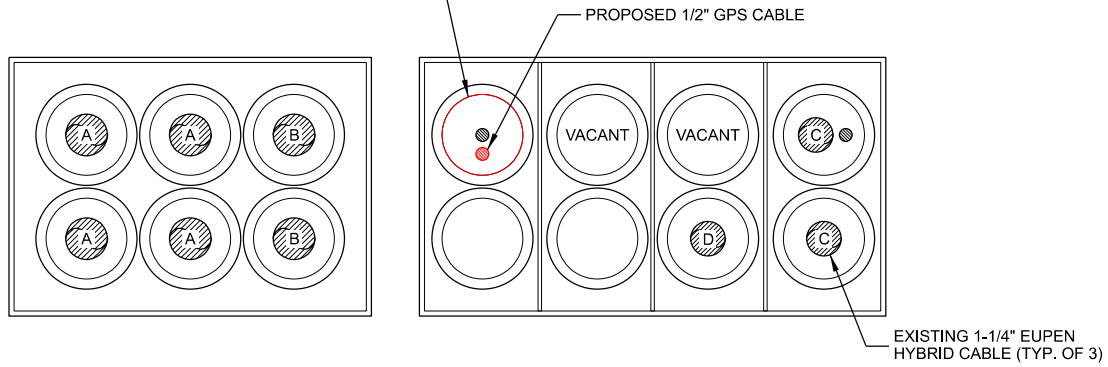
CABLE BANDING DETAILS
 DELAFIELD (784310)
 PEWAUKEE, WISCONSIN

SUBMITTAL:

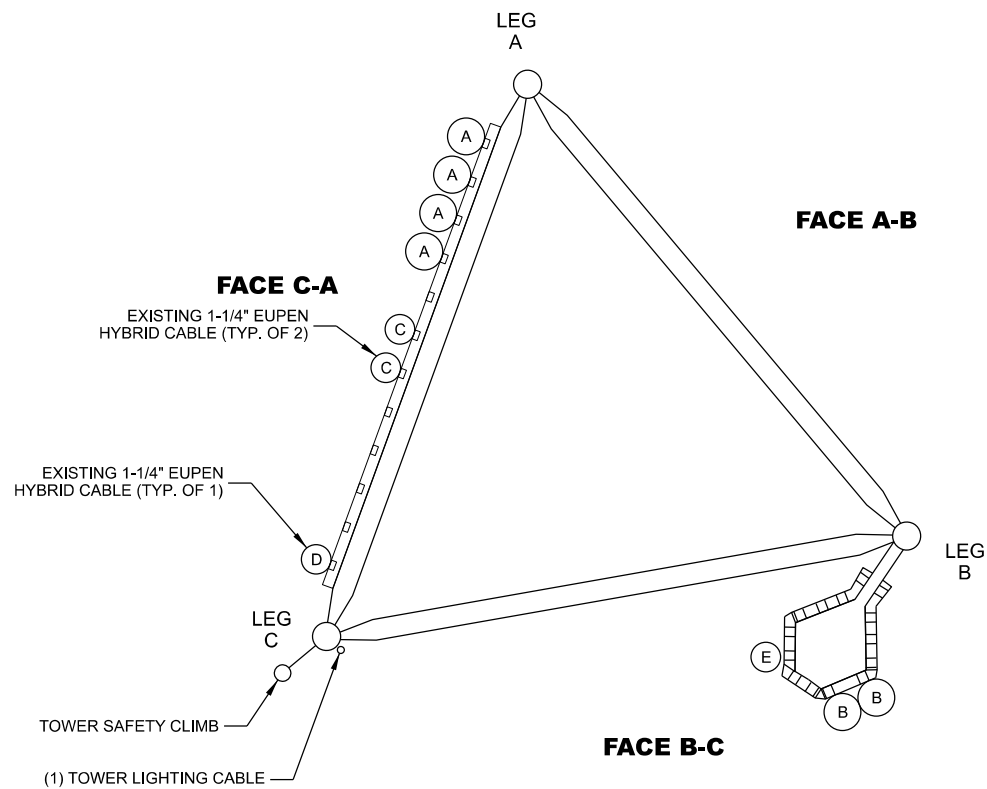
INT.	DATE	DESCRIPTION:
JSM	05/23/23	REV. A
JSM	06/07/23	REV. B
JSM	06/20/23	REV. 0

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

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



A PROPOSED SHELTER COAX PORT (INTERIOR VIEW)

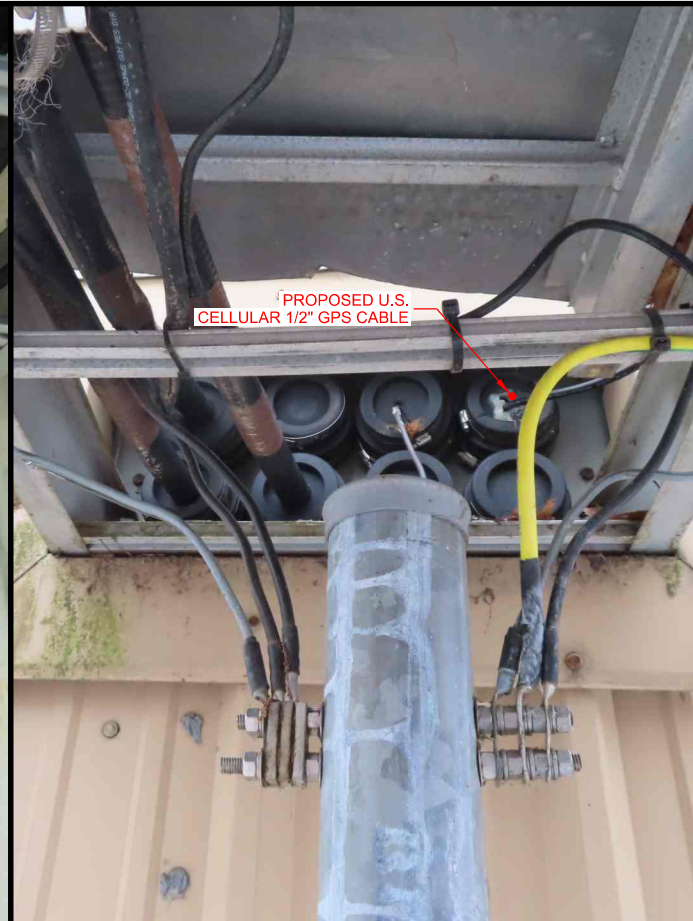


B PROPOSED TOWER CABLE LAYOUT

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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 Consulting Engineers, Inc.
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 SUITE 700
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ENGINEER SEAL:
 - APPROVED -
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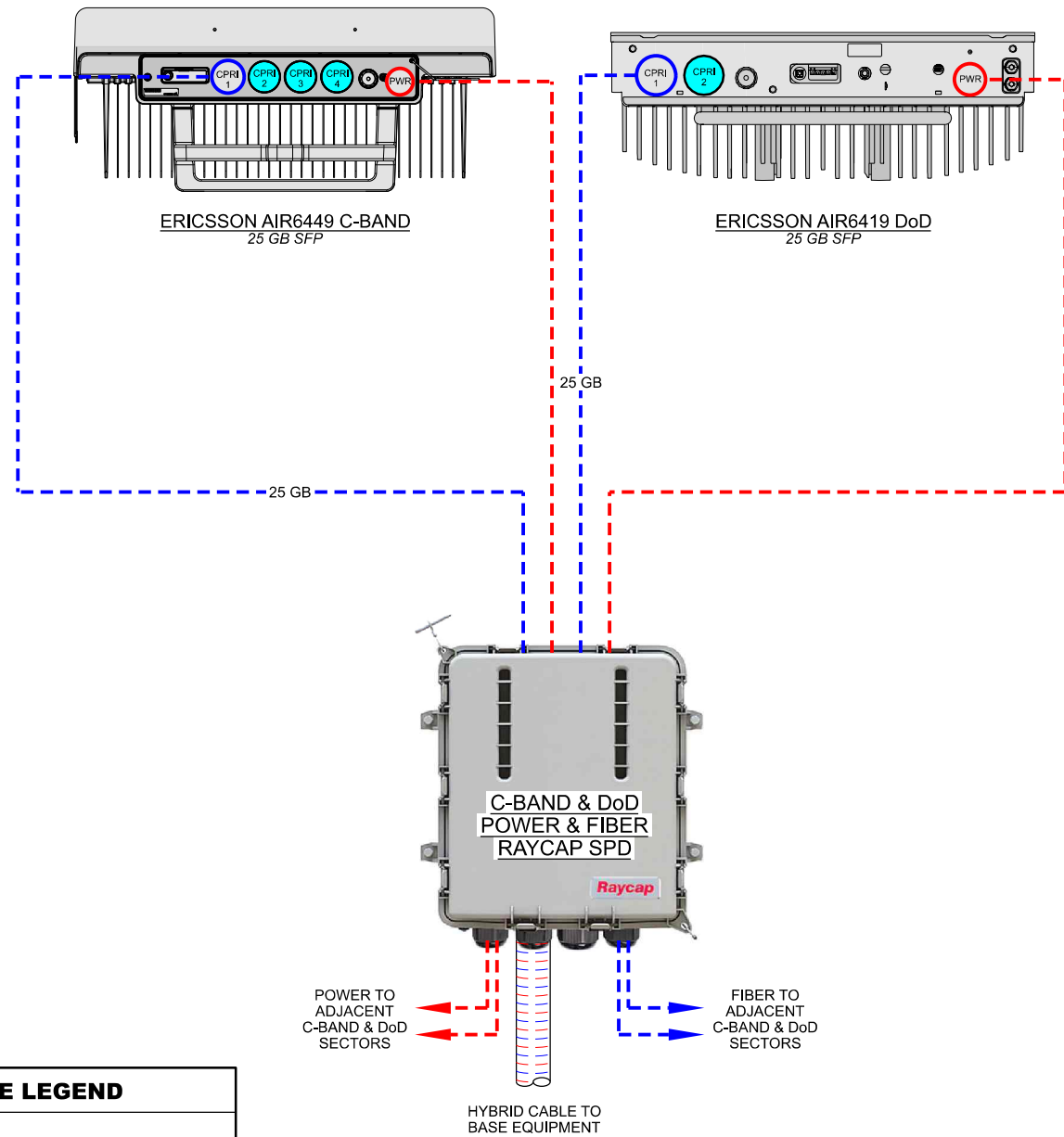
CABLE ROUTING
 DELAFIELD (784310)
 PEWAUKEE, WISCONSIN

SUBMITTAL:

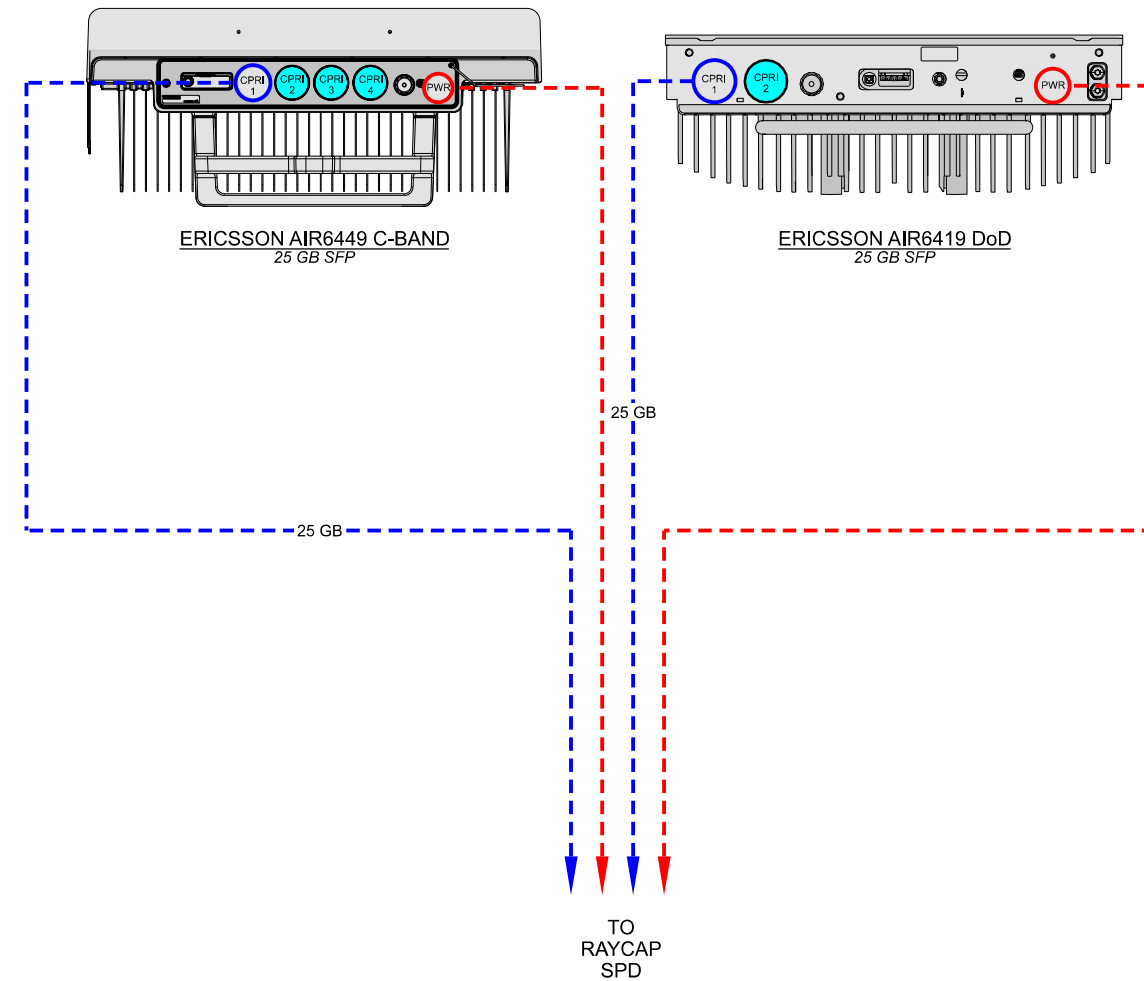
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JSM	06/07/23	REV. B
JSM	06/20/23	REV. 0

CHECKED BY:	PCM
PLOT DATE:	6/20/2023
PROJECT NUMBER:	34698
SET TYPE:	FINAL
SHEET NUMBER:	V-501

**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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CONSULTANT:

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 PRAIRIE DU SAC, WI 53578
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 www.edgeconsult.com

CLIENT:

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

ENGINEER SEAL:

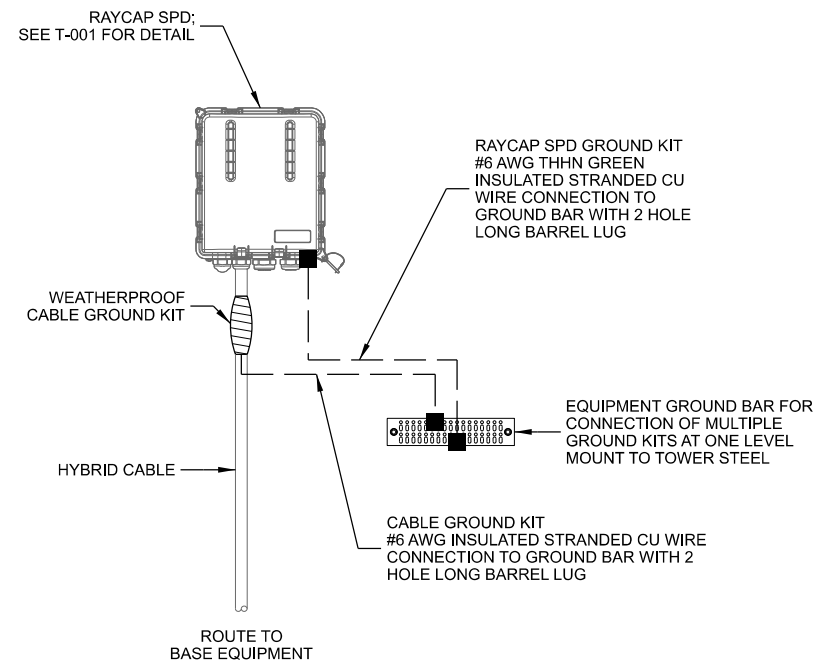
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**PLUMBING DIAGRAM
DELAFIELD (784310)
PEWAUKEE, WISCONSIN**

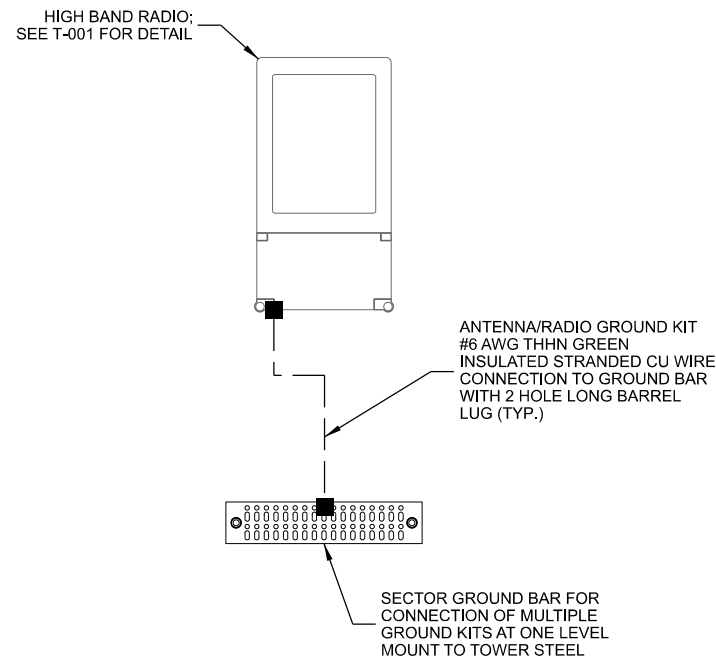
SUBMITTAL:

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	P-501



A TYPICAL UPPER RAYCAP SPD GROUNDING

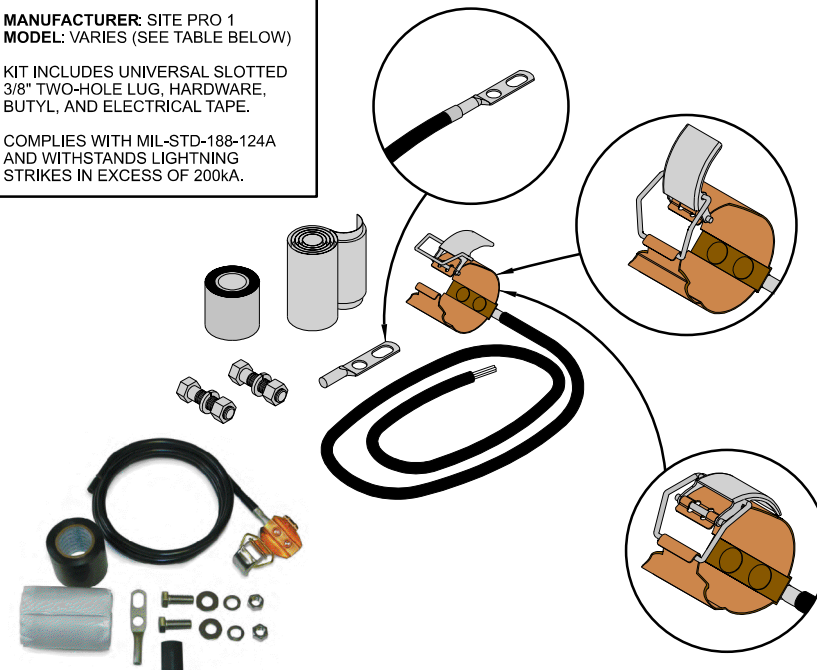


B TYPICAL UPPER RADIO GROUNDING

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

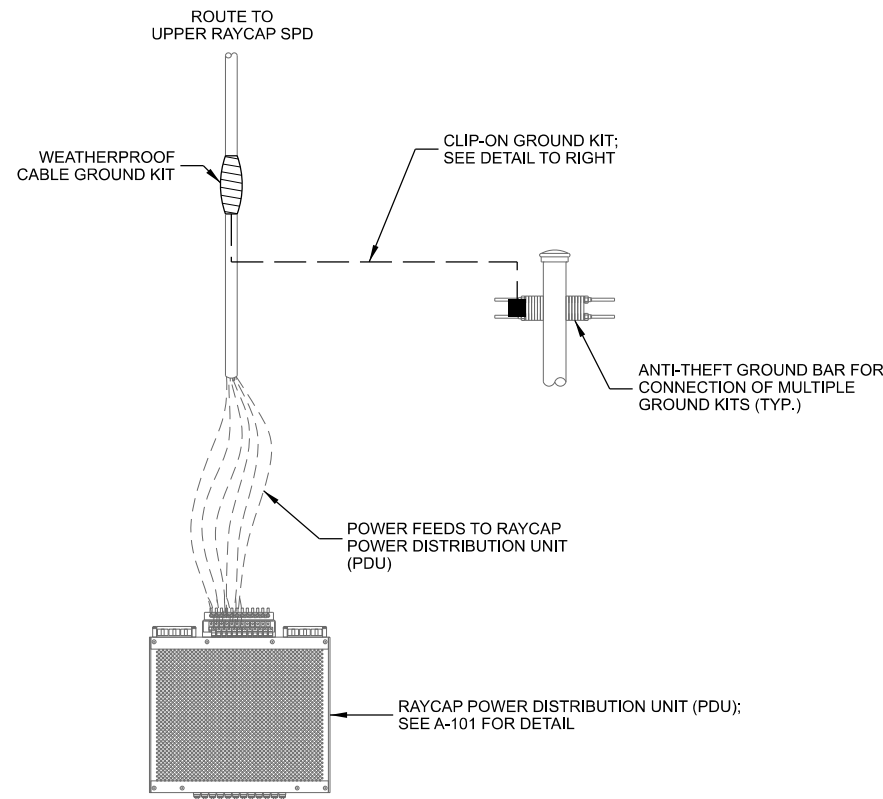
KIT INCLUDES UNIVERSAL SLOTTED 3/8" TWO-HOLE LUG, HARDWARE, BUTYL, AND ELECTRICAL TAPE.

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

CONSULTANT:
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CLIENT:
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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

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.

GROUNDING 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:	E-501

PREPARED FOR:



STRUCTURAL ANALYSIS REPORT

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

EDGE PROJECT NUMBER:
34698

JUNE 6, 2023



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Reliable

Comprehensive

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:

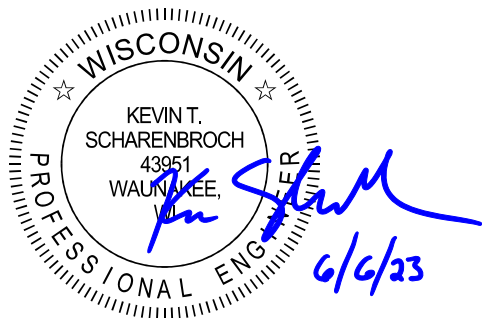
June 6, 2023



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
191.5'	1	Ericsson AIR 6449	12' HD V-Boom	C-Band		U.S. Cellular	Proposed
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
187.5'	1	Raycap RUSDC-6267-PF-48	Lattice Mount	SPD	(1) Hybrid	U.S. Cellular	Proposed
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
186.5'	1	Ericsson AIR 6419	12' HD V-Boom	DoD		U.S. Cellular	Proposed
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
138.5'	2	Ericsson AIR 6449	12' HD V-Boom	C-Band		U.S. Cellular	Proposed
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
133.5'	2	Ericsson AIR 6419	12' HD V-Boom	DoD		U.S. Cellular	Proposed
131'	1	Raycap RUSDC-6267-PF-48	Lattice Mount	SPD	(1) Hybrid	U.S. Cellular	Proposed
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.

Capacity - Results		
Tower Structure Elements	Capacity Ratio (%)	Comment
Legs 85'-105'	77.3%	Adequate
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.

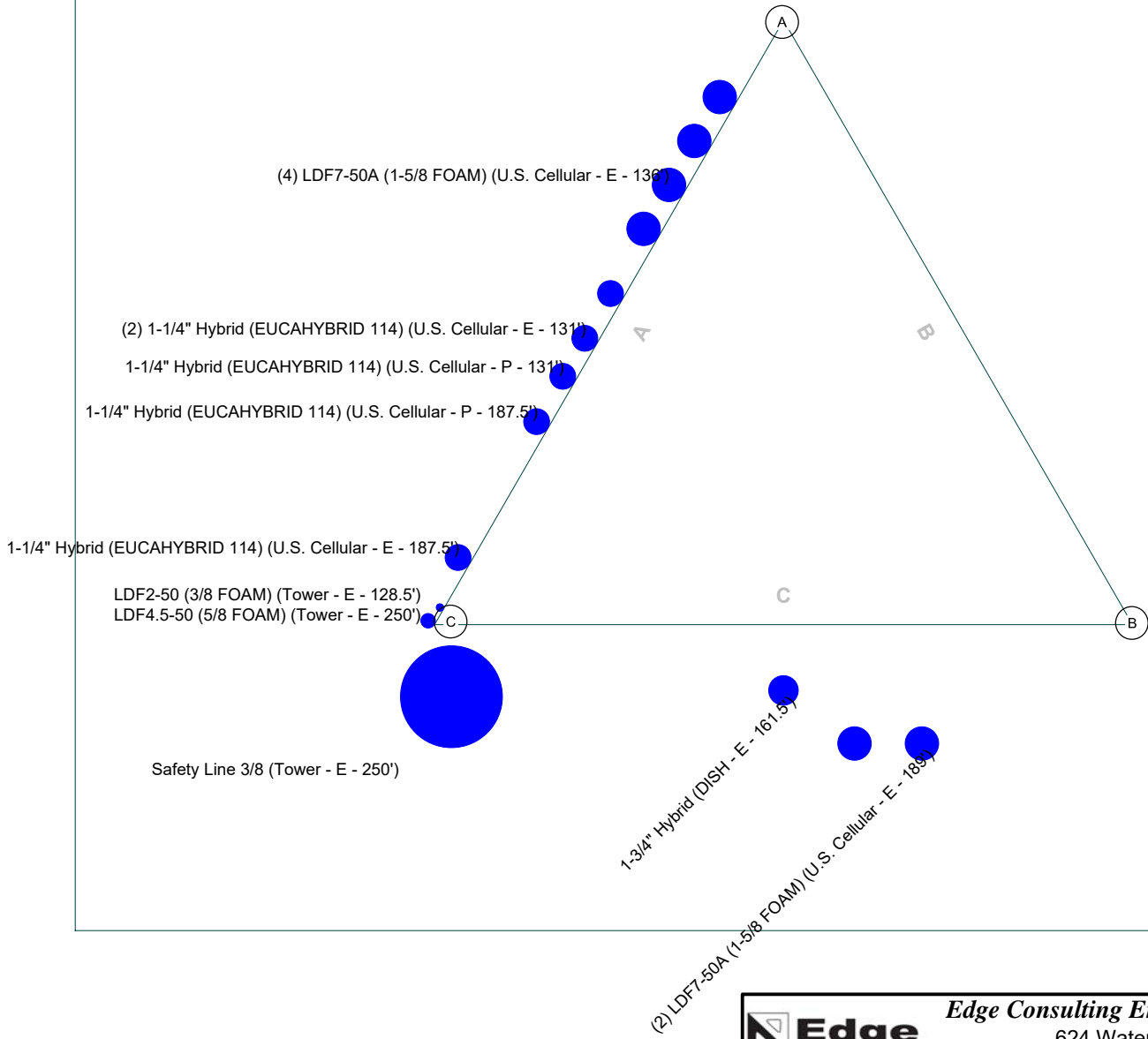
Figure 1

Feedline Placement Diagram

Feed Line Plan 25'

_____ Round
 _____ Flat
 _____ App In Face
 _____ App Out Face

Section @ 25'

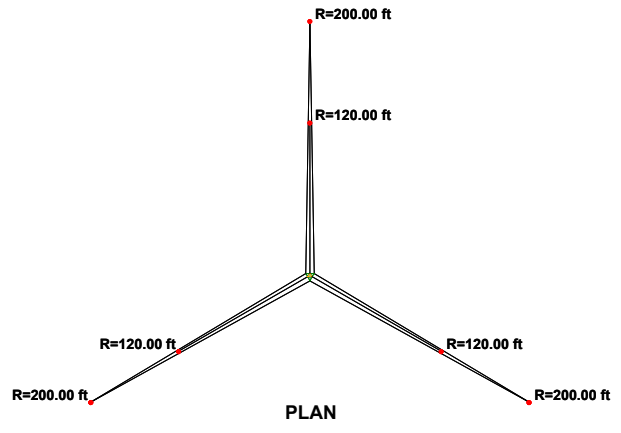
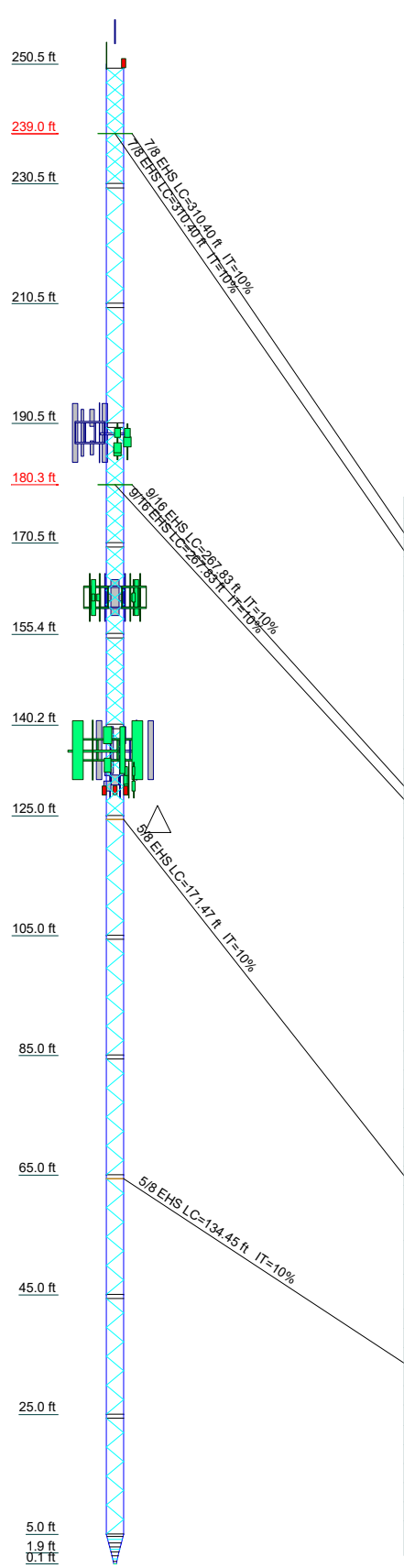


	Edge Consulting Engineers, Inc.		Job: Delafield (784310)	
	624 Water St Prairie Du Sac, WI 53578 Phone: (608) 644-1449 FAX: (608) 644-1549		Project: 34698	
Client: U.S. Cellular	Drawn by: tclausen	App'd:		
Code: TIA-222-G	Date: 06/01/23	Scale: NTS		
Path:		Dwg No. E-7		

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	A		A		A		A		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	10'x2 1/2" Pipe Mount (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	TWIN6510LU000G w/ mount pipe (U.S. Cellular)	136
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	AIR 6419 (U.S. Cellular)	133.5
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	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
MX08FRO665-21 w/ Mount Pipe (DISH)	161.5	6'x2" Antenna Mount Pipe (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	Raycap RUSDC-6267-PF-48 (U.S. Cellular)	131
Fujitsu TA08025-B605 (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-B604 (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
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		
AIR 6449 w/ mounting pipe (U.S. Cellular)	138.5		

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		

SA-1



Edge Consulting Engineers, Inc.

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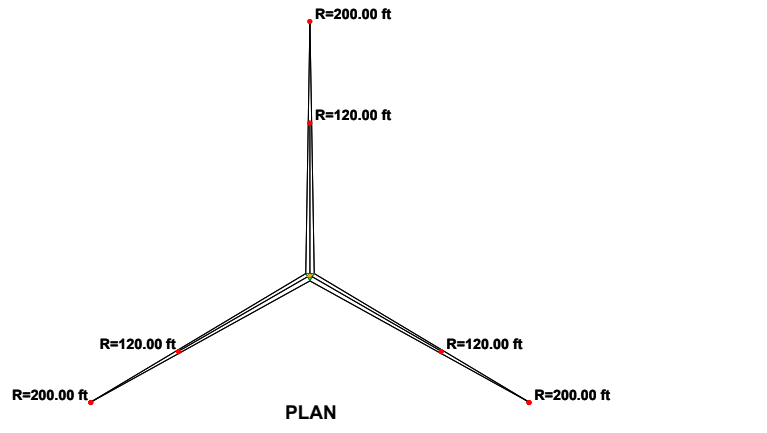
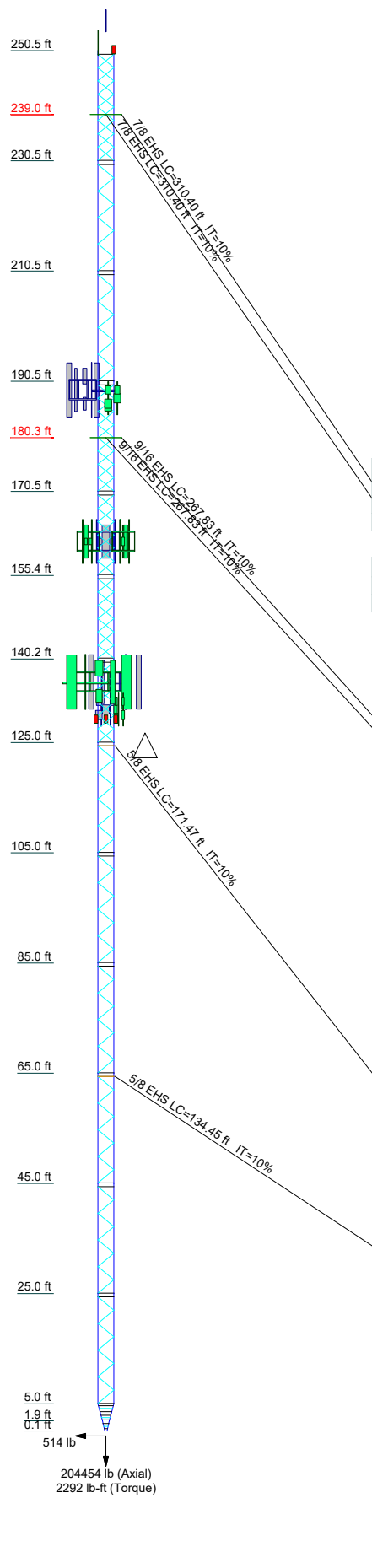
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Prairie du Sac, WI 53578
Phone: (608) 644-1449
FAX: (608) 644-1549

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	T13	T12	T11	T10	T9	T8	T7	T6	T5	T4	T3	T2	T1
Legs			Pipe 3 XS			Pipe 2-1/2 XS	A572-50				Pipe 2-1/2 STD		Pipe 2-1/2 XS
Leg Grade													L2x2x1/4
Diagonals													L2x2x1/4
Diagonal Grade													A36
Top Girts													L2x2x1/4
Bottom Girts													L2x2x1/4
Horizontals													
Top Guy Pull-Offs													
Face Width (ft)	1.26	1.26											
# Panels @ (ft)	EDC	EDC											
Weight (lb)	11760.4	11760.4											2881.6
													3.4167



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%

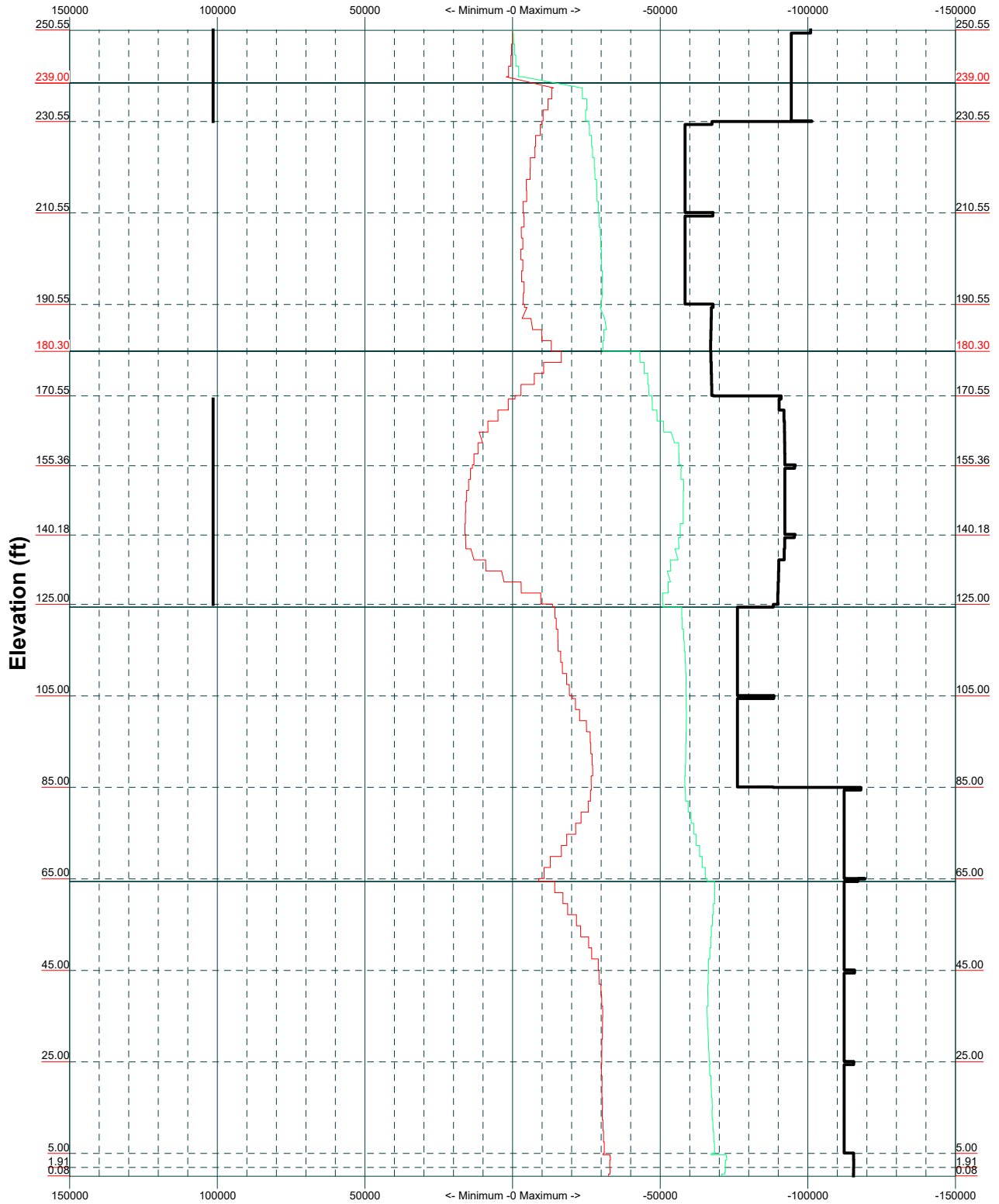
ALL REACTIONS ARE FACTORED

	Edge Consulting Engineers, Inc. 624 Water Street Prairie du Sac, WI 53578 Phone: (608) 644-1449 FAX: (608) 644-1549			Job: Delafield (784310) Project: 34698
	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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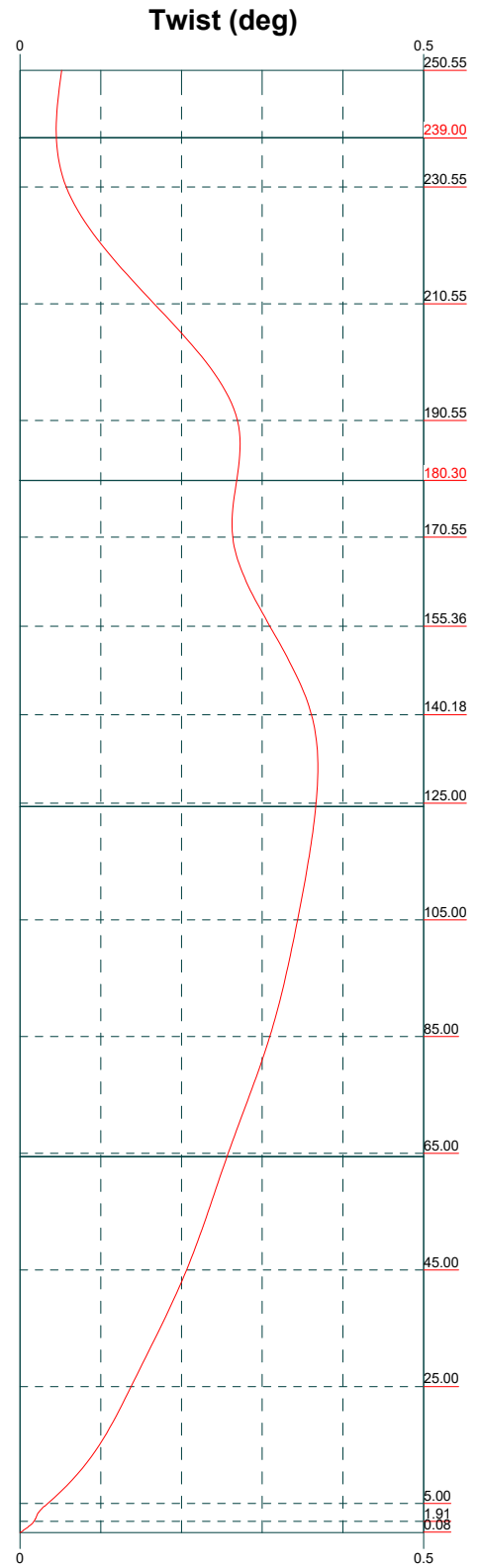
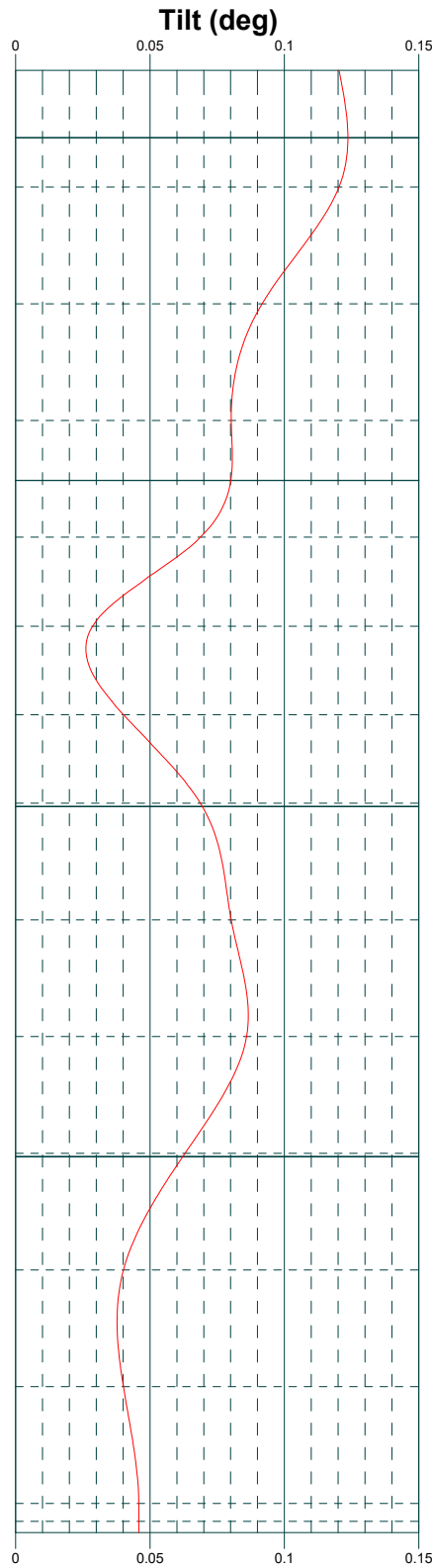
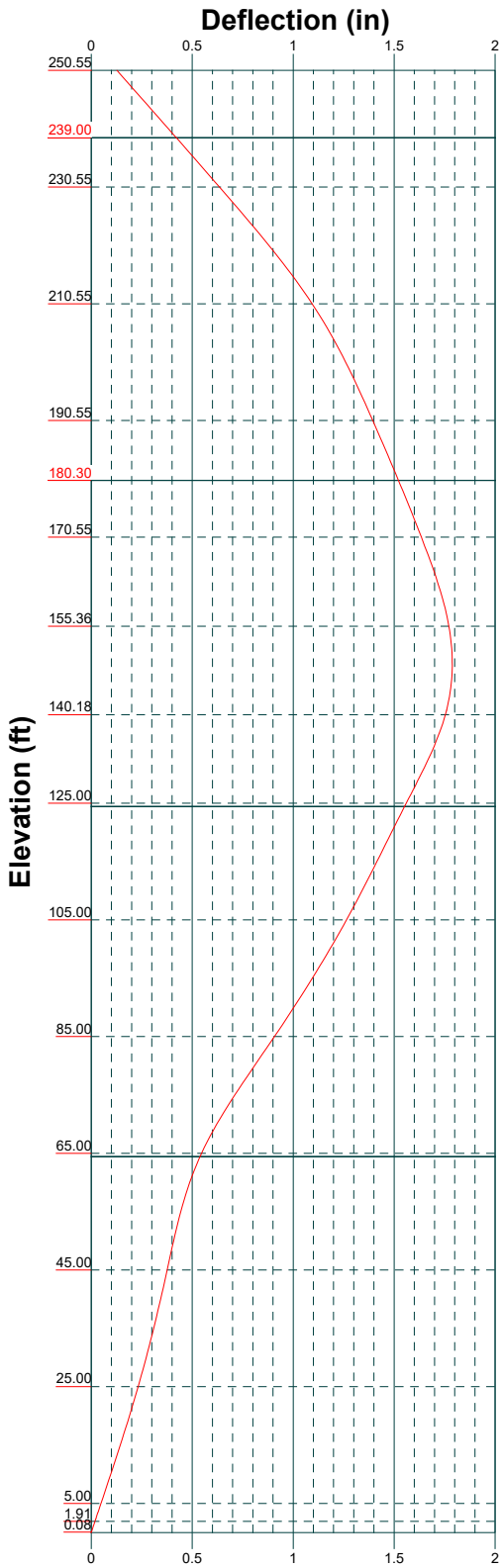
TIA-222-G - 115 mph/40 mph 0.7500 in Ice Exposure C


Leg Capacity
Leg Compression (lb)



SA-3

	Edge Consulting Engineers, Inc.		Job: Delafield (784310)	
	624 Water Street Prairie du Sac, WI 53578 Phone: (608) 644-1449 FAX: (608) 644-1549		Project: 34698 Client: U.S. Cellular Drawn by: kscharenbroch App'd: Code: TIA-222-G Date: 06/06/23 Scale: NTS Path:	
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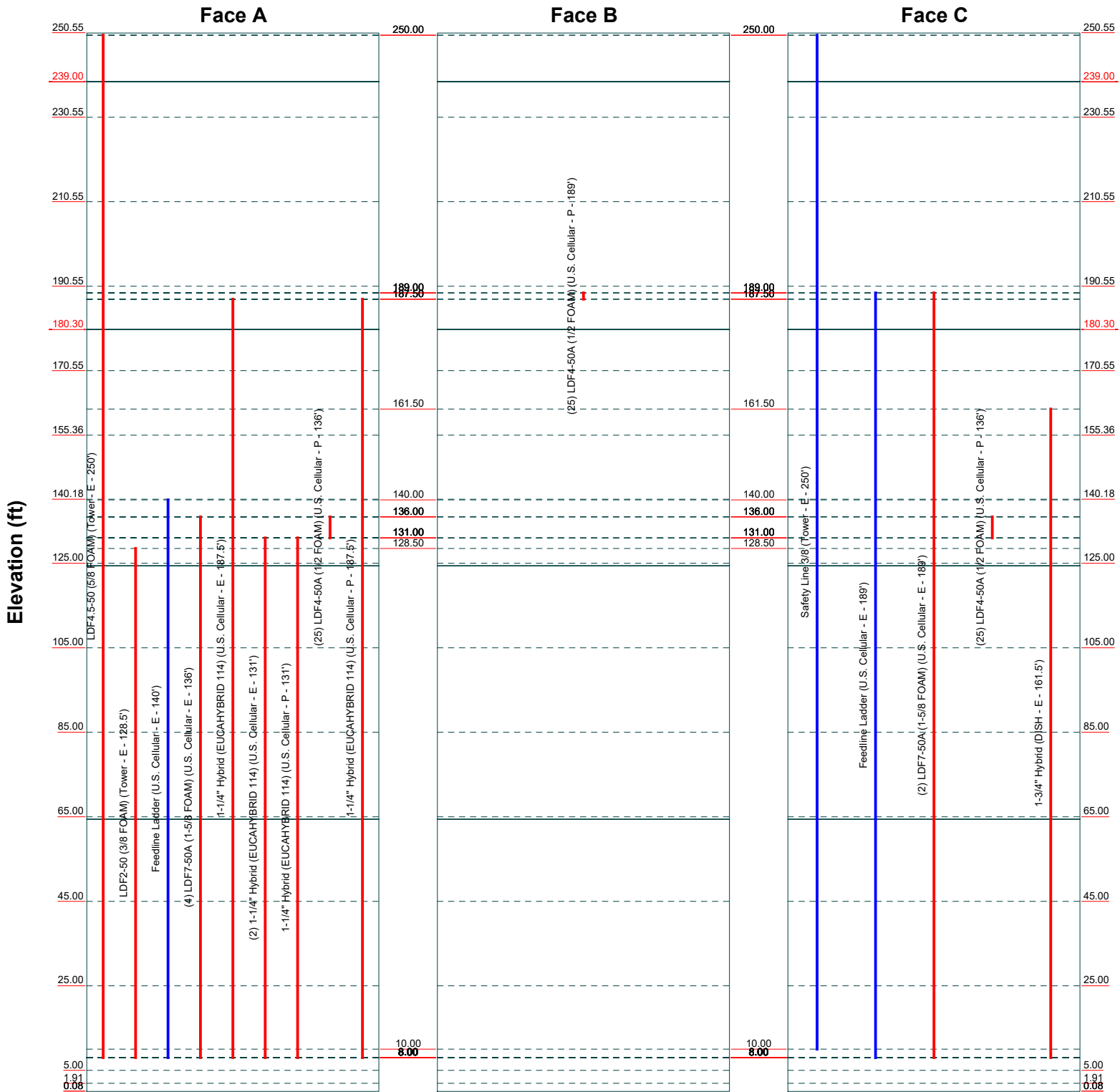


	Edge Consulting Engineers, Inc. 624 Water Street Prairie du Sac, WI 53578 Phone: (608) 644-1449 FAX: (608) 644-1549		Job: Delafield (784310)
	Project: 34698		
Client: U.S. Cellular	Drawn by: kscharenbroch	App'd:	
Code: TIA-222-G	Date: 06/06/23	Scale: NTS	
Path:		Dwg No. E-5	

Feed Line Distribution Chart

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

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



SA-5

	Edge Consulting Engineers, Inc.		Job: Delafield (784310)		
	624 Water Street		Project: 34698		
	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	

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Foundation Analysis

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



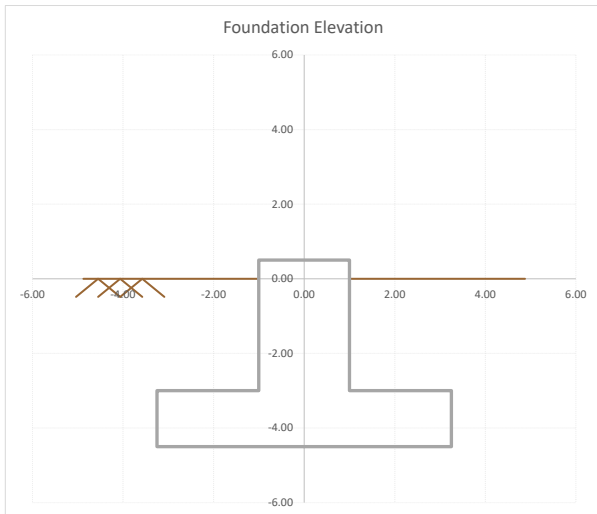
Completed By: TAC
 Checked By: KTS

General Information:

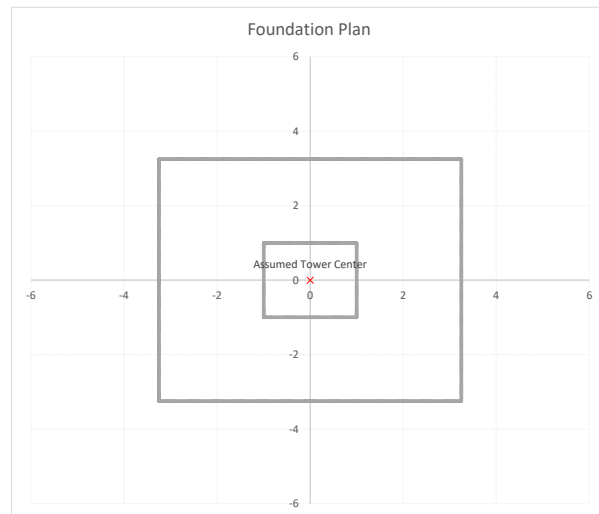
Design Code: ACI 318-14
 Footing Type: Spread Footing
 Column Type: Pedestal

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 (γ_{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 in²
 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 (ϕM_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 in²

Direction	Controlling Load Combination	Location	Shear Demand (V_u , kip)	Shear Capacity (ϕV_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 ²)	Shear Demand (V_u , kip)	Shear Capacity (ϕV_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 (γ_{soil}) = 120 lb/ft³
 Effective Soil Unit Weight (γ'_{soil}) = 60 lb/ft³
 Depth to Water Table (D_{water}) = 12 ft
 Soil Friction Angle (Φ_{soil}) = 30 °
 Ultimate Passive Earth Pressure (σ_p) = 360 psf/ft of soil depth
 Ultimate Skin Friction (σ_s) = 0.0 psf
 Horizontal Plane Friction Coefficient (μ_h) = 0.00
 Vertical Plane Friction Coefficient (μ_v) = 0.00
 phi factor (Φ) = 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 Width Above Anchor (w_{min}) = 2.89 ft
 Soil Wedge Height From Bottom (l_{max}) = 7.00 ft Soil Wedge Width From Bottom (w_{max}) = 4.04 ft
 Wet Soil Wedge Height Above Anchor (l_w) = 0.00 ft Wet Soil Wedge Width Above Anchor (w_w) = 0.00 ft
 Wet Soil Wedge Height From Bottom ($l_{m,w}$) = 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 kips
 Effective Weight of Soil in Block (W_{block}) = 5.4 kips

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

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

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

*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 kips

*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 kips

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

Weight Directly on Block (W_{dir}) = 13.5 kips

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

Net Compression Force (N_{comp}) = 4.0 kips

*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 kips

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

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 kips

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 (ΦU) = 33.6 kips

Unity = 0.48

OK

Guy Anchor Slippage Case:

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

Shear Resistance (ΦV) = 24.3 kips

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 (γ_{soil}) =	120	lb/ft ³
Effective Soil Unit Weight (γ'_{soil}) =	60	lb/ft ³
Depth to Water Table (D_{water}) =	12	ft
Soil Friction Angle (Φ_{soil}) =	30	°
Ultimate Passive Earth Pressure (σ_p) =	360	psf/ft of soil depth
Ultimate Skin Friction (σ_s) =	0.0	psf
Horizontal Plane Friction Coefficient (μ_h) =	0.00	
Vertical Plane Friction Coefficient (μ_v) =	0.00	
phi factor (Φ) =	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	kips
Effective Weight of Soil in Block (W_{block}) =	8.4	kips

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

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

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

*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	kips
---------------------------------------	-----	------

*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	kips
---	-------	------

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

Weight Directly on Block (W_{dir}) =	37.8	kips
--	------	------

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

Net Compression Force (N_{comp}) =	17.0	kips
--	------	------

*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	kips
---------------------------------------	-----	------

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

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	kips

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 (ΦU) =	120.7	kips
----------------------------------	-------	------

Unity = 0.26 **OK**

Guy Anchor Slippage Case:

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

Shear Resistance (ΦV) =	54.0	kips
---------------------------------	------	------

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