

SCANNED

ATC 24516 TMO 9JK0218A  
(ANCHOR)

Columbia County Cellular Tower Antenna Application

|                                                                                                                                                                                                                                                                                           |               |               |          |                |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|---------------|----------|----------------|
| For Office Use Only                                                                                                                                                                                                                                                                       | Application # | Date Received | By       | Permit #       |
| Zoning Official                                                                                                                                                                                                                                                                           | Date          | Flood Zone    | Land Use | Zoning         |
| FEMA Map #                                                                                                                                                                                                                                                                                | Elevation     | MFE           | River    | Plans Examiner |
| Comments                                                                                                                                                                                                                                                                                  |               |               |          |                |
| <input type="checkbox"/> NOC <input type="checkbox"/> EH <input type="checkbox"/> Deed or PA <input type="checkbox"/> Site Plan <input type="checkbox"/> State Road Info <input type="checkbox"/> Well letter <input type="checkbox"/> 911 Sheet <input type="checkbox"/> Parent Parcel # |               |               |          |                |
| <input type="checkbox"/> Dev Permit # <input type="checkbox"/> In Floodway <input type="checkbox"/> Letter of Auth. from Contractor <input type="checkbox"/> F W Comp. letter                                                                                                             |               |               |          |                |
| <input type="checkbox"/> Owner Builder Disclosure Statement <input type="checkbox"/> Land Owner Affidavit <input type="checkbox"/> Ellisville Water <input type="checkbox"/> App Fee Paid <input type="checkbox"/> Sub VF Form                                                            |               |               |          |                |

Septic Permit No. NA OR City Water ☐ Fax \_\_\_\_\_

Applicant (Who will sign/pickup the permit) Elizabeth Lee Phone 407-928-3219

Address 1211 SR 436, Suite 101, Casselberry, FL 32707

Leasee Name T-Mobile South LLC Phone \_\_\_\_\_

911 Address 1334 NW HUNTSVILLE CHURCH DRLAKE CITY, FL 32055

Contractors Name SouthShore Communications/Bryant Melton Phone 352.228.3364

Address 575 NW Mercantile PL #104, Port St Lucie, FL 34986 plans sent to contractor

Contractor Email Ediaz@infinigy.com \*\*\*Include to get updates on this job.

Fee Simple Owner Name & Address PETTIGREW MARGARET H & MARGARET PETTIGREW, 1655 WILLOW RDMONTICELLO, FL 32344

Bonding Co. Name & Address \_\_\_\_\_

Architect/Engineer Name & Address Jeremy Sharit, 158 Business Center Drive, Birmingham, AL 35244

Mortgage Lenders Name & Address \_\_\_\_\_

Circle the correct power company ☐ FL Power & Light ☐ Clay Elec. ☐ Suwannee Valley Elec. ☐ Duke Energy

Property ID Number 06-3S-16-02023-001 Estimated Construction Cost 20,000

Subdivision Name \_\_\_\_\_ Lot \_\_\_\_\_ Block \_\_\_\_\_ Unit \_\_\_\_\_ Phase \_\_\_\_\_

Driving Directions from a Major Road TAKE I-75 TO EXIT 82, LAKE CITY, TO 90 EAST GO 2.6 MILES, THERE WILL BE A SIGN TO TURN TO THE ARMORY

TURN LEFT THERE ON LAKE JEFFERY RD GO. 6.6 MILES FROM 90 TAKE A LEFT ON HUNTSVILLE CHURCH ROAD. GO UNTIL IT DEAD ENDS AT I-75. SITE IS ON THE LEFT

Construction of T-Mobile Equipment Upgrade on Cell Tower ☒ Commercial OR ☐ Residential

Proposed Use/Occupancy Existing Communications Tower Number of Existing Dwellings on Property NA

Is the Building Fire Sprinkled? NA If Yes, blueprints Included NA Or Explain NA

Circle Proposed ☐ Culvert Permit or ☐ Culvert Waiver or ☐ D.O.T. Permit or ☒ Have an Existing Drive

Actual Distance of Structure from Property Lines - Front NA Side NA Side NA Rear NA

Number of Stories NA Heated Floor Area NA Total Floor Area NA Acreage \_\_\_\_\_

Zoning Applications applied for (Site & Development Plan, Special Exception, etc.) \_\_\_\_\_



COLUMBIA COUNTY BUILDING DEPARTMENT  
135 NE Hernando Ave, Suite B-21, Lake City, FL 32055  
Phone: 386-758-1008 Fax: 386-758-2160

LETTER OF AUTHORIZATION TO SIGN FOR PERMITS

I, Bryant Melton (license holder name), licensed qualifier  
for SouthShore Communications (company name), do certify that

the below referenced person(s) listed on this form is/are contracted/hired by me, the license holder, or is/are employed by me directly or through an employee leasing arrangement; or, is an officer of the corporation; or, partner as defined in Florida Statutes Chapter 468, and the said person(s) is/are under my direct supervision and control and is/are authorized to purchase permits, call for inspections and sign on my behalf.

| Printed Name of Person Authorized | Signature of Authorized Person |
|-----------------------------------|--------------------------------|
| 1. Kristy Jaska                   | 1.                             |
| 2. Elizabeth Lee                  | 2.                             |
| 3. Kelsey Bellcase                | 3.                             |
| 4.                                | 4.                             |
| 5.                                | 5.                             |

I, the license holder, realize that I am responsible for all permits purchased, and all work done under my license and fully responsible for compliance with all Florida Statutes, Codes, and Local Ordinances. I understand that the State and County Licensing Boards have the power and authority to discipline a license holder for violations committed by him/her, his/her agents, officers, or employees and that I have full responsibility for compliance with all statutes, codes and ordinances inherent in the privilege granted by issuance of such permits.

If at any time the person(s) you have authorized is/are no longer agents, employee(s), or officer(s), you must notify this department in writing of the changes and submit a new letter of authorization form, which will supersede all previous lists. Failure to do so may allow unauthorized persons to use your name and/or license number to obtain permits.

License Holders Signature (Notarized) CGC1507034 4/29/2022  
License Number Date

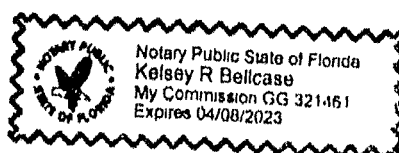
NOTARY INFORMATION:

STATE OF: Florida COUNTY OF: Citrus

The above license holder, whose name is Bryant Melton,  
personally appeared before me and is known by me or has produced identification  
(type of I.D.) \_\_\_\_\_ on this 29th day of April, 2022.

NOTARY'S SIGNATURE

(Seal/Stamp)





## LETTER OF AUTHORIZATION

**SITE NO:** See Site List Below

**SITE NAME:** See Site List Below

**ADDRESS:** See Site List Below

I, Margaret Robinson, Senior Counsel, US Tower Division on behalf of American Tower\*, owner and/or operator of the tower facilities located at the addresses identified below (the "Tower Facilities"), do hereby authorize Infinigy Solutions LLC ("Infinigy"), its agents, successors and assigns, to act as American Tower's non-exclusive agent for the purpose of filing and securing any zoning, land-use, building permit and/or electrical permit application(s) and approvals of the applicable jurisdiction for and to conduct the construction of the installation of antennas and related telecommunications equipment on the Tower Facilities located at the addresses identified below. This installation shall not affect adjoining lands and will occur only within the areas leased or owned by American Tower.

American Tower understands that the applications may be denied, modified or approved with conditions. The above authorization is limited to the acceptance by American Tower of conditions related to American Tower's installations. Any such conditions of approval or modifications will not be effective unless approved in writing by American Tower.

The above authorization does not permit Infinigy to modify or alter any existing permit(s) and/or zoning or land-use conditions or impose any additional conditions unrelated to American Tower's installations of telecommunications equipment without the prior written approval of American Tower.

Site Authorized:

| ATC Site # | FA Code  | Address                                                | Site Name (CSS)   |
|------------|----------|--------------------------------------------------------|-------------------|
| 24516      | 9JK0218A | 1334 NW Huntsville Church Dr, Lake City FL             |                   |
| 2544       | 9JK2337S | 13700 S US HIGHWAY 441                                 | ABOX              |
| 414505     | 10134235 | 2580 GLADES CIRCLE, WESTON, FL                         | XYWW              |
| 275481     | 10150967 | 3900 HAVERHILL ROAD NORTH, WEST PALM BEACH, FL         | WP152             |
| 275484     | 10151002 | 3225 NORTH HIATUS ROAD, SUNRISE, FL                    | FL155             |
| 412204     | 10043804 | 16917 PANAMA CITY BEACH PARKWAY, PANAMA CITY BEACH, FL | GULF BEACH RESORT |
| 97157      | 10029292 | 706 MABRY STREET, TALLAHASSEE, FL                      | MURRAT HILLS.GSM  |

Signature. \_\_\_\_\_

Margaret Robinson, Senior Counsel  
US Tower Division



**NOTARY BLOCK**

COMMONWEALTH OF MASSACHUSETTS  
County of Middlesex

This instrument was acknowledged before me by Margaret Robinson, Senior Counsel of American Tower (owner and/or operator of the above referenced Tower Facilities), personally known to me (or proved to me on the basis of satisfactory evidence) to be the person whose name is subscribed to the within instrument and acknowledged to me that he/she executed the same.

WITNESS my hand and official seal, this 29th day of April, 2022

NOTARY SEAL



**GERARD T. HEFFRON**  
Notary Public  
Commonwealth of Massachusetts  
My Commission Expires  
August 9, 2024

Notary Public Gerard T. Heffron  
My Commission Expires: August 9th, 2024

\* American Tower as used herein is defined as American Tower Corporation and any of its affiliates or subsidiaries.



**AMERICAN TOWER®**  
CORPORATION

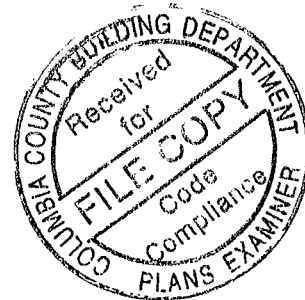
This report was prepared for American Tower Corporation by



---

## Structural Analysis Report

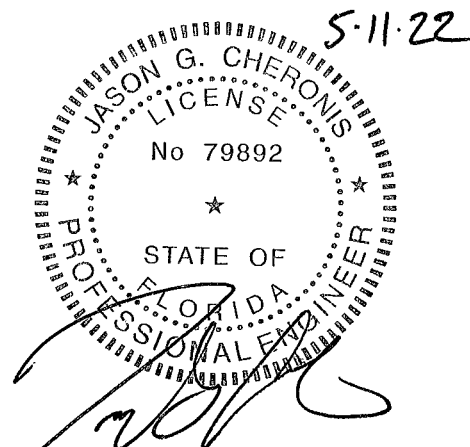
**Structure** : 300 ft Guyed Tower  
**ATC Site Name** : FALLING CREEK FL,FL  
**ATC Site Number** : 24516  
**Engineering Number** : 13973819\_C3\_03  
**Proposed Carrier** : T-MOBILE  
**Carrier Site Name** : I75 at I10 Boomer  
**Carrier Site Number** : 9JK0218A  
**Site Location** : Huntsville Church Rd  
Lake City, FL 32055-7044  
30.2507, -82.7443  
**County** : Columbia  
**Date** : March 31, 2022  
**Max Usage** : 47%  
**Result** : Pass



Prepared By:

Shahad Haji  
POD

Reviewed By:





## **Table of Contents**

|                                      |          |
|--------------------------------------|----------|
| Introduction.....                    | 3        |
| Supporting Documents .....           | 3        |
| Analysis .....                       | 3        |
| Conclusion .....                     | 3        |
| Existing and Reserved Equipment..... | 4        |
| Equipment to be Removed .....        | 4        |
| Proposed Equipment .....             | 4        |
| Structure Usages.....                | 5        |
| Foundations .....                    | 5        |
| Deflection, Twist and Sway* .....    | 5        |
| Standard Conditions .....            | 6        |
| Calculations .....                   | Attached |

## **Introduction**

The purpose of this report is to summarize results of a structural analysis performed on the 300 ft Guyed tower to reflect the change in loading by T-MOBILE.

## **Supporting Documents**

|                            |                                                |
|----------------------------|------------------------------------------------|
| <b>Tower Drawings</b>      | FWT Job #21618000, dated June 30, 2000         |
| <b>Foundation Drawing</b>  | Putnam Project #T99-G-208, dated July 7, 2000  |
| <b>Geotechnical Report</b> | N&A Project #T99-G-208, dated October 21, 1999 |

## **Analysis**

The tower was analyzed using American Tower Corporation's tower analysis software. This program considers an elastic three-dimensional model and second-order effects per ANSI/TIA-222.

|                                      |                                                                 |
|--------------------------------------|-----------------------------------------------------------------|
| <b>Basic Wind Speed:</b>             | 117 mph (3-second gust)                                         |
| <b>Basic Wind Speed w/ Ice:</b>      | 30 mph (3-second gust) w/ 0.25" radial ice concurrent           |
| <b>Code:</b>                         | ANSI/TIA-222-H / 2018 IBC / 7th ED (2020) Florida Building Code |
| <b>Exposure Category:</b>            | C                                                               |
| <b>Risk Category:</b>                | II                                                              |
| <b>Topographic Factor Procedure:</b> | Method 1                                                        |
| <b>Topographic Category:</b>         | 1                                                               |
| <b>Spectral Response:</b>            | $S_s = 0.09$ , $S_i = 0.05$                                     |
| <b>Site Class:</b>                   | D - Stiff Soil - Default                                        |

## **Conclusion**

Based on the analysis results, the structure meets the requirements per the applicable codes listed above. The tower and foundation can support the equipment as described in this report.

If you have any questions or require additional information, please contact POD Group via email at [bsmith@podgrp.com](mailto:bsmith@podgrp.com). Please include the American Tower site name, site number, and engineering number in the subject line for any questions.



### Existing and Reserved Equipment

| Elev. <sup>1</sup> (ft) | Qty | Equipment                       | Mount Type                    | Lines                                        | Carrier                    |
|-------------------------|-----|---------------------------------|-------------------------------|----------------------------------------------|----------------------------|
| 300.0                   | 9   | Antel RWA-80016CF ____          | Sector Frame                  | (9) 1 5/8" Coax                              | ALLTEL COMMUNICATIONS, LLC |
| 250.0                   | 3   | Ericsson Radio 4480 B71+B85A    | Sabre C10857001C Sector Frame | (2) 1 5/8" Coax<br>(2) 1 99" (50.7mm) Hybrid | T-MOBILE                   |
|                         | 3   | Ericsson Radio 4460 B25+B66     |                               |                                              |                            |
|                         | 2   | Gabriel P-24A36G+-U             |                               |                                              |                            |
|                         | 3   | Commscope FFVV-65C-R3-V1        |                               |                                              |                            |
| 175.0                   | 1   | Ceragon FibeAir RFU-C           | Leg                           | (1) 7/8" Coax                                |                            |
|                         | 1   | Ceragon 1500HP/RFU-HP           |                               |                                              |                            |
|                         | 1   | Andrew Microwaves HPX6-59-P3A/K |                               |                                              |                            |

### Equipment to be Removed

| Elev. <sup>1</sup> (ft)                                        | Qty | Equipment | Mount Type | Lines | Carrier |
|----------------------------------------------------------------|-----|-----------|------------|-------|---------|
| No loading was considered as removed as part of this analysis. |     |           |            |       |         |

### Proposed Equipment

| Elev. <sup>1</sup> (ft) | Qty | Equipment             | Mount Type                    | Lines | Carrier  |
|-------------------------|-----|-----------------------|-------------------------------|-------|----------|
| 250.0                   | 3   | Ericsson AIR 6419 B41 | Sabre C10857001C Sector Frame | -     | T-MOBILE |

<sup>1</sup> Contracted elevations are shown for appurtenances within contracted installation tolerances. Appurtenances outside of contract limits are shown at installed elevations.



### Structure Usages

| Structural Component | Controlling Usage | Pass/Fail |
|----------------------|-------------------|-----------|
| Legs                 | 36%               | Pass      |
| Diagonals            | 20%               | Pass      |
| Horizontals          | 47%               | Pass      |
| Guys                 | 39%               | Pass      |

### Foundations

| Reaction Component     | Analysis Reactions | % of Usage |
|------------------------|--------------------|------------|
| Base Axial (kips)      | 162.7              | 23%        |
| Anchor 1 Uplift (kips) | 67.2               | 11%        |
| Anchor 1 Shear (kips)  | 65.2               | 8%         |

The structure base reactions resulting from this analysis were found to be acceptable through analysis based on geotechnical and foundation information, therefore no modification or reinforcement of the foundation will be required.

### Deflection, Twist and Sway\*

| Antenna Elevation (ft) | Antenna                         | Carrier  | Deflection (ft) | Twist (°) | Sway (Rotation) (°) |
|------------------------|---------------------------------|----------|-----------------|-----------|---------------------|
| 250.0                  | Ericsson AIR 6419 B41           | T-MOBILE | 0.094           | 0.013     | 0.056               |
|                        | Gabriel P-24A36G+-U             |          |                 |           |                     |
| 175.0                  | Andrew Microwaves HPX6-59-P3A/K |          | 0.050           | 0.010     | 0.042               |

\*Deflection, Twist and Sway was evaluated considering a design wind speed of 60 mph (3-Second Gust) per ANSI/TIA-222-H

**Standard Conditions**

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

- Information supplied by the client regarding antenna, mounts and feed line loading
- Information from drawings, design and analysis documents, and field notes in the possession of POD Group

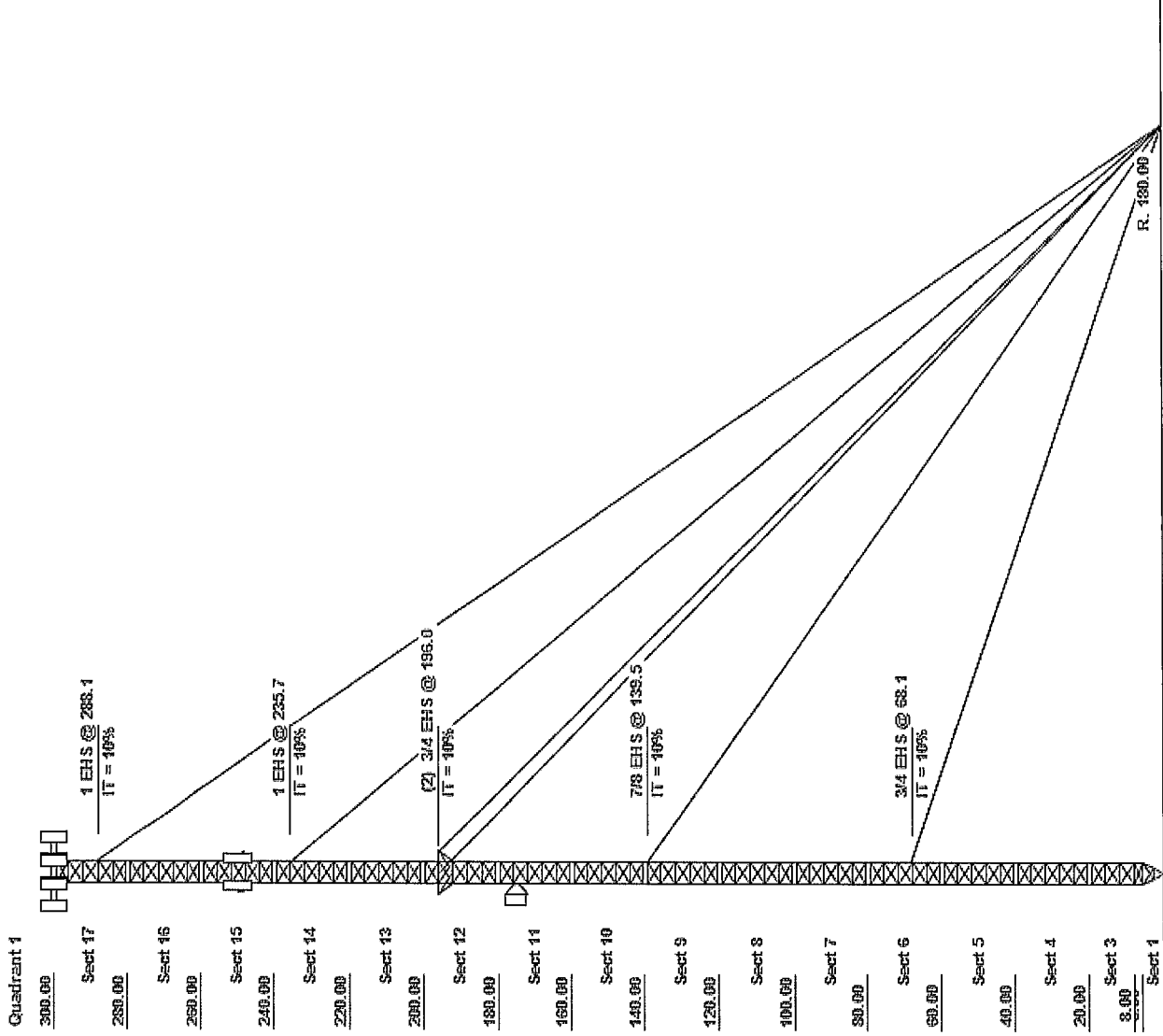
It is the responsibility of the client to ensure that the information provided to POD Group and used in the performance of our engineering services is correct and complete.

POD Group assumes that all structures were constructed in accordance with the drawings and specifications.

All connections are to be verified for condition and tightness by the installation contractor preceding any changes to the appurtenance mounting system and/or equipment attached to it.

Unless explicitly agreed by both the client and POD Group, all services will be performed in accordance with the current revision of ANSI/TIA-222.

All services are performed, results obtained, and recommendations made in accordance with generally accepted engineering principles and practices. POD Group is not responsible for the conclusions, opinions and recommendations made by others based on the information supplied herein.



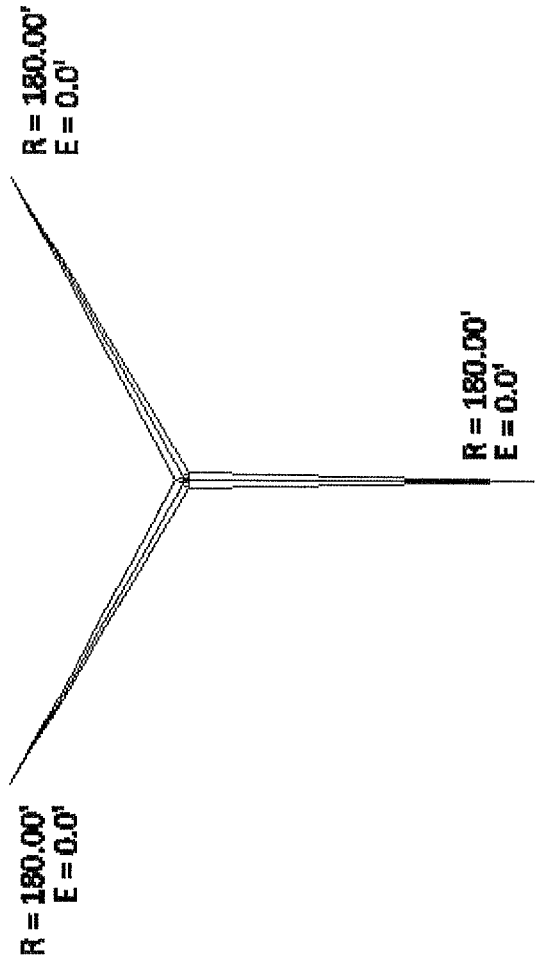
| SITE PARAMETERS |                            |              |                      |                      |
|-----------------|----------------------------|--------------|----------------------|----------------------|
| Nominal Wind    | 117 mph wind with no ice   | Exposure     | C                    | Site Class D         |
| Ice Wind        | 30 mph wind with 0.25" rad | Topo Method  | Method 1             | Risk Cat II          |
| Service Wind    | 60 mph Serviceability      | Topo Feature | S <sub>s</sub> 0.086 | S <sub>i</sub> 0.051 |

| SECTION PROPERTIES |                       |                       | Horizontal Members        |  |
|--------------------|-----------------------|-----------------------|---------------------------|--|
| Section            | Leg Members           | Diagonal Members      |                           |  |
| 1 - 5              | SOL 50 ksi 2 3/4" SOL | SOL 50 ksi 5/8" SOLID | SAE 36 ksi 2X2X0 1875     |  |
| 6 - 8              | SOL 50 ksi 2 1/2" SOL | SOL 50 ksi 5/8" SOLID | SAE 36 ksi 2X2X0 1875     |  |
| 9 - 11             | SOL 50 ksi 2 3/4" SOL | SOL 50 ksi 3/4" SOLID | SAE 36 ksi 2 5X2 5X0 1875 |  |
| 12 - 14            | SOL 50 ksi 2 3/4" SOL | SOL 50 ksi 7/8" SOLID | SAE 36 ksi 2.5X2 5X0 25   |  |
| 15                 | SOL 50 ksi 2 1/4" SOL | SOL 50 ksi 7/8" SOLID | SAE 36 ksi 2.5X2 5X0 25   |  |
| 16                 | SOL 50 ksi 2 1/4" SOL | SOL 50 ksi 3/4" SOLID | SAE 36 ksi 2.5X2.5X0 1875 |  |
| 17                 | SOL 50 ksi 2" SOLID   | SOL 50 ksi 3/4" SOLID | SAE 36 ksi 2 5X2.5X0 1875 |  |

| REDUNDANT SECONDARY BRACING |            |             |            |             |
|-----------------------------|------------|-------------|------------|-------------|
| Section                     | Sub Diag 1 | Sub Horiz 1 | Sub Diag 2 | Sub Horiz 2 |
| 1 - 17                      | -          | -           | -          | -           |

| DISCRETE APPURTENANCE |              |                                  |
|-----------------------|--------------|----------------------------------|
| Elev (ft)             | Type         | Qty Description                  |
| 300.00                | PANEL        | 9 Antel RWA-80016CF              |
| 300.00                | Sector Frame | 3 Generic Flat Light Sector Fram |
| 250.00                | DISH-GRID    | 2 Gabriel P-24A36G+-U            |
| 250.00                | Other        | 3 Sabre C10857001C Sector Frame  |
| 250.00                | PANEL        | 3 Ericsson AIR 6419 B41          |
| 250.00                | PANEL        | 3 Commscope FFVV-65C-R3-V1       |
| 250.00                | RRU/RRH      | 3 Ericsson Radio 4460 B25+B66    |
| 250.00                | RRU/RRH      | 3 Ericsson Radio 4480 B71+B85A   |
| 196.00                | Other        | 1 Torque Arms                    |
| 175.00                | DISH-HP      | 1 Andrew Microwaves HPX6-59-P3A  |
| 175.00                | Radio/ODU    | 1 Ceragon FibeAir RFU-C          |
| 175.00                | Radio/ODU    | 1 Ceragon 1500HP/RFU-HP          |

| LINEAR APPURTENANCE |        |                         |
|---------------------|--------|-------------------------|
| Elev (ft)           | To     | Qty Description         |
| 0.00                | 300.00 | 9 1 5/8" Coax           |
| 0.00                | 250.00 | 2 1 99" (50 7mm) Hybrid |
| 0.00                | 250.00 | 2 1 5/8" Coax           |
| 0.00                | 175.00 | 1 7/8" Coax             |



| GUY ANCHOR DESIGN LOADS |           |             |              |             |
|-------------------------|-----------|-------------|--------------|-------------|
| Radius (ft)             | Drop (ft) | Azimuth (o) | Uplift (kip) | Shear (kip) |
| 180 00                  | 0 00      | 0           | 67 11        | 65 23       |
| 180 00                  | 0 00      | 120         | 67 15        | 65 23       |
| 180 00                  | 0 00      | 240         | 67 15        | 65 23       |

| GLOBAL BASE FOUNDATION DESIGN LOADS |  |                  |
|-------------------------------------|--|------------------|
| Vertical (kip)                      |  | Horizontal (kip) |
| 162 72                              |  | 1 89             |

### ANALYSIS PARAMETERS

**Location:** Columbia County, FL  
**Type and Shape:** Guyed, Triangle  
**Manufacturer:** Undetermined  
**Kd** 0.85  
**Ke:** 0.99

**Height:** 300 ft  
**Base Elevation:** 0.00 ft  
**Bottom Face Width:** 4.00 ft  
**Top Face Width:** 4.00 ft

### ICE & WIND PARAMETERS

**Exposure Category:** C  
**Risk Category:** II  
**Topographic Factor Procedure:** Method 1  
**Topographic Category:** Flat  
**Crest Height:** 0 ft

**Design Wind Speed Without Ice:** 117 mph  
**Design Wind Speed with Ice:** 30 mph  
**Operational Windspeed:** 60 mph  
**Design Ice Thickness:** 0.25 in  
**HMSL:** 154 ft

### SEISMIC PARAMETERS

**Analysis Method:** Equivalent Lateral Force Method  
**Site Class:** D - Stiff Soil  
**T<sub>L</sub> (sec):** 8  
**S<sub>s</sub>** 0.086  
**F<sub>a</sub>** 1.600  
**S<sub>ds</sub>** 0.092

**Period Based on Rayleigh Method (sec):** 0.59  
**P:** 1.3  
**S<sub>1</sub>** 0.051  
**F<sub>v</sub>** 2.400  
**S<sub>d1</sub>:** 0.082  
**C<sub>s</sub>** 0.031  
**C<sub>s, Max:</sub>** 0.046  
**C<sub>s, Min:</sub>** 0.030

### LOAD CASES

|                             |                                   |
|-----------------------------|-----------------------------------|
| 1 2D + 1 0W Normal          | 117 mph wind with no ice          |
| 1 2D + 1 0W 60°             | 117 mph wind with no ice          |
| 1 2D + 1 0W 90°             | 117 mph wind with no ice          |
| 1 2D + 1 0W 120°            | 117 mph wind with no ice          |
| 1 2D + 1 0W 180°            | 117 mph wind with no ice          |
| 1 2D + 1 0W 210°            | 117 mph wind with no ice          |
| 1 2D + 1 0W 240°            | 117 mph wind with no ice          |
| 1 2D + 1 0W 300°            | 117 mph wind with no ice          |
| 1 2D + 1 0W 330°            | 117 mph wind with no ice          |
| 1 2D + 1 0Di + 1 0Wi Normal | 30 mph wind with 0.25" radial ice |
| 1 2D + 1 0Di + 1 0Wi 60°    | 30 mph wind with 0.25" radial ice |
| 1 2D + 1 0Di + 1 0Wi 90°    | 30 mph wind with 0.25" radial ice |
| 1 2D + 1 0Di + 1 0Wi 120°   | 30 mph wind with 0.25" radial ice |
| 1 2D + 1 0Di + 1 0Wi 180°   | 30 mph wind with 0.25" radial ice |
| 1 2D + 1 0Di + 1 0Wi 210°   | 30 mph wind with 0.25" radial ice |
| 1 2D + 1 0Di + 1 0Wi 240°   | 30 mph wind with 0.25" radial ice |
| 1 2D + 1 0Di + 1 0Wi 300°   | 30 mph wind with 0.25" radial ice |
| 1 2D + 1 0Di + 1 0Wi 330°   | 30 mph wind with 0.25" radial ice |
| 1 2D + 1 0Ev + 1 0Eh Normal | Seismic                           |
| 1 2D + 1 0Ev + 1 0Eh 60°    | Seismic                           |
| 1 2D + 1 0Ev + 1 0Eh 90°    | Seismic                           |
| 1 2D + 1 0Ev + 1 0Eh 120°   | Seismic                           |
| 1 2D + 1 0Ev + 1 0Eh 180°   | Seismic                           |
| 1 2D + 1 0Ev + 1 0Eh 210°   | Seismic                           |
| 1 2D + 1 0Ev + 1 0Eh 240°   | Seismic                           |
| 1 2D + 1 0Ev + 1 0Eh 300°   | Seismic                           |
| 1 2D + 1 0Ev + 1 0Eh 330°   | Seismic                           |
| 1 0D + 1 0W Service Normal  | 60 mph Wind with No Ice           |
| 1 0D + 1 0W Service 60°     | 60 mph Wind with No Ice           |
| 1 0D + 1 0W Service 90°     | 60 mph Wind with No Ice           |
| 1 0D + 1 0W Service 120°    | 60 mph Wind with No Ice           |
| 1 0D + 1 0W Service 180°    | 60 mph Wind with No Ice           |
| 1 0D + 1 0W Service 210°    | 60 mph Wind with No Ice           |
| 1 0D + 1 0W Service 240°    | 60 mph Wind with No Ice           |

LOAD CASES

|                          |                         |
|--------------------------|-------------------------|
| 1 OD + 1 OW Service 300° | 60 mph Wind with No Ice |
| 1 OD + 1 OW Service 330° | 60 mph Wind with No Ice |

ASSET # 24516, FALLING CREEK FL  
CUSTOMER T-MOBILE

STANDARD ANSI/TIA-222-H  
ENG NO

### TOWER LOADING

Discrete Appurtenance Properties 1 2D + 1 0W

| Elev<br>(ft) | Description                    | Qty | Wt<br>(lb) | EPA Length<br>(sf) | Length<br>(ft) | Width<br>(in) | Depth<br>(in) | K <sub>a</sub> | Orient<br>Factor | Vert<br>Ecc (ft) | M <sub>u</sub><br>(lb-ft) | Q <sub>z</sub><br>(psf) | F <sub>a</sub> (WL)<br>(lb) | P <sub>a</sub> (DL)<br>(lb) |
|--------------|--------------------------------|-----|------------|--------------------|----------------|---------------|---------------|----------------|------------------|------------------|---------------------------|-------------------------|-----------------------------|-----------------------------|
| 300 0        | Antel RWA-80016CF ____         | 9   | 31         | 10 9               | 8 0            | 11 2          | 5 9           | 0 80           | 0 68             | 0 0              | 0 00                      | 47 25                   | 2145                        | 335                         |
| 300 0        | Generic Flat Light Sector Fram | 3   | 400        | 17 9               | 0 0            | 0 0           | 0 0           | 0 75           | 0 67             | 0 0              | 0 00                      | 47 25                   | 1084                        | 1440                        |
| 250 0        | Ericsson Radio 4460 B25+B66    | 3   | 109        | 2 6                | 1 6            | 15 7          | 12 1          | 0 80           | 0 67             | 0 0              | 0 00                      | 45 47                   | 159                         | 392                         |
| 250 0        | Ericsson Radio 4480 B71+B85A   | 3   | 84         | 2 9                | 1 8            | 15 7          | 7 5           | 0 80           | 0 67             | 0 0              | 0 00                      | 45 47                   | 177                         | 302                         |
| 250 0        | Gabriel P-24A36G+-U            | 2   | 40         | 4 2                | 3 0            | 36 0          | 0 0           | 1 00           | 1 00             | 0 0              | 0 00                      | 45 47                   | 324                         | 96                          |
| 250 0        | Ericsson AIR 6419 B41          | 3   | 83         | 6 3                | 3 0            | 20 9          | 9 0           | 0 80           | 0 63             | 0 0              | 0 00                      | 45 47                   | 369                         | 300                         |
| 250 0        | Sabre C10857001C Sector Frame  | 3   | 462        | 14 4               | 0 0            | 0 0           | 0 0           | 0 75           | 0 75             | 0 0              | 0 00                      | 45 47                   | 939                         | 1663                        |
| 250 0        | Commscope FFFV-65C-R3-V1       | 3   | 125        | 21 1               | 8 0            | 25 2          | 9 3           | 0 80           | 0 63             | 0 0              | 0 00                      | 45 47                   | 1234                        | 449                         |
| 196 0        | Torque Arms                    | 1   | 300        | 12 0               | 0 0            | 0 0           | 0 0           | 1 00           | 1 00             | 0 0              | 0 00                      | 43 20                   | 441                         | 360                         |
| 175 0        | Ceragon FibeAir RFU-C          | 1   | 9          | 0 5                | 0 7            | 7 9           | 3 4           | 1 00           | 0 50             | -4 0             | 37 10                     | 41 97                   | 9                           | 11                          |
| 175 0        | Ceragon 1500HP/RFU-HP          | 1   | 15         | 1 8                | 1 6            | 5 7           | 11 0          | 1 00           | 0 50             | -4 0             | 126 22                    | 41 97                   | 32                          | 18                          |
| 175 0        | Andrew Microwaves HPX6-59-P3A/ | 1   | 320        | 41 3               | 6 5            | 77 5          | 53 3          | 1 00           | 1 00             | -4 0             | 5,898.05                  | 41 97                   | 1475                        | 384                         |
| Totals       |                                | 33  | 4,792      | 357 7              |                |               |               |                |                  |                  |                           |                         | 8,388                       | 5,751                       |

### TOWER LOADING

Discrete Appurtenance Properties 1 2D + 1 0Di + 1 0Wi

| Elev<br>(ft) | Description                    | Qty | Ice<br>Wt<br>(lb) | Ice<br>EPA Length<br>(sf) | Length<br>(ft) | Width<br>(in) | Depth<br>(in) | K <sub>a</sub> | Orient<br>Factor | Vert<br>Ecc (ft) | M <sub>u</sub><br>(lb-ft) | Q <sub>z</sub><br>(psf) | F <sub>a</sub> (WL)<br>(lb) | P <sub>a</sub> (DL)<br>(lb) |
|--------------|--------------------------------|-----|-------------------|---------------------------|----------------|---------------|---------------|----------------|------------------|------------------|---------------------------|-------------------------|-----------------------------|-----------------------------|
| 300 0        | Antel RWA-80016CF ____         | 9   | 67                | 11 2                      | 8 0            | 11 2          | 5 9           | 0 80           | 0 68             | 0 0              | 0 00                      | 3 11                    | 145                         | 659                         |
| 300 0        | Generic Flat Light Sector Fram | 3   | 454               | 20 6                      | 0 0            | 0 0           | 0 0           | 0 75           | 0 67             | 0 0              | 0 00                      | 3 11                    | 82                          | 1601                        |
| 250 0        | Ericsson Radio 4460 B25+B66    | 3   | 125               | 2 7                       | 1 6            | 15 7          | 12 1          | 0 80           | 0 67             | 0 0              | 0 00                      | 2 99                    | 11                          | 439                         |
| 250 0        | Ericsson Radio 4480 B71+B85A   | 3   | 97                | 3 0                       | 1 8            | 15 7          | 7 5           | 0 80           | 0 67             | 0 0              | 0 00                      | 2 99                    | 12                          | 342                         |
| 250 0        | Gabriel P-24A36G+-U            | 2   | 63                | 9 2                       | 3 0            | 36 0          | 0 0           | 1 00           | 1 00             | 0 0              | 0 00                      | 2 99                    | 47                          | 143                         |
| 250 0        | Ericsson AIR 6419 B41          | 3   | 110               | 6 6                       | 3 0            | 20 9          | 9 0           | 0 80           | 0 63             | 0 0              | 0 00                      | 2 99                    | 25                          | 380                         |
| 250 0        | Sabre C10857001C Sector Frame  | 3   | 519               | 16 2                      | 0 0            | 0 0           | 0 0           | 0 75           | 0 75             | 0 0              | 0 00                      | 2 99                    | 69                          | 1833                        |
| 250 0        | Commscope FFFV-65C-R3-V1       | 3   | 197               | 21 8                      | 8 0            | 25 2          | 9 3           | 0 80           | 0 63             | 0 0              | 0 00                      | 2 99                    | 84                          | 667                         |
| 196 0        | Torque Arms                    | 1   | 336               | 13 4                      | 0 0            | 0 0           | 0 0           | 1 00           | 1 00             | 0 0              | 0 00                      | 2 84                    | 32                          | 396                         |
| 175 0        | Ceragon FibeAir RFU-C          | 1   | 12                | 0 6                       | 0 7            | 7 9           | 3 4           | 1 00           | 0 50             | -4 0             | 2 83                      | 2 76                    | 1                           | 13                          |
| 175 0        | Ceragon 1500HP/RFU-HP          | 1   | 23                | 1 9                       | 1 6            | 5 7           | 11 0          | 1 00           | 0 50             | -4 0             | 9 02                      | 2 76                    | 2                           | 27                          |
| 175 0        | Andrew Microwaves HPX6-59-P3A/ | 1   | 459               | 42 0                      | 6 5            | 77 5          | 53 3          | 1 00           | 1 00             | -4 0             | 393 71                    | 2 76                    | 98                          | 523                         |
| Totals       |                                | 33  | 6,063             | 390 0                     |                |               |               |                |                  |                  |                           |                         | 609                         | 7,021                       |

### TOWER LOADING

Discrete Appurtenance Properties 1 0D + 1 0W Service

| Elev<br>(ft) | Description                    | Qty | Wt<br>(lb) | EPA Length<br>(sf) | Length<br>(ft) | Width<br>(in) | Depth<br>(in) | K <sub>a</sub> | Orient<br>Factor | Vert<br>Ecc (ft) | M <sub>u</sub><br>(lb-ft) | Q <sub>z</sub><br>(psf) | F <sub>a</sub> (WL)<br>(lb) | P <sub>a</sub> (DL)<br>(lb) |
|--------------|--------------------------------|-----|------------|--------------------|----------------|---------------|---------------|----------------|------------------|------------------|---------------------------|-------------------------|-----------------------------|-----------------------------|
| 300 0        | Antel RWA-80016CF ____         | 9   | 31         | 10 9               | 8 0            | 11 2          | 5 9           | 0 80           | 0 68             | 0 0              | 0 00                      | 12 42                   | 564                         | 279                         |
| 300 0        | Generic Flat Light Sector Fram | 3   | 400        | 17 9               | 0 0            | 0 0           | 0 0           | 0 75           | 0 67             | 0 0              | 0 00                      | 12 42                   | 285                         | 1200                        |
| 250 0        | Ericsson Radio 4460 B25+B66    | 3   | 109        | 2 6                | 1 6            | 15 7          | 12 1          | 0 80           | 0 67             | 0 0              | 0 00                      | 11 96                   | 42                          | 327                         |
| 250 0        | Ericsson Radio 4480 B71+B85A   | 3   | 84         | 2 9                | 1 8            | 15 7          | 7 5           | 0 80           | 0 67             | 0 0              | 0 00                      | 11 96                   | 47                          | 252                         |
| 250 0        | Gabriel P-24A36G+-U            | 2   | 40         | 4 2                | 3 0            | 36 0          | 0 0           | 1 00           | 1 00             | 0 0              | 0 00                      | 11 96                   | 85                          | 80                          |
| 250 0        | Ericsson AIR 6419 B41          | 3   | 83         | 6 3                | 3 0            | 20 9          | 9 0           | 0 80           | 0 63             | 0 0              | 0 00                      | 11 96                   | 97                          | 250                         |
| 250 0        | Sabre C10857001C Sector Frame  | 3   | 462        | 14 4               | 0 0            | 0 0           | 0 0           | 0 75           | 0 75             | 0 0              | 0 00                      | 11 96                   | 247                         | 1386                        |
| 250 0        | Commscope FFFV-65C-R3-V1       | 3   | 125        | 21 1               | 8 0            | 25 2          | 9 3           | 0 80           | 0 63             | 0 0              | 0 00                      | 11 96                   | 324                         | 374                         |
| 196 0        | Torque Arms                    | 1   | 300        | 12 0               | 0 0            | 0 0           | 0 0           | 1 00           | 1 00             | 0 0              | 0 00                      | 11 36                   | 116                         | 300                         |
| 175 0        | Ceragon FibeAir RFU-C          | 1   | 9          | 0 5                | 0 7            | 7 9           | 3 4           | 1 00           | 0 50             | -4 0             | 9 76                      | 11 04                   | 2                           | 9                           |
| 175 0        | Ceragon 1500HP/RFU-HP          | 1   | 15         | 1 8                | 1 6            | 5 7           | 11 0          | 1 00           | 0 50             | -4 0             | 33 19                     | 11 04                   | 8                           | 15                          |
| 175 0        | Andrew Microwaves HPX6-59-P3A/ | 1   | 320        | 41 3               | 6 5            | 77 5          | 53 3          | 1 00           | 1 00             | -4 0             | 1,551 10                  | 11 04                   | 388                         | 320                         |
| Totals       |                                | 33  | 4,792      | 357 7              |                |               |               |                |                  |                  |                           |                         | 2,206                       | 4,792                       |

ASSET: # 24516, FALLING CREEK FL  
 CUSTOMER T-MOBILE

STANDARD ANSI/TIA-222-H  
 ENG NO

## TOWER LOADING

### Linear Appurtenance Properties

| Elev<br>From<br>(ft) | Elev<br>To<br>(ft) | Description           | Qty | Width<br>(in) | Weight<br>(lb/ft) | % In<br>Wind | Spread On<br>Faces | Bundling   | Cluster Dia<br>(in) | Out of<br>Zone | Spacing<br>(in) | Orient<br>Factor | K <sub>a</sub><br>Override |
|----------------------|--------------------|-----------------------|-----|---------------|-------------------|--------------|--------------------|------------|---------------------|----------------|-----------------|------------------|----------------------------|
| 0 0                  | 300 0              | 1 5/8" Coax           | 9   | 1 98          | 0 82              | 100          | 2                  | Individual | 0 00                | N              | 1 00            | 1 00             | 0 00                       |
| 0 0                  | 250 0              | 1 5/8" Coax           | 2   | 1 98          | 0 82              | 100          | 2                  | Individual | 0 00                | N              | 1 00            | 1 00             | 0 00                       |
| 0 0                  | 250 0              | 1 99" (50 7mm) Hybrid | 2   | 1 99          | 1 90              | 100          | 2                  | Individual | 0 00                | N              | 1 00            | 1 00             | 0 00                       |
| 0 0                  | 175 0              | 7/8" Coax             | 1   | 1 09          | 0 33              | 100          | 2                  | Individual | 0 00                | N              | 1 00            | 1 00             | 0 01                       |



### SECTION FORCES

1 2D + 1 0W Normal Gust Response Factor (Gh) 0.85  
 117 mph wind with no ice Wind Importance Factor (Iw) 1.00

| Sect<br># | Elev<br>(ft) | Q <sub>z</sub><br>(psf) | A <sub>f</sub><br>(sf) | A <sub>r</sub><br>(sf) | Ice A <sub>r</sub><br>(sf) | e     | C <sub>f</sub> | D <sub>f</sub> | D <sub>r</sub> | T <sub>lz</sub><br>(in) | A <sub>a</sub><br>(sf) | EPA <sub>a</sub><br>(sf) | EPA <sub>ai</sub><br>(sf) | Wt<br>(lb) | Ice Wt<br>(lb) | F <sub>st</sub><br>(lb) | F <sub>a</sub><br>(lb) | Force (lb) |        |
|-----------|--------------|-------------------------|------------------------|------------------------|----------------------------|-------|----------------|----------------|----------------|-------------------------|------------------------|--------------------------|---------------------------|------------|----------------|-------------------------|------------------------|------------|--------|
| 17        | 290          | 46.91                   | 4.993                  | 10.011                 | 0.00                       | 0.180 | 2.66           | 1.00           | 1.00           | 0.0                     | 10.77                  | 28.70                    | 0.00                      | 1602       | 0              | 1144                    | 853                    | 1997       |        |
| 16        | 270          | 46.21                   | 4.766                  | 10.831                 | 0.00                       | 0.186 | 2.64           | 1.00           | 1.00           | 0.0                     | 11.03                  | 29.15                    | 0.00                      | 1715       | 0              | 1145                    | 840                    | 1985       |        |
| 15        | 250          | 45.47                   | 4.766                  | 11.386                 | 0.00                       | 0.193 | 2.62           | 1.00           | 1.00           | 0.0                     | 11.37                  | 29.79                    | 0.00                      | 1977       | 0              | 1151                    | 1011                   | 2162       |        |
| 14        | 230          | 44.68                   | 4.928                  | 13.023                 | 0.00                       | 0.212 | 2.56           | 1.00           | 1.00           | 0.0                     | 12.53                  | 32.03                    | 0.00                      | 2600       | 0              | 1216                    | 1174                   | 2390       |        |
| 13        | 210          | 43.83                   | 4.714                  | 13.023                 | 0.00                       | 0.210 | 2.56           | 1.00           | 1.00           | 0.0                     | 12.31                  | 31.57                    | 0.00                      | 2523       | 0              | 1176                    | 1152                   | 2328       |        |
| 12        | 190          | 42.91                   | 4.714                  | 13.023                 | 0.00                       | 0.210 | 2.56           | 1.00           | 1.00           | 0.0                     | 12.31                  | 31.57                    | 0.00                      | 2523       | 0              | 1152                    | 1128                   | 2279       |        |
| 11        | 170          | 41.92                   | 4.714                  | 12.472                 | 0.00                       | 0.203 | 2.59           | 1.00           | 1.00           | 0.0                     | 11.97                  | 30.94                    | 0.00                      | 2333       | 0              | 1103                    | 1102                   | 2205       |        |
| 10        | 150          | 40.83                   | 4.714                  | 12.472                 | 0.00                       | 0.203 | 2.59           | 1.00           | 1.00           | 0.0                     | 11.97                  | 30.94                    | 0.00                      | 2335       | 0              | 1074                    | 1074                   | 2147       |        |
| 9         | 130          | 39.62                   | 4.928                  | 12.472                 | 0.00                       | 0.206 | 2.58           | 1.00           | 1.00           | 0.0                     | 12.19                  | 31.41                    | 0.00                      | 2426       | 0              | 1058                    | 1042                   | 2099       |        |
| 8         | 110          | 38.25                   | 3.792                  | 11.098                 | 0.00                       | 0.177 | 2.67           | 1.00           | 1.00           | 0.0                     | 10.19                  | 27.25                    | 0.00                      | 1936       | 0              | 886                     | 1006                   | 1892       |        |
| 7         | 90           | 36.67                   | 3.792                  | 11.098                 | 0.00                       | 0.177 | 2.67           | 1.00           | 1.00           | 0.0                     | 10.19                  | 27.25                    | 0.00                      | 1936       | 0              | 849                     | 964                    | 1814       |        |
| 6         | 70           | 34.78                   | 4.160                  | 11.098                 | 0.00                       | 0.181 | 2.66           | 1.00           | 1.00           | 0.0                     | 10.56                  | 28.10                    | 0.00                      | 2037       | 0              | 831                     | 914                    | 1745       |        |
| 5         | 50           | 32.40                   | 3.771                  | 11.921                 | 0.00                       | 0.186 | 2.65           | 1.00           | 1.00           | 0.0                     | 10.66                  | 28.19                    | 0.00                      | 2189       | 0              | 776                     | 852                    | 1628       |        |
| 4         | 30           | 29.10                   | 3.771                  | 11.921                 | 0.00                       | 0.186 | 2.65           | 1.00           | 1.00           | 0.0                     | 10.66                  | 28.19                    | 0.00                      | 2189       | 0              | 697                     | 765                    | 1462       |        |
| 3         | 14           | 25.18                   | 1.885                  | 7.160                  | 0.00                       | 0.178 | 2.67           | 1.00           | 1.00           | 0.0                     | 6.01                   | 16.06                    | 0.00                      | 1293       | 0              | 344                     | 397                    | 741        |        |
| 2         | 7            | 25.18                   | 0.628                  | 1.359                  | 0.00                       | 0.235 | 2.48           | 1.00           | 1.00           | 0.0                     | 1.43                   | 3.56                     | 0.00                      | 246        | 0              | 76                      | 66                     | 142        |        |
| 1         | 3            | 25.18                   | 0.924                  | 3.369                  | 0.00                       | 0.321 | 2.24           | 1.00           | 1.00           | 0.0                     | 2.98                   | 6.68                     | 0.00                      | 647        | 0              | 143                     | 199                    | 342        |        |
|           |              |                         |                        |                        |                            |       |                |                |                |                         |                        |                          |                           | 32,507     | 0              |                         |                        |            | 29,358 |

1 2D + 1 0W 60° Gust Response Factor (Gh) 0.85  
 117 mph wind with no ice Wind Importance Factor (Iw) 1.00

| Sect # | Elev (ft) | Q <sub>z</sub> (psf) | A <sub>f</sub> (sf) | A <sub>r</sub> (sf) | Ice A <sub>r</sub> (sf) | e     | C <sub>f</sub> | D <sub>f</sub> | D <sub>r</sub> | T <sub>iz</sub> (in) | A <sub>o</sub> (sf) | EPA <sub>a</sub> (sf) | EPA <sub>ai</sub> (sf) | Wt (lb) | Ice Wt (lb) | F <sub>st</sub> (lb) | F <sub>a</sub> (lb) | Force (lb) |        |
|--------|-----------|----------------------|---------------------|---------------------|-------------------------|-------|----------------|----------------|----------------|----------------------|---------------------|-----------------------|------------------------|---------|-------------|----------------------|---------------------|------------|--------|
| 17     | 290       | 46 91                | 4 993               | 10 011              | 0 00                    | 0 180 | 2 66           | 0 80           | 1 00           | 0 0                  | 9 77                | 26 03                 | 0 00                   | 1602    | 0           | 1038                 | 853                 | 1891       |        |
| 16     | 270       | 46 21                | 4 766               | 10 831              | 0 00                    | 0 186 | 2 64           | 0 80           | 1 00           | 0 0                  | 10 08               | 26 63                 | 0 00                   | 1715    | 0           | 1046                 | 840                 | 1886       |        |
| 15     | 250       | 45 47                | 4 766               | 11 386              | 0 00                    | 0 193 | 2 62           | 0 80           | 1 00           | 0 0                  | 10 42               | 27 30                 | 0 00                   | 1977    | 0           | 1055                 | 1011                | 2065       |        |
| 14     | 230       | 44 68                | 4 928               | 13 023              | 0 00                    | 0 212 | 2 56           | 0 80           | 1 00           | 0 0                  | 11 55               | 29 52                 | 0 00                   | 2600    | 0           | 1121                 | 1174                | 2295       |        |
| 13     | 210       | 43 83                | 4 714               | 13 023              | 0 00                    | 0 210 | 2 56           | 0 80           | 1 00           | 0 0                  | 11 37               | 29 16                 | 0 00                   | 2523    | 0           | 1086                 | 1152                | 2238       |        |
| 12     | 190       | 42 91                | 4 714               | 13 023              | 0 00                    | 0 210 | 2 56           | 0 80           | 1 00           | 0 0                  | 11 37               | 29 16                 | 0 00                   | 2523    | 0           | 1063                 | 1128                | 2191       |        |
| 11     | 170       | 41 92                | 4 714               | 12 472              | 0 00                    | 0 203 | 2 59           | 0 80           | 1 00           | 0 0                  | 11 02               | 28 50                 | 0 00                   | 2333    | 0           | 1016                 | 1102                | 2118       |        |
| 10     | 150       | 40 83                | 4 714               | 12 472              | 0 00                    | 0 203 | 2 59           | 0 80           | 1 00           | 0 0                  | 11 02               | 28 50                 | 0 00                   | 2335    | 0           | 989                  | 1074                | 2063       |        |
| 9      | 130       | 39 62                | 4 928               | 12 472              | 0 00                    | 0 206 | 2 58           | 0 80           | 1 00           | 0 0                  | 11 20               | 28 87                 | 0 00                   | 2426    | 0           | 972                  | 1042                | 2014       |        |
| 8      | 110       | 38 25                | 3 792               | 11 098              | 0 00                    | 0 177 | 2 67           | 0 80           | 1 00           | 0 0                  | 9 43                | 25 23                 | 0 00                   | 1936    | 0           | 820                  | 1006                | 1826       |        |
| 7      | 90        | 36 67                | 3 792               | 11 098              | 0 00                    | 0 177 | 2 67           | 0 80           | 1 00           | 0 0                  | 9 43                | 25 23                 | 0 00                   | 1936    | 0           | 786                  | 964                 | 1750       |        |
| 6      | 70        | 34 78                | 4 160               | 11 098              | 0 00                    | 0 181 | 2 66           | 0 80           | 1 00           | 0 0                  | 9 73                | 25 88                 | 0 00                   | 2037    | 0           | 765                  | 914                 | 1680       |        |
| 5      | 50        | 32 40                | 3 771               | 11 921              | 0 00                    | 0 186 | 2 65           | 0 80           | 1 00           | 0 0                  | 9 90                | 26 20                 | 0 00                   | 2189    | 0           | 722                  | 852                 | 1573       |        |
| 4      | 30        | 29 10                | 3 771               | 11 921              | 0 00                    | 0 186 | 2 65           | 0 80           | 1 00           | 0 0                  | 9 90                | 26 20                 | 0 00                   | 2189    | 0           | 648                  | 765                 | 1413       |        |
| 3      | 14        | 25 18                | 1 885               | 7 160               | 0 00                    | 0 178 | 2 67           | 0 80           | 1 00           | 0 0                  | 5 64                | 15 05                 | 0 00                   | 1293    | 0           | 322                  | 397                 | 719        |        |
| 2      | 7         | 25 18                | 0 628               | 1 359               | 0 00                    | 0 235 | 2 48           | 0 80           | 1 00           | 0 0                  | 1 31                | 3 25                  | 0 00                   | 246     | 0           | 69                   | 66                  | 136        |        |
| 1      | 3         | 25 18                | 0 924               | 3 369               | 0 00                    | 0 321 | 2 24           | 0 80           | 1 00           | 0 0                  | 2 79                | 6 26                  | 0 00                   | 647     | 0           | 134                  | 199                 | 333        |        |
|        |           |                      |                     |                     |                         |       |                |                |                |                      |                     |                       |                        | 32,507  | 0           |                      |                     |            | 28,190 |

1 2D + 1 0W 90° Gust Response Factor (Gh) 0.85  
 117 mph wind with no ice Wind Importance Factor (Iw) 1.00

| Sect # | Elev (ft) | Q <sub>z</sub> (psf) | A <sub>f</sub> (sf) | A <sub>r</sub> (sf) | Ice A <sub>r</sub> (sf) | e     | C <sub>f</sub> | D <sub>f</sub> | D <sub>r</sub> | T <sub>lz</sub> (in) | A <sub>o</sub> (sf) | EPA <sub>a</sub> (sf) | EPA <sub>ai</sub> (sf) | Wt (lb) | Ice Wt (lb) | F <sub>st</sub> (lb) | F <sub>a</sub> (lb) | Force (lb) |
|--------|-----------|----------------------|---------------------|---------------------|-------------------------|-------|----------------|----------------|----------------|----------------------|---------------------|-----------------------|------------------------|---------|-------------|----------------------|---------------------|------------|
| 17     | 290       | 46.91                | 4.993               | 10.011              | 0.00                    | 0.180 | 2.66           | 0.85           | 1.00           | 0.0                  | 10.02               | 26.70                 | 0.00                   | 1602    | 0           | 1065                 | 853                 | 1917       |
| 16     | 270       | 46.21                | 4.766               | 10.831              | 0.00                    | 0.186 | 2.64           | 0.85           | 1.00           | 0.0                  | 10.32               | 27.26                 | 0.00                   | 1715    | 0           | 1071                 | 840                 | 1911       |
| 15     | 250       | 45.47                | 4.766               | 11.386              | 0.00                    | 0.193 | 2.62           | 0.85           | 1.00           | 0.0                  | 10.66               | 27.92                 | 0.00                   | 1977    | 0           | 1079                 | 1011                | 2090       |
| 14     | 230       | 44.68                | 4.928               | 13.023              | 0.00                    | 0.212 | 2.56           | 0.85           | 1.00           | 0.0                  | 11.80               | 30.15                 | 0.00                   | 2600    | 0           | 1145                 | 1174                | 2319       |

### SECTION FORCES

| Sect # | Elev (ft) | Q <sub>Z</sub> (psf) | A <sub>r</sub> (sf) | A <sub>r</sub> (sf) | Ice A <sub>r</sub> (sf) | e     | C <sub>f</sub> | D <sub>f</sub> | D <sub>r</sub> | T <sub>lz</sub> (in) | A <sub>o</sub> (sf) | EPA <sub>a</sub> (sf) | EPA <sub>ai</sub> (sf) | Wt (lb) | Ice Wt (lb) | F <sub>st</sub> (lb) | F <sub>a</sub> (lb) | Force (lb) |
|--------|-----------|----------------------|---------------------|---------------------|-------------------------|-------|----------------|----------------|----------------|----------------------|---------------------|-----------------------|------------------------|---------|-------------|----------------------|---------------------|------------|
| 13     | 210       | 43 83                | 4 714               | 13 023              | 0 00                    | 0 210 | 2 56           | 0 85           | 1 00           | 0 0                  | 11 61               | 29 76                 | 0 00                   | 2523    | 0           | 1109                 | 1152                | 2260       |
| 12     | 190       | 42 91                | 4 714               | 13 023              | 0 00                    | 0 210 | 2 56           | 0 85           | 1 00           | 0 0                  | 11 61               | 29 76                 | 0 00                   | 2523    | 0           | 1086                 | 1128                | 2213       |
| 11     | 170       | 41 92                | 4 714               | 12 472              | 0 00                    | 0 203 | 2 59           | 0 85           | 1 00           | 0 0                  | 11 26               | 29 11                 | 0 00                   | 2333    | 0           | 1037                 | 1102                | 2139       |
| 10     | 150       | 40 83                | 4 714               | 12 472              | 0 00                    | 0 203 | 2 59           | 0 85           | 1 00           | 0 0                  | 11 26               | 29 11                 | 0 00                   | 2335    | 0           | 1010                 | 1074                | 2084       |
| 9      | 130       | 39 62                | 4 928               | 12 472              | 0 00                    | 0 206 | 2 58           | 0 85           | 1 00           | 0 0                  | 11 45               | 29 50                 | 0 00                   | 2426    | 0           | 994                  | 1042                | 2035       |
| 8      | 110       | 38 25                | 3 792               | 11 098              | 0 00                    | 0 177 | 2 67           | 0 85           | 1 00           | 0 0                  | 9 62                | 25 73                 | 0 00                   | 1936    | 0           | 837                  | 1006                | 1842       |
| 7      | 90        | 36 67                | 3 792               | 11 098              | 0 00                    | 0 177 | 2 67           | 0 85           | 1 00           | 0 0                  | 9 62                | 25 73                 | 0 00                   | 1936    | 0           | 802                  | 964                 | 1766       |
| 6      | 70        | 34 78                | 4 160               | 11 098              | 0 00                    | 0 181 | 2 66           | 0 85           | 1 00           | 0 0                  | 9 94                | 26 44                 | 0 00                   | 2037    | 0           | 782                  | 914                 | 1696       |
| 5      | 50        | 32 40                | 3 771               | 11 921              | 0 00                    | 0 186 | 2 65           | 0 85           | 1 00           | 0 0                  | 10 09               | 26 70                 | 0 00                   | 2189    | 0           | 735                  | 852                 | 1587       |
| 4      | 30        | 29 10                | 3 771               | 11 921              | 0 00                    | 0 186 | 2 65           | 0 85           | 1 00           | 0 0                  | 10 09               | 26 70                 | 0 00                   | 2189    | 0           | 660                  | 765                 | 1425       |
| 3      | 14        | 25 18                | 1 885               | 7 160               | 0 00                    | 0 178 | 2 67           | 0 85           | 1 00           | 0 0                  | 5 73                | 15 31                 | 0 00                   | 1293    | 0           | 328                  | 397                 | 725        |
| 2      | 7         | 25 18                | 0 628               | 1 359               | 0 00                    | 0 235 | 2 48           | 0 85           | 1 00           | 0 0                  | 1 34                | 3 32                  | 0 00                   | 246     | 0           | 71                   | 66                  | 137        |
| 1      | 3         | 25 18                | 0 924               | 3 369               | 0 00                    | 0 321 | 2 24           | 0 85           | 1 00           | 0 0                  | 2 84                | 6 37                  | 0 00                   | 647     | 0           | 136                  | 199                 | 335        |
|        |           |                      |                     |                     |                         |       |                |                |                |                      |                     |                       |                        | 32,507  | 0           |                      |                     | 28,482     |

1 2D + 1 0W 120°

Gust Response Factor (Gh)

0 85

117 mph wind with no ice

Wind Importance Factor (Iw)

1 00

| Sect # | Elev (ft) | Q <sub>Z</sub> (psf) | A <sub>r</sub> (sf) | A <sub>r</sub> (sf) | Ice A <sub>r</sub> (sf) | e     | C <sub>f</sub> | D <sub>f</sub> | D <sub>r</sub> | T <sub>lz</sub> (in) | A <sub>o</sub> (sf) | EPA <sub>a</sub> (sf) | EPA <sub>ai</sub> (sf) | Wt (lb) | Ice Wt (lb) | F <sub>st</sub> (lb) | F <sub>a</sub> (lb) | Force (lb) |
|--------|-----------|----------------------|---------------------|---------------------|-------------------------|-------|----------------|----------------|----------------|----------------------|---------------------|-----------------------|------------------------|---------|-------------|----------------------|---------------------|------------|
| 17     | 290       | 46 91                | 4 993               | 10 011              | 0 00                    | 0 180 | 2 66           | 1 00           | 1 00           | 0 0                  | 10 77               | 28 70                 | 0 00                   | 1602    | 0           | 1144                 | 853                 | 1997       |
| 16     | 270       | 46 21                | 4 766               | 10 831              | 0 00                    | 0 186 | 2 64           | 1 00           | 1 00           | 0 0                  | 11 03               | 29 15                 | 0 00                   | 1715    | 0           | 1145                 | 840                 | 1985       |
| 15     | 250       | 45 47                | 4 766               | 11 386              | 0 00                    | 0 193 | 2 62           | 1 00           | 1 00           | 0 0                  | 11 37               | 29 79                 | 0 00                   | 1977    | 0           | 1151                 | 1011                | 2162       |
| 14     | 230       | 44 68                | 4 928               | 13 023              | 0 00                    | 0 212 | 2 56           | 1 00           | 1 00           | 0 0                  | 12 53               | 32 03                 | 0 00                   | 2600    | 0           | 1216                 | 1174                | 2390       |
| 13     | 210       | 43 83                | 4 714               | 13 023              | 0 00                    | 0 210 | 2 56           | 1 00           | 1 00           | 0 0                  | 12 31               | 31 57                 | 0 00                   | 2523    | 0           | 1176                 | 1152                | 2328       |
| 12     | 190       | 42 91                | 4 714               | 13 023              | 0 00                    | 0 210 | 2 56           | 1 00           | 1 00           | 0 0                  | 12 31               | 31 57                 | 0 00                   | 2523    | 0           | 1152                 | 1128                | 2279       |
| 11     | 170       | 41 92                | 4 714               | 12 472              | 0 00                    | 0 203 | 2 59           | 1 00           | 1 00           | 0 0                  | 11 97               | 30 94                 | 0 00                   | 2333    | 0           | 1103                 | 1102                | 2205       |
| 10     | 150       | 40 83                | 4 714               | 12 472              | 0 00                    | 0 203 | 2 59           | 1 00           | 1 00           | 0 0                  | 11 97               | 30 94                 | 0 00                   | 2335    | 0           | 1074                 | 1074                | 2147       |
| 9      | 130       | 39 62                | 4 928               | 12 472              | 0 00                    | 0 206 | 2 58           | 1 00           | 1 00           | 0 0                  | 12 19               | 31 41                 | 0 00                   | 2426    | 0           | 1058                 | 1042                | 2099       |
| 8      | 110       | 38 25                | 3 792               | 11 098              | 0 00                    | 0 177 | 2 67           | 1 00           | 1 00           | 0 0                  | 10 19               | 27 25                 | 0 00                   | 1936    | 0           | 886                  | 1006                | 1892       |
| 7      | 90        | 36 67                | 3 792               | 11 098              | 0 00                    | 0 177 | 2 67           | 1 00           | 1 00           | 0 0                  | 10 19               | 27 25                 | 0 00                   | 1936    | 0           | 849                  | 964                 | 1814       |
| 6      | 70        | 34 78                | 4 160               | 11 098              | 0 00                    | 0 181 | 2 66           | 1 00           | 1 00           | 0 0                  | 10 56               | 28 10                 | 0 00                   | 2037    | 0           | 831                  | 914                 | 1745       |
| 5      | 50        | 32 40                | 3 771               | 11 921              | 0 00                    | 0 186 | 2 65           | 1 00           | 1 00           | 0 0                  | 10 66               | 28 19                 | 0 00                   | 2189    | 0           | 776                  | 852                 | 1628       |
| 4      | 30        | 29 10                | 3 771               | 11 921              | 0 00                    | 0 186 | 2 65           | 1 00           | 1 00           | 0 0                  | 10 66               | 28 19                 | 0 00                   | 2189    | 0           | 697                  | 765                 | 1462       |
| 3      | 14        | 25 18                | 1 885               | 7 160               | 0 00                    | 0 178 | 2 67           | 1 00           | 1 00           | 0 0                  | 6 01                | 16 06                 | 0 00                   | 1293    | 0           | 344                  | 397                 | 741        |
| 2      | 7         | 25 18                | 0 628               | 1 359               | 0 00                    | 0 235 | 2 48           | 1 00           | 1 00           | 0 0                  | 1 43                | 3 56                  | 0 00                   | 246     | 0           | 76                   | 66                  | 142        |
| 1      | 3         | 25 18                | 0 924               | 3 369               | 0 00                    | 0 321 | 2 24           | 1 00           | 1 00           | 0 0                  | 2 98                | 6 68                  | 0 00                   | 647     | 0           | 143                  | 199                 | 342        |
|        |           |                      |                     |                     |                         |       |                |                |                |                      |                     |                       |                        | 32,507  | 0           |                      |                     | 29,358     |

1 2D + 1 0W 180°

Gust Response Factor (Gh)

0 85

117 mph wind with no ice

Wind Importance Factor (Iw)

1 00

| Sect # | Elev (ft) | Q <sub>Z</sub> (psf) | A <sub>r</sub> (sf) | A <sub>r</sub> (sf) | Ice A <sub>r</sub> (sf) | e     | C <sub>f</sub> | D <sub>f</sub> | D <sub>r</sub> | T <sub>lz</sub> (in) | A <sub>o</sub> (sf) | EPA <sub>a</sub> (sf) | EPA <sub>ai</sub> (sf) | Wt (lb) | Ice Wt (lb) | F <sub>st</sub> (lb) | F <sub>a</sub> (lb) | Force (lb) |
|--------|-----------|----------------------|---------------------|---------------------|-------------------------|-------|----------------|----------------|----------------|----------------------|---------------------|-----------------------|------------------------|---------|-------------|----------------------|---------------------|------------|
| 17     | 290       | 46 91                | 4 993               | 10 011              | 0 00                    | 0 180 | 2 66           | 0 80           | 1 00           | 0 0                  | 9 77                | 26 03                 | 0 00                   | 1602    | 0           | 1038                 | 853                 | 1891       |
| 16     | 270       | 46 21                | 4 766               | 10 831              | 0 00                    | 0 186 | 2 64           | 0 80           | 1 00           | 0 0                  | 10 08               | 26 63                 | 0 00                   | 1715    | 0           | 1046                 | 840                 | 1886       |
| 15     | 250       | 45 47                | 4 766               | 11 386              | 0 00                    | 0 193 | 2 62           | 0 80           | 1 00           | 0 0                  | 10 42               | 27 30                 | 0 00                   | 1977    | 0           | 1055                 | 1011                | 2065       |
| 14     | 230       | 44 68                | 4 928               | 13 023              | 0 00                    | 0 212 | 2 56           | 0 80           | 1 00           | 0 0                  | 11 55               | 29 52                 | 0 00                   | 2600    | 0           | 1121                 | 1174                | 2295       |
| 13     | 210       | 43 83                | 4 714               | 13 023              | 0 00                    | 0 210 | 2 56           | 0 80           | 1 00           | 0 0                  | 11 37               | 29 16                 | 0 00                   | 2523    | 0           | 1086                 | 1152                | 2238       |
| 12     | 190       | 42 91                | 4 714               | 13 023              | 0 00                    | 0 210 | 2 56           | 0 80           | 1 00           | 0 0                  | 11 37               | 29 16                 | 0 00                   | 2523    | 0           | 1063                 | 1128                | 2191       |
| 11     | 170       | 41 92                | 4 714               | 12 472              | 0 00                    | 0 203 | 2 59           | 0 80           | 1 00           | 0 0                  | 11 02               | 28 50                 | 0 00                   | 2333    | 0           | 1016                 | 1102                | 2118       |
| 10     | 150       | 40 83                | 4 714               | 12 472              | 0 00                    | 0 203 | 2 59           | 0 80           | 1 00           | 0 0                  | 11 02               | 28 50                 | 0 00                   | 2335    | 0           | 989                  | 1074                | 2063       |
| 9      | 130       | 39 62                | 4 928               | 12 472              | 0 00                    | 0 206 | 2 58           | 0 80           | 1 00           | 0 0                  | 11 20               | 28 87                 | 0 00                   | 2426    | 0           | 972                  | 1042                | 2014       |
| 8      | 110       | 38 25                | 3 792               | 11 098              | 0 00                    | 0 177 | 2 67           | 0 80           | 1 00           | 0 0                  | 9 43                | 25 23                 | 0 00                   | 1936    | 0           | 820                  | 1006                | 1826       |
| 7      | 90        | 36 67                | 3 792               | 11 098              | 0 00                    | 0 177 | 2 67           | 0 80           | 1 00           | 0 0                  | 9 43                | 25 23                 | 0 00                   | 1936    | 0           | 786                  | 964                 | 1750       |
| 6      | 70        | 34 78                | 4 160               | 11 098              | 0 00                    | 0 181 | 2 66           | 0 80           | 1 00           | 0 0                  | 9 73                | 25 88                 | 0 00                   | 2037    | 0           | 765                  | 914                 | 1680       |
| 5      | 50        | 32 40                | 3 771               | 11 921              | 0 00                    | 0 186 | 2 65           | 0 80           | 1 00           | 0 0                  | 9 90                | 26 20                 | 0 00                   | 2189    | 0           | 722                  | 852                 | 1573       |
| 4      | 30        | 29 10                | 3 771               | 11 921              | 0 00                    | 0 186 | 2 65           | 0 80           | 1 00           | 0 0                  | 9 90                | 26 20                 | 0 00                   | 2189    | 0           | 648                  | 765                 | 1413       |
| 3      | 14        | 25 18                | 1 885               | 7 160               | 0 00                    | 0 178 | 2 67           | 0 80           | 1 00           | 0 0                  | 5 64                | 15 05                 | 0 00                   | 1293    | 0           | 322                  | 397                 | 719        |

SECTION FORCES

| Sect # | Elev (ft) | Q <sub>Z</sub> (psf) | A <sub>r</sub> (sf) | A <sub>r</sub> (sf) | Ice A <sub>r</sub> (sf) | e     | C <sub>f</sub> | D <sub>f</sub> | D <sub>r</sub> | T <sub>lz</sub> (in) | A <sub>o</sub> (sf) | EPA <sub>a</sub> (sf) | EPA <sub>ai</sub> (sf) | Wt (lb) | Ice Wt (lb) | F <sub>st</sub> (lb) | F <sub>a</sub> (lb) | Force (lb) |
|--------|-----------|----------------------|---------------------|---------------------|-------------------------|-------|----------------|----------------|----------------|----------------------|---------------------|-----------------------|------------------------|---------|-------------|----------------------|---------------------|------------|
| 2      | 7         | 25 18                | 0 628               | 1 359               | 0 00                    | 0 235 | 2 48           | 0 80           | 1 00           | 0 0                  | 1 31                | 3 25                  | 0 00                   | 246     | 0           | 69                   | 66                  | 136        |
| 1      | 3         | 25 18                | 0 924               | 3 369               | 0 00                    | 0 321 | 2 24           | 0 80           | 1.00           | 0 0                  | 2 79                | 6 26                  | 0 00                   | 647     | 0           | 134                  | 199                 | 333        |
|        |           |                      |                     |                     |                         |       |                |                |                |                      |                     |                       |                        |         | 32,507      | 0                    |                     | 28,190     |

1 2D + 1 0W 210° Gust Response Factor (Gh) 0 85  
 117 mph wind with no ice Wind Importance Factor (Iw) 1 00

| Sect # | Elev (ft) | Q <sub>Z</sub> (psf) | A <sub>r</sub> (sf) | A <sub>r</sub> (sf) | Ice A <sub>r</sub> (sf) | e     | C <sub>f</sub> | D <sub>f</sub> | D <sub>r</sub> | T <sub>lz</sub> (in) | A <sub>o</sub> (sf) | EPA <sub>a</sub> (sf) | EPA <sub>ai</sub> (sf) | Wt (lb) | Ice Wt (lb) | F <sub>st</sub> (lb) | F <sub>a</sub> (lb) | Force (lb) |
|--------|-----------|----------------------|---------------------|---------------------|-------------------------|-------|----------------|----------------|----------------|----------------------|---------------------|-----------------------|------------------------|---------|-------------|----------------------|---------------------|------------|
| 17     | 290       | 46 91                | 4 993               | 10 011              | 0 00                    | 0 180 | 2 66           | 0 85           | 1 00           | 0 0                  | 10 02               | 26 70                 | 0 00                   | 1602    | 0           | 1065                 | 853                 | 1917       |
| 16     | 270       | 46 21                | 4 766               | 10 831              | 0 00                    | 0 186 | 2 64           | 0 85           | 1 00           | 0 0                  | 10 32               | 27 26                 | 0 00                   | 1715    | 0           | 1071                 | 840                 | 1911       |
| 15     | 250       | 45 47                | 4 766               | 11 386              | 0 00                    | 0 193 | 2 62           | 0 85           | 1 00           | 0 0                  | 10 66               | 27 92                 | 0 00                   | 1977    | 0           | 1079                 | 1011                | 2090       |
| 14     | 230       | 44 68                | 4 928               | 13 023              | 0 00                    | 0 212 | 2 56           | 0 85           | 1 00           | 0 0                  | 11 80               | 30 15                 | 0 00                   | 2600    | 0           | 1145                 | 1174                | 2319       |
| 13     | 210       | 43 83                | 4 714               | 13 023              | 0 00                    | 0 210 | 2 56           | 0 85           | 1 00           | 0 0                  | 11 61               | 29 76                 | 0 00                   | 2523    | 0           | 1109                 | 1152                | 2260       |
| 12     | 190       | 42.91                | 4 714               | 13 023              | 0 00                    | 0 210 | 2 56           | 0 85           | 1 00           | 0 0                  | 11 61               | 29 76                 | 0 00                   | 2523    | 0           | 1086                 | 1128                | 2213       |
| 11     | 170       | 41 92                | 4 714               | 12 472              | 0 00                    | 0 203 | 2 59           | 0 85           | 1 00           | 0 0                  | 11 26               | 29 11                 | 0 00                   | 2333    | 0           | 1037                 | 1102                | 2139       |
| 10     | 150       | 40 83                | 4 714               | 12 472              | 0 00                    | 0 203 | 2 59           | 0 85           | 1 00           | 0 0                  | 11 26               | 29 11                 | 0 00                   | 2335    | 0           | 1010                 | 1074                | 2084       |
| 9      | 130       | 39 62                | 4 928               | 12 472              | 0 00                    | 0 206 | 2 58           | 0 85           | 1 00           | 0 0                  | 11 45               | 29 50                 | 0 00                   | 2426    | 0           | 994                  | 1042                | 2035       |
| 8      | 110       | 38 25                | 3 792               | 11 098              | 0 00                    | 0 177 | 2 67           | 0 85           | 1 00           | 0 0                  | 9 62                | 25 73                 | 0 00                   | 1936    | 0           | 837                  | 1006                | 1842       |
| 7      | 90        | 36 67                | 3 792               | 11 098              | 0 00                    | 0 177 | 2 67           | 0 85           | 1 00           | 0 0                  | 9 62                | 25 73                 | 0 00                   | 1936    | 0           | 802                  | 964                 | 1766       |
| 6      | 70        | 34 78                | 4 160               | 11 098              | 0 00                    | 0 181 | 2 66           | 0 85           | 1 00           | 0 0                  | 9 94                | 26 44                 | 0 00                   | 2037    | 0           | 782                  | 914                 | 1696       |
| 5      | 50        | 32 40                | 3 771               | 11 921              | 0 00                    | 0 186 | 2 65           | 0 85           | 1 00           | 0 0                  | 10 09               | 26 70                 | 0 00                   | 2189    | 0           | 735                  | 852                 | 1587       |
| 4      | 30        | 29 10                | 3 771               | 11 921              | 0 00                    | 0 186 | 2 65           | 0 85           | 1 00           | 0 0                  | 10 09               | 26 70                 | 0 00                   | 2189    | 0           | 660                  | 765                 | 1425       |
| 3      | 14        | 25 18                | 1 885               | 7 160               | 0 00                    | 0 178 | 2 67           | 0 85           | 1 00           | 0 0                  | 5 73                | 15 31                 | 0 00                   | 1293    | 0           | 328                  | 397                 | 725        |
| 2      | 7         | 25 18                | 0 628               | 1 359               | 0 00                    | 0 235 | 2 48           | 0 85           | 1 00           | 0 0                  | 1 34                | 3 32                  | 0 00                   | 246     | 0           | 71                   | 66                  | 137        |
| 1      | 3         | 25 18                | 0 924               | 3 369               | 0 00                    | 0 321 | 2 24           | 0 85           | 1 00           | 0 0                  | 2 84                | 6 37                  | 0 00                   | 647     | 0           | 136                  | 199                 | 335        |
|        |           |                      |                     |                     |                         |       |                |                |                |                      |                     |                       |                        |         | 32,507      | 0                    |                     | 28,482     |

1 2D + 1 0W 240° Gust Response Factor (Gh) 0 85  
 117 mph wind with no ice Wind Importance Factor (Iw) 1 00

| Sect # | Elev (ft) | Q <sub>Z</sub> (psf) | A <sub>r</sub> (sf) | A <sub>r</sub> (sf) | Ice A <sub>r</sub> (sf) | e     | C <sub>f</sub> | D <sub>f</sub> | D <sub>r</sub> | T <sub>lz</sub> (in) | A <sub>o</sub> (sf) | EPA <sub>a</sub> (sf) | EPA <sub>ai</sub> (sf) | Wt (lb) | Ice Wt (lb) | F <sub>st</sub> (lb) | F <sub>a</sub> (lb) | Force (lb) |
|--------|-----------|----------------------|---------------------|---------------------|-------------------------|-------|----------------|----------------|----------------|----------------------|---------------------|-----------------------|------------------------|---------|-------------|----------------------|---------------------|------------|
| 17     | 290       | 46 91                | 4 993               | 10 011              | 0 00                    | 0 180 | 2 66           | 1 00           | 1 00           | 0 0                  | 10 77               | 28 70                 | 0 00                   | 1602    | 0           | 1144                 | 853                 | 1997       |
| 16     | 270       | 46 21                | 4 766               | 10 831              | 0 00                    | 0 186 | 2 64           | 1 00           | 1 00           | 0 0                  | 11 03               | 29 15                 | 0 00                   | 1715    | 0           | 1145                 | 840                 | 1985       |
| 15     | 250       | 45 47                | 4 766               | 11 386              | 0 00                    | 0 193 | 2 62           | 1 00           | 1 00           | 0 0                  | 11 37               | 29 79                 | 0 00                   | 1977    | 0           | 1151                 | 1011                | 2162       |
| 14     | 230       | 44 68                | 4 928               | 13 023              | 0 00                    | 0 212 | 2 56           | 1 00           | 1 00           | 0 0                  | 12 53               | 32 03                 | 0 00                   | 2600    | 0           | 1216                 | 1174                | 2390       |
| 13     | 210       | 43 83                | 4 714               | 13 023              | 0 00                    | 0 210 | 2 56           | 1 00           | 1 00           | 0 0                  | 12 31               | 31 57                 | 0 00                   | 2523    | 0           | 1176                 | 1152                | 2328       |
| 12     | 190       | 42 91                | 4 714               | 13 023              | 0 00                    | 0 210 | 2 56           | 1 00           | 1 00           | 0 0                  | 12 31               | 31 57                 | 0 00                   | 2523    | 0           | 1152                 | 1128                | 2279       |
| 11     | 170       | 41 92                | 4 714               | 12 472              | 0 00                    | 0 203 | 2 59           | 1 00           | 1 00           | 0 0                  | 11 97               | 30 94                 | 0 00                   | 2333    | 0           | 1103                 | 1102                | 2205       |
| 10     | 150       | 40 83                | 4 714               | 12 472              | 0 00                    | 0 203 | 2 59           | 1 00           | 1 00           | 0 0                  | 11 97               | 30 94                 | 0 00                   | 2335    | 0           | 1074                 | 1074                | 2147       |
| 9      | 130       | 39 62                | 4 928               | 12 472              | 0 00                    | 0 206 | 2 58           | 1 00           | 1 00           | 0 0                  | 12 19               | 31 41                 | 0 00                   | 2426    | 0           | 1058                 | 1042                | 2099       |
| 8      | 110       | 38 25                | 3 792               | 11 098              | 0 00                    | 0 177 | 2 67           | 1 00           | 1 00           | 0 0                  | 10 19               | 27 25                 | 0 00                   | 1936    | 0           | 886                  | 1006                | 1892       |
| 7      | 90        | 36.67                | 3 792               | 11 098              | 0 00                    | 0 177 | 2 67           | 1 00           | 1 00           | 0 0                  | 10 19               | 27 25                 | 0 00                   | 1936    | 0           | 849                  | 964                 | 1814       |
| 6      | 70        | 34 78                | 4 160               | 11 098              | 0 00                    | 0 181 | 2 66           | 1 00           | 1 00           | 0 0                  | 10 56               | 28 10                 | 0 00                   | 2037    | 0           | 831                  | 914                 | 1745       |
| 5      | 50        | 32 40                | 3 771               | 11 921              | 0 00                    | 0 186 | 2 65           | 1 00           | 1 00           | 0 0                  | 10 66               | 28 19                 | 0 00                   | 2189    | 0           | 776                  | 852                 | 1628       |
| 4      | 30        | 29 10                | 3 771               | 11 921              | 0 00                    | 0 186 | 2 65           | 1 00           | 1 00           | 0 0                  | 10 66               | 28 19                 | 0 00                   | 2189    | 0           | 697                  | 765                 | 1462       |
| 3      | 14        | 25 18                | 1 885               | 7 160               | 0 00                    | 0 178 | 2 67           | 1 00           | 1 00           | 0 0                  | 6 01                | 16 06                 | 0 00                   | 1293    | 0           | 344                  | 397                 | 741        |
| 2      | 7         | 25.18                | 0 628               | 1 359               | 0 00                    | 0 235 | 2 48           | 1 00           | 1 00           | 0 0                  | 1 43                | 3 56                  | 0 00                   | 246     | 0           | 76                   | 66                  | 142        |
| 1      | 3         | 25 18                | 0 924               | 3 369               | 0 00                    | 0 321 | 2 24           | 1 00           | 1 00           | 0 0                  | 2 98                | 6 68                  | 0 00                   | 647     | 0           | 143                  | 199                 | 342        |
|        |           |                      |                     |                     |                         |       |                |                |                |                      |                     |                       |                        |         | 32,507      | 0                    |                     | 29,358     |

1 2D + 1 0W 300° Gust Response Factor (Gh) 0 85  
 117 mph wind with no ice Wind Importance Factor (Iw) 1.00

| Sect # | Elev (ft) | Q <sub>Z</sub> (psf) | A <sub>r</sub> (sf) | A <sub>r</sub> (sf) | Ice A <sub>r</sub> (sf) | e     | C <sub>f</sub> | D <sub>f</sub> | D <sub>r</sub> | T <sub>lz</sub> (in) | A <sub>o</sub> (sf) | EPA <sub>a</sub> (sf) | EPA <sub>ai</sub> (sf) | Wt. (lb) | Ice Wt (lb) | F <sub>st</sub> (lb) | F <sub>a</sub> (lb) | Force (lb) |
|--------|-----------|----------------------|---------------------|---------------------|-------------------------|-------|----------------|----------------|----------------|----------------------|---------------------|-----------------------|------------------------|----------|-------------|----------------------|---------------------|------------|
| 17     | 290       | 46 91                | 4 993               | 10 011              | 0 00                    | 0 180 | 2 66           | 0 80           | 1 00           | 0.0                  | 9 77                | 26 03                 | 0 00                   | 1602     | 0           | 1038                 | 853                 | 1891       |
| 16     | 270       | 46 21                | 4 766               | 10 831              | 0 00                    | 0 186 | 2 64           | 0 80           | 1 00           | 0 0                  | 10 08               | 26 63                 | 0 00                   | 1715     | 0           | 1046                 | 840                 | 1886       |

# SECTION FORCES

| Sect # | Elev (ft) | Q <sub>Z</sub> (psf) | A <sub>r</sub> (sf) | A <sub>r</sub> (sf) | Ice A <sub>r</sub> (sf) | e     | C <sub>f</sub> | D <sub>f</sub> | D <sub>r</sub> | T <sub>12</sub> (in) | A <sub>b</sub> (sf) | EPA <sub>a</sub> (sf) | EPA <sub>ai</sub> (sf) | Wt (lb) | Ice Wt (lb) | F <sub>st</sub> (lb) | F <sub>a</sub> (lb) | Force (lb) |
|--------|-----------|----------------------|---------------------|---------------------|-------------------------|-------|----------------|----------------|----------------|----------------------|---------------------|-----------------------|------------------------|---------|-------------|----------------------|---------------------|------------|
| 15     | 250       | 45.47                | 4.766               | 11.386              | 0.00                    | 0.193 | 2.62           | 0.80           | 1.00           | 0.0                  | 10.42               | 27.30                 | 0.00                   | 1977    | 0           | 1055                 | 1011                | 2065       |
| 14     | 230       | 44.68                | 4.928               | 13.023              | 0.00                    | 0.212 | 2.56           | 0.80           | 1.00           | 0.0                  | 11.55               | 29.52                 | 0.00                   | 2600    | 0           | 1121                 | 1174                | 2295       |
| 13     | 210       | 43.83                | 4.714               | 13.023              | 0.00                    | 0.210 | 2.56           | 0.80           | 1.00           | 0.0                  | 11.37               | 29.16                 | 0.00                   | 2523    | 0           | 1086                 | 1152                | 2238       |
| 12     | 190       | 42.91                | 4.714               | 13.023              | 0.00                    | 0.210 | 2.56           | 0.80           | 1.00           | 0.0                  | 11.37               | 29.16                 | 0.00                   | 2523    | 0           | 1063                 | 1128                | 2191       |
| 11     | 170       | 41.92                | 4.714               | 12.472              | 0.00                    | 0.203 | 2.59           | 0.80           | 1.00           | 0.0                  | 11.02               | 28.50                 | 0.00                   | 2333    | 0           | 1016                 | 1102                | 2118       |
| 10     | 150       | 40.83                | 4.714               | 12.472              | 0.00                    | 0.203 | 2.59           | 0.80           | 1.00           | 0.0                  | 11.02               | 28.50                 | 0.00                   | 2335    | 0           | 989                  | 1074                | 2063       |
| 9      | 130       | 39.62                | 4.928               | 12.472              | 0.00                    | 0.206 | 2.58           | 0.80           | 1.00           | 0.0                  | 11.20               | 28.87                 | 0.00                   | 2426    | 0           | 972                  | 1042                | 2014       |
| 8      | 110       | 38.25                | 3.792               | 11.098              | 0.00                    | 0.177 | 2.67           | 0.80           | 1.00           | 0.0                  | 9.43                | 25.23                 | 0.00                   | 1936    | 0           | 820                  | 1006                | 1826       |
| 7      | 90        | 36.67                | 3.792               | 11.098              | 0.00                    | 0.177 | 2.67           | 0.80           | 1.00           | 0.0                  | 9.43                | 25.23                 | 0.00                   | 1936    | 0           | 786                  | 964                 | 1750       |
| 6      | 70        | 34.78                | 4.160               | 11.098              | 0.00                    | 0.181 | 2.66           | 0.80           | 1.00           | 0.0                  | 9.73                | 25.88                 | 0.00                   | 2037    | 0           | 765                  | 914                 | 1680       |
| 5      | 50        | 32.40                | 3.771               | 11.921              | 0.00                    | 0.186 | 2.65           | 0.80           | 1.00           | 0.0                  | 9.90                | 26.20                 | 0.00                   | 2189    | 0           | 722                  | 852                 | 1573       |
| 4      | 30        | 29.10                | 3.771               | 11.921              | 0.00                    | 0.186 | 2.65           | 0.80           | 1.00           | 0.0                  | 9.90                | 26.20                 | 0.00                   | 2189    | 0           | 648                  | 765                 | 1413       |
| 3      | 14        | 25.18                | 1.885               | 7.160               | 0.00                    | 0.178 | 2.67           | 0.80           | 1.00           | 0.0                  | 5.64                | 15.05                 | 0.00                   | 1293    | 0           | 322                  | 397                 | 719        |
| 2      | 7         | 25.18                | 0.628               | 1.359               | 0.00                    | 0.235 | 2.48           | 0.80           | 1.00           | 0.0                  | 1.31                | 3.25                  | 0.00                   | 246     | 0           | 69                   | 66                  | 136        |
| 1      | 3         | 25.18                | 0.924               | 3.369               | 0.00                    | 0.321 | 2.24           | 0.80           | 1.00           | 0.0                  | 2.79                | 6.26                  | 0.00                   | 647     | 0           | 134                  | 199                 | 333        |
|        |           |                      |                     |                     |                         |       |                |                |                |                      |                     |                       |                        | 32,507  | 0           |                      |                     | 28,190     |

1 2D + 1 0W 330°  
 117 mph wind with no ice

Gust Response Factor (G<sub>h</sub>) 0.85  
 Wind Importance Factor (I<sub>w</sub>) 1.00

| Sect # | Elev (ft) | Q <sub>Z</sub> (psf) | A <sub>r</sub> (sf) | A <sub>r</sub> (sf) | Ice A <sub>r</sub> (sf) | e     | C <sub>f</sub> | D <sub>f</sub> | D <sub>r</sub> | T <sub>12</sub> (in) | A <sub>b</sub> (sf) | EPA <sub>a</sub> (sf) | EPA <sub>ai</sub> (sf) | Wt (lb) | Ice Wt (lb) | F <sub>st</sub> (lb) | F <sub>a</sub> (lb) | Force (lb) |
|--------|-----------|----------------------|---------------------|---------------------|-------------------------|-------|----------------|----------------|----------------|----------------------|---------------------|-----------------------|------------------------|---------|-------------|----------------------|---------------------|------------|
| 17     | 290       | 46.91                | 4.993               | 10.011              | 0.00                    | 0.180 | 2.66           | 0.85           | 1.00           | 0.0                  | 10.02               | 26.70                 | 0.00                   | 1602    | 0           | 1065                 | 853                 | 1917       |
| 16     | 270       | 46.21                | 4.766               | 10.831              | 0.00                    | 0.186 | 2.64           | 0.85           | 1.00           | 0.0                  | 10.32               | 27.26                 | 0.00                   | 1715    | 0           | 1071                 | 840                 | 1911       |
| 15     | 250       | 45.47                | 4.766               | 11.386              | 0.00                    | 0.193 | 2.62           | 0.85           | 1.00           | 0.0                  | 10.66               | 27.92                 | 0.00                   | 1977    | 0           | 1079                 | 1011                | 2090       |
| 14     | 230       | 44.68                | 4.928               | 13.023              | 0.00                    | 0.212 | 2.56           | 0.85           | 1.00           | 0.0                  | 11.80               | 30.15                 | 0.00                   | 2600    | 0           | 1145                 | 1174                | 2319       |
| 13     | 210       | 43.83                | 4.714               | 13.023              | 0.00                    | 0.210 | 2.56           | 0.85           | 1.00           | 0.0                  | 11.61               | 29.76                 | 0.00                   | 2523    | 0           | 1109                 | 1152                | 2260       |
| 12     | 190       | 42.91                | 4.714               | 13.023              | 0.00                    | 0.210 | 2.56           | 0.85           | 1.00           | 0.0                  | 11.61               | 29.76                 | 0.00                   | 2523    | 0           | 1086                 | 1128                | 2213       |
| 11     | 170       | 41.92                | 4.714               | 12.472              | 0.00                    | 0.203 | 2.59           | 0.85           | 1.00           | 0.0                  | 11.26               | 29.11                 | 0.00                   | 2333    | 0           | 1037                 | 1102                | 2139       |
| 10     | 150       | 40.83                | 4.714               | 12.472              | 0.00                    | 0.203 | 2.59           | 0.85           | 1.00           | 0.0                  | 11.26               | 29.11                 | 0.00                   | 2335    | 0           | 1010                 | 1074                | 2084       |
| 9      | 130       | 39.62                | 4.928               | 12.472              | 0.00                    | 0.206 | 2.58           | 0.85           | 1.00           | 0.0                  | 11.45               | 29.50                 | 0.00                   | 2426    | 0           | 994                  | 1042                | 2035       |
| 8      | 110       | 38.25                | 3.792               | 11.098              | 0.00                    | 0.177 | 2.67           | 0.85           | 1.00           | 0.0                  | 9.62                | 25.73                 | 0.00                   | 1936    | 0           | 837                  | 1006                | 1842       |
| 7      | 90        | 36.67                | 3.792               | 11.098              | 0.00                    | 0.177 | 2.67           | 0.85           | 1.00           | 0.0                  | 9.62                | 25.73                 | 0.00                   | 1936    | 0           | 802                  | 964                 | 1766       |
| 6      | 70        | 34.78                | 4.160               | 11.098              | 0.00                    | 0.181 | 2.66           | 0.85           | 1.00           | 0.0                  | 9.94                | 26.44                 | 0.00                   | 2037    | 0           | 782                  | 914                 | 1696       |
| 5      | 50        | 32.40                | 3.771               | 11.921              | 0.00                    | 0.186 | 2.65           | 0.85           | 1.00           | 0.0                  | 10.09               | 26.70                 | 0.00                   | 2189    | 0           | 735                  | 852                 | 1587       |
| 4      | 30        | 29.10                | 3.771               | 11.921              | 0.00                    | 0.186 | 2.65           | 0.85           | 1.00           | 0.0                  | 10.09               | 26.70                 | 0.00                   | 2189    | 0           | 660                  | 765                 | 1425       |
| 3      | 14        | 25.18                | 1.885               | 7.160               | 0.00                    | 0.178 | 2.67           | 0.85           | 1.00           | 0.0                  | 5.73                | 15.31                 | 0.00                   | 1293    | 0           | 328                  | 397                 | 725        |
| 2      | 7         | 25.18                | 0.628               | 1.359               | 0.00                    | 0.235 | 2.48           | 0.85           | 1.00           | 0.0                  | 1.34                | 3.32                  | 0.00                   | 246     | 0           | 71                   | 66                  | 137        |
| 1      | 3         | 25.18                | 0.924               | 3.369               | 0.00                    | 0.321 | 2.24           | 0.85           | 1.00           | 0.0                  | 2.84                | 6.37                  | 0.00                   | 647     | 0           | 136                  | 199                 | 335        |
|        |           |                      |                     |                     |                         |       |                |                |                |                      |                     |                       |                        | 32,507  | 0           |                      |                     | 28,482     |

1 2D + 1 0Di + 1 0Wi Normal  
 30 mph wind with 0.25" radial ice

Gust Response Factor (G<sub>h</sub>) 0.85  
 Wind Importance Factor (I<sub>w</sub>) 1.00  
 Ice Importance Factor 1.00  
 Ice Dead Load Factor 1.00

| Sect # | Elev (ft) | Q <sub>Z</sub> (psf) | A <sub>r</sub> (sf) | A <sub>r</sub> (sf) | Ice A <sub>r</sub> (sf) | e     | C <sub>f</sub> | D <sub>f</sub> | D <sub>r</sub> | T <sub>12</sub> (in) | A <sub>b</sub> (sf) | EPA <sub>a</sub> (sf) | EPA <sub>ai</sub> (sf) | Wt (lb) | Ice Wt (lb) | F <sub>st</sub> (lb) | F <sub>a</sub> (lb) | Force (lb) |
|--------|-----------|----------------------|---------------------|---------------------|-------------------------|-------|----------------|----------------|----------------|----------------------|---------------------|-----------------------|------------------------|---------|-------------|----------------------|---------------------|------------|
| 17     | 290       | 3.08                 | 4.993               | 16.182              | 6.17                    | 0.251 | 2.43           | 1.00           | 1.00           | 0.3                  | 14.52               | 35.36                 | 6.17                   | 1973    | 371         | 93                   | 92                  | 185        |
| 16     | 270       | 3.04                 | 4.766               | 16.958              | 6.13                    | 0.256 | 2.42           | 1.00           | 1.00           | 0.3                  | 14.78               | 35.75                 | 6.13                   | 2086    | 371         | 92                   | 90                  | 182        |
| 15     | 250       | 2.99                 | 4.766               | 17.466              | 6.08                    | 0.262 | 2.40           | 1.00           | 1.00           | 0.3                  | 15.12               | 36.30                 | 6.08                   | 2387    | 410         | 92                   | 107                 | 199        |
| 14     | 230       | 2.94                 | 4.928               | 19.052              | 6.03                    | 0.280 | 2.35           | 1.00           | 1.00           | 0.3                  | 16.32               | 38.37                 | 6.03                   | 3053    | 454         | 96                   | 121                 | 217        |
| 13     | 210       | 2.88                 | 4.714               | 18.998              | 5.98                    | 0.277 | 2.36           | 1.00           | 1.00           | 0.3                  | 16.06               | 37.89                 | 5.98                   | 2970    | 446         | 93                   | 119                 | 212        |
| 12     | 190       | 2.82                 | 4.714               | 18.938              | 5.92                    | 0.276 | 2.36           | 1.00           | 1.00           | 0.3                  | 16.02               | 37.82                 | 5.92                   | 2965    | 441         | 91                   | 116                 | 207        |
| 11     | 170       | 2.76                 | 4.714               | 18.322              | 5.85                    | 0.269 | 2.38           | 1.00           | 1.00           | 0.3                  | 15.61               | 37.16                 | 5.85                   | 2768    | 436         | 87                   | 114                 | 202        |
| 10     | 150       | 2.68                 | 4.714               | 18.249              | 5.78                    | 0.268 | 2.38           | 1.00           | 1.00           | 0.3                  | 15.56               | 37.09                 | 5.78                   | 2767    | 432         | 85                   | 111                 | 196        |
| 9      | 130       | 2.60                 | 4.928               | 18.167              | 5.70                    | 0.270 | 2.38           | 1.00           | 1.00           | 0.3                  | 15.73               | 37.43                 | 5.70                   | 2853    | 428         | 83                   | 107                 | 190        |
| 8      | 110       | 2.51                 | 3.792               | 16.699              | 5.60                    | 0.241 | 2.47           | 1.00           | 1.00           | 0.3                  | 13.59               | 33.50                 | 5.60                   | 2325    | 389         | 72                   | 107                 | 179        |
| 7      | 90        | 2.41                 | 3.792               | 16.588              | 5.49                    | 0.240 | 2.47           | 1.00           | 1.00           | 0.3                  | 13.52               | 33.38                 | 5.49                   | 2317    | 380         | 68                   | 103                 | 171        |
| 6      | 70        | 2.29                 | 4.160               | 16.452              | 5.35                    | 0.242 | 2.46           | 1.00           | 1.00           | 0.3                  | 13.82               | 34.00                 | 5.35                   | 2411    | 375         | 66                   | 97                  | 163        |
| 5      | 50        | 2.13                 | 3.771               | 17.097              | 5.18                    | 0.244 | 2.46           | 1.00           | 1.00           | 0.3                  | 13.82               | 33.92                 | 5.18                   | 2550    | 361         | 61                   | 89                  | 151        |

### SECTION FORCES

| Sect # | Elev (ft) | Q <sub>Z</sub> (psf) | A <sub>f</sub> (sf) | A <sub>r</sub> (sf) | Ice A <sub>r</sub> (sf) | e     | C <sub>f</sub> | D <sub>f</sub> | D <sub>r</sub> | T <sub>lz</sub> (in) | A <sub>o</sub> (sf) | EPA <sub>a</sub> (sf) | EPA <sub>ai</sub> (sf) | Wt (lb) | Ice Wt (lb) | F <sub>st</sub> (lb) | F <sub>a</sub> (lb) | Force (lb) |
|--------|-----------|----------------------|---------------------|---------------------|-------------------------|-------|----------------|----------------|----------------|----------------------|---------------------|-----------------------|------------------------|---------|-------------|----------------------|---------------------|------------|
| 4      | 30        | 1 91                 | 3 771               | 16 839              | 4 92                    | 0 241 | 2 46           | 1 00           | 1 00           | 0 2                  | 13 66               | 33 65                 | 4 92                   | 2529    | 340         | 55                   | 79                  | 134        |
| 3      | 14        | 1 66                 | 1 885               | 9 808               | 2 65                    | 0 228 | 2 50           | 1 00           | 1 00           | 0 2                  | 7 62                | 19 07                 | 2 65                   | 1475    | 182         | 27                   | 41                  | 68         |
| 2      | 7         | 1 66                 | 0 628               | 1 963               | 0 60                    | 0 304 | 2 29           | 1 00           | 1 00           | 0 2                  | 1 82                | 4 16                  | 0 60                   | 280     | 35          | 6                    | 6                   | 12         |
| 1      | 3         | 1 66                 | 0 924               | 4 268               | 0 90                    | 0 382 | 2 10           | 1 00           | 1 00           | 0 2                  | 3 62                | 7 61                  | 0 90                   | 720     | 73          | 11                   | 16                  | 27         |
|        |           |                      |                     |                     |                         |       |                |                |                |                      |                     |                       |                        | 38,430  | 5,923       |                      |                     | 2,694      |

1 2D + 1 0Di + 1 0Wi 60° Gust Response Factor (Gh) 0 85 Ice Importance Factor 1 00  
 30 mph wind with 0 25" radial ice Wind Importance Factor (Iw) 1 00 Ice Dead Load Factor 1 00

| Sect # | Elev (ft) | Q <sub>Z</sub> (psf) | A <sub>f</sub> (sf) | A <sub>r</sub> (sf) | Ice A <sub>r</sub> (sf) | e     | C <sub>f</sub> | D <sub>f</sub> | D <sub>r</sub> | T <sub>lz</sub> (in) | A <sub>o</sub> (sf) | EPA <sub>a</sub> (sf) | EPA <sub>ai</sub> (sf) | Wt (lb) | Ice Wt (lb) | F <sub>st</sub> (lb) | F <sub>a</sub> (lb) | Force (lb) |
|--------|-----------|----------------------|---------------------|---------------------|-------------------------|-------|----------------|----------------|----------------|----------------------|---------------------|-----------------------|------------------------|---------|-------------|----------------------|---------------------|------------|
| 17     | 290       | 3 08                 | 4 993               | 16 182              | 6 17                    | 0 251 | 2 43           | 0 80           | 1 00           | 0 3                  | 13 53               | 32 93                 | 6 17                   | 1973    | 371         | 86                   | 92                  | 178        |
| 16     | 270       | 3 04                 | 4 766               | 16 958              | 6 13                    | 0 256 | 2 42           | 0 80           | 1 00           | 0 3                  | 13 83               | 33 45                 | 6 13                   | 2086    | 371         | 86                   | 90                  | 176        |
| 15     | 250       | 2 99                 | 4 766               | 17 466              | 6 08                    | 0 262 | 2 40           | 0 80           | 1 00           | 0 3                  | 14 16               | 34 01                 | 6 08                   | 2387    | 410         | 86                   | 107                 | 193        |
| 14     | 230       | 2 94                 | 4 928               | 19 052              | 6 03                    | 0 280 | 2 35           | 0 80           | 1 00           | 0 3                  | 15 34               | 36 05                 | 6 03                   | 3053    | 454         | 90                   | 121                 | 211        |
| 13     | 210       | 2 88                 | 4 714               | 18 998              | 5 98                    | 0 277 | 2 36           | 0 80           | 1 00           | 0 3                  | 15 12               | 35 66                 | 5 98                   | 2970    | 446         | 87                   | 119                 | 206        |
| 12     | 190       | 2 82                 | 4 714               | 18 938              | 5 92                    | 0 276 | 2 36           | 0 80           | 1 00           | 0 3                  | 15 08               | 35 60                 | 5 92                   | 2965    | 441         | 85                   | 116                 | 202        |
| 11     | 170       | 2 76                 | 4 714               | 18 322              | 5 85                    | 0 269 | 2 38           | 0 80           | 1 00           | 0 3                  | 14 66               | 34 92                 | 5 85                   | 2768    | 436         | 82                   | 114                 | 196        |
| 10     | 150       | 2 68                 | 4 714               | 18 249              | 5 78                    | 0 268 | 2 38           | 0 80           | 1 00           | 0 3                  | 14 62               | 34 84                 | 5 78                   | 2767    | 432         | 79                   | 111                 | 191        |
| 9      | 130       | 2 60                 | 4 928               | 18 167              | 5 70                    | 0 270 | 2 38           | 0 80           | 1 00           | 0 3                  | 14 75               | 35 08                 | 5 70                   | 2853    | 428         | 78                   | 107                 | 185        |
| 8      | 110       | 2 51                 | 3 792               | 16 699              | 5 60                    | 0 241 | 2 47           | 0 80           | 1 00           | 0 3                  | 12 83               | 31 63                 | 5 60                   | 2325    | 389         | 68                   | 107                 | 175        |
| 7      | 90        | 2 41                 | 3 792               | 16 588              | 5 49                    | 0 240 | 2 47           | 0 80           | 1 00           | 0 3                  | 12 76               | 31 51                 | 5 49                   | 2317    | 380         | 65                   | 103                 | 167        |
| 6      | 70        | 2 29                 | 4 160               | 16 452              | 5 35                    | 0 242 | 2 46           | 0 80           | 1 00           | 0 3                  | 12 98               | 31 95                 | 5 35                   | 2411    | 375         | 62                   | 97                  | 159        |
| 5      | 50        | 2 13                 | 3 771               | 17 097              | 5 18                    | 0 244 | 2 46           | 0 80           | 1 00           | 0 3                  | 13 06               | 32 07                 | 5 18                   | 2550    | 361         | 58                   | 89                  | 147        |
| 4      | 30        | 1 91                 | 3 771               | 16 839              | 4 92                    | 0 241 | 2 46           | 0 80           | 1 00           | 0 2                  | 12 90               | 31 79                 | 4 92                   | 2529    | 340         | 52                   | 79                  | 131        |
| 3      | 14        | 1 66                 | 1 885               | 9 808               | 2 65                    | 0 228 | 2 50           | 0 80           | 1 00           | 0 2                  | 7 24                | 18 13                 | 2 65                   | 1475    | 182         | 26                   | 41                  | 67         |
| 2      | 7         | 1 66                 | 0 628               | 1 963               | 0 60                    | 0 304 | 2 29           | 0 80           | 1 00           | 0 2                  | 1 70                | 3 88                  | 0 60                   | 280     | 35          | 5                    | 6                   | 12         |
| 1      | 3         | 1 66                 | 0 924               | 4 268               | 0 90                    | 0 382 | 2 10           | 0 80           | 1 00           | 0 2                  | 3 44                | 7 22                  | 0 90                   | 720     | 73          | 10                   | 16                  | 26         |
|        |           |                      |                     |                     |                         |       |                |                |                |                      |                     |                       |                        | 38,430  | 5,923       |                      |                     | 2,623      |

1 2D + 1 0Di + 1 0Wi 90° Gust Response Factor (Gh) 0 85 Ice Importance Factor 1 00  
 30 mph wind with 0 25" radial ice Wind Importance Factor (Iw) 1 00 Ice Dead Load Factor 1 00

| Sect # | Elev (ft) | Q <sub>Z</sub> (psf) | A <sub>f</sub> (sf) | A <sub>r</sub> (sf) | Ice A <sub>r</sub> (sf) | e     | C <sub>f</sub> | D <sub>f</sub> | D <sub>r</sub> | T <sub>lz</sub> (in) | A <sub>o</sub> (sf) | EPA <sub>a</sub> (sf) | EPA <sub>ai</sub> (sf) | Wt (lb) | Ice Wt (lb) | F <sub>st</sub> (lb) | F <sub>a</sub> (lb) | Force (lb) |
|--------|-----------|----------------------|---------------------|---------------------|-------------------------|-------|----------------|----------------|----------------|----------------------|---------------------|-----------------------|------------------------|---------|-------------|----------------------|---------------------|------------|
| 17     | 290       | 3 08                 | 4 993               | 16 182              | 6 17                    | 0 251 | 2 43           | 0 85           | 1 00           | 0 3                  | 13 78               | 33 54                 | 6 17                   | 1973    | 371         | 88                   | 92                  | 180        |
| 16     | 270       | 3 04                 | 4 766               | 16 958              | 6 13                    | 0 256 | 2 42           | 0 85           | 1 00           | 0 3                  | 14 07               | 34 03                 | 6 13                   | 2086    | 371         | 88                   | 90                  | 178        |
| 15     | 250       | 2 99                 | 4 766               | 17 466              | 6 08                    | 0 262 | 2 40           | 0 85           | 1 00           | 0 3                  | 14 40               | 34 59                 | 6 08                   | 2387    | 410         | 88                   | 107                 | 195        |
| 14     | 230       | 2 94                 | 4 928               | 19 052              | 6 03                    | 0 280 | 2 35           | 0 85           | 1 00           | 0 3                  | 15 59               | 36 63                 | 6 03                   | 3053    | 454         | 91                   | 121                 | 212        |
| 13     | 210       | 2 88                 | 4 714               | 18 998              | 5 98                    | 0 277 | 2 36           | 0 85           | 1 00           | 0 3                  | 15 35               | 36 22                 | 5 98                   | 2970    | 446         | 89                   | 119                 | 208        |
| 12     | 190       | 2 82                 | 4 714               | 18 938              | 5 92                    | 0 276 | 2 36           | 0 85           | 1 00           | 0 3                  | 15 32               | 36 16                 | 5 92                   | 2965    | 441         | 87                   | 116                 | 203        |
| 11     | 170       | 2 76                 | 4 714               | 18 322              | 5 85                    | 0 269 | 2 38           | 0 85           | 1 00           | 0 3                  | 14 90               | 35 48                 | 5 85                   | 2768    | 436         | 83                   | 114                 | 198        |
| 10     | 150       | 2 68                 | 4 714               | 18 249              | 5 78                    | 0 268 | 2 38           | 0 85           | 1 00           | 0 3                  | 14 85               | 35 40                 | 5 78                   | 2767    | 432         | 81                   | 111                 | 192        |
| 9      | 130       | 2 60                 | 4 928               | 18 167              | 5 70                    | 0 270 | 2 38           | 0 85           | 1 00           | 0 3                  | 14 99               | 35 67                 | 5 70                   | 2853    | 428         | 79                   | 107                 | 186        |
| 8      | 110       | 2 51                 | 3 792               | 16 699              | 5 60                    | 0 241 | 2 47           | 0 85           | 1 00           | 0 3                  | 13 02               | 32 10                 | 5 60                   | 2325    | 389         | 69                   | 107                 | 176        |
| 7      | 90        | 2 41                 | 3 792               | 16 588              | 5 49                    | 0 240 | 2 47           | 0 85           | 1 00           | 0 3                  | 12 95               | 31 97                 | 5 49                   | 2317    | 380         | 66                   | 103                 | 168        |
| 6      | 70        | 2 29                 | 4 160               | 16 452              | 5 35                    | 0 242 | 2 46           | 0 85           | 1 00           | 0 3                  | 13 19               | 32 47                 | 5 35                   | 2411    | 375         | 63                   | 97                  | 160        |
| 5      | 50        | 2 13                 | 3 771               | 17 097              | 5 18                    | 0 244 | 2 46           | 0 85           | 1 00           | 0 3                  | 13 25               | 32 54                 | 5 18                   | 2550    | 361         | 59                   | 89                  | 148        |
| 4      | 30        | 1 91                 | 3 771               | 16 839              | 4 92                    | 0 241 | 2 46           | 0 85           | 1 00           | 0 2                  | 13 09               | 32 25                 | 4 92                   | 2529    | 340         | 52                   | 79                  | 132        |
| 3      | 14        | 1 66                 | 1 885               | 9 808               | 2 65                    | 0 228 | 2 50           | 0 85           | 1 00           | 0 2                  | 7 33                | 18 36                 | 2 65                   | 1475    | 182         | 26                   | 41                  | 67         |
| 2      | 7         | 1 66                 | 0 628               | 1 963               | 0 60                    | 0 304 | 2 29           | 0 85           | 1 00           | 0 2                  | 1 73                | 3 95                  | 0 60                   | 280     | 35          | 6                    | 6                   | 12         |
| 1      | 3         | 1 66                 | 0 924               | 4 268               | 0 90                    | 0 382 | 2 10           | 0 85           | 1 00           | 0 2                  | 3 48                | 7 32                  | 0 90                   | 720     | 73          | 10                   | 16                  | 26         |
|        |           |                      |                     |                     |                         |       |                |                |                |                      |                     |                       |                        | 38,430  | 5,923       |                      |                     | 2,641      |

1 2D + 1 0Di + 1 0Wi 120° Gust Response Factor (Gh) 0 85 Ice Importance Factor 1 00  
 30 mph wind with 0 25" radial ice Wind Importance Factor (Iw) 1 00 Ice Dead Load Factor 1 00

### SECTION FORCES

| Sect # | Elev (ft) | Q <sub>z</sub> (psf) | A <sub>r</sub> (sf) | A <sub>r</sub> (sf) | Ice A <sub>r</sub> (sf) | e     | C <sub>f</sub> | D <sub>f</sub> | D <sub>r</sub> | T <sub>lz</sub> (in) | A <sub>o</sub> (sf) | EPA <sub>a</sub> (sf) | EPA <sub>ai</sub> (sf) | Wt. (lb) | Ice Wt (lb) | F <sub>st</sub> (lb) | F <sub>a</sub> (lb) | Force (lb) |       |
|--------|-----------|----------------------|---------------------|---------------------|-------------------------|-------|----------------|----------------|----------------|----------------------|---------------------|-----------------------|------------------------|----------|-------------|----------------------|---------------------|------------|-------|
| 17     | 290       | 3 08                 | 4 993               | 16 182              | 6 17                    | 0 251 | 2 43           | 1 00           | 1 00           | 0 3                  | 14 52               | 35 36                 | 6 17                   | 1973     | 371         | 93                   | 92                  | 185        |       |
| 16     | 270       | 3 04                 | 4 766               | 16 958              | 6 13                    | 0 256 | 2 42           | 1 00           | 1 00           | 0 3                  | 14 78               | 35 75                 | 6 13                   | 2086     | 371         | 92                   | 90                  | 182        |       |
| 15     | 250       | 2 99                 | 4 766               | 17 466              | 6 08                    | 0 262 | 2 40           | 1 00           | 1 00           | 0 3                  | 15 12               | 36 30                 | 6 08                   | 2387     | 410         | 92                   | 107                 | 199        |       |
| 14     | 230       | 2 94                 | 4 928               | 19 052              | 6 03                    | 0 280 | 2 35           | 1 00           | 1 00           | 0 3                  | 16 32               | 38 37                 | 6 03                   | 3053     | 454         | 96                   | 121                 | 217        |       |
| 13     | 210       | 2 88                 | 4 714               | 18 998              | 5 98                    | 0 277 | 2 36           | 1 00           | 1 00           | 0 3                  | 16 06               | 37 89                 | 5 98                   | 2970     | 446         | 93                   | 119                 | 212        |       |
| 12     | 190       | 2 82                 | 4 714               | 18 938              | 5 92                    | 0 276 | 2 36           | 1 00           | 1 00           | 0 3                  | 16 02               | 37 82                 | 5 92                   | 2965     | 441         | 91                   | 116                 | 207        |       |
| 11     | 170       | 2 76                 | 4 714               | 18 322              | 5 85                    | 0 269 | 2 38           | 1 00           | 1 00           | 0 3                  | 15 61               | 37 16                 | 5 85                   | 2768     | 436         | 87                   | 114                 | 202        |       |
| 10     | 150       | 2 68                 | 4 714               | 18 249              | 5 78                    | 0 268 | 2 38           | 1 00           | 1 00           | 0 3                  | 15 56               | 37 09                 | 5 78                   | 2767     | 432         | 85                   | 111                 | 196        |       |
| 9      | 130       | 2 60                 | 4 928               | 18 167              | 5 70                    | 0 270 | 2 38           | 1 00           | 1 00           | 0 3                  | 15 73               | 37 43                 | 5 70                   | 2853     | 428         | 83                   | 107                 | 190        |       |
| 8      | 110       | 2 51                 | 3 792               | 16 699              | 5 60                    | 0 241 | 2 47           | 1 00           | 1 00           | 0 3                  | 13 59               | 33 50                 | 5 60                   | 2325     | 389         | 72                   | 107                 | 179        |       |
| 7      | 90        | 2 41                 | 3 792               | 16 588              | 5 49                    | 0 240 | 2 47           | 1 00           | 1 00           | 0 3                  | 13 52               | 33 38                 | 5 49                   | 2317     | 380         | 68                   | 103                 | 171        |       |
| 6      | 70        | 2 29                 | 4 160               | 16 452              | 5 35                    | 0 242 | 2 46           | 1 00           | 1 00           | 0 3                  | 13 82               | 34 00                 | 5 35                   | 2411     | 375         | 66                   | 97                  | 163        |       |
| 5      | 50        | 2 13                 | 3 771               | 17 097              | 5 18                    | 0 244 | 2 46           | 1 00           | 1 00           | 0 3                  | 13 82               | 33 92                 | 5 18                   | 2550     | 361         | 61                   | 89                  | 151        |       |
| 4      | 30        | 1 91                 | 3 771               | 16 839              | 4 92                    | 0 241 | 2 46           | 1 00           | 1 00           | 0 2                  | 13 66               | 33 65                 | 4 92                   | 2529     | 340         | 55                   | 79                  | 134        |       |
| 3      | 14        | 1 66                 | 1 885               | 9 808               | 2 65                    | 0 228 | 2 50           | 1 00           | 1 00           | 0 2                  | 7 62                | 19 07                 | 2 65                   | 1475     | 182         | 27                   | 41                  | 68         |       |
| 2      | 7         | 1 66                 | 0 628               | 1 963               | 0 60                    | 0 304 | 2 29           | 1 00           | 1 00           | 0 2                  | 1 82                | 4 16                  | 0 60                   | 280      | 35          | 6                    | 6                   | 12         |       |
| 1      | 3         | 1 66                 | 0 924               | 4 268               | 0 90                    | 0 382 | 2 10           | 1 00           | 1 00           | 0 2                  | 3 62                | 7 61                  | 0 90                   | 720      | 73          | 11                   | 16                  | 27         |       |
|        |           |                      |                     |                     |                         |       |                |                |                |                      |                     |                       |                        | 38,430   | 5,923       |                      |                     |            | 2,694 |

1 2D + 1 0Di + 1 0Wi 180°

30 mph wind with 0 25" radial ice

Gust Response Factor (Gh)

Wind Importance Factor (Iw)

0 85

1 00

Ice Importance Factor

Ice Dead Load Factor

1 00

1 00

| Sect # | Elev (ft) | Q <sub>Z</sub> (psf) | A <sub>r</sub> (sf) | A <sub>r</sub> (sf) | Ice A <sub>r</sub> (sf) | e     | C <sub>f</sub> | D <sub>f</sub> | D <sub>r</sub> | T <sub>l<sub>z</sub></sub> (in) | A <sub>a</sub> (sf) | EPA <sub>a</sub> (sf) | EPA <sub>ai</sub> (sf) | Wt (lb) | Ice Wt (lb) | F <sub>st</sub> (lb) | F <sub>a</sub> (lb) | Force (lb) |       |
|--------|-----------|----------------------|---------------------|---------------------|-------------------------|-------|----------------|----------------|----------------|---------------------------------|---------------------|-----------------------|------------------------|---------|-------------|----------------------|---------------------|------------|-------|
| 17     | 290       | 3 08                 | 4 993               | 16 182              | 6 17                    | 0 251 | 2 43           | 0 80           | 1 00           | 0 3                             | 13 53               | 32 93                 | 6 17                   | 1973    | 371         | 86                   | 92                  | 178        |       |
| 16     | 270       | 3 04                 | 4 766               | 16 958              | 6 13                    | 0 256 | 2 42           | 0 80           | 1 00           | 0 3                             | 13.83               | 33 45                 | 6 13                   | 2086    | 371         | 86                   | 90                  | 176        |       |
| 15     | 250       | 2 99                 | 4 766               | 17 466              | 6 08                    | 0 262 | 2 40           | 0 80           | 1 00           | 0 3                             | 14 16               | 34 01                 | 6 08                   | 2387    | 410         | 86                   | 107                 | 193        |       |
| 14     | 230       | 2 94                 | 4 928               | 19 052              | 6 03                    | 0 280 | 2 35           | 0 80           | 1 00           | 0 3                             | 15 34               | 36 05                 | 6 03                   | 3053    | 454         | 90                   | 121                 | 211        |       |
| 13     | 210       | 2 88                 | 4 714               | 18 998              | 5 98                    | 0 277 | 2 36           | 0 80           | 1 00           | 0 3                             | 15 12               | 35 66                 | 5 98                   | 2970    | 446         | 87                   | 119                 | 206        |       |
| 12     | 190       | 2 82                 | 4 714               | 18 938              | 5 92                    | 0 276 | 2 36           | 0 80           | 1 00           | 0.3                             | 15 08               | 35 60                 | 5 92                   | 2965    | 441         | 85                   | 116                 | 202        |       |
| 11     | 170       | 2 76                 | 4 714               | 18 322              | 5 85                    | 0 269 | 2 38           | 0 80           | 1 00           | 0 3                             | 14 66               | 34 92                 | 5 85                   | 2768    | 436         | 82                   | 114                 | 196        |       |
| 10     | 150       | 2 68                 | 4 714               | 18 249              | 5 78                    | 0 268 | 2 38           | 0 80           | 1 00           | 0 3                             | 14 62               | 34 84                 | 5 78                   | 2767    | 432         | 79                   | 111                 | 191        |       |
| 9      | 130       | 2 60                 | 4 928               | 18 167              | 5 70                    | 0 270 | 2 38           | 0 80           | 1 00           | 0 3                             | 14 75               | 35 08                 | 5 70                   | 2853    | 428         | 78                   | 107                 | 185        |       |
| 8      | 110       | 2 51                 | 3 792               | 16 699              | 5 60                    | 0 241 | 2 47           | 0 80           | 1 00           | 0 3                             | 12 83               | 31 63                 | 5 60                   | 2325    | 389         | 68                   | 107                 | 175        |       |
| 7      | 90        | 2 41                 | 3 792               | 16 588              | 5 49                    | 0 240 | 2 47           | 0 80           | 1 00           | 0 3                             | 12 76               | 31 51                 | 5 49                   | 2317    | 380         | 65                   | 103                 | 167        |       |
| 6      | 70        | 2 29                 | 4 160               | 16 452              | 5 35                    | 0 242 | 2 46           | 0 80           | 1 00           | 0 3                             | 12 98               | 31 95                 | 5 35                   | 2411    | 375         | 62                   | 97                  | 159        |       |
| 5      | 50        | 2 13                 | 3 771               | 17 097              | 5 18                    | 0 244 | 2 46           | 0 80           | 1 00           | 0 3                             | 13 06               | 32 07                 | 5 18                   | 2550    | 361         | 58                   | 89                  | 147        |       |
| 4      | 30        | 1 91                 | 3 771               | 16 839              | 4 92                    | 0 241 | 2 46           | 0 80           | 1 00           | 0 2                             | 12 90               | 31 79                 | 4 92                   | 2529    | 340         | 52                   | 79                  | 131        |       |
| 3      | 14        | 1 66                 | 1 885               | 9 808               | 2 65                    | 0 228 | 2 50           | 0 80           | 1 00           | 0 2                             | 7 24                | 18 13                 | 2 65                   | 1475    | 182         | 26                   | 41                  | 67         |       |
| 2      | 7         | 1 66                 | 0 628               | 1 963               | 0 60                    | 0 304 | 2 29           | 0 80           | 1 00           | 0 2                             | 1 70                | 3 88                  | 0 60                   | 280     | 35          | 5                    | 6                   | 12         |       |
| 1      | 3         | 1 66                 | 0 924               | 4 268               | 0 90                    | 0 382 | 2 10           | 0 80           | 1 00           | 0 2                             | 3 44                | 7 22                  | 0 90                   | 720     | 73          | 10                   | 16                  | 26         |       |
|        |           |                      |                     |                     |                         |       |                |                |                |                                 |                     |                       |                        | 38,430  | 5,923       |                      |                     |            | 2,623 |

1 2D + 1 0Di + 1 0Wi 210°

30 mph wind with 0 25" radial ice

Gust Response Factor (Gh)

Wind Importance Factor (Iw)

0 85

1 00

Ice Importance Factor

Ice Dead Load Factor

1 00

1 00

| Sect # | Elev (ft) | Q <sub>z</sub> (psf) | A <sub>r</sub> (sf) | A <sub>r</sub> (sf) | Ice A <sub>r</sub> (sf) | e     | C <sub>f</sub> | D <sub>f</sub> | D <sub>r</sub> | T <sub>lz</sub> (in) | A <sub>o</sub> (sf) | EPA <sub>a</sub> (sf) | EPA <sub>ai</sub> (sf) | Wt (lb) | Ice Wt (lb) | F <sub>st</sub> (lb) | F <sub>a</sub> (lb) | Force (lb) |
|--------|-----------|----------------------|---------------------|---------------------|-------------------------|-------|----------------|----------------|----------------|----------------------|---------------------|-----------------------|------------------------|---------|-------------|----------------------|---------------------|------------|
| 17     | 290       | 3 08                 | 4 993               | 16 182              | 6 17                    | 0 251 | 2 43           | 0 85           | 1 00           | 0 3                  | 13 78               | 33 54                 | 6 17                   | 1973    | 371         | 88                   | 92                  | 180        |
| 16     | 270       | 3 04                 | 4 766               | 16 958              | 6 13                    | 0 256 | 2 42           | 0 85           | 1 00           | 0 3                  | 14 07               | 34 03                 | 6 13                   | 2086    | 371         | 88                   | 90                  | 178        |
| 15     | 250       | 2 99                 | 4 766               | 17 466              | 6 08                    | 0 262 | 2 40           | 0 85           | 1 00           | 0 3                  | 14 40               | 34 59                 | 6 08                   | 2387    | 410         | 88                   | 107                 | 195        |
| 14     | 230       | 2 94                 | 4 928               | 19 052              | 6 03                    | 0 280 | 2 35           | 0 85           | 1 00           | 0 3                  | 15 59               | 36 63                 | 6 03                   | 3053    | 454         | 91                   | 121                 | 212        |
| 13     | 210       | 2 88                 | 4 714               | 18 998              | 5 98                    | 0 277 | 2 36           | 0 85           | 1 00           | 0 3                  | 15 35               | 36 22                 | 5 98                   | 2970    | 446         | 89                   | 119                 | 208        |
| 12     | 190       | 2 82                 | 4 714               | 18 938              | 5 92                    | 0 276 | 2 36           | 0 85           | 1 00           | 0 3                  | 15 32               | 36 16                 | 5 92                   | 2965    | 441         | 87                   | 116                 | 203        |
| 11     | 170       | 2 76                 | 4 714               | 18 322              | 5 85                    | 0 269 | 2 38           | 0 85           | 1 00           | 0 3                  | 14 90               | 35 48                 | 5 85                   | 2768    | 436         | 83                   | 114                 | 198        |
| 10     | 150       | 2 68                 | 4 714               | 18 249              | 5 78                    | 0 268 | 2 38           | 0 85           | 1 00           | 0 3                  | 14 85               | 35 40                 | 5 78                   | 2767    | 432         | 81                   | 111                 | 192        |
| 9      | 130       | 2 60                 | 4 928               | 18 167              | 5 70                    | 0 270 | 2 38           | 0 85           | 1 00           | 0 3                  | 14 99               | 35 67                 | 5 70                   | 2853    | 428         | 79                   | 107                 | 186        |
| 8      | 110       | 2 51                 | 3 792               | 16 699              | 5 60                    | 0 241 | 2 47           | 0 85           | 1 00           | 0 3                  | 13 02               | 32 10                 | 5 60                   | 2325    | 389         | 69                   | 107                 | 176        |
| 7      | 90        | 2 41                 | 3 792               | 16 588              | 5 49                    | 0 240 | 2 47           | 0 85           | 1 00           | 0 3                  | 12 95               | 31 97                 | 5 49                   | 2317    | 380         | 66                   | 103                 | 168        |

### SECTION FORCES

| Sect # | Elev (ft) | Q <sub>Z</sub> (psf) | A <sub>r</sub> (sf) | A <sub>r</sub> (sf) | Ice A <sub>r</sub> (sf) | e     | C <sub>f</sub> | D <sub>f</sub> | D <sub>r</sub> | T <sub>lz</sub> (in) | A <sub>e</sub> (sf) | EPA <sub>a</sub> (sf) | EPA <sub>ai</sub> (sf) | Wt. (lb) | Ice Wt (lb) | F <sub>st</sub> (lb) | F <sub>a</sub> (lb) | Force (lb) |
|--------|-----------|----------------------|---------------------|---------------------|-------------------------|-------|----------------|----------------|----------------|----------------------|---------------------|-----------------------|------------------------|----------|-------------|----------------------|---------------------|------------|
| 6      | 70        | 2 29                 | 4 160               | 16 452              | 5.35                    | 0 242 | 2 46           | 0 85           | 1 00           | 0 3                  | 13 19               | 32 47                 | 5 35                   | 2411     | 375         | 63                   | 97                  | 160        |
| 5      | 50        | 2 13                 | 3 771               | 17 097              | 5 18                    | 0 244 | 2 46           | 0 85           | 1 00           | 0 3                  | 13 25               | 32 54                 | 5 18                   | 2550     | 361         | 59                   | 89                  | 148        |
| 4      | 30        | 1 91                 | 3 771               | 16 839              | 4 92                    | 0 241 | 2 46           | 0 85           | 1 00           | 0 2                  | 13 09               | 32 25                 | 4 92                   | 2529     | 340         | 52                   | 79                  | 132        |
| 3      | 14        | 1 66                 | 1 885               | 9 808               | 2 65                    | 0 228 | 2 50           | 0 85           | 1 00           | 0 2                  | 7 33                | 18 36                 | 2 65                   | 1475     | 182         | 26                   | 41                  | 67         |
| 2      | 7         | 1 66                 | 0 628               | 1 963               | 0 60                    | 0 304 | 2 29           | 0 85           | 1 00           | 0 2                  | 1 73                | 3 95                  | 0 60                   | 280      | 35          | 6                    | 6                   | 12         |
| 1      | 3         | 1 66                 | 0 924               | 4 268               | 0 90                    | 0 382 | 2 10           | 0 85           | 1 00           | 0 2                  | 3 48                | 7 32                  | 0 90                   | 720      | 73          | 10                   | 16                  | 26         |
|        |           |                      |                     |                     |                         |       |                |                |                |                      |                     |                       |                        |          | 38,430      | 5,923                |                     | 2,641      |

1 2D + 1 0Di + 1 0Wi 240°

30 mph wind with 0 25" radial ice

Gust Response Factor (Gh)

Wind Importance Factor (Iw)

0 85

1 00

Ice Importance Factor

Ice Dead Load Factor

1 00

1 00

| Sect # | Elev (ft) | Q <sub>Z</sub> (psf) | A <sub>r</sub> (sf) | A <sub>r</sub> (sf) | Ice A <sub>r</sub> (sf) | e     | C <sub>f</sub> | D <sub>f</sub> | D <sub>r</sub> | T <sub>lz</sub> (in) | A <sub>e</sub> (sf) | EPA <sub>a</sub> (sf) | EPA <sub>ai</sub> (sf) | Wt. (lb) | Ice Wt (lb) | F <sub>st</sub> (lb) | F <sub>a</sub> (lb) | Force (lb) |
|--------|-----------|----------------------|---------------------|---------------------|-------------------------|-------|----------------|----------------|----------------|----------------------|---------------------|-----------------------|------------------------|----------|-------------|----------------------|---------------------|------------|
| 17     | 290       | 3 08                 | 4 993               | 16 182              | 6 17                    | 0 251 | 2 43           | 1 00           | 1 00           | 0 3                  | 14 52               | 35 36                 | 6 17                   | 1973     | 371         | 93                   | 92                  | 185        |
| 16     | 270       | 3 04                 | 4 766               | 16 958              | 6 13                    | 0 256 | 2 42           | 1 00           | 1 00           | 0 3                  | 14 78               | 35 75                 | 6 13                   | 2086     | 371         | 92                   | 90                  | 182        |
| 15     | 250       | 2 99                 | 4 766               | 17 466              | 6 08                    | 0 262 | 2 40           | 1 00           | 1 00           | 0 3                  | 15 12               | 36 30                 | 6 08                   | 2387     | 410         | 92                   | 107                 | 199        |
| 14     | 230       | 2 94                 | 4 928               | 19 052              | 6 03                    | 0 280 | 2 35           | 1 00           | 1 00           | 0 3                  | 16 32               | 38 37                 | 6 03                   | 3053     | 454         | 96                   | 121                 | 217        |
| 13     | 210       | 2 88                 | 4 714               | 18 998              | 5 98                    | 0 277 | 2 36           | 1 00           | 1 00           | 0 3                  | 16 06               | 37 89                 | 5 98                   | 2970     | 446         | 93                   | 119                 | 212        |
| 12     | 190       | 2 82                 | 4 714               | 18 938              | 5 92                    | 0 276 | 2 36           | 1 00           | 1 00           | 0 3                  | 16 02               | 37 82                 | 5 92                   | 2965     | 441         | 91                   | 116                 | 207        |
| 11     | 170       | 2 76                 | 4 714               | 18 322              | 5 85                    | 0 269 | 2 38           | 1 00           | 1 00           | 0 3                  | 15 61               | 37 16                 | 5 85                   | 2768     | 436         | 87                   | 114                 | 202        |
| 10     | 150       | 2 68                 | 4 714               | 18 249              | 5 78                    | 0 268 | 2 38           | 1 00           | 1 00           | 0 3                  | 15 56               | 37 09                 | 5 78                   | 2767     | 432         | 85                   | 111                 | 196        |
| 9      | 130       | 2 60                 | 4 928               | 18 167              | 5 70                    | 0 270 | 2 38           | 1 00           | 1 00           | 0 3                  | 15 73               | 37 43                 | 5 70                   | 2853     | 428         | 83                   | 107                 | 190        |
| 8      | 110       | 2 51                 | 3 792               | 16 699              | 5 60                    | 0 241 | 2 47           | 1 00           | 1 00           | 0 3                  | 13 59               | 33 50                 | 5 60                   | 2325     | 389         | 72                   | 107                 | 179        |
| 7      | 90        | 2 41                 | 3 792               | 16 588              | 5 49                    | 0 240 | 2 47           | 1 00           | 1 00           | 0 3                  | 13 52               | 33 38                 | 5 49                   | 2317     | 380         | 68                   | 103                 | 171        |
| 6      | 70        | 2 29                 | 4 160               | 16 452              | 5 35                    | 0 242 | 2 46           | 1 00           | 1 00           | 0 3                  | 13 82               | 34 00                 | 5 35                   | 2411     | 375         | 66                   | 97                  | 163        |
| 5      | 50        | 2 13                 | 3 771               | 17 097              | 5 18                    | 0 244 | 2 46           | 1 00           | 1 00           | 0 3                  | 13 82               | 33 92                 | 5 18                   | 2550     | 361         | 61                   | 89                  | 151        |
| 4      | 30        | 1 91                 | 3 771               | 16 839              | 4 92                    | 0 241 | 2 46           | 1 00           | 1 00           | 0 2                  | 13 66               | 33 65                 | 4 92                   | 2529     | 340         | 55                   | 79                  | 134        |
| 3      | 14        | 1 66                 | 1 885               | 9 808               | 2 65                    | 0 228 | 2 50           | 1 00           | 1 00           | 0 2                  | 7 62                | 19 07                 | 2 65                   | 1475     | 182         | 27                   | 41                  | 68         |
| 2      | 7         | 1 66                 | 0 628               | 1 963               | 0 60                    | 0 304 | 2 29           | 1 00           | 1 00           | 0 2                  | 1 82                | 4 16                  | 0 60                   | 280      | 35          | 6                    | 6                   | 12         |
| 1      | 3         | 1 66                 | 0 924               | 4 268               | 0 90                    | 0 382 | 2 10           | 1 00           | 1 00           | 0 2                  | 3 62                | 7 61                  | 0 90                   | 720      | 73          | 11                   | 16                  | 27         |
|        |           |                      |                     |                     |                         |       |                |                |                |                      |                     |                       |                        |          | 38,430      | 5,923                |                     | 2,694      |

1 2D + 1 0Di + 1 0Wi 300°

30 mph wind with 0 25" radial ice

Gust Response Factor (Gh)

Wind Importance Factor (Iw)

0 85

1 00

Ice Importance Factor

Ice Dead Load Factor

1 00

1 00

| Sect # | Elev (ft) | Q <sub>Z</sub> (psf) | A <sub>r</sub> (sf) | A <sub>r</sub> (sf) | Ice A <sub>r</sub> (sf) | e     | C <sub>f</sub> | D <sub>f</sub> | D <sub>r</sub> | T <sub>lz</sub> (in) | A <sub>e</sub> (sf) | EPA <sub>a</sub> (sf) | EPA <sub>ai</sub> (sf) | Wt. (lb) | Ice Wt (lb) | F <sub>st</sub> (lb) | F <sub>a</sub> (lb) | Force (lb) |
|--------|-----------|----------------------|---------------------|---------------------|-------------------------|-------|----------------|----------------|----------------|----------------------|---------------------|-----------------------|------------------------|----------|-------------|----------------------|---------------------|------------|
| 17     | 290       | 3 08                 | 4 993               | 16 182              | 6 17                    | 0 251 | 2 43           | 0 80           | 1 00           | 0 3                  | 13 53               | 32 93                 | 6 17                   | 1973     | 371         | 86                   | 92                  | 178        |
| 16     | 270       | 3 04                 | 4 766               | 16 958              | 6 13                    | 0 256 | 2 42           | 0 80           | 1 00           | 0 3                  | 13 83               | 33 45                 | 6 13                   | 2086     | 371         | 86                   | 90                  | 176        |
| 15     | 250       | 2 99                 | 4 766               | 17 466              | 6 08                    | 0 262 | 2 40           | 0 80           | 1 00           | 0 3                  | 14 16               | 34 01                 | 6 08                   | 2387     | 410         | 86                   | 107                 | 193        |
| 14     | 230       | 2 94                 | 4 928               | 19 052              | 6 03                    | 0 280 | 2 35           | 0 80           | 1 00           | 0 3                  | 15 34               | 36 05                 | 6 03                   | 3053     | 454         | 90                   | 121                 | 211        |
| 13     | 210       | 2 88                 | 4 714               | 18 998              | 5 98                    | 0 277 | 2 36           | 0 80           | 1 00           | 0 3                  | 15 12               | 35 66                 | 5 98                   | 2970     | 446         | 87                   | 119                 | 206        |
| 12     | 190       | 2 82                 | 4 714               | 18 938              | 5 92                    | 0 276 | 2 36           | 0 80           | 1 00           | 0 3                  | 15 08               | 35 60                 | 5 92                   | 2965     | 441         | 85                   | 116                 | 202        |
| 11     | 170       | 2 76                 | 4 714               | 18 322              | 5 85                    | 0 269 | 2 38           | 0 80           | 1 00           | 0 3                  | 14 66               | 34 92                 | 5 85                   | 2768     | 436         | 82                   | 114                 | 196        |
| 10     | 150       | 2 68                 | 4 714               | 18 249              | 5 78                    | 0 268 | 2 38           | 0 80           | 1 00           | 0 3                  | 14 62               | 34 84                 | 5 78                   | 2767     | 432         | 79                   | 111                 | 191        |
| 9      | 130       | 2 60                 | 4 928               | 18 167              | 5 70                    | 0 270 | 2 38           | 0 80           | 1 00           | 0 3                  | 14 75               | 35 08                 | 5 70                   | 2853     | 428         | 78                   | 107                 | 185        |
| 8      | 110       | 2 51                 | 3 792               | 16 699              | 5 60                    | 0 241 | 2 47           | 0 80           | 1 00           | 0 3                  | 12 83               | 31 63                 | 5 60                   | 2325     | 389         | 68                   | 107                 | 175        |
| 7      | 90        | 2 41                 | 3 792               | 16 588              | 5 49                    | 0 240 | 2 47           | 0 80           | 1 00           | 0 3                  | 12 76               | 31 51                 | 5 49                   | 2317     | 380         | 65                   | 103                 | 167        |
| 6      | 70        | 2 29                 | 4 160               | 16 452              | 5 35                    | 0 242 | 2 46           | 0 80           | 1 00           | 0 3                  | 12 98               | 31 95                 | 5 35                   | 2411     | 375         | 62                   | 97                  | 159        |
| 5      | 50        | 2 13                 | 3 771               | 17 097              | 5 18                    | 0 244 | 2 46           | 0 80           | 1 00           | 0 3                  | 13 06               | 32 07                 | 5 18                   | 2550     | 361         | 58                   | 89                  | 147        |
| 4      | 30        | 1 91                 | 3 771               | 16 839              | 4 92                    | 0 241 | 2 46           | 0 80           | 1 00           | 0 2                  | 12 90               | 31 79                 | 4 92                   | 2529     | 340         | 52                   | 79                  | 131        |
| 3      | 14        | 1 66                 | 1 885               | 9 808               | 2 65                    | 0 228 | 2 50           | 0 80           | 1 00           | 0 2                  | 7 24                | 18 13                 | 2 65                   | 1475     | 182         | 26                   | 41                  | 67         |
| 2      | 7         | 1 66                 | 0 628               | 1 963               | 0 60                    | 0 304 | 2 29           | 0 80           | 1 00           | 0 2                  | 1 70                | 3 88                  | 0 60                   | 280      | 35          | 5                    | 6                   | 12         |
| 1      | 3         | 1 66                 | 0 924               | 4 268               | 0 90                    | 0 382 | 2 10           | 0 80           | 1 00           | 0 2                  | 3 44                | 7 22                  | 0 90                   | 720      | 73          | 10                   | 16                  | 26         |
|        |           |                      |                     |                     |                         |       |                |                |                |                      |                     |                       |                        |          | 38,430      | 5,923                |                     | 2,623      |

1 2D + 1 0Di + 1 0Wi 330°

30 mph wind with 0 25" radial ice

Gust Response Factor (Gh)

Wind Importance Factor (Iw)

0 85

1 00

Ice Importance Factor

Ice Dead Load Factor

1 00

1 00

### SECTION FORCES

| Sect # | Elev (ft) | Q <sub>Z</sub> (psf) | A <sub>r</sub> (sf) | A <sub>r</sub> (sf) | Ice A <sub>r</sub> (sf) | e     | C <sub>f</sub> | D <sub>f</sub> | D <sub>r</sub> | T <sub>lz</sub> (in) | A <sub>a</sub> (sf) | EPA <sub>a</sub> (sf) | EPA <sub>al</sub> (sf) | Wt (lb) | Ice Wt (lb) | F <sub>st</sub> (lb) | F <sub>a</sub> (lb) | Force (lb) |       |
|--------|-----------|----------------------|---------------------|---------------------|-------------------------|-------|----------------|----------------|----------------|----------------------|---------------------|-----------------------|------------------------|---------|-------------|----------------------|---------------------|------------|-------|
| 17     | 290       | 3 08                 | 4 993               | 16 182              | 6 17                    | 0 251 | 2 43           | 0 85           | 1 00           | 0 3                  | 13 78               | 33 54                 | 6 17                   | 1973    | 371         | 88                   | 92                  | 180        |       |
| 16     | 270       | 3 04                 | 4 766               | 16 958              | 6 13                    | 0 256 | 2 42           | 0 85           | 1 00           | 0 3                  | 14 07               | 34 03                 | 6 13                   | 2086    | 371         | 88                   | 90                  | 178        |       |
| 15     | 250       | 2 99                 | 4 766               | 17 466              | 6 08                    | 0 262 | 2 40           | 0 85           | 1 00           | 0 3                  | 14 40               | 34 59                 | 6 08                   | 2387    | 410         | 88                   | 107                 | 195        |       |
| 14     | 230       | 2 94                 | 4 928               | 19 052              | 6 03                    | 0 280 | 2 35           | 0 85           | 1 00           | 0 3                  | 15 59               | 36 63                 | 6 03                   | 3053    | 454         | 91                   | 121                 | 212        |       |
| 13     | 210       | 2 88                 | 4 714               | 18 998              | 5 98                    | 0 277 | 2 36           | 0 85           | 1 00           | 0 3                  | 15 35               | 36 22                 | 5 98                   | 2970    | 446         | 89                   | 119                 | 208        |       |
| 12     | 190       | 2 82                 | 4 714               | 18 938              | 5 92                    | 0 276 | 2 36           | 0 85           | 1 00           | 0 3                  | 15 32               | 36 16                 | 5 92                   | 2965    | 441         | 87                   | 116                 | 203        |       |
| 11     | 170       | 2 76                 | 4 714               | 18 322              | 5 85                    | 0 269 | 2 38           | 0 85           | 1 00           | 0 3                  | 14 90               | 35 48                 | 5 85                   | 2768    | 436         | 83                   | 114                 | 198        |       |
| 10     | 150       | 2 68                 | 4 714               | 18 249              | 5 78                    | 0 268 | 2 38           | 0 85           | 1 00           | 0 3                  | 14 85               | 35 40                 | 5 78                   | 2767    | 432         | 81                   | 111                 | 192        |       |
| 9      | 130       | 2 60                 | 4 928               | 18,167              | 5 70                    | 0 270 | 2 38           | 0.85           | 1 00           | 0 3                  | 14 99               | 35 67                 | 5 70                   | 2853    | 428         | 79                   | 107                 | 186        |       |
| 8      | 110       | 2 51                 | 3 792               | 16 699              | 5 60                    | 0 241 | 2 47           | 0 85           | 1 00           | 0 3                  | 13 02               | 32 10                 | 5 60                   | 2325    | 389         | 69                   | 107                 | 176        |       |
| 7      | 90        | 2 41                 | 3 792               | 16 588              | 5 49                    | 0 240 | 2 47           | 0 85           | 1 00           | 0 3                  | 12 95               | 31 97                 | 5 49                   | 2317    | 380         | 66                   | 103                 | 168        |       |
| 6      | 70        | 2 29                 | 4 160               | 16 452              | 5 35                    | 0 242 | 2 46           | 0 85           | 1 00           | 0 3                  | 13 19               | 32 47                 | 5 35                   | 2411    | 375         | 63                   | 97                  | 160        |       |
| 5      | 50        | 2 13                 | 3 771               | 17 097              | 5 18                    | 0 244 | 2 46           | 0 85           | 1 00           | 0 3                  | 13 25               | 32 54                 | 5 18                   | 2550    | 361         | 59                   | 89                  | 148        |       |
| 4      | 30        | 1 91                 | 3 771               | 16 839              | 4 92                    | 0 241 | 2 46           | 0 85           | 1 00           | 0 2                  | 13 09               | 32 25                 | 4 92                   | 2529    | 340         | 52                   | 79                  | 132        |       |
| 3      | 14        | 1 66                 | 1 885               | 9 808               | 2 65                    | 0 228 | 2 50           | 0 85           | 1 00           | 0 2                  | 7 33                | 18 36                 | 2 65                   | 1475    | 182         | 26                   | 41                  | 67         |       |
| 2      | 7         | 1 66                 | 0 628               | 1 963               | 0 60                    | 0 304 | 2 29           | 0 85           | 1 00           | 0 2                  | 1 73                | 3 95                  | 0 60                   | 280     | 35          | 6                    | 6                   | 12         |       |
| 1      | 3         | 1 66                 | 0 924               | 4 268               | 0 90                    | 0 382 | 2 10           | 0 85           | 1.00           | 0 2                  | 3 48                | 7 32                  | 0 90                   | 720     | 73          | 10                   | 16                  | 26         |       |
|        |           |                      |                     |                     |                         |       |                |                |                |                      |                     |                       |                        | 38,430  | 5,923       |                      |                     |            | 2,641 |

1 0D + 1 0W Service Normal Gust Response Factor (G<sub>h</sub>) 0 85  
 60 mph Wind with No Ice Wind Importance Factor (I<sub>w</sub>) 1 00

| Sect # | Elev (ft) | Q <sub>Z</sub> (psf) | A <sub>r</sub> (sf) | A <sub>r</sub> (sf) | Ice A <sub>r</sub> (sf) | e     | C <sub>f</sub> | D <sub>f</sub> | D <sub>r</sub> | T <sub>lz</sub> (in) | A <sub>a</sub> (sf) | EPA <sub>a</sub> (sf) | EPA <sub>ai</sub> (sf) | Wt (lb) | Ice Wt (lb) | F <sub>st</sub> (lb) | F <sub>a</sub> (lb) | Force (lb) |       |
|--------|-----------|----------------------|---------------------|---------------------|-------------------------|-------|----------------|----------------|----------------|----------------------|---------------------|-----------------------|------------------------|---------|-------------|----------------------|---------------------|------------|-------|
| 17     | 290       | 12 34                | 4 993               | 10.011              | 0 00                    | 0 180 | 2 66           | 1 00           | 1 00           | 0 0                  | 10 77               | 28 70                 | 0 00                   | 1335    | 0           | 301                  | 224                 | 525        |       |
| 16     | 270       | 12 15                | 4 766               | 10 831              | 0 00                    | 0 186 | 2 64           | 1 00           | 1 00           | 0 0                  | 11 03               | 29 15                 | 0 00                   | 1429    | 0           | 301                  | 221                 | 522        |       |
| 15     | 250       | 11 96                | 4 766               | 11 386              | 0 00                    | 0 193 | 2 62           | 1 00           | 1 00           | 0 0                  | 11 37               | 29 79                 | 0 00                   | 1648    | 0           | 303                  | 266                 | 569        |       |
| 14     | 230       | 11 75                | 4 928               | 13 023              | 0 00                    | 0 212 | 2 56           | 1 00           | 1 00           | 0 0                  | 12 53               | 32 03                 | 0 00                   | 2167    | 0           | 320                  | 309                 | 629        |       |
| 13     | 210       | 11 53                | 4 714               | 13 023              | 0 00                    | 0 210 | 2 56           | 1 00           | 1 00           | 0 0                  | 12 31               | 31 57                 | 0 00                   | 2103    | 0           | 309                  | 303                 | 612        |       |
| 12     | 190       | 11 29                | 4 714               | 13 023              | 0 00                    | 0 210 | 2 56           | 1 00           | 1 00           | 0 0                  | 12 31               | 31 57                 | 0 00                   | 2103    | 0           | 303                  | 297                 | 599        |       |
| 11     | 170       | 11 02                | 4 714               | 12 472              | 0 00                    | 0 203 | 2 59           | 1 00           | 1 00           | 0 0                  | 11 97               | 30 94                 | 0 00                   | 1944    | 0           | 290                  | 290                 | 580        |       |
| 10     | 150       | 10 74                | 4 714               | 12 472              | 0 00                    | 0 203 | 2 59           | 1 00           | 1 00           | 0 0                  | 11 97               | 30 94                 | 0 00                   | 1945    | 0           | 282                  | 282                 | 565        |       |
| 9      | 130       | 10 42                | 4 928               | 12 472              | 0 00                    | 0 206 | 2 58           | 1 00           | 1 00           | 0 0                  | 12 19               | 31 41                 | 0 00                   | 2021    | 0           | 278                  | 274                 | 552        |       |
| 8      | 110       | 10 06                | 3 792               | 11 098              | 0 00                    | 0 177 | 2 67           | 1 00           | 1 00           | 0 0                  | 10 19               | 27 25                 | 0 00                   | 1614    | 0           | 233                  | 264                 | 498        |       |
| 7      | 90        | 9.64                 | 3 792               | 11 098              | 0 00                    | 0 177 | 2 67           | 1 00           | 1 00           | 0 0                  | 10 19               | 27 25                 | 0 00                   | 1614    | 0           | 223                  | 254                 | 477        |       |
| 6      | 70        | 9.15                 | 4 160               | 11 098              | 0 00                    | 0 181 | 2 66           | 1 00           | 1 00           | 0 0                  | 10 56               | 28 10                 | 0 00                   | 1697    | 0           | 218                  | 240                 | 459        |       |
| 5      | 50        | 8 52                 | 3 771               | 11 921              | 0 00                    | 0 186 | 2 65           | 1 00           | 1 00           | 0 0                  | 10 66               | 28 19                 | 0 00                   | 1824    | 0           | 204                  | 224                 | 428        |       |
| 4      | 30        | 7 65                 | 3 771               | 11 921              | 0 00                    | 0 186 | 2 65           | 1 00           | 1 00           | 0 0                  | 10 66               | 28 19                 | 0 00                   | 1824    | 0           | 183                  | 201                 | 385        |       |
| 3      | 14        | 6 62                 | 1 885               | 7 160               | 0 00                    | 0 178 | 2 67           | 1 00           | 1 00           | 0 0                  | 6 01                | 16 06                 | 0 00                   | 1077    | 0           | 90                   | 104                 | 195        |       |
| 2      | 7         | 6 62                 | 0 628               | 1 359               | 0 00                    | 0 235 | 2 48           | 1 00           | 1 00           | 0 0                  | 1 43                | 3 56                  | 0 00                   | 205     | 0           | 20                   | 17                  | 37         |       |
| 1      | 3         | 6 62                 | 0 924               | 3 369               | 0 00                    | 0 321 | 2 24           | 1 00           | 1 00           | 0 0                  | 2 98                | 6 68                  | 0 00                   | 539     | 0           | 38                   | 52                  | 90         |       |
|        |           |                      |                     |                     |                         |       |                |                |                |                      |                     |                       |                        | 27,089  | 0           |                      |                     |            | 7,721 |

1 0D + 1 0W Service 60° Gust Response Factor (G<sub>h</sub>) 0 85  
 60 mph Wind with No Ice Wind Importance Factor (I<sub>w</sub>) 1 00

| Sect # | Elev (ft) | Q <sub>Z</sub> (psf) | A <sub>r</sub> (sf) | A <sub>r</sub> (sf) | Ice A <sub>r</sub> (sf) | e     | C <sub>f</sub> | D <sub>f</sub> | D <sub>r</sub> | T <sub>lz</sub> (in) | A <sub>e</sub> (sf) | EPA <sub>a</sub> (sf) | EPA <sub>ai</sub> (sf) | Wt (lb) | Ice Wt (lb) | F <sub>st</sub> (lb) | F <sub>a</sub> (lb) | Force (lb) |
|--------|-----------|----------------------|---------------------|---------------------|-------------------------|-------|----------------|----------------|----------------|----------------------|---------------------|-----------------------|------------------------|---------|-------------|----------------------|---------------------|------------|
| 17     | 290       | 12 34                | 4 993               | 10 011              | 0 00                    | 0 180 | 2 66           | 0 80           | 1 00           | 0 0                  | 9 77                | 26 03                 | 0 00                   | 1335    | 0           | 273                  | 224                 | 497        |
| 16     | 270       | 12 15                | 4 766               | 10 831              | 0 00                    | 0 186 | 2 64           | 0 80           | 1 00           | 0 0                  | 10 08               | 26 63                 | 0 00                   | 1429    | 0           | 275                  | 221                 | 496        |
| 15     | 250       | 11 96                | 4 766               | 11 386              | 0 00                    | 0 193 | 2 62           | 0 80           | 1 00           | 0 0                  | 10 42               | 27 30                 | 0 00                   | 1648    | 0           | 277                  | 266                 | 543        |
| 14     | 230       | 11 75                | 4 928               | 13 023              | 0 00                    | 0 212 | 2 56           | 0 80           | 1 00           | 0 0                  | 11 55               | 29 52                 | 0 00                   | 2167    | 0           | 295                  | 309                 | 603        |
| 13     | 210       | 11 53                | 4 714               | 13 023              | 0 00                    | 0 210 | 2 56           | 0 80           | 1 00           | 0 0                  | 11 37               | 29 16                 | 0 00                   | 2103    | 0           | 286                  | 303                 | 588        |
| 12     | 190       | 11 29                | 4 714               | 13 023              | 0 00                    | 0 210 | 2 56           | 0 80           | 1 00           | 0 0                  | 11 37               | 29 16                 | 0 00                   | 2103    | 0           | 280                  | 297                 | 576        |
| 11     | 170       | 11 02                | 4 714               | 12 472              | 0 00                    | 0 203 | 2 59           | 0 80           | 1 00           | 0 0                  | 11 02               | 28 50                 | 0 00                   | 1944    | 0           | 267                  | 290                 | 557        |
| 10     | 150       | 10 74                | 4 714               | 12 472              | 0 00                    | 0 203 | 2 59           | 0 80           | 1 00           | 0 0                  | 11 02               | 28 50                 | 0 00                   | 1945    | 0           | 260                  | 282                 | 542        |
| 9      | 130       | 10 42                | 4 928               | 12 472              | 0 00                    | 0 206 | 2 58           | 0 80           | 1 00           | 0 0                  | 11 20               | 28 87                 | 0 00                   | 2021    | 0           | 256                  | 274                 | 530        |
| 8      | 110       | 10 06                | 3 792               | 11 098              | 0 00                    | 0 177 | 2 67           | 0 80           | 1 00           | 0 0                  | 9 43                | 25 23                 | 0 00                   | 1614    | 0           | 216                  | 264                 | 480        |
| 7      | 90        | 9 64                 | 3 792               | 11 098              | 0 00                    | 0 177 | 2 67           | 0 80           | 1 00           | 0 0                  | 9 43                | 25 23                 | 0 00                   | 1614    | 0           | 207                  | 254                 | 460        |



### SECTION FORCES

| Sect # | Elev (ft) | Q <sub>z</sub> (psf) | A <sub>f</sub> (sf) | A <sub>r</sub> (sf) | Ice A <sub>r</sub> (sf) | e     | C <sub>f</sub> | D <sub>f</sub> | D <sub>r</sub> | T <sub>lz</sub> (in) | A <sub>g</sub> (sf) | EPA <sub>a</sub> (sf) | EPA <sub>ai</sub> (sf) | Wt (lb) | Ice Wt (lb) | F <sub>st</sub> (lb) | F <sub>a</sub> (lb) | Force (lb) |
|--------|-----------|----------------------|---------------------|---------------------|-------------------------|-------|----------------|----------------|----------------|----------------------|---------------------|-----------------------|------------------------|---------|-------------|----------------------|---------------------|------------|
| 6      | 70        | 9 15                 | 4 160               | 11 098              | 0 00                    | 0 181 | 2 66           | 0 80           | 1 00           | 0 0                  | 9 73                | 25 88                 | 0 00                   | 1697    | 0           | 201                  | 240                 | 442        |
| 5      | 50        | 8 52                 | 3 771               | 11 921              | 0 00                    | 0 186 | 2 65           | 0 80           | 1 00           | 0 0                  | 9 90                | 26 20                 | 0 00                   | 1824    | 0           | 190                  | 224                 | 414        |
| 4      | 30        | 7 65                 | 3 771               | 11 921              | 0 00                    | 0 186 | 2 65           | 0 80           | 1 00           | 0 0                  | 9 90                | 26 20                 | 0 00                   | 1824    | 0           | 170                  | 201                 | 372        |
| 3      | 14        | 6 62                 | 1 885               | 7 160               | 0 00                    | 0 178 | 2 67           | 0 80           | 1 00           | 0 0                  | 5 64                | 15 05                 | 0 00                   | 1077    | 0           | 85                   | 104                 | 189        |
| 2      | 7         | 6 62                 | 0 628               | 1 359               | 0 00                    | 0 235 | 2 48           | 0 80           | 1 00           | 0 0                  | 1 31                | 3 25                  | 0 00                   | 205     | 0           | 18                   | 17                  | 36         |
| 1      | 3         | 6 62                 | 0 924               | 3 369               | 0 00                    | 0 321 | 2 24           | 0 80           | 1 00           | 0 0                  | 2 79                | 6 26                  | 0 00                   | 539     | 0           | 35                   | 52                  | 87         |
|        |           |                      |                     |                     |                         |       |                |                |                |                      |                     |                       |                        |         | 27,089      | 0                    |                     | 7,414      |

1 0D + 1 0W Service 90° Gust Response Factor (G<sub>h</sub>) 0 85  
 60 mph Wind with No Ice Wind Importance Factor (I<sub>w</sub>) 1 00

| Sect # | Elev (ft) | Q <sub>z</sub> (psf) | A <sub>f</sub> (sf) | A <sub>r</sub> (sf) | Ice A <sub>r</sub> (sf) | e     | C <sub>f</sub> | D <sub>f</sub> | D <sub>r</sub> | T <sub>lz</sub> (in) | A <sub>g</sub> (sf) | EPA <sub>a</sub> (sf) | EPA <sub>ai</sub> (sf) | Wt (lb) | Ice Wt (lb) | F <sub>st</sub> (lb) | F <sub>a</sub> (lb) | Force (lb) |
|--------|-----------|----------------------|---------------------|---------------------|-------------------------|-------|----------------|----------------|----------------|----------------------|---------------------|-----------------------|------------------------|---------|-------------|----------------------|---------------------|------------|
| 17     | 290       | 12 34                | 4 993               | 10 011              | 0 00                    | 0 180 | 2 66           | 0 85           | 1 00           | 0 0                  | 10 02               | 26 70                 | 0 00                   | 1335    | 0           | 280                  | 224                 | 504        |
| 16     | 270       | 12 15                | 4 766               | 10 831              | 0 00                    | 0 186 | 2 64           | 0 85           | 1 00           | 0 0                  | 10 32               | 27 26                 | 0 00                   | 1429    | 0           | 282                  | 221                 | 502        |
| 15     | 250       | 11 96                | 4 766               | 11 386              | 0 00                    | 0 193 | 2 62           | 0 85           | 1 00           | 0 0                  | 10 66               | 27 92                 | 0 00                   | 1648    | 0           | 284                  | 266                 | 550        |
| 14     | 230       | 11 75                | 4 928               | 13 023              | 0 00                    | 0 212 | 2 56           | 0 85           | 1 00           | 0 0                  | 11 80               | 30 15                 | 0 00                   | 2167    | 0           | 301                  | 309                 | 610        |
| 13     | 210       | 11 53                | 4 714               | 13 023              | 0 00                    | 0 210 | 2 56           | 0 85           | 1 00           | 0 0                  | 11 61               | 29 76                 | 0 00                   | 2103    | 0           | 292                  | 303                 | 594        |
| 12     | 190       | 11 29                | 4 714               | 13 023              | 0 00                    | 0 210 | 2 56           | 0 85           | 1 00           | 0 0                  | 11 61               | 29 76                 | 0 00                   | 2103    | 0           | 285                  | 297                 | 582        |
| 11     | 170       | 11 02                | 4 714               | 12 472              | 0 00                    | 0 203 | 2 59           | 0 85           | 1 00           | 0 0                  | 11 26               | 29 11                 | 0 00                   | 1944    | 0           | 273                  | 290                 | 563        |
| 10     | 150       | 10 74                | 4 714               | 12 472              | 0 00                    | 0 203 | 2 59           | 0 85           | 1 00           | 0 0                  | 11 26               | 29 11                 | 0 00                   | 1945    | 0           | 266                  | 282                 | 548        |
| 9      | 130       | 10 42                | 4 928               | 12 472              | 0 00                    | 0 206 | 2 58           | 0 85           | 1 00           | 0 0                  | 11 45               | 29 50                 | 0 00                   | 2021    | 0           | 261                  | 274                 | 535        |
| 8      | 110       | 10 06                | 3 792               | 11 098              | 0 00                    | 0 177 | 2 67           | 0 85           | 1 00           | 0 0                  | 9 62                | 25 73                 | 0 00                   | 1614    | 0           | 220                  | 264                 | 485        |
| 7      | 90        | 9 64                 | 3 792               | 11 098              | 0 00                    | 0 177 | 2 67           | 0 85           | 1 00           | 0 0                  | 9 62                | 25 73                 | 0 00                   | 1614    | 0           | 211                  | 254                 | 464        |
| 6      | 70        | 9 15                 | 4 160               | 11 098              | 0 00                    | 0 181 | 2 66           | 0 85           | 1 00           | 0 0                  | 9 94                | 26 44                 | 0 00                   | 1697    | 0           | 206                  | 240                 | 446        |
| 5      | 50        | 8 52                 | 3 771               | 11 921              | 0 00                    | 0 186 | 2 65           | 0 85           | 1 00           | 0 0                  | 10 09               | 26 70                 | 0 00                   | 1824    | 0           | 193                  | 224                 | 417        |
| 4      | 30        | 7 65                 | 3 771               | 11 921              | 0 00                    | 0 186 | 2 65           | 0 85           | 1 00           | 0 0                  | 10 09               | 26 70                 | 0 00                   | 1824    | 0           | 174                  | 201                 | 375        |
| 3      | 14        | 6 62                 | 1 885               | 7 160               | 0 00                    | 0 178 | 2 67           | 0 85           | 1 00           | 0 0                  | 5 73                | 15 31                 | 0 00                   | 1077    | 0           | 86                   | 104                 | 191        |
| 2      | 7         | 6 62                 | 0 628               | 1 359               | 0 00                    | 0 235 | 2 48           | 0 85           | 1 00           | 0 0                  | 1 34                | 3 32                  | 0 00                   | 205     | 0           | 19                   | 17                  | 36         |
| 1      | 3         | 6 62                 | 0 924               | 3 369               | 0 00                    | 0 321 | 2 24           | 0 85           | 1 00           | 0 0                  | 2 84                | 6 37                  | 0 00                   | 539     | 0           | 36                   | 52                  | 88         |
|        |           |                      |                     |                     |                         |       |                |                |                |                      |                     |                       |                        |         | 27,089      | 0                    |                     | 7,490      |

1 0D + 1 0W Service 120° Gust Response Factor (G<sub>h</sub>) 0 85  
 60 mph Wind with No Ice Wind Importance Factor (I<sub>w</sub>) 1 00

| Sect # | Elev (ft) | Q <sub>z</sub> (psf) | A <sub>f</sub> (sf) | A <sub>r</sub> (sf) | Ice A <sub>r</sub> (sf) | e     | C <sub>f</sub> | D <sub>f</sub> | D <sub>r</sub> | T <sub>lz</sub> (in) | A <sub>g</sub> (sf) | EPA <sub>a</sub> (sf) | EPA <sub>ai</sub> (sf) | Wt (lb) | Ice Wt (lb) | F <sub>st</sub> (lb) | F <sub>a</sub> (lb) | Force (lb) |
|--------|-----------|----------------------|---------------------|---------------------|-------------------------|-------|----------------|----------------|----------------|----------------------|---------------------|-----------------------|------------------------|---------|-------------|----------------------|---------------------|------------|
| 17     | 290       | 12 34                | 4 993               | 10 011              | 0 00                    | 0 180 | 2 66           | 1 00           | 1 00           | 0 0                  | 10 77               | 28 70                 | 0 00                   | 1335    | 0           | 301                  | 224                 | 525        |
| 16     | 270       | 12 15                | 4 766               | 10 831              | 0 00                    | 0 186 | 2 64           | 1 00           | 1 00           | 0 0                  | 11 03               | 29 15                 | 0 00                   | 1429    | 0           | 301                  | 221                 | 522        |
| 15     | 250       | 11 96                | 4 766               | 11 386              | 0 00                    | 0 193 | 2 62           | 1 00           | 1 00           | 0 0                  | 11 37               | 29 79                 | 0 00                   | 1648    | 0           | 303                  | 266                 | 569        |
| 14     | 230       | 11 75                | 4 928               | 13 023              | 0 00                    | 0 212 | 2 56           | 1 00           | 1 00           | 0 0                  | 12 53               | 32 03                 | 0 00                   | 2167    | 0           | 320                  | 309                 | 629        |
| 13     | 210       | 11 53                | 4 714               | 13 023              | 0 00                    | 0 210 | 2 56           | 1 00           | 1 00           | 0 0                  | 12 31               | 31 57                 | 0 00                   | 2103    | 0           | 309                  | 303                 | 612        |
| 12     | 190       | 11 29                | 4 714               | 13 023              | 0 00                    | 0 210 | 2 56           | 1 00           | 1 00           | 0 0                  | 12 31               | 31 57                 | 0 00                   | 2103    | 0           | 303                  | 297                 | 599        |
| 11     | 170       | 11 02                | 4 714               | 12 472              | 0 00                    | 0 203 | 2 59           | 1 00           | 1 00           | 0 0                  | 11 97               | 30 94                 | 0 00                   | 1944    | 0           | 290                  | 290                 | 580        |
| 10     | 150       | 10 74                | 4 714               | 12 472              | 0 00                    | 0 203 | 2 59           | 1 00           | 1 00           | 0 0                  | 11 97               | 30 94                 | 0 00                   | 1945    | 0           | 282                  | 282                 | 565        |
| 9      | 130       | 10 42                | 4 928               | 12 472              | 0 00                    | 0 206 | 2 58           | 1 00           | 1 00           | 0 0                  | 12 19               | 31 41                 | 0 00                   | 2021    | 0           | 278                  | 274                 | 552        |
| 8      | 110       | 10 06                | 3 792               | 11 098              | 0 00                    | 0 177 | 2 67           | 1 00           | 1 00           | 0 0                  | 10 19               | 27 25                 | 0 00                   | 1614    | 0           | 233                  | 264                 | 498        |
| 7      | 90        | 9 64                 | 3 792               | 11 098              | 0 00                    | 0 177 | 2 67           | 1 00           | 1 00           | 0 0                  | 10 19               | 27 25                 | 0 00                   | 1614    | 0           | 223                  | 254                 | 477        |
| 6      | 70        | 9 15                 | 4 160               | 11 098              | 0 00                    | 0 181 | 2 66           | 1 00           | 1 00           | 0 0                  | 10 56               | 28 10                 | 0 00                   | 1697    | 0           | 218                  | 240                 | 459        |
| 5      | 50        | 8 52                 | 3 771               | 11 921              | 0 00                    | 0 186 | 2 65           | 1 00           | 1 00           | 0 0                  | 10 66               | 28 19                 | 0 00                   | 1824    | 0           | 204                  | 224                 | 428        |
| 4      | 30        | 7 65                 | 3 771               | 11 921              | 0 00                    | 0 186 | 2 65           | 1 00           | 1 00           | 0 0                  | 10 66               | 28 19                 | 0 00                   | 1824    | 0           | 183                  | 201                 | 385        |
| 3      | 14        | 6 62                 | 1 885               | 7 160               | 0 00                    | 0 178 | 2 67           | 1 00           | 1 00           | 0 0                  | 6 01                | 16 06                 | 0 00                   | 1077    | 0           | 90                   | 104                 | 195        |
| 2      | 7         | 6 62                 | 0 628               | 1 359               | 0 00                    | 0 235 | 2 48           | 1 00           | 1 00           | 0 0                  | 1 43                | 3 56                  | 0 00                   | 205     | 0           | 20                   | 17                  | 37         |
| 1      | 3         | 6 62                 | 0 924               | 3 369               | 0 00                    | 0 321 | 2 24           | 1 00           | 1 00           | 0 0                  | 2 98                | 6 68                  | 0 00                   | 539     | 0           | 38                   | 52                  | 90         |
|        |           |                      |                     |                     |                         |       |                |                |                |                      |                     |                       |                        |         | 27,089      | 0                    |                     | 7,721      |

1 0D + 1 0W Service 180° Gust Response Factor (G<sub>h</sub>) 0 85  
 60 mph Wind with No Ice Wind Importance Factor (I<sub>w</sub>) 1 00

### SECTION FORCES

| Sect # | Elev (ft) | Q <sub>Z</sub> (psf) | A <sub>f</sub> (sf) | A <sub>r</sub> (sf) | Ice A <sub>r</sub> (sf) | e     | C <sub>f</sub> | D <sub>f</sub> | D <sub>r</sub> | T <sub>lz</sub> (in) | A <sub>o</sub> (sf) | EPA <sub>a</sub> (sf) | EPA <sub>al</sub> (sf) | Wt. (lb) | Ice Wt (lb) | F <sub>st</sub> (lb) | F <sub>a</sub> (lb) | Force (lb) |       |
|--------|-----------|----------------------|---------------------|---------------------|-------------------------|-------|----------------|----------------|----------------|----------------------|---------------------|-----------------------|------------------------|----------|-------------|----------------------|---------------------|------------|-------|
| 17     | 290       | 12 34                | 4 993               | 10 011              | 0 00                    | 0 180 | 2 66           | 0 80           | 1 00           | 0 0                  | 9 77                | 26 03                 | 0 00                   | 1335     | 0           | 273                  | 224                 | 497        |       |
| 16     | 270       | 12 15                | 4 766               | 10 831              | 0 00                    | 0 186 | 2 64           | 0 80           | 1 00           | 0 0                  | 10 08               | 26 63                 | 0 00                   | 1429     | 0           | 275                  | 221                 | 496        |       |
| 15     | 250       | 11 96                | 4 766               | 11 386              | 0 00                    | 0 193 | 2 62           | 0 80           | 1 00           | 0 0                  | 10 42               | 27 30                 | 0 00                   | 1648     | 0           | 277                  | 266                 | 543        |       |
| 14     | 230       | 11 75                | 4 928               | 13 023              | 0 00                    | 0 212 | 2 56           | 0 80           | 1 00           | 0 0                  | 11 55               | 29 52                 | 0 00                   | 2167     | 0           | 295                  | 309                 | 603        |       |
| 13     | 210       | 11 53                | 4 714               | 13 023              | 0 00                    | 0 210 | 2 56           | 0 80           | 1 00           | 0 0                  | 11 37               | 29 16                 | 0 00                   | 2103     | 0           | 286                  | 303                 | 588        |       |
| 12     | 190       | 11 29                | 4 714               | 13 023              | 0 00                    | 0 210 | 2 56           | 0 80           | 1 00           | 0 0                  | 11 37               | 29 16                 | 0 00                   | 2103     | 0           | 280                  | 297                 | 576        |       |
| 11     | 170       | 11 02                | 4 714               | 12 472              | 0 00                    | 0 203 | 2 59           | 0.80           | 1 00           | 0 0                  | 11 02               | 28 50                 | 0 00                   | 1944     | 0           | 267                  | 290                 | 557        |       |
| 10     | 150       | 10 74                | 4 714               | 12 472              | 0 00                    | 0 203 | 2 59           | 0 80           | 1 00           | 0 0                  | 11 02               | 28 50                 | 0 00                   | 1945     | 0           | 260                  | 282                 | 542        |       |
| 9      | 130       | 10 42                | 4 928               | 12 472              | 0 00                    | 0 206 | 2 58           | 0 80           | 1 00           | 0 0                  | 11 20               | 28 87                 | 0 00                   | 2021     | 0           | 256                  | 274                 | 530        |       |
| 8      | 110       | 10 06                | 3 792               | 11 098              | 0 00                    | 0 177 | 2 67           | 0 80           | 1 00           | 0 0                  | 9 43                | 25 23                 | 0 00                   | 1614     | 0           | 216                  | 264                 | 480        |       |
| 7      | 90        | 9 64                 | 3 792               | 11 098              | 0 00                    | 0 177 | 2 67           | 0 80           | 1 00           | 0 0                  | 9 43                | 25 23                 | 0 00                   | 1614     | 0           | 207                  | 254                 | 460        |       |
| 6      | 70        | 9 15                 | 4 160               | 11 098              | 0 00                    | 0 181 | 2 66           | 0 80           | 1 00           | 0 0                  | 9 73                | 25 88                 | 0 00                   | 1697     | 0           | 201                  | 240                 | 442        |       |
| 5      | 50        | 8 52                 | 3 771               | 11 921              | 0 00                    | 0 186 | 2 65           | 0 80           | 1 00           | 0 0                  | 9 90                | 26 20                 | 0 00                   | 1824     | 0           | 190                  | 224                 | 414        |       |
| 4      | 30        | 7 65                 | 3 771               | 11 921              | 0 00                    | 0 186 | 2 65           | 0 80           | 1 00           | 0 0                  | 9 90                | 26 20                 | 0 00                   | 1824     | 0           | 170                  | 201                 | 372        |       |
| 3      | 14        | 6 62                 | 1 885               | 7 160               | 0 00                    | 0 178 | 2 67           | 0 80           | 1 00           | 0 0                  | 5 64                | 15 05                 | 0 00                   | 1077     | 0           | 85                   | 104                 | 189        |       |
| 2      | 7         | 6 62                 | 0 628               | 1 359               | 0 00                    | 0 235 | 2 48           | 0 80           | 1 00           | 0 0                  | 1 31                | 3 25                  | 0 00                   | 205      | 0           | 18                   | 17                  | 36         |       |
| 1      | 3         | 6 62                 | 0 924               | 3 369               | 0 00                    | 0 321 | 2 24           | 0 80           | 1 00           | 0 0                  | 2 79                | 6 26                  | 0 00                   | 539      | 0           | 35                   | 52                  | 87         |       |
|        |           |                      |                     |                     |                         |       |                |                |                |                      |                     |                       |                        | 27,089   | 0           |                      |                     |            | 7,414 |

1 0D + 1 0W Service 210°  
 60 mph Wind with No Ice

Gust Response Factor (Gh) 0 85  
 Wind Importance Factor (Iw) 1 00

| Sect # | Elev (ft) | Q <sub>Z</sub> (psf) | A <sub>r</sub> (sf) | A <sub>r</sub> (sf) | Ice A <sub>r</sub> (sf) | e     | C <sub>f</sub> | D <sub>f</sub> | D <sub>r</sub> | T <sub>lz</sub> (in) | A <sub>e</sub> (sf) | EPA <sub>a</sub> (sf) | EPA <sub>ai</sub> (sf) | Wt (lb) | Ice Wt (lb) | F <sub>st</sub> (lb) | F <sub>a</sub> (lb) | Force (lb) |       |
|--------|-----------|----------------------|---------------------|---------------------|-------------------------|-------|----------------|----------------|----------------|----------------------|---------------------|-----------------------|------------------------|---------|-------------|----------------------|---------------------|------------|-------|
| 17     | 290       | 12 34                | 4 993               | 10 011              | 0 00                    | 0 180 | 2 66           | 0 85           | 1 00           | 0 0                  | 10 02               | 26 70                 | 0 00                   | 1335    | 0           | 280                  | 224                 | 504        |       |
| 16     | 270       | 12 15                | 4 766               | 10 831              | 0 00                    | 0 186 | 2 64           | 0 85           | 1 00           | 0 0                  | 10 32               | 27 26                 | 0 00                   | 1429    | 0           | 282                  | 221                 | 502        |       |
| 15     | 250       | 11 96                | 4 766               | 11 386              | 0 00                    | 0 193 | 2 62           | 0 85           | 1 00           | 0 0                  | 10 66               | 27 92                 | 0 00                   | 1648    | 0           | 284                  | 266                 | 550        |       |
| 14     | 230       | 11 75                | 4 928               | 13 023              | 0 00                    | 0 212 | 2 56           | 0 85           | 1 00           | 0 0                  | 11 80               | 30 15                 | 0 00                   | 2167    | 0           | 301                  | 309                 | 610        |       |
| 13     | 210       | 11 53                | 4 714               | 13 023              | 0 00                    | 0 210 | 2 56           | 0 85           | 1 00           | 0 0                  | 11 61               | 29 76                 | 0 00                   | 2103    | 0           | 292                  | 303                 | 594        |       |
| 12     | 190       | 11 29                | 4 714               | 13 023              | 0.00                    | 0 210 | 2 56           | 0 85           | 1 00           | 0 0                  | 11 61               | 29 76                 | 0 00                   | 2103    | 0           | 285                  | 297                 | 582        |       |
| 11     | 170       | 11 02                | 4 714               | 12 472              | 0 00                    | 0 203 | 2 59           | 0 85           | 1 00           | 0 0                  | 11 26               | 29 11                 | 0 00                   | 1944    | 0           | 273                  | 290                 | 563        |       |
| 10     | 150       | 10 74                | 4 714               | 12 472              | 0 00                    | 0 203 | 2 59           | 0 85           | 1 00           | 0 0                  | 11 26               | 29 11                 | 0 00                   | 1945    | 0           | 266                  | 282                 | 548        |       |
| 9      | 130       | 10 42                | 4 928               | 12 472              | 0 00                    | 0 206 | 2 58           | 0 85           | 1 00           | 0 0                  | 11 45               | 29 50                 | 0 00                   | 2021    | 0           | 261                  | 274                 | 535        |       |
| 8      | 110       | 10 06                | 3 792               | 11 098              | 0 00                    | 0 177 | 2 67           | 0 85           | 1 00           | 0 0                  | 9 62                | 25 73                 | 0 00                   | 1614    | 0           | 220                  | 264                 | 485        |       |
| 7      | 90        | 9 64                 | 3 792               | 11 098              | 0 00                    | 0 177 | 2 67           | 0 85           | 1 00           | 0 0                  | 9 62                | 25 73                 | 0 00                   | 1614    | 0           | 211                  | 254                 | 464        |       |
| 6      | 70        | 9 15                 | 4 160               | 11 098              | 0 00                    | 0 181 | 2 66           | 0 85           | 1 00           | 0 0                  | 9 94                | 26 44                 | 0 00                   | 1697    | 0           | 206                  | 240                 | 446        |       |
| 5      | 50        | 8 52                 | 3 771               | 11 921              | 0 00                    | 0 186 | 2 65           | 0 85           | 1 00           | 0 0                  | 10 09               | 26 70                 | 0 00                   | 1824    | 0           | 193                  | 224                 | 417        |       |
| 4      | 30        | 7 65                 | 3 771               | 11 921              | 0 00                    | 0 186 | 2 65           | 0 85           | 1 00           | 0 0                  | 10 09               | 26 70                 | 0 00                   | 1824    | 0           | 174                  | 201                 | 375        |       |
| 3      | 14        | 6 62                 | 1 885               | 7 160               | 0 00                    | 0 178 | 2 67           | 0 85           | 1 00           | 0 0                  | 5 73                | 15 31                 | 0 00                   | 1077    | 0           | 86                   | 104                 | 191        |       |
| 2      | 7         | 6 62                 | 0 628               | 1 359               | 0 00                    | 0 235 | 2 48           | 0 85           | 1 00           | 0 0                  | 1 34                | 3 32                  | 0 00                   | 205     | 0           | 19                   | 17                  | 36         |       |
| 1      | 3         | 6 62                 | 0 924               | 3 369               | 0 00                    | 0 321 | 2 24           | 0 85           | 1 00           | 0 0                  | 2 84                | 6 37                  | 0 00                   | 539     | 0           | 36                   | 52                  | 88         |       |
|        |           |                      |                     |                     |                         |       |                |                |                |                      |                     |                       |                        | 27,089  | 0           |                      |                     |            | 7,490 |

1 0D + 1 0W Service 240°  
 60 mph Wind with No Ice

Gust Response Factor (Gh) 0 85  
 Wind Importance Factor (Iw) 1 00

| Sect # | Elev (ft) | Q <sub>Z</sub> (psf) | A <sub>r</sub> (sf) | A <sub>r</sub> (sf) | Ice A <sub>r</sub> (sf) | e     | C <sub>f</sub> | D <sub>f</sub> | D <sub>r</sub> | T <sub>lz</sub> (in) | A <sub>o</sub> (sf) | EPA <sub>a</sub> (sf) | EPA <sub>al</sub> (sf) | Wt (lb) | Ice Wt (lb) | F <sub>st</sub> (lb) | F <sub>a</sub> (lb) | Force (lb) |
|--------|-----------|----------------------|---------------------|---------------------|-------------------------|-------|----------------|----------------|----------------|----------------------|---------------------|-----------------------|------------------------|---------|-------------|----------------------|---------------------|------------|
| 17     | 290       | 12 34                | 4 993               | 10 011              | 0 00                    | 0 180 | 2 66           | 1 00           | 1 00           | 0 0                  | 10 77               | 28 70                 | 0 00                   | 1335    | 0           | 301                  | 224                 | 525        |
| 16     | 270       | 12 15                | 4 766               | 10 831              | 0 00                    | 0 186 | 2 64           | 1 00           | 1 00           | 0 0                  | 11 03               | 29 15                 | 0 00                   | 1429    | 0           | 301                  | 221                 | 522        |
| 15     | 250       | 11 96                | 4 766               | 11 386              | 0 00                    | 0 193 | 2 62           | 1 00           | 1 00           | 0 0                  | 11 37               | 29 79                 | 0 00                   | 1648    | 0           | 303                  | 266                 | 569        |
| 14     | 230       | 11 75                | 4 928               | 13 023              | 0 00                    | 0 212 | 2 56           | 1 00           | 1 00           | 0 0                  | 12 53               | 32 03                 | 0 00                   | 2167    | 0           | 320                  | 309                 | 629        |
| 13     | 210       | 11 53                | 4 714               | 13 023              | 0 00                    | 0 210 | 2 56           | 1 00           | 1 00           | 0 0                  | 12 31               | 31 57                 | 0 00                   | 2103    | 0           | 309                  | 303                 | 612        |
| 12     | 190       | 11 29                | 4 714               | 13 023              | 0 00                    | 0 210 | 2 56           | 1 00           | 1 00           | 0 0                  | 12 31               | 31 57                 | 0 00                   | 2103    | 0           | 303                  | 297                 | 599        |
| 11     | 170       | 11 02                | 4 714               | 12 472              | 0 00                    | 0 203 | 2 59           | 1 00           | 1 00           | 0 0                  | 11 97               | 30 94                 | 0 00                   | 1944    | 0           | 290                  | 290                 | 580        |
| 10     | 150       | 10 74                | 4 714               | 12 472              | 0 00                    | 0 203 | 2 59           | 1 00           | 1 00           | 0 0                  | 11 97               | 30 94                 | 0 00                   | 1945    | 0           | 282                  | 282                 | 565        |
| 9      | 130       | 10 42                | 4 928               | 12 472              | 0 00                    | 0 206 | 2 58           | 1 00           | 1 00           | 0 0                  | 12 19               | 31 41                 | 0 00                   | 2021    | 0           | 278                  | 274                 | 552        |
| 8      | 110       | 10 06                | 3 792               | 11 098              | 0 00                    | 0 177 | 2 67           | 1 00           | 1 00           | 0 0                  | 10 19               | 27 25                 | 0 00                   | 1614    | 0           | 233                  | 264                 | 498        |
| 7      | 90        | 9 64                 | 3 792               | 11 098              | 0 00                    | 0 177 | 2 67           | 1 00           | 1 00           | 0 0                  | 10 19               | 27 25                 | 0 00                   | 1614    | 0           | 223                  | 254                 | 477        |

### SECTION FORCES

| Sect # | Elev (ft) | Q <sub>Z</sub> (psf) | A <sub>r</sub> (sf) | A <sub>r</sub> (sf) | Ice A <sub>r</sub> (sf) | e     | C <sub>f</sub> | D <sub>f</sub> | D <sub>r</sub> | T <sub>lz</sub> (in) | A <sub>o</sub> (sf) | EPA <sub>a</sub> (sf) | EPA <sub>ai</sub> (sf) | Wt (lb) | Ice Wt (lb) | F <sub>st</sub> (lb) | F <sub>a</sub> (lb) | Force (lb) |
|--------|-----------|----------------------|---------------------|---------------------|-------------------------|-------|----------------|----------------|----------------|----------------------|---------------------|-----------------------|------------------------|---------|-------------|----------------------|---------------------|------------|
| 6      | 70        | 9 15                 | 4 160               | 11 098              | 0 00                    | 0 181 | 2 66           | 1 00           | 1 00           | 0 0                  | 10 56               | 28 10                 | 0 00                   | 1697    | 0           | 218                  | 240                 | 459        |
| 5      | 50        | 8 52                 | 3 771               | 11 921              | 0 00                    | 0 186 | 2 65           | 1 00           | 1 00           | 0 0                  | 10 66               | 28 19                 | 0 00                   | 1824    | 0           | 204                  | 224                 | 428        |
| 4      | 30        | 7 65                 | 3 771               | 11 921              | 0 00                    | 0 186 | 2 65           | 1 00           | 1 00           | 0 0                  | 10 66               | 28 19                 | 0 00                   | 1824    | 0           | 183                  | 201                 | 385        |
| 3      | 14        | 6 62                 | 1 885               | 7 160               | 0 00                    | 0 178 | 2 67           | 1 00           | 1 00           | 0 0                  | 6 01                | 16 06                 | 0 00                   | 1077    | 0           | 90                   | 104                 | 195        |
| 2      | 7         | 6 62                 | 0 628               | 1 359               | 0 00                    | 0 235 | 2 48           | 1 00           | 1 00           | 0 0                  | 1 43                | 3 56                  | 0 00                   | 205     | 0           | 20                   | 17                  | 37         |
| 1      | 3         | 6 62                 | 0 924               | 3 369               | 0 00                    | 0 321 | 2 24           | 1 00           | 1 00           | 0 0                  | 2 98                | 6 68                  | 0 00                   | 539     | 0           | 38                   | 52                  | 90         |
|        |           |                      |                     |                     |                         |       |                |                |                |                      |                     |                       |                        |         | 27,089      | 0                    |                     | 7,721      |

1 0D + 1 0W Service 300°  
 60 mph Wind with No Ice

Gust Response Factor (Gh) 0 85  
 Wind Importance Factor (Iw) 1 00

| Sect # | Elev (ft) | Q <sub>Z</sub> (psf) | A <sub>r</sub> (sf) | A <sub>r</sub> (sf) | Ice A <sub>r</sub> (sf) | e     | C <sub>f</sub> | D <sub>f</sub> | D <sub>r</sub> | T <sub>lz</sub> (in) | A <sub>o</sub> (sf) | EPA <sub>a</sub> (sf) | EPA <sub>ai</sub> (sf) | Wt (lb) | Ice Wt (lb) | F <sub>st</sub> (lb) | F <sub>a</sub> (lb) | Force (lb) |
|--------|-----------|----------------------|---------------------|---------------------|-------------------------|-------|----------------|----------------|----------------|----------------------|---------------------|-----------------------|------------------------|---------|-------------|----------------------|---------------------|------------|
| 17     | 290       | 12 34                | 4 993               | 10 011              | 0 00                    | 0 180 | 2 66           | 0 80           | 1 00           | 0 0                  | 9 77                | 26 03                 | 0 00                   | 1335    | 0           | 273                  | 224                 | 497        |
| 16     | 270       | 12 15                | 4 766               | 10 831              | 0 00                    | 0 186 | 2 64           | 0 80           | 1 00           | 0 0                  | 10 08               | 26 63                 | 0 00                   | 1429    | 0           | 275                  | 221                 | 496        |
| 15     | 250       | 11 96                | 4 766               | 11 386              | 0 00                    | 0 193 | 2 62           | 0 80           | 1 00           | 0 0                  | 10 42               | 27 30                 | 0 00                   | 1648    | 0           | 277                  | 266                 | 543        |
| 14     | 230       | 11 75                | 4 928               | 13 023              | 0 00                    | 0 212 | 2 56           | 0 80           | 1 00           | 0 0                  | 11 55               | 29 52                 | 0 00                   | 2167    | 0           | 295                  | 309                 | 603        |
| 13     | 210       | 11 53                | 4 714               | 13 023              | 0 00                    | 0 210 | 2 56           | 0 80           | 1 00           | 0 0                  | 11 37               | 29 16                 | 0 00                   | 2103    | 0           | 286                  | 303                 | 588        |
| 12     | 190       | 11 29                | 4 714               | 13 023              | 0 00                    | 0 210 | 2 56           | 0 80           | 1 00           | 0 0                  | 11 37               | 29 16                 | 0 00                   | 2103    | 0           | 280                  | 297                 | 576        |
| 11     | 170       | 11 02                | 4 714               | 12 472              | 0 00                    | 0 203 | 2 59           | 0 80           | 1 00           | 0 0                  | 11 02               | 28 50                 | 0 00                   | 1944    | 0           | 267                  | 290                 | 557        |
| 10     | 150       | 10 74                | 4 714               | 12 472              | 0 00                    | 0 203 | 2 59           | 0 80           | 1 00           | 0 0                  | 11 02               | 28 50                 | 0 00                   | 1945    | 0           | 260                  | 282                 | 542        |
| 9      | 130       | 10 42                | 4 928               | 12 472              | 0 00                    | 0 206 | 2 58           | 0 80           | 1 00           | 0 0                  | 11 20               | 28 87                 | 0 00                   | 2021    | 0           | 256                  | 274                 | 530        |
| 8      | 110       | 10 06                | 3 792               | 11 098              | 0 00                    | 0 177 | 2 67           | 0 80           | 1 00           | 0 0                  | 9 43                | 25 23                 | 0 00                   | 1614    | 0           | 216                  | 264                 | 480        |
| 7      | 90        | 9 64                 | 3 792               | 11 098              | 0 00                    | 0 177 | 2 67           | 0 80           | 1 00           | 0 0                  | 9 43                | 25 23                 | 0 00                   | 1614    | 0           | 207                  | 254                 | 460        |
| 6      | 70        | 9 15                 | 4 160               | 11 098              | 0 00                    | 0 181 | 2 66           | 0 80           | 1 00           | 0 0                  | 9 73                | 25 88                 | 0 00                   | 1697    | 0           | 201                  | 240                 | 442        |
| 5      | 50        | 8 52                 | 3 771               | 11 921              | 0 00                    | 0 186 | 2 65           | 0 80           | 1 00           | 0 0                  | 9 90                | 26 20                 | 0 00                   | 1824    | 0           | 190                  | 224                 | 414        |
| 4      | 30        | 7 65                 | 3 771               | 11 921              | 0 00                    | 0 186 | 2 65           | 0 80           | 1 00           | 0 0                  | 9 90                | 26 20                 | 0 00                   | 1824    | 0           | 170                  | 201                 | 372        |
| 3      | 14        | 6 62                 | 1 885               | 7 160               | 0 00                    | 0 178 | 2 67           | 0 80           | 1 00           | 0 0                  | 5 64                | 15 05                 | 0 00                   | 1077    | 0           | 85                   | 104                 | 189        |
| 2      | 7         | 6 62                 | 0 628               | 1 359               | 0 00                    | 0 235 | 2 48           | 0 80           | 1 00           | 0 0                  | 1 31                | 3 25                  | 0 00                   | 205     | 0           | 18                   | 17                  | 36         |
| 1      | 3         | 6 62                 | 0 924               | 3 369               | 0 00                    | 0 321 | 2 24           | 0 80           | 1 00           | 0 0                  | 2 79                | 6 26                  | 0 00                   | 539     | 0           | 35                   | 52                  | 87         |
|        |           |                      |                     |                     |                         |       |                |                |                |                      |                     |                       |                        |         | 27,089      | 0                    |                     | 7,414      |

1 0D + 1 0W Service 330°  
 60 mph Wind with No Ice

Gust Response Factor (Gh) 0 85  
 Wind Importance Factor (Iw) 1 00

| Sect # | Elev (ft) | Q <sub>Z</sub> (psf) | A <sub>r</sub> (sf) | A <sub>r</sub> (sf) | Ice A <sub>r</sub> (sf) | e     | C <sub>f</sub> | D <sub>f</sub> | D <sub>r</sub> | T <sub>lz</sub> (in) | A <sub>o</sub> (sf) | EPA <sub>a</sub> (sf) | EPA <sub>ai</sub> (sf) | Wt (lb) | Ice Wt (lb) | F <sub>st</sub> (lb) | F <sub>a</sub> (lb) | Force (lb) |
|--------|-----------|----------------------|---------------------|---------------------|-------------------------|-------|----------------|----------------|----------------|----------------------|---------------------|-----------------------|------------------------|---------|-------------|----------------------|---------------------|------------|
| 17     | 290       | 12 34                | 4 993               | 10 011              | 0 00                    | 0 180 | 2 66           | 0 85           | 1 00           | 0 0                  | 10 02               | 26 70                 | 0 00                   | 1335    | 0           | 280                  | 224                 | 504        |
| 16     | 270       | 12 15                | 4 766               | 10 831              | 0 00                    | 0 186 | 2 64           | 0 85           | 1 00           | 0 0                  | 10 32               | 27 26                 | 0 00                   | 1429    | 0           | 282                  | 221                 | 502        |
| 15     | 250       | 11 96                | 4 766               | 11 386              | 0 00                    | 0 193 | 2 62           | 0 85           | 1 00           | 0 0                  | 10 66               | 27 92                 | 0 00                   | 1648    | 0           | 284                  | 266                 | 550        |
| 14     | 230       | 11 75                | 4 928               | 13 023              | 0 00                    | 0 212 | 2 56           | 0 85           | 1 00           | 0 0                  | 11 80               | 30 15                 | 0 00                   | 2167    | 0           | 301                  | 309                 | 610        |
| 13     | 210       | 11 53                | 4 714               | 13 023              | 0 00                    | 0 210 | 2 56           | 0 85           | 1 00           | 0 0                  | 11 61               | 29 76                 | 0 00                   | 2103    | 0           | 292                  | 303                 | 594        |
| 12     | 190       | 11 29                | 4 714               | 13 023              | 0 00                    | 0 210 | 2 56           | 0 85           | 1 00           | 0 0                  | 11 61               | 29 76                 | 0 00                   | 2103    | 0           | 285                  | 297                 | 582        |
| 11     | 170       | 11 02                | 4 714               | 12 472              | 0 00                    | 0 203 | 2 59           | 0 85           | 1 00           | 0 0                  | 11 26               | 29 11                 | 0 00                   | 1944    | 0           | 273                  | 290                 | 563        |
| 10     | 150       | 10 74                | 4 714               | 12 472              | 0 00                    | 0 203 | 2 59           | 0 85           | 1 00           | 0 0                  | 11 26               | 29 11                 | 0 00                   | 1945    | 0           | 266                  | 282                 | 548        |
| 9      | 130       | 10 42                | 4 928               | 12 472              | 0 00                    | 0 206 | 2 58           | 0 85           | 1 00           | 0 0                  | 11 45               | 29 50                 | 0 00                   | 2021    | 0           | 261                  | 274                 | 535        |
| 8      | 110       | 10 06                | 3 792               | 11 098              | 0 00                    | 0 177 | 2 67           | 0 85           | 1 00           | 0 0                  | 9 62                | 25 73                 | 0 00                   | 1614    | 0           | 220                  | 264                 | 485        |
| 7      | 90        | 9 64                 | 3 792               | 11 098              | 0 00                    | 0 177 | 2 67           | 0 85           | 1 00           | 0 0                  | 9 62                | 25 73                 | 0 00                   | 1614    | 0           | 211                  | 254                 | 464        |
| 6      | 70        | 9 15                 | 4 160               | 11 098              | 0 00                    | 0 181 | 2 66           | 0 85           | 1 00           | 0 0                  | 9 94                | 26 44                 | 0 00                   | 1697    | 0           | 206                  | 240                 | 446        |
| 5      | 50        | 8 52                 | 3 771               | 11 921              | 0 00                    | 0 186 | 2 65           | 0 85           | 1 00           | 0 0                  | 10 09               | 26 70                 | 0 00                   | 1824    | 0           | 193                  | 224                 | 417        |
| 4      | 30        | 7 65                 | 3 771               | 11 921              | 0 00                    | 0 186 | 2 65           | 0 85           | 1 00           | 0 0                  | 10 09               | 26 70                 | 0 00                   | 1824    | 0           | 174                  | 201                 | 375        |
| 3      | 14        | 6 62                 | 1 885               | 7 160               | 0 00                    | 0 178 | 2 67           | 0 85           | 1 00           | 0 0                  | 5 73                | 15 31                 | 0 00                   | 1077    | 0           | 86                   | 104                 | 191        |
| 2      | 7         | 6 62                 | 0 628               | 1 359               | 0 00                    | 0 235 | 2 48           | 0 85           | 1 00           | 0 0                  | 1 34                | 3 32                  | 0 00                   | 205     | 0           | 19                   | 17                  | 36         |
| 1      | 3         | 6 62                 | 0 924               | 3 369               | 0 00                    | 0 321 | 2 24           | 0 85           | 1 00           | 0 0                  | 2 84                | 6 37                  | 0 00                   | 539     | 0           | 36                   | 52                  | 88         |
|        |           |                      |                     |                     |                         |       |                |                |                |                      |                     |                       |                        |         | 27,089      | 0                    |                     | 7,490      |

### EQUIVALENT LATERAL FORCE METHOD

|                                                                         |         |
|-------------------------------------------------------------------------|---------|
| Spectral Response Acceleration for Short Period ( $S_s$ )               | 0 09    |
| Spectral Response Acceleration at 1 0 Second Period ( $S_1$ )           | 0 05    |
| Long-Period Transition Period ( $T_L$ - Seconds)                        | 8       |
| Importance Factor ( $I_a$ )                                             | 1 00    |
| Site Coefficient $F_a$                                                  | 1 60    |
| Site Coefficient $F_v$                                                  | 2 40    |
| Response Modification Coefficient (R)                                   | 3 00    |
| Design Spectral Response Acceleration at Short Period ( $S_{ds}$ )      | 0 09    |
| Design Spectral Response Acceleration at 1 0 Second Period ( $S_{d1}$ ) | 0 08    |
| Seismic Response Coefficient ( $C_s$ )                                  | 0 03    |
| Upper Limit $C_s$                                                       | 0 05    |
| Lower Limit $C_s$                                                       | 0 03    |
| Period based on Rayleigh Method (sec)                                   | 0 59    |
| Redundancy Factor (p)                                                   | 1 30    |
| Seismic Force Distribution Exponent (k)                                 | 1 04    |
| Total Unfactored Dead Load                                              | 31 88 k |
| Seismic Base Shear (E)                                                  | 1 27 k  |

### SEISMIC

Load Case. 1 2D + 1 0Ev + 1 0Eh

Seismic

| Section                         | Height Above<br>Base (ft) | Weight<br>(lb) | $W_z$<br>(lb-ft) | $C_{vx}$ | Horizontal<br>Force (lb) | Vertical<br>Force<br>(lb) |
|---------------------------------|---------------------------|----------------|------------------|----------|--------------------------|---------------------------|
| 17                              | 290 00                    | 1,335          | 499,232          | 0 075    | 95                       | 1,626                     |
| 16                              | 270 00                    | 1,429          | 496,095          | 0 075    | 95                       | 1,741                     |
| 15                              | 250 00                    | 1,648          | 527,727          | 0 079    | 101                      | 2,007                     |
| 14                              | 230 00                    | 2,167          | 636,016          | 0 096    | 121                      | 2,640                     |
| 13                              | 210 00                    | 2,103          | 561,366          | 0 084    | 107                      | 2,562                     |
| 12                              | 190 00                    | 2,103          | 505,627          | 0 076    | 96                       | 2,562                     |
| 11                              | 170 00                    | 1,944          | 416,097          | 0 063    | 79                       | 2,368                     |
| 10                              | 150 00                    | 1,945          | 365,398          | 0 055    | 70                       | 2,370                     |
| 9                               | 130 00                    | 2,021          | 326,936          | 0 049    | 62                       | 2,463                     |
| 8                               | 110 00                    | 1,614          | 219,184          | 0 033    | 42                       | 1,966                     |
| 7                               | 90 00                     | 1,614          | 177,725          | 0 027    | 34                       | 1,966                     |
| 6                               | 70 00                     | 1,697          | 143,755          | 0 022    | 27                       | 2,068                     |
| 5                               | 50 00                     | 1,824          | 108,709          | 0 016    | 21                       | 2,222                     |
| 4                               | 30 00                     | 1,824          | 63,748           | 0 010    | 12                       | 2,222                     |
| 3                               | 14 00                     | 1,077          | 16,979           | 0 003    | 3                        | 1,313                     |
| 2                               | 7 00                      | 205            | 1,565            | 0 000    | 0                        | 250                       |
| 1                               | 3 00                      | 539            | 1,700            | 0 000    | 0                        | 657                       |
| Antel RWA-80016CF               | 300 00                    | 279            | 108,114          | 0 016    | 21                       | 340                       |
| Generic Flat Light Sector Frame | 300 00                    | 1,200          | 465,008          | 0 070    | 89                       | 1,462                     |
| Ericsson Radio 4460 B25+B66     | 250 00                    | 327            | 104,735          | 0 016    | 20                       | 398                       |
| Ericsson Radio 4480 B71+B85A    | 250 00                    | 252            | 80,713           | 0 012    | 15                       | 307                       |
| Gabriel P-24A36G+U              | 250 00                    | 80             | 25,623           | 0 004    | 5                        | 97                        |
| Ericsson AIR 6419 B41           | 250 00                    | 250            | 80,041           | 0 012    | 15                       | 304                       |
| Sabre C10857001C Sector Frame   | 250 00                    | 1,386          | 443,923          | 0 067    | 85                       | 1,689                     |
| Commscope FFVV-65C-R3-V1        | 250 00                    | 374            | 119,725          | 0 018    | 23                       | 455                       |
| Torque Arms                     | 196 00                    | 300            | 74,514           | 0 011    | 14                       | 366                       |
| Ceragon FibeAir RFU-C           | 175 00                    | 9              | 1,986            | 0 000    | 0                        | 11                        |
| Ceragon 1500HP/RFU-HP           | 175 00                    | 15             | 3,398            | 0 000    | 1                        | 19                        |
| Andrew Microwaves HPX6-59-P3A/K | 175 00                    | 320            | 70,606           | 0 011    | 13                       | 390                       |
| Totals                          |                           | 31,881         | 6,646,245        | 1 000    | 1,267                    | 38,842                    |

# FORCE/STRESS SUMMARY

## Section 1 – Base 0 0 (ft) and Height 6 00 (ft)

| Max Compression      | Pu     | Load Case       | Len<br>(ft) | Bracing %     |              |     |        | F'y<br>(ksi) | Φc Pn<br>(kip) | Shear | Bear | #<br>Bolt | #<br>Hole | Use<br>% | Controls |
|----------------------|--------|-----------------|-------------|---------------|--------------|-----|--------|--------------|----------------|-------|------|-----------|-----------|----------|----------|
|                      | (kip)  |                 |             | ΦRnv<br>(kip) | ΦRn<br>(kip) |     |        |              |                |       |      |           |           |          |          |
| L SOL - 2 3/4" SOLID | -61 92 | 1 2D + 1 0W 60° | 3 215       | 100           | 100          | 100 | 56 11  | 50 0         | 212 32         | 0 00  | 0 00 | 0         | 0         | 29       | Member X |
| D SOL - 5/8" SOLID   | -0 54  | 1 2D + 1 0W N   | 4 282       | 50            | 50           | 50  | 148 21 | 50 0         | 3 16           | 0 00  | 0 00 | 0         | 0         | 0        | Member X |

| Max Tension Member | Pu    | Load Case       | Fy<br>(ksi) | Fu<br>(ksi) | ΦcPn<br>(kip) | Shear         | Bear         | Blk Shear      | #<br>Bolt | #<br>Hole | Use<br>% | Controls |
|--------------------|-------|-----------------|-------------|-------------|---------------|---------------|--------------|----------------|-----------|-----------|----------|----------|
|                    | (kip) |                 |             |             |               | ΦRnv<br>(kip) | ΦRn<br>(kip) | Φt Pn<br>(kip) |           |           |          |          |
| H SAE - 2X2X0 1875 | 11 02 | 1 2D + 1.0W 60° | 36 0        | 58          | 23 17         | 0 00          | 0 00         | 0 00           | 0         | 0         | 47       | Member   |

| Max Splice Forces | Pu    | Load Case | ΦRnt  | Use | Num   | Bolt Type |
|-------------------|-------|-----------|-------|-----|-------|-----------|
|                   | (kip) |           | (kip) | %   | Bolts |           |

## Section 2 – Base 6 0 (ft) and Height 2 00 (ft)

| Max Compression      | Pu     | Load Case       | Len<br>(ft) | Bracing % |       |       |        | F <sub>y</sub><br>(ksi) | Φ <sub>c</sub> P <sub>n</sub><br>(kip) | Shear                       | Bear                       | #<br>Bolt | #<br>Hole | Use<br>% | Controls |
|----------------------|--------|-----------------|-------------|-----------|-------|-------|--------|-------------------------|----------------------------------------|-----------------------------|----------------------------|-----------|-----------|----------|----------|
|                      | (kip)  |                 |             | X         | Y     | Z     | KL/R   |                         |                                        | Φ <sub>R<sub>nv</sub></sub> | Φ <sub>R<sub>n</sub></sub> |           |           |          |          |
|                      | (kip)  |                 |             | (ksi)     | (kip) | (kip) | (kip)  |                         |                                        |                             |                            |           |           |          |          |
| L SOL - 2 3/4" SOLID | -59 19 | 1 2D + 1 0W 60° | 2           | 100       | 100   | 100   | 34 91  | 50 0                    | 244 50                                 | 0 00                        | 0 00                       | 0         | 0         | 24       | Member X |
| H SAE - 2X2X0 1875   | -0 06  | 1 2D + 1 0W N   | 4           | 100       | 100   | 100   | 121 12 | 36 0                    | 13 87                                  | 0 00                        | 0 00                       | 0         | 0         | 0        | Member Z |

| Max Tension Member | Pu    | Load Case     | F <sub>y</sub><br>(ksi) | F <sub>u</sub><br>(ksi) | Φ <sub>c</sub> P <sub>n</sub><br>(kip) | Shear                       | Bear                       | Blk Shear                     | #<br>Bolt | #<br>Hole | Use<br>% | Controls |
|--------------------|-------|---------------|-------------------------|-------------------------|----------------------------------------|-----------------------------|----------------------------|-------------------------------|-----------|-----------|----------|----------|
|                    | (kip) |               |                         |                         |                                        | Φ <sub>R<sub>nv</sub></sub> | Φ <sub>R<sub>n</sub></sub> | Φ <sub>t</sub> P <sub>n</sub> |           |           |          |          |
|                    | (kip) |               |                         |                         |                                        | (kip)                       | (kip)                      |                               |           |           |          |          |
| D SOL - 5/8" SOLID | 1 81  | 1 2D + 1 0W N | 50 0                    | 65                      | 13 81                                  | 0 00                        | 0 00                       | 0 00                          | 0         | 0         | 13       | Member   |

| Max Splice Forces | Pu    | Load Case | Φ <sub>R<sub>nt</sub></sub><br>(kip) | Use<br>% | Num<br>Bolts | Bolt Type |
|-------------------|-------|-----------|--------------------------------------|----------|--------------|-----------|
|                   | (kip) |           |                                      |          |              |           |

## Section 3 – Base 8 0 (ft) and Height 12 00 (ft)

| Max Compression      | Pu     |                 | Len   | Bracing % |     |     |        | F'y  | Φc Pn  | Shear | Bear  | # | # | Use | Controls |
|----------------------|--------|-----------------|-------|-----------|-----|-----|--------|------|--------|-------|-------|---|---|-----|----------|
|                      | (kip)  | Load Case       |       | (ft)      | X   | Y   | Z      |      |        | KL/R  | (ksi) |   |   |     |          |
| L SOL - 2 3/4" SOLID | -60 90 | 1 2D + 1 0W 60° | 3 833 | 100       | 100 | 100 | 66 91  | 50 0 | 192 67 | 0 00  | 0 00  | 0 | 0 | 31  | Member X |
| D SOL - 5/8" SOLID   | -1 81  | 1 2D + 1 0W N   | 5 54  | 50        | 50  | 50  | 191 78 | 50 0 | 1 88   | 0 00  | 0 00  | 0 | 0 | 0   | Member X |

| Max Tension Member | Pu    |               | Fy   | Fu | Φc Pn | Shear | Bear  | Blk Shear | # | # | Use | Controls |
|--------------------|-------|---------------|------|----|-------|-------|-------|-----------|---|---|-----|----------|
|                    | (kip) | Load Case     |      |    |       | (ksi) | (ksi) | (kip)     |   |   |     |          |
| H SAE - 2X2X0 1875 | 1 53  | 1 2D + 1 0W N | 36 0 | 58 | 23 17 | 0 00  | 0 00  | 0 00      | 0 | 0 | 6   | Member   |

| Max Splice Forces | Pu    |           | ΦRnt | Use | Num | Bolt Type |
|-------------------|-------|-----------|------|-----|-----|-----------|
|                   | (kip) | Load Case |      |     |     |           |

## Section 4 – Base 20 0 (ft) and Height 20 00 (ft)

| Max Compression      | Pu     | Load Case       | Len<br>(ft) | Bracing % |     |     | F'y<br>(ksi) | Φc Pn<br>(kip) | ΦRnv<br>(kip) | ΦRn<br>(kip) | Shear |                | Bear         |  | #<br>Bolt | #<br>Hole | Use<br>% | Controls |
|----------------------|--------|-----------------|-------------|-----------|-----|-----|--------------|----------------|---------------|--------------|-------|----------------|--------------|--|-----------|-----------|----------|----------|
|                      | (kip)  |                 |             | X         | Y   | Z   |              |                |               |              | KL/R  | Φt Pn<br>(kip) | ΦRn<br>(kip) |  |           |           |          |          |
| L SOL - 2 3/4" SOLID | -62 52 | 1 2D + 1 0W 60° | 3 8         | 100       | 100 | 100 | 66 33        | 50 0           | 193 76        | 0 00         | 0 00  |                |              |  | 0         | 0         | 32       | Member X |
| D SOL - 5/8" SOLID   | -1 33  | 1 2D + 1 0W N   | 5 517       | 50        | 50  | 50  | 190 98       | 50 0           | 1 90          | 0 00         | 0 00  |                |              |  | 0         | 0         | 0        | Member X |

| Max Tension Member | Pu    | Load Case     | Fy<br>(ksi) | Fu<br>(ksi) | Φc Pn<br>(kip) | ΦRnv<br>(kip) | ΦRn<br>(kip) | Φt Pn<br>(kip) | Shear          |              | #<br>Bolt | #<br>Hole | Use<br>% | Controls |
|--------------------|-------|---------------|-------------|-------------|----------------|---------------|--------------|----------------|----------------|--------------|-----------|-----------|----------|----------|
|                    | (kip) |               |             |             |                |               |              |                | Φc Pn<br>(kip) | ΦRn<br>(kip) |           |           |          |          |
| H SAE - 2X2X0 1875 | 1 62  | 1 2D + 1 0W N | 36 0        | 58          | 23 17          | 0 00          | 0 00         | 0 00           |                |              | 0         | 0         | 6        | Member   |

### FORCE/STRESS SUMMARY

| Max Splice Forces | Pu<br>(kip) | Load Case | $\Phi R_{nt}$<br>(kip) | Use<br>% | Num<br>Bolts | Bolt Type |
|-------------------|-------------|-----------|------------------------|----------|--------------|-----------|
|-------------------|-------------|-----------|------------------------|----------|--------------|-----------|

#### Section 5 – Base 40 0 (ft) and Height 20 00 (ft)

| Max Compression      | Pu<br>(kip) | Load Case       | Len<br>(ft) | Bracing % |     |     |        | F' <sub>y</sub><br>(ksi) | $\Phi_c P_n$<br>(kip) | $\Phi R_{nv}$<br>(kip) | $\Phi R_n$<br>(kip) | Shear         |            | Bear       |            | #<br>Bolt | #<br>Hole | Use<br>% | Controls |
|----------------------|-------------|-----------------|-------------|-----------|-----|-----|--------|--------------------------|-----------------------|------------------------|---------------------|---------------|------------|------------|------------|-----------|-----------|----------|----------|
|                      |             |                 |             | X         | Y   | Z   | KL/R   |                          |                       |                        |                     | $\Phi R_{nv}$ | $\Phi R_n$ | $\Phi R_n$ | $\Phi R_n$ |           |           |          |          |
| L SOL - 2 3/4" SOLID | -61 41      | 1 2D + 1 0W 60° | 3 8         | 100       | 100 | 100 | 66 33  | 50 0                     | 193 76                | 0 00                   | 0 00                | 0 00          | 0 00       | 0 00       | 0 00       | 0         | 0         | 31       | Member X |
| H SAE - 2X2X0 1875   | -0 79       | 1 2D + 1.0W 60° | 4           | 100       | 100 | 100 | 121 12 | 36 0                     | 13 87                 | 0 00                   | 0 00                | 0 00          | 0 00       | 0 00       | 0 00       | 0         | 0         | 5        | Member Z |
| D SOL - 5/8" SOLID   | -0 58       | 1 2D + 1 0W N   | 5 517       | 50        | 50  | 50  | 190 98 | 50 0                     | 1 90                  | 0 00                   | 0 00                | 0 00          | 0 00       | 0 00       | 0 00       | 0         | 0         | 0        | Member X |

| Max Tension Member | Pu<br>(kip) | Load Case       | F <sub>y</sub><br>(ksi) | F <sub>u</sub><br>(ksi) | $\Phi_c P_n$<br>(kip) | $\Phi R_{nv}$<br>(kip) | $\Phi R_n$<br>(kip) | Blk Shear<br>$\Phi_t P_n$<br>(kip) | #<br>Bolt | #<br>Hole | Use<br>% | Controls |
|--------------------|-------------|-----------------|-------------------------|-------------------------|-----------------------|------------------------|---------------------|------------------------------------|-----------|-----------|----------|----------|
|                    |             |                 |                         |                         |                       |                        |                     |                                    |           |           |          |          |
| H SAE - 2X2X0 1875 | 1 54        | 1 2D + 1 0W N   | 36 0                    | 58                      | 23 17                 | 0 00                   | 0 00                | 0 00                               | 0         | 0         | 6        | Member   |
| D SOL - 5/8" SOLID | 2 00        | 1 2D + 1 0W 90° | 50 0                    | 65                      | 13 81                 | 0 00                   | 0 00                | 0 00                               | 0         | 0         | 14       | Member   |

| Max Splice Forces | Pu<br>(kip) | Load Case | $\Phi R_{nt}$<br>(kip) | Use<br>% | Num<br>Bolts | Bolt Type |
|-------------------|-------------|-----------|------------------------|----------|--------------|-----------|
|-------------------|-------------|-----------|------------------------|----------|--------------|-----------|

#### Section 6 – Base 60 0 (ft) and Height 20 00 (ft)

| Max Compression      | Pu<br>(kip) | Load Case       | Len<br>(ft) | Bracing % |     |     |        | F' <sub>y</sub><br>(ksi) | $\Phi_c P_n$<br>(kip) | $\Phi R_{nv}$<br>(kip) | $\Phi R_n$<br>(kip) | Shear         |            | Bear       |            | #<br>Bolt | #<br>Hole | Use<br>% | Controls |
|----------------------|-------------|-----------------|-------------|-----------|-----|-----|--------|--------------------------|-----------------------|------------------------|---------------------|---------------|------------|------------|------------|-----------|-----------|----------|----------|
|                      |             |                 |             | X         | Y   | Z   | KL/R   |                          |                       |                        |                     | $\Phi R_{nv}$ | $\Phi R_n$ | $\Phi R_n$ | $\Phi R_n$ |           |           |          |          |
| L SOL - 2 1/2" SOLID | -54 52      | 1 2D + 1 0W 60° | 3 8         | 100       | 100 | 100 | 72 96  | 50 0                     | 149 71                | 0 00                   | 0 00                | 0 00          | 0 00       | 0 00       | 0 00       | 0         | 0         | 36       | Member X |
| H SAE - 2X2X0 1875   | -1 84       | 1 2D + 1 0W 90° | 4           | 100       | 100 | 100 | 121 12 | 36 0                     | 13 87                 | 0 00                   | 0 00                | 0 00          | 0 00       | 0 00       | 0 00       | 0         | 0         | 13       | Member Z |
| D SOL - 5/8" SOLID   | -1 21       | 1 2D + 1 0W N   | 5 517       | 50        | 50  | 50  | 190 98 | 50 0                     | 1 90                  | 0 00                   | 0 00                | 0 00          | 0 00       | 0 00       | 0 00       | 0         | 0         | 0        | Member X |

| Max Tension Member | Pu<br>(kip) | Load Case       | F <sub>y</sub><br>(ksi) | F <sub>u</sub><br>(ksi) | $\Phi_c P_n$<br>(kip) | $\Phi R_{nv}$<br>(kip) | $\Phi R_n$<br>(kip) | Blk Shear<br>$\Phi_t P_n$<br>(kip) | #<br>Bolt | #<br>Hole | Use<br>% | Controls |
|--------------------|-------------|-----------------|-------------------------|-------------------------|-----------------------|------------------------|---------------------|------------------------------------|-----------|-----------|----------|----------|
|                    |             |                 |                         |                         |                       |                        |                     |                                    |           |           |          |          |
| H SAE - 2X2X0 1875 | 1 87        | 1 2D + 1 0W 60° | 36 0                    | 58                      | 23 17                 | 0 00                   | 0 00                | 0 00                               | 0         | 0         | 8        | Member   |
| D SOL - 5/8" SOLID | 2 79        | 1 2D + 1 0W 90° | 50 0                    | 65                      | 13 81                 | 0 00                   | 0 00                | 0 00                               | 0         | 0         | 20       | Member   |

| Max Splice Forces | Pu<br>(kip) | Load Case | $\Phi R_{nt}$<br>(kip) | Use<br>% | Num<br>Bolts | Bolt Type |
|-------------------|-------------|-----------|------------------------|----------|--------------|-----------|
|-------------------|-------------|-----------|------------------------|----------|--------------|-----------|

#### Section 7 – Base 80 0 (ft) and Height 20 00 (ft)

| Max Compression      | Pu<br>(kip) | Load Case        | Len<br>(ft) | Bracing % |     |     |        | F' <sub>y</sub><br>(ksi) | $\Phi_c P_n$<br>(kip) | $\Phi R_{nv}$<br>(kip) | $\Phi R_n$<br>(kip) | Shear         |            | Bear       |            | #<br>Bolt | #<br>Hole | Use<br>% | Controls |
|----------------------|-------------|------------------|-------------|-----------|-----|-----|--------|--------------------------|-----------------------|------------------------|---------------------|---------------|------------|------------|------------|-----------|-----------|----------|----------|
|                      |             |                  |             | X         | Y   | Z   | KL/R   |                          |                       |                        |                     | $\Phi R_{nv}$ | $\Phi R_n$ | $\Phi R_n$ | $\Phi R_n$ |           |           |          |          |
| L SOL - 2 1/2" SOLID | -53 98      | 1 2D + 1 0W 180° | 3 8         | 100       | 100 | 100 | 72 96  | 50 0                     | 149 71                | 0 00                   | 0 00                | 0 00          | 0 00       | 0 00       | 0 00       | 0         | 0         | 36       | Member X |
| D SOL - 5/8" SOLID   | -1 56       | 1 2D + 1 0W N    | 5 517       | 50        | 50  | 50  | 190 98 | 50 0                     | 1 90                  | 0 00                   | 0 00                | 0 00          | 0 00       | 0 00       | 0 00       | 0         | 0         | 0        | Member X |

| Max Tension Member | Pu<br>(kip) | Load Case     | F <sub>y</sub><br>(ksi) | F <sub>u</sub><br>(ksi) | $\Phi_c P_n$<br>(kip) | $\Phi R_{nv}$<br>(kip) | $\Phi R_n$<br>(kip) | Blk Shear<br>$\Phi_t P_n$<br>(kip) | #<br>Bolt | #<br>Hole | Use<br>% | Controls |
|--------------------|-------------|---------------|-------------------------|-------------------------|-----------------------|------------------------|---------------------|------------------------------------|-----------|-----------|----------|----------|
|                    |             |               |                         |                         |                       |                        |                     |                                    |           |           |          |          |
| H SAE - 2X2X0 1875 | 1 71        | 1 2D + 1 0W N | 36 0                    | 58                      | 23 17                 | 0 00                   | 0 00                | 0 00                               | 0         | 0         | 7        | Member   |

| Max Splice Forces | Pu<br>(kip) | Load Case | $\Phi R_{nt}$<br>(kip) | Use<br>% | Num<br>Bolts | Bolt Type |
|-------------------|-------------|-----------|------------------------|----------|--------------|-----------|
|-------------------|-------------|-----------|------------------------|----------|--------------|-----------|

#### Section 8 – Base 100 0 (ft) and Height 20 00 (ft)

| Max Compression      | Pu<br>(kip) | Load Case       | Len<br>(ft) | Bracing % |     |     |        | F' <sub>y</sub><br>(ksi) | $\Phi_c P_n$<br>(kip) | $\Phi R_{nv}$<br>(kip) | $\Phi R_n$<br>(kip) | Shear         |            | Bear       |            | #<br>Bolt | #<br>Hole | Use<br>% | Controls |
|----------------------|-------------|-----------------|-------------|-----------|-----|-----|--------|--------------------------|-----------------------|------------------------|---------------------|---------------|------------|------------|------------|-----------|-----------|----------|----------|
|                      |             |                 |             | X         | Y   | Z   | KL/R   |                          |                       |                        |                     | $\Phi R_{nv}$ | $\Phi R_n$ | $\Phi R_n$ | $\Phi R_n$ |           |           |          |          |
| L SOL - 2 1/2" SOLID | -53 36      | 1 2D + 1 0W 60° | 3 8         | 100       | 100 | 100 | 72 96  | 50 0                     | 149 71                | 0 00                   | 0 00                | 0 00          | 0 00       | 0 00       | 0 00       | 0         | 0         | 35       | Member X |
| H SAE - 2X2X0 1875   | -0 43       | 1 2D + 1 0W N   | 4           | 100       | 100 | 100 | 121.12 | 36 0                     | 13 87                 | 0 00                   | 0 00                | 0 00          | 0 00       | 0 00       | 0 00       | 0         | 0         | 3        | Member Z |
| D SOL - 5/8" SOLID   | -0 64       | 1 2D + 1 0W N   | 5 517       | 50        | 50  | 50  | 190 98 | 50 0                     | 1 90                  | 0 00                   | 0 00                | 0 00          | 0 00       | 0 00       | 0 00       | 0         | 0         | 0        | Member X |

### FORCE/STRESS SUMMARY

|                    | Pu<br>(kip) | Load Case       | F <sub>y</sub><br>(ksi) | F <sub>u</sub><br>(ksi) | Φ <sub>c</sub> P <sub>n</sub><br>(kip) | Shear<br>ΦR <sub>nv</sub><br>(kip) | Bear<br>ΦR <sub>n</sub><br>(kip) | Blk Shear<br>Φ <sub>t</sub> P <sub>n</sub><br>(kip) | #<br>Bolt | #<br>Hole | Use<br>% | Controls |
|--------------------|-------------|-----------------|-------------------------|-------------------------|----------------------------------------|------------------------------------|----------------------------------|-----------------------------------------------------|-----------|-----------|----------|----------|
| Max Tension Member |             |                 |                         |                         |                                        |                                    |                                  |                                                     |           |           |          |          |
| H SAE - 2X2X0 1875 | 1 63        | 1 2D + 1 0W 60° | 36 0                    | 58                      | 23 17                                  | 0 00                               | 0 00                             | 0 00                                                | 0         | 0         | 7        | Member   |
| D SOL - 5/8" SOLID | 1 80        | 1 2D + 1 0W N   | 50 0                    | 65                      | 13 81                                  | 0 00                               | 0 00                             | 0 00                                                | 0         | 0         | 13       | Member   |

|                   | Pu<br>(kip) | Load Case | ΦR <sub>nt</sub><br>(kip) | Use<br>% | Num<br>Bolts | Bolt Type |
|-------------------|-------------|-----------|---------------------------|----------|--------------|-----------|
| Max Splice Forces |             |           |                           |          |              |           |

#### Section 9 – Base 120 0 (ft) and Height 20 00 (ft)

|                      | Pu<br>(kip) | Load Case     | Len<br>(ft) | Bracing %<br>X Y Z | KL/R   | F' <sub>y</sub><br>(ksi) | Φ <sub>c</sub> P <sub>n</sub><br>(kip) | Shear<br>ΦR <sub>nv</sub><br>(kip) | Bear<br>ΦR <sub>n</sub><br>(kip) | #<br>Bolt | #<br>Hole | Use<br>% | Controls |
|----------------------|-------------|---------------|-------------|--------------------|--------|--------------------------|----------------------------------------|------------------------------------|----------------------------------|-----------|-----------|----------|----------|
| Max Compression      |             |               |             |                    |        |                          |                                        |                                    |                                  |           |           |          |          |
| L SOL - 2 3/4" SOLID | -62 63      | 1 2D + 1 0W N | 3 8         | 100 100 100        | 66 33  | 50 0                     | 193 76                                 | 0 00                               | 0 00                             | 0         | 0         | 32       | Member X |
| D SOL - 3/4" SOLID   | -1 12       | 1 2D + 1 0W N | 5 517       | 50 50 50           | 158 90 | 50 0                     | 3 95                                   | 0 00                               | 0 00                             | 0         | 0         | 0        | Member X |

|                        | Pu<br>(kip) | Load Case       | F <sub>y</sub><br>(ksi) | F <sub>u</sub><br>(ksi) | Φ <sub>c</sub> P <sub>n</sub><br>(kip) | Shear<br>ΦR <sub>nv</sub><br>(kip) | Bear<br>ΦR <sub>n</sub><br>(kip) | Blk Shear<br>Φ <sub>t</sub> P <sub>n</sub><br>(kip) | #<br>Bolt | #<br>Hole | Use<br>% | Controls |
|------------------------|-------------|-----------------|-------------------------|-------------------------|----------------------------------------|------------------------------------|----------------------------------|-----------------------------------------------------|-----------|-----------|----------|----------|
| Max Tension Member     |             |                 |                         |                         |                                        |                                    |                                  |                                                     |           |           |          |          |
| H SAE - 2 5X2 5X0 1875 | 2 07        | 1 2D + 1 0W 60° | 36 0                    | 58                      | 29 22                                  | 0 00                               | 0 00                             | 0 00                                                | 0         | 0         | 7        | Member   |
| D SOL - 3/4" SOLID     | 0 43        | 1 2D + 1 0W 90° | 50 0                    | 65                      | 19 88                                  | 0 00                               | 0 00                             | 0 00                                                | 0         | 0         | 2        | Member   |

|                   | Pu<br>(kip) | Load Case | ΦR <sub>nt</sub><br>(kip) | Use<br>% | Num<br>Bolts | Bolt Type |
|-------------------|-------------|-----------|---------------------------|----------|--------------|-----------|
| Max Splice Forces |             |           |                           |          |              |           |

#### Section 10 – Base 140 0 (ft) and Height 20 00 (ft)

|                      | Pu<br>(kip) | Load Case     | Len<br>(ft) | Bracing %<br>X Y Z | KL/R   | F' <sub>y</sub><br>(ksi) | Φ <sub>c</sub> P <sub>n</sub><br>(kip) | Shear<br>ΦR <sub>nv</sub><br>(kip) | Bear<br>ΦR <sub>n</sub><br>(kip) | #<br>Bolt | #<br>Hole | Use<br>% | Controls |
|----------------------|-------------|---------------|-------------|--------------------|--------|--------------------------|----------------------------------------|------------------------------------|----------------------------------|-----------|-----------|----------|----------|
| Max Compression      |             |               |             |                    |        |                          |                                        |                                    |                                  |           |           |          |          |
| L SOL - 2 3/4" SOLID | -62 04      | 1 2D + 1 0W N | 3 8         | 100 100 100        | 66 33  | 50 0                     | 193 76                                 | 0 00                               | 0 00                             | 0         | 0         | 32       | Member X |
| D SOL - 3/4" SOLID   | -2 44       | 1 2D + 1 0W N | 5 517       | 50 50 50           | 158 90 | 50 0                     | 3 95                                   | 0 00                               | 0 00                             | 0         | 0         | 0        | Member X |

|                        | Pu<br>(kip) | Load Case       | F <sub>y</sub><br>(ksi) | F <sub>u</sub><br>(ksi) | Φ <sub>c</sub> P <sub>n</sub><br>(kip) | Shear<br>ΦR <sub>nv</sub><br>(kip) | Bear<br>ΦR <sub>n</sub><br>(kip) | Blk Shear<br>Φ <sub>t</sub> P <sub>n</sub><br>(kip) | #<br>Bolt | #<br>Hole | Use<br>% | Controls |
|------------------------|-------------|-----------------|-------------------------|-------------------------|----------------------------------------|------------------------------------|----------------------------------|-----------------------------------------------------|-----------|-----------|----------|----------|
| Max Tension Member     |             |                 |                         |                         |                                        |                                    |                                  |                                                     |           |           |          |          |
| H SAE - 2 5X2 5X0 1875 | 1 63        | 1 2D + 1 0W N   | 36 0                    | 58                      | 29 22                                  | 0 00                               | 0 00                             | 0 00                                                | 0         | 0         | 5        | Member   |
| D SOL - 3/4" SOLID     | 0 28        | 1 2D + 1 0W 60° | 50 0                    | 65                      | 19 88                                  | 0 00                               | 0 00                             | 0 00                                                | 0         | 0         | 1        | Member   |

|                   | Pu<br>(kip) | Load Case | ΦR <sub>nt</sub><br>(kip) | Use<br>% | Num<br>Bolts | Bolt Type |
|-------------------|-------------|-----------|---------------------------|----------|--------------|-----------|
| Max Splice Forces |             |           |                           |          |              |           |

#### Section 11 – Base 160 0 (ft) and Height 20 00 (ft)

|                      | Pu<br>(kip) | Load Case     | Len<br>(ft) | Bracing %<br>X Y Z | KL/R   | F' <sub>y</sub><br>(ksi) | Φ <sub>c</sub> P <sub>n</sub><br>(kip) | Shear<br>ΦR <sub>nv</sub><br>(kip) | Bear<br>ΦR <sub>n</sub><br>(kip) | #<br>Bolt | #<br>Hole | Use<br>% | Controls |
|----------------------|-------------|---------------|-------------|--------------------|--------|--------------------------|----------------------------------------|------------------------------------|----------------------------------|-----------|-----------|----------|----------|
| Max Compression      |             |               |             |                    |        |                          |                                        |                                    |                                  |           |           |          |          |
| L SOL - 2 3/4" SOLID | -52 40      | 1 2D + 1 0W N | 3 8         | 100 100 100        | 66 33  | 50 0                     | 193 76                                 | 0 00                               | 0 00                             | 0         | 0         | 27       | Member X |
| D SOL - 3/4" SOLID   | -1 45       | 1 2D + 1 0W N | 5 517       | 50 50 50           | 158 90 | 50 0                     | 3 95                                   | 0 00                               | 0 00                             | 0         | 0         | 0        | Member X |

|                        | Pu<br>(kip) | Load Case     | F <sub>y</sub><br>(ksi) | F <sub>u</sub><br>(ksi) | Φ <sub>c</sub> P <sub>n</sub><br>(kip) | Shear<br>ΦR <sub>nv</sub><br>(kip) | Bear<br>ΦR <sub>n</sub><br>(kip) | Blk Shear<br>Φ <sub>t</sub> P <sub>n</sub><br>(kip) | #<br>Bolt | #<br>Hole | Use<br>% | Controls |
|------------------------|-------------|---------------|-------------------------|-------------------------|----------------------------------------|------------------------------------|----------------------------------|-----------------------------------------------------|-----------|-----------|----------|----------|
| Max Tension Member     |             |               |                         |                         |                                        |                                    |                                  |                                                     |           |           |          |          |
| H SAE - 2 5X2 5X0 1875 | 1 53        | 1 2D + 1 0W N | 36 0                    | 58                      | 29 22                                  | 0 00                               | 0 00                             | 0 00                                                | 0         | 0         | 5        | Member   |
| D SOL - 3/4" SOLID     | 0 21        | 1 2D + 1 0W N | 50 0                    | 65                      | 19 88                                  | 0 00                               | 0 00                             | 0 00                                                | 0         | 0         | 1        | Member   |

|                   | Pu<br>(kip) | Load Case | ΦR <sub>nt</sub><br>(kip) | Use<br>% | Num<br>Bolts | Bolt Type |
|-------------------|-------------|-----------|---------------------------|----------|--------------|-----------|
| Max Splice Forces |             |           |                           |          |              |           |

### FORCE/STRESS SUMMARY

#### Section 12 – Base 180 0 (ft) and Height 20 00 (ft)

| Max Compression      | Pu<br>(kip) | Load Case     | Len<br>(ft) | Bracing % |     |     |        | F <sub>y</sub><br>(ksi) | Φ <sub>c</sub> P <sub>n</sub><br>(kip) | Shear<br>ΦR <sub>nv</sub><br>(kip) | Bear<br>ΦR <sub>n</sub><br>(kip) | #<br>Bolt | #<br>Hole | Use<br>% | Controls |
|----------------------|-------------|---------------|-------------|-----------|-----|-----|--------|-------------------------|----------------------------------------|------------------------------------|----------------------------------|-----------|-----------|----------|----------|
|                      |             |               |             | X         | Y   | Z   | KL/R   |                         |                                        |                                    |                                  |           |           |          |          |
| L SOL - 2 3/4" SOLID | -64 74      | 1 2D + 1 0W N | 3 8         | 100       | 100 | 100 | 66 33  | 50 0                    | 193 76                                 | 0 00                               | 0 00                             | 0         | 0         | 33       | Member X |
| H SAE - 2 5X2 5X0 25 | -2 44       | 1 2D + 1 0W N | 4           | 100       | 100 | 100 | 108 88 | 36 0                    | 26 87                                  | 0 00                               | 0 00                             | 0         | 0         | 9        | Member Z |
| D SOL - 7/8" SOLID   | -0 25       | 1 2D + 1 0W N | 5 517       | 50        | 50  | 50  | 136 23 | 50 0                    | 7 32                                   | 0 00                               | 0 00                             | 0         | 0         | 0        | Member X |

| Max Tension Member   | Pu<br>(kip) | Load Case       | F <sub>y</sub><br>(ksi) | F <sub>u</sub><br>(ksi) | Φ <sub>c</sub> P <sub>n</sub><br>(kip) | Shear<br>ΦR <sub>nv</sub><br>(kip) | Bear<br>ΦR <sub>n</sub><br>(kip) | Blk Shear<br>Φ <sub>t</sub> P <sub>n</sub><br>(kip) | #<br>Bolt | #<br>Hole | Use<br>% | Controls |
|----------------------|-------------|-----------------|-------------------------|-------------------------|----------------------------------------|------------------------------------|----------------------------------|-----------------------------------------------------|-----------|-----------|----------|----------|
|                      |             |                 |                         |                         |                                        |                                    |                                  |                                                     |           |           |          |          |
| L SOL - 2 3/4" SOLID | 1 44        | 1 2D + 1 0W 60° | 50 0                    | 65                      | 267 28                                 | 0 00                               | 0 00                             |                                                     | 0         | 0         | 0        | Member   |
| H SAE - 2 5X2 5X0 25 | 4 64        | 1 2D + 1 0W 60° | 36 0                    | 58                      | 38 56                                  | 0 00                               | 0 00                             | 0 00                                                | 0         | 0         | 12       | Member   |
| D SOL - 7/8" SOLID   | 0 69        | 1 2D + 1 0W 60° | 50 0                    | 65                      | 27 06                                  | 0 00                               | 0 00                             | 0 00                                                | 0         | 0         | 2        | Member   |

| Max Splice Forces | Pu<br>(kip) | Load Case | ΦR <sub>nt</sub><br>(kip) | Use<br>% | Num<br>Bolts | Bolt Type |
|-------------------|-------------|-----------|---------------------------|----------|--------------|-----------|
|-------------------|-------------|-----------|---------------------------|----------|--------------|-----------|

#### Section 13 – Base 200 0 (ft) and Height 20 00 (ft)

| Max Compression      | Pu<br>(kip) | Load Case     | Len<br>(ft) | Bracing % |     |     |        | F <sub>y</sub><br>(ksi) | Φ <sub>c</sub> P <sub>n</sub><br>(kip) | Shear<br>ΦR <sub>nv</sub><br>(kip) | Bear<br>ΦR <sub>n</sub><br>(kip) | #<br>Bolt | #<br>Hole | Use<br>% | Controls |
|----------------------|-------------|---------------|-------------|-----------|-----|-----|--------|-------------------------|----------------------------------------|------------------------------------|----------------------------------|-----------|-----------|----------|----------|
|                      |             |               |             | X         | Y   | Z   | KL/R   |                         |                                        |                                    |                                  |           |           |          |          |
| L SOL - 2 3/4" SOLID | -59 27      | 1 2D + 1 0W N | 3 8         | 100       | 100 | 100 | 66 33  | 50 0                    | 193 76                                 | 0 00                               | 0 00                             | 0         | 0         | 30       | Member X |
| H SAE - 2 5X2 5X0 25 | -0 17       | 1 2D + 1 0W N | 4           | 100       | 100 | 100 | 108 88 | 36 0                    | 26 87                                  | 0 00                               | 0 00                             | 0         | 0         | 0        | Member Z |
| D SOL - 7/8" SOLID   | -2 71       | 1 2D + 1 0W N | 5 517       | 50        | 50  | 50  | 136 23 | 50 0                    | 7 32                                   | 0 00                               | 0 00                             | 0         | 0         | 0        | Member X |

| Max Tension Member   | Pu<br>(kip) | Load Case       | F <sub>y</sub><br>(ksi) | F <sub>u</sub><br>(ksi) | Φ <sub>c</sub> P <sub>n</sub><br>(kip) | Shear<br>ΦR <sub>nv</sub><br>(kip) | Bear<br>ΦR <sub>n</sub><br>(kip) | Blk Shear<br>Φ <sub>t</sub> P <sub>n</sub><br>(kip) | #<br>Bolt | #<br>Hole | Use<br>% | Controls |
|----------------------|-------------|-----------------|-------------------------|-------------------------|----------------------------------------|------------------------------------|----------------------------------|-----------------------------------------------------|-----------|-----------|----------|----------|
|                      |             |                 |                         |                         |                                        |                                    |                                  |                                                     |           |           |          |          |
| H SAE - 2 5X2 5X0 25 | 1 67        | 1 2D + 1 0W N   | 36 0                    | 58                      | 38 56                                  | 0 00                               | 0 00                             | 0 00                                                | 0         | 0         | 4        | Member   |
| D SOL - 7/8" SOLID   | 0 48        | 1 2D + 1 0W 60° | 50 0                    | 65                      | 27 06                                  | 0 00                               | 0 00                             | 0 00                                                | 0         | 0         | 1        | Member   |

| Max Splice Forces | Pu<br>(kip) | Load Case | ΦR <sub>nt</sub><br>(kip) | Use<br>% | Num<br>Bolts | Bolt Type |
|-------------------|-------------|-----------|---------------------------|----------|--------------|-----------|
|-------------------|-------------|-----------|---------------------------|----------|--------------|-----------|

#### Section 14 – Base 220 0 (ft) and Height 20 00 (ft)

| Max Compression      | Pu<br>(kip) | Load Case       | Len<br>(ft) | Bracing % |     |     |        | F <sub>y</sub><br>(ksi) | Φ <sub>c</sub> P <sub>n</sub><br>(kip) | Shear<br>ΦR <sub>nv</sub><br>(kip) | Bear<br>ΦR <sub>n</sub><br>(kip) | #<br>Bolt | #<br>Hole | Use<br>% | Controls |
|----------------------|-------------|-----------------|-------------|-----------|-----|-----|--------|-------------------------|----------------------------------------|------------------------------------|----------------------------------|-----------|-----------|----------|----------|
|                      |             |                 |             | X         | Y   | Z   | KL/R   |                         |                                        |                                    |                                  |           |           |          |          |
| L SOL - 2 3/4" SOLID | -45 79      | 1 2D + 1 0W N   | 3 8         | 100       | 100 | 100 | 66 33  | 50 0                    | 193 76                                 | 0 00                               | 0 00                             | 0         | 0         | 23       | Member X |
| H SAE - 2 5X2 5X0 25 | -0 34       | 1 2D + 1 0W 60° | 4           | 100       | 100 | 100 | 108 88 | 36 0                    | 26 87                                  | 0 00                               | 0 00                             | 0         | 0         | 1        | Member Z |
| D SOL - 7/8" SOLID   | -1 55       | 1 2D + 1 0W N   | 5 517       | 50        | 50  | 50  | 136 23 | 50 0                    | 7 32                                   | 0 00                               | 0 00                             | 0         | 0         | 0        | Member X |

| Max Tension Member   | Pu<br>(kip) | Load Case        | F <sub>y</sub><br>(ksi) | F <sub>u</sub><br>(ksi) | Φ <sub>c</sub> P <sub>n</sub><br>(kip) | Shear<br>ΦR <sub>nv</sub><br>(kip) | Bear<br>ΦR <sub>n</sub><br>(kip) | Blk Shear<br>Φ <sub>t</sub> P <sub>n</sub><br>(kip) | #<br>Bolt | #<br>Hole | Use<br>% | Controls |
|----------------------|-------------|------------------|-------------------------|-------------------------|----------------------------------------|------------------------------------|----------------------------------|-----------------------------------------------------|-----------|-----------|----------|----------|
|                      |             |                  |                         |                         |                                        |                                    |                                  |                                                     |           |           |          |          |
| L SOL - 2 3/4" SOLID | 2 46        | 1 2D + 1 0W 60°  | 50 0                    | 65                      | 267 28                                 | 0 00                               | 0 00                             |                                                     | 0         | 0         | 0        | Member   |
| H SAE - 2 5X2 5X0 25 | 1 58        | 1 2D + 1 0W 60°  | 36 0                    | 58                      | 38 56                                  | 0 00                               | 0 00                             | 0 00                                                | 0         | 0         | 4        | Member   |
| D SOL - 7/8" SOLID   | 2 98        | 1 2D + 1 0W 210° | 50 0                    | 65                      | 27 06                                  | 0 00                               | 0 00                             | 0 00                                                | 0         | 0         | 11       | Member   |

| Max Splice Forces | Pu<br>(kip) | Load Case | ΦR <sub>nt</sub><br>(kip) | Use<br>% | Num<br>Bolts | Bolt Type |
|-------------------|-------------|-----------|---------------------------|----------|--------------|-----------|
|-------------------|-------------|-----------|---------------------------|----------|--------------|-----------|

#### Section 15 – Base 240 0 (ft) and Height 20 00 (ft)

| Max Compression      | Pu<br>(kip) | Load Case     | Len<br>(ft) | Bracing % |     |     |        | F <sub>y</sub><br>(ksi) | Φ <sub>c</sub> P <sub>n</sub><br>(kip) | Shear<br>ΦR <sub>nv</sub><br>(kip) | Bear<br>ΦR <sub>n</sub><br>(kip) | #<br>Bolt | #<br>Hole | Use<br>% | Controls |
|----------------------|-------------|---------------|-------------|-----------|-----|-----|--------|-------------------------|----------------------------------------|------------------------------------|----------------------------------|-----------|-----------|----------|----------|
|                      |             |               |             | X         | Y   | Z   | KL/R   |                         |                                        |                                    |                                  |           |           |          |          |
| L SOL - 2 1/4" SOLID | -29 55      | 1 2D + 1 0W N | 3 8         | 100       | 100 | 100 | 81 07  | 50 0                    | 110 66                                 | 0 00                               | 0 00                             | 0         | 0         | 26       | Member X |
| H SAE - 2 5X2 5X0 25 | -0 58       | 1 2D + 1 0W N | 4           | 100       | 100 | 100 | 108 88 | 36 0                    | 26 87                                  | 0 00                               | 0 00                             | 0         | 0         | 2        | Member Z |
| D SOL - 7/8" SOLID   | -3 52       | 1 2D + 1 0W N | 5 517       | 50        | 50  | 50  | 136 23 | 50 0                    | 7 32                                   | 0 00                               | 0 00                             | 0         | 0         | 0        | Member X |



### FORCE/STRESS SUMMARY

|                      | Pu<br>(kip) | Load Case        | F <sub>y</sub><br>(ksi) | F <sub>u</sub><br>(ksi) | Φ <sub>c</sub> P <sub>n</sub><br>(kip) | Shear<br>ΦR <sub>nv</sub><br>(kip) | Bear<br>ΦR <sub>n</sub><br>(kip) | Blk Shear<br>Φ <sub>t</sub> P <sub>n</sub><br>(kip) | #<br>Bolt | #<br>Hole | Use<br>% | Controls |
|----------------------|-------------|------------------|-------------------------|-------------------------|----------------------------------------|------------------------------------|----------------------------------|-----------------------------------------------------|-----------|-----------|----------|----------|
| Max Tension Member   |             |                  |                         |                         |                                        |                                    |                                  |                                                     |           |           |          |          |
| H SAE - 2 5X2 5X0 25 | 1.55        | 1 2D + 1 0W 180° | 36 0                    | 58                      | 38 56                                  | 0 00                               | 0 00                             | 0 00                                                | 0         | 0         | 4        | Member   |
| D SOL - 7/8" SOLID   | 1 93        | 1 2D + 1 0W 90°  | 50 0                    | 65                      | 27 06                                  | 0 00                               | 0 00                             | 0 00                                                | 0         | 0         | 7        | Member   |

|                   | Pu<br>(kip) | Load Case | ΦR <sub>nt</sub><br>(kip) | Use<br>% | Num<br>Bolts | Bolt Type |
|-------------------|-------------|-----------|---------------------------|----------|--------------|-----------|
| Max Splice Forces |             |           |                           |          |              |           |

#### Section 16 – Base 260 0 (ft) and Height 20 00 (ft)

|                      | Pu<br>(kip) | Load Case       | Len<br>(ft) | Bracing %<br>X Y Z | KL/R   | F' <sub>y</sub><br>(ksi) | Φ <sub>c</sub> P <sub>n</sub><br>(kip) | Shear<br>ΦR <sub>nv</sub><br>(kip) | Bear<br>ΦR <sub>n</sub><br>(kip) | #<br>Bolt | #<br>Hole | Use<br>% | Controls |
|----------------------|-------------|-----------------|-------------|--------------------|--------|--------------------------|----------------------------------------|------------------------------------|----------------------------------|-----------|-----------|----------|----------|
| Max Compression      |             |                 |             |                    |        |                          |                                        |                                    |                                  |           |           |          |          |
| L SOL - 2 1/4" SOLID | -15 44      | 1 2D + 1 0W 60° | 3 8         | 100 100 100        | 81 07  | 50 0                     | 110 66                                 | 0 00                               | 0 00                             | 0         | 0         | 13       | Member X |
| D SOL - 3/4" SOLID   | -0 77       | 1 2D + 1 0W N   | 5 517       | 50 50 50           | 158 90 | 50 0                     | 3 95                                   | 0 00                               | 0 00                             | 0         | 0         | 0        | Member X |

|                        | Pu<br>(kip) | Load Case     | F <sub>y</sub><br>(ksi) | F <sub>u</sub><br>(ksi) | Φ <sub>c</sub> P <sub>n</sub><br>(kip) | Shear<br>ΦR <sub>nv</sub><br>(kip) | Bear<br>ΦR <sub>n</sub><br>(kip) | Blk Shear<br>Φ <sub>t</sub> P <sub>n</sub><br>(kip) | #<br>Bolt | #<br>Hole | Use<br>% | Controls |
|------------------------|-------------|---------------|-------------------------|-------------------------|----------------------------------------|------------------------------------|----------------------------------|-----------------------------------------------------|-----------|-----------|----------|----------|
| Max Tension Member     |             |               |                         |                         |                                        |                                    |                                  |                                                     |           |           |          |          |
| H SAE - 2 5X2 5X0 1875 | 0 72        | 1 2D + 1 0W N | 36 0                    | 58                      | 29 22                                  | 0 00                               | 0 00                             | 0 00                                                | 0         | 0         | 2        | Member   |

|                   | Pu<br>(kip) | Load Case | ΦR <sub>nt</sub><br>(kip) | Use<br>% | Num<br>Bolts | Bolt Type |
|-------------------|-------------|-----------|---------------------------|----------|--------------|-----------|
| Max Splice Forces |             |           |                           |          |              |           |

#### Section 17 – Base 280 0 (ft) and Height 20 00 (ft)

|                        | Pu<br>(kip) | Load Case       | Len<br>(ft) | Bracing %<br>X Y Z | KL/R   | F' <sub>y</sub><br>(ksi) | Φ <sub>c</sub> P <sub>n</sub><br>(kip) | Shear<br>ΦR <sub>nv</sub><br>(kip) | Bear<br>ΦR <sub>n</sub><br>(kip) | #<br>Bolt | #<br>Hole | Use<br>% | Controls |
|------------------------|-------------|-----------------|-------------|--------------------|--------|--------------------------|----------------------------------------|------------------------------------|----------------------------------|-----------|-----------|----------|----------|
| Max Compression        |             |                 |             |                    |        |                          |                                        |                                    |                                  |           |           |          |          |
| L SOL - 2" SOLID       | -16 19      | 1 2D + 1 0W N   | 3 8         | 100 100 100        | 91 20  | 50 0                     | 76 96                                  | 0 00                               | 0 00                             | 0         | 0         | 21       | Member X |
| H SAE - 2 5X2 5X0 1875 | -0 70       | 1 2D + 1 0W 60° | 4           | 100 100 100        | 108 48 | 36 0                     | 20 46                                  | 0 00                               | 0 00                             | 0         | 0         | 3        | Member Z |
| D SOL - 3/4" SOLID     | -0 03       | 1 2D + 1 0W N   | 5 517       | 50 50 50           | 158 90 | 50 0                     | 3 95                                   | 0 00                               | 0 00                             | 0         | 0         | 0        | Member X |

|                        | Pu<br>(kip) | Load Case       | F <sub>y</sub><br>(ksi) | F <sub>u</sub><br>(ksi) | Φ <sub>c</sub> P <sub>n</sub><br>(kip) | Shear<br>ΦR <sub>nv</sub><br>(kip) | Bear<br>ΦR <sub>n</sub><br>(kip) | Blk Shear<br>Φ <sub>t</sub> P <sub>n</sub><br>(kip) | #<br>Bolt | #<br>Hole | Use<br>% | Controls |
|------------------------|-------------|-----------------|-------------------------|-------------------------|----------------------------------------|------------------------------------|----------------------------------|-----------------------------------------------------|-----------|-----------|----------|----------|
| Max Tension Member     |             |                 |                         |                         |                                        |                                    |                                  |                                                     |           |           |          |          |
| L SOL - 2" SOLID       | 10 12       | 1 2D + 1 0W 60° | 50 0                    | 65                      | 141 37                                 | 0 00                               | 0 00                             |                                                     | 0         | 0         | 7        | Member   |
| H SAE - 2 5X2 5X0 1875 | 0 94        | 1 2D + 1 0W N   | 36 0                    | 58                      | 29 22                                  | 0 00                               | 0 00                             | 0 00                                                | 0         | 0         | 3        | Member   |
| D SOL - 3/4" SOLID     | 2 02        | 1 2D + 1 0W 60° | 50 0                    | 65                      | 19 88                                  | 0 00                               | 0 00                             | 0 00                                                | 0         | 0         | 10       | Member   |

|                   | Pu<br>(kip) | Load Case | ΦR <sub>nt</sub><br>(kip) | Use<br>% | Num<br>Bolts | Bolt Type |
|-------------------|-------------|-----------|---------------------------|----------|--------------|-----------|
| Max Splice Forces |             |           |                           |          |              |           |

### DETAILED REACTIONS

| Load Case                   | Radius<br>(ft) | Elevation<br>(ft) | Azimuth<br>(deg) | Node | *(-) Uplift and (+) Down |              |              |
|-----------------------------|----------------|-------------------|------------------|------|--------------------------|--------------|--------------|
|                             |                |                   |                  |      | *Fx<br>(kip)             | *Fy<br>(kip) | *Fz<br>(kip) |
| 1 2D + 1 0W Normal          | 0 00           | 0 00              |                  | 1    | 0 00                     | 157 16       | -1 88        |
|                             | 180 00         | 0 00              | 0                | A1   | 0 00                     | -8 35        | 7 32         |
|                             | 180 00         | 0 00              | 240              | A1a  | -41 93                   | -51 35       | -26 53       |
|                             | 180 00         | 0 00              | 120              | A1b  | 41 93                    | -51 35       | -26 53       |
| 1 2D + 1 0W 60°             | 0 00           | 0 00              |                  | 1    | -1 41                    | 162 72       | -0 81        |
|                             | 180 00         | 0 00              | 0                | A1   | -1 96                    | -25 19       | 23 77        |
|                             | 180 00         | 0 00              | 240              | A1a  | -56 49                   | -67 15       | -32 61       |
|                             | 180 00         | 0 00              | 120              | A1b  | 19 61                    | -25 16       | -13 59       |
| 1 2D + 1 0W 90°             | 0 00           | 0 00              |                  | 1    | -1 68                    | 160 83       | 0 04         |
|                             | 180 00         | 0 00              | 0                | A1   | -2 43                    | -38 38       | 36 73        |
|                             | 180 00         | 0 00              | 240              | A1a  | -53 24                   | -62 82       | -29 56       |
|                             | 180 00         | 0 00              | 120              | A1b  | 10 56                    | -13 97       | -7 21        |
| 1 2D + 1 0W 120°            | 0 00           | 0 00              |                  | 1    | -1 64                    | 157 23       | 0 94         |
|                             | 180 00         | 0 00              | 0                | A1   | -2 01                    | -51 37       | 49 58        |
|                             | 180 00         | 0 00              | 240              | A1a  | -43 94                   | -51 41       | -23 05       |
|                             | 180 00         | 0 00              | 120              | A1b  | 6 35                     | -8 34        | -3 67        |
| 1 2D + 1 0W 180°            | 0 00           | 0 00              |                  | 1    | 0 00                     | 162 70       | 1 62         |
|                             | 180 00         | 0 00              | 0                | A1   | 0 00                     | -67 11       | 65 23        |
|                             | 180 00         | 0 00              | 240              | A1a  | -21 57                   | -25 18       | -10 19       |
|                             | 180 00         | 0 00              | 120              | A1b  | 21 57                    | -25 18       | -10 19       |
| 1 2D + 1 0W 210°            | 0 00           | 0 00              |                  | 1    | 0 87                     | 160 79       | 1 42         |
|                             | 180 00         | 0 00              | 0                | A1   | 1 02                     | -62 76       | 60 89        |
|                             | 180 00         | 0 00              | 240              | A1a  | -11 51                   | -13 98       | -5 54        |
|                             | 180 00         | 0 00              | 120              | A1b  | 33 02                    | -38 39       | -16 26       |
| 1.2D + 1 0W 240°            | 0 00           | 0 00              |                  | 1    | 1 64                     | 157 23       | 0 94         |
|                             | 180 00         | 0 00              | 0                | A1   | 2 01                     | -51 37       | 49 58        |
|                             | 180 00         | 0 00              | 240              | A1a  | -6 35                    | -8 34        | -3 67        |
|                             | 180 00         | 0 00              | 120              | A1b  | 43 94                    | -51 41       | -23 05       |
| 1 2D + 1 0W 300°            | 0 00           | 0 00              |                  | 1    | 1 41                     | 162 72       | -0 81        |
|                             | 180 00         | 0 00              | 0                | A1   | 1 96                     | -25 19       | 23 77        |
|                             | 180 00         | 0 00              | 240              | A1a  | -19 61                   | -25 16       | -13 59       |
|                             | 180 00         | 0 00              | 120              | A1b  | 56 49                    | -67 15       | -32 61       |
| 1 2D + 1 0W 330°            | 0 00           | 0 00              |                  | 1    | 0 81                     | 160 76       | -1 46        |
|                             | 180 00         | 0 00              | 0                | A1   | 0 96                     | -13 98       | 12 73        |
|                             | 180 00         | 0 00              | 240              | A1a  | -30 59                   | -38 34       | -20 47       |
|                             | 180 00         | 0 00              | 120              | A1b  | 52 22                    | -62 77       | -31 32       |
| 1 2D + 1 0Di + 1 0Wi Normal | 0 00           | 0 00              |                  | 1    | 0 00                     | 148 03       | -0 16        |
|                             | 180 00         | 0 00              | 0                | A1   | 0 00                     | -28 62       | 29 69        |
|                             | 180 00         | 0 00              | 240              | A1a  | -28 88                   | -32 33       | -16 91       |
|                             | 180 00         | 0 00              | 120              | A1b  | 28 88                    | -32 33       | -16 91       |
| 1 2D + 1 0Di + 1 0Wi 60°    | 0 00           | 0 00              |                  | 1    | -0 14                    | 147 65       | -0 08        |
|                             | 180 00         | 0 00              | 0                | A1   | -0 21                    | -29 79       | 30 85        |
|                             | 180 00         | 0 00              | 240              | A1a  | -29 92                   | -33 43       | -17 28       |
|                             | 180 00         | 0 00              | 120              | A1b  | 26 61                    | -29 79       | -15 60       |
| 1 2D + 1 0Di + 1 0Wi 90°    | 0 00           | 0 00              |                  | 1    | -0 16                    | 147 84       | 0 00         |
|                             | 180 00         | 0 00              | 0                | A1   | -0 26                    | -31 06       | 32 15        |
|                             | 180 00         | 0 00              | 240              | A1a  | -29 75                   | -33 16       | -17 06       |
|                             | 180 00         | 0 00              | 120              | A1b  | 25 92                    | -28 93       | -15 09       |
| 1 2D + 1 0Di + 1 0Wi 120°   | 0 00           | 0 00              |                  | 1    | -0 14                    | 148 03       | 0 08         |
|                             | 180 00         | 0 00              | 0                | A1   | -0 21                    | -32 32       | 33 45        |
|                             | 180 00         | 0 00              | 240              | A1a  | -29 07                   | -32 32       | -16 54       |
|                             | 180 00         | 0 00              | 120              | A1b  | 25 74                    | -28 66       | -14 86       |
| 1 2D + 1 0Di + 1 0Wi 180°   | 0 00           | 0 00              |                  | 1    | 0 00                     | 147 65       | 0 16         |
|                             | 180 00         | 0 00              | 0                | A1   | 0 00                     | -33 42       | 34 55        |
|                             | 180 00         | 0 00              | 240              | A1a  | -26 82                   | -29 79       | -15 24       |
|                             | 180 00         | 0 00              | 120              | A1b  | 26 82                    | -29 79       | -15 24       |
| 1 2D + 1 0Di + 1 0Wi 210°   | 0 00           | 0 00              |                  | 1    | 0 08                     | 147 84       | 0 14         |
|                             | 180 00         | 0 00              | 0                | A1   | 0 10                     | -33 16       | 34 29        |
|                             | 180 00         | 0 00              | 240              | A1a  | -26 02                   | -28 94       | -14 91       |
|                             | 180 00         | 0 00              | 120              | A1b  | 27 97                    | -31 06       | -15 85       |
| 1 2D + 1 0Di + 1 0Wi 240°   | 0 00           | 0 00              |                  | 1    | 0 14                     | 148 03       | 0 08         |
|                             | 180 00         | 0 00              | 0                | A1   | 0 21                     | -32 32       | 33 45        |
|                             | 180 00         | 0 00              | 240              | A1a  | -25 74                   | -28 66       | -14 86       |
|                             | 180 00         | 0 00              | 120              | A1b  | 29 07                    | -32 32       | -16 54       |
| 1 2D + 1 0Di + 1 0Wi 300°   | 0 00           | 0 00              |                  | 1    | 0 14                     | 147 65       | -0 08        |
|                             | 180 00         | 0 00              | 0                | A1   | 0 21                     | -29 79       | 30 85        |
|                             | 180 00         | 0 00              | 240              | A1a  | -26 61                   | -29 79       | -15 60       |
|                             | 180 00         | 0 00              | 120              | A1b  | 29 92                    | -33 43       | -17 28       |

## DETAILED REACTIONS

| Load Case                   | Radius<br>(ft) | Elevation<br>(ft) | Azimuth<br>(deg) | Node | *(-) Uplift and (+) Down |                          |                          |
|-----------------------------|----------------|-------------------|------------------|------|--------------------------|--------------------------|--------------------------|
|                             |                |                   |                  |      | *F <sub>x</sub><br>(kip) | *F <sub>y</sub><br>(kip) | *F <sub>z</sub><br>(kip) |
| 1 2D + 1 0Di + 1 0Wi 330°   | 0 00           | 0 00              |                  | 1    | 0 08                     | 147 84                   | -0 14                    |
|                             | 180 00         | 0 00              | 0                | A1   | 0 10                     | -28 97                   | 30 02                    |
|                             | 180 00         | 0 00              | 240              | A1a  | -27 72                   | -31 06                   | -16 30                   |
|                             | 180 00         | 0 00              | 120              | A1b  | 29 62                    | -33 12                   | -17 22                   |
| 1 2D + 1 0Ev + 1 0Eh Normal | 0 00           | 0 00              |                  | 1    | 0 00                     | 128 00                   | 0 00                     |
|                             | 180 00         | 0 00              | 0                | A1   | 0 00                     | -26 32                   | 26 73                    |
|                             | 180 00         | 0 00              | 240              | A1a  | -24 18                   | -27 72                   | -13 96                   |
|                             | 180 00         | 0 00              | 120              | A1b  | 24 18                    | -27 72                   | -13 96                   |
| 1 2D + 1 0Ev + 1 0Eh 60°    | 0 00           | 0 00              |                  | 1    | 0 00                     | 128 00                   | 0 00                     |
|                             | 180 00         | 0 00              | 0                | A1   | 0 00                     | -26 79                   | 27 13                    |
|                             | 180 00         | 0 00              | 240              | A1a  | -24 52                   | -28 18                   | -14 16                   |
|                             | 180 00         | 0 00              | 120              | A1b  | 23 49                    | -26 79                   | -13 56                   |
| 1 2D + 1 0Ev + 1 0Eh 90°    | 0 00           | 0 00              |                  | 1    | 0 00                     | 128 00                   | 0 00                     |
|                             | 180 00         | 0 00              | 0                | A1   | 0 00                     | -27 25                   | 27 52                    |
|                             | 180 00         | 0 00              | 240              | A1a  | -24 43                   | -28 06                   | -14 10                   |
|                             | 180 00         | 0 00              | 120              | A1b  | 23 24                    | -26 45                   | -13 42                   |
| 1 2D + 1 0Ev + 1 0Eh 120°   | 0 00           | 0 00              |                  | 1    | 0 00                     | 128 00                   | 0 00                     |
|                             | 180 00         | 0 00              | 0                | A1   | 0 00                     | -27 72                   | 27 92                    |
|                             | 180 00         | 0 00              | 240              | A1a  | -24 18                   | -27 72                   | -13 96                   |
|                             | 180 00         | 0 00              | 120              | A1b  | 23 15                    | -26 32                   | -13 37                   |
| 1 2D + 1 0Ev + 1 0Eh 180°   | 0 00           | 0 00              |                  | 1    | 0 00                     | 128 00                   | 0 00                     |
|                             | 180 00         | 0 00              | 0                | A1   | 0 00                     | -28 18                   | 28 31                    |
|                             | 180 00         | 0 00              | 240              | A1a  | -23 49                   | -26 79                   | -13 56                   |
|                             | 180 00         | 0 00              | 120              | A1b  | 23 49                    | -26 79                   | -13 56                   |
| 1 2D + 1 0Ev + 1 0Eh 210°   | 0 00           | 0 00              |                  | 1    | 0 00                     | 128 00                   | 0 00                     |
|                             | 180 00         | 0 00              | 0                | A1   | 0 00                     | -28 06                   | 28 21                    |
|                             | 180 00         | 0 00              | 240              | A1a  | -23 24                   | -26 45                   | -13 42                   |
|                             | 180 00         | 0 00              | 120              | A1b  | 23 83                    | -27 25                   | -13 76                   |
| 1 2D + 1 0Ev + 1 0Eh 240°   | 0 00           | 0 00              |                  | 1    | 0 00                     | 128 00                   | 0 00                     |
|                             | 180 00         | 0 00              | 0                | A1   | 0 00                     | -27 72                   | 27 92                    |
|                             | 180 00         | 0 00              | 240              | A1a  | -23 15                   | -26 32                   | -13 37                   |
|                             | 180 00         | 0 00              | 120              | A1b  | 24 18                    | -27 72                   | -13 96                   |
| 1 2D + 1 0Ev + 1 0Eh 300°   | 0 00           | 0 00              |                  | 1    | 0 00                     | 128 00                   | 0 00                     |
|                             | 180 00         | 0 00              | 0                | A1   | 0 00                     | -26 79                   | 27 13                    |
|                             | 180 00         | 0 00              | 240              | A1a  | -23 49                   | -26 79                   | -13 56                   |
|                             | 180 00         | 0 00              | 120              | A1b  | 24 52                    | -28 18                   | -14 16                   |
| 1 2D + 1 0Ev + 1 0Eh 330°   | 0 00           | 0 00              |                  | 1    | 0 00                     | 128 00                   | 0 00                     |
|                             | 180 00         | 0 00              | 0                | A1   | 0 00                     | -26 45                   | 26 84                    |
|                             | 180 00         | 0 00              | 240              | A1a  | -23 83                   | -27 25                   | -13 76                   |
|                             | 180 00         | 0 00              | 120              | A1b  | 24 43                    | -28 06                   | -14 10                   |
| 1 0D + 1 0W Service Normal  | 0 00           | 0 00              |                  | 1    | 0 00                     | 123 38                   | -0 49                    |
|                             | 180 00         | 0 00              | 0                | A1   | 0 00                     | -20 49                   | 20 82                    |
|                             | 180 00         | 0 00              | 240              | A1a  | -27 39                   | -31 74                   | -16 41                   |
|                             | 180 00         | 0 00              | 120              | A1b  | 27 39                    | -31 74                   | -16 41                   |
| 1 0D + 1 0W Service 60°     | 0 00           | 0 00              |                  | 1    | -0 40                    | 123 38                   | -0 23                    |
|                             | 180 00         | 0 00              | 0                | A1   | -0 51                    | -24 43                   | 24 56                    |
|                             | 180 00         | 0 00              | 240              | A1a  | -30 63                   | -35 35                   | -17 68                   |
|                             | 180 00         | 0 00              | 120              | A1b  | 21 02                    | -24 42                   | -12 72                   |
| 1 0D + 1 0W Service 90°     | 0 00           | 0 00              |                  | 1    | -0 48                    | 123 37                   | 0 01                     |
|                             | 180 00         | 0 00              | 0                | A1   | -0 63                    | -28 04                   | 28 19                    |
|                             | 180 00         | 0 00              | 240              | A1a  | -29 98                   | -34 38                   | -17 01                   |
|                             | 180 00         | 0 00              | 120              | A1b  | 18 84                    | -21 65                   | -11 17                   |
| 1 0D + 1 0W Service 120°    | 0 00           | 0 00              |                  | 1    | -0 43                    | 123 38                   | 0 25                     |
|                             | 180 00         | 0 00              | 0                | A1   | -0 51                    | -31 72                   | 31 91                    |
|                             | 180 00         | 0 00              | 240              | A1a  | -27 89                   | -31 73                   | -15 51                   |
|                             | 180 00         | 0 00              | 120              | A1b  | 18 06                    | -20 52                   | -10 43                   |
| 1 0D + 1 0W Service 180°    | 0 00           | 0 00              |                  | 1    | 0 00                     | 123 39                   | 0 46                     |
|                             | 180 00         | 0 00              | 0                | A1   | 0 00                     | -35 38                   | 35 39                    |
|                             | 180 00         | 0 00              | 240              | A1a  | -21 52                   | -24 41                   | -11 83                   |
|                             | 180 00         | 0 00              | 120              | A1b  | 21 52                    | -24 41                   | -11 83                   |
| 1 0D + 1 0W Service 210°    | 0 00           | 0 00              |                  | 1    | 0 25                     | 123 37                   | 0 41                     |
|                             | 180 00         | 0 00              | 0                | A1   | 0 25                     | -34 37                   | 34 47                    |
|                             | 180 00         | 0 00              | 240              | A1a  | -19 10                   | -21 66                   | -10 73                   |
|                             | 180 00         | 0 00              | 120              | A1b  | 24 73                    | -28 04                   | -13 55                   |
| 1 0D + 1 0W Service 240°    | 0 00           | 0 00              |                  | 1    | 0 43                     | 123 38                   | 0 25                     |
|                             | 180 00         | 0 00              | 0                | A1   | 0 51                     | -31 72                   | 31 91                    |
|                             | 180 00         | 0 00              | 240              | A1a  | -18 06                   | -20 52                   | -10 43                   |
|                             | 180 00         | 0 00              | 120              | A1b  | 27 89                    | -31 73                   | -15 51                   |

# DETAILED REACTIONS

| Load Case                | Radius<br>(ft) | Elevation<br>(ft) | Azimuth<br>(deg) | Node | *(-) Uplift and (+) Down |                          |                          |
|--------------------------|----------------|-------------------|------------------|------|--------------------------|--------------------------|--------------------------|
|                          |                |                   |                  |      | *F <sub>x</sub><br>(kip) | *F <sub>y</sub><br>(kip) | *F <sub>z</sub><br>(kip) |
| 1 0D + 1 0W Service 300° | 0 00           | 0 00              |                  | 1    | 0 40                     | 123 38                   | -0 23                    |
|                          | 180 00         | 0 00              | 0                | A1   | 0 51                     | -24 43                   | 24 56                    |
|                          | 180 00         | 0 00              | 240              | A1a  | -21 02                   | -24 42                   | -12 72                   |
|                          | 180 00         | 0 00              | 120              | A1b  | 30 63                    | -35 35                   | -17 68                   |
| 1 0D + 1 0W Service 330° | 0 00           | 0 00              |                  | 1    | 0 23                     | 123 37                   | -0 41                    |
|                          | 180 00         | 0 00              | 0                | A1   | 0 25                     | -21 66                   | 21 90                    |
|                          | 180 00         | 0 00              | 240              | A1a  | -24 10                   | -28 03                   | -14 64                   |
|                          | 180 00         | 0 00              | 120              | A1b  | 29 72                    | -34 38                   | -17 45                   |

ASSET # 24516, FALLING CREEK FL  
CUSTOMER T-MOBILE

STANDARD ANSI/TIA-222-H  
ENG NO

### GUY ANCHOR DESIGN LOADS

| Radius<br>(ft) | Drop<br>(ft) | Azimuth<br>(deg) | Uplift<br>(kip) | Shear<br>(kip) |
|----------------|--------------|------------------|-----------------|----------------|
| 180 00         | 0 00         | 0                | 67 11           | 65 23          |
| 180 00         | 0 00         | 120              | 67 15           | 65 23          |
| 180 00         | 0 00         | 240              | 67 15           | 65 23          |

DETAILED CABLE FORCES

| Load Case          | Elev<br>(ft) | Cable   | Anchor<br>Node | Tower<br>Node | Allow<br>Tension<br>(kip) | Applied<br>Tension<br>(kip) | Use% |
|--------------------|--------------|---------|----------------|---------------|---------------------------|-----------------------------|------|
| 1 2D + 1 0W Normal | 68 10        | 3/4 EHS | A1             | 25            | 34 98                     | 2 31                        | 7    |
|                    |              | 3/4 EHS | A1b            | 25a           | 34 98                     | 8 19                        | 23   |
|                    |              | 3/4 EHS | A1a            | 25b           | 34 98                     | 8 19                        | 23   |
|                    | 139 50       | 7/8 EHS | A1             | 49            | 47 82                     | 0 87                        | 2    |
|                    |              | 7/8 EHS | A1b            | 49a           | 47 82                     | 11 18                       | 23   |
|                    |              | 7/8 EHS | A1a            | 49b           | 47 82                     | 11 18                       | 23   |
|                    | 195 70       | 3/4 EHS | A1             | T3            | 34 98                     | 1 78                        | 5    |
|                    |              | 3/4 EHS | A1b            | T3            | 34 98                     | 9 29                        | 27   |
|                    |              | 3/4 EHS | A1a            | T3a           | 34 98                     | 9 51                        | 27   |
|                    |              | 3/4 EHS | A1b            | T3a           | 34 98                     | 9 51                        | 27   |
|                    |              | 3/4 EHS | A1             | T3b           | 34 98                     | 1 78                        | 5    |
|                    | 235 70       | 3/4 EHS | A1a            | T3b           | 34 98                     | 9 29                        | 27   |
|                    |              | 1 EHS   | A1             | 83            | 62 7                      | 2 79                        | 4    |
|                    |              | 1 EHS   | A1b            | 83a           | 62 7                      | 17 04                       | 27   |
|                    |              | 1 EHS   | A1a            | 83b           | 62 7                      | 17 04                       | 27   |
|                    | 288 10       | 1 EHS   | A1             | 102           | 62 7                      | 3 83                        | 6    |
|                    |              | 1 EHS   | A1b            | 102a          | 62 7                      | 19 41                       | 31   |
|                    |              | 1 EHS   | A1a            | 102b          | 62 7                      | 19 41                       | 31   |
| 1 2D + 1 0W 60°    | 68 10        | 3/4 EHS | A1             | 25            | 34 98                     | 4 45                        | 13   |
|                    |              | 3/4 EHS | A1b            | 25a           | 34 98                     | 4 48                        | 13   |
|                    |              | 3/4 EHS | A1a            | 25b           | 34 98                     | 10 62                       | 30   |
|                    | 139 50       | 7/8 EHS | A1             | 49            | 47 82                     | 5 73                        | 12   |
|                    |              | 7/8 EHS | A1b            | 49a           | 47 82                     | 5 77                        | 12   |
|                    |              | 7/8 EHS | A1a            | 49b           | 47 82                     | 15 52                       | 32   |
|                    | 195 70       | 3/4 EHS | A1             | T3            | 34 98                     | 5 13                        | 15   |
|                    |              | 3/4 EHS | A1b            | T3            | 34 98                     | 5 12                        | 15   |
|                    |              | 3/4 EHS | A1a            | T3a           | 34 98                     | 12 2                        | 35   |
|                    |              | 3/4 EHS | A1b            | T3a           | 34 98                     | 5 05                        | 14   |
|                    |              | 3/4 EHS | A1             | T3b           | 34 98                     | 5 07                        | 14   |
|                    | 235 70       | 3/4 EHS | A1a            | T3b           | 34 98                     | 12 2                        | 35   |
|                    |              | 1 EHS   | A1             | 83            | 62 7                      | 8 1                         | 13   |
|                    |              | 1 EHS   | A1b            | 83a           | 62 7                      | 8 07                        | 13   |
|                    |              | 1 EHS   | A1a            | 83b           | 62 7                      | 22 06                       | 35   |
|                    | 288 10       | 1 EHS   | A1             | 102           | 62 7                      | 8 82                        | 14   |
|                    |              | 1 EHS   | A1b            | 102a          | 62 7                      | 8 8                         | 14   |
|                    |              | 1 EHS   | A1a            | 102b          | 62 7                      | 24 6                        | 39   |
| 1 2D + 1 0W 90°    | 68 10        | 3/4 EHS | A1             | 25            | 34 98                     | 6 23                        | 18   |
|                    |              | 3/4 EHS | A1b            | 25a           | 34 98                     | 2 8                         | 8    |
|                    |              | 3/4 EHS | A1a            | 25b           | 34 98                     | 9 87                        | 28   |
|                    | 139 50       | 7/8 EHS | A1             | 49            | 47 82                     | 8 49                        | 18   |
|                    |              | 7/8 EHS | A1b            | 49a           | 47 82                     | 3                           | 6    |
|                    |              | 7/8 EHS | A1a            | 49b           | 47 82                     | 14 19                       | 30   |
|                    | 195 70       | 3/4 EHS | A1             | T3            | 34 98                     | 7 36                        | 21   |
|                    |              | 3/4 EHS | A1b            | T3            | 34 98                     | 2 96                        | 8    |
|                    |              | 3/4 EHS | A1b            | T3a           | 34 98                     | 2 88                        | 8    |
|                    |              | 3/4 EHS | A1a            | T3a           | 34 98                     | 11 26                       | 32   |
|                    |              | 3/4 EHS | A1             | T3b           | 34 98                     | 7 37                        | 21   |
|                    | 235 70       | 3/4 EHS | A1a            | T3b           | 34 98                     | 11 58                       | 33   |
|                    |              | 1 EHS   | A1             | 83            | 62 7                      | 12 6                        | 20   |
|                    |              | 1 EHS   | A1b            | 83a           | 62 7                      | 4 46                        | 7    |
|                    |              | 1 EHS   | A1a            | 83b           | 62 7                      | 20 76                       | 33   |
|                    | 288 10       | 1 EHS   | A1             | 102           | 62 7                      | 14 02                       | 22   |
|                    |              | 1 EHS   | A1b            | 102a          | 62 7                      | 5 19                        | 8    |
|                    |              | 1 EHS   | A1a            | 102b          | 62 7                      | 23 31                       | 37   |
| 1 2D + 1 0W 120°   | 68 10        | 3/4 EHS | A1             | 25            | 34 98                     | 8 18                        | 23   |
|                    |              | 3/4 EHS | A1b            | 25a           | 34 98                     | 2 33                        | 7    |
|                    |              | 3/4 EHS | A1a            | 25b           | 34 98                     | 8 15                        | 23   |
|                    | 139 50       | 7/8 EHS | A1             | 49            | 47 82                     | 11 17                       | 23   |
|                    |              | 7/8 EHS | A1b            | 49a           | 47 82                     | 0 89                        | 2    |
|                    |              | 7/8 EHS | A1a            | 49b           | 47 82                     | 11 12                       | 23   |
|                    | 195 70       | 3/4 EHS | A1b            | T3            | 34 98                     | 1 78                        | 5    |
|                    |              | 3/4 EHS | A1             | T3            | 34 98                     | 9 29                        | 27   |
|                    |              | 3/4 EHS | A1a            | T3a           | 34 98                     | 9 31                        | 27   |
|                    |              | 3/4 EHS | A1b            | T3a           | 34 98                     | 1 78                        | 5    |
|                    |              | 3/4 EHS | A1a            | T3b           | 34 98                     | 9 54                        | 27   |
|                    | 195 70       | 3/4 EHS | A1             | T3b           | 34 98                     | 9.52                        | 27   |

DETAILED CABLE FORCES

| Load Case        | Elev<br>(ft) | Cable   | Anchor<br>Node | Tower<br>Node | Allow<br>Tension<br>(kip) | Applied<br>Tension<br>(kip) | Use% |
|------------------|--------------|---------|----------------|---------------|---------------------------|-----------------------------|------|
| 1 2D + 1 0W 180° | 235 70       | 1 EHS   | A1             | 83            | 62 7                      | 17 06                       | 27   |
|                  |              | 1 EHS   | A1b            | 83a           | 62 7                      | 2 78                        | 4    |
|                  |              | 1 EHS   | A1a            | 83b           | 62 7                      | 17 1                        | 27   |
|                  | 288 10       | 1 EHS   | A1             | 102           | 62 7                      | 19 42                       | 31   |
|                  |              | 1 EHS   | A1b            | 102a          | 62 7                      | 3 82                        | 6    |
|                  |              | 1 EHS   | A1a            | 102b          | 62 7                      | 19 44                       | 31   |
|                  | 68 10        | 3/4 EHS | A1             | 25            | 34 98                     | 10 65                       | 30   |
|                  |              | 3/4 EHS | A1b            | 25a           | 34 98                     | 4 46                        | 13   |
|                  |              | 3/4 EHS | A1a            | 25b           | 34 98                     | 4 46                        | 13   |
|                  | 139 50       | 7/8 EHS | A1             | 49            | 47 82                     | 15 59                       | 33   |
|                  |              | 7/8 EHS | A1b            | 49a           | 47 82                     | 5 73                        | 12   |
|                  |              | 7/8 EHS | A1a            | 49b           | 47 82                     | 5 73                        | 12   |
|                  | 195 70       | 3/4 EHS | A1b            | T3            | 34 98                     | 5 07                        | 14   |
|                  |              | 3/4 EHS | A1             | T3            | 34 98                     | 12 17                       | 35   |
|                  |              | 3/4 EHS | A1b            | T3a           | 34 98                     | 5 13                        | 15   |
|                  |              | 3/4 EHS | A1a            | T3a           | 34 98                     | 5 13                        | 15   |
|                  |              | 3/4 EHS | A1             | T3b           | 34 98                     | 12 17                       | 35   |
|                  |              | 3/4 EHS | A1a            | T3b           | 34 98                     | 5 07                        | 14   |
| 1 2D + 1 0W 210° | 235 70       | 1 EHS   | A1             | 83            | 62 7                      | 22 01                       | 35   |
|                  |              | 1 EHS   | A1b            | 83a           | 62 7                      | 8 1                         | 13   |
|                  |              | 1 EHS   | A1a            | 83b           | 62 7                      | 8 1                         | 13   |
|                  | 288 10       | 1 EHS   | A1             | 102           | 62 7                      | 24 58                       | 39   |
|                  |              | 1 EHS   | A1b            | 102a          | 62 7                      | 8 81                        | 14   |
|                  |              | 1 EHS   | A1a            | 102b          | 62 7                      | 8 81                        | 14   |
|                  | 68 10        | 3/4 EHS | A1             | 25            | 34 98                     | 9 9                         | 28   |
|                  |              | 3/4 EHS | A1b            | 25a           | 34 98                     | 6 22                        | 18   |
|                  |              | 3/4 EHS | A1a            | 25b           | 34 98                     | 2 79                        | 8    |
|                  | 139 50       | 7/8 EHS | A1             | 49            | 47 82                     | 14 27                       | 30   |
|                  |              | 7/8 EHS | A1b            | 49a           | 47 82                     | 8 47                        | 18   |
|                  |              | 7/8 EHS | A1a            | 49b           | 47 82                     | 2 99                        | 6    |
|                  | 195 70       | 3/4 EHS | A1b            | T3            | 34 98                     | 7 38                        | 21   |
|                  |              | 3/4 EHS | A1             | T3            | 34 98                     | 11 54                       | 33   |
|                  |              | 3/4 EHS | A1a            | T3a           | 34 98                     | 2 97                        | 8    |
|                  |              | 3/4 EHS | A1b            | T3a           | 34 98                     | 7 37                        | 21   |
|                  |              | 3/4 EHS | A1             | T3b           | 34 98                     | 11 23                       | 32   |
|                  |              | 3/4 EHS | A1a            | T3b           | 34 98                     | 2 88                        | 8    |
| 1 2D + 1 0W 240° | 235 70       | 1 EHS   | A1             | 83            | 62 7                      | 20 71                       | 33   |
|                  |              | 1 EHS   | A1b            | 83a           | 62 7                      | 12 61                       | 20   |
|                  |              | 1 EHS   | A1a            | 83b           | 62 7                      | 4 47                        | 7    |
|                  | 288 10       | 1 EHS   | A1             | 102           | 62 7                      | 23 28                       | 37   |
|                  |              | 1 EHS   | A1b            | 102a          | 62 7                      | 14 03                       | 22   |
|                  |              | 1 EHS   | A1a            | 102b          | 62 7                      | 5 2                         | 8    |
|                  | 68 10        | 3/4 EHS | A1             | 25            | 34 98                     | 8 18                        | 23   |
|                  |              | 3/4 EHS | A1b            | 25a           | 34 98                     | 8 15                        | 23   |
|                  |              | 3/4 EHS | A1a            | 25b           | 34 98                     | 2 33                        | 7    |
|                  | 139 50       | 7/8 EHS | A1             | 49            | 47 82                     | 11 17                       | 23   |
|                  |              | 7/8 EHS | A1b            | 49a           | 47 82                     | 11 12                       | 23   |
|                  |              | 7/8 EHS | A1a            | 49b           | 47 82                     | 0 89                        | 2    |
|                  | 195 70       | 3/4 EHS | A1             | T3            | 34 98                     | 9 52                        | 27   |
|                  |              | 3/4 EHS | A1b            | T3            | 34 98                     | 9 54                        | 27   |
|                  |              | 3/4 EHS | A1a            | T3a           | 34 98                     | 1 78                        | 5    |
|                  |              | 3/4 EHS | A1b            | T3a           | 34 98                     | 9 31                        | 27   |
|                  |              | 3/4 EHS | A1a            | T3b           | 34 98                     | 1 78                        | 5    |
|                  |              | 3/4 EHS | A1             | T3b           | 34 98                     | 9 29                        | 27   |
| 1 2D + 1 0W 300° | 235 70       | 1 EHS   | A1             | 83            | 62 7                      | 17 06                       | 27   |
|                  |              | 1 EHS   | A1b            | 83a           | 62 7                      | 17 1                        | 27   |
|                  |              | 1 EHS   | A1a            | 83b           | 62 7                      | 2 78                        | 4    |
|                  | 288 10       | 1 EHS   | A1             | 102           | 62 7                      | 19 42                       | 31   |
|                  |              | 1 EHS   | A1b            | 102a          | 62 7                      | 19 44                       | 31   |
|                  |              | 1 EHS   | A1a            | 102b          | 62 7                      | 3 82                        | 6    |
|                  | 68 10        | 3/4 EHS | A1             | 25            | 34 98                     | 4 45                        | 13   |
|                  |              | 3/4 EHS | A1b            | 25a           | 34 98                     | 10 62                       | 30   |
|                  |              | 3/4 EHS | A1a            | 25b           | 34 98                     | 4 48                        | 13   |
|                  | 139 50       | 7/8 EHS | A1             | 49            | 47 82                     | 5 73                        | 12   |
|                  |              | 7/8 EHS | A1b            | 49a           | 47 82                     | 15 52                       | 32   |
|                  |              | 7/8 EHS | A1a            | 49b           | 47 82                     | 5 77                        | 12   |
|                  | 195 70       | 3/4 EHS | A1b            | T3            | 34 98                     | 12 2                        | 35   |
|                  |              | 3/4 EHS | A1             | T3            | 34 98                     | 5 07                        | 14   |

DETAILED CABLE FORCES

| Load Case                   | Elev<br>(ft) | Cable   | Anchor<br>Node | Tower<br>Node | Allow<br>Tension<br>(kip) | Applied<br>Tension<br>(kip) | Use% |
|-----------------------------|--------------|---------|----------------|---------------|---------------------------|-----------------------------|------|
| 1 2D + 1 0W 330°            |              | 3/4 EHS | A1b            | T3a           | 34 98                     | 12 2                        | 35   |
|                             |              | 3/4 EHS | A1a            | T3a           | 34 98                     | 5 05                        | 14   |
|                             |              | 3/4 EHS | A1             | T3b           | 34 98                     | 5 13                        | 15   |
|                             |              | 3/4 EHS | A1a            | T3b           | 34 98                     | 5 12                        | 15   |
|                             | 235 70       | 1 EHS   | A1             | 83            | 62 7                      | 8 1                         | 13   |
|                             |              | 1 EHS   | A1b            | 83a           | 62 7                      | 22 06                       | 35   |
|                             |              | 1 EHS   | A1a            | 83b           | 62 7                      | 8 07                        | 13   |
|                             | 288 10       | 1 EHS   | A1             | 102           | 62 7                      | 8 82                        | 14   |
|                             |              | 1 EHS   | A1b            | 102a          | 62 7                      | 24 6                        | 39   |
|                             |              | 1 EHS   | A1a            | 102b          | 62 7                      | 8 8                         | 14   |
|                             | 68 10        | 3/4 EHS | A1             | 25            | 34 98                     | 2 77                        | 8    |
|                             |              | 3/4 EHS | A1b            | 25a           | 34 98                     | 9 89                        | 28   |
|                             |              | 3/4 EHS | A1a            | 25b           | 34 98                     | 6 25                        | 18   |
|                             | 139 50       | 7/8 EHS | A1             | 49            | 47 82                     | 2 97                        | 6    |
|                             |              | 7/8 EHS | A1b            | 49a           | 47 82                     | 14 23                       | 30   |
|                             |              | 7/8 EHS | A1a            | 49b           | 47 82                     | 8 52                        | 18   |
|                             | 195 70       | 3/4 EHS | A1b            | T3            | 34 98                     | 11 24                       | 32   |
|                             |              | 3/4 EHS | A1             | T3            | 34 98                     | 2 89                        | 8    |
|                             |              | 3/4 EHS | A1a            | T3a           | 34 98                     | 7 35                        | 21   |
|                             |              | 3/4 EHS | A1b            | T3a           | 34 98                     | 11 56                       | 33   |
|                             |              | 3/4 EHS | A1a            | T3b           | 34 98                     | 7 35                        | 21   |
|                             |              | 3/4 EHS | A1             | T3b           | 34 98                     | 2 98                        | 9    |
|                             | 235 70       | 1 EHS   | A1             | 83            | 62 7                      | 4 48                        | 7    |
|                             |              | 1 EHS   | A1b            | 83a           | 62 7                      | 20 73                       | 33   |
|                             |              | 1 EHS   | A1a            | 83b           | 62 7                      | 12 57                       | 20   |
|                             | 288 10       | 1 EHS   | A1             | 102           | 62 7                      | 5 21                        | 8    |
|                             |              | 1 EHS   | A1b            | 102a          | 62 7                      | 23 29                       | 37   |
|                             |              | 1 EHS   | A1a            | 102b          | 62 7                      | 14                          | 22   |
| 1 2D + 1 0Di + 1 0Wi Normal | 68 10        | 3/4 EHS | A1             | 25            | 34 98                     | 6 69                        | 19   |
|                             |              | 3/4 EHS | A1b            | 25a           | 34 98                     | 7 32                        | 21   |
|                             |              | 3/4 EHS | A1a            | 25b           | 34 98                     | 7 32                        | 21   |
|                             |              | 3/4 EHS | A1             | 49            | 47 82                     | 8                           | 17   |
|                             | 139 50       | 7/8 EHS | A1b            | 49a           | 47 82                     | 8 86                        | 19   |
|                             |              | 7/8 EHS | A1a            | 49b           | 47 82                     | 8 86                        | 19   |
|                             |              | 7/8 EHS | A1a            | 49b           | 47 82                     | 8 86                        | 19   |
|                             | 195 70       | 3/4 EHS | A1             | T3            | 34 98                     | 5 48                        | 16   |
|                             |              | 3/4 EHS | A1b            | T3            | 34 98                     | 6 19                        | 18   |
|                             |              | 3/4 EHS | A1a            | T3a           | 34 98                     | 6 18                        | 18   |
|                             |              | 3/4 EHS | A1b            | T3a           | 34 98                     | 6 18                        | 18   |
|                             |              | 3/4 EHS | A1             | T3b           | 34 98                     | 5 48                        | 16   |
|                             |              | 3/4 EHS | A1a            | T3b           | 34 98                     | 6 19                        | 18   |
|                             | 235 70       | 1 EHS   | A1             | 83            | 62 7                      | 9 54                        | 15   |
|                             |              | 1 EHS   | A1b            | 83a           | 62 7                      | 10 66                       | 17   |
|                             |              | 1 EHS   | A1a            | 83b           | 62 7                      | 10 66                       | 17   |
|                             | 288 10       | 1 EHS   | A1             | 102           | 62 7                      | 9 27                        | 15   |
|                             |              | 1 EHS   | A1b            | 102a          | 62 7                      | 10 65                       | 17   |
|                             |              | 1 EHS   | A1a            | 102b          | 62 7                      | 10 65                       | 17   |
| 1 2D + 1 0Di + 1 0Wi 60°    | 68 10        | 3/4 EHS | A1             | 25            | 34 98                     | 6 89                        | 20   |
|                             |              | 3/4 EHS | A1b            | 25a           | 34 98                     | 6 89                        | 20   |
|                             |              | 3/4 EHS | A1a            | 25b           | 34 98                     | 7 5                         | 21   |
|                             |              | 7/8 EHS | A1             | 49            | 47 82                     | 8 26                        | 17   |
|                             | 139 50       | 7/8 EHS | A1b            | 49a           | 47 82                     | 8 27                        | 17   |
|                             |              | 7/8 EHS | A1a            | 49b           | 47 82                     | 9 11                        | 19   |
|                             |              | 7/8 EHS | A1a            | 49b           | 47 82                     | 9 11                        | 19   |
|                             | 195 70       | 3/4 EHS | A1             | T3            | 34 98                     | 5 7                         | 16   |
|                             |              | 3/4 EHS | A1b            | T3            | 34 98                     | 5 7                         | 16   |
|                             |              | 3/4 EHS | A1a            | T3a           | 34 98                     | 6 37                        | 18   |
|                             |              | 3/4 EHS | A1b            | T3a           | 34 98                     | 5 69                        | 16   |
|                             |              | 3/4 EHS | A1             | T3b           | 34 98                     | 5 69                        | 16   |
|                             |              | 3/4 EHS | A1a            | T3b           | 34 98                     | 6 37                        | 18   |
|                             | 235 70       | 1 EHS   | A1             | 83            | 62 7                      | 9 89                        | 16   |
|                             |              | 1 EHS   | A1b            | 83a           | 62 7                      | 9 88                        | 16   |
|                             |              | 1 EHS   | A1a            | 83b           | 62 7                      | 11 01                       | 18   |
|                             | 288 10       | 1 EHS   | A1             | 102           | 62 7                      | 9 72                        | 15   |
|                             |              | 1 EHS   | A1b            | 102a          | 62 7                      | 9 72                        | 15   |
|                             |              | 1 EHS   | A1a            | 102b          | 62 7                      | 11 06                       | 18   |
| 1 2D + 1 0Di + 1 0Wi 90°    | 68 10        | 3/4 EHS | A1             | 25            | 34 98                     | 7 1                         | 20   |
|                             |              | 3/4 EHS | A1b            | 25a           | 34 98                     | 6 75                        | 19   |
|                             |              | 3/4 EHS | A1a            | 25b           | 34 98                     | 7 46                        | 21   |
|                             | 139 50       | 7/8 EHS | A1             | 49            | 47 82                     | 8 56                        | 18   |



DETAILED CABLE FORCES

| Load Case                 | Elev<br>(ft) | Cable   | Anchor<br>Node | Tower<br>Node | Allow<br>Tension<br>(kip) | Applied<br>Tension<br>(kip) | Use% |
|---------------------------|--------------|---------|----------------|---------------|---------------------------|-----------------------------|------|
| 1 2D + 1 0Di + 1 0Wi 120° | 195 70       | 7/8 EHS | A1b            | 49a           | 47 82                     | 8 08                        | 17   |
|                           |              | 7/8 EHS | A1a            | 49b           | 47 82                     | 9 05                        | 19   |
|                           |              | 3/4 EHS | A1             | T3            | 34 98                     | 5 95                        | 17   |
|                           |              | 3/4 EHS | A1b            | T3            | 34 98                     | 5 53                        | 16   |
|                           |              | 3/4 EHS | A1a            | T3a           | 34 98                     | 6 33                        | 18   |
|                           |              | 3/4 EHS | A1b            | T3a           | 34 98                     | 5 53                        | 16   |
|                           | 235 70       | 3/4 EHS | A1             | T3b           | 34 98                     | 5 93                        | 17   |
|                           |              | 3/4 EHS | A1a            | T3b           | 34.98                     | 6 33                        | 18   |
|                           |              | 1 EHS   | A1             | 83            | 62 7                      | 10 27                       | 16   |
|                           | 288 10       | 1 EHS   | A1b            | 83a           | 62 7                      | 9 63                        | 15   |
|                           |              | 1 EHS   | A1a            | 83b           | 62 7                      | 10 93                       | 17   |
|                           |              | 1 EHS   | A1             | 102           | 62 7                      | 10 18                       | 16   |
|                           | 68 10        | 1 EHS   | A1b            | 102a          | 62 7                      | 9 39                        | 15   |
|                           |              | 1 EHS   | A1a            | 102b          | 62 7                      | 10 96                       | 17   |
|                           |              | 3/4 EHS | A1             | 25            | 34 98                     | 7 32                        | 21   |
|                           | 139 50       | 3/4 EHS | A1b            | 25a           | 34 98                     | 6 7                         | 19   |
|                           |              | 3/4 EHS | A1a            | 25b           | 34 98                     | 7 32                        | 21   |
|                           |              | 7/8 EHS | A1             | 49            | 47 82                     | 8 86                        | 19   |
|                           | 195 70       | 7/8 EHS | A1b            | 49a           | 47 82                     | 8 01                        | 17   |
|                           |              | 7/8 EHS | A1a            | 49b           | 47 82                     | 8 86                        | 19   |
|                           |              | 3/4 EHS | A1b            | T3            | 34 98                     | 5 49                        | 16   |
| 1 2D + 1 0Di + 1 0Wi 180° | 195 70       | 3/4 EHS | A1             | T3            | 34 98                     | 6 19                        | 18   |
|                           |              | 3/4 EHS | A1b            | T3a           | 34 98                     | 5 49                        | 16   |
|                           |              | 3/4 EHS | A1a            | T3a           | 34 98                     | 6 19                        | 18   |
|                           |              | 3/4 EHS | A1             | T3b           | 34 98                     | 6 17                        | 18   |
|                           |              | 3/4 EHS | A1a            | T3b           | 34 98                     | 6 18                        | 18   |
|                           | 235 70       | 1 EHS   | A1             | 83            | 62 7                      | 10 66                       | 17   |
|                           |              | 1 EHS   | A1b            | 83a           | 62 7                      | 9 55                        | 15   |
|                           |              | 1 EHS   | A1a            | 83b           | 62 7                      | 10 66                       | 17   |
|                           | 288 10       | 1 EHS   | A1             | 102           | 62 7                      | 10 64                       | 17   |
|                           |              | 1 EHS   | A1b            | 102a          | 62 7                      | 9 29                        | 15   |
|                           |              | 1 EHS   | A1a            | 102b          | 62 7                      | 10 64                       | 17   |
|                           | 68 10        | 3/4 EHS | A1             | 25            | 34 98                     | 7 5                         | 21   |
|                           |              | 3/4 EHS | A1b            | 25a           | 34 98                     | 6 89                        | 20   |
|                           |              | 3/4 EHS | A1a            | 25b           | 34 98                     | 6 89                        | 20   |
|                           | 139 50       | 7/8 EHS | A1             | 49            | 47 82                     | 9 12                        | 19   |
|                           |              | 7/8 EHS | A1b            | 49a           | 47 82                     | 8.26                        | 17   |
|                           |              | 7/8 EHS | A1a            | 49b           | 47 82                     | 8 26                        | 17   |
|                           | 195 70       | 3/4 EHS | A1             | T3            | 34 98                     | 6 37                        | 18   |
|                           |              | 3/4 EHS | A1b            | T3            | 34 98                     | 5 69                        | 16   |
|                           |              | 3/4 EHS | A1b            | T3a           | 34 98                     | 5 7                         | 16   |
|                           | 235 70       | 3/4 EHS | A1a            | T3a           | 34 98                     | 5 7                         | 16   |
|                           |              | 3/4 EHS | A1             | T3b           | 34 98                     | 6 37                        | 18   |
|                           |              | 3/4 EHS | A1a            | T3b           | 34 98                     | 5 69                        | 16   |
|                           | 288 10       | 1 EHS   | A1             | 83            | 62 7                      | 11 01                       | 18   |
|                           |              | 1 EHS   | A1b            | 83a           | 62 7                      | 9 89                        | 16   |
|                           |              | 1 EHS   | A1a            | 83b           | 62 7                      | 9 89                        | 16   |
| 1 2D + 1 0Di + 1 0Wi 210° | 195 70       | 3/4 EHS | A1             | 102           | 62 7                      | 11 06                       | 18   |
|                           |              | 3/4 EHS | A1b            | 102a          | 62 7                      | 9 72                        | 15   |
|                           |              | 3/4 EHS | A1a            | 102b          | 62 7                      | 9 72                        | 15   |
|                           | 68 10        | 3/4 EHS | A1             | 25            | 34 98                     | 7 46                        | 21   |
|                           |              | 3/4 EHS | A1b            | 25a           | 34 98                     | 7 1                         | 20   |
|                           |              | 3/4 EHS | A1a            | 25b           | 34 98                     | 6 75                        | 19   |
|                           | 139 50       | 7/8 EHS | A1             | 49            | 47 82                     | 9 06                        | 19   |
|                           |              | 7/8 EHS | A1b            | 49a           | 47 82                     | 8 55                        | 18   |
|                           |              | 7/8 EHS | A1a            | 49b           | 47 82                     | 8 08                        | 17   |
|                           | 195 70       | 3/4 EHS | A1b            | T3            | 34 98                     | 5 93                        | 17   |
|                           |              | 3/4 EHS | A1             | T3            | 34 98                     | 6 33                        | 18   |
|                           |              | 3/4 EHS | A1a            | T3a           | 34 98                     | 5 53                        | 16   |
|                           | 235 70       | 3/4 EHS | A1b            | T3a           | 34 98                     | 5 95                        | 17   |
|                           |              | 3/4 EHS | A1a            | T3b           | 34 98                     | 5 53                        | 16   |
|                           |              | 3/4 EHS | A1             | T3b           | 34 98                     | 6 32                        | 18   |
|                           | 288 10       | 1 EHS   | A1             | 83            | 62 7                      | 10 92                       | 17   |
|                           |              | 1 EHS   | A1b            | 83a           | 62 7                      | 10 27                       | 16   |
|                           |              | 1 EHS   | A1a            | 83b           | 62 7                      | 9 63                        | 15   |
|                           | 68 10        | 1 EHS   | A1             | 102           | 62 7                      | 10 96                       | 17   |
|                           |              | 1 EHS   | A1b            | 102a          | 62 7                      | 10 18                       | 16   |
|                           |              | 1 EHS   | A1a            | 102b          | 62 7                      | 9 39                        | 15   |

# DETAILED CABLE FORCES

| Load Case                 | Elev<br>(ft)                | Cable   | Anchor<br>Node | Tower<br>Node | Allow<br>Tension<br>(kip) | Applied<br>Tension<br>(kip) | Use%  |    |
|---------------------------|-----------------------------|---------|----------------|---------------|---------------------------|-----------------------------|-------|----|
| 1 2D + 1 0Di + 1 0Wi 240° | 68 10                       | 3/4 EHS | A1             | 25            | 34 98                     | 7 32                        | 21    |    |
|                           |                             | 3/4 EHS | A1b            | 25a           | 34 98                     | 7 32                        | 21    |    |
|                           |                             | 3/4 EHS | A1a            | 25b           | 34 98                     | 6 7                         | 19    |    |
|                           | 139 50                      | 7/8 EHS | A1             | 49            | 47 82                     | 8 86                        | 19    |    |
|                           |                             | 7/8 EHS | A1b            | 49a           | 47 82                     | 8 86                        | 19    |    |
|                           |                             | 7/8 EHS | A1a            | 49b           | 47 82                     | 8 01                        | 17    |    |
|                           | 195 70                      | 3/4 EHS | A1b            | T3            | 34 98                     | 6.18                        | 18    |    |
|                           |                             | 3/4 EHS | A1             | T3            | 34 98                     | 6 17                        | 18    |    |
|                           |                             | 3/4 EHS | A1a            | T3a           | 34 98                     | 5 49                        | 16    |    |
|                           |                             | 3/4 EHS | A1b            | T3a           | 34 98                     | 6 19                        | 18    |    |
|                           |                             | 3/4 EHS | A1a            | T3b           | 34 98                     | 5 49                        | 16    |    |
|                           | 235 70                      | 3/4 EHS | A1             | T3b           | 34 98                     | 6 19                        | 18    |    |
|                           |                             | 1 EHS   | A1             | 83            | 62 7                      | 10 66                       | 17    |    |
|                           |                             | 1 EHS   | A1b            | 83a           | 62 7                      | 10 66                       | 17    |    |
|                           |                             | 1 EHS   | A1a            | 83b           | 62 7                      | 9 55                        | 15    |    |
|                           |                             | 288 10  | 1 EHS          | A1            | 102                       | 62 7                        | 10 64 | 17 |
|                           | 1 EHS                       |         | A1b            | 102a          | 62 7                      | 10 64                       | 17    |    |
|                           | 1 EHS                       |         | A1a            | 102b          | 62 7                      | 9 29                        | 15    |    |
|                           | 1 2D + 1 0Di + 1 0Wi 300°   | 68 10   | 3/4 EHS        | A1            | 25                        | 34 98                       | 6 89  | 20 |
|                           |                             |         | 3/4 EHS        | A1b           | 25a                       | 34 98                       | 7 5   | 21 |
|                           |                             |         | 3/4 EHS        | A1a           | 25b                       | 34 98                       | 6 89  | 20 |
|                           |                             | 139 50  | 7/8 EHS        | A1            | 49                        | 47 82                       | 8 26  | 17 |
|                           |                             |         | 7/8 EHS        | A1b           | 49a                       | 47 82                       | 9 11  | 19 |
|                           |                             |         | 7/8 EHS        | A1a           | 49b                       | 47 82                       | 8 27  | 17 |
| 195 70                    |                             | 3/4 EHS | A1b            | T3            | 34 98                     | 6 37                        | 18    |    |
|                           |                             | 3/4 EHS | A1             | T3            | 34 98                     | 5 69                        | 16    |    |
|                           |                             | 3/4 EHS | A1a            | T3a           | 34 98                     | 5 69                        | 16    |    |
|                           |                             | 3/4 EHS | A1b            | T3a           | 34 98                     | 6 37                        | 18    |    |
|                           |                             | 3/4 EHS | A1a            | T3b           | 34 98                     | 5 7                         | 16    |    |
| 235 70                    |                             | 3/4 EHS | A1             | T3b           | 34 98                     | 5 7                         | 16    |    |
|                           |                             | 1 EHS   | A1             | 83            | 62 7                      | 9 89                        | 16    |    |
|                           |                             | 1 EHS   | A1b            | 83a           | 62 7                      | 11 01                       | 18    |    |
|                           |                             | 1 EHS   | A1a            | 83b           | 62 7                      | 9 88                        | 16    |    |
|                           |                             | 288 10  | 1 EHS          | A1            | 102                       | 62 7                        | 9 72  | 15 |
| 1 EHS                     |                             |         | A1b            | 102a          | 62 7                      | 11 06                       | 18    |    |
| 1 EHS                     |                             |         | A1a            | 102b          | 62 7                      | 9 72                        | 15    |    |
| 1 2D + 1 0Di + 1 0Wi 330° |                             | 68 10   | 3/4 EHS        | A1            | 25                        | 34 98                       | 6 75  | 19 |
|                           |                             |         | 3/4 EHS        | A1b           | 25a                       | 34 98                       | 7 45  | 21 |
|                           |                             |         | 3/4 EHS        | A1a           | 25b                       | 34 98                       | 7 1   | 20 |
|                           |                             | 139 50  | 7/8 EHS        | A1            | 49                        | 47 82                       | 8 08  | 17 |
|                           |                             |         | 7/8 EHS        | A1b           | 49a                       | 47 82                       | 9 05  | 19 |
|                           |                             |         | 7/8 EHS        | A1a           | 49b                       | 47 82                       | 8 56  | 18 |
|                           | 195 70                      | 3/4 EHS | A1             | T3            | 34 98                     | 5 54                        | 16    |    |
|                           |                             | 3/4 EHS | A1b            | T3            | 34 98                     | 6 32                        | 18    |    |
|                           |                             | 3/4 EHS | A1a            | T3a           | 34 98                     | 5 93                        | 17    |    |
|                           |                             | 3/4 EHS | A1b            | T3a           | 34 98                     | 6 32                        | 18    |    |
|                           |                             | 3/4 EHS | A1             | T3b           | 34 98                     | 5 54                        | 16    |    |
|                           | 235 70                      | 3/4 EHS | A1a            | T3b           | 34 98                     | 5 95                        | 17    |    |
|                           |                             | 1 EHS   | A1             | 83            | 62 7                      | 9 65                        | 15    |    |
|                           |                             | 1 EHS   | A1b            | 83a           | 62 7                      | 10 91                       | 17    |    |
|                           |                             | 1 EHS   | A1a            | 83b           | 62 7                      | 10 27                       | 16    |    |
|                           |                             | 288 10  | 1 EHS          | A1            | 102                       | 62 7                        | 9 41  | 15 |
|                           | 1 EHS                       |         | A1b            | 102a          | 62 7                      | 10 94                       | 17    |    |
|                           | 1 EHS                       |         | A1a            | 102b          | 62 7                      | 10 18                       | 16    |    |
|                           | 1 2D + 1 0Ev + 1 0Eh Normal | 68 10   | 3/4 EHS        | A1            | 25                        | 34 98                       | 5 56  | 16 |
|                           |                             |         | 3/4 EHS        | A1b           | 25a                       | 34 98                       | 5 66  | 16 |
|                           |                             |         | 3/4 EHS        | A1a           | 25b                       | 34 98                       | 5 66  | 16 |
|                           |                             | 139 50  | 7/8 EHS        | A1            | 49                        | 47 82                       | 6 96  | 15 |
|                           |                             |         | 7/8 EHS        | A1b           | 49a                       | 47 82                       | 7 2   | 15 |
|                           |                             |         | 7/8 EHS        | A1a           | 49b                       | 47 82                       | 7 2   | 15 |
| 195 70                    |                             | 3/4 EHS | A1             | T3            | 34 98                     | 4 9                         | 14    |    |
|                           |                             | 3/4 EHS | A1b            | T3            | 34 98                     | 5 14                        | 15    |    |
|                           |                             | 3/4 EHS | A1b            | T3a           | 34 98                     | 5 14                        | 15    |    |
|                           |                             | 3/4 EHS | A1a            | T3a           | 34 98                     | 5 14                        | 15    |    |
|                           |                             | 3/4 EHS | A1             | T3b           | 34 98                     | 4 9                         | 14    |    |
| 235 70                    |                             | 3/4 EHS | A1a            | T3b           | 34 98                     | 5 14                        | 15    |    |
|                           |                             | 1 EHS   | A1             | 83            | 62 7                      | 8 93                        | 14    |    |
|                           |                             | 1 EHS   | A1b            | 83a           | 62 7                      | 9 42                        | 15    |    |

DETAILED CABLE FORCES

| Load Case                 | Elev<br>(ft) | Cable   | Anchor<br>Node | Tower<br>Node | Allow<br>Tension<br>(kip) | Applied<br>Tension<br>(kip) | Use% |
|---------------------------|--------------|---------|----------------|---------------|---------------------------|-----------------------------|------|
| 1 2D + 1.0Ev + 1 0Eh 60°  | 288 10       | 1 EHS   | A1a            | 83b           | 62 7                      | 9 42                        | 15   |
|                           |              | 1 EHS   | A1             | 102           | 62 7                      | 8 94                        | 14   |
|                           |              | 1 EHS   | A1b            | 102a          | 62 7                      | 9 47                        | 15   |
|                           |              | 1 EHS   | A1a            | 102b          | 62 7                      | 9 47                        | 15   |
|                           | 68 10        | 3/4 EHS | A1             | 25            | 34 98                     | 5 59                        | 16   |
|                           |              | 3/4 EHS | A1b            | 25a           | 34 98                     | 5 59                        | 16   |
|                           |              | 3/4 EHS | A1a            | 25b           | 34 98                     | 5 69                        | 16   |
|                           | 139 50       | 7/8 EHS | A1             | 49            | 47 82                     | 7 04                        | 15   |
|                           |              | 7/8 EHS | A1b            | 49a           | 47 82                     | 7 04                        | 15   |
|                           |              | 7/8 EHS | A1a            | 49b           | 47 82                     | 7 28                        | 15   |
|                           | 195 70       | 3/4 EHS | A1             | T3            | 34 98                     | 4 97                        | 14   |
|                           |              | 3/4 EHS | A1b            | T3            | 34 98                     | 4 97                        | 14   |
|                           |              | 3/4 EHS | A1b            | T3a           | 34 98                     | 4 98                        | 14   |
|                           |              | 3/4 EHS | A1a            | T3a           | 34 98                     | 5 22                        | 15   |
|                           |              | 3/4 EHS | A1             | T3b           | 34 98                     | 4 98                        | 14   |
|                           |              | 3/4 EHS | A1a            | T3b           | 34 98                     | 5 22                        | 15   |
| 1 2D + 1 0Ev + 1 0Eh 90°  | 235 70       | 1 EHS   | A1             | 83            | 62 7                      | 9 09                        | 14   |
|                           |              | 1 EHS   | A1b            | 83a           | 62 7                      | 9 09                        | 14   |
|                           |              | 1 EHS   | A1a            | 83b           | 62 7                      | 9 59                        | 15   |
|                           | 288 10       | 1 EHS   | A1             | 102           | 62 7                      | 9 11                        | 15   |
|                           |              | 1 EHS   | A1b            | 102a          | 62 7                      | 9 11                        | 15   |
|                           |              | 1 EHS   | A1a            | 102b          | 62 7                      | 9 65                        | 15   |
|                           | 68 10        | 3/4 EHS | A1             | 25            | 34 98                     | 5 63                        | 16   |
|                           |              | 3/4 EHS | A1b            | 25a           | 34 98                     | 5 57                        | 16   |
|                           |              | 3/4 EHS | A1a            | 25b           | 34 98                     | 5 68                        | 16   |
|                           | 139 50       | 7/8 EHS | A1             | 49            | 47 82                     | 7 12                        | 15   |
|                           |              | 7/8 EHS | A1b            | 49a           | 47 82                     | 6 98                        | 15   |
|                           |              | 7/8 EHS | A1a            | 49b           | 47 82                     | 7 26                        | 15   |
|                           | 195 70       | 3/4 EHS | A1             | T3            | 34 98                     | 5 05                        | 14   |
|                           |              | 3/4 EHS | A1b            | T3            | 34 98                     | 4 92                        | 14   |
|                           |              | 3/4 EHS | A1b            | T3a           | 34 98                     | 4 92                        | 14   |
|                           |              | 3/4 EHS | A1a            | T3a           | 34 98                     | 5 2                         | 15   |
|                           |              | 3/4 EHS | A1             | T3b           | 34 98                     | 5 06                        | 14   |
|                           |              | 3/4 EHS | A1a            | T3b           | 34 98                     | 5 2                         | 15   |
|                           | 235 70       | 1 EHS   | A1             | 83            | 62 7                      | 9 26                        | 15   |
|                           |              | 1 EHS   | A1b            | 83a           | 62 7                      | 8 97                        | 14   |
|                           |              | 1 EHS   | A1a            | 83b           | 62 7                      | 9 55                        | 15   |
|                           | 288 10       | 1 EHS   | A1             | 102           | 62 7                      | 9 29                        | 15   |
|                           |              | 1 EHS   | A1b            | 102a          | 62 7                      | 8 98                        | 14   |
|                           |              | 1 EHS   | A1a            | 102b          | 62 7                      | 9 61                        | 15   |
| 1 2D + 1 0Ev + 1 0Eh 120° | 68 10        | 3/4 EHS | A1             | 25            | 34 98                     | 5 66                        | 16   |
|                           |              | 3/4 EHS | A1b            | 25a           | 34 98                     | 5 56                        | 16   |
|                           |              | 3/4 EHS | A1a            | 25b           | 34 98                     | 5 66                        | 16   |
|                           | 139 50       | 7/8 EHS | A1             | 49            | 47 82                     | 7 2                         | 15   |
|                           |              | 7/8 EHS | A1b            | 49a           | 47 82                     | 6 96                        | 15   |
|                           |              | 7/8 EHS | A1a            | 49b           | 47 82                     | 7 2                         | 15   |
|                           | 195 70       | 3/4 EHS | A1b            | T3            | 34 98                     | 4 9                         | 14   |
|                           |              | 3/4 EHS | A1             | T3            | 34 98                     | 5 14                        | 15   |
|                           |              | 3/4 EHS | A1a            | T3a           | 34 98                     | 5 14                        | 15   |
|                           |              | 3/4 EHS | A1b            | T3a           | 34 98                     | 4 9                         | 14   |
|                           |              | 3/4 EHS | A1a            | T3b           | 34 98                     | 5 14                        | 15   |
|                           |              | 3/4 EHS | A1             | T3b           | 34 98                     | 5 14                        | 15   |
|                           | 235 70       | 1 EHS   | A1             | 83            | 62 7                      | 9 42                        | 15   |
|                           |              | 1 EHS   | A1b            | 83a           | 62 7                      | 8 93                        | 14   |
|                           |              | 1 EHS   | A1a            | 83b           | 62 7                      | 9 42                        | 15   |
|                           | 288 10       | 1 EHS   | A1             | 102           | 62 7                      | 9 47                        | 15   |
|                           |              | 1 EHS   | A1b            | 102a          | 62 7                      | 8 94                        | 14   |
|                           |              | 1 EHS   | A1a            | 102b          | 62 7                      | 9 47                        | 15   |
| 1 2D + 1 0Ev + 1 0Eh 180° | 68 10        | 3/4 EHS | A1             | 25            | 34 98                     | 5 69                        | 16   |
|                           |              | 3/4 EHS | A1b            | 25a           | 34 98                     | 5 59                        | 16   |
|                           |              | 3/4 EHS | A1a            | 25b           | 34 98                     | 5 59                        | 16   |
|                           | 139 50       | 7/8 EHS | A1             | 49            | 47 82                     | 7 28                        | 15   |
|                           |              | 7/8 EHS | A1b            | 49a           | 47 82                     | 7 04                        | 15   |
|                           |              | 7/8 EHS | A1a            | 49b           | 47 82                     | 7 04                        | 15   |
|                           | 195 70       | 3/4 EHS | A1b            | T3            | 34 98                     | 4 98                        | 14   |
|                           |              | 3/4 EHS | A1             | T3            | 34 98                     | 5 22                        | 15   |
|                           |              | 3/4 EHS | A1b            | T3a           | 34 98                     | 4 97                        | 14   |
|                           |              | 3/4 EHS | A1a            | T3a           | 34 98                     | 4 97                        | 14   |
|                           |              | 3/4 EHS | A1a            | T3a           | 34 98                     | 4 97                        | 14   |
|                           |              | 3/4 EHS | A1a            | T3a           | 34 98                     | 4 97                        | 14   |

DETAILED CABLE FORCES

| Load Case                 | Elev<br>(ft) | Cable   | Anchor<br>Node | Tower<br>Node | Allow<br>Tension<br>(kip) | Applied<br>Tension<br>(kip) | Use% |
|---------------------------|--------------|---------|----------------|---------------|---------------------------|-----------------------------|------|
| 1 2D + 1 0Ev + 1 0Eh 210° | 235 70       | 3/4 EHS | A1             | T3b           | 34 98                     | 5 22                        | 15   |
|                           |              | 3/4 EHS | A1a            | T3b           | 34 98                     | 4 98                        | 14   |
|                           |              | 1 EHS   | A1             | 83            | 62 7                      | 9 59                        | 15   |
|                           |              | 1 EHS   | A1b            | 83a           | 62 7                      | 9 09                        | 14   |
|                           | 288 10       | 1 EHS   | A1a            | 83b           | 62 7                      | 9 09                        | 14   |
|                           |              | 1 EHS   | A1             | 102           | 62 7                      | 9 65                        | 15   |
|                           |              | 1 EHS   | A1b            | 102a          | 62 7                      | 9 11                        | 15   |
|                           |              | 1 EHS   | A1a            | 102b          | 62 7                      | 9 11                        | 15   |
|                           | 68 10        | 3/4 EHS | A1             | 25            | 34 98                     | 5 68                        | 16   |
|                           |              | 3/4 EHS | A1b            | 25a           | 34 98                     | 5 63                        | 16   |
|                           |              | 3/4 EHS | A1a            | 25b           | 34 98                     | 5 57                        | 16   |
|                           |              | 7/8 EHS | A1             | 49            | 47 82                     | 7 26                        | 15   |
|                           | 139 50       | 7/8 EHS | A1b            | 49a           | 47 82                     | 7 12                        | 15   |
|                           |              | 7/8 EHS | A1a            | 49b           | 47 82                     | 6 98                        | 15   |
|                           |              | 3/4 EHS | A1b            | T3            | 34 98                     | 5 06                        | 14   |
|                           |              | 3/4 EHS | A1             | T3            | 34 98                     | 5 2                         | 15   |
|                           | 195 70       | 3/4 EHS | A1a            | T3a           | 34 98                     | 4 92                        | 14   |
|                           |              | 3/4 EHS | A1b            | T3a           | 34 98                     | 5 05                        | 14   |
|                           |              | 3/4 EHS | A1             | T3b           | 34 98                     | 5 2                         | 15   |
|                           |              | 3/4 EHS | A1a            | T3b           | 34 98                     | 4 92                        | 14   |
|                           | 235 70       | 1 EHS   | A1             | 83            | 62 7                      | 9 55                        | 15   |
|                           |              | 1 EHS   | A1b            | 83a           | 62 7                      | 9 26                        | 15   |
|                           |              | 1 EHS   | A1a            | 83b           | 62 7                      | 8 97                        | 14   |
|                           |              | 1 EHS   | A1             | 102           | 62 7                      | 9 61                        | 15   |
| 1 2D + 1 0Ev + 1 0Eh 240° | 288 10       | 1 EHS   | A1b            | 102a          | 62 7                      | 9 29                        | 15   |
|                           |              | 1 EHS   | A1a            | 102b          | 62 7                      | 8 98                        | 14   |
|                           |              | 3/4 EHS | A1             | 25            | 34 98                     | 5 66                        | 16   |
|                           |              | 3/4 EHS | A1b            | 25a           | 34 98                     | 5 66                        | 16   |
|                           | 68 10        | 3/4 EHS | A1a            | 25b           | 34 98                     | 5 56                        | 16   |
|                           |              | 7/8 EHS | A1             | 49            | 47 82                     | 7 2                         | 15   |
|                           |              | 7/8 EHS | A1b            | 49a           | 47 82                     | 7 2                         | 15   |
|                           |              | 7/8 EHS | A1a            | 49b           | 47 82                     | 6 96                        | 15   |
|                           | 139 50       | 3/4 EHS | A1             | T3            | 34 98                     | 5 14                        | 15   |
|                           |              | 3/4 EHS | A1b            | T3            | 34 98                     | 5 14                        | 15   |
|                           |              | 3/4 EHS | A1a            | T3a           | 34 98                     | 4 9                         | 14   |
|                           |              | 3/4 EHS | A1b            | T3a           | 34 98                     | 5 14                        | 15   |
|                           | 195 70       | 3/4 EHS | A1a            | T3b           | 34 98                     | 4 9                         | 14   |
|                           |              | 3/4 EHS | A1             | T3b           | 34 98                     | 5 14                        | 15   |
|                           |              | 1 EHS   | A1             | 83            | 62 7                      | 9 42                        | 15   |
|                           |              | 1 EHS   | A1b            | 83a           | 62 7                      | 9 42                        | 15   |
|                           | 235 70       | 1 EHS   | A1a            | 83b           | 62 7                      | 8 93                        | 14   |
|                           |              | 1 EHS   | A1             | 102           | 62 7                      | 9 47                        | 15   |
|                           |              | 1 EHS   | A1b            | 102a          | 62 7                      | 9 47                        | 15   |
|                           |              | 1 EHS   | A1a            | 102b          | 62 7                      | 8 94                        | 14   |
| 1 2D + 1 0Ev + 1 0Eh 300° | 68 10        | 3/4 EHS | A1             | 25            | 34 98                     | 5 59                        | 16   |
|                           |              | 3/4 EHS | A1b            | 25a           | 34 98                     | 5 69                        | 16   |
|                           |              | 3/4 EHS | A1a            | 25b           | 34 98                     | 5 59                        | 16   |
|                           |              | 7/8 EHS | A1             | 49            | 47 82                     | 7 04                        | 15   |
|                           | 139 50       | 7/8 EHS | A1b            | 49a           | 47 82                     | 7 28                        | 15   |
|                           |              | 7/8 EHS | A1a            | 49b           | 47 82                     | 7 04                        | 15   |
|                           |              | 3/4 EHS | A1b            | T3            | 34 98                     | 5 22                        | 15   |
|                           |              | 3/4 EHS | A1             | T3            | 34 98                     | 4 98                        | 14   |
|                           | 195 70       | 3/4 EHS | A1b            | T3a           | 34 98                     | 5 22                        | 15   |
|                           |              | 3/4 EHS | A1a            | T3a           | 34 98                     | 4 98                        | 14   |
|                           |              | 3/4 EHS | A1             | T3b           | 34 98                     | 4 97                        | 14   |
|                           |              | 3/4 EHS | A1a            | T3b           | 34 98                     | 4 97                        | 14   |
|                           | 235.70       | 1 EHS   | A1             | 83            | 62 7                      | 9 09                        | 14   |
|                           |              | 1 EHS   | A1b            | 83a           | 62 7                      | 9 59                        | 15   |
|                           |              | 1 EHS   | A1a            | 83b           | 62 7                      | 9 09                        | 14   |
|                           |              | 1 EHS   | A1             | 102           | 62 7                      | 9 11                        | 15   |
| 1 2D + 1 0Ev + 1 0Eh 330° | 288 10       | 1 EHS   | A1b            | 102a          | 62 7                      | 9 65                        | 15   |
|                           |              | 1 EHS   | A1a            | 102b          | 62 7                      | 9 11                        | 15   |
|                           |              | 3/4 EHS | A1             | 25            | 34 98                     | 5 57                        | 16   |
|                           |              | 3/4 EHS | A1b            | 25a           | 34 98                     | 5 68                        | 16   |
|                           | 68 10        | 3/4 EHS | A1a            | 25b           | 34 98                     | 5 63                        | 16   |
|                           |              | 7/8 EHS | A1             | 49            | 47 82                     | 6 98                        | 15   |
|                           |              | 7/8 EHS | A1b            | 49a           | 47 82                     | 7 26                        | 15   |
|                           |              | 7/8 EHS | A1a            | 49b           | 47 82                     | 7 12                        | 15   |

# DETAILED CABLE FORCES

| Load Case                  | Elev<br>(ft) | Cable   | Anchor<br>Node | Tower<br>Node | Allow<br>Tension<br>(kip) | Applied<br>Tension<br>(kip) | Use% |
|----------------------------|--------------|---------|----------------|---------------|---------------------------|-----------------------------|------|
| 1 0D + 1 0W Service Normal | 195 70       | 3/4 EHS | A1b            | T3            | 34 98                     | 5 2                         | 15   |
|                            |              | 3/4 EHS | A1             | T3            | 34 98                     | 4 92                        | 14   |
|                            |              | 3/4 EHS | A1a            | T3a           | 34 98                     | 5 06                        | 14   |
|                            |              | 3/4 EHS | A1b            | T3a           | 34 98                     | 5 2                         | 15   |
|                            |              | 3/4 EHS | A1a            | T3b           | 34 98                     | 5 05                        | 14   |
|                            |              | 3/4 EHS | A1             | T3b           | 34 98                     | 4 92                        | 14   |
|                            | 235 70       | 1 EHS   | A1             | 83            | 62 7                      | 8 97                        | 14   |
|                            |              | 1 EHS   | A1b            | 83a           | 62 7                      | 9 55                        | 15   |
|                            |              | 1 EHS   | A1a            | 83b           | 62 7                      | 9 26                        | 15   |
|                            | 288 10       | 1 EHS   | A1             | 102           | 62 7                      | 8 98                        | 14   |
|                            |              | 1 EHS   | A1b            | 102a          | 62 7                      | 9 61                        | 15   |
|                            |              | 1 EHS   | A1a            | 102b          | 62 7                      | 9 29                        | 15   |
|                            | 68 10        | 3/4 EHS | A1             | 25            | 34 98                     | 4 55                        | 13   |
|                            |              | 3/4 EHS | A1b            | 25a           | 34 98                     | 6 29                        | 18   |
|                            |              | 3/4 EHS | A1a            | 25b           | 34 98                     | 6 29                        | 18   |
|                            | 139 50       | 7/8 EHS | A1             | 49            | 47 82                     | 5 61                        | 12   |
|                            |              | 7/8 EHS | A1b            | 49a           | 47 82                     | 8 1                         | 17   |
|                            |              | 7/8 EHS | A1a            | 49b           | 47 82                     | 8 1                         | 17   |
|                            | 195 70       | 3/4 EHS | A1             | T3            | 34 98                     | 3 87                        | 11   |
|                            |              | 3/4 EHS | A1b            | T3            | 34 98                     | 5 92                        | 17   |
|                            |              | 3/4 EHS | A1b            | T3a           | 34 98                     | 5 9                         | 17   |
|                            |              | 3/4 EHS | A1a            | T3a           | 34 98                     | 5 9                         | 17   |
|                            |              | 3/4 EHS | A1             | T3b           | 34 98                     | 3 87                        | 11   |
|                            |              | 3/4 EHS | A1a            | T3b           | 34 98                     | 5 92                        | 17   |
|                            | 235 70       | 1 EHS   | A1             | 83            | 62 7                      | 7 16                        | 11   |
|                            |              | 1 EHS   | A1b            | 83a           | 62 7                      | 10 62                       | 17   |
|                            |              | 1 EHS   | A1a            | 83b           | 62 7                      | 10 62                       | 17   |
|                            | 288 10       | 1 EHS   | A1             | 102           | 62 7                      | 6 67                        | 11   |
|                            |              | 1 EHS   | A1b            | 102a          | 62 7                      | 10 99                       | 18   |
|                            |              | 1 EHS   | A1a            | 102b          | 62 7                      | 10 99                       | 18   |
| 1 0D + 1 0W Service 60°    | 68 10        | 3/4 EHS | A1             | 25            | 34 98                     | 5 11                        | 15   |
|                            |              | 3/4 EHS | A1b            | 25a           | 34 98                     | 5 12                        | 15   |
|                            |              | 3/4 EHS | A1a            | 25b           | 34 98                     | 6 78                        | 19   |
|                            | 139 50       | 7/8 EHS | A1             | 49            | 47 82                     | 6 39                        | 13   |
|                            |              | 7/8 EHS | A1b            | 49a           | 47 82                     | 6 4                         | 13   |
|                            |              | 7/8 EHS | A1a            | 49b           | 47 82                     | 8 87                        | 19   |
|                            | 195 70       | 3/4 EHS | A1             | T3            | 34 98                     | 4 62                        | 13   |
|                            |              | 3/4 EHS | A1b            | T3            | 34 98                     | 4 62                        | 13   |
|                            |              | 3/4 EHS | A1b            | T3a           | 34 98                     | 4 58                        | 13   |
|                            |              | 3/4 EHS | A1a            | T3a           | 34 98                     | 6 51                        | 19   |
|                            |              | 3/4 EHS | A1             | T3b           | 34 98                     | 4 59                        | 13   |
|                            |              | 3/4 EHS | A1a            | T3b           | 34 98                     | 6 51                        | 19   |
|                            | 235 70       | 1 EHS   | A1             | 83            | 62 7                      | 8 31                        | 13   |
|                            |              | 1 EHS   | A1b            | 83a           | 62 7                      | 8 3                         | 13   |
|                            |              | 1 EHS   | A1a            | 83b           | 62 7                      | 11 81                       | 19   |
|                            | 288 10       | 1 EHS   | A1             | 102           | 62 7                      | 8 25                        | 13   |
|                            |              | 1 EHS   | A1b            | 102a          | 62 7                      | 8 24                        | 13   |
|                            |              | 1 EHS   | A1a            | 102b          | 62 7                      | 12 41                       | 20   |
| 1 0D + 1 0W Service 90°    | 68 10        | 3/4 EHS | A1             | 25            | 34 98                     | 5 69                        | 16   |
|                            |              | 3/4 EHS | A1b            | 25a           | 34 98                     | 4 71                        | 13   |
|                            |              | 3/4 EHS | A1a            | 25b           | 34 98                     | 6 65                        | 19   |
|                            | 139 50       | 7/8 EHS | A1             | 49            | 47 82                     | 7 21                        | 15   |
|                            |              | 7/8 EHS | A1b            | 49a           | 47 82                     | 5 85                        | 12   |
|                            |              | 7/8 EHS | A1a            | 49b           | 47 82                     | 8 67                        | 18   |
|                            | 195 70       | 3/4 EHS | A1             | T3            | 34 98                     | 5 29                        | 15   |
|                            |              | 3/4 EHS | A1b            | T3            | 34 98                     | 4 08                        | 12   |
|                            |              | 3/4 EHS | A1b            | T3a           | 34 98                     | 4 08                        | 12   |
|                            |              | 3/4 EHS | A1a            | T3a           | 34 98                     | 6 34                        | 18   |
|                            |              | 3/4 EHS | A1             | T3b           | 34 98                     | 5 24                        | 15   |
|                            |              | 3/4 EHS | A1a            | T3b           | 34 98                     | 6 36                        | 18   |
|                            | 235 70       | 1 EHS   | A1             | 83            | 62 7                      | 9 43                        | 15   |
|                            |              | 1 EHS   | A1b            | 83a           | 62 7                      | 7 48                        | 12   |
|                            |              | 1 EHS   | A1a            | 83b           | 62 7                      | 11 49                       | 18   |
|                            | 288 10       | 1 EHS   | A1             | 102           | 62 7                      | 9 61                        | 15   |
|                            |              | 1 EHS   | A1b            | 102a          | 62 7                      | 7 14                        | 11   |
|                            |              | 1 EHS   | A1a            | 102b          | 62 7                      | 12 02                       | 19   |
| 1 0D + 1 0W Service 120°   | 68 10        | 3/4 EHS | A1             | 25            | 34 98                     | 6 29                        | 18   |
|                            |              | 3/4 EHS | A1b            | 25a           | 34 98                     | 4 56                        | 13   |

DETAILED CABLE FORCES

| Load Case                | Elev<br>(ft)             | Cable   | Anchor<br>Node | Tower<br>Node | Allow<br>Tension<br>(kip) | Applied<br>Tension<br>(kip) | Use% |
|--------------------------|--------------------------|---------|----------------|---------------|---------------------------|-----------------------------|------|
| 1 0D + 1 0W Service 180° | 139 50                   | 3/4 EHS | A1a            | 25b           | 34 98                     | 6 28                        | 18   |
|                          |                          | 7/8 EHS | A1             | 49            | 47 82                     | 8 1                         | 17   |
|                          |                          | 7/8 EHS | A1b            | 49a           | 47 82                     | 5 63                        | 12   |
|                          | 195 70                   | 7/8 EHS | A1a            | 49b           | 47 82                     | 8 08                        | 17   |
|                          |                          | 3/4 EHS | A1b            | T3            | 34 98                     | 3 87                        | 11   |
|                          |                          | 3/4 EHS | A1             | T3            | 34 98                     | 5 91                        | 17   |
|                          | 235 70                   | 3/4 EHS | A1a            | T3a           | 34 98                     | 5 92                        | 17   |
|                          |                          | 3/4 EHS | A1b            | T3a           | 34 98                     | 3 87                        | 11   |
|                          |                          | 3/4 EHS | A1a            | T3b           | 34 98                     | 5 91                        | 17   |
|                          | 288 10                   | 3/4 EHS | A1             | T3b           | 34 98                     | 5 9                         | 17   |
|                          |                          | 1 EHS   | A1             | 83            | 62 7                      | 10 61                       | 17   |
|                          |                          | 1 EHS   | A1b            | 83a           | 62.7                      | 7 17                        | 11   |
|                          | 1 0D + 1 0W Service 180° | 1 EHS   | A1a            | 83b           | 62 7                      | 10 62                       | 17   |
|                          |                          | 1 EHS   | A1             | 102           | 62.7                      | 10 98                       | 18   |
|                          |                          | 1 EHS   | A1b            | 102a          | 62 7                      | 6 69                        | 11   |
|                          | 68 10                    | 1 EHS   | A1a            | 102b          | 62 7                      | 10 98                       | 18   |
|                          |                          | 3/4 EHS | A1             | 25            | 34 98                     | 6 78                        | 19   |
|                          |                          | 3/4 EHS | A1b            | 25a           | 34 98                     | 5 11                        | 15   |
|                          | 139 50                   | 3/4 EHS | A1a            | 25b           | 34 98                     | 5 11                        | 15   |
|                          |                          | 7/8 EHS | A1             | 49            | 47 82                     | 8 89                        | 19   |
|                          |                          | 7/8 EHS | A1b            | 49a           | 47 82                     | 6 39                        | 13   |
|                          | 195 70                   | 7/8 EHS | A1a            | 49b           | 47 82                     | 6 39                        | 13   |
|                          |                          | 3/4 EHS | A1             | T3            | 34 98                     | 6 51                        | 19   |
|                          |                          | 3/4 EHS | A1b            | T3            | 34 98                     | 4 58                        | 13   |
|                          | 235 70                   | 3/4 EHS | A1b            | T3a           | 34 98                     | 4 62                        | 13   |
|                          |                          | 3/4 EHS | A1a            | T3a           | 34 98                     | 4 62                        | 13   |
|                          |                          | 3/4 EHS | A1             | T3b           | 34 98                     | 6 51                        | 19   |
|                          | 288 10                   | 3/4 EHS | A1a            | T3b           | 34 98                     | 4 58                        | 13   |
|                          |                          | 1 EHS   | A1             | 83            | 62 7                      | 11 82                       | 19   |
|                          |                          | 1 EHS   | A1b            | 83a           | 62 7                      | 8 3                         | 13   |
|                          | 1 0D + 1 0W Service 210° | 1 EHS   | A1a            | 83b           | 62 7                      | 8 3                         | 13   |
|                          |                          | 1 EHS   | A1             | 102           | 62 7                      | 12 42                       | 20   |
|                          |                          | 1 EHS   | A1b            | 102a          | 62 7                      | 8 24                        | 13   |
|                          | 68 10                    | 1 EHS   | A1a            | 102b          | 62 7                      | 8 24                        | 13   |
|                          |                          | 3/4 EHS | A1             | 25            | 34 98                     | 6 66                        | 19   |
|                          |                          | 3/4 EHS | A1b            | 25a           | 34 98                     | 5 69                        | 16   |
|                          | 139 50                   | 3/4 EHS | A1a            | 25b           | 34 98                     | 4 71                        | 13   |
|                          |                          | 7/8 EHS | A1             | 49            | 47 82                     | 8 68                        | 18   |
|                          |                          | 7/8 EHS | A1b            | 49a           | 47 82                     | 7 2                         | 15   |
|                          | 195 70                   | 7/8 EHS | A1a            | 49b           | 47 82                     | 5 84                        | 12   |
|                          |                          | 3/4 EHS | A1             | T3            | 34 98                     | 6 36                        | 18   |
|                          |                          | 3/4 EHS | A1b            | T3            | 34 98                     | 5 24                        | 15   |
|                          | 235 70                   | 3/4 EHS | A1a            | T3a           | 34 98                     | 4 08                        | 12   |
|                          |                          | 3/4 EHS | A1b            | T3a           | 34 98                     | 5 29                        | 15   |
|                          |                          | 3/4 EHS | A1             | T3b           | 34 98                     | 6 34                        | 18   |
|                          | 288 10                   | 3/4 EHS | A1a            | T3b           | 34 98                     | 4 08                        | 12   |
|                          |                          | 1 EHS   | A1             | 83            | 62 7                      | 11 48                       | 18   |
|                          |                          | 1 EHS   | A1b            | 83a           | 62 7                      | 9 43                        | 15   |
|                          | 1 0D + 1 0W Service 240° | 1 EHS   | A1a            | 83b           | 62 7                      | 7 49                        | 12   |
|                          |                          | 1 EHS   | A1             | 102           | 62 7                      | 12 02                       | 19   |
|                          |                          | 1 EHS   | A1b            | 102a          | 62 7                      | 9 62                        | 15   |
|                          | 68 10                    | 1 EHS   | A1a            | 102b          | 62 7                      | 7 15                        | 11   |
|                          |                          | 3/4 EHS | A1             | 25            | 34 98                     | 6 29                        | 18   |
|                          |                          | 3/4 EHS | A1b            | 25a           | 34 98                     | 6 28                        | 18   |
|                          | 139 50                   | 3/4 EHS | A1a            | 25b           | 34 98                     | 4 56                        | 13   |
|                          |                          | 7/8 EHS | A1             | 49            | 47 82                     | 8 1                         | 17   |
|                          |                          | 7/8 EHS | A1b            | 49a           | 47 82                     | 8 08                        | 17   |
|                          | 195 70                   | 7/8 EHS | A1a            | 49b           | 47 82                     | 5 63                        | 12   |
|                          |                          | 3/4 EHS | A1             | T3            | 34 98                     | 5 9                         | 17   |
|                          |                          | 3/4 EHS | A1b            | T3            | 34 98                     | 5 91                        | 17   |
|                          | 235 70                   | 3/4 EHS | A1a            | T3a           | 34 98                     | 3 87                        | 11   |
|                          |                          | 3/4 EHS | A1b            | T3a           | 34 98                     | 5 92                        | 17   |
|                          |                          | 3/4 EHS | A1a            | T3b           | 34 98                     | 3 87                        | 11   |
|                          | 288 10                   | 3/4 EHS | A1             | T3b           | 34 98                     | 5 91                        | 17   |
|                          |                          | 1 EHS   | A1             | 83            | 62 7                      | 10 61                       | 17   |
|                          |                          | 1 EHS   | A1b            | 83a           | 62 7                      | 10 62                       | 17   |
|                          | 1 0D + 1 0W Service 240° | 1 EHS   | A1a            | 83b           | 62 7                      | 7 17                        | 11   |
|                          |                          | 1 EHS   | A1             | 102           | 62 7                      | 10 98                       | 18   |

## DETAILED CABLE FORCES

| Load Case                | Elev<br>(ft) | Cable   | Anchor<br>Node | Tower<br>Node | Allow<br>Tension<br>(kip) | Applied<br>Tension<br>(kip) | Use% |
|--------------------------|--------------|---------|----------------|---------------|---------------------------|-----------------------------|------|
| 1 0D + 1 0W Service 300° | 68 10        | 1 EHS   | A1b            | 102a          | 62 7                      | 10 98                       | 18   |
|                          |              | 1 EHS   | A1a            | 102b          | 62 7                      | 6 69                        | 11   |
|                          |              | 3/4 EHS | A1             | 25            | 34 98                     | 5 11                        | 15   |
|                          | 139 50       | 3/4 EHS | A1b            | 25a           | 34 98                     | 6 78                        | 19   |
|                          |              | 3/4 EHS | A1a            | 25b           | 34 98                     | 5 12                        | 15   |
|                          |              | 7/8 EHS | A1             | 49            | 47 82                     | 6 39                        | 13   |
|                          | 195 70       | 7/8 EHS | A1b            | 49a           | 47 82                     | 8 87                        | 19   |
|                          |              | 7/8 EHS | A1a            | 49b           | 47 82                     | 6 4                         | 13   |
|                          |              | 3/4 EHS | A1b            | T3            | 34 98                     | 6 51                        | 19   |
|                          | 235 70       | 3/4 EHS | A1             | T3            | 34 98                     | 4 59                        | 13   |
|                          |              | 3/4 EHS | A1b            | T3a           | 34 98                     | 6 51                        | 19   |
|                          |              | 3/4 EHS | A1a            | T3a           | 34 98                     | 4 58                        | 13   |
|                          | 288 10       | 3/4 EHS | A1             | T3b           | 34 98                     | 4 62                        | 13   |
|                          |              | 3/4 EHS | A1a            | T3b           | 34 98                     | 4 62                        | 13   |
|                          |              | 1 EHS   | A1             | 83            | 62 7                      | 8 31                        | 13   |
|                          | 288 10       | 1 EHS   | A1b            | 83a           | 62 7                      | 11 81                       | 19   |
|                          |              | 1 EHS   | A1a            | 83b           | 62 7                      | 8 3                         | 13   |
|                          |              | 1 EHS   | A1             | 102           | 62 7                      | 8 25                        | 13   |
| 1 0D + 1 0W Service 330° | 68 10        | 1 EHS   | A1b            | 102a          | 62 7                      | 12 41                       | 20   |
|                          |              | 1 EHS   | A1a            | 102b          | 62 7                      | 8 24                        | 13   |
|                          |              | 3/4 EHS | A1             | 25            | 34 98                     | 4 71                        | 13   |
|                          | 139 50       | 3/4 EHS | A1b            | 25a           | 34 98                     | 6 66                        | 19   |
|                          |              | 3/4 EHS | A1a            | 25b           | 34 98                     | 5 69                        | 16   |
|                          |              | 7/8 EHS | A1             | 49            | 47 82                     | 5 83                        | 12   |
|                          | 195 70       | 7/8 EHS | A1b            | 49a           | 47 82                     | 8 68                        | 18   |
|                          |              | 7/8 EHS | A1a            | 49b           | 47 82                     | 7 22                        | 15   |
|                          |              | 3/4 EHS | A1             | T3            | 34 98                     | 4 09                        | 12   |
|                          | 235 70       | 3/4 EHS | A1b            | T3            | 34 98                     | 6 34                        | 18   |
|                          |              | 3/4 EHS | A1b            | T3a           | 34 98                     | 6 36                        | 18   |
|                          |              | 3/4 EHS | A1a            | T3a           | 34 98                     | 5 24                        | 15   |
|                          | 288 10       | 3/4 EHS | A1a            | T3b           | 34 98                     | 5 28                        | 15   |
|                          |              | 3/4 EHS | A1             | T3b           | 34 98                     | 4 08                        | 12   |
|                          |              | 1 EHS   | A1             | 83            | 62 7                      | 7 49                        | 12   |
|                          | 288 10       | 1 EHS   | A1b            | 83a           | 62 7                      | 11 49                       | 18   |
|                          |              | 1 EHS   | A1a            | 83b           | 62 7                      | 9 42                        | 15   |
|                          |              | 1 EHS   | A1             | 102           | 62 7                      | 7 15                        | 11   |
|                          | 288 10       | 1 EHS   | A1b            | 102a          | 62 7                      | 12 02                       | 19   |
|                          |              | 1 EHS   | A1a            | 102b          | 62 7                      | 9 61                        | 15   |

## MAXIMUM CABLE FORCES SUMMARY

| Load Case        | Elevation (ft) | Cable   | Anchor<br>Node | Tower<br>Node | Allowed<br>Tension<br>(kip) | Applied<br>Tension<br>(kip) | Use (%) |
|------------------|----------------|---------|----------------|---------------|-----------------------------|-----------------------------|---------|
| 1 2D + 1 0W 60°  | 68 10          | 3/4 EHS | A1a            | 25b           | 34 98                       | 10 62                       | 30      |
| 1 2D + 1 0W 180° | 139 50         | 7/8 EHS | A1             | 49            | 47 82                       | 15 59                       | 33      |
| 1 2D + 1 0W 60°  | 195 70         | 3/4 EHS | A1a            | T3a           | 34 98                       | 12 20                       | 35      |
| 1 2D + 1 0W 60°  | 235 70         | 1 EHS   | A1a            | 83b           | 62 70                       | 22 06                       | 35      |
| 1 2D + 1 0W 60°  | 288 10         | 1 EHS   | A1a            | 102b          | 62 70                       | 24 60                       | 39      |

## MAXIMUM TORQUE ARM STRESS SUMMARY

| Load Case          | Elevation (ft) | Member   | Type         | Compression % | Tension % |
|--------------------|----------------|----------|--------------|---------------|-----------|
| 1 2D + 1 0W Normal | 68 00          | 3X3X0 5  | Horiz        | 0             | 6         |
| 1 2D + 1 0W Normal | 139 30         | 3X3X0 5  | Horiz        | 0             | 7         |
| 1 2D + 1 0W Normal | 196 00         | C10 x 20 | Torque Arm   | 0             | 5         |
| 1 2D + 1 0W 60°    | 196 00         | C10 x 20 | Lower Kicker | 9             | 0         |
| 1 2D + 1 0W Normal | 236 00         | 3X3X0 5  | Horiz        | 0             | 6         |
| 1 2D + 1 0W Normal | 288 00         | 3X3X0 5  | Horiz        | 0             | 6         |

## DEFLECTIONS AND ROTATIONS

| Load Case                                                     | Elevation<br>(ft) | Deflection<br>(ft) | Twist<br>(deg) | Sway<br>(deg) | Resultant<br>(deg) |
|---------------------------------------------------------------|-------------------|--------------------|----------------|---------------|--------------------|
| 1 2D + 1 0W Normal 117 mph wind with no ice                   | 175 70            | 0 2182             | 0 0002         | 0 0343        | 0 0343             |
| 1 2D + 1 0W Normal 117 mph wind with no ice                   | 195 70            | 0 2713             | 0 0022         | 0 1846        | 0 1846             |
| 1 2D + 1 0W Normal 117 mph wind with no ice                   | 248 10            | 0 5666             | 0 0004         | 0 4064        | 0 4064             |
| 1 2D + 1 0W Normal 117 mph wind with no ice                   | 300 00            | 0 9346             | 0 0011         | 0 6707        | 0 6707             |
| 1 2D + 1 0W 60° 117 mph wind with no ice                      | 175 70            | 0 2779             | -0 0017        | 0 2109        | 0 2109             |
| 1 2D + 1 0W 60° 117 mph wind with no ice                      | 195 70            | 0 3207             | 0 0029         | 0 1461        | 0 1461             |
| 1 2D + 1 0W 60° 117 mph wind with no ice                      | 248 10            | 0 5468             | -0 0017        | 0 3047        | 0 3047             |
| 1 2D + 1 0W 60° 117 mph wind with no ice                      | 300 00            | 0 8107             | -0 0029        | 0 5482        | 0 5482             |
| 1 2D + 1 0W 90° 117 mph wind with no ice                      | 175 70            | 0 2602             | 0 0563         | 0 2563        | 0 2624             |
| 1 2D + 1 0W 90° 117 mph wind with no ice                      | 195 70            | 0 3085             | 0 0538         | 0 1700        | 0 178              |
| 1 2D + 1 0W 90° 117 mph wind with no ice                      | 248 10            | 0 5692             | 0 0620         | 0 3562        | 0 3615             |
| 1 2D + 1 0W 90° 117 mph wind with no ice                      | 300 00            | 0 8839             | 0 0683         | 0 6222        | 0 626              |
| 1 2D + 1 0W 120° 117 mph wind with no ice                     | 175 70            | 0 2186             | 0 0017         | 0 2309        | 0 2309             |
| 1 2D + 1 0W 120° 117 mph wind with no ice                     | 195 70            | 0 2732             | 0 0033         | 0 1889        | 0 1889             |
| 1 2D + 1 0W 120° 117 mph wind with no ice                     | 248 10            | 0 5702             | 0 0013         | 0 4068        | 0 4068             |
| 1 2D + 1 0W 120° 117 mph wind with no ice                     | 300 00            | 0 9378             | 0 0020         | 0 6701        | 0 6701             |
| 1 2D + 1 0W 180° 117 mph wind with no ice                     | 175 70            | 0 2776             | 0 0001         | 0 0140        | 0 014              |
| 1 2D + 1 0W 180° 117 mph wind with no ice                     | 195 70            | 0 3194             | 0 0017         | 0 1430        | 0 143              |
| 1 2D + 1 0W 180° 117 mph wind with no ice                     | 248 10            | 0 5448             | 0 0007         | 0 3052        | 0 3052             |
| 1 2D + 1 0W 180° 117 mph wind with no ice                     | 300 00            | 0 8097             | 0 0020         | 0 5494        | 0 5494             |
| 1 2D + 1 0W 210° 117 mph wind with no ice                     | 175 70            | 0 2598             | 0 0547         | 0 1403        | 0 1506             |
| 1 2D + 1 0W 210° 117 mph wind with no ice                     | 195 70            | 0 307              | 0 0526         | 0 1669        | 0 1746             |
| 1 2D + 1 0W 210° 117 mph wind with no ice                     | 248 10            | 0 5669             | 0 0610         | 0 3564        | 0 3615             |
| 1 2D + 1 0W 210° 117 mph wind with no ice                     | 300 00            | 0 8823             | 0 0674         | 0 6232        | 0 6268             |
| 1 2D + 1 0W 240° 117 mph wind with no ice                     | 175 70            | 0 2186             | -0 0017        | 0 2309        | 0 2309             |
| 1 2D + 1 0W 240° 117 mph wind with no ice                     | 195 70            | 0 2732             | -0 0033        | 0 1889        | 0 1889             |
| 1 2D + 1 0W 240° 117 mph wind with no ice                     | 248 10            | 0 5702             | -0 0013        | 0 4068        | 0 4068             |
| 1 2D + 1 0W 240° 117 mph wind with no ice                     | 300 00            | 0 9378             | -0 0020        | 0 6701        | 0 6701             |
| 1 2D + 1 0W 300° 117 mph wind with no ice                     | 175 70            | 0 2779             | 0 0017         | 0 2109        | 0 2109             |
| 1 2D + 1 0W 300° 117 mph wind with no ice                     | 195 70            | 0 3207             | 0 0029         | 0 1461        | 0 1461             |
| 1 2D + 1 0W 300° 117 mph wind with no ice                     | 248 10            | 0 5468             | 0 0017         | 0 3047        | 0 3047             |
| 1 2D + 1 0W 300° 117 mph wind with no ice                     | 300 00            | 0 8107             | 0 0029         | 0 5482        | 0 5482             |
| 1 2D + 1 0W 330° 117 mph wind with no ice                     | 175 70            | 0 2599             | 0 0578         | 0 1211        | 0 1341             |
| 1 2D + 1 0W 330° 117 mph wind with no ice                     | 195 70            | 0 3068             | 0 0550         | 0 1656        | 0 1742             |
| 1 2D + 1 0W 330° 117 mph wind with no ice                     | 248 10            | 0 5659             | 0 0631         | 0 3559        | 0 3614             |
| 1 2D + 1 0W 330° 117 mph wind with no ice                     | 300 00            | 0 8809             | 0 0693         | 0 6229        | 0 6268             |
| 1 2D + 1 0Di + 1 0Wi Normal 30 mph wind with 0 25" radial ice | 175 70            | 0 013              | 0 0000         | 0 0068        | 0 0068             |
| 1 2D + 1 0Di + 1 0Wi Normal 30 mph wind with 0 25" radial ice | 195 70            | 0 0132             | 0 0002         | 0 0024        | 0 0024             |
| 1 2D + 1 0Di + 1 0Wi Normal 30 mph wind with 0 25" radial ice | 248 10            | 0 0224             | 0 0001         | 0 0129        | 0 0129             |
| 1 2D + 1 0Di + 1 0Wi Normal 30 mph wind with 0 25" radial ice | 300 00            | 0 0311             | 0 0002         | 0 0273        | 0 0273             |
| 1 2D + 1 0Di + 1 0Wi 60° 30 mph wind with 0 25" radial ice    | 175 70            | 0 0145             | 0 0000         | 0 0096        | 0 0096             |
| 1 2D + 1 0Di + 1 0Wi 60° 30 mph wind with 0 25" radial ice    | 195 70            | 0 0152             | 0 0002         | 0 0037        | 0 0037             |
| 1 2D + 1 0Di + 1 0Wi 60° 30 mph wind with 0 25" radial ice    | 248 10            | 0 0252             | 0 0001         | 0 0137        | 0 0137             |
| 1 2D + 1 0Di + 1 0Wi 60° 30 mph wind with 0 25" radial ice    | 300 00            | 0 035              | 0 0002         | 0 0284        | 0 0284             |
| 1 2D + 1 0Di + 1 0Wi 90° 30 mph wind with 0 25" radial ice    | 175 70            | 0 0136             | 0 0032         | 0 0098        | 0 0103             |
| 1 2D + 1 0Di + 1 0Wi 90° 30 mph wind with 0 25" radial ice    | 195 70            | 0 0141             | 0 0029         | 0 0032        | 0 0043             |
| 1 2D + 1 0Di + 1 0Wi 90° 30 mph wind with 0 25" radial ice    | 248 10            | 0 0237             | 0 0043         | 0 0133        | 0 014              |
| 1 2D + 1 0Di + 1 0Wi 90° 30 mph wind with 0 25" radial ice    | 300 00            | 0 0329             | 0 0053         | 0 0288        | 0 0293             |
| 1 2D + 1 0Di + 1 0Wi 120° 30 mph wind with 0 25" radial ice   | 175 70            | 0 0128             | 0 0000         | 0 0085        | 0 0085             |
| 1 2D + 1 0Di + 1 0Wi 120° 30 mph wind with 0 25" radial ice   | 195 70            | 0 0129             | 0 0002         | 0 0023        | 0 0023             |
| 1 2D + 1 0Di + 1 0Wi 120° 30 mph wind with 0 25" radial ice   | 248 10            | 0 0217             | 0 0001         | 0 0123        | 0 0123             |
| 1 2D + 1 0Di + 1 0Wi 120° 30 mph wind with 0 25" radial ice   | 300 00            | 0 03               | 0 0002         | 0 0268        | 0 0268             |
| 1 2D + 1 0Di + 1 0Wi 180° 30 mph wind with 0 25" radial ice   | 175 70            | 0 0145             | 0 0000         | 0 0058        | 0 0058             |
| 1 2D + 1 0Di + 1 0Wi 180° 30 mph wind with 0 25" radial ice   | 195 70            | 0 0151             | 0 0002         | 0 0035        | 0 0035             |
| 1 2D + 1 0Di + 1 0Wi 180° 30 mph wind with 0 25" radial ice   | 248 10            | 0 0251             | 0 0001         | 0 0138        | 0 0138             |
| 1 2D + 1 0Di + 1 0Wi 180° 30 mph wind with 0 25" radial ice   | 300 00            | 0 035              | 0 0002         | 0 0285        | 0 0285             |
| 1 2D + 1 0Di + 1 0Wi 210° 30 mph wind with 0 25" radial ice   | 175 70            | 0 0136             | 0 0032         | 0 0067        | 0 0074             |
| 1 2D + 1 0Di + 1 0Wi 210° 30 mph wind with 0 25" radial ice   | 195 70            | 0 014              | 0 0029         | 0 0030        | 0 0041             |
| 1 2D + 1 0Di + 1 0Wi 210° 30 mph wind with 0 25" radial ice   | 248 10            | 0 0236             | 0 0043         | 0 0133        | 0 014              |
| 1 2D + 1 0Di + 1 0Wi 210° 30 mph wind with 0 25" radial ice   | 300 00            | 0 0329             | 0 0053         | 0 0289        | 0 0294             |
| 1 2D + 1 0Di + 1 0Wi 240° 30 mph wind with 0 25" radial ice   | 175 70            | 0 0128             | 0 0000         | 0 0085        | 0 0085             |
| 1 2D + 1 0Di + 1 0Wi 240° 30 mph wind with 0 25" radial ice   | 195 70            | 0 0129             | 0 0002         | 0 0023        | 0 0023             |
| 1 2D + 1 0Di + 1 0Wi 240° 30 mph wind with 0 25" radial ice   | 248 10            | 0 0217             | 0 0001         | 0 0123        | 0 0123             |
| 1 2D + 1 0Di + 1 0Wi 240° 30 mph wind with 0 25" radial ice   | 300 00            | 0 03               | 0 0002         | 0 0268        | 0 0268             |
| 1 2D + 1 0Di + 1 0Wi 300° 30 mph wind with 0 25" radial ice   | 175 70            | 0 0145             | 0 0000         | 0 0096        | 0 0096             |
| 1 2D + 1 0Di + 1 0Wi 300° 30 mph wind with 0 25" radial ice   | 195 70            | 0 0152             | 0 0002         | 0 0037        | 0 0037             |



# DEFLECTIONS AND ROTATIONS

| Load Case                                                   | Elevation<br>(ft) | Deflection<br>(ft) | Twist<br>(deg) | Sway<br>(deg) | Resultant<br>(deg) |
|-------------------------------------------------------------|-------------------|--------------------|----------------|---------------|--------------------|
| 1 2D + 1 0Di + 1 0Wi 300° 30 mph wind with 0 25" radial ice | 248 10            | 0 0252             | 0 0001         | 0 0137        | 0 0137             |
| 1 2D + 1 0Di + 1 0Wi 300° 30 mph wind with 0 25" radial ice | 300 00            | 0 035              | 0 0002         | 0 0284        | 0 0284             |
| 1 2D + 1 0Di + 1 0Wi 330° 30 mph wind with 0 25" radial ice | 175 70            | 0 0133             | 0 0029         | 0 0082        | 0 0087             |
| 1 2D + 1 0Di + 1 0Wi 330° 30 mph wind with 0 25" radial ice | 195 70            | 0 0137             | 0 0027         | 0 0028        | 0 0038             |
| 1 2D + 1 0Di + 1 0Wi 330° 30 mph wind with 0 25" radial ice | 248 10            | 0 0228             | 0 0040         | 0 0128        | 0 0134             |
| 1 2D + 1 0Di + 1 0Wi 330° 30 mph wind with 0 25" radial ice | 300 00            | 0 0317             | 0 0049         | 0 0284        | 0 0288             |
| 1 2D + 1 0Ev + 1 0Eh Normal Seismic                         | 175 70            | 0 0073             | 0 0000         | 0 0050        | 0 005              |
| 1 2D + 1 0Ev + 1 0Eh Normal Seismic                         | 195 70            | 0 009              | 0 0001         | 0 0059        | 0 0059             |
| 1 2D + 1 0Ev + 1 0Eh Normal Seismic                         | 248 10            | 0 017              | 0 0000         | 0 0094        | 0 0094             |
| 1 2D + 1 0Ev + 1 0Eh Normal Seismic                         | 300 00            | 0 0224             | 0 0000         | 0 0070        | 0 007              |
| 1 2D + 1 0Ev + 1 0Eh 60° Seismic                            | 175 70            | 0 0072             | 0 0000         | 0 0052        | 0 0052             |
| 1 2D + 1 0Ev + 1 0Eh 60° Seismic                            | 195 70            | 0 0089             | 0 0001         | 0 0057        | 0 0057             |
| 1 2D + 1 0Ev + 1 0Eh 60° Seismic                            | 248 10            | 0 0168             | 0 0000         | 0 0093        | 0 0093             |
| 1 2D + 1 0Ev + 1 0Eh 60° Seismic                            | 300 00            | 0 0222             | 0 0000         | 0 0068        | 0 0068             |
| 1 2D + 1 0Ev + 1 0Eh 90° Seismic                            | 175 70            | 0 0072             | 0 0000         | 0 0052        | 0 0052             |
| 1 2D + 1 0Ev + 1 0Eh 90° Seismic                            | 195 70            | 0 0089             | 0 0001         | 0 0058        | 0 0058             |
| 1 2D + 1 0Ev + 1 0Eh 90° Seismic                            | 248 10            | 0 0169             | 0 0000         | 0 0094        | 0 0094             |
| 1 2D + 1 0Ev + 1 0Eh 90° Seismic                            | 300 00            | 0 0223             | 0 0000         | 0 0070        | 0 007              |
| 1 2D + 1 0Ev + 1 0Eh 120° Seismic                           | 175 70            | 0 0073             | 0 0000         | 0 0050        | 0 005              |
| 1 2D + 1 0Ev + 1 0Eh 120° Seismic                           | 195 70            | 0 009              | 0 0001         | 0 0059        | 0 0059             |
| 1 2D + 1 0Ev + 1 0Eh 120° Seismic                           | 248 10            | 0 017              | 0 0000         | 0 0094        | 0 0094             |
| 1 2D + 1 0Ev + 1 0Eh 120° Seismic                           | 300 00            | 0 0224             | 0 0000         | 0 0070        | 0 007              |
| 1 2D + 1 0Ev + 1 0Eh 180° Seismic                           | 175 70            | 0 0072             | 0 0000         | 0 0052        | 0 0052             |
| 1 2D + 1 0Ev + 1 0Eh 180° Seismic                           | 195 70            | 0 0089             | 0 0001         | 0 0057        | 0 0057             |
| 1 2D + 1 0Ev + 1 0Eh 180° Seismic                           | 248 10            | 0 0168             | 0 0000         | 0 0093        | 0 0093             |
| 1 2D + 1 0Ev + 1 0Eh 180° Seismic                           | 300 00            | 0 0222             | 0 0000         | 0 0068        | 0 0068             |
| 1 2D + 1 0Ev + 1 0Eh 210° Seismic                           | 175 70            | 0 0072             | 0 0000         | 0 0052        | 0 0052             |
| 1 2D + 1 0Ev + 1 0Eh 210° Seismic                           | 195 70            | 0 0089             | 0 0001         | 0 0058        | 0 0058             |
| 1 2D + 1 0Ev + 1 0Eh 210° Seismic                           | 248 10            | 0 0169             | 0 0000         | 0 0094        | 0 0094             |
| 1 2D + 1 0Ev + 1 0Eh 210° Seismic                           | 300 00            | 0 0223             | 0 0000         | 0 0070        | 0 007              |
| 1 2D + 1 0Ev + 1 0Eh 240° Seismic                           | 175 70            | 0 0073             | 0 0000         | 0 0050        | 0 005              |
| 1 2D + 1 0Ev + 1 0Eh 240° Seismic                           | 195 70            | 0 009              | 0 0001         | 0 0059        | 0 0059             |
| 1 2D + 1 0Ev + 1 0Eh 240° Seismic                           | 248 10            | 0 017              | 0 0000         | 0 0094        | 0 0094             |
| 1 2D + 1 0Ev + 1 0Eh 240° Seismic                           | 300 00            | 0 0224             | 0 0000         | 0 0070        | 0 007              |
| 1 2D + 1 0Ev + 1 0Eh 300° Seismic                           | 175 70            | 0 0072             | 0 0000         | 0 0052        | 0 0052             |
| 1 2D + 1 0Ev + 1 0Eh 300° Seismic                           | 195 70            | 0 0089             | 0 0001         | 0 0057        | 0 0057             |
| 1 2D + 1 0Ev + 1 0Eh 300° Seismic                           | 248 10            | 0 0168             | 0 0000         | 0 0093        | 0 0093             |
| 1 2D + 1 0Ev + 1 0Eh 300° Seismic                           | 300 00            | 0 0222             | 0 0000         | 0 0068        | 0 0068             |
| 1 2D + 1 0Ev + 1 0Eh 330° Seismic                           | 175 70            | 0 0072             | 0 0000         | 0 0052        | 0 0052             |
| 1 2D + 1 0Ev + 1 0Eh 330° Seismic                           | 195 70            | 0 0089             | 0 0001         | 0 0058        | 0 0058             |
| 1 2D + 1 0Ev + 1 0Eh 330° Seismic                           | 248 10            | 0 0169             | 0 0000         | 0 0094        | 0 0094             |
| 1 2D + 1 0Ev + 1 0Eh 330° Seismic                           | 300 00            | 0 0223             | 0 0000         | 0 0070        | 0 007              |
| 1 0D + 1 0W Service Normal 60 mph Wind with No Ice          | 175 70            | 0 0383             | 0 0001         | 0 0252        | 0 0252             |
| 1 0D + 1 0W Service Normal 60 mph Wind with No Ice          | 195 70            | 0 0394             | 0 0005         | 0 0091        | 0 0091             |
| 1 0D + 1 0W Service Normal 60 mph Wind with No Ice          | 248 10            | 0 0709             | 0 0002         | 0 0456        | 0 0456             |
| 1 0D + 1 0W Service Normal 60 mph Wind with No Ice          | 300 00            | 0 1058             | 0 0004         | 0 1058        | 0 1058             |
| 1 0D + 1 0W Service 60° 60 mph Wind with No Ice             | 175 70            | 0 0496             | -0 0001        | 0 0411        | 0 0411             |
| 1 0D + 1 0W Service 60° 60 mph Wind with No Ice             | 195 70            | 0 0544             | -0 0005        | 0 0195        | 0 0195             |
| 1 0D + 1 0W Service 60° 60 mph Wind with No Ice             | 248 10            | 0 0941             | -0 0002        | 0 0552        | 0 0552             |
| 1 0D + 1 0W Service 60° 60 mph Wind with No Ice             | 300 00            | 0 1394             | 0 0004         | 0 1170        | 0 117              |
| 1 0D + 1 0W Service 90° 60 mph Wind with No Ice             | 175 70            | 0 0441             | 0 0103         | 0 0419        | 0 0431             |
| 1 0D + 1 0W Service 90° 60 mph Wind with No Ice             | 195 70            | 0 0474             | 0 0096         | 0 0157        | 0 0183             |
| 1 0D + 1 0W Service 90° 60 mph Wind with No Ice             | 248 10            | 0 0834             | 0 0132         | 0 0507        | 0 0524             |
| 1 0D + 1 0W Service 90° 60 mph Wind with No Ice             | 300 00            | 0 1239             | 0 0157         | 0 1152        | 0 1163             |
| 1 0D + 1 0W Service 120° 60 mph Wind with No Ice            | 175 70            | 0 0381             | 0 0001         | 0 0336        | 0 0336             |
| 1 0D + 1 0W Service 120° 60 mph Wind with No Ice            | 195 70            | 0 0393             | 0 0005         | 0 0095        | 0 0095             |
| 1 0D + 1 0W Service 120° 60 mph Wind with No Ice            | 248 10            | 0 0704             | -0 0002        | 0 0448        | 0 0448             |
| 1 0D + 1 0W Service 120° 60 mph Wind with No Ice            | 300 00            | 0 1047             | 0 0004         | 0 1049        | 0 1049             |
| 1 0D + 1 0W Service 180° 60 mph Wind with No Ice            | 175 70            | 0 0497             | 0 0001         | 0 0154        | 0 0154             |
| 1 0D + 1 0W Service 180° 60 mph Wind with No Ice            | 195 70            | 0 0544             | 0 0005         | 0 0191        | 0 0191             |
| 1 0D + 1 0W Service 180° 60 mph Wind with No Ice            | 248 10            | 0 0944             | 0 0001         | 0 0560        | 0 056              |
| 1 0D + 1 0W Service 180° 60 mph Wind with No Ice            | 300 00            | 0 1405             | 0 0004         | 0 1180        | 0 118              |
| 1 0D + 1 0W Service 210° 60 mph Wind with No Ice            | 175 70            | 0 044              | 0 0103         | 0 0227        | 0 0249             |
| 1 0D + 1 0W Service 210° 60 mph Wind with No Ice            | 195 70            | 0 0471             | 0 0096         | 0 0148        | 0 0176             |
| 1 0D + 1 0W Service 210° 60 mph Wind with No Ice            | 248 10            | 0 083              | 0 0133         | 0 0509        | 0 0526             |
| 1 0D + 1 0W Service 210° 60 mph Wind with No Ice            | 300 00            | 0 1237             | 0 0158         | 0 1156        | 0 1166             |
| 1 0D + 1 0W Service 240° 60 mph Wind with No Ice            | 175 70            | 0 0381             | 0 0001         | 0 0336        | 0 0336             |
| 1 0D + 1 0W Service 240° 60 mph Wind with No Ice            | 195 70            | 0 0393             | 0 0005         | 0 0095        | 0 0095             |

DEFLECTIONS AND ROTATIONS

| Load Case                                        | Elevation<br>(ft) | Deflection<br>(ft) | Twist<br>(deg) | Sway<br>(deg) | Resultant<br>(deg) |
|--------------------------------------------------|-------------------|--------------------|----------------|---------------|--------------------|
| 1 0D + 1 0W Service 240° 60 mph Wind with No Ice | 248 10            | 0 0704             | 0 0002         | 0 0448        | 0 0448             |
| 1 0D + 1 0W Service 240° 60 mph Wind with No Ice | 300 00            | 0 1047             | 0 0004         | 0 1049        | 0 1049             |
| 1 0D + 1 0W Service 300° 60 mph Wind with No Ice | 175 70            | 0 0496             | 0 0001         | 0 0411        | 0 0411             |
| 1 0D + 1 0W Service 300° 60 mph Wind with No Ice | 195 70            | 0 0544             | 0 0005         | 0 0195        | 0 0195             |
| 1 0D + 1 0W Service 300° 60 mph Wind with No Ice | 248 10            | 0 0941             | 0 0002         | 0 0552        | 0 0552             |
| 1 0D + 1 0W Service 300° 60 mph Wind with No Ice | 300 00            | 0 1394             | 0 0004         | 0 1170        | 0 117              |
| 1 0D + 1 0W Service 330° 60 mph Wind with No Ice | 175 70            | 0 044              | 0 0103         | 0 0329        | 0 0345             |
| 1 0D + 1 0W Service 330° 60 mph Wind with No Ice | 195 70            | 0 0472             | 0 0096         | 0 0151        | 0 0179             |
| 1 0D + 1 0W Service 330° 60 mph Wind with No Ice | 248 10            | 0 0831             | 0 0133         | 0 0509        | 0 0526             |
| 1 0D + 1 0W Service 330° 60 mph Wind with No Ice | 300 00            | 0.1237             | 0 0158         | 0 1156        | 0 1166             |

MAXIMUM REACTIONS SUMMARY

| Anchor Group | Uplift | Shear |
|--------------|--------|-------|
| BASE         | 162 72 | 1 89  |
| A1           | 67 11  | 65 23 |

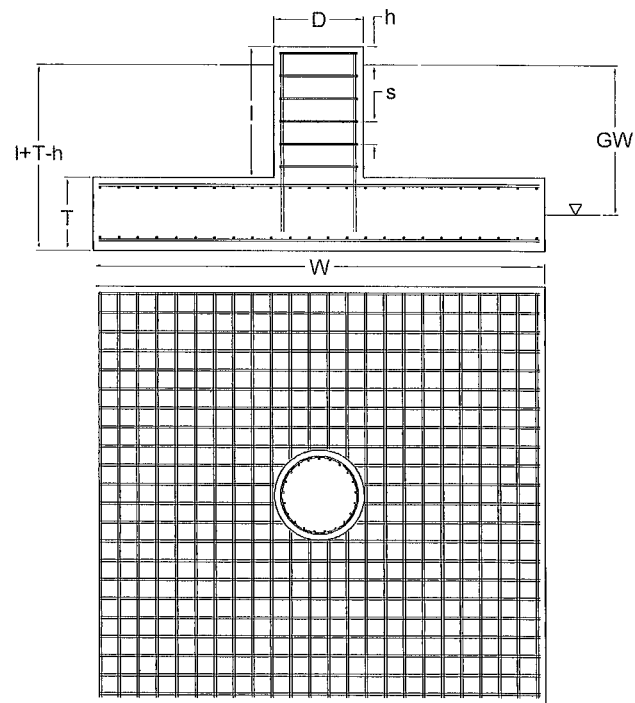
Pad & Pier Foundation Analysis (ANSI/TIA-222-H)

Foundation & Soil Parameters

|                                             |              |        |     |
|---------------------------------------------|--------------|--------|-----|
| Ignore Rebar?                               |              | N      |     |
| Pier Diameter                               | <i>D</i>     | 3.00   | ft  |
| Pier Height Above Ground                    | <i>h</i>     | 0 5    | ft  |
| Pad Base Depth                              | <i>l+T-h</i> | 12 0   | ft  |
| Pad Width                                   | <i>W</i>     | 13 0   | ft  |
| Pad Thickness                               | <i>T</i>     | 2 0    | ft  |
| Water Table Depth [BGL]                     | <i>GW</i>    | 10     | ft  |
| Unit Weight of Concrete                     |              | 150    | pcf |
| Unit Weight of Soil Above Water Table       |              | 121 0  | pcf |
| Unit Weight of Water                        |              | 62 4   | pcf |
| Unit Weight of Soil [Submerged]             |              | 58 6   | pcf |
| Cohesion                                    |              | 0      | psf |
| Friction Angle                              |              | 33     | °   |
| Ultimate Skin Friction                      |              | 819    | psf |
| Ultimate Bearing Pressure                   |              | 10,747 | psf |
| Conical Failure Angle                       |              | 30     | °   |
| Soil Uplift at ____ of Pad                  |              | Top    |     |
| Capacity Increase (Transient Loads)         |              | 1 00   |     |
| Bearing Strength Reduction Factor, $\phi_s$ |              | 0.60   |     |
| Uplift Strength Reduction Factor, $\phi_s$  |              | 0.75   |     |

Reactions

|                    |       |      |
|--------------------|-------|------|
| Moment, $M_u$      | 0 0   | k-ft |
| Shear, $V_u$       | 1 9   | k    |
| Compression, $P_u$ | 162 7 | k    |
| Uplift, $T_u$      | 0 0   | k    |



Soil Axial Capacities and Design Moment

|                                                    |         |      |
|----------------------------------------------------|---------|------|
| Weight of Concrete [Buoyancy Considered]           | 40.7    | k    |
| Weight of Soil [Buoyancy Considered]               | 431.4   | k    |
| Skin Friction Resistance                           | 85.2    | k    |
| Controlling Failure Mode                           | Top     |      |
| Compressive Force, $P_u$                           | 177.6   | k    |
| Nominal Compressive Capacity per Leg, $\phi_s P_n$ | 1,089.8 | k    |
| $P_u / \phi_s P_n$                                 | 16.3%   |      |
| Inflection Point [BGL]                             | 2.7     | ft   |
| Design Moment at Inflection Point, $M_u$           | 0.0     | k-ft |



**Pad Reinforcement Parameters**

|                                        |        |                 |
|----------------------------------------|--------|-----------------|
| Concrete Compressive Strength, $f'_c$  | 3,000  | psi             |
| Pad Rebar Size #                       | 8      |                 |
| Pad Rebar Area                         | 0.79   | in <sup>2</sup> |
| Pad Rebar Quantity [Lower]             | 26     |                 |
| Pad Rebar Yield Strength, $F_y$        | 60     | ksi             |
| Pad Clear Cover                        | 3      | in              |
| Bending Reduction Factor, $\phi_B$     | 0.90   |                 |
| Shear Reduction Factor, $\phi_V$       | 0.75   |                 |
| Compression Reduction Factor, $\phi_C$ | 0.65   |                 |
| Steel Elastic Modulus                  | 29,000 | ksi             |

**Pad Reinforcement Capacities**

|                                                    |         |      |
|----------------------------------------------------|---------|------|
| Beta factor                                        | 0.85    |      |
| Lower Reinforcement Steel Area                     | 20.54   |      |
| Lower Reinforcement Spacing                        | 6.0     | in   |
| One Way Design Shear, $V_u$                        | 44.3    | k    |
| One Way Shear Capacity, $\phi V_c$                 | 268.6   | k    |
| $V_u / \phi V_c$                                   | 16.5%   |      |
| Punching Design Shear Stress, $v_u$                | 37.8    | psi  |
| Punching Shear Capacity, $\phi_c V_n$              | 164.3   | psi  |
| $v_u / \phi_c V_n$                                 | 23.0%   |      |
| Moment Transfer Flexural Ratio, $\gamma_f$         | 0.60    |      |
| Neutral Axis Depth                                 | 83.77   | in   |
| Moment Transfer Flexural Capacity, $\phi M_{sc,f}$ | 0       | k-in |
| $\gamma_f M_{sc} / \phi M_{sc,f}$                  | 0.0%    |      |
| Flexure Due to Soil Pressure, $M_u$                | 168.4   | k-ft |
| Lower Steel Pad Moment Capacity, $\phi M_n$        | 1,751.6 | k-ft |
| $M_u / \phi M_n$                                   | 9.6%    |      |

**Pier Reinforcement Parameters**

|                                          |       |                 |
|------------------------------------------|-------|-----------------|
| Concrete Compressive Strength ( $f'_c$ ) | 3,000 | psi             |
| Pier Rebar Size #                        | 8     |                 |
| Pier Rebar Area                          | 0.79  | in <sup>2</sup> |
| Pier Rebar Quantity                      | 15    |                 |
| Pier Rebar Yield Strength ( $F_y$ )      | 60    | ksi             |
| Tie Rebar Size #                         | 5     |                 |
| Tie Rebar Area (Single)                  | 0.31  | in <sup>2</sup> |
| Tie Rebar Spacing                        | 6.0   | in              |
| Tie Rebar Yield Strength ( $F_y$ )       | 60    | ksi             |
| Rebar Cage Diameter                      | 27.75 | in              |

**Pier Reinforcement Capacities**

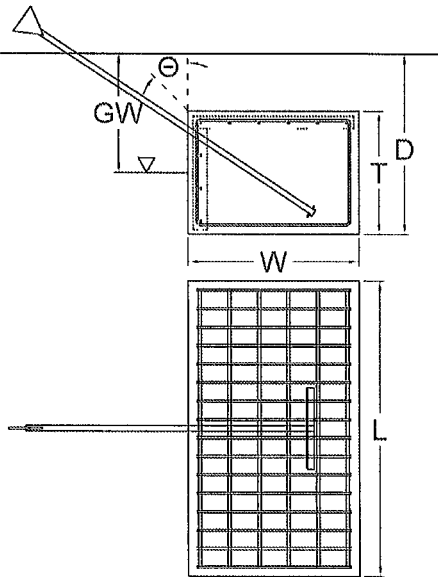
|                                               |         |      |
|-----------------------------------------------|---------|------|
| Design Moment ( $M_u$ )                       | 0.0     | k-ft |
| Nominal Moment Capacity ( $\phi_B M_n$ )      | 631.8   | k-ft |
| $M_u / \phi_B M_n$                            | 0.0%    |      |
| Design Shear ( $V_u$ )                        | 1.9     | k    |
| Nominal Shear Capacity ( $\phi_V V_n$ )       | 262.2   | k    |
| $V_u / \phi_V V_n$                            | 0.7%    |      |
| Design Compression ( $P_u$ )                  | 162.7   | k    |
| Nominal Compression Capacity ( $\phi_P P_n$ ) | 1,703.7 | k    |
| $P_u / \phi_P P_n$                            | 9.5%    |      |
| Pier Reinforcement Ratio                      | 0.012   | -    |



Guy Anchor Block Analysis (ANSI/TIA-222-H)

| Anchor Block Parameters                    |    |       |     |  |
|--------------------------------------------|----|-------|-----|--|
| Include Berm?                              |    | N     |     |  |
| Analyze Anchor Rod?                        |    | N     |     |  |
| Ignore Rebar?                              |    | N     |     |  |
| Base Depth                                 | D  | 12.0  | ft  |  |
| Width                                      | W  | 7.0   | ft  |  |
| Length                                     | L  | 35.0  | ft  |  |
| Thickness                                  | T  | 7.0   | ft  |  |
| Water Table Depth [BGL]                    | GW | 10    | ft  |  |
| Unit Weight of Concrete                    |    | 150   | pcf |  |
| Unit Weight of Soil Above Water Table      |    | 121.0 | pcf |  |
| Unit Weight of Water                       |    | 62.4  | pcf |  |
| Unit Weight of Soil [Submerged]            |    | 58.6  | pcf |  |
| Friction Angle                             |    | 33    | °   |  |
| Cohesion                                   |    | 0     | psf |  |
| Ultimate Skin Friction                     |    | 819   | psf |  |
| Coefficient of Shear Friction              |    | 0.50  |     |  |
| Conical Failure Angle                      | Θ  | 30    | °   |  |
| Soil Uplift at _____ of Anchor             |    | Top   |     |  |
| Capacity Increase (Transient Loads)        |    | 1.00  |     |  |
| Uplift Strength Reduction Factor, $\phi_u$ |    | 0.75  |     |  |
| Shear Strength Reduction Factor, $\phi_v$  |    | 0.75  |     |  |
| Dead Load Factor                           |    | 0.90  |     |  |

| Reactions     |      |    |
|---------------|------|----|
| Uplift, $T_u$ | 67.1 | k  |
| Shear, $V_u$  | 65.2 | k  |
| Anchor Radius | 180  | ft |
| Node          | A1   | -  |



| Soil Uplift Capacity                                |        |   |
|-----------------------------------------------------|--------|---|
| Uplift Resistance from Skin Friction and Soil Shear | 258.2  | k |
| Nominal Uplift Resistance, $\phi_u T_n$             | 590.0  | k |
| $T_u / \phi_u T_n$                                  | 11.41% |   |

| Soil Shear Capacity                           |       |     |
|-----------------------------------------------|-------|-----|
| Shear Resistance from Skin Friction           | 55.9  | k   |
| Shear Friction Resistance Due to Normal Force | 135.2 | k   |
| Passive Pressure                              | 3,489 | psf |
| Passive Pressure Resistance                   | 854.8 | k   |
| Nominal Shear Resistance, $\phi_v V_n$        | 784.4 | k   |
| $V_u / \phi_v V_n$                            | 8.31% |     |



### Strength Analysis of Reinforced Concrete

|                                                             |        |                 |
|-------------------------------------------------------------|--------|-----------------|
| Concrete Compressive Strength, $f'_c$                       | 3,000  | psi             |
| Rebar Size #                                                | 9      |                 |
| Rebar Area (Single)                                         | 1.00   | in <sup>2</sup> |
| Rebar Quantity [Top]                                        | 6      |                 |
| Rebar Quantity [Side]                                       | 6      |                 |
| Rebar Yield Strength                                        | 60     | ksi             |
| Strength Reduction Factor for Shear, $\phi_v$               | 0.75   |                 |
| Strength Reduction Factor for Lateral Flexure, $\phi_{bv}$  | 0.90   |                 |
| Strength Reduction Factor for Vertical Flexure, $\phi_{bt}$ | 0.90   |                 |
| Compression Zone Factor, $\beta_1$                          | 0.850  |                 |
| One Way Shear due to Shear, $V_u$                           | 26.4   | k               |
| One Way Shear Capacity due to Shear, $\phi_c V_n$           | 551.7  | k               |
| $V_u / \phi_v V_n$                                          | 4.8%   |                 |
| One Way Shear due to Uplift, $V_u$                          | 27.2   | k               |
| One Way Shear Capacity due to Uplift, $\phi_c V_n$          | 551.7  | k               |
| $V_u / \phi_v V_n$                                          | 4.9%   |                 |
| Flexure due to Shear Load, $M_{uv}$                         | 285.2  | k-ft            |
| Distance to steel, $d_v$                                    | 79.9   | in              |
| Whitney Block, $a_v$ [Side]                                 | 1.681  | in              |
| Strain in tension rebar, $\epsilon_t$                       | 0.118  | in/in           |
| Flexural Capacity due to Shear, $\phi_{bv} M_{nv}$          | 2135.6 | k-ft            |
| Pad Flexure due to Uplift, $M_{ut}$                         | 293.6  | k-ft            |
| Depth to steel, $d_t$                                       | 79.9   | in              |
| Whitney Block, $a_t$ [Top]                                  | 1.681  | in              |
| Strain in tension rebar, $\epsilon_t$                       | 0.118  | in/in           |
| Flexural Capacity due to Uplift, $\phi_{bt} M_{nt}$         | 2135.6 | k-ft            |
| $M_u / \phi_b M_n$ (Max)                                    | 13.7%  |                 |





GENERAL CONSTRUCTION NOTES.

1. OWNER FURNISHED MATERIALS, T-MOBILE. THE COMPANY WILL PROVIDE AND THE CONTRACTOR WILL INSTALL.

A. BIDS EQUIPMENT FRAME (PLATFORM) AND ICEBRIDGE SHELTER (GROUND BUILD/CO-LOCATE ONLY)

B. AC/TELCO INTERFACE BOX (PPC)

C. ICE BRIDGE (CABLE TRAY WITH COVER) (GROUND BUILD/CO-LOCATE ONLY, GC TO FURNISH AND INSTALL FOR ROOFTOP INSTALLATION)

D. TOWERS, MONOPOLES

E. TOWER LIGHTING

F. GENERATORS & LIQUID PROPANE TANK

G. ANTENNA STANDARDS BRACKETS FRAMES AND PIPES FOR MOUNTING

H. ANTENNAS (INSTALLED BY OTHERS)

I. TRANSMISSION LINE JUMPEES

J. TRANSMISSION LINE CONNECTORS WITH WEATHERPROOFING KITS

K. TRANSMISSION LINE GROUND KITS

L. HANGERS

M. HOISTING GRIPS

O. BTS EQUIPMENT

2. THE CONTRACTOR IS RESPONSIBLE TO PROVIDE ALL OTHER MATERIALS FOR THE COMPLETE INSTALLATION OF THE SITE INCLUDING BUT NOT LIMITED TO SUCH MATERIALS AS FENCING STRUCTURAL STEEL SUPPORTING SUB-FRAME FOR PLATFORM, ROOFING LABOR AND MATERIALS, GROUNDING RINGS, GROUNDING WIRES.

28. COPPER-CLAD OR HIT CHEMICAL GROUND ROD(S), BUSH BARS, TRANSFORMERS AND DISCONNECT SWITCHES WHERE APPLICABLE, TEMPORARY ELECTRICAL POWER CONDUIT, LANDSCAPING COMPOUND STONE, CRANES, CORE DRILLING SLEEPERS AND RUBBER MATTING, REBAR, CONCRETE CAISSONS, PADS AND/OR AUGER MOUNTS.

29. MISCELLANEOUS FASTENERS, NON-STANDARD ANTENNA FRAMES AND ALL OTHER MATERIAL AND LABOR REQUIRED TO COMPLETE THE JOB ACCORDING TO THE DRAWINGS AND SPECIFICATIONS. IT IS THE POSITION OF T-MOBILE TO APPLY FOR PERMITTING AND CONTRACTOR RESPONSIBLE FOR PICKUP AND PAYMENT OF REQUIRED PERMITS.

3. ALL WORK SHALL CONFORM TO ALL CURRENT APPLICABLE FEDERAL, STATE AND LOCAL CODES INCLUDING ANSI/EIA/TIA-222, AND COMPLY WITH ATC CONSTRUCTION SPECIFICATIONS

4. CONTRACTOR SHALL CONTACT LOCAL #11 FOR IDENTIFICATION OF UNDERGROUND UTILITIES PRIOR TO START OF CONSTRUCTION

5. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL REQUIRED INSPECTIONS.

6. ALL DIMENSIONS TO OF, AND ON EXISTING BUILDINGS, DRAINAGE STRUCTURES AND SITE IMPROVEMENTS SHALL BE VERIFIED IN FIELD BY CONTRACTOR WITH ALL DISCREPANCIES REPORTED TO THE ENGINEER.

7. DO NOT CHANGE SIZE OR SPACING OF STRUCTURAL ELEMENTS

8. DETAILS SHOWN ARE TYPICAL, SIMILAR DETAILS APPLY TO SIMILAR CONDITIONS UNLESS OTHERWISE NOTED.

9. SAFETY WHICH SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

10. CONTRACTOR SHALL BRACE STRUCTURES UNTIL ALL STRUCTURAL ELEMENTS NEEDED FOR STABILITY ARE INSTALLED, THESE ELEMENTS ARE AS FOLLOWS: LATERAL BRACING, ANCHOR BOLTS ETC.

11. CONTRACTOR SHALL DETERMINE EXACT LOCATION OF EXISTING UTILITIES, GROUNDS DRAINS, DRAIN PIPES, VENTS ETC, BEFORE COMMENCING WORK

12. INCORRECTLY FABRICATED, DAMAGED, OR OTHERWISE MISFITTING OR NONCONFORMING MATERIALS OR CONDITIONS SHALL BE REPORTED TO THE T-MOBILE REP PRIOR TO REPAIR OR CORRECTIVE ACTION. ANY SUCH REPAIRAL ACTION SHALL REQUIRE WRITTEN APPROVAL BY THE T-MOBILE REP PRIOR TO PROCEEDING.

13. EACH CONTRACTOR SHALL COOPERATE WITH THE T-MOBILE REP, AND COORDINATE HIS WORK WITH THE WORK OF OTHERS.

14. CONTRACTOR SHALL REPAIR ANY DAMAGE CAUSED BY CONSTRUCTION OF THIS PROJECT TO MATCH EXISTING PRE-CONSTRUCTION CONDITIONS TO THE SATISFACTION OF THE T-MOBILE CONSTRUCTION MANAGER.

15. ALL CABLE/CONDUIT ENTRY/EXIT PORTS SHALL BE WEATHERPROOFED DURING INSTALLATION USING A SILICONE SEALANT

16. WHERE EXISTING CONDITIONS DO NOT MATCH THOSE SHOWN IN THIS PLAN SET CONTRACTOR SHALL NOTIFY THE T-MOBILE REP AND ENGINEER OF RECORD IMMEDIATELY

17. CONTRACTOR SHALL ENSURE ALL SUBCONTRACTORS ARE PROVIDED WITH A COMPLETE AND CURRENT SET OF DRAWINGS AND SPECIFICATIONS FOR THIS PROJECT

18. CONTRACTOR SHALL REMOVE ALL RUBBISH AND DEBRIS FROM THE SITE AT THE END OF EACH DAY

19. CONTRACTOR SHALL COORDINATE WORK SCHEDULE WITH AMERICAN TOWER CORPORATION (ATC) AND TAKE PRECAUTIONS TO MINIMIZE IMPACT AND DISRUPTION OF OTHER OCCUPANTS OF THE FACILITY

20. CONTRACTOR SHALL FURNISH T-MOBILE AND AMERICAN TOWER CORPORATION (ATC) WITH A PDF MARKED UP AS-BUILT SET OF DRAWINGS UPON COMPLETION OF WORK.

21. PRIOR TO SUBMISSION OF BID, CONTRACTOR SHALL COORDINATE WITH T-MOBILE REP TO DETERMINE WHAT, IF ANY, ITEMS WILL BE PROVIDED. ALL ITEMS NOT PROVIDED SHALL BE PROVIDED AND INSTALLED BY THE CONTRACTOR. CONTRACTOR WILL INSTALL ALL ITEMS PROVIDED.

22. PRIOR TO SUBMISSION OF BID, CONTRACTOR SHALL COORDINATE WITH T-MOBILE REP TO DETERMINE IF ANY PERMITS WILL BE OBTAINED BY CONTRACTOR. ALL REQUIRED PERMITS NOT OBTAINED BY T-MOBILE MUST BE OBTAINED, AND PAID FOR, BY THE CONTRACTOR

23. CONTRACTOR SHALL INSTALL ALL SITE SIGAGE IN ACCORDANCE WITH T-MOBILE SPECIFICATIONS AND REQUIREMENTS.

24. CONTRACTOR SHALL SUBMIT ALL SHOP DRAWINGS TO T-MOBILE FOR REVIEW AND APPROVAL PRIOR TO FABRICATION.

25. ALL EQUIPMENT SHALL BE INSTALLED ACCORDING TO MANUFACTURERS SPECIFICATIONS AND LOCATED ACCORDING TO T-MOBILE SPECIFICATIONS, AND AS SHOWN IN THESE PLANS.

26. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE PROJECT DESCRIBED HEREIN. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL THE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT

27. CONTRACTOR SHALL NOTIFY T-MOBILE REP A MINIMUM OF 48 HOURS IN ADVANCE OF POURING CONCRETE OR BACKFILLING ANY UNDERGROUND UTILITIES, FOUNDATIONS OR SEALING ANY WALL, FLOOR OR ROOF PENETRATIONS FOR ENGINEERING REVIEW AND APPROVAL.

28. CONTRACTOR SHALL BE RESPONSIBLE FOR SITE SAFETY INCLUDING COMPLIANCE WITH ALL APPLICABLE OSHA STANDARDS AND RECOMMENDATIONS AND SHALL PROVIDE ALL NECESSARY SAFETY DEVICES INCLUDING PPE AND PPM AND CONSTRUCTION DEVICES SUCH AS WELDING AND FIRE PREVENTION, TEMPORARY SHORING, SCAFFOLDING TRENCH BOXES/SLOPING BARRIERS, ETC.

29. THE CONTRACTOR SHALL PROTECT AT HIS OWN EXPENSE, ALL EXISTING FACILITIES AND SUCH OF HIS NEW WORK LIABLE TO INJURY DURING THE CONSTRUCTION PERIOD. ANY DAMAGE CAUSED BY NEGLIGENCE ON THE PART OF THIS CONTRACTOR OR HIS REPRESENTATIVES, OR BY THE ELEMENTS DUE TO NEGLIGENCE ON THE PART OF THIS CONTRACTOR OR HIS REPRESENTATIVES, EITHER TO THE EXISTING WORK, OR TO HIS EXPENSE TO THE OWNERS SATISFACTION.

30. ALL WORK SHALL BE INSTALLED IN A FIRST CLASS NEAT AND WORKMANLIKE MANNER BY MECHANICS SKILLED IN THE TRADE INVOLVED. THE QUALITY OF WORKMANSHIP SHALL BE SUBJECT TO THE APPROVAL OF THE T-MOBILE REP. ANY WORK FOUND BY THE T-MOBILE REP TO BE OF INFERIOR QUALITY AND/OR WORKMANSHIP SHALL BE REPLACED AND/OR REWORKED AT CONTRACTOR EXPENSE UNTIL APPROVAL IS OBTAINED

31. IN ORDER TO ESTABLISH STANDARDS OF QUALITY AND PERFORMANCE ALL TYPES OF MATERIALS LISTED HEREINAFTER BY MANUFACTURERS NAMES AND/OR MANUFACTURERS CATALOG NUMBER SHALL BE PROVIDED BY THESE MANUFACTURERS AS SPECIFIED.

32. T-MOBILE FURNISHED EQUIPMENT SHALL BE PICKED-UP AT THE T-MOBILE WAREHOUSE NO LATER THAN 48HR AFTER BEING NOTIFIED INSURED, STORED, UNCRATE, PROTECTED AND INSTALLED BY THE CONTRACTOR WITH ALL APURTENANCES REQUIRED TO PLACE THE EQUIPMENT IN OPERATION, READY FOR USE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE EQUIPMENT AFTER PICKING IT UP

33. T-MOBILE OR HIS ARCHITECT/ENGINEER RESERVES THE RIGHT TO REJECT ANY EQUIPMENT OR MATERIALS WHICH, IN HIS OWN OPINION ARE NOT IN COMPLIANCE WITH THE CONTRACT DOCUMENTS EITHER BEFORE OR AFTER INSTALLATION AND THE EQUIPMENT SHALL BE REPLACED WITH EQUIPMENT TO THE CONTRACTOR AT NO COST TO T-MOBILE OR THEIR ARCHITECT/ENGINEER.

10. CONTRACTOR SHALL BRACE STRUCTURES UNTIL ALL STRUCTURAL ELEMENTS NEEDED FOR STABILITY ARE INSTALLED, THESE ELEMENTS ARE AS FOLLOWS: LATERAL BRACING, ANCHOR BOLTS ETC.

11. CONTRACTOR SHALL DETERMINE EXACT LOCATION OF EXISTING UTILITIES, GROUNDS DRAINS, DRAIN PIPES, VENTS ETC, BEFORE COMMENCING WORK

12. INCORRECTLY FABRICATED, DAMAGED, OR OTHERWISE MISFITTING OR NONCONFORMING MATERIALS OR CONDITIONS SHALL BE REPORTED TO THE T-MOBILE REP PRIOR TO REPAIR OR CORRECTIVE ACTION. ANY SUCH REPAIRAL ACTION SHALL REQUIRE WRITTEN APPROVAL BY THE T-MOBILE REP PRIOR TO PROCEEDING.

13. EACH CONTRACTOR SHALL COOPERATE WITH THE T-MOBILE REP, AND COORDINATE HIS WORK WITH THE WORK OF OTHERS.

14. CONTRACTOR SHALL REPAIR ANY DAMAGE CAUSED BY CONSTRUCTION OF THIS PROJECT TO MATCH EXISTING PRE-CONSTRUCTION CONDITIONS TO THE SATISFACTION OF THE T-MOBILE CONSTRUCTION MANAGER.

15. ALL CABLE/CONDUIT ENTRY/EXIT PORTS SHALL BE WEATHERPROOFED DURING INSTALLATION USING A SILICONE SEALANT

16. WHERE EXISTING CONDITIONS DO NOT MATCH THOSE SHOWN IN THIS PLAN SET CONTRACTOR SHALL NOTIFY THE T-MOBILE REP AND ENGINEER OF RECORD IMMEDIATELY

17. CONTRACTOR SHALL ENSURE ALL SUBCONTRACTORS ARE PROVIDED WITH A COMPLETE AND CURRENT SET OF DRAWINGS AND SPECIFICATIONS FOR THIS PROJECT

18. CONTRACTOR SHALL REMOVE ALL RUBBISH AND DEBRIS FROM THE SITE AT THE END OF EACH DAY

19. CONTRACTOR SHALL COORDINATE WORK SCHEDULE WITH AMERICAN TOWER CORPORATION (ATC) AND TAKE PRECAUTIONS TO MINIMIZE IMPACT AND DISRUPTION OF OTHER OCCUPANTS OF THE FACILITY

20. CONTRACTOR SHALL FURNISH T-MOBILE AND AMERICAN TOWER CORPORATION (ATC) WITH A PDF MARKED UP AS-BUILT SET OF DRAWINGS UPON COMPLETION OF WORK.

21. PRIOR TO SUBMISSION OF BID, CONTRACTOR SHALL COORDINATE WITH T-MOBILE REP TO DETERMINE WHAT, IF ANY, ITEMS WILL BE PROVIDED. ALL ITEMS NOT PROVIDED SHALL BE PROVIDED AND INSTALLED BY THE CONTRACTOR. CONTRACTOR WILL INSTALL ALL ITEMS PROVIDED.

22. PRIOR TO SUBMISSION OF BID, CONTRACTOR SHALL COORDINATE WITH T-MOBILE REP TO DETERMINE IF ANY PERMITS WILL BE OBTAINED BY CONTRACTOR. ALL REQUIRED PERMITS NOT OBTAINED BY T-MOBILE MUST BE OBTAINED, AND PAID FOR, BY THE CONTRACTOR

23. CONTRACTOR SHALL INSTALL ALL SITE SIGAGE IN ACCORDANCE WITH T-MOBILE SPECIFICATIONS AND REQUIREMENTS.

24. CONTRACTOR SHALL SUBMIT ALL SHOP DRAWINGS TO T-MOBILE FOR REVIEW AND APPROVAL PRIOR TO FABRICATION.

25. ALL EQUIPMENT SHALL BE INSTALLED ACCORDING TO MANUFACTURERS SPECIFICATIONS AND LOCATED ACCORDING TO T-MOBILE SPECIFICATIONS, AND AS SHOWN IN THESE PLANS.

26. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE PROJECT DESCRIBED HEREIN. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL THE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT

27. CONTRACTOR SHALL NOTIFY T-MOBILE REP A MINIMUM OF 48 HOURS IN ADVANCE OF POURING CONCRETE OR BACKFILLING ANY UNDERGROUND UTILITIES, FOUNDATIONS OR SEALING ANY WALL, FLOOR OR ROOF PENETRATIONS FOR ENGINEERING REVIEW AND APPROVAL.

28. CONTRACTOR SHALL BE RESPONSIBLE FOR SITE SAFETY INCLUDING COMPLIANCE WITH ALL APPLICABLE OSHA STANDARDS AND RECOMMENDATIONS AND SHALL PROVIDE ALL NECESSARY SAFETY DEVICES INCLUDING PPE AND PPM AND CONSTRUCTION DEVICES SUCH AS WELDING AND FIRE PREVENTION, TEMPORARY SHORING, SCAFFOLDING TRENCH BOXES/SLOPING BARRIERS, ETC.

29. THE CONTRACTOR SHALL PROTECT AT HIS OWN EXPENSE, ALL EXISTING FACILITIES AND SUCH OF HIS NEW WORK LIABLE TO INJURY DURING THE CONSTRUCTION PERIOD. ANY DAMAGE CAUSED BY NEGLIGENCE ON THE PART OF THIS CONTRACTOR OR HIS REPRESENTATIVES, OR BY THE ELEMENTS DUE TO NEGLIGENCE ON THE PART OF THIS CONTRACTOR OR HIS REPRESENTATIVES, EITHER TO THE EXISTING WORK, OR TO HIS EXPENSE TO THE OWNERS SATISFACTION.

30. ALL WORK SHALL BE INSTALLED IN A FIRST CLASS NEAT AND WORKMANLIKE MANNER BY MECHANICS SKILLED IN THE TRADE INVOLVED. THE QUALITY OF WORKMANSHIP SHALL BE SUBJECT TO THE APPROVAL OF THE T-MOBILE REP. ANY WORK FOUND BY THE T-MOBILE REP TO BE OF INFERIOR QUALITY AND/OR WORKMANSHIP SHALL BE REPLACED AND/OR REWORKED AT CONTRACTOR EXPENSE UNTIL APPROVAL IS OBTAINED

31. IN ORDER TO ESTABLISH STANDARDS OF QUALITY AND PERFORMANCE ALL TYPES OF MATERIALS LISTED HEREINAFTER BY MANUFACTURERS NAMES AND/OR MANUFACTURERS CATALOG NUMBER SHALL BE PROVIDED BY THESE MANUFACTURERS AS SPECIFIED.

32. T-MOBILE FURNISHED EQUIPMENT SHALL BE PICKED-UP AT THE T-MOBILE WAREHOUSE NO LATER THAN 48HR AFTER BEING NOTIFIED INSURED, STORED, UNCRATE, PROTECTED AND INSTALLED BY THE CONTRACTOR WITH ALL APURTENANCES REQUIRED TO PLACE THE EQUIPMENT IN OPERATION, READY FOR USE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE EQUIPMENT AFTER PICKING IT UP

33. T-MOBILE OR HIS ARCHITECT/ENGINEER RESERVES THE RIGHT TO REJECT ANY EQUIPMENT OR MATERIALS WHICH, IN HIS OWN OPINION ARE NOT IN COMPLIANCE WITH THE CONTRACT DOCUMENTS EITHER BEFORE OR AFTER INSTALLATION AND THE EQUIPMENT SHALL BE REPLACED WITH EQUIPMENT TO THE CONTRACTOR AT NO COST TO T-MOBILE OR THEIR ARCHITECT/ENGINEER.

SPECIAL CONSTRUCTION

ANTENNA INSTALLATION NOTES

1. WORK INCLUDED.

A. ANTENNA AND COAXIAL CABLES ARE FURNISHED BY T-MOBILE UNDER A SEPARATE CONTRACT. THE CONTRACTOR SHALL ASSIST ANTENNA INSTALLATION CONTRACTOR IN TERMS OF COORDINATION AND SITE ACCESS. ERECTION SUBCONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF PERSONNEL.

B. INSTALL ANTENNAS AS INDICATED ON DRAWINGS AND T-MOBILE SPECIFICATIONS.

C. INSTALL GALVANIZED STEEL ANTENNA MOUNTS AS INDICATED ON DRAWINGS.

D. INSTALL FURNISHED GALVANIZED STEEL OR ALUMINUM WAVEGUIDE.

E. CONTRACTOR SHALL PROVIDE FOUR (4) SETS OF SWEEP TESTS USING ANRITZU-PACKARD 8713B RF SCALAR NETWORK ANALYZER, SUBMIT FREQUENCY DOMAIN REFLECTOMETRY(RFDR) TESTS RESULTS TO THE PROJECT MANAGER. SWEEP TESTS SHALL BE AS PER ATTACHED RFS MINIMUM FIELD TESTING RECOMMENDED FOR ANTENNA AND HELIAX COAXIAL CABLE SYSTEMS DATED 10/83. TESTING SHALL BE PERFORMED BY AN INDEPENDENT TESTING SERVICE AND BE BOUND AND SUBMITTED WITHIN ONE WEEK OF WORK COMPLETION.

F. INSTALL COAXIAL CABLES AND TERMINATING BETWEEN ANTENNAS AND EQUIPMENT PER MANUFACTURERS RECOMMENDATIONS. WEATHERPROOF ALL CONNECTIONS BETWEEN THE ANTENNA AND EQUIPMENT PER MANUFACTURERS REQUIREMENTS. TERMINATE ALL COAXIAL CABLE THREE (3) FEET IN EXCESS OF ENTRY PORT LOCATION UNLESS OTHERWISE STATED.

G. ANTENNA AND COAXIAL CABLE GROUNDING.

2. ALL EXTERIOR #8 GREEN GROUND WIRE DAIRY CHAIN CONNECTIONS ARE TO BE WEATHER SEALED WITH RFS CONNECTORS/SPLICE WEATHERPROOFING KIT #221213 OR EQUAL.

3. ALL COAXIAL CABLE GROUNDING KITS ARE TO BE INSTALLED ON STRAIGHT RUNS OF

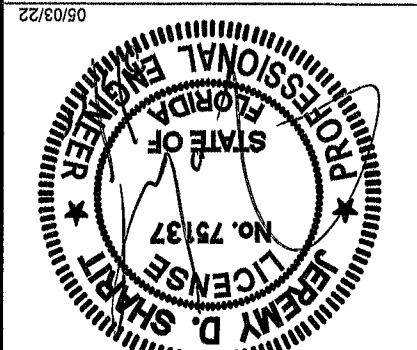
COAXIAL CABLE (NOT WITHIN BENDS)

ALL DISCREPANCIES FROM WHAT IS SHOWN ON THESE CONSTRUCTION DRAWINGS SHALL BE COMMUNICATED TO ATC ENGINEERING IMMEDIATELY FOR CORRECTION OR RE-DESIGN. FAILURE TO COMMUNICATE DIRECTLY WITH ATC ENGINEERING OR ANY CHANGES FROM THE DESIGN CONDUCTED WITHOUT PRIOR APPROVAL FROM ATC ENGINEERING SHALL BE THE SOLE RESPONSIBILITY OF THE GENERAL CONTRACTOR.

GENERAL NOTES

|             |                   |
|-------------|-------------------|
| DATE DRAWN  | 04/05/22          |
| ATC JOB NO  | 13973819_G3       |
| CUSTOMER ID | 175 AT 110 BOOMER |
| CUSTOMER #: | 9JK0218A          |

Mobile



ATC SITE NUMBER 24516  
ATC SITE NAME FALLING CREEK FL  
T-MOBILE SITE NAME 175 AT 110 BOOMER  
SITE ADDRESS, 1334 HUNTSVILLE CHURCH RD  
LAKE CITY, FL 32056-7044

| REV. | DESCRIPTION      | BY  | DATE     |
|------|------------------|-----|----------|
| 0    | FOR CONSTRUCTION | ZDS | 04/06/22 |
|      | FOR CONSTRUCTION | ZDS | 05/03/22 |

158 BUSINESS CENTER DRIVE  
BIRMINGHAM, AL 35244  
TEL. 205-252-6986 FAX 205-320-1504



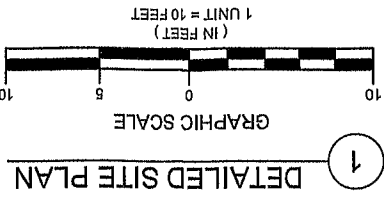


- 1 THIS SITE PLAN REPRESENTS THE BEST PRESENT KNOWLEDGE AVAILABLE TO THE ENGINEER AT THE TIME OF THIS DESIGN. THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO CONSTRUCTION AND VERIFY ALL EXISTING CONDITIONS RELATED TO THE SCOPE OF WORK FOR THIS PROJECT.
- 2 ICE BRIDGE, CABLE LADDER, COAX PORT, AND COAX CABLE ARE SHOWN FOR REFERENCE ONLY. CONTRACTOR SHALL CONFIRM THE EXACT LOCATION OF ALL PROPOSED AND EXISTING EQUIPMENT AND STRUCTURES DEPICTED ON THIS PLAN. BEFORE UTILIZING EXISTING CABLE SUPPORTS, COAX PORTS, INSTALLING NEW PORTS OR ANY OTHER EQUIPMENT, CONTRACTOR SHALL VERIFY ALL ASPECTS OF THE COMPONENTS MEET THE ATC SPECIFICATIONS
3. THIS PROJECT INCLUDES NO INSTALL OR MODIFICATION AT GRADE

|       |                           |
|-------|---------------------------|
| ⊗     | GROUNDING TEST WELL       |
| ATS   | AUTOMATIC TRANSFER SWITCH |
| B     | BOLLARD                   |
| CSC   | CELL SITE CABINET         |
| D     | DISCONNECT                |
| E     | ELECTRICAL                |
| F     | FIBER                     |
| GEN   | GENERATOR                 |
| G     | GENERATOR RECEPTACLE      |
| HH, V | HAND HOLE, VAULT          |
| IB    | ICE BRIDGE                |
| K     | KENTROX BOX               |
| LC    | LIGHTING CONTROL          |
| M     | METER                     |
| PB    | PULL BOX                  |
| PP    | POWER POLE                |
| T     | TELCO                     |
| TRN   | TRANSFORMER               |
|       | CHIMNEY LINK FENCE        |

1 ESTIMATED LENGTH OF PROPOSED CABLE IS 220'.  
ESTIMATED LENGTH OF CABLE WAS PROVIDED BY  
CUSTOMER OR CALCULATED BY ADDING THE RAD  
CENTER AND THE DISTANCE FROM THE SHELTER  
ENTRY PLATE TO THE TOWER (ALONG THE ICE  
BRIDGE) AND A SAFETY FACTOR MEASUREMENT OF  
15% (OF THE TWO PREVIOUS VALUES). CDS DEFER  
TO GREATEST CABLE LENGTH

2 ROUTE PROPOSED CABLES ALONG SAME PATH AS  
EXISTING CABLES AND IN ACCORDANCE WITH  
STRUCTURAL ANALYSIS WHERE POSSIBLE UTILIZE  
EXISTING CABLE SUPPORT STRUCTURES AS  
PROVIDED FOR CARRIER TO ADEQUATELY SECURE  
CABLES, USING EITHER APPROPRIATELY SIZED  
STAINLESS STEEL SNAP-ON MOUNTING  
HARDWARE AND BRACKETS AS SPECIFIED BY CABLE  
MANUFACTURER OTHERWISE, ATTACH CABLES TO  
HORIZONTAL OR DIAGONAL TOWER MEMBERS  
USING PROPOSED STAINLESS STEEL ADAPTERS (DO  
NOT ATTACH TO TOWER LEG).

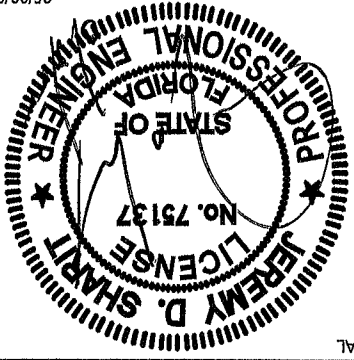


ATC SITE NUMBER. 24516

ATC SITE NAME  
FALLING CREEK FL

T-MOBILE SITE NAME  
175 AT 110 BOOMER

SITE ADDRESS  
1334 HUNTSVILLE CHURCH RD  
LAKE CITY, FL 32055-7044



• Mobil • • •

|             |            |
|-------------|------------|
| DATE DRAWN  | 04/06/22   |
| ATC JOB NO  | 13973819   |
| CUSTOMER ID | 175 AT 110 |
| CUSTOMER #: | 9JK0218A   |

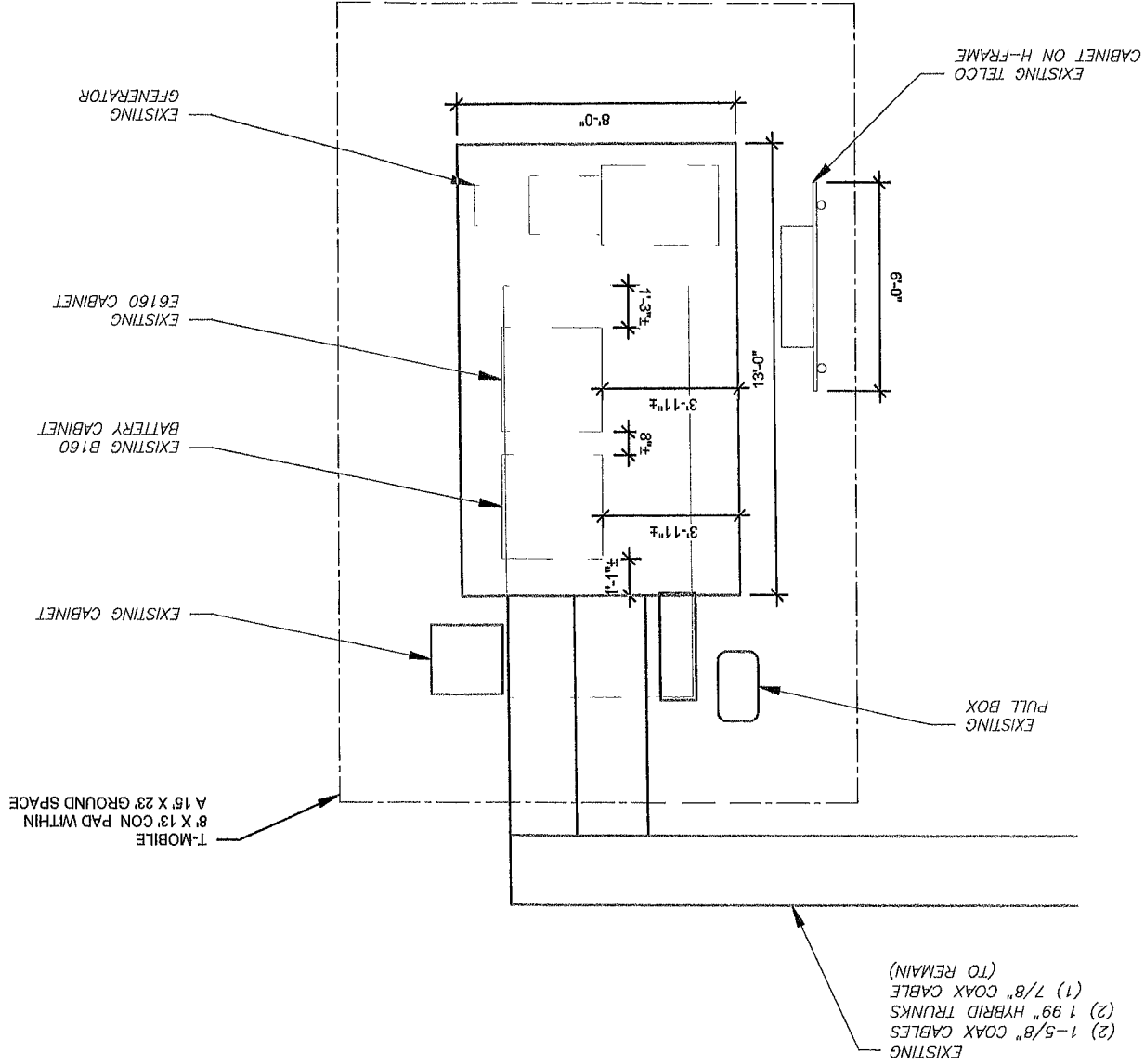
## DETAILED SITE PLAN

SHEET NUMBER, C-101

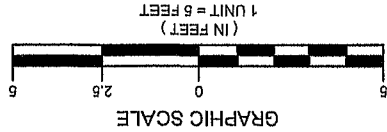
REVISION

SITE PLAN NOTES

1. CONTRACTOR TO VERIFY THERE IS NO LIVE A/V FIBER RUNNING THROUGH EXISTING DEAD EQUIPMENT. IF SO, THIS WILL NEED TO BE RERUN THROUGH CONDUIT PRIOR TO REMOVING DEAD 2G (6201 CABS) EQUIPMENT
2. ALL OPEN PORTS NEED TO BE SEALED / WEATHERPROOFED PROPERLY
3. ALL UNNEEDED / EXCESS EQUIPMENT AND GARBAGE TO BE REMOVED FROM EQUIPMENT AREA. DISPOSE OF MATERIALS PROPERLY OFF SITE.



EXISTING GROUND EQUIPMENT LAYOUT



1

REVISION

C-102

SHEET NUMBER

DETAILED EQUIPMENT  
PLAN

|             |                   |
|-------------|-------------------|
| DATE DRAWN  | 04/05/22          |
| ATC JOB NO. | 13973819_G3       |
| CUSTOMER ID | 175 AT 110 BOOMER |
| CUSTOMER #  | 8JK0218A          |

05/03/22

SEAL

STATE OF FLORIDA

PROFESSIONAL ENGINEER

JEREMY D. SHARTT

NO. 75137

LICENSE

ATC SITE NUMBER, 24516

ATC SITE NAME, FALLING CREEK FL

T-MOBILE SITE NAME, 175 AT 110 BOOMER

SITE ADDRESS, 1334 HUNTSVILLE CHURCH RD  
LAKE CITY, FL 32055-7044

| REV | DESCRIPTION      | BY  | DATE     |
|-----|------------------|-----|----------|
| 0   | FOR CONSTRUCTION | ZDS | 04/06/22 |
| 1   | FOR CONSTRUCTION | ZDS | 05/03/22 |

TOGETHER PLANNING A BETTER TOMORROW

ENGINEERING GROUP, INC.

168 BUSINESS CENTER DRIVE  
BIRMINGHAM, AL 35244

TEL 205-252-8986 FAX 205-320-1604

AMERICAN TOWER®

|                              |                            |
|------------------------------|----------------------------|
| 67E5D998E 6160 (GSM on 6630) | 67E5998E 1xAIR+1OP (Excal) |
| RAN Template:                | A&L Template:              |

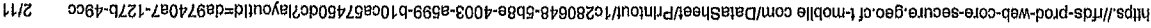
## Section 5 - RAN Equipment

| Proposed RAN Equipment                 |                                                                                                                                    |      |  |  |  |
|----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|------|--|--|--|
| Template: 07EBD98BE 0160 (GSM on 0630) |                                                                                                                                    |      |  |  |  |
| Enclosure                              |                                                                                                                                    | 1    |  |  |  |
| Enclosure Type                         | Enclosure 0160 AC V1                                                                                                               | B160 |  |  |  |
| Baseband                               | <div> RP 0604<br/>L700<br/>L600<br/>N600<br/>L2100<br/>L1900 </div> <div> RP 0604<br/>L2600<br/>U2100<br/>BB 0630<br/>G1900 </div> |      |  |  |  |
| Hybrid Cable System                    | Ericsson Hybrid Trunk 6/24 4AWG 90m (x 2 )<br>PSU 4013 vRA4 (Kit) (x 2 )                                                           |      |  |  |  |
| Transport System                       | CSR XPRE V2 (3anz)                                                                                                                 |      |  |  |  |
| RAN Scope of Work                      |                                                                                                                                    |      |  |  |  |

## CABINET CONFIGURATION

9JK0218A\_Anchor\_6\_2022-02-07

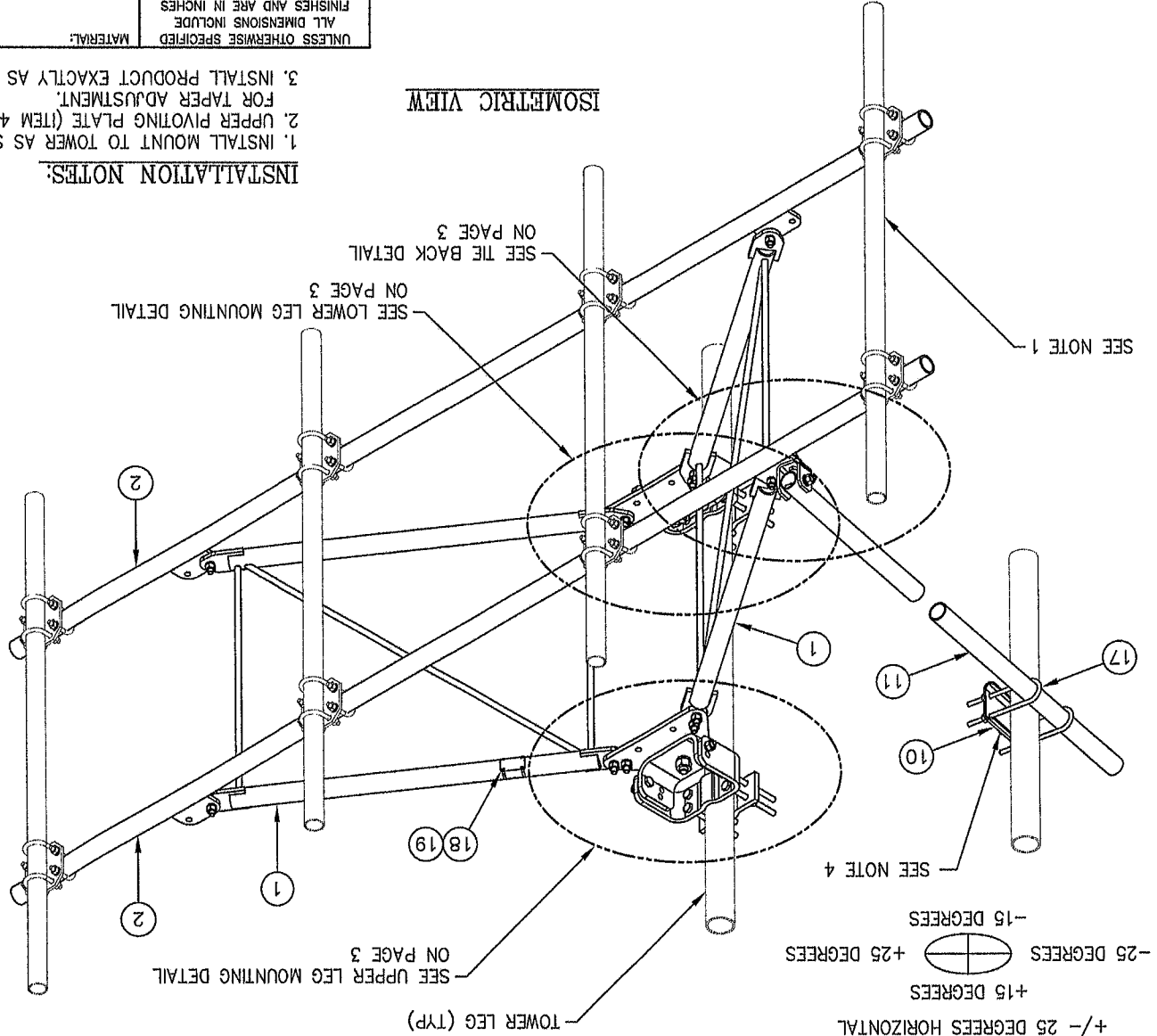
## Section 3 - Proposed Template Images



## ANTENNA CONFIGURATION

| C10857001C 12' HD V-BOOM ASSEMBLY W/TIEBACK |     |           |                                        |        |     |
|---------------------------------------------|-----|-----------|----------------------------------------|--------|-----|
| ITEM                                        | QTY | PART NO.  | DESCRIPTION                            | WEIGHT |     |
| 1.                                          | 2   | CW01222   | WELDMENT, STANDOFF ARM                 |        | 126 |
| 2.                                          | 2   | CW01223   | WELDMENT, FACE PIPE                    |        | 147 |
| 3.                                          | 2   | CS03109   | PLATE, ROTATING                        |        | 34  |
| 4.                                          | 1   | CS03110   | PLATE, PIVOTING (UPPER)                |        | 16  |
| 5.                                          | 1   | CS03111   | PLATE, LEG CLAMP (UPPER)               |        | 17  |
| 6.                                          | 1   | CS03112   | PLATE, PIVOTING (LOWER)                |        | 14  |
| 7.                                          | 1   | CS03113   | PLATE, LEG CLAMP (LOWER)               |        | 17  |
| 8.                                          | 2   | CS03114   | PLATE, LEG CLAMP (BACK)                |        | 14  |
| 9.                                          | 1   | CS00098   | PLATE, TIE BACK SWIVEL                 |        | 3   |
| 10.                                         | 1   | CS03285   | PLATE, TIE BACK CLAMP                  |        | 4   |
| 11.                                         | 1   | CS03333   | PIPE, TIE BACK                         |        | 38  |
| 12.                                         | 2   | C40026073 | BOLT ASSEMBLY, 1 Ø X 3 A325            |        | 4   |
| 13.                                         | 8   | C40140004 | BOLT ASSEMBLY, 5/8 Ø X 8 A307          |        | 13  |
| 14.                                         | 1   | C40026033 | BOLT ASSEMBLY, 5/8 Ø X 4 1/2 A325      |        | 1   |
| 15.                                         | 12  | C40026025 | BOLT ASSEMBLY, 5/8 Ø X 2 1/2 A325      |        | 6   |
| 16.                                         | 5   | C40026024 | BOLT ASSEMBLY, 5/8 Ø X 2 1/4 A325      |        | 3   |
| 17.                                         | 2   | C40034183 | U-BOLT ASSEMBLY, 1/2 Ø X 2 9/16 C-C    |        | 3   |
| 18.                                         | 1   | Z30992001 | MOUNT CLASSIFICATION TAG C10857001C    |        | 1   |
| 19.                                         | 2   | C40062103 | STAINLESS STEEL SELF-LOCKING CABLE TIE |        | 1   |
|                                             |     |           | TOTAL WEIGHT                           |        | 462 |

**PACKAGING NOTE**  
CK00386 INCLUDES ITEMS 1, 3, 4, 5, 6, 7, 12 & 15 (8 QTY)  
CK00387 INCLUDES ITEMS 2, 8, 9, 10, 11, 13, 14, 15 (4 QTY), 16, 17, 18 & 19



TIEBACK ANGLE RANGE DETAIL

ISOMETRIC VIEW

INSTALLATION NOTES:

1. INSTALL MOUNT TO TOWER AS SHOWN, SO THAT WELDED STANDOFF DIAGONAL IS SLOPING DOWNWARD FROM TOWER END TO FACE PIPE END.
2. UPPER PIVOTING PLATE (ITEM 4) HAS THREE HOLES ON EACH SIDE AND UPPER LEG CLAMP PLATE (ITEM 5) HAS TWO HOLES ON EACH SIDE FOR TAPER ADJUSTMENT.
3. INSTALL PRODUCT EXACTLY AS SHOWN IN DRAWING, WITH ALL BOLTS FACING UPWARDS.

- NOTES:
1. MOUNTING PIPES & CROSSOVER PLATE KITS MUST BE PURCHASED SEPARATELY.
  2. QUANTITIES SHOWN IN LISTS OF MATERIAL ARE FOR ONE (1) V-BOOM ONLY.
  3. THIS V-BOOM WILL MOUNT TO THE FOLLOWING: 1 1/2" Ø TO 5 9/16" Ø ROUND LEG.
  4. TIEBACK MUST BE CONNECTED TO A RIGID MEMBER THAT PROVIDES ADEQUATE SUPPORT WITHIN THE LIMITS NOTED ABOVE IN THE TIEBACK ANGLE RANGE DETAIL.
- UNLESS APPROVED BY THE ENGINEER OF RECORD.

| REV | DATE     | DESCRIPTION                                             |
|-----|----------|---------------------------------------------------------|
| 1   | 01/21/18 | KLE EK REVISED NOTES & ADDED TIEBACK ANGLE RANGE DETAIL |
| 2   | 02/09/18 | OLW DEL ADDED PACKAGING NOTE                            |
| 3   | 10/19/18 | KLE DEL ADDED INSTALLATION NOTES                        |
|     |          |                                                         |
|     |          |                                                         |
|     |          |                                                         |
|     |          |                                                         |
|     |          |                                                         |
|     |          |                                                         |
|     |          |                                                         |
|     |          |                                                         |

|                               |                                                   |
|-------------------------------|---------------------------------------------------|
| UNLESS OTHERWISE SPECIFIED    | ALL DIMENSIONS INCLUDE FINISHES AND ARE IN INCHES |
| TOLERANCES: FRACTIONS ± 1/16" | ANGLES ± 1/2 DEG                                  |
| DECIMALS ± .010"              | TOLERANCES DO NOT APPLY TO RAW MATERIAL           |

**Sabre Industries**  
Towers and Poles

CONFIDENTIAL

This document and the information contained herein is the confidential trade secret property of Sabre Communications Corporation ("Sabre") and must not be reproduced, copied or used, in whole or in part, for any purpose without the prior written consent of Sabre. © 2015 Sabre Communications Corporation. All rights reserved.

| DATE     |  | DRAWN BY    |  | CHECKED BY |  |
|----------|--|-------------|--|------------|--|
| 12/22/15 |  | WRF         |  | EK         |  |
| SIZE     |  | DRAWING NO. |  | SCALE      |  |
| B        |  | C10857001C  |  | None       |  |
| REV      |  | PAGE        |  | 1 OF 3     |  |
| 3        |  |             |  |            |  |

12' HD V-BOOM ASSEMBLY W/TIEBACK  
(3' STANDOFF)  
W/NO ANTENNA MOUNTING PIPES

1  
MOUNT DETAIL