



STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL

Ten Franklin Square, New Britain, CT 06051
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E-Mail: siting.council@ct.gov
Web Site: portal.ct.gov/csc

VIA ELECTRONIC MAIL

March 23, 2021

Allison Hebel
Site Acquisition Consultant
Centerline Communications LLC
750 West Center Street, Suite 301
West Bridgewater, MA 02379

RE: **EM-CING-117-210114** – New Cingular Wireless PCS, LLC (AT&T) notice of intent to modify an existing telecommunications facility located at 28 Great Oak Lane, Redding, Connecticut.

Dear Ms. Hebel:

The Connecticut Siting Council (Council) is in receipt of your correspondence of March 19, 2021 submitted in response to the Council's March 12, 2021 notification of an incomplete request for exempt modification with regard to the above-referenced matter.

The submission renders the request for exempt modification complete and the Council will process the request in accordance with the Federal Communications Commission 60-day timeframe.

Thank you for your attention and cooperation.

Sincerely,

s/ Melanie A. Bachman

Melanie A. Bachman
Executive Director

MAB/IN/emr

From: Allison Hebel <ahebel@clinellc.com>
Sent: Friday, March 19, 2021 1:43 PM
To: Fontaine, Lisa <Lisa.Fontaine@ct.gov>
Cc: CSC-DL Siting Council <Siting.Council@ct.gov>
Subject: RE: Council Decision on Ext. Request EM-CING-117-210114 (28 Great Oak Lane, Redding)
Incomplete Letter

EXTERNAL EMAIL: This email originated from outside of the organization. Do not click any links or open any attachments unless you trust the sender and know the content is safe.

Hi Lisa,

We were able to gather the information needed to fulfill the CSC requirement on the structural analysis. Please see attached revised document.



Allison Hebel | Site Acquisition Consultant
750 West Center St. Suite 301 | West Bridgewater, MA 02379
Phone: 215.588.7035 Fax: 508.819.3017
ahebel@clinellc.com | www.centerlinecommunications.com



Structural Analysis Report

Structure : 180ft Stealth Pole

BlueSky Site Name : S. Yale Ave

BlueSky Site # : CT-1420

Proposed Carrier : AT&T

Carrier Site Name : Redding Great Oak Lane

Carrier Site Number : 10050764 / CT2546

Site Location : 28 Great Oak Lane
Redding, CT 06896 (Fairfield County)
41.3068333, -73.3863056

Date : March 18, 2021

Max Member Stress Level : 40.6% (Tower)
57.7% (Slimline Steel Pipe)
89.0% (Baseplate)
88.9% (Caisson Foundation)
54.6% (Mat and Pier Foundation)

Result : PASS

Prepared by:
Bennett & Pless, Inc.
B&P Job No.: 20.03.017.006

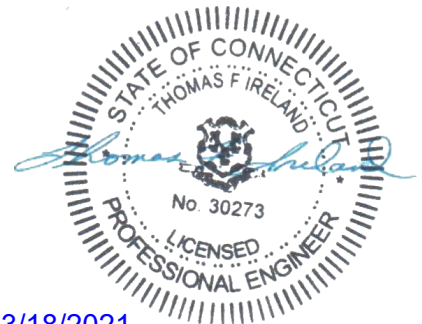


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| Collocation Application | Attached |

Introduction

We have completed our structural analysis of the proposed equipment installation on the foregoing tower to determine its ability to support the new loads proposed by AT&T. The objective of the analysis was to determine if the tower meets the current structural codes and standards with the proposed equipment installation.

Existing Structural Information

The following documents for the existing structure were made available for our structural analysis.

| | |
|--|---|
| Tower Information | Sabre tower drawings Job No.: 41261 dated March 2, 2011. GPD Structural Analysis Job No.: 2018723.01.97417.02 dated April 13, 2018 |
| Foundation Information | Sabre tower drawings Job No.: 41261 dated March 2, 2011. |
| Geotechnical Information | Sabre tower drawings Job No.: 41261 dated March 2, 2011. |
| Existing Equipment Information | BlueSky Collocation Application dated October 16, 2020. |
| Tower Reinforcement Information | Tower has not been previously reinforced. |

Final Proposed Equipment Loading for AT&T

The following proposed loading was obtained from the BlueSky Collocation Application:

| Antenna/Equipment | | | | Coax | | |
|-------------------|-------|----------|----------------------------|-------|-----------|--------------------|
| Mount | RAD | Qty. | Antenna | Type | Qty. | Size/Type |
| 177.0 | 175.0 | 3 | Kathrein 840370966 | Panel | 12 | 1 5/8" Coax |
| | | 6 | CCI TMABPD7823VG12A | TMA | | |
| 165.0 | 165.0 | 3 | Kathrein 840370966 | Panel | 12 | 1 5/8" Coax |
| | | 6 | CCI TMABPD7823VG12A | TMA | | |

Note: Proposed equipment shown in bold.

Note: Other existing loading can be found on the tower profile attached.

Design Criteria

The tower was analyzed using tnxTower (Version 8.0.7.4) tower analysis software using the following design criteria.

| | |
|--------------------------------|--|
| State/County | Connecticut/Fairfield County |
| State Building Code | Connecticut State Building Code 2018 (IBC 2015) |
| TIA/EIA Standard Code | TIA-222-G |
| Basic Wind Speed | 118 MPH (Vult) / 92 MPH (Vasd) |
| Basic Wind Speed w/ Ice | 50 MPH/ 0.75" Ice |
| Exposure | Centered between B and C See Bennett & Pless Wind Exposure Letter dated January 5, 2021 |
| Steel Grade | See attached tower profile and output for steel grade |

Analysis Results

Based on the foregoing information, our structural analysis determined that **the existing tower from 0'-0 is structurally capable of supporting the proposed equipment loads without modification.** The existing foundations and baseplate have also been evaluated and are **structurally capable of supporting the proposed equipment loads.**

Assumptions

1. The existing tower has been maintained to manufacturer's specifications and is in good condition.
2. Foundations are considered to have been properly designed for the original design loads.
3. All member connections are considered to have been designed to meet the load carrying capacity of the connected member.
4. Antenna mount loads have been estimated based on generally accepted industry standards.
5. The mounts for the proposed antennas have been analyzed and designed by others.
6. See additional assumptions contained in the report attached.

Conclusions

The existing main tower described above **has sufficient capacity** to support the proposed loading based on the governing Building Code. The foundation is also acceptable. As noted in the Analysis Results section of this report more information is needed to determine the capacity of the slimline steel pipe section.

We appreciate the opportunity of providing our continuing professional services to you. If you have any questions or need further assistance, please call us anytime at 678-990-8700.

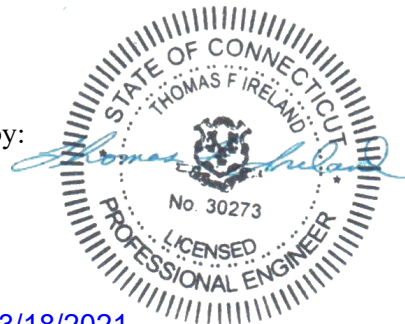
Sincerely,

Analysis by:



Cory Blake, P.E.
Project Engineer

Reviewed by:



3/18/2021

Thomas F. Ireland, PE
Principal

Standard Conditions

All engineering services are performed on the basis that the information used is current and correct. This information may consist of, but not necessarily limited, to:

- Information supplied by the client regarding the structure itself, the antenna and transmission line loading on the structure and its components, or relevant information.
- Information from drawings in possession of Bennett & Pless or generated by field inspections or measurements of the structure.

It is the responsibility of the client to ensure that the information provided to Bennett & Pless and used in the performance of our engineering services is correct and complete. In the absence of information contrary, we consider that all structures were constructed in accordance with the drawings and specifications and are in a un- corroded condition and have not deteriorated; and we, therefore consider that their capacity has not significantly changed from the original design condition.

All services will be performed to the codes and standards specified by the client, and we do not imply to meet any other code and standard requirements unless explicitly agreed to in writing. If wind and ice loads or other relevant parameters are to be different from the minimum values recommended by the codes and standards, the client shall specify the exact requirements. In the absence of information to the contrary, all work will be performed in accordance with the revision of ANSI/TIA/EIA-222 requested.

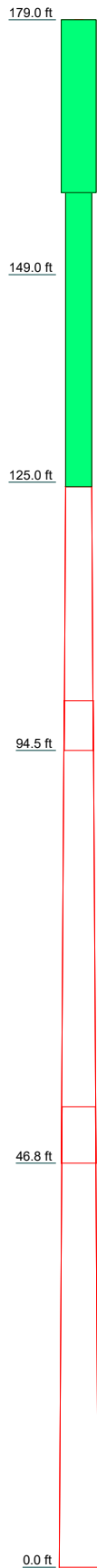
All services are performed, results obtained, and recommendations made in accordance with the generally accepted engineering principles and practices. Bennett & Pless is not responsible for the conclusions, opinions and recommendations made by others based on the information we supply.

Disclaimer of Warranties

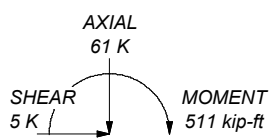
Bennett & Pless Inc. makes no warranties, expressed or implied, in connection with this report, and disclaims any liability arising from the ability of the existing structure to support the design loads for which it was originally designed. Bennett & Pless Inc. will not be responsible whatsoever for or on account of, consequential or incidental damages sustained by any person, firm, or organization as a result of any data or conclusions contained in this report. The maximum liability of Bennett & Pless pursuant to this report will be limited to the total fee received for preparation of this report.

Attachment 1:
Calculations

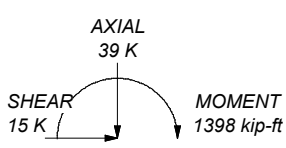
| | | | | | | | |
|--------------------|---------|----------|---------|---------|---------|---------|------|
| Section | 1 | 3 | 5 | 6 | 7 | | |
| Length (ft) | 29.500 | 23.500 | 30.500 | 53.500 | 53.250 | 53.250 | |
| Number of Sides | 1 | 1 | 18 | 18 | 18 | 18 | |
| Thickness (in) | 0.3650 | 0.5000 | 0.2500 | 0.3125 | 0.3125 | 0.3125 | |
| Socket Length (ft) | | | 5.750 | 6.500 | | | |
| Top Dia (in) | 10.7500 | 12.7500 | 36.0000 | 39.2166 | 45.6402 | 45.6402 | |
| Bot Dia (in) | 10.7500 | 12.7500 | 40.5800 | 47.2400 | 53.6200 | 53.6200 | |
| Grade | | A53-B-42 | | A572-65 | | | |
| Weight (K) | 1.2 | 1.5 | 3.1 | 7.7 | 8.9 | | 22.6 |



ALL REACTIONS
ARE FACTORED



50 mph WIND - 0.7500 in ICE



REACTIONS - 92 mph WIND

DESIGNED APPURTENANCE LOADING

| TYPE | ELEVATION | TYPE | ELEVATION |
|----------------------------------|-----------|----------------------------------|-----------|
| (2) CCI TMA BPD7823VG12A w/Mount | 174 | (2) CCI TMA BPD7823VG12A w/Mount | 164 |
| (2) CCI TMA BPD7823VG12A w/Mount | 174 | (2) CCI TMA BPD7823VG12A w/Mount | 164 |
| (2) CCI TMA BPD7823VG12A w/Mount | 174 | Kathrein 840 370966 | 164 |
| Kathrein 840 370966 | 174 | Amphenol HTXCW631619 | 147 |
| Kathrein 840 370966 | 174 | Amphenol HTXCW631619 | 147 |
| Kathrein 840 370966 | 174 | (2) RFS FD9R600411C-3L | 147 |
| 48"x20" Canister | 169 | (2) RFS FD9R600411C-3L | 147 |
| Kathrein 840 370966 | 164 | (2) RFS FD9R600411C-3L | 147 |
| Kathrein 840 370966 | 164 | Amphenol HTXCW631619 | 147 |
| (2) CCI TMA BPD7823VG12A w/Mount | 164 | 36"x34" Canister | 142 |

MATERIAL STRENGTH

| GRADE | Fy | Fu | GRADE | Fy | Fu |
|----------|--------|--------|---------|--------|--------|
| A53-B-42 | 42 ksi | 63 ksi | A572-65 | 65 ksi | 80 ksi |

TOWER DESIGN NOTES

1. Tower is located in Fairfield County, Connecticut.
2. Tower designed for Exposure C to the TIA-222-G Standard.
3. Tower designed for a 92 mph basic wind in accordance with the TIA-222-G Standard.
4. Tower is also designed for a 50 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 Structure Class II.
7. Topographic Category 1 with Crest Height of 0.000 ft
8. TOWER RATING: 57.7%

Bennett & Pless
750 Park of Commerce Blvd. Ste 200
Boca Raton
Experience Structural Expertise
Phone: (561) 452-3316
FAX:

Job: **US-CT-1420_SA**
Project: **Monopole Structural Analysis**
Client: Blue Sky
Code: TIA-222-G
Path:

Drawn by: jbozzetto
Date: 03/18/21
Scale: NTS
Dwg No. E-1

| | | | | |
|--|----------------|------------------------------|--------------------|-------------------|
| tnxTower Bennett & Pless 750 Park of Commerce Blvd. Ste 200 Boca Raton Phone: (561) 452-3316 FAX: | Job | US-CT-1420_SA | Page | 1 of 14 |
| | Project | Monopole Structural Analysis | Date | 12:01:10 03/18/21 |
| | Client | Blue Sky | Designed by | jbozzetto |

Tower Input Data

The tower is a monopole.

This tower is designed using the TIA-222-G standard.

The following design criteria apply:

Tower is located in Fairfield County, Connecticut.

Basic wind speed of 92 mph.

Structure Class II.

Exposure Category C.

Topographic Category 1.

Crest Height 0.000 ft.

Nominal ice thickness of 0.7500 in.

Ice thickness is considered to increase with height.

Ice density of 56.000 pcf.

A wind speed of 50 mph is used in combination with ice.

Temperature drop of 50.000 °F.

Deflections calculated using a wind speed of 60 mph.

A non-linear (P-delta) analysis was used.

Pressures are calculated at each section.

Stress ratio used in pole design is 1.

Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

Options

| | | |
|-------------------------------------|--------------------------------------|---|
| Consider Moments - Legs | Distribute Leg Loads As Uniform | Use ASCE 10 X-Brace Ly Rules |
| Consider Moments - Horizontals | Assume Legs Pinned | √ Calculate Redundant Bracing Forces |
| Consider Moments - Diagonals | √ Assume Rigid Index Plate | Ignore Redundant Members in FEA |
| Use Moment Magnification | √ Use Clear Spans For Wind Area | SR Leg Bolts Resist Compression |
| √ Use Code Stress Ratios | √ Use Clear Spans For KL/r | All Leg Panels Have Same Allowable |
| √ Use Code Safety Factors - Guys | √ Retension Guys To Initial Tension | Offset Girt At Foundation |
| Escalate Ice | √ Bypass Mast Stability Checks | √ Consider Feed Line Torque |
| Always Use Max Kz | √ Use Azimuth Dish Coefficients | Include Angle Block Shear Check |
| Use Special Wind Profile | √ Project Wind Area of Appurt. | Use TIA-222-G Bracing Resist. Exemption |
| Include Bolts In Member Capacity | √ Autocalc Torque Arm Areas | Use TIA-222-G Tension Splice Exemption |
| Leg Bolts Are At Top Of Section | Add IBC .6D+W Combination | Poles |
| Secondary Horizontal Braces Leg | √ Sort Capacity Reports By Component | √ Include Shear-Torsion Interaction |
| Use Diamond Inner Bracing (4 Sided) | Triangulate Diamond Inner Bracing | Always Use Sub-Critical Flow |
| SR Members Have Cut Ends | Treat Feed Line Bundles As Cylinder | Use Top Mounted Sockets |
| SR Members Are Concentric | Ignore KL/ry For 60 Deg. Angle Legs | Pole Without Linear Attachments |
| | | Pole With Shroud Or No Appurtenances |
| | | Outside and Inside Corner Radii Are |
| | | Known |

Tapered Pole Section Geometry

| Section | Elevation | Section Length | Splice Length | Number of Sides | Top Diameter | Bottom Diameter | Wall Thickness | Bend Radius | Pole Grade |
|---------|----------------|----------------|---------------|-----------------|--------------|-----------------|----------------|-------------|------------|
| | ft | ft | ft | | in | in | in | in | |
| L1 | 179.000-149.50 | 29.500 | 0.000 | Round | 10.7500 | 10.7500 | 0.3650 | | A53-B-42 |

| | | | | |
|--|----------------|------------------------------|--------------------|-------------------|
| tnxTower Bennett & Pless 750 Park of Commerce Blvd. Ste 200 Boca Raton Phone: (561) 452-3316 FAX: | Job | US-CT-1420_SA | Page | 2 of 14 |
| | Project | Monopole Structural Analysis | Date | 12:01:10 03/18/21 |
| | Client | Blue Sky | Designed by | jbozzetto |

| Section | Elevation ft | Section Length ft | Splice Length ft | Number of Sides | Top Diameter in | Bottom Diameter in | Wall Thickness in | Bend Radius in | Pole Grade |
|---------|-----------------|-------------------------|------------------------|-----------------------|-----------------------|--------------------------|-------------------------|----------------------|----------------------|
| L2 | 149.500-149.000 | 0.500 | 0.000 | Round | 10.7500 | 12.7500 | 0.3650 | | (42 ksi) A53-B-42 |
| L3 | 149.000-125.500 | 23.500 | 0.000 | Round | 12.7500 | 12.7500 | 0.5000 | | (42 ksi) A53-B-42 |
| L4 | 125.500-125.000 | 0.500 | 0.000 | Round | 12.7500 | 36.0000 | 0.5000 | | (42 ksi) A53-B-42 |
| L5 | 125.000-94.500 | 30.500 | 5.750 | 18 | 36.0000 | 40.5800 | 0.2500 | 1.0000 | (42 ksi) A572-65 |
| L6 | 94.500-46.750 | 53.500 | 6.500 | 18 | 39.2166 | 47.2400 | 0.3125 | 1.2500 | (65 ksi) A572-65 |
| L7 | 46.750-0.000 | 53.250 | | 18 | 45.6402 | 53.6200 | 0.3125 | 1.2500 | (65 ksi) A572-65 |

Tapered Pole Properties

| Section | Tip Dia. in | Area in ² | I in ⁴ | r in | C in | I/C in ³ | J in ⁴ | It/Q in ² | w in | w/t |
|---------|----------------|-------------------------|----------------------|---------|---------|------------------------|----------------------|-------------------------|---------|--------|
| L1 | 10.7500 | 11.9083 | 160.7342 | 3.6739 | 5.3750 | 29.9040 | 321.4685 | 5.9506 | 0.0000 | 0 |
| L2 | 10.7500 | 11.9083 | 160.7342 | 3.6739 | 5.3750 | 29.9040 | 321.4685 | 5.9506 | 0.0000 | 0 |
| L3 | 12.7500 | 14.2016 | 272.5322 | 4.3807 | 6.3750 | 42.7501 | 545.0644 | 7.0966 | 0.0000 | 0 |
| L4 | 12.7500 | 19.2423 | 361.5439 | 4.3346 | 6.3750 | 56.7128 | 723.0879 | 9.6154 | 0.0000 | 0 |
| L5 | 12.7500 | 19.2423 | 361.5439 | 4.3346 | 6.3750 | 56.7128 | 723.0879 | 9.6154 | 0.0000 | 0 |
| L6 | 36.0000 | 55.7633 | 8786.2002 | 12.5524 | 18.0000 | 488.1222 | 17572.4003 | 27.8650 | 0.0000 | 0 |
| L7 | 36.5168 | 28.3676 | 4580.4961 | 12.6913 | 18.2880 | 250.4646 | 9167.0194 | 14.1865 | 5.8960 | 23.584 |
| L8 | 41.1674 | 32.0019 | 6576.1097 | 14.3172 | 20.6146 | 319.0019 | 13160.8724 | 16.0040 | 6.7021 | 26.808 |
| L9 | 40.6490 | 38.5880 | 7378.6870 | 13.8109 | 19.9220 | 370.3786 | 14767.0830 | 19.2976 | 6.3521 | 20.327 |
| L10 | 47.9205 | 46.5462 | 12950.2052 | 16.6593 | 23.9979 | 539.6387 | 25917.4506 | 23.2775 | 7.7642 | 24.846 |
| L11 | 47.2851 | 44.9594 | 11670.3836 | 16.0913 | 23.1852 | 503.3545 | 23356.1235 | 22.4840 | 7.4827 | 23.945 |
| L12 | 54.3990 | 52.8744 | 18982.7593 | 18.9242 | 27.2390 | 696.8974 | 37990.4966 | 26.4422 | 8.8871 | 28.439 |

| Tower Elevation ft | Gusset Area (per face) ft ² | Gusset Thickness in | Gusset Grade | Adjust. Factor A _f | Adjust. Factor A _r | Weight Mult. | Double Angle Stitch Bolt Spacing Diagonals in | Double Angle Stitch Bolt Spacing Horizontals in | Double Angle Stitch Bolt Spacing Redundants in |
|--------------------------|---|---------------------------|--------------|----------------------------------|----------------------------------|--------------|---|---|--|
| L1 179.000-149.500 | | | | 1 | 1 | 1 | | | |
| L2 149.500-149.000 | | | | 1 | 1 | 1 | | | |
| L3 149.000-125.500 | | | | 1 | 1 | 1 | | | |
| L4 125.500-125.000 | | | | 1 | 1 | 1 | | | |
| L5 125.000-94.500 | | | | 1 | 1 | 1 | | | |
| L6 94.500-46.750 | | | | 1 | 1 | 1 | | | |

| | | | | |
|--|----------------|------------------------------|--------------------|-------------------|
| tnxTower Bennett & Pless 750 Park of Commerce Blvd. Ste 200 Boca Raton Phone: (561) 452-3316 FAX: | Job | US-CT-1420_SA | Page | 3 of 14 |
| | Project | Monopole Structural Analysis | Date | 12:01:10 03/18/21 |
| | Client | Blue Sky | Designed by | jbozzetto |

| Tower Elevation | Gusset Area (per face) | Gusset Thickness | Gusset Grade | Adjust. Factor A_f | Adjust. Factor A_r | Weight Mult. | Double Angle Stitch Bolt Spacing Diagonals | Double Angle Stitch Bolt Spacing Horizontals | Double Angle Stitch Bolt Spacing Redundants |
|--------------------|------------------------|------------------|--------------|----------------------|----------------------|--------------|--|--|---|
| ft | ft ² | in | | | | | in | in | in |
| L7 46.750-0.000 | | | | 1 | 1 | 1 | | | |

Feed Line/Linear Appurtenances - Entered As Area

| Description | Face or Leg | Allow Shield | Exclude From Torque Calculation | Component Type | Placement ft | Total Number | | $C_A A_A$ ft ² /ft | Weight klf |
|-------------|-------------|--------------|---------------------------------|----------------|-----------------|--------------|------------------------------|-------------------------------|-------------------------|
| 1 5/8" coax | C | No | No | Inside Pole | 125.000 - 0.000 | 12 | No Ice 1/2" Ice 1" Ice | 0.000 0.000 0.000 | 0.001 0.001 0.001 |
| 1 5/8" coax | C | No | No | Inside Pole | 125.000 - 0.000 | 12 | No Ice 1/2" Ice 1" Ice | 0.000 0.000 0.000 | 0.001 0.001 0.001 |

Feed Line/Linear Appurtenances Section Areas

| Tower Section | Tower Elevation ft | Face | A_R ft ² | A_F ft ² | $C_A A_A$ In Face ft ² | $C_A A_A$ Out Face ft ² | Weight K |
|---------------|--------------------|------|-----------------------|-----------------------|-----------------------------------|------------------------------------|----------|
| L1 | 179.000-149.500 | A | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| | | B | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| | | C | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| L2 | 149.500-149.000 | A | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| | | B | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| | | C | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| L3 | 149.000-125.500 | A | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| | | B | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| | | C | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| L4 | 125.500-125.000 | A | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| | | B | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| | | C | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| L5 | 125.000-94.500 | A | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| | | B | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| | | C | 0.000 | 0.000 | 0.000 | 0.000 | 0.600 |
| L6 | 94.500-46.750 | A | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| | | B | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| | | C | 0.000 | 0.000 | 0.000 | 0.000 | 0.940 |
| L7 | 46.750-0.000 | A | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| | | B | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| | | C | 0.000 | 0.000 | 0.000 | 0.000 | 0.920 |

Feed Line/Linear Appurtenances Section Areas - With Ice

| | | | | |
|--|----------------|------------------------------|--------------------|-------------------|
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| | Project | Monopole Structural Analysis | Date | 12:01:10 03/18/21 |
| | Client | Blue Sky | Designed by | jbozzetto |

| <i>Tower Section</i> | <i>Tower Elevation ft</i> | <i>Face or Leg</i> | <i>Ice Thickness in</i> | <i>A_R ft²</i> | <i>A_F ft²</i> | <i>C_AA_A In Face ft²</i> | <i>C_AA_A Out Face ft²</i> | <i>Weight K</i> |
|----------------------|-------------------------------|--------------------|-----------------------------|---|---|--|---|---------------------|
| L1 | 179.000-149.500 | A | 1.761 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| | | B | | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| | | C | | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| L2 | 149.500-149.000 | A | 1.744 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| | | B | | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| | | C | | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| L3 | 149.000-125.500 | A | 1.730 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| | | B | | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| | | C | | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| L4 | 125.500-125.000 | A | 1.714 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| | | B | | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| | | C | | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| L5 | 125.000-94.500 | A | 1.691 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| | | B | | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| | | C | | 0.000 | 0.000 | 0.000 | 0.000 | 0.600 |
| L6 | 94.500-46.750 | A | 1.618 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| | | B | | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| | | C | | 0.000 | 0.000 | 0.000 | 0.000 | 0.940 |
| L7 | 46.750-0.000 | A | 1.452 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| | | B | | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| | | C | | 0.000 | 0.000 | 0.000 | 0.000 | 0.920 |

Feed Line Center of Pressure

| <i>Section</i> | <i>Elevation ft</i> | <i>CP_x in</i> | <i>CP_z in</i> | <i>CP_x Ice in</i> | <i>CP_z Ice in</i> |
|----------------|-------------------------|------------------------------|------------------------------|--------------------------------------|--------------------------------------|
| L1 | 179.000-149.500 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| L2 | 149.500-149.000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| L3 | 149.000-125.500 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| L4 | 125.500-125.000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| L5 | 125.000-94.500 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| L6 | 94.500-46.750 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| L7 | 46.750-0.000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |

Note: For pole sections, center of pressure calculations do not consider feed line shielding.

Discrete Tower Loads

| <i>Description</i> | <i>Face or Leg</i> | <i>Offset Type</i> | <i>Offsets: Horz Lateral Vert ft ft ft</i> | <i>Azimuth Adjustment °</i> | <i>Placement ft</i> | <i>C_AA_A Front ft²</i> | <i>C_AA_A Side ft²</i> | <i>Weight K</i> |
|-------------------------------------|--------------------|--------------------|--|---------------------------------|-------------------------|--|---|-------------------------|
| (2) CCI TMA BPD7823VG12A w/Mount | A | None | | 0.0000 | 174.000 | No Ice 1/2" Ice 1" Ice 1.393 1.550 1.716 | 0.728 0.922 1.133 | 0.031 0.044 0.061 |
| (2) CCI TMA BPD7823VG12A w/Mount | B | None | | 0.0000 | 174.000 | No Ice 1/2" Ice 1.393 1.550 | 0.728 0.922 | 0.031 0.044 |

| | | | | |
|--|----------------|------------------------------|--------------------|-------------------|
| <i>tnxTower</i> <i>Bennett & Pless</i> 750 Park of Commerce Blvd. Ste 200 Boca Raton Phone: (561) 452-3316 FAX: | Job | US-CT-1420_SA | Page | 5 of 14 |
| | Project | Monopole Structural Analysis | Date | 12:01:10 03/18/21 |
| | Client | Blue Sky | Designed by | jbozzetto |

| <i>Description</i> | <i>Face or Leg</i> | <i>Offset Type</i> | <i>Offsets: Horz Lateral Vert ft ft ft</i> | <i>Azimuth Adjustment °</i> | <i>Placement ft</i> | <i>C_{AA} Front ft²</i> | <i>C_{AA} Side ft²</i> | <i>Weight K</i> |
|-------------------------------------|----------------------------|------------------------|--|--|------------------------------|---|--|--------------------------|
| (2) CCI TMA BPD7823VG12A w/Mount | C | None | | 0.0000 | 174.000 | 1" Ice 1.716 No Ice 1.393 1/2" Ice 1.550 | 1.133 0.728 0.922 | 0.061 0.031 0.044 |
| Kathrein 840 370966 | A | None | | 0.0000 | 174.000 | 1" Ice 1.716 No Ice 13.661 1/2" Ice 14.263 | 1.133 7.189 7.776 | 0.061 0.093 0.167 |
| Kathrein 840 370966 | B | None | | 0.0000 | 174.000 | 1" Ice 14.872 No Ice 13.661 1/2" Ice 14.263 | 8.370 7.189 7.776 | 0.248 0.093 0.167 |
| Kathrein 840 370966 | C | None | | 0.0000 | 174.000 | 1" Ice 14.872 No Ice 13.661 1/2" Ice 14.263 | 8.370 7.189 7.776 | 0.248 0.093 0.167 |
| Kathrein 840 370966 | A | None | | 0.0000 | 164.000 | 1" Ice 14.872 No Ice 13.661 1/2" Ice 14.263 | 8.370 7.189 7.776 | 0.248 0.093 0.167 |
| Kathrein 840 370966 | B | None | | 0.0000 | 164.000 | 1" Ice 14.872 No Ice 13.661 1/2" Ice 14.263 | 8.370 7.189 7.776 | 0.248 0.093 0.167 |
| Kathrein 840 370966 | C | None | | 0.0000 | 164.000 | 1" Ice 14.872 No Ice 13.661 1/2" Ice 14.263 | 8.370 7.189 7.776 | 0.248 0.093 0.167 |
| (2) CCI TMA BPD7823VG12A w/Mount | A | None | | 0.0000 | 164.000 | 1" Ice 14.872 No Ice 1.393 1/2" Ice 1.550 | 8.370 0.728 0.922 | 0.248 0.031 0.044 |
| (2) CCI TMA BPD7823VG12A w/Mount | B | None | | 0.0000 | 164.000 | 1" Ice 1.716 No Ice 1.393 1/2" Ice 1.550 | 1.133 0.728 0.922 | 0.061 0.031 0.044 |
| (2) CCI TMA BPD7823VG12A w/Mount | C | None | | 0.0000 | 164.000 | 1" Ice 1.716 No Ice 1.393 1/2" Ice 1.550 | 1.133 0.728 0.922 | 0.061 0.031 0.044 |
| Amphenol HTXCW631619 | A | None | | 0.0000 | 147.000 | 1" Ice 1.716 No Ice 9.587 1/2" Ice 10.101 | 1.133 6.321 6.834 | 0.061 0.042 0.099 |
| Amphenol HTXCW631619 | B | None | | 0.0000 | 147.000 | 1" Ice 10.621 No Ice 9.587 1/2" Ice 10.101 | 7.355 6.321 6.834 | 0.163 0.042 0.099 |
| Amphenol HTXCW631619 | C | None | | 0.0000 | 147.000 | 1" Ice 10.621 No Ice 9.587 1/2" Ice 10.101 | 7.355 6.321 6.834 | 0.163 0.042 0.099 |
| (2) RFS FD9R600411C-3L | A | None | | 0.0000 | 147.000 | 1" Ice 10.621 No Ice 0.314 1/2" Ice 0.386 | 7.355 0.076 0.119 | 0.163 0.003 0.005 |
| (2) RFS FD9R600411C-3L | B | None | | 0.0000 | 147.000 | 1" Ice 0.466 No Ice 0.314 1/2" Ice 0.386 | 0.169 0.076 0.119 | 0.009 0.003 0.005 |
| (2) RFS FD9R600411C-3L | C | None | | 0.0000 | 147.000 | 1" Ice 0.466 No Ice 0.314 1/2" Ice 0.386 | 0.169 0.076 0.119 | 0.009 0.003 0.005 |
| *** 36"x34' Canister | C | None | | 0.0000 | 142.000 | 1" Ice 0.466 No Ice 61.200 1/2" Ice 93.540 | 0.169 61.200 93.540 | 0.009 3.350 4.143 |
| 48"x20' Canister | C | None | | 0.0000 | 169.000 | 1" Ice 95.667 No Ice 44.444 1/2" Ice 61.812 | 95.667 44.444 61.812 | 4.960 3.000 3.654 |
| | | | | | | 1" Ice 63.189 | 63.189 | 4.325 |

| | | | |
|--|----------------|------------------------------|----------------------------------|
| <i>tnxTower</i> <i>Bennett & Pless</i> 750 Park of Commerce Blvd. Ste 200 Boca Raton Phone: (561) 452-3316 FAX: | Job | US-CT-1420_SA | Page 6 of 14 |
| | Project | Monopole Structural Analysis | Date 12:01:10 03/18/21 |
| | Client | Blue Sky | Designed by jbozzetto |

Load Combinations

| <i>Comb. No.</i> | <i>Description</i> |
|----------------------|--|
| 1 | Dead Only |
| 2 | 1.2 Dead+1.6 Wind 0 deg - No Ice |
| 3 | 0.9 Dead+1.6 Wind 0 deg - No Ice |
| 4 | 1.2 Dead+1.6 Wind 30 deg - No Ice |
| 5 | 0.9 Dead+1.6 Wind 30 deg - No Ice |
| 6 | 1.2 Dead+1.6 Wind 60 deg - No Ice |
| 7 | 0.9 Dead+1.6 Wind 60 deg - No Ice |
| 8 | 1.2 Dead+1.6 Wind 90 deg - No Ice |
| 9 | 0.9 Dead+1.6 Wind 90 deg - No Ice |
| 10 | 1.2 Dead+1.6 Wind 120 deg - No Ice |
| 11 | 0.9 Dead+1.6 Wind 120 deg - No Ice |
| 12 | 1.2 Dead+1.6 Wind 150 deg - No Ice |
| 13 | 0.9 Dead+1.6 Wind 150 deg - No Ice |
| 14 | 1.2 Dead+1.6 Wind 180 deg - No Ice |
| 15 | 0.9 Dead+1.6 Wind 180 deg - No Ice |
| 16 | 1.2 Dead+1.6 Wind 210 deg - No Ice |
| 17 | 0.9 Dead+1.6 Wind 210 deg - No Ice |
| 18 | 1.2 Dead+1.6 Wind 240 deg - No Ice |
| 19 | 0.9 Dead+1.6 Wind 240 deg - No Ice |
| 20 | 1.2 Dead+1.6 Wind 270 deg - No Ice |
| 21 | 0.9 Dead+1.6 Wind 270 deg - No Ice |
| 22 | 1.2 Dead+1.6 Wind 300 deg - No Ice |
| 23 | 0.9 Dead+1.6 Wind 300 deg - No Ice |
| 24 | 1.2 Dead+1.6 Wind 330 deg - No Ice |
| 25 | 0.9 Dead+1.6 Wind 330 deg - No Ice |
| 26 | 1.2 Dead+1.0 Ice+1.0 Temp |
| 27 | 1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp |
| 28 | 1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp |
| 29 | 1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp |
| 30 | 1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp |
| 31 | 1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp |
| 32 | 1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp |
| 33 | 1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp |
| 34 | 1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp |
| 35 | 1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp |
| 36 | 1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp |
| 37 | 1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp |
| 38 | 1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp |
| 39 | Dead+Wind 0 deg - Service |
| 40 | Dead+Wind 30 deg - Service |
| 41 | Dead+Wind 60 deg - Service |
| 42 | Dead+Wind 90 deg - Service |
| 43 | Dead+Wind 120 deg - Service |
| 44 | Dead+Wind 150 deg - Service |
| 45 | Dead+Wind 180 deg - Service |
| 46 | Dead+Wind 210 deg - Service |
| 47 | Dead+Wind 240 deg - Service |
| 48 | Dead+Wind 270 deg - Service |
| 49 | Dead+Wind 300 deg - Service |
| 50 | Dead+Wind 330 deg - Service |

| | | | | |
|--|----------------|------------------------------|--------------------|-------------------|
| tnxTower Bennett & Pless 750 Park of Commerce Blvd. Ste 200 Boca Raton Phone: (561) 452-3316 FAX: | Job | US-CT-1420_SA | Page | 7 of 14 |
| | Project | Monopole Structural Analysis | Date | 12:01:10 03/18/21 |
| | Client | Blue Sky | Designed by | jbozzetto |

Maximum Member Forces

| Section No. | Elevation ft | Component Type | Condition | Gov. Load Comb. | Axial K | Major Axis Moment kip-ft | Minor Axis Moment kip-ft |
|-------------|--------------|----------------|------------------|-----------------|---------|--------------------------|--------------------------|
| L1 | 179 - 149.5 | Pole | Max Tension | 8 | 0.000 | 0.000 | 0.000 |
| | | | Max. Compression | 26 | -11.882 | 0.000 | 0.000 |
| | | | Max. Mx | 8 | -6.028 | -41.395 | 0.000 |
| | | | Max. My | 2 | -6.028 | 0.000 | 41.395 |
| | | | Max. Vy | 8 | 2.231 | -41.395 | 0.000 |
| | | | Max. Vx | 2 | -2.231 | 0.000 | 41.395 |
| | | | Max. Torque | 4 | | | -0.000 |
| L2 | 149.5 - 149 | Pole | Max Tension | 1 | 0.000 | 0.000 | 0.000 |
| | | | Max. Compression | 26 | -11.923 | 0.000 | 0.000 |
| | | | Max. Mx | 8 | -6.056 | -42.509 | 0.000 |
| | | | Max. My | 2 | -6.056 | 0.000 | 42.509 |
| | | | Max. Vy | 8 | 2.235 | -42.509 | 0.000 |
| | | | Max. Vx | 2 | -2.235 | 0.000 | 42.509 |
| | | | Max. Torque | 4 | | | -0.000 |
| L3 | 149 - 125.5 | Pole | Max Tension | 1 | 0.000 | 0.000 | 0.000 |
| | | | Max. Compression | 26 | -22.327 | 0.000 | 0.000 |
| | | | Max. Mx | 8 | -12.073 | -132.467 | 0.000 |
| | | | Max. My | 2 | -12.073 | 0.000 | 132.467 |
| | | | Max. Vy | 8 | 4.536 | -132.467 | 0.000 |
| | | | Max. Vx | 2 | -4.536 | 0.000 | 132.467 |
| | | | Max. Torque | 4 | | | -0.000 |
| L4 | 125.5 - 125 | Pole | Max Tension | 1 | 0.000 | 0.000 | 0.000 |
| | | | Max. Compression | 26 | -22.430 | 0.000 | 0.000 |
| | | | Max. Mx | 8 | -12.154 | -134.734 | 0.000 |
| | | | Max. My | 2 | -12.154 | 0.000 | 134.734 |
| | | | Max. Vy | 8 | 4.548 | -134.734 | 0.000 |
| | | | Max. Vx | 2 | -4.548 | 0.000 | 134.734 |
| | | | Max. Torque | 6 | | | 0.000 |
| L5 | 125 - 94.5 | Pole | Max Tension | 1 | 0.000 | 0.000 | 0.000 |
| | | | Max. Compression | 26 | -28.097 | 0.000 | 0.000 |
| | | | Max. Mx | 8 | -15.713 | -274.441 | 0.000 |
| | | | Max. My | 2 | -15.713 | 0.000 | 274.441 |
| | | | Max. Vy | 8 | 6.763 | -274.441 | 0.000 |
| | | | Max. Vx | 2 | -6.763 | 0.000 | 274.441 |
| | | | Max. Torque | 4 | | | -0.000 |
| L6 | 94.5 - 46.75 | Pole | Max Tension | 1 | 0.000 | 0.000 | 0.000 |
| | | | Max. Compression | 26 | -42.757 | 0.000 | 0.000 |
| | | | Max. Mx | 8 | -25.637 | -693.901 | 0.000 |
| | | | Max. My | 2 | -25.637 | 0.000 | 693.901 |
| | | | Max. Vy | 8 | 11.055 | -693.901 | 0.000 |
| | | | Max. Vx | 2 | -11.055 | 0.000 | 693.901 |
| | | | Max. Torque | 4 | | | -0.000 |
| L7 | 46.75 - 0 | Pole | Max Tension | 1 | 0.000 | 0.000 | 0.000 |
| | | | Max. Compression | 26 | -61.383 | 0.000 | 0.000 |
| | | | Max. Mx | 8 | -38.933 | -1397.662 | 0.000 |
| | | | Max. My | 2 | -38.933 | 0.000 | 1397.662 |
| | | | Max. Vy | 8 | 15.142 | -1397.662 | 0.000 |
| | | | Max. Vx | 2 | -15.142 | 0.000 | 1397.662 |
| | | | Max. Torque | 4 | | | -0.000 |

Maximum Reactions

| | | | | |
|--|----------------|------------------------------|--------------------|-------------------|
| tnxTower Bennett & Pless 750 Park of Commerce Blvd. Ste 200 Boca Raton Phone: (561) 452-3316 FAX: | Job | US-CT-1420_SA | Page | 8 of 14 |
| | Project | Monopole Structural Analysis | Date | 12:01:10 03/18/21 |
| | Client | Blue Sky | Designed by | jbozzetto |

| Location | Condition | Gov. Load Comb. | Vertical K | Horizontal, X K | Horizontal, Z K |
|----------|---------------------|-----------------------|---------------|--------------------|--------------------|
| Pole | Max. Vert | 26 | 61.383 | 0.000 | 0.000 |
| | Max. H _x | 21 | 29.205 | 15.125 | 0.000 |
| | Max. H _z | 3 | 29.205 | 0.000 | 15.125 |
| | Max. M _x | 2 | 1397.662 | 0.000 | 15.125 |
| | Max. M _z | 8 | 1397.662 | -15.125 | 0.000 |
| | Max. Torsion | 12 | 0.000 | -7.563 | -13.100 |
| | Min. Vert | 3 | 29.205 | 0.000 | 15.125 |
| | Min. H _x | 9 | 29.205 | -15.125 | 0.000 |
| | Min. H _z | 15 | 29.205 | 0.000 | -15.125 |
| | Min. M _x | 14 | -1397.662 | 0.000 | -15.125 |
| | Min. M _z | 20 | -1397.662 | 15.125 | 0.000 |
| | Min. Torsion | 4 | -0.000 | -7.563 | 13.100 |

Tower Mast Reaction Summary

| Load Combination | Vertical K | Shear _x K | Shear _z K | Overturning Moment, M _x kip-ft | Overturning Moment, M _z kip-ft | Torque kip-ft |
|------------------------------------|---------------|-------------------------|-------------------------|---|---|------------------|
| Dead Only | 32.450 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 1.2 Dead+1.6 Wind 0 deg - No Ice | 38.940 | 0.000 | -15.125 | -1397.662 | 0.000 | 0.000 |
| 0.9 Dead+1.6 Wind 0 deg - No Ice | 29.205 | 0.000 | -15.125 | -1380.040 | 0.000 | 0.000 |
| 1.2 Dead+1.6 Wind 30 deg - No Ice | 38.940 | 7.563 | -13.100 | -1210.657 | -698.973 | 0.000 |
| 0.9 Dead+1.6 Wind 30 deg - No Ice | 29.205 | 7.563 | -13.100 | -1195.389 | -690.158 | 0.000 |
| 1.2 Dead+1.6 Wind 60 deg - No Ice | 38.940 | 13.100 | -7.563 | -698.973 | -1210.657 | -0.000 |
| 0.9 Dead+1.6 Wind 60 deg - No Ice | 29.205 | 13.100 | -7.563 | -690.158 | -1195.389 | -0.000 |
| 1.2 Dead+1.6 Wind 90 deg - No Ice | 38.940 | 15.125 | 0.000 | 0.000 | -1397.662 | 0.000 |
| 0.9 Dead+1.6 Wind 90 deg - No Ice | 29.205 | 15.125 | 0.000 | 0.000 | -1380.040 | 0.000 |
| 1.2 Dead+1.6 Wind 120 deg - No Ice | 38.940 | 13.100 | 7.563 | 698.973 | -1210.657 | 0.000 |
| 0.9 Dead+1.6 Wind 120 deg - No Ice | 29.205 | 13.100 | 7.563 | 690.158 | -1195.389 | 0.000 |
| 1.2 Dead+1.6 Wind 150 deg - No Ice | 38.940 | 7.563 | 13.100 | 1210.657 | -698.973 | -0.000 |
| 0.9 Dead+1.6 Wind 150 deg - No Ice | 29.205 | 7.563 | 13.100 | 1195.389 | -690.158 | -0.000 |
| 1.2 Dead+1.6 Wind 180 deg - No Ice | 38.940 | 0.000 | 15.125 | 1397.662 | 0.000 | 0.000 |
| 0.9 Dead+1.6 Wind 180 deg - No Ice | 29.205 | 0.000 | 15.125 | 1380.040 | 0.000 | 0.000 |
| 1.2 Dead+1.6 Wind 210 deg - No Ice | 38.940 | -7.563 | 13.100 | 1210.657 | 698.973 | 0.000 |
| 0.9 Dead+1.6 Wind 210 deg - No Ice | 29.205 | -7.563 | 13.100 | 1195.389 | 690.158 | 0.000 |
| 1.2 Dead+1.6 Wind 240 deg - No Ice | 38.940 | -13.100 | 7.563 | 698.973 | 1210.657 | -0.000 |
| 0.9 Dead+1.6 Wind 240 deg - No Ice | 29.205 | -13.100 | 7.563 | 690.158 | 1195.389 | -0.000 |
| 1.2 Dead+1.6 Wind 270 deg - No Ice | 38.940 | -15.125 | 0.000 | 0.000 | 1397.662 | 0.000 |

| | | | | |
|--|----------------|------------------------------|--------------------|-------------------|
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| | Project | Monopole Structural Analysis | Date | 12:01:10 03/18/21 |
| | Client | Blue Sky | Designed by | jbozzetto |

| Load Combination | Vertical K | Shear _x K | Shear _z K | Overturning Moment, M _x kip-ft | Overturning Moment, M _z kip-ft | Torque kip-ft |
|--|---------------|-------------------------|-------------------------|---|---|------------------|
| 0.9 Dead+1.6 Wind 270 deg - No Ice | 29.205 | -15.125 | 0.000 | 0.000 | 1380.040 | 0.000 |
| 1.2 Dead+1.6 Wind 300 deg - No Ice | 38.940 | -13.100 | -7.563 | -698.973 | 1210.657 | 0.000 |
| 0.9 Dead+1.6 Wind 300 deg - No Ice | 29.205 | -13.100 | -7.563 | -690.158 | 1195.389 | 0.000 |
| 1.2 Dead+1.6 Wind 330 deg - No Ice | 38.940 | -7.563 | -13.100 | -1210.657 | 698.973 | -0.000 |
| 0.9 Dead+1.6 Wind 330 deg - No Ice | 29.205 | -7.563 | -13.100 | -1195.389 | 690.158 | -0.000 |
| 1.2 Dead+1.0 Ice+1.0 Temp | 61.383 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp | 61.383 | 0.000 | -5.394 | -510.787 | 0.000 | 0.000 |
| 1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp | 61.383 | 2.697 | -4.671 | -442.355 | -255.394 | 0.000 |
| 1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp | 61.383 | 4.671 | -2.697 | -255.394 | -442.355 | -0.000 |
| 1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp | 61.383 | 5.394 | 0.000 | 0.000 | -510.787 | 0.000 |
| 1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp | 61.383 | 4.671 | 2.697 | 255.394 | -442.355 | 0.000 |
| 1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp | 61.383 | 2.697 | 4.671 | 442.355 | -255.394 | -0.000 |
| 1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp | 61.383 | 0.000 | 5.394 | 510.787 | 0.000 | 0.000 |
| 1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp | 61.383 | -2.697 | 4.671 | 442.355 | 255.394 | 0.000 |
| 1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp | 61.383 | -4.671 | 2.697 | 255.394 | 442.355 | -0.000 |
| 1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp | 61.383 | -5.394 | 0.000 | 0.000 | 510.787 | 0.000 |
| 1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp | 61.383 | -4.671 | -2.697 | -255.394 | 442.355 | 0.000 |
| 1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp | 61.383 | -2.697 | -4.671 | -442.355 | 255.394 | -0.000 |
| Dead+Wind 0 deg - Service | 32.450 | 0.000 | -3.598 | -329.792 | 0.000 | 0.000 |
| Dead+Wind 30 deg - Service | 32.450 | 1.799 | -3.116 | -285.608 | -164.896 | 0.000 |
| Dead+Wind 60 deg - Service | 32.450 | 3.116 | -1.799 | -164.896 | -285.608 | -0.000 |
| Dead+Wind 90 deg - Service | 32.450 | 3.598 | 0.000 | 0.000 | -329.792 | 0.000 |
| Dead+Wind 120 deg - Service | 32.450 | 3.116 | 1.799 | 164.896 | -285.608 | 0.000 |
| Dead+Wind 150 deg - Service | 32.450 | 1.799 | 3.116 | 285.608 | -164.896 | -0.000 |
| Dead+Wind 180 deg - Service | 32.450 | 0.000 | 3.598 | 329.792 | 0.000 | 0.000 |
| Dead+Wind 210 deg - Service | 32.450 | -1.799 | 3.116 | 285.608 | 164.896 | 0.000 |
| Dead+Wind 240 deg - Service | 32.450 | -3.116 | 1.799 | 164.896 | 285.608 | -0.000 |
| Dead+Wind 270 deg - Service | 32.450 | -3.598 | 0.000 | 0.000 | 329.792 | 0.000 |
| Dead+Wind 300 deg - Service | 32.450 | -3.116 | -1.799 | -164.896 | 285.608 | 0.000 |
| Dead+Wind 330 deg - Service | 32.450 | -1.799 | -3.116 | -285.608 | 164.896 | -0.000 |

Solution Summary

| Load Comb. | Sum of Applied Forces | | | Sum of Reactions | | | % Error |
|------------|-----------------------|---------|---------|------------------|---------|---------|---------|
| | PX K | PY K | PZ K | PX K | PY K | PZ K | |
| 1 | 0.000 | -32.450 | 0.000 | 0.000 | 32.450 | 0.000 | 0.000% |
| 2 | 0.000 | -38.940 | -15.127 | 0.000 | 38.940 | 15.125 | 0.005% |
| 3 | 0.000 | -29.205 | -15.127 | 0.000 | 29.205 | 15.125 | 0.007% |
| 4 | 7.563 | -38.940 | -13.100 | -7.563 | 38.940 | 13.100 | 0.001% |
| 5 | 7.563 | -29.205 | -13.100 | -7.563 | 29.205 | 13.100 | 0.001% |

| | | | |
|--|----------------|------------------------------|----------------------------------|
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| | Client | Blue Sky | Designed by jbozzetto |

| Load Comb. | Sum of Applied Forces | | | Sum of Reactions | | | % Error |
|---------------|-----------------------|---------|---------|------------------|---------|---------|---------|
| | PX K | PY K | PZ K | PX K | PY K | PZ K | |
| 6 | 13.100 | -38.940 | -7.563 | -13.100 | 38.940 | 7.563 | 0.001% |
| 7 | 13.100 | -29.205 | -7.563 | -13.100 | 29.205 | 7.563 | 0.001% |
| 8 | 15.127 | -38.940 | 0.000 | -15.125 | 38.940 | 0.000 | 0.005% |
| 9 | 15.127 | -29.205 | 0.000 | -15.125 | 29.205 | 0.000 | 0.007% |
| 10 | 13.100 | -38.940 | 7.563 | -13.100 | 38.940 | -7.563 | 0.001% |
| 11 | 13.100 | -29.205 | 7.563 | -13.100 | 29.205 | -7.563 | 0.001% |
| 12 | 7.563 | -38.940 | 13.100 | -7.563 | 38.940 | -13.100 | 0.001% |
| 13 | 7.563 | -29.205 | 13.100 | -7.563 | 29.205 | -13.100 | 0.001% |
| 14 | 0.000 | -38.940 | 15.127 | 0.000 | 38.940 | -15.125 | 0.005% |
| 15 | 0.000 | -29.205 | 15.127 | 0.000 | 29.205 | -15.125 | 0.007% |
| 16 | -7.563 | -38.940 | 13.100 | 7.563 | 38.940 | -13.100 | 0.001% |
| 17 | -7.563 | -29.205 | 13.100 | 7.563 | 29.205 | -13.100 | 0.001% |
| 18 | -13.100 | -38.940 | 7.563 | 13.100 | 38.940 | -7.563 | 0.001% |
| 19 | -13.100 | -29.205 | 7.563 | 13.100 | 29.205 | -7.563 | 0.001% |
| 20 | -15.127 | -38.940 | 0.000 | 15.125 | 38.940 | 0.000 | 0.005% |
| 21 | -15.127 | -29.205 | 0.000 | 15.125 | 29.205 | 0.000 | 0.007% |
| 22 | -13.100 | -38.940 | -7.563 | 13.100 | 38.940 | 7.563 | 0.001% |
| 23 | -13.100 | -29.205 | -7.563 | 13.100 | 29.205 | 7.563 | 0.001% |
| 24 | -7.563 | -38.940 | -13.100 | 7.563 | 38.940 | 13.100 | 0.001% |
| 25 | -7.563 | -29.205 | -13.100 | 7.563 | 29.205 | 13.100 | 0.001% |
| 26 | 0.000 | -61.383 | 0.000 | 0.000 | 61.383 | 0.000 | 0.000% |
| 27 | 0.000 | -61.383 | -5.395 | 0.000 | 61.383 | 5.394 | 0.001% |
| 28 | 2.697 | -61.383 | -4.672 | -2.697 | 61.383 | 4.671 | 0.001% |
| 29 | 4.672 | -61.383 | -2.697 | -4.671 | 61.383 | 2.697 | 0.001% |
| 30 | 5.395 | -61.383 | 0.000 | -5.394 | 61.383 | 0.000 | 0.001% |
| 31 | 4.672 | -61.383 | 2.697 | -4.671 | 61.383 | -2.697 | 0.001% |
| 32 | 2.697 | -61.383 | 4.672 | -2.697 | 61.383 | -4.671 | 0.001% |
| 33 | 0.000 | -61.383 | 5.395 | 0.000 | 61.383 | -5.394 | 0.001% |
| 34 | -2.697 | -61.383 | 4.672 | 2.697 | 61.383 | -4.671 | 0.001% |
| 35 | -4.672 | -61.383 | 2.697 | 4.671 | 61.383 | -2.697 | 0.001% |
| 36 | -5.395 | -61.383 | 0.000 | 5.394 | 61.383 | 0.000 | 0.001% |
| 37 | -4.672 | -61.383 | -2.697 | 4.671 | 61.383 | 2.697 | 0.001% |
| 38 | -2.697 | -61.383 | -4.672 | 2.697 | 61.383 | 4.671 | 0.001% |
| 39 | 0.000 | -32.450 | -3.598 | 0.000 | 32.450 | 3.598 | 0.002% |
| 40 | 1.799 | -32.450 | -3.116 | -1.799 | 32.450 | 3.116 | 0.002% |
| 41 | 3.116 | -32.450 | -1.799 | -3.116 | 32.450 | 1.799 | 0.002% |
| 42 | 3.598 | -32.450 | 0.000 | -3.598 | 32.450 | 0.000 | 0.002% |
| 43 | 3.116 | -32.450 | 1.799 | -3.116 | 32.450 | -1.799 | 0.002% |
| 44 | 1.799 | -32.450 | 3.116 | -1.799 | 32.450 | -3.116 | 0.002% |
| 45 | 0.000 | -32.450 | 3.598 | 0.000 | 32.450 | -3.598 | 0.002% |
| 46 | -1.799 | -32.450 | 3.116 | 1.799 | 32.450 | -3.116 | 0.002% |
| 47 | -3.116 | -32.450 | 1.799 | 3.116 | 32.450 | -1.799 | 0.002% |
| 48 | -3.598 | -32.450 | 0.000 | 3.598 | 32.450 | 0.000 | 0.002% |
| 49 | -3.116 | -32.450 | -1.799 | 3.116 | 32.450 | 1.799 | 0.002% |
| 50 | -1.799 | -32.450 | -3.116 | 1.799 | 32.450 | 3.116 | 0.002% |

Non-Linear Convergence Results

| Load Combination | Converged? | Number of Cycles | Displacement Tolerance | Force Tolerance |
|---------------------|------------|---------------------|---------------------------|--------------------|
| 1 | Yes | 6 | 0.00000001 | 0.00000001 |
| 2 | Yes | 22 | 0.00011406 | 0.00004175 |
| 3 | Yes | 21 | 0.00011318 | 0.00005401 |
| 4 | Yes | 26 | 0.00000001 | 0.00010580 |
| 5 | Yes | 25 | 0.00000001 | 0.00012477 |
| 6 | Yes | 26 | 0.00000001 | 0.00010580 |

| | | | | |
|--|----------------|------------------------------|--------------------|-------------------|
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| | | | | |
|----|-----|----|------------|------------|
| 7 | Yes | 25 | 0.00000001 | 0.00012477 |
| 8 | Yes | 22 | 0.00011406 | 0.00004175 |
| 9 | Yes | 21 | 0.00011318 | 0.00005401 |
| 10 | Yes | 26 | 0.00000001 | 0.00010580 |
| 11 | Yes | 25 | 0.00000001 | 0.00012477 |
| 12 | Yes | 26 | 0.00000001 | 0.00010580 |
| 13 | Yes | 25 | 0.00000001 | 0.00012477 |
| 14 | Yes | 22 | 0.00011406 | 0.00004175 |
| 15 | Yes | 21 | 0.00011318 | 0.00005401 |
| 16 | Yes | 26 | 0.00000001 | 0.00010580 |
| 17 | Yes | 25 | 0.00000001 | 0.00012477 |
| 18 | Yes | 26 | 0.00000001 | 0.00010580 |
| 19 | Yes | 25 | 0.00000001 | 0.00012477 |
| 20 | Yes | 22 | 0.00011406 | 0.00004175 |
| 21 | Yes | 21 | 0.00011318 | 0.00005401 |
| 22 | Yes | 26 | 0.00000001 | 0.00010580 |
| 23 | Yes | 25 | 0.00000001 | 0.00012477 |
| 24 | Yes | 26 | 0.00000001 | 0.00010580 |
| 25 | Yes | 25 | 0.00000001 | 0.00012477 |
| 26 | Yes | 6 | 0.00000001 | 0.00000001 |
| 27 | Yes | 25 | 0.00011214 | 0.00007829 |
| 28 | Yes | 25 | 0.00011206 | 0.00009110 |
| 29 | Yes | 25 | 0.00011206 | 0.00009110 |
| 30 | Yes | 25 | 0.00011214 | 0.00007830 |
| 31 | Yes | 25 | 0.00011206 | 0.00009110 |
| 32 | Yes | 25 | 0.00011206 | 0.00009110 |
| 33 | Yes | 25 | 0.00011214 | 0.00007829 |
| 34 | Yes | 25 | 0.00011206 | 0.00009110 |
| 35 | Yes | 25 | 0.00011206 | 0.00009110 |
| 36 | Yes | 25 | 0.00011214 | 0.00007830 |
| 37 | Yes | 25 | 0.00011206 | 0.00009110 |
| 38 | Yes | 25 | 0.00011206 | 0.00009110 |
| 39 | Yes | 21 | 0.00000001 | 0.00001502 |
| 40 | Yes | 21 | 0.00000001 | 0.00001695 |
| 41 | Yes | 21 | 0.00000001 | 0.00001695 |
| 42 | Yes | 21 | 0.00000001 | 0.00001502 |
| 43 | Yes | 21 | 0.00000001 | 0.00001695 |
| 44 | Yes | 21 | 0.00000001 | 0.00001695 |
| 45 | Yes | 21 | 0.00000001 | 0.00001502 |
| 46 | Yes | 21 | 0.00000001 | 0.00001695 |
| 47 | Yes | 21 | 0.00000001 | 0.00001695 |
| 48 | Yes | 21 | 0.00000001 | 0.00001502 |
| 49 | Yes | 21 | 0.00000001 | 0.00001695 |
| 50 | Yes | 21 | 0.00000001 | 0.00001695 |

Maximum Tower Deflections - Service Wind

| Section No. | Elevation ft | Horz. Deflection in | Gov. Load Comb. | Tilt ° | Twist ° |
|-------------|-----------------|------------------------|-----------------|-----------|------------|
| L1 | 179 - 149.5 | 15.413 | 42 | 0.9532 | 0.0000 |
| L2 | 149.5 - 149 | 9.759 | 42 | 0.7870 | 0.0000 |
| L3 | 149 - 125.5 | 9.677 | 42 | 0.7820 | 0.0000 |
| L4 | 125.5 - 125 | 6.526 | 39 | 0.4309 | 0.0000 |
| L5 | 125 - 94.5 | 6.481 | 39 | 0.4304 | 0.0000 |
| L6 | 100.25 - 46.75 | 4.396 | 39 | 0.3696 | 0.0000 |
| L7 | 53.25 - 0 | 1.379 | 39 | 0.2269 | 0.0000 |

| | | | | |
|--|----------------|------------------------------|--------------------|-------------------|
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| | Client | Blue Sky | Designed by | jbozzetto |

Critical Deflections and Radius of Curvature - Service Wind

| <i>Elevation</i> | <i>Appurtenance</i> | <i>Gov. Load Comb.</i> | <i>Deflection</i> | <i>Tilt</i> | <i>Twist</i> | <i>Radius of Curvature</i> |
|------------------|----------------------------------|------------------------|-------------------|-------------|--------------|----------------------------|
| <i>ft</i> | | | <i>in</i> | <i>°</i> | <i>°</i> | <i>ft</i> |
| 174.000 | (2) CCI TMA BPD7823VG12A w/Mount | 42 | 14.390 | 0.9353 | 0.0000 | 25986 |
| 169.000 | 48"x20' Canister | 42 | 13.378 | 0.9156 | 0.0000 | 12993 |
| 164.000 | Kathrein 840 370966 | 42 | 12.389 | 0.8922 | 0.0000 | 8662 |
| 147.000 | Amphenol HTXCW631619 | 42 | 9.352 | 0.7575 | 0.0000 | 6294 |
| 142.000 | 36"x34' Canister | 39 | 8.572 | 0.6731 | 0.0000 | 4976 |

Maximum Tower Deflections - Design Wind

| <i>Section No.</i> | <i>Elevation</i> | <i>Horz. Deflection</i> | <i>Gov. Load Comb.</i> | <i>Tilt</i> | <i>Twist</i> |
|--------------------|------------------|-------------------------|------------------------|-------------|--------------|
| | <i>ft</i> | <i>in</i> | | <i>°</i> | <i>°</i> |
| L1 | 179 - 149.5 | 65.840 | 8 | 4.0974 | 0.0000 |
| L2 | 149.5 - 149 | 41.571 | 6 | 3.3752 | 0.0000 |
| L3 | 149 - 125.5 | 41.219 | 6 | 3.3533 | 0.0000 |
| L4 | 125.5 - 125 | 27.744 | 6 | 1.8360 | 0.0000 |
| L5 | 125 - 94.5 | 27.552 | 6 | 1.8338 | 0.0000 |
| L6 | 100.25 - 46.75 | 18.679 | 6 | 1.5729 | 0.0000 |
| L7 | 53.25 - 0 | 5.854 | 6 | 0.9637 | 0.0000 |

Critical Deflections and Radius of Curvature - Design Wind

| <i>Elevation</i> | <i>Appurtenance</i> | <i>Gov. Load Comb.</i> | <i>Deflection</i> | <i>Tilt</i> | <i>Twist</i> | <i>Radius of Curvature</i> |
|------------------|----------------------------------|------------------------|-------------------|-------------|--------------|----------------------------|
| <i>ft</i> | | | <i>in</i> | <i>°</i> | <i>°</i> | <i>ft</i> |
| 174.000 | (2) CCI TMA BPD7823VG12A w/Mount | 8 | 61.445 | 4.0195 | 0.0000 | 6040 |
| 169.000 | 48"x20' Canister | 8 | 57.099 | 3.9337 | 0.0000 | 3019 |
| 164.000 | Kathrein 840 370966 | 8 | 52.853 | 3.8322 | 0.0000 | 2012 |
| 147.000 | Amphenol HTXCW631619 | 6 | 39.828 | 3.2473 | 0.0000 | 1459 |
| 142.000 | 36"x34' Canister | 6 | 36.490 | 2.8822 | 0.0000 | 1156 |

Compression Checks

Pole Design Data

| <i>Section No.</i> | <i>Elevation</i> | <i>Size</i> | <i>L</i> | <i>L_u</i> | <i>Kl/r</i> | <i>A</i> | <i>P_u</i> | ϕP_n | <i>Ratio</i> |
|--------------------|------------------|---------------------|-----------|----------------------|-------------|-----------------------|----------------------|------------|------------------------|
| | <i>ft</i> | | <i>ft</i> | <i>ft</i> | | <i>in²</i> | <i>K</i> | <i>K</i> | $\frac{P_u}{\phi P_n}$ |
| L1 | 179 - 149.5 (1) | TP10.75x10.75x0.365 | 29.500 | 0.000 | 0.0 | 11.9083 | -6.028 | 450.133 | 0.013 |
| L2 | 149.5 - 149 (2) | TP12.75x10.75x0.365 | 0.500 | 0.000 | 0.0 | 11.9083 | -6.030 | 450.133 | 0.013 |

| | | | | |
|--|----------------|------------------------------|--------------------|-------------------|
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| | Client | Blue Sky | Designed by | jbozzetto |

| Section No. | Elevation ft | Size | L ft | L _u ft | Kl/r | A in ² | P _u K | φP _n K | Ratio $\frac{P_u}{\phi P_n}$ |
|-------------|------------------|------------------------|---------|----------------------|------|----------------------|---------------------|----------------------|---------------------------------|
| L3 | 149 - 125.5 (3) | TP12.75x12.75x0.5 | 23.500 | 0.000 | 0.0 | 19.2423 | -12.073 | 727.357 | 0.017 |
| L4 | 125.5 - 125 (4) | TP36x12.75x0.5 | 0.500 | 0.000 | 0.0 | 19.2423 | -12.078 | 727.357 | 0.017 |
| L5 | 125 - 94.5 (5) | TP40.58x36x0.25 | 30.500 | 0.000 | 0.0 | 31.3167 | -15.713 | 1989.420 | 0.008 |
| L6 | 94.5 - 46.75 (6) | TP47.24x39.2166x0.3125 | 53.500 | 0.000 | 0.0 | 45.5793 | -25.637 | 2987.330 | 0.009 |
| L7 | 46.75 - 0 (7) | TP53.62x45.6402x0.3125 | 53.250 | 0.000 | 0.0 | 52.8744 | -38.933 | 3233.620 | 0.012 |

Pole Bending Design Data

| Section No. | Elevation ft | Size | M _{ux} kip-ft | φM _{ux} kip-ft | Ratio $\frac{M_{ux}}{\phi M_{ux}}$ | M _{uy} kip-ft | φM _{uy} kip-ft | Ratio $\frac{M_{uy}}{\phi M_{uy}}$ |
|-------------|------------------|------------------------|---------------------------|----------------------------|---------------------------------------|---------------------------|----------------------------|---------------------------------------|
| L1 | 179 - 149.5 (1) | TP10.75x10.75x0.365 | 41.413 | 124.049 | 0.334 | 0.000 | 124.049 | 0.000 |
| L2 | 149.5 - 149 (2) | TP12.75x10.75x0.365 | 41.411 | 124.049 | 0.334 | 0.000 | 124.049 | 0.000 |
| L3 | 149 - 125.5 (3) | TP12.75x12.75x0.5 | 132.518 | 236.480 | 0.560 | 0.000 | 236.480 | 0.000 |
| L4 | 125.5 - 125 (4) | TP36x12.75x0.5 | 132.509 | 236.480 | 0.560 | 0.000 | 236.480 | 0.000 |
| L5 | 125 - 94.5 (5) | TP40.58x36x0.25 | 274.536 | 1616.992 | 0.170 | 0.000 | 1616.992 | 0.000 |
| L6 | 94.5 - 46.75 (6) | TP47.24x39.2166x0.3125 | 694.084 | 2825.808 | 0.246 | 0.000 | 2825.808 | 0.000 |
| L7 | 46.75 - 0 (7) | TP53.62x45.6402x0.3125 | 1397.950 | 3551.658 | 0.394 | 0.000 | 3551.658 | 0.000 |

Pole Shear Design Data

| Section No. | Elevation ft | Size | Actual V _u K | φV _n K | Ratio $\frac{V_u}{\phi V_n}$ | Actual T _u kip-ft | φT _n kip-ft | Ratio $\frac{T_u}{\phi T_n}$ |
|-------------|------------------|------------------------|-------------------------------|----------------------|---------------------------------|------------------------------------|---------------------------|---------------------------------|
| L1 | 179 - 149.5 (1) | TP10.75x10.75x0.365 | 2.232 | 225.067 | 0.010 | 0.000 | 188.396 | 0.000 |
| L2 | 149.5 - 149 (2) | TP12.75x10.75x0.365 | 2.244 | 268.411 | 0.008 | 0.000 | 188.396 | 0.000 |
| L3 | 149 - 125.5 (3) | TP12.75x12.75x0.5 | 4.537 | 363.679 | 0.012 | 0.000 | 357.291 | 0.000 |
| L4 | 125.5 - 125 (4) | TP36x12.75x0.5 | 4.580 | 1053.930 | 0.004 | 0.000 | 357.291 | 0.000 |
| L5 | 125 - 94.5 (5) | TP40.58x36x0.25 | 6.766 | 994.712 | 0.007 | 0.000 | 3241.033 | 0.000 |
| L6 | 94.5 - 46.75 (6) | TP47.24x39.2166x0.3125 | 11.057 | 1493.660 | 0.007 | 0.000 | 5664.341 | 0.000 |
| L7 | 46.75 - 0 (7) | TP53.62x45.6402x0.3125 | 15.144 | 1616.810 | 0.009 | 0.000 | 7118.300 | 0.000 |

Pole Interaction Design Data

| Section No. | Elevation ft | Ratio $\frac{P_u}{\phi P_n}$ | Ratio $\frac{M_{ux}}{\phi M_{ux}}$ | Ratio $\frac{M_{uy}}{\phi M_{uy}}$ | Ratio $\frac{V_u}{\phi V_n}$ | Ratio $\frac{T_u}{\phi T_n}$ | Comb. Stress Ratio | Allow. Stress Ratio | Criteria |
|-------------|-----------------|---------------------------------|---------------------------------------|---------------------------------------|---------------------------------|---------------------------------|--------------------------|---------------------------|----------|
| L1 | 179 - 149.5 (1) | 0.013 | 0.334 | 0.000 | 0.010 | 0.000 | 0.347 | 1.000 | 4.8.2 ✓ |
| L2 | 149.5 - 149 (2) | 0.013 | 0.334 | 0.000 | 0.008 | 0.000 | 0.347 | 1.000 | 4.8.2 ✓ |
| L3 | 149 - 125.5 (3) | 0.017 | 0.560 | 0.000 | 0.012 | 0.000 | 0.577 | 1.000 | 4.8.2 ✓ |
| L4 | 125.5 - 125 (4) | 0.017 | 0.560 | 0.000 | 0.004 | 0.000 | 0.577 | 1.000 | 4.8.2 ✓ |

| | | | | |
|--|----------------|------------------------------|--------------------|-------------------|
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| | Project | Monopole Structural Analysis | Date | 12:01:10 03/18/21 |
| | Client | Blue Sky | Designed by | jbozzetto |

| Section No. | Elevation ft | Ratio P_u | Ratio M_{ux} | Ratio M_{uy} | Ratio V_u | Ratio T_u | Comb. Stress Ratio | Allow. Stress Ratio | Criteria |
|-------------|------------------|----------------|-------------------|-------------------|----------------|----------------|--------------------------|---------------------------|----------|
| L5 | 125 - 94.5 (5) | 0.008 | 0.170 | 0.000 | 0.007 | 0.000 | 0.178 | 1.000 | 4.8.2 ✓ |
| L6 | 94.5 - 46.75 (6) | 0.009 | 0.246 | 0.000 | 0.007 | 0.000 | 0.254 | 1.000 | 4.8.2 ✓ |
| L7 | 46.75 - 0 (7) | 0.012 | 0.394 | 0.000 | 0.009 | 0.000 | 0.406 | 1.000 | 4.8.2 ✓ |

Section Capacity Table

| Section No. | Elevation ft | Component Type | Size | Critical Element | P K | ϕP_{allow} K | % Capacity | Pass Fail |
|-------------|-----------------|-------------------|------------------------|---------------------|---------|-----------------------|-----------------|--------------|
| L1 | 179 - 149 | Pole | TP10.75x10.75x0.365 | 1 | -6.028 | 450.133 | 34.7 | Pass |
| L3 | 149 - 125 | Pole | TP12.75x12.75x0.5 | 3 | -12.073 | 727.357 | 57.7 | Pass |
| L5 | 125 - 94.5 | Pole | TP40.58x36x0.25 | 5 | -15.713 | 1989.420 | 17.8 | Pass |
| L6 | 94.5 - 46.75 | Pole | TP47.24x39.2166x0.3125 | 6 | -25.637 | 2987.330 | 25.4 | Pass |
| L7 | 46.75 - 0 | Pole | TP53.62x45.6402x0.3125 | 7 | -38.933 | 3233.620 | 40.6 | Pass |
| | | | | | | | Summary | |
| | | | | | | | Pole (L3) | 57.7 |
| | | | | | | | RATING = | 57.7 |
| | | | | | | | | Pass |

| | | |
|-------------------|---------------------|------------------|
| Base/Flange Plate | Plate Type | Baseplate |
| | Pole Diameter | 53.63 in |
| | Pole Thickness | 0.3125 in |
| | Plate Diameter | 66 in |
| | Plate Thickness | 1.5 in |
| | Plate Fy | 50 ksi |
| | Weld Length | 0.3125 in |
| | ϕ_s Resistance | 251.88 k-in |
| | Applied | 224.48 k-in |
| | | |
| Stiffeners | # | 0 |
| | | |

| | | |
|---------------|---------------------------------|----------|
| Bolts | # | 8 |
| | Bolt Circle (R)adial / (S)quare | 60 R |
| | Diameter | 2.25 in |
| | Hole Diameter | 2.64 in |
| | Type | A615-75 |
| | Fy | 75 ksi |
| | Fu | 100 ksi |
| | ϕ_s Resistance | 259.82 k |
| | Applied | 144.59 k |
| | | |
| Reinforcement | # | 0 |
| | | |
| Extra Bolts | # | 0 |
| | | |

Code Rev.

G

Date

3/18/2021

Engineer

CB

Site #

CT-1042

Site Name

S. Yale Ave

Moment

1398.0 k-ft

Axial

39.0 k

Shear

15.0 k

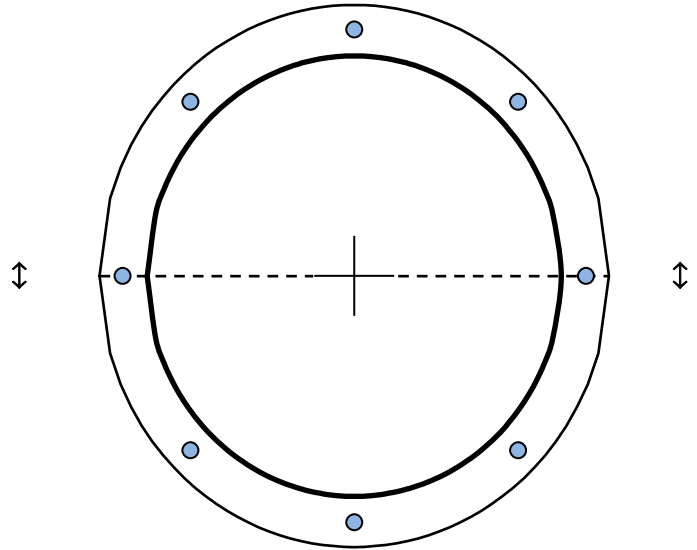


Plate Stress Ratio:

0.89

(Pass)

Bolt Stress Ratio:

0.56

(Pass)

| | | |
|-------------------|---------------------|--------------------------|
| Base/Flange Plate | Plate Type | Flange @ 149.0 ft |
| | Pole Diameter | 10.75 in |
| | Pole Thickness | 0.365 in |
| | Plate Diameter | 17.75 in |
| | Plate Thickness | 1 in |
| | Plate Fy | 36 ksi |
| | Weld Length | 0.3125 in |
| | ϕ_s Resistance | 45.59 k-in |
| | Applied | 12.77 k-in |
| | | |
| Stiffeners | # | 0 |
| | | |

| | | |
|---------------|---------------------------------|------------|
| Bolts | # | 6 |
| | Bolt Circle (R)adial / (S)quare | 15.25 in R |
| | Diameter | 0.875 in |
| | Hole Diameter | 2.64 in |
| | Type | A325 |
| | Fy | 92 ksi |
| | Fu | 120 ksi |
| | ϕ_s Resistance | 41.56 k |
| | Applied | 20.69 k |
| | | |
| Reinforcement | # | 0 |
| | | |
| Extra Bolts | # | 0 |
| | | |

Code Rev. **G**

Date **3/18/2021**
 Engineer **CB**
 Site # **CT-1042**
 Site Name **S. Yale Ave**

Moment **41.4 k-ft**

Axial **6.0 k**

Shear **2.2 k**

Required Flange Thickness:

0.53 in OK

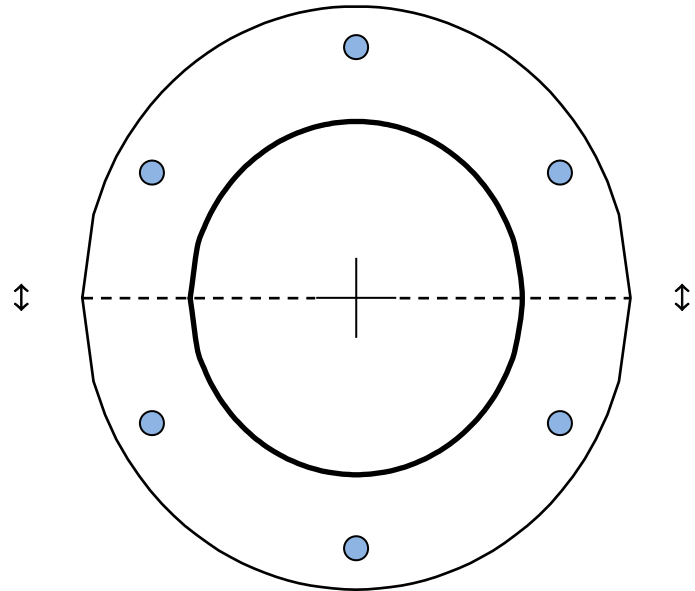


Plate Stress Ratio:

0.28 (Pass)

Bolt Stress Ratio:

0.50 (Pass)

Note: for Flange at 125 ft by comparison to the GPD Structural Analysis Job No.: 2018723.01.97417.02 Finite Element Analysis results dated April 13, 2018 the increase of the shroud diameter from 36" to 48" at the top 20' only leads to an 1% increase in stress above the previous analysis. Therefore we deem this connection acceptable.

PROJECT No: **20.03.017.006**
 PROJECT NAME: **CT-1420 - S. Yale Ave**
Blue Sky
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TIA-222-G

SINGLE GLOBAL FOUNDATION WITH PIER(S) CHECKS - MONOPOLE

| Global Tower Reactions | | Factored Loads | | Calculated Reactions | | Factored Resistance | | SF=3.67 |
|------------------------|--------------------|----------------------|------|----------------------|---------------------------|---------------------|------------|----------------------|
| Code Rev | Maximum Moment | 1,398.00 | k-ft | Disturbing Moment | 1,495.5 | 2,740.8 | k-ft | PASS 54.6% [GOVERNS] |
| TIA-G | Axial Load | 39.00 | kips | Maximum Bearing | 2.03 | 12.00 | kips | PASS 16.9% |
| | Shear Load | 15.00 | kips | Lateral (Sliding) | 15.00 | 91.57 | kips | PASS 16.4% |
| | | | | Pad Shear | 108.0 | 410.7 | kips | PASS 26.3% |
| | | | | Punching Shear | 70.2 | 1,203.0 | kips | PASS 5.8% |
| | Pier Rebar Check | 1,465.5 | k-ft | Flexural Capacity | 4,704.7 | k-ft | PASS 31.2% | |
| | Pad Rebar Required | (9) # 8 @ 24.00 in | | Actual Pad Rebar | (20) # 8 bars @ 11.3 in | | PASS 33.0% | |

| Soil Parameters | | Soils Report | | Pier Geometry | | Pad Geometry | |
|---------------------|-------------------------------------|--------------|-------------------|--|----------------------|---|-----------------|
| | Cohesion | 0.0 | psf (0.0 kPa) | Qty of Piers | 1 | Width (Bm) | 18.50 ft |
| | ϕ | 36.0 | ° | Width (Bp) | 7.00 ft | Width (Wm) | 18.50 ft |
| | Frost/Ignored Depth | 99.00 | ft (30.18 m) | Height (Hp) | 3.50 ft | Height (Hm) | 2.00 ft |
| | Water Level | 99.00 | ft (30.18 m) | Pier above grade | 1.00 ft | Depth (D) | 5.50 ft |
| | Soil Dry Density (γ_{dry}) | 0.135 | kcf (21.2 kN/m³) | Pier Type | R (Rnd or Sq) | CofG Diff. | - ft |
| | Soil Sub Density (γ_{sub}) | 0.073 | kcf (11.40 kN/m³) | <input type="checkbox"/> (use equivalent square for pad flexure) | | | |
| | All. Bearing Pressure | 8.000 | ksf (383.0 kPa) | | | | |
| | Bearing Safety Factor | 2 | | | | | |
| Concrete Parameters | | | | Rebar | | Pad | |
| | f'_c | 4.000 | ksi (27.6 MPa) | Rebar Type | ASTM | Bar Size | 8 |
| | f_y | 60.00 | ksi (413.7 MPa) | Cover to Tie | 3.00 inches | Bar Qty | 20 |
| | Dry Density (γ_{dry}) | 0.150 | kcf (23.6 kN/m³) | Pier Tie Size | 4 | Pad bar qty is one layer in one direction | |
| | Sub Density (γ_{sub}) | 0.088 | kcf (13.8 kN/m³) | Pier Vertical Size | 8 | | |
| | | | | Pier Vertical Qty | 36 0.51% | | |

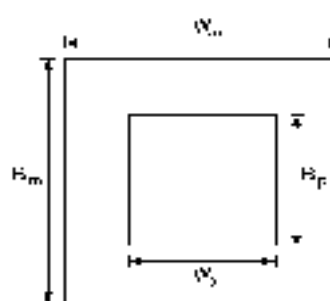
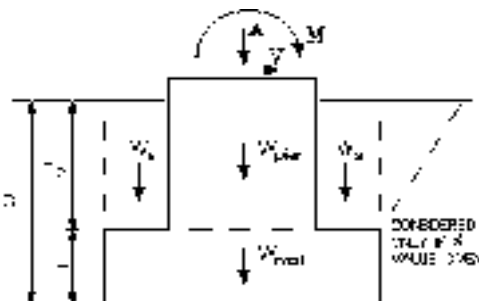
| Volume of Concrete/Soil | | Concrete (31.8cuyd) | | | |
|--------------------------|----------------|---------------------|----------------|--------------|-----|
| | | 1 Pier | Mat | Soil | |
| Depth (above) | 1.00 | -- | -- | -- | ft |
| Depth (dry) | 3.50 | 2.00 | 3.50 | -- | ft |
| Depth (submerged) | 0.00 | 0.00 | 0.00 | -- | ft |
| Volume (above) | 38.48 | -- | -- | -- | ft³ |
| Volume (dry) | 134.70 | 684.50 | 1422.66 | -- | ft³ |
| Volume (submerged) | 0.00 | 0 | 0.00 | -- | ft³ |
| Total | 173 | 685 | 1423 | -- | ft³ |
| Pad Flexure | | | | Wgt of Rebar | |
| Distance (edge to pier) | 5.750 | ft | | 4,452 | lbs |
| B' = 3/2(B-2e) | 11.389 | ft | | | |
| Force | 77.8 | kips | | | |
| Disturbing Moment | 443.20 | kip-ft | | | |
| Ku | 63.00 | | | | |
| p | 0.00118 | | | | |
| 4/3*p if p < p min | 0.00157 | | | | |
| p min ≥ 0.0018 | 0.00180 | | | | |
| As Required (based on p) | 6.796 | in² | 24.00 | Qty | |
| As Actual | 15.800 | in² | 1,342 | kip-ft | |
| | | | | 33.0% | |

Note: The moment is derived from a moment diagram that considers the ortho qmax trapezoidal distribution underneath the pad to edge of square pier.

| Calculations | | TIA-G Method | EIA-F Method |
|-------------------------------------|----------------|---------------|--------------|
| Axial Download | (factored) | 39.0 | -- kips |
| Wgt of Concrete | (not factored) | 128.7 | -- kips |
| Wgt of Soil | (not factored) | 143.5 | -- kips |
| Total Download (P1) | (1.2D No wdg) | 365.6 | -- kips |
| Total Download (P2) | (0.9D No wdg) | 274.2 | -- kips |
| Passive Force Moment | | 0.0 | -- k-ft |
| Bearing Capacity Check | | | |
| Calculate ecc e = M/P1 (1.2D+1.6W) | | 3.27 | -- ft |
| 1) qmax = Ortho Direction | | 1.95 | -- ksf |
| 2) qmax = Diagonal Direction | | 2.03 | -- ksf |
| Calculate ecc e = M/P1 (0.9D+1.6W) | | 4.50 | -- ft |
| 1) qmax = Ortho Direction | | 1.70 | -- ksf |
| 2) qmax = Diagonal Direction | | 2.01 | -- ksf |
| q factored | | 12.00 | -- ksf |
| | (2 * 0.75) | | |
| Overturning Stability Check | | | |
| a) Resisting Moment Arm (d) | | 9.3 | -- ft |
| a) Moment Resistance = P2 x d | | 2950.7 | -- k-ft |
| a) Disturbing Moment (about edge) | | 1495.5 | -- k-ft |
| b) Moment Resistance (ortho) | | 2740.8 | -- k-ft |
| b) Moment Resistance (diagonal) | | 3031.7 | -- k-ft |
| b) Disturbing Moment (about center) | | 1495.5 | -- k-ft |

| Check for 1-Way Shear | | | |
|---------------------------|---------------|----|------|
| Shear Area (b x d) = | 30.06 | -- | ft² |
| Factored shear force = | 108.05 | -- | kips |
| Factored shear resistance | 410.7 | -- | kips |

| Check for 2-Way Shear (Punching) | | | |
|----------------------------------|---------------|----|------|
| Shear Area (bo x d) | 44.03 | -- | ft² |
| Factored Shear Force | 70.17 | -- | kips |
| Factored Shear Resistance | 1203.0 | -- | kips |



M = 1398.0 k-ft
 A = 39.0 kips
 V = 15.0 kips

Bp = 7.00 ft
 Wp = 7.00 ft
 Hp = 3.50 ft

Bm = 18.50 ft
 Wm = 18.50 ft
 Hm = 2.00 ft
 D = 5.50 ft

PROJECT No: 20.03.017.006
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TIA-222-G

CAISSON PIER FOUNDATION CHECKS - MONOPOLE TOWER

Capacity up to 105% considered acceptable

| Tower Reactions | | Factored Loads | Factored Resistance | | % Capacity | |
|-----------------|-------------|----------------|----------------------|--------------|------------|-----------------|
| Code Rev | Moment | 1398.00 k-ft | Lateral Capacity | 5948.90 k-ft | PASS | 23.5% |
| TIA-G | Axial | 39.00 kips | Compressive Capacity | 230.91 kips | PASS | 88.9% [GOVERNS] |
| | Shear | 15.00 kips | | | | |
| | Rebar Check | 1508.25 k-ft | Flexural Capacity | 4704.65 k-ft | PASS | 32.1% |

| Foundation Parameters | | | Rebar Properties | | |
|-----------------------|-------|----------------------|-------------------|------|--------|
| Pier Diameter | 7.00 | ft | Pier Rebar | ASTM | |
| Ext. Above Grade | 1.00 | ft | Cover to Tie | 3.00 | inches |
| Depth Below Grade | 23.00 | ft | Horiz. Tie Size | 4 | |
| Water table | 99.00 | ft | Vertical Bar Size | 8 | |
| Conc. Density | 0.150 | kips/ft ³ | Vertical Bar Qty | 36 | 0.51% |
| Conc. Strength | 4.000 | ksi | Tensile Strength | 60 | ksi |

| Soil Properties | | | | | | | | | | | |
|-----------------|----------------|-----------|---------|-------------------|----------------|----------------------|---------------------------------|--------------------------------|-----------------------------------|---------------------|--------------|
| Layer | Thickness (ft) | From (ft) | To (ft) | Unit Weight (pcf) | Cohesion (psf) | Friction Angle (deg) | Ult. Uplift Skin Friction (ksf) | Ult. Comp. Skin Friction (ksf) | Ultimate Gross Bearing Cap. (ksf) | Resistance Capacity | |
| | | | | | | | | | | Uplift (kips) | Comp. (kips) |
| 1 | 1.00 | 0.00 | 1.00 | 135.00 | 14.40 | 0.00 | 0.000 | 0.000 | 8.000 | 10.39 | 0.00 |
| 2 | 4.00 | 1.00 | 5.00 | 135.00 | 14.40 | 0.00 | 0.000 | 0.000 | 8.000 | 20.78 | 0.00 |
| 3 | 3.00 | 5.00 | 8.00 | 135.00 | 0.00 | 36.00 | 0.000 | 0.000 | 8.000 | 15.59 | 0.00 |
| 4 | 24.50 | 8.00 | 32.50 | 75.00 | 0.00 | 36.00 | 0.000 | 0.000 | 8.000 | 77.93 | 230.91 |
| 5 | | | | | | | | | | 0.00 | 0.00 |
| 6 | | | | | | | | | | 0.00 | 0.00 |
| 7 | | | | | | | | | | 0.00 | 0.00 |
| 8 | | | | | | | | | | 0.00 | 0.00 |
| 9 | | | | | | | | | | 0.00 | 0.00 |
| 10 | | | | | | | | | | 0.00 | 0.00 |
| 11 | | | | | | | | | | 0.00 | 0.00 |
| 12 | | | | | | | | | | 0.00 | 0.00 |
| 13 | | | | | | | | | | 0.00 | 0.00 |
| 14 | | | | | | | | | | 0.00 | 0.00 |
| 15 | | | | | | | | | | 0.00 | 0.00 |

| NOTES | FORMULAS |
|---|---|
| 1. Use the geotech report for skin friction and end bearing values. | Download Formula: $P \leq EB \times 0.75 + SF \times 0.75$ |
| 2. Used foundation dwg for 7' x 23' deep caisson. | Horizontal Formula: $H \leq \text{Ult. Capacity} \times 0.75$ |
| 3. Water table depth only effects concrete weight, user must input correct soil weight at and below that depth. | |

Attachment 2:
Collocation Application



| | | | |
|--------------------------|---------------------------------|---|------------|
| Collocation Application | | | |
| Installation Type: | Anchor <input type="checkbox"/> | Collocation <input type="checkbox"/> | |
| | | Add to Existing <input checked="" type="checkbox"/> | |
| BlueSky Towers, LLC Info | | | |
| Contact: | James Burgess | Site Number: | CT-1420 |
| Email: | jamesb@blueskytower.com | Site Name: | Reading |
| Office: | 978-291-6417 | Submittal Date: | 3/11/2020 |
| Fax: | | Revision Date(s): | 10/16/2020 |

PLEASE SUBMIT THIS APPLICATION VIA E-MAIL. Send only final LE's, CD's structurals, etc with Application

| | | | |
|----------------------------------|---|-----------------------------|-------------------------------|
| Applicant Information | | | |
| Applicant Name: | AT&T | Primary Contact/Agent Name: | Allison Hebel |
| Applicant Site Name: | Redding Great Oak Lane | Contact/Agent Company Name: | Centerline Communications LLC |
| Applicant Site Number: | 10050764 / CT2546 | Contact/Agent Number: | 215-588-7035 |
| Proposed ON AIR Date: | | Contact/Agent Fax: | |
| Applicant Legal Entity: | New Cingular Wireless PCS, LLC | Contact Email: | ahebel@cinellc.com |
| Notice Address for Site License: | Attn: Nework Real Estate Administration 1025 Lenox Park Blvd NE 3rd Floor Atlanta, GA 30316 | | |

| | | | |
|-------------------------------|-----------------|--------|----------------------------|
| Applicant Contact Information | | | |
| Leasing Contact Name: | Allison Hebel | Email: | ahebel@cinellc.com |
| RF Contact Name: | Mateen Mohammed | Email: | mm093q@att.com |
| Construction Contact Name: | David Cooper | Email: | dcooper@empiretelecomm.com |
| Emergency Contact Name: | David Ford | Email: | dford@cinellc.com |
| Account Payable Contact Name: | | Email: | |

| | | | |
|-------------------|-------------------------------------|-------------------|----------|
| Tower Information | | | |
| Latitude: | 41.3068333 N | Structure Type: | Monopole |
| Longitude: | 0 W | Structure Height: | 181 |
| AMSL: | FT | | |
| Site Address: | 28 Great Oak Lane Redding, CT 06896 | | |

| | | | | |
|--|--|--|--|--|
| EQUIPMENT SPECIFICATIONS | | | | |
| Summary of Work to be Completed including any equipment swap or removal: within the existing tower. On the ground removing (3) RRUs and installing (6) new ones, installing (2) new surge arrestors within leased area | | | | |

| | | | | |
|--|---|---|---|----------|
| Applicant Must fill in all bolded sections | SECTOR 1 | SECTOR 2 | SECTOR 3 | SECTOR 4 |
| Equipment Type | Panel | Panel | Panel | |
| Installation Status | Proposed | Proposed | Proposed | |
| Desired RAD Center (Ft AGL) | 175 / 165 | 175 / 165 | 175 / 165 | |
| Tower Mount Mounting Height | | | | |
| Mount Type(Attach Specs) | Cannister | Cannister | Cannister | |
| Mount Model # | | | | |
| Antenna Manufacturer | Kathrein | Kathrein | Kathrein | |
| Antenna Model# (Attach Specs) | (2) 840370966 | (2) 840370966 | (2) 840370966 | |
| Antenna Dimensions (WxHxD)(Ft Or Inches) | 96" x 14.9" x 6.5" | 96" x 14.9" x 6.5" | 96" x 14.9" x 6.5" | |
| Antenna Weight (Per Item, in Lbs.) | 86 | 86 | 86 | |
| Antenna Quantity | 2 | 2 | 2 | |
| Dish Manufacturer | | | | |
| Dish Model# (attach Specs) | | | | |
| Dish Diam/Weight/Mount hgt or location | | | | |
| Azimuths | 30 | 150 | 270 | |
| Total# Of Lines For Equipment In Column | 8 | 8 | 8 | |
| Line Type | Coax | Coax | Coax | |
| Diameter Of Coax Cables (in) | 7/8 | 7/8 | 7/8 | |
| Transmitter/Receiver Type/RRU/Junction Boxes | TMA | TMA | TMA | |
| Qty Of Transmitters/Receivers/RRU's/Junction Boxes | 4 | 4 | 4 | |
| Manufacturer | CCI | CCI | CCI | |
| Type & Model | TMABPD7823VG12A | TMABPD7823VG12A | TMABPD7823VG12A | |
| Removing Equipment (If Applicable) | (2) SBNH-1D6565C Panel antenna; 3 TMA | (2) SBNH-1D6565C Panel antenna; 3 TMA | (2) SBNH-1D6565C Panel antenna; 3 TMA | |
| Transmit Frequency (Mhz) | 734-746, 869-894, 1930-1945, 1965-1970, 2170-2180 MHz | 734-746, 869-894, 1930-1945, 1965-1970, 2170-2180 MHz | 734-746, 869-894, 1930-1945, 1965-1970, 2170-2180 MHz | |
| Receive Frequency (Mhz) | 704-782, 824-849, 1770-1780, 1850-1865, 1885-1890 MHz | 704-782, 824-849, 1770-1780, 1850-1865, 1885-1890 MHz | 704-782, 824-849, 1770-1780, 1850-1865, 1885-1890 MHz | |
| Antenna Gain (Db) | | | | |
| Type of Technology | LTE AWS, LTE 700, LTE 850 | 5G 850, LTE 850, LTE 1900 | 5G 850, LTE 850, LTE 1900 | |
| TX Power Output | | | | |
| ERP (Watts) | | | | |
| Electric Service Required (Amps/Volts) | | | | |

| | |
|---------------------------------------|----|
| Will RRUs be located behind antennas: | No |
|---------------------------------------|----|

| | | | | |
|---|-------------|----|-------|----|
| GROUND SPACE REQUIREMENTS | | | | |
| Existing Lease Area: | DIMS: L(ft) | 12 | W(ft) | 20 |
| New/Add'l Lease Area being requested: | DIMS: L(ft) | | W(ft) | |
| New/Add'l Rooftop Lease Area being requested (if space is needed on both ground and rooftop): | DIMS: L(ft) | | W(ft) | |
| Shelter: | DIMS: L(ft) | 12 | W(ft) | 20 |
| Concrete Pad for Shelter: | DIMS: L(ft) | | W(ft) | |
| Cabinets: | DIMS: L(ft) | | W(ft) | |
| Concrete Pad for Cabinets: | DIMS: L(ft) | | W(ft) | |
| Cabinet/Shelter Manufacturer/Model: | | | | |

| | |
|---------------------------------------|---|
| POWER REQUIREMENTS | |
| Power Provided by: | Electrical Service Provider: |
| Average Monthly Power Consumption: | KWH units |
| Is a multi-tenant meter rack present: | Yes |
| Telco/Interconnect Requirements: | POTS <input type="checkbox"/> T1 <input type="checkbox"/> MICROWAVE <input type="checkbox"/> FIBER OPTICS <input checked="" type="checkbox"/> |
| Fiber Provider: | |

| | |
|-------------------------------------|-----------------------------------|
| BACK-UP POWER INFORMATION | |
| Generator Required: | Yes |
| Generator Ground Space Requirement: | DIMS: L(ft) 8 W(ft) 4 |
| BST Generator: | Generator Owner: |
| Generator Capacity: | KW |
| Fuel Tank Location: | Fuel Tank Size: DIMS: L(ft) W(ft) |
| Pad for Fuel Tank (if required): | DIMS: L(ft) W(ft) |
| Comments: | |

| | |
|--|--|
| Before submitting application, this section MUST be addressed: | |
| Attach manufacturer's equipment specifications for antennas, RRU's, mounts, and all struct loading info for analysis. Cabinets & shelters if available | |
| (6) 840370966 antenna, (3) RRUS 4449 B5/B12 Ground Mounted, (3) RRUS 8843 B2/B66A Ground Mounted, (12) TMABPD7823VG12A, (24) Coax cables, (36) Surge Arrestors Ground Mounted. Keeping lease rights to the following RADs: | |

175', 165', 155'

www.blueskytower.com

Existing Equipment:

Comments: