COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

THE APPLICATION OF	)	
CELLCO PARTNERSHIP D/B/A VERIZON WIRELESS	)	
AND HARMONI TOWERS, LLC FOR ISSUANCE	)	
OF A CERTIFICATE OF PUBLIC	)	CASE NO. 2023-00111
CONVENIENCE AND NECESSITY TO CONSTRUCT	)	
A WIRELESS COMMUNICATIONS FACILITY	)	
IN THE COMMONWEALTH OF KENTUCKY	)	
IN THE COUNTY OF PULASKI	)	

SITE NAME: NW SOMERSET

* * * * * * *

APPLICATION FOR
CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY
FOR CONSTRUCTION OF A WIRELESS COMMUNICATIONS FACILITY

Cellco Partnership, d/b/a Verizon Wireless and VB BTS II, LLC d/b/a Vertical Bridge, LLC ("Co-Applicants"), by counsel, pursuant to (i) KRS §§278.020, 278.040, 278.650, 278.665, and other statutory authority, and the rules and regulations applicable thereto, and (ii) the Telecommunications Act of 1996, respectfully submits this Application requesting issuance of a Certificate of Public Convenience and Necessity ("CPCN") from the Kentucky Public Service Commission ("PSC") to construct, maintain, and operate a Wireless Communications Facility ("WCF") to serve the customers of the Co-Applicants with wireless communications services.

In support of this Application, Co-Applicants respectfully provide and state the following information:

1. The complete name and address of the Co-Applicants:

    a. Cellco Partnership, d/b/a Verizon Wireless, having a local address of 2902 Ring Road, Elizabethtown, KY 42701.

b. VB BTS II, LLC d/b/a Vertical Bridge, LLC, having an address of 750 Park of Commerce Dr, Boca Raton, FL 33487.

2. Co-Applicants;

a. Cellco Partnership, d/b/a Verizon Wireless is a Delaware general partnership and a copy of the Statement of Good Standing from Delaware and Amended Certificate of Assumed Name is on file with the Secretary of State of Commonwealth of Kentucky is included as part of **Exhibits A 1-2**.

b. VB BTS II, LLC d/b/a Vertical Bridge, LLC is a Delaware Limited Liability Company organized in the State of Delaware on December 2, 2015. We attest that VB BTS II, LLC d/b/a Vertical Bridge, LLC is in good standing with the State of Delaware and is also authorized to transact business in the Commonwealth of Kentucky. A copy of the Delaware Certificate of Formation and Certificate of Good Standing is included as part of **Exhibits A 3-4**. The Certificate of Authority is on file with the Secretary of State of Commonwealth of Kentucky and is included as part of **Exhibits A 5**.

3. Co-Applicants propose construction of an antenna tower for communications services, which is to be located in an area outside the jurisdiction of a planning commission, and Co-Applicants submit this application to the PSC for a certificate of public convenience and necessity pursuant to KRS §§ 278.020(1), 278.040, 278.650, 278.665, and other statutory authority.

4. The Co-Applicant, Cellco Partnership, d/b/a Verizon Wireless operates on frequencies licensed by the Federal Communications Commission ("FCC") pursuant to applicable FCC requirements. A copy of the Co-Applicant's FCC Application and Licenses

with Authorization to provide wireless services are attached to this Application as part of **Exhibit B**, and the facility will be constructed and operated in accordance with applicable FCC regulations.

5. The public convenience and necessity require the construction of the proposed WCF. The construction of the WCF will bring or improve the Co-Applicants' services to an area currently not served or not adequately served by the Co-Applicants by increasing coverage or capacity and thereby enhancing the public's access to innovative and competitive wireless communications services. A statement from Co-Applicant, Cellco Partnership, d/b/a Verizon Wireless's RF Design Engineer outlining said need is attached as **Exhibit Q** along with Propagation Maps attached as **Exhibit Qa**. The WCF is an integral link in the Co-Applicant's network design that must be in place to provide adequate coverage to the service area.

6. To address the above-described service needs, Co-Applicants propose to construct a WCF at 1730 N. Highway 27, Somerset, KY 42503 (North Latitude: (37° 07' 05.73", West Longitude 84° 53' 53.79"), on a parcel of land located entirely within the county referenced in the caption of this application. The property on which the WCF will be located is owned by Danny McGlothlin pursuant to a Deed recorded at Deed Book 850, Page 478 in the office of the County Clerk. The proposed WCF will consist of a 280-foot tall tower, with an approximately 5-foot tall lightning arrestor attached at the top, for a total height of 285-feet. The WCF will also include concrete foundations and a shelter or cabinets to accommodate the placement of the Co-Applicant's radio electronics equipment and appurtenant equipment. The Co-Applicant's equipment cabinet or shelter will be approved for use in the Commonwealth of Kentucky by the relevant building inspector.

The WCF compound will be fenced and all access gate(s) will be secured. A description of the manner in which the proposed WCF will be constructed is attached as **Exhibit C** and **Exhibit D**.

7. A list of utilities, corporations, or persons with whom the proposed WCF is likely to compete along with a map showing the proposed location as well as the identified like facilities is attached as **Exhibit E**.

8. The site development plan and a vertical profile sketch of the WCF signed and sealed by a professional engineer registered in Kentucky depicting the tower height, as well as a proposed configuration for the antennas of the Co-Applicant, Cellco Partnership, d/b/a Verizon Wireless has also been included as part of **Exhibit C**.

9. Foundation design plans signed and sealed by a professional engineer registered in Kentucky and a description of the standards according to which the tower was designed are included as part of **Exhibit D**.

10. Co-Applicants have considered the likely effects of the installation of the proposed WCF on nearby land uses and values and has concluded that there is no more suitable location reasonably available from which adequate services can be provided, and that there are no reasonably available opportunities to co-locate Co-Applicant's antennas on an existing structure. When suitable towers or structures exist, Co-Applicant's attempts to co-locate on existing structures such as communications towers or other structures capable of supporting Co-Applicant's facilities; however, no other suitable or available co-location site was found to be located in the vicinity of the site. A statement from Co-Applicant, Cellco Partnership, d/b/a Verizon Wireless's RF Design Engineer outlining exploration of co-location opportunities is attached as **Exhibit Q**.

11. A copy of the Application for Federal Aviation Administration's ("FAA") and the FAA Determination of No Hazard to Air Navigation is attached as **Exhibit F**.

12. A copy of Application to the Kentucky Airport Zoning Commission ("KAZC") is attached as **Exhibit G**. The approval from KAZC will be submitted when received.

13. A geotechnical engineering report was performed by Power of Design Group, LLC, Louisville, KY, dated August 30, 2022, and is attached as **Exhibit H**. The name and address of the geotechnical engineering firm and the professional engineer registered in Kentucky who prepared the report are included as part of **Exhibit R**.

14. Clear directions to the proposed WCF site from the County seat are attached as **Exhibit I**. The name and telephone number of the preparer of **Exhibit I** are included as part of this exhibit.

15. Co-Applicants, pursuant to a written agreement, have acquired the right to use the WCF site and associated property rights. A copy of the agreement is attached as **Exhibit J**.

16. Personnel directly responsible for the design and construction of the proposed WCF are well qualified and experienced. The tower and foundation drawings for the proposed tower submitted as part of **Exhibit D** bear the signature and stamp of a professional engineer registered in the Commonwealth of Kentucky. All tower designs meet or exceed the minimum requirements of applicable laws and regulations. The identity and qualifications of each person directly responsible for design and construction of the proposed tower are contained in **Exhibit R**.

17. The Construction Manager for the proposed facility is Billy Waldridge, Jr. and the identity and qualifications of each person directly responsible for design and construction of the proposed tower are contained in **Exhibit R**.

18. As noted on the Survey attached as part of **Exhibit C**, the surveyor has determined that the tower site and access easement are not within any flood hazard area per Flood Hazard Boundary Map, Community Panel Number 21199C0282C, Dated July 22, 2010.

19. **Exhibit C** includes a map drawn to an appropriate scale that shows the location of the proposed tower and identifies every owner of real estate within 500 feet of the proposed tower (according to the records maintained by the County Property Valuation Administrator). Every structure and every easement within 500 feet of the proposed tower or within 200 feet of the access road including intersection with the public street system is illustrated in **Exhibit C**.

20. Co-Applicants have notified every person who, according to the records of the County Property Valuation Administrator, owns property which is within 500 feet of the proposed tower or contiguous to the site property, by certified mail, return receipt requested, of the proposed construction. Each notified property owner has been provided with a map of the location of the proposed construction, the PSC docket number for this application, the address of the PSC, and informed of his or her right to request intervention. A list of the notified property owners and a copy of the form of the notice sent by certified mail to each landowner are attached as **Exhibit K** and **Exhibit L**, respectively. Nine (9) notices were sent to surrounding property owners; to date one (1) notice was returned, seven (7) notice green cards have been returned and the USPS tracking data shows one (1)

notice was delivered, but no green card was returned. Copies of the mailed envelopes, returned green cards, returned notice and USPS tracking are included as part of **Exhibit L**.

21. Co-Applicants have notified the applicable County Judge/Executive by certified mail, return receipt requested, of the proposed construction. This notice included the PSC docket number under which the application will be processed and informed the County Judge/Executive of his/her right to request intervention. A copy of this notice is attached as **Exhibit M**.

22. Notice signs meeting the requirements prescribed by 807 KAR 5:063, Section 1(2) that measure at least 2 feet in height and 4 feet in width and that contain all required language in letters of required height, have been posted, one in a visible location on the proposed site and one on the nearest public road. Such signs shall remain posted for at least two weeks after filing of the Application, and a copy of the posted text is attached as **Exhibit N**. A legal notice advertisement regarding the location of the proposed facility has been published in a newspaper of general circulation in the county in which the WCF is proposed to be located. A copy of the newspaper legal notice advertisement is attached as **Exhibit O**.

23. The area of the proposed facility is in the unincorporated area of Pulaski County, Kentucky just outside North/Northwest Somerset city limits. The 0.5 mile search ring consists of the Highway 27 corridor with a mix of Farm, Residential, Commercial, and Industrial properties, all outside of the zoning Jurisdiction of Somerset. The terrain in this area is relatively hilly. There is no zoning in Pulaski County. The general area where the proposed facility is to be located is an undeveloped field adjacent to an automobile

dealership. The nearest residential structure, which is located on the subject property, is 285 feet from the proposed tower site.

24. The process that was used by the Co-Applicant, Cellco Partnership, d/b/a Verizon Wireless radio frequency engineers in selecting the site for the proposed WCF was consistent with the general process used for selecting all other existing and proposed WCF facilities within the proposed network design area. Co-Applicant's radio frequency engineers have conducted studies and tests to develop a highly efficient network that is designed to handle voice and data traffic in the service area. The engineers determined an optimum area for the placement of the proposed facility in terms of elevation and location to provide the best quality service to customers in the service area. A radio frequency design search area prepared in reference to these radio frequency studies was considered by the Co-Applicant when searching for sites for its antennas that would provide the coverage deemed necessary by the Co-Applicant. A map of the area in which the tower is proposed to be located which is drawn to scale and clearly depicts the necessary search area within which the site should be located pursuant to radio frequency requirements is attached as **Exhibit P**.

25. The tower must be located at the proposed location and proposed height to provide necessary service to wireless communications users in the subject area, as set out and documented in the RF Design Engineers' Statement of Need and Propagation Maps attached as **Exhibit Q and Qa.** The proposed tower will expand and improve voice and data service for Verizon Wireless customers.

26. Attached hereto as **Exhibit S** please find an Affidavit of Certification for all information contained in this application.

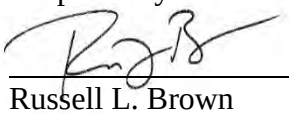
27. All Exhibits to this Application are hereby incorporated by reference as if fully set out as part of the Application.

28. All responses and requests associated with this Application may be directed to:

Russell L. Brown
Clark, Quinn, Moses, Scott & Grahn, LLP
320 North Meridian Street, Suite 1100
Indianapolis, IN 46204
Phone: (317) 637-1321
FAX: (317) 687-2344
Email: rbrown@clarkquinnlaw.com
Attorney for Cellco Partnership d/b/a Verizon Wireless

WHEREFORE, Co-Applicants respectfully request that the PSC accept the foregoing Application for filing, and having met the requirements of KRS §§278.020(1), 278.650, and 278 .665 and all applicable rules and regulations of the PSC, grant a Certificate of Public Convenience and Necessity to construct and operate the WCF at the location set forth herein.

Respectfully submitted,



Russell L. Brown
Clark, Quinn, Moses, Scott & Grahn, LLP
320 North Meridian Street, Suite 1100
Indianapolis, IN 46204
Phone: (317) 637-1321 / FAX: (317) 687-2344
Email: rbrown@clarkquinnlaw.com
Attorney for Cellco Partnership d/b/a Verizon Wireless

LIST OF EXHIBITS

A	Co-Applicant Entities
B	FCC Application and License Documentation
C	Site Development Plan: 500' Vicinity Map Legal Descriptions Flood Plain Certification Site Plan Vertical Tower Profile
D	Tower and Foundation Design
E	Competing Utilities, Corporations, or Persons List And Map of Like Facilities in Vicinity
F	FAA Application and Determination of no Hazard
G	KAZC Application
H	Geotechnical Report
I	Directions to WCF Site
J	Copy of Real Estate Assignment and Assumption Lease
K	Notification Listing
L	Copy of Property Owner Notification
M	Copy of County Judge Executive notice
N	Copy of Posted Notices
O	Copy of Newspaper Legal Notice Advertisement
P	Copy of Radio Frequency Design Search Area
Q	Copy of RF Design Engineer State of Need
Qa	Propagation Maps
R	List of Qualified Professionals
S	Affidavit of Certification

Delaware

The First State

I, JEFFREY W. BULLOCK, SECRETARY OF STATE OF THE STATE OF DELAWARE, DO HEREBY CERTIFY "CELLCO PARTNERSHIP" IS DULY FORMED UNDER THE LAWS OF THE STATE OF DELAWARE AND IS IN GOOD STANDING AND HAS A LEGAL EXISTENCE SO FAR AS THE RECORDS OF THIS OFFICE SHOW, AS OF THE TWENTY-SEVENTH DAY OF APRIL, A.D. 2023.

AND I DO HEREBY FURTHER CERTIFY THAT THE ANNUAL TAXES HAVE BEEN PAID TO DATE.

3341134 8300 Authentication: 203227418

SR# 20231665976 Date: 04-27-23

You may verify this certificate online at corp.delaware.gov/authver.shtml

COMMONWEALTH OF KENTUCKY

Michael G. Adams
Secretary of State

Certificate

I, Michael G. Adams, Secretary of State for the Commonwealth of Kentucky, do hereby certify that the foregoing writing has been carefully compared by me with the original thereof, now in my official custody as Secretary of State and remaining on file in my office, and found to be a true and correct copy of

CERTIFICATE OF ASSUMED NAME OF VERIZON WIRELESS ADOPTED BY GENERAL PARTNERS OF CELLCO PARTNERSHIP FILED JUNE 21, 2006.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my Official Seal at Frankfort, Kentucky, this 10th day of May, 2023.

COMMONWEALTH OF KENTUCKY
OFFICE OF SECRETARY OF STATE

Michael G. Adams
Secretary of State
Commonwealth of Kentucky
kdcoleman/0641227 - Certificate ID: 290787

COMMONWEALTH OF KENTUCKY
TREY GRAYSON
SECRETARY OF STATE

0641227.07 Dcornish C226
Trey Grayson
Secretary of State
Received and Filed
06/21/2006 12:06:09 PM
Fee Receipt: $20.00

CERTIFICATE OF ASSUMED NAME

This certifies that the assumed name of

Verizon Wireless

[Name under which the business will be conducted]

has been adopted by See Addendum

[Real name - KRS 365.015(1)]

which is the "real name" of [YOU MUST CHECK ONE]

- [ ] a Domestic General Partnership
- [ ] a Domestic Registered Limited Liability Partnership
- [ ] a Domestic Limited Partnership
- [ ] a Domestic Business Trust
- [ ] a Domestic Corporation
- [ ] a Domestic Limited Liability Company
- [ ] a Joint Venture
- [✓] a Foreign General Partnership
- [ ] a Foreign Registered Limited Liability Partnership
- [ ] a Foreign Limited Partnership
- [ ] a Foreign Business Trust
- [ ] a Foreign Corporation
- [ ] a Foreign Limited Liability Company

organized and existing in the state or country of Delaware, and whose address is

One Verizon Way	Basking Ridge	NJ	07920
Street address, if any	City	State	Zip Code

The certificate of assumed name is executed by

NYNEX PCS Inc.

Jane A. Schapker-Assistant Secretary
Print or type name and title

June 15, 2006
Date

Signature

Print or type name and title

Date

SSC-225 (7/96) (See attached sheet for instructions)

Addendum

The full name of the Partnership is Cellco Partnership; a Delaware general partnership with its headquarters located One Verizon Way, Basking Ridge NJ 07920-1097.

General Partners of Cellco Partnership	**Address**
Bell Atlantic Cellular Holdings, L.P.	One Verizon Way Basking Ridge, NJ 07920
NYNEX PCS Inc.	One Verizon Way Basking Ridge, NJ 07920
PCSCO Partnership	One Verizon Way Basking Ridge, NJ 07920
GTE Wireless Incorporated	One Verizon Way Basking Ridge, NJ 07920
GTE Wireless of Ohio Incorporated	One Verizon Way Basking Ridge, NJ 07920
PCS Nucleus, L.P.	2999 Oak Road, 7th Floor Walnut Creek, CA 94597
JV PartnerCo, LLC	2999 Oak Road, 7th Floor Walnut Creek, CA 94597

Delaware

The First State

I, JEFFREY W. BULLOCK, SECRETARY OF STATE OF THE STATE OF DELAWARE, DO HEREBY CERTIFY THE ATTACHED IS A TRUE AND CORRECT COPY OF THE CERTIFICATE OF FORMATION OF "VB BTS II, LLC", FILED IN THIS OFFICE ON THE EIGHTH DAY OF JUNE, A.D. 2022, AT 1:01 O`CLOCK P.M.

Jeffrey W. Bullock, Secretary of State

6844426 8100
SR# 20222658754

Authentication: 203631822
Date: 06-08-22

You may verify this certificate online at corp.delaware.gov/authver.shtml

STATE OF DELAWARE
CERTIFICATE OF FORMATION
OF LIMITED LIABILITY COMPANY

The undersigned authorized person, desiring to form a limited liability company pursuant to the Limited Liability Company Act of the State of Delaware, hereby certifies as follows:

1. The name of the limited liability company is VB BTS II, LLC.

2. The Registered Office of the limited liability company in the State of Delaware is located at 850 New Burton Road, Suite 201 (street), in the City of Dover, Zip Code 19904. The name of the Registered Agent at such address upon whom process against this limited liability company may be served is COGENCY GLOBAL INC.

By: /s/ Daniel Marinberg
Authorized Person

Name: Daniel Marinberg
Print or Type

State of Delaware
Secretary of State
Division of Corporations
Delivered 01:01 PM 06/08/2022
FILED 01:01 PM 06/08/2022
SR 20222658754 - File Number 6844426

Delaware

The First State

I, JEFFREY W. BULLOCK, SECRETARY OF STATE OF THE STATE OF DELAWARE, DO HEREBY CERTIFY "VB BTS II, LLC" IS DULY FORMED UNDER THE LAWS OF THE STATE OF DELAWARE AND IS IN GOOD STANDING AND HAS A LEGAL EXISTENCE SO FAR AS THE RECORDS OF THIS OFFICE SHOW, AS OF THE TWENTY-THIRD DAY OF JANUARY, A.D. 2023.

AND I DO HEREBY FURTHER CERTIFY THAT THE SAID "VB BTS II, LLC" WAS FORMED ON THE EIGHTH DAY OF JUNE, A.D. 2022.

AND I DO HEREBY FURTHER CERTIFY THAT THE ANNUAL TAXES HAVE BEEN ASSESSED TO DATE.

6844426 8300

Authentication: 202551773

SR# 20230223025

Date: 01-23-23

You may verify this certificate online at corp.delaware.gov/authver.shtml

202303080004
FAYETTE CO, KY FEE $46.00
PRESENTED / LODGED: 03-08-2023 08:19:15 AM

RECORDED: 03-08-2023
SUSAN LAMB
CLERK
BY: HALLIE WOOSLEY
DEPUTY CLERK

BK: IB 428
PG: 690-690

1265644.06 mmoore ADD

Michael G. Adams
Kentucky Secretary of State
Received and Filed:
3/7/2023 12:33 PM
Fee Receipt: $90.00

COMMONWEALTH OF KENTUCKY
MICHAEL G. ADAMS, SECRETARY OF STATE

Division of Business Filings
P.O. Box 718
Frankfort, KY 40602
(502) 564-3490
www.sos.ky.gov

Certificate of Authority
(Foreign Business Entity)

FBE

Pursuant to the provisions of KRS 14A – 030 the undersigned hereby applies for authority to transact business in Kentucky on behalf of the entity named below and, for that purpose, submits the following statements:

1. The entity is a:
   - [ ] profit corporation
   - [ ] business trust
   - [ ] limited partnership
   - [ ] non-profit llc
   - [ ] nonprofit corporation
   - [x] limited liability company
   - [ ] lld cooperative association
   - [ ] professional service corporation
   - [ ] professional limited liability company
   - [ ] statutory trust
   - [ ] other

2. The name of the entity is VB BTS II, LLC
   (The name must be identical to the name on record with the Secretary of State.)

3. The name of the entity to be used in Kentucky is (if applicable): _____
   (Only provide if "real name" is unavailable for use; otherwise, leave blank.)

4. The state or country under whose law the entity is organized is Delaware

5. The date of organization is 6/8/2022 and the period of duration is _____
   (If left blank, duration is considered perpetual.)

6. The mailing address of the entity's principal office is
   750 Park of Commerce Drive, Suite 200 (Street Address) | Boca Raton (City) | FL (State) | 33487 (Zip Code)

7. The street address of the entity's registered office in Kentucky is
   828 Lane Allen Road, Suite 219 (Street Address (No P.O. Box Numbers)) | Lexington (City) | KY (State) | 40504 (Zip Code)
   and the name of the registered agent at that office is Cogency Global Inc.

8. The names and business addresses of the entity's representatives (secretary, officers and directors, managers, trustees or general partners):

Name	Street or P.O. Box	City	State	Zip Code
Daniel Marinberg	750 Park of Commerce Dr, Ste 200	Boca Raton	FL	33487

9. If a professional service corporation, all the individual shareholders, not less than one half (1/2) of the directors, and all of the officers other than the secretary and treasurer are licensed in one or more states or territories of the United States or District of Columbia to render a professional service described in the statement of purposes of the corporation.

10. I certify that, as of the date of filing this application, the above-named entity validly exists under the laws of the jurisdiction of its formation.

11. If a limited partnership, it elects to be a limited liability limited partnership. Check the box if applicable: ☐

12. If a limited liability company, check box if manager-managed: ☐

13. This application will be effective upon filing.

Signature of Authorized Representative | Adam B. Gender-Vice President & Associate General Counsel (Printed Name & Title) | 03/07/23 (Date)

I, Cogency Global Inc. (Type/Print Name of Registered Agent), consent to serve as the registered agent on behalf of the business entity.

Signature of Registered Agent | Eric B Hood (Printed Name) | Assistant Secretary (Title) | 3/7/23 (Date)

(1/20)

FCC Form 854
Main Form

Approved by OMD – 3060-0139
See instructions for public burden estimate

Application for Antenna Structure Registration

Purpose of Filing

1) Enter the application purpose: (**AM**)

AM – Amendment of a Pending Application
AU – Administrative Update
CA – Cancellation of an Antenna Structure Registration
DI – Notification of an Antenna Structure Dismantlement
MD – Modification of a Antenna Structure Registration
NE – Registration of a New Antenna Structure
NT – Required Construction/Alteration Notification
OC – Ownership Change
RE – Registration of a Replacement Antenna Structure
WD – Withdrawal of a Pending Application

2a) If the answer to 1 is AU, CA, DI, MD, NT, OC or RE, provide the FCC Antenna Structure Registration (ASR) Number.	FCC ASR Number:
2b) If the answer to 1 is AM or WD, provide the File Number of the pending application on file.	File Number: **A1199648**
2c) If the answer to 1 is MD or NT, provide the date the Antenna Structure was constructed or the date it was last altered (mm/dd/yyyy).	Date:
2d) If the answer to 1 is DI, provide the date the Antenna Structure was dismantled (mm/dd/yyyy).	Date:

Antenna Structure Ownership Information

3) Select one of the entity types:

( ) Individual ( ) Unincorporated Association ( ) Trust ( ) Government Entity

(**X**) Corporation ( ) Limited Liability Company ( ) General Partnership ( ) Limited Partnership

( ) Consortium ( ) Limited Liability Partnership ( ) Other: _____

4) FCC Registration Number (FRN): **0003715919**		5) Assignor FCC Registration Number (FRN):	
6) First Name (if individual):	MI:	Last Name:	Suffix:
7) Legal Entity Name (if not an individual): **RURAL CELLULAR CORPORATION**			
8) Attention To: **Network Regulatory**		9) P.O. Box:	**And/Or**
10a) Street Address 1: **5055 North Point Pkwy**	10b) Street Address 2: **NP2NE Network Engineering**		
11) City: **Alpharetta**	12) State: **GA**	13) Zip Code: **30022**	
14) Telephone Number (xxx-xxx-xxxx): **(770) 797-1070**		15) Fax Number: (xxx-xxx-xxxx):	
16) E-mail Address: **NetworkRegulatory@VerizonWireless.com**			

Contact Representative Information

17) First Name (if individual): **Regulatory**	MI:	Last Name: **Manager**	Suffix:
18) Business Name: **RURAL CELLULAR CORPORATION**			
19) Attention To: **Network Regulatory**	20) P.O. Box		**And/Or**
21a) Street Address 1: **5055 North Point Pkwy**		21b) Street Address 2: **NP2NE Network Engineering**	
22) City: **Alpharetta**	23) State: **GA**	24) Zip Code: **30022**	
25) Telephone Number (xxx-xxx-xxxx): **(770) 797-1070**		26) Fax Number: (xxx-xxx-xxxx):	
27) E-mail Address: **NetworkRegulatory@VerizonWireless.com**			

Antenna Structure Information

28a) Latitude (DD-MM-SS.S): **37- 07- 05.7**		28b) North or South: **North**	
29a) Longitude (DDD-MM-SS.S): **084- 37- 53.7**		29b) East or West: **West**	
30) Street Address or Geographic Location: **1730 N Highway 27 (15287363)**		31) City: **Somerset**	
32) County: **PULASKI**	33) State: **KENTUCKY**	34) Zip Code: **42503**	
35) Elevation of site above mean sea level (meters):			**320.9** meters
36) Overall height above ground level (AGL) of the supporting structure without appurtenances:			**85.3** meters
37) Overall height above ground level (AGL) of the antenna structure including all appurtenances:			**86.8** meters
38) Overall height above mean sea level (add items 35 and 37 together):			**407.7** meters

39a) Enter the type of structure on which the antenna will be mounted: (**LTOWER**)

B – Building
BANT – Building with Antenna on Top
BMAST – Building with Mast
BPIPE – Building with Pipe
BPOLE – Building with Pole
BRIDG – Bridge
BTWR – Building with Tower
GTOWER – Guyed Structure Used For Communication Purposes
LTOWER – Lattice Tower
MAST – Mast
MTOWER – Monopole
NNGTANN – Guyed Tower Array
NNLTANN – Lattice Tower Array
NNMTANN – Monopole Array
PIPE – Any type of Pipe
POLE – Any type of Pole
RIG – Oil or Other Type of Rig
SIGN – Any type of Sign or Billboard
SILO – Any type of Silo
STACK – Smoke Stack
TANK – Any type of Tank (water, gas, etc.)
TREE – When used as a support for an antenna
UPOLE – Utility Pole/Tower used to provide service (electric, telephone, etc.)

39b) Number of Towers in Array:	39c) Position of this Tower in the Array:
40a) Array Center Latitude (DD-MM-SS.S):	40b) North or South
41a) Array Center Longitude (DDD-MM-SS.S):	41b) East or West:

Proposed Marking and/or Lighting

42) Enter the proposed marking and/or lighting: (7)
See Form 854 Item 42 Instructions for detailed tier and lighting information.

1) None
2) Paint Only
3) Other _____
4) FAA Style B
5) FAA Style D
6) FAA Style C
7) FAA Style E
8) FAA Style F
9) FAA Style A
10) FAA Style G

FAA Notification

43) FAA Study Number:	44) Date Issued:
2021-ASO-35726-OE	**10/15/2021**

Environmental Compliance

45) Does the applicant request a waiver of the Commission's rules for environmental notice prior to construction due to an emergency situation?	(**No**) Yes or No
46a) If the answer to 45 is No, is another federal agency taking responsibility for environmental review of the Antenna Structure?	(**No**) Yes or No
46b) If the answer to 46a is Yes, indicate why: 1) The Antenna Structure is on Federal Land and the landholding agency is taking responsibility for the environmental review of the Antenna Structure. 2) Another federal agency has agreed with the FCC in writing to take responsibility for the environmental review of the Antenna Structure.	( ) 1 or 2
46c) If the answer to 46a is Yes, provide the name of the federal agency taking responsibility for the environmental review of the Antenna Structure.	Name:
47) If the answers to 45 and 46a are No, provide the National Notice Date for the application to be posted on the FCC's website (mm/dd/yyyy).	Date: **09/29/2021**
48) Is the applicant submitting an environmental assessment?	(**No**) Yes or No
49) Does the applicant certify that grant of Authorizations at this location would not have a significant environmental effect pursuant to Section 1.1307 of the FCC's rules?	(**Yes**) Yes or No
50) If the answer to 49 is Yes, select the basis for this certification. 1) The construction is exempt from environmental notification (other than due to another agency's review) and it does not fall within one of the categories in Section 1.1307(a) or (b) of the FCC's rules? 2) The construction is exempt from environmental notification due to another agency's review, and the other agency has issued a Finding of No Significant Impact. 3) The environmental notification has been completed, and the FCC has notified the applicant that an Environmental Assessment is not required under Section 1.1307(c) or (d) of the FCC's rules, and the Construction does not fall within one of the categories in Section 1.1307(a) or (b) of the FCC's rules. 4) The FCC has issued a Finding of No Significant Impact.	(**3**) 1, 2, 3, 4
51) If the answer to 50 is 3 or 4, enter the date that Local Notice was provided (mm/dd/yyyy).	Date: **09/23/2021**

Certification Statements

1) The applicant certifies that all statements made in this application and in the exhibits, attachments, or documents incorporated by reference are material, are part of this application, and are true, complete, correct, and made in good faith.
2) The applicant certifies that neither the applicant nor any other party to the application is subject to a denial of Federal benefits pursuant to Section 5301 of the Anti-Drug Abuse Act of 1988, 21 U.S.C. § 862, because of a conviction for possession or distribution of a controlled substance. See Section 1.2002(b) of the rules, 47 CFR § 1.2002(b), for the definition of "party to the application" as used in this certification.

Signature (Typed or Printed Name of Party Authorized to Sign) (For OC Applications, to be completed by Assignee)

52) First Name: **Christophe**	MI:	Last Name: **Le Scanve**	Suffix:
53) Title: **Authorized Representative**			
54) Signature: **Christophe Le Scanve**			55) Date: **Dec 13, 2021**

Signature (Typed or Printed Name of Party Authorized to Sign) (For OC Applications, to be completed by Assignor)

56) First Name:	MI:	Last Name:	Suffix:
57) Title:			
58) Signature:			59) Date:

Federal Communications Commission

Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: CELLCO PARTNERSHIP

ATTN: REGULATORY
CELLCO PARTNERSHIP
5055 NORTH POINT PKWY, NP2NE NETWORK ENGINEERING
ALPHARETTA, GA 30022

Call Sign	File Number
WRNF549	
Radio Service PM - 3.7 GHz Service	

FCC Registration Number (FRN): 0003290673

Grant Date	Effective Date	Expiration Date	Print Date
07-23-2021	07-23-2021	07-23-2036	

Market Number	Channel Block	Sub-Market Designator
PEA096	A1	0

Market Name
Richmond, KY

1st Build-out Date	2nd Build-out Date	3rd Build-out Date	4th Build-out Date
07-23-2029	07-23-2033		

Waivers/Conditions:

This final license provides authorization during the full 15-year license term. Operation under this final license may begin on the earlier of (1) 12/5/2025 or (2) the date that the certification for accelerated relocation for this PEA is validated by the FCC pursuant to 47 CFR § 27.1412(g).

License is conditioned on compliance with all applicable FCC rules and regulations, including licensee making payments required by 47 C.F.R. §§ 27.1401- 27.1424 as described in FCC 20-22. See FCC 20-22, paras. 178-331.

Conditions:
Pursuant to §309(h) of the Communications Act of 1934, as amended, 47 U.S.C. §309(h), this license is subject to the following conditions: This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies designated in the license beyond the term thereof nor in any other manner than authorized herein. Neither the license nor the right granted thereunder shall be assigned or otherwise transferred in violation of the Communications Act of 1934, as amended. See 47 U.S.C. § 310(d). This license is subject in terms to the right of use or control conferred by §706 of the Communications Act of 1934, as amended. See 47 U.S.C. §606.

This license may not authorize operation throughout the entire geographic area or spectrum identified on the hardcopy version. To view the specific geographic area and spectrum authorized by this license, refer to the Spectrum and Market Area information under the Market Tab of the license record in the Universal Licensing System (ULS). To view the license record, go to the ULS homepage at http://wireless.fcc.gov/uls/index.htm?job=home and select "License Search". Follow the instructions on how to search for license information.

FCC 601-MB
August 2021

Licensee Name: CELLCO PARTNERSHIP

Call Sign: WRNF549 **File Number:** **Print Date:**

700 MHz Relicensed Area Information:

Market	Market Name	Buildout Deadline	Buildout Notification	Status

Federal Communications Commission

Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: CELLCO PARTNERSHIP

ATTN: REGULATORY
CELLCO PARTNERSHIP
5055 NORTH POINT PKWY, NP2NE NETWORK ENGINEERING
ALPHARETTA, GA 30022

Call Sign	File Number
WRNF554	

Radio Service
PM - 3.7 GHz Service

FCC Registration Number (FRN): 0003290673

Grant Date	Effective Date	Expiration Date	Print Date
07-23-2021	07-23-2021	07-23-2036	

Market Number	Channel Block	Sub-Market Designator
PEA096	B1	0

Market Name
Richmond, KY

1st Build-out Date	2nd Build-out Date	3rd Build-out Date	4th Build-out Date
07-23-2029	07-23-2033		

Waivers/Conditions:

This final license provides authorization during the full 15-year license term. Operation under this final license may begin on the earlier of (1) 12/5/2025 or (2) the date that the certification for accelerated relocation for this PEA is validated by the FCC pursuant to 47 CFR § 27.1412(g).

License is conditioned on compliance with all applicable FCC rules and regulations, including licensee making payments required by 47 C.F.R. §§ 27.1401- 27.1424 as described in FCC 20-22. See FCC 20-22, paras. 178-331.

Conditions:
Pursuant to §309(h) of the Communications Act of 1934, as amended, 47 U.S.C. §309(h), this license is subject to the following conditions: This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies designated in the license beyond the term thereof nor in any other manner than authorized herein. Neither the license nor the right granted thereunder shall be assigned or otherwise transferred in violation of the Communications Act of 1934, as amended. See 47 U.S.C. § 310(d). This license is subject in terms to the right of use or control conferred by §706 of the Communications Act of 1934, as amended. See 47 U.S.C. §606.

This license may not authorize operation throughout the entire geographic area or spectrum identified on the hardcopy version. To view the specific geographic area and spectrum authorized by this license, refer to the Spectrum and Market Area information under the Market Tab of the license record in the Universal Licensing System (ULS). To view the license record, go to the ULS homepage at http://wireless.fcc.gov/uls/index.htm?job=home and select "License Search". Follow the instructions on how to search for license information.

FCC 601-MB
August 2021

Licensee Name: CELLCO PARTNERSHIP

Call Sign: WRNF554 **File Number:** **Print Date:**

700 MHz Relicensed Area Information:

Market	Market Name	Buildout Deadline	Buildout Notification	Status

Federal Communications Commission

Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: CELLCO PARTNERSHIP

ATTN: REGULATORY
CELLCO PARTNERSHIP
5055 NORTH POINT PKWY, NP2NE ENGINEERING
ALPHARETTA, GA 30022

Call Sign	File Number
WREV444	0009262182
Radio Service UU - Upper Microwave Flexible Use Service	

FCC Registration Number (FRN): 0003290673

Grant Date	Effective Date	Expiration Date	Print Date
12-11-2019	01-13-2021	12-11-2029	03-11-2021

Market Number	Channel Block	Sub-Market Designator
PEA096	B	1

Market Name
Richmond, KY

1st Build-out Date	2nd Build-out Date	3rd Build-out Date	4th Build-out Date

Waivers/Conditions:

NONE

Conditions:

Pursuant to §309(h) of the Communications Act of 1934, as amended, 47 U.S.C. §309(h), this license is subject to the following conditions: This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies designated in the license beyond the term thereof nor in any other manner than authorized herein. Neither the license nor the right granted thereunder shall be assigned or otherwise transferred in violation of the Communications Act of 1934, as amended. See 47 U.S.C. § 310(d). This license is subject in terms to the right of use or control conferred by §706 of the Communications Act of 1934, as amended. See 47 U.S.C. §606.

This license may not authorize operation throughout the entire geographic area or spectrum identified on the hardcopy version. To view the specific geographic area and spectrum authorized by this license, refer to the Spectrum and Market Area information under the Market Tab of the license record in the Universal Licensing System (ULS). To view the license record, go to the ULS homepage at http://wireless.fcc.gov/uls/index.htm?job=home and select "License Search". Follow the instructions on how to search for license information.

Licensee Name: CELLCO PARTNERSHIP

Call Sign: WREV444 **File Number:** 0009262182 **Print Date:** 03-11-2021

700 MHz Relicensed Area Information:

Market	Market Name	Buildout Deadline	Buildout Notification	Status

Federal Communications Commission

Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: CELLCO PARTNERSHIP

ATTN: REGULATORY
CELLCO PARTNERSHIP
5055 NORTH POINT PKWY, NP2NE ENGINEERING
ALPHARETTA, GA 30022

Call Sign	File Number
WRHE833	0010283156
Radio Service UU - Upper Microwave Flexible Use Service	

FCC Registration Number (FRN): 0003290673

Grant Date	Effective Date	Expiration Date	Print Date
06-04-2020	11-18-2022	06-04-2030	03-15-2023

Market Number	Channel Block	Sub-Market Designator
PEA096	M1	0

Market Name
Richmond, KY

1st Build-out Date	2nd Build-out Date	3rd Build-out Date	4th Build-out Date

Waivers/Conditions:

NONE

Conditions:

Pursuant to §309(h) of the Communications Act of 1934, as amended, 47 U.S.C. §309(h), this license is subject to the following conditions: This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies designated in the license beyond the term thereof nor in any other manner than authorized herein. Neither the license nor the right granted thereunder shall be assigned or otherwise transferred in violation of the Communications Act of 1934, as amended. See 47 U.S.C. § 310(d). This license is subject in terms to the right of use or control conferred by §706 of the Communications Act of 1934, as amended. See 47 U.S.C. §606.

This license may not authorize operation throughout the entire geographic area or spectrum identified on the hardcopy version. To view the specific geographic area and spectrum authorized by this license, refer to the Spectrum and Market Area information under the Market Tab of the license record in the Universal Licensing System (ULS). To view the license record, go to the ULS homepage at http://wireless.fcc.gov/uls/index.htm?job=home and select "License Search". Follow the instructions on how to search for license information.

Licensee Name: CELLCO PARTNERSHIP

Call Sign: WRHE833 **File Number:** 0010283156 **Print Date:** 03-15-2023

700 MHz Relicensed Area Information:

Market	Market Name	Buildout Deadline	Buildout Notification	Status

Federal Communications Commission

Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: CELLCO PARTNERSHIP

ATTN: REGULATORY
CELLCO PARTNERSHIP
5055 NORTH POINT PKWY, NP2NE ENGINEERING
ALPHARETTA, GA 30022

Call Sign	File Number
WPZX945	0009262040
Radio Service CW - PCS Broadband	

FCC Registration Number (FRN): 0003290673

Grant Date	Effective Date	Expiration Date	Print Date
09-06-2019	01-13-2021	09-29-2029	03-10-2021

Market Number	Channel Block	Sub-Market Designator
BTA423	C	2

Market Name
Somerset, KY

1st Build-out Date	2nd Build-out Date	3rd Build-out Date	4th Build-out Date
09-29-2004	09-29-2009		

Waivers/Conditions:

This authorization is subject to the condition that, in the event that systems using the same frequencies as granted herein are authorized in an adjacent foreign territory (Canada/United States), future coordination of any base station transmitters within 72 km (45 miles) of the United States/Canada border shall be required to eliminate any harmful interference to operations in the adjacent foreign territory and to ensure continuance of equal access to the frequencies by both countries.

Conditions:
Pursuant to §309(h) of the Communications Act of 1934, as amended, 47 U.S.C. §309(h), this license is subject to the following conditions: This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies designated in the license beyond the term thereof nor in any other manner than authorized herein. Neither the license nor the right granted thereunder shall be assigned or otherwise transferred in violation of the Communications Act of 1934, as amended. See 47 U.S.C. § 310(d). This license is subject in terms to the right of use or control conferred by §706 of the Communications Act of 1934, as amended. See 47 U.S.C. §606.

This license may not authorize operation throughout the entire geographic area or spectrum identified on the hardcopy version. To view the specific geographic area and spectrum authorized by this license, refer to the Spectrum and Market Area information under the Market Tab of the license record in the Universal Licensing System (ULS). To view the license record, go to the ULS homepage at http://wireless.fcc.gov/uls/index.htm?job=home and select "License Search". Follow the instructions on how to search for license information.

FCC 601-MB
August 2021

Licensee Name: CELLCO PARTNERSHIP

Call Sign: WPZX945 **File Number:** 0009262040 **Print Date:** 03-10-2021

700 MHz Relicensed Area Information:

Market	Market Name	Buildout Deadline	Buildout Notification	Status

Federal Communications Commission

Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: CELLCO PARTNERSHIP

CELLCO PARTNERSHIP
5055 NORTH POINT PKWY, NP2NE NETWORK ENGINEERING
ALPHARETTA, GA 30022

Call Sign	File Number
WQGA940	0009774996
Radio Service AW - AWS (1710-1755 MHz and 2110-2155 MHz)	

FCC Registration Number (FRN): 0003290673

Grant Date	Effective Date	Expiration Date	Print Date
12-21-2021	12-21-2021	11-29-2036	12-21-2021

Market Number	Channel Block	Sub-Market Designator
BEA047	B	11

Market Name
Lexington, KY-TN-VA-WV

1st Build-out Date	2nd Build-out Date	3rd Build-out Date	4th Build-out Date

Waivers/Conditions:

This authorization is conditioned upon the licensee, prior to initiating operations from any base or fixed station, making reasonable efforts to coordinate frequency usage with known co-channel and adjacent channel incumbent federal users operating in the 1710-1755 MHz band whose facilities could be affected by the proposed operations. See, e.g., FCC and NTIA Coordination Procedures in the 1710-1755 MHz Band, Public Notice, FCC 06-50, WTB Docket No. 02-353, rel. April 20, 2006.

Conditions:
Pursuant to §309(h) of the Communications Act of 1934, as amended, 47 U.S.C. §309(h), this license is subject to the following conditions: This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies designated in the license beyond the term thereof nor in any other manner than authorized herein. Neither the license nor the right granted thereunder shall be assigned or otherwise transferred in violation of the Communications Act of 1934, as amended. See 47 U.S.C. § 310(d). This license is subject in terms to the right of use or control conferred by §706 of the Communications Act of 1934, as amended. See 47 U.S.C. §606.

This license may not authorize operation throughout the entire geographic area or spectrum identified on the hardcopy version. To view the specific geographic area and spectrum authorized by this license, refer to the Spectrum and Market Area information under the Market Tab of the license record in the Universal Licensing System (ULS). To view the license record, go to the ULS homepage at http://wireless.fcc.gov/uls/index.htm?job=home and select "License Search". Follow the instructions on how to search for license information.

Licensee Name: CELLCO PARTNERSHIP

Call Sign: WQGA940 **File Number:** 0009774996 **Print Date:** 12-21-2021

700 MHz Relicensed Area Information:

Market	Market Name	Buildout Deadline	Buildout Notification	Status

Federal Communications Commission

Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: CELLCO PARTNERSHIP

ATTN: REGULATORY
CELLCO PARTNERSHIP
5055 NORTH POINT PKWY, NP2NE NETWORK ENGINEERING
ALPHARETTA, GA 30022

Call Sign	File Number
WQJQ692	

Radio Service
WU - 700 MHz Upper Band (Block C)

FCC Registration Number (FRN): 0003290673

Grant Date	Effective Date	Expiration Date	Print Date
01-10-2020	02-11-2021	06-13-2029	

Market Number	Channel Block	Sub-Market Designator
REA004	C	0

Market Name
Mississippi Valley

1st Build-out Date	2nd Build-out Date	3rd Build-out Date	4th Build-out Date
06-13-2013	06-13-2019		

Waivers/Conditions:

If the facilities authorized herein are used to provide broadcast operations, whether exclusively or in combination with other services, the licensee must seek renewal of the license either within eight years from the commencement of the broadcast service or within the term of the license had the broadcast service not been provided, whichever period is shorter in length. See 47 CFR §27.13(b).

This authorization is conditioned upon compliance with section 27.16 of the Commission's rules

Conditions:
Pursuant to §309(h) of the Communications Act of 1934, as amended, 47 U.S.C. §309(h), this license is subject to the following conditions: This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies designated in the license beyond the term thereof nor in any other manner than authorized herein. Neither the license nor the right granted thereunder shall be assigned or otherwise transferred in violation of the Communications Act of 1934, as amended. See 47 U.S.C. § 310(d). This license is subject in terms to the right of use or control conferred by §706 of the Communications Act of 1934, as amended. See 47 U.S.C. §606.

This license may not authorize operation throughout the entire geographic area or spectrum identified on the hardcopy version. To view the specific geographic area and spectrum authorized by this license, refer to the Spectrum and Market Area information under the Market Tab of the license record in the Universal Licensing System (ULS). To view the license record, go to the ULS homepage at http://wireless.fcc.gov/uls/index.htm?job=home and select "License Search". Follow the instructions on how to search for license information.

FCC 601-MB
August 2021

Licensee Name: CELLCO PARTNERSHIP

Call Sign: WQJQ692 **File Number:** **Print Date:**

700 MHz Relicensed Area Information:

Market	Market Name	Buildout Deadline	Buildout Notification	Status

Federal Communications Commission

Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: RURAL CELLULAR CORPORATION

ATTN: REGULATORY
RURAL CELLULAR CORPORATION
5055 NORTH POINT PKWY, NP2NE NETWORK ENGINEERING
ALPHARETTA, GA 30022

Call Sign	File Number
WQUZ670	
Radio Service AW - AWS (1710-1755 MHz and 2110-2155 MHz)	

FCC Registration Number (FRN): 0003715919

Grant Date	Effective Date	Expiration Date	Print Date
11-16-2021	09-23-2022	11-29-2036	02-16-2023

Market Number	Channel Block	Sub-Market Designator
REA004	D	10

Market Name
Mississippi Valley

1st Build-out Date	2nd Build-out Date	3rd Build-out Date	4th Build-out Date

Waivers/Conditions:

This authorization is conditioned upon the licensee, prior to initiating operations from any base or fixed station, making reasonable efforts to coordinate frequency usage with known co-channel and adjacent channel incumbent federal users operating in the 1710-1755 MHz band whose facilities could be affected by the proposed operations. See, e.g., FCC and NTIA Coordination Procedures in the 1710-1755 MHz Band, Public Notice, FCC 06-50, WTB Docket No. 02-353, rel. April 20, 2006.

Conditions:
Pursuant to §309(h) of the Communications Act of 1934, as amended, 47 U.S.C. §309(h), this license is subject to the following conditions: This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies designated in the license beyond the term thereof nor in any other manner than authorized herein. Neither the license nor the right granted thereunder shall be assigned or otherwise transferred in violation of the Communications Act of 1934, as amended. See 47 U.S.C. § 310(d). This license is subject in terms to the right of use or control conferred by §706 of the Communications Act of 1934, as amended. See 47 U.S.C. §606.

This license may not authorize operation throughout the entire geographic area or spectrum identified on the hardcopy version. To view the specific geographic area and spectrum authorized by this license, refer to the Spectrum and Market Area information under the Market Tab of the license record in the Universal Licensing System (ULS). To view the license record, go to the ULS homepage at http://wireless.fcc.gov/uls/index.htm?job=home and select "License Search". Follow the instructions on how to search for license information.

FCC 601-MB
August 2021

The license is subject to compliance with the provisions of the January 12, 2001 Agreement between Deutsche Telekom AG, VoiceStream Wireless Corporation, VoiceStream Wireless Holding Corporation and the Department of Justice (DOJ) and the Federal Bureau of Investigation (FBI), which addresses national security, law enforcement, and public safety issues of the FBI and the DOJ regarding the authority granted by this license. Nothing in the Agreement is intended to limit any obligation imposed by Federal lawor regulation including, but not limited to, 47 U.S.C. Section 222(a) and (c)(1) and the FCC's implementing regulations. The Agreement is published at VoiceStream-DT Order, IB Docket No. 00-187, FCC 01-142, 16 FCC Rcd 9779, 9853 (2001).

Licensee Name: RURAL CELLULAR CORPORATION

Call Sign: WQUZ670 **File Number:** **Print Date:** 02-16-2023

700 MHz Relicensed Area Information:

Market	Market Name	Buildout Deadline	Buildout Notification	Status

Federal Communications Commission

Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: CELLCO PARTNERSHIP

ATTN: REGULATORY
CELLCO PARTNERSHIP
5055 NORTH POINT PKWY, NP2NE ENGINEERING
ALPHARETTA, GA 30022

Call Sign	File Number
WRAM732	0009262182

Radio Service
WT - 600 MHz Band

FCC Registration Number (FRN): 0003290673

Grant Date	Effective Date	Expiration Date	Print Date
01-09-2018	01-13-2021	01-09-2030	03-11-2021

Market Number	Channel Block	Sub-Market Designator
PEA096	A	1

Market Name
Richmond, KY

1st Build-out Date	2nd Build-out Date	3rd Build-out Date	4th Build-out Date
01-09-2024			

Waivers/Conditions:

NONE

Conditions:

Pursuant to §309(h) of the Communications Act of 1934, as amended, 47 U.S.C. §309(h), this license is subject to the following conditions: This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies designated in the license beyond the term thereof nor in any other manner than authorized herein. Neither the license nor the right granted thereunder shall be assigned or otherwise transferred in violation of the Communications Act of 1934, as amended. See 47 U.S.C. § 310(d). This license is subject in terms to the right of use or control conferred by §706 of the Communications Act of 1934, as amended. See 47 U.S.C. §606.

This license may not authorize operation throughout the entire geographic area or spectrum identified on the hardcopy version. To view the specific geographic area and spectrum authorized by this license, refer to the Spectrum and Market Area information under the Market Tab of the license record in the Universal Licensing System (ULS). To view the license record, go to the ULS homepage at http://wireless.fcc.gov/uls/index.htm?job=home and select "License Search". Follow the instructions on how to search for license information.

FCC 601-MB
August 2021

Licensee Name: CELLCO PARTNERSHIP

Call Sign: WRAM732 **File Number:** 0009262182 **Print Date:** 03-11-2021

700 MHz Relicensed Area Information:

Market	Market Name	Buildout Deadline	Buildout Notification	Status

Federal Communications Commission

Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: CELLCO PARTNERSHIP

ATTN: REGULATORY
CELLCO PARTNERSHIP
5055 NORTH POINT PKWY, NP2NE ENGINEERING
ALPHARETTA, GA 30022

Call Sign	File Number
WRBA638	0010283156
Radio Service UU - Upper Microwave Flexible Use Service	

FCC Registration Number (FRN): 0003290673

Grant Date	Effective Date	Expiration Date	Print Date
09-07-2018	11-18-2022	09-21-2028	03-15-2023

Market Number	Channel Block	Sub-Market Designator
BTA423	L1	0

Market Name
Somerset, KY

1st Build-out Date	2nd Build-out Date	3rd Build-out Date	4th Build-out Date
06-01-2024			

Waivers/Conditions:

NONE

Conditions:

Pursuant to §309(h) of the Communications Act of 1934, as amended, 47 U.S.C. §309(h), this license is subject to the following conditions: This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies designated in the license beyond the term thereof nor in any other manner than authorized herein. Neither the license nor the right granted thereunder shall be assigned or otherwise transferred in violation of the Communications Act of 1934, as amended. See 47 U.S.C. § 310(d). This license is subject in terms to the right of use or control conferred by §706 of the Communications Act of 1934, as amended. See 47 U.S.C. §606.

This license may not authorize operation throughout the entire geographic area or spectrum identified on the hardcopy version. To view the specific geographic area and spectrum authorized by this license, refer to the Spectrum and Market Area information under the Market Tab of the license record in the Universal Licensing System (ULS). To view the license record, go to the ULS homepage at http://wireless.fcc.gov/uls/index.htm?job=home and select "License Search". Follow the instructions on how to search for license information.

Licensee Name: CELLCO PARTNERSHIP

Call Sign: WRBA638 **File Number:** 0010283156 **Print Date:** 03-15-2023

700 MHz Relicensed Area Information:

Market	Market Name	Buildout Deadline	Buildout Notification	Status

Federal Communications Commission

Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: CELLCO PARTNERSHIP

ATTN: REGULATORY
CELLCO PARTNERSHIP
5055 NORTH POINT PKWY, NP2NE ENGINEERING
ALPHARETTA, GA 30022

Call Sign	File Number
WRBA639	0010283156
Radio Service UU - Upper Microwave Flexible Use Service	

FCC Registration Number (FRN): 0003290673

Grant Date	Effective Date	Expiration Date	Print Date
09-07-2018	11-18-2022	09-21-2028	03-15-2023

Market Number	Channel Block	Sub-Market Designator
BTA423	L2	0

Market Name
Somerset, KY

1st Build-out Date	2nd Build-out Date	3rd Build-out Date	4th Build-out Date
06-01-2024			

Waivers/Conditions:

NONE

Conditions:

Pursuant to §309(h) of the Communications Act of 1934, as amended, 47 U.S.C. §309(h), this license is subject to the following conditions: This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies designated in the license beyond the term thereof nor in any other manner than authorized herein. Neither the license nor the right granted thereunder shall be assigned or otherwise transferred in violation of the Communications Act of 1934, as amended. See 47 U.S.C. § 310(d). This license is subject in terms to the right of use or control conferred by §706 of the Communications Act of 1934, as amended. See 47 U.S.C. §606.

This license may not authorize operation throughout the entire geographic area or spectrum identified on the hardcopy version. To view the specific geographic area and spectrum authorized by this license, refer to the Spectrum and Market Area information under the Market Tab of the license record in the Universal Licensing System (ULS). To view the license record, go to the ULS homepage at http://wireless.fcc.gov/uls/index.htm?job=home and select "License Search". Follow the instructions on how to search for license information.

Licensee Name: CELLCO PARTNERSHIP

Call Sign: WRBA639 **File Number:** 0010283156 **Print Date:** 03-15-2023

700 MHz Relicensed Area Information:

Market	Market Name	Buildout Deadline	Buildout Notification	Status

Federal Communications Commission

Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: CELLCO PARTNERSHIP

ATTN: REGULATORY
CELLCO PARTNERSHIP
5055 NORTH POINT PKWY, NP2NE ENGINEERING
ALPHARETTA, GA 30022

Call Sign	File Number
WREV443	0009262182
Radio Service UU - Upper Microwave Flexible Use Service	

FCC Registration Number (FRN): 0003290673

Grant Date	Effective Date	Expiration Date	Print Date
12-11-2019	01-13-2021	12-11-2029	03-11-2021

Market Number	Channel Block	Sub-Market Designator
PEA096	A	3

Market Name
Richmond, KY

1st Build-out Date	2nd Build-out Date	3rd Build-out Date	4th Build-out Date

Waivers/Conditions:

NONE

Conditions:

Pursuant to §309(h) of the Communications Act of 1934, as amended, 47 U.S.C. §309(h), this license is subject to the following conditions: This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies designated in the license beyond the term thereof nor in any other manner than authorized herein. Neither the license nor the right granted thereunder shall be assigned or otherwise transferred in violation of the Communications Act of 1934, as amended. See 47 U.S.C. § 310(d). This license is subject in terms to the right of use or control conferred by §706 of the Communications Act of 1934, as amended. See 47 U.S.C. §606.

This license may not authorize operation throughout the entire geographic area or spectrum identified on the hardcopy version. To view the specific geographic area and spectrum authorized by this license, refer to the Spectrum and Market Area information under the Market Tab of the license record in the Universal Licensing System (ULS). To view the license record, go to the ULS homepage at http://wireless.fcc.gov/uls/index.htm?job=home and select "License Search". Follow the instructions on how to search for license information.

Licensee Name: CELLCO PARTNERSHIP

Call Sign: WREV443 **File Number:** 0009262182 **Print Date:** 03-11-2021

700 MHz Relicensed Area Information:

Market	Market Name	Buildout Deadline	Buildout Notification	Status

Federal Communications Commission

Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: RURAL CELLULAR CORPORATION

ATTN: REGULATORY
RURAL CELLULAR CORPORATION
5055 NORTH POINT PKWY, NP2NE NETWORK ENGINEERING
ALPHARETTA, GA 30022

Call Sign	File Number
WRWF636	0010160917
Radio Service AW - AWS (1710-1755 MHz and 2110-2155 MHz)	

FCC Registration Number (FRN): 0003715919

Grant Date	Effective Date	Expiration Date	Print Date
09-23-2022	09-23-2022	12-18-2036	02-16-2023

Market Number	Channel Block	Sub-Market Designator
BEA047	C	14

Market Name
Lexington, KY-TN-VA-WV

1st Build-out Date	2nd Build-out Date	3rd Build-out Date	4th Build-out Date

Waivers/Conditions:

This authorization is conditioned upon the licensee, prior to initiating operations from any base or fixed station, making reasonable efforts to coordinate frequency usage with known co-channel and adjacent channel incumbent federal users operating in the 1710-1755 MHz band whose facilities could be affected by the proposed operations. See, e.g., FCC and NTIA Coordination Procedures in the 1710-1755 MHz Band, Public Notice, FCC 06-50, WTB Docket No. 02-353, rel. April 20, 2006.

Special Condition for AU/name change (6/4/2016): Grant of the request to update licensee name is conditioned on it not reflecting an assignment or transfer of control (see Rule 1.948); if an assignment or transfer occurred without proper notification or FCC approval, the grant is void and the station is licensed under the prior name.

Conditions:
Pursuant to §309(h) of the Communications Act of 1934, as amended, 47 U.S.C. §309(h), this license is subject to the following conditions: This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies designated in the license beyond the term thereof nor in any other manner than authorized herein. Neither the license nor the right granted thereunder shall be assigned or otherwise transferred in violation of the Communications Act of 1934, as amended. See 47 U.S.C. § 310(d). This license is subject in terms to the right of use or control conferred by §706 of the Communications Act of 1934, as amended. See 47 U.S.C. §606.

This license may not authorize operation throughout the entire geographic area or spectrum identified on the hardcopy version. To view the specific geographic area and spectrum authorized by this license, refer to the Spectrum and Market Area information under the Market Tab of the license record in the Universal Licensing System (ULS). To view the license record, go to the ULS homepage at http://wireless.fcc.gov/uls/index.htm?job=home and select "License Search". Follow the instructions on how to search for license information.

FCC 601-MB
August 2021

Licensee Name: RURAL CELLULAR CORPORATION

Call Sign: WRWF636 **File Number:** 0010160917 **Print Date:** 02-16-2023

700 MHz Relicensed Area Information:

Market	Market Name	Buildout Deadline	Buildout Notification	Status

Federal Communications Commission
Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: RURAL CELLULAR CORPORATION

ATTN: REGULATORY
RURAL CELLULAR CORPORATION
5055 NORTH POINT PKWY, NP2NE NETWORK ENGINEERING
ALPHARETTA, GA 30022

Call Sign	File Number
KNKN940	0009139416
Radio Service CL - Cellular	
Market Numer CMA448	**Channel Block** A
Sub-Market Designator 0	

FCC Registration Number (FRN): 0003715919

Market Name
Kentucky 6 - Madison

Grant Date	Effective Date	Expiration Date	Five Yr Build-Out Date	Print Date
09-01-2020	09-01-2020	10-01-2030		09-01-2020

Site Information:

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
1	37-42-55.3 N	084-16-14.8 W			

Address: WEST OF US-25 1.2 MILES SOUTH OF INTERSECTION OF US-25 & SR-876
City: RICHMOND **County:** MADISON **State:** KY **Construction Deadline:**

Antenna: 1
Maximum Transmitting ERP in Watts: 115.000

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	137.000	130.000	127.000	93.000	96.000	102.000	124.000	114.000
Transmitting ERP (watts)	74.000	74.000	74.000	74.000	74.000	74.000	74.000	74.000

Conditions:
Pursuant to §309(h) of the Communications Act of 1934, as amended, 47 U.S.C. §309(h), this license is subject to the following conditions: This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies designated in the license beyond the term thereof nor in any other manner than authorized herein. Neither the license nor the right granted thereunder shall be assigned or otherwise transferred in violation of the Communications Act of 1934, as amended. See 47 U.S.C. § 310(d). This license is subject in terms to the right of use or control conferred by §706 of the Communications Act of 1934, as amended. See 47 U.S.C. §606.

FCC 601-C
March 2018

Licensee Name: RURAL CELLULAR CORPORATION

Call Sign: KNKN940 **File Number:** 0009139416 **Print Date:** 09-01-2020

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
2	37-25-40.3 N	084-21-51.8 W			

Address: ON LEAR KNOB 3 MILES NW OF
City: BRODHEAD **County:** ROCKCASTLE **State:** KY C**onstruction Deadline:**

Antenna: 1
Maximum Transmitting ERP in Watts: 175.000

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	198.000	128.000	158.000	168.000	166.000	183.000	199.000	202.000
Transmitting ERP (watts)	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
3	37-17-21.3 N	084-15-51.8 W	430.0		

Address: ON SAND HILL 2.6 MILES SOUTHWEST OF
City: LIVINGSTON **County:** ROCKCASTLE **State:** KY C**onstruction Deadline:**

Antenna: 1
Maximum Transmitting ERP in Watts: 172.000

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	175.000	144.000	190.000	181.000	192.000	185.000	167.000	141.000
Transmitting ERP (watts)	47.000	22.000	19.000	41.000	90.000	114.000	120.000	102.000

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
4	37-08-57.3 N	084-05-58.8 W	408.0		

Address: 1 MILE NORTH OF
City: LONDON **County:** LAUREL **State:** KY C**onstruction Deadline:**

Antenna: 1
Maximum Transmitting ERP in Watts: 138.000

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	139.000	161.000	113.000	124.000	135.000	153.000	127.000	152.000
Transmitting ERP (watts)	40.000	34.000	54.000	128.000	146.000	137.000	146.000	95.000

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
5	37-36-05.3 N	084-39-36.8 W			

Address: 4 MILES SOUTHWEST OF
City: LANCASTER **County:** LINCOLN **State:** KY C**onstruction Deadline:**

Antenna: 1
Maximum Transmitting ERP in Watts: 128.000

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	139.000	148.000	120.000	148.000	104.000	119.000	100.000	148.000
Transmitting ERP (watts)	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000

Licensee Name: RURAL CELLULAR CORPORATION

Call Sign: KNKN940 **File Number:** 0009139416 **Print Date:** 09-01-2020

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
7	37-01-05.3 N	084-34-53.8 W			

Address: Hilltop, 2.2 miles NNE of
City: Burnside **County:** PULASKI **State:** KY C**onstruction Deadline:**

Antenna: 1
Maximum Transmitting ERP in Watts: 196.000

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	183.000	178.000	176.000	206.000	210.000	185.000	219.000	211.000
Transmitting ERP (watts)	0.310	0.160	0.170	0.190	16.270	73.910	75.320	20.900

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
8	37-38-52.6 N	084-47-12.9 W	297.5	91.4	1043353

Address: 211 FOREST AVENUE
City: DANVILLE **County:** BOYLE **State:** KY C**onstruction Deadline:**

Antenna: 1
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	88.800	101.000	95.900	80.700	60.400	47.100	83.700	90.000
Transmitting ERP (watts)	51.720	51.720	51.720	51.720	51.340	51.720	51.720	51.720

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
9	37-52-45.3 N	084-19-32.8 W	277.0		

Address: 0.45 MILES NORTHEAST OF INTERSECTION OF I-75 & US-25/421 1 MILE ESE OF
City: CLAYS FERRY **County:** CLARK **State:** KY C**onstruction Deadline:**

Antenna: 1
Maximum Transmitting ERP in Watts: 109.000

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	92.000	122.000	158.000	111.000	90.000	121.000	102.000	77.000
Transmitting ERP (watts)	1.120	6.920	58.880	100.000	100.000	91.200	22.390	0.930

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
12	37-21-22.3 N	084-55-12.8 W	336.0		

Address: On ridge 2 3/4 miles north-notheast of the town of liberty
City: Liberty **County:** CASEY **State:** KY C**onstruction Deadline:**

Antenna: 1
Maximum Transmitting ERP in Watts: 140.000

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	117.000	132.000	144.000	114.000	152.000	158.000	146.000	159.000
Transmitting ERP (watts)	75.000	75.000	75.000	75.000	75.000	75.000	75.000	75.000

Licensee Name: RURAL CELLULAR CORPORATION

Call Sign: KNKN940 **File Number:** 0009139416 **Print Date:** 09-01-2020

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
13	36-59-59.6 N	084-06-05.0 W	366.6	91.1	1002550

Address: (South Laurel site) 1652 N Highway 1223
City: CORBIN **County:** LAUREL **State:** KY **Construction Deadline:**

Antenna: 1
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	86.400	105.600	85.200	78.500	62.400	109.200	104.200	101.600
Transmitting ERP (watts)	60.890	180.300	71.530	58.190	0.640	0.640	0.640	4.200

Antenna: 2
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	86.400	105.600	85.200	78.500	62.400	109.200	104.200	101.600
Transmitting ERP (watts)	0.580	0.580	0.720	3.690	4.920	4.620	2.530	0.580

Antenna: 3
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	86.400	105.600	85.200	78.500	62.400	109.200	104.200	101.600
Transmitting ERP (watts)	46.980	2.590	0.640	0.640	0.640	8.220	89.280	172.970

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
14	37-46-29.3 N	084-19-15.8 W	287.4		

Address: MTSO CELL SITE: 124 S. KEENELAND DR
City: RICHMOND **County:** MADISON **State:** KY **Construction Deadline:**

Antenna: 1
Maximum Transmitting ERP in Watts: 186.000

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	46.600	70.700	52.500	32.100	28.400	45.800	59.500	44.500
Transmitting ERP (watts)	88.000	181.800	171.600	177.600	162.000	53.600	17.200	19.000

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
16	37-32-51.3 N	084-19-58.8 W	378.0		

Address: BEREA CELL SITE: 3.5 KILOMETERS SOUTHWEST OF
City: BEREA **County:** MADISON **State:** KY **Construction Deadline:**

Antenna: 1
Maximum Transmitting ERP in Watts: 100.000

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	173.900	164.000	127.800	71.600	126.700	133.400	156.000	194.700
Transmitting ERP (watts)	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000

Licensee Name: RURAL CELLULAR CORPORATION

Call Sign: KNKN940 **File Number:** 0009139416 **Print Date:** 09-01-2020

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
17	37-04-42.3 N	084-48-36.8 W	366.3	91.1	1203424

Address: 3.4 miles East of Nancy, KY

City: Nancy **County:** PULASKI **State:** KY **Construction Deadline:**

Antenna: 1

Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	120.400	163.100	170.400	196.600	188.000	195.900	164.000	150.900
Transmitting ERP (watts)	29.000	29.000	29.000	29.000	29.000	29.000	29.000	29.000

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
18	37-38-56.9 N	084-57-46.2 W	289.0	48.2	

Address: Perryville Cell Site: 710 Cox Street

City: Perryville **County:** BOYLE **State:** KY **Construction Deadline:**

Antenna: 1

Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	90.100	62.100	41.400	-1.800	24.600	40.300	71.100	64.200
Transmitting ERP (watts)	99.100	143.700	70.200	6.300	0.400	0.400	0.500	14.200

Antenna: 2

Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	90.100	62.100	41.400	-1.800	24.600	40.300	71.100	64.200
Transmitting ERP (watts)	0.400	1.600	33.200	128.600	132.400	39.100	2.200	0.400

Antenna: 3

Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	90.100	62.100	41.400	-1.800	24.600	40.300	71.100	64.200
Transmitting ERP (watts)	9.000	0.400	0.400	0.400	10.400	87.000	143.500	82.100

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
19	37-06-10.0 N	084-35-45.0 W	388.0	91.4	1043625

Address: (Somerset site) 500 Rock Query Road

City: SOMERSET **County:** PULASKI **State:** KY **Construction Deadline:** 05-30-2014

Antenna: 1

Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	159.200	158.600	169.600	169.900	213.500	200.800	177.700	154.800
Transmitting ERP (watts)	110.230	148.690	21.490	0.730	0.400	0.330	0.450	7.630

Antenna: 3

Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	159.200	158.600	169.600	169.900	213.500	200.800	177.700	154.800
Transmitting ERP (watts)	0.330	0.620	0.330	0.330	2.050	69.550	163.040	61.990

Licensee Name: RURAL CELLULAR CORPORATION

Call Sign: KNKN940 **File Number:** 0009139416 **Print Date:** 09-01-2020

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
19	37-06-10.0 N	084-35-45.0 W	388.0	91.4	1043625

Address: (Somerset site) 500 Rock Query Road

City: SOMERSET **County:** PULASKI **State:** KY **Construction Deadline:** 05-30-2014

Antenna: 4

Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	159.200	158.600	169.600	169.900	213.500	200.800	177.700	154.800
Transmitting ERP (watts)	0.330	0.580	29.670	145.310	107.720	4.290	0.590	0.330

Control Points:

Control Pt. No. 2

Address: 500 W Dove Rd

City: Southlake **County:** TARRANT **State:** TX **Telephone Number:** (800)264-6620

Waivers/Conditions:

NONE

Federal Communications Commission

Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: CELLCO PARTNERSHIP

ATTN: REGULATORY
CELLCO PARTNERSHIP
5055 NORTH POINT PKWY, NP2NE ENGINEERING
ALPHARETTA, GA 30022

Call Sign	File Number
WPOK659	0010160394
Radio Service CW - PCS Broadband	

FCC Registration Number (FRN): 0003290673

Grant Date	Effective Date	Expiration Date	Print Date
09-12-2019	09-23-2022	09-29-2029	02-10-2023

Market Number	Channel Block	Sub-Market Designator
BTA423	C	1

Market Name
Somerset, KY

1st Build-out Date	2nd Build-out Date	3rd Build-out Date	4th Build-out Date
09-29-2004	09-29-2009		

Waivers/Conditions:

This authorization is subject to the condition that, in the event that systems using the same frequencies as granted herein are authorized in an adjacent foreign territory (Canada/United States), future coordination of any base station transmitters within 72 km (45 miles) of the United States/Canada border shall be required to eliminate any harmful interference to operations in the adjacent foreign territory and to ensure continuance of equal access to the frequencies by both countries.

Conditions:
Pursuant to §309(h) of the Communications Act of 1934, as amended, 47 U.S.C. §309(h), this license is subject to the following conditions: This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies designated in the license beyond the term thereof nor in any other manner than authorized herein. Neither the license nor the right granted thereunder shall be assigned or otherwise transferred in violation of the Communications Act of 1934, as amended. See 47 U.S.C. § 310(d). This license is subject in terms to the right of use or control conferred by §706 of the Communications Act of 1934, as amended. See 47 U.S.C. §606.

This license may not authorize operation throughout the entire geographic area or spectrum identified on the hardcopy version. To view the specific geographic area and spectrum authorized by this license, refer to the Spectrum and Market Area information under the Market Tab of the license record in the Universal Licensing System (ULS). To view the license record, go to the ULS homepage at http://wireless.fcc.gov/uls/index.htm?job=home and select "License Search". Follow the instructions on how to search for license information.

FCC 601-MB
August 2021

Licensee Name: CELLCO PARTNERSHIP

Call Sign: WPOK659 **File Number:** 0010160394 **Print Date:** 02-10-2023

700 MHz Relicensed Area Information:

Market	Market Name	Buildout Deadline	Buildout Notification	Status

LV NW SOMERSET

1730 N HIGHWAY 27
SOMERSET, KY 42503
PULASKI COUNTY

TOWER OWNER: VERTICAL BRIDGE
VERTICAL BRIDGE SITE NAME: LV NW SOMERSET
VERTICAL BRIDGE SITE #: US-KY-5176

NEW 280'-0" SELF SUPPORT TOWER w/5'-0" LIGHTNING ARRESTOR - TOTAL TOWER HEIGHT 285'-0"

FROM PULASKI COUNTY JUDGE: 100 N MAIN ST #202, SOMERSET, KY 42501: HEAD SOUTH TOWARD W MT VERNON ST (92 FT). TURN RIGHT ONTO W MT VERNON ST (0.2 MI). CONTINUE ONTO OHIO ST (0.2 MI). CONTINUE ONTO OGDEN ST (0.5 MI). TURN RIGHT ONTO US-27 N (1.8 MI). TURN RIGHT INTO PARKING LOT (302 FT). SITE WILL BE LOCATED ON LEFT (NORTH) SIDE OF ROAD.

FROM LOUISVILLE MTSO: 2421 HOLLOWAY ROAD LOUISVILLE, KY 40299: HEAD SOUTH ON HOLLOWAY RD TOWARD PLANTSIDE DR (0.1 MI). TURN LEFT AT THE 1ST CROSS STREET ONTO PLANTSIDE DR (0.9 MI). USE THE LEFT 2 LANES TO TURN LEFT ONTO BLANKENBAKER PKWY (0.7 MI). USE THE RIGHT LANE TO TAKE THE RAMP ONTO I-64 E (0.5 MI). MERGE ONTO I-64 E (30.0 MI). TAKE EXIT 48 TOWARD LAWRENCEBURG (0.3 MI). MERGE ONTO KY-151 S (6.6 MI). TURN RIGHT ONTO US-127 S (20.3 MI). USE THE LEFT 2 LANES TO TURN LEFT ONTO US-127 BYP S (4.5 MI). USE ANY LANE TO TURN LEFT ONTO S-127 S (4.8 MI). CONTINUE ONTO US-127 BYP S (5.3 MI). CONTINUE ONTO US-150 BYP S/S DANVILLE BYPASS (2.3 MI). CONTINUE ONTO US-150 E (7.5 MI). TURN RIGHT ONTO US-27 S (30.4 MI).TURN LEFT INTO PARKING LOT (302 FT). SITE WILL BE LOCATED ON LEFT (NORTH) SIDE OF ROAD.

PREPARED BY: POWER OF DESIGN GROUP, LLC - (502) 437-5252

PROJECT SUMMARY

VERTICAL BRIDGE SITE
LV NW SOMERSET
SITE #: US-KY-5176

VERIZON SITE
LV NW SOMERSET
FUZE ID: 15287363
LOCATION CODE: 639573

SITE ADDRESS
1730 N HIGHWAY 27
SOMERSET, KY 42503
PULASKI COUNTY
E911 ADDRESS: TBD

CLIENT CONTACT
VERIZON
2902 RING ROAD
ELIZABETHTOWN, KY 42701
CONTACT: JACKIE STRAIGHT
PHONE: (290) 750-0023
E-MAIL: JACKIE.STRAIGHT@VERIZONWIRELESS.COM

TOWER OWNER
VB BTS II, LLC
750 PARK OF COMMERCE DRIVE
SUITE 200
BOCA RATON, FL 33487
CONTACT: GRETCHEN BLANTON
MOBILE: (704) 472-0374
E-MAIL: GBLANTON@VERTICALBRIDGE.COM

PROPERTY OWNER
DANNY MCGLOTHLIN
1650 W HWY 80
SOMERSET, KY 42503
CONTACT: DANNY MCGLOTHLIN
PHONE: (606) 271-0390
E-MAIL: DANNYM@ MACMETALSALES.COM

POLICE
PULASKI COUNTY SHERIFF
100 N MAIN ST #101
SOMERSET, KY 42501
PHONE: (606) 678-514S

FIRE
SOMERSET FIRE DEPARTMENT
121 S CENTRAL AVE
SOMERSET, KY 42501
PHONE: (606) 679-1163

GENERAL INFORMATION
LATITUDE: 37.118258 N
LONGITUDE: 84.631608 W
1983 (NAD83)
ELEVATION: 1052.8'± AMSL
1988 (NAVD88)

LEASE AREA
75'-0" x 100'-0"
(7,500 SF)

PROJECT TOTAL DISTURBED AREA
COMPOUND: (7,500 SF) = (0.17 ACRE)
ACCESS DRIVE: (17,853 SF) = (0.41 ACRE)
GROSS AREA: (25,353 SF) = (0.58 ACRE)

PROJECT DESCRIPTION

NOTE:ALL ITEMS WITHIN THESE CONSTRUCTION DOCUMENTS ARE BY TOWER OWNER'S GENERAL CONTRACTOR AND HIS SUB-CONTRACTORS UNLESS NOTED AS (VZW GC) WHICH SHALL INCLUDE VERIZON WIRELESS GENERAL CONTRACTOR AND HIS SUB-CONTRACTORS. GENERALLY DESCRIBED BELOW

VERTICAL BRIDGE SCOPE:

- INSTALL A NEW 280'-0" SELF SUPPORT TOWER w/ 5'-0" LIGHTNING ROD (TOTAL 285'-0")
- INSTALL A NEW TOWER FOUNDATION SYSTEM
- INSTALL A NEW 73'x77' FENCED GRAVEL COMPOUND
- INSTALL A NEW SITE H-FRAME
- INSTALL A NEW ELECTRICAL SERVICE RUN TO SITE H-FRAME
- INSTALL A NEW GRAVEL ACCESS DRIVE
- NO WATER OR SEWAGE SERVICES RUN TO SITE
- INSTALL NEW TOWER & SITE GROUNDING SYSTEM
- INSTALL NEW VZW SUBSURFACE GROUNDING SYSTEM
- INSTALL A NEW 11'-6"x19'-6" CONCRETE EQUIPMENT / GENERATOR PAD
- INSTALL ELECTRICAL SERVICE CONDUIT WITH PULL TAPES FROM ILC ENCLOSURE STUB-UP WITHIN VZW EQUIPMENT PAD TO UTILITY H-FRAME
- INSTALL NEW CONDUITS WITH PULL TAPES FROM VZW ILC ENCLOSURE STUB-UPS TO EQUIPMENT ENCLOSURE STUB-UPS WITHIN VZW EQUIPMENT PAD
- INSTALL NEW CONDUITS WITH PULL TAPES FROM RF CABINET TO OVP H-FRAME LIT FIBER LOCATION
- INSTALL (1) NEW "VERIZON ONLY" FIBER OPTIC CONDUIT WITH PULL TAPE AND TRACER WIRE FROM VZW EQUIPMENT TO NEW "VERIZON ONLY" 24" x 36" HAND HOLE OUTSIDE COMPOUND
- INSTALL (1) NEW "VERIZON ONLY" FIBER OPTIC CONDUIT WITH PULL TAPE AND TRACER WIRE FROM NEW "VERIZON ONLY" 24" x 36" HAND HOLE OUTSIDE COMPOUND TO NEW "VERIZON ONLY" 36" x 60" HAND HOLE AT ROW
- INSTALL (1) NEW "VERIZON ONLY" FIBER OPTIC CONDUIT WITH PULL TAPE FROM NEW "VERIZON ONLY" 24" x 36" HAND HOLE OUTSIDE COMPOUND AND STUB UP AT FUTURE FIBER PEDESTAL LOCATION
- PERMANENT ELECTRIC POWER MUST BE AVAILABLE FOR VERIZON AT THE METER BASE PRIOR TO THE SITE BEING RELEASED AS TENANT READY.

VERIZON SCOPE (VZW GC):

- INSTALL A NEW 11'-6"x14'-9" PREFABRICATED CANOPY ON EXISTING CONCRETE PAD
- INSTALL NEW 30KW DIESEL GENERATOR ON EXISTING CONCRETE PAD
- INSTALL VZW ICE BRIDGE AND FOUNDATIONS
- INSTALL VZW ANTENNA MOUNTING SUPPORT STRUCTURE ON TOWER
- INSTALL VZW ANTENNAS, LINES, COAX, GPS ANTENNA AND RADIO EQUIPMENT
- INSTALL EXISTING SUBSURFACE GROUND LEADS TO VZW EQUIPMENT & FACILITIES
- INSTALL VZW ELECTRIC SERVICE CONDUCTORS FROM UTILITY H-FRAME TO VZW ILC ENCLOSURE
- INSTALL CIRCUITS FROM VZW ILC TO VZW EQUIPMENT ENCLOSURES
- INSTALL NEW OUTDOOR OVP AND CABLING H-FRAME SUPPORT
- INSTALL (2) 1-1/4" & (1) 1" INNERDUCTS WITH PULL TAPES AND TRACER WIRE WITHIN "VERIZON ONLY" FIBER OPTIC CONDUITS

ALL WORK AND MATERIALS SHALL BE PERFORMED AND INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNING AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUCTED TO PERMIT WORK NOT CONFORMING TO THESE CODES.

APPLICABLE CODES

BUILDING CODE	2018 KENTUCKY BUILDING CODE
STRUCTURAL CODE	TIA/EIA-222 - REVISION G (INCLUDES ADDENDUM #2)
MECHANICAL CODE	2012 INTERNATIONAL MECHANICAL CODE (IMC 2012)
PLUMBING CODE	KENTUCKY STATE PLUMBING CODE (815 KAR CHAP. 20)
ELECTRICAL CODE	2017 NATIONAL ELECTRICAL CODE (NEC) - NFPA 70
FIRE/LIFE SAFETY CODE	2012 INTERNATIONAL FIRE CODE (2012 IFC)
ENERGY CODE	2012 INTERNATIONAL ENERGY CODE (COMMERCIAL)
GAS CODE	2009 NATIONAL FUEL GAS CODE (NFPA 54)

ACCESSIBILITY REQUIREMENTS:

FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION. HANDICAPPED ACCESS REQUIREMENTS ARE NOT REQUIRED IN ACCORDANCE WITH THE 2009 IBC BUILDING CODE.

CONSULTANT TEAM

SURVEYOR
POWER OF DESIGN GROUP, LLC
11490 BLUEGRASS PARKWAY
LOUISVILLE, KY 40299
PHONE: (502) 437-5252

ARCHITECTURAL
POWER OF DESIGN GROUP, LLC
11490 BLUEGRASS PARKWAY
LOUISVILLE, KY 40299
PHONE: (502) 437-5252

ELECTRICAL
KENTUCKY UTILITIES COMPANY
ADDRESS: 306 N MAIN ST
SOMERSET, KY 42501
CONTACT: TBD
PHONE: (800) 981-0600
EMAIL: TBD

ELECTRICAL UTILITY COORDINATION IS NOT FINALIZED. DO NOT PROCEED WITH CONSTRUCTION.

SHEET NUMBER	DESCRIPTION
T-1	PROJECT INFORMATION, SITE MAPS, SHEET INDEX
B-1 TO B-1.2	SITE SURVEY
B-2 TO B-2.1	500' RADIUS AND ABUTTERS MAP
R-1	REVISION LOG
TOWER ELEVATION	
TE-1	TOWER ELEVATION
CIVIL	
C-1	OVERALL SITE PLAN W/ AERIAL OVERLAY
C-1A	OVERALL SITE PLAN W/ DISTANCE TO PROPERTY LINES
C-1B	DISTANCE TO RESIDENTIAL STRUCTURE
C-3	DETAILED SITE PLAN
C-4	DIMENSIONED SITE PLAN

VICINITY MAP

LOCATION MAP

AERIAL

POD
POWER OF DESIGN
11490 BLUEGRASS PARKWAY
LOUISVILLE, KY 40299
502-437-5252

bridge

09/15/2022

STATE OF KENTUCKY
MARK E. PATTERSON
16,300
LICENSED PROFESSIONAL ENGINEER

EN PERMIT: 3594

ZONING DRAWINGS

REV.	DATE	DESCRIPTION
A	8.25.22	ISSUED FOR REVIEW
0	9.15.22	ISSUED AS FINAL

SITE INFORMATION:
LV NW SOMERSET

1730 N HIGHWAY 27
SOMERSET, KY 42503
PULASKI COUNTY

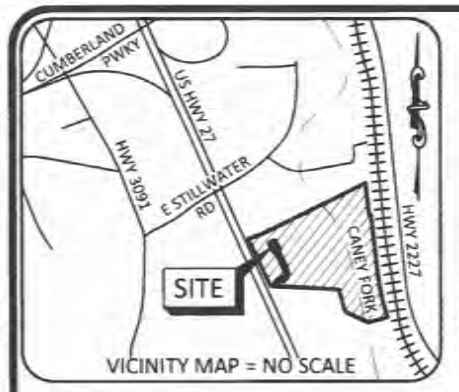
VERTICAL BRIDGE SITE NUMBER:
US-KY-5176

VERTICAL BRIDGE SITE NAME:
LV NW SOMERSET

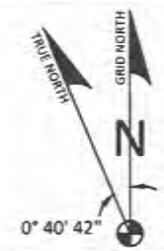
POD NUMBER:	21-82632
DRAWN BY:	POD
CHECKED BY:	MEP
DATE:	03.01.22

SHEET TITLE:
PROJECT INFORMATION, SITE MAPS, SHEET INDEX

SHEET NUMBER:
T-1



VICINITY MAP = NO SCALE



BASED ON KENTUCKY STATE PLANE SOUTH ZONE AND DETERMINED BY GPS OBSERVATIONS COMPLETED ON JUNE 14, 2021.

GLOBAL POSITIONING SYSTEMS NOTE

1. RANDOM CONTROL POINTS AND A PORTION OF THE TOPOGRAPHY WAS LOCATED USING GPS.
2. THE TYPE OF GPS UTILIZED WAS NETWORK ADJUSTED REAL TIME KINEMATIC (KDOT VRS NETWORK), NAD 83 KENTUCKY SOUTH ZONE WITH THE ORTHOMETRIC HEIGHT COMPUTED USING GEOID18. RELATIVE POSITIONAL ACCURACY VARIED FROM 0.03' TO 0.08' HORIZONTALLY.
3. SPECTRA PRECISION EPOCH 50 DUAL FREQUENCY RECEIVERS WERE USED TO PERFORM THE SURVEY.

GENERAL NOTES

NO SEARCH OF PUBLIC RECORDS HAS BEEN COMPLETED BY POD GROUP TO DETERMINE ANY DEFECTS AND/OR AMBIGUITIES IN THE TITLE OF THE SUBJECT PROPERTY.

THIS SURVEY IS FOR THE PROPOSED LEASE AREA AND THE PROPOSED 30' / VARIABLE WIDTH ACCESS & UTILITY EASEMENT ONLY, AND ONLY A PARTIAL BOUNDARY SURVEY OF THE PARENT TRACT HAS BEEN PERFORMED.

A PORTION OF THIS SURVEY WAS CONDUCTED BY METHOD OF RANDOM TRAVERSE WITH SIDE SHOTS. UNADJUSTED CLOSURE EQUALS 0.05', FOR A PRECISION OF 1:51,437 AND HAS NOT BEEN ADJUSTED.

THIS PROPERTY IS SUBJECT TO ANY RECORDED EASEMENTS AND/OR RIGHTS OF WAY SHOWN HEREON OR NOT.

THIS PLAT IS NOT INTENDED FOR LAND TRANSFER.

A PORTION OF THE PARENT PARCEL IS LOCATED IN A 100-YEAR FLOOD PLAIN, ZONE A (NO BASE FLOOD ELEVATIONS DETERMINED) PER FLOOD HAZARD BOUNDARY MAP, COMMUNITY-PANEL NUMBER 21199C0282C, DATED JULY 22, 2010. , THE PROPOSED LEASE AREA & THE PROPOSED ACCESS & UTILITY EASEMENT SHOWN HEREON ARE NOT NO LOCATED IN A 100-YEAR FLOOD PLAIN (ZONE X).

LINE	BEARING	DISTANCE
L1	N57°32'38"E	91.85'
L2	N24°38'05"W	89.53'
L3	N86°44'15"W	81.17'
L4	N85°24'08"W	62.27'
L5	S26°35'17"E	30.00'
L6	S63°24'43"W	7.50'
L7	S67°10'23"W	74.97'
L8	S17°23'03"W	33.66'
L9	N86°44'15"W	14.11'
L10	N85°24'08"W	16.73'
L11	N17°23'03"E	40.80'
L12	N67°10'23"E	74.97'
L13	S63°24'43"W	7.50'
L14	N26°35'17"W	30.00'

LEGEND

P.O.B. POINT OF BEGINNING
P.O.C. POINT OF COMMENCEMENT
P.O.R. POINT OF REFERENCE
ROW RIGHT OF WAY

SET 1/2" REBAR 18" LONG CAPPED "PATTERSON PLS 3136"
FOUND MONUMENT AS NOTED
PROPERTY LINE
ADJACENT PROPERTY LINE

LAND SURVEYOR'S CERTIFICATE

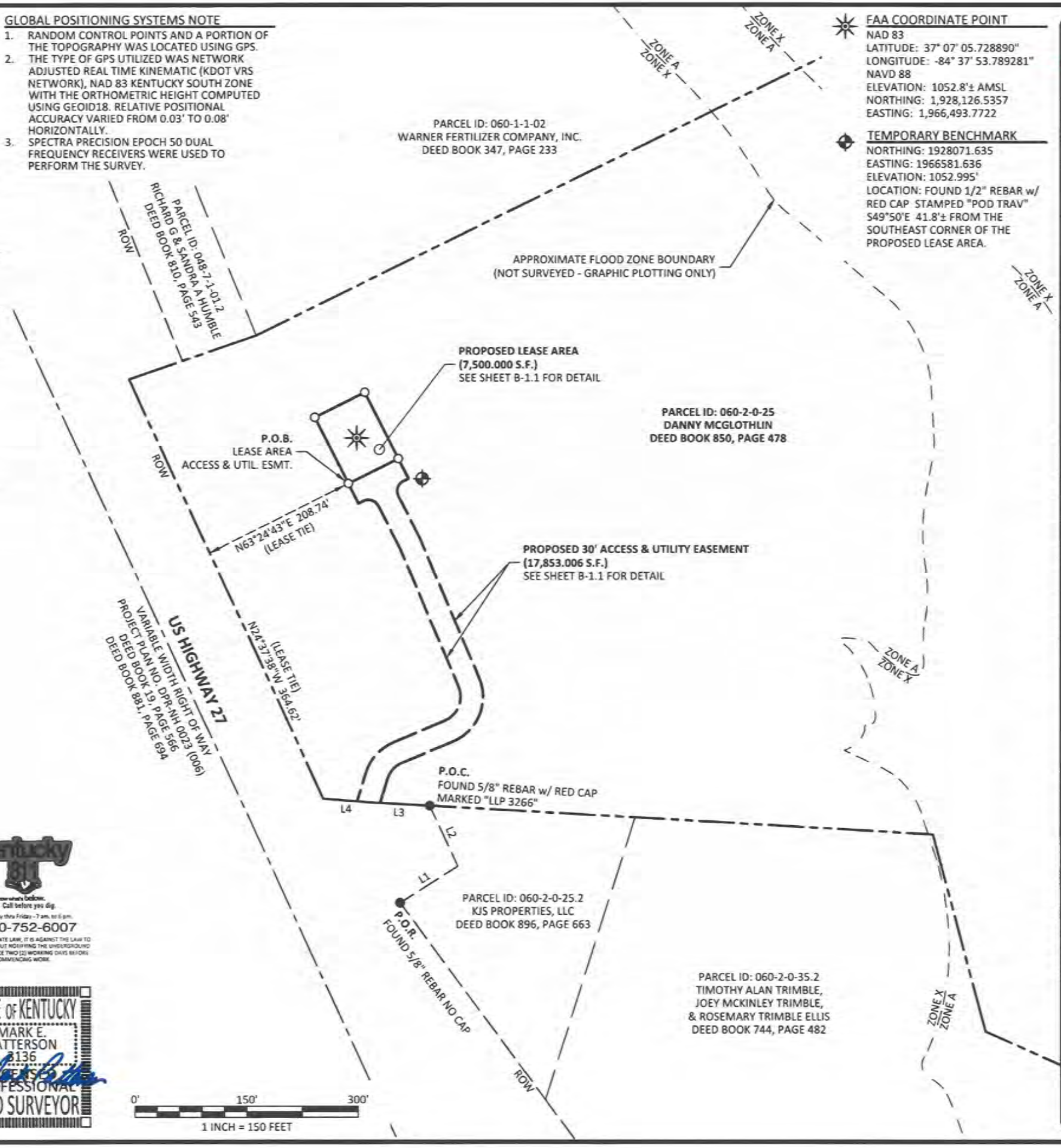
I, MARK E. PATTERSON, HEREBY CERTIFY THAT I AM A LICENSED PROFESSIONAL LAND SURVEYOR LICENSED IN COMPLIANCE WITH THE LAWS OF THE COMMONWEALTH OF KENTUCKY. I FURTHER CERTIFY THAT THIS PLAT AND THE SURVEY ON THE GROUND WERE PERFORMED BY PERSONS UNDER MY DIRECT SUPERVISION, AND THAT THE DIRECTIONAL AND LINEAR MEASUREMENTS BEING WITNESSED BY MONUMENTS SHOWN HEREON ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE. THE "RURAL" SURVEY, AND THE PLAT ON WHICH IT IS BASED, MEETS ALL SPECIFICATIONS AS STATED IN KAR 201 18:150.

08/18/2021

MARK PATTERSON, PLS #3136 — DATE

Kentucky 811
Know what's below. Call before you dig.
Call Monday thru Friday - 7 am. to 5 pm.
1-800-752-6007
PER KENTUCKY STATE LAW, IT IS AGAINST THE LAW TO EXCAVATE WITHOUT NOTIFYING THE UNDERGROUND LOCATION SERVICE TWO (2) WORKING DAYS BEFORE COMMENCING WORK.

STATE OF KENTUCKY
MARK E. PATTERSON
3136
LICENSED PROFESSIONAL LAND SURVEYOR



FAA COORDINATE POINT

NAD 83
LATITUDE: 37° 07' 05.728890"
LONGITUDE: -84° 37' 53.789281"
NAVD 88
ELEVATION: 1052.8'± AMSL
NORTHING: 1,928,126.5357
EASTING: 1,966,493.7722

TEMPORARY BENCHMARK

NORTHING: 1928071.635
EASTING: 1966581.636
ELEVATION: 1052.995'
LOCATION: FOUND 1/2" REBAR w/ RED CAP STAMPED "POD TRAV" S49°50'E 41.8'± FROM THE SOUTHEAST CORNER OF THE PROPOSED LEASE AREA.

PREPARED BY:
POD
POWER OF DESIGN
11490 BLUEGRASS PARKWAY
LOUISVILLE, KY 40299
502-437-5252

PREPARED FOR:
CELLCO PARTNERSHIP D/B/A verizon

SITE SURVEY

REV.	DATE	DESCRIPTION
A	6.22.21	PRELIM ISSUE
0	8.18.21	ISSUED AS FINAL

SITE INFORMATION:
LV NW SOMERSET
1730 N HIGHWAY 27
SOMERSET, KY 42503
PULASKI COUNTY

TAX PARCEL NUMBER:
060-2-0-25

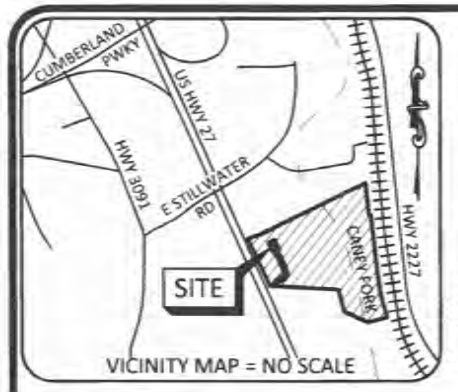
PROPERTY OWNER:
DANNY MCGLOTHLIN
1650 W HWY 80
SOMERSET, KY 42503

SOURCE OF TITLE:
BOOK 850, PAGE 478

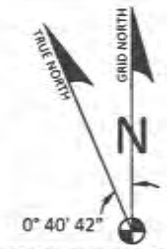
POD NUMBER:	21-82626
DRAWN BY:	CPM
CHECKED BY:	MEP
SURVEY DATE:	6.14.21
PLAT DATE:	6.22.21

SHEET TITLE:
SITE SURVEY
THIS DOES NOT REPRESENT A BOUNDARY SURVEY OF THE PARENT PARCEL

SHEET NUMBER: (3 pages)
B-1



VICINITY MAP = NO SCALE



BASED ON KENTUCKY STATE PLANE SOUTH ZONE AND DETERMINED BY GPS OBSERVATIONS COMPLETED ON JUNE 14, 2021.

GLOBAL POSITIONING SYSTEMS NOTE

1. RANDOM CONTROL POINTS AND A PORTION OF THE TOPOGRAPHY WAS LOCATED USING GPS.
2. THE TYPE OF GPS UTILIZED WAS NETWORK ADJUSTED REAL TIME KINEMATIC (KDOT VRS NETWORK), NAD 83 KENTUCKY SOUTH ZONE WITH THE ORTHOMETRIC HEIGHT COMPUTED USING GEOID18. RELATIVE POSITIONAL ACCURACY VARIED FROM 0.03' TO 0.08' HORIZONTALLY.
3. SPECTRA PRECISION EPOCH 50 DUAL FREQUENCY RECEIVERS WERE USED TO PERFORM THE SURVEY.

GENERAL NOTES

NO SEARCH OF PUBLIC RECORDS HAS BEEN COMPLETED BY POD GROUP TO DETERMINE ANY DEFECTS AND/OR AMBIGUITIES IN THE TITLE OF THE SUBJECT PROPERTY.

THIS SURVEY IS FOR THE PROPOSED LEASE AREA AND THE PROPOSED 30' / VARIABLE WIDTH ACCESS & UTILITY EASEMENT ONLY, AND ONLY A PARTIAL BOUNDARY SURVEY OF THE PARENT TRACT HAS BEEN PERFORMED.

A PORTION OF THIS SURVEY WAS CONDUCTED BY METHOD OF RANDOM TRAVERSE WITH SIDE SHOTS. UNADJUSTED CLOSURE EQUALS 0.05', FOR A PRECISION OF 1:51,437 AND HAS NOT BEEN ADJUSTED.

THIS PROPERTY IS SUBJECT TO ANY RECORDED EASEMENTS AND/OR RIGHTS OF WAY SHOWN HEREON OR NOT.

THIS PLAT IS NOT INTENDED FOR LAND TRANSFER.

A PORTION OF THE PARENT PARCEL IS LOCATED IN A 100-YEAR FLOOD PLAIN, ZONE A (NO BASE FLOOD ELEVATIONS DETERMINED) PER FLOOD HAZARD BOUNDARY MAP, COMMUNITY-PANEL NUMBER 21199C0282C, DATED JULY 22, 2010. , THE PROPOSED LEASE AREA & THE PROPOSED ACCESS & UTILITY EASEMENT SHOWN HEREON ARE NOT NO LOCATED IN A 100-YEAR FLOOD PLAIN (ZONE X).

CURVE	CHORD BEARING	CHORD LENGTH	RADIUS	ARC LENGTH
C1	S18°24'43"W	21.21'	15.00'	23.56'
C2	S22°10'23"W	91.92'	65.00'	102.10'
C3	S42°16'43"W	29.47'	35.00'	30.41'
C4	N42°16'43"E	54.72'	65.00'	56.48'
C5	N22°10'23"E	49.50'	35.00'	54.98'
C6	N71°35'17"W	21.21'	15.00'	23.56'

LINE	BEARING	DISTANCE
L1	N57°32'38"E	91.85'
L2	N24°38'05"W	89.53'
L3	N86°44'15"W	81.17'
L4	N85°24'08"W	62.27'
L5	S26°35'17"E	30.00'
L6	S63°24'43"W	7.50'
L7	S67°10'23"W	74.97'
L8	S17°23'03"W	33.66'
L9	N86°44'15"W	14.11'
L10	N85°24'08"W	16.73'
L11	N17°23'03"E	40.80'
L12	N67°10'23"E	74.97'
L13	S63°24'43"W	7.50'
L14	N26°35'17"W	30.00'

LEGEND

- UTILITY POLE
- GUY ANCHOR
- ELECTRIC METER
- GAS METER
- GAS VALVE
- WATER METER
- WATER VALVE
- WATER SPIGOT
- MAILBOX
- MANHOLE
- P.O.B. POINT OF BEGINNING
- P.O.C. POINT OF COMMENCEMENT
- P.O.R. POINT OF REFERENCE
- EOP EDGE OF PAVEMENT
- ROW RIGHT OF WAY
- EX. OVERHEAD ELECTRIC
- EX. OVERHEAD ELECTRIC & TELEPHONE
- SET 1/2" REBAR 18" LONG CAPPED "PATTERSON PLS 3136"
- FOUND MONUMENT AS NOTED
- PROPERTY LINE
- ADJACENT PROPERTY LINE
- EX. FENCE

FAA COORDINATE POINT

NAD 83
LATITUDE: 37° 07' 05.728890"
LONGITUDE: -84° 37' 53.789281"
NAVD 88
ELEVATION: 1052.8'± AMSL
NORTHING: 1,928,126.5357
EASTING: 1,966,493.7722

TEMPORARY BENCHMARK

NORTHING: 1928071.635
EASTING: 1966581.636
ELEVATION: 1052.995'
LOCATION: FOUND 1/2" REBAR w/ RED CAP STAMPED "POD TRAV" S49°50'E 41.8'± FROM THE SOUTHEAST CORNER OF THE PROPOSED LEASE AREA.

LAND SURVEYOR'S CERTIFICATE

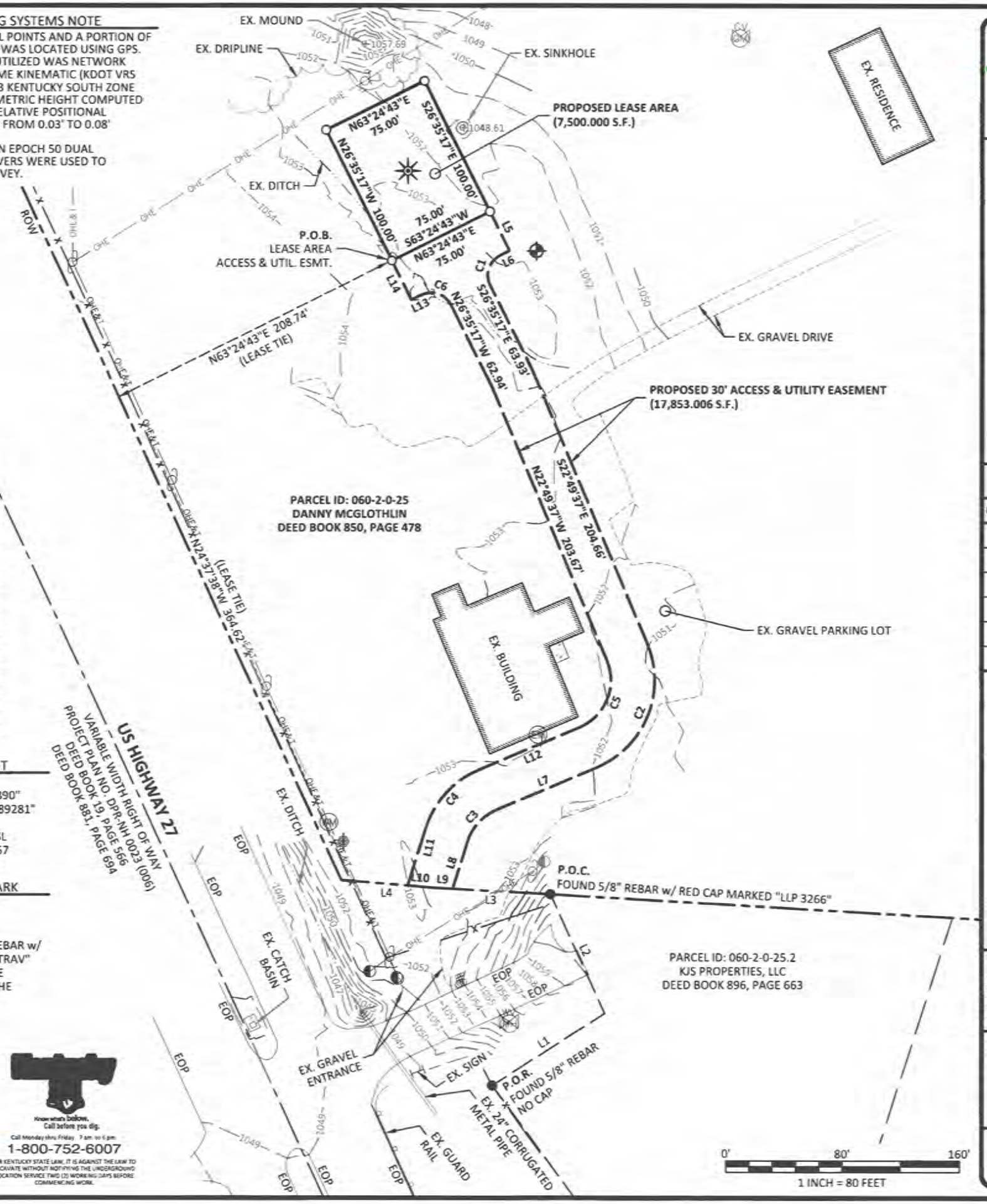
I, MARK E. PATTERSON, HEREBY CERTIFY THAT I AM A LICENSED PROFESSIONAL LAND SURVEYOR LICENSED IN COMPLIANCE WITH THE LAWS OF THE COMMONWEALTH OF KENTUCKY. I FURTHER CERTIFY THAT THIS PLAT AND THE SURVEY ON THE GROUND WERE PERFORMED BY PERSONS UNDER MY DIRECT SUPERVISION, AND THAT THE DIRECTIONAL AND LINEAR MEASUREMENTS BEING WITNESSED BY MONUMENTS SHOWN HEREON ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE. THE "RURAL" SURVEY, AND THE PLAT ON WHICH IT IS BASED, MEETS ALL SPECIFICATIONS AS STATED IN KAR 201 18:150.

Mark Patterson — 08/18/2021

MARK PATTERSON, PLS #3136 — DATE

STATE OF KENTUCKY
MARK E. PATTERSON
3136
LICENSED PROFESSIONAL
LAND SURVEYOR

Know what's Below. Call before you dig.
Call Monday thru Friday 7 am. to 6 pm.
1-800-752-6007
PER KENTUCKY STATE LAW, IT IS AGAINST THE LAW TO EXCAVATE WITHOUT NOTIFYING THE UNDERGROUND LOCATION SERVICE TWO (2) WORKING DAYS BEFORE COMMENCING WORK.



PREPARED BY:
POD
POWER OF DESIGN
11490 BLUEGRASS PARKWAY
LOUISVILLE, KY 40299
502-437-5252

PREPARED FOR:
CELLCO PARTNERSHIP D/B/A verizon

SITE SURVEY

REV.	DATE	DESCRIPTION
A	6.22.21	PRELIM ISSUE
0	8.18.21	ISSUED AS FINAL

SITE INFORMATION:
LV NW SOMERSET
1730 N HIGHWAY 27
SOMERSET, KY 42503
PULASKI COUNTY

TAX PARCEL NUMBER:
060-2-0-25

PROPERTY OWNER:
DANNY MCGLOTHLIN
1650 W HWY 80
SOMERSET, KY 42503

SOURCE OF TITLE:
BOOK 850, PAGE 478

POD NUMBER:	21-82626
DRAWN BY:	CPM
CHECKED BY:	MEP
SURVEY DATE:	6.14.21
PLAT DATE:	6.22.21

SHEET TITLE:
SITE SURVEY
THIS DOES NOT REPRESENT A BOUNDARY SURVEY OF THE PARENT PARCEL

SHEET NUMBER: (3 pages)
B-1.1

REPORT OF TITLE

THIS SURVEY DOES NOT CONSTITUTE A TITLE SEARCH BY POD GROUP, LLC. AND AS SUCH WE ARE NOT RESPONSIBLE FOR THE INVESTIGATION OR INDEPENDENT SEARCH FOR EASEMENTS OF RECORD, ENCUMBRANCES, RESTRICTIVE COVENANTS, OWNERSHIP TITLE EVIDENCE, UNRECORDED EASEMENTS, AUGMENTING EASEMENTS, IMPLIED OR PRESCRIPTIVE EASEMENTS, OR ANY OTHER FACTS THAT AN ACCURATE AND CURRENT TITLE SEARCH MAY DISCLOSE. INFORMATION REGARDING THESE MATTERS WERE GAINED FROM FIDELITY NATIONAL TITLE INSURANCE COMPANY, ORDER NO. 35140456, FOR THE BENEFIT OF FNF - INDIANAPOLIS, DATED JULY 28, 2021. THE FOLLOWING COMMENTS ARE IN REGARD TO SAID COMMITMENT AND THE NUMBERS IN THE COMMENTS CORRESPOND TO THE NUMBERING SYSTEM IN SAID POLICY.

3. CONVEYANCE OF RIGHT OF WAY IN FAVOR OF CITY OF SOMERSET, KENTUCKY SET FORTH IN INSTRUMENT RECORDED ON MARCH 4, 1957 IN DEED BOOK, 210, PAGE 178. (UNABLE TO DETERMINE AFFECT, IF ANY, SAID RIGHT OF WAY HAS ON THE PARENT PARCEL. DEED DOES NOT DESCRIBE BY METES AND BOUNDS THE EXACT LOCATION OF THE GAS LINE EASEMENT. UTILITY LOCATIONS MAY BE NECESSARY TO DETERMINE THE LOCATION OF SAID EASEMENT.)

4. EASEMENT IN FAVOR OF TRUSTEES OF CINCINNATI SOUTHERN RAILWAY SET FORTH IN INSTRUMENT RECORDED ON DECEMBER 16, 1958 IN DEED BOOK 220, PAGE 577. (EASEMENT AS DESCRIBED IN DEED BOOK 220, PAGE 577 AFFECTS THE PARENT PARCEL, BUT DOES NOT AFFECT THE LEASE AREA AND THE PROPOSED ACCESS AN UTILITY EASEMENT.)

5. BOUNDARY LINE AGREEMENT RECORDED NOVEMBER 1, 1969 IN DEED BOOK 202, PAGE 10. (POD DID NOT PERFORM A BOUNDARY SURVEY OF THE PARENT PARCEL, THEREFORE CANNOT COMMENT AS TO THE AFFECT, IF ANY, SAID BOUNDARY LINE AGREEMENT HAS ON THE PARENT PARCEL, THE PROPOSED LEASE AREA AND THE PROPOSED ACCESS AND UTILITY EASEMENT.)

6. DEED OF EASEMENT IN FAVOR OF JAKE HALL SET FORTH IN INSTRUMENT RECORDED ON NOVEMBER 15, 1960 IN DEED BOOK 232, PAGE 143. (EASEMENT AS DESCRIBED IN DEED BOOK 232, PAGE 143 AFFECTS THE PARCEL DESCRIBED IN DEED BOOK 229, PAGE 328. PORTIONS OF THE METES AND BOUNDS DESCRIPTION IN DEED BOOK 229, PAGE 328 ARE ILLEGIBLE AND CANNOT BE PLOTTED. POD CANNOT DETERMINE THE AFFECT, IF ANY, SAID EASEMENT HAS ON THE PARENT PARCEL, THE PROPOSED LEASE AREA AND THE PROPOSED ACCESS AND UTILITY EASEMENT.)

7. RIGHT OF WAY RECORDED ON MARCH 11, 1971 IN DEED BOOK 310, PAGE 512. (SUPPORTING DOCUMENT NOT SUPPLIED.)

8. EASEMENT (DEED OF CONVEYANCE) DATED OCTOBER 11, 2002 BY AND BETWEEN DANNY J. MCGLOTHIN, A.K.A. DANNY MCGLOTHIN, LANDRITH MCGLOTHIN, A KA. LANNIE J. MCGLOTHIN, AS GRANTOR, AND COMMONWEALTH OF KENTUCKY FOR THE USE AND BENEFIT OF THE TRANSPORTATION CABINET, DEPARTMENT OF HIGHWAYS, AS GRANTEE, RECORDED ON NOVEMBER 12, 2002 IN DEED BOOK 19, PAGE 566. (RIGHT OF WAY CONVEYANCE AS DESCRIBED IN BOOK 19, PAGE 566 DOES NOT AFFECT THE PARENT PARCEL, THE PROPOSED LEASE AREA AND THE PROPOSED ACCESS AND UTILITY EASEMENT. DEED OF CONVEYANCE FROM THE COMMONWEALTH OF KENTUCKY TO DANNY MCGLOTHIN BY DEED 881, PAGE 694 CONVEYS BACK TO DANNY MCGLOTHIN A PORTION OF THE RIGHT OF WAY ACQUISITION OF PARCEL NO. 37 DESCRIBED IN DEED BOOK 19, PAGE 566.)

9. REAL ESTATE MORTGAGE FROM MAC METAL SALES, INC., A KENTUCKY CORPORATION, DENNY MCGLOTHIN, LANNIE L. MCGLOTHIN AKA LANDRETH LEE MCGLOTHIN, DANNY MCGLOTHIN, AS TRUSTEE OF THE DANNY MCGLOTHIN LIVING TRUST DEATED JANUARY 22, 1999 AND LANDRETH MCGLOTHIN, AS TRUSTEE OF THE DANNY MCGLOTHIN LIVING TRUST, DATED JANIARY 22, 1999, GRANTOR(S), IN FAVOR OF THE CITIZENS NATIONAL BANK, DATED JANUARY 28, 2010, AND RECORDED FEBRUARY 10, 2010 IN DEED BOOK 1223, PAGE 442, IN THE ORIGINAL AMOUNT OF $1,366,250.00 (NOTE: ENCUMBERS ADDITIONAL PROPERTY). (MORTGAGE DESCRIBES THE PARENT PARCEL RECORDED IN DEED BOOK 850, PAGE 478. MORTGAGE DOES NOT HAVE A MATURITY DATE, THEREFORE POD GROUP, LLC CANNOT MAKE A DETERMINATION THAT SAID MORTGAGE AFFECTS THE PARENT PARCEL, THE PROPOSED LEASE AREA AND THE PROPOSED ACCESS AND UTILITY EASEMENT.)

PARENT PARCEL (DEED BOOK 85, PAGE 478)

A CERTAIN TRACT OR PARCEL OF LAND LYING IN THE COUNTY OF PULASKI, STATE OF KENTUCKY, AND ON THE WATERS OF CANEY FORK CREEK AND BOUNDED AS FOLLOWS: BEGINNING AT A PIN, CORNER OF WARNER; THENCE S 06° 32' E 380 FEET; THENCE N 80° 32' E 20 FEET TO RIGHT OF WAY OF C. N. O. T. P. RAILROAD; THENCE WITH RIGHT OF WAY OF C. N. OT. P. RAILROAD SOUTH 06° 32' E 735 FEET; THENCE S 09° 42' E 200 FEET; THENCE S 11° 47' E 116.5 FEET; THENCE S 16° 37' E 200 FEET TO A PIN; THENCE S 75° 33' W 240.5 FEET; THENCE N 66° 00' W 310.5 FEET; THENCE N 15° 00' W 326.6 FEET; THENCE N 89° 05' W 1213 FEET; THENCE N 41° 07' W 499 FEET TO THE CORNER OF GIRDLER; THENCE WITH GIRDLER LINE N 70° 45' E 681 FEET; THENCE N 63° 37' E 1363 FEET WITH GIRDLER'S AND WARNER'S LINE TO THE BEGINNING, CONTAINING 39.42 ACRES AS SURVEYED BY FRANK G. VAUGHT ON THE 13TH DAY OF DECEMBER, 1971. THERE IS EXCEPTED FROM THE FOREGOING AN EASEMENT TO THE CITY OF SOMERSET, KENTUCKY FOR LAYING PIPELINES, RECORDED IN BOOK 210, PAGE 178 PULASKI COUNTY COURT CLERK'S OFFICE, KENTUCKY.

AND BEING THE SAME PROPERTY CONVEYED TO DANNY J. MCGLOTHLIN AND LANNIE L. MCGLOTHLIN FROM BARKLEY F. COLSON AND BETTY T. COLSON BY DEED OF CONVEYANCE DATED APRIL 22, 1986 AND RECORDED APRIL 24, 1986 IN DEED BOOK 447, PAGE 482; AND BEING A PORTION OF THE SAME PROPERTY CONVEYED TO DANNY MCGLOTHLIN FROM LANDRETH LEE MCGLOTHLIN BY DEED OF CONVEYANCE DATED NOVEMBER 16, 2008 AND RECORDED FEBRUARY 16, 2010 IN DEED BOOK 850, PAGE 478.

TAX PARCEL NOS. 060-2-0-25, 060-2-0-25-1

LAND SURVEYOR'S CERTIFICATE

I, MARK E. PATTERSON, HEREBY CERTIFY THAT I AM A LICENSED PROFESSIONAL LAND SURVEYOR LICENSED IN COMPLIANCE WITH THE LAWS OF THE COMMONWEALTH OF KENTUCKY. I FURTHER CERTIFY THAT THIS PLAT AND THE SURVEY ON THE GROUND WERE PERFORMED BY PERSONS UNDER MY DIRECT SUPERVISION, AND THAT THE DIRECTIONAL AND LINEAR MEASUREMENTS BEING WITNESSED BY MONUMENTS SHOWN HEREON ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE. THE "RURAL" SURVEY, AND THE PLAT ON WHICH IT IS BASED, MEETS ALL SPECIFICATIONS AS STATED IN KAR 201 18:150.

08/18/2021

MARK PATTERSON, PLS #3136 — DATE

STATE OF KENTUCKY
MARK E. PATTERSON
3136
LICENSED PROFESSIONAL
LAND SURVEYOR

LEGAL DESCRIPTION

PROPOSED LEASE AREA

THE FOLLOWING IS A DESCRIPTION OF THE PROPOSED LEASE AREA ON THE PROPERTY CONVEYED TO DANNY MCGLOTHLIN AS RECORDED IN THE OFFICE OF THE CLERK OF KNOX COUNTY, KENTUCKY IN DEED BOOK 850, PAGE 478, PARCEL ID: 060-2-0-25, WHICH IS MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEARING DATUM USED HEREIN IS BASED UPON KENTUCKY STATE PLANE COORDINATE SYSTEM, SOUTH ZONE, NAD 83, FROM A REAL TIME KINEMATIC GLOBAL POSITIONING SYSTEM OBSERVATION USING THE KENTUCKY TRANSPORTATION CABINET REAL TIME GPS NETWORK COMPLETED ON JUNE 14, 2021.

COMMENCING AT A FOUND 5/8" REBAR W/ RED CAP MARKED "LLP 3266" IN THE SOUTH LINE OF PROPERTY CONVEYED TO DANNY MCGLOTHLIN AS RECORDED IN DEED BOOK 850, PAGE 478, PARCEL ID: 060-2-0-25, ALSO BEING THE NORTHWEST CORNER OF PROPERTY CONVEYED TO KJS PROPERTIES, LLC AS RECORDED IN DEED BOOK 896, PAGE 663, ALSO BEING IN THE EAST RIGHT OF WAY LINE OF US HIGHWAY 27 AS SHOWN IN PLAN NO DPR-NH 0023 (006), SAID FOUND 5/8" REBAR FOR REFERENCE BEING N57°32'38"E 91.85', N24°38'05"W 89.53' ALONG THE AFOREMENTIONED EAST RIGHT OF WAY LINE AND WEST LINE OF SAID KJS PROPERTIES, LLC FROM A FOUND 5/8" REBAR WITH NO CAP; THENCE WITH THE SOUTH LINE OF AFOREMENTIONED PROPERTY CONVEYED TO DANNY MCGLOTHLIN AND AFOREMENTIONED RIGHT OF WAY LINE FOR THE FOLLOWING THREE CALLSS, N86°44'15"W 81.17'; THENCE N85°24'08"W 62.27'; THENCE N24°37'38"W 364.62'; THENCE LEAVING SAID WEST LINE OF PROPERTY CONVEYED TO DANNY MCGLOTHLIN AND EAST RIGHT OF WAY LINE AND TRAVERSING SAID PROPERTY CONVEYED TO DANNY MCGLOTHLIN N63°24'43"E 208.74'; TO A SET 1/2" REBAR 18" LONG CAPPED "PATTERSON PLS 3136" HEREAFTER REFERRED TO AS A "SET IPC", IN THE SOUTHWEST CORNER OF THE PROPOSED LEASE AREA AND BEING **THE TRUE POINT OF BEGINNING**; THENCE N26°35'17"W 100.00' TO A "SET IPC"; THENCE N63°24'43"E 75.00' TO A "SET IPC"; THENCE S26°35'17"E 100.00' TO A "SET IPC"; THENCE S63°24'43"W 75.00' TO **THE POINT OF BEGINNING** CONTAINING 7,500.000 SQUARE FEET AS PER SURVEY BY MARK E. PATTERSON, PLS #3136 DATED JUNE 14, 2021.

PROPOSED 30' ACCESS & UTILITY EASEMENT

THE FOLLOWING IS A DESCRIPTION OF THE PROPOSED 30' ACCESS & UTILITY EASEMENT ON THE PROPERTY CONVEYED TO DANNY MCGLOTHLIN AS RECORDED IN THE OFFICE OF THE CLERK OF KNOX COUNTY, KENTUCKY IN DEED BOOK 850, PAGE 478, PARCEL ID: 060-2-0-25, WHICH IS MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEARING DATUM USED HEREIN IS BASED UPON KENTUCKY STATE PLANE COORDINATE SYSTEM, SOUTH ZONE, NAD 83, FROM A REAL TIME KINEMATIC GLOBAL POSITIONING SYSTEM OBSERVATION USING THE KENTUCKY TRANSPORTATION CABINET REAL TIME GPS NETWORK COMPLETED ON JUNE 14, 2021.

COMMENCING AT A FOUND 5/8" REBAR W/ RED CAP MARKED "LLP 3266" IN THE SOUTH LINE OF PROPERTY CONVEYED TO DANNY MCGLOTHLIN AS RECORDED IN DEED BOOK 850, PAGE 478, PARCEL ID: 060-2-0-25, ALSO BEING THE NORTHWEST CORNER OF PROPERTY CONVEYED TO KJS PROPERTIES, LLC AS RECORDED IN DEED BOOK 896, PAGE 663, ALSO BEING IN THE EAST RIGHT OF WAY LINE OF US HIGHWAY 27 AS SHOWN IN PLAN NO DPR-NH 0023 (006), SAID FOUND 5/8" REBAR FOR REFERENCE BEING N57°32'38"E 91.85', N24°38'05"W 89.53' ALONG THE AFOREMENTIONED EAST RIGHT OF WAY LINE AND WEST LINE OF SAID KJS PROPERTIES, LLC FROM A FOUND 5/8" REBAR WITH NO CAP; THENCE WITH THE SOUTH LINE OF AFOREMENTIONED PROPERTY CONVEYED TO DANNY MCGLOTHLIN AND AFOREMENTIONED RIGHT OF WAY LINE FOR THE FOLLOWING THREE CALLS, N86°44'15"W 81.17'; THENCE N85°24'08"W 62.27'; THENCE N24°37'38"W 364.62'; THENCE LEAVING SAID WEST LINE OF PROPERTY CONVEYED TO DANNY MCGLOTHLIN AND EAST RIGHT OF WAY LINE AND TRAVERSING SAID PROPERTY CONVEYED TO DANNY MCGLOTHLIN N63°24'43"E 208.74'; TO A SET 1/2" REBAR 18" LONG CAPPED "PATTERSON PLS 3136" HEREAFTER REFERRED TO AS A "SET IPC", IN THE SOUTHWEST CORNER OF THE PROPOSED LEASE AREA AND BEING **THE TRUE POINT OF BEGINNING**; THENCE ALONG THE SOUTH LINE OF SAID PROPOSED LEASE AREA N63°24'43"E 75.00' TO A "SET IPC"; THENCE S26°35'17"E 30.00'; THENCE S63°24'43"W 7.50'; THENCE ALONG THE ARC OF A CURVE TO THE LEFT HAVING A RADIUS OF 15.00', ARC LENGTH OF 23.56', THE CHORD OF WHICH BEARS S18°24'43"W 21.21'; THENCE S26°35'17"E 63.93'; THENCE S22°49'37"E 204.66'; THENCE ALONG THE ARC OF A CURVE TO THE RIGHT HAVING A RADIUS OF 65.00', ARC LENGTH OF 102.10', THE CHORD OF WHICH BEARS S22°10'23"W 91.92'; THENCE S67°10'23"W 74.97'; THENCE ALONG THE ARC OF A CURVE TO THE LEFT HAVING A RADIUS OF 35.00', ARC LENGTH OF 30.41', THE CHORD OF WHICH BEARS S42°16'43"W 29.47'; THENCE S17°23'03"W 33.66' TO A POINT IN THE SOUTH LINE OF AFOREMENTIONED PROPERTY CONVEYED TO DANNY MCGLOTHLIN AND EAST RIGHT OF WAY LINE OF US HIGHWAY 27; THENCE WITH SAID SOUTH LINE OF MCGLOTHLIN AND SAID EAST RIGHT OF WAY LINE FOR THE NEXT TWO CALLS, N86°44'15"W 14.11', N85°24'08"W 16.73'; THENCE LEAVING SAID SOUTH LINE OF MCGLOTHLIN AND SAID EAST RIGHT OF WAY LINE AND TRAVERSING SAID PROPERTY CONVEYED TO MCGLOTHLIN N17°23'03"E 40.80'; THENCE ALONG THE ARC OF A CURVE TO THE RIGHT HAVING A RADIUS OF 65.00', ARC LENGTH OF 56.48', THE CHORD OF WHICH BEARS N42°16'43"E 54.72'; THENCE N67°10'23"E 74.97'; THENCE ALONG THE ARC OF A CURVE TO THE LEFT HAVING A RADIUS OF 35.00', ARC LENGTH OF 54.98', THE CHORD OF WHICH BEARS N22°10'23"E 49.50'; THENCE N22°49'37"W 203.67'; THENCE N26°35'17"W 62.94'; THENCE ALONG THE ARC OF A CURVE TO THE LEFT HAVING A RADIUS OF 15.00', ARC LENGTH OF 23.56', THE CHORD OF WHICH BEARS N71°35'17"W 21.21'; THENCE S63°24'43"W 7.50'; THENCE N26°35'17"W 30.00' TO THE POINT OF BEGINNING CONTAINING 17,853.006 SQUARE FEET AS PER SURVEY BY MARK E. PATTERSON, PLS #3136 DATED JUNE 14, 2021.

PREPARED BY:
POD
POWER OF DESIGN
11490 BLUEGRASS PARKWAY
LOUISVILLE, KY 40299
502-437-5252

PREPARED FOR:
CELLCO PARTNERSHIP D/B/A verizon

SITE SURVEY

REV.	DATE	DESCRIPTION
A	6.22.21	PRELIM ISSUE
0	8.18.21	ISSUED AS FINAL

SITE INFORMATION:
LV NW SOMERSET
1730 N HIGHWAY 27
SOMERSET, KY 42503
PULASKI COUNTY

TAX PARCEL NUMBER:
060-2-0-25

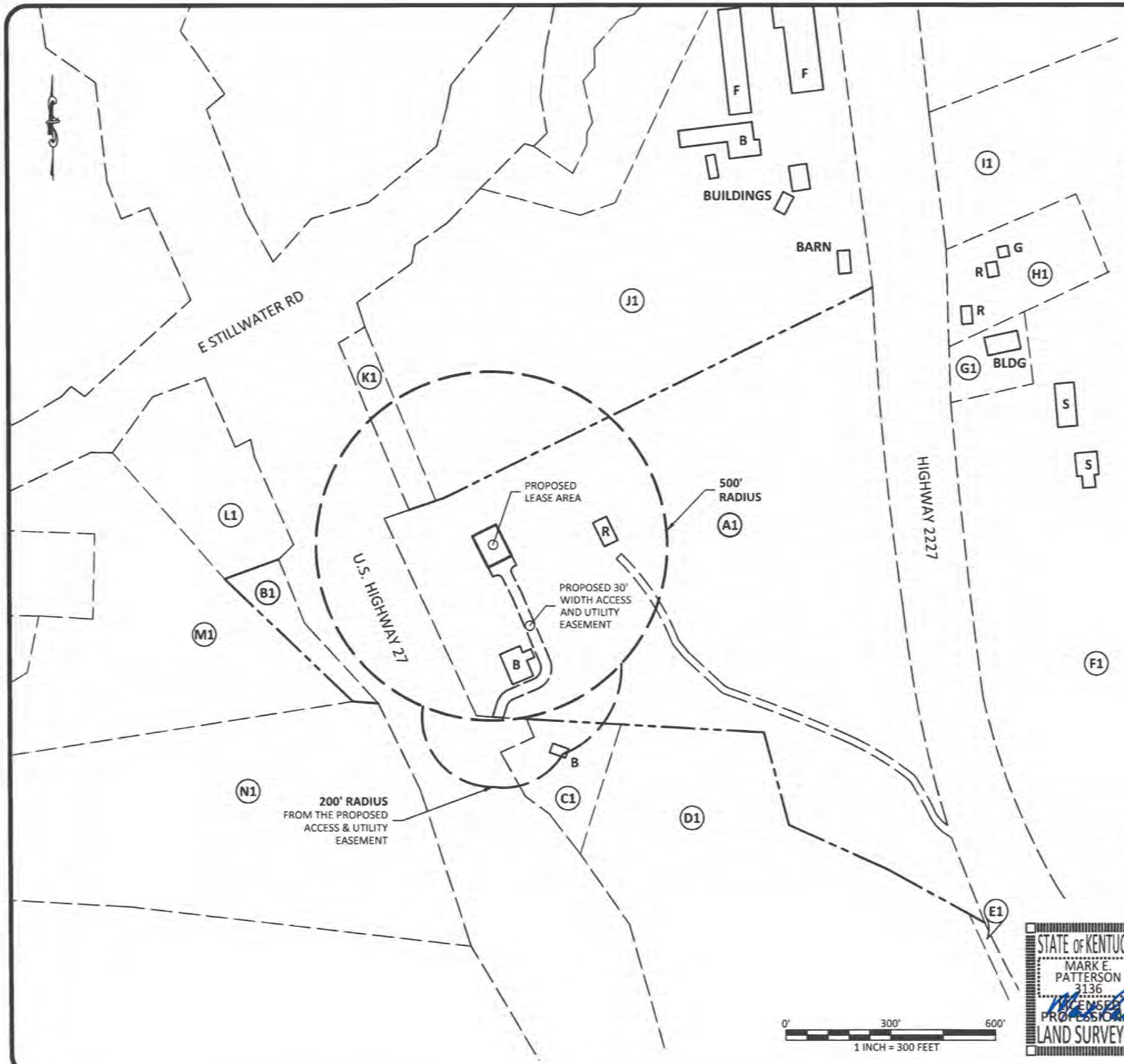
PROPERTY OWNER:
DANNY MCGLOTHLIN
1650 W HWY 80
SOMERSET, KY 42503

SOURCE OF TITLE:
BOOK 850, PAGE 478

POD NUMBER:	21-82626
DRAWN BY:	CPM
CHECKED BY:	MEP
SURVEY DATE:	6.14.21
PLAT DATE:	6.22.21

SHEET TITLE:
SITE SURVEY
THIS DOES NOT REPRESENT A BOUNDARY SURVEY OF THE PARENT PARCEL

SHEET NUMBER: (3 pages)
B-1.2



GENERAL NOTE:

1. ALL INFORMATION SHOWN HEREON WAS OBTAINED FROM THE RECORDS OF THE PULASKI COUNTY KENTUCKY PROPERTY VALUATION ADMINISTRATION OFFICE ON JUNE 14, 2021 AND RE-VERIFIED ON FEBRUARY 22, 2022. THE PROPERTY VALUATION ADMINISTRATION RECORDS MAY NOT REFLECT THE CURRENT OWNERS AND ADDRESSES DUE TO THE INACCURACIES AND TIME LAPSE IN UPDATING FILES. POD AND THE COUNTY PROPERTY VALUATION ADMINISTRATION EXPRESSLY DISCLAIMS ANY WARRANTY FOR THE CONTENT AND ANY ERRORS CONTAINED IN THEIR FILES
2. THIS MAP IS FOR GENERAL INFORMATIONAL PURPOSES ONLY AND IS NOT A BOUNDARY SURVEY
3. NOT FOR RECORDING OR PROPERTY TRANSFER.

NOTE:
PARCEL NUMBERS ARE OF RECORD IN THE PULASKI COUNTY PROPERTY VALUATION ADMINISTRATOR OFFICE.

EXISTING BUILDINGS
BLDG = BUILDING
R = RESIDENCE
B = BUSINESS
S = SPORTS COMPLEX
F = FACTORY

STATE OF KENTUCKY
MARK E. PATTERSON
3136
LICENSED PROFESSIONAL
LAND SURVEYOR

CERTIFICATE
I HEREBY CERTIFY THAT THIS EXHIBIT PERTAINING TO THE ADJOINING PROPERTY OWNERS PER PVA RECORDS WAS PREPARED UNDER MY DIRECT SUPERVISION. NO BOUNDARY SURVEYING OF ANY KIND HAS BEEN PERFORMED FOR THIS EXHIBIT.

Mark Patterson 09/15/2022
MARK PATTERSON, PLS #3136 DATE

PREPARED BY:
POD
POWER OF DESIGN
11490 BLUEGRASS PARKWAY
LOUISVILLE, KY 40299
502-437-5252

PREPARED FOR:
CELLCO PARTNERSHIP D/B/A verizon

EXHIBIT

REV.	DATE	DESCRIPTION
A	2.22.22	ISSUED FOR REVIEW
0	9.15.22	ISSUED AS FINAL

SITE INFORMATION:
LV NW SOMERSET
1730 N HIGHWAY 27
SOMERSET, KY 42503
PULASKI COUNTY

TAX PARCEL NUMBER:
060-2-0-25

PROPERTY OWNER:
DANNY MCGLOTHLIN
1650 W HWY 80
SOMERSET, KY 42503

SOURCE OF TITLE:
BOOK 850, PAGE 478

POD NUMBER:	21-82630
DRAWN BY:	AIM
CHECKED BY:	MEP
SURVEY DATE:	6.14.21
PLAT DATE:	2.22.22

SHEET TITLE:
500' RADIUS AND ABUTTERS MAP

SHEET NUMBER: (2 pages)
B-2

ADJACENT PROPERTY OWNERS

(A1) PARCEL ID: 060-2-0-25
MCGLOTHLIN DANNY
1650 W HWY 80
SOMERSET KY 42503

(B1) PARCEL ID: 060-2-0-25.1
MCGLOTHLIN DANNY
1650 W HWY 80
SOMERSET KY 42503

(C1) PARCEL ID: 060-2-0-25.2
KJS PROPERTIES LLC
1344 HWY 3091
SOMERSET KY 42503

(D1) PARCEL ID: 060-2-0-35.2
TRIMBLE TIMOTHY A & JOEY M &
JEFFREY LEE ELLIS
C/O TIMOTHY TRIMBLE
119 LEWIS BROWN DR
SOMERSET KY 42503

(E1) PARCEL ID: 060-2-0-35.1
HEAVENLY 1 LLC & HEAVENLY 2 LLC
99 LANCASTER ST
STANFORD KY 40484

(F1) PARCEL ID: 060-0-0-04
CITY OF SOMERSET
104 COLLEGE ST
SOMERSET KY 42501

(G1) PARCEL ID: 060-0-0-04.1
TURPEN ELIZABETH L
PO BOX 12
NANCY KY 42544

(H1) PARCEL ID: 060-1-1-03
DYKES STEPHEN A
1201 SHOPVILLE RD
SOMERSET KY 42503

(I1) PARCEL ID: 060-1-1-04.2
BOGGS ODELLA LAFON & SANDRA GA
407 POINSETTIA AVE
TITUSVILLE FL 32796

(J1) PARCEL ID: 060-1-1-02
WARNER FERTILIZER CO INC
PO BOX 796
SOMERSET KY 42502

(K1) PARCEL ID: 048-7-1-01.2
HUMBLE RICHARD G & SANDRA A
84 FRIENDSHIP DR
SOMERSET KY 42503

(L1) PARCEL ID: 048-7-1-01.1
HUMBLE RICHARD G & SANDRA A
84 FRIENDSHIP DR
SOMERSET KY 42503

(M1) PARCEL ID: 048-8-0-04
SWEARINGEN KENNY
1344 HWY 3091
SOMERSET KY 42503

(N1) PARCEL ID: 048-8-0-03.1
SWEARINGEN KENNETH & JIL E
1344 HWY 3091
SOMERSET KY 42503

GENERAL NOTE:

1. ALL INFORMATION SHOWN HEREON WAS OBTAINED FROM THE RECORDS OF THE PULASKI COUNTY KENTUCKY PROPERTY VALUATION ADMINISTRATION OFFICE ON JUNE 14, 2021 AND RE-VERIFIED ON FEBRUARY 22, 2022. THE PROPERTY VALUATION ADMINISTRATION RECORDS MAY NOT REFLECT THE CURRENT OWNERS AND ADDRESSES DUE TO THE INACCURACIES AND TIME LAPSE IN UPDATING FILES. POD AND THE COUNTY PROPERTY VALUATION ADMINISTRATION EXPRESSLY DISCLAIMS ANY WARRANTY FOR THE CONTENT AND ANY ERRORS CONTAINED IN THEIR FILES
2. THIS MAP IS FOR GENERAL INFORMATIONAL PURPOSES ONLY AND IS NOT A BOUNDARY SURVEY
3. NOT FOR RECORDING OR PROPERTY TRANSFER.

NOTE:
PARCEL NUMBERS ARE OF RECORD IN THE PULASKI COUNTY PROPERTY VALUATION ADMINISTRATOR OFFICE.

STATE OF KENTUCKY
MARK E. PATTERSON
3136
LICENSED
PROFESSIONAL
LAND SURVEYOR

CERTIFICATE

I HEREBY CERTIFY THAT THIS EXHIBIT PERTAINING TO THE ADJOINING PROPERTY OWNERS PER PVA RECORDS WAS PREPARED UNDER MY DIRECT SUPERVISION. NO BOUNDARY SURVEYING OF ANY KIND HAS BEEN PERFORMED FOR THIS EXHIBIT.

Mark Patterson 09/15/2022

MARK PATTERSON, PLS #3136 DATE

PREPARED BY:
POD
POWER OF DESIGN
11490 BLUEGRASS PARKWAY
LOUISVILLE, KY 40299
502-437-5252

PREPARED FOR:
CELLCO PARTNERSHIP D/B/A verizon

EXHIBIT

REV.	DATE	DESCRIPTION
A	2.22.22	ISSUED FOR REVIEW
0	9.15.22	ISSUED AS FINAL

SITE INFORMATION:
LV NW SOMERSET
1730 N HIGHWAY 27
SOMERSET, KY 42503
PULASKI COUNTY

TAX PARCEL NUMBER:
060-2-0-25

PROPERTY OWNER:
DANNY MCGLOTHLIN
1650 W HWY 80
SOMERSET, KY 42503

SOURCE OF TITLE:
BOOK 850, PAGE 478

POD NUMBER:	21-82630
DRAWN BY:	AIM
CHECKED BY:	MEP
SURVEY DATE:	6.14.21
PLAT DATE:	2.22.22

SHEET TITLE:
500' RADIUS AND ABUTTERS MAP

SHEET NUMBER: (2 pages)
B-2.1

REVISION LOG

REV *	MM/DD/YY	SHEET NUMBER	DESCRIPTION OF REVISION
A	8/25/2022	ALL SHEETS	ISSUED FOR REVIEW
0	9/15/2022	ALL SHEETS	ISSUED AS FINAL

POD
POWER OF DESIGN
11490 BLUEGRASS PARKWAY
LOUISVILLE, KY 40299
502-437-5252

vertical bridge

09/15/2022

STATE OF KENTUCKY
MARK E. PATTERSON
16,300
LICENSED PROFESSIONAL ENGINEER

EN PERMIT: 3594

ZONING DRAWINGS

REV.	DATE	DESCRIPTION
A	8.25.22	ISSUED FOR REVIEW
0	9.15.22	ISSUED AS FINAL

SITE INFORMATION:
LV NW SOMERSET

1730 N HIGHWAY 27
SOMERSET, KY 42503
PULASKI COUNTY

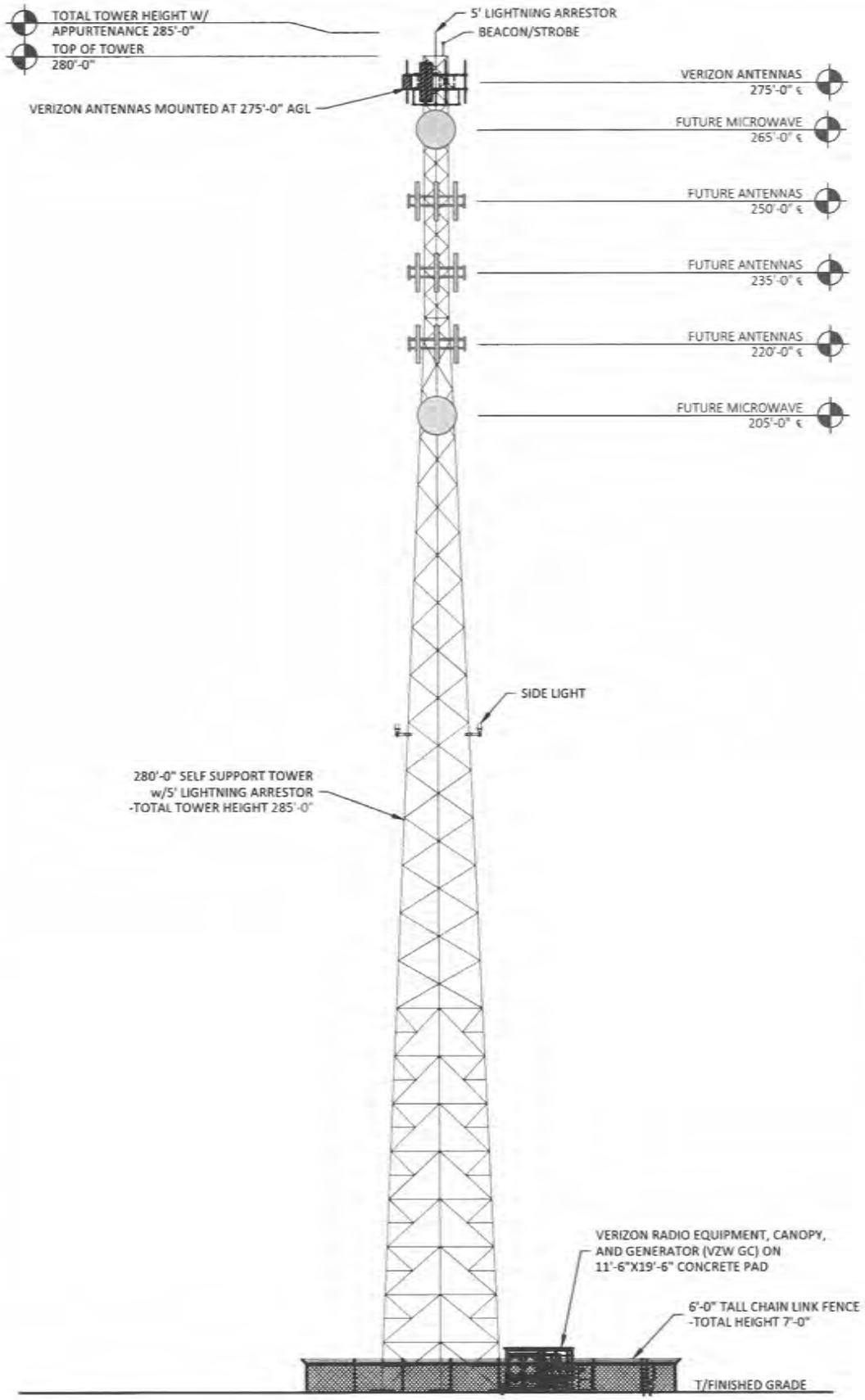
VERTICAL BRIDGE SITE NUMBER:
US-KY-5176

VERTICAL BRIDGE SITE NAME:
LV NW SOMERSET

POD NUMBER:	21-82632
DRAWN BY:	POD
CHECKED BY:	MEP
DATE:	03.01.22

SHEET TITLE:
REVISION LOG

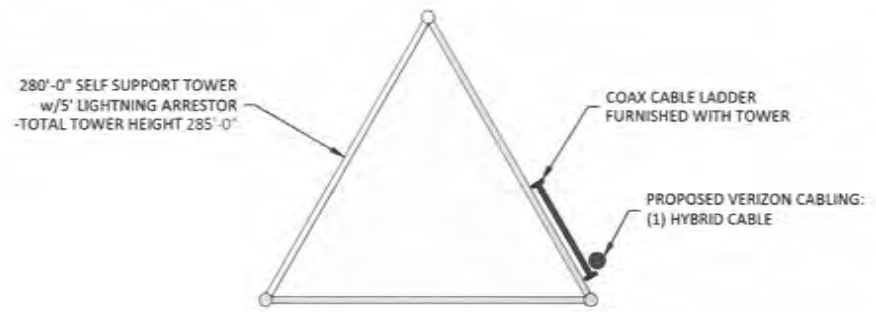
SHEET NUMBER:
R-1



TOWER ELEVATION 1 / TE-1
SCALE: N.T.S.

NOTE:

1. IT IS THE INSTALLING CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL ANTENNA INFORMATION AGAINST FINAL RADIO ENGINEERING PLAN PROVIDED BY RURAL CELLULAR CORP d/b/a VERIZON (VZW GC)
2. ALL TOWER LIGHTING SHALL BE INSTALLED AS REQUIRED BY THE FEDERAL AVIATION ADMINISTRATION AND RECOMMENDED BY THE USFWS INTERIM GUIDELINES (2000) FOR LIGHTING OF TOWERS OVER 200' IN HEIGHT.



COAX PLAN
SCALE: N.T.S.

N

POD
POWER OF DESIGN
11490 BLUEGRASS PARKWAY
LOUISVILLE, KY 40299
502-437-5252

bridge

09/15/2022

STATE OF KENTUCKY
MARK E. PATTERSON
16,300
LICENSED PROFESSIONAL ENGINEER

EN PERMIT: 3594

ZONING DRAWINGS

REV.	DATE	DESCRIPTION
A	8.25.22	ISSUED FOR REVIEW
0	9.15.22	ISSUED AS FINAL

SITE INFORMATION:
LV NW SOMERSET
1730 N HIGHWAY 27
SOMERSET, KY 42503
PULASKI COUNTY

VERTICAL BRIDGE SITE NUMBER:
US-KY-5176

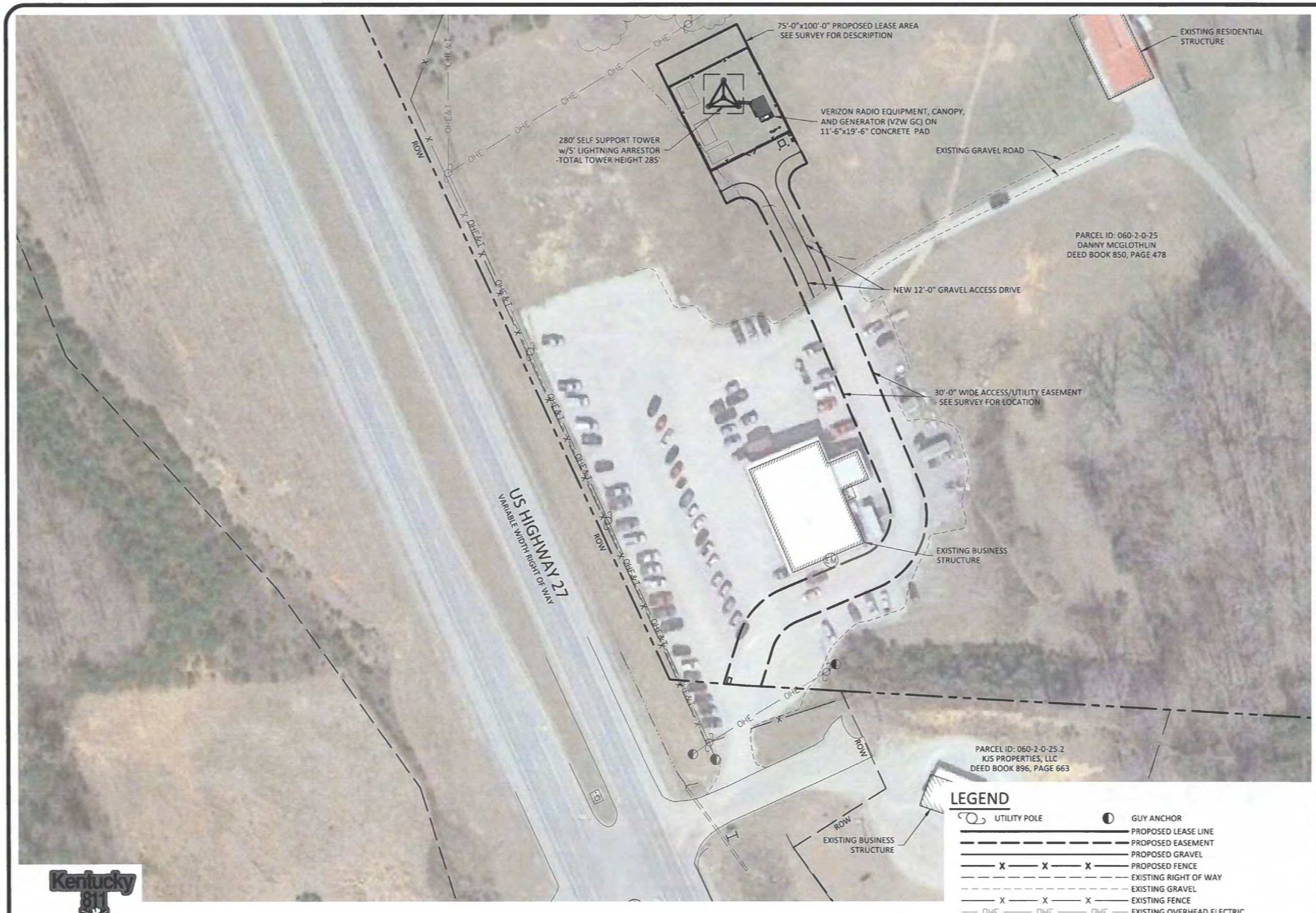
VERTICAL BRIDGE SITE NAME:
LV NW SOMERSET

POD NUMBER:	21-82632
DRAWN BY:	POD
CHECKED BY:	MEP
DATE:	03.01.22

SHEET TITLE:
TOWER ELEVATION

SHEET NUMBER:
TE-1

DigiSigner Document ID: 585ac813-a435-4548-a08f-7c3de2fe1a02



LEGEND

- UTILITY POLE
- GUY ANCHOR
- PROPOSED LEASE LINE
- PROPOSED EASEMENT
- PROPOSED GRAVEL
- PROPOSED FENCE
- EXISTING RIGHT OF WAY
- EXISTING GRAVEL
- EXISTING FENCE
- EXISTING OVERHEAD ELECTRIC
- EXISTING OVERHEAD ELECTRIC & TELEPHONE
- EXISTING PAVEMENT
- EXISTING DITCH
- PROPERTY LINE
- ADJACENT PROPERTY LINE

Kentucky 811
Know what's below. Call before you dig.
Call Monday thru Friday - 7 am. to 6 pm
1-800-752-6007
PER KENTUCKY STATE LAW, IT IS AGAINST THE LAW TO EXCAVATE WITHOUT NOTIFYING THE UNDERGROUND LOCATION SERVICE TWO (2) WORKING DAYS BEFORE COMMENCING WORK.

0' 80' 160'
1" = 80

OVERALL SITE PLAN W/AERIAL OVERLAY
SCALE: 1" = 80'

N

POD
POWER OF DESIGN
11490 BLUEGRASS PARKWAY
LOUISVILLE, KY 40299
502-437-5252

vertical bridge

09/15/2022

STATE OF KENTUCKY
MARK E. PATTERSON
16,300
LICENSED PROFESSIONAL ENGINEER

EN PERMIT: 3594

ZONING DRAWINGS

REV.	DATE	DESCRIPTION
A	8.25.22	ISSUED FOR REVIEW
0	9.15.22	ISSUED AS FINAL

SITE INFORMATION:
LV NW SOMERSET

1730 N HIGHWAY 27
SOMERSET, KY 42503
PULASKI COUNTY

VERTICAL BRIDGE SITE NUMBER:
US-KY-5176

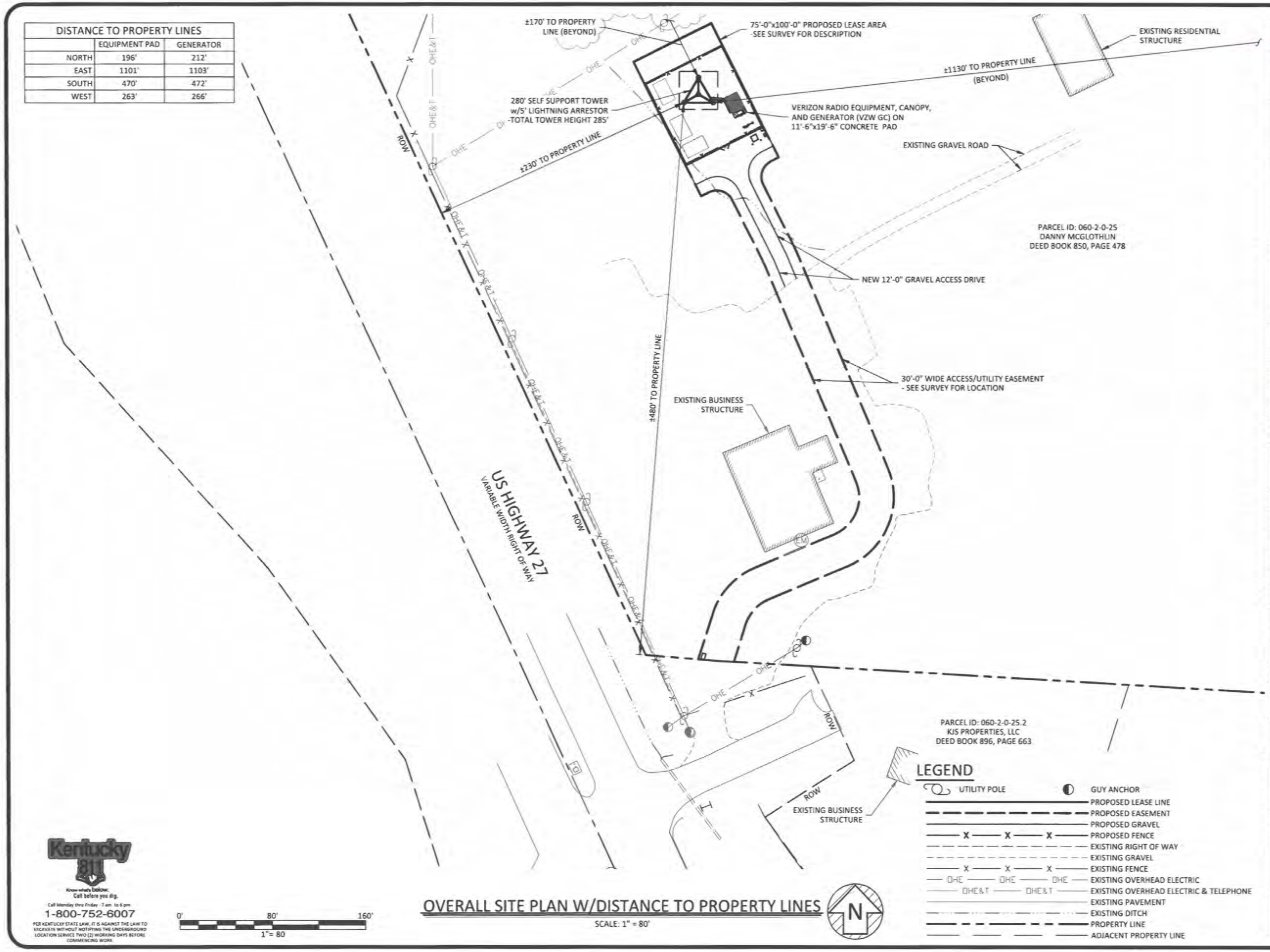
VERTICAL BRIDGE SITE NAME:
LV NW SOMERSET

POD NUMBER:	21-82632
DRAWN BY:	POD
CHECKED BY:	MEP
DATE:	03.01.22

SHEET TITLE:
OVERALL SITE PLAN W/AERIAL OVERLAY

SHEET NUMBER:
C-1

DISTANCE TO PROPERTY LINES		
	EQUIPMENT PAD	GENERATOR
NORTH	196'	212'
EAST	1101'	1103'
SOUTH	470'	472'
WEST	263'	266'



LEGEND

- UTILITY POLE
- GUY ANCHOR
- PROPOSED LEASE LINE
- PROPOSED EASEMENT
- PROPOSED GRAVEL
- PROPOSED FENCE
- EXISTING RIGHT OF WAY
- EXISTING GRAVEL
- EXISTING FENCE
- EXISTING OVERHEAD ELECTRIC
- EXISTING OVERHEAD ELECTRIC & TELEPHONE
- EXISTING PAVEMENT
- EXISTING DITCH
- PROPERTY LINE
- ADJACENT PROPERTY LINE

Kentucky 811
Know what's below. Call before you dig.
Call Monday thru Friday - 7 am to 6 pm
1-800-752-6007
PER KENTUCKY STATE LAW, IT IS AGAINST THE LAW TO EXCAVATE WITHOUT NOTIFYING THE UNDERGROUND LOCATION SERVICE TWO (2) WORKING DAYS BEFORE COMMENCING WORK.

0' 80' 160'
1"= 80

OVERALL SITE PLAN W/DISTANCE TO PROPERTY LINES

SCALE: 1" = 80'

N

POD
POWER OF DESIGN
11490 BLUEGRASS PARKWAY
LOUISVILLE, KY 40299
502-437-5252

bridge

09/15/2022

STATE OF KENTUCKY
MARK E. PATTERSON
16,300
LICENSED PROFESSIONAL ENGINEER

EN PERMIT: 3594

ZONING DRAWINGS

REV.	DATE	DESCRIPTION
A	8.25.22	ISSUED FOR REVIEW
0	9.15.22	ISSUED AS FINAL

SITE INFORMATION:
LV NW SOMERSET

1730 N HIGHWAY 27
SOMERSET, KY 42503
PULASKI COUNTY

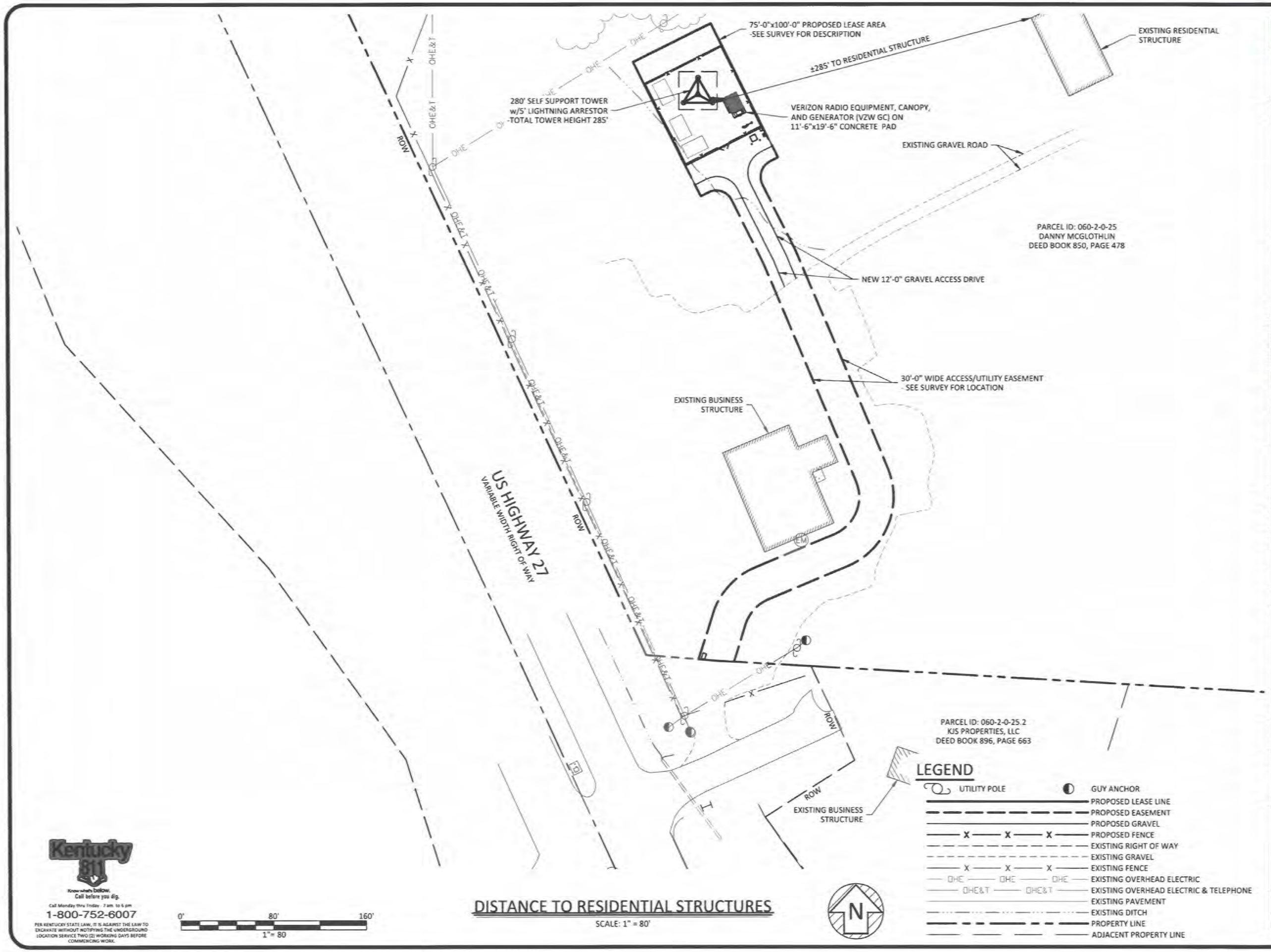
VERTICAL BRIDGE SITE NUMBER:
US-KY-5176

VERTICAL BRIDGE SITE NAME:
LV NW SOMERSET

POD NUMBER:	21-82632
DRAWN BY:	POD
CHECKED BY:	MEP
DATE:	03.01.22

SHEET TITLE:
OVERALL SITE PLAN W/DISTANCE TO PROPERTY LINES

SHEET NUMBER:
C-1A



DISTANCE TO RESIDENTIAL STRUCTURES

SCALE: 1" = 80'

Know what's below. Call before you dig.
Call Monday thru Friday - 7 am to 6 pm
1-800-752-6007
PER KENTUCKY STATE LAW, IT IS AGAINST THE LAW TO EXCAVATE WITHOUT NOTIFYING THE UNDERGROUND LOCATION SERVICE TWO (2) WORKING DAYS BEFORE COMMENCING WORK.

POD
POWER OF DESIGN
11490 BLUEGRASS PARKWAY
LOUISVILLE, KY 40299
502-437-5252

bridge

09/15/2022

STATE OF KENTUCKY
MARK E. PATTERSON
16,300
LICENSED PROFESSIONAL ENGINEER

EN PERMIT: 3594

ZONING DRAWINGS

REV.	DATE	DESCRIPTION
A	8.25.22	ISSUED FOR REVIEW
0	9.15.22	ISSUED AS FINAL

SITE INFORMATION:
LV NW SOMERSET

1730 N HIGHWAY 27
SOMERSET, KY 42503
PULASKI COUNTY

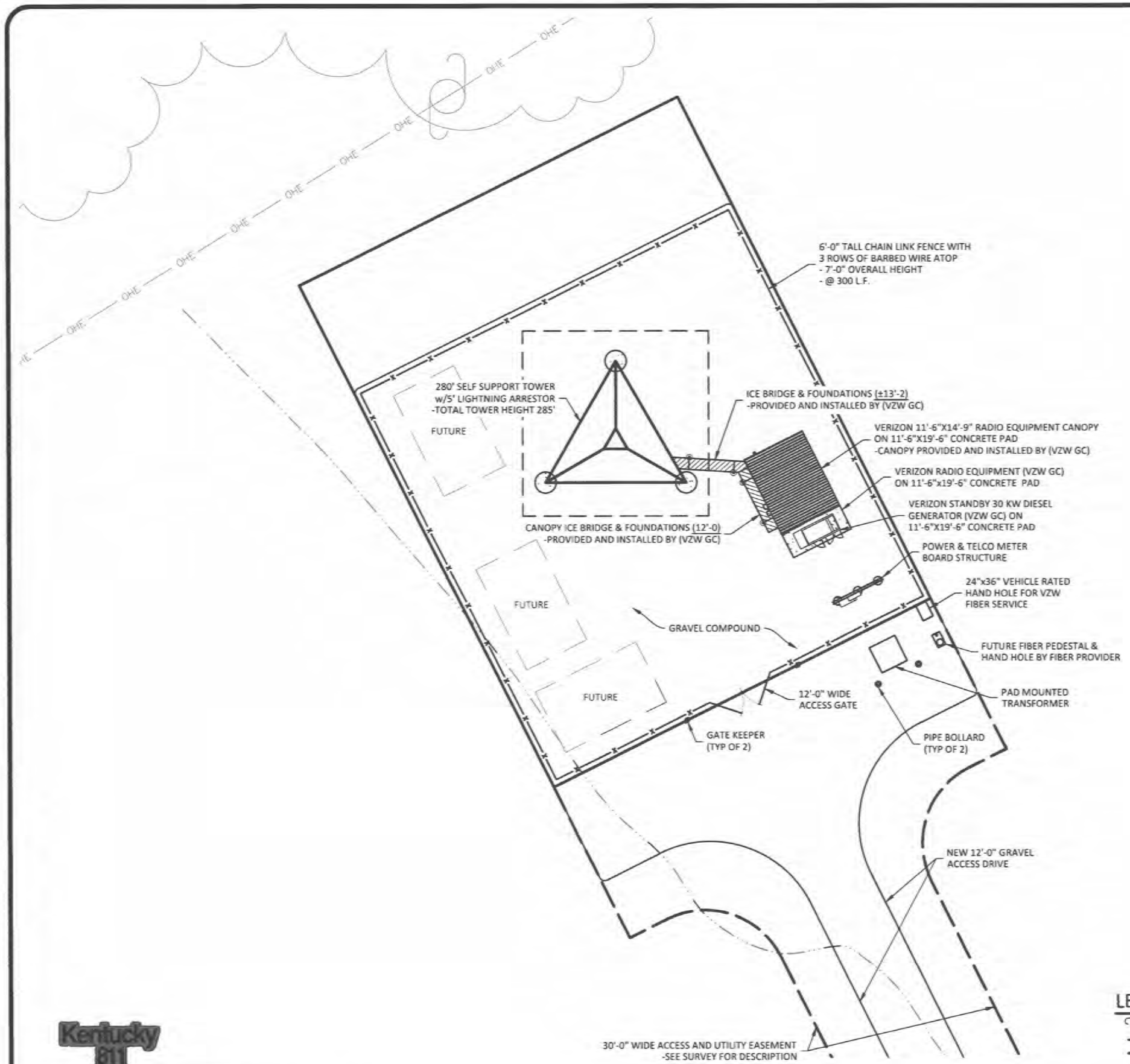
VERTICAL BRIDGE SITE NUMBER:
US-KY-5176

VERTICAL BRIDGE SITE NAME:
LV NW SOMERSET

POD NUMBER:	21-82632
DRAWN BY:	POD
CHECKED BY:	MEP
DATE:	03.01.22

SHEET TITLE:
DISTANCE TO RESIDENTIAL STRUCTURES

SHEET NUMBER:
C-1B



Kentucky 811
Know what's below. Call before you dig.
Call Monday thru Friday 7 am to 6 pm.
1-800-752-6007
PER KENTUCKY STATE LAW, IT IS AGAINST THE LAW TO EXCAVATE WITHOUT NOTIFYING THE UNDERGROUND LOCATION SERVICE TWO (2) WORKING DAYS BEFORE COMMENCING WORK.

*NOTE:
GENERAL CONTRACTOR IS TO ENSURE THERE IS NO DISTURBANCE OF PROPERTY, SOIL, ETC. OUTSIDE OF THE STAKED LEASE AREA WITHOUT APPROVAL FROM VERIZON CONSTRUCTION MANAGER

0' 20' 40'
1"=20'

DETAILED SITE PLAN
SCALE: 1" = 20'

N

LEGEND
- UTILITY POLE
- PROPOSED LEASE LINE
- PROPOSED EASEMENT
- PROPOSED GRAVEL
- PROPOSED FENCE
- EXISTING FENCE
- EXISTING OVERHEAD ELECTRIC
- EXISTING DITCH
- EXISTING RIGHT OF WAY

POD
POWER OF DESIGN
11490 BLUEGRASS PARKWAY
LOUISVILLE, KY 40299
502-437-5252

bridge

09/15/2022

STATE OF KENTUCKY
MARK E. PATTERSON
16,300
LICENSED PROFESSIONAL ENGINEER

EN PERMIT: 3594

ZONING DRAWINGS

REV.	DATE	DESCRIPTION
A	8.25.22	ISSUED FOR REVIEW
0	9.15.22	ISSUED AS FINAL

SITE INFORMATION:
LV NW SOMERSET
1730 N HIGHWAY 27
SOMERSET, KY 42503
PULASKI COUNTY

VERTICAL BRIDGE SITE NUMBER:
US-KY-5176

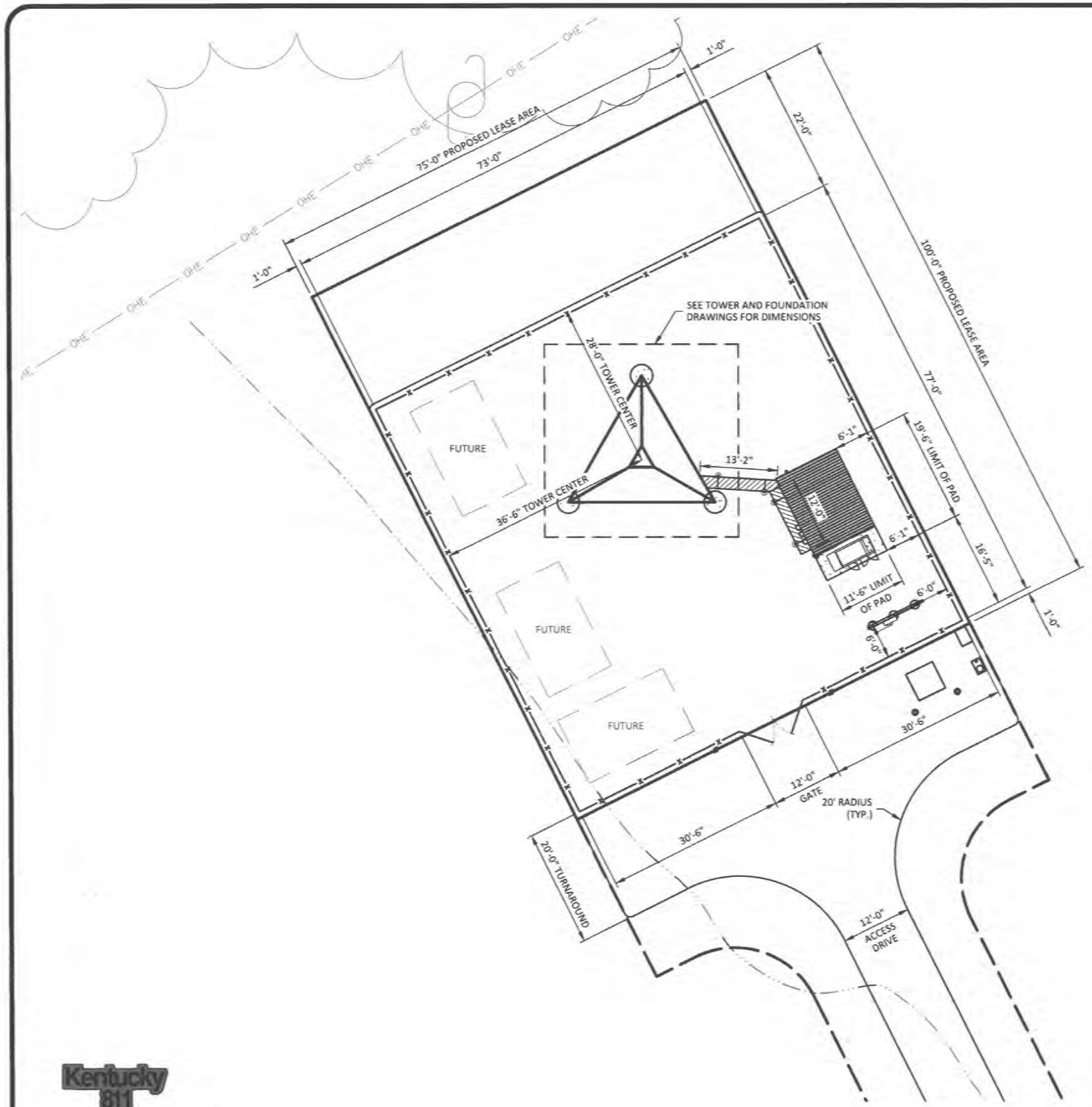
VERTICAL BRIDGE SITE NAME:
LV NW SOMERSET

POD NUMBER:	21-82632
DRAWN BY:	POD
CHECKED BY:	MEP
DATE:	03.01.22

SHEET TITLE:
DETAILED SITE PLAN

SHEET NUMBER:
C-3

DigiSigner Document ID: 585ac813-a435-4548-a08f-7c3de2fe1a02



Kentucky 811
Know what's below. Call before you dig.
Call Monday thru Friday 7 am to 6 pm
1-800-752-6007
PER KENTUCKY STATE LAW, IT IS AGAINST THE LAW TO EXCAVATE WITHOUT NOTIFYING THE UNDERGROUND LOCATION SERVICE TWO (2) WORKING DAYS BEFORE COMMENCING WORK.

*NOTE:
GENERAL CONTRACTOR IS TO ENSURE THERE IS NO DISTURBANCE OF PROPERTY, SOIL, ETC. OUTSIDE OF THE STAKED LEASE AREA WITHOUT APPROVAL FROM VERIZON CONSTRUCTION MANAGER

0' 20' 40'
1"=20'

DIMENSIONED SITE PLAN
SCALE: 1" = 20'

N

LEGEND
- UTILITY POLE
- PROPOSED LEASE LINE
- PROPOSED EASEMENT
- PROPOSED GRAVEL
- PROPOSED FENCE
- EXISTING FENCE
- EXISTING OVERHEAD ELECTRIC
- EXISTING DITCH
- EXISTING RIGHT OF WAY

POD
POWER OF DESIGN
11490 BLUEGRASS PARKWAY
LOUISVILLE, KY 40299
502-437-5252

bridge

09/15/2022

STATE OF KENTUCKY
MARK E. PATTERSON
16,300
LICENSED PROFESSIONAL ENGINEER

EN PERMIT: 3594

ZONING DRAWINGS

REV.	DATE	DESCRIPTION
A	8.25.22	ISSUED FOR REVIEW
0	9.15.22	ISSUED AS FINAL

SITE INFORMATION:
LV NW SOMERSET

1730 N HIGHWAY 27
SOMERSET, KY 42503
PULASKI COUNTY

VERTICAL BRIDGE SITE NUMBER:
US-KY-5176

VERTICAL BRIDGE SITE NAME:
LV NW SOMERSET

POD NUMBER:	21-82632
DRAWN BY:	POD
CHECKED BY:	MEP
DATE:	03.01.22

SHEET TITLE:
DIMENSIONED SITE PLAN

SHEET NUMBER:
C-4

NELLO

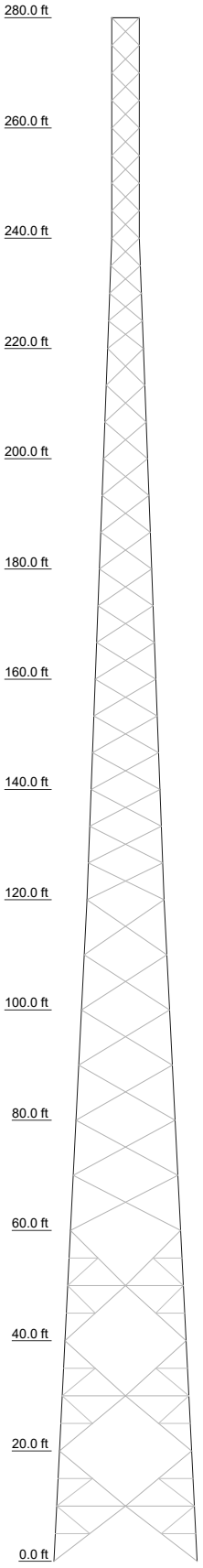
Design Supporting Calculations

Sales Order:	SO29858
Drawing Number(s)	
Tower:	605991
Foundation:	605992
Order Description:	NSK 26' x 280'
Site Name:	US-KY-5176 / LV NW Somerset
Location:	Pulaski County, KY
	Prepared For:
Customer:	VB BTS II, LLC
Contact:	Christopher Molloy
Date:	10/12/2022

OCT 12 2022

Table of Contents

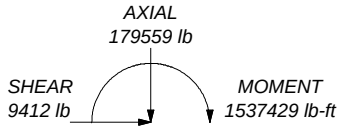
Section	T14	T13	T12	T11	T10	T9	T8	T7	T6	T5	T4	T3	T2	T1
Legs				P10x.365					P8x.322		P6x.28		P4x.237	P2x.154
Leg Grade								A500-50						
Diagonals	L4x4x1/4		L3 1/2x3 1/2x1/4			L3x3x3/16		L2 1/2x2 1/2x3/16			L2x2x1/8		L2x2x3/16	L1 3/4x1 3/4x1/8
Diagonal Grade								A529-50						
Top Girts							N.A.							L1 3/4x1 3/4x1/8
Horizontals	L4x4x1/4		L3 1/2x3 1/2x1/4				N.A.							
Red. Horizontals		L2 1/2x2 1/2x3/16	L2x2x3/16				N.A.							
Red. Diagonals		L2 1/2x2 1/2x3/16					N.A.							
Face Width (ft) 26	24	22	20	18	16	14	12.5	11	9.5	8	6.5	5		
# Panels @ (ft)			12 @ 10					15 @ 6.66667				12 @ 5		
Weight (lb) 42506.1	5196.5	4814.5	4641.1	4309.0	3944.7	3561.7	3578.4	2709.3	2631.4	2566.9	1576.2	1586.5	1167.0	533.0



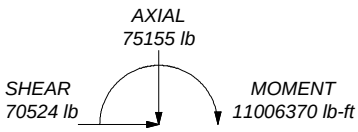
ALL REACTIONS ARE FACTORED

MAX. CORNER REACTIONS AT BASE:
DOWN: 513862 lb
SHEAR: 48218 lb

UPLIFT: -447816 lb
SHEAR: 41440 lb



TORQUE 1425 lb-ft
30 mph WIND - 1.5000 in ICE



TORQUE 9755 lb-ft
REACTIONS - 105 mph WIND

DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
40,000 sq in CaAa	275	Dish Pipe Mount	230
30,000 sq in CaAa	264	6' Solid w/Radome	230
30,000 sq in CaAa	254		

MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A500-50	50 ksi	62 ksi	A529-50	50 ksi	65 ksi

TOWER DESIGN NOTES

1. Tower designed for Exposure C to the TIA-222-H Standard.
2. Tower designed for a 105 mph ultimate wind in accordance with the TIA-222-H Standard.
3. Tower is also designed for a 30 mph basic wind with 1.50 in ice. Ice is considered to increase in thickness with height.
4. Deflections are based upon a 60 mph wind.
5. Tower Risk Category II.
6. Topographic Category 2 with Crest Height of 80.00 ft
7. TOWER RATING: 99.9%

Nello Corporation
1201 S. Sheridan Street
South Bend, IN. 46619
Phone: 800-806-3556
FAX:

Job:	***SO29858; Tower 605991; Foundation 605992***		
Project:	***NS 280' - US-KY-5176 / LV NW Somerset - Pulaski Co., KY***		
Client: VB BTS II, LLC	Drawn by: AG	App'd:	
Code: TIA-222-H	Date: 10/11/22	Scale: NTS	
Path: N:\eri\6059\605991.eri		Dwg No. E-1	

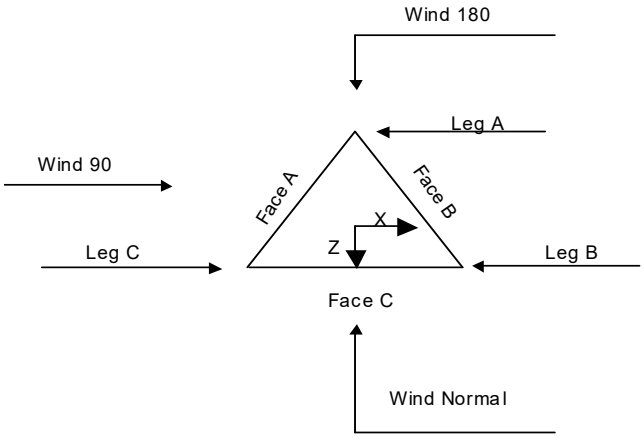
Tower Input Data

The main tower is a 3x free standing tower with an overall height of 280.00 ft above the ground line.
The base of the tower is set at an elevation of 0.00 ft above the ground line.
The face width of the tower is 5.00 ft at the top and 26.00 ft at the base.
This tower is designed using the TIA-222-H standard.
The following design criteria apply:

Tower base elevation above sea level: 0.00 ft.
Ultimate wind speed of 105 mph.
Risk Category II.
Exposure Category C.
Simplified Topographic Factor Procedure for wind speed-up calculations is used.
Topographic Category: 2.
Crest Height: 80.00 ft.
Nominal ice thickness of 1.5000 in.
Ice thickness is considered to increase with height.
Ice density of 56 pcf.
A wind speed of 30 mph is used in combination with ice.
Temperature drop of 50 °F.
Deflections calculated using a wind speed of 60 mph.
A non-linear (P-delta) analysis was used.
Pressures are calculated at each section.
Stress ratio used in tower member design is 1.
Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

Options

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



Triangular Tower

Tower Section Geometry

Tower Section	Tower Elevation	Assembly Database	Description	Section Width	Number of Sections	Section Length
	ft			ft		ft
T1	280.00-260.00			5.00	1	20.00
T2	260.00-240.00			5.00	1	20.00
T3	240.00-220.00			5.00	1	20.00
T4	220.00-200.00			6.50	1	20.00
T5	200.00-180.00			8.00	1	20.00
T6	180.00-160.00			9.50	1	20.00
T7	160.00-140.00			11.00	1	20.00
T8	140.00-120.00			12.50	1	20.00
T9	120.00-100.00			14.00	1	20.00
T10	100.00-80.00			16.00	1	20.00
T11	80.00-60.00			18.00	1	20.00
T12	60.00-40.00			20.00	1	20.00
T13	40.00-20.00			22.00	1	20.00
T14	20.00-0.00			24.00	1	20.00

Tower Section Geometry *(cont'd)*

Tower Section	Tower Elevation	Diagonal Spacing	Bracing Type	Has K Brace End Panels	Has Horizontals	Top Girt Offset	Bottom Girt Offset
	ft	ft				in	in
T1	280.00-260.00	5.00	X Brace	No	No	0.0000	0.0000

Tower Section	Tower Elevation ft	Diagonal Spacing ft	Bracing Type	Has K Brace End Panels	Has Horizontals	Top Girt Offset in	Bottom Girt Offset in
T2	260.00-240.00	5.00	X Brace	No	No	0.0000	0.0000
T3	240.00-220.00	5.00	X Brace	No	No	0.0000	0.0000
T4	220.00-200.00	6.67	X Brace	No	No	0.0000	0.0000
T5	200.00-180.00	6.67	X Brace	No	No	0.0000	0.0000
T6	180.00-160.00	6.67	X Brace	No	No	0.0000	0.0000
T7	160.00-140.00	6.67	X Brace	No	No	0.0000	0.0000
T8	140.00-120.00	6.67	X Brace	No	No	0.0000	0.0000
T9	120.00-100.00	10.00	X Brace	No	No	0.0000	0.0000
T10	100.00-80.00	10.00	X Brace	No	No	0.0000	0.0000
T11	80.00-60.00	10.00	X Brace	No	No	0.0000	0.0000
T12	60.00-40.00	10.00	Double K1	No	Yes	0.0000	0.0000
T13	40.00-20.00	10.00	Double K1	No	Yes	0.0000	0.0000
T14	20.00-0.00	10.00	Double K1	No	Yes	0.0000	0.0000

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Leg Type	Leg Size	Leg Grade	Diagonal Type	Diagonal Size	Diagonal Grade
T1 280.00-260.00	Pipe	P2x.154	A500-50 (50 ksi)	Equal Angle	L1 3/4x1 3/4x1/8	A529-50 (50 ksi)
T2 260.00-240.00	Pipe	P4x.237	A500-50 (50 ksi)	Equal Angle	L2x2x3/16	A529-50 (50 ksi)
T3 240.00-220.00	Pipe	P6x.28	A500-50 (50 ksi)	Equal Angle	L2x2x1/8	A529-50 (50 ksi)
T4 220.00-200.00	Pipe	P6x.28	A500-50 (50 ksi)	Equal Angle	L2x2x1/8	A529-50 (50 ksi)
T5 200.00-180.00	Pipe	P8x.322	A500-50 (50 ksi)	Equal Angle	L2 1/2x2 1/2x3/16	A529-50 (50 ksi)
T6 180.00-160.00	Pipe	P8x.322	A500-50 (50 ksi)	Equal Angle	L2 1/2x2 1/2x3/16	A529-50 (50 ksi)
T7 160.00-140.00	Pipe	P8x.322	A500-50 (50 ksi)	Equal Angle	L2 1/2x2 1/2x3/16	A529-50 (50 ksi)
T8 140.00-120.00	Pipe	P10x.365	A500-50 (50 ksi)	Equal Angle	L2 1/2x2 1/2x3/16	A529-50 (50 ksi)
T9 120.00-100.00	Pipe	P10x.365	A500-50 (50 ksi)	Equal Angle	L3x3x3/16	A529-50 (50 ksi)
T10 100.00-80.00	Pipe	P10x.365	A500-50 (50 ksi)	Equal Angle	L3x3x3/16	A529-50 (50 ksi)
T11 80.00-60.00	Pipe	P10x.365	A500-50 (50 ksi)	Equal Angle	L3 1/2x3 1/2x1/4	A529-50 (50 ksi)
T12 60.00-40.00	Pipe	P10x.365	A500-50 (50 ksi)	Equal Angle	L3 1/2x3 1/2x1/4	A529-50 (50 ksi)
T13 40.00-20.00	Pipe	P10x.365	A500-50 (50 ksi)	Equal Angle	L3 1/2x3 1/2x1/4	A529-50 (50 ksi)
T14 20.00-0.00	Pipe	P10x.365	A500-50 (50 ksi)	Equal Angle	L4x4x1/4	A529-50 (50 ksi)

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Top Girt Type	Top Girt Size	Top Girt Grade	Bottom Girt Type	Bottom Girt Size	Bottom Girt Grade
T1 280.00-260.00	Equal Angle	L1 3/4x1 3/4x1/8	A529-50 (50 ksi)	Solid Round		A529-50 (50 ksi)

Tower Section Geometry *(cont'd)*

Tower Elevation ft	No. of Mid Girts	Mid Girt Type	Mid Girt Size	Mid Girt Grade	Horizontal Type	Horizontal Size	Horizontal Grade
T12 60.00-40.00	None	Solid Round		A529-50 (50 ksi)	Equal Angle	L3 1/2x3 1/2x1/4	A529-50 (50 ksi)
T13 40.00-20.00	None	Solid Round		A529-50 (50 ksi)	Equal Angle	L3 1/2x3 1/2x1/4	A529-50 (50 ksi)
T14 20.00-0.00	None	Solid Round		A529-50 (50 ksi)	Equal Angle	L4x4x1/4	A529-50 (50 ksi)

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Redundant Bracing Grade		Redundant Type	Redundant Size	K Factor
T12	A529-50	Horizontal (1)	Equal Angle	L2x2x3/16	1
60.00-40.00	(50 ksi)	Diagonal (1)	Equal Angle	L2 1/2x2 1/2x3/16	1
T13	A529-50	Horizontal (1)	Equal Angle	L2 1/2x2 1/2x3/16	1
40.00-20.00	(50 ksi)	Diagonal (1)	Equal Angle	L2 1/2x2 1/2x3/16	1
T14	A529-50	Horizontal (1)	Equal Angle	L2 1/2x2 1/2x3/16	1
20.00-0.00	(50 ksi)	Diagonal (1)	Equal Angle	L2 1/2x2 1/2x3/16	1

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Gusset Area (per face) ft^2	Gusset Thickness in	Gusset Grade	Adjust. Factor A_f	Adjust. Factor A_r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontals in	Double Angle Stitch Bolt Spacing Redundants in
T1 280.00-260.00	0.00	0.0000	A36 (36 ksi)	1	1	1.1	36.0000	36.0000	36.0000
T2 260.00-240.00	0.00	0.0000	A36 (36 ksi)	1	1	1.1	36.0000	36.0000	36.0000
T3 240.00-220.00	0.00	0.0000	A36 (36 ksi)	1	1	1.1	36.0000	36.0000	36.0000
T4 220.00-200.00	0.00	0.0000	A36 (36 ksi)	1	1	1.1	36.0000	36.0000	36.0000
T5 200.00-180.00	0.00	0.0000	A36 (36 ksi)	1	1	1.1	36.0000	36.0000	36.0000
T6 180.00-160.00	0.00	0.0000	A36 (36 ksi)	1	1	1.1	36.0000	36.0000	36.0000
T7	0.00	0.0000	A36	1	1	1.1	36.0000	36.0000	36.0000

Tower Elevation ft	Gusset Area (per face) ft²	Gusset Thickness in	Gusset Grade	Adjust. Factor A_f	Adjust. Factor A_r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontals in	Double Angle Stitch Bolt Spacing Redundants in
160.00-140.00			(36 ksi)						
T8	0.00	0.0000	A36	1	1	1.1	36.0000	36.0000	36.0000
140.00-120.00			(36 ksi)						
T9	0.00	0.0000	A36	1	1	1.1	36.0000	36.0000	36.0000
120.00-100.00			(36 ksi)						
T10	0.00	0.0000	A36	1	1	1.1	36.0000	36.0000	36.0000
100.00-80.00			(36 ksi)						
T11	0.00	0.0000	A36	1	1	1.1	36.0000	36.0000	36.0000
80.00-60.00			(36 ksi)						
T12	0.00	0.0000	A36	1	1	1.1	36.0000	36.0000	36.0000
60.00-40.00			(36 ksi)						
T13	0.00	0.0000	A36	1	1	1.1	36.0000	36.0000	36.0000
40.00-20.00			(36 ksi)						
T14 20.00-0.00	0.00	0.0000	A36	1	1	1.1	36.0000	36.0000	36.0000
			(36 ksi)						

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Calc K Single Angles	Calc K Solid Rounds	K Factors[1] Legs	X Brace Diags X Y	K Brace Diags X Y	Single Diags X Y	Girts X Y	Horiz. X Y	Sec. Horiz. X Y	Inner Brace X Y
T1	No	Yes	1	1	1	1	1	1	1	1
280.00-260.00				1	1	1	1	1	1	1
T2	No	Yes	1	1	1	1	1	1	1	1
260.00-240.00				1	1	1	1	1	1	1
T3	No	Yes	1	1	1	1	1	1	1	1
240.00-220.00				1	1	1	1	1	1	1
T4	No	Yes	1	1	1	1	1	1	1	1
220.00-200.00				1	1	1	1	1	1	1
T5	No	Yes	1	1	1	1	1	1	1	1
200.00-180.00				1	1	1	1	1	1	1
T6	No	Yes	1	1	1	1	1	1	1	1
180.00-160.00				1	1	1	1	1	1	1
T7	No	Yes	1	1	1	1	1	1	1	1
160.00-140.00				1	1	1	1	1	1	1
T8	No	Yes	1	1	1	1	1	1	1	1
140.00-120.00				1	1	1	1	1	1	1
T9	No	Yes	1	1	1	1	1	1	1	1
120.00-100.00				1	1	1	1	1	1	1
T10	No	Yes	1	1	1	1	1	1	1	1
100.00-80.00				1	1	1	1	1	1	1
T11	No	Yes	1	1	1	1	1	1	1	1
80.00-60.00				1	1	1	1	1	1	1
T12	No	Yes	1	1	1	1	1	1	1	1
60.00-40.00				1	1	1	1	1	1	1
T13	No	Yes	1	1	1	1	1	1	1	1
40.00-20.00				1	1	1	1	1	1	1
T14	No	Yes	1	1	1	1	1	1	1	1
20.00-0.00				1	1	1	1	1	1	1

[1]*Note: K factors are applied to member segment lengths. K-braces without inner supporting members will have the K factor in the out-of-plane direction applied to the overall length.*

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Leg		Diagonal		Top Girt		Bottom Girt		Mid Girt		Long Horizontal		Short Horizontal	
	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U
T1 280.00-260.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T2 260.00-240.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T3 240.00-220.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T4 220.00-200.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T5 200.00-180.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T6 180.00-160.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T7 160.00-140.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T8 140.00-120.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T9 120.00-100.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T10 100.00-80.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T11 80.00-60.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T12 60.00-40.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T13 40.00-20.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T14 20.00-0.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75

Tower Elevation ft	Redundant Horizontal		Redundant Diagonal		Redundant Sub-Diagonal		Redundant Sub-Horizontal		Redundant Vertical		Redundant Hip		Redundant Hip Diagonal	
	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U
T1 280.00-260.00	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T2 260.00-240.00	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T3 240.00-220.00	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T4 220.00-200.00	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T5 200.00-180.00	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T6 180.00-160.00	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T7 160.00-140.00	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75

Tower Elevation ft	Redundant Horizontal		Redundant Diagonal		Redundant Sub-Diagonal		Redundant Sub-Horizontal		Redundant Vertical		Redundant Hip		Redundant Hip Diagonal	
	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U
T8 140.00-120.00	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T9 120.00-100.00	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T10 100.00-80.00	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T11 80.00-60.00	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T12 60.00-40.00	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T13 40.00-20.00	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T14 20.00-0.00	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75

Feed Line/Linear Appurtenances - Entered As Round Or Flat

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Total Number	Number Per Row	Clear Spacing in	Width or Diameter in	Perimeter in	Weight plf
1" Conduit	C	No	No	Ar (CaAa)	280.00 - 0.00	1	1	2.2400 0.0000	0.0100		0.50
LDF7-50A (1-5/8 FOAM)	C	No	No	Ar (CaAa)	275.00 - 0.00	12	4	0.2700 0.0000	1.9800		0.82
LDF7-50A (1-5/8 FOAM)	B	No	No	Ar (CaAa)	264.00 - 0.00	12	4	0.2700 0.0000	1.9800		0.82
LDF7-50A (1-5/8 FOAM)	A	No	No	Ar (CaAa)	254.00 - 0.00	12	4	0.2700 0.0000	1.9800		0.82
EW63	B	No	No	Ar (CaAa)	230.00 - 0.00	1	1	0.6758 0.0000	1.5742		0.51

Feed Line/Linear Appurtenances Section Areas

Tower Section	Tower Elevation ft	Face	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight lb
T1	280.00-260.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	9.504	0.000	39.36
		C	0.000	0.000	35.660	0.000	157.60
T2	260.00-240.00	A	0.000	0.000	33.264	0.000	137.76
		B	0.000	0.000	47.520	0.000	196.80
		C	0.000	0.000	47.540	0.000	206.80
T3	240.00-220.00	A	0.000	0.000	47.520	0.000	196.80
		B	0.000	0.000	49.094	0.000	201.90
		C	0.000	0.000	47.540	0.000	206.80
T4	220.00-200.00	A	0.000	0.000	47.520	0.000	196.80
		B	0.000	0.000	50.668	0.000	207.00
		C	0.000	0.000	47.540	0.000	206.80
T5	200.00-180.00	A	0.000	0.000	47.520	0.000	196.80
		B	0.000	0.000	50.668	0.000	207.00

Tower Section	Tower Elevation ft	Face	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight lb
		C	0.000	0.000	47.540	0.000	206.80
T6	180.00-160.00	A	0.000	0.000	47.520	0.000	196.80
		B	0.000	0.000	50.668	0.000	207.00
		C	0.000	0.000	47.540	0.000	206.80
T7	160.00-140.00	A	0.000	0.000	47.520	0.000	196.80
		B	0.000	0.000	50.668	0.000	207.00
		C	0.000	0.000	47.540	0.000	206.80
T8	140.00-120.00	A	0.000	0.000	47.520	0.000	196.80
		B	0.000	0.000	50.668	0.000	207.00
		C	0.000	0.000	47.540	0.000	206.80
T9	120.00-100.00	A	0.000	0.000	47.520	0.000	196.80
		B	0.000	0.000	50.668	0.000	207.00
		C	0.000	0.000	47.540	0.000	206.80
T10	100.00-80.00	A	0.000	0.000	47.520	0.000	196.80
		B	0.000	0.000	50.668	0.000	207.00
		C	0.000	0.000	47.540	0.000	206.80
T11	80.00-60.00	A	0.000	0.000	47.520	0.000	196.80
		B	0.000	0.000	50.668	0.000	207.00
		C	0.000	0.000	47.540	0.000	206.80
T12	60.00-40.00	A	0.000	0.000	47.520	0.000	196.80
		B	0.000	0.000	50.668	0.000	207.00
		C	0.000	0.000	47.540	0.000	206.80
T13	40.00-20.00	A	0.000	0.000	47.520	0.000	196.80
		B	0.000	0.000	50.668	0.000	207.00
		C	0.000	0.000	47.540	0.000	206.80
T14	20.00-0.00	A	0.000	0.000	47.520	0.000	196.80
		B	0.000	0.000	50.668	0.000	207.00
		C	0.000	0.000	47.540	0.000	206.80

Feed Line/Linear Appurtenances Section Areas - With Ice

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight lb
T1	280.00-260.00	A	1.859	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	7.878	0.000	158.06
		C		0.000	0.000	36.998	0.000	687.64
T2	260.00-240.00	A	1.848	0.000	0.000	27.517	0.000	550.81
		B		0.000	0.000	39.310	0.000	786.87
		C		0.000	0.000	46.721	0.000	880.75
T3	240.00-220.00	A	1.836	0.000	0.000	39.230	0.000	783.42
		B		0.000	0.000	44.477	0.000	865.04
		C		0.000	0.000	46.596	0.000	876.28
T4	220.00-200.00	A	1.825	0.000	0.000	39.152	0.000	780.02
		B		0.000	0.000	49.602	0.000	941.84
		C		0.000	0.000	46.473	0.000	871.87
T5	200.00-180.00	A	1.815	0.000	0.000	39.076	0.000	776.73
		B		0.000	0.000	49.483	0.000	937.18
		C		0.000	0.000	46.354	0.000	867.63
T6	180.00-160.00	A	1.804	0.000	0.000	39.005	0.000	773.66
		B		0.000	0.000	49.371	0.000	932.82
		C		0.000	0.000	46.243	0.000	863.66
T7	160.00-140.00	A	1.795	0.000	0.000	38.942	0.000	770.92
		B		0.000	0.000	49.271	0.000	928.93
		C		0.000	0.000	46.143	0.000	860.11
T8	140.00-120.00	A	1.788	0.000	0.000	38.889	0.000	768.64
		B		0.000	0.000	49.188	0.000	925.70
		C		0.000	0.000	46.060	0.000	857.17

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight lb
T9	120.00-100.00	A	1.782	0.000	0.000	38.850	0.000	766.95
		B		0.000	0.000	49.127	0.000	923.31
		C		0.000	0.000	45.998	0.000	855.00
T10	100.00-80.00	A	1.779	0.000	0.000	38.826	0.000	765.92
		B		0.000	0.000	49.089	0.000	921.85
		C		0.000	0.000	45.961	0.000	853.66
T11	80.00-60.00	A	1.777	0.000	0.000	38.812	0.000	765.34
		B		0.000	0.000	49.068	0.000	921.04
		C		0.000	0.000	45.940	0.000	852.92
T12	60.00-40.00	A	1.773	0.000	0.000	38.787	0.000	764.25
		B		0.000	0.000	49.028	0.000	919.49
		C		0.000	0.000	45.900	0.000	851.51
T13	40.00-20.00	A	1.755	0.000	0.000	38.662	0.000	758.90
		B		0.000	0.000	48.832	0.000	911.92
		C		0.000	0.000	45.704	0.000	844.63
T14	20.00-0.00	A	1.658	0.000	0.000	37.975	0.000	729.66
		B		0.000	0.000	47.754	0.000	870.75
		C		0.000	0.000	44.625	0.000	807.20

Feed Line Center of Pressure

Section	Elevation ft	CP_X in	CP_Z in	CP_X Ice in	CP_Z Ice in
T1	280.00-260.00	0.7326	2.6832	0.5886	3.0035
T2	260.00-240.00	0.7207	-0.3891	0.6237	0.5246
T3	240.00-220.00	0.2170	-1.0303	0.3982	-0.1248
T4	220.00-200.00	0.4966	-1.3734	0.9570	-0.4096
T5	200.00-180.00	0.5076	-1.3987	1.0162	-0.4284
T6	180.00-160.00	0.5638	-1.5503	1.1246	-0.4696
T7	160.00-140.00	0.6141	-1.6872	1.2208	-0.5071
T8	140.00-120.00	0.6260	-1.7099	1.2629	-0.5216
T9	120.00-100.00	0.7045	-1.9172	1.4359	-0.5901
T10	100.00-80.00	0.7617	-2.0745	1.5478	-0.6329
T11	80.00-60.00	0.7636	-2.0939	1.5968	-0.6529
T12	60.00-40.00	0.7442	-2.0569	1.5515	-0.6351
T13	40.00-20.00	0.7706	-2.1345	1.6087	-0.6678
T14	20.00-0.00	0.7642	-2.1269	1.5939	-0.7274

Shielding Factor Ka

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T1	1	1" Conduit	260.00 - 280.00	0.6000	0.5710
T1	2	LDF7-50A (1-5/8 FOAM)	260.00 - 275.00	0.6000	0.5710
T1	3	LDF7-50A (1-5/8 FOAM)	260.00 - 264.00	0.6000	0.5710
T2	1	1" Conduit	240.00 - 260.00	0.6000	0.5411

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T2	2	LDF7-50A (1-5/8 FOAM)	240.00 - 260.00	0.6000	0.5411
T2	3	LDF7-50A (1-5/8 FOAM)	240.00 - 260.00	0.6000	0.5411
T2	4	LDF7-50A (1-5/8 FOAM)	240.00 - 254.00	0.6000	0.5411
T3	1	1" Conduit	220.00 - 240.00	0.6000	0.5429
T3	2	LDF7-50A (1-5/8 FOAM)	220.00 - 240.00	0.6000	0.5429
T3	3	LDF7-50A (1-5/8 FOAM)	220.00 - 240.00	0.6000	0.5429
T3	4	LDF7-50A (1-5/8 FOAM)	220.00 - 240.00	0.6000	0.5429
T3	5	EW63	220.00 - 230.00	0.6000	0.5429
T4	1	1" Conduit	200.00 - 220.00	0.6000	0.6000
T4	2	LDF7-50A (1-5/8 FOAM)	200.00 - 220.00	0.6000	0.6000
T4	3	LDF7-50A (1-5/8 FOAM)	200.00 - 220.00	0.6000	0.6000
T4	4	LDF7-50A (1-5/8 FOAM)	200.00 - 220.00	0.6000	0.6000
T4	5	EW63	200.00 - 220.00	0.6000	0.6000
T5	1	1" Conduit	180.00 - 200.00	0.6000	0.6000
T5	2	LDF7-50A (1-5/8 FOAM)	180.00 - 200.00	0.6000	0.6000
T5	3	LDF7-50A (1-5/8 FOAM)	180.00 - 200.00	0.6000	0.6000
T5	4	LDF7-50A (1-5/8 FOAM)	180.00 - 200.00	0.6000	0.6000
T5	5	EW63	180.00 - 200.00	0.6000	0.6000
T6	1	1" Conduit	160.00 - 180.00	0.6000	0.6000
T6	2	LDF7-50A (1-5/8 FOAM)	160.00 - 180.00	0.6000	0.6000
T6	3	LDF7-50A (1-5/8 FOAM)	160.00 - 180.00	0.6000	0.6000
T6	4	LDF7-50A (1-5/8 FOAM)	160.00 - 180.00	0.6000	0.6000
T6	5	EW63	160.00 - 180.00	0.6000	0.6000
T7	1	1" Conduit	140.00 - 160.00	0.6000	0.6000
T7	2	LDF7-50A (1-5/8 FOAM)	140.00 - 160.00	0.6000	0.6000
T7	3	LDF7-50A (1-5/8 FOAM)	140.00 - 160.00	0.6000	0.6000
T7	4	LDF7-50A (1-5/8 FOAM)	140.00 - 160.00	0.6000	0.6000
T7	5	EW63	140.00 - 160.00	0.6000	0.6000
T8	1	1" Conduit	120.00 - 140.00	0.6000	0.6000
T8	2	LDF7-50A (1-5/8 FOAM)	120.00 - 140.00	0.6000	0.6000
T8	3	LDF7-50A (1-5/8 FOAM)	120.00 - 140.00	0.6000	0.6000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T8	4	LDF7-50A (1-5/8 FOAM)	120.00 - 140.00	0.6000	0.6000
T8	5	EW63	120.00 - 140.00	0.6000	0.6000
T9	1	1" Conduit	100.00 - 120.00	0.6000	0.6000
T9	2	LDF7-50A (1-5/8 FOAM)	100.00 - 120.00	0.6000	0.6000
T9	3	LDF7-50A (1-5/8 FOAM)	100.00 - 120.00	0.6000	0.6000
T9	4	LDF7-50A (1-5/8 FOAM)	100.00 - 120.00	0.6000	0.6000
T9	5	EW63	100.00 - 120.00	0.6000	0.6000
T10	1	1" Conduit	80.00 - 100.00	0.6000	0.6000
T10	2	LDF7-50A (1-5/8 FOAM)	80.00 - 100.00	0.6000	0.6000
T10	3	LDF7-50A (1-5/8 FOAM)	80.00 - 100.00	0.6000	0.6000
T10	4	LDF7-50A (1-5/8 FOAM)	80.00 - 100.00	0.6000	0.6000
T10	5	EW63	80.00 - 100.00	0.6000	0.6000
T11	1	1" Conduit	60.00 - 80.00	0.6000	0.6000
T11	2	LDF7-50A (1-5/8 FOAM)	60.00 - 80.00	0.6000	0.6000
T11	3	LDF7-50A (1-5/8 FOAM)	60.00 - 80.00	0.6000	0.6000
T11	4	LDF7-50A (1-5/8 FOAM)	60.00 - 80.00	0.6000	0.6000
T11	5	EW63	60.00 - 80.00	0.6000	0.6000
T12	1	1" Conduit	40.00 - 60.00	0.6000	0.6000
T12	2	LDF7-50A (1-5/8 FOAM)	40.00 - 60.00	0.6000	0.6000
T12	3	LDF7-50A (1-5/8 FOAM)	40.00 - 60.00	0.6000	0.6000
T12	4	LDF7-50A (1-5/8 FOAM)	40.00 - 60.00	0.6000	0.6000
T12	5	EW63	40.00 - 60.00	0.6000	0.6000
T13	1	1" Conduit	20.00 - 40.00	0.6000	0.6000
T13	2	LDF7-50A (1-5/8 FOAM)	20.00 - 40.00	0.6000	0.6000
T13	3	LDF7-50A (1-5/8 FOAM)	20.00 - 40.00	0.6000	0.6000
T13	4	LDF7-50A (1-5/8 FOAM)	20.00 - 40.00	0.6000	0.6000
T13	5	EW63	20.00 - 40.00	0.6000	0.6000
T14	1	1" Conduit	0.00 - 20.00	0.6000	0.6000
T14	2	LDF7-50A (1-5/8 FOAM)	0.00 - 20.00	0.6000	0.6000
T14	3	LDF7-50A (1-5/8 FOAM)	0.00 - 20.00	0.6000	0.6000
T14	4	LDF7-50A (1-5/8 FOAM)	0.00 - 20.00	0.6000	0.6000
T14	5	EW63	0.00 - 20.00	0.6000	0.6000

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft	Vert ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight lb
40,000 sq in CaAa	C	None			0.0000	275.00	No Ice	278.00	278.00	4726.00
							1/2" Ice	334.00	334.00	6333.00
							1" Ice	390.00	390.00	7940.00
							2" Ice	502.00	502.00	11154.00
30,000 sq in CaAa	B	None			0.0000	264.00	No Ice	208.00	208.00	3536.00
							1/2" Ice	250.00	250.00	4738.00

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight lb
						1" Ice	292.00	292.00	5940.00
						2" Ice	376.00	376.00	8344.00
30,000 sq in CaAa	A	None		0.0000	254.00	No Ice	208.00	208.00	3536.00
						1/2" Ice	250.00	250.00	4738.00
						1" Ice	292.00	292.00	5940.00
						2" Ice	376.00	376.00	8344.00
Dish Pipe Mount	B	From Leg	0.00	0.0000	230.00	No Ice	0.00	1.80	103.00
			0.00			1/2" Ice	0.00	2.10	119.00
			0.00			1" Ice	0.00	2.40	135.00
						2" Ice	0.00	3.00	167.00

Dishes

Description	Face or Leg	Dish Type	Offset Type	Offsets: Horz Lateral ft / Vert ft	Azimuth Adjustment °	3 dB Beam Width °	Elevation ft	Outside Diameter ft		Aperture Area ft^2	Weight lb
6' Solid w/Radome	B	Paraboloid w/Radome	From Leg	0.00	60.0000		230.00	6.00	No Ice	28.27	162.00
				0.00					1/2" Ice	29.07	321.00
				0.00					1" Ice	29.86	480.00
									2" Ice	31.44	798.00

Tower Pressures - No Ice

$G_H = 0.850$

Section Elevation ft	z ft	K_Z	q_z psf	A_G ft^2	Face	A_F ft^2	A_R ft^2	A_{leg} ft^2	Leg %	C_AA_A In Face ft^2	C_AA_A Out Face ft^2
T1	270.00	1.56	38	103.958	A	8.623	7.917	7.917	47.86	0.000	0.000
280.00-260.00					B	8.623	7.917		47.86	9.504	0.000
					C	8.623	7.917		47.86	35.660	0.000
T2	250.00	1.535	37	107.500	A	8.721	15.000	15.000	63.24	33.264	0.000
260.00-240.00					B	8.721	15.000		63.24	47.520	0.000
					C	8.721	15.000		63.24	47.540	0.000
T3	230.00	1.508	37	126.049	A	9.189	22.104	22.104	70.64	47.520	0.000
240.00-220.00					B	9.189	22.104		70.64	49.094	0.000
					C	9.189	22.104		70.64	47.540	0.000
T4	210.00	1.48	37	156.049	A	9.103	22.104	22.104	70.83	47.520	0.000
220.00-200.00					B	9.103	22.104		70.83	50.668	0.000
					C	9.103	22.104		70.83	47.540	0.000
T5	190.00	1.449	36	189.385	A	12.624	28.777	28.777	69.51	47.520	0.000
200.00-180.00					B	12.624	28.777		69.51	50.668	0.000
					C	12.624	28.777		69.51	47.540	0.000
T6	170.00	1.415	36	219.385	A	14.215	28.777	28.777	66.94	47.520	0.000

Section Elevation ft	z ft	K_Z	q_z psf	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
180.00-160.00					B	14.215	28.777		66.94	50.668	0.000
					C	14.215	28.777		66.94	47.540	0.000
T7	150.00	1.378	36	249.385	A	15.856	28.777	28.777	64.47	47.520	0.000
160.00-140.00					B	15.856	28.777		64.47	50.668	0.000
					C	15.856	28.777		64.47	47.540	0.000
T8	130.00	1.337	36	282.929	A	17.289	35.867	35.867	67.47	47.520	0.000
140.00-120.00					B	17.289	35.867		67.47	50.668	0.000
					C	17.289	35.867		67.47	47.540	0.000
T9	110.00	1.291	36	317.939	A	16.955	35.893	35.893	67.92	47.520	0.000
120.00-100.00					B	16.955	35.893		67.92	50.668	0.000
					C	16.955	35.893		67.92	47.540	0.000
T10	90.00	1.238	36	357.939	A	18.687	35.893	35.893	65.76	47.520	0.000
100.00-80.00					B	18.687	35.893		65.76	50.668	0.000
					C	18.687	35.893		65.76	47.540	0.000
T11	70.00	1.174	37	397.939	A	23.872	35.893	35.893	60.06	47.520	0.000
80.00-60.00					B	23.872	35.893		60.06	50.668	0.000
					C	23.872	35.893		60.06	47.540	0.000
T12	50.00	1.094	38	437.939	A	30.796	35.893	35.893	53.82	47.520	0.000
60.00-40.00					B	30.796	35.893		53.82	50.668	0.000
					C	30.796	35.893		53.82	47.540	0.000
T13	30.00	0.982	38	477.939	A	33.817	35.893	35.893	51.49	47.520	0.000
40.00-20.00					B	33.817	35.893		51.49	50.668	0.000
					C	33.817	35.893		51.49	47.540	0.000
T14 20.00-0.00	10.00	0.85	38	517.939	A	39.650	35.893	35.893	47.51	47.520	0.000
					B	39.650	35.893		47.51	50.668	0.000
					C	39.650	35.893		47.51	47.540	0.000

Tower Pressure - With Ice

$G_H = 0.850$

Section Elevation ft	z ft	K_Z	q_z psf	t_Z in	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
T1	270.00	1.56	3	1.8591	110.155	A	8.623	38.632	20.310	42.98	0.000	0.000
280.00-260.00						B	8.623	38.632		42.98	7.878	0.000
						C	8.623	38.632		42.98	36.998	0.000
T2	250.00	1.535	3	1.8478	113.659	A	8.721	43.433	27.319	52.38	27.517	0.000
260.00-240.00						B	8.721	43.433		52.38	39.310	0.000
						C	8.721	43.433		52.38	46.721	0.000
T3	230.00	1.508	3	1.8365	132.175	A	9.189	51.234	34.359	56.86	39.230	0.000
240.00-220.00						B	9.189	51.234		56.86	44.477	0.000
						C	9.189	51.234		56.86	46.596	0.000
T4	210.00	1.48	3	1.8253	162.138	A	9.103	50.900	34.284	57.14	39.152	0.000
220.00-200.00						B	9.103	50.900		57.14	49.602	0.000
						C	9.103	50.900		57.14	46.473	0.000
T5	190.00	1.449	3	1.8145	195.438	A	12.624	59.211	40.885	56.92	39.076	0.000
200.00-180.00						B	12.624	59.211		56.92	49.483	0.000
						C	12.624	59.211		56.92	46.354	0.000
T6	170.00	1.415	3	1.8044	225.404	A	14.215	61.337	40.817	54.03	39.005	0.000
180.00-160.00						B	14.215	61.337		54.03	49.371	0.000
						C	14.215	61.337		54.03	46.243	0.000
T7	150.00	1.378	3	1.7953	255.374	A	15.856	63.531	40.757	51.34	38.942	0.000
160.00-140.00						B	15.856	63.531		51.34	49.271	0.000
						C	15.856	63.531		51.34	46.143	0.000

Section Elevation ft	z ft	K_Z	q_z psf	t_Z in	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
T8	130.00	1.337	3	1.7878	288.893	A	17.289	72.524	47.797	53.22	38.889	0.000
140.00-120.00						B	17.289	72.524		53.22	49.188	0.000
						C	17.289	72.524		53.22	46.060	0.000
T9	110.00	1.291	3	1.7822	323.887	A	16.955	67.939	47.794	56.30	38.850	0.000
120.00-100.00						B	16.955	67.939		56.30	49.127	0.000
						C	16.955	67.939		56.30	45.998	0.000
T10	90.00	1.238	3	1.7788	363.876	A	18.687	69.932	47.771	53.91	38.826	0.000
100.00-80.00						B	18.687	69.932		53.91	49.089	0.000
						C	18.687	69.932		53.91	45.961	0.000
T11 80.00-60.00	70.00	1.174	3	1.7769	403.869	A	23.872	71.997	47.759	49.82	38.812	0.000
						B	23.872	71.997		49.82	49.068	0.000
						C	23.872	71.997		49.82	45.940	0.000
T12 60.00-40.00	50.00	1.094	3	1.7732	443.857	A	30.796	83.613	47.734	41.72	38.787	0.000
						B	30.796	83.613		41.72	49.028	0.000
						C	30.796	83.613		41.72	45.900	0.000
T13 40.00-20.00	30.00	0.982	3	1.7555	483.798	A	33.817	85.662	47.616	39.85	38.662	0.000
						B	33.817	85.662		39.85	48.832	0.000
						C	33.817	85.662		39.85	45.704	0.000
T14 20.00-0.00	10.00	0.85	3	1.6575	523.471	A	39.650	85.305	46.961	37.58	37.975	0.000
						B	39.650	85.305		37.58	47.754	0.000
						C	39.650	85.305		37.58	44.625	0.000

Tower Pressure - Service

$G_H = 0.850$

Section Elevation ft	z ft	K_Z	q_z psf	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
T1	270.00	1.56	12	103.958	A	8.623	7.917	7.917	47.86	0.000	0.000
280.00-260.00					B	8.623	7.917		47.86	9.504	0.000
					C	8.623	7.917		47.86	35.660	0.000
T2	250.00	1.535	12	107.500	A	8.721	15.000	15.000	63.24	33.264	0.000
260.00-240.00					B	8.721	15.000		63.24	47.520	0.000
					C	8.721	15.000		63.24	47.540	0.000
T3	230.00	1.508	12	126.049	A	9.189	22.104	22.104	70.64	47.520	0.000
240.00-220.00					B	9.189	22.104		70.64	49.094	0.000
					C	9.189	22.104		70.64	47.540	0.000
T4	210.00	1.48	12	156.049	A	9.103	22.104	22.104	70.83	47.520	0.000
220.00-200.00					B	9.103	22.104		70.83	50.668	0.000
					C	9.103	22.104		70.83	47.540	0.000
T5	190.00	1.449	12	189.385	A	12.624	28.777	28.777	69.51	47.520	0.000
200.00-180.00					B	12.624	28.777		69.51	50.668	0.000
					C	12.624	28.777		69.51	47.540	0.000
T6	170.00	1.415	12	219.385	A	14.215	28.777	28.777	66.94	47.520	0.000
180.00-160.00					B	14.215	28.777		66.94	50.668	0.000
					C	14.215	28.777		66.94	47.540	0.000
T7	150.00	1.378	12	249.385	A	15.856	28.777	28.777	64.47	47.520	0.000
160.00-140.00					B	15.856	28.777		64.47	50.668	0.000
					C	15.856	28.777		64.47	47.540	0.000
T8	130.00	1.337	12	282.929	A	17.289	35.867	35.867	67.47	47.520	0.000
140.00-120.00					B	17.289	35.867		67.47	50.668	0.000
					C	17.289	35.867		67.47	47.540	0.000
T9	110.00	1.291	12	317.939	A	16.955	35.893	35.893	67.92	47.520	0.000

Section Elevation ft	z ft	K_Z	q_z psf	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
120.00-100.00					B	16.955	35.893		67.92	50.668	0.000
					C	16.955	35.893		67.92	47.540	0.000
T10	90.00	1.238	12	357.939	A	18.687	35.893	35.893	65.76	47.520	0.000
100.00-80.00					B	18.687	35.893		65.76	50.668	0.000
					C	18.687	35.893		65.76	47.540	0.000
T11	70.00	1.174	12	397.939	A	23.872	35.893	35.893	60.06	47.520	0.000
80.00-60.00					B	23.872	35.893		60.06	50.668	0.000
					C	23.872	35.893		60.06	47.540	0.000
T12	50.00	1.094	12	437.939	A	30.796	35.893	35.893	53.82	47.520	0.000
60.00-40.00					B	30.796	35.893		53.82	50.668	0.000
					C	30.796	35.893		53.82	47.540	0.000
T13	30.00	0.982	12	477.939	A	33.817	35.893	35.893	51.49	47.520	0.000
40.00-20.00					B	33.817	35.893		51.49	50.668	0.000
					C	33.817	35.893		51.49	47.540	0.000
T14 20.00-0.00	10.00	0.85	12	517.939	A	39.650	35.893	35.893	47.51	47.520	0.000
					B	39.650	35.893		47.51	50.668	0.000
					C	39.650	35.893		47.51	47.540	0.000

Tower Forces - No Ice - Wind Normal To Face

Section Elevation ft	Add Weight lb	Self Weight lb	Face	e	C_F	q_z psf	D_F	D_R	A_E ft²	F lb	w plf	Ctrl. Face
T1	196.96	532.99	A	0.159	2.738	38	1	1	13.124	1538.64	76.93	C
280.00-260.00			B	0.159	2.738		1	1	13.124			
			C	0.159	2.738		1	1	13.124			
T2	541.36	1167.02	A	0.221	2.528	37	1	1	16.924	2318.94	115.95	C
260.00-240.00			B	0.221	2.528		1	1	16.924			
			C	0.221	2.528		1	1	16.924			
T3	605.50	1586.47	A	0.248	2.443	37	1	1	20.053	2611.76	130.59	C
240.00-220.00			B	0.248	2.443		1	1	20.053			
			C	0.248	2.443		1	1	20.053			
T4	610.60	1576.25	A	0.2	2.596	37	1	1	19.419	2658.13	132.91	C
220.00-200.00			B	0.2	2.596		1	1	19.419			
			C	0.2	2.596		1	1	19.419			
T5	610.60	2556.85	A	0.219	2.535	36	1	1	25.764	3093.02	154.65	C
200.00-180.00			B	0.219	2.535		1	1	25.764			
			C	0.219	2.535		1	1	25.764			
T6	610.60	2631.37	A	0.196	2.61	36	1	1	26.977	3225.22	161.26	C
180.00-160.00			B	0.196	2.61		1	1	26.977			
			C	0.196	2.61		1	1	26.977			
T7	610.60	2709.25	A	0.179	2.668	36	1	1	28.345	3368.37	168.42	C
160.00-140.00			B	0.179	2.668		1	1	28.345			
			C	0.179	2.668		1	1	28.345			
T8	610.60	3578.45	A	0.188	2.637	36	1	1	33.032	3713.74	185.69	C
140.00-120.00			B	0.188	2.637		1	1	33.032			
			C	0.188	2.637		1	1	33.032			
T9	610.60	3561.71	A	0.166	2.713	36	1	1	32.286	3741.83	187.09	C
120.00-100.00			B	0.166	2.713		1	1	32.286			
			C	0.166	2.713		1	1	32.286			
T10	610.60	3644.68	A	0.152	2.762	36	1	1	33.761	3953.03	197.65	C
100.00-80.00			B	0.152	2.762		1	1	33.761			
			C	0.152	2.762		1	1	33.761			
T11	610.60	4308.96	A	0.15	2.771	37	1	1	38.904	4471.56	223.58	C
80.00-60.00			B	0.15	2.771		1	1	38.904			
			C	0.15	2.771		1	1	38.904			

Section Elevation ft	Add Weight lb	Self Weight lb	Face	e	C_F	q_z psf	D_F	D_R	A_E ft²	F lb	w plf	Ctrl. Face
T12	610.60	4641.09	A	0.152	2.763	38	1	1	45.866	5164.55	258.23	C
60.00-40.00			B	0.152	2.763		1	1	45.866			
			C	0.152	2.763		1	1	45.866			
T13	610.60	4814.47	A	0.146	2.787	38	1	1	48.770	5510.66	275.53	C
40.00-20.00			B	0.146	2.787		1	1	48.770			
			C	0.146	2.787		1	1	48.770			
T14	610.60	5196.49	A	0.146	2.787	38	1	1	54.603	6066.51	303.33	C
20.00-0.00			B	0.146	2.787		1	1	54.603			
			C	0.146	2.787		1	1	54.603			
Sum Weight:	8060.42	42506.06						OTM	5842678.32 lb-ft	51435.96		

Tower Forces - No Ice - Wind 60 To Face

Section Elevation ft	Add Weight lb	Self Weight lb	Face	e	C_F	q_z psf	D_F	D_R	A_E ft²	F lb	w plf	Ctrl. Face
T1	196.96	532.99	A	0.159	2.738	38	0.8	1	11.400	1386.50	69.33	A
280.00-260.00			B	0.159	2.738		0.8	1	11.400			
			C	0.159	2.738		0.8	1	11.400			
T2	541.36	1167.02	A	0.221	2.528	37	0.8	1	15.180	2178.51	108.93	C
260.00-240.00			B	0.221	2.528		0.8	1	15.180			
			C	0.221	2.528		0.8	1	15.180			
T3	605.50	1586.47	A	0.248	2.443	37	0.8	1	18.216	2470.41	123.52	C
240.00-220.00			B	0.248	2.443		0.8	1	18.216			
			C	0.248	2.443		0.8	1	18.216			
T4	610.60	1576.25	A	0.2	2.596	37	0.8	1	17.598	2510.88	125.54	C
220.00-200.00			B	0.2	2.596		0.8	1	17.598			
			C	0.2	2.596		0.8	1	17.598			
T5	610.60	2556.85	A	0.219	2.535	36	0.8	1	23.239	2895.49	144.77	C
200.00-180.00			B	0.219	2.535		0.8	1	23.239			
			C	0.219	2.535		0.8	1	23.239			
T6	610.60	2631.37	A	0.196	2.61	36	0.8	1	24.134	2998.00	149.90	C
180.00-160.00			B	0.196	2.61		0.8	1	24.134			
			C	0.196	2.61		0.8	1	24.134			
T7	610.60	2709.25	A	0.179	2.668	36	0.8	1	25.174	3110.54	155.53	C
160.00-140.00			B	0.179	2.668		0.8	1	25.174			
			C	0.179	2.668		0.8	1	25.174			
T8	610.60	3578.45	A	0.188	2.637	36	0.8	1	29.574	3436.20	171.81	C
140.00-120.00			B	0.188	2.637		0.8	1	29.574			
			C	0.188	2.637		0.8	1	29.574			
T9	610.60	3561.71	A	0.166	2.713	36	0.8	1	28.895	3460.82	173.04	C
120.00-100.00			B	0.166	2.713		0.8	1	28.895			
			C	0.166	2.713		0.8	1	28.895			
T10	610.60	3644.68	A	0.152	2.762	36	0.8	1	30.024	3634.61	181.73	C
100.00-80.00			B	0.152	2.762		0.8	1	30.024			
			C	0.152	2.762		0.8	1	30.024			
T11	610.60	4308.96	A	0.15	2.771	37	0.8	1	34.129	4057.03	202.85	C
80.00-60.00			B	0.15	2.771		0.8	1	34.129			
			C	0.15	2.771		0.8	1	34.129			
T12	610.60	4641.09	A	0.152	2.763	38	0.8	1	39.707	4620.80	231.04	C
60.00-40.00			B	0.152	2.763		0.8	1	39.707			
			C	0.152	2.763		0.8	1	39.707			

Section Elevation ft	Add Weight lb	Self Weight lb	Face	e	C_F	q_z psf	D_F	D_R	A_E ft²	F lb	w plf	Ctrl. Face
T13	610.60	4814.47	A	0.146	2.787	38	0.8	1	42.007	4902.62	245.13	C
40.00-20.00			B	0.146	2.787		0.8	1	42.007			
			C	0.146	2.787		0.8	1	42.007			
T14	610.60	5196.49	A	0.146	2.787	38	0.8	1	46.673	5349.88	267.49	C
20.00-0.00			B	0.146	2.787		0.8	1	46.673			
			C	0.146	2.787		0.8	1	46.673			
Sum Weight:	8060.42	42506.06						OTM	5410966.1 8 lb-ft	47012.29		

Tower Forces - No Ice - Wind 90 To Face

Section Elevation ft	Add Weight lb	Self Weight lb	Face	e	C_F	q_z psf	D_F	D_R	A_E ft²	F lb	w plf	Ctrl. Face
T1	196.96	532.99	A	0.159	2.738	38	0.85	1	11.831	1412.74	70.64	A
280.00-260.00			B	0.159	2.738		0.85	1	11.831			
			C	0.159	2.738		0.85	1	11.831			
T2	541.36	1167.02	A	0.221	2.528	37	0.85	1	15.616	2223.61	111.18	A
260.00-240.00			B	0.221	2.528		0.85	1	15.616			
			C	0.221	2.528		0.85	1	15.616			
T3	605.50	1586.47	A	0.248	2.443	37	0.85	1	18.675	2505.75	125.29	C
240.00-220.00			B	0.248	2.443		0.85	1	18.675			
			C	0.248	2.443		0.85	1	18.675			
T4	610.60	1576.25	A	0.2	2.596	37	0.85	1	18.053	2547.69	127.38	C
220.00-200.00			B	0.2	2.596		0.85	1	18.053			
			C	0.2	2.596		0.85	1	18.053			
T5	610.60	2556.85	A	0.219	2.535	36	0.85	1	23.871	2944.87	147.24	C
200.00-180.00			B	0.219	2.535		0.85	1	23.871			
			C	0.219	2.535		0.85	1	23.871			
T6	610.60	2631.37	A	0.196	2.61	36	0.85	1	24.844	3054.80	152.74	C
180.00-160.00			B	0.196	2.61		0.85	1	24.844			
			C	0.196	2.61		0.85	1	24.844			
T7	610.60	2709.25	A	0.179	2.668	36	0.85	1	25.967	3175.00	158.75	C
160.00-140.00			B	0.179	2.668		0.85	1	25.967			
			C	0.179	2.668		0.85	1	25.967			
T8	610.60	3578.45	A	0.188	2.637	36	0.85	1	30.438	3505.58	175.28	C
140.00-120.00			B	0.188	2.637		0.85	1	30.438			
			C	0.188	2.637		0.85	1	30.438			
T9	610.60	3561.71	A	0.166	2.713	36	0.85	1	29.743	3531.08	176.55	C
120.00-100.00			B	0.166	2.713		0.85	1	29.743			
			C	0.166	2.713		0.85	1	29.743			
T10	610.60	3644.68	A	0.152	2.762	36	0.85	1	30.958	3714.22	185.71	C
100.00-80.00			B	0.152	2.762		0.85	1	30.958			
			C	0.152	2.762		0.85	1	30.958			
T11	610.60	4308.96	A	0.15	2.771	37	0.85	1	35.323	4160.66	208.03	C
80.00-60.00			B	0.15	2.771		0.85	1	35.323			
			C	0.15	2.771		0.85	1	35.323			
T12	610.60	4641.09	A	0.152	2.763	38	0.85	1	41.247	4756.73	237.84	C
60.00-40.00			B	0.152	2.763		0.85	1	41.247			
			C	0.152	2.763		0.85	1	41.247			
T13	610.60	4814.47	A	0.146	2.787	38	0.85	1	43.697	5054.63	252.73	C
40.00-20.00			B	0.146	2.787		0.85	1	43.697			
			C	0.146	2.787		0.85	1	43.697			

Section Elevation ft	Add Weight lb	Self Weight lb	Face	e	C_F	q_z psf	D_F	D_R	A_E ft²	F lb	w plf	Ctrl. Face
T14	610.60	5196.49	A	0.146	2.787	38	0.85	1	48.655	5529.04	276.45	C
20.00-0.00			B	0.146	2.787		0.85	1	48.655			
			C	0.146	2.787		0.85	1	48.655			
Sum Weight:	8060.42	42506.06						OTM	5518207.8 4 lb-ft	48116.41		

Tower Forces - With Ice - Wind Normal To Face

Section Elevation ft	Add Weight lb	Self Weight lb	Face	e	C_F	q_z psf	D_F	D_R	A_E ft²	F lb	w plf	Ctrl. Face
T1	845.70	2928.16	A	0.429	2.009	3	1	1	33.706	232.13	11.61	C
280.00-260.00			B	0.429	2.009		1	1	33.706			
			C	0.429	2.009		1	1	33.706			
T2	2218.42	3818.34	A	0.459	1.959	3	1	1	37.545	307.11	15.36	C
260.00-240.00			B	0.459	1.959		1	1	37.545			
			C	0.459	1.959		1	1	37.545			
T3	2524.74	4642.17	A	0.457	1.962	3	1	1	43.147	350.38	17.52	C
240.00-220.00			B	0.457	1.962		1	1	43.147			
			C	0.457	1.962		1	1	43.147			
T4	2593.73	4548.76	A	0.37	2.126	3	1	1	40.854	373.77	18.69	C
220.00-200.00			B	0.37	2.126		1	1	40.854			
			C	0.37	2.126		1	1	40.854			
T5	2581.54	6295.88	A	0.368	2.132	3	1	1	49.501	416.89	20.84	C
200.00-180.00			B	0.368	2.132		1	1	49.501			
			C	0.368	2.132		1	1	49.501			
T6	2570.14	6603.57	A	0.335	2.207	3	1	1	51.671	434.60	21.73	C
180.00-160.00			B	0.335	2.207		1	1	51.671			
			C	0.335	2.207		1	1	51.671			
T7	2559.96	6925.70	A	0.311	2.267	3	1	1	54.126	453.81	22.69	C
160.00-140.00			B	0.311	2.267		1	1	54.126			
			C	0.311	2.267		1	1	54.126			
T8	2551.51	8327.77	A	0.311	2.267	3	1	1	60.977	491.57	24.58	C
140.00-120.00			B	0.311	2.267		1	1	60.977			
			C	0.311	2.267		1	1	60.977			
T9	2545.26	8040.30	A	0.262	2.402	3	1	1	56.908	489.21	24.46	C
120.00-100.00			B	0.262	2.402		1	1	56.908			
			C	0.262	2.402		1	1	56.908			
T10	2541.43	8378.70	A	0.244	2.457	3	1	1	59.488	517.70	25.88	C
100.00-80.00			B	0.244	2.457		1	1	59.488			
			C	0.244	2.457		1	1	59.488			
T11	2539.30	9706.24	A	0.237	2.476	3	1	1	65.775	568.59	28.43	C
80.00-60.00			B	0.237	2.476		1	1	65.775			
			C	0.237	2.476		1	1	65.775			
T12	2535.25	11353.88	A	0.258	2.414	3	1	1	79.872	657.85	32.89	C
60.00-40.00			B	0.258	2.414		1	1	79.872			
			C	0.258	2.414		1	1	79.872			
T13	2515.44	11870.74	A	0.247	2.447	3	1	1	83.865	696.09	34.80	C
40.00-20.00			B	0.247	2.447		1	1	83.865			
			C	0.247	2.447		1	1	83.865			
T14	2407.61	12462.76	A	0.239	2.472	3	1	1	89.325	737.44	36.87	C
20.00-0.00			B	0.239	2.472		1	1	89.325			
			C	0.239	2.472		1	1	89.325			

Section Elevation ft	Add Weight lb	Self Weight lb	Face	e	C_F	q_z psf	D_F	D_R	A_E ft^2	F lb	w plf	Ctrl. Face
Sum Weight:	33530.04	105902.96						OTM	784955.29 lb-ft	6727.13		

Tower Forces - With Ice - Wind 60 To Face

Section Elevation ft	Add Weight lb	Self Weight lb	Face	e	C_F	q_z psf	D_F	D_R	A_E ft^2	F lb	w plf	Ctrl. Face
T1	845.70	2928.16	A	0.429	2.009	3	0.8	1	31.981	223.02	11.15	A
280.00-260.00			B	0.429	2.009		0.8	1	31.981			
			C	0.429	2.009		0.8	1	31.981			
T2	2218.42	3818.34	A	0.459	1.959	3	0.8	1	35.801	298.23	14.91	C
260.00-240.00			B	0.459	1.959		0.8	1	35.801			
			C	0.459	1.959		0.8	1	35.801			
T3	2524.74	4642.17	A	0.457	1.962	3	0.8	1	41.309	341.11	17.06	C
240.00-220.00			B	0.457	1.962		0.8	1	41.309			
			C	0.457	1.962		0.8	1	41.309			
T4	2593.73	4548.76	A	0.37	2.126	3	0.8	1	39.034	363.92	18.20	C
220.00-200.00			B	0.37	2.126		0.8	1	39.034			
			C	0.37	2.126		0.8	1	39.034			
T5	2581.54	6295.88	A	0.368	2.132	3	0.8	1	46.976	403.33	20.17	C
200.00-180.00			B	0.368	2.132		0.8	1	46.976			
			C	0.368	2.132		0.8	1	46.976			
T6	2570.14	6603.57	A	0.335	2.207	3	0.8	1	48.828	418.92	20.95	C
180.00-160.00			B	0.335	2.207		0.8	1	48.828			
			C	0.335	2.207		0.8	1	48.828			
T7	2559.96	6925.70	A	0.311	2.267	3	0.8	1	50.955	435.92	21.80	C
160.00-140.00			B	0.311	2.267		0.8	1	50.955			
			C	0.311	2.267		0.8	1	50.955			
T8	2551.51	8327.77	A	0.311	2.267	3	0.8	1	57.519	472.09	23.60	C
140.00-120.00			B	0.311	2.267		0.8	1	57.519			
			C	0.311	2.267		0.8	1	57.519			
T9	2545.26	8040.30	A	0.262	2.402	3	0.8	1	53.517	468.90	23.44	C
120.00-100.00			B	0.262	2.402		0.8	1	53.517			
			C	0.262	2.402		0.8	1	53.517			
T10	2541.43	8378.70	A	0.244	2.457	3	0.8	1	55.751	494.58	24.73	C
100.00-80.00			B	0.244	2.457		0.8	1	55.751			
			C	0.244	2.457		0.8	1	55.751			
T11	2539.30	9706.24	A	0.237	2.476	3	0.8	1	61.001	538.35	26.92	C
80.00-60.00			B	0.237	2.476		0.8	1	61.001			
			C	0.237	2.476		0.8	1	61.001			
T12	2535.25	11353.88	A	0.258	2.414	3	0.8	1	73.713	619.07	30.95	C
60.00-40.00			B	0.258	2.414		0.8	1	73.713			
			C	0.258	2.414		0.8	1	73.713			
T13	2515.44	11870.74	A	0.247	2.447	3	0.8	1	77.102	652.51	32.63	C
40.00-20.00			B	0.247	2.447		0.8	1	77.102			
			C	0.247	2.447		0.8	1	77.102			
T14	2407.61	12462.76	A	0.239	2.472	3	0.8	1	81.395	685.55	34.28	C
20.00-0.00			B	0.239	2.472		0.8	1	81.395			
			C	0.239	2.472		0.8	1	81.395			
Sum Weight:	33530.04	105902.96						OTM	755418.89 lb-ft	6415.49		

Tower Forces - With Ice - Wind 90 To Face

Section Elevation ft	Add Weight lb	Self Weight lb	Face	e	C_F	q_z psf	D_F	D_R	A_E ft^2	F lb	w plf	Ctrl. Face
T1	845.70	2928.16	A	0.429	2.009	3	0.85	1	32.412	224.38	11.22	A
280.00-260.00			B	0.429	2.009		0.85	1	32.412			
			C	0.429	2.009		0.85	1	32.412			
T2	2218.42	3818.34	A	0.459	1.959	3	0.85	1	36.237	301.18	15.06	A
260.00-240.00			B	0.459	1.959		0.85	1	36.237			
			C	0.459	1.959		0.85	1	36.237			
T3	2524.74	4642.17	A	0.457	1.962	3	0.85	1	41.769	343.43	17.17	C
240.00-220.00			B	0.457	1.962		0.85	1	41.769			
			C	0.457	1.962		0.85	1	41.769			
T4	2593.73	4548.76	A	0.37	2.126	3	0.85	1	39.489	366.38	18.32	C
220.00-200.00			B	0.37	2.126		0.85	1	39.489			
			C	0.37	2.126		0.85	1	39.489			
T5	2581.54	6295.88	A	0.368	2.132	3	0.85	1	47.608	406.72	20.34	C
200.00-180.00			B	0.368	2.132		0.85	1	47.608			
			C	0.368	2.132		0.85	1	47.608			
T6	2570.14	6603.57	A	0.335	2.207	3	0.85	1	49.539	422.84	21.14	C
180.00-160.00			B	0.335	2.207		0.85	1	49.539			
			C	0.335	2.207		0.85	1	49.539			
T7	2559.96	6925.70	A	0.311	2.267	3	0.85	1	51.747	440.40	22.02	C
160.00-140.00			B	0.311	2.267		0.85	1	51.747			
			C	0.311	2.267		0.85	1	51.747			
T8	2551.51	8327.77	A	0.311	2.267	3	0.85	1	58.383	476.96	23.85	C
140.00-120.00			B	0.311	2.267		0.85	1	58.383			
			C	0.311	2.267		0.85	1	58.383			
T9	2545.26	8040.30	A	0.262	2.402	3	0.85	1	54.365	473.97	23.70	C
120.00-100.00			B	0.262	2.402		0.85	1	54.365			
			C	0.262	2.402		0.85	1	54.365			
T10	2541.43	8378.70	A	0.244	2.457	3	0.85	1	56.685	500.36	25.02	C
100.00-80.00			B	0.244	2.457		0.85	1	56.685			
			C	0.244	2.457		0.85	1	56.685			
T11	2539.30	9706.24	A	0.237	2.476	3	0.85	1	62.194	545.91	27.30	C
80.00-60.00			B	0.237	2.476		0.85	1	62.194			
			C	0.237	2.476		0.85	1	62.194			
T12	2535.25	11353.88	A	0.258	2.414	3	0.85	1	75.253	628.76	31.44	C
60.00-40.00			B	0.258	2.414		0.85	1	75.253			
			C	0.258	2.414		0.85	1	75.253			
T13	2515.44	11870.74	A	0.247	2.447	3	0.85	1	78.793	663.40	33.17	C
40.00-20.00			B	0.247	2.447		0.85	1	78.793			
			C	0.247	2.447		0.85	1	78.793			
T14	2407.61	12462.76	A	0.239	2.472	3	0.85	1	83.377	698.53	34.93	C
20.00-0.00			B	0.239	2.472		0.85	1	83.377			
			C	0.239	2.472		0.85	1	83.377			
Sum Weight:	33530.04	105902.96						OTM	762739.51 lb-ft	6493.22		

Tower Forces - Service - Wind Normal To Face

Section Elevation ft	Add Weight lb	Self Weight lb	Face	e	C_F	q_z psf	D_F	D_R	A_E ft^2	F lb	w plf	Ctrl. Face
T1	196.96	532.99	A	0.159	2.738	12	1	1	13.124	502.41	25.12	C
280.00-260.00			B	0.159	2.738		1	1	13.124			
			C	0.159	2.738		1	1	13.124			
T2	541.36	1167.02	A	0.221	2.528	12	1	1	17.397	769.64	38.48	C
260.00-240.00			B	0.221	2.528		1	1	17.397			
			C	0.221	2.528		1	1	17.397			
T3	605.50	1586.47	A	0.248	2.443	12	1	1	21.976	901.10	45.06	C
240.00-220.00			B	0.248	2.443		1	1	21.976			
			C	0.248	2.443		1	1	21.976			
T4	610.60	1576.25	A	0.2	2.596	12	1	1	21.659	927.13	46.36	C
220.00-200.00			B	0.2	2.596		1	1	21.659			
			C	0.2	2.596		1	1	21.659			
T5	610.60	2556.85	A	0.219	2.535	12	1	1	27.999	1067.04	53.35	C
200.00-180.00			B	0.219	2.535		1	1	27.999			
			C	0.219	2.535		1	1	27.999			
T6	610.60	2631.37	A	0.196	2.61	12	1	1	29.395	1116.25	55.81	C
180.00-160.00			B	0.196	2.61		1	1	29.395			
			C	0.196	2.61		1	1	29.395			
T7	610.60	2709.25	A	0.179	2.668	12	1	1	30.903	1167.78	58.39	C
160.00-140.00			B	0.179	2.668		1	1	30.903			
			C	0.179	2.668		1	1	30.903			
T8	610.60	3578.45	A	0.188	2.637	12	1	1	34.546	1252.34	62.62	C
140.00-120.00			B	0.188	2.637		1	1	34.546			
			C	0.188	2.637		1	1	34.546			
T9	610.60	3561.71	A	0.166	2.713	12	1	1	33.885	1265.09	63.25	C
120.00-100.00			B	0.166	2.713		1	1	33.885			
			C	0.166	2.713		1	1	33.885			
T10	610.60	3644.68	A	0.152	2.762	12	1	1	35.380	1335.82	66.79	C
100.00-80.00			B	0.152	2.762		1	1	35.380			
			C	0.152	2.762		1	1	35.380			
T11	610.60	4308.96	A	0.15	2.771	12	1	1	40.460	1504.24	75.21	C
80.00-60.00			B	0.15	2.771		1	1	40.460			
			C	0.15	2.771		1	1	40.460			
T12	610.60	4641.09	A	0.152	2.763	12	1	1	47.325	1728.45	86.42	C
60.00-40.00			B	0.152	2.763		1	1	47.325			
			C	0.152	2.763		1	1	47.325			
T13	610.60	4814.47	A	0.146	2.787	12	1	1	50.210	1841.67	92.08	C
40.00-20.00			B	0.146	2.787		1	1	50.210			
			C	0.146	2.787		1	1	50.210			
T14	610.60	5196.49	A	0.146	2.787	12	1	1	56.018	2022.68	101.13	C
20.00-0.00			B	0.146	2.787		1	1	56.018			
			C	0.146	2.787		1	1	56.018			
Sum Weight:	8060.42	42506.06						OTM	1987064.2 5 lb-ft	17401.64		

Tower Forces - Service - Wind 60 To Face

Section Elevation ft	Add Weight lb	Self Weight lb	Face	e	C_F	q_z psf	D_F	D_R	A_E ft^2	F lb	w plf	Ctrl. Face
T1	196.96	532.99	A	0.159	2.738	12	0.8	1	11.400	452.74	22.64	A
280.00-260.00			B	0.159	2.738		0.8	1	11.400			
			C	0.159	2.738		0.8	1	11.400			

Section Elevation ft	Add Weight lb	Self Weight lb	Face	e	C_F	q_z psf	D_F	D_R	A_E ft^2	F lb	w plf	Ctrl. Face
T2	541.36	1167.02	A	0.221	2.528	12	0.8	1	15.653	723.79	36.19	C
260.00-240.00			B	0.221	2.528		0.8	1	15.653			
			C	0.221	2.528		0.8	1	15.653			
T3	605.50	1586.47	A	0.248	2.443	12	0.8	1	20.138	854.95	42.75	C
240.00-220.00			B	0.248	2.443		0.8	1	20.138			
			C	0.248	2.443		0.8	1	20.138			
T4	610.60	1576.25	A	0.2	2.596	12	0.8	1	19.839	879.05	43.95	C
220.00-200.00			B	0.2	2.596		0.8	1	19.839			
			C	0.2	2.596		0.8	1	19.839			
T5	610.60	2556.85	A	0.219	2.535	12	0.8	1	25.474	1002.54	50.13	C
200.00-180.00			B	0.219	2.535		0.8	1	25.474			
			C	0.219	2.535		0.8	1	25.474			
T6	610.60	2631.37	A	0.196	2.61	12	0.8	1	26.552	1042.05	52.10	C
180.00-160.00			B	0.196	2.61		0.8	1	26.552			
			C	0.196	2.61		0.8	1	26.552			
T7	610.60	2709.25	A	0.179	2.668	12	0.8	1	27.732	1083.59	54.18	C
160.00-140.00			B	0.179	2.668		0.8	1	27.732			
			C	0.179	2.668		0.8	1	27.732			
T8	610.60	3578.45	A	0.188	2.637	12	0.8	1	31.088	1161.72	58.09	C
140.00-120.00			B	0.188	2.637		0.8	1	31.088			
			C	0.188	2.637		0.8	1	31.088			
T9	610.60	3561.71	A	0.166	2.713	12	0.8	1	30.494	1173.33	58.67	C
120.00-100.00			B	0.166	2.713		0.8	1	30.494			
			C	0.166	2.713		0.8	1	30.494			
T10	610.60	3644.68	A	0.152	2.762	12	0.8	1	31.642	1231.84	61.59	C
100.00-80.00			B	0.152	2.762		0.8	1	31.642			
			C	0.152	2.762		0.8	1	31.642			
T11	610.60	4308.96	A	0.15	2.771	12	0.8	1	35.686	1368.88	68.44	C
80.00-60.00			B	0.15	2.771		0.8	1	35.686			
			C	0.15	2.771		0.8	1	35.686			
T12	610.60	4641.09	A	0.152	2.763	12	0.8	1	41.166	1550.90	77.54	C
60.00-40.00			B	0.152	2.763		0.8	1	41.166			
			C	0.152	2.763		0.8	1	41.166			
T13	610.60	4814.47	A	0.146	2.787	12	0.8	1	43.447	1643.13	82.16	C
40.00-20.00			B	0.146	2.787		0.8	1	43.447			
			C	0.146	2.787		0.8	1	43.447			
T14	610.60	5196.49	A	0.146	2.787	12	0.8	1	48.088	1788.67	89.43	C
20.00-0.00			B	0.146	2.787		0.8	1	48.088			
			C	0.146	2.787		0.8	1	48.088			
Sum Weight:	8060.42	42506.06						OTM	1846097.0 2 lb-ft	15957.18		

Tower Forces - Service - Wind 90 To Face

Section Elevation ft	Add Weight lb	Self Weight lb	Face	e	C_F	q_z psf	D_F	D_R	A_E ft^2	F lb	w plf	Ctrl. Face
T1	196.96	532.99	A	0.159	2.738	12	0.85	1	11.831	461.30	23.07	A
280.00-260.00			B	0.159	2.738		0.85	1	11.831			
			C	0.159	2.738		0.85	1	11.831			
T2	541.36	1167.02	A	0.221	2.528	12	0.85	1	16.089	738.52	36.93	A
260.00-240.00			B	0.221	2.528		0.85	1	16.089			
			C	0.221	2.528		0.85	1	16.089			

Section Elevation ft	Add Weight lb	Self Weight lb	Face	e	C_F	q_z psf	D_F	D_R	A_E ft²	F lb	w plf	Ctrl. Face
T3	605.50	1586.47	A	0.248	2.443	12	0.85	1	20.598	866.49	43.32	C
240.00-220.00			B	0.248	2.443		0.85	1	20.598			
			C	0.248	2.443		0.85	1	20.598			
T4	610.60	1576.25	A	0.2	2.596	12	0.85	1	20.294	891.07	44.55	C
220.00-200.00			B	0.2	2.596		0.85	1	20.294			
			C	0.2	2.596		0.85	1	20.294			
T5	610.60	2556.85	A	0.219	2.535	12	0.85	1	26.105	1018.67	50.93	C
200.00-180.00			B	0.219	2.535		0.85	1	26.105			
			C	0.219	2.535		0.85	1	26.105			
T6	610.60	2631.37	A	0.196	2.61	12	0.85	1	27.263	1060.60	53.03	C
180.00-160.00			B	0.196	2.61		0.85	1	27.263			
			C	0.196	2.61		0.85	1	27.263			
T7	610.60	2709.25	A	0.179	2.668	12	0.85	1	28.525	1104.64	55.23	C
160.00-140.00			B	0.179	2.668		0.85	1	28.525			
			C	0.179	2.668		0.85	1	28.525			
T8	610.60	3578.45	A	0.188	2.637	12	0.85	1	31.953	1184.38	59.22	C
140.00-120.00			B	0.188	2.637		0.85	1	31.953			
			C	0.188	2.637		0.85	1	31.953			
T9	610.60	3561.71	A	0.166	2.713	12	0.85	1	31.342	1196.27	59.81	C
120.00-100.00			B	0.166	2.713		0.85	1	31.342			
			C	0.166	2.713		0.85	1	31.342			
T10	610.60	3644.68	A	0.152	2.762	12	0.85	1	32.577	1257.83	62.89	C
100.00-80.00			B	0.152	2.762		0.85	1	32.577			
			C	0.152	2.762		0.85	1	32.577			
T11	610.60	4308.96	A	0.15	2.771	12	0.85	1	36.880	1402.72	70.14	C
80.00-60.00			B	0.15	2.771		0.85	1	36.880			
			C	0.15	2.771		0.85	1	36.880			
T12	610.60	4641.09	A	0.152	2.763	12	0.85	1	42.706	1595.29	79.76	C
60.00-40.00			B	0.152	2.763		0.85	1	42.706			
			C	0.152	2.763		0.85	1	42.706			
T13	610.60	4814.47	A	0.146	2.787	12	0.85	1	45.137	1692.77	84.64	C
40.00-20.00			B	0.146	2.787		0.85	1	45.137			
			C	0.146	2.787		0.85	1	45.137			
T14	610.60	5196.49	A	0.146	2.787	12	0.85	1	50.071	1847.17	92.36	C
20.00-0.00			B	0.146	2.787		0.85	1	50.071			
			C	0.146	2.787		0.85	1	50.071			
Sum Weight:	8060.42	42506.06						OTM	1881114.7 1 lb-ft	16317.71		

Mast Vectors - No Ice

Section No.	Section Elevation ft	Wind Azimuth °	Directionality	F lb	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
T1	280.00-260.00	0	Wind Normal	1538.64	0.00	-1538.64	-415202.19	-57.64	93.93
		30	Wind 90	1412.74	706.37	-1223.47	-330106.01	-190777.64	312.02
		60	Wind 60	1330.89	1152.59	-665.45	-179439.50	-311255.61	352.73
		90	Wind 90	1336.91	1336.91	0.00	230.73	-361022.18	298.93
		120	Wind Normal	1462.81	1266.83	731.40	197709.46	-342100.83	258.80
		150	Wind 90	1392.52	696.26	1205.96	325838.87	-188047.58	149.33
		180	Wind 60	1386.50	0.00	1386.50	374586.55	-57.64	-93.93
		210	Wind 90	1412.74	-706.37	1223.47	330567.48	190662.37	-312.02
		240	Wind Normal	1483.03	-1284.34	741.51	200439.53	346714.16	-352.73
		270	Wind 90	1336.91	-1336.91	0.00	230.73	360906.91	-298.93

Section No.	Section Elevation ft	Wind Azimuth °	Directionality	F lb	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
		300	Wind 60	1310.67	-1135.07	-655.33	-176709.44	306411.73	-258.80
		330	Wind 90	1392.52	-696.26	-1205.96	-325377.40	187932.31	-149.33
T2	260.00-240.00	0	Wind Normal	2318.94	0.00	-2318.94	-579670.37	-86.45	139.28
		30	Wind 90	2223.61	1111.80	-1925.70	-481361.26	-278037.66	313.20
		60	Wind 60	2178.51	1886.64	-1089.25	-272249.01	-471747.03	139.75
		90	Wind 90	2193.63	2193.63	0.00	64.35	-548492.78	-71.14
		120	Wind Normal	2288.95	1982.29	1144.48	286183.67	-495659.64	0.48
		150	Wind 90	2193.63	1096.81	1899.74	474998.16	-274289.62	71.96
		180	Wind 60	2178.51	0.00	2178.51	544691.07	-86.45	-139.28
		210	Wind 90	2223.61	-1111.80	1925.70	481489.97	277864.75	-313.20
		240	Wind Normal	2318.94	-2008.26	1159.47	289931.71	501978.54	-139.75
		270	Wind 90	2193.63	-2193.63	0.00	64.35	548319.87	71.14
		300	Wind 60	2148.52	-1860.68	-1074.26	-268500.96	465082.31	-0.48
		330	Wind 90	2193.63	-1096.81	-1899.74	-474869.46	274116.71	-71.96
T3	240.00-220.00	0	Wind Normal	2611.76	0.00	-2611.76	-600693.32	-8.10	47.23
		30	Wind 90	2505.75	1252.87	-2170.04	-499097.53	-288169.08	216.08
		60	Wind 60	2470.41	2139.44	-1235.20	-284085.17	-492078.70	0.54
		90	Wind 90	2505.75	2505.75	0.00	11.93	-576330.05	-215.14
		120	Wind Normal	2611.76	2261.85	1305.88	300364.55	-520234.10	-46.68
		150	Wind 90	2505.75	1252.87	2170.04	499121.38	-288169.08	134.28
		180	Wind 60	2470.41	0.00	2470.41	568206.12	-8.10	-47.23
		210	Wind 90	2505.75	-1252.87	2170.04	499121.38	288152.88	-216.08
		240	Wind Normal	2611.76	-2261.85	1305.88	300364.55	520217.91	-0.54
		270	Wind 90	2505.75	-2505.75	0.00	11.93	576313.86	215.14
		300	Wind 60	2470.41	-2139.44	-1235.20	-284085.17	492062.50	46.68
		330	Wind 90	2505.75	-1252.87	-2170.04	-499097.53	288152.88	-134.28
T4	220.00-200.00	0	Wind Normal	2658.13	0.00	-2658.13	-558196.67	-19.07	110.01
		30	Wind 90	2547.69	1273.85	-2206.37	-463327.10	-267526.83	292.76
		60	Wind 60	2510.88	2174.49	-1255.44	-263632.65	-456661.41	0.68
		90	Wind 90	2547.69	2547.69	0.00	9.92	-535034.58	-291.59
		120	Wind Normal	2658.13	2302.01	1329.06	279113.22	-483440.16	-109.34
		150	Wind 90	2547.69	1273.85	2206.37	463346.95	-267526.83	102.22
		180	Wind 60	2510.88	0.00	2510.88	527295.08	-19.07	-110.01
		210	Wind 90	2547.69	-1273.85	2206.37	463346.95	267488.69	-292.76
		240	Wind Normal	2658.13	-2302.01	1329.06	279113.22	483402.02	-0.68
		270	Wind 90	2547.69	-2547.69	0.00	9.92	534996.45	291.59
		300	Wind 60	2510.88	-2174.49	-1255.44	-263632.65	456623.27	109.34
		330	Wind 90	2547.69	-1273.85	-2206.37	-463327.10	267488.69	-102.22
T5	200.00-180.00	0	Wind Normal	3093.02	0.00	-3093.02	-587661.95	-22.89	130.84
		30	Wind 90	2944.87	1472.43	-2550.33	-484551.03	-279785.51	344.66
		60	Wind 60	2895.49	2507.56	-1447.74	-275059.12	-476460.12	0.81
		90	Wind 90	2944.87	2944.87	0.00	12.05	-559548.13	-343.26
		120	Wind Normal	3093.02	2678.63	1546.51	293849.05	-508963.50	-130.03
		150	Wind 90	2944.87	1472.43	2550.33	484575.12	-279785.51	118.04
		180	Wind 60	2895.49	0.00	2895.49	550154.37	-22.89	-130.84
		210	Wind 90	2944.87	-1472.43	2550.33	484575.12	279739.73	-344.66
		240	Wind Normal	3093.02	-2678.63	1546.51	293849.05	508917.72	-0.81
		270	Wind 90	2944.87	-2944.87	0.00	12.05	559502.35	343.26
		300	Wind 60	2895.49	-2507.56	-1447.74	-275059.12	476414.34	130.03
		330	Wind 90	2944.87	-1472.43	-2550.33	-484551.03	279739.73	-118.04
T6	180.00-160.00	0	Wind Normal	3225.22	0.00	-3225.22	-548273.73	-26.72	151.54
		30	Wind 90	3054.80	1527.40	-2645.54	-449727.17	-259685.00	396.28
		60	Wind 60	2998.00	2596.34	-1499.00	-254815.56	-441404.75	0.94
		90	Wind 90	3054.80	3054.80	0.00	14.17	-519343.28	-394.65
		120	Wind Normal	3225.22	2793.13	1612.61	274158.12	-474857.97	-150.60
		150	Wind 90	3054.80	1527.40	2645.54	449755.50	-259685.00	133.79
		180	Wind 60	2998.00	0.00	2998.00	509673.62	-26.72	-151.54
		210	Wind 90	3054.80	-1527.40	2645.54	449755.50	259631.56	-396.28
		240	Wind Normal	3225.22	-2793.13	1612.61	274158.12	474804.53	-0.94
		270	Wind 90	3054.80	-3054.80	0.00	14.17	519289.84	394.65
		300	Wind 60	2998.00	-2596.34	-1499.00	-254815.56	441351.31	150.60

Section No.	Section Elevation ft	Wind Azimuth °	Directionality	F lb	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
		330	Wind 90	3054.80	-1527.40	-2645.54	-449727.17	259631.56	-133.79
T7	160.00-140.00	0	Wind Normal	3368.37	0.00	-3368.37	-505239.38	-30.54	172.38
		30	Wind 90	3175.00	1587.50	-2749.63	-412428.32	-238155.55	448.28
		60	Wind 60	3110.54	2693.81	-1555.27	-233274.44	-404101.95	1.07
		90	Wind 90	3175.00	3175.00	0.00	16.29	-476280.56	-446.42
		120	Wind Normal	3368.37	2917.09	1684.19	252644.12	-437594.79	-171.31
		150	Wind 90	3175.00	1587.50	2749.63	412460.90	-238155.55	149.70
		180	Wind 60	3110.54	0.00	3110.54	466597.76	-30.54	-172.38
		210	Wind 90	3175.00	-1587.50	2749.63	412460.90	238094.47	-448.28
		240	Wind Normal	3368.37	-2917.09	1684.19	252644.12	437533.70	-1.07
		270	Wind 90	3175.00	-3175.00	0.00	16.29	476219.48	446.42
		300	Wind 60	3110.54	-2693.81	-1555.27	-233274.44	404040.86	171.31
		330	Wind 90	3175.00	-1587.50	-2749.63	-412428.32	238094.47	-149.70
T8	140.00-120.00	0	Wind Normal	3713.74	0.00	-3713.74	-482767.19	-34.37	193.73
		30	Wind 90	3505.58	1752.79	-3035.92	-394651.67	-227897.25	501.61
		60	Wind 60	3436.20	2975.84	-1718.10	-223334.49	-386892.94	1.21
		90	Wind 90	3505.58	3505.58	0.00	18.41	-455760.12	-499.51
		120	Wind Normal	3713.74	3216.19	1856.87	241411.22	-418138.97	-192.52
		150	Wind 90	3505.58	1752.79	3035.92	394688.49	-227897.25	166.06
		180	Wind 60	3436.20	0.00	3436.20	446724.22	-34.37	-193.73
		210	Wind 90	3505.58	-1752.79	3035.92	394688.49	227828.51	-501.61
		240	Wind Normal	3713.74	-3216.19	1856.87	241411.22	418070.23	-1.21
		270	Wind 90	3505.58	-3505.58	0.00	18.41	455691.39	499.51
		300	Wind 60	3436.20	-2975.84	-1718.10	-223334.49	386824.21	192.52
		330	Wind 90	3505.58	-1752.79	-3035.92	-394651.67	227828.51	-166.06
T9	120.00-100.00	0	Wind Normal	3741.83	0.00	-3741.83	-411580.37	-38.83	219.68
		30	Wind 90	3531.08	1765.54	-3058.00	-336359.26	-194248.00	566.54
		60	Wind 60	3460.82	2997.16	-1730.41	-190324.47	-329726.65	1.37
		90	Wind 90	3531.08	3531.08	0.00	20.89	-388457.17	-564.16
		120	Wind Normal	3741.83	3240.52	1870.91	205821.51	-356495.97	-218.30
		150	Wind 90	3531.08	1765.54	3058.00	336401.04	-194248.00	186.04
		180	Wind 60	3460.82	0.00	3460.82	380711.59	-38.83	-219.68
		210	Wind 90	3531.08	-1765.54	3058.00	336401.04	194170.34	-566.54
		240	Wind Normal	3741.83	-3240.52	1870.91	205821.51	356418.31	-1.37
		270	Wind 90	3531.08	-3531.08	0.00	20.89	388379.51	564.16
		300	Wind 60	3460.82	-2997.16	-1730.41	-190324.47	329648.99	218.30
		330	Wind 90	3531.08	-1765.54	-3058.00	-336359.26	194170.34	-186.04
T10	100.00-80.00	0	Wind Normal	3953.03	0.00	-3953.03	-355749.32	-43.93	250.93
		30	Wind 90	3714.22	1857.11	-3216.61	-289470.84	-167183.69	644.81
		60	Wind 60	3634.61	3147.67	-1817.31	-163533.79	-283333.83	1.57
		90	Wind 90	3714.22	3714.22	0.00	23.72	-334323.44	-642.09
		120	Wind Normal	3953.03	3423.43	1976.52	177910.24	-308152.42	-249.35
		150	Wind 90	3714.22	1857.11	3216.61	289518.27	-167183.69	210.20
		180	Wind 60	3634.61	0.00	3634.61	327138.72	-43.93	-250.93
		210	Wind 90	3714.22	-1857.11	3216.61	289518.27	167095.83	-644.81
		240	Wind Normal	3953.03	-3423.43	1976.52	177910.24	308064.56	-1.57
		270	Wind 90	3714.22	-3714.22	0.00	23.72	334235.59	642.09
		300	Wind 60	3634.61	-3147.67	-1817.31	-163533.79	283245.98	249.35
		330	Wind 90	3714.22	-1857.11	-3216.61	-289470.84	167095.83	-210.20
T11	80.00-60.00	0	Wind Normal	4471.56	0.00	-4471.56	-312982.38	-49.03	284.53
		30	Wind 90	4160.66	2080.33	-3603.24	-252200.30	-145672.26	729.09
		60	Wind 60	4057.03	3513.49	-2028.52	-141969.61	-245993.59	1.79
		90	Wind 90	4160.66	4160.66	0.00	26.55	-291295.50	-725.99
		120	Wind Normal	4471.56	3872.48	2235.78	156531.01	-271122.71	-282.74
		150	Wind 90	4160.66	2080.33	3603.24	252253.39	-145672.26	236.27
		180	Wind 60	4057.03	0.00	4057.03	284018.86	-49.03	-284.53
		210	Wind 90	4160.66	-2080.33	3603.24	252253.39	145574.20	-729.09
		240	Wind Normal	4471.56	-3872.48	2235.78	156531.01	271024.65	-1.79
		270	Wind 90	4160.66	-4160.66	0.00	26.55	291197.44	725.99
		300	Wind 60	4057.03	-3513.49	-2028.52	-141969.61	245895.53	282.74
		330	Wind 90	4160.66	-2080.33	-3603.24	-252200.30	145574.20	-236.27

Section No.	Section Elevation ft	Wind Azimuth °	Directionality	F lb	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
T12	60.00-40.00	0	Wind Normal	5164.55	0.00	-5164.55	-258198.06	-54.13	320.30
		30	Wind 90	4756.73	2378.37	-4119.45	-205943.23	-118972.47	818.85
		60	Wind 60	4620.80	4001.73	-2310.40	-115490.51	-200140.43	2.01
		90	Wind 90	4756.73	4756.73	0.00	29.37	-237890.81	-815.36
		120	Wind Normal	5164.55	4472.63	2582.27	129143.09	-223685.65	-318.29
		150	Wind 90	4756.73	2378.37	4119.45	206001.98	-118972.47	264.08
		180	Wind 60	4620.80	0.00	4620.80	231069.14	-54.13	-320.30
		210	Wind 90	4756.73	-2378.37	4119.45	206001.98	118864.21	-818.85
		240	Wind Normal	5164.55	-4472.63	2582.27	129143.09	223577.39	-2.01
		270	Wind 90	4756.73	-4756.73	0.00	29.37	237782.55	815.36
		300	Wind 60	4620.80	-4001.73	-2310.40	-115490.51	200032.18	318.29
		330	Wind 90	4756.73	-2378.37	-4119.45	-205943.23	118864.21	-264.08
T13	40.00-20.00	0	Wind Normal	5510.66	0.00	-5510.66	-165287.68	-59.23	353.87
		30	Wind 90	5054.63	2527.32	-4377.44	-131291.01	-75878.72	902.94
		60	Wind 60	4902.62	4245.80	-2451.31	-73507.14	-127433.11	2.23
		90	Wind 90	5054.63	5054.63	0.00	32.20	-151698.22	-899.09
		120	Wind Normal	5510.66	4772.37	2755.33	82692.15	-143230.45	-351.64
		150	Wind 90	5054.63	2527.32	4377.44	131355.42	-75878.72	290.02
		180	Wind 60	4902.62	0.00	4902.62	147110.89	-59.23	-353.87
		210	Wind 90	5054.63	-2527.32	4377.44	131355.42	75760.27	-902.94
		240	Wind Normal	5510.66	-4772.37	2755.33	82692.15	143111.99	-2.23
		270	Wind 90	5054.63	-5054.63	0.00	32.20	151579.76	899.09
		300	Wind 60	4902.62	-4245.80	-2451.31	-73507.14	127314.65	351.64
		330	Wind 90	5054.63	-2527.32	-4377.44	-131291.01	75760.27	-290.02
T14	20.00-0.00	0	Wind Normal	6066.51	0.00	-6066.51	-60630.09	-64.33	386.34
		30	Wind 90	5529.04	2764.52	-4788.29	-47847.82	-27709.51	984.21
		60	Wind 60	5349.88	4633.13	-2674.94	-26714.35	-46395.63	2.43
		90	Wind 90	5529.04	5529.04	0.00	35.03	-55354.69	-980.00
		120	Wind Normal	6066.51	5253.75	3033.26	30367.59	-52601.87	-383.91
		150	Wind 90	5529.04	2764.52	4788.29	47917.89	-27709.51	315.04
		180	Wind 60	5349.88	0.00	5349.88	53533.81	-64.33	-386.34
		210	Wind 90	5529.04	-2764.52	4788.29	47917.89	27580.85	-984.21
		240	Wind Normal	6066.51	-5253.75	3033.26	30367.59	52473.21	-2.43
		270	Wind 90	5529.04	-5529.04	0.00	35.03	55226.03	980.00
		300	Wind 60	5349.88	-4633.13	-2674.94	-26714.35	46266.97	383.91
		330	Wind 90	5529.04	-2764.52	-4788.29	-47847.82	27580.85	-315.04

Mast Totals - No Ice

Wind Azimuth °	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
0	0.00	-51435.96	-5842132.71	-595.25	2854.59
30	24058.20	-41670.03	-4778362.56	-2759699.17	7471.34
60	40665.68	-23478.34	-2697429.80	-4673625.75	509.15
90	48010.59	0.00	545.61	-5490831.53	-6589.46
120	44453.21	25665.07	2907899.00	-5036279.02	-2345.44
150	24033.10	41626.55	4768233.38	-2753221.06	2527.04
180	0.00	47012.29	5411511.80	-595.25	-2854.59
210	-24058.20	41670.03	4779453.79	2758508.67	-7471.34
240	-44496.69	25690.17	2914377.11	5046308.94	-509.15
270	-48010.59	0.00	545.61	5489641.03	6589.46
300	-40622.20	-23453.24	-2690951.70	4661214.84	2345.44
330	-24033.10	-41626.55	-4767142.15	2752030.56	-2527.04

Mast Vectors - With Ice

Section No.	Section Elevation ft	Wind Azimuth °	Directionality	F lb	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
T1	280.00-260.00	0	Wind Normal	232.13	0.00	-232.13	-61670.38	-231.46	11.39
		30	Wind 90	224.38	112.19	-194.32	-51460.80	-30522.96	43.51
		60	Wind 60	218.70	189.40	-109.35	-28518.75	-51369.18	56.70
		90	Wind 90	218.49	218.49	0.00	1005.63	-59223.76	54.69
		120	Wind Normal	226.24	195.93	113.12	31548.28	-53132.87	45.31
		150	Wind 90	222.81	111.41	192.96	53104.70	-30310.87	23.79
		180	Wind 60	223.02	0.00	223.02	61220.90	-231.46	-11.39
		210	Wind 90	224.38	-112.19	194.32	53472.06	30060.05	-43.51
		240	Wind Normal	227.81	-197.29	113.91	31760.37	53037.32	-56.70
		270	Wind 90	218.49	-218.49	0.00	1005.63	58760.84	-54.69
		300	Wind 60	217.13	-188.04	-108.56	-28306.65	50538.90	-45.31
		330	Wind 90	222.81	-111.41	-192.96	-51093.44	29847.95	-23.79
T2	260.00-240.00	0	Wind Normal	307.11	0.00	-307.11	-76442.51	-345.67	15.96
		30	Wind 90	301.18	150.59	-260.83	-64873.15	-37993.68	37.16
		60	Wind 60	298.23	258.27	-149.11	-36943.31	-64913.81	29.00
		90	Wind 90	298.98	298.98	0.00	335.12	-75089.80	13.07
		120	Wind Normal	304.90	264.05	152.45	38447.98	-66359.09	13.03
		150	Wind 90	298.98	149.49	258.92	65065.43	-37717.74	9.51
		180	Wind 60	298.23	0.00	298.23	74891.98	-345.67	-15.96
		210	Wind 90	301.18	-150.59	260.83	65543.38	37302.34	-37.16
		240	Wind Normal	307.11	-265.97	153.56	38723.93	66145.70	-29.00
		270	Wind 90	298.98	-298.98	0.00	335.12	74398.45	-13.07
		300	Wind 60	296.02	-256.36	-148.01	-36667.37	63744.51	-13.03
		330	Wind 90	298.98	-149.49	-258.92	-64395.19	37026.39	-9.51
T3	240.00-220.00	0	Wind Normal	350.38	0.00	-350.38	-80507.64	-129.62	11.63
		30	Wind 90	343.43	171.71	-297.42	-68326.51	-39623.76	29.17
		60	Wind 60	341.11	295.41	-170.56	-39148.35	-68073.96	14.78
		90	Wind 90	343.43	343.43	0.00	79.33	-79117.89	-3.57
		120	Wind Normal	350.38	303.44	175.19	40372.82	-69919.99	3.15
		150	Wind 90	343.43	171.71	297.42	68485.17	-39623.76	9.03
		180	Wind 60	341.11	0.00	341.11	78534.69	-129.62	-11.63
		210	Wind 90	343.43	-171.71	297.42	68485.17	39364.51	-29.17
		240	Wind Normal	350.38	-303.44	175.19	40372.82	69660.74	-14.78
		270	Wind 90	343.43	-343.43	0.00	79.33	78858.64	3.57
		300	Wind 60	341.11	-295.41	-170.56	-39148.35	67814.71	-3.15
		330	Wind 90	343.43	-171.71	-297.42	-68326.51	39364.51	-9.03
T4	220.00-200.00	0	Wind Normal	373.77	0.00	-373.77	-78473.43	-302.49	29.81
		30	Wind 90	366.38	183.19	-317.30	-66614.77	-38772.73	47.58
		60	Wind 60	363.92	315.17	-181.96	-38194.17	-66487.29	20.25
		90	Wind 90	366.38	366.38	0.00	17.64	-77242.97	-12.51
		120	Wind Normal	373.77	323.69	186.88	39263.17	-68277.75	-9.55
		150	Wind 90	366.38	183.19	317.30	66650.05	-38772.73	-4.04
		180	Wind 60	363.92	0.00	363.92	76441.26	-302.49	-29.81
		210	Wind 90	366.38	-183.19	317.30	66650.05	38167.75	-47.58
		240	Wind Normal	373.77	-323.69	186.88	39263.17	67672.77	-20.25
		270	Wind 90	366.38	-366.38	0.00	17.64	76637.99	12.51
		300	Wind 60	363.92	-315.17	-181.96	-38194.17	65882.30	9.55
		330	Wind 90	366.38	-183.19	-317.30	-66614.77	38167.75	4.04
T5	200.00-180.00	0	Wind Normal	416.89	0.00	-416.89	-79187.14	-360.09	35.30
		30	Wind 90	406.72	203.36	-352.23	-66901.68	-38998.33	56.21
		60	Wind 60	403.33	349.29	-201.66	-38294.46	-66725.67	24.07
		90	Wind 90	406.72	406.72	0.00	21.73	-77636.58	-14.52
		120	Wind Normal	416.89	361.04	208.44	39626.16	-68956.98	-11.23
		150	Wind 90	406.72	203.36	352.23	66945.14	-38998.33	-4.94
		180	Wind 60	403.33	0.00	403.33	76654.10	-360.09	-35.30
		210	Wind 90	406.72	-203.36	352.23	66945.14	38278.16	-56.21

Section No.	Section Elevation ft	Wind Azimuth °	Directionality	F lb	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
		240	Wind Normal	416.89	-361.04	208.44	39626.16	68236.81	-24.07
		270	Wind 90	406.72	-406.72	0.00	21.73	76916.41	14.52
		300	Wind 60	403.33	-349.29	-201.66	-38294.46	66005.50	11.23
		330	Wind 90	406.72	-203.36	-352.23	-66901.68	38278.16	4.94
T6	180.00-160.00	0	Wind Normal	434.60	0.00	-434.60	-73856.85	-416.89	40.73
		30	Wind 90	422.84	211.42	-366.19	-62226.56	-36358.21	64.74
		60	Wind 60	418.92	362.79	-209.46	-35582.38	-62091.77	27.83
		90	Wind 90	422.84	422.84	0.00	25.63	-72299.53	-16.55
		120	Wind Normal	434.60	376.38	217.30	36966.88	-64401.00	-12.91
		150	Wind 90	422.84	211.42	366.19	62277.83	-36358.21	-5.80
		180	Wind 60	418.92	0.00	418.92	71241.66	-416.89	-40.73
		210	Wind 90	422.84	-211.42	366.19	62277.83	35524.43	-64.74
		240	Wind Normal	434.60	-376.38	217.30	36966.88	63567.22	-27.83
		270	Wind 90	422.84	-422.84	0.00	25.63	71465.75	16.55
		300	Wind 60	418.92	-362.79	-209.46	-35582.38	61258.00	12.91
		330	Wind 90	422.84	-211.42	-366.19	-62226.56	35524.43	5.80
T7	160.00-140.00	0	Wind Normal	453.81	0.00	-453.81	-68042.54	-473.14	46.17
		30	Wind 90	440.40	220.20	-381.39	-57179.69	-33502.83	73.31
		60	Wind 60	435.92	377.52	-217.96	-32664.85	-57101.27	31.58
		90	Wind 90	440.40	440.40	0.00	29.41	-66532.52	-18.61
		120	Wind Normal	453.81	393.01	226.91	34065.39	-59425.18	-14.59
		150	Wind 90	440.40	220.20	381.39	57238.51	-33502.83	-6.66
		180	Wind 60	435.92	0.00	435.92	65417.94	-473.14	-46.17
		210	Wind 90	440.40	-220.20	381.39	57238.51	32556.55	-73.31
		240	Wind Normal	453.81	-393.01	226.91	34065.39	58478.89	-31.58
		270	Wind 90	440.40	-440.40	0.00	29.41	65586.24	18.61
		300	Wind 60	435.92	-377.52	-217.96	-32664.85	56154.98	14.59
		330	Wind 90	440.40	-220.20	-381.39	-57179.69	32556.55	6.66
T8	140.00-120.00	0	Wind Normal	491.57	0.00	-491.57	-63871.23	-529.20	51.73
		30	Wind 90	476.96	238.48	-413.06	-53664.73	-31531.68	82.08
		60	Wind 60	472.09	408.84	-236.05	-30652.77	-53678.76	35.42
		90	Wind 90	476.96	476.96	0.00	33.14	-62534.16	-20.73
		120	Wind Normal	491.57	425.71	245.79	31985.33	-55872.01	-16.32
		150	Wind 90	476.96	238.48	413.06	53731.02	-31531.68	-7.53
		180	Wind 60	472.09	0.00	472.09	61404.97	-529.20	-51.73
		210	Wind 90	476.96	-238.48	413.06	53731.02	30473.28	-82.08
		240	Wind Normal	491.57	-425.71	245.79	31985.33	54813.61	-35.42
		270	Wind 90	476.96	-476.96	0.00	33.14	61475.77	20.73
		300	Wind 60	472.09	-408.84	-236.05	-30652.77	52620.37	16.32
		330	Wind 90	476.96	-238.48	-413.06	-53664.73	30473.28	7.53
T9	120.00-100.00	0	Wind Normal	489.21	0.00	-489.21	-53775.11	-595.24	58.54
		30	Wind 90	473.97	236.99	-410.47	-45114.55	-26663.87	92.79
		60	Wind 60	468.90	406.08	-234.45	-25751.75	-45263.75	40.11
		90	Wind 90	473.97	473.97	0.00	37.62	-52732.49	-23.31
		120	Wind Normal	489.21	423.67	244.60	26943.99	-47198.44	-18.42
		150	Wind 90	473.97	236.99	410.47	45189.80	-26663.87	-8.60
		180	Wind 60	468.90	0.00	468.90	51616.37	-595.24	-58.54
		210	Wind 90	473.97	-236.99	410.47	45189.80	25473.38	-92.79
		240	Wind Normal	489.21	-423.67	244.60	26943.99	46007.95	-40.11
		270	Wind 90	473.97	-473.97	0.00	37.62	51542.00	23.31
		300	Wind 60	468.90	-406.08	-234.45	-25751.75	44073.26	18.42
		330	Wind 90	473.97	-236.99	-410.47	-45114.55	25473.38	8.60
T10	100.00-80.00	0	Wind Normal	517.70	0.00	-517.70	-46549.78	-671.57	66.77
		30	Wind 90	500.36	250.18	-433.32	-38956.01	-23187.61	105.74
		60	Wind 60	494.58	428.32	-247.29	-22213.02	-39219.99	45.81
		90	Wind 90	500.36	500.36	0.00	42.92	-45703.65	-26.39
		120	Wind Normal	517.70	448.34	258.85	23339.27	-41022.03	-20.96
		150	Wind 90	500.36	250.18	433.32	39041.84	-23187.61	-9.92
		180	Wind 60	494.58	0.00	494.58	44554.79	-671.57	-66.77
		210	Wind 90	500.36	-250.18	433.32	39041.84	21844.47	-105.74
		240	Wind Normal	517.70	-448.34	258.85	23339.27	39678.89	-45.81

Section No.	Section Elevation ft	Wind Azimuth °	Directionality	F lb	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
		270	Wind 90	500.36	-500.36	0.00	42.92	44360.51	26.39
		300	Wind 60	494.58	-428.32	-247.29	-22213.02	37876.84	20.96
		330	Wind 90	500.36	-250.18	-433.32	-38956.01	21844.47	9.92
T11	80.00-60.00	0	Wind Normal	568.59	0.00	-568.59	-39752.63	-748.39	75.66
		30	Wind 90	545.91	272.95	-472.77	-33045.55	-19855.14	119.71
		60	Wind 60	538.35	466.22	-269.17	-18793.86	-33384.00	51.96
		90	Wind 90	545.91	545.91	0.00	48.32	-38961.90	-29.70
		120	Wind Normal	568.59	492.41	284.29	19948.79	-35217.03	-23.70
		150	Wind 90	545.91	272.95	472.77	33142.18	-19855.14	-11.34
		180	Wind 60	538.35	0.00	538.35	37732.67	-748.39	-75.66
		210	Wind 90	545.91	-272.95	472.77	33142.18	18358.36	-119.71
		240	Wind Normal	568.59	-492.41	284.29	19948.79	33720.24	-51.96
		270	Wind 90	545.91	-545.91	0.00	48.32	37465.11	29.70
		300	Wind 60	538.35	-466.22	-269.17	-18793.86	31887.21	23.70
		330	Wind 90	545.91	-272.95	-472.77	-33045.55	18358.36	11.34
T12	60.00-40.00	0	Wind Normal	657.85	0.00	-657.85	-32839.15	-823.83	85.05
		30	Wind 90	628.76	314.38	-544.52	-27172.76	-16542.87	134.50
		60	Wind 60	619.07	536.13	-309.53	-15423.21	-27630.13	58.44
		90	Wind 90	628.76	628.76	0.00	53.42	-32261.91	-33.27
		120	Wind Normal	657.85	569.72	328.93	16499.70	-29309.63	-26.61
		150	Wind 90	628.76	314.38	544.52	27279.59	-16542.87	-12.81
		180	Wind 60	619.07	0.00	619.07	31006.67	-823.83	-85.05
		210	Wind 90	628.76	-314.38	544.52	27279.59	14895.21	-134.50
		240	Wind Normal	657.85	-569.72	328.93	16499.70	27661.96	-58.44
		270	Wind 90	628.76	-628.76	0.00	53.42	30614.25	33.27
		300	Wind 60	619.07	-536.13	-309.53	-15423.21	25982.47	26.61
		330	Wind 90	628.76	-314.38	-544.52	-27172.76	14895.21	12.81
T13	40.00-20.00	0	Wind Normal	696.09	0.00	-696.09	-20826.37	-888.59	93.31
		30	Wind 90	663.40	331.70	-574.52	-17179.51	-10839.63	147.74
		60	Wind 60	652.51	565.09	-326.25	-9731.42	-17841.26	63.98
		90	Wind 90	663.40	663.40	0.00	56.21	-20790.68	-36.92
		120	Wind Normal	696.09	602.83	348.04	10497.50	-18973.44	-29.33
		150	Wind 90	663.40	331.70	574.52	17291.93	-10839.63	-13.88
		180	Wind 60	652.51	0.00	652.51	19631.47	-888.59	-93.31
		210	Wind 90	663.40	-331.70	574.52	17291.93	9062.46	-147.74
		240	Wind Normal	696.09	-602.83	348.04	10497.50	17196.26	-63.98
		270	Wind 90	663.40	-663.40	0.00	56.21	19013.50	36.92
		300	Wind 60	652.51	-565.09	-326.25	-9731.42	16064.09	29.33
		330	Wind 90	663.40	-331.70	-574.52	-17179.51	9062.46	13.88
T14	20.00-0.00	0	Wind Normal	737.44	0.00	-737.44	-7328.56	-889.80	97.95
		30	Wind 90	698.53	349.26	-604.94	-6003.55	-4382.43	156.69
		60	Wind 60	685.55	593.71	-342.78	-3381.91	-6826.88	66.02
		90	Wind 90	698.53	698.53	0.00	45.86	-7875.07	-42.34
		120	Wind Normal	737.44	638.64	368.72	3733.08	-7276.24	-31.93
		150	Wind 90	698.53	349.26	604.94	6095.28	-4382.43	-12.97
		180	Wind 60	685.55	0.00	685.55	6901.41	-889.80	-97.95
		210	Wind 90	698.53	-349.26	604.94	6095.28	2602.83	-156.69
		240	Wind Normal	737.44	-638.64	368.72	3733.08	5496.63	-66.02
		270	Wind 90	698.53	-698.53	0.00	45.86	6095.46	42.34
		300	Wind 60	685.55	-593.71	-342.78	-3381.91	5047.27	31.93
		330	Wind 90	698.53	-349.26	-604.94	-6003.55	2602.83	12.97

Mast Totals - With Ice

Wind Azimuth °	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft

Wind Azimuth °	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
0	0.00	-6727.13	-783123.31	-7406.00	720.01
30	3246.61	-5623.29	-658719.81	-388775.75	1190.92
60	5552.24	-3205.58	-375294.20	-660607.71	565.95
90	6485.12	0.00	1831.99	-768002.90	-210.67
120	5818.85	3359.52	393238.33	-685341.67	-154.06
150	3244.72	5620.02	661538.47	-388287.71	-56.17
180	0.00	6415.49	757250.88	-7406.00	-720.01
210	-3246.61	5623.29	662383.78	373963.76	-1190.92
240	-5822.13	3361.41	393726.37	671374.99	-565.95
270	-6485.12	0.00	1831.99	753190.91	210.67
300	-5548.96	-3203.70	-374806.16	644950.40	154.06
330	-3244.72	-5620.02	-657874.50	373475.72	56.17

Mast Vectors - Service

Section No.	Section Elevation ft	Wind Azimuth °	Directionality	F lb	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
T1	280.00-260.00	0	Wind Normal	502.41	0.00	-502.41	-135420.83	-57.64	30.67
		30	Wind 90	461.30	230.65	-399.50	-107634.32	-62333.56	101.89
		60	Wind 60	434.58	376.35	-217.29	-58437.10	-101673.30	115.18
		90	Wind 90	436.54	436.54	0.00	230.73	-117923.61	97.61
		120	Wind Normal	477.65	413.66	238.83	64713.59	-111745.21	84.51
		150	Wind 90	454.70	227.35	393.78	106551.76	-61442.11	48.76
		180	Wind 60	452.74	0.00	452.74	122469.37	-57.64	-30.67
		210	Wind 90	461.30	-230.65	399.50	108095.79	62218.28	-101.89
		240	Wind Normal	484.25	-419.38	242.13	65605.03	113173.97	-115.18
		270	Wind 90	436.54	-436.54	0.00	230.73	117808.34	-97.61
		300	Wind 60	427.97	-370.64	-213.99	-57545.65	100013.99	-84.51
		330	Wind 90	454.70	-227.35	-393.78	-106090.29	61326.84	-48.76
T2	260.00-240.00	0	Wind Normal	769.64	0.00	-769.64	-192346.87	-86.45	45.48
		30	Wind 90	738.52	369.26	-639.57	-159829.27	-92401.08	102.27
		60	Wind 60	723.79	626.82	-361.89	-90409.34	-156791.49	45.63
		90	Wind 90	728.73	728.73	0.00	64.35	-182268.00	-23.23
		120	Wind Normal	759.85	658.05	379.93	95046.11	-164599.69	0.16
		150	Wind 90	728.73	364.36	631.10	157838.20	-91177.23	23.50
		180	Wind 60	723.79	0.00	723.79	181011.74	-86.45	-45.48
		210	Wind 90	738.52	-369.26	639.57	159957.97	92228.17	-102.27
		240	Wind Normal	769.64	-666.53	384.82	96269.97	166546.55	-45.63
		270	Wind 90	728.73	-728.73	0.00	64.35	182095.09	23.23
		300	Wind 60	714.00	-618.34	-357.00	-89185.49	154498.81	-0.16
		330	Wind 90	728.73	-364.36	-631.10	-157709.49	91004.32	-23.50
T3	240.00-220.00	0	Wind Normal	901.10	0.00	-901.10	-207242.17	-8.10	15.42
		30	Wind 90	866.49	433.24	-750.40	-172580.18	-99654.20	70.56
		60	Wind 60	854.95	740.41	-427.47	-98307.19	-170301.81	0.18
		90	Wind 90	866.49	866.49	0.00	11.93	-199300.30	-70.25
		120	Wind Normal	901.10	780.38	450.55	103638.97	-179495.41	-15.24
		150	Wind 90	866.49	433.24	750.40	172604.04	-99654.20	43.85
		180	Wind 60	854.95	0.00	854.95	196650.17	-8.10	-15.42
		210	Wind 90	866.49	-433.24	750.40	172604.04	99638.00	-70.56
		240	Wind Normal	901.10	-780.38	450.55	103638.97	179479.21	-0.18
		270	Wind 90	866.49	-866.49	0.00	11.93	199284.10	70.25
		300	Wind 60	854.95	-740.41	-427.47	-98307.19	170285.61	15.24
		330	Wind 90	866.49	-433.24	-750.40	-172580.18	99638.00	-43.85
T4	220.00-200.00	0	Wind Normal	927.13	0.00	-927.13	-194686.87	-19.07	35.92
		30	Wind 90	891.07	445.53	-771.69	-162044.39	-93581.17	95.60
		60	Wind 60	879.05	761.28	-439.52	-92290.08	-159887.36	0.22

Section No.	Section Elevation ft	Wind Azimuth °	Directionality	F lb	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
		90	Wind 90	891.07	891.07	0.00	9.92	-187143.27	-95.21
		120	Wind Normal	927.13	802.92	463.56	97358.32	-168631.44	-35.70
		150	Wind 90	891.07	445.53	771.69	162064.24	-93581.17	33.38
		180	Wind 60	879.05	0.00	879.05	184609.93	-19.07	-35.92
		210	Wind 90	891.07	-445.53	771.69	162064.24	93543.03	-95.60
		240	Wind Normal	927.13	-802.92	463.56	97358.32	168593.30	-0.22
		270	Wind 90	891.07	-891.07	0.00	9.92	187105.13	95.21
		300	Wind 60	879.05	-761.28	-439.52	-92290.08	159849.22	35.70
		330	Wind 90	891.07	-445.53	-771.69	-162044.39	93543.03	-33.38
T5	200.00-180.00	0	Wind Normal	1067.04	0.00	-1067.04	-202725.78	-22.89	42.72
		30	Wind 90	1018.67	509.33	-882.19	-167604.05	-96796.09	112.54
		60	Wind 60	1002.54	868.23	-501.27	-95229.24	-164985.65	0.26
		90	Wind 90	1018.67	1018.67	0.00	12.05	-193569.28	-112.08
		120	Wind Normal	1067.04	924.08	533.52	101380.96	-175599.00	-42.46
		150	Wind 90	1018.67	509.33	882.19	167628.14	-96796.09	38.54
		180	Wind 60	1002.54	0.00	1002.54	190494.63	-22.89	-42.72
		210	Wind 90	1018.67	-509.33	882.19	167628.14	96750.30	-112.54
		240	Wind Normal	1067.04	-924.08	533.52	101380.96	175553.21	-0.26
		270	Wind 90	1018.67	-1018.67	0.00	12.05	193523.50	112.08
		300	Wind 60	1002.54	-868.23	-501.27	-95229.24	164939.86	42.46
		330	Wind 90	1018.67	-509.33	-882.19	-167604.05	96750.30	-38.54
T6	180.00-160.00	0	Wind Normal	1116.25	0.00	-1116.25	-189747.72	-26.72	49.48
		30	Wind 90	1060.60	530.30	-918.51	-156131.82	-90177.64	129.40
		60	Wind 60	1042.05	902.44	-521.03	-88560.09	-153441.83	0.31
		90	Wind 90	1060.60	1060.60	0.00	14.17	-180328.57	-128.86
		120	Wind Normal	1116.25	966.70	558.12	94895.11	-164365.33	-49.18
		150	Wind 90	1060.60	530.30	918.51	156160.16	-90177.64	43.69
		180	Wind 60	1042.05	0.00	1042.05	177162.68	-26.72	-49.48
		210	Wind 90	1060.60	-530.30	918.51	156160.16	90124.21	-129.40
		240	Wind Normal	1116.25	-966.70	558.12	94895.11	164311.90	-0.31
		270	Wind 90	1060.60	-1060.60	0.00	14.17	180275.14	128.86
		300	Wind 60	1042.05	-902.44	-521.03	-88560.09	153388.39	49.18
		330	Wind 90	1060.60	-530.30	-918.51	-156131.82	90124.21	-43.69
T7	160.00-140.00	0	Wind Normal	1167.78	0.00	-1167.78	-175150.44	-30.54	56.29
		30	Wind 90	1104.64	552.32	-956.64	-143480.22	-82878.29	146.38
		60	Wind 60	1083.59	938.42	-541.79	-81252.92	-140792.94	0.35
		90	Wind 90	1104.64	1104.64	0.00	16.29	-165726.04	-145.77
		120	Wind Normal	1167.78	1011.33	583.89	87599.66	-151729.38	-55.94
		150	Wind 90	1104.64	552.32	956.64	143512.80	-82878.29	48.88
		180	Wind 60	1083.59	0.00	1083.59	162554.71	-30.54	-56.29
		210	Wind 90	1104.64	-552.32	956.64	143512.80	82817.21	-146.38
		240	Wind Normal	1167.78	-1011.33	583.89	87599.66	151668.30	-0.35
		270	Wind 90	1104.64	-1104.64	0.00	16.29	165664.96	145.77
		300	Wind 60	1083.59	-938.42	-541.79	-81252.92	140731.86	55.94
		330	Wind 90	1104.64	-552.32	-956.64	-143480.22	82817.21	-48.88
T8	140.00-120.00	0	Wind Normal	1252.34	0.00	-1252.34	-162786.43	-34.37	63.26
		30	Wind 90	1184.38	592.19	-1025.70	-133322.63	-77018.85	163.79
		60	Wind 60	1161.72	1006.08	-580.86	-75493.43	-130824.71	0.40
		90	Wind 90	1184.38	1184.38	0.00	18.41	-154003.34	-163.11
		120	Wind Normal	1252.34	1084.56	626.17	81420.83	-141027.49	-62.86
		150	Wind 90	1184.38	592.19	1025.70	133359.45	-77018.85	54.22
		180	Wind 60	1161.72	0.00	1161.72	151042.09	-34.37	-63.26
		210	Wind 90	1184.38	-592.19	1025.70	133359.45	76950.12	-163.79
		240	Wind Normal	1252.34	-1084.56	626.17	81420.83	140958.76	-0.40
		270	Wind 90	1184.38	-1184.38	0.00	18.41	153934.60	163.11
		300	Wind 60	1161.72	-1006.08	-580.86	-75493.43	130755.98	62.86
		330	Wind 90	1184.38	-592.19	-1025.70	-133322.63	76950.12	-54.22
T9	120.00-100.00	0	Wind Normal	1265.09	0.00	-1265.09	-139138.97	-38.83	71.73
		30	Wind 90	1196.27	598.14	-1036.00	-113939.33	-65833.79	184.99
		60	Wind 60	1173.33	1016.14	-586.67	-64512.42	-111813.80	0.45
		90	Wind 90	1196.27	1196.27	0.00	20.89	-131628.75	-184.21

Section No.	Section Elevation ft	Wind Azimuth °	Directionality	F lb	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
		120	Wind Normal	1265.09	1095.60	632.54	69600.82	-120554.80	-71.28
		150	Wind 90	1196.27	598.14	1036.00	113981.11	-65833.79	60.75
		180	Wind 60	1173.33	0.00	1173.33	129087.50	-38.83	-71.73
		210	Wind 90	1196.27	-598.14	1036.00	113981.11	65756.13	-184.99
		240	Wind Normal	1265.09	-1095.60	632.54	69600.82	120477.14	-0.45
		270	Wind 90	1196.27	-1196.27	0.00	20.89	131551.10	184.21
		300	Wind 60	1173.33	-1016.14	-586.67	-64512.42	111736.14	71.28
		330	Wind 90	1196.27	-598.14	-1036.00	-113939.33	65756.13	-60.75
T10	100.00-80.00	0	Wind Normal	1335.82	0.00	-1335.82	-120199.66	-43.93	81.94
		30	Wind 90	1257.83	628.92	-1089.32	-98014.76	-56646.47	210.55
		60	Wind 60	1231.84	1066.81	-615.92	-55409.11	-96056.40	0.51
		90	Wind 90	1257.83	1257.83	0.00	23.72	-113249.01	-209.66
		120	Wind Normal	1335.82	1156.85	667.91	60135.40	-104160.43	-81.42
		150	Wind 90	1257.83	628.92	1089.32	98062.19	-56646.47	68.64
		180	Wind 60	1231.84	0.00	1231.84	110889.36	-43.93	-81.94
		210	Wind 90	1257.83	-628.92	1089.32	98062.19	56558.61	-210.55
		240	Wind Normal	1335.82	-1156.85	667.91	60135.40	104072.57	-0.51
		270	Wind 90	1257.83	-1257.83	0.00	23.72	113161.15	209.66
		300	Wind 60	1231.84	-1066.81	-615.92	-55409.11	95968.54	81.42
		330	Wind 90	1257.83	-628.92	-1089.32	-98014.76	56558.61	-68.64
T11	80.00-60.00	0	Wind Normal	1504.24	0.00	-1504.24	-105270.07	-49.03	92.91
		30	Wind 90	1402.72	701.36	-1214.79	-85008.93	-49144.28	238.07
		60	Wind 60	1368.88	1185.49	-684.44	-47884.36	-83033.15	0.58
		90	Wind 90	1402.72	1402.72	0.00	26.55	-98239.54	-237.06
		120	Wind Normal	1504.24	1302.71	752.12	52674.85	-91238.57	-92.32
		150	Wind 90	1402.72	701.36	1214.79	85062.02	-49144.28	77.15
		180	Wind 60	1368.88	0.00	1368.88	95848.35	-49.03	-92.91
		210	Wind 90	1402.72	-701.36	1214.79	85062.02	49046.22	-238.07
		240	Wind Normal	1504.24	-1302.71	752.12	52674.85	91140.51	-0.58
		270	Wind 90	1402.72	-1402.72	0.00	26.55	98141.48	237.06
		300	Wind 60	1368.88	-1185.49	-684.44	-47884.36	82935.09	92.32
		330	Wind 90	1402.72	-701.36	-1214.79	-85008.93	49046.22	-77.15
T12	60.00-40.00	0	Wind Normal	1728.45	0.00	-1728.45	-86393.11	-54.13	104.59
		30	Wind 90	1595.29	797.64	-1381.56	-69048.52	-39936.27	267.38
		60	Wind 60	1550.90	1343.12	-775.45	-38743.06	-67209.96	0.66
		90	Wind 90	1595.29	1595.29	0.00	29.37	-79818.41	-266.24
		120	Wind Normal	1728.45	1496.88	864.22	43240.62	-74898.20	-103.93
		150	Wind 90	1595.29	797.64	1381.56	69107.27	-39936.27	86.23
		180	Wind 60	1550.90	0.00	1550.90	77574.25	-54.13	-104.59
		210	Wind 90	1595.29	-797.64	1381.56	69107.27	39828.01	-267.38
		240	Wind Normal	1728.45	-1496.88	864.22	43240.62	74789.94	-0.66
		270	Wind 90	1595.29	-1595.29	0.00	29.37	79710.15	266.24
		300	Wind 60	1550.90	-1343.12	-775.45	-38743.06	67101.70	103.93
		330	Wind 90	1595.29	-797.64	-1381.56	-69048.52	39828.01	-86.23
T13	40.00-20.00	0	Wind Normal	1841.67	0.00	-1841.67	-55217.99	-59.23	115.55
		30	Wind 90	1692.77	846.38	-1465.98	-43947.13	-25450.71	294.84
		60	Wind 60	1643.13	1422.99	-821.56	-24614.74	-42748.99	0.73
		90	Wind 90	1692.77	1692.77	0.00	32.20	-50842.19	-293.58
		120	Wind Normal	1841.67	1594.94	920.84	27657.30	-47907.30	-114.82
		150	Wind 90	1692.77	846.38	1465.98	44011.54	-25450.71	94.70
		180	Wind 60	1643.13	0.00	1643.13	49326.09	-59.23	-115.55
		210	Wind 90	1692.77	-846.38	1465.98	44011.54	25332.25	-294.84
		240	Wind Normal	1841.67	-1594.94	920.84	27657.30	47788.84	-0.73
		270	Wind 90	1692.77	-1692.77	0.00	32.20	50723.74	293.58
		300	Wind 60	1643.13	-1422.99	-821.56	-24614.74	42630.53	114.82
		330	Wind 90	1692.77	-846.38	-1465.98	-43947.13	25332.25	-94.70
T14	20.00-0.00	0	Wind Normal	2022.68	0.00	-2022.68	-20191.73	-64.33	126.15
		30	Wind 90	1847.17	923.59	-1599.70	-15961.97	-9300.20	321.37
		60	Wind 60	1788.67	1549.04	-894.34	-8908.33	-15554.70	0.79
		90	Wind 90	1847.17	1847.17	0.00	35.03	-18536.07	-320.00
		120	Wind Normal	2022.68	1751.69	1011.34	10148.42	-17581.22	-125.36

Section No.	Section Elevation ft	Wind Azimuth °	Directionality	F lb	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
		150	Wind 90	1847.17	923.59	1599.70	16032.03	-9300.20	102.87
		180	Wind 60	1788.67	0.00	1788.67	17921.77	-64.33	-126.15
		210	Wind 90	1847.17	-923.59	1599.70	16032.03	9171.54	-321.37
		240	Wind Normal	2022.68	-1751.69	1011.34	10148.42	17452.56	-0.79
		270	Wind 90	1847.17	-1847.17	0.00	35.03	18407.41	320.00
		300	Wind 60	1788.67	-1549.04	-894.34	-8908.33	15426.04	125.36
		330	Wind 90	1847.17	-923.59	-1599.70	-15961.97	9171.54	-102.87

Mast Totals - Service

Wind Azimuth °	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
0	0.00	-17401.64	-1986518.64	-595.25	932.11
30	8158.85	-14131.55	-1628547.51	-941152.61	2439.62
60	13803.60	-7969.51	-920051.41	-1595116.08	166.25
90	16283.15	0.00	545.61	-1872576.39	-2151.66
120	15040.34	8683.54	989510.96	-1713533.47	-765.86
150	8150.66	14117.35	1625974.93	-939037.31	825.16
180	0.00	15957.18	1846642.64	-595.25	-932.11
210	-8158.85	14131.55	1629638.74	939962.10	-2439.62
240	-15054.54	8691.74	991626.26	1716006.78	-166.25
270	-16283.15	0.00	545.61	1871385.89	2151.66
300	-13789.40	-7961.31	-917936.11	1590261.76	765.86
330	-8150.66	-14117.35	-1624883.70	937846.80	-825.16

Discrete Appurtenance Pressures - No Ice $G_H = 0.850$

Description	Aiming Azimuth °	Weight lb	$Offset_x$ ft	$Offset_z$ ft	z ft	K_z	q_z psf	C_AA_C Front ft^2	C_AA_C Side ft^2
40,000 sq in CaAa	0.0000	4726.00	0.00	0.00	275.00	1.566	38	278.00	278.00
30,000 sq in CaAa	0.0000	3536.00	0.00	0.00	264.00	1.553	38	208.00	208.00
30,000 sq in CaAa	0.0000	3536.00	0.00	0.00	254.00	1.540	38	208.00	208.00
Dish Pipe Mount	120.0000	103.00	2.87	1.66	230.00	1.508	37	0.00	1.80
	Sum Weight:	11901.00							

Discrete Appurtenance Vectors - No Ice

40,000 sq in CaAa - Elevation 275 - None C							
Wind Azimuth °	F_a lb	F_s lb	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
0	7365.09	0.00	0.00	-7365.09	-2025398.84	0.00	0.00
30	7365.09	0.00	3682.54	-6378.35	-1754046.84	-1012699.42	0.00
60	7365.09	0.00	6378.35	-3682.54	-1012699.42	-1754046.84	0.00
90	7365.09	0.00	7365.09	0.00	0.00	-2025398.84	0.00
120	7365.09	0.00	6378.35	3682.54	1012699.42	-1754046.84	0.00
150	7365.09	0.00	3682.54	6378.35	1754046.84	-1012699.42	0.00

40,000 sq in CaAa - Elevation 275 - None C

Wind Azimuth °	F_a lb	F_s lb	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
180	7365.09	0.00	0.00	7365.09	2025398.84	0.00	0.00
210	7365.09	0.00	-3682.54	6378.35	1754046.84	1012699.42	0.00
240	7365.09	0.00	-6378.35	3682.54	1012699.42	1754046.84	0.00
270	7365.09	0.00	-7365.09	0.00	0.00	2025398.84	0.00
300	7365.09	0.00	-6378.35	-3682.54	-1012699.42	1754046.84	0.00
330	7365.09	0.00	-3682.54	-6378.35	-1754046.84	1012699.42	0.00

30,000 sq in CaAa - Elevation 264 - None B

Wind Azimuth °	F_a lb	F_s lb	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
0	5475.34	0.00	0.00	-5475.34	-1445490.43	0.00	0.00
30	5475.34	0.00	2737.67	-4741.79	-1251831.44	-722745.22	0.00
60	5475.34	0.00	4741.79	-2737.67	-722745.22	-1251831.44	0.00
90	5475.34	0.00	5475.34	0.00	0.00	-1445490.43	0.00
120	5475.34	0.00	4741.79	2737.67	722745.22	-1251831.44	0.00
150	5475.34	0.00	2737.67	4741.79	1251831.44	-722745.22	0.00
180	5475.34	0.00	0.00	5475.34	1445490.43	0.00	0.00
210	5475.34	0.00	-2737.67	4741.79	1251831.44	722745.22	0.00
240	5475.34	0.00	-4741.79	2737.67	722745.22	1251831.44	0.00
270	5475.34	0.00	-5475.34	0.00	0.00	1445490.43	0.00
300	5475.34	0.00	-4741.79	-2737.67	-722745.22	1251831.44	0.00
330	5475.34	0.00	-2737.67	-4741.79	-1251831.44	722745.22	0.00

30,000 sq in CaAa - Elevation 254 - None A

Wind Azimuth °	F_a lb	F_s lb	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
0	5443.70	0.00	0.00	-5443.70	-1382699.36	0.00	0.00
30	5443.70	0.00	2721.85	-4714.38	-1197452.78	-691349.68	0.00
60	5443.70	0.00	4714.38	-2721.85	-691349.68	-1197452.78	0.00
90	5443.70	0.00	5443.70	0.00	0.00	-1382699.36	0.00
120	5443.70	0.00	4714.38	2721.85	691349.68	-1197452.78	0.00
150	5443.70	0.00	2721.85	4714.38	1197452.78	-691349.68	0.00
180	5443.70	0.00	0.00	5443.70	1382699.36	0.00	0.00
210	5443.70	0.00	-2721.85	4714.38	1197452.78	691349.68	0.00
240	5443.70	0.00	-4714.38	2721.85	691349.68	1197452.78	0.00
270	5443.70	0.00	-5443.70	0.00	0.00	1382699.36	0.00
300	5443.70	0.00	-4714.38	-2721.85	-691349.68	1197452.78	0.00
330	5443.70	0.00	-2721.85	-4714.38	-1197452.78	691349.68	0.00

Dish Pipe Mount - Elevation 230 - From Leg B

Wind Azimuth °	F_a lb	F_s lb	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
0	0.00	40.25	20.12	-34.86	-7845.76	-4924.58	133.61
30	0.00	46.47	23.24	-40.25	-9085.95	-5640.61	154.28
60	0.00	40.25	20.12	-34.86	-7845.76	-4924.58	133.61
90	0.00	23.24	11.62	-20.12	-4457.49	-2968.37	77.14
120	0.00	0.00	0.00	0.00	170.97	-296.12	0.00
150	0.00	23.24	-11.62	20.12	4799.43	2376.12	-77.14
180	0.00	40.25	-20.12	34.86	8187.69	4332.33	-133.61
210	0.00	46.47	-23.24	40.25	9427.88	5048.36	-154.28
240	0.00	40.25	-20.12	34.86	8187.69	4332.33	-133.61

Dish Pipe Mount - Elevation 230 - From Leg B							
Wind Azimuth °	F_a lb	F_s lb	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
270	0.00	23.24	-11.62	20.12	4799.43	2376.12	-77.14
300	0.00	0.00	0.00	0.00	170.97	-296.12	0.00
330	0.00	23.24	11.62	-20.12	-4457.49	-2968.37	77.14

Discrete Appurtenance Totals - No Ice

Wind Azimuth °	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
0	20.12	-18318.98	-4861434.39	-4924.58	133.61
30	9165.30	-15874.77	-4212417.00	-2432434.92	154.28
60	15854.64	-9176.92	-2434640.07	-4208255.64	133.61
90	18295.75	-20.12	-4457.49	-4856557.00	77.14
120	15834.52	9142.06	2426965.28	-4203627.18	0.00
150	9130.45	15854.64	4208130.48	-2424418.20	-77.14
180	-20.12	18318.98	4861776.33	4332.33	-133.61
210	-9165.30	15874.77	4212758.94	2431842.67	-154.28
240	-15854.64	9176.92	2434982.01	4207663.39	-133.61
270	-18295.75	20.12	4799.43	4855964.75	-77.14
300	-15834.52	-9142.06	-2426623.35	4203034.93	0.00
330	-9130.45	-15854.64	-4207788.55	2423825.95	77.14

Discrete Appurtenance Pressures - With Ice $G_H = 0.850$

Description	Aiming Azimuth °	Weight lb	$Offset_x$ ft	$Offset_z$ ft	z ft	K_z	q_z psf	C_AA_C Front ft^2	C_AA_C Side ft^2	t_z in
40,000 sq in CaAa	0.0000	10712.00	0.00	0.00	275.00	1.566	3	486.60	486.60	1.8625
30,000 sq in CaAa	0.0000	7995.15	0.00	0.00	264.00	1.553	3	363.81	363.81	1.8549
30,000 sq in CaAa	0.0000	7985.14	0.00	0.00	254.00	1.540	3	363.46	363.46	1.8507
Dish Pipe Mount	120.0000	161.77	2.87	1.66	230.00	1.508	3	0.00	2.90	1.8365
	Sum Weight:	26854.06								

Discrete Appurtenance Vectors - With Ice

40,000 sq in CaAa - Elevation 275 - None C							
Wind Azimuth °	F_a lb	F_s lb	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
0	1052.37	0.00	0.00	-1052.37	-289400.63	0.00	0.00
30	1052.37	0.00	526.18	-911.38	-250628.30	-144700.32	0.00
60	1052.37	0.00	911.38	-526.18	-144700.32	-250628.30	0.00
90	1052.37	0.00	1052.37	0.00	0.00	-289400.63	0.00
120	1052.37	0.00	911.38	526.18	144700.32	-250628.30	0.00
150	1052.37	0.00	526.18	911.38	250628.30	-144700.32	0.00
180	1052.37	0.00	0.00	1052.37	289400.63	0.00	0.00
210	1052.37	0.00	-526.18	911.38	250628.30	144700.32	0.00
240	1052.37	0.00	-911.38	526.18	144700.32	250628.30	0.00

40,000 sq in CaAa - Elevation 275 - None C

Wind Azimuth °	F_a lb	F_s lb	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
270	1052.37	0.00	-1052.37	0.00	0.00	289400.63	0.00
300	1052.37	0.00	-911.38	-526.18	-144700.32	250628.30	0.00
330	1052.37	0.00	-526.18	-911.38	-250628.30	144700.32	0.00

30,000 sq in CaAa - Elevation 264 - None B

Wind Azimuth °	F_a lb	F_s lb	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
0	781.79	0.00	0.00	-781.79	-206391.25	0.00	0.00
30	781.79	0.00	390.89	-677.05	-178740.07	-103195.63	0.00
60	781.79	0.00	677.05	-390.89	-103195.63	-178740.07	0.00
90	781.79	0.00	781.79	0.00	0.00	-206391.25	0.00
120	781.79	0.00	677.05	390.89	103195.63	-178740.07	0.00
150	781.79	0.00	390.89	677.05	178740.07	-103195.63	0.00
180	781.79	0.00	0.00	781.79	206391.25	0.00	0.00
210	781.79	0.00	-390.89	677.05	178740.07	103195.63	0.00
240	781.79	0.00	-677.05	390.89	103195.63	178740.07	0.00
270	781.79	0.00	-781.79	0.00	0.00	206391.25	0.00
300	781.79	0.00	-677.05	-390.89	-103195.63	178740.07	0.00
330	781.79	0.00	-390.89	-677.05	-178740.07	103195.63	0.00

30,000 sq in CaAa - Elevation 254 - None A

Wind Azimuth °	F_a lb	F_s lb	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
0	776.52	0.00	0.00	-776.52	-197235.86	0.00	0.00
30	776.52	0.00	388.26	-672.49	-170811.27	-98617.93	0.00
60	776.52	0.00	672.49	-388.26	-98617.93	-170811.27	0.00
90	776.52	0.00	776.52	0.00	0.00	-197235.86	0.00
120	776.52	0.00	672.49	388.26	98617.93	-170811.27	0.00
150	776.52	0.00	388.26	672.49	170811.27	-98617.93	0.00
180	776.52	0.00	0.00	776.52	197235.86	0.00	0.00
210	776.52	0.00	-388.26	672.49	170811.27	98617.93	0.00
240	776.52	0.00	-672.49	388.26	98617.93	170811.27	0.00
270	776.52	0.00	-776.52	0.00	0.00	197235.86	0.00
300	776.52	0.00	-672.49	-388.26	-98617.93	170811.27	0.00
330	776.52	0.00	-388.26	-672.49	-170811.27	98617.93	0.00

Dish Pipe Mount - Elevation 230 - From Leg B

Wind Azimuth °	F_a lb	F_s lb	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
0	0.00	5.30	2.65	-4.59	-786.53	-1074.21	17.58
30	0.00	6.12	3.06	-5.30	-949.74	-1168.44	20.30
60	0.00	5.30	2.65	-4.59	-786.53	-1074.21	17.58
90	0.00	3.06	1.53	-2.65	-340.61	-816.76	10.15
120	0.00	0.00	0.00	0.00	268.51	-465.08	0.00
150	0.00	3.06	-1.53	2.65	877.64	-113.40	-10.15
180	0.00	5.30	-2.65	4.59	1323.55	144.05	-17.58
210	0.00	6.12	-3.06	5.30	1486.77	238.28	-20.30
240	0.00	5.30	-2.65	4.59	1323.55	144.05	-17.58
270	0.00	3.06	-1.53	2.65	877.64	-113.40	-10.15
300	0.00	0.00	0.00	0.00	268.51	-465.08	0.00
330	0.00	3.06	1.53	-2.65	-340.61	-816.76	10.15

Discrete Appurtenance Totals - With Ice

Wind Azimuth °	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
0	2.65	-2615.26	-693814.27	-1074.21	17.58
30	1308.39	-2266.20	-601129.38	-347682.31	20.30
60	2263.56	-1309.92	-347300.40	-601253.84	17.58
90	2612.20	-2.65	-340.61	-693844.51	10.15
120	2260.91	1305.34	346782.39	-600644.72	0.00
150	1303.81	2263.56	601057.28	-346627.27	-10.15
180	-2.65	2615.26	694351.30	144.05	-17.58
210	-1308.39	2266.20	601666.40	346752.15	-20.30
240	-2263.56	1309.92	347837.43	600323.68	-17.58
270	-2612.20	2.65	877.64	692914.35	-10.15
300	-2260.91	-1305.34	-346245.36	599714.55	0.00
330	-1303.81	-2263.56	-600520.25	345697.11	10.15

Discrete Appurtenance Pressures - Service $G_H = 0.850$

Description	Aiming Azimuth °	Weight lb	$Offset_x$ ft	$Offset_z$ ft	z ft	K_z	q_z psf	C_AA_C Front ft^2	C_AA_C Side ft^2
40,000 sq in CaAa	0.0000	4726.00	0.00	0.00	275.00	1.566	12	278.00	278.00
30,000 sq in CaAa	0.0000	3536.00	0.00	0.00	264.00	1.553	12	208.00	208.00
30,000 sq in CaAa	0.0000	3536.00	0.00	0.00	254.00	1.540	12	208.00	208.00
Dish Pipe Mount	120.0000	103.00	2.87	1.66	230.00	1.508	12	0.00	1.80
	Sum Weight:	11901.00							

Discrete Appurtenance Vectors - Service

40,000 sq in CaAa - Elevation 275 - None C

Wind Azimuth °	F_a lb	F_s lb	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
0	2404.93	0.00	0.00	-2404.93	-661354.72	0.00	0.00
30	2404.93	0.00	1202.46	-2082.73	-572749.99	-330677.36	0.00
60	2404.93	0.00	2082.73	-1202.46	-330677.36	-572749.99	0.00
90	2404.93	0.00	2404.93	0.00	0.00	-661354.72	0.00
120	2404.93	0.00	2082.73	1202.46	330677.36	-572749.99	0.00
150	2404.93	0.00	1202.46	2082.73	572749.99	-330677.36	0.00
180	2404.93	0.00	0.00	2404.93	661354.72	0.00	0.00
210	2404.93	0.00	-1202.46	2082.73	572749.99	330677.36	0.00
240	2404.93	0.00	-2082.73	1202.46	330677.36	572749.99	0.00
270	2404.93	0.00	-2404.93	0.00	0.00	661354.72	0.00
300	2404.93	0.00	-2082.73	-1202.46	-330677.36	572749.99	0.00
330	2404.93	0.00	-1202.46	-2082.73	-572749.99	330677.36	0.00

30,000 sq in CaAa - Elevation 264 - None B

Wind Azimuth °	F_a lb	F_s lb	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
0	1787.87	0.00	0.00	-1787.87	-471996.88	0.00	0.00
30	1787.87	0.00	893.93	-1548.34	-408761.29	-235998.44	0.00
60	1787.87	0.00	1548.34	-893.93	-235998.44	-408761.29	0.00
90	1787.87	0.00	1787.87	0.00	0.00	-471996.88	0.00
120	1787.87	0.00	1548.34	893.93	235998.44	-408761.29	0.00
150	1787.87	0.00	893.93	1548.34	408761.29	-235998.44	0.00
180	1787.87	0.00	0.00	1787.87	471996.88	0.00	0.00
210	1787.87	0.00	-893.93	1548.34	408761.29	235998.44	0.00
240	1787.87	0.00	-1548.34	893.93	235998.44	408761.29	0.00
270	1787.87	0.00	-1787.87	0.00	0.00	471996.88	0.00
300	1787.87	0.00	-1548.34	-893.93	-235998.44	408761.29	0.00
330	1787.87	0.00	-893.93	-1548.34	-408761.29	235998.44	0.00

30,000 sq in CaAa - Elevation 254 - None A

Wind Azimuth °	F_a lb	F_s lb	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
0	1777.53	0.00	0.00	-1777.53	-451493.67	0.00	0.00
30	1777.53	0.00	888.77	-1539.39	-391004.99	-225746.83	0.00
60	1777.53	0.00	1539.39	-888.77	-225746.83	-391004.99	0.00
90	1777.53	0.00	1777.53	0.00	0.00	-451493.67	0.00
120	1777.53	0.00	1539.39	888.77	225746.83	-391004.99	0.00
150	1777.53	0.00	888.77	1539.39	391004.99	-225746.83	0.00
180	1777.53	0.00	0.00	1777.53	451493.67	0.00	0.00
210	1777.53	0.00	-888.77	1539.39	391004.99	225746.83	0.00
240	1777.53	0.00	-1539.39	888.77	225746.83	391004.99	0.00
270	1777.53	0.00	-1777.53	0.00	0.00	451493.67	0.00
300	1777.53	0.00	-1539.39	-888.77	-225746.83	391004.99	0.00
330	1777.53	0.00	-888.77	-1539.39	-391004.99	225746.83	0.00

Dish Pipe Mount - Elevation 230 - From Leg B

Wind Azimuth °	F_a lb	F_s lb	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
0	0.00	13.14	6.57	-11.38	-2446.74	-1807.46	43.63
30	0.00	15.18	7.59	-13.14	-2851.70	-2041.26	50.38
60	0.00	13.14	6.57	-11.38	-2446.74	-1807.46	43.63
90	0.00	7.59	3.79	-6.57	-1340.37	-1168.69	25.19
120	0.00	0.00	0.00	0.00	170.97	-296.12	0.00
150	0.00	7.59	-3.79	6.57	1682.30	576.44	-25.19
180	0.00	13.14	-6.57	11.38	2788.67	1215.21	-43.63
210	0.00	15.18	-7.59	13.14	3193.63	1449.01	-50.38
240	0.00	13.14	-6.57	11.38	2788.67	1215.21	-43.63
270	0.00	7.59	-3.79	6.57	1682.30	576.44	-25.19
300	0.00	0.00	0.00	0.00	170.97	-296.12	0.00
330	0.00	7.59	3.79	-6.57	-1340.37	-1168.69	25.19

Discrete Appurtenance Totals - Service

Wind Azimuth °	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
0	6.57	-5981.71	-1587292.01	-1807.46	43.63

Wind Azimuth °	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
30	2992.75	-5183.60	-1375367.96	-794463.90	50.38
60	5177.03	-2996.55	-794869.37	-1374323.72	43.63
90	5974.12	-6.57	-1340.37	-1586013.96	25.19
120	5170.46	2985.16	792593.60	-1372812.39	0.00
150	2981.37	5177.03	1374198.56	-791846.19	-25.19
180	-6.57	5981.71	1587633.94	1215.21	-43.63
210	-2992.75	5183.60	1375709.90	793871.65	-50.38
240	-5177.03	2996.55	795211.31	1373731.47	-43.63
270	-5974.12	6.57	1682.30	1585421.71	-25.19
300	-5170.46	-2985.16	-792251.67	1372220.14	0.00
330	-2981.37	-5177.03	-1373856.63	791253.94	25.19

Dish Pressures - No Ice

Elevation ft	Dish Description	Aiming Azimuth °	Weight lb	$Offset_x$ ft	$Offset_z$ ft	K_z	A_A ft^2	q_z psf
230.00	6' Solid w/Radome	180.0000	162.00	2.87	1.66	1.508	28.27	37
		Sum Weight:	162.00					

Dish Vectors - No Ice

6' Solid w/Radome - Elevation 230 - From Leg B											
Wind Azimuth °	C_A	C_S	C_M	F_A lb	F_S lb	F_M lb-ft	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
0	0.002210	0.000000	0.000000	768.42	0.00	0.00	0.00	-768.42	-176468.10	-465.75	2209.21
30	0.001950	0.001050	-0.000277	678.02	365.09	-577.88	365.09	-678.02	-155675.51	-84435.82	1977.43
60	0.001070	0.001280	-0.000002	372.04	445.06	-4.17	445.06	-372.04	-85300.60	-102829.26	1804.19
90	0.000340	0.001040	0.000390	118.22	361.61	813.62	361.61	-118.22	-26921.41	-83636.10	1753.73
120	-0.000420	0.000890	0.000404	-146.03	309.45	842.83	309.45	146.03	33856.93	-71640.38	936.64
150	-0.001330	0.000700	0.000132	-462.44	243.39	275.38	243.39	462.44	106630.98	-56445.79	-650.14
180	-0.001770	0.000000	0.000000	-615.43	0.00	0.00	0.00	615.43	141818.44	-465.75	-1769.37
210	-0.001330	-0.000700	-0.000132	-462.44	-243.39	-275.38	-243.39	462.44	106630.98	55514.29	-2008.91
240	-0.000420	-0.000890	-0.000404	-146.03	-309.45	-842.83	-309.45	146.03	33856.93	70708.88	-1776.34
270	0.000340	-0.001040	-0.000390	118.22	-361.61	-813.62	-361.61	-118.22	-26921.41	82704.60	-1073.97
300	0.001070	-0.001280	0.000002	372.04	-445.06	4.17	-445.06	-372.04	-85300.60	101897.76	335.05
330	0.001950	-0.001050	0.000277	678.02	-365.09	577.88	-365.09	-678.02	-155675.51	83504.32	1921.18

Dish Totals - No Ice

Wind Azimuth °	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
0	0.00	-768.42	-176468.10	-465.75	2209.21
30	365.09	-678.02	-155675.51	-84435.82	1977.43
60	445.06	-372.04	-85300.60	-102829.26	1804.19
90	361.61	-118.22	-26921.41	-83636.10	1753.73
120	309.45	146.03	33856.93	-71640.38	936.64
150	243.39	462.44	106630.98	-56445.79	-650.14
180	0.00	615.43	141818.44	-465.75	-1769.37

Wind Azimuth °	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
210	-243.39	462.44	106630.98	55514.29	-2008.91
240	-309.45	146.03	33856.93	70708.88	-1776.34
270	-361.61	-118.22	-26921.41	82704.60	-1073.97
300	-445.06	-372.04	-85300.60	101897.76	335.05
330	-365.09	-678.02	-155675.51	83504.32	1921.18

Dish Pressures - With Ice

Elevation ft	Dish Description	Aiming Azimuth °	Weight lb	$Offset_x$ ft	$Offset_z$ ft	K_z	A_A ft^2	q_z psf	t_z in
230.00	6' Solid w/Radome	180.0000	746.00	2.87	1.66	1.508	31.18	3	1.8365
		Sum Weight:	746.00						

Dish Vectors - With Ice

6' Solid w/Radome - Elevation 230 - From Leg B

Wind Azimuth °	C_A	C_S	C_M	F_A lb	F_S lb	F_M lb-ft	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
0	0.002210	0.000000	0.000000	69.19	0.00	0.00	0.00	-69.19	-14675.18	-2144.75	198.92
30	0.001950	0.001050	-0.000277	61.05	32.87	-52.03	32.87	-61.05	-12803.01	-9705.44	178.05
60	0.001070	0.001280	-0.000002	33.50	40.07	-0.38	40.07	-33.50	-6466.43	-11361.59	162.45
90	0.000340	0.001040	0.000390	10.64	32.56	73.26	32.56	-10.64	-1209.95	-9633.43	157.91
120	-0.000420	0.000890	0.000404	-13.15	27.86	75.89	27.86	13.15	4262.55	-8553.34	84.34
150	-0.001330	0.000700	0.000132	-41.64	21.92	24.80	21.92	41.64	10815.15	-7185.21	-58.54
180	-0.001770	0.000000	0.000000	-55.41	0.00	0.00	0.00	55.41	13983.44	-2144.75	-159.31
210	-0.001330	-0.000700	-0.000132	-41.64	-21.92	-24.80	-21.92	41.64	10815.15	2895.71	-180.88
240	-0.000420	-0.000890	-0.000404	-13.15	-27.86	-75.89	-27.86	13.15	4262.55	4263.84	-159.94
270	0.000340	-0.001040	-0.000390	10.64	-32.56	-73.26	-32.56	-10.64	-1209.95	5343.93	-96.70
300	0.001070	-0.001280	0.000002	33.50	-40.07	0.38	-40.07	-33.50	-6466.43	7072.09	30.17
330	0.001950	-0.001050	0.000277	61.05	-32.87	52.03	-32.87	-61.05	-12803.01	5415.94	172.98

Dish Totals - With Ice

Wind Azimuth °	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
0	0.00	-69.19	-14675.18	-2144.75	198.92
30	32.87	-61.05	-12803.01	-9705.44	178.05
60	40.07	-33.50	-6466.43	-11361.59	162.45
90	32.56	-10.64	-1209.95	-9633.43	157.91
120	27.86	13.15	4262.55	-8553.34	84.34
150	21.92	41.64	10815.15	-7185.21	-58.54
180	0.00	55.41	13983.44	-2144.75	-159.31
210	-21.92	41.64	10815.15	2895.71	-180.88
240	-27.86	13.15	4262.55	4263.84	-159.94
270	-32.56	-10.64	-1209.95	5343.93	-96.70
300	-40.07	-33.50	-6466.43	7072.09	30.17
330	-32.87	-61.05	-12803.01	5415.94	172.98

Dish Pressures - Service

Elevation ft	Dish Description	Aiming Azimuth °	Weight lb	$Offset_x$ ft	$Offset_z$ ft	K_z	A_A ft^2	q_z psf
230.00	6' Solid w/Radome	180.0000	162.00	2.87	1.66	1.508	28.27	12
		Sum Weight:	162.00					

Dish Vectors - Service

6' Solid w/Radome - Elevation 230 - From Leg B

Wind Azimuth °	C_A	C_S	C_M	F_A lb	F_S lb	F_M lb-ft	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
0	0.002210	0.000000	0.000000	250.91	0.00	0.00	0.00	-250.91	-57441.14	-465.75	721.38
30	0.001950	0.001050	-0.000277	221.39	119.21	-188.70	119.21	-221.39	-50651.72	-27884.55	645.69
60	0.001070	0.001280	-0.000002	121.48	145.33	-1.36	145.33	-121.48	-27672.16	-33890.57	589.12
90	0.000340	0.001040	0.000390	38.60	118.08	265.67	118.08	-38.60	-8609.57	-27623.42	572.65
120	-0.000420	0.000890	0.000404	-47.68	101.05	275.21	101.05	47.68	11236.42	-23706.44	305.84
150	-0.001330	0.000700	0.000132	-151.00	79.47	89.92	79.47	151.00	34999.38	-18744.95	-212.29
180	-0.001770	0.000000	0.000000	-200.96	0.00	0.00	0.00	200.96	46489.16	-465.75	-577.75
210	-0.001330	-0.000700	-0.000132	-151.00	-79.47	-89.92	-79.47	151.00	34999.38	17813.45	-655.97
240	-0.000420	-0.000890	-0.000404	-47.68	-101.05	-275.21	-101.05	47.68	11236.42	22774.94	-580.03
270	0.000340	-0.001040	-0.000390	38.60	-118.08	-265.67	-118.08	-38.60	-8609.57	26691.92	-350.69
300	0.001070	-0.001280	0.000002	121.48	-145.33	1.36	-145.33	-121.48	-27672.16	32959.07	109.40
330	0.001950	-0.001050	0.000277	221.39	-119.21	188.70	-119.21	-221.39	-50651.72	26953.05	627.33

Dish Totals - Service

Wind Azimuth °	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
0	0.00	-250.91	-57441.14	-465.75	721.38
30	119.21	-221.39	-50651.72	-27884.55	645.69
60	145.33	-121.48	-27672.16	-33890.57	589.12
90	118.08	-38.60	-8609.57	-27623.42	572.65
120	101.05	47.68	11236.42	-23706.44	305.84
150	79.47	151.00	34999.38	-18744.95	-212.29
180	0.00	200.96	46489.16	-465.75	-577.75
210	-79.47	151.00	34999.38	17813.45	-655.97
240	-101.05	47.68	11236.42	22774.94	-580.03
270	-118.08	-38.60	-8609.57	26691.92	-350.69
300	-145.33	-121.48	-27672.16	32959.07	109.40
330	-119.21	-221.39	-50651.72	26953.05	627.33

Force Totals

Load Case	Vertical Forces lb	Sum of Forces X lb	Sum of Forces Z lb	Sum of Overturning Moments, M_x lb-ft	Sum of Overturning Moments, M_z lb-ft	Sum of Torques lb-ft
Leg Weight	27877.93					
Bracing Weight	14628.13					
Total Member Self-Weight	42506.06			985.48	-1357.13	
Total Weight	62629.48			985.48	-1357.13	
Wind 0 deg - No Ice		20.12	-70523.37	-10880035.20	-5985.58	5197.42
Wind 30 deg - No Ice		33588.59	-58222.82	-9146455.07	-5276569.91	9603.04
Wind 60 deg - No Ice		56965.38	-33027.30	-5217370.47	-8984710.65	2446.95
Wind 90 deg - No Ice		66667.94	-138.34	-30833.28	-10431024.63	-4758.59
Wind 120 deg - No Ice		60597.18	34953.17	5368721.21	-9311546.58	-1408.80
Wind 150 deg - No Ice		33406.94	57943.64	9082994.84	-5234085.06	1799.75
Wind 180 deg - No Ice		-20.12	65946.71	10415106.57	3271.33	-4757.57
Wind 210 deg - No Ice		-33466.90	58007.24	9098843.72	5245865.64	-9634.52
Wind 240 deg - No Ice		-60660.79	35013.13	5383216.04	9324681.20	-2419.10
Wind 270 deg - No Ice		-66667.94	-98.09	-21576.37	10428310.38	5438.35
Wind 300 deg - No Ice		-56901.77	-32967.34	-5202875.64	8966147.53	2680.49
Wind 330 deg - No Ice		-33528.63	-58159.21	-9130606.20	5259360.83	-528.71
Member Ice	63396.90					
Total Weight Ice	167033.06			3338.77	-10015.83	
Wind 0 deg - Ice		2.65	-9411.58	-1491612.76	-10624.96	936.51
Wind 30 deg - Ice		4587.88	-7950.55	-1272652.19	-746163.51	1389.28
Wind 60 deg - Ice		7855.86	-4549.01	-729061.03	-1273223.14	745.99
Wind 90 deg - Ice		9129.88	-13.29	281.42	-1471480.85	-42.61
Wind 120 deg - Ice		8107.62	4678.00	744283.27	-1294539.72	-69.73
Wind 150 deg - Ice		4570.44	7925.21	1273410.89	-742100.20	-124.87
Wind 180 deg - Ice		-2.65	9086.16	1465585.61	-9406.70	-896.91
Wind 210 deg - Ice		-4576.92	7931.14	1274865.33	723611.62	-1392.11
Wind 240 deg - Ice		-8113.55	4684.48	745826.35	1275962.51	-743.48
Wind 270 deg - Ice		-9129.88	-8.00	1499.68	1451449.19	103.81
Wind 300 deg - Ice		-7849.94	-4542.53	-727517.95	1251737.05	184.23
Wind 330 deg - Ice		-4581.40	-7944.63	-1271197.76	724588.77	239.31
Total Weight	62629.48			985.48	-1357.13	
Wind 0 deg - Service		6.57	-23634.26	-3631797.40	-2273.21	1697.12
Wind 30 deg - Service		11270.82	-19536.54	-3055112.81	-1762905.80	3135.69
Wind 60 deg - Service		19125.95	-11087.54	-1743138.56	-3002735.12	799.01
Wind 90 deg - Service		22375.35	-45.17	-9949.93	-3485618.51	-1553.82
Wind 120 deg - Service		20311.84	11716.39	1792795.36	-3109457.05	-460.02
Wind 150 deg - Service		11211.50	19445.38	3034627.26	-1749033.19	587.67
Wind 180 deg - Service		-6.57	22139.84	3480220.13	749.46	-1553.49
Wind 210 deg - Service		-11231.08	19466.15	3039802.40	1752242.45	-3145.97
Wind 240 deg - Service		-20332.61	11735.97	1797528.37	3113108.44	-789.91
Wind 270 deg - Service		-22375.35	-32.03	-6927.27	3484094.77	1775.79
Wind 300 deg - Service		-19105.18	-11067.96	-1738405.55	2996036.22	875.26
Wind 330 deg - Service		-11251.24	-19515.77	-3049937.67	1756649.04	-172.64

Load Combinations

Comb. No.	Description
1	Dead Only
2	1.2 Dead+1.0 Wind 0 deg - No Ice
3	0.9 Dead+1.0 Wind 0 deg - No Ice
4	1.2 Dead+1.0 Wind 30 deg - No Ice
5	0.9 Dead+1.0 Wind 30 deg - No Ice
6	1.2 Dead+1.0 Wind 60 deg - No Ice
7	0.9 Dead+1.0 Wind 60 deg - No Ice
8	1.2 Dead+1.0 Wind 90 deg - No Ice

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

Maximum Member Forces

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial lb	Major Axis Moment lb-ft	Minor Axis Moment lb-ft
T1	280 - 260	Leg	Max Tension	15	24204.69	-0.86	-632.58
			Max. Compression	2	-29205.06	0.86	583.96
			Max. Mx	20	-3187.05	-1024.56	-1.78
			Max. My	14	-16122.17	-119.01	998.40
			Max. Vy	20	2591.44	35.38	65.26
			Max. Vx	2	2608.99	1.59	72.45
		Diagonal	Max Tension	20	6196.04	0.00	0.00
			Max. Compression	8	-6396.90	0.00	0.00
			Max. Mx	4	4303.28	30.79	-1.22
			Max. My	20	-3954.55	0.38	18.99
			Max. Vy	30	-20.78	21.22	-0.92

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial lb	Major Axis Moment lb-ft	Minor Axis Moment lb-ft
			Max. Vx	8	5.37	0.37	-18.99
		Top Girt	Max Tension	23	1174.30	0.00	0.00
			Max. Compression	10	-1249.83	0.00	0.00
			Max. Mx	26	-142.69	-36.68	0.00
			Max. My	16	-68.89	0.00	0.00
			Max. Vy	26	29.35	0.00	0.00
			Max. Vx	16	-0.00	0.00	0.00
T2	260 - 240	Leg	Max Tension	15	107279.18	4.69	-310.25
			Max. Compression	2	-117942.46	36.85	1265.07
			Max. Mx	20	-4802.10	-1233.09	5.63
			Max. My	2	-117942.46	36.85	1265.07
			Max. Vy	20	1515.46	680.91	290.77
			Max. Vx	14	-1556.77	-0.38	-854.46
		Diagonal	Max Tension	8	10304.53	0.00	0.00
			Max. Compression	20	-10698.85	0.00	0.00
			Max. Mx	2	8265.28	63.46	-1.07
			Max. My	16	-7027.10	-13.78	18.58
			Max. Vy	31	-26.82	33.64	0.53
			Max. Vx	16	-5.26	-13.78	18.58
T3	240 - 220	Leg	Max Tension	15	169804.59	-1829.43	10.23
			Max. Compression	2	-183977.03	1591.51	12.28
			Max. Mx	2	-169781.03	1878.52	-10.89
			Max. My	4	-6099.26	-57.79	-2034.68
			Max. Vy	3	250.52	1548.52	124.87
			Max. Vx	4	-562.14	17.92	-1480.94
		Diagonal	Max Tension	24	6302.54	0.00	0.00
			Max. Compression	24	-6592.86	0.00	0.00
			Max. Mx	4	3683.31	31.36	0.17
			Max. My	6	-5590.25	-5.73	-6.08
			Max. Vy	33	26.01	22.42	2.41
			Max. Vx	6	1.62	0.00	0.00
T4	220 - 200	Leg	Max Tension	15	211672.57	-1429.45	-4.64
			Max. Compression	2	-228691.29	2942.35	-62.32
			Max. Mx	2	-228691.29	2942.35	-62.32
			Max. My	4	-7642.94	11.31	-2634.67
			Max. Vy	2	-287.36	2942.35	-62.32
			Max. Vx	4	188.35	11.31	-2634.67
		Diagonal	Max Tension	24	6454.67	0.00	0.00
			Max. Compression	24	-6914.55	0.00	0.00
			Max. Mx	31	624.25	35.60	-3.43
			Max. My	6	-5709.57	-7.58	-6.69
			Max. Vy	33	31.82	35.04	-4.04
			Max. Vx	27	-1.62	0.00	0.00
T5	200 - 180	Leg	Max Tension	15	247627.13	-2796.77	1.35
			Max. Compression	2	-268611.65	2932.03	2.75
			Max. Mx	14	235690.20	-3095.58	-2.98
			Max. My	4	-8553.63	-7.13	-3045.25
			Max. Vy	14	-119.98	-3095.58	-2.98
			Max. Vx	4	130.53	-7.12	-3045.25
		Diagonal	Max Tension	24	5819.23	0.00	0.00
			Max. Compression	24	-6269.78	0.00	0.00
			Max. Mx	31	732.03	59.76	-5.10
			Max. My	27	51.81	49.54	-6.75
			Max. Vy	33	47.78	58.08	-5.97
			Max. Vx	27	2.22	0.00	0.00
T6	180 - 160	Leg	Max Tension	15	279680.31	-2788.71	-0.37
			Max. Compression	2	-304567.69	2816.01	3.17
			Max. Mx	2	-280681.14	2932.03	2.74
			Max. My	4	-8960.49	-3.45	-2861.63
			Max. Vy	14	-86.54	-2893.22	0.37
			Max. Vx	16	85.42	-1.07	2824.58

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial lb	Major Axis Moment lb-ft	Minor Axis Moment lb-ft
		Diagonal	Max Tension	24	5801.34	0.00	0.00
			Max. Compression	24	-6189.29	0.00	0.00
			Max. Mx	31	756.11	72.86	-6.33
			Max. My	27	72.94	64.00	-8.02
			Max. Vy	33	54.78	72.55	-7.27
			Max. Vx	27	-2.39	0.00	0.00
T7	160 - 140	Leg	Max Tension	15	309171.89	-2513.07	-0.78
			Max. Compression	2	-338057.55	3190.98	4.60
			Max. Mx	2	-338057.55	3190.98	4.60
			Max. My	4	-11309.94	5.18	-3071.06
			Max. Vy	2	-174.38	3190.98	4.60
			Max. Vx	4	131.14	-28.23	-2971.67
		Diagonal	Max Tension	24	5931.33	0.00	0.00
			Max. Compression	24	-6346.10	0.00	0.00
			Max. Mx	33	589.94	89.40	-8.84
			Max. My	27	90.11	80.61	-9.43
			Max. Vy	33	61.80	89.40	-8.84
			Max. Vx	27	-2.57	0.00	0.00
T8	140 - 120	Leg	Max Tension	15	336869.04	-3474.66	-4.30
			Max. Compression	2	-370355.88	7469.31	-44.49
			Max. Mx	2	-370355.88	7469.31	-44.49
			Max. My	4	-12907.71	147.85	-4344.21
			Max. Vy	2	-709.88	7469.31	-44.49
			Max. Vx	4	201.95	22.04	-3765.42
		Diagonal	Max Tension	24	6377.00	0.00	0.00
			Max. Compression	24	-6636.70	0.00	0.00
			Max. Mx	33	545.60	107.41	10.54
			Max. My	27	114.40	98.96	-11.07
			Max. Vy	33	68.71	107.40	-10.42
			Max. Vx	27	-2.77	0.00	0.00
T9	120 - 100	Leg	Max Tension	15	353861.69	-2849.85	-5.70
			Max. Compression	2	-391312.72	4527.35	0.04
			Max. Mx	2	-379553.41	7469.31	-44.47
			Max. My	4	-13650.03	-197.54	-5678.30
			Max. Vy	2	626.52	7469.31	-44.47
			Max. Vx	4	-408.58	-197.61	-5678.29
		Diagonal	Max Tension	24	4551.82	0.00	0.00
			Max. Compression	2	-5258.93	0.00	0.00
			Max. Mx	33	410.08	173.68	-22.77
			Max. My	27	-149.65	170.30	-23.60
			Max. Vy	33	90.33	173.68	-22.77
			Max. Vx	27	-5.01	0.00	0.00
T10	100 - 80	Leg	Max Tension	15	369724.13	-3568.56	-4.45
			Max. Compression	2	-411616.68	3477.06	-34.46
			Max. Mx	2	-400707.79	4527.35	0.04
			Max. My	4	-16254.24	-168.16	-4992.24
			Max. Vy	3	234.68	4494.75	-0.17
			Max. Vx	4	277.35	-168.16	-4992.24
		Diagonal	Max Tension	25	5074.25	0.00	0.00
			Max. Compression	24	-5523.49	0.00	0.00
			Max. Mx	33	279.87	211.49	27.75
			Max. My	27	62.68	187.83	-28.35
			Max. Vy	33	101.33	211.49	-27.60
			Max. Vx	27	-5.48	0.00	0.00
T11	80 - 60	Leg	Max Tension	15	387555.59	-6430.75	-1.15
			Max. Compression	2	-434696.14	-9431.60	15.52
			Max. Mx	2	-434696.14	-9431.60	15.52
			Max. My	24	-17924.37	-783.97	5611.72
			Max. Vy	2	1832.52	7370.20	5.28
			Max. Vx	4	605.52	-789.48	-5606.87
		Diagonal	Max Tension	2	7215.14	0.00	0.00

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial lb	Major Axis Moment lb-ft	Minor Axis Moment lb-ft
			Max. Compression	25	-6788.63	0.00	0.00
			Max. Mx	33	140.32	319.10	39.91
			Max. My	28	-603.97	285.00	-42.52
			Max. Vy	33	139.35	319.10	39.91
			Max. Vx	28	-7.43	0.00	0.00
T12	60 - 40	Leg	Max Tension	15	393308.31	7142.17	-10.75
			Max. Compression	2	-442051.20	15442.61	64.24
			Max. Mx	2	-441712.42	-24172.19	-4.57
			Max. My	4	-19290.88	-1492.24	-8622.21
			Max. Vy	2	7993.22	15442.63	64.23
			Max. Vx	4	1528.19	-1492.24	-8622.21
		Diagonal	Max Tension	15	13972.86	133.78	-7.21
			Max. Compression	2	-16194.20	0.00	0.00
			Max. Mx	2	1187.25	220.04	12.49
			Max. My	27	-3164.34	82.31	-29.81
			Max. Vy	29	-76.47	115.42	-25.80
			Max. Vx	35	6.44	0.00	0.00
		Horizontal	Max Tension	4	1931.15	93.88	156.96
			Max. Compression	15	-2186.48	82.72	58.45
			Max. Mx	31	104.20	292.00	147.43
			Max. My	14	1791.44	92.56	169.36
			Max. Vy	31	-144.08	292.00	147.43
			Max. Vx	29	18.83	0.00	0.00
		Redund Horz 1 Bracing	Max Tension	2	6352.83	0.00	0.00
			Max. Compression	15	-5611.54	0.00	0.00
			Max. Mx	29	815.84	-45.39	0.00
			Max. My	28	1121.19	0.00	1.31
			Max. Vy	29	34.59	0.00	0.00
			Max. Vx	28	1.00	0.00	0.00
		Redund Diag 1 Bracing	Max Tension	15	3883.33	0.00	0.00
			Max. Compression	2	-4232.36	0.00	0.00
			Max. Mx	32	-11.41	-79.52	0.00
			Max. My	27	-234.67	0.00	3.22
			Max. Vy	32	42.78	0.00	0.00
			Max. Vx	27	-1.73	0.00	0.00
T13	40 - 20	Leg	Max Tension	15	414061.09	19220.16	7.51
			Max. Compression	2	-470594.42	16536.37	61.44
			Max. Mx	2	-470227.63	-26113.07	-14.23
			Max. My	4	-22068.96	-2218.37	-13290.71
			Max. Vy	2	-9293.86	21939.29	-54.57
			Max. Vx	4	2768.27	-2218.37	-13290.71
		Diagonal	Max Tension	15	12420.25	128.55	-7.90
			Max. Compression	2	-13909.25	0.00	0.00
			Max. Mx	2	3362.39	207.32	12.80
			Max. My	38	-3638.52	102.34	-36.43
			Max. Vy	29	-82.65	130.84	-31.18
			Max. Vx	38	-7.25	0.00	0.00
		Horizontal	Max Tension	14	3415.20	0.00	0.00
			Max. Compression	5	-3580.26	102.53	95.39
			Max. Mx	27	-197.97	381.38	242.96
			Max. My	31	-199.46	381.30	243.10
			Max. Vy	27	-159.45	381.38	242.96
			Max. Vx	31	-24.82	0.00	0.00
		Redund Horz 1 Bracing	Max Tension	2	7554.04	0.00	0.00
			Max. Compression	15	-6924.40	0.00	0.00
			Max. Mx	26	438.01	-63.62	0.00
			Max. My	28	1984.36	0.00	1.84
			Max. Vy	26	44.25	0.00	0.00

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial lb	Major Axis Moment lb-ft	Minor Axis Moment lb-ft
			Max. Vx	28	1.28	0.00	0.00
		Redund Diag 1 Bracing	Max Tension	15	4687.20	0.00	0.00
			Max. Compression	2	-5272.17	0.00	0.00
			Max. Mx	32	-379.92	-90.20	0.00
			Max. My	27	-589.32	0.00	3.56
			Max. Vy	32	-46.19	0.00	0.00
			Max. Vx	27	-1.82	0.00	0.00
T14	20 - 0	Leg	Max Tension	15	433117.37	965.89	-3.04
			Max. Compression	2	-495335.11	14527.15	57.62
			Max. Mx	2	-490852.86	-26113.07	-14.22
			Max. My	4	-22327.14	-2218.47	-13290.69
			Max. Vy	2	-9346.89	20247.14	-46.38
			Max. Vx	24	1694.95	-2198.93	13224.64
		Diagonal	Max Tension	15	13348.32	189.97	-8.10
			Max. Compression	2	-15764.49	0.00	0.00
			Max. Mx	2	1470.17	281.88	14.98
			Max. My	27	-1071.64	101.11	-36.97
			Max. Vy	27	-95.93	198.09	30.77
			Max. Vx	27	-7.40	0.00	0.00
		Horizontal	Max Tension	14	1453.46	217.95	305.22
			Max. Compression	15	-1803.06	109.46	37.63
			Max. Mx	29	147.52	425.17	220.65
			Max. My	14	1449.08	217.76	305.35
			Max. Vy	29	-180.99	425.17	220.65
			Max. Vx	14	25.99	0.00	0.00
		Redund Horz 1 Bracing	Max Tension	2	7626.02	0.00	0.00
			Max. Compression	15	-6788.35	0.00	0.00
			Max. Mx	33	931.57	-71.10	0.00
			Max. My	31	1550.70	0.00	2.05
			Max. Vy	33	45.50	0.00	0.00
			Max. Vx	31	-1.31	0.00	0.00
		Redund Diag 1 Bracing	Max Tension	15	4440.31	0.00	0.00
			Max. Compression	2	-5172.46	0.00	0.00
			Max. Mx	32	-54.97	-97.07	0.00
			Max. My	33	66.72	0.00	-3.64
			Max. Vy	32	-47.34	0.00	0.00
			Max. Vx	33	-1.77	0.00	0.00

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical lb	Horizontal, X lb	Horizontal, Z lb
Leg C	Max. Vert	18	508783.82	41476.97	-23883.85
	Max. H_x	18	508783.82	41476.97	-23883.85
	Max. H_z	7	-446675.84	-35854.78	20627.76
	Min. Vert	7	-446675.84	-35854.78	20627.76
	Min. H_x	7	-446675.84	-35854.78	20627.76
	Min. H_z	18	508783.82	41476.97	-23883.85
Leg B	Max. Vert	10	507968.00	-41381.35	-23927.88
	Max. H_x	23	-445639.73	35739.50	20697.16
	Max. H_z	23	-445639.73	35739.50	20697.16
	Min. Vert	23	-445639.73	35739.50	20697.16
	Min. H_x	10	507968.00	-41381.35	-23927.88

Location	Condition	Gov. Load Comb.	Vertical lb	Horizontal, X lb	Horizontal, Z lb
Leg A	Min. H_z	10	507968.00	-41381.35	-23927.88
	Max. Vert	2	513861.74	115.29	48217.48
	Max. H_x	21	19764.33	1037.93	1629.10
	Max. H_z	2	513861.74	115.29	48217.48
	Min. Vert	15	-447815.62	-109.34	-41439.74
	Min. H_x	9	20178.66	-1020.62	1658.77
	Min. H_z	15	-447815.62	-109.34	-41439.74

Tower Mast Reaction Summary

Load Combination	Vertical lb	$Shear_x$ lb	$Shear_z$ lb	Overturning Moment, M_x lb-ft	Overturning Moment, M_z lb-ft	Torque lb-ft
Dead Only	62629.48	0.00	0.00	985.49	-1357.10	-0.00
1.2 Dead+1.0 Wind 0 deg - No Ice	75155.27	20.15	-70523.85	-11006368.53	-6410.79	5241.04
0.9 Dead+1.0 Wind 0 deg - No Ice	56366.46	20.15	-70524.10	-10974147.61	-5972.31	5229.41
1.2 Dead+1.0 Wind 30 deg - No Ice	75154.42	33590.23	-58223.79	-9253626.01	-5339047.98	9724.46
0.9 Dead+1.0 Wind 30 deg - No Ice	56365.92	33589.91	-58223.68	-9226333.86	-5322686.14	9710.17
1.2 Dead+1.0 Wind 60 deg - No Ice	75153.49	56967.94	-33028.78	-5278669.53	-9090993.00	2499.43
0.9 Dead+1.0 Wind 60 deg - No Ice	56365.23	56967.48	-33028.51	-5263176.70	-9063374.11	2485.65
1.2 Dead+1.0 Wind 90 deg - No Ice	75154.49	66669.52	-139.24	-31106.72	-10553790.68	-4786.78
0.9 Dead+1.0 Wind 90 deg - No Ice	56365.96	66669.27	-139.02	-31298.26	-10521925.63	-4796.62
1.2 Dead+1.0 Wind 120 deg - No Ice	75155.28	60597.57	34953.38	5431332.41	-9420041.06	-1399.13
0.9 Dead+1.0 Wind 120 deg - No Ice	56366.47	60597.77	34953.50	5414996.69	-9391818.99	-1401.70
1.2 Dead+1.0 Wind 150 deg - No Ice	75154.47	33406.96	57945.47	9189971.38	-5295757.05	1845.68
0.9 Dead+1.0 Wind 150 deg - No Ice	56365.95	33407.02	57945.14	9162256.50	-5279564.33	1851.08
1.2 Dead+1.0 Wind 180 deg - No Ice	75153.47	-20.11	65949.69	10538217.07	2971.57	-4799.52
0.9 Dead+1.0 Wind 180 deg - No Ice	56365.21	-20.12	65949.16	10506364.40	3380.41	-4788.32
1.2 Dead+1.0 Wind 210 deg - No Ice	75154.45	-33466.91	58009.12	9206075.91	5307042.92	-9754.80
0.9 Dead+1.0 Wind 210 deg - No Ice	56365.94	-33466.98	58008.78	9178303.70	5291647.59	-9740.60
1.2 Dead+1.0 Wind 240 deg - No Ice	75155.28	-60661.16	35013.37	5446047.34	9432756.66	-2473.05
0.9 Dead+1.0 Wind 240 deg - No Ice	56366.47	-60661.37	35013.48	5429661.43	9405324.81	-2458.95
1.2 Dead+1.0 Wind 270 deg - No Ice	75154.49	-66669.52	-98.99	-21748.10	10550461.23	5466.01
0.9 Dead+1.0 Wind 270 deg - No Ice	56365.96	-66669.27	-98.77	-21968.91	10519442.95	5475.83
1.2 Dead+1.0 Wind 300 deg - No Ice	75153.52	-56904.32	-32968.81	-5264035.37	9071570.95	2670.10
0.9 Dead+1.0 Wind 300 deg -	56365.25	-56903.86	-32968.55	-5248591.90	9044855.75	2672.68

Load Combination	Vertical	$Shear_x$	$Shear_z$	Overturning Moment, M_x	Overturning Moment, M_z	Torque
	lb	lb	lb	lb-ft	lb-ft	lb-ft
No Ice 1.2 Dead+1.0 Wind 330 deg - No Ice	75154.45	-33530.23	-58160.16	-9237615.44	5320943.51	-576.08
0.9 Dead+1.0 Wind 330 deg - No Ice	56365.94	-33529.91	-58160.05	-9210379.67	5305478.77	-581.49
1.2 Dead+1.0 Ice+1.0 Temp	179558.96	-0.00	-0.00	3609.54	-10367.00	0.00
1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp	179558.95	2.65	-9411.56	-1534909.03	-11325.32	964.86
1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp	179558.95	4587.87	-7950.53	-1309744.00	-768473.12	1421.84
1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp	179558.95	7855.86	-4549.00	-750179.12	-1311104.47	775.81
1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp	179558.95	9129.87	-13.30	670.21	-1515118.30	-23.39
1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp	179558.95	8107.61	4677.99	766404.04	-1332784.27	-68.04
1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp	179558.95	4570.43	7925.21	1311194.82	-764329.36	-140.95
1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp	179558.95	-2.65	9086.15	1509115.11	-10068.74	-924.91
1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp	179558.95	-4576.91	7931.13	1312701.66	744530.51	-1424.58
1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp	179558.95	-8113.53	4684.47	767999.55	1312897.51	-773.49
1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp	179558.95	-9129.87	-8.00	1925.99	1493728.53	84.65
1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp	179558.95	-7849.94	-4542.53	-748587.04	1288209.13	182.39
1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp	179558.95	-4581.40	-7944.61	-1308241.08	745485.95	255.42
Dead+Wind 0 deg - Service	62629.48	6.57	-23634.27	-3666586.84	-2916.80	1709.58
Dead+Wind 30 deg - Service	62629.48	11270.84	-19536.55	-3084561.47	-1780808.74	3156.00
Dead+Wind 60 deg - Service	62629.47	19126.09	-11087.56	-1759719.18	-3032893.99	810.41
Dead+Wind 90 deg - Service	62629.48	22375.38	-45.19	-9455.64	-3520418.28	-1548.33
Dead+Wind 120 deg - Service	62629.48	20311.86	11716.40	1810785.99	-3140303.21	-457.37
Dead+Wind 150 deg - Service	62629.48	11211.50	19445.41	3064955.02	-1766841.36	586.91
Dead+Wind 180 deg - Service	62629.47	-6.57	22139.89	3515029.33	135.95	-1565.50
Dead+Wind 210 deg - Service	62629.48	-11231.08	19466.18	3070195.03	1768850.06	-3166.17
Dead+Wind 240 deg - Service	62629.48	-20332.72	11735.97	1815575.46	3142776.71	-801.68
Dead+Wind 270 deg - Service	62629.48	-22375.38	-32.05	-6403.39	3517652.02	1770.27
Dead+Wind 300 deg - Service	62629.47	-19105.24	-11067.98	-1754941.30	3024881.91	872.57
Dead+Wind 330 deg - Service	62629.48	-11251.26	-19515.79	-3079335.27	1773244.93	-171.95

Solution Summary

	Sum of Applied Forces			Sum of Reactions			
Load Comb.	PX	PY	PZ	PX	PY	PZ	% Error
	lb	lb	lb	lb	lb	lb	
1	-0.00	-62629.48	0.00	-0.00	62629.48	-0.00	0.000%
2	20.12	-75155.37	-70523.37	-20.15	75155.27	70523.85	0.000%
3	20.12	-56366.53	-70523.37	-20.15	56366.46	70524.10	0.001%
4	33588.59	-75155.37	-58222.82	-33590.23	75154.42	58223.79	0.002%
5	33588.59	-56366.53	-58222.82	-33589.91	56365.92	58223.68	0.002%
6	56965.38	-75155.37	-33027.30	-56967.94	75153.49	33028.78	0.004%
7	56965.38	-56366.53	-33027.30	-56967.48	56365.23	33028.51	0.003%
8	66667.94	-75155.37	-138.34	-66669.52	75154.49	139.24	0.002%
9	66667.94	-56366.53	-138.34	-66669.27	56365.96	139.02	0.002%
10	60597.18	-75155.37	34953.17	-60597.57	75155.28	-34953.38	0.000%

	Sum of Applied Forces			Sum of Reactions			
Load Comb.	PX lb	PY lb	PZ lb	PX lb	PY lb	PZ lb	% Error
11	60597.18	-56366.53	34953.17	-60597.77	56366.47	-34953.50	0.001%
12	33406.94	-75155.37	57943.64	-33406.96	75154.47	-57945.47	0.002%
13	33406.94	-56366.53	57943.64	-33407.02	56365.95	-57945.14	0.002%
14	-20.12	-75155.37	65946.71	20.11	75153.47	-65949.69	0.004%
15	-20.12	-56366.53	65946.71	20.12	56365.21	-65949.16	0.003%
16	-33466.89	-75155.37	58007.24	33466.91	75154.45	-58009.12	0.002%
17	-33466.89	-56366.53	58007.24	33466.98	56365.94	-58008.78	0.002%
18	-60660.78	-75155.37	35013.13	60661.16	75155.28	-35013.37	0.000%
19	-60660.78	-56366.53	35013.13	60661.37	56366.47	-35013.48	0.001%
20	-66667.94	-75155.37	-98.09	66669.52	75154.49	98.99	0.002%
21	-66667.94	-56366.53	-98.09	66669.27	56365.96	98.77	0.002%
22	-56901.77	-75155.37	-32967.34	56904.32	75153.52	32968.81	0.003%
23	-56901.77	-56366.53	-32967.34	56903.86	56365.25	32968.55	0.003%
24	-33528.63	-75155.37	-58159.21	33530.23	75154.45	58160.16	0.002%
25	-33528.63	-56366.53	-58159.21	33529.91	56365.94	58160.05	0.002%
26	-0.00	-179558.96	0.00	0.00	179558.96	0.00	0.000%
27	2.65	-179558.96	-9411.58	-2.65	179558.95	9411.56	0.000%
28	4587.88	-179558.96	-7950.55	-4587.87	179558.95	7950.53	0.000%
29	7855.86	-179558.96	-4549.01	-7855.86	179558.95	4549.00	0.000%
30	9129.88	-179558.96	-13.29	-9129.87	179558.95	13.30	0.000%
31	8107.62	-179558.96	4678.00	-8107.61	179558.95	-4677.99	0.000%
32	4570.44	-179558.96	7925.21	-4570.43	179558.95	-7925.21	0.000%
33	-2.65	-179558.96	9086.16	2.65	179558.95	-9086.15	0.000%
34	-4576.92	-179558.96	7931.14	4576.91	179558.95	-7931.13	0.000%
35	-8113.55	-179558.96	4684.48	8113.53	179558.95	-4684.47	0.000%
36	-9129.88	-179558.96	-8.00	9129.87	179558.95	8.00	0.000%
37	-7849.94	-179558.96	-4542.53	7849.94	179558.95	4542.53	0.000%
38	-4581.40	-179558.96	-7944.63	4581.40	179558.95	7944.61	0.000%
39	6.57	-62629.48	-23634.26	-6.57	62629.48	23634.27	0.000%
40	11270.82	-62629.48	-19536.54	-11270.84	62629.48	19536.55	0.000%
41	19126.05	-62629.48	-11087.54	-19126.09	62629.47	11087.56	0.000%
42	22375.35	-62629.48	-45.17	-22375.38	62629.48	45.19	0.000%
43	20311.86	-62629.48	11716.39	-20311.86	62629.48	-11716.40	0.000%
44	11211.50	-62629.48	19445.38	-11211.50	62629.48	-19445.41	0.000%
45	-6.57	-62629.48	22139.84	6.57	62629.47	-22139.89	0.000%
46	-11231.08	-62629.48	19466.15	11231.08	62629.48	-19466.18	0.000%
47	-20332.72	-62629.48	11735.97	20332.72	62629.48	-11735.97	0.000%
48	-22375.35	-62629.48	-32.03	22375.38	62629.48	32.05	0.000%
49	-19105.20	-62629.48	-11067.96	19105.24	62629.47	11067.98	0.000%
50	-11251.24	-62629.48	-19515.77	11251.26	62629.48	19515.79	0.000%

Non-Linear Convergence Results

Load Combination	Converged?	Number of Cycles	Displacement Tolerance	Force Tolerance
1	Yes	4	0.00000001	0.00000001
2	Yes	4	0.00000001	0.00000510
3	Yes	4	0.00000001	0.00000301
4	Yes	4	0.00005727	0.00001620
5	Yes	4	0.00004576	0.00001203
6	Yes	4	0.00008759	0.00002250
7	Yes	4	0.00007197	0.00001603
8	Yes	4	0.00005539	0.00001535
9	Yes	4	0.00004407	0.00001125
10	Yes	4	0.00000001	0.00000505
11	Yes	4	0.00000001	0.00000287

12	Yes	4	0.00005578	0.00001547
13	Yes	4	0.00004438	0.00001137
14	Yes	4	0.00008810	0.00002264
15	Yes	4	0.00007242	0.00001615
16	Yes	4	0.00005653	0.00001600
17	Yes	4	0.00004511	0.00001185
18	Yes	4	0.00000001	0.00000508
19	Yes	4	0.00000001	0.00000291
20	Yes	4	0.00005535	0.00001537
21	Yes	4	0.00004405	0.00001128
22	Yes	4	0.00008712	0.00002237
23	Yes	4	0.00007157	0.00001592
24	Yes	4	0.00005625	0.00001553
25	Yes	4	0.00004478	0.00001140
26	Yes	4	0.00000001	0.00000527
27	Yes	4	0.00000001	0.00007533
28	Yes	4	0.00000001	0.00007572
29	Yes	4	0.00000001	0.00007611
30	Yes	4	0.00000001	0.00007599
31	Yes	4	0.00000001	0.00007606
32	Yes	4	0.00000001	0.00007624
33	Yes	4	0.00000001	0.00007638
34	Yes	4	0.00000001	0.00007582
35	Yes	4	0.00000001	0.00007527
36	Yes	4	0.00000001	0.00007497
37	Yes	4	0.00000001	0.00007514
38	Yes	4	0.00000001	0.00007511
39	Yes	4	0.00000001	0.00000427
40	Yes	4	0.00000001	0.00000454
41	Yes	4	0.00000001	0.00000475
42	Yes	4	0.00000001	0.00000454
43	Yes	4	0.00000001	0.00000428
44	Yes	4	0.00000001	0.00000454
45	Yes	4	0.00000001	0.00000475
46	Yes	4	0.00000001	0.00000455
47	Yes	4	0.00000001	0.00000428
48	Yes	4	0.00000001	0.00000454
49	Yes	4	0.00000001	0.00000475
50	Yes	4	0.00000001	0.00000453

Maximum Tower Deflections - Service Wind

Section No.	*Elevation*	*Horz. Deflection*	*Gov. Load Comb.*	*Tilt*	*Twist*
	ft	*in*		*°*	*°*
T1	280 - 260	21.631	39	0.8753	0.0354
T2	260 - 240	17.963	39	0.8298	0.0343
T3	240 - 220	14.602	39	0.7219	0.0324
T4	220 - 200	11.720	39	0.6178	0.0249
T5	200 - 180	9.294	39	0.5068	0.0161
T6	180 - 160	7.290	39	0.4327	0.0126
T7	160 - 140	5.591	39	0.3599	0.0099
T8	140 - 120	4.189	39	0.2889	0.0075
T9	120 - 100	3.032	39	0.2404	0.0053
T10	100 - 80	2.095	39	0.1938	0.0038
T11	80 - 60	1.344	39	0.1508	0.0026
T12	60 - 40	0.770	39	0.1100	0.0018
T13	40 - 20	0.354	39	0.0720	0.0011
T14	20 - 0	0.092	39	0.0352	0.0005

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
275.00	40,000 sq in CaAa	39	20.701	0.8680	0.0351	58019
264.00	30,000 sq in CaAa	39	18.681	0.8439	0.0345	18134
254.00	30,000 sq in CaAa	39	16.911	0.8017	0.0340	12316
230.00	6' Solid w/Radome	39	13.101	0.6696	0.0293	9939

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
T1	280 - 260	65.542	2	2.6680	0.1093
T2	260 - 240	54.365	2	2.5276	0.1060
T3	240 - 220	44.135	2	2.1955	0.1001
T4	220 - 200	35.378	2	1.8756	0.0771
T5	200 - 180	28.023	2	1.5355	0.0500
T6	180 - 160	21.958	2	1.3090	0.0391
T7	160 - 140	16.824	2	1.0873	0.0306
T8	140 - 120	12.595	2	0.8714	0.0231
T9	120 - 100	9.109	2	0.7244	0.0165
T10	100 - 80	6.291	2	0.5836	0.0119
T11	80 - 60	4.032	2	0.4536	0.0080
T12	60 - 40	2.307	2	0.3306	0.0055
T13	40 - 20	1.060	2	0.2164	0.0034
T14	20 - 0	0.274	2	0.1058	0.0016

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
275.00	40,000 sq in CaAa	2	62.708	2.6454	0.1084	18963
264.00	30,000 sq in CaAa	2	56.552	2.5710	0.1065	5926
254.00	30,000 sq in CaAa	2	51.162	2.4412	0.1052	4022
230.00	6' Solid w/Radome	2	39.571	2.0347	0.0906	3241

Compression Checks

Leg Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T1	280 - 260	P2x.154	20.00	5.00	76.2 K=1.00	1.0745	-29205.10	31617.20	0.924 [1] ✔
T2	260 - 240	P4x.237	20.00	5.00	39.7 K=1.00	3.1741	-117942.00	127250.00	0.927 [1] ✔
T3	240 - 220	P6x.28	20.02	5.00	26.7 K=1.00	5.5813	-183977.00	238362.00	0.772 [1] ✔
T4	220 - 200	P6x.28	20.02	6.67	35.7 K=1.00	5.5813	-228691.00	228860.00	0.999 [1] ✔
T5	200 - 180	P8x.322	20.02	6.67	27.3 K=1.00	8.3993	-268612.00	357982.00	0.750 [1] ✔
T6	180 - 160	P8x.322	20.02	6.67	27.3 K=1.00	8.3993	-304568.00	357982.00	0.851 [1] ✔
T7	160 - 140	P8x.322	20.02	6.67	27.3 K=1.00	8.3993	-338058.00	357982.00	0.944 [1] ✔
T8	140 - 120	P10x.365	20.02	6.67	21.8 K=1.00	11.9083	-370356.00	517579.00	0.716 [1] ✔
T9	120 - 100	P10x.365	20.03	10.02	32.7 K=1.00	11.9083	-391313.00	495532.00	0.790 [1] ✔
T10	100 - 80	P10x.365	20.03	10.02	32.7 K=1.00	11.9083	-411617.00	495532.00	0.831 [1] ✔
T11	80 - 60	P10x.365	20.03	10.02	32.7 K=1.00	11.9083	-434696.00	495532.00	0.877 [1] ✔
T12	60 - 40	P10x.365	20.03	5.01	16.4 K=1.00	11.9083	-442051.00	525490.00	0.841 [1] ✔
T13	40 - 20	P10x.365	20.03	5.01	16.4 K=1.00	11.9083	-470594.00	525490.00	0.896 [1] ✔
T14	20 - 0	P10x.365	20.03	5.01	16.4 K=1.00	11.9083	-495335.00	525490.00	0.943 [1] ✔

[1] $P_u / \phi P_n$ controls

Diagonal Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T1	280 - 260	L1 3/4x1 3/4x1/8	7.07	3.40	117.5 K=1.00	0.4219	-6396.90	8747.43	0.731 [1] ✔
T2	260 - 240	L2x2x3/16	7.07	3.27	99.6 K=1.00	0.7150	-10698.80	20260.00	0.528 [1] ✔
T3	240 - 220	L2x2x1/8	8.05	3.79	114.5 K=1.00	0.4844	-6348.53	10553.40	0.602 [1] ✔
T4	220 - 200	L2x2x1/8	9.85	4.73	142.8 K=1.00	0.4844	-6733.59	6798.31	0.990 [1] ✔
T5	200 - 180	L2 1/2x2 1/2x3/16	11.40	5.41	131.2 K=1.00	0.9020	-6151.50	14994.70	0.410 [1] ✔
T6	180 - 160	L2 1/2x2 1/2x3/16	12.65	6.05	146.7	0.9020	-6189.29	12004.30	0.516 [1]

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T7	160 - 140	L2 1/2x2 1/2x3/16	13.95	6.71	162.6 K=1.00	0.9020	-6346.10	9765.99	0.650 [1]
T8	140 - 120	L2 1/2x2 1/2x3/16	15.28	7.28	176.5 K=1.00	0.9020	-6509.71	8284.32	0.786 [1]
T9	120 - 100	L3x3x3/16	18.45	8.99	181.0 K=1.00	1.0900	-4985.82	9525.13	0.523 [1]
T10	100 - 80	L3x3x3/16	20.16	9.85	198.3 K=1.00	1.0900	-5523.49	7930.45	0.696 [1]
T11	80 - 60	L3 1/2x3 1/2x1/4	21.92	10.74	185.6 K=1.00	1.6900	-6788.63	14036.80	0.484 [1]
T12	60 - 40	L3 1/2x3 1/2x1/4	14.87	14.26	157.0 K=1.00	1.6900	-16194.20	19616.20	0.826 [1]
T13	40 - 20	L3 1/2x3 1/2x1/4	15.62	15.04	165.6 K=1.00	1.6900	-13909.20	17642.90	0.788 [1]
T14	20 - 0	L4x4x1/4	16.40	15.84	152.1 K=1.00	1.9400	-15764.50	24016.90	0.656 [1]

[1] P_u / ϕP_n controls

Horizontal Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T12	60 - 40	L3 1/2x3 1/2x1/4	21.00	10.05	221.3 K=1.00	1.6900	-7666.11	9874.22	0.776 [1]
T13	40 - 20	L3 1/2x3 1/2x1/4	23.00	11.05	243.3 K=1.00	1.6900	-8161.11	8168.21	0.999 [1]
T14	20 - 0	L4x4x1/4	25.00	12.05	231.4 K=1.00	1.9400	-8590.16	10369.90	0.828 [1]

[1] P_u / ϕP_n controls

Top Girt Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T1	280 - 260	L1 3/4x1 3/4x1/8	5.00	4.80	166.2 K=1.00	0.4219	-1249.83	4373.71	0.286 [1]

[1] P_u / ϕP_n controls

Redundant Horizontal (1) Design Data (Compression)

Section No.	Elevation	Size	L	L_u	Kl/r	A	P_u	ϕP_n	Ratio $\frac{P_u}{\phi P_n}$
	ft		ft	ft		in^2	lb	lb	
T12	60 - 40	L2x2x3/16	5.25	4.80	146.3 K=1.00	0.7150	-7666.11	9566.97	0.801 [1] ✔
T13	40 - 20	L2 1/2x2 1/2x3/16	5.75	5.30	128.5 K=1.00	0.9020	-8161.11	15626.40	0.522 [1] ✔
T14	20 - 0	L2 1/2x2 1/2x3/16	6.25	5.80	140.7 K=1.00	0.9020	-8590.16	13049.20	0.658 [1] ✔

[1] P_u / ϕP_n controls

Redundant Diagonal (1) Design Data (Compression)

Section No.	Elevation	Size	L	L_u	Kl/r	A	P_u	ϕP_n	Ratio $\frac{P_u}{\phi P_n}$
	ft		ft	ft		in^2	lb	lb	
T12	60 - 40	L2 1/2x2 1/2x3/16	7.43	6.80	164.9 K=1.00	0.9020	-5427.92	9497.11	0.572 [1] ✔
T13	40 - 20	L2 1/2x2 1/2x3/16	7.81	7.21	174.7 K=1.00	0.9020	-5543.58	8459.08	0.655 [1] ✔
T14	20 - 0	L2 1/2x2 1/2x3/16	8.20	7.62	184.7 K=1.00	0.9020	-5636.44	7567.78	0.745 [1] ✔

[1] P_u / ϕP_n controls

Tension Checks

Leg Design Data (Tension)

Section No.	Elevation	Size	L	L_u	Kl/r	A	P_u	ϕP_n	Ratio $\frac{P_u}{\phi P_n}$
	ft		ft	ft		in^2	lb	lb	
T1	280 - 260	P2x.154	20.00	5.00	76.2	1.0745	24204.70	48353.90	0.501 [1] ✔
T2	260 - 240	P4x.237	20.00	5.00	39.7	3.1741	107279.00	142832.00	0.751 [1] ✔
T3	240 - 220	P6x.28	20.02	5.00	26.7	5.5813	169805.00	251161.00	0.676 [1] ✔
T4	220 - 200	P6x.28	20.02	6.67	35.7	5.5813	211673.00	251161.00	0.843 [1] ✔
T5	200 - 180	P8x.322	20.02	6.67	27.3	8.3993	247627.00	377967.00	0.655 [1] ✔
T6	180 - 160	P8x.322	20.02	6.67	27.3	8.3993	279680.00	377967.00	0.740 [1] ✔

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T7	160 - 140	P8x.322	20.02	6.67	27.3	8.3993	309172.00	377967.00	0.818 [1] ✔
T8	140 - 120	P10x.365	20.02	6.67	21.8	11.9083	336869.00	535873.00	0.629 [1] ✔
T9	120 - 100	P10x.365	20.03	10.02	32.7	11.9083	353862.00	535873.00	0.660 [1] ✔
T10	100 - 80	P10x.365	20.03	10.02	32.7	11.9083	369724.00	535873.00	0.690 [1] ✔
T11	80 - 60	P10x.365	20.03	10.02	32.7	11.9083	387556.00	535873.00	0.723 [1] ✔
T12	60 - 40	P10x.365	20.03	5.01	16.4	11.9083	393308.00	535873.00	0.734 [1] ✔
T13	40 - 20	P10x.365	20.03	5.01	16.4	11.9083	414061.00	535873.00	0.773 [1] ✔
T14	20 - 0	P10x.365	20.03	5.01	16.4	11.9083	433117.00	535873.00	0.808 [1] ✔

[1] P_u / ϕP_n controls

Diagonal Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T1	280 - 260	L1 3/4x1 3/4x1/8	7.07	3.40	74.7	0.3164	6196.04	15424.80	0.402 [1] ✔
T2	260 - 240	L2x2x3/16	7.07	3.27	63.6	0.5363	10304.50	26142.20	0.394 [1] ✔
T3	240 - 220	L2x2x1/8	7.76	3.65	70.0	0.3633	6302.54	17710.00	0.356 [1] ✔
T4	220 - 200	L2x2x1/8	9.49	4.56	87.3	0.3633	6454.67	17710.00	0.364 [1] ✔
T5	200 - 180	L2 1/2x2 1/2x3/16	11.00	5.21	80.4	0.6765	5819.23	32979.40	0.176 [1] ✔
T6	180 - 160	L2 1/2x2 1/2x3/16	12.65	6.05	93.3	0.6765	5801.34	32979.40	0.176 [1] ✔
T7	160 - 140	L2 1/2x2 1/2x3/16	13.95	6.71	103.4	0.6765	5931.33	32979.40	0.180 [1] ✔
T8	140 - 120	L2 1/2x2 1/2x3/16	14.83	7.06	108.9	0.6765	6377.00	32979.40	0.193 [1] ✔
T9	120 - 100	L3x3x3/16	18.45	8.99	114.9	0.8175	4551.82	39853.10	0.114 [1] ✔
T10	100 - 80	L3x3x3/16	20.16	9.85	125.9	0.8175	5074.25	39853.10	0.127 [1] ✔
T11	80 - 60	L3 1/2x3 1/2x1/4	21.92	10.74	118.2	1.2675	7215.14	61790.60	0.117 [1] ✔
T12	60 - 40	L3 1/2x3 1/2x1/4	14.87	14.26	157.0	1.2675	13972.90	61790.60	0.226 [1] ✔
T13	40 - 20	L3 1/2x3 1/2x1/4	15.62	15.04	165.6	1.2675	12420.20	61790.60	0.201 [1] ✔

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T14	20 - 0	L4x4x1/4	16.40	15.84	152.1	1.4550	13348.30	70931.30	0.188 [1]

[1] P_u / ϕP_n controls

Horizontal Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T12	60 - 40	L3 1/2x3 1/2x1/4	21.00	10.05	166.0	1.2675	7666.11	61790.60	0.124 [1]
T13	40 - 20	L3 1/2x3 1/2x1/4	23.00	11.05	182.5	1.2675	8161.11	61790.60	0.132 [1]
T14	20 - 0	L4x4x1/4	25.00	12.05	173.6	1.4550	8590.16	70931.30	0.121 [1]

[1] P_u / ϕP_n controls

Top Girt Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T1	280 - 260	L1 3/4x1 3/4x1/8	5.00	4.80	105.6	0.3164	1174.30	15424.80	0.076 [1]

[1] P_u / ϕP_n controls

Redundant Horizontal (1) Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T12	60 - 40	L2x2x3/16	5.25	4.80	93.4	0.5363	7666.11	26142.20	0.293 [1]
T13	40 - 20	L2 1/2x2 1/2x3/16	5.75	5.30	81.8	0.6765	8161.11	32979.40	0.247 [1]
T14	20 - 0	L2 1/2x2 1/2x3/16	6.25	5.80	89.5	0.6765	8590.16	32979.40	0.260 [1]

[1] P_u / ϕP_n controls

Redundant Diagonal (1) Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T12	60 - 40	L2 1/2x2 1/2x3/16	7.43	6.80	104.9	0.6765	5427.92	32979.40	0.165 [1] ✔
T13	40 - 20	L2 1/2x2 1/2x3/16	7.81	7.21	111.2	0.6765	5543.58	32979.40	0.168 [1] ✔
T14	20 - 0	L2 1/2x2 1/2x3/16	8.20	7.62	117.5	0.6765	5636.44	32979.40	0.171 [1] ✔

[1] P_u / ϕP_n controls

Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P lb	ϕP_{allow} lb	% Capacity	Pass Fail
T1	280 - 260	Leg	P2x.154	3	-29205.10	31617.20	92.4	Pass
		Diagonal	L1 3/4x1 3/4x1/8	8	-6396.90	8747.43	73.1	Pass
		Top Girt	L1 3/4x1 3/4x1/8	6	-1249.83	4373.71	28.6	Pass
T2	260 - 240	Leg	P4x.237	33	-117942.00	127250.00	92.7	Pass
		Diagonal	L2x2x3/16	34	-10698.80	20260.00	52.8	Pass
T3	240 - 220	Leg	P6x.28	60	-183977.00	238362.00	77.2	Pass
		Diagonal	L2x2x1/8	64	-6348.53	10553.40	60.2	Pass
T4	220 - 200	Leg	P6x.28	87	-228691.00	228860.00	99.9	Pass
		Diagonal	L2x2x1/8	97	-6733.59	6798.31	99.0	Pass
T5	200 - 180	Leg	P8x.322	108	-268612.00	357982.00	75.0	Pass
		Diagonal	L2 1/2x2 1/2x3/16	112	-6151.50	14994.70	41.0	Pass
T6	180 - 160	Leg	P8x.322	129	-304568.00	357982.00	85.1	Pass
		Diagonal	L2 1/2x2 1/2x3/16	133	-6189.29	12004.30	51.6	Pass
T7	160 - 140	Leg	P8x.322	150	-338058.00	357982.00	94.4	Pass
		Diagonal	L2 1/2x2 1/2x3/16	154	-6346.10	9765.99	65.0	Pass
T8	140 - 120	Leg	P10x.365	171	-370356.00	517579.00	71.6	Pass
		Diagonal	L2 1/2x2 1/2x3/16	175	-6509.71	8284.32	78.6	Pass
T9	120 - 100	Leg	P10x.365	192	-391313.00	495532.00	79.0	Pass
		Diagonal	L3x3x3/16	196	-4985.82	9525.13	52.3	Pass
T10	100 - 80	Leg	P10x.365	207	-411617.00	495532.00	83.1	Pass
		Diagonal	L3x3x3/16	211	-5523.49	7930.45	69.6	Pass
T11	80 - 60	Leg	P10x.365	222	-434696.00	495532.00	87.7	Pass
		Diagonal	L3 1/2x3 1/2x1/4	226	-6788.63	14036.80	48.4	Pass
T12	60 - 40	Leg	P10x.365	237	-442051.00	525490.00	84.1	Pass
		Diagonal	L3 1/2x3 1/2x1/4	249	-16194.20	19616.20	82.6	Pass
		Horizontal	L3 1/2x3 1/2x1/4	245	-7666.11	9874.22	77.6	Pass
		Redund Horz 1 Bracing	L2x2x3/16	254	-7666.11	9566.97	80.1	Pass
		Redund Diag 1 Bracing	L2 1/2x2 1/2x3/16	270	-5427.92	9497.11	57.2	Pass
T13	40 - 20	Leg	P10x.365	279	-470594.00	525490.00	89.6	Pass
		Diagonal	L3 1/2x3 1/2x1/4	291	-13909.20	17642.90	78.8	Pass
		Horizontal	L3 1/2x3 1/2x1/4	287	-8161.11	8168.21	99.9	Pass
		Redund Horz 1 Bracing	L2 1/2x2 1/2x3/16	292	-8161.11	15626.40	52.2	Pass

Section No.	Elevation ft	Component Type	Size	Critical Element	P lb	ϕP_{allow} lb	% Capacity	Pass Fail
		Redund Diag 1 Bracing	L2 1/2x2 1/2x3/16	312	-5543.58	8459.08	65.5	Pass
T14	20 - 0	Leg	P10x.365	321	-495335.00	525490.00	94.3	Pass
		Diagonal	L4x4x1/4	333	-15764.50	24016.90	65.6	Pass
		Horizontal	L4x4x1/4	329	-8590.16	10369.90	82.8	Pass
		Redund Horz 1 Bracing	L2 1/2x2 1/2x3/16	334	-8590.16	13049.20	65.8	Pass
		Redund Diag 1 Bracing	L2 1/2x2 1/2x3/16	354	-5636.44	7567.78	74.5	Pass
							Summary	
						Leg (T4)	99.9	Pass
						Diagonal (T4)	99.0	Pass
						Horizontal (T13)	99.9	Pass
						Top Girt (T1)	28.6	Pass
						Redund Horz 1 Bracing (T12)	80.1	Pass
						Redund Diag 1 Bracing (T14)	74.5	Pass
						RATING =	**99.9**	**Pass**

Drilled Pier Foundation Design

Order/Quote Number:	**SO29858**
Part Number:	**605992**
Tower Model:	**NSX 26' x 280'**
Company:	**VB BTS II**
Site:	**NS 280' - US-KY-5176 / LV NW Somerset - Pulaski Co., KY**

N E L L O
1201 South Sheridan St. 574-288-3632 (phone)
South Bend, IN 46619 574-288-5860 (fax)
www.nelloinc.com

TIA-222-H 9.7

Tower Reactions (Factored)

Leg Compression:	513.862	kips
Leg Uplift:	447.816	kips
Leg Shear:	48.218	kips
Tower Shear:	70.524	kips
Tower Moment:	11006.370	ft-kips
Tower Weight:	75.155	kips

Foundation Design Reactions

Additional Load Factor:	1.00	
Compression:	513.862	kips
Uplift:	447.816	kips
Shear:	48.218	kips

ANSI/TIA-222-H - Design Factors

Uplift Resistance Factor, Phi:	0.75
Compressive Resistance Factor, Phi:	0.75
Bearing Capacity Resistance, Phi:	0.75
Lateral Resistance Factor, Phi:	0.75

Foundation Dimensions

Pier Diameter:	7.5	ft
Pier Extension:	0.5	ft
Pier Depth:	25	ft
Total Pier Length:	25.5	ft
Volume per Pier:	41.7	yd^3
Total Volume:	125.2	yd^3

Foundation LPILE Loads (Divided by Φ_s)

Shear Load:	64,291	lb
Moment Load:	0	lb-in
Axial Load:	685,149	lb

Summary Check

Uplift:	**OK**	**96.3%**
Uplift Cone Check:	---	---
Compression:	**OK**	**28.9%**
Minimum 3 Pier Diameter Spacing:	**OK**	
Max Pier Length / Diameter Ratio:	**OK**	
Neglect Frost Depth:	**OK**	
Neglect Top Portion of Pier:	**OK**	
Minimum Depth:	**OK**	
Pier Compressive Strength:	**OK**	**4.2%**
Pier Tensile Strength:	**OK**	**25.6%**
Minimum Vertical Reinforcement:	**OK**	
Rebar Strength:	**OK**	
Rebar Spacing:	**OK**	
Compressive Shear:	**OK**	
Anchor Bolt Strength:	**OK**	**87.2%**
Anchor Bolt Development:	**OK**	
Embedment Plate Fit:	**OK**	
Seismic Lateral Restraint:	**OK**	

Site Details

Rock Depth:	10.6	ft
Frost Depth:	2.5	ft
Water Depth:	999	ft
Upper Pier Neglected:	5	ft
Minimum Pier Depth:		ft
Soil Induced Uplift Load:		kips
Seismic Site Class:	D	TIA-222-H 2-10
Mapped Response Acc., S_s:	0.196	g
Design Response Acc., S_{DS}:	0.209	g
Design Response Acc., S_{D1}:	0.146	g
Seismic Design Category:	C	
	☐	
Soil Corrosion Risk:		
Soil Weight:	110	pcf

Tower Dimensions

Tower Base Width:	26	ft
Base Leg Diameter (Nom.):	10	in
Base Leg Member:	Pipe	
Bracing System:	K-Braced	

Material Specifications

Concrete Strength:	4500	psi
Concrete Weight:	150	pcf
Rebar Yield Strength:	60	ksi
Clear Cover:	3	in
Clear Cover (Top of Pier):	3	in

Geotechnical Report

Company:	Power of Design
Date:	8/30/2022
Project:	21-82628

Max. Foundation Capacity Rating
96.3%

Compression/Uplift Resistance Design

Layer	Depth (ft)	Depth (ft)	Length (ft)	Diameter (ft)	Allowable Skin Friction Uplift (ksf)	Allowable Skin Friction Uplift Safety Factor	Allowable Skin Friction Compression (ksf)	Allowable Skin Friction Compression Safety Factor	Ultimate Skin Friction Uplift (ksf)	Ultimate Skin Friction Uplift (kips)	Ultimate Skin Friction Compression (ksf)	Ultimate Skin Friction Compression (kips)	Net Concrete Weight[1] Weight (pcf)	Net Concrete Weight[1] Compression (kips)	Net Concrete Weight[1] Uplift (kips)	Ultimate Bearing (ksf)	Ultimate Bearing (kips)	Friction Resistance Uplift (kips)	Friction Resistance Comp. (kips)
1	-0.5	0	0.5	7.5	0.000		0.000		0.000	0.00	0.000	0.00	150	3.31	3.31	Allowable	FS	0.00	0.00
2	0	5	5	7.5	0.000	1.0	0.000	1.0	0.000	0.00	0.000	0.00	150	8.84	33.13	55.00	1.0	0.00	0.00
3	5	12	7	7.5	0.300	1.0	0.300	1.0	0.300	49.48	0.300	49.48	150	12.37	46.39	0.00	0.00	49.48	49.48
4	12	25	13	7.5	1.200	1.0	1.200	1.0	1.200	367.57	1.200	155.51	150	22.97	86.15	0.00	0.00	367.57	155.51
5	25	25	0	7.5		0.0	0.000	0.0	0.000	0.00	0.000	0.00	150	0.00	0.00	0.00	0.00	0.00	0.00
6	25	25	0	7.5		0.0	0.000	0.0	0.000	0.00	0.000	0.00	150	0.00	0.00	0.00	0.00	0.00	0.00
7	25	25	0	7.5		0.0	0.000	0.0	0.000	0.00	0.000	0.00	150	0.00	0.00	0.00	0.00	0.00	0.00
8	25	25	0	7.5		0.0	0.000	0.0	0.000	0.00	0.000	0.00	150	0.00	0.00	0.00	0.00	0.00	0.00
9	25	25	0	7.5		0.0	0.000	0.0	0.000	0.00	0.000	0.00	150	0.00	0.00	0.00	0.00	0.00	0.00
10	25	25	0	7.5		0.0	0.000	0.0	0.000	0.00	0.000	0.00	150	0.00	0.00	0.00	0.00	0.00	0.00
11	25	25	0	7.5		0.0	0.000	0.0	0.000	0.00	0.000	0.00	150	0.00	0.00	0.00	0.00	0.00	0.00
12	25	25	0	7.5		0.0	0.000	0.0	0.000	0.00	0.000	0.00	150	0.00	0.00	0.00	0.00	0.00	0.00
13	25	25	0	7.5		0.0	0.000	0.0	0.000	0.00	0.000	0.00	150	0.00	0.00	0.00	0.00	0.00	0.00
14	25	25	0	7.5		0.0	0.000	0.0	0.000	0.00	0.000	0.00	150	0.00	0.00	0.00	0.00	0.00	0.00
15	25	25	0	7.5		0.0	0.000	0.0	0.000	0.00	0.000	0.00	150	0.00	0.00	0.00	0.00	0.00	0.00
16	25	25	0	7.5		0.0	0.000	0.0	0.000	0.00	0.000	0.00	150	0.00	0.00	0.00	0.00	0.00	0.00
17	25	25	0	7.5		0.0	0.000	0.0	0.000	0.00	0.000	0.00	150	0.00	0.00	0.00	0.00	0.00	0.00
18	25	25	0	7.5		0.0	0.000	0.0	0.000	0.00	0.000	0.00	150	0.00	0.00	0.00	0.00	0.00	0.00
19	25	25	0	7.5		0.0	0.000	0.0	0.000	0.00	0.000	0.00	150	0.00	0.00	0.00	0.00	0.00	0.00
20	25	25	0	7.5		0.0	0.000	0.0	0.000	0.00	0.000	0.00	150	0.00	0.00	0.00	0.00	0.00	0.00
21	25	25	0	7.5		0.0	0.000	0.0	0.000	0.00	0.000	0.00	150	0.00	0.00	0.00	0.00	0.00	0.00
22	25	25	0	7.5		0.0	0.000	0.0	0.000	0.00	0.000	0.00	150	0.00	0.00	**55.00**	2429.83	0.00	2429.83
Total										417.05		204.99		47.49	168.98		2429.83	**464.87**	**1976.11**
																		OK	**OK**
																		96.3%	**28.9%**

Extended Pier:

Uplift Cone Resistance - Weight of Soil Cone **Prominent Subsurface Material Type:** Cohesive Soil

Pier Depth (ft)	Pier Depth (ft)	Pier Diameter (ft)	Pier Volume (ft^3)	Pier Weight (kips)	Friction Angle (deg)	Soil Weight (kcf)	Cone Frustum Height (ft)	Cone Frustum Radius (ft)	Cone Frustum Radius (ft)	Cone Frustum Volume (ft^3)	Soil Volume (ft^3)	Soil Weight (kips)	Uplift Capacity (kips)
0	5	7.5	220.89	33.13	0	0.110	5.00	3.75	3.75	221	0	0.00	24.85
5	25	7.5	883.57	132.54	0	0.110	20.00	3.75	3.75	884	0	0.00	99.40
25	25	7.5	0.00	0.00	0	0.110	0.00	3.75	3.75	0	0	0.00	0.00
												---	---

Vertical Reinforcement Design

Number of Bars	Bar Size	Bar Length (in)	Bar Diameter (in)	Bar Weight (lb/ft)	Total Bar Weight (lb)	Bar Area (sq in)	Total Bar Area (sq in)	Minimum Bar Area Required (sq in)	Rebar Circle Diameter (in)	Ctr-Ctr Spacing (in)	Clear Spacing (in)	Equivalent Pipe Outer Diameter (in)	Equivalent Pipe Inner Diameter (in)	Equivalent Pipe Thickness (in)	Equivalent Pipe Section Modulus (in ^ 3)	Induced Moment (ft-kips)*	Induced Stress (ksi)	Design Stress (ksi)
54	7	300	0.875	2.044	2759	0.60	32.40	31.81	81.625	4.7	3.9	81.75	81.50	0.253	660.1	**483.89**	22.62	54
							OK				**OK**						**OK**	**41.9%**

TIA-222-H-9.4.1

Pier Axial Strength - Compression and Tension

Pier Gross Area (in^2)	Nominal Compressive Strength (kip)	Compressive Strength Reduction Factor	Design Compressive Strength (kip)	Mislocation Overload Factor	Check Compressive Strength Ratio	Nominal Tensile Strength (kip)	Tensile Strength Reduction Factor	Design Tensile Strength (kip)	Check Tensile Strength Ratio
6361.73	26153.67	0.65	**13599.91**	1.10	**0.042**	1944.00	0.90	**1749.60**	**0.256**
	ACI-318-14 22.4.2.2 -318-14 Table 21.ACI-318-14 22.4.2.1				**OK**	ACI-318-14 22.4.3.1-318-14 Table 21.2.2			**OK**

Development Length - Vertical Rebar

Bar Size	Reinf. Location Factor, α	Coating Factor, β	Reinf. Size Factor, γ	Lightwt. Aggregate Factor, λ	Spacing or Cover, c (in)	Transverse Reinf. Index, K_{tr}	Develop. Length ℓ_d (in)
7	1.0	1.0	1.0	1.0	2.37	0.0	23.5

ACI-318-14 25.4.2.4 318-14 Table 25.4.318-14 Table 25.4.2.4 ACI-318-14 25.4.-318-14 Table 25.4.2.2

Tie Reinforcement Design

Number of Bars	Bar Size	Bar Diameter (in)	Bar Weight (lb/ft)	Total Bar Weight (lb)	Bar Area (sq in)	Min. Seismic Hook Extension (in)	Total Length (in)	Zone	Maximum Tie Spacing (in)	Zone Distance (in)	Number of Tie Spaces	Actual Tie Spacing (in)	Number of Ties per Zone	Standard Confinement Applied

37	6	0.750	1.502	1325	0.44	5.0	286.0	End	5	5	1	5	2	
								Top	6	72	12	6	12	
								Middle	10	217.25	22	9 7/8	21	
								End	5	5	1	5	2	
						6.0	overlap (min)							

ACI-318-14 2.3

Shear (Compression) **Shear (Uplift)**

Distance to Max. Shear $d_{maxshear}$ (in)	Compressive Shear V (kip)	Factored Axial Force N_u (lb)	Distance to Tension Reinf. d (in)	Ratio of A_s to $b_w d$ ρ_w	Concrete Weight W_c (lb)	Pier Gross Area A_g (in^2)	Nom. Strength Concrete V_c (kip)	Minimum Bar Area A_{vmin} (in^2)	Total Bar Area A_v (in^2)	Nom. Strength Reinforcement V_s (kip)	Des. Shear Strength ϕV_n (kip)	Factored Axial Force N_u (lb)	Nom. Shear Concrete V_c (kip)	Des. Shear Strength ϕV_n (kip)
	61.51	**513862**	72.000	0.005	0.000	6361.725	904.495	0.755	0.880	760.320	1248.611	**447816**	746.988	1130.481
		ACI-318-14 22.5.1;ACI-318-14 2.2					*ACI-318-14 22.5.6*	**OK**	**OK**	*ACI-318-14 22.5.1*	**OK**		*ACI-318-14 22*	**OK**
								ACI-318-14 18.			**4.9%**			**5.4%**
									ACI-318-14 22.5.10.6		*ACI-318-14 22.9.3.1*			*ACI-318-14 22.9.3.1*

Splice Length - Ties

Bar Size	Reinf. Location Factor, α	Coating Factor, β	Reinf. Size Factor, γ	Lightwt. Aggregate Factor, λ	Spacing or Cover, c (in)	Transverse Reinf. Index, K_{tr}	Development Length ℓ_d (in)	Splice Length Tolerance (in)	Splice Length $1.3 * \ell_d$ (in)
6	1.0	1.0	0.8	1.0	3.38	0.0	16.1	1.0	21.9
	ACI-318-14 25.4.2.4	*318-14 Table 25.*	*ACI-408-03- 4.5.2*	*318-14 Table 25.4.2.4*		*ACI-318-14 25.4.2.*	*-318-14 Table 25.4.2.2*		*ACI-318-14 Table 25.5.2.1*

Anchor Bolts and Embedment Plate

Number of Bolts	Bolt Diameter (in)	Bolt Length (in)	Anchor Bolt P/N	Bolt Projection (in)	Projection Tolerance Above (in)	Projection Tolerance Below (in)	Plate PN	Plate O.D. / Width	Plate I.D.	Bolt Circle Diameter (in)	Plate Thickness (in)
10	1.00	60	102970	5.75	0.1875	-0.25	139914	16.75	0	14.25	0.5

Std. Pattern

Anchor Bolt Design

Bolt Threads per Inch	Gross Area (in^2)	Bolt Net Area (in^2)	Bolt Yield Strength (ksi)	Ultimate Tensile Stress (ksi)	Bolt Resistance Factor	Bolt Nominal Tensile Strength (kip)	Bolt Design Tensile Strength (kip)	Nominal Shear Rupture Strength (kip)	Nominal Compression Yield Strength (kip)	Nominal Shear Yield Strength (kip)	Anchor Bolt Interaction Equation	Anchor Bolt Embedded Length (in)	Rebar Engaged by Bolts (in)	Length Required (in)	Gap Between Rebar & Plate (in)
8	0.785	0.606	105	125	0.75	75.718	56.788	49.087	63.603	19.081	0.872	54.06	24.48	23.48	32.00
		TIA-222-H 4.9.6.1			*TIA-222-H 4.9.9*	*TIA-222-H 4.9.9*	*TIA-222-H 4.9.9*	*TIA-222-H 4.9.9*	*TIA-222-H 4.9.9*	*TIA-222-H 4.9.9*	**OK**		**OK**		**OK**
											87.2%				
											TIA-222-H 4.9.9				

Notes

- Foundation design is based on the Geotechnical Report dated 08/30/2022, by Power of Design; Project No. 21-82628.
- Groundwater was not encountered during the geotechnical investigation.

- Rock conditions were encountered about 10.6 feet bgs in the geotechnical investigation.

SST Drilled Pier Foundation Design Summary

Max. Foundation Capacity Rating:	96.3%

FOUNDATION DIMENSIONS		
Tower Width:	26	ft
Pier Extension:	0.5	ft
Pier Depth:	25	ft
Pier Diameter:	7.5	ft
Clear Cover:	3	in
Clear Cover (Top of Pier):	3	in
Volume per Pier:	41.7	yd^3
Total Volume:	125.2	yd^3

PIER REINFORCEMENT		
Bar Size:	7	
Bar Length:	300	in
On Center Spacing:	4.7	in
Quantity per Pier:	54	
Total Quantity:	162	
Weight per Pier:	2759	lbs
Total Weight:	8277	lbs

TIE REINFORCEMENT		
Bar Size:	6	
Bar Length:	286	in
Circular Tie Outer Diameter:	84	in
Overlap:	6	in
Tie Termination Type:	3" Seismic Hooks	
Quantity per Pier:	37	
Total Quantity:	111	
Top Zone - Quantity:	2	
Top Zone - Spacing:	5	in
Anchor Zone - Quantity:	12	
Anchor Zone - Spacing:	6	in
Middle Zone - Quantity:	21	
Middle Zone - Spacing:	9.875	in
Bottom Zone - Quantity:	2	
Bottom Zone - Spacing:	5	in
Weight per Pier:	1325	lbs
Total Weight:	3975	lbs

TOWER REACTIONS		
Leg Compression:	513.9	kip
Leg Uplift:	447.8	kip
Leg Shear:	48.2	kip
Tower Shear:	70.5	kip
Tower Moment:	11006.4	ft-kip
Tower Weight:	75.2	kip

MATERIAL SPECIFICATIONS		
Concrete Strength:	4500	psi
Concrete Weight:	150	pcf
Rebar Yield Strength:	60	ksi

ANCHORING DETAILS		
Anchor P/N:	102970	
Anchor Diameter:	1	in
Anchor Length:	60	in
Anchor Quantity per Leg:	10	
	Std. Pattern	
Anchor Projection:	5.75	in
	+ 0.1875"	-0.25"
Bolt Circle Diameter:	14.25	in
Template P/N	139914	

BACKFILL CRITERIA (NON-STRUCTURAL)		
Loose Lift Thickness:	8	in
Percent Compaction:	95%	
ASTM Standard:	D698	
Optimum Moisture Content:	2%	
	-2%	

ECO #:		

ADDITIONAL NOTES

- Foundation design is based on the Geotechnical Report dated 08/30/2022, by Power of Design; Project No. 21-82628.

- Groundwater was not encountered during the geotechnical investigation.

- Rock conditions were encountered about 10.6 feet bgs in the geotechnical investigation.

Combined Foundation Design

Order/Quote Number: SO29858
Part Number: 605992
Tower Model: NSX 26' x 280'
Company: VB BTS II
Site: NS 280' - US-KY-5176 / LV NW Somerset - Pulaski Co., KY

NELLO
1201 South Sheridan St.
South Bend, IN 46619
574-288-3632 (phone)
574-288-5860 (fax)
www.nelloinc.com

Tower Reactions (Factored)

Shear:	70.524	kips
Moment:	11006.370	ft-kips
Weight:	75.155	kips
Leg Compression:	513.862	kips
Leg Uplift:	447.816	kips
Leg Shear:	48.218	kips

Site Details

SoilType:	Clay	
Soil Unit Weight (Backfill):	110	pcf
Allowable Bearing Pressure:	1950	psf
Factor of Safety:	2	
Ultimate Bearing Pressure:	3,900	psf
Bearing Pressure Type:	Net Bearing Pressure	
Angle of Internal Friction:	0	degrees
Cohesion:	1000	psf
Sliding Friction Coefficient:	0.3	
Frost Depth (Neglected):	2.5	ft
Min. Bearing Depth:	4	ft
Water Depth:	999	ft
Rock Depth:	10.6	ft
Passive Pressure Coefficient:	1.00	
Active Pressure Coefficient:	1.00	

Design Dimensions

Tower Base Width:	26	ft
Base Leg Diameter (Nominal):	10	in
Base Leg Member:		
Tower Bracing System:		
Pier Extension:	0.5	ft
Pier Diameter:	3	ft
Depth:	7.5	ft
Pad Thickness:	1.75	ft
Pad Width:	34	ft
Tower Offset:	☑	Tower Center is Offset
Eccentricity:	3.75	ft
Distance Between Piers	22.52	ft
Edge 1	4.00	ft
Edge 2	5.74	ft
Edge 3	5.74	ft
Soil Corrosion Risk:		

Foundation Design Reactions

Additional Load Factor:	1.00	
Shear:	70.524	kips
Moment:	11006.370	ft-kips
Weight:	75.155	kips
Compression:	513.862	kips
Uplift:	447.816	kips
Individual Shear:	48.218	kips

Geotechnical Report

Company:	Power of Design
Date:	8/30/2022
Project:	21-82628
Seismic Site Class:	D
Design Response Acc., S_{DS}:	0.209 g
Design Response Acc., S_{D1}:	0.146 g
Seismic Design Category:	C

Material Specifications

Concrete Unit Weight:	150	pcf
Concrete Strength:	4500	psi
Rebar Yield Strength:	60	ksi
Clear Cover:	3	in
Clear Cover (Top of Pier):	3	in
Clear Cover Tolerance, +/- (Top of Piers):	1	in

Development Length Requirements

Pad Reinforcement Location Factor:	1.0	ACI-318-14 R25.4.2.2
Pier Reinforcement Location Factor:	1.0	ACI-318-14 R25.4.2.2
Coating Factor:	1.0	ACI-318-14 R25.4.2.2
Lightweight Concrete Factor:	1.0	ACI-318-14 R25.4.2.2
Transverse Reinforcement Index:	0.0 in	ACI-318-14 25.4.2.3
Pad Development Length Reduction:	☐	No Reduction
Compressive Development Length Red:	☑	Yes; Utilize Reduction
Tension Development Length Reduction:	☐	No Reduction
Pad Ties Development Length Reduction:	☐	No Ties in Pad

ACI-318-14 25.4.10 ACI-318-14 25.4.10 ACI-318-14 25.4.10 ACI-318-14 25.4.10

Maximum Foundation Capacity Rating: 99.9%

ANSI/TIA-222-H - Design Factors TIA-222-H 9.7

Uplift Resistance Factor, Phi:	0.75
Compressive Resistance Factor, Phi:	0.75
Bearing Capacity Resistance, Phi:	0.75
Lateral Resistance Factor, Phi:	0.75

Summary Check

Minimum Depth: TIA-222-H 9.3	OK
Lateral Check:	OK
Overturning Check:	OK
Maximum Eccentricity Check:	OK
Bearing Check:	OK
Concrete Strength Check:	OK
Max Pad Reinforcement Spacing:	OK
Min. Pad Reinforcement Spacing:	OK
Pad Constructability Check:	OK
Min. Pad Reinforcement Check:	OK
Pad Reinforcement Yield Check:	OK
Pad Flexural Check:	OK
Pad Development Length:	OK
One Way Shear Check:	OK
Two-Way Shear Check:	OK
Vertical Bar Quantity Check:	OK
Min/Max Vertical Bar Spacing Check:	OK
Pier Constructability Check:	OK
Minimum Vertical Reinforcement:	OK
Pier Compressive Strength:	OK
Pier Reinforcement Stress:	OK
Compressive Development in Pier:	OK
Compressive Development in Footing:	OK
Tensile Development in Pier:	OK
Tensile Development in Footing:	HOOK REQ'D
Hook Development Length:	OK
Space of Hook:	OK
Rebar Engaged by Anchors:	OK
Plate & Rebar Spacing Check:	OK
Anchor Embedment Clearance:	PIER ONLY
Anchor Strength Check:	OK
Anchor Concrete Punching Check:	OK

Weight

Concrete Pad Volume (cubic yd)	Concrete Pier Volume (cubic yd)	Total Concrete Volume (cubic yd)	Concrete Weight (kips)	Soil Volume (cubic yd)	Soil Weight (kips)	Soil Weight Removed (kips)	Total Dead Load (kips)	Total Factored Dead Load (LC:0.9D controls) (kips)
74.93	1.64	79.83	323.33	241.67	717.76	953.70	1097.45	993.35
							TIA-222-H 9.4	TIA-222-H 9.4

Lateral Capacity

Minimum Depth Required (ft)	Soil Unit Weight Below GWT (pcf)	Ultimate Passive Pressure @ Depth Neglected (ksf)	@ Top of Footing (ksf)	@ Bottom of Footing (ksf)	@ Top of Pressure Zone (ksf)	@ GWT (ksf)	Average (ksf)	Ultimate Active Pressure @ Top of Footing (ksf)	@ Bottom of Footing (ksf)	@ GWT (ksf)	Average (ksf)
4	47.6	2.44	2.63	2.83	2.63	111.89	2.73	0.00	0.00	107.89	0.00
OK											

Effective Pad Thickness (ft)	Effective Pad Area (sq ft)	Nominal Passive Resistance (kips)	Nominal Active Loading (kips)	Nominal Friction Resistance (kips)	Design Lateral Resistance (kips)
1.75	59.5	162.36	0.00	329.24	368.70
					OK
					19.1%

Overturning TIA-H-222 9.4 TIA-H-222 9.4 TIA-H-222 9.4.1

Weight of Soil Wedge on Back Face (kips)	Moment Resistance From Weight (ft-kips)	Moment Resistance from Soil Wedge (ft-kips)	Moment Resistance from Passive Pressure (ft-kips)	Moment Loading from Active Pressure (ft-kips)	Overturning Moment (ft-kips)	Design Overturning Resistance (ft-kips)	Maximum Eccentricity (LC: 0.9D) (ft)
0.00	16675.34	0.00	94.71	0.00	11782.09	16746.37	11.9
						OK	OK
						70.4%	77.5%

Solve for Min. Pressure

Bearing Pressure 0.000 This Cell = 0 when spreadsheet is solved.

Case 1: Entire Mat is in Positive Bearing			Case 2: Back Edge of Mat is Uplifting				Maximum Gross Bearing Pressure (ksf)	Maximum Net Bearing Pressure (ksf)	Width of Bearing Section ft	Net Bearing Pressure at Pier 1 (ksf)	Net Bearing Pressure at Pier 2 (ksf)	Maximum Bearing Pressure (ksf)
Minimum Pressure (ksf)	Maximum Pressure (ksf)	Entire Mat is in Positive Bearing (TRUE/FALSE)	Adjusted Bearing Width (ft)	Minimum Pressure (ksf)	Maximum Pressure (ksf)	Back Edge of Mat is Uplifting (TRUE/FALSE)						
-0.88	2.77	FALSE	18.21	0.00	3.54	TRUE	3.54	2.72	18.21	1.64	0.00	2.72
												OK
												93.0%

Pad Reinforcement Design Flexural Strength Reduction Factor = 0.9 ACI-318-14 21.2.2 ACI-318-14 8.6.1.1

Number of Bars	Bar Size	Bar Length (in)	Bar Diameter (in)	Bar Weight (lb/ft)	Total Bar Weight (lb)	Bar Area (sq in)	Total Bar Area per Layer per Direction (sq in)	Minimum Bar Area Required (sq in)	Ctr-Ctr Spacing (in)	Clear Spacing (in)
43	9	402	1.13	3.40	19591	1.00	43.00	7.71	9.5	8.4
							OK		OK	OK
									Constructability:	OK

ACI-318-14 22.2.2.4.1

Flexural Strength									Required Development Length (in)	Available Development Length (in)
Effective Depth (in)	Effective Width (in)	Compressive Zone Depth (in)	Concrete Strength Factor	Edge Unbraced Length (ft)	Inner Unbraced Length (ft)	Corner Unbraced Length (ft)	Factored Moment (ft-kips)	Design Moment (ft-kips)		
16.87	408.00	1.653	0.83	5.74	19.52	8.80	3053.31	3104.78	30.27	47.90
ACI-318-14 2.3		Yield Check:	**OK**					**OK**	ACI-318-14 25.4.2.3a	**OK**
			ACI-318-14 Table 22.2.2.4.3					**98.3%**		

ACI-318-14 21.2.1

Concrete Shear Capacity Shear Strength Reduction Factor = 0.75

	One-Way Shear					Two-Way Shear				
Effective Shear Depth (ft)	Effective Shear Width (ft)	Factored Shear Force (kips)	Nominal Concrete Shear Strength (kips)	Nominal Rebar Shear Strength (kips)	Design Shear Strength (kips)	Shear Perimeter (ft)	Factored Shear Force (kips)	Nominal Concrete Shear Strength (kips)	Nominal Rebar Shear Strength (kips)	Design Shear Strength (kips)
1.36	34.00	266.52	892.68	0.00	669.51	13.17	489.42	691.32	0.00	518.49
ACI-318-14 2.3			ACI -318-14 22.5.5.1	ACI -318-14 22.5.1.1	**OK**			ACI-318-14 22.6.5.2	ACI-318-14 22.6.1.2	**OK**
					39.8%	ACI-318-14 22.6.4.1				**94.4%**
				ACI-318-14 22.5.1.1						ACI-318-14 22.6.1.3

Tie Reinforcement Design

Number of Bars	Bar Size	Bar Diameter (in)	Bar Weight (lb/ft)	Total Bar Weight (lb)	Bar Area (sq in)	Overlap Length (in)	Total Length (in)	Zone	Maximum Tie Spacing (in)	Zone Distance (in)	Number of Tie Spaces	Actual Tie Spacing (in)	Number of Ties per Zone
8	4	0.50	0.67	49	0.20	18.0	110.7	End	5	5	1	5	2
								Top	0	0	0	0	0
								Middle	12	67	6	11 3/16	6
								Pad	N/A	N/A	N/A	N/A	N/A
						-	-						
						ACI-318-14 2.3							

Shear (Compression)

Factored Axial Force N_u (lb)	Distance to Tension Reinf. d (in)	Ratio of A_s to $b_w d$ ρ_w	Concrete Weight W_c (lb)	Pier Gross Area A_g (in^2)	Nom. Strength Concrete V_c (kip)	Minimum Bar Area $A_{v,min}$ (in^2)	Total Bar Area A_v (in^2)	Nom. Strength Reinforcement V_s (kip)	Des. Shear Strength ϕV_n (kip)
513950	28.800	0.017	88.357	1017.876	174.219	0.362	0.400	115.200	217.064
	ACI-318-14 22.5.2.2	ACI-318-14 2.2			ACI-318-14 22.5.6.1	**OK**	**OK**	ACI-318-14 22.5.10.5.3	**OK**
							ACI-318-14 22.5.10.6		**22.2%**
						ACI-318-14 18.12.7.6			ACI-318-14 22.9.3.1

Shear (Uplift)

Factored Axial Force N_u (lb)	Nom. Shear Concrete V_c (kip)	Des. Shear Strength ϕV_n (kip)
513774	-1.322	85.409
	ACI-318-14 22.5.7.1	**OK**
		56.5%
		ACI-318-14 22.9.3.1

Splice Length - Ties

Bar Size	Reinf. Location Factor, α	Coating Factor, β	Reinf. Size Factor, γ	Lightwt. Aggregate Factor, λ	Spacing or Cover, c (in)	Transverse Reinf. Index, K_{tr}	Development Length ℓ_d (in)	Splice Length Tolerance (in)	Splice Length 1.3 * ℓ_d (in)
4	1.0	1.0	0.8	1.0	3.25	0.0	12.0	1.0	18.0
	ACI-318-14 25.4.2.4	CI-318-14 Table 25.4.2.4	ACI-318-14 Table 25.4.2.4	CI-318-14 Table 25.4.2.4		ACI-318-14 25.4.2.3b	ACI-318-14 Table 25.4.2.2		ACI-318-14 Table 25.5.2.1

Pier Vertical Reinforcement Design

Number of Bars	Bar Size	Bar Diameter (in)	Hook Bend Radius (in)	Hook Extension Length (in)	90 degree Std. Hook Length (in)	Bar Length (in)	Bar Area (sq in)	Pier Gross Area (sq in)	Total Bar Area (sq in)	Minimum Bar Area Required (sq in)	Ctr-Ctr Spacing (in)	Clear Spacing (in)
18	9	1.13	4.51	13.54	18.05	104.00	1.00	1017.88	18.00	5.09	4.8	3.7
OK			ACI 318-14 Table 25.3.1	ACI 318-14 Table 25.3.1	ACI 318-14 Table 25.3.1					**OK**		**OK**
										TIA-222-H 9.4.1	Constructability:	**OK**
												ACI-318-14 25.2.3

Development Length - Vertical Pier Reinforcement TIA-222-H 9.4.1

Compressive Development				Tension Development			Basic Development Length (in)	Concrete Cover Factor	Required Development Length (in)	Development Length Available (in)
Required Length (in)	Required Length Adj. (in)	Available in Pier (in)	Available in Footing (in)	Required Length (in)	Available in Pier (in)	Available in Footing (in)				
20.30	8.00	72.00	15.74	35.27	72.00	15.74	20.18	0.7	14.1	15.74
ACI-318-14 25.4.9.2	ACI-318-14 22.4.3.1	**OK**	**OK**	ACI-318-14 25.4.2.3.a	**OK**	**HOOK REQ'D**	ACI-318-14 25.4.3.1	ACI-318-14 Table 25.4.3.2	ACI-318-14 25.4.3.1	**OK**
			ACI-318-14 25.3.1							

Hook Development Length

Hook Orientation
Hooks Extend Outward
ACI-318-14 18.13.2.2

Space for Hook

Space Available for Hook (in)	Space Required for Hook (in)
30.50	18.0
	OK

Pier Axial Strength - Compression and Tension

Pier Gross Area (in^2)	Nominal Compressive Strength (kip)	Compressive Strength Reduction Factor	Design Compressive Strength (kip)	Nominal Tensile Strength (kip)	Tensile Strength Reduction Factor	Design Tensile Strength (kip)
1017.88	4904.53	0.65	2550.35	1080.00	0.90	972.00
	ACI-318-14 22.4.2.2	CI-318-14 Table 21.2	**OK**	ACI-318-14 22.4.3.1	ACI-318-14 Table 21.2.2	**OK**
			20.1%			**46.1%**
			ACI-318-14 22.4.2.1			

Reinforcement Stress

Diameter of Reinforcement Circle (in)	Equivalent Pipe				Reinforcement Stress (ksi)	Design Stress (ksi)
	Outer Diameter (in)	Inner Diameter (in)	Thickness (in)	Section Modulus (in ^ 3)		
27.87	28.08	27.67	0.411	124.5	53.92	54
						OK
						99.86%

Anchor Bolt Design

Bolt Threads per Inch	Gross Area (in^2)	Bolt Net Area (in^2)	Ultimate Tensile Stress (ksi)	Bolt Yield Strength (ksi)	Bolt Nominal Tensile Strength (kip)	Nominal Shear Rupture Strength (kip)	Nominal Compression Yield Strength (kip)	Nominal Shear Yield Strength (kip)	Anchor Bolt Interaction Equation	Embedment Depth of Anchor (in)	Pier Allowable Embedment Depth (in)	Footing Embedment Top Limit (in)	Footing Embedment Bot. Limit (in)
8	0.785	0.606	125	105	75.718	49.087	63.603	19.081	0.872	54.500	75.000	82.256	88.744
		TIA-222-H 4.9.6.1			TIA-222-H 4.9.9	TIA-222-H 4.9.9	TIA-222-H 4.9.9	TIA-222-H 4.9.9	**OK**		**PIER ONLY**		
									TIA-222-H 4.9.9				

Anchor Bolts and Embedment Plate

Anchor Bolt PN	Number of Bolts	Bolt Diameter (in)	Bolt Length (in)	Length Protruding From Concrete			Plate PN	Plate O.D. or Width (in)	Plate Thickness (in)	Bolt Circle Diameter (in)	Rebar Engaged by Bolts (in)	Length Required (in)	Gap Btwn Rebar & Plate (in)
				Specified (in)	Tolerance Above (in)	Tolerance Below (in)							
102970	10	1.00	60	5.75	0.1875	-0.25	139914	16.75	0.5	14.25	41.25	35.27	5.00
	Std. Pattern										**OK**	ACI-318-14 25.4.2.3.	**OK**

Notes

- Foundation design is based on the Geotechnical Report dated 08/30/2022, by Power of Design; Project No. 21-82628.

- Groundwater was not encountered during the geotechnical investigation.

- Rock conditions were encountered about 10.6 feet bgs in the geotechnical investigation.

- This mat design assumes an ultimate bearing capacity of 3900 psf (allowable bearing capacity of 1950 psf) based on the geotechnical report. The bearing surface shall be inspected prior to concrete placement.

- During placement, concrete shall be suitably consolidated. Proper curing methods shall be used directly following concrete placement as established by the contractor. Concrete shall develop a minimum compressive strength of 3000 psi prior to backfill and compaction operations, and backfill shall be compacted to a minimum moist unit weight of 110 pcf.

Combined (MAT) Foundation Design Summary

Max. Foundation Capacity Rating:	99.9%

FOUNDATION DIMENSIONS		
Tower Width:	26	ft
Pier Extension:	0.5	ft
Depth:	7.5	ft
Pad Width:	34	ft
Pad Thickness:	1.75	ft
Pier Diameter:	3	ft
Clear Cover:	3	in
Volume:	79.9	yd^3

MAT REINFORCEMENT		
Bar Size:	9	
Bar Length:	402	in
Bar Center to Center Spacing:	9.5	in
Quantity per Layer per Direction:	43	
Total Quantity:	172	
Weight per Bar:	113.9	lbs
Total Weight:	19591	lbs

PIER REINFORCEMENT		
Bar Size:	9	
Bar Length:	104	in
Bend Radius:	4.512	in
Standard Hook Length:	18.048	in
Hook Orientation:	Hooks Extend Outward	
Bar Center to Center Spacing:	4.8	in
Quantity per Pier:	18	
Total Quantity:	54	
Weight per Pier:	530	lbs
Total Weight:	1591	lbs

TIE REINFORCEMENT		
Bar Size:	4	
Bar Length:	111	in
Circular Tie Outer Diameter:	30	in
Overlap:	18	in
Tie Termination Type:	Overlap	
Quantity of Ties in Pad:	N/A	
Quantity per Pier:	8	
Bar Center to Center Spacing:	11.2	in
Total Quantity:	24	
Weight per Pier:	49	lbs
Total Weight:	147	lbs

TOWER REACTIONS		
Tower Shear:	70.5	kip
Tower Moment:	11006.4	ft-kip
Tower Weight:	75.2	kip
Leg Compression:	513.9	kip
Leg Uplift:	447.8	kip
Leg Shear:	48.2	kip

MATERIAL SPECIFICATIONS		
Concrete Strength:	4500	psi
Concrete Weight:	150	pcf
Soil Strength (Ultimate Bearing):	3,900	psf
Rebar Yield Strength:	60	ksi

ANCHORING DETAILS		
Anchor P/N:	102970	
Anchor Diameter:	1	in
Anchor Length:	60	in
Anchor Quantity per Leg:	10	
	Std. Pattern	
Anchor Projection:	5.75	in
	+ 0.1875"	-0.25"
Bolt Circle Diameter:	14.25	in
Template P/N	139914	

STRUCTURAL FILL CRITERIA		
Loose Lift Thickness:	8	in
Percent Compaction:	98%	
ASTM Standard:	D698	
Optimum Moisture Content	2%	
Tolerance:	-2%	

BACKFILL CRITERIA (NON-STRUCTURAL)		
Loose Lift Thickness:	8	in
Percent Compaction:	95%	
ASTM Standard:	D698	
Optimum Moisture Content	2%	
Tolerance:	-2%	

ECO #:		

ADDITIONAL NOTES

- Foundation design is based on the Geotechnical Report dated 08/30/2022, by Power of Design; Project No. 21-82628.

- Groundwater was not encountered during the geotechnical investigation.

- Rock conditions were encountered about 10.6 feet bgs in the geotechnical investigation.

- This mat design assumes an ultimate bearing capacity of 3900 psf (allowable bearing capacity of 1950 psf) based on the geotechnical report. The bearing surface shall be inspected prior to concrete placement.

- During placement, concrete shall be suitably consolidated. Proper curing methods shall be used directly following concrete placement as established by the contractor. Concrete shall develop a minimum compressive strength of 3000 psi prior to backfill and compaction operations, and backfill shall be compacted to a minimum moist unit weight of 110 pcf.

Hazards by Location

Search Information

Coordinates: 37.118258, -84.631608

Elevation: 1052 ft

Timestamp: 2022-10-11T14:53:39.552Z

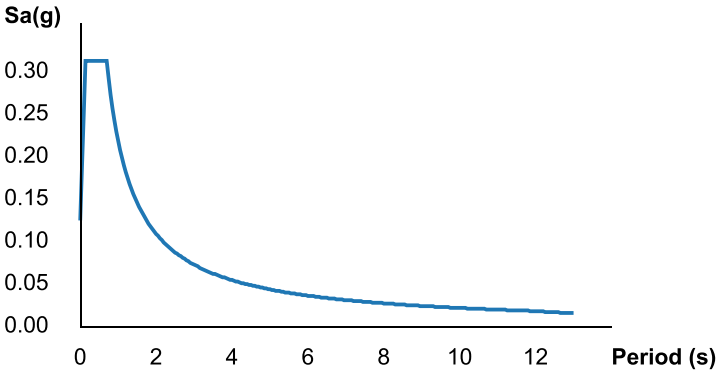
Hazard Type: Seismic

Reference Document: ASCE7-16

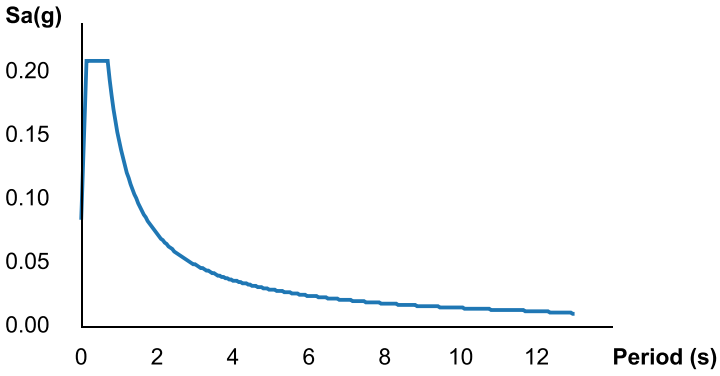
Risk Category: II

Site Class: D

MCER Horizontal Response Spectrum



Design Horizontal Response Spectrum



Basic Parameters

Name	Value	Description
S_S	0.196	MCE_R ground motion (period=0.2s)
S_1	0.091	MCE_R ground motion (period=1.0s)
S_{MS}	0.313	Site-modified spectral acceleration value
S_{M1}	0.219	Site-modified spectral acceleration value
S_{DS}	0.209	Numeric seismic design value at 0.2s SA
S_{D1}	0.146	Numeric seismic design value at 1.0s SA

Additional Information

Name	Value	Description
SDC	C	Seismic design category
F_a	1.6	Site amplification factor at 0.2s

F_v	2.4	Site amplification factor at 1.0s
CR_S	0.941	Coefficient of risk (0.2s)
CR_1	0.895	Coefficient of risk (1.0s)
PGA	0.098	MCE_G peak ground acceleration
F_{PGA}	1.6	Site amplification factor at PGA
PGA_M	0.157	Site modified peak ground acceleration
T_L	12	Long-period transition period (s)
SsRT	0.196	Probabilistic risk-targeted ground motion (0.2s)
SsUH	0.208	Factored uniform-hazard spectral acceleration (2% probability of exceedance in 50 years)
SsD	1.5	Factored deterministic acceleration value (0.2s)
S1RT	0.091	Probabilistic risk-targeted ground motion (1.0s)
S1UH	0.102	Factored uniform-hazard spectral acceleration (2% probability of exceedance in 50 years)
S1D	0.6	Factored deterministic acceleration value (1.0s)
PGAd	0.5	Factored deterministic acceleration value (PGA)

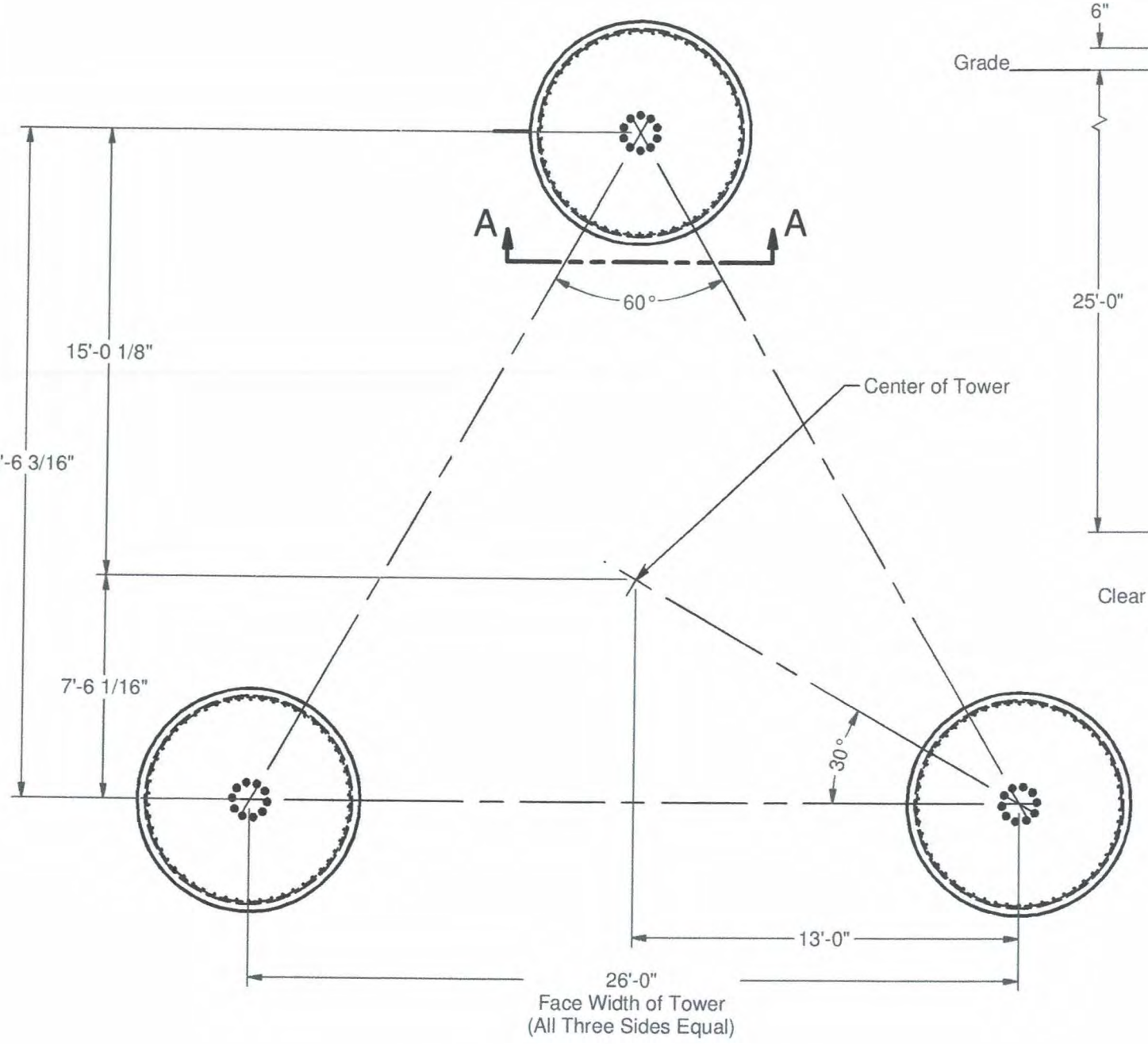
The results indicated here DO NOT reflect any state or local amendments to the values or any delineation lines made during the building code adoption process. Users should confirm any output obtained from this tool with the local Authority Having Jurisdiction before proceeding with design.

Please note that the ATC Hazards by Location website will not be updated to support ASCE 7-22. Find out why.

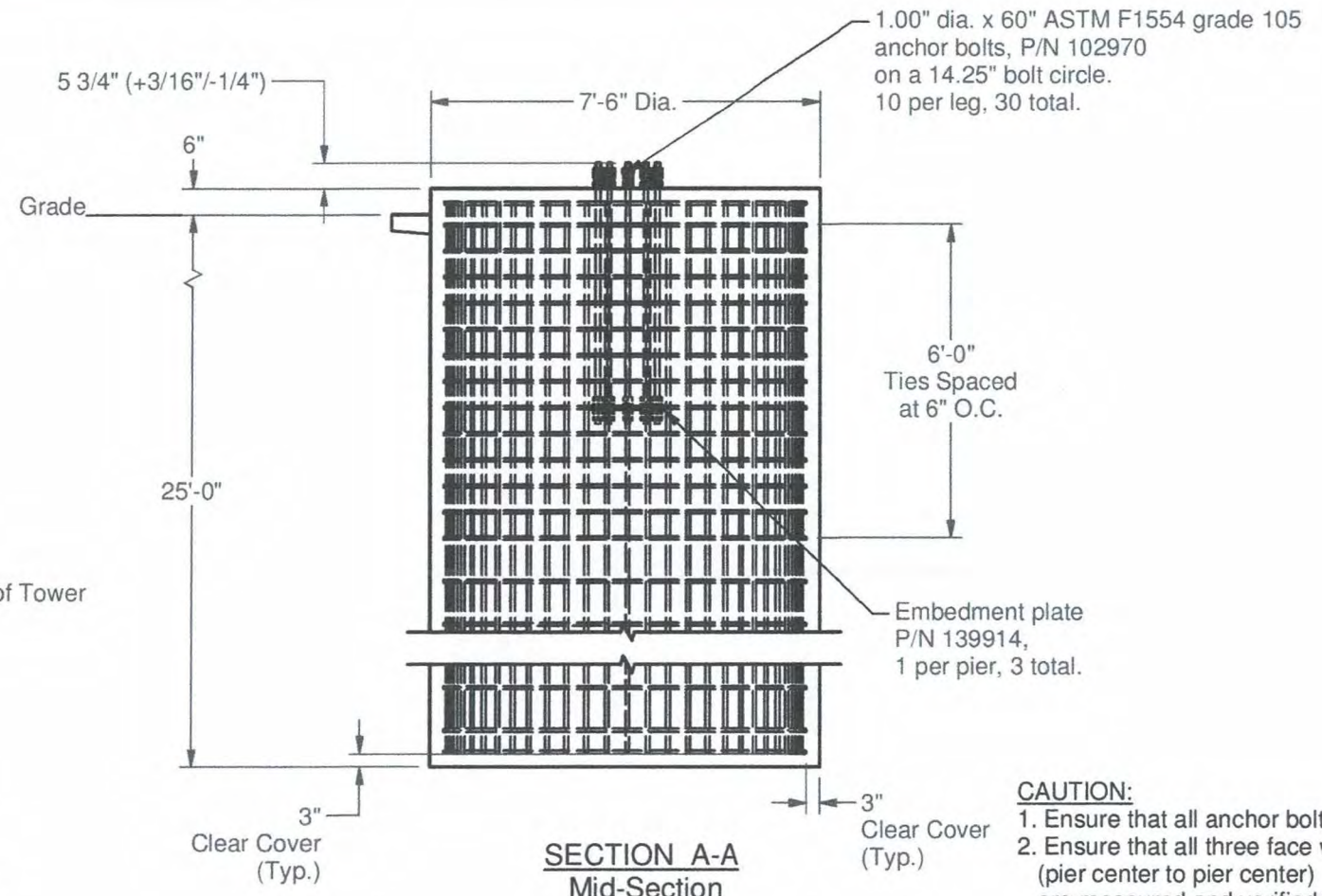
Disclaimer

Hazard loads are provided by the U.S. Geological Survey Seismic Design Web Services.

While the information presented on this website is believed to be correct, ATC and its sponsors and contributors assume no responsibility or liability for its accuracy. The material presented in the report should not be used or relied upon for any specific application without competent examination and verification of its accuracy, suitability and applicability by engineers or other licensed professionals. ATC does not intend that the use of this information replace the sound judgment of such competent professionals, having experience and knowledge in the field of practice, nor to substitute for the standard of care required of such professionals in interpreting and applying the results of the report provided by this website. Users of the information from this website assume all liability arising from such use. Use of the output of this website does not imply approval by the governing building code bodies responsible for building code approval and interpretation for the building site described by latitude/longitude location in the report.



PLAN VIEW
DRILLED PIER FOUNDATION
ONE PIER PER LEG, THREE TOTAL
(CONCRETE VOLUME: 41.7 CU. YD. PER PIER, 125.2 CU. YD. TOTAL)



SECTION A-A
Mid-Section
on One Pier

CAUTION:
1. Ensure that all anchor bolt nuts are tightened.
2. Ensure that all three face width dimensions (pier center to pier center) are measured and verified before pouring concrete.

#7 reinforcing bars,
300.00" long,
spaced at 4.7" O.C. around inside of ties.
54 per pier, 162 total.

#6 reinforcing bars,
286.00" long before being bent into circle with
84.00" outer diameter and 6.00" overlap
w/ 3" long 135 degree seismic hooks
alternated each successive tie,
Top 2 ties spaced at 5" O.C.
Next 12 ties spaced at 6" O.C.
Bottom 2 ties spaced at 5" O.C.
Remainder of ties spaced at 9.88" O.C.
37 per pier, 111 total.

Concrete Compressive Strength, f'c = 4500 psi

STATE OF KENTUCKY
JASON
MARK
LAMBERT
No. 28217
LICENSED
PROFESSIONAL ENGINEER

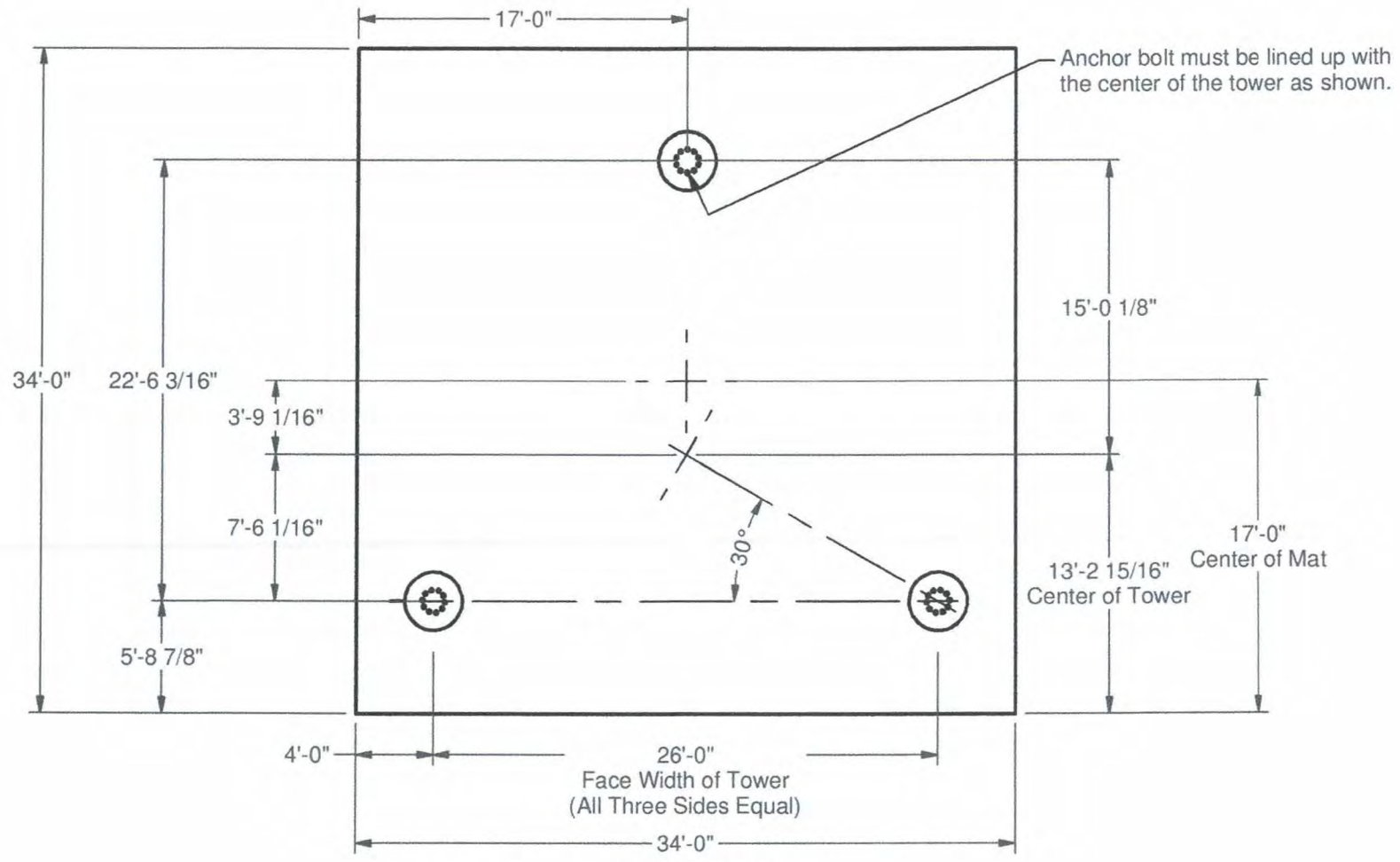
OCT 12 2022

REV	BY	DATE	DESCRIPTION

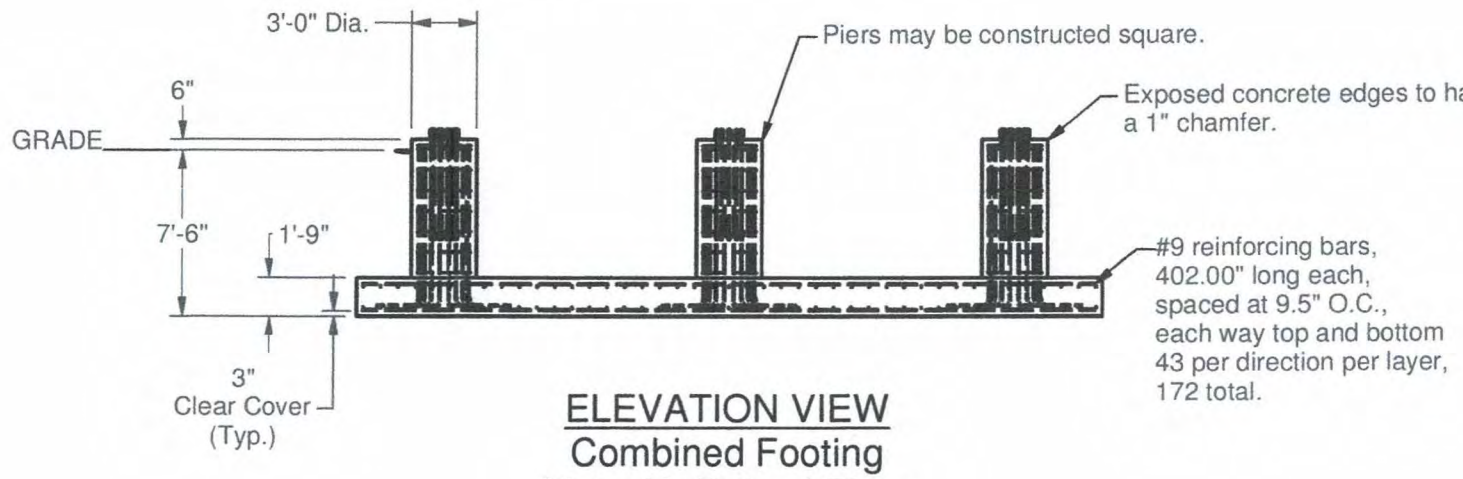
ORIG. DATE: 10/12/2022 | DWG NO: 605992
DWG. PROG: v2.05 | SHEET: 1 OF 3

TITLE:
VB BTS II, LLC
NSK 26' X 280'
US-KY-5176 / LV NW
Somerset
Pulaski Co., KY

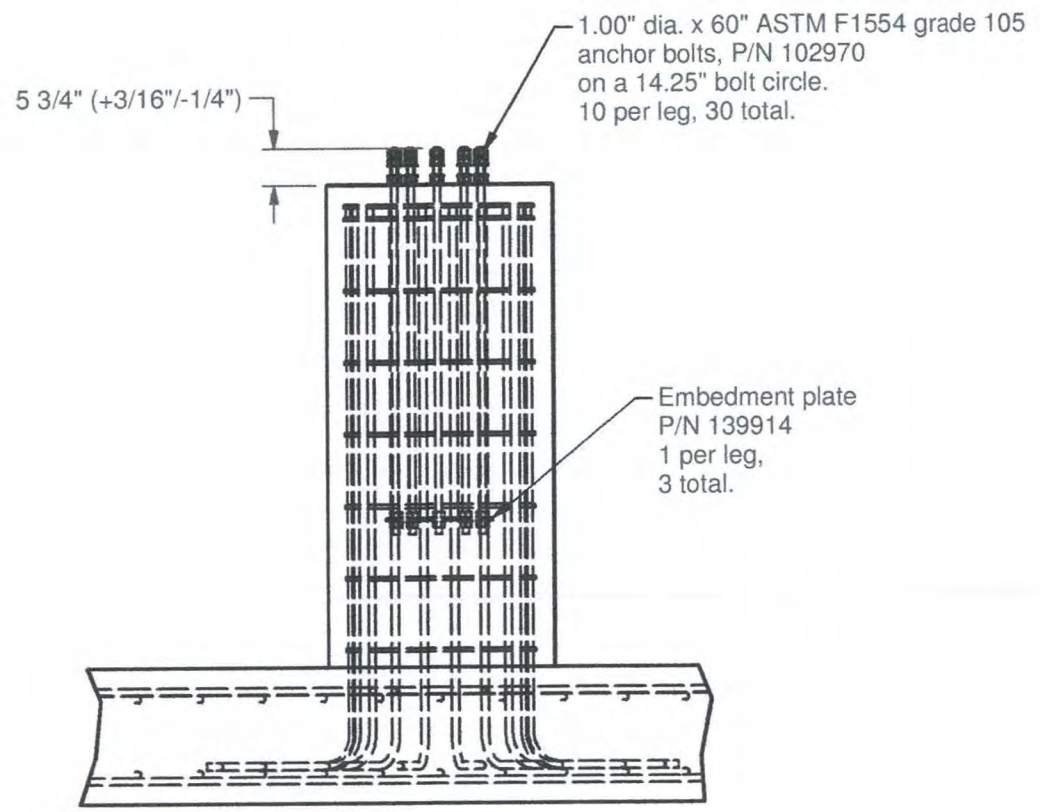
NELLO
1201 S. Sheridan St.
South Bend, IN 46619
Bus: (574)288-3632
Fax: (574)288-5860



PLAN VIEW
(Reinforcement not shown for clarity)



ELEVATION VIEW
Combined Footing
Mat with Raised Piers
(Concrete Volume: 79.9 cu. yd.)



PIER DETAIL

CAUTION:
1. Ensure that all anchor bolt nuts are tightened.
2. Ensure that all three face width dimensions (pier center to pier center) are measured and verified before pouring concrete.

Concrete Compressive Strength, f'c = 4500 psi

#9 reinforcing bars,
104.00" long before being bent with
(4.51" bend radius)
18.05" long 90 degree standard hook,
spaced at 4.8" O.C. around inside of ties.
18 per pier,
54 total.

#4 reinforcing ties,
111.00" long before being bent into
30.00" outer diameter circle with 18.00" overlap,
top 2 spaced at 2" with the remainder
spaced at 11.2" O.C. to the top of pad.
8 per pier,
24 total.

STATE OF KENTUCKY
JASON MARK LAMBERT
No. 28217
LICENSED PROFESSIONAL ENGINEER
OCT 12 2022

REV	BY	DATE	DESCRIPTION

ORIG. DATE: 10/12/2022 | DWG NO: 605992
DWG. PROG: v2.05 | SHEET: 2 OF 3

TITLE:
VB BTS II, LLC
NSK 26' X 280'
US-KY-5176 / LV NW
Somerset
Pulaski Co., KY

NELLO
1201 S. Sheridan St.
South Bend, IN 46619
Bus: (574)288-3632
Fax: (574)288-5860

Foundation Notes:

1. This foundation has been designed for the following tower reactions:
   - Leg Compression: 513.9 Kips
   - Leg Uplift: 447.8 Kips
   - Leg Shear: 48.2 Kips
   - Tower Shear: 70.5 Kips
   - Tower Moment: 11006.4 Ft-Kips
   - Tower Weight: 75.2 Kips
2. Foundation design is based on the Geotechnical Report dated 08/30/2022, by Power of Design; Project No. 21-82628.
3. A field inspection shall be performed in order to verify that the actual site soil parameters meet or exceed the assumed soil parameters and that the depth of standard foundations are adequate based on the frost penetration and groundwater depth. Local frost depth must be no deeper than the bottom of the base foundation or the top of the anchor.
4. Reinforcement shall be deformed and conform to the requirements of ASTM A615 Grade 60 unless otherwise noted. Splices in reinforcement shall not be allowed unless otherwise indicated.
5. Welding is prohibited on reinforcing steel and anchorage.
6. Structural backfill placed below pad must be compacted in 8" loose lifts to 98% of maximum dry density at optimum moisture content in accordance with ASTM D698. Backfill must be clean and free of organic and frozen soils and foreign materials.
7. Backfill above foundation should be compacted to 95% of maximum dry density at water content within 2 percent of optimum. Backfill must be clean and free of organic and frozen soils and foreign materials.
8. Finished grade shall be leveled over the entire foundation footprint. Backfill is recommended to slope to native grade using a 2:1 (H:V) slope.
9. Loose material shall be removed from bottom of excavation prior to concrete placement.
10. Concrete cover from exposed surface of concrete to surface of reinforcement shall not be less than 3".
11. Concrete and reinforcement installation must conform to ACI 318, "Building Code Requirements for Structural Concrete."
12. Concrete shall develop a minimum compressive strength of 4500 psi at 28 days.
13. Concrete shall be placed as soon as practical after excavating to avoid disturbance of bearing and side wall surfaces
14. Concrete contractor shall be responsible for properly aligning anchor bolts before and after placing concrete, regardless of whether an anchor bolt template is provided.
15. Positive drainage shall be maintained during construction and throughout the life of the facility to minimize the potential for surface water infiltration.
16. If unsuitable soils are encountered, overexcavation of unsuitable soils for compacted backfill placement below footings should extend laterally beyond all edges of the footings at least 12 inches per foot of overexcavation depth below footing base elevation.
17. It shall be the contractor's responsibility to locate and prevent damage to any existing underground utilities, foundations or other buried objects that might be damaged or interfered with during construction of the foundation.
18. It is permissible to utilize a cold joint during construction of a pier and pad type foundation. The cold joint must be located at the interface of the piers with the pad, and contractor shall use a bonding agent suitable for cold joints.
19. It is permissible for the top of the vertical reinforcement cage alignment to fluctuate slightly, allowing for a minimum clear cover of 2" to a maximum clear cover of 3" over the top of any individual vertical bar.
20. Earthwork operations and foundation installation methods shall be in accordance with the geotechnical report and all applicable American Concrete Institute (ACI) Standards.
21. Temporary steel casing or drilling slurry techniques may be required for installation of the drilled pier foundation. Permanent casing on drilled piers may not be used.
22. Concrete shall be placed by tremie methods if drilling slurry is used or if there is more than 1 inch of water at the bottom of the shaft excavation.
23. Groundwater was not encountered during the geotechnical investigation.
24. Rock conditions were encountered about 10.6 feet bgs in the geotechnical investigation.
25. This mat design assumes an ultimate bearing capacity of 3900 psf (allowable bearing capacity of 1950 psf) based on the geotechnical report. The bearing surface shall be inspected prior to concrete placement.
26. During placement, concrete shall be suitably consolidated. Proper curing methods shall be used directly following concrete placement as established by the contractor. Concrete shall develop a minimum compressive strength of 3000 psi prior to backfill and compaction operations, and backfill shall be compacted to a minimum moist unit weight of 110 pcf.

STATE OF KENTUCKY
JASON MARK LAMBERT
No. 28217
LICENSED PROFESSIONAL ENGINEER

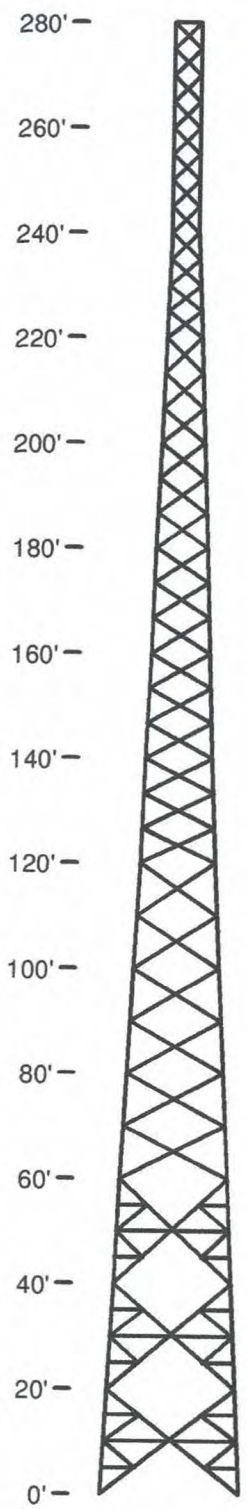
OCT 12 2022

REV	BY	DATE	DESCRIPTION

ORIG. DATE: 10/12/2022 | DWG NO: 605992
DWG. PROG: v2.05 | SHEET: 3 OF 3

TITLE:
VB BTS II, LLC
NSK 26' X 280'
US-KY-5176 / LV NW
Somerset
Pulaski Co., KY

N E L L O
1201 S. Sheridan St.
South Bend, IN 46619
Bus: (574)288-3632
Fax: (574)288-5860



Self-Supporting Tower Section Data

Section Number	Bottom Elevation (ft)	Top Elevation (ft)	Model	Bottom Face Width (ft)	Top Face Width (ft)	Number of Panels	Leg Size (in)	Diagonal Size (in)	Girt Size (in)	Mid-Horizontal Size (in)	Redundant Horizontal Size (in)	Redundant Diagonal Size (in)
14	260	280	NSX	5.0	5.0	4	P2x.154	L1 3/4x1 3/4x1/8	L1 3/4x1 3/4x1/8			
13	240	260	NSX	5.0	5.0	4	P4x.237	L2x2x3/16				
12	220	240	NSX	6.5	5.0	4	P6x.28	L2x2x1/8				
11	200	220	NSX	8.0	6.5	3	P6x.28	L2x2x1/8				
10	180	200	NSX	9.5	8.0	3	P8x.322	L2 1/2x2 1/2x3/16				
9	160	180	NSX	11.0	9.5	3	P8x.322	L2 1/2x2 1/2x3/16				
8	140	160	NSX	12.5	11.0	3	P8x.322	L2 1/2x2 1/2x3/16				
7	120	140	NSX	14.0	12.5	3	P10x.365	L2 1/2x2 1/2x3/16				
6	100	120	NSX	16.0	14.0	2	P10x.365	L3x3x3/16				
5	80	100	NSX	18.0	16.0	2	P10x.365	L3x3x3/16				
4	60	80	NSX	20.0	18.0	2	P10x.365	L3 1/2x3 1/2x1/4				
3	40	60	NSK	22.0	20.0	4	P10x.365	L3 1/2x3 1/2x1/4		L3 1/2x3 1/2x1/4	L2x2x3/16	L2 1/2x2 1/2x3/16
2	20	40	NSK	24.0	22.0	4	P10x.365	L3 1/2x3 1/2x1/4		L3 1/2x3 1/2x1/4	L2 1/2x2 1/2x3/16	L2 1/2x2 1/2x3/16
1	0	20	NSK	26.0	24.0	4	P10x.365	L4x4x1/4		L4x4x1/4	L2 1/2x2 1/2x3/16	L2 1/2x2 1/2x3/16

Tower Reactions

No Ice
Shear: 70.5 kips
Moment: 11006.37 ft-kips
Weight: 75.2 kips

With Ice
Shear: 9.4 kips
Moment: 1537.43 ft-kips
Weight: 179.6 kips

Leg Reactions
Compression: 513.9 kips
Uplift: -447.8 kips
Shear: 48.2 kips

STATE OF KENTUCKY
JASON MARK LAMBERT
No. 28217
LICENSED PROFESSIONAL ENGINEER

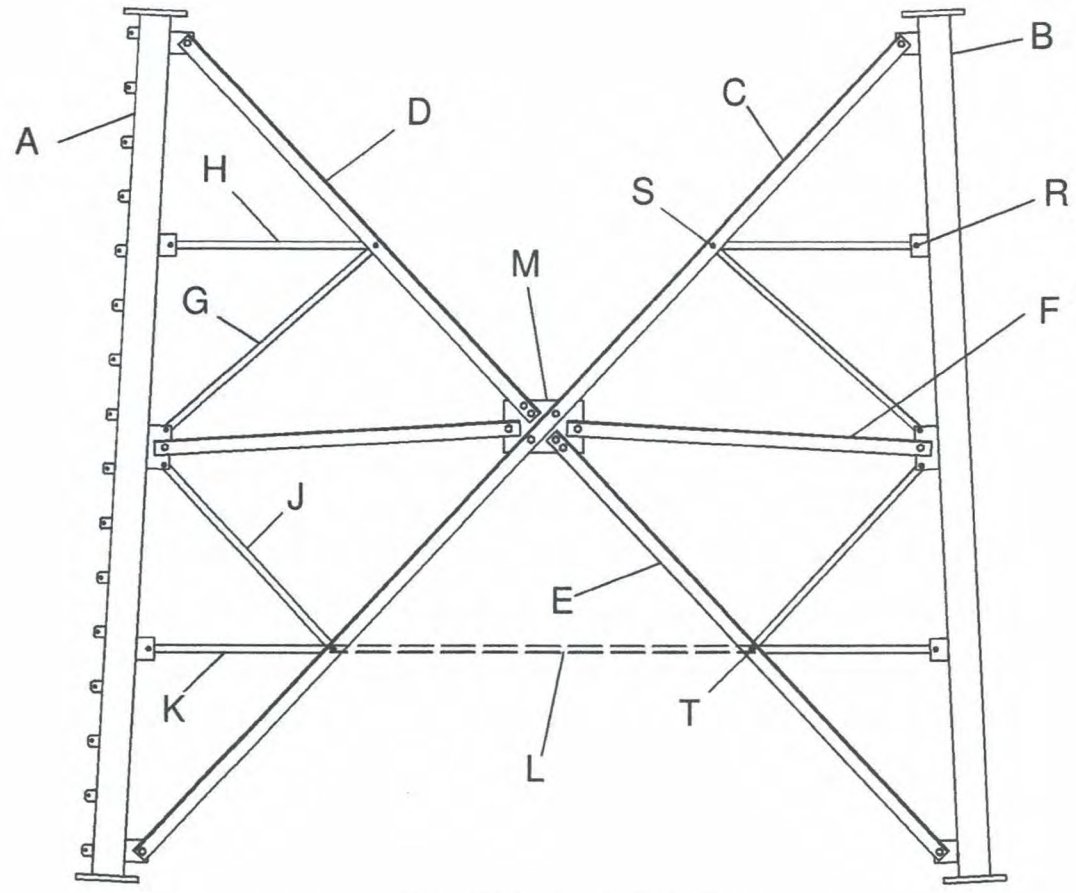
OCT 12 2022

REV	BY	DATE	DESCRIPTION

ORIG. DATE: 10/11/2022 | DWG NO: 605991
DWG. PROG: v2.05 | SHEET: 1 OF 8

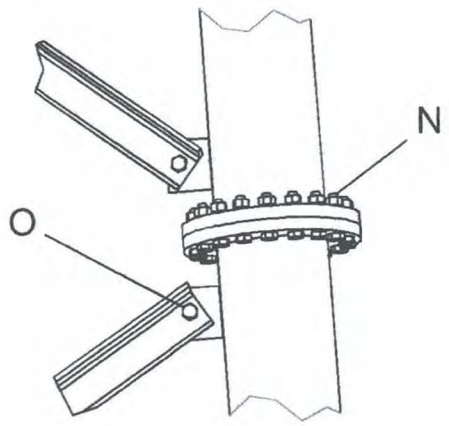
TITLE:
VB BTS II, LLC
NSK 26' X 280'
US-KY-5176 / LV NW
Somerset
Pulaski Co., KY

NELLO
1201 S. Sheridan St.
South Bend, IN 46619
Bus: (574)288-3632
Fax: (574)288-5860

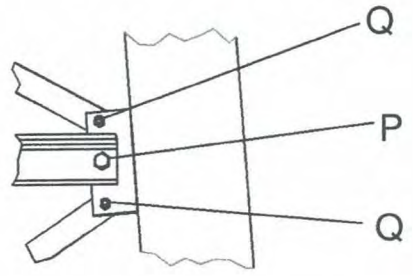


NSK Section Detail

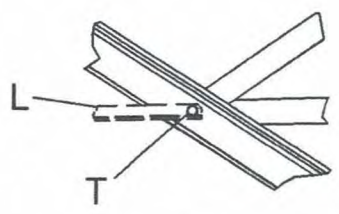
1. A part number is stamped on the bottom footpad of each leg.
2. A part number is stamped and /or labeled on the bottom end of each angle.
3. The bolt head must bear against the angle.

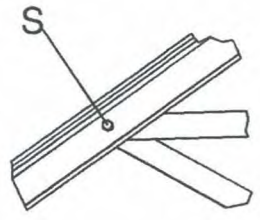


NSK Leg Connection Detail

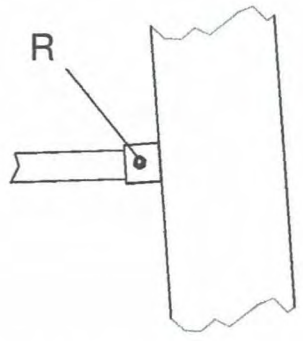


NSK Center Sideplate Connection

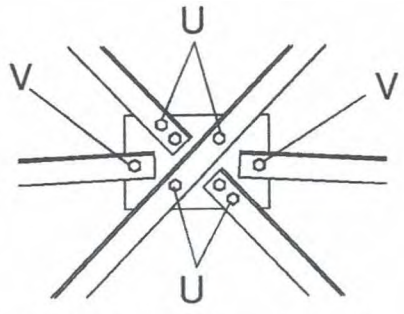




NSK Inner Redundant Connection



NSK Outer Redundant Connection



NSK Mid-Plate Detail

NSK Section Legend:
A. Climbing Leg
B. Non-Climbing Leg
C. Long Diagonal
D. Upper Diagonal
E. Lower Diagonal
F. Horizontal
G. Upper Redundant Diagonal
H. Upper Redundat Horizontal
J. Lower Redundant Diagonal
K. Lower Redundant Horizontal
L. Installation Horizontal
M. Splice Plate
N. Leg Bolts
O. Diagonal Bolts
P. Horizontal Bolts
Q. Redundant Diagonal Bolts
R. Redundant Horizontal Bolts
S. Upper Redundant Bolts
T. Lower Redundant Bolts
U. Diagonal Mid Bolts
V. Horizontal Mid Bolts

Note:
1. One face of bracing (not including legs) may be pre-assembled and lifted into place at once, ensuring best practices are used to reduce stresses in bracing members.

STATE OF KENTUCKY
JASON MARK LAMBERT
No. 28217
LICENSED PROFESSIONAL ENGINEER
OCT 12 2022

REV	BY	DATE	DESCRIPTION

ORIG. DATE: 10/11/2022
DWG NO: 605991
DWG. PROG: v2.05
SHEET: 2 OF 8

TITLE:
VB BTS II, LLC
NSK 26' X 280'
US-KY-5176 / LV NW
Somerset
Pulaski Co., KY

NELLO
1201 S. Sheridan St.
South Bend, IN 46619
Bus: (574)288-3632
Fax: (574)288-5860

NSK Section Part Numbers

Item	Elevation	Climbing Leg (A)	Non-Climbing Leg (B)	Long Diagonal (C)	Upper Diagonal (D)	Lower Diagonal (E)	Horizontal (F)	Upper Redundant Diagonal (G)	Upper Redundant Horizontal (H)	Lower Redundant Diagonal (J)	Lower Redundant Horizontal (K)	Installation Horizontal (L)	Splice Plate (M)
3	40' - 60'	141702		170514	170516	170518	168048	170133	170190	170134	170193	172544	115102
2	20' - 40'	141702		170183	170185	170187	168505	170129	170131	170130	170132	172545	115101
1	0' - 20'	235944		170113	170114	170115	167912	170125	170127	170126	170128	172546	115100

NSK Section Hardware

Item	Elevation	Leg Bolts (N)	Diagonal Bolts (O)	Horizontal Bolts (P)	Redundant Diagonal Bolts (Q)	Redundant Horizontal Bolts (R)	Upper Redundant Bolts (S)	Lower Redundant Bolts (T)	Diagonal Mid Bolts (U)	Horizontal Mid Bolts (V)	Section Weight (Lbs.)
3	40' - 60'	(30) 1" x 3-3/4"	(12) 1" x 2-1/4"	(6) 1" x 2-1/4"	(12) 1" x 2-1/4"	(12) 1" x 2-1/4"	(6) 1" x 2-1/4"	(6) 1" x 2-3/4"	(18) 1" x 2-1/4"	(6) 1" x 2-1/4"	5190
2	20' - 40'	(30) 1" x 3-3/4"	(12) 1" x 2-1/4"	(6) 1" x 2-1/4"	(12) 1" x 2-1/4"	(12) 1" x 2-1/4"	(6) 1" x 2-1/4"	(6) 1" x 2-3/4"	(18) 1" x 2-1/4"	(6) 1" x 2-1/4"	5370
1	0' - 20'	0	(12) 1" x 2-1/4"	(6) 1" x 2-1/4"	(12) 1" x 2-1/4"	(12) 1" x 2-1/4"	(6) 1" x 2-1/4"	(6) 1" x 2-3/4"	(18) 1" x 2-1/4"	(6) 1" x 2-1/4"	5780

REV	BY	DATE	DESCRIPTION

ORIG. DATE: 10/11/2022 | DWG NO: 605991

DWG. PROG: v2.05 | SHEET: 3 OF 8

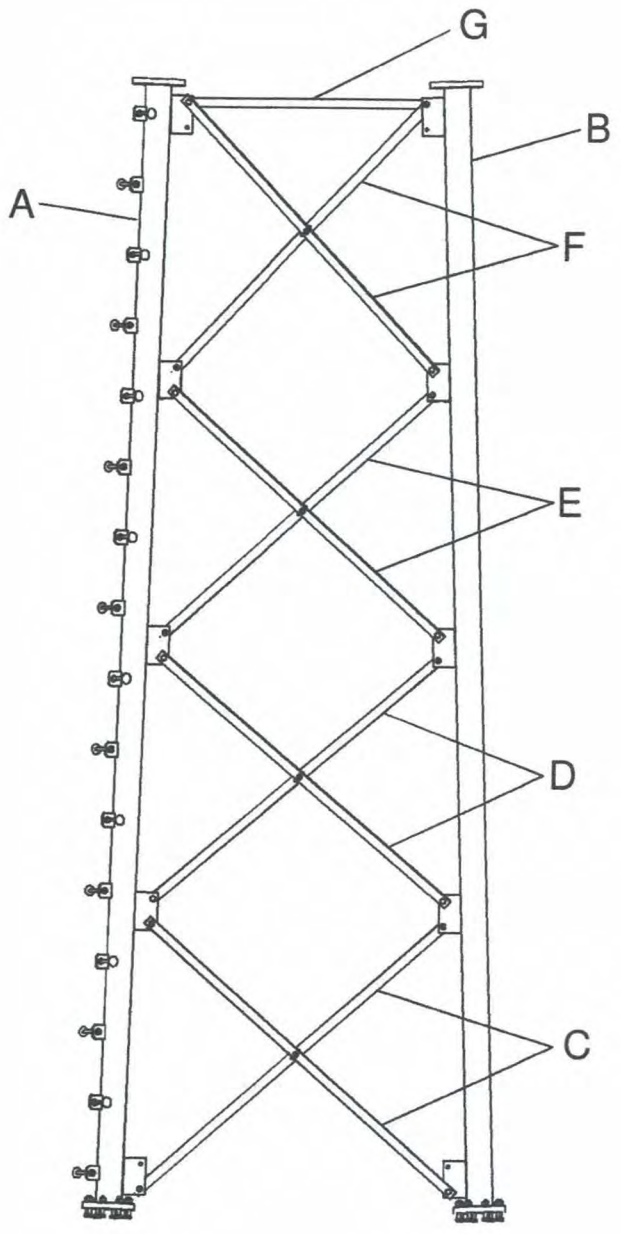
STATE OF KENTUCKY
JASON MARK LAMBERT
No. 28217
LICENSED PROFESSIONAL ENGINEER

OCT 12 2022

TITLE:
VB BTS II, LLC

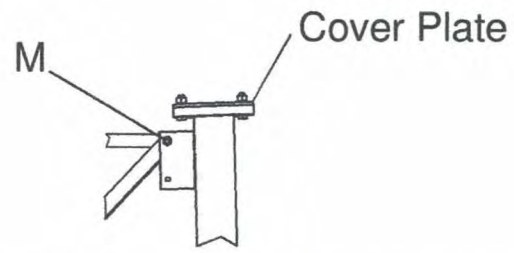
NSK 26' X 280'
US-KY-5176 / LV NW
Somerset
Pulaski Co., KY

NELLO
1201 S. Sheridan St.
South Bend, IN 46619
Bus: (574)288-3632
Fax: (574)288-5860



NSX Section Detail

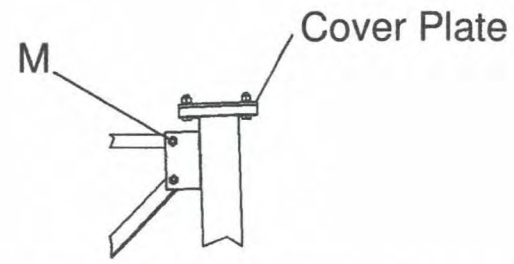
1. A part number is stamped on the bottom footpad of each leg.
2. A part number is stamped and /or labeled on the bottom end of each angle.
3. Be sure to place diagonal bracing angles in correct positions, angles in the top panel may be longer than they are in the middle panel.
4. The bolt head must bear against the angle bracing.



One plain nut and one lockwasher per bolt.

Detail A: NSX Top Connection

*Applicable to all 20 ft Sections.
*Applicable to all Sections Shorter than 20 ft and are Straight.

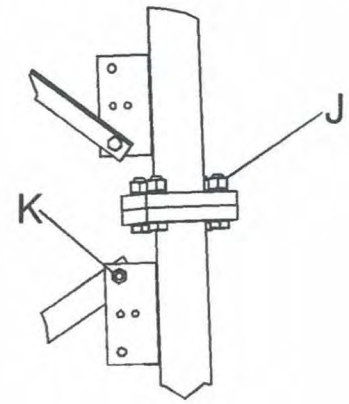


One plain nut and one lockwasher per bolt.

Detail B: NSX Top Connection

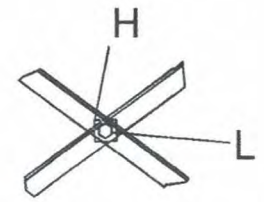
*Applicable to all Sections Shorter than 20 ft that are Tapered Sections.

NSX Section Legend:
A. Climbing Leg
B. Non-Climbing Leg
C. Diag., Panel 1
D. Diag., Panel 2
E. Diag., Panel 3
F. Diag., Panel 4
G. Top Girt
H. Spacer
J. Leg Bolts
K. Diagonal Bolts
L. Stitch Bolts
M. Top Girt Bolts



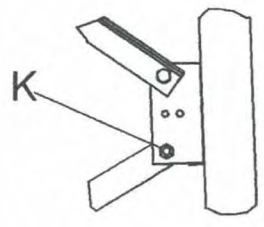
One plain nut and one lockwasher per bolt.

NSX Leg Connection



One plain nut and one lockwasher per bolt.

NSX Spacer Detail



One plain nut and one lockwasher per bolt.

NSX Bracing Detail

OCT 12 2022

REV	BY	DATE	DESCRIPTION

ORIG. DATE: 10/11/2022
DWG NO: 605991
DWG. PROG: v2.05
SHEET: 4 OF 8

TITLE:
VB BTS II, LLC
NSK 26' X 280'
US-KY-5176 / LV NW
Somerset
Pulaski Co., KY

NELLO
1201 S. Sheridan St.
South Bend, IN 46619
Bus: (574)288-3632
Fax: (574)288-5860

NSX Section Part Numbers

Item	Elevation	Climbing Leg (A)	Non-Climbing Leg (B)	Diagonal - Panel 1 (C)	Diagonal - Panel 2 (D)	Diagonal - Panel 3 (E)	Diagonal - Panel 4 (F)	Top Girt (G)	Spacer (H)
14	260' - 280'	141385		216697	216698	216698	216697	168613	132233
13	240' - 260'	141504		169611	169612	169612	169611		132233
12	220' - 240'	141289		167388	167389	167390	167391		132233
11	200' - 220'	129729		167047	167048	167049			132233
10	180' - 200'	129695		167005	167006	167007			132233
9	160' - 180'	129695		167170	167171	167172			132233
8	140' - 160'	129705		168102	168103	168104			132233
7	120' - 140'	188268		167978	167979	167980			132233
6	100' - 120'	129736		169771	169772				132233
5	80' - 100'	129736		169811	169812				132233
4	60' - 80'	129736		169767	169768				132233

NSX Section Hardware

Item	Elevation	Leg Bolts (J)	Diagonal Bolts (K)	Stitch Bolts (L)	Top Girt Bolts (M)	Section Weight (Lbs.)
14	260' - 280'	(24) 3/4" x 3-1/2"	(48) 1/2" x 1-1/2"	(12) 1/2" x 1-1/2"		830
13	240' - 260'	(24) 3/4" x 3-1/2"	(48) 5/8" x 2-1/2"	(12) 5/8" x 2-1/2"		1460
12	220' - 240'	(24) 3/4" x 3-1/2"	(48) 5/8" x 2-1/2"	(12) 5/8" x 2-1/2"		1870
11	200' - 220'	(24) 1" x 3-3/4"	(36) 5/8" x 2-1/2"	(9) 5/8" x 2-1/2"		1890
10	180' - 200'	(24) 1" x 3-3/4"	(36) 3/4" x 2-1/4"	(9) 3/4" x 2-1/4"		2880
9	160' - 180'	(24) 1" x 3-3/4"	(36) 3/4" x 2-1/4"	(9) 3/4" x 2-1/4"		2950
8	140' - 160'	(30) 1" x 3-3/4"	(36) 3/4" x 2-1/4"	(9) 3/4" x 2-1/4"		3120
7	120' - 140'	(30) 1" x 3-3/4"	(36) 3/4" x 2-1/4"	(9) 3/4" x 2-1/4"		3940
6	100' - 120'	(30) 1" x 3-3/4"	(24) 3/4" x 2-1/4"	(6) 3/4" x 2-1/4"		3890
5	80' - 100'	(30) 1" x 3-3/4"	(24) 3/4" x 2-1/4"	(6) 3/4" x 2-1/4"		3970
4	60' - 80'	(30) 1" x 3-3/4"	(24) 3/4" x 2-1/4"	(6) 3/4" x 2-1/4"		4590

STATE OF KENTUCKY
JASON MARK LAMBERT
No. 28217
LICENSED PROFESSIONAL ENGINEER

OCT 12 2022

REV	BY	DATE	DESCRIPTION

ORIG. DATE: 10/11/2022 | DWG NO: 605991

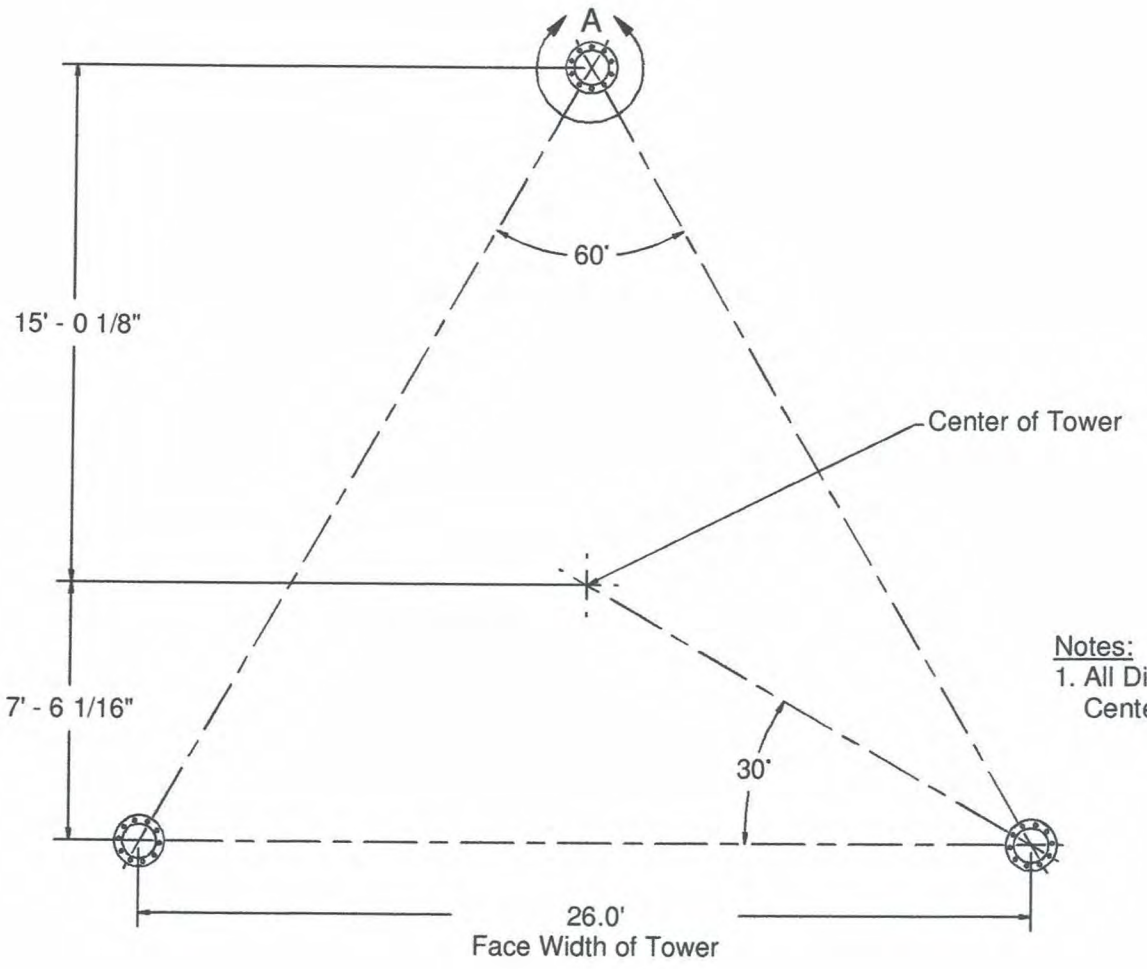
DWG. PROG: v2.05 | SHEET: 5 OF 8

TITLE:
VB BTS II, LLC

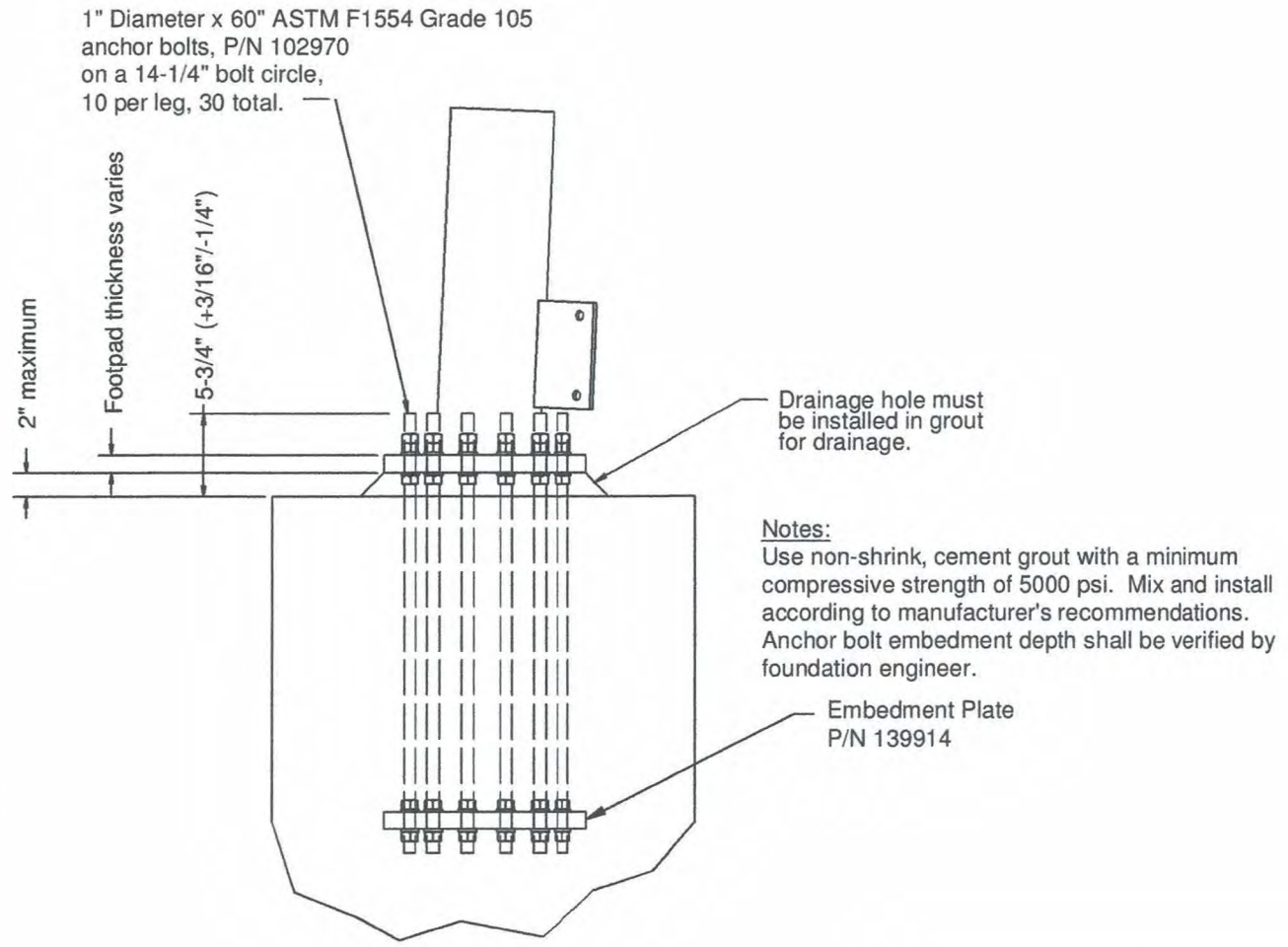
NSK 26' X 280'
US-KY-5176 / LV NW
Somerset
Pulaski Co., KY

NELLO
1201 S. Sheridan St.
South Bend, IN 46619
Bus: (574)288-3632
Fax: (574)288-5860

DETAIL A
Bolt hole must be aligned with center of tower.



Notes:
1. All Dimensions are from Center of Bolt Circles.



Notes:
Use non-shrink, cement grout with a minimum compressive strength of 5000 psi. Mix and install according to manufacturer's recommendations. Anchor bolt embedment depth shall be verified by foundation engineer.

STATE OF KENTUCKY
JASON MARK LAMBERT
No. 28217
LICENSED PROFESSIONAL ENGINEER

OCT 12 2022

REV	BY	DATE	DESCRIPTION

ORIG. DATE: 10/11/2022 | DWG NO: 605991
DWG. PROG: v2.05 | SHEET: 6 OF 8

TITLE:
VB BTS II, LLC
NSK 26' X 280'
US-KY-5176 / LV NW
Somerset
Pulaski Co., KY

NELLO
1201 S. Sheridan St.
South Bend, IN 46619
Bus: (574)288-3632
Fax: (574)288-5860

Antenna Loading

Height	Qty.	Description
275'	1	40,000 sq in CaAa
264'	1	30,000 sq in CaAa
254'	1	30,000 sq in CaAa
230'	1	Dish Pipe Mount

Feedline Loading

Height	Qty.	Description
0' - 280'	1	1" Conduit
0' - 275'	12	LDF7-50A (1-5/8 FOAM)
0' - 264'	12	LDF7-50A (1-5/8 FOAM)
0' - 254'	12	LDF7-50A (1-5/8 FOAM)
0' - 230'	1	EW63

Dish Loading

Height	Qty.	Description
230'	1	6' Dish with Radome

REV	BY	DATE	DESCRIPTION

ORIG. DATE: 10/11/2022 | DWG NO: 605991

DWG. PROG: v2.05 | SHEET: 7 OF 8

STATE OF KENTUCKY
JASON MARK LAMBERT
No. 28217
LICENSED PROFESSIONAL ENGINEER

OCT 12 2022

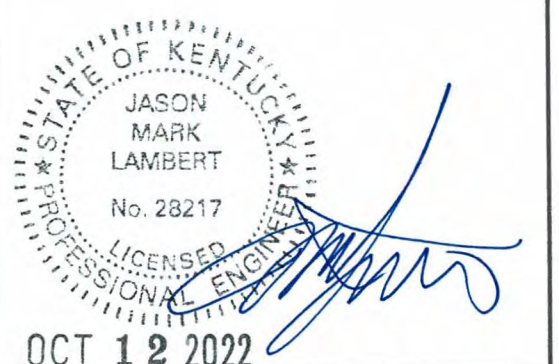
TITLE:
VB BTS II, LLC

NSK 26' X 280'
US-KY-5176 / LV NW
Somerset
Pulaski Co., KY

NELLO
1201 S. Sheridan St.
South Bend, IN 46619
Bus: (574)288-3632
Fax: (574)288-5860

Tower Notes:

1. Tower is designed per TIA-222-H, "Structural Standard for Antenna Supporting Structures, Anennas and Small Wind Turbine Support Structures," for the following loading conditions:
   105 mph 3-second gust ultimate wind speed with no ice per ASCE 7-16
   30 mph 3-second gust basic wind speed with 1-1/2 inch basic ice thickness per ASCE 7-16
   Risk Category: II
   Exposure Category: C
   Topographic Category: 2
   Crest Height: 80 feet
2. A tower field inspection shall be performed in order to verify that design exposure and topographic parameters are consistent with the existing tower site conditions.
3. Tower design includes the antennas, dishes, and/or lines listed in the appurtenance loading tables on sheet 7.
4. Antenna mounting pipes may need to be field cut to match the lengths listed in the appurtenance loading tables on sheet 7.
5. Tower member design does not include stresses due to erection since erection equipment and procedures are unknown. Tower installation shall be performed by competent and qualified erectors in accordance with TIA-222-H and OSHA standards and all applicable building codes.
6. Field connections shall be bolted. No field welds shall be allowed unless otherwise noted.
7. Structural bolts shall conform to ASTM A325, except for 1/2 inch diameter and smaller bolts, which shall conform to ASTM A449 or SAE J429 Grade 5.
8. Structural steel and connection bolts shall be galvanized after fabrication in accordance with TIA-222-H.
9. All high strength bolts shall be tightened to a "snug tight" condition as defined in the RCSC "Specification for Structural Joints Using ASTM A325 or A490 Bolts."
10. Tower shall be marked and lighted in conformance with local building codes, FAA regulations, and TIA-222-H.
11. Tower shall be grounded in conformance with local building codes and TIA-222-H. Evaluation of protective grounding and consideration for special grounding systems shall be performed by others.
12. Allowable tolerance on as-built tower steel height is plus 1% or minus 1/2%.
13. Maintenance and inspection shall be performed over the life of the structure in accordance with TIA-222-H.
14. Material specifications:
    Self Supporting Pipe Legs - ASTM A500 Grade 50
    Angle Bracing - ASTM A529 Grade 50
    Leg Footpads - ASTM A572 Grade 50
    Leg Side Plates - ASTM A36 (Min)
15. Remove anchor bolt template before erecting tower. Place non-shrink grout under base section footpads after leveling tower.
16. Concrete contractor shall be responsible for properly aligning anchor bolts and materials before and after placing concrete, regardless of whether an anchor bolt template is provided.



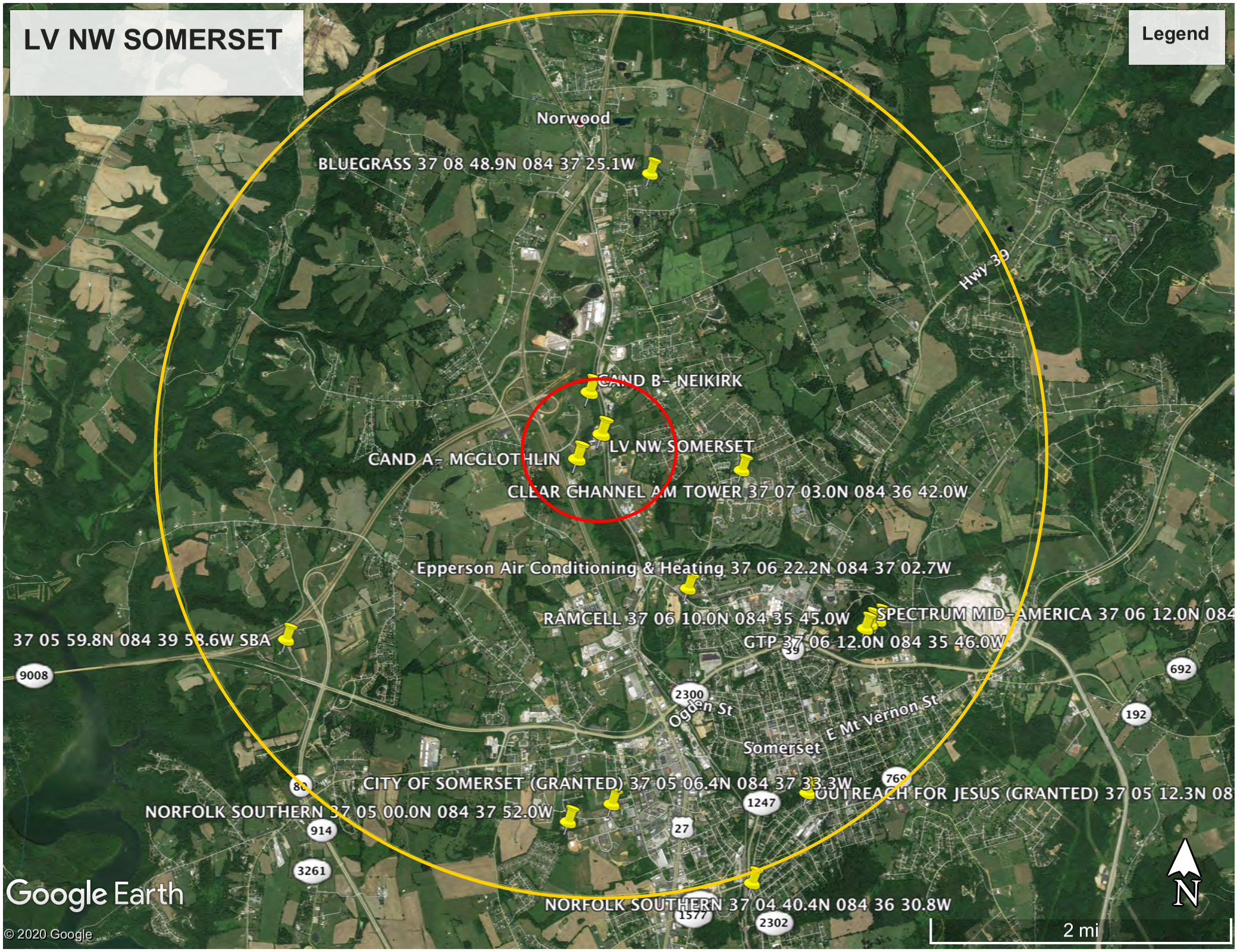
OCT 12 2022

REV	BY	DATE	DESCRIPTION

ORIG. DATE: 10/11/2022
DWG NO: 605991
DWG. PROG: v2.05
SHEET: 8 OF 8

TITLE:
VB BTS II, LLC
NSK 26' X 280'
US-KY-5176 / LV NW
Somerset
Pulaski Co., KY

N E L L O
1201 S. Sheridan St.
South Bend, IN 46619
Bus: (574)288-3632
Fax: (574)288-5860


LV NW SOMERSET
Legend
Norwood
BLUEGRASS 37 08 48.9N 084 37 25.1W
Hwy 39
CAND B- NEIKIRK
LV NW SOMERSET
CAND A- MCGLOTHLIN
CLEAR CHANNEL AM TOWER 37 07 03.0N 084 36 42.0W
Epperson Air Conditioning & Heating 37 06 22.2N 084 37 02.7W
RAMCELL 37 06 10.0N 084 35 45.0W
SPECTRUM MID-AMERICA 37 06 12.0N 084
GTP 37 06 12.0N 084 35 46.0W
37 05 59.8N 084 39 58.6W SBA
9008
692
192
2300
Ogden St
E Mt Vernon St
Somerset
CITY OF SOMERSET (GRANTED) 37 05 06.4N 084 37 33.3W
OUTREACH FOR JESUS (GRANTED) 37 05 12.3N 08
NORFOLK SOUTHERN 37 05 00.0N 084 37 52.0W
1247
914
27
3261
NORFOLK SOUTHERN 37 04 40.4N 084 36 30.8W
1577
2302
Google Earth
© 2020 Google
N
2 mi

ASR Registration Search

Registration Search Results

Displayed Results

PA = Pending Application(s)

Specified Search

Latitude='37-07-14.9 N', Longitude='84-37-43.3 W', Radius=4.8 Kilometers

	Registration Number	Status	File Number	Owner Name	Latitude/Longitude	Structure City/State	Overall Height Above Ground (AGL)
1	1035924	Constructed	A0042436	NORFOLK SOUTHERN CORPORATION	37-05-00.0N 084-37-52.0W	SOMERSET, KY	65.8
2	1042811	Terminated	A0242106	Sprintcom, Inc.	37-05-06.0N 084-37-52.0W	SOMERSET, KY	59.4
3	1043625	Constructed	A0588371	CELLULAR PHONE OF KENTUCKY DBA = RAMCELL	37-06-10.0N 084-35-45.0W	SOMERSET, KY	91.4
4	1043674	Constructed	A1087598	Capstar Radio Operating Company	37-07-03.0N 084-36-42.0W	SOMERSET, KY	100.4
5	1043979	Constructed	A1115359	Spectrum Mid-America, LLC	37-06-12.0N 084-35-43.0W	SOMERSET, KY	137.2
6	1044771	Dismantled	A0606396	CUMBERLAND COMMUNICATIONS INC DBA = WTLO RADIO	37-05-15.0N 084-38-14.0W	SOMERSET, KY	42.7
7	1047989	Constructed	A1089215	Mobile Communications Service of B G ,Inc	37-06-10.0N 084-35-45.0W	SOMERSET, KY	87.6
8	1204492	Constructed	A0151196	Epperson Air Conditioning & Heating	37-06-22.2N 084-37-02.7W	Somerset, KY	32.0
9	1208691	Constructed	A0111086	Norfolk Southern Railway Company	37-04-40.4N 084-36-30.8W	SOMERSET, KY	30.5
10	1219832	Constructed	A0547242	KENTUCKY, COMMONWEALTH OF DBA = KY EMERGENCY WARNING SYSTEM KEWS	37-05-35.3N 084-35-47.8W	Somerset, KY	32.0

CLOSE WINDOW

ASR Registration Search

Registration Search Results

Displayed Results

PA = Pending Application(s)

Specified Search

Latitude='37-07-14.9 N', Longitude='84-37-43.3 W', Radius=4.8 Kilometers

	Registration Number	Status	File Number	Owner Name	Latitude/Longitude	Structure City/State	Overall Height Above Ground (AGL)
11	1231891	Constructed	A0609955	SBA Infrastructures, LLC	37-05-59.8N 084-39-58.6W	SOMERSET, KY	79.2
12	1235212	Constructed	A0918310	Global Tower, LLC. through American Towers, LLC	37-06-12.0N 084-35-46.0W	Somerset, KY	59.4
13	1253989	Constructed	A0656721	Bluegrass Wireless LLC	37-08-48.9N 084-37-25.1W	Somerset, KY	77.7
14	1264631	Constructed	A0615741	F.T.G. Broadcasting, Inc.	37-04-50.6N 084-39-38.5W	Somerset, KY	43.9
15	1291343	Granted	A0893811	Outreach for Jesus	37-05-12.3N 084-36-07.7W	Sumerset, KY	30.0
16	1300944	Granted	A1051527	CITY OF SOMERSET	37-05-06.4N 084-37-33.3W	Somerset, KY	24.3

CLOSE WINDOW

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2021-ASO-35726-OE

Issued Date: 10/15/2021

Network Regulatory
Rural Cellular Corporation
5055 North Point Pkwy
NP2NE Network Engineering
Alpharetta, GA 30022

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Antenna Tower LV NW Somerset (15287363)
Location:	Somerset, KY
Latitude:	37-07-05.72N NAD 83
Longitude:	84-37-53.78W
Heights:	1053 feet site elevation (SE)
	285 feet above ground level (AGL)
	1338 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

As a condition to this Determination, the structure is to be marked/lighted in accordance with FAA Advisory circular 70/7460-1 M, Obstruction Marking and Lighting, a med-dual system-Chapters 4,8(M-Dual),&15.

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

_____ At least 10 days prior to start of construction (7460-2, Part 1)
__X__ Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

This determination expires on 04/15/2023 unless:

(a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
(b) extended, revised, or terminated by the issuing office.

(c) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights, and frequencies or use of greater power, except those frequencies specified in the Colo Void Clause Coalition; Antenna System Co-Location; Voluntary Best Practices, effective 21 Nov 2007, will void this determination. Any future construction or alteration, including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA.This determination includes all previously filed frequencies and power for this structure.

If construction or alteration is dismantled or destroyed, you must submit notice to the FAA within 5 days after the construction or alteration is dismantled or destroyed.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

A copy of this determination will be forwarded to the Federal Communications Commission (FCC) because the structure is subject to their licensing authority.

If we can be of further assistance, please contact our office at (718) 553-2611, or angelique.eersteling@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2021-ASO-35726-OE.

Signature Control No: 493956451-497650000 (DNE)
Angelique Eersteling
Technician

Attachment(s)
Case Description
Frequency Data
Map(s)

cc: FCC

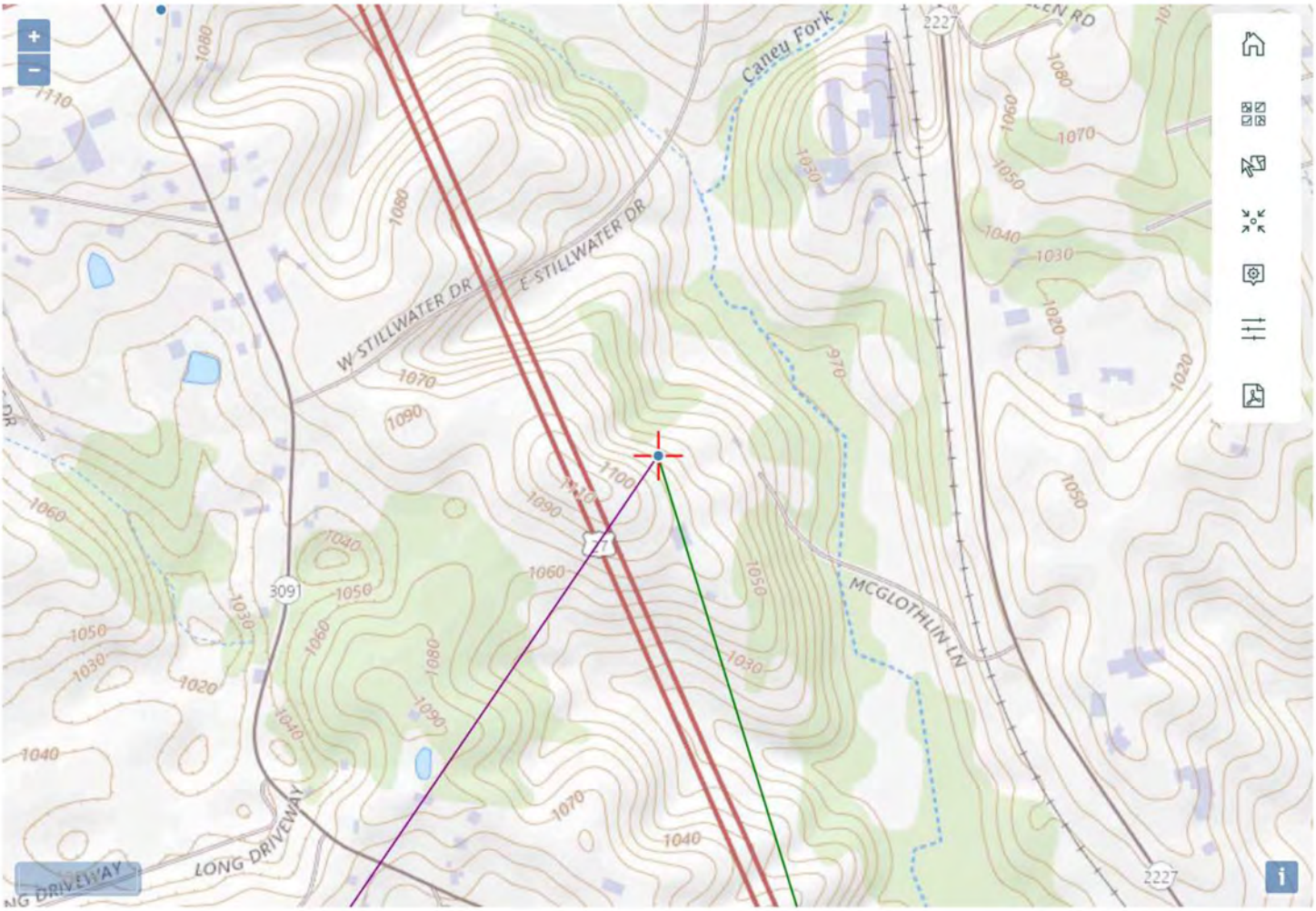
Proposed 285Ã#Â¢Ã¢Â#Â¬Ã¢Â#Â¢ self support structure. Dual/Med marking/lighting is requested. For questions, contact Lauren Bradsher @ 770-797-1058

Frequency Data for ASN 2021-ASO-35726-OE

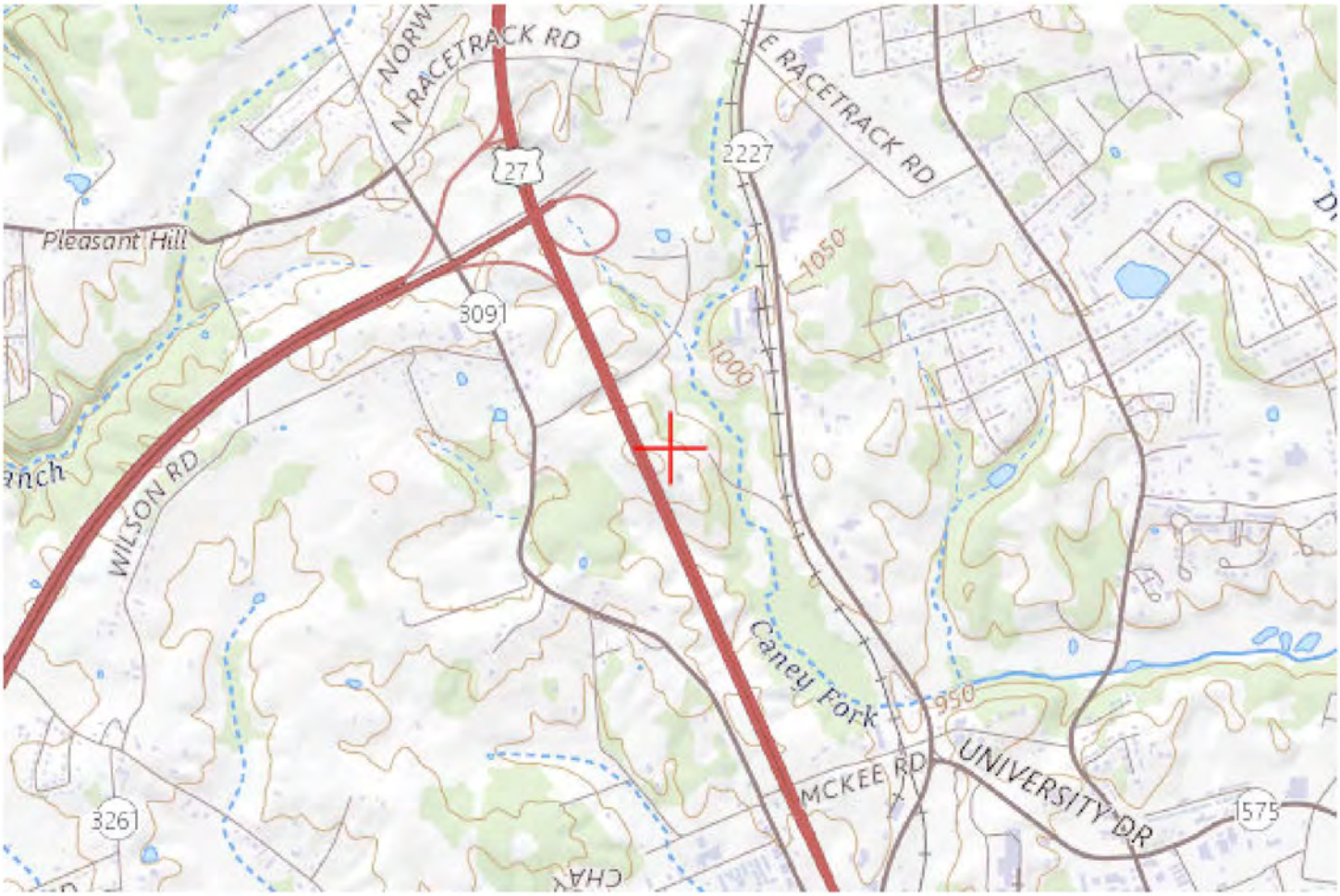
LOW FREQUENCY	HIGH FREQUENCY	FREQUENCY UNIT	ERP	ERP UNIT
6	7	GHz	42	dBW
6	7	GHz	55	dBW
10	11.7	GHz	55	dBW
10	11.7	GHz	42	dBW
17.7	19.7	GHz	42	dBW
17.7	19.7	GHz	55	dBW
21.2	23.6	GHz	55	dBW
21.2	23.6	GHz	42	dBW
614	698	MHz	1000	W
614	698	MHz	2000	W
698	806	MHz	1000	W
806	901	MHz	500	W
806	824	MHz	500	W
824	849	MHz	500	W
851	866	MHz	500	W
869	894	MHz	500	W
896	901	MHz	500	W
901	902	MHz	7	W
929	932	MHz	3500	W
930	931	MHz	3500	W
931	932	MHz	3500	W
932	932.5	MHz	17	dBW
935	940	MHz	1000	W
940	941	MHz	3500	W
1670	1675	MHz	500	W
1710	1755	MHz	500	W
1850	1910	MHz	1640	W
1850	1990	MHz	1640	W
1930	1990	MHz	1640	W
1990	2025	MHz	500	W
2110	2200	MHz	500	W
2305	2360	MHz	2000	W
2305	2310	MHz	2000	W
2345	2360	MHz	2000	W
2496	2690	MHz	500	W
3550	3650	MHz	47	dBm
3700	3980	MHz	1640	W
3700	3980	MHz	3280	W
27500	28350	MHz	75	dBm
29100	29250	MHz	75	dBm
31000	31225	MHz	75	dBm
31225	31300	MHz	75	dBm

38600	40000	MHz	75	dBm

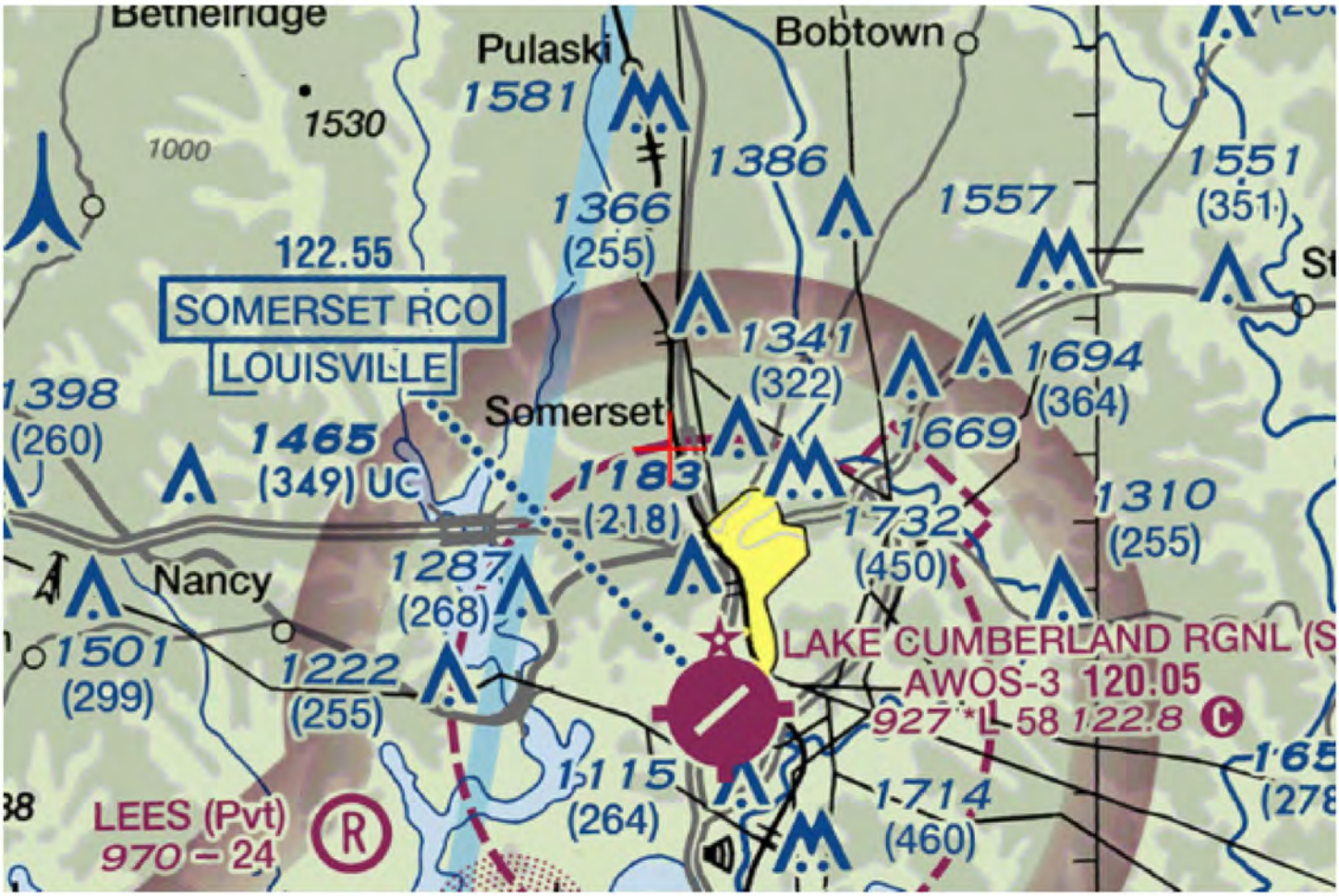
Verified Map for ASN 2021-ASO-35726-OE



TOPO Map for ASN 2021-ASO-35726-OE



Sectional Map for ASN 2021-ASO-35726-OE



Federal Aviation Administration

« OE/AAA

Circle Search for Cases Results Form 7460-1 for ASN 2021-ASO-35726-OE

Overview

Study (ASN):	2021-ASO-35726-OE	**Received Date:**	09/08/2021
Prior Study:		**Entered Date:**	09/08/2021
Status:	Determined	**Completion Date:**	09/15/2022
Letters:	Determination	**Expiration Date:**	03/15/2024

Supplemental Form 7460-2: Please login to add a Supplemental Form 7460-2.

Sponsor Information

Sponsor:	Rural Cellular Corporation
Attention Of:	Network Regulatory
Address:	5055 North Point Pkwy
Address2:	NP2NE Network Engineering
City:	Alpharetta
State:	GA
Postal Code:	30022
Country:	US
Phone:	770-797-1070
Fax:	

Sponsor's Representative Information

Representative:	
Attention Of:	Network Regulatory
Address:	5055 North Point Pkwy
Address2:	NP2NE Network Engineering
City:	Alpharetta
State:	GA
Postal Code:	30022
Country:	US
Phone:	770-797-1070
Fax:	

Construction Info

Notice Of:	CONSTR
Duration:	PERM (Months: 0 Days: 0)
Work Schedule:	
Date Built:	

Structure Summary

Structure Type:	Antenna Tower
Structure Name:	LV NW Somerset (15287363)
FCC Number:	1321398 FCC ASR Registration

Structure Details

Latitude (NAD 83):	37° 07' 05.72" N
Longitude (NAD 83):	84° 37' 53.78" W
Horizontal Datum:	NAD 83
Survey Accuracy:	1A
Marking/Lighting:	Dual-red and medium intensity
Other Description:	
Current Marking/Lighting:	N/A Proposed Structure
Current Marking/Lighting Other Description:	
Name:	
City:	Somerset
State:	KY
Nearest County:	Pulaski
Nearest Airport:	SME
Distance to Structure:	24003.69 feet
On Airport:	No
Direction to Structure:	348.82°
Description of Location:	1730 N Highway 27
Description of Proposal:	Proposed 285Ã¢â□¬â□¢ self support structure. Dual/Med marking/lighting is requested. For questions, contact Lauren Bradsher @ 770-797-1058

Height and Elevation

	Proposed	DNE	DET
Site Elevation:	1053		
Structure Height:	285	0	**285**
Total Height (AMSL):	1338	0	**1338**

Frequencies

Low Freq	High Freq	Unit	ERP	Unit
6	7	GHz	42	dBW
6	7	GHz	55	dBW
10	11.7	GHz	55	dBW
10	11.7	GHz	42	dBW
17.7	19.7	GHz	42	dBW
17.7	19.7	GHz	55	dBW
21.2	23.6	GHz	55	dBW
21.2	23.6	GHz	42	dBW
614	698	MHz	1000	W
614	698	MHz	2000	W
698	806	MHz	1000	W
806	901	MHz	500	W
806	824	MHz	500	W
824	849	MHz	500	W
851	866	MHz	500	W
869	894	MHz	500	W
896	901	MHz	500	W
901	902	MHz	7	W
929	932	MHz	3500	W
930	931	MHz	3500	W
931	932	MHz	3500	W
932	932.5	MHz	17	dBW
935	940	MHz	1000	W
940	941	MHz	3500	W

	1670	1675	MHz	500	W
	1710	1755	MHz	500	W
	1850	1910	MHz	1640	W
	1850	1990	MHz	1640	W
	1930	1990	MHz	1640	W
	1990	2025	MHz	500	W
	2110	2200	MHz	500	W
	2305	2360	MHz	2000	W
	2305	2310	MHz	2000	W
	2345	2360	MHz	2000	W
	2496	2690	MHz	500	W
	3550	3650	MHz	47	dBm
	3700	3980	MHz	1640	W
	3700	3980	MHz	3280	W
	27500	28350	MHz	75	dBm
	29100	29250	MHz	75	dBm
	31000	31225	MHz	75	dBm
	31225	31300	MHz	75	dBm
	38600	40000	MHz	75	dBm

Previous Back to Search Result Next

KENTUCKY AIRPORT ZONING COMMISSION

APPLICATION FOR PERMIT TO CONSTRUCT OR ALTER A STRUCTURE

JURISDICTION

602 KAR 50:030

Section 1. The commission has zoning jurisdiction over that airspace over and around the public use and military airports within the Commonwealth which lies above the imaginary surface that extends outward and upward at one (1) of the following slopes:

(1) 100 to one (1) for a horizontal distance of 20,000 feet from the nearest point of the nearest runway of each public use airport and military airport with at least one (1) runway 3,200 feet or more in length; or

(2) fifty (50) to one (1) for a horizontal distance of 10,000 feet from the nearest point of the nearest runway of each public use and military airport with its longest runway less than 3,200 feet in length.

Section 2. The commission has zoning jurisdiction over the use of land and structures within public use airports within the state.

Section 3. The commission has jurisdiction from the ground upward within the limits of the primary and approach surfaces of each public use airport and military airport as depicted on airport zoning maps approved by the Kentucky Airport Zoning Commission.

Section 4. The Commission has jurisdiction over the airspace of the Commonwealth that exceeds 200 feet in height above the ground.

Section 5. The owner or person who has control over a structure which penetrates or will penetrate the airspace over which the Commission has Jurisdiction shall apply for a permit from the Commission in accordance with 602 KAR 50:090.

INSTRUCTIONS

1. "Alteration" means to increase or decrease the height of a structure or change the obstruction marking and lighting.
2. "Applicant" means the person who will own or have control over the completed structure.
3. "Certification by Applicant" shall be made by the individual who will own or control the completed structure; or a partner in a partnership; or the president or authorized officer of a corporation company, or association; or the authorized official of a body politic; or the legally designated representative of a trustee, receiver, or assignee.
4. Prepare the application and forward to the Kentucky Dept. of Aviation, ATTN: Airport Zoning Commission, 90 Airport Drive, Frankfort KY 40601. For questions, telephone 502-782-4043.
5. The statutes applicable to the Kentucky Airport Commission are KRS 183.861 to 183.990 and the administrative regulations are 602 KAR Chapter 50.
6. When applicable, attach the following appendices to the application:

Appendix A. A 7.5 minute quadrangle topographical map prepared by the U.S. Geological Survey and the Kentucky Geological Survey with the exact location of the structure which is the subject of the application indicated thereon. (*The 7.5 minute quadrangle map may be obtained from the Kentucky Geological Survey, Department of Mines and Minerals, Lexington, KY 40506.*)

Appendix B. For structures on or very near to property of a public use airport, a copy of the airport layout drawing (ALP) with the exact location of the structure which is the subject of this application indicated thereon. (*The ALP may be obtained from the Chairperson of the local airport board or the Kentucky Airport Zoning Commission.*)

Appendix C. Copies of Federal Aviation Administration Applications (*FFA Form 7460-1*) or any orders issued by the manager, Air Traffic Division, FAA regional office.

Appendix D. If the applicant has indicated in item number 7 of the application that the structure will not be marked or lighted in accordance with the regulations of the Commission, the applicant shall attach a written request for a determination by the commission that the marking and lighting are not necessary. The applicant shall specifically state the reasons that the absence of marking and lighting will not impair the safety of air navigation.

Appendix E. The overall height in feet of the overhead transmission line or static wire above ground level or mean water level with span length 1,000 feet and over shall be depicted on a blueprint profile map.

PENALTIES

1. Persons failing to comply with the Airport Zoning Commission statutes and regulations are liable for a fine or imprisonment as set forth in KRS 183.990(3).
2. Applicants are cautioned: Noncompliance with Federal Aviation Administration Regulations may provide for further penalties.

KENTUCKY TRANSPORTATION CABINET

KENTUCKY AIRPORT ZONING COMMISSION

APPLICATION FOR PERMIT TO CONSTRUCT OR ALTER A STRUCTURE

APPLICANT (*name*) Verizon	**PHONE** 303-829-0076	**FAX**	**KY AERONAUTICAL STUDY #**	
ADDRESS (*street*) 5055 North Point Pkway	**CITY** Alpharetta		**STATE** GA	**ZIP** 30022
APPLICANT'S REPRESENTATIVE (*name*) Maureen Ramdath	**PHONE** 303-829-0076	**FAX**		
ADDRESS (*street*) 5055 North Point Pkway	**CITY** Alpharetta		**STATE** GA	**ZIP** 30222
APPLICATION FOR ☒ New Construction ☐ Alteration ☐ Existing **DURATION** ☒ Permanent ☐ Temporary (*months* *days*)			**WORK SCHEDULE** Start End	
TYPE ☐ Crane ☐ Building ☒ Antenna Tower ☐ Power Line ☐ Water Tank ☐ Landfill ☐ Other	**MARKING/PAINTING/LIGHTING PREFERRED** ☐ Red Lights & Paint ☐ White- medium intensity ☐ White- high intensity ☒ Dual- red & medium intensity white ☐ Dual- red & high intensity white ☐ Other			
LATITUDE 37°07'5.728"	**LONGITUDE** 84°37'53.789"		**DATUM** ☒ NAD83 ☐ NAD27 ☐ Other	
NEAREST KENTUCKY City Somerset County Pulaski	**NEAREST KENTUCKY PUBLIC USE OR MILITARY AIRPORT** Lake Cumberland RGNL			
SITE ELEVATION (AMSL, *feet*) 1052.8	**TOTAL STRUCTURE HEIGHT** (AGL, *feet*) 285		**CURRENT** (*FAA aeronautical study #*) 2021-ASO-35726-OE	
OVERALL HEIGHT (*site elevation plus total structure height, feet*) 1337.8ft			**PREVIOUS** (*FAA aeronautical study #*) n/a	
DISTANCE (*from nearest Kentucky public use or Military airport to structure*) 3.9nm			**PREVIOUS** (*KY aeronautical study #*)	
DIRECTION (*from nearest Kentucky public use or Military airport to structure*) 3 miles S of Somerst KY				

DESCRIPTION OF LOCATION (*Attach USGS 7.5 minute quadrangle map or an airport layout drawing with the precise site marked and any certified survey.*)
Survey Attached

DESCRIPTION OF PROPOSAL
Proposed 285ft antenna Tower (1730 N Highway 27)-LV NW Somerset #15287363

FAA Form 7460-1 (*Has the "Notice of Construction or Alteration" been filed with the Federal Aviation Administration?*)
☒ No ☒ Yes, when? 09/08/2021

CERTIFICATION (*I hereby certify that all the above entries, made by me, are true, complete, and correct to the best of my knowledge and belief.*)
PENALITIES (*Persons failing to comply with KRS 183.861 to 183.990 and 602 KAR 050 are liable for fines and/or imprisonment as set forth in KRS 183.990(3). Noncompliance with FAA regulations may result in further penalties.*)

NAME	**TITLE**	**SIGNATURE**	**DATE**
Maureen Ramdath	Reg Engineer		01/8/2023

COMMISSION ACTION

☐ Chairperson, KAZC
☐ Administrator, KAZC

☐ Approved
☐ Disapproved

SIGNATURE

DATE

Date: August 30, 2022

POD Job Number: 21-82628

GEOTECHNICAL REPORT

LV NW SOMERSET

37° 07' 05.728890" N
84° 37' 53.789281" W

1730 N Highway 27,
Somerset, KY 42503

Prepared For:

verizon

Prepared By:

POD
POWER OF DESIGN

11490 Bluegrass Parkway | Louisville, Kentucky 40299 | 502.437.5252
POWER OF DESIGN GROUP, LLC

POD
POWER OF DESIGN

August 30, 2022

Ms. Jackie Straight
Verizon Wireless
2902 Ring Road
Elizabethtown, KY 42701

Re: Geotechnical Report – **PROPOSED 280' SELF-SUPPORT TOWER w/ 5' LIGHTNING ARRESTOR**
Site Name: **LV NW SOMSERSET**
Site Address: 1730 N Highway 27, Somerset, Pulaski County, Kentucky
Coordinates: N37° 07' 05.728890", W84° 37' 53.789281"
POD Project No. 21-82628

Dear Ms. Straight:

Attached is our geotechnical engineering report for the referenced project. This report contains our findings, an engineering interpretation of these findings with respect to the available project characteristics, and recommendations to aid design and construction of the tower and equipment support foundations.

We appreciate the opportunity to be of service to you on this project. If you have any questions regarding this report, please contact our office.

Cordially,

Mark Patterson, P.E.
Project Engineer
License No.: KY 16300

STATE OF KENTUCKY
MARK E. PATTERSON
16,300
LICENSED
PROFESSIONAL ENGINEER

Copies submitted: (3) Ms. Jackie Straight

LETTER OF TRANSMITTAL

TABLE OF CONTENTS

APPENDIX

BORING LOCATION PLAN
BORING LOGS
SOIL SAMPLE CLASSIFICATION

Geotechnical Report
PROPOSED 280' SELF-SUPPORT TOWER w/ 5' LIGHTNING ARRESTOR
Site Name: **LV NW SOMERSET**
1730 N Highway 27, Somerset, Pulaski County, Kentucky
N37° 07' 05.728890", W84° 37' 53.789281"

1. PURPOSE AND SCOPE

The purpose of this study was to determine the general subsurface conditions at the site of the proposed tower by drilling three borings and to evaluate this data with respect to foundation concept and design for the proposed tower and shelter. Also included is an evaluation of the site with respect to potential construction problems and recommendations dealing with quality control during construction.

2. PROJECT CHARACTERISTICS

Verizon is proposing to construct a self-support tower and either an equipment shelter, slab, or platform at N37° 07' 05.728890", W84° 37' 53.789281", 1730 N Highway 27, Somerset, Pulaski County, Kentucky. The site is located in an open field behind a car dealership on the northwest side of Somerset and south of the Cumberland Parkway. The proposed lease area will be 7,500 square feet and will be accessed along a new access road running east, then north, parallel to Hwy 27 to the proposed lease area. The elevation at the proposed tower location is about EL 1052.8 and there about 3-feet of change in elevation across the proposed lease area. The development will also include a small equipment shelter near the base of the tower. The proposed tower location is shown on the Boring Location Plan in the Appendix.

3. SUBSURFACE CONDITIONS

The subsurface conditions were explored by drilling three test borings near the base of the proposed tower. The Geotechnical Soil Test Boring Logs, which are included in the Appendix, describes the materials and conditions encountered. A sheet defining the terms and symbols used on the boring logs is also included in the Appendix. The general subsurface conditions disclosed by the test borings are discussed in the following paragraphs.

According to the Kentucky Geological Survey, Kentucky Geologic Map Information Services, the site is underlain by the Upper Mississippian age St Louis Limestone which consists of limestone, siltstone and chert. This formation is highly karst. There were no sinkholes mapped on the site but there are a number of sinkholes mapped within about one mile of the site. Most all of the Somerset area is karst and it is an inherited risk in building in the area. Just to the east of the site is a stream and Alluvium deposits are mapped close to the site.

The borings encountered between no topsoil to up to 4 inches of topsoil at the existing ground surface. Below the

topsoil, the borings encountered silty clay (CL-CH) and clay (CH) of medium to high plasticity. The SPT N-values in the clayey soil were between 2 to 22 blows per foot (bpf) generally indicating a very soft to very stiff consistency. The very soft soils were found in B-2 below 4 feet. The high 22 bpf value indicates the boring may have hit a chert fragments that artificially increased the blows per foot. The clay soils in B-2 appear to be an old river bottom type material. The borings encountered auger refusal between 10.6 and 14.1 feet in clayshale that was found just at auger refusal. Auger refusal is defined as the depth at which the boring can no longer be advanced using the current drilling method.

The refusal material was cored in Boring B-1 from 14.1 to 24.1 feet below the ground surface. Limestone that was continuous, hard, slightly to moderately weathered, light gray with a few very thin mud seams was encountered. The recoveries of the rock cores were 95 and 98 percent and the RQD values were 72 and 87 percent. These values generally represent good to excellent quality rock from a foundation support viewpoint.

Observations made at the completion of soil drilling operations indicated the borings to be dry. It must be noted, however, that short-term water readings in test borings are not necessarily a reliable indication of the actual groundwater level. Furthermore, it must be emphasized that the groundwater level is not stationary but will fluctuate seasonally.

Based on the limited subsurface conditions encountered at the site and using Table 1615.1.1 of the 2018 Kentucky Building Code, the site class is considered "C". Seismic design requirements for telecommunication towers are given in section 1622 of the code. A detailed seismic study was beyond the scope of this report.

4. FOUNDATION DESIGN RECOMMENDATIONS

The following design recommendations are based on the previously described project information, the subsurface conditions encountered in our borings, the results of our laboratory testing, empirical correlations for the soil types encountered, our analyses, and our experience. If there is any change in the project criteria or structure location, you should retain us to review our recommendations so that we can determine if any modifications are required. The findings of such a review can then be presented in a supplemental report or addendum.

We recommend that the geotechnical engineer be retained to review the near-final project plans and specifications, pertaining to the geotechnical aspects of the project, prior to bidding and construction. We recommend this review to check that our assumptions and evaluations are appropriate based on the current project information provided to us, and to check that our foundation and earthwork recommendations were properly interpreted and implemented.

4.1. Proposed Tower

Our findings indicate that the proposed self-support can be supported on drilled piers. The drilled piers bearing pressure have been adjusted for the karst material in the area even though the limestone core from the site was excellent. A mat foundation is not recommended, and the values given are based on the very soft soils encountered in B-2.

4.1.1. Drilled Piers

The following table summarizes the recommended values for use in analyzing lateral and frictional resistance for the various strata encountered at the test boring. It is important to note that these values are estimated based on the standard penetration test results and soil types and were not directly measured. The all values provided are ultimate values and appropriate factors of safety should be used in conjunction with these values. If the piers will bear deeper than about 24 feet, a deeper boring should be drilled to determine the nature of the deeper material.

Depth Below Ground Surface, feet	0 -2	2 - 12	14 - 24
Ultimate Bearing Pressure (psf)		5,300	55,000
C **Undrained Shear Strength, psf**	500	1,000	10,000
Ø **Angle of Internal Friction degrees**	0	0	0
Total Unit Weight, pcf	110	120	135
Soil Modulus Parameter **k, pci**	30	500	2000
Passive Soil Pressure, **psf/one foot of depth**		675 + 40(D-2)	6,700 + 45(D-14)
Side Friction, psf		300	1200

Note: D = Depth below ground surface (in feet) to point at which the passive pressure is calculated.

It is important that the drilled piers be installed by an experienced, competent drilled pier contractor who will be responsible for properly installing the piers in accordance with industry standards and generally accepted methods,

without causing deterioration of the subgrade. The recommendations contained herein relate only to the soil-pier interaction and do not account for the structural design of the piers.

4.1.2. Mat Foundation

The tower could be supported on a common mat foundation bearing on the clay at a minimum of 4 feet can be designed using an allowable soil pressure of 1,500 pounds per square foot may be used. This value may be increased by 30 percent for the maximum edge pressure under transient loads. A friction value of 0.30 may be used between the concrete and the clayey soil. The passive pressures given for the drilled pier foundation may be used to resist lateral forces.

It is important that the mat be designed with an adequate factor of safety with regard to overturning under the maximum design wind load.

4.2. Equipment Platform

An equipment platform may be supported on shallow piers bearing in the natural clay and designed for a net allowable soil pressure of 1,500 pounds per square foot. The piers should bear at a depth of at least 30 inches to minimize the effects of frost action. All existing topsoil or soft natural soil should be removed beneath footings.

4.3. Equipment Slab

A concrete slab supporting the equipment must be supported on at least 6-inch layer of relatively clean granular material such as gravel or crushed stone containing not more than 10 percent material that passes through a No. 4 sieve. This is to help distribute concentrated loads and equalize moisture conditions beneath the slab. Provided that a minimum of 6 in. of granular material is placed below the slab, a modulus of subgrade reaction (k30) of 90 lbs/cu.in. can be used for design of the slab. All existing topsoil or soft natural soil should be removed beneath crushed stone layer.

4.4. Equipment Building

If an equipment building support on a slab is chosen in place of the equipment platform, it may be supported on shallow spread footings bearing in the natural clay soil and designed for a net allowable soil pressure of 1,500 pounds per square foot.

The footings should be at least ten inches wide. If the footings bear on soil, they should bear at a depth of at least 30 inches to minimize the effects of frost action. All existing topsoil or soft natural soil should be removed beneath footings.

The floor slab for the new equipment building can be supported on firm natural soils or on new compacted structural fill. Floor slabs must be supported on at least 4-inch layer of relatively clean granular material such as gravel or crushed stone containing not more than 10 percent material that passes through a No. 4 sieve. This is to help distribute concentrated loads and equalize moisture conditions beneath the slab. Provided that a minimum of 4 in. of granular material is placed below the slab, a modulus of subgrade reaction (k30) of 90 lbs/cu.in. can be used for design of the floor slabs.

4.5. Drainage and Groundwater Considerations

Good site drainage must be provided. Surface run-off water should be drained away from the tower and platform and not allowed to pond. It is recommended that all foundation concrete be placed the same day the excavation is made.

At the time of this investigation, groundwater was not encountered. Therefore, no special provisions regarding groundwater control are considered necessary for shallow foundations. Any seepage should be able to be pumped with sumps.

5. GENERAL CONSTRUCTION PROCEDURES AND RECOMMENDATIONS

It is possible that variations in subsurface conditions will be encountered during construction. Although only minor variations that can be readily evaluated and adjusted for during construction are anticipated, it is recommended the geotechnical engineer, or a qualified representative be retained to perform continuous inspection and review during construction of the soils-related phases of the work. This will permit correlation between the test boring data and the actual soil conditions encountered during construction.

5.1 Drilled Piers

The following recommendations are recommended for drilled pier construction:

- All piers must be poured the same day drilling is completed so that any shale is not allowed to swell. Clean the foundation bearing area so it is nearly level or suitably benched and is free of ponded water or loose material.

- Make provisions for ground water removal from the drilled shaft excavation. While the borings were dry prior to rock coring and significant seepage is not anticipated, the drilled pier contractor should have pumps on hand to remove water in the event seepage into the drilled pier is encountered.

- Specify concrete slumps ranging from 4 to 7 inches for the drilled shaft construction. These slumps are recommended to fill irregularities along the sides and bottom of the drilled hole, displace water as it is placed, and permit placement of reinforcing cages into the fluid concrete.

- Retain the geotechnical engineer to observe foundation excavations after the bottom of the hole is leveled, cleaned of any mud or extraneous material, and dewatered.

- Install a temporary protective steel casing to prevent side wall collapse, prevent excessive mud and water intrusion in the drilled shaft.

- The protective steel casing may be extracted as the concrete is placed provided a sufficient head of concrete is maintained inside the steel casing to prevent soil or water intrusion into the newly placed concrete.

- Direct the concrete placement into the drilled hole through a centering chute to reduce side flow or segregation.

5.2 Fill Compaction

All engineered fill placed adjacent to and above the tower foundation should be compacted to a dry density of at least 95 percent of the standard Proctor maximum dry density (ASTM D-698). This minimum compaction requirement should be increased to 98 percent for any fill placed below the tower foundation bearing elevation. Any fill placed beneath the tower foundation should be limited to well-graded sand and gravel or crushed stone. The compaction should be accomplished by placing the fill in about 8 inch (or less) loose lifts and mechanically compacting each lift to at least the specified minimum dry density. Field density tests should be performed on each lift as necessary to ensure that adequate moisture conditioning and compaction is being achieved.

Compaction by flooding is not considered acceptable. This method will generally not achieve the desired compaction and the large quantities of water will tend to soften the foundation soils.

5.3 Construction Dewatering

If groundwater is encountered in the shallow foundations, it should be minor and can be handled by conventional

dewatering methods such as pumping from sumps.

If groundwater is encountered in the drilled pier excavations, it may be more difficult since pumping directly from the excavations could cause a deterioration of the bottom of the excavation. If the pier excavations are not dewatered, concrete should be placed by the termie method. If groundwater sits on the bottom of the foundation for longer than an hour, the bottom should be cleaned again before the pier is poured.

6 FIELD INVESTIGATION

Three soil test borings were drilled near the base of the proposed tower. Split-spoon samples were obtained by the Standard Penetration Test (SPT) procedure (ASTM D1586) in all test borings. The borings encountered auger refusal from about 10.6 to 14.1 feet. A rock core of the refusal material was taken in Boring B-1 from 14.1 to 24.1 feet. The split spoon samples were inspected and visually classified by a geotechnical engineer. Representative portions of the soil samples were sealed in glass jars and returned to our laboratory along with the rock core.

The boring logs are included in the Appendix along with a sheet defining the terms and symbols used on the logs and an explanation of the Standard Penetration Test (SPT) procedure. The logs present visual descriptions of the soil strata encountered, Unified System soil classifications, groundwater observations, sampling information, laboratory test results, and other pertinent field data and observations.

7 WARRANTY AND LIMITATIONS OF STUDY

Our professional services have been performed, our findings obtained, and our recommendations prepared in accordance with generally accepted geotechnical engineering principles and practices. This warranty is in lieu of all other warranties, either express or implied. POD Group is not responsible for the independent conclusions, opinions or recommendations made by others based on the field exploration and laboratory test data presented in this report.

A geotechnical study is inherently limited since the engineering recommendations are developed from information obtained from test borings, which depict subsurface conditions only at the specific locations, times and depths shown on the logs. Soil conditions at other locations may differ from those encountered in the test borings, and the passage of time may cause the soil conditions to change from those described in this report.

The nature and extent of variation and change in the subsurface conditions at the site may not become evident until the course of construction. Construction monitoring by the geotechnical engineer or a representative is therefore considered necessary to verify the subsurface conditions and to check that the soils connected construction phases are

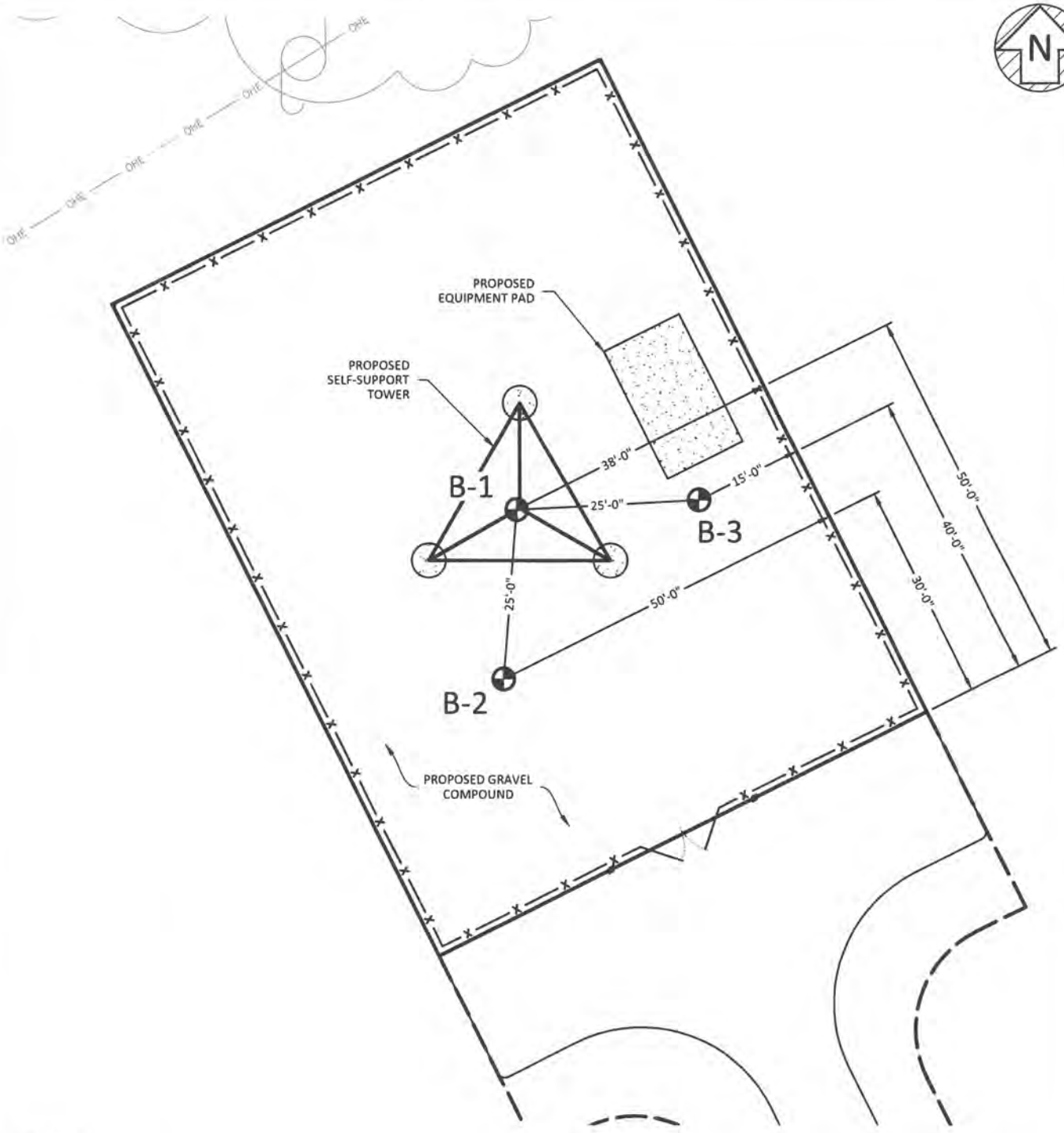
properly completed. If significant variations or changes are in evidence, it may then be necessary to reevaluate the recommendations of this report. Furthermore, if the project characteristics are altered significantly from those discussed in this report, if the project information contained in this report is incorrect, or if additional information becomes available, a review must be made by this office to determine if any modification in the recommendations will be required.

APPENDIX

BORING LOCATION PLAN

BORING LOGS

SOIL SAMPLE CLASSIFICATION



LEGEND

B-1 BORING LOCATION

0' 20' 40'

1"= 20'

SHEET TITLE: **BORING LOCATION PLAN**	LATITUDE: 37° 07' 05.728890" N LONGITUDE: 84° 37' 53.789281" W	SITE INFORMATION: **LV NW Somerset**	POD POWER OF DESIGN 11490 BLUEGRASS PKWY LOUISVILLE, KY 40299 502-437-5252
	PARCEL #: 060-2-0-25 DB 850, PG 478	1730 N HIGHWAY 27 SOMERSET, KY 42503 PULASKI COUNTY	
SHEET NUMBER: **1**	POD NUMBER: 21-82628 DRAWN BY: POD CHECKED BY: MEP DATE: 8.16.2022	OWNER INFORMATION: DANNY MCGLOTHLIN 1650 W HWY 80 SOMERSET, KY 42503	verizon

POD
POWER OF DESIGN

Boring Log

Boring: B-1

Project: LV NW Somerset | **City, State** Somerset, KY

Method: S.F.A.	**Boring Date:** 10-Aug-22	**Location:** Proposed Tower Center
Inside Diameter: 4"	**Drill Rig Type:** D-50 (ATV)	**Hammer Type:** Auto
Groundwater: DRY		**Weather:**
Driller: Strata Group, LLC	**Note:** Little to no topsoil was encountered at the ground surface	

From (ft)	To (ft)	Material Description	Sample Depth (ft)	Sample Type	Blows per 6-inch increment	Recovery (in)	SPT-N value	Rock Quality (RQD,%)	Atterberg Limits	Moisture Content (%)	% Fines (clay & silt)	Unconfined Compressive Strength, (ksf)
0.0	1.5	Possible Fill - silty clay, wet with roots	0 - 1.5	SS	3, 3, 5	15				18%		
1.5	14.0	CLAY (CH) - medium still, yellowish brown to orange brown	1.5 - 3	SS	2, 4, 3	18	7,			27%		
	4.0	- reddish brown with some chert fragments	4 - 5.5	SS	3, 3, 4	18	7,			26%		3.5
			6.5 - 8	SS	3, 4, 4	16	8,			29%		1.5
			9 - 10.5	SS	3, 2, 4	18	6,			26%		2.0
	14.0	- gray, wet, clayshale										
14.1	24.1	LIMESTONE - hard, slightly to moderately weathered, light gray with a few very thin mud seams.	14.1-19.1	RC		57		72%				
			19.1-24.1	RC		59		87%				
		Boring Terminated at 24.1 feet										

POD
POWER OF DESIGN

Boring Log

Boring: B-2

Project: LV NW Somerset | **City, State** Somerset, KY

Method: S.F.A.	**Boring Date:** 10-Aug-22	**Location:** 25' South of Proposed Tower Center
Inside Diameter: 4"	**Drill Rig Type:** D-50 (ATV)	**Hammer Type:** Auto
Groundwater: DRY		**Weather:**
Driller: Strata Group, LLC	**Note:** Little to no topsoil was encountered at the ground surface	

From (ft)	To (ft)	Material Description	Sample Depth (ft)	Sample Type	Blows per 6-inch increment	Recovery (in)	SPT-N value	Rock Quality (RQD,%)	Atterberg Limits	Moisture Content (%)	% Fines (clay & silt)	Unconfined Compressive Strength, (ksf)
0.1	10.6	CLAY (CH) - medium still, slightly moiat, yellowish brown to brown with very thin silt lenses	0 - 1.5	SS	1, 2, 4	17				16%		2.0
			1.5 - 3	SS	4, 4, 5	18	9,			16%		2.0
	4.0	- soft	4 - 5.5	SS	2, 2, 2	18	4,			17%		1.2
	6.5	- very stiff, very moist, gray with chert, very plastic like a former river bottom	6.5 - 8	SS	0, 13, 9	12	22,			15%		0.5
	9.0	- very soft, yellow gray	9 - 10.5	SS	1, 1, 1	11	2,			15%		0.5
		Auger Refusal at 10.6 feet										

POD
POWER OF DESIGN

Boring Log

Boring: B-3

Project: LV NW Somerset | **City, State** Somerset, KY

Method: S.F.A.	**Boring Date:** 10-Aug-22	**Location:** 25' East of Proposed Tower Center
Inside Diameter: 4"	**Drill Rig Type:** D-50 (ATV)	**Hammer Type:** Auto
Groundwater: DRY		**Weather:**
Driller: Strata Group, LLC	**Note:** About 4 inches of topsoil was encountered at the ground surface	

From (ft)	To (ft)	Material Description	Sample Depth (ft)	Sample Type	Blows per 6-inch increment	Recovery (in)	SPT-N value	Rock Quality (RQD,%)	Atterberg Limits	Moisture Content (%)	% Fines (clay & silt)	Unconfined Compressive Strength, (ksf)
0.3	14.1	SILTY CLAY (CL-CH) - stiff, dry, reddish brown	0 - 1.5	SS	3, 5, 9	18				20%		4.5
			1.5 - 3	SS	3, 4, 7	16	11,			18%		3.8
	4.0	- medium stiff,	4 - 5.5	SS	3, 4, 4	18	8,			19%		3.5
	6.5	- stiff, trace chert	6.5 - 8	SS	4, 7, 7	12	14,			15%		3.0
	9.0	- medium stiff, yellowiish gray with trace thin silt lenses.	9 - 10.5	SS	4, 5, 3	18	8,					2.5
	14.0	- gray clayshale.	14	SS	50,	0.5	50,					
		Auger Refusal at 14.1 feet										

SOIL SAMPLE CLASSIFICATION

FINE AND COARSE GRAINED SOIL INFORMATION

COARSE GRAINED SOILS (SANDS & GRAVELS)

N	Relative Density
0-4	Very Loose
5-10	Loose
11-20	Firm
21-30	Very Firm
31-50	Dense
Over 50	Very Dense

FINE GRAINED SOILS (SILTS & CLAYS)

N	Consistency	Qu, KSF Estimated
0-1	Very Soft	0-0.5
2-4	Soft	0.5-1
5-8	Firm	1-2
9-15	Stiff	2-4
16-30	Very Stiff	4-8
Over 31	Hard	8+

PARTICLE SIZE

Boulders	Greater than 300 mm (12 in)
Cobbles	75 mm to 300 mm (3 to 12 in)
Gravel	4.74 mm to 75 mm (3/16 to 3 in)
Coarse Sand	2 mm to 4.75 mm
Medium Sand	0.425 mm to 2 mm
Fine Sand	0.075 mm to 0.425 mm
Silts & Clays	Less than 0.075 mm

The **STANDARD PENETRATION TEST** as defined by ASTM D 1586 is a method to obtain a disturbed soil sample for examination and testing and to obtain relative density and consistency information. A standard 1.4-inch I.D./2-inch O.D. split-barrel sampler is driven three 6-inch increments with a 140 lb. hammer falling 30 inches. The hammer can either be of a trip, free-fall design, or actuated by a rope and cathead. The blow counts required to drive the sampler the final two increments are added together and designate the N-value defined in the above tables.

ROCK PROPERTIES

ROCK QUALITY DESIGNATION (RQD)

Percent RQD	Quality
0-25	Very Poor
25-50	Poor
50-75	Fair
75-90	Good
90-100	Excellent

ROCK HARDNESS

Very Hard:	Rock can be broken by heavy hammer blows.
Hard:	Rock cannot be broken by thumb pressure, but can be broken by moderate hammer blows.
Moderately Hard:	Small pieces can be broken off along sharp edges by considerable hard thumb pressure; can be broken with light hammer blows.
Soft:	Rock is coherent but breaks very easily with thumb pressure at sharp edges and crumbles with firm hand pressure.
Very Soft:	Rock disintegrates or easily compresses when touched; can be hard to very hard soil.

$$\text{Recovery} = \frac{\text{Length of Rock Core Recovered}}{\text{Length of Core Run}} \times 100$$

63 REC

$$\text{RQD} = \frac{\text{Sum of 4 in. and longer Rock Pieces Recovered}}{\text{Length of Core Run}} \times 100$$

43 RQD

Core Diameter	Inches
BQ	1-7/16
NQ	1-7/8
HQ	2-1/2

SYMBOLS

KEY TO MATERIAL TYPES

SOILS		
Group Symbols		Typical Names
GW		Well graded gravel - sand mixture, little or no fines
GP		Poorly graded gravels or gravel - sand mixture, little or no fines
GM		Silty gravels, gravel - sand silt mixtures
GC		Clayey gravels, gravel - sand - clay mixtures
SW		Well graded sands, gravelly sands, little or no fines
SP		Poorly graded sands or gravelly sands, little or no fines
SM		Silty sands, sand - silt mixtures
SC		Clayey sands, sand - clay mixtures
ML		Inorganic silts and very fine sands, rock flour, silty or clayey fine sands, or clayey silts
OL		Organic silts and organic silty clays of low plasticity
CL		Inorganic clays of low range plasticity, gravelly clays, sandy clays, silty clays, lean clays
MH		Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts
CH		Inorganic clays of high range plasticity, fat clays

ROCKS	
Symbols	Typical Names
	Limestone or Dolomite
	Shale
	Sandstone

SOIL PROPERTY SYMBOLS

N:	Standard Penetration, BPF
M:	Moisture Content, %
LL:	Liquid Limit, %
PI:	Plasticity Index, %
Qp:	Pocket Penetrometer Value, TSF
Qu:	Unconfined Compressive Strength Estimated Qu, TSF
γ_D:	Dry Unit Weight, PCF
F:	Fines Content

SAMPLING SYMBOLS

SS — Split Spoon Sample

UD — Relatively Undisturbed Sample

Core 1 — Rock Core Sample

Directions to Site from County Seat

FROM PULASKI COUNTY JUDGE: 100 N MAIN ST #202, SOMERSET, KY 42501 HEAD SOUTH TOWARD W MT VERNON ST (92 FT). TURN RIGHT ONTO W MT VERNON ST (0.2 MI). CONTINUE ONTO OHIO ST (0.2 MI). CONTINUE ONTO OGDEN ST (0.5 MI). TURN RIGHT ONTO US-27 N (1.8 MI). TURN RIGHT INTO PARKING LOT (302 FT). SITE WILL BE LOCATED ON LEFT (NORTH) SIDE OF THE ROAD.

PREPARED BY POWER OF DESIGN GROUP, LLC (502) 437-5252

Assignee Site: LV NW Somerset
Assignee Site Number: US-KY-5176
Assignor Site Name: LV NW Somerset
Location Code: 639573

ASSIGNMENT AND ASSUMPTION OF LEASE

THIS ASSIGNMENT AND ASSUMPTION OF LEASE (this "Assignment") is entered into as of 6th this February, 2023 (the "Lease Transfer Date"), by and among **Rural Cellular Corporation d/b/a Verizon Wireless**, with its principal offices located at One Verizon Way, Mail Stop 4AW100, Basking Ridge, New Jersey 07920-1097 ("Assignor"), and **VB BTS II, LLC**, a Delaware limited liability company having its principal offices located at 750 Park of Commerce Drive, Suite 200, Boca Raton, Florida 33487 ("Assignee"). The Assignor and Assignee are at times collectively referred to hereinafter as the "Parties" or individually as the "Party."

WITNESSETH

WHEREAS, on April 15, 2022, Danny McGlothlin, a Kentucky resident ("Owner"), as Lessor, and Assignor, as Lessee, entered into a Land Lease Agreement (the "Ground Lease"), a copy of which is attached hereto as **Exhibit 1**, documenting Assignor's lease of a portion of that certain real property located at approximately 1730 N. Highway 27, City of Somerset, County of Pulaski, State of Kentucky (the "Premises"); and

WHEREAS, Assignor desires to assign all of its rights, duties, interests and obligations in, to and under the Ground Lease together with all municipal, state, and Federal approvals received by the Assignor related thereto and any pending applications therefore to the Assignee.

NOW THEREFORE, in consideration of the premises and the mutual covenants contained herein and other good and valuable consideration the receipt and sufficiency of which is hereby acknowledged, Assignor and Assignee, hereby agree as follows:

1. Assignment of Ground Lease. As of the Lease Transfer Date, Assignor hereby assigns and transfers all of its right, title, claim and interest in, to and under the Ground Lease to Assignee. Assignor hereby represents to Assignee that to Assignor's actual knowledge, without investigation, Assignor has a valid leasehold interest in and to the Premises pursuant to the Ground Lease. Assignor will indemnify, defend and hold harmless Assignee, its successors and assigns and their respective agents, employees directors and officers from and against any claim, damage, loss, liability, obligation, demand, defense, judgment, suit, proceeding, disbursement or expense, including reasonable attorneys' fees or costs of any nature whatsoever (collectively, "Losses and Liabilities"), arising out of or in any way related to the Ground Lease prior to the Lease Transfer Date except to the extent such claims or damages may be due to or caused by the negligence or willful misconduct of Assignee, or its employees, contractors or agents.

2. Acceptance and Assumption of Ground Lease. Assignee, as of the Lease Transfer Date, hereby accepts the foregoing assignment of the Ground Lease and expressly assumes the performance of all terms, obligations, covenants and provisions of the Ground Lease and agrees to perform all the terms, obligations, covenants and conditions of the Ground Lease. Assignee

shall be solely responsible for and will indemnify, defend and hold harmless Assignor, its successors and assigns and their representatives, agents, employees, directors and officers from and against any and all Losses and Liabilities arising out of or in any way related to the Ground Lease or the Premises after the Lease Transfer Date, except to the extent such claims or damages may be due to or caused by the negligence or willful misconduct of Assignor, or its employees, contractors or agents.

3. Owner Consent. The Owner's consent to this Assignment, if required pursuant to the terms of the Ground Lease, is attached hereto as **Exhibit 2.**

4. Transfer of Tangible and Intangible Property. Assignor hereby assigns and transfers, to the extent assignable, all of its right, title, claim and interest in and to all of Assignor's rights, titles, interests, powers, and privileges, in and to: (a) all intangible property pertaining to the Premises, including, but not limited to, all plans and specifications for construction of improvements; any claims, causes or choses in action with respect to the design or construction of the improvements or any element of the Premises; surveys; blueprints; drawings; studies, reports, and assessments, including, but not limited to, engineering reports (but excluding environmental site assessments); and (b) all municipal, state, and Federal use, occupancy and operating permits, the present zoning and all other developmental grants, permits, benefits and privileges and any and all other licenses, franchise, permits, approvals and certificates obtained in connection with the Premises, including without limitation, applicable Federal Aviation Administration and Federal Communications Commission licenses and permits associated with the use of the Premises as a telecommunications transmission tower ("Tower"). Assignee will be responsible for the cost of any updates or reliance letters related to any assigned reports.

THE FOREGOING DOCUMENTATION IS PROVIDED TO ASSIGNEE WITHOUT ANY WARRANTIES, REPRESENTATIONS OR GUARANTIES, EITHER EXPRESS OR IMPLIED, OR ANY KIND, NATURE OR TYPE WHATSOVER, FROM OR ON BEHALF OF ASSIGNOR. Assignor makes no representations or warranties of any kind regarding any of the documentation provided, nor does Assignor make any representations or warranties of any kind regarding any conditions, requirements, reports and / or approvals needed for the Tower. The Parties agree that it is the responsibility of the Assignee to independently research, review and verify any and all information provided to it by Assignor as well as any condition, requirement, report or approval needed for the Tower, whether or not the same has been provided to Assignee. Moreover, Assignee must ensure all necessary governmental approvals are obtained for construction and operation the Tower and communications facility. Assignor shall not be liable on account of Assignee's failure to satisfy this responsibility.

5. Successors and Assigns. This Assignment shall be binding upon and inure to the benefit of the Parties hereto and their respective successors and assigns.

6. Further Assurances. Assignor and Assignee agree that, from time to time, each of them will execute and deliver such further instruments of conveyance and transfer and take such

other actions as may be reasonably necessary to carry out the purposes and intents of this Assignment and the transactions contemplated hereby.

7. Attorneys' Fees and Costs. In the event of any litigation or arbitration between Assignor and Assignee arising out of this Assignment, the prevailing party will be entitled to recover all expenses and costs incurred in connection therewith, including reasonable attorneys' fees and costs.

8. Governing Law. This Assignment will be governed by and construed in accordance with the internal laws of the state in which the Premises is located without regard to principles of conflicts of laws.

9. Invalidity. In the event any one or more of the provisions contained in this Assignment shall for any reason be held to be invalid, illegal or unenforceable in any respect, such invalidity, illegality or unenforceability shall not affect any other provision of this Assignment, and this Assignment shall be construed as if such invalid, illegal or unenforceable provisions had never been contained herein.

10. Integration. It is agreed and understood that this Assignment contains all agreements, promises and understandings between Assignor and Assignee and that no verbal or oral agreements, promises or understandings shall be binding upon either Assignor or Assignee in any dispute, controversy or proceeding at law, and any addition, variation or modification to this Assignment shall be void and ineffective unless made in writing signed by the Parties.

11. Submission of Assignment/Authority. The submission of this Assignment for examination does not constitute an offer to lease the Premises and this Assignment becomes effective only upon the full execution of this Assignment by the Parties. Each of the Parties hereto warrants to the other that the person or persons executing this Assignment on behalf of such Party has the full right, power and authority to enter into and execute this Assignment on such Party's behalf and that no consent from any other person or entity is necessary as a condition precedent to the legal effect of this Assignment.

12. Recording. The Parties agree to execute a Memorandum of this Assignment which Assignee may record with the appropriate recording officer. The date set forth in the Memorandum of Assignment is for recording purposes only and bears no reference to Lease Transfer Date.

13. Counterparts. This Assignment may be executed in counterparts, each of which shall be deemed to be an original, but which together shall constitute one and the same instrument.

[SIGNATURES TO FOLLOW]

[REMAINDER OF PAGE INTENTIONALLY LEFT BLANK]

IN WITNESS WHEREOF, the Parties hereto have executed and delivered this Assignment on the Lease Transfer Date.

WITNESSES:

By: Anna Palanjian

Name: Anna Palanjian

ASSIGNOR:

RURAL CELLULAR CORPORATION
d/b/a Verizon Wireless

By: _____

Name: **Ed Maher**
Director - Network Field Engineering

Title: _____

Date: 12/18/22

WITNESSES:

By: _____

Name: _____

ASSIGNEE:

VB BTS II, LLC
a Delaware Limited Liability Company

By: See next page

Name: _____

Title: _____

Date: _____

Assignee Site: LV NW Somerset
Assignee Site Number: US-KY-5176
Assignor Site Name: LV NW Somerset
Location Code: 639573

IN WITNESS WHEREOF, the Parties hereto have executed and delivered this Assignment on the Lease Transfer Date.

WITNESSES:

By: Anna Padanjian
Name: Anna Padanjian

ASSIGNOR:

RURAL CELLULAR CORPORATION
d/b/a Verizon Wireless

By: _____
Name: **Ed Maher**
Title: **Director - Network Field Engineering**
Date: 12/18/22

WITNESSES:

By: _____
Name: Janette Castillo

ASSIGNEE:

VB BTS II, LLC
a Delaware Limited Liability Company

By: _____
Name: Ariel Rubin
Title: VPTD
Date: 02/06/23

LEGAL DS
LJ

EXHIBIT 1

LAND LEASE AGREEMENT
[SEE ATTACHED]

VzW Site Name: LV NW Somerset
Location Code: 639573
Atty: Coots Henke & Wheeler, P.C.: Daniel E. Coots

LAND LEASE AGREEMENT

This Land Lease Agreement (the "Agreement") made this 15 day of April, 2022, between **Danny McGlothlin,** a Kentucky resident with a mailing address of 1650 W. Hwy 80, Somerset, Kentucky 42503, hereinafter collectively designated LESSOR and **Rural Cellular Corporation d/b/a Verizon Wireless** with its principal offices at One Verizon Way, Mail Stop 4AW100, Basking Ridge, New Jersey 07920 (telephone number 866-862-4404), hereinafter designated LESSEE. LESSOR and LESSEE are at times collectively referred to hereinafter as the "Parties" or individually as the "Party."

WITNESSETH

In consideration of the mutual covenants contained herein and intending to be legally bound hereby, the Parties hereto agree as follows:

1. GRANT. In accordance with this Agreement, LESSOR hereby grants to LESSEE the right to install, maintain and operate a telecommunications tower, facility, and equipment ("Use") upon the Premises (as hereinafter defined), which are a part of that real property owned, leased or controlled by LESSOR at approximately 1730 N. Highway 27, Somerset, Kentucky 42503 (the "Property"). The Property is legally described on Exhibit "A" attached hereto and made a part hereof. The Premises are a portion of the Property including a portion of the parcel of land space (the "Land Space") consisting of approximately 75' x 100', or 7,500 square feet of land, as shown in detail on Exhibit "B" attached hereto and made a part hereof. LESSOR hereby grants permission to LESSEE to install, maintain and operate the telecommunications tower, facility, equipment, antennas and appurtenances described in Exhibit "B" attached hereto. LESSEE reserves the right to replace the aforementioned equipment with similar and comparable equipment. In addition, LESSOR hereby grants to LESSEE a non-exclusive right (the "Easements") over the Property for access, ingress and egress, seven (7) days a week twenty-four (24) hours a day, on foot or motor vehicle, including trucks over or along a thirty foot (30') wide right-of-way extending from the nearest public right-of-way, U.S. Highway 27, to the Land Space, and for the installation and maintenance of utility wires, poles, cables, conduits, fiber, and pipes over, under, or along one or more rights of way from the Land Space, said Land Space and Rights of Way (hereinafter collectively referred to as the "Premises") being substantially as described herein in Exhibit "B" attached hereto and made a part hereof. The Property is also shown on the Tax Map of the City of Somerset, Pulaski County, as Tax Map ID Number 060-2-0-25.

In the event any public utility is unable to use the Easements, the LESSOR hereby agrees to grant an additional right-of-way either to the LESSEE or to the public utility at no cost to the LESSEE.

LESSEE may survey the Premises and said survey shall then become Exhibit "C" which shall be attached hereto and made a part hereof, and shall control in the event of boundary and access discrepancies between it and Exhibit "B". Cost for such work shall be borne by the LESSEE.

2. INITIAL TERM. This Agreement shall be effective as of the date of execution by both Parties ("Effective Date"). The initial term of the Agreement shall be for five (5) years beginning on the first (1st) day of the month following the Commencement Date (as hereinafter defined). The "Commencement Date" shall be the first (1st) day of the month after LESSEE begins construction of the

telecommunications facility. LESSOR and LESSEE agree that they shall acknowledge, in writing, the Commencement Date once construction of the telecommunications facility has commenced.

3. EXTENSIONS. This Agreement shall automatically be extended for 5 additional five (5) year terms unless LESSEE terminates it at the end of the then current term by giving LESSOR written notice of the intent to terminate at least three (3) months prior to the end of the then current term. The initial term and all extensions shall be collectively referred to herein as the "Term".

4. RENTAL.

(a). Rental payments shall begin on the Commencement Date and be due at a total annual rental of Nine Thousand Six Hundred and 00/100 Dollars **($9,600.00)**, to be paid in equal monthly installments of Eight Hundred and 00/100 Dollars ($800.00) on the first (1st) day of the month, in advance, to LESSOR at 1650 W. Hwy 80, Somerset, Kentucky 42503 or to such other person, firm, or place as LESSOR may, from time to time, designate in writing at least thirty (30) days in advance of any rental payment date by notice given in accordance with Paragraph 20 below. LESSOR and LESSEE acknowledge and agree that the initial rental payment shall not be delivered by LESSEE until sixty (60) days after the Commencement Date. Upon agreement of the Parties, LESSEE may pay rent by electronic funds transfer and in such event, LESSOR agrees to provide to LESSEE bank routing information for such purpose upon request of LESSEE.

(b). For any party to whom rental payments are to be made, LESSOR or any successor in interest of LESSOR hereby agrees to provide to LESSEE (i) a completed, current version of Internal Revenue Service Form W-9, or equivalent; (ii) complete and fully executed state and local withholding forms if required; and (iii) other documentation to verify LESSOR's or such other party's right to receive rental as is reasonably requested by LESSEE. Rental shall be in accordance with this Agreement, but LESSEE shall have no obligation to deliver rental payments until the requested documentation has been received by LESSEE. Upon receipt of the requested documentation, LESSEE shall deliver the accrued rental payments as directed by LESSOR.

(c). The rental amount shall increase annually by Two percent (2%) upon the anniversary of the Commencement Date, as defined herein.

(d). ADDITIONAL EXTENSIONS. If at the end of the fifth (5th) five (5) year extension this Agreement has not been terminated by either Party by giving to the other written notice of an intention to terminate it at least three (3) months prior to the end of such term, this Agreement shall continue in force upon the same covenants, terms and conditions for a further term of five (5) years and for five (5) year terms thereafter until terminated by either Party by giving to the other written notice of its intention to so terminate at least three (3) months prior to the end of such term. Annual rental for each such additional five (5) year term shall be equal to the annual rental payable with respect to the immediately preceding five (5) year term. The initial term and all extensions shall be collectively referred to herein as the "Term".

5. ACCESS. LESSEE shall have the non-exclusive right of ingress and egress from a public right-of-way, 7 days a week, 24 hours a day, over the Property to and from the Premises for the purpose of installation, operation and maintenance of LESSEE's communications equipment over or along a thirty foot (30') right-of-way ("Easement"), which shall be depicted on Exhibit "B". LESSEE may use the Easement for the installation, operation and maintenance of wires, cables,

conduits and pipes for all necessary electrical, telephone, fiber and other similar support services. In the event it is necessary, LESSOR agrees to grant LESSEE or the provider the right to install such services on, through, over and/or under the Property, provided the location of such services shall be reasonably approved by LESSOR. Notwithstanding anything to the contrary, the Premises shall include such additional space sufficient for LESSEE's radio frequency signage and/or barricades as are necessary to ensure LESSEE's compliance with Laws (as defined in Paragraph 27).

6. CONDITION OF PROPERTY. LESSOR shall deliver the Premises to LESSEE in a condition ready for LESSEE's Use and clean and free of debris. Notwithstanding the foregoing, LESSEE shall be responsible for any tree clearing/site preparation associated with the Land Space and/or Easement areas. LESSOR represents and warrants to LESSEE that as of the Effective Date, the Premises is (a) in compliance with all Laws; and (b) in compliance with all EH&S Laws (as defined in Paragraph 24).

7. IMPROVEMENTS. The communications equipment including, without limitation, the tower, equipment shelters/platforms, antenna mounts, antennas, conduits, and other improvements shall be at LESSEE's expense and installation shall be at the discretion and option of LESSEE. LESSEE shall have the right to replace, repair, add or otherwise modify its communications equipment, antennas, conduits, fencing and other screening, or other improvements or any portion thereof and the frequencies over which the communications equipment operates, whether or not any of the communications equipment, antennas, conduits or other improvements are listed on any exhibit.

8. GOVERNMENT APPROVALS. LESSEE's Use is contingent upon LESSEE obtaining all of the certificates, permits and other approvals (collectively the "Government Approvals") that may be required by any Federal, State or Local authorities (collectively, the "Government Entities") as well as a satisfactory soil boring test, environmental studies, or any other due diligence LESSEE chooses that will permit LESSEE's Use. By signing this Agreement, LESSOR consents to LESSEE making all necessary applications with the appropriate zoning authority and shall cooperate with LESSEE in its effort to obtain such approvals. LESSOR shall take no action which would adversely affect the status of the Property with respect to LESSEE's Use.

9. TERMINATION. LESSEE may, unless otherwise stated, immediately terminate this Agreement upon written notice to LESSOR in the event that (i) any applications for such Government Approvals should be finally rejected; (ii) any Government Approval issued to LESSEE is canceled, expires, lapses or is otherwise withdrawn or terminated by any Government Entity; (iii) LESSEE determines that such Government Approvals may not be obtained in a timely manner; (iv) LESSEE determines any structural analysis is unsatisfactory; (v) LESSEE, in its sole discretion, determines the Use of the Premises is obsolete or unnecessary; (vi) with 3 months prior notice to LESSOR, upon the annual anniversary of the Commencement Date; or (vii) at any time before the Commencement Date for any reason or no reason in LESSEE's sole discretion.

10. INDEMNIFICATION. Subject to Paragraphs 11 and 12, each Party shall indemnify and hold the other harmless against any claim of liability or loss from personal injury or property damage resulting from or arising out of the negligence or willful misconduct of the indemnifying Party, its employees, contractors or agents, except to the extent such claims or damages may be due to or caused by the negligence or willful misconduct of the other Party, or its employees, contractors or agents. The indemnified Party will provide the indemnifying Party with prompt, written notice

of any claim covered by this indemnification; provided that any failure of the indemnified Party to provide any such notice, or to provide it promptly, shall not relieve the indemnifying Party from its indemnification obligation in respect of such claim, except to the extent the indemnifying Party can establish actual prejudice and direct damages as a result thereof. The indemnified Party will cooperate appropriately with the indemnifying Party in connection with the indemnifying Party's defense of such claim. The indemnifying Party shall defend any indemnified Party, at the indemnified Party's request, against any claim with counsel reasonably satisfactory to the indemnified Party. The indemnifying Party shall not settle or compromise any such claim or consent to the entry of any judgment without the prior written consent of each indemnified Party and without an unconditional release of all claims by each claimant or plaintiff in favor of each indemnified Party.

11. INSURANCE. The LESSOR agrees that at its own cost and expense, LESSOR will maintain commercial liability insurance with limits not less than $1,000,000 for injury to or death of one or more persons in any one occurrence and $1,000,000 for damage or destruction in any one occurrence. The LESSEE agrees that at its own cost and expense, it will maintain commercial general liability insurance with limits not less than $2,000,000 for injury to or death of one or more persons in any one occurrence and $2,000,000 for damage or destruction in any one occurrence. The Parties agree to include the other Party as an additional insured. The Parties hereby waive and release any and all rights of action for negligence against the other which may hereafter arise on account of damage to the Premises or the Property, resulting from any fire, or other casualty which is insurable under "Causes of Loss – Special Form" property damage insurance or for the kind covered by standard fire insurance policies with extended coverage, regardless of whether or not, or in what amounts, such insurance is now or hereafter carried by the Parties, even if any such fire or other casualty shall have been caused by the fault or negligence of the other Party. These waivers and releases shall apply between the Parties and they shall also apply to any claims under or through either Party as a result of any asserted right of subrogation. All such policies of insurance obtained by either Party concerning the Premises or the Property shall waive the insurer's right of subrogation against the other Party.

12. LIMITATION OF LIABILITY. Except for indemnification pursuant to Paragraphs 10 and 24, a violation of Paragraph 30, or a violation of law, neither Party shall be liable to the other, or any of their respective agents, representatives, or employees for any lost revenue, lost profits, loss of technology, rights or services, incidental, punitive, indirect, special or consequential damages, loss of data, or interruption or loss of use of service, even if advised of the possibility of such damages, whether under theory of contract, tort (including negligence), strict liability or otherwise.

13. INTERFERENCE.

(a). LESSOR agrees that LESSOR and other occupants of the Property will not cause interference to LESSEE's equipment (that is measurable in accordance with industry standards to the then existing equipment of LESSEE).

(b). Without limiting any other rights or remedies, if interference occurs and continues for a period in excess of 48 hours following notice to the interfering party via telephone to LESSEE'S Network Operations Center (at (800) 224-6620/(800) 621-2622) or to LESSOR at (606) 271-0390, the interfering party shall or shall require any other user to reduce power or cease operations of the interfering equipment until the interference is cured.

(c). The Parties acknowledge that there will not be an adequate remedy at law for noncompliance with the provisions of this Paragraph and therefore the Parties shall have the right to equitable remedies such as, without limitation, injunctive relief and specific performance.

14. REMOVAL AT END OF TERM. Upon expiration or within ninety (90) days of earlier termination, LESSEE shall remove LESSEE's Communications Equipment (except footings) and restore the Premises to its original condition, reasonable wear and tear and casualty damage excepted. LESSOR agrees and acknowledges that the communications equipment shall remain the personal property of LESSEE and LESSEE shall have the right to remove the same at any time during the Term, whether or not said items are considered fixtures and attachments to real property under applicable laws. If such time for removal causes LESSEE to remain on the Premises after termination of the Agreement, LESSEE shall pay rent at the then existing monthly rate or on the existing monthly pro-rata basis if based upon a longer payment term, until the removal of the communications equipment is completed.

15. HOLDOVER. If upon expiration of the Term the Parties are negotiating a new lease or a lease extension, then this Agreement shall continue during such negotiations on a month to month basis at the rental in effect as of the date of the expiration of the Term. In the event that the Parties are not in the process of negotiating a new lease or lease extension and LESSEE holds over after the expiration or earlier termination of the Term, then LESSEE shall pay rent at the then existing monthly rate or on the existing monthly pro-rata basis if based upon a longer payment term, until the removal of the communications equipment is completed.

16. RIGHT OF FIRST REFUSAL. If at any time after the Effective Date, LESSOR receives an offer or letter of intent from any person or entity that is in the business of owning, managing or operating communications facilities or is in the business of acquiring landlord interests in agreements relating to communications facilities, to purchase fee title, an easement, a lease, a license, or any other interest in the Premises or any portion thereof or to acquire any interest in this Agreement, or an option for any of the foregoing, LESSOR shall provide written notice to LESSEE of said offer ("LESSOR's Notice"). LESSOR's Notice shall include the prospective buyer's name, the purchase price being offered, any other consideration being offered, the other terms and conditions of the offer, a description of the portion of and interest in the Premises and/or this Agreement which will be conveyed in the proposed transaction, and a copy of any letters of intent or form agreements presented to LESSOR by the third party offeror. LESSEE shall have the right of first refusal to meet any bona fide offer of sale or transfer on the terms and conditions of such offer or by effectuating a transaction with substantially equivalent financial terms. If LESSEE fails to provide written notice to LESSOR that LESSEE intends to meet such bona fide offer within thirty (30) days after receipt of LESSOR's Notice, LESSOR may proceed with the proposed transaction in accordance with the terms and conditions of such third party offer, in which event this Agreement shall continue in full force and effect and the right of first refusal described in this Paragraph shall survive any such conveyance to a third party. If LESSEE provides LESSOR with notice of LESSEE's intention to meet the third party offer within thirty (30) days after receipt of LESSOR's Notice, then if LESSOR's Notice describes a transaction involving greater space than the Premises, LESSEE may elect to proceed with a transaction covering only the Premises and the purchase price shall be pro-rated on a square footage basis. Further, LESSOR acknowledges and agrees that if LESSEE exercises this right of first refusal, LESSEE may require a reasonable period of time to conduct due diligence and effectuate the closing of a transaction on substantially equivalent financial terms of

the third party offer. For purposes of this Paragraph, any transfer, bequest or devise of LESSOR's interest in the Property as a result of the death of LESSOR, whether by will or intestate succession, or any conveyance to LESSOR's family members by direct conveyance or by conveyance to a trust for the benefit of family members shall not be considered a sale for which LESSEE has any right of first refusal.

17. RIGHTS UPON SALE. Should LESSOR, at any time during the Term, decide (i) to sell or otherwise transfer all or any part of the Property, or (ii) to grant to a third party by easement or other legal instrument an interest in and to any portion of the Premises, such sale, transfer, or grant of an easement or interest therein shall be under and subject to this Agreement and any such purchaser or transferee shall recognize LESSEE's rights hereunder. In the event that LESSOR completes any such sale, transfer, or grant described in this Paragraph without executing an assignment of the Agreement whereby the third party agrees in writing to assume all obligations of LESSOR under this Agreement, then LESSOR shall not be released from its obligations to LESSEE under this Agreement, and LESSEE shall have the right to look to LESSOR and the third party for the full performance of the Agreement.

18. LESSOR'S TITLE. LESSOR covenants that LESSEE, on paying the rent and performing the covenants herein, shall peaceably and quietly have, hold and enjoy the Premises. LESSOR represents and warrants to LESSEE as of the Effective Date and covenants during the Term that LESSOR has full authority to enter into and execute this Agreement and that there are no liens, judgments, covenants, easements, restrictions or other impediments of title that will adversely affect LESSEE's Use.

19. ASSIGNMENT. Without any approval or consent of the other Party, this Agreement may be sold, assigned or transferred by either Party to (i) any entity in which the Party directly or indirectly holds an equity or similar interest; (ii) any entity which directly or indirectly holds an equity or similar interest in the Party; or (iii) any entity directly or indirectly under common control with the Party. LESSEE may unilaterally assign this Agreement without the approval or consent of LESSOR to any third party tower company that agrees to construct and develop the Premises. LESSEE may also assign this Agreement to any entity which acquires all or substantially all of LESSEE's assets in the market defined by the FCC in which the Property is located by reason of a merger, acquisition or other business reorganization without approval or consent of LESSOR. As to other parties, this Agreement may not be sold, assigned or transferred without the written consent of the other Party, which such consent will not be unreasonably withheld, delayed or conditioned. No change of stock ownership, partnership interest or control of LESSEE or transfer upon partnership or corporate dissolution of either Party shall constitute an assignment hereunder. LESSEE may sublet the Premises in LESSEE's sole discretion.

20. NOTICES. Except for notices permitted via telephone in accordance with Paragraph 13, all notices hereunder must be in writing and shall be deemed validly given if sent by certified mail, return receipt requested or by commercial courier, provided the courier's regular business is delivery service and provided further that it guarantees delivery to the addressee by the end of the next business day following the courier's receipt from the sender, addressed as follows (or any other address that the Party to be notified may have designated to the sender by like notice):

LESSOR: Danny McGlothlin
1650 W. Hwy 80
Somerset, Kentucky 42503

LESSEE: Rural Cellular Corporation
d/b/a Verizon Wireless
180 Washington Valley Road
Bedminster, New Jersey 07921
Attention: Network Real Estate

Notice shall be effective upon actual receipt or refusal as shown on the receipt obtained pursuant to the foregoing.

21. SUBORDINATION AND NON-DISTURBANCE. If applicable and within fifteen (15) days of the Effective Date, LESSOR shall obtain a Non-Disturbance Agreement, as defined below, from its existing mortgagee(s), ground lessors and master lessors, if any, of the Property. At LESSOR's option, this Agreement shall be subordinate to any future master lease, ground lease, mortgage, deed of trust or other security interest (a "Mortgage") by LESSOR which from time to time may encumber all or part of the Property; provided, however, as a condition precedent to LESSEE being required to subordinate its interest in this Agreement to any future Mortgage covering the Property, LESSOR shall obtain for LESSEE's benefit a non-disturbance and attornment agreement for LESSEE's benefit in the form reasonably satisfactory to LESSEE, and containing the terms described below (the "Non-Disturbance Agreement"), and shall recognize LESSEE's rights under this Agreement. The Non-Disturbance Agreement shall include the encumbering party's ("Lender's") agreement that, if Lender or its successor-in-interest or any purchaser of Lender's or its successor's interest (a "Purchaser") acquires an ownership interest in the Property, Lender or such successor-in-interest or Purchaser will honor all of the terms of the Agreement. Such Non-Disturbance Agreement must be binding on all of Lender's participants in the subject loan (if any) and on all successors and assigns of Lender and/or its participants and on all Purchasers. In return for such Non-Disturbance Agreement, LESSEE will execute an agreement for Lender's benefit in which LESSEE (1) confirms that the Agreement is subordinate to the Mortgage or other real property interest in favor of Lender, (2) agrees to attorn to Lender if Lender becomes the owner of the Property and (3) agrees to accept a cure by Lender of any of LESSOR's defaults, provided such cure is completed within the deadline applicable to LESSOR. In the event LESSOR defaults in the payment and/or other performance of any mortgage or other real property interest encumbering the Property, LESSEE, may, at its sole option and without obligation, cure or correct LESSOR's default and upon doing so, LESSEE shall be subrogated to any and all rights, titles, liens and equities of the holders of such mortgage or other real property interest and LESSEE shall be entitled to deduct and setoff against all rents that may otherwise become due under this Agreement the sums paid by LESSEE to cure or correct such defaults.

22. DEFAULT. It is a "Default" if (i) either Party fails to comply with this Agreement and does not remedy the failure within thirty (30) days after written notice by the other Party or, if the failure cannot reasonably be remedied in such time, if the failing Party does not commence a remedy within the allotted thirty (30) days and diligently pursue the cure to completion within ninety (90) days after the initial written notice, or (ii) LESSOR fails to comply with this Agreement

and the failure substantially interferes with LESSEE's Use, in LESSEE's reasonable discretion, and LESSOR does not remedy the failure within five (5) days after written notice from LESSEE or, if the failure cannot reasonably be remedied in such time, if LESSOR does not commence a remedy within the allotted five (5) days and diligently pursue the cure to completion within fifteen (15) days after the initial written notice. The cure periods set forth in this Paragraph 22 do not extend the period of time in which either Party has to cure interference pursuant to Paragraph 13 of this Agreement.

23. REMEDIES. In the event of a Default, without limiting the non-defaulting Party in the exercise of any right or remedy which the non-defaulting Party may have by reason of such default, the non-defaulting Party may terminate this Agreement and/or pursue any remedy now or hereafter available to the non-defaulting Party under the Laws or judicial decisions of the state in which the Property is located. Further, upon a Default, the non-defaulting Party may at its option (but without obligation to do so), perform the defaulting Party's duty or obligation. The costs and expenses of any such performance by the non-defaulting Party shall be due and payable by the defaulting Party upon invoice therefor. If LESSEE undertakes any such performance on LESSOR's behalf and LESSOR does not pay LESSEE the full undisputed amount within thirty (30) days of its receipt of an invoice setting forth the amount due, LESSEE may offset the full undisputed amount due against all fees due and owing to LESSOR under this Agreement until the full undisputed amount is fully reimbursed to LESSEE.

24. ENVIRONMENTAL. LESSEE shall conduct its business in compliance with all applicable laws governing the protection of the environment or employee health and safety ("EH&S Laws"). LESSEE shall indemnify and hold harmless the LESSOR from claims to the extent resulting from LESSEE's violation of any applicable EH&S Laws or to the extent that LESSEE causes a release of any regulated substance to the environment. LESSOR shall indemnify and hold harmless LESSEE from all claims resulting from the violation of any applicable EH&S Laws by LESSOR or its employees, contractors or agents, or a release of any regulated substance to the environment caused by LESSOR, its employees, contractors or agents, except to the extent resulting from the activities of LESSEE. The Parties recognize that LESSEE is only leasing a small portion of LESSOR's property and that LESSEE shall not be responsible for any environmental condition or issue except to the extent resulting from LESSEE's specific activities and responsibilities. In the event that LESSEE encounters any hazardous substances that do not result from its activities, LESSEE may relocate its facilities to avoid such hazardous substances to a mutually agreeable location or, if LESSEE desires to remove at its own cost all or some the hazardous substances or materials (such as soil) containing those hazardous substances, LESSOR agrees to sign any necessary waste manifest associated with the removal, transportation and/or disposal of such substances.

25. CASUALTY. If a fire or other casualty damages the Property or the Premises and substantially impairs LESSEE's Use, in LESSEE's reasonable discretion, rent shall abate until LESSEE'S Use is restored. If LESSEE's Use is not restored within forty-five (45) days, LESSEE may terminate this Agreement.

26. CONDEMNATION. If a condemnation of any portion of the Property or Premises substantially impairs LESSEE's Use, in LESSEE's reasonable discretion, LESSEE may terminate this Agreement. LESSEE may on its own behalf make a claim in any condemnation proceeding involving the Premises for losses related to LESSEE's communications equipment, relocation costs

and, specifically excluding loss of LESSEE's leasehold interest, any other damages LESSEE may incur as a result of any such condemnation.

27. APPLICABLE LAWS. During the Term, LESSOR shall maintain the Property in compliance with all applicable laws, EH&S Laws, rules, regulations, ordinances, directives, covenants, easements, consent decrees, zoning and land use regulations, and restrictions of record, permits, building codes, and the requirements of any applicable fire insurance underwriter or rating bureau, now in effect or which may hereafter come into effect (including, without limitation, the Americans with Disabilities Act and laws regulating hazardous substances) (collectively "Laws"). LESSEE shall, in respect to the condition of the Premises and at LESSEE's sole cost and expense, comply with (i) all Laws relating solely to LESSEE's specific and unique nature of use of the Premises; and (ii) all building codes requiring modifications to the Premises due to the improvements being made by LESSEE in the Premises. It shall be LESSOR's obligation to comply with all Laws relating to the Property, without regard to specific use (including, without limitation, modifications required to enable LESSEE to obtain all necessary building permits).

28. TAXES.

(a). LESSOR shall invoice and LESSEE shall pay any applicable transaction tax (including sales, use, gross receipts, or excise tax) imposed on the LESSEE and required to be collected by the LESSOR based on any service, rental space, or equipment provided by the LESSOR to the LESSEE. LESSEE shall pay all personal property taxes, fees, assessments, or other taxes and charges imposed by any Government Entity that are imposed on the LESSEE and required to be paid by the LESSEE that are directly attributable to the LESSEE's equipment or LESSEE's use and occupancy of the Premises. Payment shall be made by LESSEE within sixty (60) days after presentation of a receipted bill and/or assessment notice which is the basis for such taxes or charges. LESSOR shall pay all ad valorem, personal property, real estate, sales and use taxes, fees, assessments or other taxes or charges that are attributable to LESSOR's Property or any portion thereof imposed by any Government Entity.

(b). LESSEE shall have the right, at its sole option and at its sole cost and expense, to appeal, challenge or seek modification of any tax assessment or billing for which LESSEE is wholly or partly responsible for payment. LESSOR shall reasonably cooperate with LESSEE at LESSEE's expense in filing, prosecuting and perfecting any appeal or challenge to taxes as set forth in the preceding sentence, including but not limited to, executing any consent, appeal or other similar document. In the event that as a result of any appeal or challenge by LESSEE, there is a reduction, credit or repayment received by the LESSOR for any taxes previously paid by LESSEE, LESSOR agrees to promptly reimburse to LESSEE the amount of said reduction, credit or repayment. In the event that LESSEE does not have the standing rights to pursue a good faith and reasonable dispute of any taxes under this paragraph, LESSOR will pursue such dispute at LESSEE's sole cost and expense upon written request of LESSEE.

29. ACCESS TO TOWER. LESSOR agrees the LESSEE shall have free access to the Tower at all times for the purpose of installing and maintaining the said equipment. LESSOR shall furnish LESSEE with necessary means of access for the purpose of ingress and egress to this site and Tower location. It is agreed, however, that only authorized engineers, employees or properly authorized contractors of LESSEE or persons under their direct supervision will be permitted to enter said premises.

30. NON-DISCLOSURE. The Parties agree this Agreement and any information exchanged between the Parties regarding the Agreement are confidential. The Parties agree not to provide copies of this Agreement or any other confidential information to any third party without the prior written consent of the other or as required by law. If a disclosure is required by law, prior to disclosure, the Party shall notify the other Party and cooperate to take lawful steps to resist, narrow, or eliminate the need for that disclosure.

31. MOST FAVORED LESSEE. LESSOR represents and warrants that the rent, benefits and terms and conditions granted to LESSEE by LESSOR hereunder are now and shall be, during the Term, no less favorable than the rent, benefits and terms and conditions for substantially the same or similar tenancies or licenses granted by LESSOR to other parties. If at any time during the Term LESSOR shall offer more favorable rent, benefits or terms and conditions for substantially the same or similar tenancies or licenses as those granted hereunder, then LESSOR shall, within thirty (30) days after the effective date of such offering, notify LESSEE of such fact and offer LESSEE the more favorable offering. If LESSEE chooses, the parties shall then enter into an amendment that shall be effective retroactively to the effective date of the more favorable offering, and shall provide the same rent, benefits or terms and conditions to LESSEE. LESSEE shall have the right to decline to accept the offering. LESSOR's compliance with this requirement shall be subject, at LESSEE's option, to independent verification.

32. MISCELLANEOUS. This Agreement contains all agreements, promises and understandings between the LESSOR and the LESSEE regarding this transaction, and no oral agreement, promises or understandings shall be binding upon either the LESSOR or the LESSEE in any dispute, controversy or proceeding. This Agreement may not be amended or varied except in a writing signed by all Parties. This Agreement shall extend to and bind the heirs, personal representatives, successors and assigns hereto. The failure of either party to insist upon strict performance of any of the terms or conditions of this Agreement or to exercise any of its rights hereunder shall not waive such rights and such party shall have the right to enforce such rights at any time. The performance of this Agreement shall be governed, interpreted, construed and regulated by the laws of the state in which the Premises is located without reference to its choice of law rules. Except as expressly set forth in this Agreement, nothing in this Agreement shall grant, suggest or imply any authority for one Party to use the name, trademarks, service marks or trade names of the other for any purpose whatsoever. LESSOR agrees to execute a Memorandum of this Agreement, which LESSEE may record with the appropriate recording officer. The provisions of the Agreement relating to indemnification from one Party to the other Party shall survive any termination or expiration of this Agreement.

[Signature page follows. The remainder of this page is intentionally blank.]

IN WITNESS WHEREOF, the Parties hereto have set their hands and affixed their respective seals the day and year first above written.

LESSOR:

WITNESS

Danny McGlothlin

Date: 12-7-21

LESSEE:

RURAL CELLULAR CORPORATION

d/b/a Verizon Wireless

WITNESS
Abigail Ball

By: _____

Printed: ~~Ed Meher~~

Its: **Director - Network Field Engineering**

Date: 4/15/22

EXHIBIT "A"

DESCRIPTION OF PROPERTY

Property located in Pulaski County, Kentucky

A certain tract or parcel of land lying in the County of Pulaski, State of Kentucky, and on the waters of Caney Fork Creek and bounded as follows: BEGINNING at a pin, corner of Warner; thence S 06° 32' E 380 feet; thence N 80° 32' E 20 feet to right of way of C. N. O. T. P. Railroad; thence with right of way of C. N. OT. P. Railroad South 06° 32' E 735 feet; thence S 09° 42' E 200 feet; thence S 11° 47' E 116.5 feet; thence S 16° 37' E 200 feet to a pin; thence S 75° 33' W 240.5 feet; thence N 66° 00' W 310.5 feet; thence N 15° 00' W 326.6 feet; thence N 89° 05' W 1213 feet; thence N 41° 07' W 499 feet to the corner of Girdler; thence with Girdler line N 70° 45' E 681 feet; thence N 63° 37' E 1363 feet with Girdler's and Warner's line to the beginning, containing 39.42 acres as surveyed by Frank G. Vaught on the 13th day of December, 1971. There is excepted from the foregoing an easement to the City of Somerset, Kentucky for laying pipelines, recorded in Book 210, Page 178 Pulaski County Court Clerk's Office, Kentucky.

AND BEING the same property conveyed to Danny J. McGlothlin and Lannie L. McGlothlin from Barkley F. Colson and Betty T. Colson by Deed of Conveyance dated April 22, 1986 and recorded April 24, 1986 in Deed Book 447, Page 482; AND BEING a portion of the same property conveyed to Danny Mcglothlin from Landreth Lee Mcglothlin by Deed of Conveyance dated November 16, 2008 and recorded February 16, 2010 in Deed Book 850, Page 478.

Tax Parcel Nos. 060-2-0-25, 060-2-0-25-1

EXHIBIT "B"

SITE PLAN OF THE PREMISES AND DESCRIPTION OF TOWER EQUIPMENT

RURAL CELLULAR CORP
D/B/A

verizon

LV NW SOMERSET

1730 N HIGHWAY 27
SOMERSET, KY 42503
PULASKI COUNTY

TOWER OWNER: VERIZON WIRELESS

NEW 280'-0" SELF SUPPORT TOWER w/5'-0" LIGHTNING ARRESTOR - TOTAL TOWER HEIGHT 285'-0"

FROM LOUISVILLE (MSD): 2423 HOLLOWAY ROAD LOUISVILLE, KY 40299: HEAD SOUTH ON HOLLOWAY RD TOWARD PLANTSIDE DR (0.1 MI). TURN LEFT AT THE 1ST CROSS STREET ONTO PLANTSIDE DR (0.9 MI). USE THE LEFT 2 LANES TO TURN LEFT ONTO BLANKENBAKER PKWY (0.7 MI). USE THE RIGHT LANE TO TAKE THE RAMP ONTO I-64 E (0.5 MI). MERGE ONTO I-64 E (30.0 MI). TAKE EXIT 48 TOWARD LAWRENCEBURG (0.3 MI). MERGE ONTO KY-151 E (6.6 MI). TURN RIGHT ONTO US-127 S (28.3 MI). USE THE LEFT 2 LANES TO TURN LEFT ONTO US-127 BYP S (4.5 MI). USE ANY LANE TO TURN LEFT ONTO S-127 S (4.8 MI). CONTINUE ONTO US-127 BYP S (5.3 MI). CONTINUE ONTO US-150 BYP E/S DANVILLE BYPASS (7.8 MI). CONTINUE ONTO US-150 E (7.5 MI). TURN RIGHT ONTO US-27 S (39.4 MI). TURN LEFT INTO PARKING LOT (302 FT). SITE WILL BE LOCATED ON LEFT (NORTH) SIDE OF ROAD.

PROJECT SUMMARY

VERIZON WIRELESS SITE
LV NW SOMERSET
FUZE ID: 15287363
LOCATION CODE: 486573

SITE ADDRESS
1730 N HIGHWAY 27
SOMERSET, KY 42503
PULASKI COUNTY
E911 ADDRESS: TBD

TOWER OWNER
VERIZON WIRELESS
CONTACT: SHANNON DODGE
LODGE DISTRIBUTION SITE
MOBILE: (843) 938-7102
E-MAIL: SHANNON.DODGE@VERIZONWIRELESS.COM

PROPERTY OWNER
DANNY MCCLOTHLIN
1630 W HWY 80
SOMERSET, KY 42503
CONTACT: DANNY MCCLOTHLIN
PHONE: (606) 272-0390
E-MAIL: DANNYM@MACMETALSALES.COM

POLICE
PULASKI COUNTY SHERIFF
100 N MAIN ST #105
SOMERSET, KY 42501
PHONE: (606) 678-5145

FIRE
SOMERSET FIRE DEPARTMENT
121 S CENTRAL AVE
SOMERSET, KY 42501
PHONE: (606) 679-1163

GENERAL INFORMATION
LATITUDE 37° 04' 06.720360" N
LONGITUDE -84° 37' 53.703261" W
1503 (NAD83)
ELEVATION: 1052.3'± AMSL
1502 (NAVD88)

VERIZON WIRELESS LEASE AREA
75'-0" x 100'-0"
(7,500 SF)

PROJECT DESCRIPTION

- INSTALL A NEW 120'-0" SELF SUPPORT TOWER w/ 5'-0" LIGHTNING ROD (TOTAL 285'-0")
- INSTALL A NEW TOWER FOUNDATION SYSTEM
- INSTALL A NEW 12'-0" FENCED EQUIPMENT COMPOUND
- INSTALL A 6 CELL SITE W-FRAME
- INSTALL A NEW ELECTRICAL SERVICE RUN TO SITE IN-GRADE
- INSTALL A NEW GRAVEL ACCESS DRIVE
- NO WATER OR SEWAGE SERVICE WILL BE PUT IN SITE
- INSTALL NEW TOWN LIGHT SITE GRADING SYSTEM
- INSTALL NEW VZW SURVEILLANCE EQUIPMENT SYSTEM
- INSTALL A NEW 11'-0" x 12'-0" CONCRETE EQUIPMENT PAD
- INSTALL ELECTRICAL SERVICE DESIGN WITH PULL TAPES FROM ELECTRICAL STUB-UP WITHIN VZW EQUIPMENT PAD TO UTILITY H-FRAME
- ALL SAID NEW COMPONENTS WITH PULL TAPES FROM VZW ELECTRICAL STUB-UPS TO EQUIPMENT LOCATIONS (EXCLUSIVE WITHIN VZW EQUIPMENT PAD
- INSTALL NEW GROUNDING WITH PULL TAPES EACH AT CABINET TO GMP H-FRAME UTILITIES LOCATION
- INSTALL (1) NEW "[illegible] FIBER OPTIC CONDUIT WITH PULL TAPE AND TRACER WIRE FROM VZW EQUIPMENT TO NEW "[illegible]" 24" x 36" HAND HOLE OUTSIDE COMPOUND
- INSTALL (1) NEW "[illegible]" 24" x 36" HAND HOLE OUTSIDE COMPOUND TO NEW "[illegible]" AT VZW
- INSTALL (1) NEW "[illegible]" FIBER OPTIC CONDUIT WITH PULL TAPE FROM NEW "[illegible]" TO NEW "[illegible]" AT UTILITY H-FRAME
- PERMANENT ELECTRIC POWER SHALT BE AVAILABLE FOR VERIZON WIRELESS AT THE TIME OF SALE FROM TO THE SITE BEING RELEASED AS TENANT READY
- INSTALL LANDSCAPING PER LANDSCAPING PLAN
- INSTALL A NEW 11'-0"x14'-0" PREFABRICATED CANOPY ON ASPHALT CONCRETE PAD MOUNTED ON CONCRETE PAD MOUNTED ON EQUIPMENT PAD
- INSTALL VZW ICE BRIDGE AND FOUNDATIONS
- INSTALL NEW ANTENNA MOUNTING SUPPORT STRUCTURE ON TOWER
- INSTALL NEW ANTENNAS, LINES, COAX, CPE AMPLIFIERS AND RADIO EQUIPMENT
- INSTALL GROUNDING/LIGHTNING GROUND LEADS TO NEW EQUIPMENT & FACILITIES
- INSTALL NEW ELECTRIC SERVICE CONDUCTORS FROM UTILITY H-FRAME TO NEW ELECTRICAL FACILITIES
- INSTALL CONDUITS FROM NEW ELECTRICAL EQUIPMENT TO NEW ELECTRICAL FACILITIES
- INSTALL NEW OUTDOOR GMP AND CABINET H-FRAME SUPPORT
- INSTALL (2) 4-1/4" & (1) 2" RACEWAYS WITH PULL TAPES AND TRACER WIRE WITHIN CHAMBER INSTALLED "VERIZON WIRELESS ONLY" FIBER OPTIC CONDUITS

CONSULTANT TEAM

ALL WORK AND MATERIALS SHALL BE PERFORMED AND INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNING AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUCTED TO PERMIT WORK NOT CONFORMING TO THESE CODES.

BUILDING CODE	2018 KENTUCKY BUILDING CODE
STRUCTURAL CODE	TIA/EIA-222 - REVISION G (INCLUDES ADDENDUM #1)
MECHANICAL CODE	2015 INTERNATIONAL MECHANICAL CODE (IMC 2012)
PLUMBING CODE	45A FUCKY STATE PLUMBING CODE (815 KAR CHAP. 20)
ELECTRICAL CODE	2017 NATIONAL ELECTRICAL CODE (NEC) - NFPA 70
RESIDENTIAL SAFETY CODE	2015 INTERNATIONAL RISE CODE (IRC) (IFC)
ENERGY CODE	2015 INTERNATIONAL ENERGY CODE (COMMERCIAL)
GAS CODE	2009 NATIONAL FUEL GAS CODE (NFPA 54)

ACCESSIBILITY REQUIREMENTS:
FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION. HANDICAPPED ACCESS REQUIREMENTS ARE NOT REQUIRED IN ACCORDANCE WITH THE 2009 IBC BUILDING CODE.

APPLICABLE CODES

SURVEYOR
POWER OF DESIGN GROUP, LLC
13400 BLUEGRASS PARKWAY
LOUISVILLE, KY 40299
PHONE: (502) 437-5252

ARCHITECTURAL
POWER OF DESIGN GROUP, LLC
13400 BLUEGRASS PARKWAY
LOUISVILLE, KY 40299
PHONE: (502) 437-5252

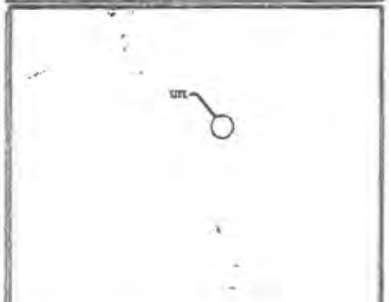
ELECTRICAL
KENTUCKY UTILITIES COMPANY
ADDRESS: 306 N MAIN ST
SOMERSET, KY 42501
CONTACT: TBD
PHONE: (800) 981-0600
EMAIL: TBD

ELECTRICAL UTILITY COORDINATION IS NOT FINALIZED. DO NOT PROCEED WITH CONSTRUCTION.

SHEET NUMBER	DESCRIPTION
T-1	PROJECT INFORMATION, SITE MAPS, SHEET INDEX
A-1 TO A-1.2	SITE SURVEY
A-1	REVISION LOG
TOWER ELEVATION	
TE-1	TOWER ELEVATION
CIVIL	
C-1A	OVERALL SITE PLAN
C-1	DETAILED SITE PLAN
C-4	DIMENSIONED SITE PLAN
ELECTRICAL	
E-1	OVERALL SITE UTILITY PLAN

VICINITY MAP

LOCATION MAP



AERIAL

POD
POWER OF DESIGN
13400 BLUEGRASS PARKWAY
LOUISVILLE, KY 40299
502-437-5252

RURAL CELLULAR CORP
D/B/A
verizon

PRELIMINARY NOT FOR CONSTRUCTION

LEASE EXHIBIT

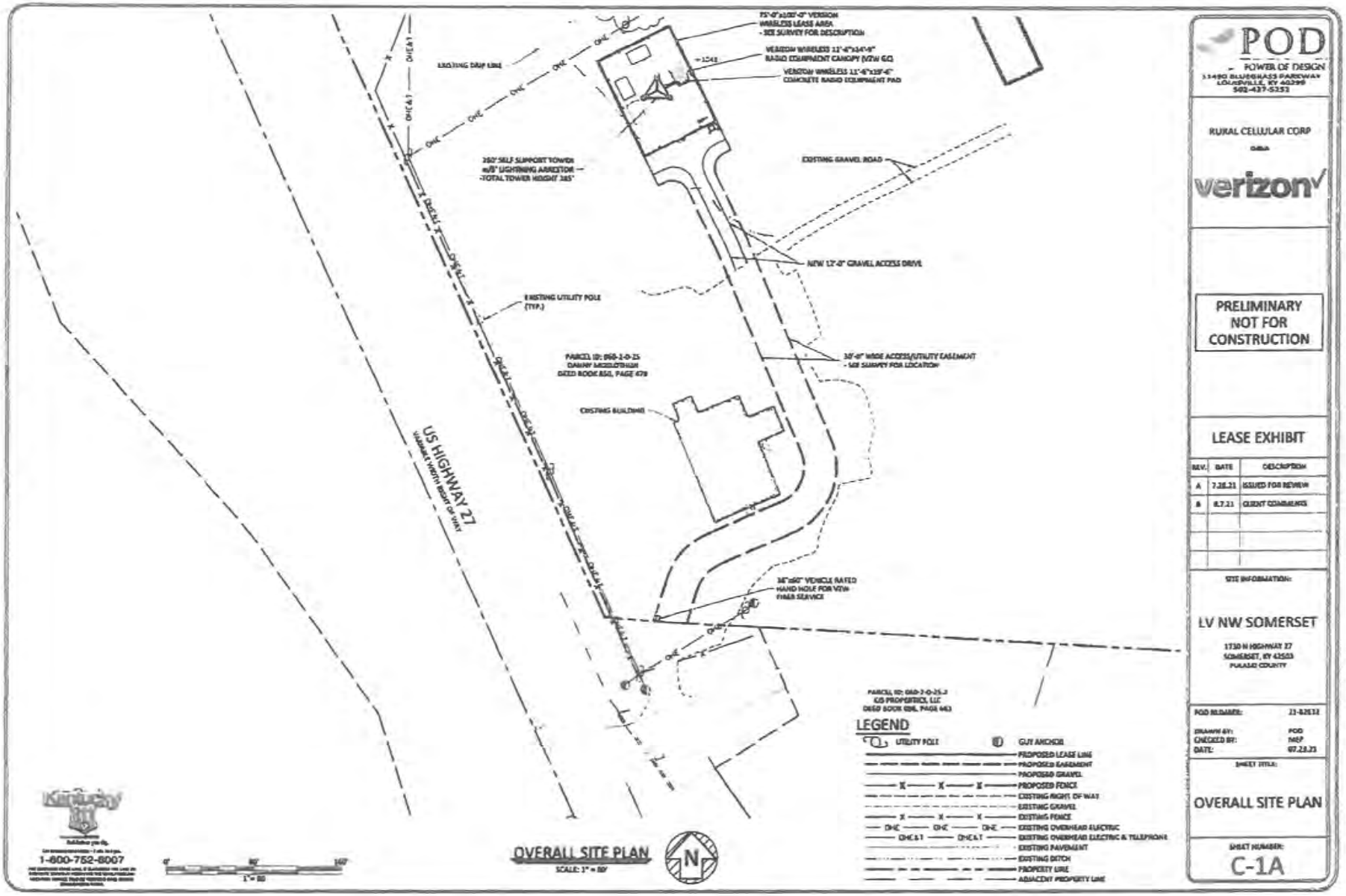
REV.	DATE	DESCRIPTION
A	7.28.21	ISSUED FOR REVIEW
B	8.3.21	CLIENT COMMENTS

SITE INFORMATION:
LV NW SOMERSET
1730 N HIGHWAY 27
SOMERSET, KY 42503
PULASKI COUNTY

POD NUMBER:	21-02613
DRAWN BY:	POD
CHECKED BY:	MEP
DATE:	07.23.21

SHEET TITLE:
PROJECT INFORMATION, SITE MAPS, SHEET INDEX

SHEET NUMBER:
T-1



POD
POWER OF DESIGN
11480 BLUEGRASS PARKWAY
LOUISVILLE, KY 40299
502-437-5253

RURAL CELLULAR CORP
DBA
verizon

PRELIMINARY NOT FOR CONSTRUCTION

LEASE EXHIBIT

REV.	DATE	DESCRIPTION
A	7.28.21	ISSUED FOR REVIEW
B	8.7.21	CLIENT COMMENTS

SITE INFORMATION:

LV NW SOMERSET

1730 N HIGHWAY 27
SOMERSET, KY 42503
PULASKI COUNTY

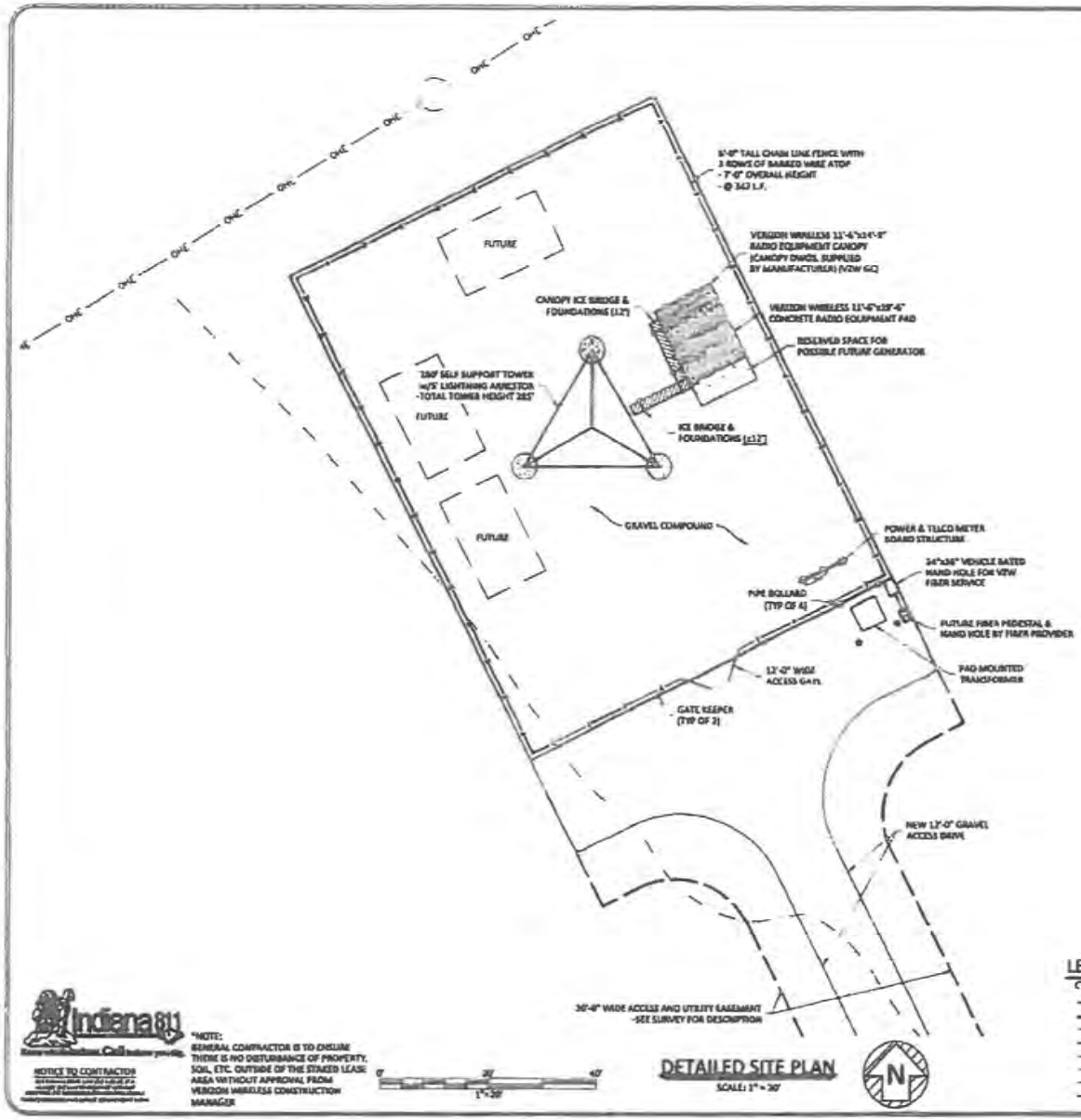
POD PROJECT#:	21-82512
DRAWN BY:	POD
CHECKED BY:	MEP
DATE:	07.28.21

SHEET TITLE:

OVERALL SITE PLAN

SHEET NUMBER:

C-1A



DETAILED SITE PLAN

SCALE: 1" = 30'

0' 20' 40'

1" = 20'

LEGEND

- UTILITY POLE
- PROPOSED LEASE LINE
- PROPOSED EASEMENT
- PROPOSED GRAVEL
- PROPOSED FENCE
- EXISTING FENCE
- OHC — OHC — OHC — EXISTING OVERHEAD ELECTRIC
- EXISTING DITCH
- EXISTING RIGHT OF WAY

Indiana 811 Know what's below. Call before you dig.

NOTICE TO CONTRACTOR

*NOTE: GENERAL CONTRACTOR IS TO ENSURE THERE IS NO DISTURBANCE OF PROPERTY, SOIL, ETC. OUTSIDE OF THE STAKED LEASE AREA WITHOUT APPROVAL FROM VERIZON WIRELESS CONSTRUCTION MANAGER

POD
POWER OF DESIGN
11430 BLUEGRASS PARKWAY
LOUISVILLE, KY 40299
502-417-5252

RURAL CELLULAR CORP

DBA

verizon

PRELIMINARY NOT FOR CONSTRUCTION

LEASE EXHIBIT

REV.	DATE	DESCRIPTION
A	7.28.21	ISSUED FOR REVIEW
B	8.7.21	CLIENT COMMENTS

SITE INFORMATION:

LV NW SOMERSET

1730 N HIGHWAY 27
SOMERSET, KY 42501
PULASKI COUNTY

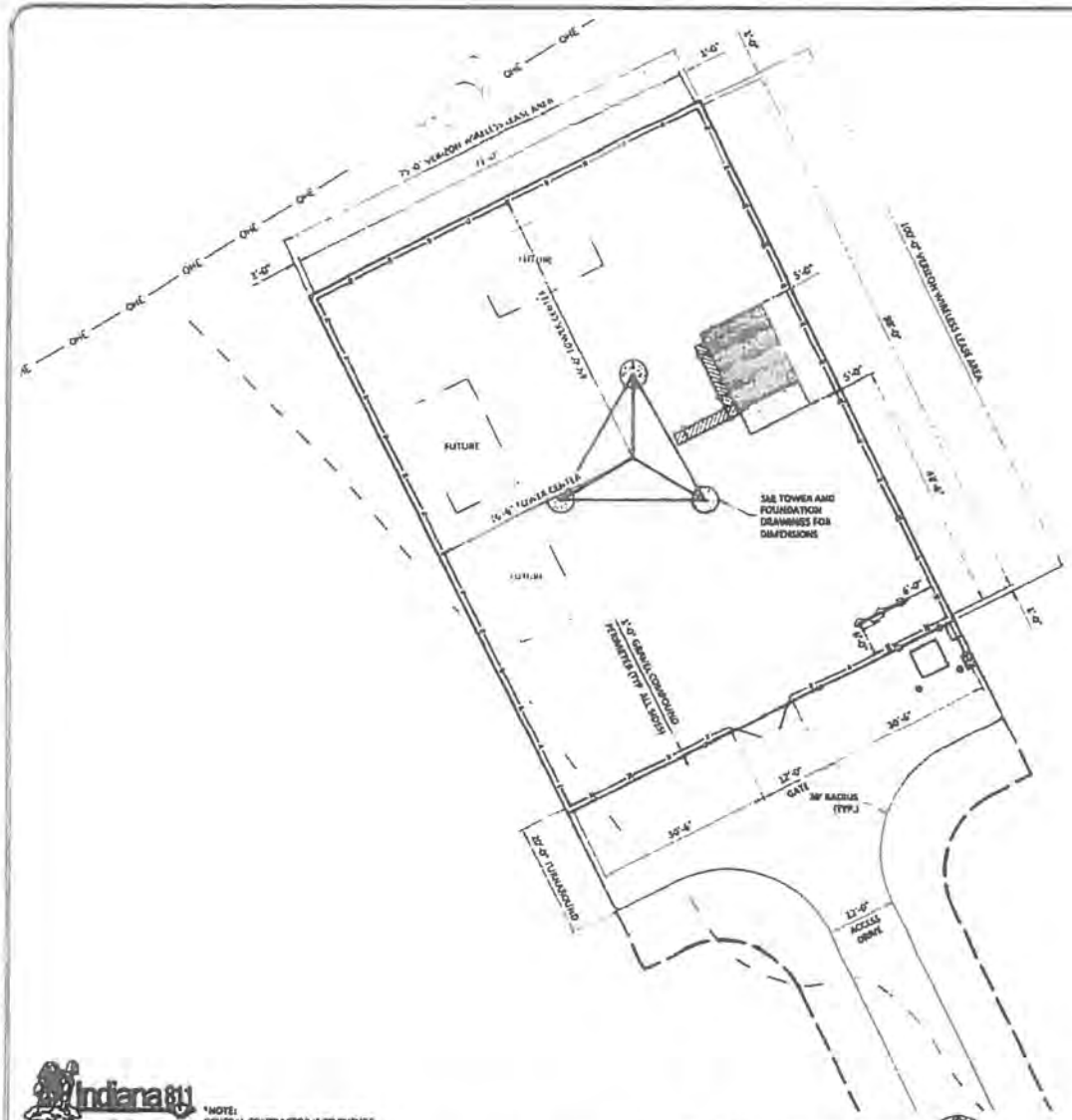
POD NUMBER:	21-42433
DRAWN BY:	POD
CHECKED BY:	MEP
DATE:	07.23.21

SHEET TITLE:

DETAILED SITE PLAN

SHEET NUMBER:

C-3



DIMENSIONED SITE PLAN
SCALE: 1" = 20'

0' 20' 40'
1" = 20'

N

LEGEND

- UTILITY POLE
- PROPOSED LEASE LINE
- PROPOSED EASEMENT
- PROPOSED GRAVEL
- PROPOSED FENCE
- EXISTING FENCE
- EXISTING OVERHEAD ELECTRIC
- EXISTING DITCH
- EXISTING RIGHT OF WAY

Indiana 811
Know what's below. Call before you dig.

NOTIFY TO CONTRACTOR

*NOTE:
GENERAL CONTRACTOR IS TO ENSURE THERE IS NO DISTURBANCE OF PROPERTY, SOIL, ETC. OUTSIDE OF THE STAKED LEASE AREA WITHOUT APPROVAL FROM VERIZON WIRELESS CONSTRUCTION MANAGER

POD
POWER OF DESIGN
13480 BLUEGRASS PARKWAY
LOUISVILLE, KY 40299
502-457-5252

RURAL CELLULAR CORP
DBA
verizon

PRELIMINARY NOT FOR CONSTRUCTION

LEASE EXHIBIT

REV.	DATE	DESCRIPTION
A	7.28.21	ISSUED FOR REVIEW
B	8.7.21	CLIENT COMMENTS

SITE INFORMATION:

LV NW SOMERSET

1730 N HIGHWAY 27
SOMERSET, KY 42503
PULASKI COUNTY

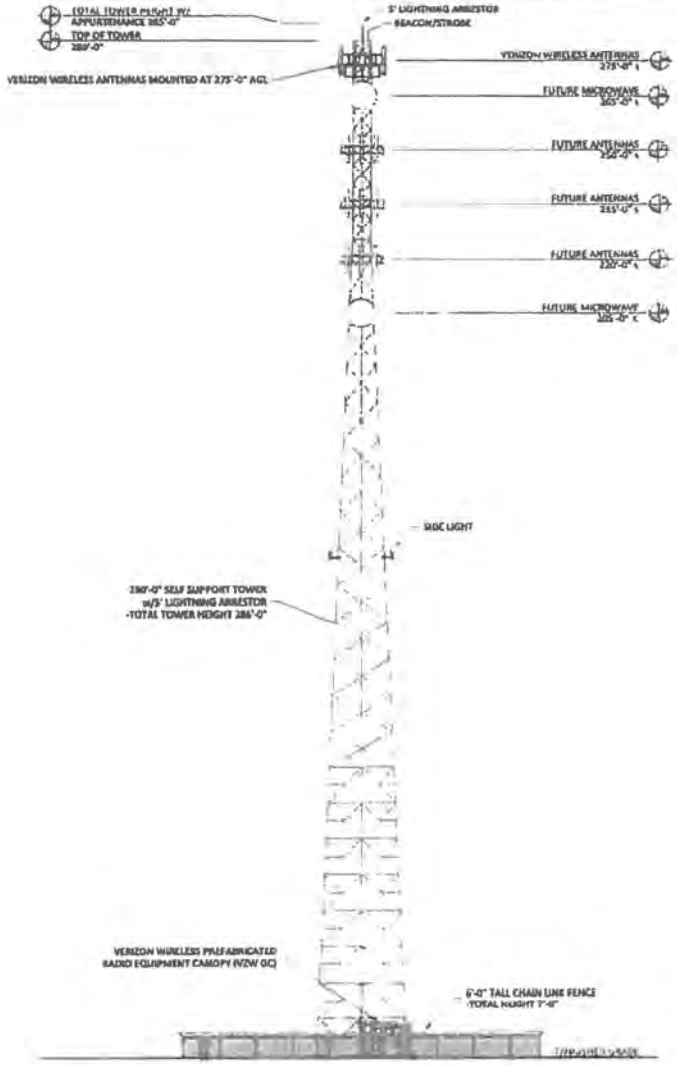
POD NUMBER:	21-83632
DRAWN BY:	POD
CHECKED BY:	MEP
DATE:	07.23.21

SHEET TITLE:

DIMENSIONED SITE PLAN

SHEET NUMBER:

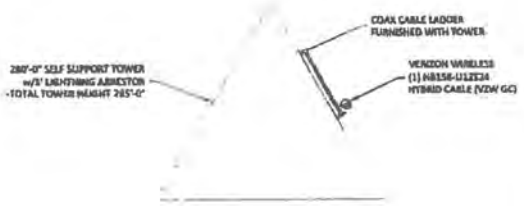
C-4



TOWER ELEVATION 1 TE-1
SCALE: N.T.S.

NOTE:

1. IT IS THE INSTALLING CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL ANTENNA INFORMATION AGAINST FINAL RADIO ENGINEERING PLAN PROVIDED BY RURAL CELLULAR CORP d/b/a VERIZON WIRELESS (VZW GC)
2. ALL TOWER LIGHTING SHALL BE INSTALLED AS REQUIRED BY THE FEDERAL AVIATION ADMINISTRATION AND RECOMMENDED BY THE USFWS INTERIM GUIDELINES (2000) FOR LIGHTING OF TOWERS OVER 200' IN HEIGHT



COAX PLAN
SCALE: N.T.S.

N

POD
POWER OF DESIGN
13486 BLUEGRASS PARKWAY
LOUISVILLE, KY 40299
502-437-5252

RURAL CELLULAR CORP
d/b/a
verizon

PRELIMINARY
NOT FOR
CONSTRUCTION

LEASE EXHIBIT

REV.	DATE	DESCRIPTION
A	7.20.21	ISSUED FOR REVIEW
B	8.7.21	CLIENT COMMENTS

SITE INFORMATION:

LV NW SOMERSET

1710 N HIGHWAY 27
SOMERSET, KY 42501
PULASKI COUNTY

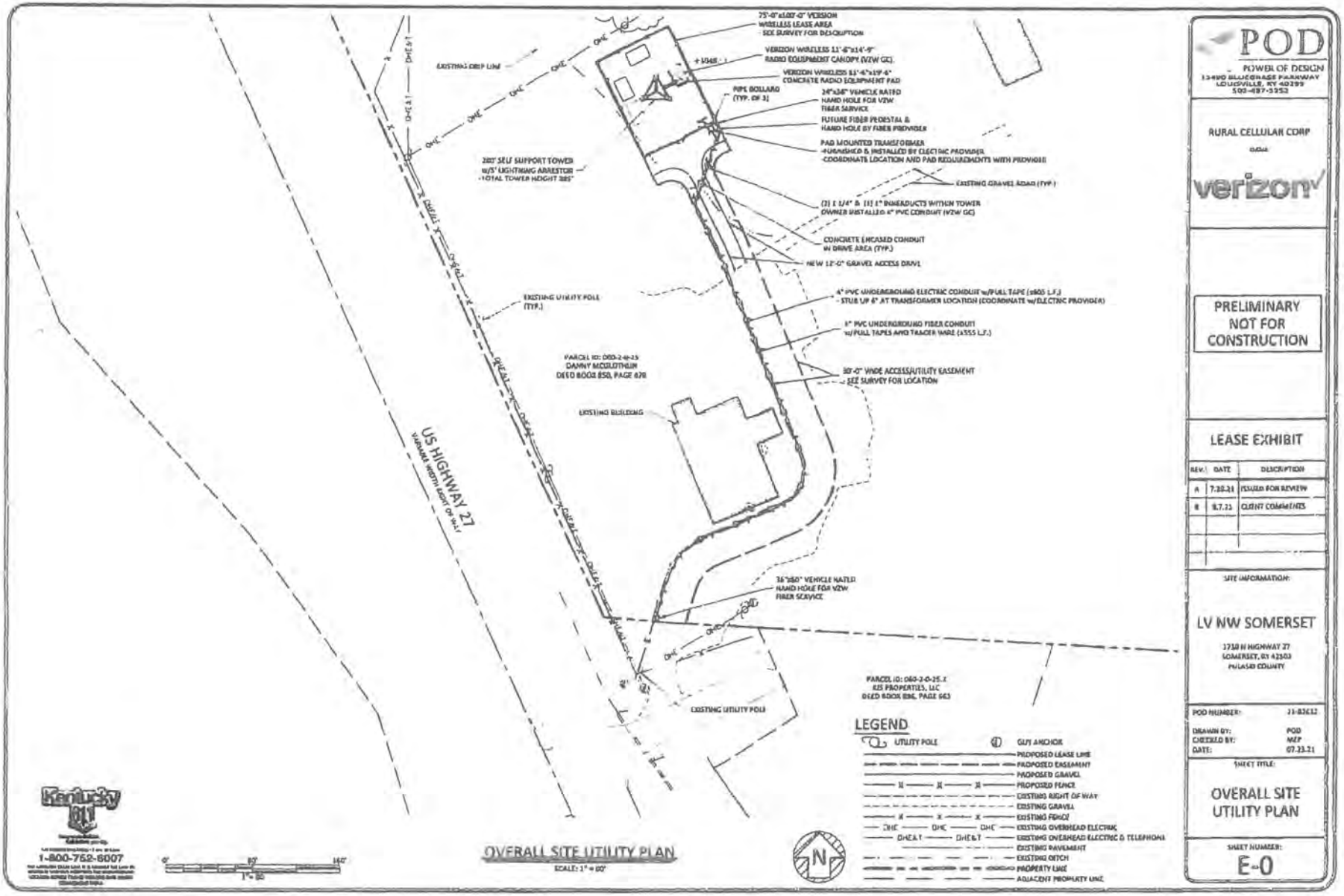
POD NUMBER:	21-82632
DRAWN BY:	POD
CHECKED BY:	MEP
DATE:	07.13.21

SHEET TITLE:

TOWER ELEVATION

SHEET NUMBER:

TE-1



POD
POWER OF DESIGN
13490 BLUEGRASS PARKWAY
LOUISVILLE, KY 40299
502-487-5252

RURAL CELLULAR CORP
d/b/a
verizon

PRELIMINARY NOT FOR CONSTRUCTION

LEASE EXHIBIT

REV.:	DATE	DESCRIPTION
A	7.30.21	ISSUED FOR REVIEW
B	8.7.21	CLIENT COMMENTS

SITE INFORMATION:

LV NW SOMERSET

1738 N HIGHWAY 27
SOMERSET, KY 42503
PULASKI COUNTY

POD NUMBER:	21-83612
DRAWN BY:	POD
CHECKED BY:	MEP
DATE:	07.23.21

SHEET TITLE:

OVERALL SITE UTILITY PLAN

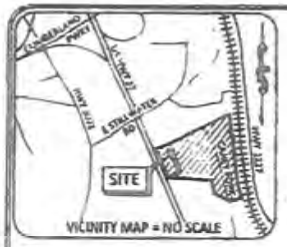
SHEET NUMBER:

E-0

Kentucky 811
1-800-752-6007

EXHIBIT "C"

SURVEY



BASED ON KENTUCKY STATE PLANE SOUTH ZONE AND DETERMINED BY GPS OBSERVATIONS COMPLETED ON JUNE 14, 2021.

GLOBAL POSITIONING SYSTEMS NOTE

1. RANDOM CONTROL POINTS AND A PORTION OF THE TOPOGRAPHY WAS LOCATED USING GPS.
2. THE TYPE OF GPS UTILIZED WAS NETWORK ADJUSTED REAL TIME KINEMATIC (KDOT VRS NETWORK), NAD 83 KENTUCKY SOUTH ZONE. WITH THE ORTHOMETRIC HEIGHT COMPUTED USING GEOID18. RELATIVE POSITIONAL ACCURACY VARIED FROM 0.03' TO 0.08' HORIZONTALLY.
3. SPECTRA PRECISION EPOCH 50 DUAL FREQUENCY RECEIVERS WERE USED TO PERFORM THE SURVEY

GENERAL NOTES

NO SEARCH OF PUBLIC RECORDS HAS BEEN COMPLETED BY POD GROUP TO DETERMINE ANY DEFECTS AND/OR AMBIGUITIES IN THE TITLE OF THE SUBJECT PROPERTY.

THIS SURVEY IS FOR THE PROPOSED LEASE AREA AND THE PROPOSED 30' / VARIABLE WIDTH ACCESS & UTILITY EASEMENT ONLY, AND ONLY A PARTIAL BOUNDARY SURVEY OF THE PARENT TRACT HAS BEEN PERFORMED.

A PORTION OF THIS SURVEY WAS CONDUCTED BY METHOD OF RANDOM TRAVERSE WITH SIDE SHOTS. UNADJUSTED CLOSURE EQUALS 0.05', FOR A PRECISION OF 1:51,437 AND HAS NOT BEEN ADJUSTED.

THIS PROPERTY IS SUBJECT TO ANY RECORDED EASEMENTS AND/OR RIGHTS OF WAY SHOWN HEREON OR NOT.

THIS PLAT IS NOT INTENDED FOR LAND TRANSFER.

A PORTION OF THE PARENT PARCEL IS LOCATED IN A 100-YEAR FLOOD PLAIN, ZONE A (NO BASE FLOOD ELEVATIONS DETERMINED) PER FLOOD HAZARD BOUNDARY MAP, COMMUNITY-PANEL NUMBER 21199C0282C, DATED JULY 22, 2010. , THE PROPOSED LEASE AREA & THE PROPOSED ACCESS & UTILITY EASEMENT SHOWN HEREON ARE NOT NO LOCATED IN A 100-YEAR FLOOD PLAIN (ZONE X).

LINE	BEARING	DISTANCE
L1	[illegible]	51.89'
L2	[illegible]	31.89'
L3	[illegible]	30.00'
L4	[illegible]	30.00'
L5	[illegible]	30.00'
L6	[illegible]	30.00'
L7	[illegible]	30.00'
L8	[illegible]	30.00'
L9	[illegible]	30.00'
L10	[illegible]	30.00'
L11	[illegible]	30.00'
L12	[illegible]	30.00'
L13	[illegible]	30.00'
L14	[illegible]	30.00'

LEGEND

P.O.B. POINT OF BEGINNING
P.O.C. POINT OF COMMENCEMENT
P.O.R. POINT OF REFERENCE
ROW RIGHT OF WAY

SET 1/2" REBAR 18" LONG CAPPED "PATTERSON PLS 83136"
FOUND MONUMENT AS NOTED
PROPERTY LINE
ADJACENT PROPERTY LINE

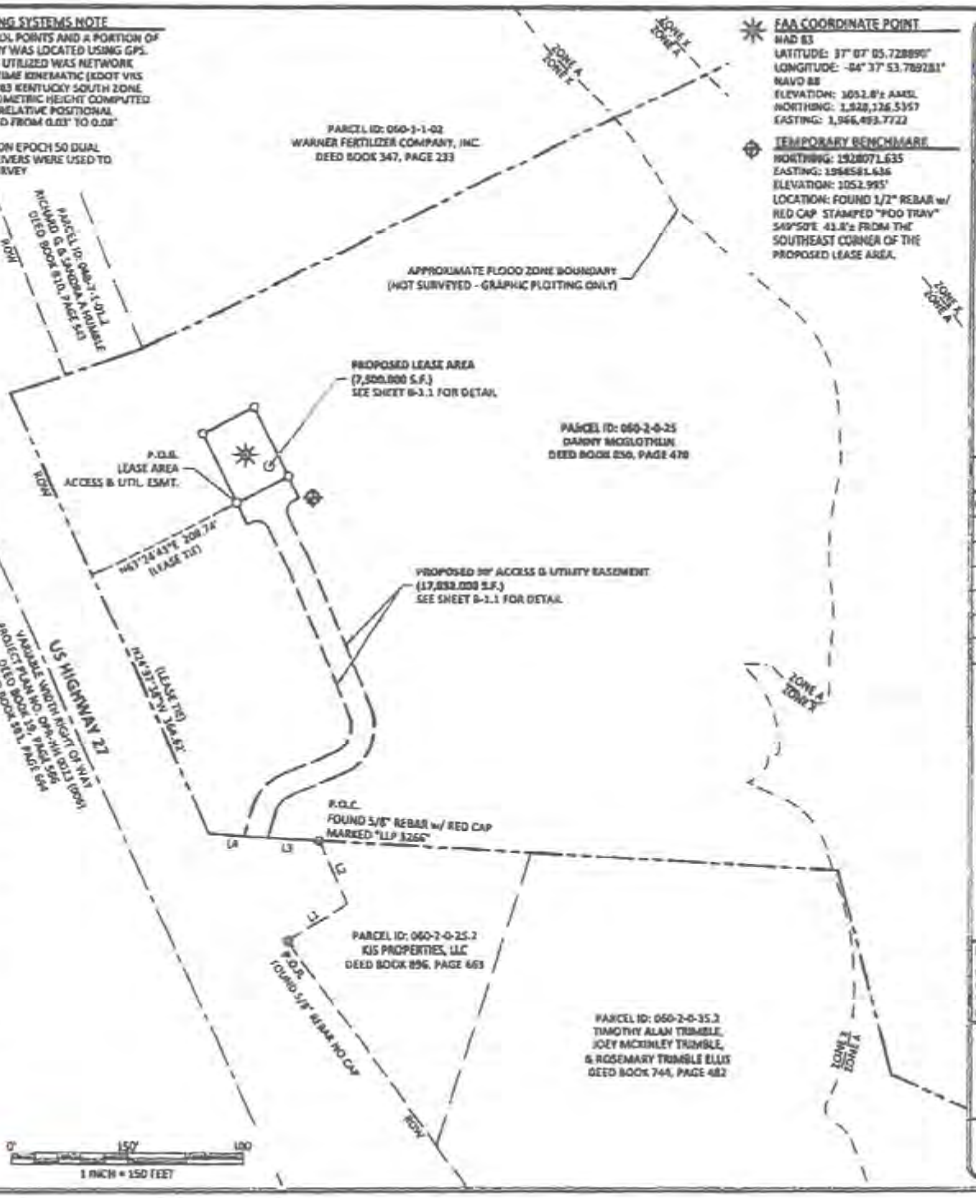
LAND SURVEYOR'S CERTIFICATE

I, MARK E. PATTERSON, HEREBY CERTIFY THAT I AM A LICENSED PROFESSIONAL LAND SURVEYOR LICENSED IN COMPLIANCE WITH THE LAWS OF THE COMMONWEALTH OF KENTUCKY. I FURTHER CERTIFY THAT THIS PLAT AND THE SURVEY ON THE GROUND WERE PERFORMED BY PERSONS UNDER MY DIRECT SUPERVISION, AND THAT THE DIRECTIONAL AND LINEAR MEASUREMENTS BEING WITNESSED BY MONUMENTS SHOWN HEREON ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE. THE "RURAL" SURVEY, AND THE PLAT ON WHICH IT IS BASED, MEETS ALL SPECIFICATIONS AS STATED IN KAR 201 18:150.

08/18/2021
MARK PATTERSON, PLS 83136 — DATE

Kentucky 811 — Call before you dig. 1-800-752-6007

STATE OF KENTUCKY
MARK E PATTERSON
83136
LICENSED PROFESSIONAL LAND SURVEYOR



FAA COORDINATE POINT

NAD 83
LATITUDE: 37° 07' 05.728890"
LONGITUDE: -84° 37' 53.789281"
NAVD 88
ELEVATION: 1052.8'± AMSL
NORTHING: 1,928,126.5357
EASTING: 1,966,493.7722

TEMPORARY BENCHMARK

NORTHING: 1928071.635
EASTING: 1966581.636
ELEVATION: 1052.995'
LOCATION: FOUND 1/2" REBAR w/ RED CAP STAMPED "POD TRAV" 349'SOE 43.8'± FROM THE SOUTHEAST CORNER OF THE PROPOSED LEASE AREA.

PREPARED BY:
POD
POWER OF DESIGN
11490 BLUEGRASS PARKWAY
LOUISVILLE, KY 40299
502-421-5232

PREPARED FOR:
CELLCO PARTNERSHIP D/B/A verizon

SITE SURVEY

REV.	DATE	DESCRIPTION
A	6.22.21	PRELIM ISSUE
0	6.28.21	ISSUED AS FINAL

SITE INFORMATION:
LV NW SOMERSET
1730 N HIGHWAY 27
SOMERSET, KY 42503
PULASKI COUNTY

TAX PARCEL NUMBER:
060-2-0-25

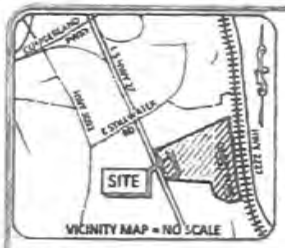
PROPERTY OWNER:
DANNY MCGLOTHLIN
1650 W HWY 80
SOMERSET, KY 42503

SOURCE OF TITLE:
BOOK 850, PAGE 478

POD NUMBER:	21-82626
DRAWN BY:	CPM
CHECKED BY:	MEP
SURVEY DATE:	6.14.21
PLAT DATE:	6.22.21

SHEET TITLE:
SITE SURVEY
THIS DOES NOT REPRESENT A BOUNDARY SURVEY OF THE PARENT PARCEL

SHEET NUMBER: (3 pages)
B-1



BASED ON KENTUCKY STATE PLANE SOUTH ZONE AND DETERMINED BY GPS OBSERVATIONS COMPLETED ON JUNE 14, 2021.

GLOBAL POSITIONING SYSTEMS NOTE

1. RANDOM CONTROL POINTS AND A PORTION OF THE TOPOGRAPHY WAS LOCATED USING GPS.
2. THE TYPE OF GPS UTILIZED WAS NETWORK ADJUSTED REAL TIME KINEMATIC (KDOT VRS NETWORK), NAD 83 KENTUCKY SOUTH ZONE WITH THE ORTHOMETRIC HEIGHT COMPUTED USING GEOID18. RELATIVE POSITIONAL ACCURACY VARIED FROM 0.03' TO 0.08' HORIZONTALLY.
3. SPECTRA PRECISION EPOCH 50 DUAL FREQUENCY RECEIVERS WERE USED TO PERFORM THE SURVEY.

GENERAL NOTES

NO SEARCH OF PUBLIC RECORDS HAS BEEN COMPLETED BY POD GROUP TO DETERMINE ANY DEFECTS AND/OR AMBIGUITIES IN THE TITLE OF THE SUBJECT PROPERTY.

THIS SURVEY IS FOR THE PROPOSED LEASE AREA AND THE PROPOSED 30' / VARIABLE WIDTH ACCESS & UTILITY EASEMENT ONLY, AND ONLY A PARTIAL BOUNDARY SURVEY OF THE PARENT TRACT HAS BEEN PERFORMED.

A PORTION OF THIS SURVEY WAS CONDUCTED BY METHOD OF RANDOM TRAVERSE WITH SIDE SHOTS. UNADJUSTED CLOSURE EQUALS 0.05', FOR A PRECISION OF 1:51,437 AND HAS NOT BEEN ADJUSTED.

THIS PROPERTY IS SUBJECT TO ANY RECORDED EASEMENTS AND/OR RIGHTS OF WAY SHOWN HEREON OR NOT.

THIS PLAT IS NOT INTENDED FOR LAND TRANSFER.

A PORTION OF THE PARENT PARCEL IS LOCATED IN A 100-YEAR FLOOD PLAIN, ZONE A (NO BASE FLOOD ELEVATIONS DETERMINED) PER FLOOD HAZARD BOUNDARY MAP, COMMUNITY-PANEL NUMBER 21199C0282C, DATED JULY 22, 2010. , THE PROPOSED LEASE AREA & THE PROPOSED ACCESS & UTILITY EASEMENT SHOWN HEREON ARE NOT NO LOCATED IN A 100-YEAR FLOOD PLAIN (ZONE X).

CURVE	CHORD BEARING	CHORD LENGTH	RADIUS	DELTA ANGLE
C1	[illegible]	11.82'	15.00'	45°08'47"
C2	[illegible]	14.78'	15.00'	56°27'39"
C3	[illegible]	14.78'	15.00'	56°27'39"
C4	[illegible]	14.78'	15.00'	56°27'39"
C5	[illegible]	14.78'	15.00'	56°27'39"
C6	[illegible]	11.82'	15.00'	45°08'47"

LINE	BEARING	DISTANCE
L1	[illegible]	30.00'
L2	[illegible]	30.00'
L3	[illegible]	30.00'
L4	[illegible]	30.00'
L5	[illegible]	30.00'
L6	[illegible]	30.00'
L7	[illegible]	30.00'
L8	[illegible]	30.00'
L9	[illegible]	30.00'
L10	[illegible]	30.00'
L11	[illegible]	30.00'
L12	[illegible]	30.00'
L13	[illegible]	30.00'
L14	[illegible]	30.00'
L15	[illegible]	30.00'

LEGEND

	UTILITY POLE		WATER SPIGOT
	GUY ANCHOR		MAILBOX
E(M)	ELECTRIC METER	MH	MANHOLE
G(M)	GAS METER	P.O.B.	POINT OF BEGINNING
	GAS VALVE	P.O.C.	POINT OF COMMENCEMENT
W(M)	WATER METER	P.O.R.	POINT OF REFERENCE
	WATER VALVE	EOP	EDGE OF PAVEMENT
		ROW	RIGHT OF WAY
OHC OHE OHC			EX. OVERHEAD ELECTRIC
OHE&T OHE&T			EX. OVERHEAD ELECTRIC & TELEPHONE
			SET 1/2" REBAR 18" LONG CAPPED "PATTERSON PLS 3136"
			FOUND MONUMENT AS NOTED
			PROPERTY LINE
			ADJACENT PROPERTY LINE
X X X X			EX. FENCE

FAA COORDINATE POINT

NAD 83
LATITUDE: 37° 07' 05.728890"
LONGITUDE: -84° 37' 53.709281"
NAVD 88
ELEVATION: 1051.8'± AMSL
NORTHING: 1,928,126.5357
EASTING: 1,966,493.7722

TEMPORARY BENCHMARK

NORTHING: 1928071.635
EASTING: 1966581.636
ELEVATION: 1052.995'
LOCATION: FOUND 1/2" REBAR w/ RED CAP STAMPED "POD TRAV" S49°50'E 43.8'± FROM THE SOUTHEAST CORNER OF THE PROPOSED LEASE AREA.

LAND SURVEYOR'S CERTIFICATE

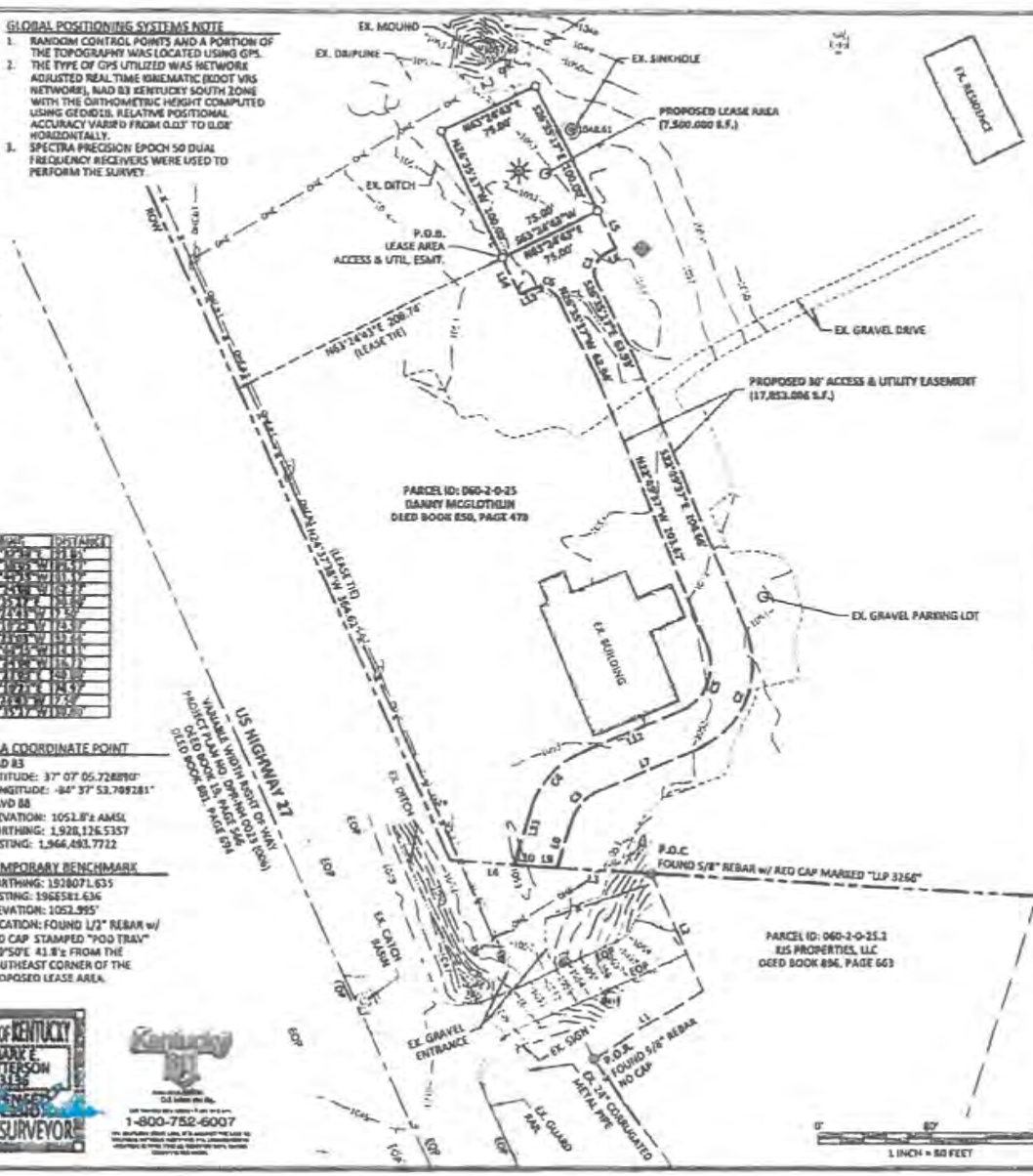
I, MARK E. PATTERSON, HEREBY CERTIFY THAT I AM A LICENSED PROFESSIONAL LAND SURVEYOR LICENSED IN COMPLIANCE WITH THE LAWS OF THE COMMONWEALTH OF KENTUCKY. I FURTHER CERTIFY THAT THIS PLAT AND THE SURVEY ON THE GROUND WERE PERFORMED BY PERSONS UNDER MY DIRECT SUPERVISION, AND THAT THE DIRECTIONAL AND LINEAR MEASUREMENTS BEING WITNESSED BY MONUMENTS SHOWN HEREON ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE. THE "RURAL" SURVEY, AND THE PLAT ON WHICH IT IS BASED, MEETS ALL SPECIFICATIONS AS STATED IN KAR 201 18:150.

08/18/2021

MARK PATTERSON, PLS #3136 — DATE

STATE OF KENTUCKY
MARK E. PATTERSON
3136
LICENSED PROFESSIONAL LAND SURVEYOR

Kentucky 811
1-800-752-6007



PREPARED BY:
POD
POWER OF DESIGN

PREPARED FOR:
CELLCO PARTNERSHIP DBA verizon

SITE SURVEY

REV.	DATE	DESCRIPTION
A	6.22.21	PRELIM ISSUE
B	8.18.21	ISSUED AS FINAL

SITE INFORMATION:
LV NW SOMERSET
1730 N HIGHWAY 27
SOMERSET, KY 42503
PULASKI COUNTY

TAX PARCEL NUMBER:
060-2-0-25

PROPERTY OWNER:
DANNY MCGLOTHLIN
1650 W HWY 80
SOMERSET, KY 42503

SOURCE OF TITLE:
BOOK 850, PAGE 478

POD NUMBER:	21-82626
DRAWN BY:	CPM
CHECKED BY:	MEP
SURVEY DATE:	6.14.21
PLAT DATE:	6.22.21

SHEET TITLE:
SITE SURVEY
THIS DOES NOT REPRESENT A BOUNDARY SURVEY OF THE PARENT PARCEL

SHEET NUMBER: (1 pages)
B-1.1

REPORT OF TITLE

THIS SURVEY DOES NOT CONSTITUTE A TITLE SEARCH BY POD GROUP, LLC. AND AS SUCH WE ARE NOT RESPONSIBLE FOR THE INVESTIGATION OR INDEPENDENT SEARCH FOR EASEMENTS OF RECORD, ENCUMBRANCES, RESTRICTIVE COVENANTS, OWNERSHIP TITLE EVIDENCE, UNRECORDED EASEMENTS, AUGMENTING EASEMENTS, IMPLIED OR PRESCRIPTIVE EASEMENTS, OR ANY OTHER FACTS THAT AN ACCURATE AND CURRENT TITLE SEARCH MAY DISCLOSE. INFORMATION REGARDING THESE MATTERS WERE GAINED FROM FIDELITY NATIONAL TITLE INSURANCE COMPANY, ORDER NO. 25540456, FOR THE BENEFIT OF FNF - INDIANAPOLIS, DATED JULY 28, 2021. THE FOLLOWING COMMENTS ARE IN REGARD TO SAID COMMITMENT AND THE NUMBERS IN THE COMMENTS CORRESPOND TO THE NUMBERING SYSTEM IN SAID POLICY.

3. CONVEYANCE OF RIGHT OF WAY IN FAVOR OF CITY OF SOMERSET, KENTUCKY SET FORTH IN INSTRUMENT RECORDED ON MARCH 4, 1957 IN DEED BOOK, 210, PAGE 178. (UNABLE TO DETERMINE AFFECT, IF ANY, SAID RIGHT OF WAY HAS ON THE PARENT PARCEL. DEED DOES NOT DESCRIBE BY METES AND BOUNDS THE EXACT LOCATION OF THE GAS LINE EASEMENT. UTILITY LOCATIONS MAY BE NECESSARY TO DETERMINE THE LOCATION OF SAID EASEMENT.)

4. EASEMENT IN FAVOR OF TRUSTEES OF CINCINNATI SOUTHERN RAILWAY SET FORTH IN INSTRUMENT RECORDED ON DECEMBER 16, 1958 IN DEED BOOK 220, PAGE 577. (EASEMENT AS DESCRIBED IN DEED BOOK 220, PAGE 577 AFFECTS THE PARENT PARCEL, BUT DOES NOT AFFECT THE LEASE AREA AND THE PROPOSED ACCESS AN UTILITY EASEMENT.)

5. BOUNDARY LINE AGREEMENT RECORDED NOVEMBER 1, 1968 IN DEED BOOK 202, PAGE 10. (POD DID NOT PERFORM A BOUNDARY SURVEY OF THE PARENT PARCEL. THEREFORE CANNOT COMMENT AS TO THE AFFECT, IF ANY, SAID BOUNDARY LINE AGREEMENT HAS ON THE PARENT PARCEL. THE PROPOSED LEASE AREA AND THE PROPOSED ACCESS AND UTILITY EASEMENT.)

6. DEED OF EASEMENT IN FAVOR OF JAKE HALL SET FORTH IN INSTRUMENT RECORDED ON NOVEMBER 15, 1960 IN DEED BOOK 232, PAGE 143. (EASEMENT AS DESCRIBED IN DEED BOOK 232, PAGE 143 AFFECTS THE PARCEL DESCRIBED IN DEED BOOK 225, PAGE 328. PORTIONS OF THE METES AND BOUNDS DESCRIPTION IN DEED BOOK 225, PAGE 328 ARE ILLEGIBLE AND CANNOT BE PLOTTED. POD CANNOT DETERMINE THE AFFECT, IF ANY, SAID EASEMENT HAS ON THE PARENT PARCEL, THE PROPOSED LEASE AREA AND THE PROPOSED ACCESS AND UTILITY EASEMENT.)

7. RIGHT OF WAY RECORDED ON MARCH 11, 1975 IN DEED BOOK 310, PAGE 512. (SUPPORTING DOCUMENT NOT SUPPLIED.)

8. EASEMENT (DEED OF CONVEYANCE) DATED OCTOBER 11, 2002 BY AND BETWEEN DANNY J. MCGLOTHLIN, A.K.A. DANNY MCGLOTHLIN, LANDRETH MCGLOTHLIN, A.K.A. LANNIE J. MCGLOTHLIN, AS GRANTOR, AND COMMONWEALTH OF KENTUCKY FOR THE USE AND BENEFIT OF THE TRANSPORTATION CABINET, DEPARTMENT OF HIGHWAYS, AS GRANTEE, RECORDED ON NOVEMBER 12, 2002 IN DEED BOOK 19, PAGE 566. (RIGHT OF WAY CONVEYANCE AS DESCRIBED IN BOOK 19, PAGE 566 DOES NOT AFFECT THE PARENT PARCEL. THE PROPOSED LEASE AREA AND THE PROPOSED ACCESS AND UTILITY EASEMENT. DEED OF CONVEYANCE FROM THE COMMONWEALTH OF KENTUCKY TO DANNY MCGLOTHLIN BY DEED 881, PAGE 894 CONVEYS BACK TO DANNY MCGLOTHLIN A PORTION OF THE RIGHT OF WAY ACQUISITION OF PARCEL NO. 37 DESCRIBED IN DEED BOOK 19, PAGE 566.)

9. REAL ESTATE MORTGAGE FROM MAC METAL SALES, INC., A KENTUCKY CORPORATION, DENNY MCGLOTHLIN, LANNIE L. MCGLOTHLIN AKA LANDRETH LEE MCGLOTHLIN, DANNY MCGLOTHLIN, AS TRUSTEE OF THE DANNY MCGLOTHLIN LIVING TRUST DEATED JANUARY 22, 1999 AND LANDRETH MCGLOTHLIN, AS TRUSTEE OF THE DANNY MCGLOTHLIN LIVING TRUST, DATED JANUARY 22, 1999, GRANTORS), IN FAVOR OF THE CITIZENS NATIONAL BANK, DATED JANUARY 28, 2010, AND RECORDED FEBRUARY 10, 2010 IN DEED BOOK 1223, PAGE 442, IN THE ORIGINAL AMOUNT OF $1,366,250.00 (NOTE: ENCUMBERS ADDITIONAL PROPERTY). (MORTGAGE DESCRIBES THE PARENT PARCEL RECORDED IN DEED BOOK 850, PAGE 478. MORTGAGE DOES NOT HAVE A MATURITY DATE, THEREFORE POD GROUP, LLC CANNOT MAKE A DETERMINATION THAT SAID MORTGAGE AFFECTS THE PARENT PARCEL, THE PROPOSED LEASE AREA AND THE PROPOSED ACCESS AND UTILITY EASEMENT.)

PARENT PARCEL (DEED BOOK 85, PAGE 478)

A CERTAIN TRACT OR PARCEL OF LAND LYING IN THE COUNTY OF PULASKI, STATE OF KENTUCKY, AND ON THE WATERS OF CANEY FORK CREEK AND BOUNDED AS FOLLOWS: BEGINNING AT A PIN, CORNER OF WARNER; THENCE S 06° 32' E 340 FEET; THENCE N 80° 32' E 20 FEET TO RIGHT OF WAY OF C. N. O. T. P. RAILROAD; THENCE WITH RIGHT OF WAY OF C. N. OT. P. RAILROAD SOUTH 05° 32' E 735 FEET; THENCE S 89° 42' E 200 FEET; THENCE S 11° 47' E 116.5 FEET; THENCE S 16° 37' E 200 FEET TO A PIN; THENCE S 75° 23' W 340.5 FEET; THENCE N 66° 00' W 310.5 FEET; THENCE N 15° 00' W 326.6 FEET; THENCE N 89° 05' W 1213 FEET; THENCE N 41° 07' W 499 FEET TO THE CORNER OF GIRDLER; THENCE WITH GIRDLER LINE N 70° 45' E 681 FEET; THENCE N 63° 37' E 1363 FEET WITH GIRDLER'S AND WARNER'S LINE TO THE BEGINNING, CONTAINING 39.42 ACRES AS SURVEYED BY FRANK O. VAUGHT ON THE 13TH DAY OF DECEMBER, 1971. THERE IS EXCEPTED FROM THE FOREGOING AN EASEMENT TO THE CITY OF SOMERSET, KENTUCKY FOR LAYING PIPELINES, RECORDED IN BOOK 210, PAGE 178 PULASKI COUNTY COURT CLERK'S OFFICE, KENTUCKY.

AND BEING THE SAME PROPERTY CONVEYED TO DANNY J. MCGLOTHLIN AND LANNIE L. MCGLOTHLIN FROM BARKLEY F. COLSON AND BETTY T. COLSON BY DEED OF CONVEYANCE DATED APRIL 22, 1986 AND RECORDED APRIL 24, 1986 IN DEED BOOK 447, PAGE 482; AND BEING A PORTION OF THE SAME PROPERTY CONVEYED TO DANNY MCGLOTHLIN FROM LANDRETH LEE MCGLOTHLIN BY DEED OF CONVEYANCE DATED NOVEMBER 16, 2008 AND RECORDED FEBRUARY 10, 2010 IN DEED BOOK 850, PAGE 478.

TAX PARCEL NOS. 060-2-0-25, 060-2-0-25-1

LAND SURVEYOR'S CERTIFICATE

I, MARK E. PATTERSON, HEREBY CERTIFY THAT I AM A LICENSED PROFESSIONAL LAND SURVEYOR LICENSED IN COMPLIANCE WITH THE LAWS OF THE COMMONWEALTH OF KENTUCKY. I FURTHER CERTIFY THAT THIS PLAT AND THE SURVEY ON THE GROUND WERE PERFORMED BY PERSONS UNDER MY DIRECT SUPERVISION, AND THAT THE DIRECTIONAL AND LINEAR MEASUREMENTS BEING WITNESSED BY MONUMENTS SHOWN HEREON ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE. THE "RURAL" SURVEY, AND THE PLAT ON WHICH IT IS BASED, MEETS ALL SPECIFICATIONS AS STATED IN KAR 201 18:150.

STATE OF KENTUCKY
MARK E. PATTERSON
3136
LICENSED
PROFESSIONAL
LAND SURVEYOR

08/18/2021

MARK PATTERSON, PLS #3136 — DATE

LEGAL DESCRIPTION

PROPOSED LEASE AREA

THE FOLLOWING IS A DESCRIPTION OF THE PROPOSED LEASE AREA ON THE PROPERTY CONVEYED TO DANNY MCGLOTHLIN AS RECORDED IN THE OFFICE OF THE CLERK OF KNOX COUNTY, KENTUCKY IN DEED BOOK 850, PAGE 478, PARCEL ID: 060-2-0-25, WHICH IS MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEARING DATUM USED HEREIN IS BASED UPON KENTUCKY STATE PLANE COORDINATE SYSTEM, SOUTH ZONE, NAD 83, FROM A REAL TIME KINEMATIC GLOBAL POSITIONING SYSTEM OBSERVATION USING THE KENTUCKY TRANSPORTATION CABINET REAL TIME GPS NETWORK COMPLETED ON JUNE 14, 2021.

COMMENCING AT A FOUND 5/8" REBAR W/ RED CAP MARKED "LLP 3268" IN THE SOUTH LINE OF PROPERTY CONVEYED TO DANNY MCGLOTHLIN AS RECORDED IN DEED BOOK 850, PAGE 478, PARCEL ID: 060-2-0-25, ALSO BEING THE NORTHWEST CORNER OF PROPERTY CONVEYED TO KIS PROPERTIES, LLC AS RECORDED IN DEED BOOK 896, PAGE 663, ALSO BEING IN THE EAST RIGHT OF WAY LINE OF US HIGHWAY 27 AS SHOWN IN PLAN NO DPR-NH 0023 (006), SAID FOUND 5/8" REBAR FOR REFERENCE BEING N57°32'38"E 91.85', N24°38'05"W 89.53' ALONG THE AFOREMENTIONED EAST RIGHT OF WAY LINE AND WEST LINE OF SAID KIS PROPERTIES, LLC FROM A FOUND 5/8" REBAR WITH NO CAP; THENCE WITH THE SOUTH LINE OF AFOREMENTIONED PROPERTY CONVEYED TO DANNY MCGLOTHLIN AND AFOREMENTIONED RIGHT OF WAY LINE FOR THE FOLLOWING THREE CALLS, N86°44'15"W 81.17'; THENCE N85°24'08"W 62.27'; THENCE N24°37'38"W 364.62'; THENCE LEAVING SAID WEST LINE OF PROPERTY CONVEYED TO DANNY MCGLOTHLIN AND EAST RIGHT OF WAY LINE AND TRAVERSING SAID PROPERTY CONVEYED TO DANNY MCGLOTHLIN N63°24'43"E 208.74'; TO A SET 1/2" REBAR 18" LONG CAPPED "PATTERSON PLS 3136" HEREAFTER REFERRED TO AS A "SET IPC", IN THE SOUTHWEST CORNER OF THE PROPOSED LEASE AREA AND BEING THE TRUE POINT OF BEGINNING; THENCE N26°35'17"W 100.00' TO A "SET IPC"; THENCE N63°24'43"W 75.00' TO A "SET IPC"; THENCE S26°35'17"E 100.00' TO A "SET IPC"; THENCE S63°24'43"W 75.00' TO THE POINT OF BEGINNING CONTAINING 7,500.000 SQUARE FEET AS PER SURVEY BY MARK E. PATTERSON, PLS #3136 DATED JUNE 14, 2021.

PROPOSED 30' ACCESS & UTILITY EASEMENT

THE FOLLOWING IS A DESCRIPTION OF THE PROPOSED 30' ACCESS & UTILITY EASEMENT ON THE PROPERTY CONVEYED TO DANNY MCGLOTHLIN AS RECORDED IN THE OFFICE OF THE CLERK OF KNOX COUNTY, KENTUCKY IN DEED BOOK 850, PAGE 478, PARCEL ID: 060-2-0-25, WHICH IS MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEARING DATUM USED HEREIN IS BASED UPON KENTUCKY STATE PLANE COORDINATE SYSTEM, SOUTH ZONE, NAD 83, FROM A REAL TIME KINEMATIC GLOBAL POSITIONING SYSTEM OBSERVATION USING THE KENTUCKY TRANSPORTATION CABINET REAL TIME GPS NETWORK COMPLETED ON JUNE 14, 2021.

COMMENCING AT A FOUND 5/8" REBAR W/ RED CAP MARKED "LLP 3268" IN THE SOUTH LINE OF PROPERTY CONVEYED TO DANNY MCGLOTHLIN AS RECORDED IN DEED BOOK 850, PAGE 478, PARCEL ID: 060-2-0-25, ALSO BEING THE NORTHWEST CORNER OF PROPERTY CONVEYED TO KIS PROPERTIES, LLC AS RECORDED IN DEED BOOK 896, PAGE 663, ALSO BEING IN THE EAST RIGHT OF WAY LINE OF US HIGHWAY 27 AS SHOWN IN PLAN NO DPR-NH 0023 (006), SAID FOUND 5/8" REBAR FOR REFERENCE BEING N57°32'38"E 91.85', N24°38'05"W 89.53' ALONG THE AFOREMENTIONED EAST RIGHT OF WAY LINE AND WEST LINE OF SAID KIS PROPERTIES, LLC FROM A FOUND 5/8" REBAR WITH NO CAP; THENCE WITH THE SOUTH LINE OF AFOREMENTIONED PROPERTY CONVEYED TO DANNY MCGLOTHLIN AND AFOREMENTIONED RIGHT OF WAY LINE FOR THE FOLLOWING THREE CALLS, N86°44'15"W 81.17'; THENCE N85°24'08"W 62.27'; THENCE N24°37'38"W 364.62'; THENCE LEAVING SAID WEST LINE OF PROPERTY CONVEYED TO DANNY MCGLOTHLIN AND EAST RIGHT OF WAY LINE AND TRAVERSING SAID PROPERTY CONVEYED TO DANNY MCGLOTHLIN N63°24'43"E 208.74'; TO A SET 1/2" REBAR 18" LONG CAPPED "PATTERSON PLS 3136" HEREAFTER REFERRED TO AS A "SET IPC", IN THE SOUTHWEST CORNER OF THE PROPOSED LEASE AREA AND BEING THE TRUE POINT OF BEGINNING; THENCE ALONG THE SOUTH LINE OF SAID PROPOSED LEASE AREA N63°24'43"E 75.00' TO A "SET IPC"; THENCE S26°35'17"E 30.00'; THENCE S63°24'43"W 7.50'; THENCE ALONG THE ARC OF A CURVE TO THE LEFT HAVING A RADIUS OF 15.00', ARC LENGTH OF 23.56', THE CHORD OF WHICH BEARS S18°24'43"W 21.21'; THENCE S26°35'17"E 63.53'; THENCE S22°49'37"E 204.66'; THENCE ALONG THE ARC OF A CURVE TO THE RIGHT HAVING A RADIUS OF 65.00', ARC LENGTH OF 102.10', THE CHORD OF WHICH BEARS S22°10'23"W 91.92'; THENCE S67°10'23"W 74.97'; THENCE ALONG THE ARC OF A CURVE TO THE LEFT HAVING A RADIUS OF 35.00', ARC LENGTH OF 30.41', THE CHORD OF WHICH BEARS S42°16'43"W 29.47'; THENCE S17°23'03"W 33.68' TO A POINT IN THE SOUTH LINE OF AFOREMENTIONED PROPERTY CONVEYED TO DANNY MCGLOTHLIN AND EAST RIGHT OF WAY LINE OF US HIGHWAY 27; THENCE WITH SAID SOUTH LINE OF MCGLOTHLIN AND SAID EAST RIGHT OF WAY LINE FOR THE NEXT TWO CALLS, N86°44'15"W 14.11', N85°24'08"W 16.73'; THENCE LEAVING SAID SOUTH LINE OF MCGLOTHLIN AND SAID EAST RIGHT OF WAY LINE AND TRAVERSING SAID PROPERTY CONVEYED TO MCGLOTHLIN N17°23'03"E 40.89'; THENCE ALONG THE ARC OF A CURVE TO THE RIGHT HAVING A RADIUS OF 65.00', ARC LENGTH OF 56.48', THE CHORD OF WHICH BEARS N42°16'43"E 54.72'; THENCE N67°10'23"E 74.97'; THENCE ALONG THE ARC OF A CURVE TO THE LEFT HAVING A RADIUS OF 35.00', ARC LENGTH OF 54.98', THE CHORD OF WHICH BEARS N22°10'23"E 49.50'; THENCE N22°49'37"W 203.67'; THENCE N26°35'17"W 62.94'; THENCE ALONG THE ARC OF A CURVE TO THE LEFT HAVING A RADIUS OF 15.00', ARC LENGTH OF 23.56', THE CHORD OF WHICH BEARS N71°35'17"W 21.21'; THENCE S63°24'43"W 7.50'; THENCE N26°35'17"W 30.00' TO THE POINT OF BEGINNING CONTAINING 17,853.006 SQUARE FEET AS PER SURVEY BY MARK E. PATTERSON, PLS #3136 DATED JUNE 14, 2021.

PREPARED BY:
POD
POWER OF DESIGN
[illegible]

PREPARED FOR:
CELLCO PARTNERSHIP D/B/A verizon

SITE SURVEY

REV.	DATE	DESCRIPTION
A	6.22.21	PRELIM ISSUE
B	8.18.21	ISSUED AS FINAL

SITE INFORMATION:
LV NW SOMERSET
1730 N HIGHWAY 27
SOMERSET, KY 42503
PULASKI COUNTY

TAX PARCEL NUMBER:
060-2-0-25

PROPERTY OWNER:
DANNY MCGLOTHLIN
1650 W HWY 80
SOMERSET, KY 42503

SOURCE OF TITLE:
BOOK 850, PAGE 478

POD NUMBER:	21-83626
DRAWN BY:	CPM
CHECKED BY:	MEP
SURVEY DATE:	6.14.21
PLAT DATE:	6.22.21

SHEET TITLE:
SITE SURVEY
THIS DOES NOT REPRESENT A BOUNDARY SURVEY OF THE PARENT PARCEL

SHEET NUMBER: (3 pages)
B-1.2

EXHIBIT 2
OWNER CONSENT

Not applicable

McGlothlin, Danny
1659 W Hwy 80
Somerset, KY 42503

KJS Properties, LLC
1344 Hwy 3091
Somerset, KY 42503

Trimble, Timothy A. and Joey M. and
Ellis, Jeffrey Lee
c/o Timothy Trimble
119 Lewis Brown Drive
Somerset, KY 42503

Heavenly 1, LLC & Heavenly 2, LLC
99 Lancaster Street
Stanford, KY 40484

City of Somerset
104 College Street
Somerset, KY 42501

Turpen, Elizabeth L.
PO Box 12
Nancy, KY 42544

Dykes, Stephen A.
1201 Shopville Road
Somerset, KY 42503

Boggs, Odella Lafon & Sandra GA
407 Poinsettia Avenue
Titusville, FL 32796

Warner Fertilizer Co., Inc.
PO Box 796
Somerset, KY 42502

Hon. Marshall Todd
100 N. Main Street, Ste 202
Somerset, Ky 42501

ClarkQuinn

www.clarkquinnlaw.com

Russell L. Brown
Attorney at Law
rbrown@clarkquinnlaw.com

320 N. Meridian St., Ste. 1100
Indianapolis, IN 46204
(317) 637-1321 main
(317) 687-2344 fax

April 7, 2023

Notice of Proposed Construction of
Wireless Communications Facility
Site Name: NW Somerset

Cellco Partnership, d/b/a Verizon Wireless and VB BTS II, LLC / Vertical Bridge is filing an application with the Kentucky Public Service Commission ("PSC") to construct a new wireless communications facility on a site located at 1730 N. Highway 27, Somerset, KY 42503 (North Latitude: (37° 07' 05.73", West Longitude 84° 53' 53.79"). The proposed facility will include a 280-foot tall antenna tower, plus a 5-foot lightning arrestor, for a total height of 285 feet with related ground facilities. This facility is needed to provide improved coverage for wireless communications in the area.

This notice is being sent to you because the County Property Valuation Administrator's records indicate that you may own property that is within a 500' radius of the proposed tower site or contiguous to the property on which the tower is to be constructed. You have a right to submit testimony to the Kentucky Public Service Commission ("PSC"), either in writing or to request intervention in the PSC's proceedings on the application. You may contact the PSC for additional information concerning this matter at: Kentucky Public Service Commission, Executive Director, 211 Sower Boulevard, P.O. Box 615, Frankfort, Kentucky 40602. Please refer to docket number 2023-00111 in any correspondence sent in connection with this matter.

We have attached a map showing the site location for the proposed tower. Applicant's radio frequency engineers assisted in selecting the proposed site for the facility, and they have determined it is the proper location and elevation needed to provide quality service to wireless customers in the area. Please feel free to contact us at 317-637-1321 if you have any comments or questions about this proposal.

Sincerely,
Russell L. Brown

Attorney for Applicant
RLB/jdj
enclosure

Location Map

ClarkQuinn
ark, Quinn, Moses, Scott & Grahn, LLP

CERTIFIED MAIL

7020 1810 0002 1853 2484

FIRST-CLASS

US POSTAGE PITNEY BOWES

ZIP 46204
02 7H
0006035028

$ 008.10⁰

APR 07 2023

McGlothlin, Danny
1659 W Hwy 80
Somerset, KY 42503

ClarkQuinn
ark, Quinn, Moses, Scott & Grahn, LLP

CERTIFIED MAIL

7022 0410 0002 1799 1591

FIRST-CLASS

US POSTAGE PITNEY BOWES

ZIP 46204
02 7H
0006035028

$ 008.10⁰

APR 07 2023

KJS Properties, LLC
1344 Hwy 3091
Somerset, KY 42503

ClarkQuinn
lark, Quinn, Moses, Scott & Grahn, LLP

CERTIFIED MAIL

7022 0410 0002 1799 1607

FIRST-CLASS

US POSTAGE PITNEY BOWES

ZIP 46204
02 7H
0006035028

$ 008.10⁰

APR 07 2023

Trimble, Timothy A. and Joey M. and
Ellis, Jeffrey Lee
c/o Timothy Trimble
119 Lewis Brown Drive
Somerset, KY 42503

ClarkQuinn
ark, Quinn, Moses, Scott & Grahn, LLP

FIRST-CLASS

US POSTAGE PITNEY BOWES

ZIP 46204
02 7H
0006035028

$ 008.10⁰
APR 07 2023

Heavenly 1, LLC & Heavenly 2, LLC
99 Lancaster Street
Stanford, KY 40484

ClarkQuinn
lark, Quinn, Moses, Scott & Grahn, LLP

CERTIFIED MAIL®

FIRST-CLASS

US POSTAGE PITNEY BOWES

ZIP 46204
02 7H
0006035028

$ 008.10⁰
APR 07 2023

City of Somerset
104 College Street
Somerset, KY 42501

ClarkQuinn
lark, Quinn, Moses, Scott & Grahn, LLP

CERTIFIED MAIL®

FIRST-CLASS

US POSTAGE PITNEY BOWES

ZIP 46204
02 7H
0006035028

$ 008.10⁰
APR 07 2023

Turpen, Elizabeth L.
PO Box 12
Nancy, KY 42544

ClarkQuinn
Clark, Quinn, Moses, Scott & Grahn, LLP

CERTIFIED MAIL®

7022 0410 0002 1799 1645

FIRST-CLASS

US POSTAGE IMI PITNEY BOWES

ZIP 46204
02 7H
0006035028

$ 008.10⁰
APR 07 2023

Dykes, Stephen A.
1201 Shopville Road
Somerset, KY 42503

ClarkQuinn
Clark, Quinn, Moses, Scott & Grahn, LLP

CERTIFIED MAIL®

7022 0410 0002 1799 1577

FIRST-CLASS

US POSTAGE IMI PITNEY BOWES

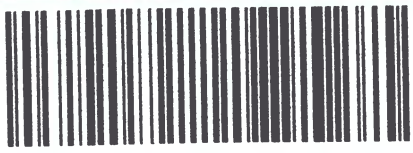
ZIP 46204
02 7H
0006035028

$ 008.10⁰
APR 07 2023

Boggs, Odella Lafon & Sandra GA
407 Poinsettia Avenue
Titusville, FL 32796

ClarkQuinn
Clark, Quinn, Moses, Scott & Grahn, LLP

CERTIFIED MAIL®



7020 1810 0002 1853 2491

FIRST-CLASS

US POSTAGE IMI PITNEY BOWES

ZIP 46204
02 7H
0006035028

$ 008.10⁰
APR 07 2023

Warner Fertilizer Co., Inc.
PO Box 796
Somerset, KY 42502

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Hon. Marshall Todd
100 N. Main Street, Ste 202
Somerset, Ky 42501

9590 9402 7690 2122 1921 17

2. Article Number *(Transfer from service label)*

7022 0410 0002 1799 1584

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X
☐ Agent
☑ Addressee

B. Received by *(Printed Name)* John Alexander
C. Date of Delivery 4-10-23

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☐ Adult Signature
☐ Adult Signature Restricted Delivery
☑ Certified Mail®
☐ Certified Mail Restricted Delivery
☐ Collect on Delivery
☐ Collect on Delivery Restricted Delivery
☐ Insured Mail
Mail Restricted Delivery
00)

☐ Priority Mail Express®
☐ Registered Mail™
☐ Registered Mail Restricted Delivery
☐ Signature Confirmation™
☐ Signature Confirmation Restricted Delivery

PS Form 3811, July 2020 PSN 7530-02-000-9053 Domestic Return Receip

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

City of Somerset
104 College Street
Somerset, KY 42501

9590 9402 7396 2055 3685 94

2. Article Number *(Transfer from service label)*

7022 0410 0002 1799 1621

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X Stefanie Sears
☐ Agent
☐ Addressee

B. Received by *(Printed Name)* Stefanie Sears
C. Date of Delivery

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☐ Adult Signature
☐ Adult Signature Restricted Delivery
☑ Certified Mail®
☐ Certified Mail Restricted Delivery
☐ Collect on Delivery
☐ Collect on Delivery Restricted Delivery
☐ Insured Mail
Mail Restricted Delivery
500)

☐ Priority Mail Express®
☐ Registered Mail™
☐ Registered Mail Restricted Delivery
☐ Signature Confirmation™
☐ Signature Confirmation Restricted Delivery

PS Form 3811, July 2020 PSN 7530-02-000-9053 Domestic Return Receipt

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

McClothlin, Danny
1659 W Hwy 80
Somerset, KY 42503

9590 9402 7690 2122 1921 00

2. Article Number *(Transfer from service label)*

7020 1810 0002 1853 2484

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X
☐ Agent
☐ Addressee

B. Received by *(Printed Name)*
C. Date of Delivery

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☐ Adult Signature
☐ Adult Signature Restricted Delivery
☑ Certified Mail®
☐ Certified Mail Restricted Delivery
☐ Collect on Delivery
☐ Collect on Delivery Restricted Delivery
Mail
Mail Restricted Delivery
500)

☐ Priority Mail Express®
☐ Registered Mail™
☐ Registered Mail Restricted Delivery
☐ Signature Confirmation™
☐ Signature Confirmation Restricted Delivery

PS Form 3811, July 2020 PSN 7530-02-000-9053 Domestic Return Receip

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Heavenly 1, LLC & Heavenly 2, LLC
99 Lancaster Street
Stanford, KY 40484

9590 9402 5283 9154 4137 77

2. Article Number *(Transfer from service label)*

7022 0410 0002 1799 1614

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X [signature] ☐ Agent ☐ Addressee

B. Received by *(Printed Name)* C. Date of Delivery 4/10

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☐ Adult Signature
☐ Adult Signature Restricted Delivery
☑ Certified Mail®
☐ Certified Mail Restricted Delivery
☐ Collect on Delivery
☐ Collect on Delivery Restricted Delivery
☐ Mail
☐ Mail Restricted Delivery
(over $500)
☐ Priority Mail Express®
☐ Registered Mail™
☐ Registered Mail Restricted Delivery
☑ Return Receipt for Merchandise
☐ Signature Confirmation™
☐ Signature Confirmation Restricted Delivery

PS Form 3811, July 2015 PSN 7530-02-000-9053 Domestic Return Receipt

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Warner Fertilizer Co., Inc.
PO Box 796
Somerset, KY 42502

9590 9402 7396 2055 3686 24

2. Article Number *(Transfer from service label)*

7020 1810 0002 1853 2491

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X [signature] ☐ Agent ☐ Addressee

B. Received by *(Printed Name)* [illegible] C. Date of Delivery 4/10/23

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☐ Adult Signature
☐ Adult Signature Restricted Delivery
☑ Certified Mail®
☐ Certified Mail Restricted Delivery
☐ Collect on Delivery
☐ Collect on Delivery Restricted Delivery
☐ Mail
☐ Mail Restricted Delivery
(over $500)
☐ Priority Mail Express®
☐ Registered Mail™
☐ Registered Mail Restricted Delivery
☐ Signature Confirmation™
☐ Signature Confirmation Restricted Delivery

PS Form 3811, July 2020 PSN 7530-02-000-9053 Domestic Return Receipt

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Dykes, Stephen A.
1201 Shopville Road
Somerset, KY 42503

9590 9402 7396 2055 3686 48

2. Article Number *(Transfer from service label)*

7022 0410 0002 1799 1645

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X [signature] ☐ Agent ☐ Addressee

B. Received by *(Printed Name)* C. Date of Delivery

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☐ Adult Signature
☐ Adult Signature Restricted Delivery
☑ Certified Mail®
☑ Certified Mail Restricted Delivery
☐ Collect on Delivery
☐ Collect on Delivery Restricted Delivery
☐ Mail
☐ Mail Restricted Delivery
(over $500)
☐ Priority Mail Express®
☐ Registered Mail™
☐ Registered Mail Restricted Delivery
☐ Signature Confirmation™
☐ Signature Confirmation Restricted Delivery

PS Form 3811, July 2020 PSN 7530-02-000-9053 Domestic Return Receipt

SENDER: *COMPLETE THIS SECTION*

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Trimble, Timothy A. and Joey M. and
Ellis, Jeffrey Lee
c/o Timothy Trimble
119 Lewis Brown Drive
Somerset, KY 42503

9590 9402 3879 8060 9064 93

2. Article Number *(Transfer from service label)*

7022 0410 0002 1799 1607

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X

☐ Agent
☐ Addressee

B. Received by *(Printed Name)*

C. Date of Delivery

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type

- ☐ Adult Signature
- ☐ Adult Signature Restricted Delivery
- ☑ Certified Mail®
- ☐ Certified Mail Restricted Delivery
- ☐ Collect on Delivery
- ☐ Collect on Delivery Restricted Delivery
- ☐ Insured Mail
- ☐ Insured Mail Restricted Delivery (over $500)
- ☐ Priority Mail Express®
- ☐ Registered Mail™
- ☐ Registered Mail Restricted Delivery
- ☑ Return Receipt for Merchandise
- ☐ Signature Confirmation™
- ☐ Signature Confirmation Restricted Delivery

PS Form 3811, July 2015 PSN 7530-02-000-9053 Domestic Return Receipt

SENDER: *COMPLETE THIS SECTION*

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Boggs, Odella Lafon & Sandra GA
407 Poinsettia Avenue
Titusville, FL 32796

9590 2055 3686 31

2. Article Number *(Transfer from service label)*

7022 0410 0002 1799 1577

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X

☐ Agent
☐ Addressee

B. Received by *(Printed Name)*

C. Date of Delivery

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

TITUSVILLE, FL 32780
APR 24 2023
USPS

3. Service Type

☐ Adult Signature
☐ Adult Signature Restricted Delivery
☐ Certified Mail®
☐ Certified Mail Restricted Delivery
☐ Collect on Delivery
☐ Collect on Delivery Restricted Delivery
☐ Insured Mail
☐ Mail Restricted Delivery
00)

☐ Priority Mail Express®
☐ Registered Mail™
☐ Registered Mail Restricte Delivery
☐ Signature Confirmation™
☐ Signature Confirmation Restricted Delivery

PS Form 3811, July 2020 PSN 7530-02-000-9053

Domestic Return Receipt

ClarkQuinn
Clark, Quinn, Moses, Scott & Grahn, LLP

CERTIFIED MAIL®

INDIANAPOLIS IN 460
7 APR 2023 PM 4L

7022 0410 0002 1799 1638

FIRST-CLASS

US POSTAGE IMI PITNEY BOWES
ZIP 46204
02 7H
0006035028
$ 008.10⁰
APR 07 2023

Turpen, Elizabeth L.
PO Box 12
Nancy, KY 42544

4/10/23
4115
4125

NIXIE 372 CE 1 7204/18/23
RETURN TO SENDER
UNCLAIMED
UNABLE TO FORWARD
MANUAL PROC REQ *2912-01122-07-46

UNC
56998>9999
42544-00i2i2

USPS Tracking®

FAQs >

Remove ×

Tracking Number:

70220410000217991591

Copy Add to Informed Delivery (https://informeddelivery.usps.com/)

Latest Update

Your item was delivered to an individual at the address at 10:45 am on April 10, 2023 in SOMERSET, KY 42503.

Get More Out of USPS Tracking:

USPS Tracking Plus®

Delivered

Delivered, Left with Individual

SOMERSET, KY 42503
April 10, 2023, 10:45 am

See All Tracking History

Feedback

Text & Email Updates

USPS Tracking Plus®

Product Information

See Less

Track Another Package

Enter tracking or barcode numbers

Need More Help?

Contact USPS Tracking support for further assistance.

FAQs

ClarkQuinn

www.clarkquinnlaw.com

Russell L. Brown
Attorney at Law
rbrown@clarkquinnlaw.com

320 N. Meridian St., Ste. 1100
Indianapolis, IN 46204
(317) 637-1321 main
(317) 687-2344 fax

April 7, 2023

Via Certified Mail, Return Receipt Requested
7022 0410 0002 1799 1584

Hon. Marshall Todd
100 N. Main Street, Ste 202
Somerset, Ky 42501

RE: Notice of Proposal to Construct Wireless Communications Facility
Kentucky Public Service Commission Docket No. 2023-00111
Site Name: NW Somerset

Dear Judge Todd:

Cellco Partnership, d/b/a Verizon Wireless and VB BTS II, LLC / Vertical Bridge is filing an application with the Kentucky Public Service Commission ("PSC") to construct a new wireless communications facility on a site located at 1730 N. Highway 27, Somerset, KY 42503 (North Latitude: (37° 07' 05.73", West Longitude 84° 53' 53.79"). The proposed facility will include a 280-foot tall antenna tower, plus a 5-foot lightning arrestor, for a total height of 285 feet with related ground facilities. This facility is needed to provide improved coverage for wireless communications in the area

You have a right to submit comments to the PSC or to request intervention in the PSC's proceedings on the application. You may contact the PSC at: Executive Director, Public Service Commission, 211 Sower Boulevard, P.O. Box 615, Frankfort, Kentucky 40602. Please refer to docket number 2023-00111 in any correspondence sent in connection with this matter.

We have attached a map showing the site location for the proposed tower. Verizon Wireless' radio frequency engineers assisted in selecting the proposed site for the facility, and they have determined it is the proper location and elevation needed to provide quality service to wireless customers in the area. Please feel free to contact us with any comments or questions you may have.

Sincerely,
Russell L. Brown

Attorney for Applicant
RLB/jdj
Enclosures

Location Map

ClarkQuinn
ark, Quinn, Moses, Scott & Grahn, LLP

CERTIFIED MAIL®

7022 0410 0002 1799 1584

FIRST-CLASS

US POSTAGE IMI PITNEY BOWES

ZIP 46204
02 7H
0006035028

$ 008.10⁰
APR 07 2023

Hon. Marshall Todd
100 N. Main Street, Ste 202
Somerset, Ky 42501

SENDER: *COMPLETE THIS SECTION*

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Hon. Marshall Todd
100 N. Main Street, Ste 202
Somerset, Ky 42501

9590 9402 7690 2122 1921 17

2. Article Number *(Transfer from service label)*

7022 0410 0002 1799 1584

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X

☐ Agent
☑ Addressee

B. Received by *(Printed Name)* John Alexander

C. Date of Deliver 4-10-23

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type

☐ Adult Signature
☐ Adult Signature Restricted Delivery
☑ Certified Mail®
☐ Certified Mail Restricted Delivery
☐ Collect on Delivery
☐ Collect on Delivery Restricted Delivery
☐ Insured Mail
Mail Restricted Delivery
00)

☐ Priority Mail Express®
☐ Registered Mail™
☐ Registered Mail Restrict Delivery
☐ Signature Confirmation™
☐ Signature Confirmation Restricted Delivery

PS Form 3811, July 2020 PSN 7530-02-000-9053

Domestic Return Receip

SITE NAME: NW Somerset
NOTICE SIGNS

The signs are at least (2) feet by four (4) feet in size, of durable material, with the text printed in black letters at least one (1) inch in height against a white background, except for the word **"tower,"** which is at least four (4) inches in height.

Cellco Partnership, d/b/a Verizon Wireless proposes to construct a telecommunications **tower** on this site. If you have questions, please contact Clark, Quinn, Moses, Scott & Grahn, LLP, 320 N. Meridian Street, Indianapolis, IN 46204; 317-637-1321, or the Executive Director, Public Service Commission, 211 Sower Boulevard, PO Box 615, Frankfort, Kentucky 40602. Please refer to docket number 2023-00111 in your correspondence.

Cellco Partnership, d/b/a Verizon Wireless proposes to construct a telecommunications **tower** on this site. If you have questions, please contact Clark, Quinn, Moses, Scott & Grahn, LLP, 320 N. Meridian Street, Indianapolis, IN 46204; 317-637-1321, or the Executive Director, Public Service Commission, 211 Sower Boulevard, PO Box 615, Frankfort, Kentucky 40602. Please refer to docket number 2023-00111 in your correspondence.

ClarkQuinn
Clark, Quinn, Moses, Scott & Grahn, LLP

VIA EMAIL: classifieds@somerset-kentucky.com

Commonwealth Journal
110-112 E. Mt. Vernon Street
Somerset, KY 42501

RE: Legal Notice Advertisement
Site Name: NW Somerset

To Whom It May Concern,

Please publish the following legal notice advertisement in the next available edition of the Commonwealth Journal Publication:

NOTICE

Cellco Partnership, d/b/a Verizon Wireless and VB BTS II, LLC / Vertical Bridge is filing an application with the Kentucky Public Service Commission ("PSC") to construct a new wireless communications facility on a site located at 1730 N. Highway 27, Somerset, KY 42503 (North Latitude: (37° 07' 05.73", West Longitude 84° 53' 53.79"). The proposed facility will include a 280-foot tall antenna tower, plus a 5-foot lightning arrestor, for a total height of 285 feet with related ground facilities. You have a right to submit comments to the PSC or to request intervention in the PSC's proceedings on the application. You may contact the PSC at: Executive Director, Public Service Commission, 211 Sower Boulevard, P.O. Box 615, Frankfort, Kentucky 40602. Please refer to docket number 2023-00111 in any correspondence sent in connection with this matter.

After this advertisement has been published, please forward a tearsheet copy, affidavit of publication, and invoice to Clark, Quinn, Moses, Scott & Grahn, LLC, 320 N. Meridian Street, Indianapolis, IN 46204 or by email to ebw@clarkquinnlaw.com. Please call me on my cell with any questions at 317-902-2187 if you have any questions. Thank you for your assistance.

Sincerely,

Elizabeth Bentz Williams, AICP

Radio Frequency Design Search Area

verizon

January, 4th, 2023

RE: Proposed Cellco Partnership d/b/a Verizon Wireless Communications Facility
Site Name: **LV NW SOMERSET**
Type of Tower: 285' Self Support
Location: Near 1730 N Highway 27, Somerset, KY 42503 Pulaski County

To Whom It May Concern:

As a radio frequency engineer for Verizon Wireless, I am providing this letter to state the need for a Verizon Wireless site called **LV NW SOMERSET**.

The **LV NW SOMERSET** site is proposed with the below objectives:

1 To offload existing demand and traffic of existing Verizon sites in this area.
2 Improve 4G throughput to existing heavy data users.
3 Improve 4G network reliability by increasing the amount of time our customers operate on 4G instead of 3G.

Currently the area is experiencing high demand for wireless high-speed data. Growth forecasts have triggered the need for an additional site in the area. The tower is needed to provide all Verizon customers in the area with the best experience on their 4G wireless devices.

Raw Land – Design plans for a new tower would provide overall tower height of **285'** with a Verizon Wireless Centerline of **275'**. The new structure height was decided upon to best cover the offload area and interact with the existing Verizon sites. If we are limited to building a structure less than the proposed height, another tower would be needed in the vicinity in the near future. In addition, building a structure that is too short can cause existing taller sites to shoot over the proposed site and building a site that is too tall can cause the proposed site to shoot over existing sites. Both situations create a poor experience from a user perspective. The new structure will be placed near the center of the area with high traffic demand and offload the surrounding sites greatly. The new tower design meets stated objectives.

Verizon Wireless cares about the communities as well as the environment and prefers to collocate on existing structures when available. It can be noticed from any map that Verizon Wireless is currently collocated on many existing structures in the area. We prefer collocation due to reduced construction costs, faster deployment, and environment protection. However, Verizon Wireless was unable to find a suitable structure within the center of demand area to collocate the proposed **LV NW SOMERSET** site.

Capstar Radio Operating Company (FCC ID: 1043674**)** –Site is located far East of the demand area and outside the demand search ring. Therefore, Verizon does not feel this site meets our customer's needs and is not viable.

verizon

Verizon Wireless design engineers establish search area criteria in order to effectively meet coverage objectives as well as offload existing Verizon cell sites. When met, the criterion also reduces the need for a new site to cover the area in the immediate future. Each cellular site covers a limited area, depending on site configuration and the surrounding terrain. Cell sites are built in an interconnected network; which means each cell site must be located so that their respective coverage areas are contiguous. This provides uninterrupted communications throughout the coverage area.

Since collocation is generally the most cost-effective means for prompt deployment of new facilities, Verizon Wireless makes every effort to investigate the feasibility for using existing towers or other tall structures for collocation when designing a new site or system expansion. However, collocation on an existing tower or tall structure is not always feasible due to location of existing cell sites. Cell sites are placed in a way so they provide smooth hand off to each other and are placed at some distance from each other to eliminate too much overlap. Too much overlap may result in a waste of resources and raise a system capacity overload concern. This cell site has been designed, and shall be constructed and operated in a manner that satisfies regulations and requirements of all applicable governmental agencies that have been charged with regulating tower specifications, operation, construction, and placement, including the FAA and FCC.

Sincerely,

Gordon Snyder
Sr RF Engineer
Verizon Wireless

verizon

January, 4th, 2023.

RE: Pulaski County Zoning Plots

Site Name: LV NW SOMERSET

To Whom It May Concern:

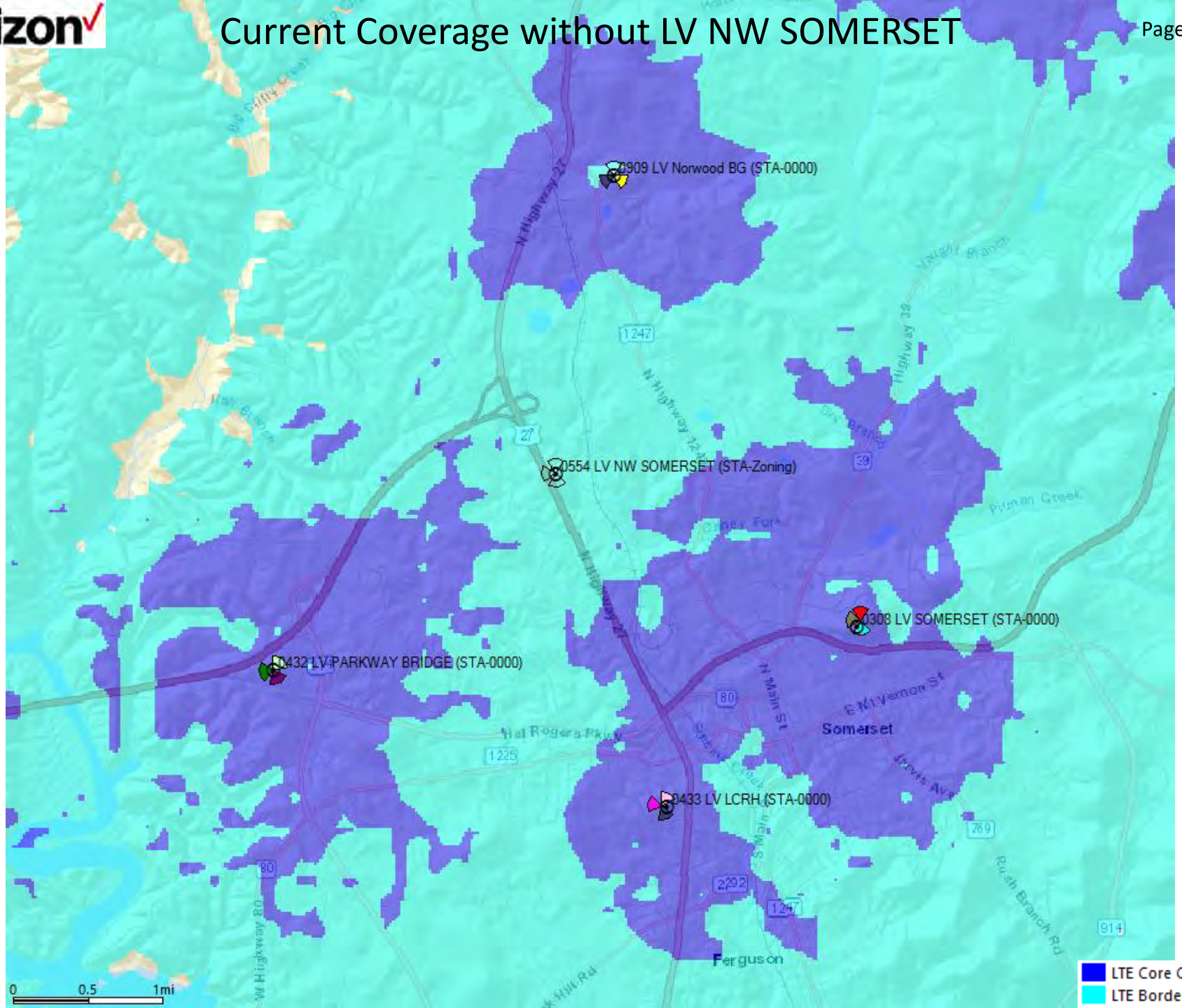
This map is not a guarantee of coverage and may contain areas with no service. This map reflects a depiction of predicted and approximate wireless coverage of the network and is intended to provide a relative comparison of coverage. The depictions of coverage do not guarantee service availability as there are many factors that can influence coverage and service availability. These factors vary from location to location and change over time. The coverage areas may include locations with limited or no coverage. Even within a coverage area shown, there are many factors, including but not limited to, usage volumes, service, outage, and customer's equipment, and terrain, proximity to buildings, foliage, and weather that may impact service.

The proposed site is needed to offload capacity from existing sites. This map reflects the predicted coverage area that will be offloaded from existing sites and transferred to the proposed site.

Sincerely,

Gordon Snyder
Sr Engr Cslt-Radio Frequency,
Verizon Wireless

Current Coverage without LV NW SOMERSET



Coverage with the Proposed LV NW SOMERSET

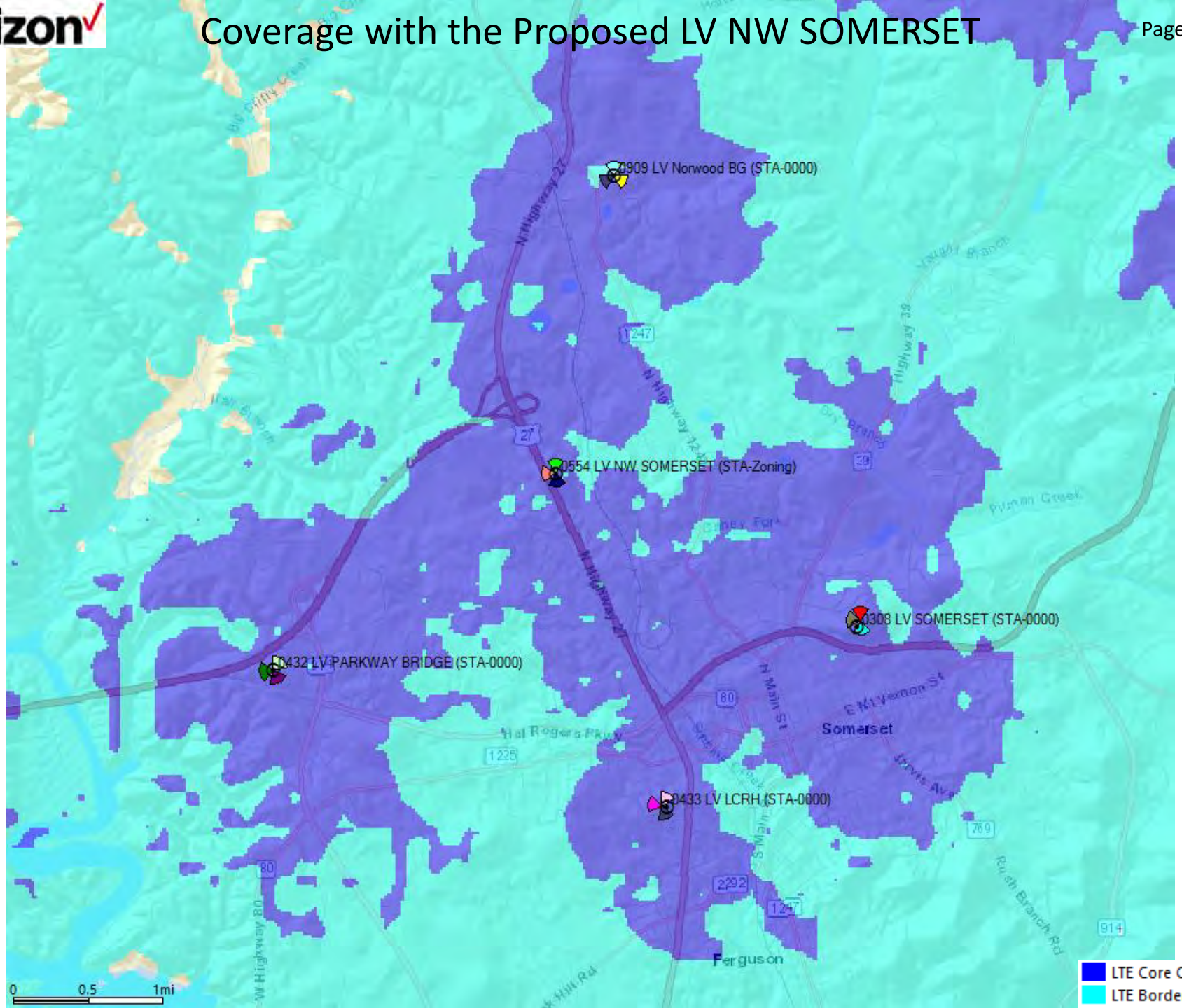


Exhibit R
List and Identity and Qualifications of Professionals

Mark E. Patterson
Professional Land Surveyor
Kentucky License 3136
Power of Design Group, LLC
11490 Bluegrass Parkway
Louisville, KY 40299

Mark E. Patterson
Professional Engineer
Kentucky License 16300
Power of Design Group, LLC
11490 Bluegrass Parkway
Louisville, KY 40299

Jason Mark Lambert
Professional Engineer
Kentucky License 28217
Nello
1201 S. Sheridan St.
South Bend, IN 46619

Billy Waldridge, Jr.
Construction Manager
Verizon Wireless
2421 Holloway Road
Louisville, KY 40299

Gordan Bruce Snyder
RF Engineer
Verizon Wireless
2421 Holloway Road
Louisville, KY 40299

STATE OF INDIANA)
) SS:
COUNTY OF MARION)

AFFIDAVIT OF CERTIFICATION
COMMONWEALTH OF KENTUCKY
PUBLIC SERVICE COMMISSION

I Russell L. Brown, attorney for Cellco Partnership, d/b/a Verizon Wireless do hereby certify that as the person supervising the preparation of this application that the all statements and information contained herein are true and accurate to the best of that person's knowledge, information, and belief formed after a reasonable inquiry for all information within this application.

Russell L. Brown
Attorney, for Cellco Partnership, d/b/a Verizon Wireless

STATE OF INDIANA,
COUNTY OF MARION, SS:
Subscribed and sworn to before me this 23rd day of May, 2023.

Notary Public
Printed Name of Notary: Elizabeth Bentz Williams
My commission expires: November 18, 2028
My County of Residence: Marion
Commission #: 0639620