

**COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION**

In the Matter of:

THE APPLICATION OF)	
NEW CINGULAR WIRELESS PCS, LLC,)	
A DELAWARE LIMITED LIABILITY COMPANY,)	
D/B/A AT&T MOBILITY)	
AND UNITI TOWERS LLC, A DELAWARE)	
LIMITED LIABILITY COMPANY)	
FOR ISSUANCE OF A CERTIFICATE OF PUBLIC)	CASE NO.: 2020-00345
CONVENIENCE AND NECESSITY TO CONSTRUCT)	
A WIRELESS COMMUNICATIONS FACILITY)	
IN THE COMMONWEALTH OF KENTUCKY)	
IN THE COUNTY OF RUSSELL)	

SITE NAME: RUSSELL SPRINGS RELO

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

New Cingular Wireless PCS, LLC, a Delaware limited liability company, d/b/a AT&T Mobility and Uniti Towers LLC, a Delaware limited liability company ("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 submit 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 Applicants with wireless communications services.

In support of this Application, Applicants respectfully provide and state the following

information:

1. The complete names and addresses of the Applicants are: New Cingular Wireless PCS, LLC, a Delaware limited liability company, d/b/a AT&T Mobility, having an address of Meidinger Tower, 462 S. 4th Street, Suite 2400, Louisville, Kentucky 40202 and Uniti Towers LLC, a Delaware limited liability company having an address of 10802 Executive Center Drive, Benton Building, Suite 300, Little Rock, Arkansas 72211.

2. 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 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.

3. AT&T Mobility is a limited liability company organized in the State of Delaware on October 20, 1994. Uniti Towers is a limited liability company organized in the State of Delaware on December 2, 2015.

4. Applicants attest that they are in good standing in the state in which they are organized and further state that they are authorized to transact business in Kentucky.

5. The Certificates of Authority filed with the Kentucky Secretary of State for both Applicants are attached as part of **Exhibit A** pursuant to 807 KAR 5:001: Section 14(3).

6. AT&T Mobility operates on frequencies licensed by the Federal Communications Commission ("FCC") pursuant to applicable FCC requirements. Copies of AT&T Mobility's FCC licenses to provide wireless services are attached to this Application or described as part of **Exhibit A**, and the facility will be constructed and operated in

accordance with applicable FCC regulations.

7. The public convenience and necessity require the construction of the proposed WCF. The construction of the WCF will bring or improve AT&T Mobility's services to an area currently not served or not adequately served by AT&T Mobility by increasing coverage or capacity and thereby enhancing the public's access to innovative and competitive wireless communications services. The WCF will provide a necessary link in AT&T Mobility's communications network that is designed to meet the increasing demands for wireless services in Kentucky's wireless communications service area. The WCF is an integral link in AT&T Mobility's network design that must be in place to provide adequate coverage to the service area.

8. To address the above-described service needs, Applicants propose to construct a WCF at 244 Highway 1545, Russell Springs, KY 42642 (E-911)/ 248 Highway 1545, Russell Springs, KY 42642 (PARCEL) (37° 04' 07.28" North latitude, 85° 04' 37.37" West longitude), 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 Rebecca Darnell and Douglas Darnell pursuant to a deed recorded at Deed Book 204, Page 200 in the office of the County Clerk. The proposed WCF will consist of a 230-foot tall tower, with an approximately 10-foot tall lightning arrestor attached at the top, for a total height of 240-feet. The WCF will also include concrete foundations and a shelter or cabinets to accommodate the placement of AT&T Mobility's radio electronics equipment and appurtenant equipment. The Applicants' 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 B** and **Exhibit C**.

9. A list of utilities, corporations, or persons with whom the proposed WCF is likely to compete is attached as **Exhibit D**.

10. 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 AT&T Mobility's antennas has also been included as part of **Exhibit B**.

11. 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 C**.

12. Applicants have considered the likely effects of the installation of the proposed WCF on nearby land uses and values and have 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 AT&T Mobility's antennas on an existing structure. When suitable towers or structures exist, AT&T Mobility attempts to co-locate on existing structures such as communications towers or other structures capable of supporting AT&T Mobility's facilities; however, no other suitable or available co-location site was found to be located in the vicinity of the site.

13. A copy of the Determination of No Hazard to Air Navigation issued by the Federal Aviation Administration ("FAA") is attached as **Exhibit E**.

14. A copy of the approval issued by the Kentucky Airport Zoning Commission ("KAZC") is attached as **Exhibit F**.

15. A geotechnical engineering firm has performed soil boring(s) and subsequent geotechnical engineering studies at the WCF site. A copy of the geotechnical engineering report, signed and sealed by a professional engineer registered in the Commonwealth of Kentucky, is attached as **Exhibit G**. The name and address of the geotechnical engineering firm and the professional engineer registered in the Commonwealth of Kentucky who supervised the examination of this WCF site are included as part of this exhibit.

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

17. Uniti Towers LLC, pursuant to a written agreement, has acquired the right to use the WCF site and associated property rights. A copy of the agreements or abbreviated agreements recorded with the County Clerk are attached as **Exhibit I**.

18. 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 C** 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.

19. The Construction Manager for the proposed facility is Jeremy Culpepper and the identity and qualifications of each person directly responsible for design and

construction of the proposed tower are contained in **Exhibits B & C**.

20. As noted on the Survey attached as part of **Exhibit B**, the surveyor has determined that the site is not within any flood hazard area.

21. **Exhibit B** 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 B**.

22. 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 has been 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 J** and **Exhibit K**, respectively.

23. 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 L**.

24. 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 M**. 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 part of **Exhibit M**.

25. The general area where the proposed facility is to be located is rural in character.

26. The process that was used by AT&T Mobility's 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. AT&T Mobility's radio frequency engineers have conducted studies and tests in order 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 Applicants when searching for sites for its antennas that would provide the coverage deemed necessary by AT&T Mobility. 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 N**.

27. The tower must be located at the proposed location and proposed height to provide necessary service to wireless communications users in the subject area.

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

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

David A. Pike
Pike Legal Group, PLLC
1578 Highway 44 East, Suite 6
P. O. Box 369
Shepherdsville, KY 40165-0369
Telephone: (502) 955-4400
Telefax: (502) 543-4410
Email: dpike@pikelegal.com

WHEREFORE, 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,



David A. Pike
Pike Legal Group, PLLC
1578 Highway 44 East, Suite 6
P. O. Box 369
Shepherdsville, KY 40165-0369
Telephone: (502) 955-4400
Telefax: (502) 543-4410
Email: dpike@pikelegal.com
Attorney for Applicants

LIST OF EXHIBITS

- A - Certificate of Authority & FCC License Documentation
- B - Site Development Plan:
 - 500' Vicinity Map
 - Legal Descriptions
 - Flood Plain Certification
 - Site Plan
 - Vertical Tower Profile
- C - Tower and Foundation Design
- D - Competing Utilities, Corporations, or Persons List
- E - FAA
- F - Kentucky Airport Zoning Commission
- G - Geotechnical Report
- H - Directions to WCF Site
- I - Copy of Real Estate Agreement
- J - Notification Listing
- K - Copy of Property Owner Notification
- L - Copy of County Judge/Executive Notice
- M - Copy of Posted Notices and Newspaper Notice Advertisement
- N - Copy of Radio Frequency Design Search Area

EXHIBIT A
CERTIFICATE OF AUTHORITY & FCC LICENSE
DOCUMENTATION



COMMONWEALTH OF KENTUCKY
ALISON LUNDERGAN GRIMES, SECRETARY OF STATE

0972004.06 mstratton
ADD
Alison Lundergan Grimes
Kentucky Secretary of State
Received and Filed:
1/3/2017 3:10 PM
Fee Receipt: \$90.00

Division of Business Filings Business Filings PO Box 718 Frankfort, KY 40602 (502) 564-3490 www.sos.ky.gov	Certificate of Authority (Foreign Business Entity)	FBE
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Pursuant to the provisions of KRS 14A and KRS 271B, 273, 274, 275, 362 and 386 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 (KRS 271B), nonprofit corporation (KRS 273), professional service corporation (KRS 274),
 business trust (KRS 386), limited liability company (KRS 275), professional limited liability company (KRS 275),
 limited partnership (KRS 362).

2. The name of the entity is Uniti Towers 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 12/2/2015 and the period of duration is _____
(If left blank, the period of duration is considered perpetual.)

6. The mailing address of the entity's principal office is
10802 Executive Center Drive, Benton Building, Suite 300 Little Rock AR 72211
Street Address City State Zip Code

7. The street address of the entity's registered office in Kentucky is
306 West Main Street - Suite 512 Frankfort KY 40601
Street Address (No P.O. Box Numbers) City State Zip Code

and the name of the registered agent at that office is C T Corporation System

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

<u>Daniel L. Heard</u> Name	<u>10802 Executive Center Drive, Benton Building, Suite 300</u> Street or P.O. Box	<u>Little Rock</u> City	<u>AR</u> State	<u>72211</u> Zip Code
<u>Kenneth Gunderman</u> Name	<u>10802 Executive Center Drive, Benton Building, Suite 300</u> Street or P.O. Box	<u>Little Rock</u> City	<u>AR</u> State	<u>72211</u> Zip Code
<u>Mark A. Wallace</u> Name	<u>10802 Executive Center Drive, Benton Building, Suite 300</u> Street or P.O. Box	<u>Little Rock</u> City	<u>AR</u> State	<u>72211</u> Zip Code

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, unless a delayed effective date and/or time is provided.

The effective date or the delayed effective date cannot be prior to the date the application is filed. The date and/or time is _____
(Delayed effective date and/or time)

[Signature] Keith Harvey, VP - Deputy General Counsel 12/30/2016
Signature of Authorized Representative Printed Name & Title Date

I, C T Corporation System, consent to serve as the registered agent on behalf of the business entity.
Type/Print Name of Registered Agent

[Signature] Tristan Emrich Assistant Secretary 12/30/2016
Signature of Registered Agent Printed Name Title Date

Commonwealth of Kentucky
Alison Lundergan Grimes, Secretary of State

Alison Lundergan Grimes
Secretary of State
P. O. Box 718
Frankfort, KY 40602-0718
(502) 564-3490
<http://www.sos.ky.gov>

Certificate of Authorization

Authentication number: 216299
Visit <https://app.sos.ky.gov/ftshow/certvalidate.aspx> to authenticate this certificate.

I, Alison Lundergan Grimes, Secretary of State of the Commonwealth of Kentucky, do hereby certify that according to the records in the Office of the Secretary of State,

NEW CINGULAR WIRELESS PCS, LLC

, a limited liability company authorized under the laws of the state of Delaware, is authorized to transact business in the Commonwealth of Kentucky, and received the authority to transact business in Kentucky on October 14, 1999.

I further certify that all fees and penalties owed to the Secretary of State have been paid; that an application for certificate of withdrawal has not been filed; and that the most recent annual report required by KRS 14A.6-010 has been delivered to the Secretary of State.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my Official Seal at Frankfort, Kentucky, this 28th day of May, 2019, in the 227th year of the Commonwealth.



Alison Lundergan Grimes
Alison Lundergan Grimes
Secretary of State
Commonwealth of Kentucky
216299/0481848

Delaware

The First State

Page 1

I, JEFFREY W. BULLOCK, SECRETARY OF STATE OF THE STATE OF DELAWARE, DO HEREBY CERTIFY "UNITI TOWERS 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 THIRTIETH DAY OF DECEMBER, A.D. 2016.

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



5896640 8300

SR# 20167345793

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

A handwritten signature in black ink, appearing to read "JBULLOCK", written over a horizontal line. Below the line, the text "Jeffrey W. Bullock, Secretary of State" is printed in a small font.

Authentication: 203613650

Date: 12-30-16

REFERENCE COPY

This is not an official FCC license. It is a record of public information contained in the FCC's licensing database on the date that this reference copy was generated. In cases where FCC rules require the presentation, posting, or display of an FCC license, this document may not be used in place of an official FCC license.



Federal Communications Commission
Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: NEW CINGULAR WIRELESS PCS, LLC

ATTN: CECIL J MATHEW
 NEW CINGULAR WIRELESS PCS, LLC
 208 S AKARD ST., RM 1015
 DALLAS, TX 75202

Call Sign KNKN666	File Number
Radio Service CL - Cellular	
Market Numer CMA447	Channel Block A
Sub-Market Designator 0	

FCC Registration Number (FRN): 0003291192

Market Name Kentucky 5 - Barren

Grant Date 08-30-2011	Effective Date 08-31-2018	Expiration Date 10-01-2021	Five Yr Build-Out Date	Print Date
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Site Information:

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
7	37-10-00.0 N	085-18-37.0 W	282.5	291.4	1062332

Address: 1210 Cane Valley Road (94238)

City: Columbia County: ADAIR 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)	180.300	151.200	132.800	140.500	155.800	172.800	186.200	183.500
Transmitting ERP (watts)	250.037	98.154	10.266	2.559	0.527	0.738	12.510	102.333

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)	180.300	151.200	132.800	140.500	155.800	172.800	186.200	183.500
Transmitting ERP (watts)	1.408	30.262	153.476	217.337	49.025	5.207	1.772	0.660

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)	180.300	151.200	132.800	140.500	155.800	172.800	186.200	183.500
Transmitting ERP (watts)	2.948	0.454	0.942	4.366	59.310	210.546	155.347	22.706

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.

Licensee Name: NEW CINGULAR WIRELESS PCS, LLC

Call Sign: KNKN666

File Number:

Print Date:

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
8	36-43-12.0 N	084-28-13.0 W	409.3	91.1	1042231

Address: 100 Manor Circle (94260)

City: Whitley City County: MCCREARY 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)	123.400	147.100	135.800	109.800	103.700	143.600	127.300	165.300
Transmitting ERP (watts)	244.175	220.925	36.790	4.400	1.072	1.113	3.637	56.485

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)	123.400	147.100	135.800	109.800	103.700	143.600	127.300	165.300
Transmitting ERP (watts)	2.526	8.109	37.053	64.172	73.466	23.019	4.143	0.935

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)	123.400	147.100	135.800	109.800	103.700	143.600	127.300	165.300
Transmitting ERP (watts)	13.438	3.125	0.649	0.912	15.291	122.113	297.793	117.856

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
17	36-56-36.9 N	086-00-52.2 W	218.8	91.1	1063506

Address: 638 GRAHAM ROAD (87368)

City: GLASGOW County: BARREN 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)	76.900	78.700	69.100	74.800	91.600	116.000	101.800	89.500
Transmitting ERP (watts)	138.618	59.574	7.477	1.200	0.283	0.661	10.185	66.521

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)	76.900	78.700	69.100	74.800	91.600	116.000	101.800	89.500
Transmitting ERP (watts)	2.142	19.146	94.547	124.562	33.322	3.559	0.817	0.257

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)	76.900	78.700	69.100	74.800	91.600	116.000	101.800	89.500
Transmitting ERP (watts)	2.434	0.360	0.244	4.119	40.205	121.384	90.927	17.264

Licensee Name: NEW CINGULAR WIRELESS PCS, LLC

Call Sign: KNKN666

File Number:

Print Date:

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
18	36-48-31.1 N	084-50-43.5 W	466.6	61.0	1004214

Address: 6565 MORRIS HILL ROAD (87856)

City: MONTICELLO County: WAYNE 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)	216.900	160.100	180.400	174.000	158.000	164.800	204.700	214.300
Transmitting ERP (watts)	159.083	70.430	5.874	0.769	0.334	0.371	9.558	76.538

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)	216.900	160.100	180.400	174.000	158.000	164.800	204.700	214.300
Transmitting ERP (watts)	1.547	33.128	166.094	241.154	55.397	5.855	1.952	0.731

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)	216.900	160.100	180.400	174.000	158.000	164.800	204.700	214.300
Transmitting ERP (watts)	1.611	0.321	0.293	4.972	42.968	145.725	111.912	13.218

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
19	36-53-52.1 N	084-47-02.5 W	353.6	94.2	1238700

Address: ROUTE 5, BOX 9516 (87058)

City: Monticello County: WAYNE 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)	153.300	160.500	119.100	104.500	62.300	124.200	155.000	148.700
Transmitting ERP (watts)	151.264	65.591	5.815	0.740	0.328	0.344	9.075	72.988

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)	153.300	160.500	119.100	104.500	62.300	124.200	155.000	148.700
Transmitting ERP (watts)	2.029	20.018	108.704	142.806	33.266	2.825	0.395	0.478

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)	153.300	160.500	119.100	104.500	62.300	124.200	155.000	148.700
Transmitting ERP (watts)	1.536	0.299	0.287	4.752	41.633	135.419	106.546	12.709

Licensee Name: NEW CINGULAR WIRELESS PCS, LLC

Call Sign: KNKN666

File Number:

Print Date:

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
20	37-05-19.7 N	084-54-47.3 W	331.6	106.4	1232264

Address: 1101 PINE TOP ROAD (86918)

City: RUSSELL SPRINGS County: RUSSELL 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)	118.700	77.600	105.400	136.900	148.600	127.700	120.400	134.300
Transmitting ERP (watts)	106.145	47.603	4.827	0.278	0.215	0.233	6.909	51.527

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)	118.700	77.600	105.400	136.900	148.600	127.700	120.400	134.300
Transmitting ERP (watts)	2.313	23.146	119.606	157.272	35.853	3.353	0.454	0.536

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)	118.700	77.600	105.400	136.900	148.600	127.700	120.400	134.300
Transmitting ERP (watts)	1.748	0.347	0.313	5.295	45.951	158.160	122.299	14.137

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
22	36-45-21.5 N	085-03-35.7 W	353.6	78.6	1258266

Address: RR BOX 200 STATE ROUTE 90 (97275)

City: Albany County: CLINTON 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)	159.200	140.400	108.000	36.100	88.900	81.600	132.000	170.300
Transmitting ERP (watts)	61.485	218.225	164.915	26.293	2.922	0.471	0.954	4.500

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)	159.200	140.400	108.000	36.100	88.900	81.600	132.000	170.300
Transmitting ERP (watts)	1.000	4.591	60.220	229.906	159.544	23.590	2.912	0.466

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	140.400	108.000	36.100	88.900	81.600	132.000	170.300
Transmitting ERP (watts)	7.041	2.307	0.511	1.072	23.419	142.307	232.641	64.969

Licensee Name: NEW CINGULAR WIRELESS PCS, LLC

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Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
23	36-44-36.2 N	085-08-34.1 W	350.5	78.0	1258265

Address: 127 North Cross (Route 6 Box 991) (94257)

City: Albany County: CLINTON 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)	181.800	142.800	72.800	100.300	157.000	167.400	157.200	193.400
Transmitting ERP (watts)	31.597	145.107	168.768	30.884	3.418	1.072	0.669	1.670

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)	181.800	142.800	72.800	100.300	157.000	167.400	157.200	193.400
Transmitting ERP (watts)	1.105	1.668	14.838	36.641	44.724	30.421	5.045	2.474

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)	181.800	142.800	72.800	100.300	157.000	167.400	157.200	193.400
Transmitting ERP (watts)	40.424	4.384	1.518	0.529	1.123	24.617	125.244	176.237

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
26	37-18-17.2 N	085-55-38.3 W	285.3	99.1	1200030

Address: 824 I CHILDRESS ROAD (37618)

City: Munfordville County: HART 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)	137.000	120.900	185.100	176.500	166.200	156.000	134.000	170.100
Transmitting ERP (watts)	87.882	116.157	30.423	3.076	0.288	0.394	1.136	15.107

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)	137.000	120.900	185.100	176.500	166.200	156.000	134.000	170.100
Transmitting ERP (watts)	0.236	4.016	34.037	111.204	87.767	11.936	0.954	0.231

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)	137.000	120.900	185.100	176.500	166.200	156.000	134.000	170.100
Transmitting ERP (watts)	0.893	0.228	0.217	2.143	29.130	110.300	94.526	17.072

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Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
27	36-41-54.0 N	085-41-07.0 W	286.5	90.2	1065560

Address: 403 MARTIN SUBDIVISION (87881)

City: TOMPKINSVILLE County: MONROE 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)	69.700	75.300	146.800	80.100	75.200	103.200	86.800	75.200
Transmitting ERP (watts)	271.841	109.386	7.417	0.800	0.553	0.537	18.630	138.505

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)	69.700	75.300	146.800	80.100	75.200	103.200	86.800	75.200
Transmitting ERP (watts)	1.721	17.109	89.000	121.386	26.164	2.348	0.328	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)	69.700	75.300	146.800	80.100	75.200	103.200	86.800	75.200
Transmitting ERP (watts)	1.247	0.244	0.229	4.118	34.693	116.367	90.021	10.295

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
28	37-21-17.2 N	085-52-24.7 W	352.0	83.8	1220496

Address: 2830 Frenchman's Knob Road (94236)

City: Bonnieville County: HART 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)	193.700	191.000	195.200	238.600	217.000	184.800	226.800	216.700
Transmitting ERP (watts)	184.924	99.849	11.423	0.450	0.602	0.510	8.026	87.512

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)	193.700	191.000	195.200	238.600	217.000	184.800	226.800	216.700
Transmitting ERP (watts)	2.115	37.767	246.087	328.098	100.148	5.709	0.676	0.788

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)	193.700	191.000	195.200	238.600	217.000	184.800	226.800	216.700
Transmitting ERP (watts)	1.310	0.350	0.339	3.061	46.385	170.557	144.024	26.849

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Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
32	37-04-19.5 N	084-59-59.4 W	317.0	78.0	1257488

Address: 227 Horn Rd (94247)

City: Russell Springs County: RUSSELL 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)	149.200	77.200	79.700	105.800	146.300	99.500	80.900	89.500
Transmitting ERP (watts)	221.223	212.121	177.242	71.356	77.801	28.148	33.937	155.008

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)	149.200	77.200	79.700	105.800	146.300	99.500	80.900	89.500
Transmitting ERP (watts)	18.208	41.435	173.839	236.936	272.788	110.954	36.898	14.156

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)	149.200	77.200	79.700	105.800	146.300	99.500	80.900	89.500
Transmitting ERP (watts)	68.660	39.848	0.532	12.732	74.296	228.506	206.369	227.920

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
33	36-50-28.6 N	086-02-47.1 W	225.9	60.7	

Address: Austin Tracy Rd (115120)

City: Lucas County: BARREN 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)	91.800	79.300	63.800	43.400	95.100	66.500	80.300	112.900
Transmitting ERP (watts)	79.481	128.527	48.267	34.537	0.275	16.613	58.629	118.330

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)	91.800	79.300	63.800	43.400	95.100	66.500	80.300	112.900
Transmitting ERP (watts)	16.424	105.957	212.448	227.867	141.232	41.336	29.497	11.208

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)	91.800	79.300	63.800	43.400	95.100	66.500	80.300	112.900
Transmitting ERP (watts)	3.736	0.847	2.276	7.728	35.347	59.316	65.492	20.964

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)	91.800	79.300	63.700	43.400	95.100	66.500	80.300	112.900
Transmitting ERP (watts)	80.215	129.717	48.867	34.856	0.278	16.767	59.174	119.427

Antenna: 5

Maximum Transmitting ERP in Watts:	140.820							
Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	91.800	79.300	63.700	43.400	95.100	66.500	80.300	112.900
Transmitting ERP (watts)	16.576	106.934	215.086	229.984	142.541	41.717	29.770	11.312

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Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
33	36-50-28.6 N	086-02-47.1 W	225.9	60.7	

Address: Austin Tracy Rd (115120)
City: Lucas County: BARREN State: KY Construction Deadline:

Antenna: 6
Maximum Transmitting ERP in Watts: 140.820
Azimuth(from true north) 0 45 90 135 180 225 270 315
Antenna Height AAT (meters) 91.800 79.300 63.700 43.400 95.100 66.500 80.300 112.900
Transmitting ERP (watts) 3.770 0.854 2.304 7.800 35.674 59.863 66.098 21.158

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
34	36-46-44.5 N	084-56-33.7 W	396.2	78.0	1258267

Address: 9096 W. Hwy 90 (94262)
City: Monticello County: WAYNE 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) 194.500 173.000 138.200 103.300 102.200 140.500 166.900 201.300
Transmitting ERP (watts) 147.841 143.877 130.052 39.637 24.482 1.946 8.038 54.683

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) 194.500 173.000 138.200 103.300 102.200 140.500 166.900 201.300
Transmitting ERP (watts) 0.742 5.202 57.406 186.618 115.460 13.939 2.131 0.396

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) 194.500 173.000 138.200 103.300 102.200 140.500 166.900 201.300
Transmitting ERP (watts) 27.223 19.327 10.778 15.109 86.367 155.385 168.892 88.819

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
35	36-39-45.3 N	084-26-36.2 W	428.2	79.9	1275397

Address: 6135 Hwy 1651 (115765)
City: Pine Knot County: MCCREARY 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) 132.500 143.700 119.600 95.500 88.700 114.200 161.300 166.800
Transmitting ERP (watts) 69.450 261.545 232.470 44.008 2.017 0.559 0.530 4.304

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) 132.500 143.700 119.600 95.500 88.700 114.200 161.300 166.800
Transmitting ERP (watts) 0.210 0.184 2.662 25.143 50.189 30.009 3.791 0.206

Licensee Name: NEW CINGULAR WIRELESS PCS, LLC

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File Number:

Print Date:

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
35	36-39-45.3 N	084-26-36.2 W	428.2	79.9	1275397

Address: 6135 Hwy 1651 (115765)

City: Pine Knot County: MCCREARY State: KY Construction Deadline:

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)	132.500	143.700	119.600	95.500	88.700	114.200	161.300	166.800
Transmitting ERP (watts)	113.680	6.615	0.792	0.868	2.269	39.368	258.605	358.864

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
36	36-50-27.1 N	084-28-44.2 W	425.5	79.6	1233359

Address: 165 HWY 90 (114139)

City: Parkers Lake County: MCCREARY 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)	185.500	163.600	170.800	152.900	106.200	178.000	165.700	183.000
Transmitting ERP (watts)	23.185	14.817	1.670	0.153	0.104	0.150	1.655	13.513

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)	185.500	163.600	170.800	152.900	106.200	178.000	165.700	183.000
Transmitting ERP (watts)	2.683	26.605	140.903	189.301	44.170	3.813	0.542	0.629

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)	185.500	163.600	170.800	152.900	106.200	178.000	165.700	183.000
Transmitting ERP (watts)	2.063	0.405	0.373	6.243	54.676	179.706	144.196	16.857

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
37	36-41-51.7 N	085-07-19.1 W	303.9	78.0	1273817

Address: 399 Daylton Road (112920)

City: Albany County: CLINTON 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)	103.500	53.600	30.000	64.200	100.300	112.300	94.400	76.300
Transmitting ERP (watts)	255.895	112.531	6.303	1.065	0.524	0.886	15.778	134.111

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)	103.500	53.600	30.000	64.200	100.300	112.300	94.400	76.300
Transmitting ERP (watts)	1.151	13.278	68.092	80.326	20.259	1.984	0.205	0.284

Licensee Name: NEW CINGULAR WIRELESS PCS, LLC

Call Sign: KNKN666

File Number:

Print Date:

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
37	36-41-51.7 N	085-07-19.1 W	303.9	78.0	1273817

Address: 399 Daylton Road (112920)

City: Albany County: CLINTON State: KY Construction Deadline:

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)	103.500	53.600	30.000	64.200	100.300	112.300	94.400	76.300
Transmitting ERP (watts)	0.327	0.106	0.101	1.174	12.741	41.443	34.130	5.644

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
38	36-44-13.0 N	085-42-10.0 W	309.7	91.1	1042225

Address: 3151 EDMONTON ROAD (94259)

City: TOMPKINSVILLE County: MONROE 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)	111.100	109.700	147.100	108.800	126.000	145.900	125.000	125.900
Transmitting ERP (watts)	189.524	72.806	7.444	1.950	0.393	0.557	9.583	77.626

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)	111.100	109.700	147.100	108.800	126.000	145.900	125.000	125.900
Transmitting ERP (watts)	1.067	23.007	114.837	166.790	36.523	3.864	1.339	0.493

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)	111.100	109.700	147.100	108.800	126.000	145.900	125.000	125.900
Transmitting ERP (watts)	2.199	0.335	0.702	3.359	45.136	159.373	117.688	16.866

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
39	36-38-51.6 N	085-17-33.1 W	317.0	60.7	

Address: 5163 State Park (117828)

City: Cumberland County: CUMBERLAND 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)	100.500	86.500	93.600	115.600	123.000	167.100	133.100	121.800
Transmitting ERP (watts)	24.683	224.514	184.090	16.413	0.520	0.462	0.466	0.469

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)	100.500	86.500	93.600	115.600	123.000	167.100	133.100	121.800
Transmitting ERP (watts)	46.321	0.611	0.527	0.529	0.541	7.711	140.237	265.546

Licensee Name: NEW CINGULAR WIRELESS PCS, LLC

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Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
40	37-11-42.5 N	085-57-13.0 W	267.6	99.1	1224165

Address: 1515 FISHER RIDGE ROAD (37620)

City: Horse Cave County: HART 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)	148.700	170.000	148.400	148.400	138.900	116.100	137.500	147.400
Transmitting ERP (watts)	96.574	101.465	19.855	1.861	0.214	0.322	2.056	21.126
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)	148.700	170.000	148.400	148.400	138.900	116.100	137.500	147.400
Transmitting ERP (watts)	8.514	101.153	307.468	229.726	25.253	1.925	0.630	0.630
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)	148.700	170.000	148.400	148.400	138.900	116.100	137.500	147.400
Transmitting ERP (watts)	0.226	0.222	3.795	33.295	109.116	83.424	11.320	0.928

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
41	37-01-03.9 N	085-54-42.3 W	254.8	68.6	1230168

Address: 170 Robert Bishop Lane (94244)

City: Glasgow County: BARREN 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)	93.000	83.300	56.400	66.300	91.100	106.300	92.700	90.500
Transmitting ERP (watts)	104.518	139.218	43.033	2.862	0.290	0.325	1.008	15.797
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)	93.000	83.300	56.400	66.300	91.100	106.300	92.700	90.500
Transmitting ERP (watts)	0.395	3.203	50.041	189.424	165.261	28.863	1.290	0.398
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)	93.000	83.300	56.400	66.300	91.100	106.300	92.700	90.500
Transmitting ERP (watts)	11.785	0.490	0.619	0.543	8.652	98.226	207.121	111.304

Control Points:

Control Pt. No. 1

Address: 124 South Keeneland Drive (Suite 103)

City: RICHMOND County: MADISON State: KY Telephone Number: (859)544-4804

Licensee Name: NEW CINGULAR WIRELESS PCS, LLC

Call Sign: KNKN666

File Number:

Print Date:

Waivers/Conditions:

NONE

Reference Copy

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**Federal Communications Commission
Wireless Telecommunications Bureau**

RADIO STATION AUTHORIZATION

LICENSEE: NEW CINGULAR WIRELESS PCS, LLC

ATTN: CECIL J MATHEW
NEW CINGULAR WIRELESS PCS, LLC
208 S AKARD ST., RM 1015
DALLAS, TX 75202

Call Sign WPOI255	File Number
Radio Service CW - PCS Broadband	

FCC Registration Number (FRN): 0003291192

Grant Date 05-27-2015	Effective Date 03-12-2020	Expiration Date 06-23-2025	Print Date
Market Number MTA026	Channel Block A	Sub-Market Designator 19	
Market Name Louisville-Lexington-Evansville			
1st Build-out Date 06-23-2000	2nd Build-out Date 06-23-2005	3rd Build-out Date	4th Build-out Date

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.

This authorization is subject to the condition that the remaining balance of the winning bid amount will be paid in accordance with Part 1 of the Commission's rules, 47 C.F.R. Part 1.

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: NEW CINGULAR WIRELESS PCS, LLC

Call Sign: WPOI255

File Number:

Print Date:

This license is conditioned upon compliance with the provisions of Applications of AT&T Wireless Services, Inc. and Cingular Wireless Corporation For Consent to Transfer Control of Licenses and Authorizations, Memorandum Opinion and Order, FCC 04-255 (rel. Oct. 26, 2004).

Spectrum Lease Associated with this License. See Spectrum Leasing Arrangement Letter dated 12/06/2004 and File # 0001918558.

The Spectrum Leasing Arrangement, which became effective upon approval of application file number 0001918558, was terminated on 04/14/2005. See file number 0002135370.

Commission approval of this application and the licenses contained therein are subject to the conditions set forth in the Memorandum Opinion and Order, adopted on December 29, 2006 and released on March 26, 2007, and revised in the Order on Reconsideration, adopted and released on March 26, 2007. See AT&T Inc. and BellSouth Corporation Application for Transfer of Control, WC Docket No. 06-74, Memorandum Opinion and Order, FCC 06-189 (rel. Mar. 26, 2007); AT&T Inc. and BellSouth Corporation, WC Docket No. 06-74, Order on Reconsideration, FCC 07-44 (rel. Mar. 26, 2007).

Licensee Name: NEW CINGULAR WIRELESS PCS, LLC

Call Sign: WPOI255

File Number:

Print Date:

700 MHz Relicensed Area Information:

Market	Market Name	Buildout Deadline	Buildout Notification	Status
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**Federal Communications Commission
Wireless Telecommunications Bureau**

RADIO STATION AUTHORIZATION

LICENSEE: NEW CINGULAR WIRELESS PCS, LLC

ATTN: CECIL J MATHEW
NEW CINGULAR WIRELESS PCS, LLC
208 S AKARD ST., RM 1015
DALLAS, TX 75202

Call Sign WPOK659	File Number 0008716070
Radio Service CW - PCS Broadband	

FCC Registration Number (FRN): 0003291192

Grant Date 09-12-2019	Effective Date 09-12-2019	Expiration Date 09-29-2029	Print Date 09-13-2019
Market Number BTA423	Channel Block C		Sub-Market Designator 1
Market Name Somerset, KY			
1st Build-out Date 09-29-2004	2nd Build-out Date 09-29-2009	3rd Build-out Date	4th Build-out Date

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.

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Licensee Name: NEW CINGULAR WIRELESS PCS, LLC

Call Sign: WPOK659

File Number: 0008716070

Print Date: 09-13-2019

700 MHz Relicensed Area Information:

Market	Market Name	Buildout Deadline	Buildout Notification	Status
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**Federal Communications Commission
Wireless Telecommunications Bureau**

RADIO STATION AUTHORIZATION

LICENSEE: NEW CINGULAR WIRELESS PCS, LLC

ATTN: CECIL J MATHEW
NEW CINGULAR WIRELESS PCS, LLC
208 S AKARD ST., RM 1015
DALLAS, TX 75202

Call Sign WPXT205	File Number
Radio Service CW - PCS Broadband	

FCC Registration Number (FRN): 0003291192

Grant Date 06-02-2015	Effective Date 08-31-2018	Expiration Date 06-23-2025	Print Date
Market Number MTA026	Channel Block A	Sub-Market Designator 8	
Market Name Louisville-Lexington-Evansvill			
1st Build-out Date 06-23-2000	2nd Build-out Date 06-23-2005	3rd Build-out Date	4th Build-out Date

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.

This authorization is subject to the condition that the remaining balance of the winning bid amount will be paid in accordance with Part 1 of the Commission's rules, 47 C.F.R. Part 1.

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.

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Licensee Name: NEW CINGULAR WIRELESS PCS, LLC

Call Sign: WPXT205

File Number:

Print Date:

Commission approval of this application and the licenses contained therein are subject to the conditions set forth in the Memorandum Opinion and Order, adopted on December 29, 2006 and released on March 26, 2007, and revised in the Order on Reconsideration, adopted and released on March 26, 2007. See AT&T Inc. and BellSouth Corporation Application for Transfer of Control, WC Docket No. 06-74, Memorandum Opinion and Order, FCC 06-189 (rel. Mar. 26, 2007); AT&T Inc. and BellSouth Corporation, WC Docket No. 06-74, Order on Reconsideration, FCC 07-44 (rel. Mar. 26, 2007).

Copyright

Licensee Name: NEW CINGULAR WIRELESS PCS, LLC

Call Sign: WPXT205

File Number:

Print Date:

700 MHz Relicensed Area Information:

Market	Market Name	Buildout Deadline	Buildout Notification	Status
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Federal Communications Commission
Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: NEW CINGULAR WIRELESS PCS, LLC

ATTN: LESLIE WILSON
NEW CINGULAR WIRELESS PCS, LLC
208 S AKARD ST., RM 1016
DALLAS, TX 75202

Call Sign WQFA872	File Number
Radio Service CW - PCS Broadband	

FCC Registration Number (FRN): 0003291192

Grant Date 04-14-2017	Effective Date 08-31-2018	Expiration Date 04-28-2027	Print Date
Market Number BTA423	Channel Block E		Sub-Market Designator 7
Market Name Somerset, KY			
1st Build-out Date	2nd Build-out Date	3rd Build-out Date	4th Build-out Date

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.

This authorization is subject to the condition that the remaining balance of the winning bid amount will be paid in accordance with Part 1 of the Commission's rules, 47 C.F.R. Part 1.

Conditions:
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Licensee Name: NEW CINGULAR WIRELESS PCS, LLC

Call Sign: WQFA872

File Number:

Print Date:

700 MHz Relicensed Area Information:

Market	Market Name	Buildout Deadline	Buildout Notification	Status
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Reference Copy

EXHIBIT B

SITE DEVELOPMENT PLAN:

**500' VICINITY MAP
LEGAL DESCRIPTIONS
FLOOD PLAIN CERTIFICATION
SITE PLAN
VERTICAL TOWER PROFILE**

FA NUMBER: 15145568 / SITE ID: KYBGN2025

PACE #: MRTNK047956

PROJECT TRACKING #: 10115669

SITE NAME: RUSSELL SPRINGS

244 HIGHWAY 1545 (E-911)

248 HIGHWAY 1545 (PARCEL)

RUSSELL, KY 42642

RUSSELL COUNTY

PROPOSED 230' SELF-SUPPORT TOWER



at&t
mobility corp.

HARMONI TOWERS



HARMONI

A/E DOCUMENT REVIEW STATUS

TITLE	SIGNATURE	DATE
HARMONI TOWERS PROP:		
HARMONI TOWERS CONST. MGR.:		
INTERCONNECT:		
HARMONI TOWERS SITE DEV. MGR.:		
PROPERTY OWNER:		
STATUS CODE:		
1	ACCEPTED WITH OR NO COMMENTS, CONSTRUCTION MAY PROCEED	
2	NOT ACCEPTED, RESOLVE COMMENTS AND RESUBMIT	

THE FOLLOWING PARTIES HEREBY APPROVE AND ACCEPT THESE DOCUMENTS AND AUTHORIZE THE CONTRACTOR TO PROCEED WITH THE CONSTRUCTION DESCRIBED HEREIN. ALL DOCUMENTS ARE SUBJECT TO REVIEW BY THE LOCAL BUILDING DEPARTMENT AND MAY IMPOSE CHANGES OR MODIFICATIONS.

PROJECT SUMMARY

SITE NAME:	RUSSELL SPRINGS
SITE NUMBER:	FA 15145568
TAX MAP PROPERTY ID:	032-00-00-045.03
PARCEL ADDRESS:	248 HIGHWAY 1545 RUSSELL SPRINGS, KY 42642
JURISDICTION:	RUSSELL COUNTY
TOWER OWNER:	HARMONI TOWERS 10802 EXECUTIVE CENTER DRIVE LITTLE ROCK, AR 72211
NAD83	
LATITUDE:	37°04'07.28" (37.068689°N)
LONGITUDE:	85°04'37.37" (85.077047° W)
APPLICANT:	NEW CINGULAR WIRELESS, PCS, LLC, A DELAWARE LIMITED LIABILITY COMPANY d/b/a AT&T MOBILITY MEIDINGER TOWER 462 S/ 4th STREET, SUITE 2400 LOUISVILLE, KY 40202
CO-APPLICANT:	N/A
OCCUPANCY TYPE:	UNMANNED
A.D.A. COMPLIANCE:	FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION

LOCATION MAP



DRAWING INDEX

SHEET #	SHEET DESCRIPTION
T-1	TITLE SHEET
1-2	SURVEY
C-1	500' RADIUS & ADJOINER'S DRAWING
C-2	OVERALL SITE LAYOUT
C-3	ENLARGED COMPOUND LAYOUT
C-4	TOWER ELEVATION

HARMONI TOWERS
RUSSELL SPRINGS
FA# 15145568
PACE# MRTNK047956
PT# 10115669
244 HIGHWAY 1545 (E-911)
248 HIGHWAY 1545 (SITE)
RUSSELL SPRINGS, KY 42642
RUSSELL COUNTY
PROPOSED 230' SELF-SUPPORT TOWER

PROJECT NO: COA 4011
CHECKED BY: MAS

ISSUED FOR

REV	DATE	DRWN	DESCRIPTION
0	09/08/20	DLS	ZONING DRAWINGS
1	10/29/20	DLS	ZONING DRAWINGS
2	12/07/20	DLS	ZONING DRAWINGS

B&T ENGINEERING, INC.
COA 4011
Expires 12/31/20



IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

TITLE SHEET

SHEET NUMBER:
T-1

DESIGN INFORMATION

A&E FIRM:	B+T GROUP 1717 S. BOULDER, SUITE 300 TULSA, OK 74119 MIKE A. SPEEDIE, PE (918) 587-4630	ELECTRIC PROVIDER:	KENTUCKY UTILITIES 800-981-0600
SURVEYOR:	POINT TO POINT 100 GOVERNORS TRACE, STE #103 PEACHTREE CITY, GA 30269 PH. (678) 565-4440	TELCO PROVIDER:	WINDSTREAM XXX-XXX-XXXX

DRIVING DIRECTIONS

DEPART RUSSELL COUNTY JUDGE EXECUTIVE [410 MONUMENT SQ, JAMESTOWN, KY 42629] ON MONUMENT SQ (SOUTH-EAST) 54 YDS
TURN RIGHT (NORTH) ONTO US-127 BRANCH [N MAIN ST] 1.1 MI
KEEP STRAIGHT ONTO US-127 [N MAIN ST] 4.8 MI
TURN LEFT (WEST) ONTO KY-80 [E HIGHWAY 80] 0.2 MI
KEEP STRAIGHT ONTO KY-80 [STEVE WARINER DR] 1.31 YDS
TURN RIGHT (NORTH) ONTO KY-1545 [BOTTOMS RD] 0.2 MI
ARRIVE RUSSELL SPRINGS

CODE COMPLIANCE

ALL WORK SHALL BE PERFORMED AND MATERIALS 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 CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES:

CODE TYPE	CODE
BUILDING/DWELLING	IBC 2015
STRUCTURAL	IBC 2015
MECHANICAL	IMC 2015
ELECTRICAL	NEC 2017

PROJECT DESCRIPTION

THE PROPOSED PROJECT INCLUDES:

- CONSTRUCT (1) NEW 230' SELF-SUPPORT TOWER
- CONSTRUCT FENCED GRAVEL UTILITY COMPOUND WITH LOCKING ACCESS GATE, 80' x 80' WITHIN 100' x 100' LEASE AREA.
- INSTALL (1) H-FRAME W/ UTILITY EQUIPMENT.
- INSTALL NEW POWER & TELCO UTILITY SERVICES.
- CONSTRUCT 12' WIDE GRAVEL ACCESS ROAD

DO NOT SCALE DRAWINGS

ALL DRAWINGS CONTAINED HEREIN ARE FORMATTED FOR 11X17. CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.

CALL KENTUCKY ONE CALL
(800) 752-6007
CALL 3 WORKING DAYS BEFORE YOU DIG!



N/T
JEFFERY L. BURCHELL
& CHRASSIA L. BURCHELL
PID 032-00-00-045.05
DB 274 PG 553

N/T
JEFFERY L. BURCHELL
& CHRASSIA L. BURCHELL
PID 032-00-00-045.01
DB 274 PG 549

PARENT PARCEL
N/T
REBECCA DARNELL &
DOUGLAS DARNELL
PID 032-00-00-045.03
DB 175 PG 545

PARENT PARCEL
N/T
REBECCA DARNELL &
DOUGLAS DARNELL
PID 032-00-00-045.03
DB 204 PG 200

N/T
STEPHEN BRANSCUM
& RITA BRANSCUM
PID 032-00-00-045.02
DB 204 PG 309

GPS NOTES

THE FOLLOWING GPS STATISTICS UPON WHICH THIS SURVEY IS BASED HAVE BEEN PRODUCED AT THE 95% CONFIDENCE LEVEL:
POSITIONAL ACCURACY: 0.01 FEET (HORIZ), 0.13 FEET (VERT)
TYPE OF EQUIPMENT: GEOMAX ZENITH35 PRO BASE AND ROVER, DUAL FREQUENCY
TYPE OF GPS FIELD PROCEDURE: ONLINE POSITION USER INTERFACE
DATE OF SURVEY: 01/27/2020
DATUM - EPOCH: NAD 83(2011 REPOD) 2011 (XXXX)
PUBLISHED / FIXED CONTROL USE: N/A
GRID MODEL: 18
COMBINED GRID FACTORS: 0.99995599 CENTERED ON THE GPS BASE POINT AS SHOWN HEREON
CONVERGENCE ANGLE: 00°24'46.94"



VICINITY MAP
NOT TO SCALE

GENERAL NOTES

* THIS SPECIFIC PURPOSE SURVEY IS FOR THE LEASED PREMISES AND EASEMENTS ONLY. THIS SPECIFIC PURPOSE SURVEY WAS PREPARED FOR THE EXCLUSIVE USE OF UNITI TOWERS, LLC AND EXCLUSIVELY FOR THE TRANSFER OF THE PROPOSED LEASED PREMISES AND THE RIGHTS OF EASEMENT SHOWN HEREON AND SHALL NOT BE USED AS AN EXHIBIT OR EVIDENCE IN THE FEE SIMPLE TRANSFER OF THE PARENT PARCEL NOR ANY PORTION OR PORTIONS THEREOF. BOUNDARY INFORMATION SHOWN HEREON HAS BEEN COMPILED FROM TAX MAPS AND DEED DESCRIPTIONS ONLY. NO BOUNDARY SURVEY OF THE PARENT PARCEL WAS PERFORMED.

THIS DRAWING DOES NOT REPRESENT A BOUNDARY SURVEY.

THE FIELD DATA UPON WHICH THIS SPECIFIC PURPOSE SURVEY IS BASED HAS A CLOSURE PRECISION OF ONE FOOT IN 10,000 FEET AND AN ANGULAR ERROR OF 5.0" PER ANGLE POINT AND WAS NOT ADJUSTED FOR CLOSURE.

EQUIPMENT USED FOR ANGULAR & LINEAR MEASUREMENTS: LEICA TPS 1200 ROBOTIC & GEOMAX ZENITH 35 (DATE OF LAST FIELD VISIT: 01/27/2020)

THE 1' CONTOURS AND SPOT ELEVATIONS SHOWN ON THIS SPECIFIC PURPOSE SURVEY ARE ADJUSTED TO NAVD 88 DATUM (COMPUTED USING GLOID18) AND HAVE A VERTICAL ACCURACY OF ± .5'. CONTOURS OUTSIDE THE IMMEDIATE SITE AREA ARE APPROXIMATE.

BEARINGS SHOWN ON THIS SPECIFIC PURPOSE SURVEY ARE BASED ON GRID NORTH (NAD 83) KENTUCKY SINGLE ZONE.

PER THE FEMA FLOODPLAIN MAPS, THE SITE IS LOCATED IN AN AREA DESIGNATED AS ZONE X (AREA OF MINIMAL FLOOD HAZARD). COMMUNITY PANEL NO. 2120700100C DATED 08/19/2010.

NO WETLAND AREAS HAVE BEEN INVESTIGATED BY THIS SPECIFIC PURPOSE SURVEY.

ALL ZONING INFORMATION SHOULD BE VERIFIED WITH THE PROPER ZONING OFFICIALS.

ANY UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM ABOVE GROUND FIELD SURVEY INFORMATION. THE SURVEYOR MAKES NO GUARANTEES THAT ANY UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT ANY UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED ANY UNDERGROUND UTILITIES.

LEGEND

- POB POINT OF BEGINNING
- POC POINT OF COMMENCEMENT
- IPS IRON PIN SET
- IF FOUND IRON PIN FOUND
- CMF CONCRETE MONUMENT FOUND
- UP UTILITY POLE
- TR TRANSFORMER
- N/O NOW OR FORMERLY
- R/W RIGHT OF WAY
- EP EDGE OF PAVEMENT
- BLD BUILDING
- ICV IRRIGATION CONTROL VALVE
- TBM TEMPORARY BENCH MARK
- GW GUY WIRE
- INV INVERT
- TS TOP OF SLOPE
- BS BOTTOM OF SLOPE
- BFO BURIED FIBER OPTIC
- SD SIGHT DISTANCE



Know what's below.
Call before you dig.

SURVEYOR'S CERTIFICATE

I, G. DARRELL TAYLOR, A KENTUCKY PROFESSIONAL LAND SURVEYOR, CERTIFY THAT THE INFORMATION SHOWN HEREON WAS COMPILED USING DATA FROM AN ACTUAL FIELD SURVEY MADE UNDER MY DIRECT SUPERVISION BY METHOD OF RANDOM TRAVERSE WITH SIDE SHOTS. THE UNADJUSTED PRECISION RATIO OF THE TRAVERSE EXCEEDED 1:10,000 AND WAS NOT ADJUSTED FOR CLOSURE. THIS SURVEY MEETS OR EXCEEDS THE MINIMUM STANDARDS FOR AN URBAN SURVEY AS ESTABLISHED BY THE STATE OF KENTUCKY, PER 201 KAR 18:150 AND IN EFFECT ON THE DATE OF THIS SURVEY.

G. DARRELL TAYLOR, PLS 4179 DATE 10/23/2020

SURVEY NOT VALID WITHOUT SHEET 2 OF 2

PARENT PARCEL

OWNER: REBECCA DARNELL & DOUGLAS DARNELL
SITE ADDRESS: 244 HWY. 1545, RUSSELL SPRINGS, KY 42642
PARCEL ID: 032-00-00-045.03
AREA: 2.5 ACRES (PER TAX ASSESSOR)
ALL ZONING INFORMATION SHOULD BE VERIFIED WITH THE PROPER ZONING OFFICIALS.
REFERENCE: DEED BOOK 126 PAGE 296
DEED BOOK 175 PAGE 545
DEED BOOK 204 PAGE 200

TITLE EXCEPTIONS

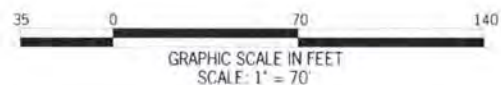
THIS SURVEY WAS COMPLETED WITH THE AID OF TITLE WORK PREPARED BY FIDELITY NATIONAL TITLE INSURANCE COMPANY, ISSUE DATE JANUARY 9, 2020, BEING ORDER NO. 30663681, FOR THE PARENT PARCEL, TO DETERMINE THE IMPACTS OF EXISTING TITLE EXCEPTIONS.

2. TYPE OF DEED: DEED FOR HIGHWAY PURPOSES FROM RALPH RICHARDSON AND CATHREAN RICHARDSON TO DEPARTMENT OF HIGHWAYS DATED: JULY 13, 1954
RECORDED ON: JULY 15, 1954
RECORDED IN: DEED BOOK 31, PAGE 642

[THIS ITEM MAY AFFECT THE PARENT PARCEL BUT DOES NOT CONTAIN A PLOTTABLE DESCRIPTION]

3. MATTERS AS SHOWN AND NOTED ON PLAT RECORDED IN PLAT BOOK 4, PAGE 1354.

[PLOTTABLE ITEMS SHOWN HEREON]



STATE of KENTUCKY
G. DARRELL TAYLOR
4179
LICENSED PROFESSIONAL LAND SURVEYOR

NO	DATE	REVISION
1	6/22/2020	E911 ADDRESS
2	10/29/2020	INGRESS/EGRESS - NRW

POINT TO POINT LAND SURVEYORS
100 Governors Trace, Ste. 103
Peachtree City, GA 30269
(p) 678.565.4440 (f) 678.565.4497
(w) pointtopointsurvey.com



SPECIFIC PURPOSE SURVEY PREPARED FOR:

Uniti Towers

RUSSELL SPRINGS

SITE NO.
KYBGN2025

RUSSELL COUNTY,
KENTUCKY

DRAWN BY: AKG
CHECKED BY: JKL
APPROVED: D. MILLER
DATE: FEBRUARY 6, 2020
P2P JOB #: 200121KY

SHEET:
1
OF 2

PARENT PARCEL

(AS PROVIDED PER ORDER NO. 30663681)

PROPERTY LOCATED IN RUSSELL COUNTY, KENTUCKY

BEGINNING ON AN IRON PIN IN THE EAST RW OF BOTTOM'S ROAD, THENCE WITH ROAD N 36° 05' W 260.3 FEET TO AN IRON PIN, THENCE LEAVING THE ROAD WITH RALPH RICHARDSON LINE AND BEING A NEW DIVISION LINE N 54° 23' E 233.2 FEET TO A STEEL POST, THENCE S 35° 11' E 228.5 FEET TO AN IRON PIN, THENCE S 46° 50' W 231.4 FEET TO THE BEGINNING, CONTAINING 1.30 ACRES, MORE OR LESS, AND BEING A PORTION OF THE PROPERTY FOUND IN DEED BOOK 21, PAGE 157, IN THE RUSSELL COUNTY CLERK'S OFFICE SURVEY BY MICHAEL W. FLANAGAN, R.L.S.

AND BEING THE SAME PROPERTY CONVEYED TO REBECCA DARNELL AND DOUGLAS DARNELL FROM CATHERINE LOY RICHARDSON, BY AND THROUGH HER ATTORNEY IN FACT, MARION RICHARDSON BY GENERAL WARRANTY DEED DATED APRIL 9, 1999 AND RECORDED APRIL 20, 1999 IN DEED BOOK 175, PAGE 545.

BEING LOT #5

BEING AND LYING IN RUSSELL COUNTY, KENTUCKY, AT A SET 3/4" RE BAR ON THE NORTHEAST SIDE OF THE RIGHT OF WAY OF OLD DUNNVILLE ROAD AND HIGHWAY 1545 SAID RIGHT OF WAYS BEING SIXTY (60) FEET. THENCE N 46° 54' 22" W 338.55 TO A SET RE BAR BEING THE TRUE POINT OF BEGINNING, ALL SET RE-BARS ARE 3/4" X 18" WITH AN ORANGE IDENTIFICATION CAP STAMPED N.A. PHIPPS PLS #3448.

THENCE N 48° 28' 33" W, A DISTANCE OF 130.00' TO A FOUND ONE HALF (1/2) INCH RE BAR, SAID RE-BAR IS A CORNER WITH DOUG & REBECCA DARNELL (DEED BOOK 126 PAGE 296).

THENCE N 34° 41' 03" E, A DISTANCE OF 391.17' WITH DARNELL AND THEN WITH THE LINE OF AND CORNER WITH CARL RICHARDSON (DEED BOOK 154 PAGE 201), AND CORNER WITH BOYD RICHARDSON (DEED BOOK 126 PAGE 278) TO A FOUND STEEL POST;

THENCE S 47° 41' 28" E, A DISTANCE OF 153.11' WITH BOYD RICHARDSON TO A SET RE BAR,

THENCE S 38° 02' 38" W, A DISTANCE OF 387.00' A NEW DIVISION LINE TO THE POINT OF BEGINNING; SAID DESCRIBED TRACT CONTAINING 1.258 ACRES AS DETERMINED BY A SURVEY PERFORMED BY NATHANIEL PHIPPS AND COMPLETED THIS 30TH DAY OF APRIL, 2002.

AND BEING THE SAME PROPERTY CONVEYED TO REBECCA DARNELL AND DOUGLAS DARNELL FROM MARLENE ALLEY AND LLOYD ALLEY, MARION RICHARDSON AND BONNIE RICHARDSON, DANNY RICHARDSON AND MARY RICHARDSON, CARL RICHARDSON AND ANN RICHARDSON, GLEN RICHARDSON AND WILLODEAN RICHARDSON, KATHY HOLT, BOYD RICHARDSON, DALE STILTS AND RAY STILTS AND REBECCA DARNELL AND DOUGLAS DARNELL BY GENERAL WARRANTY DEED DATED MAY 11, 2002 AND RECORDED MAY 20, 2002 IN DEED BOOK 204, PAGE 200.

TAX PARCEL NO. 032.00.00.045.03

SITE INFORMATION

LEASE AREA = 10,000 SQUARE FEET (0.2296 ACRES)

LATITUDE = 37°04'07.28" (NAD 83) (37.068689°)
LONGITUDE = -85°04'37.37" (NAD 83) (-85.077047°)
AT CENTER OF LEASE AREA

ELEVATION AT CENTER OF LEASE AREA = 1096.0' A.M.S.L.

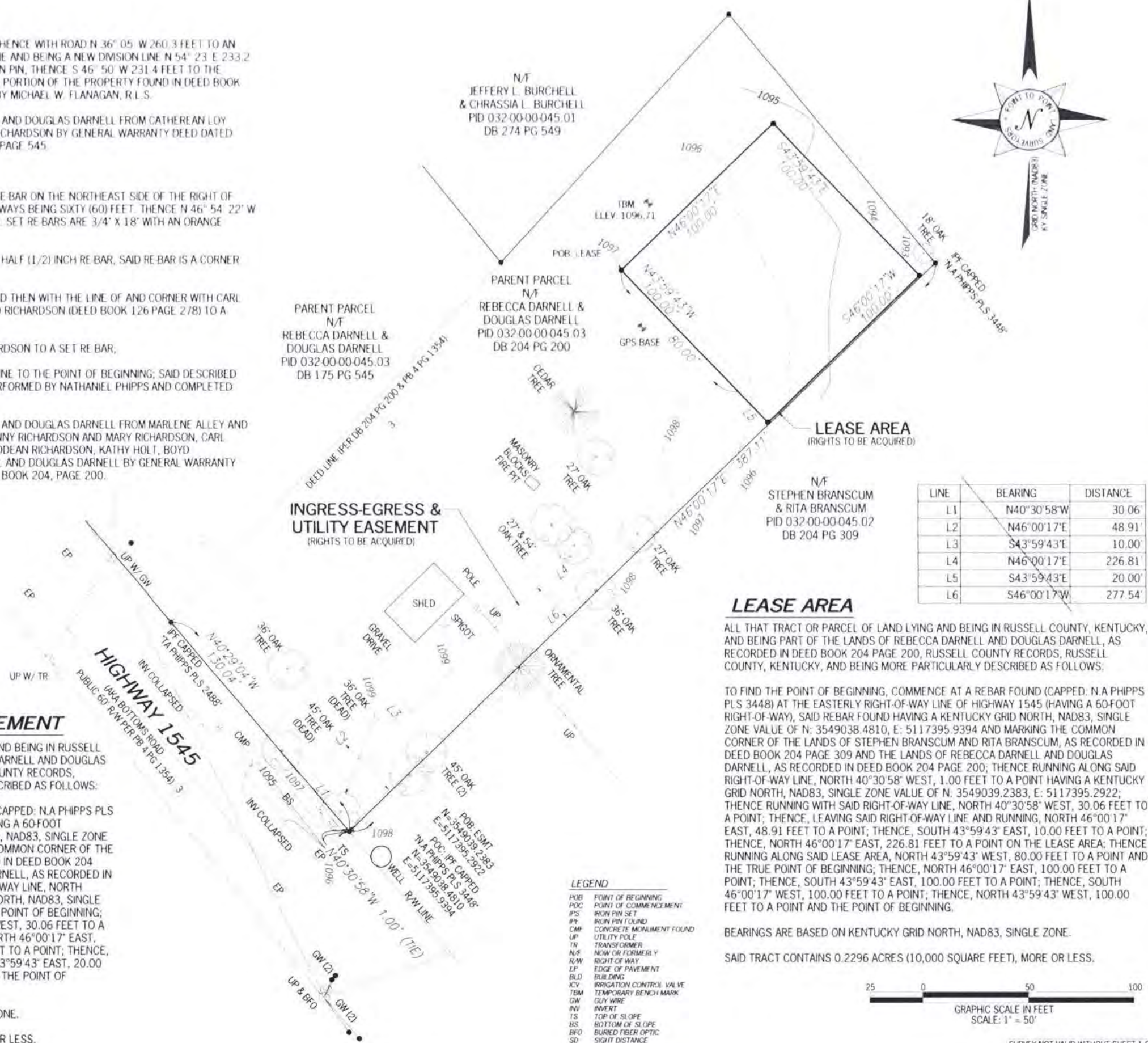
INGRESS-EGRESS & UTILITY EASEMENT

TOGETHER WITH A INGRESS-EGRESS AND UTILITY EASEMENT LYING AND BEING IN RUSSELL COUNTY, KENTUCKY, AND BEING PART OF THE LANDS OF REBECCA DARNELL AND DOUGLAS DARNELL, AS RECORDED IN DEED BOOK 204 PAGE 200, RUSSELL COUNTY RECORDS, RUSSELL COUNTY, KENTUCKY, AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

TO FIND THE POINT OF BEGINNING, COMMENCE AT A REBAR FOUND (CAPPED: N.A. PHIPPS PLS 3448) AT THE EASTERLY RIGHT-OF-WAY LINE OF HIGHWAY 1545 (HAVING A 60-FOOT RIGHT-OF-WAY), SAID REBAR FOUND HAVING A KENTUCKY GRID NORTH, NAD83, SINGLE ZONE VALUE OF N: 3549038.4810, E: 5117395.9394 AND MARKING THE COMMON CORNER OF THE LANDS OF STEPHEN BRANSCUM AND RITA BRANSCUM, AS RECORDED IN DEED BOOK 204 PAGE 309 AND THE LANDS OF REBECCA DARNELL AND DOUGLAS DARNELL, AS RECORDED IN DEED BOOK 204 PAGE 200; THENCE RUNNING ALONG SAID RIGHT-OF-WAY LINE, NORTH 40°30'58" WEST, 1.00 FEET TO A POINT HAVING A KENTUCKY GRID NORTH, NAD83, SINGLE ZONE VALUE OF N: 3549039.2383, E: 5117395.2922 AND THE TRUE POINT OF BEGINNING; THENCE RUNNING WITH SAID RIGHT-OF-WAY LINE, NORTH 40°30'58" WEST, 30.06 FEET TO A POINT; THENCE, LEAVING SAID RIGHT-OF-WAY LINE AND RUNNING, NORTH 46°00'17" EAST, 48.91 FEET TO A POINT; THENCE, SOUTH 43°59'43" EAST, 10.00 FEET TO A POINT; THENCE, NORTH 46°00'17" EAST, 226.81 FEET TO A POINT; THENCE, SOUTH 43°59'43" EAST, 100.00 FEET TO A POINT; THENCE, SOUTH 46°00'17" WEST, 277.54 FEET TO THE POINT OF BEGINNING.

BEARINGS ARE BASED ON KENTUCKY GRID NORTH, NAD83, SINGLE ZONE.

SAID TRACT CONTAINS 0.1384 ACRES (6,031 SQUARE FEET), MORE OR LESS.



LINE	BEARING	DISTANCE
L1	N40°30'58"W	30.06'
L2	N46°00'17"E	48.91'
L3	S43°59'43"E	10.00'
L4	N46°00'17"E	226.81'
L5	S43°59'43"E	20.00'
L6	S46°00'17"W	277.54'

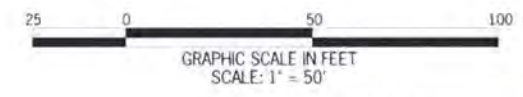
LEASE AREA

ALL THAT TRACT OR PARCEL OF LAND LYING AND BEING IN RUSSELL COUNTY, KENTUCKY, AND BEING PART OF THE LANDS OF REBECCA DARNELL AND DOUGLAS DARNELL, AS RECORDED IN DEED BOOK 204 PAGE 200, RUSSELL COUNTY RECORDS, RUSSELL COUNTY, KENTUCKY, AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

TO FIND THE POINT OF BEGINNING, COMMENCE AT A REBAR FOUND (CAPPED: N.A. PHIPPS PLS 3448) AT THE EASTERLY RIGHT-OF-WAY LINE OF HIGHWAY 1545 (HAVING A 60-FOOT RIGHT-OF-WAY), SAID REBAR FOUND HAVING A KENTUCKY GRID NORTH, NAD83, SINGLE ZONE VALUE OF N: 3549038.4810, E: 5117395.9394 AND MARKING THE COMMON CORNER OF THE LANDS OF STEPHEN BRANSCUM AND RITA BRANSCUM, AS RECORDED IN DEED BOOK 204 PAGE 309 AND THE LANDS OF REBECCA DARNELL AND DOUGLAS DARNELL, AS RECORDED IN DEED BOOK 204 PAGE 200; THENCE RUNNING ALONG SAID RIGHT-OF-WAY LINE, NORTH 40°30'58" WEST, 1.00 FEET TO A POINT HAVING A KENTUCKY GRID NORTH, NAD83, SINGLE ZONE VALUE OF N: 3549039.2383, E: 5117395.2922; THENCE RUNNING WITH SAID RIGHT-OF-WAY LINE, NORTH 40°30'58" WEST, 30.06 FEET TO A POINT; THENCE, LEAVING SAID RIGHT-OF-WAY LINE AND RUNNING, NORTH 46°00'17" EAST, 48.91 FEET TO A POINT; THENCE, SOUTH 43°59'43" EAST, 10.00 FEET TO A POINT; THENCE, NORTH 46°00'17" EAST, 226.81 FEET TO A POINT ON THE LEASE AREA; THENCE RUNNING ALONG SAID LEASE AREA, NORTH 43°59'43" WEST, 80.00 FEET TO A POINT AND THE TRUE POINT OF BEGINNING; THENCE, NORTH 46°00'17" EAST, 100.00 FEET TO A POINT; THENCE, SOUTH 43°59'43" EAST, 100.00 FEET TO A POINT; THENCE, SOUTH 46°00'17" WEST, 100.00 FEET TO A POINT; THENCE, NORTH 43°59'43" WEST, 100.00 FEET TO A POINT AND THE POINT OF BEGINNING.

BEARINGS ARE BASED ON KENTUCKY GRID NORTH, NAD83, SINGLE ZONE.

SAID TRACT CONTAINS 0.2296 ACRES (10,000 SQUARE FEET), MORE OR LESS.



SURVEY NOT VALID WITHOUT SHEET 1 OF 2

STATE of KENTUCKY
G. DARRELL TAYLOR
4179
LICENSED PROFESSIONAL LAND SURVEYOR

NO.	DATE	REVISION
1	6/22/2020	E911 ADDRESS
2	10/29/2020	INGRESS-EGRESS NW

POINT TO POINT LAND SURVEYORS
100 Governors Trace, Ste. 103
Peachtree City, GA 30269
(p) 678.565.4440 (f) 678.565.4497
(w) pointtopointsurvey.com



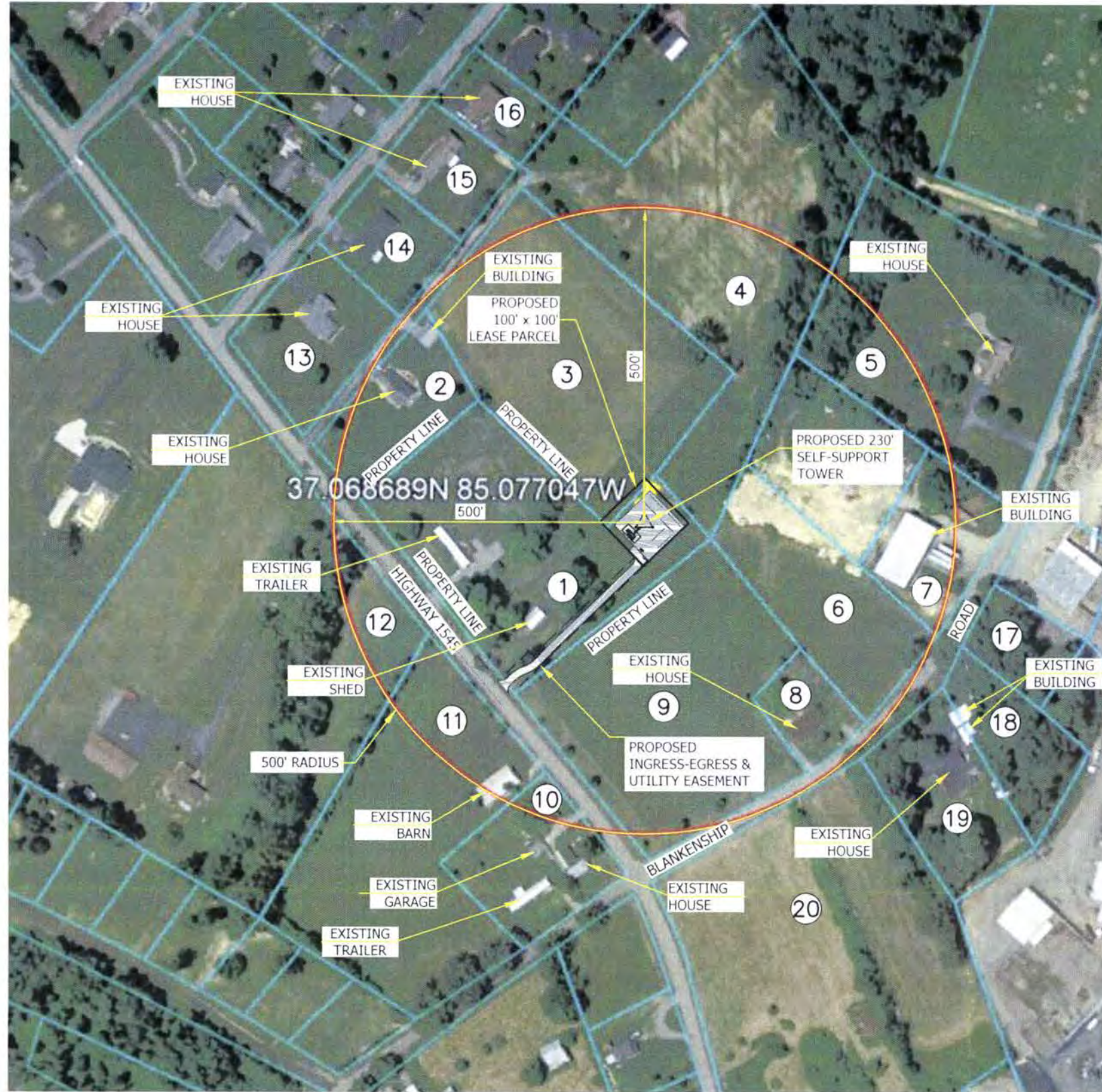
SPECIFIC PURPOSE SURVEY PREPARED FOR:

Uniti Towers

RUSSELL SPRINGS
SITE NO. KYBGN2025
RUSSELL COUNTY, KENTUCKY

DRAWN BY: AKG	SHEET: 2
CHECKED BY: JKL	2
APPROVED: D. MILLER	
DATE: FEBRUARY 6, 2020	
P2P JOB #: 200121KY	OF 2

E:\Desktop\Point to Point\2020\200121KY\Russell Springs\KYBGN2025\200121KY.dwg



#	OWNER	ADDRESS	PID	REF
1	REBECCA & DOUGLAS DARNELL	248 HWY 1545 RUSSELL SPRINGS, KY 42642	032-00 00 045.03 032-00 00 045.03	DB 204 PG 200 DB 175 PG 545
2	CHRASSIA & JEFFERY BURCHELL	336 HWY 1545 RUSSELL SPRINGS, KY 42642	032-00 00 045.05	DB 274 PG 553
3	CHRASSIA & JEFFERY BURCHELL	336 HWY 1545 RUSSELL SPRINGS, KY 42642	032-00 00 045.01	DB 274 PG 549
4	NOEL & BARBARA ANN GODBY	334 HWY 1545 RUSSELL SPRINGS, KY 42642	032-40 01 002.00	-
5	CHARLES & DIANE BLANKENSHIP	378 OLD DUNNVILLE RD RUSSELL SPRINGS, KY 42642	034-90 20 015.00	DB 334 PG 566
6	RITA & STEPHEN BRANSCUM	OLD DUNNVILLE RD RUSSELL SPRINGS, KY 42642	032-40 01 007.00	-
7	RITA & STEPHEN BRANSCUM	BLANKENSHIP RD RUSSELL SPRINGS, KY 42642	032-40 01 006.02	-
8	RITA & STEPHEN BRANSCUM	495 OLD DUNNVILLE RD RUSSELL SPRINGS, KY 42642	032-40 01 008.00	-
9	RITA & STEPHEN BRANSCUM	OLD DUNNVILLE RD RUSSELL SPRINGS, KY 42642	032-00 00 045.02	DB 204 PG 309
10	ELIZABETH & MILTON HOLT	389 MILTON HEIGHTS RUSSELL SPRINGS, KY 42642	032-00 00 043.01	-
11	ZACHARY MECCE	MILTON HEIGHTS RUSSELL SPRINGS, KY 42642	032-00 00 043.00	-
12	JACK M. HUDSON	437 HWY 1545 RUSSELL SPRINGS, KY 42642	032-00 00 044.01	-
13	MARY EMERSON c/o GARY EMERSON & KATHY REXROAT	360 HWY 1545 RUSSELL SPRINGS, KY 42642	032-40 05 001.00	-
14	RENA BELLE BROWN	58 MEADOWLARK DR RUSSELL SPRINGS, KY 42642	032-40 05 002.00	-
15	ALEX & JOIE BAILEY	90 MEADOWLARK DR RUSSELL SPRINGS, KY 42642	032-40 05 003.00	-
16	VALERIE & RONALD COFFEY	108 MEADOWLARK DR RUSSELL SPRINGS, KY 42642	032-40 05 004.00	-
17	RITA & STEPHEN BRANSCUM	OLD DUNNVILLE RD RUSSELL SPRINGS, KY 42642	032-80 01 002.00	-
18	RONALD & BARBARA WILSON	465 DUNNVILLE ROAD RUSSELL SPRINGS, KY 42642	032-80 01 001.00	-
19	RONALD & BARBARA WILSON	465 DUNNVILLE ROAD RUSSELL SPRINGS, KY 42642	032-50 07 002.00	-
20	HOWARD & THELMA HAGGARD	MILTON HTS, HWY 1545 RUSSELL SPRINGS, KY 42642	032-50 07 001.00	-

NOTE:

- PVA INFORMATION WAS OBTAINED ON 12/4/2020 FROM THE OFFICIAL RECORDS OF THE COUNTY'S PROPERTY VALUATION ADMINISTRATOR.
- THIS MAP IS FOR GENERAL INFORMATION PURPOSES ONLY AND IS NOT A BOUNDARY SURVEY.
- NOT FOR RECORDING OR PROPERTY TRANSFER.



HARMONI TOWERS
RUSSELL SPRINGS
 PA# 15145568
 PAGE# MRTNK047056
 PT# 10115669
 244 HIGHWAY 1545 (E-911)
 248 HIGHWAY 1545 (SITE)
 RUSSELL SPRINGS, KY 42642
 RUSSELL COUNTY
 PROJECT: 230' SELF-SUPPORT TOWER

PROJECT NO: COA17338
 CHECKED BY: MAS

REV	DATE	DRWN	DESCRIPTION
0	09/08/20	DLS	ZONING DRAWINGS
1	10/29/20	DLS	ZONING DRAWINGS
2	12/07/20	DLS	ZONING DRAWINGS

B&T ENGINEERING, INC.
 COA 4011
 Expires 12/31/20



IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

500' RADIUS &
 ADJOINER'S
 DRAWING

SHEET NUMBER:
C-1

BAT NOTE:
 MUST DO TREE CLEARING BETWEEN OCTOBER 15th AND MARCH 31st, DUE TO BAT TREES ON PROPERTY



CALL KENTUCKY ONE CALL
 (800) 752-6007
 CALL 3 WORKING DAYS
 BEFORE YOU DIG!





NOTES:

1. TOWER LATITUDE, LONGITUDE & ELEVATION MEET FAA "1-A" ACCURACY REQUIREMENTS.

2. CENTER OF TOWER:

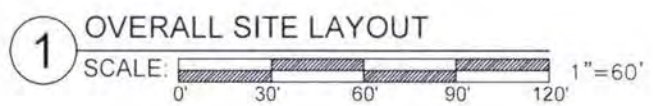
LATITUDE: NORTH 37°04'07.28" (37.068689) NAD 83
 LONGITUDE: WEST -85°04'37.37" (-85.077047) NAD 83
 GROUND ELEVATION @ 1096.0' A.M.S.L.

3. THE APPROXIMATE PERPENDICULAR DISTANCES FROM THE OUTER EDGE OF THE PROPOSED TOWER TO PARENT TRACT NEAREST PROPERTY LINE ARE AS FOLLOWS:

NORTHWEST:	85.2'±
SOUTHWEST:	307.1'±
SOUTHEAST:	34.5'±
NORTHEAST:	51.6'±

BAT NOTE:

MUST DO TREE CLEARING BETWEEN OCTOBER 15th AND MARCH 31st, DUE TO BAT TREES ON PROPERTY



CALL KENTUCKY ONE CALL
 (800) 752-6007
CALL 3 WORKING DAYS BEFORE YOU DIG!



HARMONI TOWERS
RUSSELL SPRINGS
 P.A.# 15145568
 P.A.C.# MRLNK047956
 P.I.# 10115669
 244 HIGHWAY 1545 (E. 911)
 248 HIGHWAY 1545 (SITE)
 RUSSELL SPRINGS, KY 42642
 RUSSELL COUNTY
 PROPOSED SELF-SUPPORT TOWER

PROJECT NO: 10115669
 CHECKED BY: MAS

ISSUED FOR

REV	DATE	DRWN	DESCRIPTION
0	09/08/20	DLS	ZONING DRAWINGS
1	10/29/20	DLS	ZONING DRAWINGS
2	12/07/20	DLS	ZONING DRAWINGS

B&T ENGINEERING, INC.
 COA 4011
 Expires 12/31/20



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OVERALL SITE LAYOUT

SHEET NUMBER:
C-2



HARMONI TOWERS
RUSSELL SPRINGS
 EA# 15145568
 PACH# MRTN047056
 PT# 10115669
 244 HIGHWAY 1545 (E911)
 248 HIGHWAY 1545 (SITE)
 RUSSELL SPRINGS, KY 42642
 RUSSELL COUNTY
 PROPOSED 230' SELF-SUPPORT TOWER

PROJECT NO: C-3
 CHECKED BY: MAS

ISSUED FOR			
REV	DATE	DRWN	DESCRIPTION
0	09/08/20	DLS	ZONING DRAWINGS
1	10/29/20	DLS	ZONING DRAWINGS
2	12/07/20	DLS	ZONING DRAWINGS

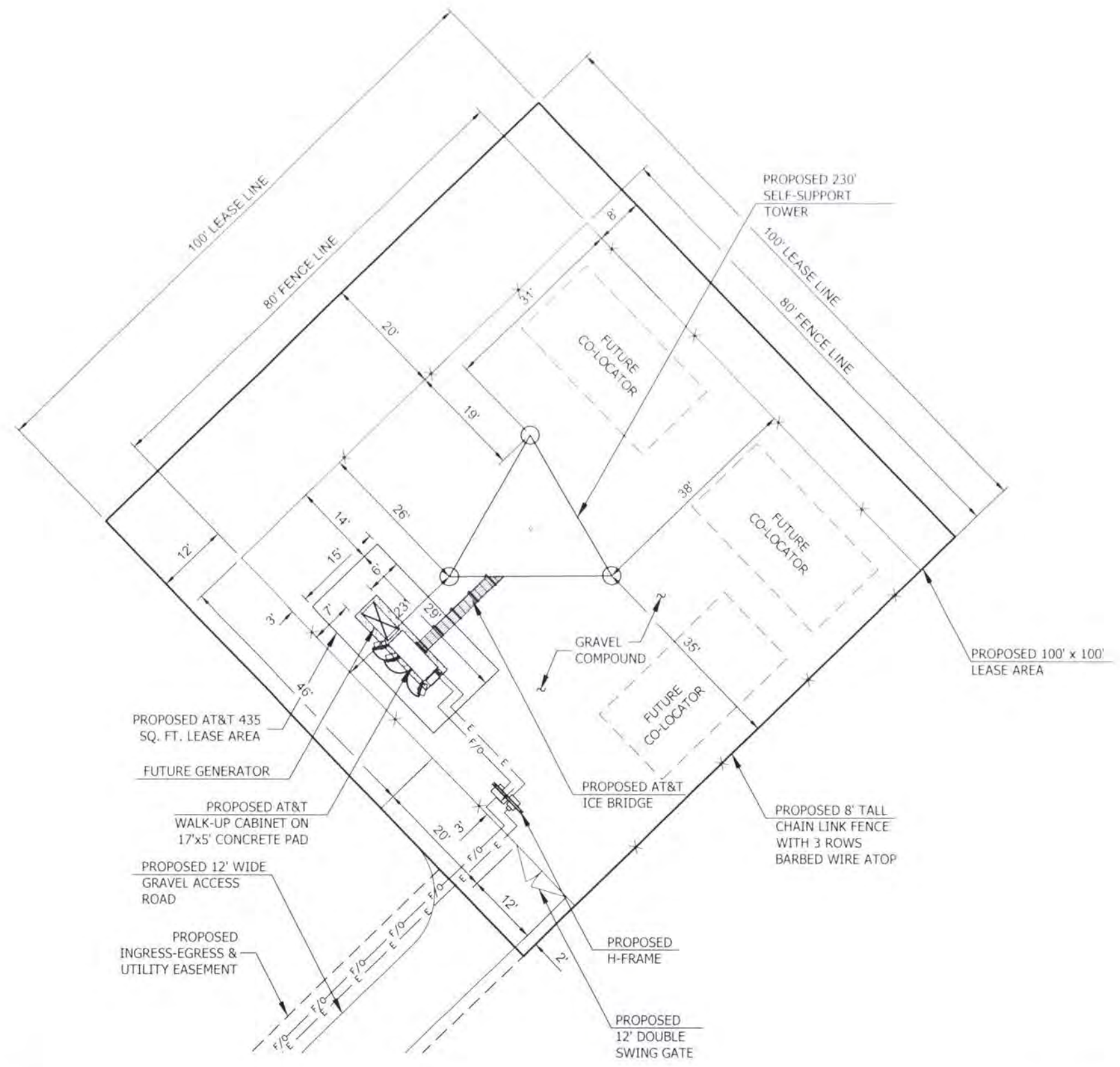
B&T ENGINEERING, INC.
 COA 4011
 Expires 12/31/20



IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

ENLARGED
 COMPOUND
 LAYOUT

SHEET NUMBER:
C-3



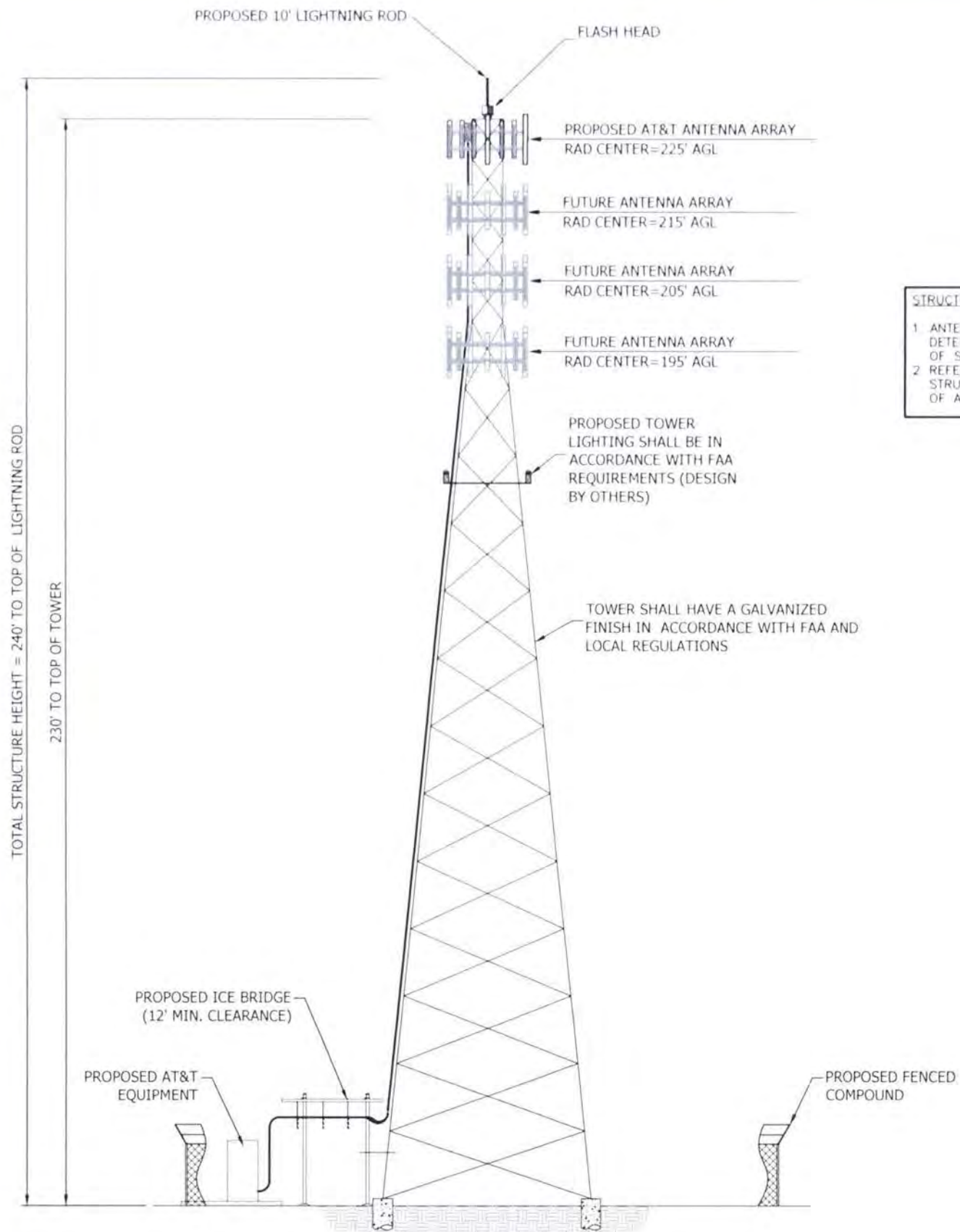
BAT NOTE:
 MUST DO TREE CLEARING BETWEEN
 OCTOBER 15th AND MARCH 31st, DUE TO BAT
 TREES ON PROPERTY

1 ENLARGED COMPOUND LAYOUT
 SCALE: 1" = 20'
 0' 10' 20' 30' 40'



CALL KENTUCKY ONE CALL
 (800) 752-6007
 CALL 3 WORKING DAYS
 BEFORE YOU DIG!





STRUCTURAL ANALYSIS NOTES:

1. ANTENNA PLACEMENT WAS DETERMINED WITHOUT VERIFICATION OF STRUCTURAL ANALYSIS.
2. REFER TO STRUCTURAL ANALYSIS OR STRUCTURAL LETTER FOR APPROVAL OF ADDITIONAL NEW APPURTENANCES.

1 PROPOSED TOWER ELEVATION
SCALE: N.T.S.



HARMONI TOWERS
RUSSELL SPRINGS
 FA# 15145568
 PAGE# MRTN/K/147956
 PT# 10115669
 244 HIGHWAY 1545 (E/011)
 248 HIGHWAY 1545 (SITE)
 RUSSELL SPRINGS, KY 42642
 RUSSELL COUNTY
 PROPOSED 200' CELL SUPPORT TOWER

PROJECT NO: 6017356
 CHECKED BY: MAS

ISSUED FOR

REV	DATE	DRWN	DESCRIPTION
0	09/08/20	DLS	ZONING DRAWINGS
1	10/29/20	DLS	ZONING DRAWINGS
2	12/07/20	DLS	ZONING DRAWINGS

B&T ENGINEERING, INC.
 COA 4011
 Expires 12/31/20



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TOWER ELEVATION

SHEET NUMBER:
C-4

EXHIBIT C
TOWER AND FOUNDATION DESIGN



Uniti Group Corporate Headquarters
10802 Executive Center Drive
Benfon Building, Ste. 300
Little Rock, AR 72211
501.850.0820 | uniti.com

July 20, 2020

Kentucky Public Service Commission
211 Sower Blvd.
P.O. Box 615
Frankfort, KY 40602-0615

RE: Site Name – Russell Springs Relo
Proposed Cell Tower
37.0686890 North Latitude, 85.0770470 West Longitude

Dear Commissioners:

The Construction Manager for the proposed new communications facility will be Jeremy Culpepper. His contact information is (985) 707-6175 or Jeremy.Culpepper@uniti.com. Jeremy has been in the industry completing civil construction and constructing towers since 1998. He has worked at Uniti Towers LLC since 2018 completing project and construction management on new site build projects.

Thank you,

Jeremy Culpepper

Digitally signed by Jeremy
Culpepper
Date: 2020.07.20 10:53:55 -05'00'

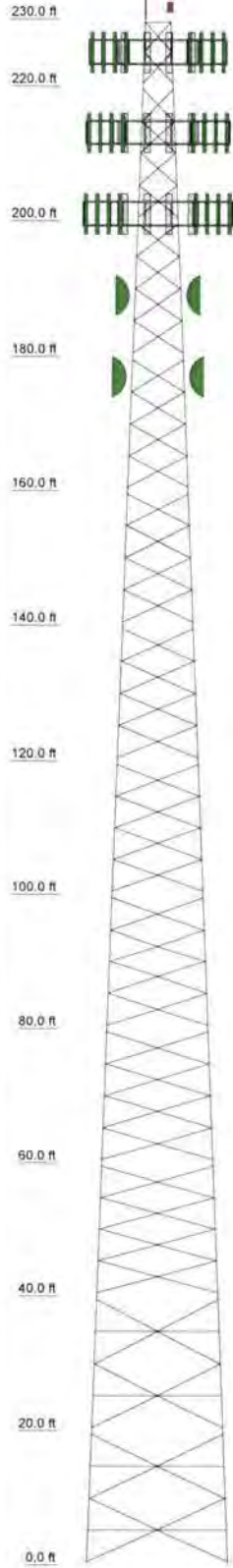
Jeremy Culpepper
Construction Manager – Tennessee/Kentucky Market
Uniti Towers LLC
(985) 707-6175

Uniti Fiber Division Headquarters
407 St. Francis Street, Ste. 1800
Mobile, AL 36602
251.662.1170 | unitifiber.com

New Orleans | Birmingham | Jackson | St. Petersburg | Dallas | Monroe

Uniti Towers Division Headquarters
10801 Executive Center Drive, Shannon Bldg., Ste. 100
Little Rock, AR 72211
501.850.0820 | unititowers.com
Domestic | International

Section/	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	T11	T12	T13	T14	T15	T16	T17	T18	T19	T20	T21
Legs	SR 1 3/4	SR 2	SR 2 1/2	SR 2 3/4	SR 3	SR 3 1/4	SR 3 1/2	SR 3 3/4	SR 3 3/4	SR 4	SR 4 1/4	SR 4 1/2	SR 4 3/4	SR 4 3/4	SR 4 3/4	SR 4 3/4	SR 4 3/4	SR 4 3/4	SR 4 3/4	SR 4 3/4	SR 4 3/4
Leg Grade																					
Diagonals																					
Diagonal Grade																					
Top Girts																					
Horizontals																					
Inner Bracing																					
Face Width (ft)	21																				
# Panels @ (ft)																					
Weight (K)	34.1																				



DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
Lightning Rod 1"x10'	230	Sector1(CaAa=10000 Sq.in)No Ice (Carrier 3)	201
Top Beacon	230	Sector2(CaAa=10000 Sq.in)No Ice (Carrier 3)	201
Sector1(CaAa=13333.33 Sq.in)No Ice (Carrier 1)	225	Sector3(CaAa=10000 Sq.in)No Ice (Carrier 3)	201
Sector2(CaAa=13333.33 Sq.in)No Ice (Carrier 1)	225	Sector3(CaAa=10000 Sq.in)No Ice (Carrier 3)	201
Sector3(CaAa=13333.33 Sq.in)No Ice (Carrier 1)	225	4 1/2" OD Dish Mount (Carrier 4)	189
Sector1(CaAa=10000 Sq.in)No Ice (Carrier 2)	213	4 1/2" OD Dish Mount (Carrier 4)	189
Sector2(CaAa=10000 Sq.in)No Ice (Carrier 2)	213	6" MW Dish (Carrier 4)	189
Sector3(CaAa=10000 Sq.in)No Ice (Carrier 2)	213	6" MW Dish (Carrier 4)	189
Sector1(CaAa=10000 Sq.in)No Ice (Carrier 2)	213	4 1/2" OD Dish Mount (Carrier 5)	177
Sector2(CaAa=10000 Sq.in)No Ice (Carrier 2)	213	4 1/2" OD Dish Mount (Carrier 5)	177
Sector3(CaAa=10000 Sq.in)No Ice (Carrier 2)	213	6" MW Dish (Carrier 5)	177
		6" MW Dish (Carrier 5)	177

SYMBOL LIST

MARK	SIZE	MARK	SIZE
A	L1 3/4x1 3/4x3/16	B	2L1 3/4x1 3/4x3/16x3/8

MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A529-50	50 ksi	65 ksi	A36M-50	50 ksi	65 ksi

TOWER DESIGN NOTES

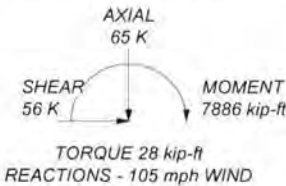
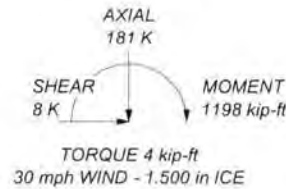
1. Tower is located in Russell County, Kentucky.
2. Tower designed for Exposure C to the TIA-222-H Standard.
3. Tower designed for a 105 mph basic wind in accordance with the TIA-222-H Standard.
4. Tower is also designed for a 30 mph basic wind with 1,50 in ice. Ice is considered to increase in thickness with height.
5. Deflections are based upon a 60 mph wind.
6. Tower Risk Category II.
7. Topographic Category 1 with Crest Height of 0.000 ft
8. Please see feedline plan for proper feedline placement. Deviation from plan may reduce tower capacity.

ALL REACTIONS ARE FACTORED

MAX. CORNER REACTIONS AT BASE:

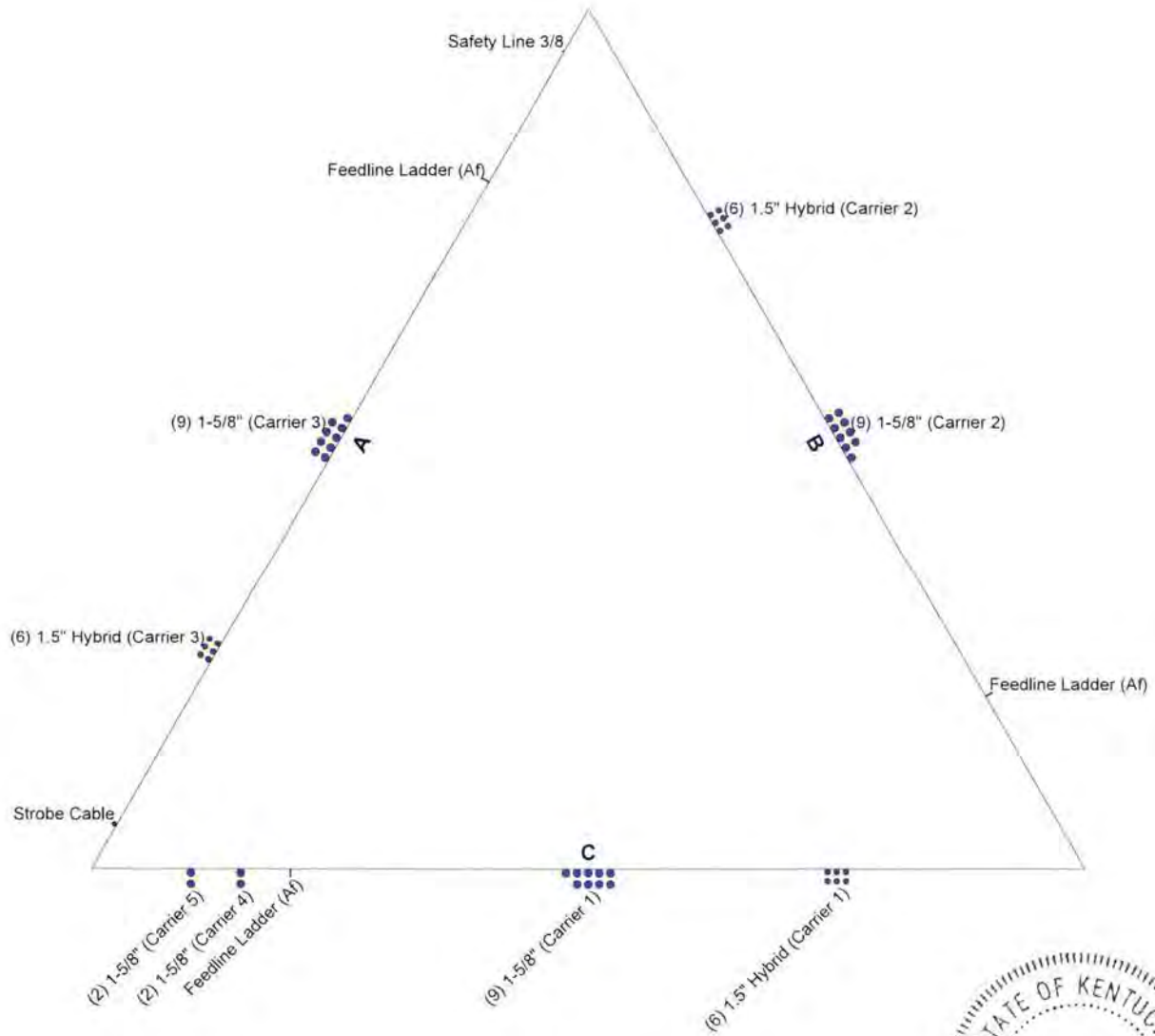
DOWN: 455 K
SHEAR: 33 K

UPLIFT: -399 K
SHEAR: 31 K



B+T Group
1717 S. Boulder Ave, Ste 300
Tulsa, OK 74119
Phone: (918) 587-4630
FAX: (918) 295-0265

Job: **ATS #8648 - Russell Springs (Site# KYBGN2025)**
Project: **230' SST/ 37.068689, -85.077047**
Client: **Harmoni (UNITI) Towers** | Drawn by: **JLandon** | App'd:
Code: **TIA-222-H** | Date: **10/20/20** | Scale: **NTS**
Path: | Dwg No: **E-1**



STATE OF KENTUCKY
 BRAD R. MILANOWSKI
 25311
 LICENSED PROFESSIONAL ENGINEER
Brad R. Milanowski
 10/20/20



B+T Group
 1717 S. Boulder Ave, Ste 300
 Tulsa, OK 74119
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Job	ATS #8648 - Russell Springs (Site# KYBGN2025)		
Project	230' SST/ 37.068689, -85.077047		
Client	Harmoni (UNITI) Towers	Drawn by	JLandon
Code	TIA-222-H	Date	10/20/20
Path		App'd	
		Scale	NTS
		Dwg No.	E-7



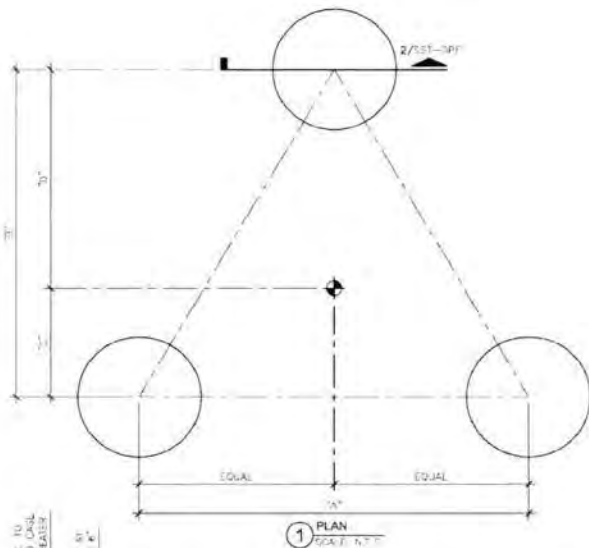
1717.5 BOULDER AVE #300, TULSA, OK 74119
(918) 587-4630



4020 TULL AVE, MUSKOGEE, OK 74403

ISSUED FOR:

REV	DATE	DESCRIPTION
0	10/20/20	ISSUED FOR CONSTRUCTION



NOTES:

1. REINFORCEMENT STEEL SHALL CONFIRM TO THE REQUIREMENT OF ASTM A-615 (GRADE 60) EXCEPT THAT TIES MAY BE ASTM-615 (GRADE 40) WITH 3" MINIMUM CLEAR COVER.
2. THE CONTRACTOR SHALL THOROUGHLY REVIEW THE GEOTECH REPORT FOR THIS PROJECT AND FOLLOW THE RECOMMENDATIONS IN THAT REPORT WHEN CONSTRUCTING THE FOUNDATION.
3. GEOTECHNICAL PROPERTIES BY: DELTA OAKS GROUP
4. PROJECT NUMBER: GEO-20-07039-28
5. DATE: SEPTEMBER 30, 2020
6. THIS FOUNDATION HAS BEEN DESIGNED, IN ACCORDANCE WITH THE TIA-222-H STANDARD, SPECIFICALLY FOR THE TOWER AND SOIL CONDITION REFERENCED ABOVE. IF ANYTHING DIFFERS THIS DESIGN SHALL BE CONSIDERED INVALID AND MUST BE REDESIGNED PRIOR TO CONSTRUCTION.
7. TOTAL CONCRETE VOLUME FOR ALL (3) PIERS IN CUBIC YARDS: 35.74
8. ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS.
9. CONCRETE MIXTURES SHALL MEET DURABILITY REQUIREMENTS OF CHAPTER 19 OF THE ACI 318-14.
10. ALL CONCRETE TESTING SHALL BE IN ACCORDANCE WITH ACI 318-14. A MINIMUM OF (2) 6"x12" OR (3) 4"x8" CONCRETE CYLINDERS PER INDIVIDUAL FOUNDATION AND A MINIMUM OF (6) 6"x12" OR (6) 4"x8" CYLINDERS PER BATCH REQUIRED.
11. SLUMP TEST SHALL BE MADE IN ACCORDANCE WITH ASTM C143. THE ALLOWABLE CONCRETE SLUMP SHALL BE 4 INCHES (±1") UNLESS ADMIXTURES ARE USED. ADMIXTURE SHALL BE IN ACCORDANCE WITH ASTM C494 STANDARD TYPES A, B, C, D OR E. THE ENGINEER SHALL PRE-APPROVE SUPER PLASTICIZER USE. DO NOT USE CHLORIDE-CONTAINING ADMIXTURES. AIR ENTRAINING ADMIXTURES SHALL CONFORM TO ASTM C260.
12. BACKFILL MATERIAL SHALL BE COMPACTED TO A MINIMUM UNIT WEIGHT SPECIFIED IN GEOTECH REPORT. THE SOIL SHALL BE INSTALLED IN 6" TO 8" LIFTS AND COMPACTED THOROUGHLY TO ACHIEVE APPROPRIATE UNIT WEIGHT UNLESS GEOTECH SPECIFIES OTHER COMPACTION REQUIREMENTS.
13. VERIFY ALL DIMENSIONS AGAINST MANUFACTURER'S DRAWINGS.

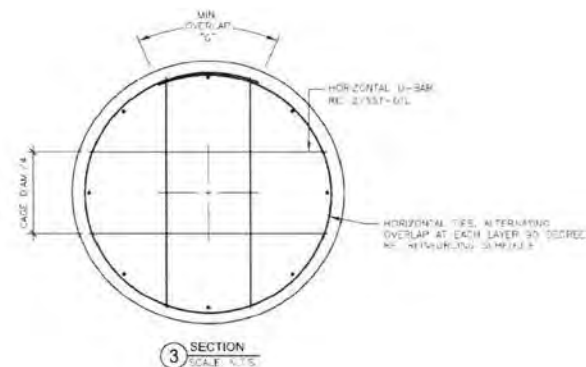
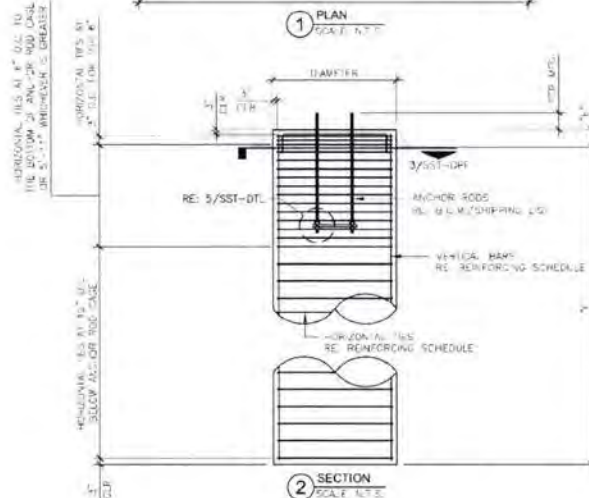
STIPULATION FOR REUSE:

1. THIS DRAWING WAS SPECIFICALLY DESIGNED FOR USE BY THE CUSTOMER ON THIS DRAWING AT THE SPECIFIED LOCATION. USE OF THIS DRAWING FOR REFERENCE OR EXAMPLE ON ANOTHER PROJECT REQUIRES THE SERVICES OF A PROPERLY LICENSED ENGINEER.

DIMENSIONING SCHEDULE	
A	31'-0"
B	18'-2-1/4"
C	6'-3/4"
D	17'-1-1/2"
E	0'-0"
F	25'-1-3/16"
MIN. OVERLAP "G"	2'-3"
DIAMETER	4'-0"

REINFORCING SCHEDULE			SIZE	TOTAL QTY
VERTICAL BARS			#8	50
HORIZONTAL TIES			#4	102
U-BAR HORIZONTAL			#4	12

BASE REACTIONS: (FACTORED LOADS)		
GLOBAL REACTIONS		
MOMENT	7585	PLATE
AXIAL	65	KIPS
SHEAR	56	KIPS
REACTIONS PER LEG		
COMPRESSION AXIAL	455	KIPS
COMPRESSION SHEAR	35	KIPS
LIFT AXIAL	399	KIPS
LIFT SHEAR	31	KIPS



STATE OF KENTUCKY
BRAD R. MILANOWSKI
25311
10/20/20

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PROJECT INFORMATION:
PROJECT NO: 145746.001.01
SITE NAME: RUSSEL SPRINGS
SITE NO: 8648
CLIENT NAME: ARCOSA TELECOM STRUCTURES
DRAWN BY: JL
CHECKED BY:

SHEET TITLE:
DRILLED PIER FOUNDATION

SHEET NUMBER	REVISION
SST-DPF	0

DIMENSIONING SCHEDULE	
A	29' 0"
B	4' 0"
C	23' 0"
D	5' 4 3/8"
E	18' 2 1/4"
F	3' 9/8"
J	17' 6"
K	6' 0"
L	2' 6"
MIN. OVERLAP "M"	2' 3"
DIAMETER	3' 0"

REINFORCING SCHEDULE	SIZE	TOTAL QTY
VERTICAL BARS WITH 90° BEND	#8	36
HORIZONTAL TIES	#4	42
HORIZONTAL U-BAR (PEDESTAL)	#4	12
TOP HORIZONTAL BARS	#8	60
BOTTOM HORIZONTAL BARS	#8	60
CORNER BARS	#4	8
VERTICAL U-BARS (PAD)	#4	60

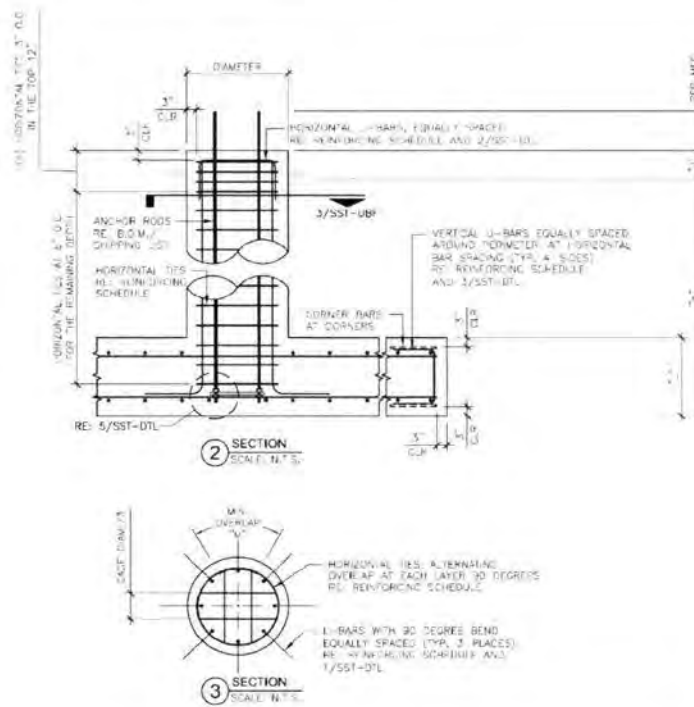
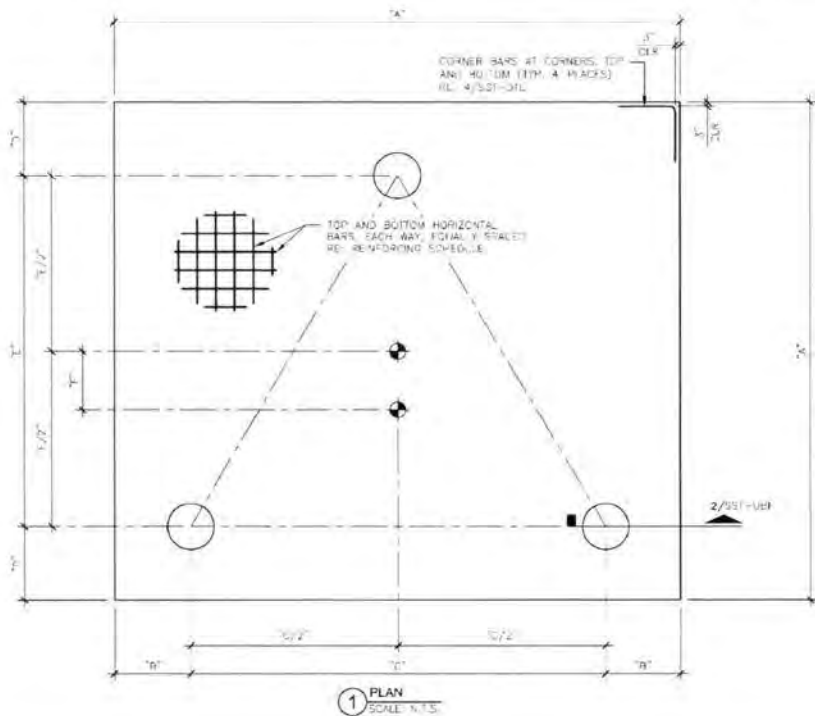
BASE REACTIONS: (FACTORED LOADS)	
GLOBAL REACTIONS	
MOMENT	7886 KIP-FT
AXIAL	85 KIPS
SHEAR	56 KIPS
REACTIONS PER LEG	
COMPRESSION AXIAL	455 KIPS
COMPRESSION SHEAR	33 KIPS
UPLIFT AXIAL	335 KIPS
UPLIFT SHEAR	31 KIPS

NOTES:

- REINFORCEMENT STEEL SHALL CONFORM TO THE REQUIREMENT OF ASTM A-615 (GRADE 60) EXCEPT THAT TIES MAY BE ASTM-615 (GRADE 40) WITH 4" MINIMUM CLEAR COVER.
- THE CONTRACTOR SHALL THOROUGHLY REVIEW THE GEOTECH REPORT FOR THIS PROJECT AND FOLLOW THE RECOMMENDATIONS IN THAT REPORT WHEN CONSTRUCTING THE FOUNDATION.
GEOTECHNICAL PROPERTIES BY: DELTA OAKS GROUP
PROJECT NUMBER: GED20-07029-08
DATE: SEPTEMBER 30, 2020
- THIS FOUNDATION HAS BEEN DESIGNED IN ACCORDANCE WITH THE TIA 222-H STANDARD, SPECIFICALLY FOR THE TOWER AND SOIL CONDITION REFERENCED ABOVE. IF ANYTHING DIFFERS THIS DESIGN SHALL BE CONSIDERED INVALID AND MUST BE REDESIGNED PRIOR TO CONSTRUCTION.
- CONCRETE VOLUME IN CUBIC YARDS: 81.01
- ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS.
- CONCRETE MIXTURES SHALL MEET DURABILITY REQUIREMENTS OF CHAPTER 19 OF THE ACI 318-14.
- ALL CONCRETE TESTING SHALL BE IN ACCORDANCE WITH ACI 318-14. A MINIMUM OF (2) 6" X12" OR (3) 4" X8" CONCRETE CYLINDERS PER INDIVIDUAL FOUNDATION AND A MINIMUM OF (6) 6" X12" OR (6) 4" X8" CYLINDERS PER BATCH REQUIRED.
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- BACKFILL MATERIAL SHALL BE COMPACTED TO A MINIMUM UNIT WEIGHT SPECIFIED IN GEOTECH REPORT. THE SOIL SHALL BE INSTALLED IN 8" TO 8' LIFTS AND COMPACTED THOROUGHLY TO ACHIEVE APPROPRIATE UNIT WEIGHT UNLESS GEOTECH SPECIFIES OTHER COMPACTION REQUIREMENTS.
- VERIFY ALL DIMENSIONS AGAINST MANUFACTURER'S DRAWINGS.

STIPULATION FOR REUSE:

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PROJECT INFORMATION

PROJECT NO: 145746.001.DL
SITE NAME: RUSSEL SPRINGS
SITE NO: 86AR
CLIENT NAME: ARCOSA TELECOM STRUCTURES

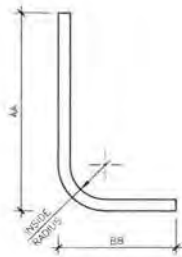
DRAWN BY: JL
CHECKED BY:

SHEET TITLE:

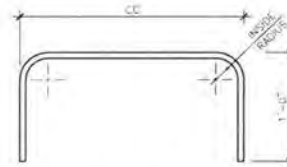
UNIT BASE FOUNDATION

SHEET NUMBER: **SST-UBF** REVISION: **0**

DIMENSIONING SCHEDULE	
AA	5'-10"
BB	1'-3"
CC SST DPK	3'-4 11/16"
CC SST LBP	3'-4 5/16"
DD	2'-0"
EE	3'-0"
INSIDE RADIUS DETAIL 1	0'-3"
INSIDE RADIUS DETAIL 2	0'-1-1/2"
INSIDE RADIUS DETAIL 3	0'-1-1/2"
INSIDE RADIUS DETAIL 4	0'-1-1/2"



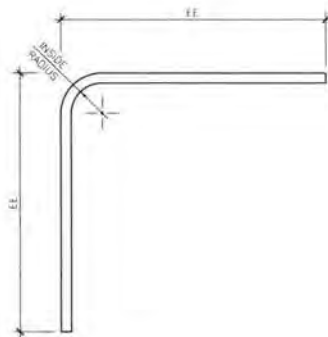
① L-BAR
SCALE: N.T.S.



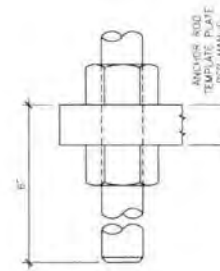
② HORIZONTAL U-BAR
SCALE: N.T.S.



③ VERTICAL U-BAR
SCALE: N.T.S.



④ CORNER BAR
SCALE: N.T.S.



⑤ ANCHOR ROD DETAIL
SCALE: N.T.S.



1717 S BOULDER AVE #300, TULSA, OK 74119
(918) 587-4630



4020 TULLAVE, MUSKOGEE, OK 74403

ISSUED FOR:

REV	DATE	DESCRIPTION
01	10/20/20	ISSUED FOR CONSTRUCTION



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PROJECT INFORMATION:

PROJECT NO: 145746.001.01
SITE NAME: RUSSEL SPRINGS
SITE NO: B048
CLIENT NAME: ARCOSA TELECOM STRUCTURES
DRAWN BY: JL
CHECKED BY:

SHEET TITLE:

DIMENSIONING DETAIL

SHEET NUMBER

SST-DTL

REVISION:

0

SST Unit Base Foundation

Project #:	145746.001.01
Site Name:	Russel Springs
Site #:	8648

TIA-222 Revision: H

Top & Bot. Pad Rein. Different?:	<input type="checkbox"/>
Tower Centroid Offset?:	<input checked="" type="checkbox"/>
Block Foundation?:	<input type="checkbox"/>

Superstructure Analysis Reactions		
Global Moment, M :	7886	ft-kips
Global Axial, P :	65	kips
Global Shear, V :	56	kips
Leg Compression, P_{comp} :	455	kips
Leg Comp. Shear, V_{u,comp} :	33	kips
Leg Uplift, P_{uplift} :	399	kips
Leg Uplift. Shear, V_{u,uplift} :	31	kips
Tower Height, H :	230	ft
Base Face Width, BW :	21	ft
BP Dist. Above Fdn, bp_{dist} :		in

Foundation Analysis Checks				
	Capacity	Demand	Rating	Check
<i>Lateral (Sliding) (kips)</i>	475.36	56.00	11.8%	Pass
<i>Bearing Pressure (ksf)</i>	11.02	5.00	45.3%	Pass
<i>Overturning (kip*ft)</i>	9030.29	8432.47	93.4%	Pass
<i>Pier Flexure (Comp.) (kip*ft)</i>	833.62	132.00	15.8%	Pass
<i>Pier Flexure (Tension) (kip*ft)</i>	193.47	124.00	64.1%	Pass
<i>Pier Compression (kip)</i>	4499.01	460.09	10.2%	Pass
<i>Pad Flexure (kip*ft)</i>	2741.80	2155.03	78.6%	Pass
<i>Pad Shear - 1-way (kips)</i>	841.86	403.42	47.9%	Pass
<i>Pad Shear - Comp 2-way (ksi)</i>	0.190	0.095	50.3%	Pass
<i>Flexural 2-way (Comp) (kip*ft)</i>	1494.43	79.20	5.3%	Pass
<i>Pad Shear - Tension 2-way (ksi)</i>	0.190	0.098	51.8%	Pass
<i>Flexural 2-way (Tension) (kip*ft)</i>	1494.43	74.40	5.0%	Pass

Pier Properties		
Pier Shape:	Circular	
Pier Diameter, dpier :	3.0	ft
Ext. Above Grade, E :	0.50	ft
Pier Rebar Size, Sc :	8	
Pier Rebar Quantity, mc :	12	
Pier Tie/Spiral Size, St :	4	
Pier Tie/Spiral Quantity, mt :		
Pier Reinforcement Type:	Tie	
Pier Clear Cover, cc_{pier} :	3	in

Soil Rating:	93.4%
Structural Rating:	78.6%

Pad Properties		
Depth, D :	6.00	ft
Pad Width, W :	29.00	ft
Pad Thickness, T :	2.50	ft
Pad Rebar Size (Bottom), Sp :	8	
Pad Rebar Quantity (Bottom), mp :	31	
Pad Clear Cover, cc_{pad} :	3	in

Material Properties		
Rebar Grade, Fy :	60	ksi
Concrete Compressive Strength, F'c :	4	ksi
Dry Concrete Density, δc :	150	pcf

Soil Properties		
Total Soil Unit Weight, γ :	115	pcf
Ultimate Net Bearing, Qnet :	14.000	ksf
Cohesion, Cu :	2.250	ksf
Friction Angle, φ :	0	degrees
SPT Blow Count, N_{blows} :		
Base Friction, μ :	0.35	
Neglected Depth, N :	2.5	ft
Foundation Bearing on Rock?	No	
Groundwater Depth, gw :	None	ft

Drilled Pier Foundation

BU # :	145746.001.01
Site Name:	Russel Springs
Order Number:	8648

TIA-222 Revisor:	H
Tower Type:	Self Support

Applied Loads		
	Comp.	Uplift
Moment (kip-ft)		
Axial Force (kips)	455	399
Shear Force (kips)	33	31

Material Properties	
Concrete Strength, f _c :	4 ksi
Rebar Strength, F _y :	60 ksi
Tie Yield Strength, F _y :	40 ksi

Pier Design Data	
Depth	25.1 ft
Ext. Above Grade	0.5 ft
Pier Section 1	
<i>From 0.5' above grade to 25.1' below grade</i>	
Pier Diameter	4 ft
Rebar Quantity	20
Rebar Size	8
Clear Cover to Ties	3 in
Tie Size	4
Tie Spacing	12 in

[Rebar & Pier Options](#)

[Embedded Pole Inputs](#)

[Relaxed Pier Inputs](#)

Analysis Results		
Soil Lateral Check		
	Compression	Uplift
D _{reqd} (ft from TOC)	13.85	13.85
Soil Safety Factor	17.72	18.87
Max Moment (kip-ft)	289.93	272.36
Rating	7.5%	7.0%

Soil Vertical Check		
	Compression	Uplift
Skin Friction (kips)	377.46	366.81
End Bearing (kips)	746.44	-
Weight of Concrete (kips)	57.91	43.43
Total Capacity (kips)	1123.90	410.24
Axial (kips)	512.91	399.00
Rating	45.6%	97.3%

Reinforced Concrete Flexure		
	Compression	Uplift
Critical Depth (ft from TOC)	13.84	13.31
Critical Moment (kip-ft)	289.93	271.92
Critical Moment Capacity	1845.69	952.21
Rating	15.7%	28.6%

Reinforced Concrete Shear		
	Compression	Uplift
Critical Depth (ft from TOC)	22.40	22.40
Critical Shear (kip)	69.33	65.13
Critical Shear Capacity	346.25	161.98
Rating	20.0%	40.2%

Soil Interaction Rating	97.3%
Structural Foundation Rating	40.2%

Check Limitation	
Apply TIA-222-H Section 15.5:	<input type="checkbox"/>
N/A	<input type="checkbox"/>
Shear Design Options	
Check Shear along Depth of Pier:	<input checked="" type="checkbox"/>
Utilize Shear-Friction Methodology:	<input type="checkbox"/>

[Go to Soil Calculations](#)

Soil Profile				
Groundwater Depth	N/A	# of Layers	8	

Layer	Top (ft)	Bottom (ft)	Thickness (ft)	γ _{soil} (pcf)	γ _{concrete} (pcf)	Cohesion (ksf)	Angle of Friction (degrees)	Calculated Ultimate Skin Friction Comp (ksf)	Calculated Ultimate Skin Friction Uplift (ksf)	Ultimate Skin Friction Comp Override (ksf)	Ultimate Skin Friction Uplift Override (ksf)	Ult. Gross Bearing Capacity (ksf)	SPT Blow Count	Soil Type
1	0	3	3	105	150	0	0	0.000	0.000	0.00	0.00			Cohesionless
2	3	4	1	105	150	0	30	0.000	0.000	0.12	0.09			Cohesionless
3	4	6	2	115	150	2.25	0	1.238	1.238	1.23	1.23			Cohesive
4	6	9	3	115	150	2.25	0	1.238	1.238	1.23	1.23			Cohesive
5	9	14	5	115	150	0	32	0.000	0.000	0.37	0.28			Cohesionless
6	14	19	5	115	150	0	32	0.000	0.000	0.53	0.40			Cohesionless
7	19	20.1	1.1	130	150	0	40	0.00	0.00	4.80	4.80			Cohesionless
8	20.1	25.1	5	140	150	12	0	5.40	5.40	4.80	4.80	79.2		Cohesive

tnxTower B+T Group 1717 S. Boulder Ave, Ste 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	Job ATS #8648 - Russell Springs (Site# KYBGN2025)	Page 1 of 31
	Project 230' SST/ 37.068689, -85.077047	Date 10:35:30 10/20/20
	Client Harmoni (UNITI) Towers	Designed by JLandon

Tower Input Data

The main tower is a 3x free standing tower with an overall height of 230.000 ft above the ground line.

The base of the tower is set at an elevation of 0.000 ft above the ground line.

The face width of the tower is 3.750 ft at the top and 21.000 ft at the base.

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

The following design criteria apply:

Tower is located in Russell County, Kentucky.

Tower base elevation above sea level: 1099.000 ft.

Basic wind speed of 105 mph.

Risk Category II.

Exposure Category C.

Simplified Topographic Factor Procedure for wind speed-up calculations is used.

Topographic Category: I.

Crest Height: 0.000 ft.

Nominal ice thickness of 1.500 in.

Ice thickness is considered to increase with height.

Ice density of 56.000 pcf.

A wind speed of 30 mph is used in combination with ice.

Temperature drop of 50.000 °F.

Deflections calculated using a wind speed of 60 mph.

Please see feedline plan for proper feedline placement. Deviation from plan may reduce tower capacity..

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

Pressures are calculated at each section.

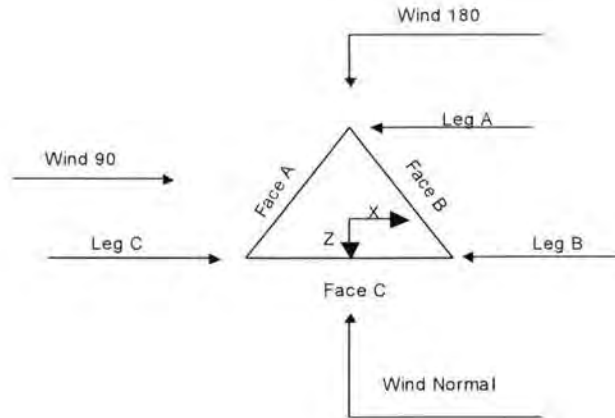
Stress ratio used in tower member design is 1.

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

Options

- | | | |
|--|---|---|
| <ul style="list-style-type: none"> Consider Moments - Legs Consider Moments - Horizontals Consider Moments - Diagonals Use Moment Magnification √ Use Code Stress Ratios √ Use Code Safety Factors - Guys Escalate Ice Always Use Max Kz Use Special Wind Profile √ Include Bolts In Member Capacity √ Leg Bolts Are At Top Of Section √ Secondary Horizontal Braces Leg Use Diamond Inner Bracing (4 Sided) SR Members Have Cut Ends SR Members Are Concentric | <ul style="list-style-type: none"> Distribute Leg Loads As Uniform Assume Legs Pinned √ Assume Rigid Index Plate √ Use Clear Spans For Wind Area √ Use Clear Spans For KL/r Retension Guys To Initial Tension √ Bypass Mast Stability Checks √ Use Azimuth Dish Coefficients √ Project Wind Area of Appurt Autocalc Torque Arm Areas Add IBC 6D+W Combination √ Sort Capacity Reports By Component Triangulate Diamond Inner Bracing Treat Feed Line Bundles As Cylinder Ignore KL/ry For 60 Deg. Angle Legs | <ul style="list-style-type: none"> Use ASCE 10 X-Brace Ly Rules √ Calculate Redundant Bracing Forces Ignore Redundant Members in FEA √ SR Leg Bolts Resist Compression All Leg Panels Have Same Allowable Offset Girt At Foundation √ Consider Feed Line Torque √ Include Angle Block Shear Check Use TIA-222-H Bracing Resist. Exemption Use TIA-222-H Tension Splice Exemption <li style="text-align: center;">Poles Include Shear-Torsion Interaction Always Use Sub-Critical Flow Use Top Mounted Sockets Pole Without Linear Attachments Pole With Shroud Or No Appurtenances Outside and Inside Corner Radu Are Known |
|--|---|---|

tnxTower B+T Group 1717 S. Boulder Ave, Ste 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	Job ATS #8648 - Russell Springs (Site# KYBGN2025)	Page 2 of 31
	Project 230' SST/ 37.068689, -85.077047	Date 10:35:30 10/20/20
	Client Harmoni (UNITI) Towers	Designed by JLandon



Triangular Tower

Tower Section Geometry

Tower Section	Tower Elevation	Assembly Database	Description	Section Width	Number of Sections	Section Length
	<i>ft</i>			<i>ft</i>		<i>ft</i>
T1	230.000-220.000			3.750	1	10.000
T2	220.000-200.000			4.500	1	20.000
T3	200.000-180.000			6.000	1	20.000
T4	180.000-160.000			7.500	1	20.000
T5	160.000-140.000			9.000	1	20.000
T6	140.000-120.000			10.500	1	20.000
T7	120.000-100.000			12.000	1	20.000
T8	100.000-80.000			13.500	1	20.000
T9	80.000-60.000			15.000	1	20.000
T10	60.000-40.000			16.500	1	20.000
T11	40.000-20.000			18.000	1	20.000
T12	20.000-0.000			19.500	1	20.000

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
	<i>ft</i>	<i>ft</i>				<i>in</i>	<i>in</i>
T1	230.000-220.000	4.500	X Brace	No	No	6.000	6.000
T2	220.000-200.000	4.750	X Brace	No	No	6.000	6.000
T3	200.000-180.000	4.750	X Brace	No	No	6.000	6.000

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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
T4	180.000-160.000	4.750	X Brace	No	No	6.000	6.000
T5	160.000-140.000	4.750	X Brace	No	No	6.000	6.000
T6	140.000-120.000	4.750	X Brace	No	No	6.000	6.000
T7	120.000-100.000	4.750	X Brace	No	No	6.000	6.000
T8	100.000-80.000	4.750	X Brace	No	No	6.000	6.000
T9	80.000-60.000	4.750	X Brace	No	No	6.000	6.000
T10	60.000-40.000	4.750	X Brace	No	No	6.000	6.000
T11	40.000-20.000	4.750	Double K	No	Yes	6.000	6.000
T12	20.000-0.000	4.750	Double K	No	Yes	6.000	6.000

Tower Section Geometry (cont'd)

Tower Elevation ft	Leg Type	Leg Size	Leg Grade	Diagonal Type	Diagonal Size	Diagonal Grade
230.000-220.000	T1 Solid Round	1 3/4	A529-50 (50 ksi)	Equal Angle	L1 3/4x1 3/4x3/16	A36M-50 (50 ksi)
220.000-200.000	T2 Solid Round	2	A529-50 (50 ksi)	Equal Angle	L1 3/4x1 3/4x3/16	A36M-50 (50 ksi)
200.000-180.000	T3 Solid Round	2 1/2	A529-50 (50 ksi)	Equal Angle	L1 3/4x1 3/4x3/16	A36M-50 (50 ksi)
180.000-160.000	T4 Solid Round	2 3/4	A529-50 (50 ksi)	Equal Angle	L2x2x3/16	A36M-50 (50 ksi)
160.000-140.000	T5 Solid Round	3	A529-50 (50 ksi)	Equal Angle	L2 1/2x2 1/2x3/16	A36M-50 (50 ksi)
140.000-120.000	T6 Solid Round	3 1/4	A529-50 (50 ksi)	Equal Angle	L2 1/2x2 1/2x3/16	A36M-50 (50 ksi)
120.000-100.000	T7 Solid Round	3 1/2	A529-50 (50 ksi)	Equal Angle	L2 1/2x2 1/2x3/16	A36M-50 (50 ksi)
100.000-80.000	T8 Solid Round	3 1/2	A529-50 (50 ksi)	Equal Angle	L3x3x3/16	A36M-50 (50 ksi)
80.000-60.000	T9 Solid Round	3 3/4	A529-50 (50 ksi)	Equal Angle	L3x3x3/16	A36M-50 (50 ksi)
60.000-40.000	T10 Solid Round	4	A529-50 (50 ksi)	Equal Angle	L3x3x1/4	A36M-50 (50 ksi)
40.000-20.000	T11 Solid Round	4	A529-50 (50 ksi)	Double Angle	2L2 1/2x2 1/2x3/16x3/8	A36M-50 (50 ksi)
20.000-0.000	T12 Solid Round	4 1/4	A529-50 (50 ksi)	Double Angle	2L2 1/2x2 1/2x3/16x3/8	A36M-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
230.000-220.000	T1 Equal Angle	L1 3/4x1 3/4x3/16	A36M-50 (50 ksi)	Solid Round		A529-50 (50 ksi)

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Tower Section Geometry (cont'd)

Tower Elevation	No. of Mid Girts	Mid Girt Type	Mid Girt Size	Mid Girt Grade	Horizontal Type	Horizontal Size	Horizontal Grade
ft							
T11 40 000-20 000	None	Flat Bar		A36 (36 ksi)	Double Angle	2L1 3/4x1 3/4x3/16x3/8	A36M-50 (50 ksi)
T12 20 000-0 000	None	Flat Bar		A36 (36 ksi)	Double Angle	2L2x2x3/16x3/8	A36M-50 (50 ksi)

Tower Section Geometry (cont'd)

Tower Elevation	Secondary Horizontal Type	Secondary Horizontal Size	Secondary Horizontal Grade	Inner Bracing Type	Inner Bracing Size	Inner Bracing Grade
ft						
T11 40 000-20 000	Solid Round		A572-50 (50 ksi)	Single Angle	L1 3/4x1 3/4x3/16	A36M-50 (50 ksi)
T12 20 000-0 000	Solid Round		A572-50 (50 ksi)	Single Angle	L1 3/4x1 3/4x3/16	A36M-50 (50 ksi)

Tower Section Geometry (cont'd)

Tower Elevation	Gusset Area (per face)	Gusset Thickness	Gusset Grade	Adjust. Factor A _f	Adjust. Factor A _v	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals	Double Angle Stitch Bolt Spacing Horizontals	Double Angle Stitch Bolt Spacing Redundants
ft	ft ²	in					in	in	in
T1 230 000-220 000	0.000	0.375	A36M-50 (50 ksi)	1	1	1	36.000	36.000	36.000
T2 220 000-200 000	0.000	0.375	A36M-50 (50 ksi)	1	1	1	36.000	36.000	36.000
T3 200 000-180 000	0.000	0.375	A36M-50 (50 ksi)	1	1	1	36.000	36.000	36.000
T4 180 000-160 000	0.000	0.375	A36M-50 (50 ksi)	1	1	1	36.000	36.000	36.000
T5 160 000-140 000	0.000	0.375	A36M-50 (50 ksi)	1	1	1	36.000	36.000	36.000
T6 140 000-120 000	0.000	0.375	A36M-50 (50 ksi)	1	1	1	36.000	36.000	36.000
T7 120 000-100 000	0.000	0.375	A36M-50 (50 ksi)	1	1	1	36.000	36.000	36.000
T8 100 000-80 000	0.000	0.375	A36M-50 (50 ksi)	1	1	1	36.000	36.000	36.000
T9 0	0.000	0.375	A36M-50	1	1	1	36.000	36.000	36.000

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Tower Elevation	Gusset Area (per face)	Gusset Thickness	Gusset Grade	Adjust. Factor A_f	Adjust. Factor A_e	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals	Double Angle Stitch Bolt Spacing Horizontals	Double Angle Stitch Bolt Spacing Redundants
ft	ft ²	in	(50 ksi)				in	in	in
80 000-60 000 T10	0.000	0.375	A36M-50 (50 ksi)	1	1	1	36.000	36.000	36.000
60 000-40 000 T11	0.000	0.375	A36M-50 (50 ksi)	1	1	1	Mid-Pt	Mid-Pt	36.000
40 000-20 000 T12	0.000	0.375	A36M-50 (50 ksi)	1	1	1	Mid-Pt	Mid-Pt	36.000
20 000-0.000			(50 ksi)						

Tower Section Geometry (cont'd)

Tower Elevation	Calc K Single Angles	Calc K Solid Rounds	Legs	K Factors ¹						
				X Brace Diags	K Brace Diags	Single Diags	Girts	Horiz.	Sec. Horiz.	Inner Brace
230.000-220.000 T1	No	No	1	1 1	1 1	1 1	1 1	1 1	1 1	1 1
220.000-200.000 T2	No	No	1	1 1	1 1	1 1	1 1	1 1	1 1	1 1
200.000-180.000 T3	No	No	1	1 1	1 1	1 1	1 1	1 1	1 1	1 1
180.000-160.000 T4	No	No	1	1 1	1 1	1 1	1 1	1 1	1 1	1 1
160.000-140.000 T5	No	No	1	1 1	1 1	1 1	1 1	1 1	1 1	1 1
140.000-120.000 T6	No	No	1	1 1	1 1	1 1	1 1	1 1	1 1	1 1
120.000-100.000 T7	No	No	1	1 1	1 1	1 1	1 1	1 1	1 1	1 1
100.000-80.000 T8	No	No	1	1 1	1 1	1 1	1 1	1 1	1 1	1 1
80.000-60.000 T9	No	No	1	1 1	1 1	1 1	1 1	1 1	1 1	1 1
60.000-40.000 T10	No	No	1	1 1	1 1	1 1	1 1	1 1	1 1	1 1
40.000-20.000 T11	No	No	1	1 1	1 1	1 1	1 1	1 1	1 1	1 1
20.000-0.000 T12	No	No	1	1 1	1 1	1 1	1 1	1 1	1 1	1 1

¹Note: 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)

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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 230.000-220.000	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T2 220.000-200.000	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T3 200.000-180.000	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T4 180.000-160.000	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T5 160.000-140.000	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T6 140.000-120.000	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T7 120.000-100.000	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T8 100.000-80.000	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T9 80.000-60.000	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T10 60.000-40.000	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T11 40.000-20.000	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T12 20.000-0.000	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75

Tower Section Geometry (cont'd)

Tower Elevation ft	Leg Connection Type	Leg		Diagonal		Top Girt		Bottom Girt		Mid Girt		Long Horizontal		Short Horizontal	
		Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.
T1 230.000-220.000	Flange	0.000 A325N	0	0.625 A325X	1	0.625 A325X	1	0.000 A325N	0	0.625 A325N	0	0.000 A325X	0	0.625 A325N	0
T2 220.000-200.000	Flange	0.750 A325N	6	0.625 A325X	1	0.000 A325N	0	0.000 A325N	0	0.625 A325N	0	0.000 A325X	0	0.625 A325N	0
T3 200.000-180.000	Flange	0.750 A325N	6	0.625 A325X	1	0.000 A325N	0	0.000 A325N	0	0.625 A325N	0	0.000 A325X	0	0.625 A325N	0

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Tower Elevation ft	Leg Connection Type	Leg		Diagonal		Top Girt		Bottom Girt		Mid Girt		Long Horizontal		Short Horizontal	
		Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.
180 000-160 000	T4 Flange	0.750 A325N	6	0.625 A325X	1	0.000 A325N	0	0.000 A325N	0	0.625 A325N	0	0.000 A325X	0	0.625 A325N	0
160 000-140 000	T5 Flange	0.750 A325N	6	0.625 A325X	1	0.000 A325N	0	0.000 A325N	0	0.625 A325N	0	0.000 A325X	0	0.625 A325N	0
140 000-120 000	T6 Flange	0.750 A325N	6	0.625 A325X	1	0.000 A325N	0	0.000 A325N	0	0.625 A325N	0	0.000 A325X	0	0.625 A325N	0
120 000-100 000	T7 Flange	1.000 A325N	6	0.625 A325X	1	0.000 A325N	0	0.000 A325N	0	0.625 A325N	0	0.000 A325X	0	0.625 A325N	0
100 000-80 000	T8 Flange	1.000 A325N	6	0.625 A325X	1	0.000 A325N	0	0.000 A325N	0	0.625 A325N	0	0.000 A325X	0	0.625 A325N	0
80 000-60 000	T9 Flange	1.000 A325N	6	0.625 A325X	1	0.000 A325N	0	0.000 A325N	0	0.625 A325N	0	0.000 A325X	0	0.625 A325N	0
60 000-40 000	T10 Flange	1.000 A325N	6	0.625 A325X	1	0.000 A325N	0	0.000 A325N	0	0.625 A325N	0	0.000 A325X	0	0.625 A325N	0
40 000-20 000	T11 Flange	1.250 A325N	6	0.625 A325X	1	0.000 A325N	0	0.000 A325N	0	0.625 A325N	0	0.625 A325X	1	0.625 A325N	0
20 000-0 000	T12 Flange	1.250 A325N	6	0.625 A325X	1	0.000 A325N	0	0.000 A325N	0	0.625 A325N	0	0.625 A325X	1	0.625 A325N	0

Feed Line/Linear Appurtenances - Entered As Round Or Flat

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Face Offset in	Lateral Offset (Frac FW)	#	# Per Row	Clear Spacing in	Width or Diameter in	Perimeter in	Weight klf
1-5/8" (Carrier 1)	C	No	No	Ar (CaAa)	225 000 - 10 000	0.000	0	9	5	0.750	1.980		0.001
1 5" Hybrid (Carrier 1)	C	No	No	Ar (CaAa)	225 000 - 10 000	0.000	-0.25	6	3	0.750	1.500		0.001
**													
1-5/8" (Carrier 2)	B	No	No	Ar (CaAa)	213 000 - 10 000	0.000	0	9	5	0.750	1.980		0.001
1 5" Hybrid (Carrier 2)	B	No	No	Ar (CaAa)	213 000 - 10 000	0.000	-0.25	6	3	0.750	1.500		0.001
**													
1-5/8" (Carrier 3)	A	No	No	Ar (CaAa)	201 000 - 10 000	0.000	0	9	5	0.750	1.980		0.001
1 5" Hybrid (Carrier 3)	A	No	No	Ar (CaAa)	201 000 - 10 000	0.000	-0.25	6	3	0.750	1.500		0.001
**													
1-5/8" (Carrier 4)	C	No	No	Ar (CaAa)	189 000 - 10 000	0.000	0.35	2	1	0.750	1.980		0.001
**													
1-5/8" (Carrier 5)	C	No	No	Ar (CaAa)	177 000 - 10 000	0.000	0.4	2	1	0.750	1.980		0.001
**													
Safety Line 3/8	A	No	No	Ar (CaAa)	230 000 - 10 000	0.000	0.45	1	1	0.375	0.375		0.000
Strobe Cable	A	No	No	Ar (CaAa)	230 000 - 10 000	0.000	-0.45	1	1	1.250	1.250		0.001

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Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Face Offset in	Lateral Offset (Frac FW)	#	# Per Row	Clear Spacing in	Width or Diameter in	Perimeter in	Weight klf
					10.000								
**													
Feedline Ladder (Af)	C	No	No	Af(CaAa)	225 000 - 10 000	0 000	0 3	1	1	3 000	0 250		0 008
Feedline Ladder (Af)	B	No	No	Af(CaAa)	213 000 - 10 000	0 000	0 3	1	1	3 000	0 250		0 008
Feedline Ladder (Af)	A	No	No	Af(CaAa)	201 000 - 10 000	0 000	0 3	1	1	3 000	0 250		0 008

Feed Line/Linear Appurtenances Section Areas

Tower Section	Tower Elevation ft	Face	A _R ft ²	A _F ft ²	C ₁ A ₁ In Face ft ²	C ₂ A ₁ Out Face ft ²	Weight K
T1	230 000-220 000	A	0 000	0 000	1 625	0 000	0 009
		B	0 000	0 000	0 000	0 000	0 000
		C	0 000	0 000	13 618	0 000	0 103
T2	220 000-200 000	A	0 000	0 000	5 974	0 000	0 039
		B	0 000	0 000	35 408	0 000	0 267
		C	0 000	0 000	54 473	0 000	0 410
T3	200 000-180 000	A	0 000	0 000	57 723	0 000	0 429
		B	0 000	0 000	54 473	0 000	0 410
		C	0 000	0 000	58 037	0 000	0 423
T4	180 000-160 000	A	0 000	0 000	57 723	0 000	0 429
		B	0 000	0 000	54 473	0 000	0 410
		C	0 000	0 000	69 125	0 000	0 464
T5	160 000-140 000	A	0 000	0 000	57 723	0 000	0 429
		B	0 000	0 000	54 473	0 000	0 410
		C	0 000	0 000	70 313	0 000	0 468
T6	140 000-120 000	A	0 000	0 000	57 723	0 000	0 429
		B	0 000	0 000	54 473	0 000	0 410
		C	0 000	0 000	70 313	0 000	0 468
T7	120 000-100 000	A	0 000	0 000	57 723	0 000	0 429
		B	0 000	0 000	54 473	0 000	0 410
		C	0 000	0 000	70 313	0 000	0 468
T8	100 000-80 000	A	0 000	0 000	57 723	0 000	0 429
		B	0 000	0 000	54 473	0 000	0 410
		C	0 000	0 000	70 313	0 000	0 468
T9	80 000-60 000	A	0 000	0 000	57 723	0 000	0 429
		B	0 000	0 000	54 473	0 000	0 410
		C	0 000	0 000	70 313	0 000	0 468
T10	60 000-40 000	A	0 000	0 000	57 723	0 000	0 429
		B	0 000	0 000	54 473	0 000	0 410
		C	0 000	0 000	70 313	0 000	0 468
T11	40 000-20 000	A	0 000	0 000	57 723	0 000	0 429
		B	0 000	0 000	54 473	0 000	0 410
		C	0 000	0 000	70 313	0 000	0 468
T12	20 000-0 000	A	0 000	0 000	28 862	0 000	0 214
		B	0 000	0 000	27 237	0 000	0 205
		C	0 000	0 000	35 157	0 000	0 234

Feed Line/Linear Appurtenances Section Areas - With Ice

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Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft ²	A_F ft ²	C_{iA_1} In Face ft ²	C_{oA_1} Out Face ft ²	Weight K
T1	230.000-220.000	A	1.817	0.000	0.000	8.895	0.000	0.126
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	21.189	0.000	0.433
T2	220.000-200.000	A	1.805	0.000	0.000	21.916	0.000	0.335
		B		0.000	0.000	54.947	0.000	1.120
		C		0.000	0.000	84.533	0.000	1.723
T3	200.000-180.000	A	1.787	0.000	0.000	101.761	0.000	1.956
		B		0.000	0.000	84.215	0.000	1.710
		C		0.000	0.000	95.435	0.000	1.871
T4	180.000-160.000	A	1.767	0.000	0.000	101.252	0.000	1.938
		B		0.000	0.000	83.865	0.000	1.696
		C		0.000	0.000	129.738	0.000	2.348
T5	160.000-140.000	A	1.745	0.000	0.000	100.687	0.000	1.918
		B		0.000	0.000	83.475	0.000	1.681
		C		0.000	0.000	132.763	0.000	2.374
T6	140.000-120.000	A	1.720	0.000	0.000	100.049	0.000	1.895
		B		0.000	0.000	83.036	0.000	1.664
		C		0.000	0.000	131.980	0.000	2.344
T7	120.000-100.000	A	1.692	0.000	0.000	99.316	0.000	1.869
		B		0.000	0.000	82.531	0.000	1.644
		C		0.000	0.000	131.080	0.000	2.309
T8	100.000-80.000	A	1.658	0.000	0.000	98.452	0.000	1.839
		B		0.000	0.000	81.936	0.000	1.621
		C		0.000	0.000	130.019	0.000	2.268
T9	80.000-60.000	A	1.617	0.000	0.000	97.395	0.000	1.803
		B		0.000	0.000	81.207	0.000	1.592
		C		0.000	0.000	128.721	0.000	2.219
T10	60.000-40.000	A	1.564	0.000	0.000	96.020	0.000	1.756
		B		0.000	0.000	80.261	0.000	1.556
		C		0.000	0.000	127.033	0.000	2.155
T11	40.000-20.000	A	1.486	0.000	0.000	94.020	0.000	1.689
		B		0.000	0.000	78.884	0.000	1.504
		C		0.000	0.000	124.579	0.000	2.065
T12	20.000-0.000	A	1.331	0.000	0.000	45.026	0.000	0.781
		B		0.000	0.000	38.076	0.000	0.702
		C		0.000	0.000	59.857	0.000	0.946

Feed Line Center of Pressure

Section	Elevation ft	CP_x in	CP_z in	CP_x Ice in	CP_z Ice in
T1	230.000-220.000	0.395	3.280	-0.919	2.027
T2	220.000-200.000	3.181	0.385	1.887	1.041
T3	200.000-180.000	-0.427	-2.257	-1.519	-1.240
T4	180.000-160.000	-1.746	-0.644	-3.606	1.072
T5	160.000-140.000	-1.963	-0.492	-4.134	1.409
T6	140.000-120.000	-2.137	-0.534	-4.520	1.530
T7	120.000-100.000	-2.291	-0.572	-4.859	1.638
T8	100.000-80.000	-2.274	-0.572	-4.993	1.688
T9	80.000-60.000	-2.381	-0.599	-5.224	1.764
T10	60.000-40.000	-2.477	-0.623	-5.408	1.826
T11	40.000-20.000	-3.197	-0.786	-6.391	2.126
T12	20.000-0.000	-2.037	-0.516	-4.056	1.387

tnxTower B+T Group 1717 S. Boulder Ave, Ste 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	Job ATS #8648 - Russell Springs (Site# KYBGN2025)	Page 10 of 31
	Project 230' SST/ 37.068689, -85.077047	Date 10:35:30 10/20/20
	Client Harmoni (UNITI) Towers	Designed by JLandon

Shielding Factor Ka

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
T1	1	1-5/8"	220.00 - 225.00	0.6000	0.5367
T1	2	1.5" Hybrid	220.00 - 225.00	0.6000	0.5367
T1	14	Safety Line 3/8"	220.00 - 230.00	0.6000	0.5367
T1	15	Strobe Cable	220.00 - 230.00	0.6000	0.5367
T1	17	Feedline Ladder (Af)	220.00 - 225.00	0.6000	0.5367
T2	1	1-5/8"	200.00 - 220.00	0.6000	0.6000
T2	2	1.5" Hybrid	200.00 - 220.00	0.6000	0.6000
T2	4	1-5/8"	200.00 - 213.00	0.6000	0.6000
T2	5	1.5" Hybrid	200.00 - 213.00	0.6000	0.6000
T2	7	1-5/8"	200.00 - 201.00	0.6000	0.6000
T2	8	1.5" Hybrid	200.00 - 201.00	0.6000	0.6000
T2	14	Safety Line 3/8"	200.00 - 220.00	0.6000	0.6000
T2	15	Strobe Cable	200.00 - 220.00	0.6000	0.6000
T2	17	Feedline Ladder (Af)	200.00 - 220.00	0.6000	0.6000
T2	18	Feedline Ladder (Af)	200.00 - 213.00	0.6000	0.6000
T2	19	Feedline Ladder (Af)	200.00 - 201.00	0.6000	0.6000
T3	1	1-5/8"	180.00 - 200.00	0.6000	0.6000
T3	2	1.5" Hybrid	180.00 - 200.00	0.6000	0.6000
T3	4	1-5/8"	180.00 - 200.00	0.6000	0.6000
T3	5	1.5" Hybrid	180.00 - 200.00	0.6000	0.6000
T3	7	1-5/8"	180.00 - 200.00	0.6000	0.6000
T3	8	1.5" Hybrid	180.00 - 200.00	0.6000	0.6000
T3	10	1-5/8"	180.00 - 189.00	0.6000	0.6000
T3	14	Safety Line 3/8"	180.00 - 200.00	0.6000	0.6000
T3	15	Strobe Cable	180.00 - 200.00	0.6000	0.6000
T3	17	Feedline Ladder (Af)	180.00 - 200.00	0.6000	0.6000
T3	18	Feedline Ladder (Af)	180.00 - 200.00	0.6000	0.6000
T3	19	Feedline Ladder (Af)	180.00 - 200.00	0.6000	0.6000

tnxTower

B+T Group
 1717 S. Boulder Ave. Ste 300
 Tulsa, OK 74119
 Phone: (918) 587-4630
 FAX: (918) 295-0265

Job	ATS #8648 - Russell Springs (Site# KYBGN2025)	Page	11 of 31
Project	230' SST/ 37.068689, -85.077047	Date	10:35:30 10/20/20
Client	Harmoni (UNITI) Towers	Designed by	JLandon

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_w No Ice	K_w Ice
T4	1	1-5/8"	160.00 - 180.00	0.6000	0.6000
T4	2	1.5" Hybrid	160.00 - 180.00	0.6000	0.6000
T4	4	1-5/8"	160.00 - 180.00	0.6000	0.6000
T4	5	1.5" Hybrid	160.00 - 180.00	0.6000	0.6000
T4	7	1-5/8"	160.00 - 180.00	0.6000	0.6000
T4	8	1.5" Hybrid	160.00 - 180.00	0.6000	0.6000
T4	10	1-5/8"	160.00 - 180.00	0.6000	0.6000
T4	12	1-5/8"	160.00 - 177.00	0.6000	0.6000
T4	14	Safety Line 3/8	160.00 - 180.00	0.6000	0.6000
T4	15	Strobe Cable	160.00 - 180.00	0.6000	0.6000
T4	17	Feedline Ladder (Af)	160.00 - 180.00	0.6000	0.6000
T4	18	Feedline Ladder (Af)	160.00 - 180.00	0.6000	0.6000
T4	19	Feedline Ladder (Af)	160.00 - 180.00	0.6000	0.6000
T5	1	1-5/8"	140.00 - 160.00	0.6000	0.6000
T5	2	1.5" Hybrid	140.00 - 160.00	0.6000	0.6000
T5	4	1-5/8"	140.00 - 160.00	0.6000	0.6000
T5	5	1.5" Hybrid	140.00 - 160.00	0.6000	0.6000
T5	7	1-5/8"	140.00 - 160.00	0.6000	0.6000
T5	8	1.5" Hybrid	140.00 - 160.00	0.6000	0.6000
T5	10	1-5/8"	140.00 - 160.00	0.6000	0.6000
T5	12	1-5/8"	140.00 - 160.00	0.6000	0.6000
T5	14	Safety Line 3/8	140.00 - 160.00	0.6000	0.6000
T5	15	Strobe Cable	140.00 - 160.00	0.6000	0.6000
T5	17	Feedline Ladder (Af)	140.00 - 160.00	0.6000	0.6000
T5	18	Feedline Ladder (Af)	140.00 - 160.00	0.6000	0.6000
T5	19	Feedline Ladder (Af)	140.00 - 160.00	0.6000	0.6000
T6	1	1-5/8"	120.00 - 140.00	0.6000	0.6000
T6	2	1.5" Hybrid	120.00 - 140.00	0.6000	0.6000
T6	4	1-5/8"	120.00 - 140.00	0.6000	0.6000
T6	5	1.5" Hybrid	120.00 - 140.00	0.6000	0.6000
T6	7	1-5/8"	120.00 - 140.00	0.6000	0.6000

Job	ATS #8648 - Russell Springs (Site# KYBGN2025)	Page	12 of 31
Project	230' SST/ 37.068689, -85.077047	Date	10:35:30 10/20/20
Client	Harmoni (UNITI) Towers	Designed by	JLandon

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
T6	8	1.5" Hybrid	120.00 - 140.00	0.6000	0.6000
T6	10	1-5/8"	120.00 - 140.00	0.6000	0.6000
T6	12	1-5/8"	120.00 - 140.00	0.6000	0.6000
T6	14	Safety Line 3/8	120.00 - 140.00	0.6000	0.6000
T6	15	Strobe Cable	120.00 - 140.00	0.6000	0.6000
T6	17	Feedline Ladder (Af)	120.00 - 140.00	0.6000	0.6000
T6	18	Feedline Ladder (Af)	120.00 - 140.00	0.6000	0.6000
T6	19	Feedline Ladder (Af)	120.00 - 140.00	0.6000	0.6000
T7	1	1-5/8"	100.00 - 120.00	0.6000	0.6000
T7	2	1.5" Hybrid	100.00 - 120.00	0.6000	0.6000
T7	4	1-5/8"	100.00 - 120.00	0.6000	0.6000
T7	5	1.5" Hybrid	100.00 - 120.00	0.6000	0.6000
T7	7	1-5/8"	100.00 - 120.00	0.6000	0.6000
T7	8	1.5" Hybrid	100.00 - 120.00	0.6000	0.6000
T7	10	1-5/8"	100.00 - 120.00	0.6000	0.6000
T7	12	1-5/8"	100.00 - 120.00	0.6000	0.6000
T7	14	Safety Line 3/8	100.00 - 120.00	0.6000	0.6000
T7	15	Strobe Cable	100.00 - 120.00	0.6000	0.6000
T7	17	Feedline Ladder (Af)	100.00 - 120.00	0.6000	0.6000
T7	18	Feedline Ladder (Af)	100.00 - 120.00	0.6000	0.6000
T7	19	Feedline Ladder (Af)	100.00 - 120.00	0.6000	0.6000
T8	1	1-5/8"	80.00 - 100.00	0.6000	0.6000
T8	2	1.5" Hybrid	80.00 - 100.00	0.6000	0.6000
T8	4	1-5/8"	80.00 - 100.00	0.6000	0.6000
T8	5	1.5" Hybrid	80.00 - 100.00	0.6000	0.6000
T8	7	1-5/8"	80.00 - 100.00	0.6000	0.6000
T8	8	1.5" Hybrid	80.00 - 100.00	0.6000	0.6000
T8	10	1-5/8"	80.00 - 100.00	0.6000	0.6000
T8	12	1-5/8"	80.00 - 100.00	0.6000	0.6000
T8	14	Safety Line 3/8	80.00 - 100.00	0.6000	0.6000
T8	15	Strobe Cable	80.00 - 100.00	0.6000	0.6000
T8	17	Feedline Ladder (Af)	80.00 - 100.00	0.6000	0.6000
T8	18	Feedline Ladder (Af)	80.00 - 100.00	0.6000	0.6000
T8	19	Feedline Ladder (Af)	80.00 - 100.00	0.6000	0.6000
T9	1	1-5/8"	60.00 - 80.00	0.6000	0.6000
T9	2	1.5" Hybrid	60.00 - 80.00	0.6000	0.6000
T9	4	1-5/8"	60.00 - 80.00	0.6000	0.6000
T9	5	1.5" Hybrid	60.00 - 80.00	0.6000	0.6000
T9	7	1-5/8"	60.00 - 80.00	0.6000	0.6000
T9	8	1.5" Hybrid	60.00 - 80.00	0.6000	0.6000
T9	10	1-5/8"	60.00 - 80.00	0.6000	0.6000

tnxTower B+T Group 1717 S. Boulder Ave, Ste 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	Job ATS #8648 - Russell Springs (Site# KYBGN2025)	Page 13 of 31
	Project 230' SST/ 37.068689, -85.077047	Date 10:35:30 10/20/20
	Client Harmoni (UNITI) Towers	Designed by JLandon

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_{no} No Ice	K_{ice} Ice
T9	12	1-5/8"	60.00 - 80.00	0.6000	0.6000
T9	14	Safety Line 3/8	60.00 - 80.00	0.6000	0.6000
T9	15	Strobe Cable	60.00 - 80.00	0.6000	0.6000
T9	17	Feedline Ladder (Af)	60.00 - 80.00	0.6000	0.6000
T9	18	Feedline Ladder (Af)	60.00 - 80.00	0.6000	0.6000
T9	19	Feedline Ladder (Af)	60.00 - 80.00	0.6000	0.6000
T10	1	1-5/8"	40.00 - 60.00	0.6000	0.6000
T10	2	1.5" Hybrid	40.00 - 60.00	0.6000	0.6000
T10	4	1-5/8"	40.00 - 60.00	0.6000	0.6000
T10	5	1.5" Hybrid	40.00 - 60.00	0.6000	0.6000
T10	7	1-5/8"	40.00 - 60.00	0.6000	0.6000
T10	8	1.5" Hybrid	40.00 - 60.00	0.6000	0.6000
T10	10	1-5/8"	40.00 - 60.00	0.6000	0.6000
T10	12	1-5/8"	40.00 - 60.00	0.6000	0.6000
T10	14	Safety Line 3/8	40.00 - 60.00	0.6000	0.6000
T10	15	Strobe Cable	40.00 - 60.00	0.6000	0.6000
T10	17	Feedline Ladder (Af)	40.00 - 60.00	0.6000	0.6000
T10	18	Feedline Ladder (Af)	40.00 - 60.00	0.6000	0.6000
T10	19	Feedline Ladder (Af)	40.00 - 60.00	0.6000	0.6000
T11	1	1-5/8"	20.00 - 40.00	0.6000	0.6000
T11	2	1.5" Hybrid	20.00 - 40.00	0.6000	0.6000
T11	4	1-5/8"	20.00 - 40.00	0.6000	0.6000
T11	5	1.5" Hybrid	20.00 - 40.00	0.6000	0.6000
T11	7	1-5/8"	20.00 - 40.00	0.6000	0.6000
T11	8	1.5" Hybrid	20.00 - 40.00	0.6000	0.6000
T11	10	1-5/8"	20.00 - 40.00	0.6000	0.6000
T11	12	1-5/8"	20.00 - 40.00	0.6000	0.6000
T11	14	Safety Line 3/8	20.00 - 40.00	0.6000	0.6000
T11	15	Strobe Cable	20.00 - 40.00	0.6000	0.6000
T11	17	Feedline Ladder (Af)	20.00 - 40.00	0.6000	0.6000
T11	18	Feedline Ladder (Af)	20.00 - 40.00	0.6000	0.6000
T11	19	Feedline Ladder (Af)	20.00 - 40.00	0.6000	0.6000
T12	1	1-5/8"	10.00 - 20.00	0.6000	0.6000
T12	2	1.5" Hybrid	10.00 - 20.00	0.6000	0.6000
T12	4	1-5/8"	10.00 - 20.00	0.6000	0.6000
T12	5	1.5" Hybrid	10.00 - 20.00	0.6000	0.6000
T12	7	1-5/8"	10.00 - 20.00	0.6000	0.6000
T12	8	1.5" Hybrid	10.00 - 20.00	0.6000	0.6000
T12	10	1-5/8"	10.00 - 20.00	0.6000	0.6000
T12	12	1-5/8"	10.00 - 20.00	0.6000	0.6000
T12	14	Safety Line 3/8	10.00 - 20.00	0.6000	0.6000
T12	15	Strobe Cable	10.00 - 20.00	0.6000	0.6000
T12	17	Feedline Ladder (Af)	10.00 - 20.00	0.6000	0.6000
T12	18	Feedline Ladder (Af)	10.00 - 20.00	0.6000	0.6000
T12	19	Feedline Ladder (Af)	10.00 - 20.00	0.6000	0.6000

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert	Azimuth Adjustment	Placement	C_{fA} Front	C_{sA} Side	Weight
			ft	°	ft	ft ²	ft ²	K
			ft					
			ft					

tnxTower B+T Group 1717 S. Boulder Ave, Ste 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	Job	ATS #8648 - Russell Springs (Site# KYBGN2025)	Page	14 of 31
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	Client	Harmoni (UNITI) Towers	Designed by	JLandon

<i>Description</i>	<i>Face or Leg</i>	<i>Offset Type</i>	<i>Offsets: Horz Lateral Vert</i> <i>ft ft ft</i>	<i>Azimuth Adjustment</i> <i>°</i>	<i>Placement</i> <i>ft</i>	<i>C_{A1} Front</i> <i>ft²</i>	<i>C_{A3} Side</i> <i>ft²</i>	<i>Weight</i> <i>K</i>	
Lightning Rod 1"x10'	C	From Leg	0.000	0.000	230.000	No Ice	1.000	1.000	0.040
			0.000			1/2" Ice	2.017	2.017	0.049
			5.000			1" Ice	3.050	3.050	0.065
						2" Ice	5.148	5.148	0.116
Top Beacon	B	From Leg	0.000	0.000	230.000	No Ice	2.700	2.700	0.050
			0.000			1/2" Ice	3.100	3.100	0.070
			1.000			1" Ice	3.500	3.500	0.090
						2" Ice	4.300	4.300	0.130
**									
Sector1(CaAa=13333.33 Sq.in)No Ice (Carrier 1)	A	From Leg	4.000	0.000	225.000	No Ice	92.592	62.037	0.700
			0.000			1/2" Ice	115.740	77.546	1.400
			0.000			1" Ice	138.888	93.055	2.100
						2" Ice	185.184	124.073	3.500
Sector2(CaAa=13333.33 Sq.in)No Ice (Carrier 1)	B	From Leg	4.000	0.000	225.000	No Ice	92.592	62.037	0.700
			0.000			1/2" Ice	115.740	77.546	1.400
			0.000			1" Ice	138.888	93.055	2.100
						2" Ice	185.184	124.073	3.500
Sector3(CaAa=13333.33 Sq.in)No Ice (Carrier 1)	C	From Leg	4.000	0.000	225.000	No Ice	92.592	62.037	0.700
			0.000			1/2" Ice	115.740	77.546	1.400
			0.000			1" Ice	138.888	93.055	2.100
						2" Ice	185.184	124.073	3.500
**									
Sector1(CaAa=10000 Sq.in)No Ice (Carrier 2)	A	From Leg	4.000	0.000	213.000	No Ice	69.440	46.525	0.700
			0.000			1/2" Ice	86.800	58.156	1.400
			0.000			1" Ice	104.160	69.787	2.100
						2" Ice	138.880	93.050	3.500
Sector2(CaAa=10000 Sq.in)No Ice (Carrier 2)	B	From Leg	4.000	0.000	213.000	No Ice	69.440	46.525	0.700
			0.000			1/2" Ice	86.800	58.156	1.400
			0.000			1" Ice	104.160	69.787	2.100
						2" Ice	138.880	93.050	3.500
Sector3(CaAa=10000 Sq.in)No Ice (Carrier 2)	C	From Leg	4.000	0.000	213.000	No Ice	69.440	46.525	0.700
			0.000			1/2" Ice	86.800	58.156	1.400
			0.000			1" Ice	104.160	69.787	2.100
						2" Ice	138.880	93.050	3.500
**									
Sector1(CaAa=10000 Sq.in)No Ice (Carrier 3)	A	From Leg	4.000	0.000	201.000	No Ice	69.440	46.525	0.700
			0.000			1/2" Ice	86.800	58.156	1.400
			0.000			1" Ice	104.160	69.787	2.100
						2" Ice	138.880	93.050	3.500
Sector2(CaAa=10000 Sq.in)No Ice (Carrier 3)	B	From Leg	4.000	0.000	201.000	No Ice	69.440	46.525	0.700
			0.000			1/2" Ice	86.800	58.156	1.400
			0.000			1" Ice	104.160	69.787	2.100
						2" Ice	138.880	93.050	3.500
Sector3(CaAa=10000 Sq.in)No Ice (Carrier 3)	C	From Leg	4.000	0.000	201.000	No Ice	69.440	46.525	0.700
			0.000			1/2" Ice	86.800	58.156	1.400
			0.000			1" Ice	104.160	69.787	2.100
						2" Ice	138.880	93.050	3.500
**									
4 1/2" OD Dish Mount (Carrier 4)	C	From Leg	0.500	0.000	189.000	No Ice	1.646	1.646	0.057
			0.000			1/2" Ice	2.207	2.207	0.074
			0.000			1" Ice	2.543	2.543	0.094
						2" Ice	3.241	3.241	0.148
4 1/2" OD Dish Mount (Carrier 4)	B	From Leg	0.500	0.000	189.000	No Ice	1.646	1.646	0.057
			0.000			1/2" Ice	2.207	2.207	0.074
			0.000			1" Ice	2.543	2.543	0.094
						2" Ice	3.241	3.241	0.148
**									

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	Project 230' SST/ 37.068689, -85.077047	Date 10:35:30 10/20/20
	Client Harmoni (UNITI) Towers	Designed by JLandon

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft	C ₁ A ₁ Front ft ²	C ₁ A ₃ Side ft ²	Weight K	
4 1/2" OD Dish Mount (Carrier 5)	C	From Leg	0.500 0.000 0.000	0.000	177.000	No Ice	1.646	1.646	0.057
						1/2" Ice	2.207	2.207	0.074
						1" Ice	2.543	2.543	0.094
						2" Ice	3.241	3.241	0.148
4 1/2" OD Dish Mount (Carrier 5)	B	From Leg	0.500 0.000 0.000	0.000	177.000	No Ice	1.646	1.646	0.057
						1/2" Ice	2.207	2.207	0.074
						1" Ice	2.543	2.543	0.094
						2" Ice	3.241	3.241	0.148
**									

Dishes

Description	Face or Leg	Dish Type	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	3 dB Beam Width °	Elevation ft	Outside Diameter ft	Aperture Area ft ²	Weight K	
6' MW Dish (Carrier 4)	C	Paraboloid w/o Radome	From Leg	1.000 0.000 0.000	0.000		189.000	6.000	No Ice	28.270	0.143
									1/2" Ice	29.050	0.292
									1" Ice	29.831	0.441
									2" Ice	31.392	0.740
6' MW Dish (Carrier 4)	B	Paraboloid w/o Radome	From Leg	1.000 0.000 0.000	0.000		189.000	6.000	No Ice	28.270	0.143
									1/2" Ice	29.050	0.292
									1" Ice	29.831	0.441
									2" Ice	31.392	0.740
**											
6' MW Dish (Carrier 5)	C	Paraboloid w/o Radome	From Leg	1.000 0.000 0.000	0.000		177.000	6.000	No Ice	28.270	0.143
									1/2" Ice	29.050	0.292
									1" Ice	29.831	0.441
									2" Ice	31.392	0.740
6' MW Dish (Carrier 5)	B	Paraboloid w/o Radome	From Leg	1.000 0.000 0.000	0.000		177.000	6.000	No Ice	28.270	0.143
									1/2" Ice	29.050	0.292
									1" Ice	29.831	0.441
									2" Ice	31.392	0.740
**											

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

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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 K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
T1	230 - 220	Leg	Max Tension	15	7.564	1.054	-0.004
			Max Compression	18	-9.260	0.147	0.006
			Max Mx	2	-9.248	-1.094	0.004
			Max My	4	-1.099	0.002	0.570
			Max Vy	2	-2.490	0.151	-0.004
			Max Vx	4	-2.001	0.001	-0.076
		Diagonal	Max Tension	8	3.307	0.000	0.000
			Max Compression	6	-3.022	0.000	0.000
			Max Mx	2	-0.775	0.038	-0.001
			Max My	20	-2.998	-0.002	0.028
			Max Vy	35	0.017	0.012	-0.002

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Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft			
T2	220 - 200	Top Girt	Max Vx	20	-0.010	0.000	0.000			
			Max Tension	14	1.724	0.000	0.000			
			Max Compression	2	-1.710	0.000	0.000			
			Max Mx	26	0.034	-0.022	0.000			
			Max My	38	0.040	0.000	0.000			
			Max Vy	26	0.023	0.000	0.000			
		Leg	Max Vx	38	-0.000	0.000	0.000			
			Max Tension	15	42.714	1.396	-0.016			
			Max Compression	2	-48.665	1.556	-0.016			
			Max Mx	2	-43.670	-2.175	0.023			
			Max My	4	-3.550	-0.008	1.271			
			Max Vy	2	-6.785	1.556	-0.016			
			Diagonal	Max Vx	16	-3.258	-0.028	0.870		
				Max Tension	24	4.985	0.000	0.000		
Max Compression	20			-4.540	0.000	0.000				
Max Mx	29			0.591	0.021	0.001				
Max My	2			-3.912	-0.018	-0.012				
Max Vy	34			0.023	0.019	-0.002				
Max Vx	2			0.003	0.000	0.000				
Max Tension	15			90.049	2.340	-0.018				
T3	200 - 180	Leg	Max Compression	2	-99.772	0.811	-0.003			
			Max Mx	2	-48.691	4.895	-0.055			
			Max My	16	-3.509	-0.050	2.500			
			Max Vy	2	-7.746	0.811	-0.003			
			Max Vx	4	3.582	0.040	-0.438			
			Max Tension	20	7.017	0.000	0.000			
		Diagonal	Max Compression	20	-7.034	0.000	0.000			
			Max Mx	2	1.332	0.028	-0.001			
			Max My	20	-7.008	-0.002	0.024			
			Max Vy	34	0.028	0.025	-0.003			
			Max Vx	20	-0.006	0.000	0.000			
			Max Tension	7	135.382	2.961	0.157			
			T4	180 - 160	Leg	Max Compression	2	-148.694	0.786	0.001
						Max Mx	2	-99.789	4.658	-0.029
Max My	4	-5.901				0.125	-2.231			
Max Vy	2	-9.159				0.786	0.001			
Max Vx	24	-3.896				0.020	0.434			
Max Tension	8	7.766				0.000	0.000			
Diagonal	Max Compression	20			-7.543	0.000	0.000			
	Max Mx	36			1.185	0.038	-0.003			
	Max My	20			-7.504	-0.005	0.016			
	Max Vy	32			0.036	0.037	0.004			
	Max Vx	20			-0.004	0.000	0.000			
	Max Tension	7			175.779	3.192	0.140			
	T5	160 - 140			Leg	Max Compression	2	-192.585	0.794	0.004
						Max Mx	2	-148.711	5.342	-0.001
Max My			24	-10.523		0.231	2.385			
Max Vy			18	-9.766		0.794	0.034			
Max Vx			24	-4.033		-0.024	0.383			
Max Tension			8	7.805		0.000	0.000			
Diagonal			Max Compression	8	-8.107	0.000	0.000			
			Max Mx	36	1.239	0.058	-0.004			
			Max My	20	-8.045	-0.011	0.016			
			Max Vy	32	0.049	0.057	0.005			
			Max Vx	20	-0.003	0.000	0.000			
			Max Tension	7	212.553	3.491	0.124			
			T6	140 - 120	Leg	Max Compression	2	-233.217	0.812	0.006
						Max Mx	18	-192.250	5.656	0.267
Max My	24	-14.324				0.205	2.402			
Max Vy	18	-10.553				0.816	0.029			
Max Vx	24	-4.190				0.022	0.400			
Max Tension	7	212.553				3.491	0.124			

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Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
T7	120 - 100	Diagonal	Max Tension	8	8 031	0 000	0 000
			Max. Compression	8	-8 166	0 000	0 000
			Max Mx	32	0 387	0 071	0 007
			Max My	22	-7 044	0 009	0 014
			Max Vy	32	0 055	0 071	0 007
			Max Vx	22	-0 003	0 000	0 000
		Leg	Max Tension	7	247 057	4 236	0 119
			Max Compression	18	-272 273	0 238	0 015
			Max Mx	18	-233 166	6 073	0 224
			Max My	24	-17 649	0 187	2 499
			Max Vy	18	-11 437	0 238	0 015
			Max Vx	24	-4 469	0 006	0 259
T8	100 - 80	Diagonal	Max Tension	8	8 507	0 000	0 000
			Max. Compression	8	-8 426	0 000	0 000
			Max Mx	32	0 400	0 087	0 008
			Max My	22	-7 767	0 017	0 013
			Max Vy	32	0 061	0 087	0 008
			Max Vx	38	0 002	0 000	0 000
		Leg	Max Tension	7	279 902	4 090	0 098
			Max Compression	18	-310 209	0 915	0 025
			Max Mx	18	-272 295	5 953	0 185
			Max My	24	-20 695	0 156	2 497
			Max Vy	18	-12 550	0 915	0 025
			Max Vx	24	-4 785	0 020	0 445
T9	80 - 60	Diagonal	Max Tension	8	8 991	0 000	0 000
			Max. Compression	8	-8 838	0 000	0 000
			Max Mx	38	0 460	0 119	-0 011
			Max My	22	-8 149	0 023	0 015
			Max Vy	38	0 077	0 119	-0 011
			Max Vx	38	0 003	0 000	0 000
		Leg	Max Tension	7	311 788	4 349	0 083
			Max Compression	18	-347 751	1 121	0 035
			Max Mx	18	-310 235	7 169	0 173
			Max My	24	-23 597	0 161	2 841
			Max Vy	18	-13 487	1 121	0 035
			Max Vx	24	-5 090	0 031	0 663
T10	60 - 40	Diagonal	Max Tension	8	9 460	0 000	0 000
			Max. Compression	8	-9 468	0 000	0 000
			Max Mx	38	0 494	0 138	-0 012
			Max My	22	-8 307	0 027	0 015
			Max Vy	38	0 082	0 138	-0 012
			Max Vx	38	0 003	0 000	0 000
		Leg	Max Tension	7	342 754	5 369	0 082
			Max Compression	18	-385 214	0 061	0 032
			Max Mx	18	-347 780	7 840	0 163
			Max My	24	-26 442	0 179	3 210
			Max Vy	18	-14 190	0 061	0 032
			Max Vx	24	-5 703	-0 011	0 694
T11	40 - 20	Diagonal	Max Tension	8	10 219	0 000	0 000
			Max. Compression	8	-10 142	0 000	0 000
			Max Mx	32	0 249	0 180	-0 016
			Max My	22	-9 429	0 056	0 019
			Max Vy	36	0 094	0 180	-0 016
			Max Vx	31	-0 004	0 000	0 000
		Leg	Max Tension	7	372 446	5 570	0 075
			Max Compression	18	-421 492	0 248	0 023
			Max Mx	18	-421 465	-7 174	-0 082
			Max My	24	-29 527	0 163	3 548
			Max Vy	18	-14 832	0 248	0 023
			Max Vx	24	-5 707	0 163	3 548
Diagonal	Max Tension	9	11 187	0 000	0 000		

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Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft	
T12	20 - 0	Horizontal	Max Compression	11	-11 613	0 000	0 000	
			Max Mx	36	1 919	0 261	0 000	
			Max My	31	0 376	0 000	-0 006	
			Max Vy	36	-0 096	0 000	0 000	
			Max Vx	31	0 002	0 000	0 000	
			Max Tension	18	7 142	0 000	0 000	
			Inner Bracing	Max Compression	18	-7 142	-0 060	0 001
				Max Mx	33	1 486	-0 163	0 003
				Max My	6	3 657	-0 048	0 005
				Max Vy	33	0 088	-0 163	0 003
				Max Vx	27	-0 002	-0 162	0 003
				Max Tension	1	0 000	0 000	0 000
		Leg		Max Compression	29	-0 009	0 000	0 000
				Max Mx	26	-0 009	-0 111	0 000
				Max My	18	-0 006	0 000	-0 000
				Max Vy	26	0 046	0 000	0 000
				Max Vx	18	0 000	0 000	0 000
				Max Tension	7	400 358	5 972	0 077
			Diagonal	Max Compression	18	-455 850	0 000	-0 000
				Max Mx	18	-421 522	7 674	0 127
				Max My	24	-32 545	0 116	3 407
				Max Vy	18	-15 279	0 000	-0 000
				Max Vx	24	-5 653	0 116	3 407
				Max Tension	9	11 106	0 000	0 000
		Horizontal		Max Compression	11	-11 442	0 000	0 000
				Max Mx	31	2 228	0 275	0 000
				Max My	31	0 822	0 000	-0 007
				Max Vy	31	0 096	0 000	0 000
				Max Vx	31	0 002	0 000	0 000
				Max Tension	18	7 741	0 000	0 000
			Inner Bracing	Max Compression	18	-7 741	-0 080	0 001
				Max Mx	35	-0 505	-0 200	0 004
				Max My	6	3 961	-0 064	0 005
				Max Vy	33	-0 096	-0 185	0 003
				Max Vx	29	0 002	-0 198	0 005
				Max Tension	1	0 000	0 000	0 000
Inner Bracing	Max Compression	29		-0 009	0 000	0 000		
	Max Mx	31		-0 008	-0 116	0 000		
	Max My	6		-0 006	0 000	0 000		
	Max Vy	31		0 045	0 000	0 000		
	Max Vx	6		-0 000	0 000	0 000		

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal. X K	Horizontal. Z K
Leg C	Max Vert	18	454 900	28 788	-16 448
	Max H _x	18	454 900	28 788	-16 448
	Max H _y	7	-399 347	-26 549	15 121
	Min Vert	7	-399 347	-26 549	15 121
	Min H _x	7	-399 347	-26 549	15 121
	Min H _y	18	454 900	28 788	-16 448
Leg B	Max Vert	10	452 180	-28 874	-16 041
	Max H _x	23	-397 272	26 659	14 674
	Max H _y	23	-397 272	26 659	14 674
	Min Vert	23	-397 272	26 659	14 674

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Location	Condition	Gov. Load Comb	Vertical K	Horizontal, X K	Horizontal, Z K
Leg A	Min H _x	10	452 180	-28 874	-16 041
	Min H _y	10	452 180	-28 874	-16 041
	Max Vert	2	452 119	-0 147	32 861
	Max H _x	21	28 286	4 424	1 357
	Max H _y	2	452 119	-0 147	32 861
	Min Vert	15	-383 156	0 160	-29 336
	Min H _x	9	28 286	-4 428	1 357
	Min H _y	15	-383 156	0 160	-29 336

Tower Mast Reaction Summary

Load Combination	Vertical K	Shear _x K	Shear _y K	Overturning Moment, M _x kip-ft	Overturning Moment, M _y kip-ft	Torque kip-ft
Dead Only	54 480	-0 000	0 000	4 970	3 179	0 000
1.2 Dead+1.0 Wind 0 deg - No Ice	65 376	0 000	-55 442	-7826 163	3 856	-5 602
0.9 Dead+1.0 Wind 0 deg - No Ice	49 032	0 000	-55 440	-7812 300	2 893	-5 595
1.2 Dead+1.0 Wind 30 deg - No Ice	65 376	27 571	-45 156	-6392 808	-3967 358	11 145
0.9 Dead+1.0 Wind 30 deg - No Ice	49 032	27 571	-45 154	-6381 735	-3960 525	11 140
1.2 Dead+1.0 Wind 60 deg - No Ice	65 376	46 009	-26 256	-3741 241	-6584 854	5 722
0.9 Dead+1.0 Wind 60 deg - No Ice	49 032	46 008	-26 255	-3735 407	-6572 878	5 706
1.2 Dead+1.0 Wind 90 deg - No Ice	65 376	53 626	-1 204	-216 081	-7620 869	2 422
0.9 Dead+1.0 Wind 90 deg - No Ice	49 032	53 624	-1 204	-217 181	-7606 873	2 399
1.2 Dead+1.0 Wind 120 deg - No Ice	65 376	49 370	26 101	3587 411	-6966 955	17 064
0.9 Dead+1.0 Wind 120 deg - No Ice	49 032	49 368	26 101	3578 925	-6954 269	17 041
1.2 Dead+1.0 Wind 150 deg - No Ice	65 376	26 023	44 957	6363 406	-3679 020	23 055
0.9 Dead+1.0 Wind 150 deg - No Ice	49 032	26 023	44 956	6349 426	-3672 717	23 039
1.2 Dead+1.0 Wind 180 deg - No Ice	65 376	0 000	50 964	7281 360	3 853	5 600
0.9 Dead+1.0 Wind 180 deg - No Ice	49 032	0 000	50 962	7265 524	2 890	5 594
1.2 Dead+1.0 Wind 210 deg - No Ice	65 376	-26 126	45 134	6400 861	3708 384	-6 218
0.9 Dead+1.0 Wind 210 deg - No Ice	49 032	-26 125	45 133	6386 795	3700 104	-6 213
1.2 Dead+1.0 Wind 240 deg - No Ice	65 376	-49 545	26 203	3608 768	7011 738	-1 763
0.9 Dead+1.0 Wind 240 deg - No Ice	49 032	-49 543	26 202	3600 232	6997 039	-1 746
1.2 Dead+1.0 Wind 270 deg - No Ice	65 376	-53 626	-1 204	-216 082	7628 541	-2 424
0.9 Dead+1.0 Wind 270 deg - No Ice	49 032	-53 624	-1 204	-217 182	7612 618	-2 400
1.2 Dead+1.0 Wind 300 deg - No Ice	65 376	-45 834	-26 155	-3719 779	6555 471	-21 025

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Load Combination	Vertical	Shear _y	Shear _z	Overturning Moment, M _x	Overturning Moment, M _z	Torque
	K	K	K	kip-ft	kip-ft	kip-ft
0.9 Dead+1.0 Wind 300 deg - No Ice	49.032	-45.833	-26.154	-3713.994	6541.653	-21.002
1.2 Dead+1.0 Wind 330 deg - No Ice	65.376	-27.469	-44.979	-6355.291	3953.444	-27.983
0.9 Dead+1.0 Wind 330 deg - No Ice	49.032	-27.469	-44.977	-6344.306	3944.733	-27.966
1.2 Dead+1.0 Ice+1.0 Temp	180.736	0.001	-0.001	33.150	35.512	-0.001
1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp	180.736	0.000	-7.711	-1107.976	35.904	-1.812
1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp	180.736	3.865	-6.462	-924.390	-542.512	0.047
1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp	180.736	6.593	-3.779	-527.834	-945.587	0.338
1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp	180.736	7.674	-0.108	13.355	-1100.701	1.056
1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp	180.736	6.835	3.731	576.224	-974.008	2.774
1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp	180.736	3.727	6.446	988.184	-516.349	3.305
1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp	180.736	0.000	7.380	1132.171	35.898	1.811
1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp	180.736	-3.736	6.460	991.305	589.947	0.396
1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp	180.736	-6.850	3.739	578.024	1048.930	0.016
1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp	180.736	-7.674	-0.108	13.352	1172.500	-1.058
1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp	180.736	-6.579	-3.771	-526.032	1014.264	-3.130
1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp	180.736	-3.857	-6.448	-921.269	612.515	-3.748
Dead+Wind 0 deg - Service	54.480	0.000	-18.103	-2549.196	3.196	-1.828
Dead+Wind 30 deg - Service	54.480	9.003	-14.744	-2081.728	-1291.885	3.651
Dead+Wind 60 deg - Service	54.480	15.023	-8.573	-1217.010	-2145.483	1.864
Dead+Wind 90 deg - Service	54.480	17.510	-0.393	-67.409	-2483.343	0.773
Dead+Wind 120 deg - Service	54.480	16.120	8.523	1172.980	-2270.105	5.564
Dead+Wind 150 deg - Service	54.480	8.497	14.679	2078.246	-1197.839	7.538
Dead+Wind 180 deg - Service	54.480	0.000	16.641	2377.593	3.195	1.827
Dead+Wind 210 deg - Service	54.480	-8.531	14.737	2090.467	1211.288	-2.041
Dead+Wind 240 deg - Service	54.480	-16.177	8.556	1179.956	2288.589	-0.569
Dead+Wind 270 deg - Service	54.480	-17.510	-0.393	-67.409	2489.730	-0.773
Dead+Wind 300 deg - Service	54.480	-14.966	-8.540	-1210.023	2139.780	-6.860
Dead+Wind 330 deg - Service	54.480	-8.969	-14.686	-2069.502	1291.222	-9.148

Solution Summary

Load Comb.	Sum of Applied Forces			Sum of Reactions			% Error
	PX K	PY K	PZ K	PX K	PY K	PZ K	
1	0.000	-54.480	0.000	0.000	54.480	-0.000	0.000%
2	0.000	-65.376	-55.444	-0.000	65.376	55.442	0.003%
3	0.000	-49.032	-55.444	-0.000	49.032	55.440	0.005%
4	27.572	-65.376	-45.158	-27.571	65.376	45.156	0.002%
5	27.572	-49.032	-45.158	-27.571	49.032	45.154	0.005%
6	46.011	-65.376	-26.257	-46.009	65.376	26.256	0.002%
7	46.011	-49.032	-26.257	-46.008	49.032	26.255	0.005%
8	53.628	-65.376	-1.204	-53.626	65.376	1.204	0.002%
9	53.628	-49.032	-1.204	-53.624	49.032	1.204	0.005%

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Load Comb.	Sum of Applied Forces			Sum of Reactions			% Error
	PX K	PY K	PZ K	PX K	PY K	PZ K	
10	49 372	-65 376	26 102	-49 370	65 376	-26 101	0.003%
11	49 372	-49 032	26 102	-49 368	49 032	-26 101	0.005%
12	26 025	-65 376	44 959	-26 023	65 376	-44 957	0.002%
13	26 025	-49 032	44 959	-26 023	49 032	-44 956	0.005%
14	0 000	-65 376	50 966	-0 000	65 376	-50 964	0.002%
15	0 000	-49 032	50 966	-0 000	49 032	-50 962	0.005%
16	-26 127	-65 376	45 136	26 126	65 376	-45 134	0.002%
17	-26 127	-49 032	45 136	26 125	49 032	-45 133	0.005%
18	-49 547	-65 376	26 204	49 545	65 376	-26 203	0.003%
19	-49 547	-49 032	26 204	49 543	49 032	-26 202	0.005%
20	-53 628	-65 376	-1 204	53 626	65 376	1 204	0.002%
21	-53 628	-49 032	-1 204	53 624	49 032	1 204	0.005%
22	-45 836	-65 376	-26 156	45 834	65 376	26 155	0.002%
23	-45 836	-49 032	-26 156	45 833	49 032	26 154	0.005%
24	-27 470	-65 376	-44 981	27 469	65 376	44 979	0.002%
25	-27 470	-49 032	-44 981	27 469	49 032	44 977	0.005%
26	0 000	-180 736	0 000	-0 001	180 736	0 001	0.001%
27	0 000	-180 736	-7 711	-0 000	180 736	7 711	0.000%
28	3 866	-180 736	-6 462	-3 865	180 736	6 462	0.000%
29	6 594	-180 736	-3 779	-6 593	180 736	3 779	0.000%
30	7 675	-180 736	-0 108	-7 674	180 736	0 108	0.000%
31	6 836	-180 736	3 731	-6 835	180 736	-3 731	0.000%
32	3 728	-180 736	6 446	-3 727	180 736	-6 446	0.000%
33	0 000	-180 736	7 380	-0 000	180 736	-7 380	0.000%
34	-3 736	-180 736	6 460	3 736	180 736	-6 460	0.000%
35	-6 850	-180 736	3 740	6 850	180 736	-3 739	0.000%
36	-7 675	-180 736	-0 108	7 674	180 736	0 108	0.000%
37	-6 579	-180 736	-3 771	6 579	180 736	3 771	0.000%
38	-3 857	-180 736	-6 448	3 857	180 736	6 448	0.000%
39	0 000	-54 480	-18 104	-0 000	54 480	18 103	0.002%
40	9 003	-54 480	-14 745	-9 003	54 480	14 744	0.002%
41	15 024	-54 480	-8 574	-15 023	54 480	8 573	0.002%
42	17 511	-54 480	-0 393	-17 510	54 480	0 393	0.002%
43	16 121	-54 480	8 523	-16 120	54 480	-8 523	0.002%
44	8 498	-54 480	14 680	-8 497	54 480	-14 679	0.002%
45	0 000	-54 480	16 642	-0 000	54 480	-16 641	0.002%
46	-8 531	-54 480	14 738	8 531	54 480	-14 737	0.002%
47	-16 179	-54 480	8 556	16 177	54 480	-8 556	0.002%
48	-17 511	-54 480	-0 393	17 510	54 480	0 393	0.002%
49	-14 967	-54 480	-8 541	14 966	54 480	8 540	0.002%
50	-8 970	-54 480	-14 688	8 969	54 480	14 686	0.002%

Non-Linear Convergence Results

Load Combination	Converged?	Number of Cycles	Displacement Tolerance	Force Tolerance
1	Yes	6	0.00000001	0.00000001
2	Yes	13	0.00003303	0.00007648
3	Yes	12	0.00005864	0.00012979
4	Yes	13	0.00000001	0.00007163
5	Yes	12	0.00005378	0.00011941
6	Yes	13	0.00000001	0.00006739
7	Yes	12	0.00004953	0.00011021
8	Yes	13	0.00000001	0.00007157
9	Yes	12	0.00005379	0.00011932
10	Yes	13	0.00003296	0.00007627

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11	Yes	12	0.00005851	0.00012940
12	Yes	13	0.00000001	0.00007200
13	Yes	12	0.00005413	0.00012017
14	Yes	13	0.00000001	0.00006761
15	Yes	12	0.00004965	0.00011061
16	Yes	13	0.00000001	0.00007205
17	Yes	12	0.00005417	0.00012027
18	Yes	13	0.00003299	0.00007633
19	Yes	12	0.00005856	0.00012952
20	Yes	13	0.00000001	0.00007156
21	Yes	12	0.00005379	0.00011930
22	Yes	13	0.00000001	0.00006738
23	Yes	12	0.00004955	0.00011022
24	Yes	13	0.00000001	0.00007157
25	Yes	12	0.00005375	0.00011930
26	Yes	9	0.00000001	0.00013481
27	Yes	14	0.00000001	0.00007348
28	Yes	14	0.00000001	0.00007206
29	Yes	14	0.00000001	0.00007262
30	Yes	14	0.00000001	0.00007385
31	Yes	14	0.00000001	0.00007555
32	Yes	14	0.00000001	0.00007515
33	Yes	14	0.00000001	0.00007576
34	Yes	14	0.00000001	0.00007644
35	Yes	14	0.00000001	0.00007765
36	Yes	14	0.00000001	0.00007619
37	Yes	14	0.00000001	0.00007459
38	Yes	14	0.00000001	0.00007321
39	Yes	12	0.00000001	0.00013264
40	Yes	12	0.00000001	0.00012938
41	Yes	12	0.00000001	0.00012656
42	Yes	12	0.00000001	0.00012928
43	Yes	12	0.00000001	0.00013241
44	Yes	12	0.00000001	0.00012966
45	Yes	12	0.00000001	0.00012687
46	Yes	12	0.00000001	0.00012972
47	Yes	12	0.00000001	0.00013246
48	Yes	12	0.00000001	0.00012924
49	Yes	12	0.00000001	0.00012649
50	Yes	12	0.00000001	0.00012929

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
T1	230 - 220	11.755	47	0.438	0.075
T2	220 - 200	10.795	47	0.439	0.075
T3	200 - 180	8.899	47	0.413	0.074
T4	180 - 160	7.136	47	0.372	0.069
T5	160 - 140	5.583	47	0.322	0.058
T6	140 - 120	4.256	47	0.272	0.048
T7	120 - 100	3.130	47	0.225	0.038
T8	100 - 80	2.184	47	0.184	0.029
T9	80 - 60	1.420	47	0.140	0.021
T10	60 - 40	0.819	47	0.102	0.013
T11	40 - 20	0.381	47	0.067	0.007
T12	20 - 0	0.120	47	0.032	0.003

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Critical Deflections and Radius of Curvature - Service Wind

Elevation	Appurtenance	Gov. Load Comb.	Deflection	Tilt	Twist	Radius of Curvature
ft			in	°	°	ft
230.000	Lightning Rod 1"x10'	47	11.755	0.438	0.075	Inf
225.000	Sector I (CaAa=13333.33 Sq in) No Ice	47	11.275	0.439	0.075	Inf
213.000	Sector I (CaAa=10000 Sq in) No Ice	47	10.124	0.434	0.074	92121
201.000	Sector I (CaAa=10000 Sq in) No Ice	47	8.991	0.415	0.074	34584
189.000	6' MW Dish	47	7.906	0.392	0.072	24947
177.000	6' MW Dish	47	6.888	0.365	0.068	21014

Maximum Tower Deflections - Design Wind

Section No.	Elevation	Horz. Deflection	Gov. Load Comb.	Tilt	Twist
	ft	in		°	°
T1	230 - 220	36.030	18	1.342	0.230
T2	220 - 200	33.088	18	1.346	0.229
T3	200 - 180	27.276	18	1.265	0.226
T4	180 - 160	21.873	18	1.139	0.211
T5	160 - 140	17.115	18	0.986	0.177
T6	140 - 120	13.046	18	0.833	0.146
T7	120 - 100	9.597	18	0.690	0.117
T8	100 - 80	6.696	18	0.562	0.089
T9	80 - 60	4.354	18	0.429	0.065
T10	60 - 40	2.511	18	0.311	0.040
T11	40 - 20	1.168	18	0.206	0.021
T12	20 - 0	0.367	18	0.097	0.010

Critical Deflections and Radius of Curvature - Design Wind

Elevation	Appurtenance	Gov. Load Comb.	Deflection	Tilt	Twist	Radius of Curvature
ft			in	°	°	ft
230.000	Lightning Rod 1"x10'	18	36.030	1.342	0.230	Inf
225.000	Sector I (CaAa=13333.33 Sq in) No Ice	18	34.559	1.346	0.229	Inf
213.000	Sector I (CaAa=10000 Sq in) No Ice	18	31.031	1.329	0.228	30756
201.000	Sector I (CaAa=10000 Sq in) No Ice	18	27.560	1.271	0.226	11347
189.000	6' MW Dish	18	24.234	1.199	0.220	8173
177.000	6' MW Dish	18	21.115	1.118	0.207	6887

Bolt Design Data

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Section No.	Elevation ft	Component Type	Bolt Grade	Bolt Size in	Number Of Bolts	Maximum Load per Bolt K	Allowable Load per Bolt K	Ratio Load Allowable	Allowable Ratio	Criteria
T1	230	Diagonal	A325X	0.625	1	3.307	9.598	0.345 ✓	1	Member Block Shear
		Top Girt	A325X	0.625	1	1.724	9.598	0.180 ✓	1	Member Block Shear
T2	220	Leg	A325N	0.750	6	1.260	30.101	0.042 ✓	1	Bolt Tension
		Diagonal	A325X	0.625	1	4.985	9.598	0.519 ✓	1	Member Block Shear
T3	200	Leg	A325N	0.750	6	7.117	30.101	0.236 ✓	1	Bolt Tension
		Diagonal	A325X	0.625	1	7.017	9.598	0.731 ✓	1	Member Block Shear
T4	180	Leg	A325N	0.750	6	15.007	30.101	0.499 ✓	1	Bolt Tension
		Diagonal	A325X	0.625	1	7.766	10.740	0.723 ✓	1	Member Block Shear
T5	160	Leg	A325N	0.750	6	22.562	30.101	0.750 ✓	1	Bolt Tension
		Diagonal	A325X	0.625	1	7.805	13.025	0.599 ✓	1	Member Block Shear
T6	140	Leg	A325N	0.750	6	29.294	30.101	0.973 ✓	1	Bolt Tension
		Diagonal	A325X	0.625	1	8.031	13.025	0.617 ✓	1	Member Block Shear
T7	120	Leg	A325N	1.000	6	35.423	54.517	0.650 ✓	1	Bolt Tension
		Diagonal	A325X	0.625	1	8.507	13.025	0.653 ✓	1	Member Block Shear
T8	100	Leg	A325N	1.000	6	41.173	54.517	0.755 ✓	1	Bolt Tension
		Diagonal	A325X	0.625	1	8.991	14.168	0.635 ✓	1	Member Block Shear
T9	80	Leg	A325N	1.000	6	46.648	54.517	0.856 ✓	1	Bolt Tension
		Diagonal	A325X	0.625	1	9.460	14.168	0.668 ✓	1	Member Block Shear
T10	60	Leg	A325N	1.000	6	51.962	54.517	0.953 ✓	1	Bolt Tension
		Diagonal	A325X	0.625	1	10.219	17.257	0.592 ✓	1	Bolt Shear
T11	40	Leg	A325N	1.250	6	57.122	87.220	0.655 ✓	1	Bolt Tension
		Diagonal	A325X	0.625	1	11.187	26.051	0.429 ✓	1	Member Block Shear
		Horizontal	A325X	0.625	1	7.142	19.195	0.372 ✓	1	Member Block Shear
T12	20	Leg	A325N	1.250	6	62.071	87.220	0.712 ✓	1	Bolt Tension
		Diagonal	A325X	0.625	1	11.107	26.051	0.426 ✓	1	Member Block Shear
		Horizontal	A325X	0.625	1	7.741	21.480	0.360 ✓	1	Member Block Shear

Compression Checks

Leg Design Data (Compression)

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Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u K	φP _u K	Ratio P _u / φP _u
T1	230 - 220	1 3/4	10.009	4.504	123.5 K=1.00	2.405	-5.922	35.601	0.166 ¹
T2	220 - 200	2	20.019	4.754	114.1 K=1.00	3.142	-43.670	54.509	0.801 ¹
T3	200 - 180	2 1/2	20.019	4.754	91.3 K=1.00	4.909	-93.836	120.108	0.781 ¹
T4	180 - 160	2 3/4	20.019	4.754	83.0 K=1.00	5.940	-142.858	161.540	0.884 ¹
T5	160 - 140	3	20.019	4.754	76.1 K=1.00	7.069	-187.148	208.347	0.898 ¹
T6	140 - 120	3 1/4	20.019	4.754	70.2 K=1.00	8.296	-227.950	260.312	0.876 ¹
T7	120 - 100	3 1/2	20.019	4.754	65.2 K=1.00	9.621	-267.034	317.273	0.842 ¹
T8	100 - 80	3 1/2	20.019	4.754	65.2 K=1.00	9.621	-305.067	317.273	0.962 ¹
T9	80 - 60	3 3/4	20.019	4.754	60.9 K=1.00	11.045	-342.571	379.106	0.904 ¹
T10	60 - 40	4	20.019	4.754	57.1 K=1.00	12.566	-380.057	445.717	0.853 ¹
T11	40 - 20	4	20.019	4.754	57.1 K=1.00	12.566	-412.026	445.717	0.924 ¹
T12	20 - 0	4 1/4	20.019	4.754	53.7 K=1.00	14.186	-446.594	517.034	0.864 ¹

¹ P_u / φP_u controls

Diagonal Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u K	φP _u K	Ratio P _u / φP _u
T1	230 - 220	L1 3/4x1 3/4x3/16	6.221	3.127	109.3 K=1.00	0.621	-3.022	14.893	0.203 ¹
T2	220 - 200	L1 3/4x1 3/4x3/16	7.485	3.750	131.0 K=1.00	0.621	-4.392	10.354	0.424 ¹
T3	200 - 180	L1 3/4x1 3/4x3/16	8.697	4.330	151.3 K=1.00	0.621	-6.666	7.765	0.858 ¹
T4	180 - 160	L2x2x3/16	9.987	4.964	151.2 K=1.00	0.715	-7.293	8.951	0.815 ¹
T5	160 - 140	L2 1/2x2 1/2x3/16	11.329	5.625	136.4 K=1.00	0.902	-7.408	13.885	0.534 ¹
T6	140 - 120	L2 1/2x2 1/2x3/16	12.706	6.303	152.8 K=1.00	0.902	-7.740	11.057	0.700 ¹
T7	120 - 100	L2 1/2x2 1/2x3/16	14.108	6.994	169.6 K=1.00	0.902	-8.249	8.981	0.919 ¹
T8	100 - 80	L3x3x3/16	15.529	7.705	155.1 K=1.00	1.090	-8.680	12.964	0.670 ¹
T9	80 - 60	L3x3x3/16	16.963	8.412	169.4 K=1.00	1.090	-9.295	10.877	0.855 ¹

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Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u K	φP _n K	Ratio $\frac{P_u}{\phi P_n}$
T10	60 - 40	L3x3x1/4	18.408	9.124	184.9 K=1.00	1.440	-9.995	12.050	0.829 ¹ ✓
T11	40 - 20	2L2 1/2x2 1/2x3/16x3/8	10.829	10.644	168.4 K=1.00	1.800	-11.067	17.598	0.629 ¹ ✓
T12	20 - 0	2L 'a' > 60.948 in - 267 2L2 1/2x2 1/2x3/16x3/8 2L 'a' > 64.783 in - 306	11.508	11.313	179.0 K=1.00	1.800	-11.239	15.641	0.719 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 K	φP _n K	Ratio $\frac{P_u}{\phi P_n}$
T11	40 - 20	2L1 3/4x1 3/4x3/16x3/8	19.106	9.386	209.8 K=1.00	1.242	-7.142	8.079	0.884 ¹ ✓
T12	20 - 0	2L 'a' > 54.035 in - 265 2L2x2x3/16x3/8 2L 'a' > 58.196 in - 304	20.606	10.126	198.1 K=1.00	1.430	-7.741	10.289	0.752 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 K	φP _n K	Ratio $\frac{P_u}{\phi P_n}$
T1	230 - 220	L1 3/4x1 3/4x3/16	3.788	3.642	127.2 K=1.00	0.621	-1.710	10.980	0.156 ¹ ✓

¹ P_u / φP_n controls

Inner Bracing Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u K	φP _n K	Ratio $\frac{P_u}{\phi P_n}$
T11	40 - 20	L1 3/4x1 3/4x3/16	9.553	9.553	333.8 K=1.00	0.621	-0.009	1.596	0.006 ¹ ✓
KL/R > 250 (C) - 276									

tnxTower B+T Group 1717 S. Boulder Ave, Ste 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	Job ATS #8648 - Russell Springs (Site# KYBGN2025)	Page 28 of 31
	Project 230' SST/ 37.068689, -85.077047	Date 10:35:30 10/20/20
	Client Harmoni (UNITI) Towers	Designed by JLandon

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u K	φP _u K	Ratio $\frac{P_u}{\phi P_u}$
T12	20 - 0	L1 3/4x1 3/4x3/16	10.303	10.303	360.0 K=1.00	0.621	-0.009	1.372	0.006 ¹ ✓
KL/R > 250 (C) - 315									

¹ P_u / φP_u controls

Tension Checks

Leg Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u K	φP _u K	Ratio $\frac{P_u}{\phi P_u}$
T1	230 - 220	1 3/4	10.009	0.500	13.7	2.405	7.564	108.238	0.070 ¹ ✓
T2	220 - 200	2	20.019	0.500	12.0	3.142	42.714	141.372	0.302 ¹ ✓
T3	200 - 180	2 1/2	20.019	0.500	9.6	4.909	90.049	220.893	0.408 ¹ ✓
T4	180 - 160	2 3/4	20.019	0.500	8.7	5.940	135.382	267.281	0.507 ¹ ✓
T5	160 - 140	3	20.019	0.500	8.0	7.069	175.779	318.086	0.553 ¹ ✓
T6	140 - 120	3 1/4	20.019	0.500	7.4	8.296	212.553	373.310	0.569 ¹ ✓
T7	120 - 100	3 1/2	20.019	0.500	6.9	9.621	247.057	432.951	0.571 ¹ ✓
T8	100 - 80	3 1/2	20.019	0.500	6.9	9.621	279.903	432.951	0.646 ¹ ✓
T9	80 - 60	3 3/4	20.019	0.500	6.4	11.045	311.788	497.010	0.627 ¹ ✓
T10	60 - 40	4	20.019	0.500	6.0	12.566	342.754	565.487	0.606 ¹ ✓
T11	40 - 20	4	20.019	0.500	6.0	12.566	372.446	565.487	0.659 ¹ ✓
T12	20 - 0	4 1/4	20.019	0.500	5.7	14.186	400.358	638.381	0.627 ¹ ✓

¹ P_u / φP_u controls

Diagonal Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u K	φP _u K	Ratio $\frac{P_u}{\phi P_u}$
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tnxTower B+T Group 1717 S. Boulder Ave. Ste 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	Job ATS #8648 - Russell Springs (Site# KYBGN2025)	Page 29 of 31
	Project 230' SST/ 37.068689, -85.077047	Date 10:35:30 10/20/20
	Client Harmoni (UNITI) Towers	Designed by JLandon

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u K	φP _n K	Ratio $\frac{P_u}{\phi P_n}$
T1	230 - 220	L1 3/4x1 3/4x3/16	6.221	3.127	69.9	0.360	3.307	17.567	0.188 ¹
T2	220 - 200	L1 3/4x1 3/4x3/16	7.485	3.750	83.8	0.360	4.985	17.567	0.284 ¹
T3	200 - 180	L1 3/4x1 3/4x3/16	8.697	4.330	96.8	0.360	7.017	17.567	0.399 ¹
T4	180 - 160	L2x2x3/16	9.987	4.964	96.6	0.431	7.766	21.001	0.370 ¹
T5	160 - 140	L2 1/2x2 1/2x3/16	11.329	5.625	86.8	0.571	7.805	27.838	0.280 ¹
T6	140 - 120	L2 1/2x2 1/2x3/16	12.706	6.303	97.2	0.571	8.031	27.838	0.288 ¹
T7	120 - 100	L2 1/2x2 1/2x3/16	14.108	6.994	107.9	0.571	8.507	27.838	0.306 ¹
T8	100 - 80	L3x3x3/16	15.529	7.705	98.5	0.712	8.991	34.712	0.259 ¹
T9	80 - 60	L3x3x3/16	16.963	8.412	107.5	0.712	9.460	34.712	0.273 ¹
T10	60 - 40	L3x3x1/4	18.408	9.124	117.7	0.939	10.219	45.794	0.223 ¹
T11	40 - 20	2L2 1/2x2 1/2x3/16x3/8	10.829	10.644	164.2	1.139	11.187	55.529	0.201 ¹
T12	20 - 0	2L 'a' > 60 948 in - 266 2L2 1/2x2 1/2x3/16x3/8 2L 'a' > 64 783 in - 305	11.508	11.313	174.5	1.139	11.107	55.529	0.200 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 K	φP _n K	Ratio $\frac{P_u}{\phi P_n}$
T11	40 - 20	2L1 3/4x1 3/4x3/16x3/8	19.106	9.386	209.8	0.721	7.142	35.134	0.203 ¹
T12	20 - 0	2L 'a' > 54.035 in - 271 2L2x2x3/16x3/8 2L 'a' > 58.196 in - 310	20.606	10.126	196.9	0.862	7.741	42.001	0.184 ¹

¹ P_u / φP_n controls

Top Girt Design Data (Tension)

tnxTower B+T Group 1717 S. Boulder Ave, Ste 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	Job ATS #8648 - Russell Springs (Site# KYBGN2025)	Page 30 of 31
	Project 230' SST/ 37.068689, -85.077047	Date 10:35:30 10/20/20
	Client Harmoni (UNITI) Towers	Designed by JLandon

Section No.	Elevation ft	Size	L ft	L _n ft	Kl/r	A in ²	P _n K	φP _n K	Ratio P _n / φP _n
T1	230 - 220	L1 3/4x1 3/4x3/16	3.788	3.642	81.4	0.360	1.724	17.567	0.098 ¹

¹ P_n / φP_n controls

Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	oP _{allow} K	% Capacity	Pass Fail	
T1	230 - 220	Leg	1 3/4	1	-5.922	35.601	16.6	Pass	
T2	220 - 200	Leg	2	21	-43.670	54.509	80.1	Pass	
T3	200 - 180	Leg	2 1/2	48	-93.836	120.108	78.1	Pass	
T4	180 - 160	Leg	2 3/4	75	-142.858	161.540	88.4	Pass	
T5	160 - 140	Leg	3	102	-187.148	208.347	89.8	Pass	
T6	140 - 120	Leg	3 1/4	129	-227.950	260.312	87.6	Pass	
							97.3 (b)		
T7	120 - 100	Leg	3 1/2	154	-267.034	317.273	84.2	Pass	
T8	100 - 80	Leg	3 1/2	181	-305.067	317.273	96.2	Pass	
T9	80 - 60	Leg	3 3/4	208	-342.571	379.106	90.4	Pass	
T10	60 - 40	Leg	4	235	-380.057	445.717	85.3	Pass	
							95.3 (b)		
T11	40 - 20	Leg	4	262	-412.026	445.717	92.4	Pass	
T12	20 - 0	Leg	4 1/4	301	-446.594	517.034	86.4	Pass	
T1	230 - 220	Diagonal	L1 3/4x1 3/4x3/16	8	-3.022	14.893	20.3	Pass	
							34.5 (b)		
T2	220 - 200	Diagonal	L1 3/4x1 3/4x3/16	25	-4.392	10.354	42.4	Pass	
							51.9 (b)		
T3	200 - 180	Diagonal	L1 3/4x1 3/4x3/16	49	-6.666	7.765	85.8	Pass	
T4	180 - 160	Diagonal	L2x2x3/16	77	-7.293	8.951	81.5	Pass	
T5	160 - 140	Diagonal	L2 1/2x2 1/2x3/16	104	-7.408	13.885	53.4	Pass	
							59.9 (b)		
T6	140 - 120	Diagonal	L2 1/2x2 1/2x3/16	131	-7.740	11.057	70.0	Pass	
T7	120 - 100	Diagonal	L2 1/2x2 1/2x3/16	158	-8.249	8.981	91.9	Pass	
T8	100 - 80	Diagonal	L3x3x3/16	185	-8.680	12.964	67.0	Pass	
T9	80 - 60	Diagonal	L3x3x3/16	212	-9.295	10.877	85.5	Pass	
T10	60 - 40	Diagonal	L3x3x1/4	239	-9.995	12.050	82.9	Pass	
T11	40 - 20	Diagonal	2L2 1/2x2 1/2x3/16x3/8	267	-11.067	17.598	62.9	Pass	
T12	20 - 0	Diagonal	2L2 1/2x2 1/2x3/16x3/8	306	-11.239	15.641	71.9	Pass	
T11	40 - 20	Horizontal	2L1 3/4x1 3/4x3/16x3/8	265	-7.142	8.079	88.4	Pass	
T12	20 - 0	Horizontal	2L2x2x3/16x3/8	304	-7.741	10.289	75.2	Pass	
T1	230 - 220	Top Girt	L1 3/4x1 3/4x3/16	4	-1.710	10.980	15.6	Pass	
							18.0 (b)		
T11	40 - 20	Inner Bracing	L1 3/4x1 3/4x3/16	276	-0.009	1.596	0.6	Pass	
T12	20 - 0	Inner Bracing	L1 3/4x1 3/4x3/16	315	-0.009	1.372	0.6	Pass	
							Summary		
							Leg (T6)	97.3	Pass
							Diagonal (T7)	91.9	Pass
							Horizontal (T11)	88.4	Pass
							Top Girt (T1)	18.0	Pass
							Inner Bracing (T12)	0.6	Pass

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	Project 230' SST/ 37.068689, -85.077047	Date 10:35:30 10/20/20
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Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
						Bolt Checks	97.3	Pass
						RATING =	97.3	Pass

EXHIBIT D
COMPETING UTILITIES, CORPORATIONS, OR PERSONS LIST

KY Public Service Commission

Master Utility Search

- Search for the utility of interest by using any single or combination of criteria.
- Enter Partial names to return the closest match for Utility Name and Address/City/Contact entries.

Utility ID Utility Name Address/City/Contact Utility Type Status

▼ Active ▼

	Utility ID	Utility Name	Utility Type	Class	City	State
<input type="button" value="View"/>	4111300	2600Hz, Inc. dba ZSWITCH	Cellular	D	San Francisco	CA
<input type="button" value="View"/>	4108300	Air Voice Wireless, LLC	Cellular	B	Bloomfield Hill	MI
<input type="button" value="View"/>	4110650	Alliant Technologies of KY, L.L.C.	Cellular	D	Morristown	NJ
<input type="button" value="View"/>	4111900	ALLNETAIR, INC.	Cellular	C	West Palm Beach	FL
<input type="button" value="View"/>	44451184	Alltel Corporation d/b/a Verizon Wireless	Cellular	A	Lisle	IL
<input type="button" value="View"/>	4110850	AltaWorx, LLC	Cellular	D	Fairhope	AL
<input type="button" value="View"/>	4107800	American Broadband and Telecommunications Company	Cellular	D	Toledo	OH
<input type="button" value="View"/>	4108650	AmeriMex Communications Corp.	Cellular	D	Dunedin	FL
<input type="button" value="View"/>	4105100	AmeriVision Communications, Inc. d/b/a Affinity 4	Cellular	D	Virginia Beach	VA
<input type="button" value="View"/>	4110700	Andrew David Balholm dba Norcell	Cellular	D	Buford	GA
<input type="button" value="View"/>	4105700	Assurance Wireless USA, L.P.	Cellular	A	Atlanta	GA
<input type="button" value="View"/>	4108600	BCN Telecom, Inc.	Cellular	D	Morristown	NJ
<input type="button" value="View"/>	4106000	Best Buy Health, Inc. d/b/a GreatCall d/b/a Jitterbug	Cellular	A	San Diego	CA
<input type="button" value="View"/>	4110550	Blue Casa Mobile, LLC	Cellular	D	Santa Barbara	CA
<input type="button" value="View"/>	4111050	BlueBird Communications, LLC	Cellular	D	New York	NY
<input type="button" value="View"/>	4202300	Bluegrass Wireless, LLC	Cellular	A	Elizabethtown	KY

View	4107600	Boomerang Wireless, LLC	Cellular	D	Hiawatha	IA
View	4105500	BullsEye Telecom, Inc.	Cellular	D	Southfield	MI
View	4100700	Cellco Partnership dba Verizon Wireless	Cellular	A	Basking Ridge	NJ
View	4106600	Cintex Wireless, LLC	Cellular	D	Rockville	MD
View	4111150	Comcast OTR1, LLC	Cellular	C	Phoeniexville	PA
View	4101900	Consumer Cellular, Incorporated	Cellular	A	Portland	OR
View	4106400	Credo Mobile, Inc.	Cellular	A	San Francisco	CA
View	4108850	Cricket Wireless, LLC	Cellular	A	San Antonio	TX
View	4111500	CSC Wireless, LLC d/b/a Altice Wireless	Cellular	D	Long Island City	NY
View	10640	Cumberland Cellular Partnership	Cellular	A	Elizabethtown	KY
View	4111650	DataBytes, Inc.	Cellular	D	Rogers	AR
View	4112000	DISH Wireless L.L.C.	Cellular	C	Englewood	CO
View	4111200	Dynalink Communications, Inc.	Cellular	C	Brooklyn	NY
View	4111800	Earthlink, LLC	Cellular	C	Atlanta	GA
View	4101000	East Kentucky Network, LLC dba Appalachian Wireless	Cellular	A	Ivel	KY
View	4002300	Easy Telephone Service Company dba Easy Wireless	Cellular	D	Ocala	FL
View	4109500	Enhanced Communications Group, LLC	Cellular	D	Bartlesville	OK
View	4110450	Excellus Communications, LLC	Cellular	D	Chattanooga	TN
View	4105900	Flash Wireless, LLC	Cellular	C	Concord	NC
View	4104800	France Telecom Corporate Solutions L.L.C.	Cellular	D	Oak Hill	VA
View	4111750	Gabb Wireless, Inc.	Cellular	D	Provo	UT
View	4109350	Global Connection Inc. of America	Cellular	D	Norcross	GA
View	4102200	Globalstar USA, LLC	Cellular	B	Covington	LA
View	4112050	GLOTELL US, Corp.	Cellular	C	Hallandale	FL
View	4109600	Google North America Inc.	Cellular	A	Mountain View	CA
View	33350363	Granite Telecommunications, LLC	Cellular	D	Quincy	MA
View	10630	GTE Wireless of the Midwest dba Verizon Wireless	Cellular	A	Basking Ridge	NJ
View	4111350	HELLO MOBILE TELECOM LLC	Cellular	D	Dania Beach	FL
View	4103100	i-Wireless, LLC	Cellular	B	Newport	KY
View	4109800	IM Telecom, LLC d/b/a Infiniti Mobile	Cellular	D	Dallas	TX
View	4111950	J Rhodes Enterprises LLC	Cellular	C	Gulf Breeze	FL
View	22215360	KDDI America, Inc.	Cellular	D	Staten Island	NY
View	10872	Kentucky RSA #1 Partnership	Cellular	A	Basking Ridge	NJ
View	10680	Kentucky RSA #3 Cellular General	Cellular	A	Elizabethtown	KY

View	10681	Kentucky RSA #4 Cellular General	Cellular	A	Elizabethtown	KY
View	4109550	Kynect Communications, LLC	Cellular	D	Dallas	TX
View	4111250	Liberty Mobile Wireless, LLC	Cellular	D	Sunny Isles Beach	FL
View	4111400	Locus Telecommunications, LLC	Cellular	A	Fort Lee	NJ
View	4107300	Lycamobile USA, Inc.	Cellular	D	Newark	NJ
View	4108800	MetroPCS Michigan, LLC	Cellular	A	Bellevue	WA
View	4111700	Mint Mobile, LLC	Cellular	D	Costa Mesa	CA
View	4109650	Mitel Cloud Services, Inc.	Cellular	D	Mesa	AZ
View	4111850	Mobi, Inc.	Cellular	C	Honolulu	HI
View	4202400	New Cingular Wireless PCS, LLC dba AT&T Mobility, PCS	Cellular	A	San Antonio	TX
View	4000800	Nextel West Corporation	Cellular	D	Overland Park	KS
View	4001300	NPCR, Inc. dba Nextel Partners	Cellular	D	Overland Park	KS
View	4001800	OnStar, LLC	Cellular	A	Detroit	MI
View	4110750	Onvoy Spectrum, LLC	Cellular	D	Chicago	IL
View	4109050	Patriot Mobile LLC	Cellular	D	Irving	TX
View	4110250	Plintron Technologies USA LLC	Cellular	D	Bellevue	WA
View	33351182	PNG Telecommunications, Inc. dba PowerNet Global Communications	Cellular	D	Cincinnati	OH
View	4107700	Puretalk Holdings, LLC	Cellular	A	Covington	GA
View	4106700	Q Link Wireless, LLC	Cellular	A	Dania	FL
View	4108700	Ready Wireless, LLC	Cellular	C	Hiawatha	IA
View	4110500	Republic Wireless, Inc.	Cellular	A	Raleigh	NC
View	4106200	Rural Cellular Corporation	Cellular	A	Basking Ridge	NJ
View	4108550	Sage Telecom Communications, LLC dba TruConnect	Cellular	D	Los Angeles	CA
View	4109150	SelecTel, Inc. d/b/a SelecTel Wireless	Cellular	D	Fremont	NE
View	4110150	Spectrotel, Inc. d/b/a Touch Base Communications	Cellular	D	Neptune	NJ
View	4111450	Spectrum Mobile, LLC	Cellular	A	St. Louis	MO
View	4200100	Sprint Spectrum, L.P.	Cellular	A	Atlanta	GA
View	4200500	SprintCom, Inc.	Cellular	A	Atlanta	GA
View	4111600	STX Group LLC dba Twigby	Cellular	D	Murfreesboro	TN
View	4110200	T C Telephone LLC d/b/a Horizon Cellular	Cellular	D	Red Bluff	CA
View	4202200	T-Mobile Central, LLC dba T-Mobile	Cellular	A	Bellevue	WA
View	4002500	TAG Mobile, LLC	Cellular	D	Plano	TX
View	4109700	Telecom Management, Inc. dba Pioneer Telephone	Cellular	D	Portland	ME
View	4107200	Telefonica USA, Inc.	Cellular	D	Miami	FL

View	4108900	Telrite Corporation	Cellular	D	Covington	GA
View	4108450	Tempo Telecom, LLC	Cellular	B	Atlanta	GA
View	4109000	Ting, Inc.	Cellular	A	Toronto	ON
View	4110400	Torch Wireless Corp.	Cellular	D	Jacksonville	FL
View	4103300	Touchtone Communications, Inc.	Cellular	D	Whippany	NJ
View	4104200	TracFone Wireless, Inc.	Cellular	D	Miami	FL
View	4002000	Truphone, Inc.	Cellular	D	Durham	NC
View	4110300	UVNV, Inc. d/b/a Mint Mobile	Cellular	D	Costa Mesa	CA
View	4110800	Visible Service LLC	Cellular	D	Basking Ridge	NJ
View	4106500	WiMacTel, Inc.	Cellular	D	Palo Alto	CA
View	4110950	Wing Tel Inc.	Cellular	D	New York	NY

EXHIBIT E
FAA



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

Aeronautical Study No.
 2020-ASO-7761-OE

Issued Date: 03/27/2020

Kristy Hurst
 B+T Group Holdings, Inc.
 1717 S. Boulder Ave.
 Suite 300
 Tulsa, OK 74119

**** 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 KYBGN2025 (Russell Springs)
 Location: Russel Springs, KY
 Latitude: 37-04-07.28N NAD 83
 Longitude: 85-04-37.37W
 Heights: 1096 feet site elevation (SE)
 242 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 L Change 2, Obstruction Marking and Lighting, a med-dual system - Chapters 4,8(M-Dual),&12.

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)
- Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

This determination expires on 09/27/2021 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 2020-ASO-7761-OE.

Signature Control No: 433455284-434851353
Angelique Eersteling
Technician

(DNE)

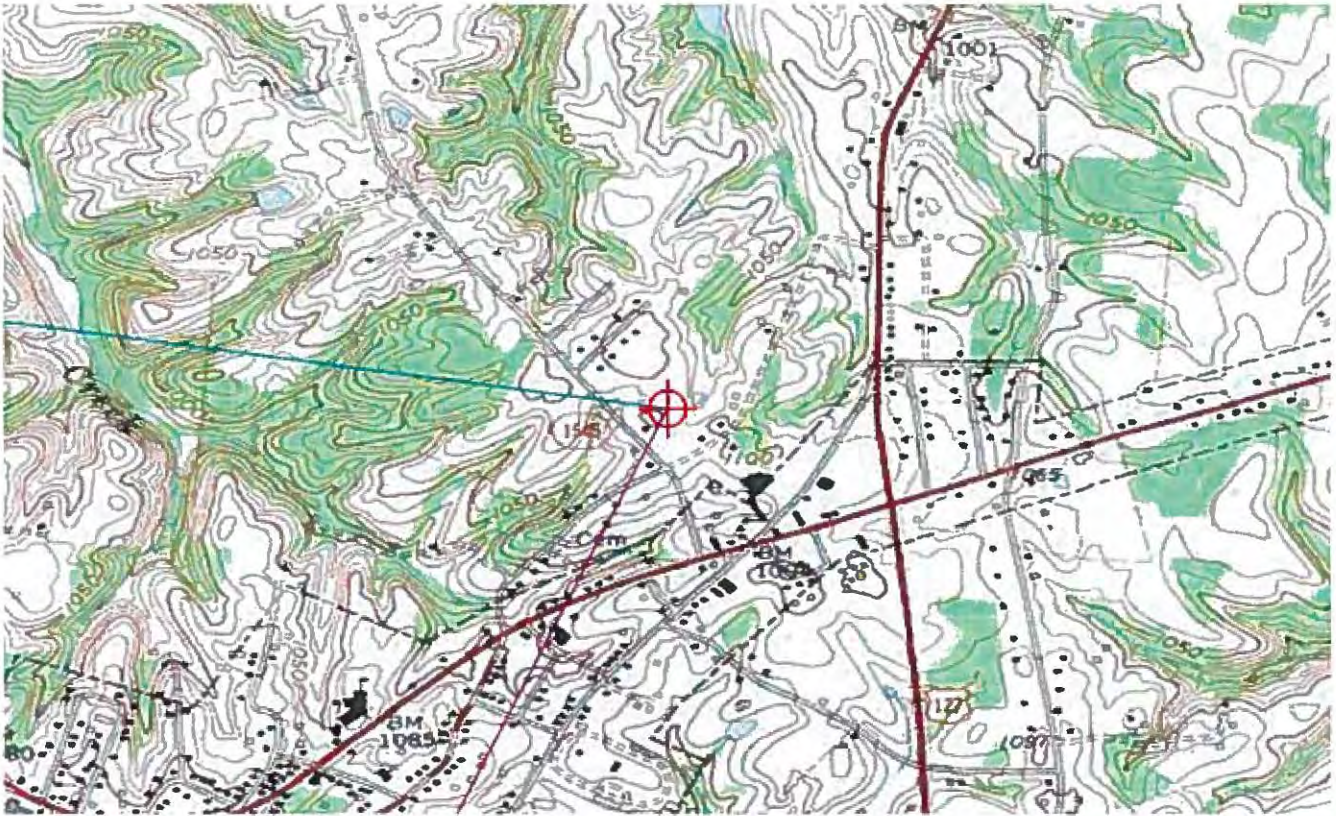
Attachment(s)
Frequency Data
Map(s)

cc: FCC

Frequency Data for ASN 2020-ASO-7761-OE

LOW FREQUENCY	HIGH FREQUENCY	FREQUENCY UNIT	ERP	ERP UNIT
6	7	GHz	55	dBW
6	7	GHz	42	dBW
10	11.7	GHz	55	dBW
10	11.7	GHz	42	dBW
17.7	19.7	GHz	55	dBW
17.7	19.7	GHz	42	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

Verified Map for ASN 2020-ASO-7761-OE



TOPO Map for ASN 2020-ASO-7761-OE

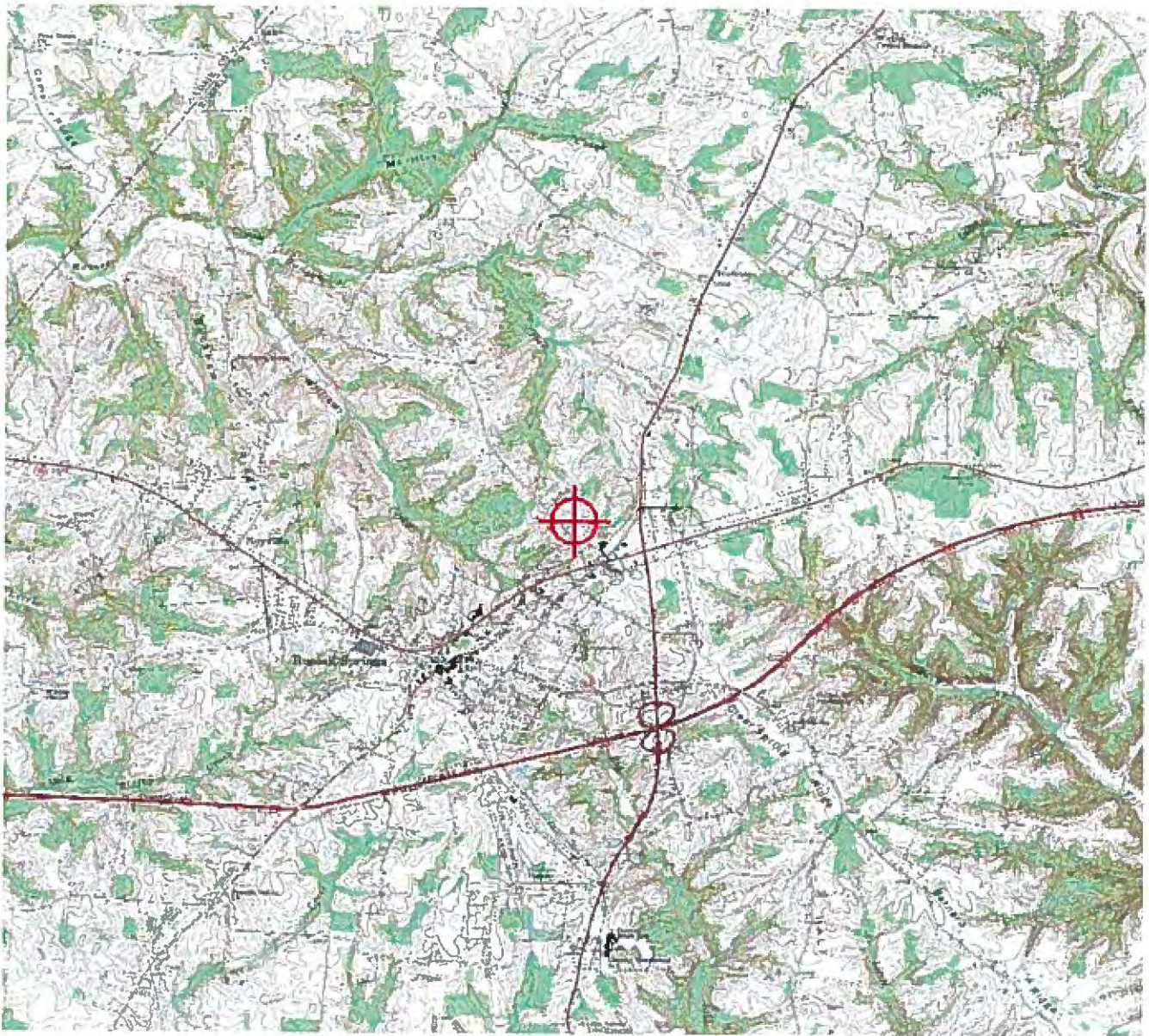


EXHIBIT F
KENTUCKY AIRPORT ZONING COMMISSION



KENTUCKY AIRPORT ZONING COMMISSION

ANDY BESHEAR
Governor

Office of Audits, 200 Mero Street, 4th floor
Frankfort, KY 40622
www.transportation.ky.gov
502-782-4043

APPROVAL OF APPLICATION

August 13, 2020

APPLICANT

Uniti Towers
B&T Group - Patricia Parr
10802 Executive Center Dr. Ste 300
Little Rock, AR 72211

SUBJECT: AS-RUSSELL-K24-2020-097

STRUCTURE: Antenna Tower
LOCATION: Russell Springs, KY
COORDINATES: 37° 4' 7.28" N / 85° 4' 37.37" W
HEIGHT: 242' AGL/1338' AMSL

The Kentucky Airport Zoning Commission has approved your application for a permit to construct 242' AGL/1338' AMSL Antenna Tower near Russell Springs, KY 37° 4' 7.28" N / 85° 4' 37.37" W.

This permit is valid for a period of 18 Month(s) from its date of issuance. If construction is not completed within said 18-Month period, this permit shall lapse and be void, and no work shall be performed without the issuance of a new permit.

Duel - Red & Medium Intensity White Obstruction Lighting Required

Randall S. Royer

Randall S. Royer, Executive Director
Office of Audits
Acting Administrator
Randall.Royer@ky.gov
Jason.Salazar-Munoz@ky.gov



An Equal Opportunity Employer M/F/D

EXHIBIT G
GEOTECHNICAL REPORT



GEOTECHNICAL INVESTIGATION REPORT

September 30, 2020

Prepared For:

B+T Group



**Russell Springs
KYBGN2025**

Proposed 230-Foot Self-Supporting Tower

244 Highway 1545, Russell Springs (Russell County), Kentucky 42642
Latitude N 37° 04' 07.3" Longitude W 85° 04' 37.4"

Delta Oaks Group Project GEO20-07029-08
Revision 1
geotech@deltaoaksgroup.com

Performed By:

Justin Brosseau, E.I.

Reviewed By:

Joseph V. Borrelli, Jr., P.E.





INTRODUCTION

This geotechnical investigation report has been completed for the proposed 230-foot self-supporting tower located at 244 Highway 1545 in Russell Springs (Russell County), Kentucky. The purpose of this investigation was to provide engineering recommendations and subsurface condition data at the proposed tower location. A geotechnical engineering interpretation of the collected information was completed and utilized to suggest design parameters regarding the adequacy of the structure's proposed foundation capacity under various loading conditions. This report provides the scope of the geotechnical investigation; geologic material identification; results of the geotechnical laboratory testing; and design parameter recommendations for use in the design of the telecommunication facility's foundation and site development.

SITE CONDITION SUMMARY

The proposed tower and compound are located on a grassy field exhibiting a generally flat topography across the tower compound and subject property.

REFERENCES

- Survey Drawings, prepared by Point to Point Land Surveyors, dated February 2, 2020
- TIA Standard (TIA-222-G), dated August 2005

SUBSURFACE FIELD INVESTIGATION SUMMARY

The subsurface field investigation was conducted through the advancement of one mechanical soil test boring to the auger refusal depth of 20.1 feet bgs. Samples were obtained at selected intervals in accordance with ASTM D 1586. The sampling was conducted at the staked centerline of the proposed tower. Upon encountering auger refusal 5.0 feet of rock coring was conducted in accordance with ASTM D 2113. Soil and rock samples were transported to our laboratory and classified by a geotechnical engineer in accordance with ASTM D 2487. A detailed breakdown of the material encountered in our subsurface field investigation can be found in the boring log presented in the Appendix of this report.

Additional testing was performed on selected samples in accordance with ASTM D 7012 (Unconfined Compressive Strength – Rock). Laboratory data can be found in the Appendix of this report.

A boring plan portraying the spatial location of the boring in relation to the proposed tower, tower compound and immediate surrounding area can be found in the Appendix.



SUBSURFACE CONDITION SUMMARY

The following provides a general overview of the site's subsurface conditions based on the data obtained during our field investigation.

FILL

Topsoil was encountered during the subsurface field investigation from the existing ground surface to a depth of 0.2 feet bgs.

SOIL

The residual soil encountered in the subsurface field investigation began at a depth of 0.2 feet bgs in the boring and consisted of silty sand, clayey sand, sandy lean clay, and silty clayey sand. The materials ranged from a loose to very dense relative density and a very stiff cohesion.

Auger advancement refusal was encountered during the subsurface field investigation at a depth of 20.1 feet bgs.

ROCK

Rock was encountered during the subsurface investigation at a depth of 20.1 feet bgs. The rock can be described as moderately fractured, slightly weathered, hard dolostone.

SUBSURFACE WATER

At the time of drilling, subsurface water was not encountered during the subsurface investigation. However, subsurface water elevations can fluctuate throughout the year due to variations in climate, hydraulic parameters, nearby construction activity and other factors.

FROST PENETRATION

The frost penetration depth for Russell County, Kentucky is 30 inches (2.5 feet).

CORROSIVITY

Soil resistivity was performed in accordance with ASTM G187 with a test result of 39,000 ohms-cm.



FOUNDATION DESIGN SUMMARY

In consideration of the provided tower parameters and the determined soil characteristics, Delta Oaks Group recommends utilizing a shallow foundation and/or drilled shaft foundation for the proposed structure. The strength parameters presented in the following sections can be utilized for design of the foundation.

GENERAL SUBSURFACE STRENGTH PARAMETERS

Boring	Depth (bgs)	USCS	Moist/Buoyant Unit Weight (pcf)	Phi Angle (degrees)	Cohesion (psf)
B-1	0.0 – 0.2	TOPSOIL	105	0	0
	0.2 – 1.5	SM	105	30	0
	1.5 – 4.0	SC	105	30	0
	4.0 – 9.0	CL	115	0	2,250
	9.0 – 14.0	SC	115	32	0
	14.0 – 19.0	SC – SM	115	32	0
	19.0 – 20.1	SM	130	40	0
	20.1 – 25.1	DOLOSTONE	140	0	12,000

- The unit weight provided assumes overburden soil was compacted to a minimum of 95% of the maximum dry density as obtained by the standard Proctor method (ASTM D 698) and maintained a moisture content within 3 percent of optimum
- The values provided for phi angle and cohesion should be considered ultimate.



SUBSURFACE STRENGTH PARAMETERS – SHALLOW FOUNDATION

Boring	Dimensions (feet)	Depth (feet bgs)	Net Ultimate Bearing Capacity (psf)
B-1	5.0 x 5.0	3.0	5,330
		4.0	16,100
		5.0	16,650
		6.0	17,210
	10.0 x 10.0	3.0	6,840
		4.0	14,990
		5.0	15,270
		6.0	15,540
	15.0 x 15.0	3.0	8,450
		4.0	14,620
		5.0	14,800
		6.0	14,990
	20.0 x 20.0	3.0	10,100
		4.0	14,430
		5.0	14,570
		6.0	14,710
	25.0 x 25.0	3.0	11,750
		4.0	14,320
		5.0	14,430
		6.0	14,540

- Delta Oaks Group recommends the foundation bear a minimum of 3.0 feet bgs.
- A sliding friction factor of 0.35 can be utilized along the base of the proposed foundation.
- The bearing capacity can be increased by 1/3 for transient loading.
- An Ultimate Passive Pressure Table with a reduction due to frost penetration to a depth of 2.5 feet bgs is presented on the following page.
- Delta Oaks Group recommends an appropriate factor of safety be utilized for the design of the foundation.



ULTIMATE PASSIVE PRESSURE VS. DEPTH - TOWER FOUNDATION

Soil Layers (feet)		Moist Unit Weight	Phi Angle	Cohesion	PV	KP	Ph
Top	0.0	105	0	0	0.00	1.00	0.00
Bottom	0.2	105	0	0	21.00	1.00	10.50
Top	0.2	105	30	0	21.00	3.00	31.50
Bottom	2.5	105	30	0	262.50	3.00	393.75
Top	2.5	105	30	0	262.50	3.00	787.50
Bottom	4.0	105	30	0	420.00	3.00	1260.00
Top	4.0	115	0	2250	420.00	1.00	4920.00
Bottom	9.0	115	0	2250	995.00	1.00	5495.00
Top	9.0	115	32	0	995.00	3.25	3238.32
Bottom	10.0	115	32	0	1110.00	3.25	3612.59



SUBSURFACE STRENGTH PARAMETERS - DRILLED SHAFT FOUNDATION

Boring	Depth (bgs)	Net Ultimate Bearing Capacity (psf)	Ultimate Skin Friction - Compression (psf)	Ultimate Skin Friction - Uplift (psf)
B-1	0.0 – 3.0	–	–	–
	3.0 – 4.0	16,320	120	90
	6.0 – 9.0	4,050	1,230	1,230
	9.0 – 14.0	4,690	370	280
	14.0 – 19.0	21,680	530	400
	19.0 – 25.1	79,220	4,800	4,800

- The top 3.0 feet of soil should be ignored due to the frost penetration and the potential soil disturbance during construction.
- The bearing capacity can be increased by 1/3 for transient loading.
- The values presented assume the concrete is cast-in-place against earth walls and any casing utilized during construction of the foundation was removed.
- Delta Oaks Group recommends an appropriate factor of safety be utilized for the design of the foundation.



SUBSURFACE STRENGTH PARAMETERS – SUPPORT STRUCTURE FOUNDATION

Boring	Depth (bgs)	Net Ultimate Bearing Capacity (psf)	Minimum Design Footing Width (ft)	Modulus of Subgrade Reaction (pci)
B-1	2.0	2,630	2.0	25
	3.0	3,890		
	4.0	15,000		450

- Delta Oaks Group recommends utilizing a slab on grade in conjunction with continuous perimeter footings that bear on residual soil or properly compacted structural fill placed in accordance with the recommendations provided in the *CONSTRUCTION* section of this report.
- The slab on grade should be properly reinforced to prevent concrete cracking and shrinkage.
- The foundation should bear a minimum of 2.0 feet bgs.
- A sliding friction factor of 0.35 can be utilized along the base of the proposed foundation.
- An Ultimate Passive Pressure Table is presented on the following page. An appropriate reduction should be considered in accordance with local building code frost penetration depth.
- Delta Oaks Group recommends an appropriate factor of safety be utilized for the design of the foundation.



ULTIMATE PASSIVE PRESSURE VS. DEPTH – SUPPORT STRUCTURE FOUNDATION

Soil Layers (feet)		Moist Unit Weight	Phi Angle	Cohesion	PV	KP	Ph
Top	0.0	105	0	0	0.00	1.00	0.00
Bottom	0.2	105	0	0	21.00	1.00	10.50
Top	0.2	105	30	0	21.00	3.00	31.50
Bottom	2.5	105	30	0	262.50	3.00	393.75
Top	2.5	105	30	0	262.50	3.00	787.50
Bottom	4.0	105	30	0	420.00	3.00	1260.00
Top	4.0	115	0	2250	420.00	1.00	4920.00
Bottom	9.0	115	0	2250	995.00	1.00	5495.00
Top	9.0	115	32	0	995.00	3.25	3238.32
Bottom	10.0	115	32	0	1110.00	3.25	3612.59



CONSTRUCTION

SITE DEVELOPMENT

The proposed access road and tower compound should be evaluated by a Geotechnical Engineer, or their representative, after the removal or "cutting" of the areas to design elevation but prior to the placement of any structural fill material to verify the presence of unsuitable or weak material. Unsuitable or weak materials should be undercut to a suitable base material as determined by a Geotechnical Engineer, or their representative. Backfill of any undercut area(s) should be conducted in accordance with the recommendations provided in the *STRUCTURAL FILL PLACEMENT* section of this report.

Excavations should be sloped or shored in accordance and compliance with OSHA 29 CFR Part 1926, Excavation Trench Safety Standards as well as any additional local, state and federal regulations.

STRUCTURAL FILL PLACEMENT

Structural fill materials should be verified, prior to utilization, to have a minimum unit weight of 110 pcf (pounds per cubic foot) when compacted to a minimum of 95% of its maximum dry density and within plus or minus 3 percentage points of optimum moisture. Materials utilized should not contain more than 5 percent by weight of organic matter, waste, debris or any otherwise deleterious materials. The Liquid Limit should be no greater than 40 with a Plasticity Index no greater than 20. Structural fill material should contain a maximum particle size of 4 inches with 20 percent or less of the material having a particle size between 2 and 4 inches. Backfill should be placed in thin horizontal lifts not to exceed 8 inches (loose) in large grading areas and 4 inches (loose) where small handheld or walk-behind compaction equipment will be utilized. The potential suitability of on-site materials to be utilized as fill should be evaluated by a Geotechnical Engineer, or their representative just prior to construction.

During construction structural fill placement should be monitored and tested. This should include at minimum, visual observation as well as a sufficient amount of in-place field density tests by a Geotechnical Engineer, or their representative. Materials should be compacted to a minimum of 95% of the maximum dry density as determined by ASTM D 698 (standard Proctor method). Moisture contents should be maintained to within plus or minus 3 percentage points of the optimum moisture content.

SHALLOW FOUNDATIONS

Foundation excavation(s) should be evaluated by a Geotechnical Engineer, or their representative, prior to reinforcing steel and concrete placement. This evaluation should include visual observation to verify a level bearing surface; vertical side-walls with no protrusions, sloughing or caving; and the exposed bearing surface is free of deleterious material, loose soil and standing water. Excavation dimensions should be verified and testing performed on the exposed bearing surface to verify compliance with design recommendations. Bearing testing should be conducted in accordance with ASTM STP399 (Dynamic Cone Penetrometer). A 6-inch layer of compacted crushed stone should be installed prior to reinforcing steel and concrete placement. If subsurface water is encountered during excavation dewatering methods such as sump pumps or well points may be required.



DRILLED SHAFT FOUNDATIONS

Drilled shaft foundations (caissons) are typically installed utilizing an earth auger to reach the design depth of the foundation. Specialized roller bits or core bits can be utilized to penetrate boulders or rock. The equipment utilized should have cutting teeth to result in an excavation with little or no soil smeared or caked on the excavation sides with spiral-like corrugated walls. The drilled shaft design diameter should be maintained throughout the excavation with a plumbness tolerance of 2 percent of the length and an eccentricity tolerance of 3 inches from plan location. A removable steel casing can be installed in the shaft to prevent caving of the excavation sides due to soil relaxation. Upon completion of the drilling and casing placement, loose soils and subsurface water greater than 3-inches in depth should be removed from the bottom of the excavation for the "dry" installation method. The drilled shaft installation should be evaluated by a Geotechnical Engineer, or their representative, to verify suitable end bearing conditions, design diameter and bottom cleanliness. The evaluation should be conducted immediately prior to as well as during concrete placement operations.

The drilled shaft should be concreted as soon as reasonably practical after excavation to reduce the deterioration of the supporting soils to prevent potential caving and water intrusion. A concrete mix design with a slump of 6 to 8 inches employed in conjunction with the design concrete compressive strength should be utilized for placement. Super plasticizer may be required to obtain the recommended slump range. During placement, the concrete may fall freely through the open area in the reinforcing steel cage provided it does not strike the reinforcing steel and/or the casing prior to reaching the bottom of the excavation. The removable steel casing should be extracted as concrete is placed. During steel casing removal a head of concrete should be maintained above the bottom of the casing to prevent soil and water intrusion into the concrete below the bottom of the casing.

If subsurface water is anticipated and/or weak soil layers are encountered drilled shafts are typically installed utilizing the "wet" method by excavating beneath a drilling mud slurry. The drilling mud slurry is added to the drilled shaft excavation after groundwater has been encountered and/or the sides of the excavation are observed to be caving or sloughing. Additional inspection by a Geotechnical Engineer, or their representative, during the "wet" method should consist of verifying maintenance of sufficient slurry head, monitoring the specific gravity, pH and sand content of the drilling slurry, and monitoring any changes in the depth of the excavation between initial approval and just prior to concreting.

Concrete placement utilizing the "wet" method is conducted through a tremie pipe at the bottom of the excavation with the drilling mud slurry level maintained at a minimum of 5 feet or one shaft diameter, whichever is greater, above the ground water elevation. The bottom of the tremie should be set one tremie pipe diameter above the excavation. A closure flap at the bottom of the tremie or a sliding plug introduced into the tremie before the concrete is recommended to reduce the potential contamination of the concrete by the drilling mud slurry. The bottom of the tremie must be maintained in the concrete during placement. Additional concrete should be placed through the tremie causing the slurry to overflow from the excavation in order to reduce the potential for the development of "slurry pockets" remaining in the drilled shaft.



QUALIFICATIONS

The design parameters and conclusions provided in this report have been determined in accordance with generally accepted geotechnical engineering practices and are considered applicable to a rational degree of engineering certainty based on the data available at the time of report preparation and our practice in this geographic region. All recommendations and supporting calculations were prepared based on the data available at the time of report preparation and knowledge of typical geotechnical parameters in the applicable geographic region.

The subsurface conditions used in the determination of the design recommendations contained in this report are based on interpretation of subsurface data obtained at specific boring locations. Irrespective of the thoroughness of the subsurface investigation, the potential exists that conditions between borings will differ from those at the specific boring locations, that conditions are not as anticipated during the original analysis, or that the construction process has altered the soil conditions. That potential is significantly increased in locations where existing fill materials are encountered. Additionally, the nature and extent of these variations may not be evident until the commencement of construction. Therefore, a geotechnical engineer, or their representative, should observe construction practices to confirm that the site conditions do not differ from those conditions anticipated in design. If such variations are encountered, Delta Oaks Group should be contacted immediately in order to provide revisions and/or additional site exploration as necessary.

Samples obtained during our subsurface field investigation will be retained by Delta Oaks Group for a period of 30 days unless otherwise instructed by B+T Group. No warranty, expressed or implied, is presented.

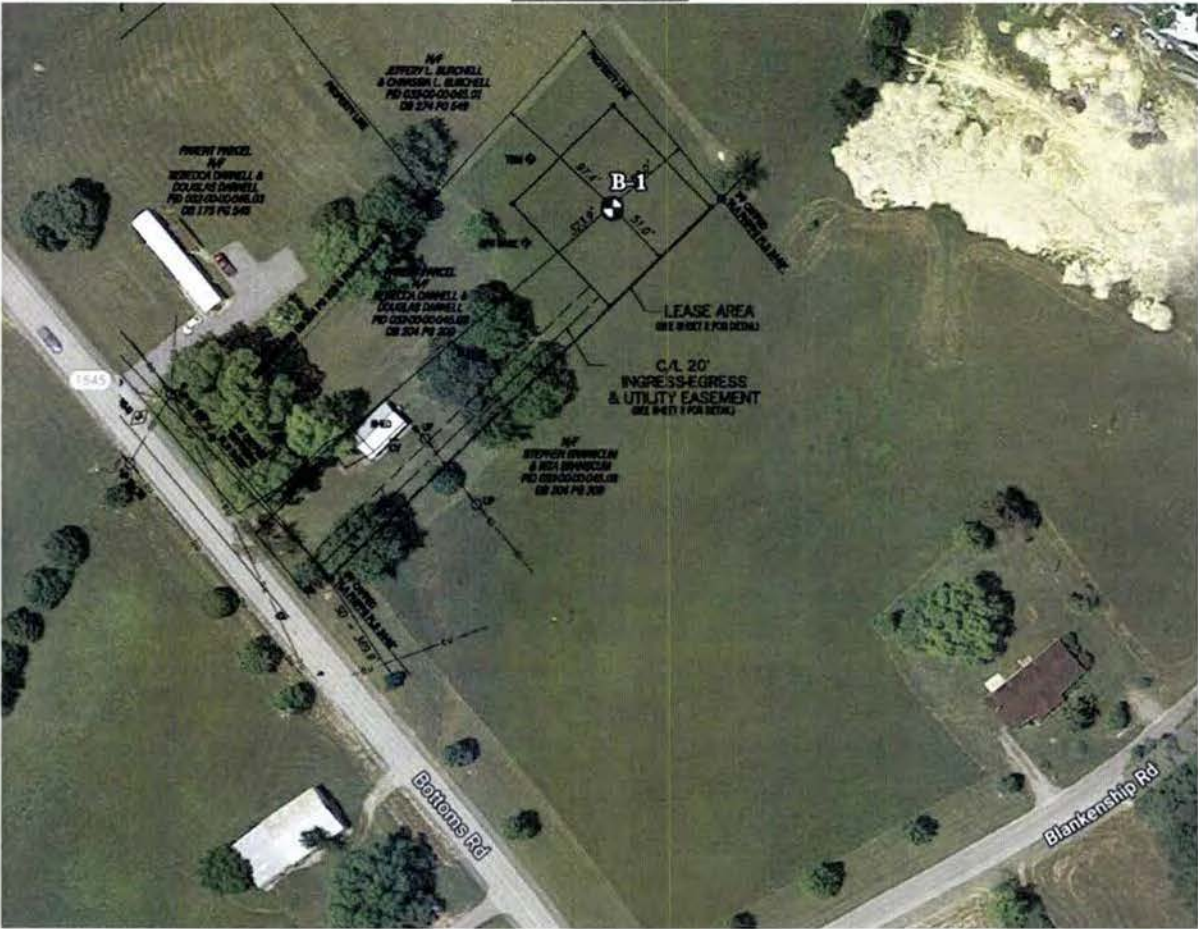
Delta Oaks Group appreciates the opportunity to be of service for this Geotechnical Investigation Report. Please do not hesitate to contact Delta Oaks Group with any questions or should you require additional service on this project.



APPENDIX



BORING PLAN



**EXHIBIT H
DIRECTIONS TO WCF SITE**

Driving Directions to Proposed Russell Springs Relo Tower Site

1. Beginning at the Russell County Judge Executive's Office, located at 410 Monument Sq # 110, Jamestown, KY 42629 start out going northeast on Monument Sq/US-127 Bus N/KY-619.
2. Enter next roundabout and take the 3rd exit onto US-127 Bus N. US-127 Bus N becomes US-127 N.
3. Turn left onto W Steve Wariner Dr/KY-80.
4. Turn right onto Highway 1545/KY-1545.
5. Arrive at 248 Highway 1545, Russell Springs, KY 42642-9534.
6. The site coordinates are 37° 04' 07.28" North latitude, 85° 04' 37.37" West longitude



Prepared by:
Robert W. Grant
Pike Legal Group
1578 Highway 44 East, Suite 6
P.O. Box 396
Shepherdsville, KY 40165-3069
Telephone: 502-955-4400 or 800-516-4293

EXHIBIT I
COPY OF REAL ESTATE AGREEMENT

Market: TN_KY
Cell Site Number: KYBGN2025
Cell Site Name: Russell Springs
Fixed Asset Number: 15145568
County: Russell
State: Kentucky

FIRST AMENDMENT TO OPTION AND LEASE AGREEMENT

This FIRST AMENDMENT TO OPTION AND LEASE AGREEMENT (this "First Amendment") is made and entered into as of the 20th day of November 2020 ("**Amendment Effective Date**"), by and between Rebecca Darnell and Douglas Darnell, as Joint tenants ("**Landlord**") and Harmoni Towers LLC, a Delaware limited liability company (formerly known as Uniti Towers LLC, "**Tenant**").

WITNESSETH:

WHEREAS, Landlord and Tenant entered into that certain Option and Lease Agreement dated March 4, 2020 (the "Lease"), regarding a certain portion of real property located at 244 Highway 1545 Russell Springs, KY 42642, in Russell County, ("Property") and

WHEREAS, Landlord and Tenant now desire to amend certain provisions of the Lease as provided herein below.

NOW, THEREFORE, in consideration of the mutual covenants and agreements herein and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, Landlord and Tenant hereby agree as follows:

1. Premises and Easements. Landlord and Tenant hereby agree to amend the defined area of the "Premises and Easements" and to replace Exhibit 1 of the Lease with Exhibit 1-A, attached hereto.

2. Memorandum of Lease. Landlord and Tenant will execute, acknowledge, and deliver to the other a recordable Amended and Restated Memorandum of Lease substantially in the form of Exhibit 2. Tenant will be responsible for recording this memorandum.

3. Definitions. Unless otherwise defined in this First Amendment each term used in this First Amendment that has been defined in the Lease shall have the same meaning herein as given to such term in the Lease.

4. Ratification. Except as here in modified and amended, the terms and conditions of the Lease are hereby ratified and affirmed and shall remain in full force and effect.

5. Counterparts; Signatures. This First Amendment may be executed in two or more counterparts and/or counterparts signature pages, each of which shall be deemed an original, and all of which shall constitute one and the same instrument. In addition, the parties may execute this First Amendment by electronic signatures, which shall be deemed for all purposes original signatures.

IN WITNESS WHEREOF, the parties hereto have executed this First Amendment effective as of the date first set forth above.

LANDLORD:

Rebecca Darnell and Douglas Darnell, as joint tenants

By: Rebecca Darnell

Print Name: Rebecca Darnell

Date: 11-12-2020

By: Douglas Darnell

Print Name: Douglas Darnell

Date: 11-12-2020

TENANT:

HARMONI TOWERS LLC
a Delaware limited liability company

By: Ginger Majors

Print Name: Ginger Majors

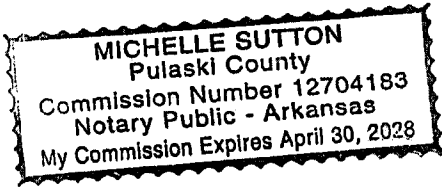
Its: VP-Real Estate

Date: 11-20-2020

TENANT ACKNOWLEDGMENT

STATE OF ARKANSAS)
) ss:
COUNTY OF PULASKI)

On the 20th day of November, 2020, before me personally appeared Ginzer Majors, who acknowledged under oath that he/ she is the VP - Real Estate of Harmoni Towers LLC, the Tenant named in the attached instrument, and as such was authorized to execute this instrument on behalf of the Tenant.

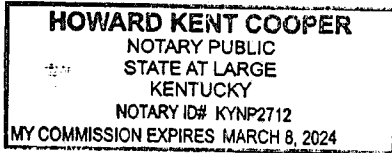


Michelle Sutton
Notary Public: Michelle Sutton
My Commission Expires: 4-30-2028

LANDLORD ACKNOWLEDGMENT

STATE OF Kentucky)
COUNTY OF Russell) ss:

BE IT REMEMBERED, that on this 12 day of Nov., 2020 before me, the subscriber, a person authorized to take oaths in the State of Kentucky, personally appeared **Rebecca Darnell** who, being duly sworn on his/her/their oath, deposed and made proof to my satisfaction that he/she/they is/are the person(s) named in the within instrument; and I, having first made known to him/her/them the contents thereof, he/she/they did acknowledge that he/she/they signed, sealed and delivered the same as his/her/their voluntary act and deed for the purposes therein contained.

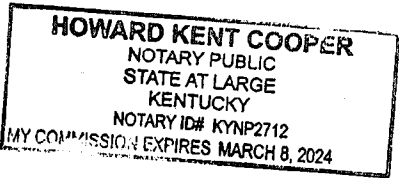


[Signature]
Notary Public: _____
My Commission Expires: _____

LANDLORD ACKNOWLEDGMENT

STATE OF Ky.)
COUNTY OF Russell) ss:

BE IT REMEMBERED, that on this 12 day of Nov., 2020 before me, the subscriber, a person authorized to take oaths in the State of Kentucky, personally appeared **Douglas Darnell** who, being duly sworn on his/her/their oath, deposed and made proof to my satisfaction that he/she/they is/are the person(s) named in the within instrument; and I, having first made known to him/her/them the contents thereof, he/she/they did acknowledge that he/she/they signed, sealed and delivered the same as his/her/their voluntary act and deed for the purposes therein contained.



[Signature]
Notary Public: _____
My Commission Expires: _____

Exhibit 1-A

Description of Premises and Easements

Page 1 of 4

PARENT TRACT (PER TITLE)

Property located in Russell County, Kentucky

Beginning on an iron pin in the East RIW of Bottom's Road, thence with Road N 36° 05' W 2603 feet to an iron pin, thence leaving the road with Ralph Richardson line and being a new division line N 54° 23' E 233.2 feet to a steel post, thence S 35° 11' E 228.5 feet to an iron pin, thence S 46° 50' W 231.4 feet to the beginning, containing 1.30 acres, more or less, and being a portion of the property found in Deed Book 21, Page 157, in the Russell County Clerk's Office. Survey by Michael W. Flanagan, R.L.S.

AND BEING the same property conveyed to Rebecca Darnell and Douglas Darnell from Catherean Loy Richardson, by and through her Attorney in Fact, Marion Richardson by General Warranty Deed dated April 9, 1999 and recorded April 20, 1999 in Deed Book 175, Page 545.

Being Lot #5.

Being and Lying in Russell County, Kentucky, at a set 3/4" re-bar on the Northeast side of the right of way of Old Dunnville Road and Highway '1545' said right of ways being sixty (60) feet. Thence N 46° 54' 22" W 338.55 to a set re-bar being the True Point of Beginning, all set re-bars are 3/4" x 18" with an orange identification cap stamped N.A. Phipps PLS #3448;

Thence N 48° 28' 33" W, a distance of 130.00' to a found one half (1/2) inch re-bar, said re-bar is a corner with Doug & Rebecca Darnell (Deed Book 126 Page 296);

Thence N 34° 41' 03" E, a distance of 391.17' with Darnell and then with the line of and corner with Carl Richardson (Deed Book 154 Page 201), and corner with Boyd Richardson (Deed Book 126 Page 278) to a found steel post;

Thence S 47° 41' 28" E, a distance of 153.11' with Boyd Richardson to a set re-bar;

Thence S 38° 02' 38" W, a distance of 387.00' a new division line to the point of beginning; said described tract containing 1.258 Acres as determined by a survey performed by Nathaniel Phipps and completed this 30th day of April, 2002.

AND BEING the same property conveyed to Rebecca Darnell and Douglas Darnell from Marlene Alley and Lloyd Alley, Marion Richardson and Bonnie Richardson, Danny Richardson and Mary Richardson, Carl Richardson and Ann Richardson, Glen Richardson and Willodean Richardson, Kathy Holt, Boyd Richardson, Dale Stilts and Ray Stilts and Rebecca Darnell and Douglas Darnell by General Warranty Deed dated May 11, 2002 and recorded May 20, 2002 in Deed Book 204, Page 200.

Tax Parcel No. 032-00-00-045.03

LEASE AREA (AS-SURVEYED)

All that tract or parcel of land lying and being in Russell County, Kentucky, and being part of the lands of Rebecca Darnell and Douglas Darnell, as recorded in Deed Book 204 Page 200, Russell County Records, Russell County, Kentucky, and being more particularly described as follows:

To find the point of beginning, COMMENCE at a rebar found (Capped: N.A Phipps PLS 3448) at the easterly right-of-way line of Highway 1545 (having a 60-foot right-of-way), said rebar found having a Kentucky Grid North, NAD83, Single Zone Value of N: 3549038.4810, E: 5117395.9394 and marking the common corner of the lands of Stephen Branscum and Rita Branscum, as recorded in Deed Book 204 Page 309 and the lands of Rebecca Darnell and Douglas Darnell, as recorded in Deed Book 204 Page 200; thence running along said right-of-way line, North 40°30'58" West, 1.00 feet to a point having a Kentucky Grid North, NAD83, Single Zone Value of N: 3549039.2383, E: 5117395.2922; Thence running with said right-of-way line, North 40°30'58" West, 30.06 feet to a point; Thence, leaving said right-of-way line and running, North 46°00'17" East, 48.91 feet to a point; Thence, South 43°59'43" East, 10.00 feet to a point; Thence, North 46°00'17" East, 226.81 feet to a point

on the Lease Area; thence running along said Lease Area, North 43°59'43" West, 80.00 feet to a point and the true POINT OF BEGINNING; Thence, North 46°00'17" East, 100.00 feet to a point; Thence, South 43°59'43" East, 100.00 feet to a point; Thence, South 46°00'17" West, 100.00 feet to a point; Thence, North 43°59'43" West, 100.00 feet to a point and the POINT OF BEGINNING.

Bearings are based on Kentucky Grid North, NAD83, Single Zone.

Said tract contains 0.2296 acres (10,000 square feet), more or less, as shown in a survey prepared for Uniti Towers, LLC by POINT TO POINT LAND SURVEYORS, INC. dated February 06, 2020, and last revised October 29, 2020.

ACCESS & UTILITY EASEMENT (AS-SURVEYED)

Together with a Ingress-Egress and Utility Easement lying and being in Russell County, Kentucky, and being part of the lands of Rebecca Darnell and Douglas Darnell, as recorded in Deed Book 204 Page 200, Russell County Records, Russell County, Kentucky, and being more particularly described as follows:

To find the point of beginning, COMMENCE at a rebar found (Capped: N.A Phipps PLS 3448) at the easterly right-of-way line of Highway 1545 (having a 60-foot right-of-way), said rebar found having a Kentucky Grid North, NAD83, Single Zone Value of N: 3549038.4810, E: 5117395.9394 and marking the common corner of the lands of Stephen Branscum and Rita Branscum, as recorded in Deed Book 204 Page 309 and the lands of Rebecca Darnell and Douglas Darnell, as recorded in Deed Book 204 Page 200; thence running along said right-of-way line, North 40°30'58" West, 1.00 feet to a point having a Kentucky Grid North, NAD83, Single Zone Value of N: 3549039.2383, E: 5117395.2922 and the true POINT OF BEGINNING; Thence running with said right-of-way line, North 40°30'58" West, 30.06 feet to a point; Thence, leaving said right-of-way line and running, North 46°00'17" East, 48.91 feet to a point; Thence, South 43°59'43" East, 10.00 feet to a point; Thence, North 46°00'17" East, 226.81 feet to a point; Thence, South 43°59'43" East, 20.00 feet to a point; Thence, South 46°00'17" West, 277.54 feet to the POINT OF BEGINNING.

Bearings are based on Kentucky Grid North, NAD83, Single Zone.

Said tract contains 0.1384 acres (6,031 square feet), more or less, as shown in a survey prepared for Uniti Towers, LLC by POINT TO POINT LAND SURVEYORS, INC. dated February 06, 2020, and last revised October 29, 2020

Notes:

1. THIS EXHIBIT MAY BE REPLACED BY A LAND SURVEY AND/OR CONSTRUCTION DRAWINGS OF THE PREMISES ONCE RECEIVED BY TENANT.
2. ANY SETBACK OF THE PREMISES FROM THE PROPERTY'S BOUNDARIES SHALL BE THE DISTANCE REQUIRED BY THE APPLICABLE GOVERNMENT AUTHORITIES.
3. WIDTH OF ACCESS ROAD SHALL BE THE WIDTH REQUIRED BY THE APPLICABLE GOVERNMENT AUTHORITIES, INCLUDING POLICE AND FIRE DEPARTMENTS.
4. THE TYPE, NUMBER AND MOUNTING POSITIONS AND LOCATIONS OF ANTENNAS AND TRANSMISSION LINES ARE ILLUSTRATIVE ONLY. ACTUAL TYPES, NUMBERS AND MOUNTING POSITIONS MAY VARY FROM WHAT IS SHOWN ABOVE.

PARENT PARCEL

(AS PROVIDED PER ORDER NO. 30663681)

PROPERTY LOCATED IN RUSSELL COUNTY, KENTUCKY

BEGINNING ON AN IRON PIN IN THE EAST R/W OF BOTTOMS ROAD, THENCE WITH ROAD N 26° 05' W 260.3 FEET TO AN IRON PIN, THENCE LEAVING THE ROAD WITH RALPH RICHARDSON LINE AND BEING A NEW DIVISION LINE N 54° 23' E 233.2 FEET TO A STEEL POST, THENCE S 35° 11' E 226.5 FEET TO AN IRON PIN, THENCE S 46° 50' W 231.4 FEET TO THE BEGINNING, CONTAINING 1.30 ACRES, MORE OR LESS, AND BEING A PORTION OF THE PROPERTY FOUND IN DEED BOOK 21, PAGE 167, IN THE RUSSELL COUNTY CLERK'S OFFICE. SURVEY BY MICHAEL W. FLANNAGAN, R.L.S.

AND BEING THE SAME PROPERTY CONVEYED TO REBECCA DARNELL AND DOUGLAS DARNELL FROM CATHERINE LOY RICHARDSON, BY AND THROUGH HER ATTORNEY IN FACT, MARION RICHARDSON BY GENERAL WARRANTY DEED DATED APRIL 9, 1993 AND RECORDED APRIL 20, 1999 IN DEED BOOK 175, PAGE 543.

BEING LOT #6.

BEING AND LYING IN RUSSELL COUNTY, KENTUCKY, AT A SET 3/4" RE-BAR ON THE NORTHEAST SIDE OF THE RIGHT OF WAY OF OLD DURMILLE ROAD AND HIGHWAY 1545 SAID RIGHT OF WAY BEING SIXTY (60) FEET. THENCE N 45° 54' 22" W 338.55 TO A SET RE-BAR BEING THE TRUE POINT OF BEGINNING, ALL SET RE-BARS ARE 3/4" X 1/8" WITH AN ORANGE IDENTIFICATION CAP STAMPED N.A. PHIPPS PLS #3446;

THENCE N 48° 28' 33" W, A DISTANCE OF 130.00' TO A FOUND ONE HALF (1/2) INCH RE-BAR, SAID RE-BAR IS A CORNER WITH DOUG & REBECCA DARNELL DEED BOOK 126 PAGE 296;

THENCE N 34° 41' 03" E, A DISTANCE OF 391.17' WITH DARNELL AND THEN WITH THE LINE OF AND CORNER WITH CARL RICHARDSON (DEED BOOK 154 PAGE 201), AND CORNER WITH BOYD RICHARDSON DEED BOOK 126 PAGE 278 TO A FOUND STEEL POST;

THENCE S 47° 41' 28" E, A DISTANCE OF 153.11' WITH BOYD RICHARDSON TO A SET RE-BAR;

THENCE S 38° 02' 39" W, A DISTANCE OF 387.00' A NEW DIVISION LINE TO THE POINT OF BEGINNING; SAID DESCRIBED TRACT CONTAINING 1.258 ACRES AS DETERMINED BY A SURVEY PERFORMED BY MATHANIEL PHIPPS AND COMPLETED THIS 30TH DAY OF APRIL, 2002.

AND BEING THE SAME PROPERTY CONVEYED TO REBECCA DARNELL AND DOUGLAS DARNELL FROM MARLENE ALLEY AND LLOYD ALLEY, MARION RICHARDSON AND BONNIE RICHARDSON, DANNY RICHARDSON AND MARY RICHARDSON, CARL RICHARDSON AND ANNI RICHARDSON, CLEO RICHARDSON AND MILLOZEAN RICHARDSON, WATNY HOLT, BOYD RICHARDSON, DALE STULTS AND RAY STULTS AND REBECCA DARNELL AND DOUGLAS DARNELL BY GENERAL WARRANTY DEED DATED MAY 11, 2002 AND RECORDED MAY 20, 2002 IN DEED BOOK 204, PAGE 200.

TAX PARCEL NO. 032-00-00-043.03

SITE INFORMATION

LEASE AREA = 10,000 SQUARE FEET (0.2296 ACRES)

LATITUDE = 37°04'07.28" AND 89 (37.068697)

LONGITUDE = -85°07'02.87" AND 89 (85.117417)

AT CENTER OF LEASE AREA

ELEVATION AT CENTER OF LEASE AREA = 1096.0' A.M.S.L.

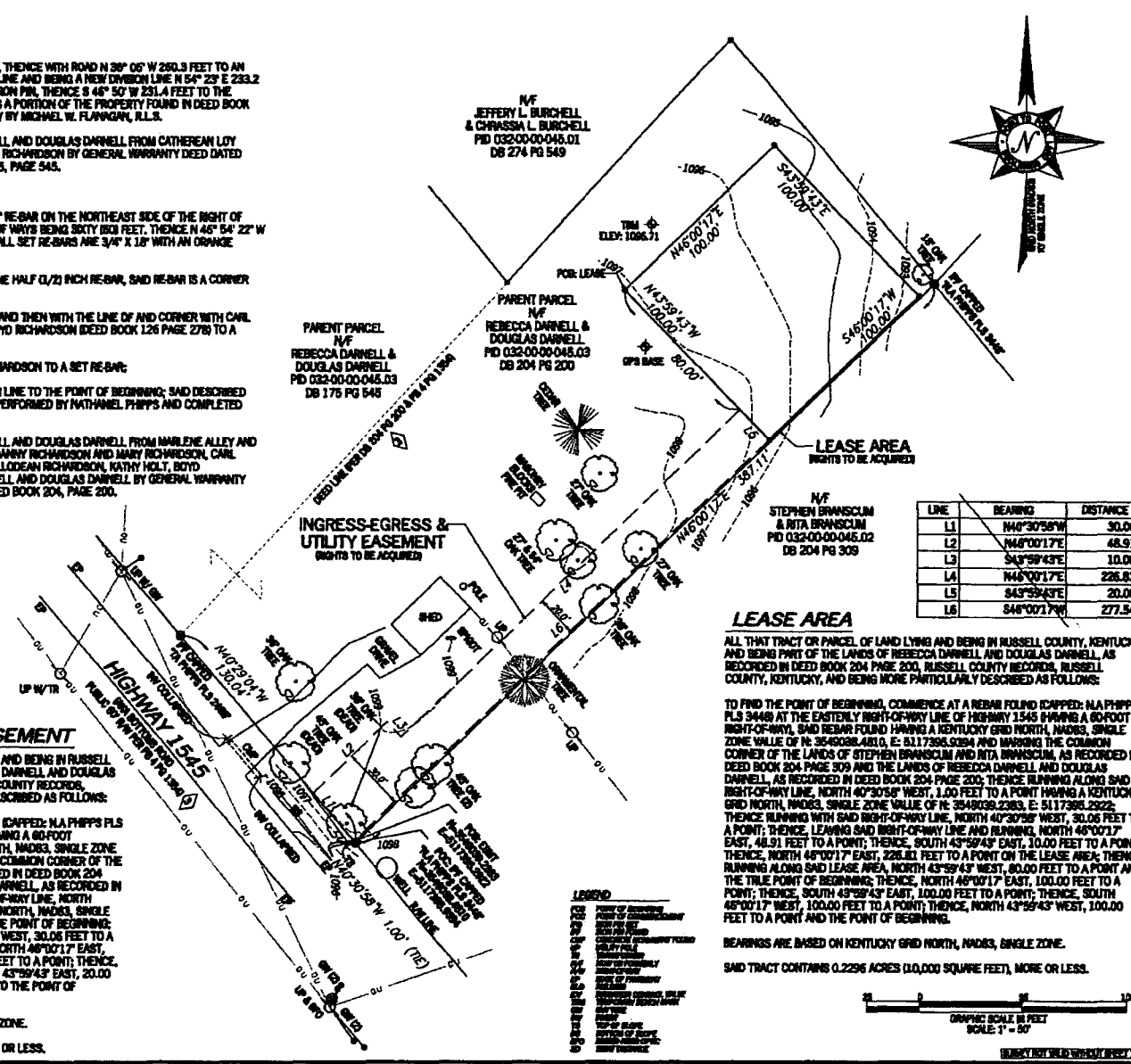
INGRESS-EGRESS & UTILITY EASEMENT

TOGETHER WITH A INGRESS-EGRESS AND UTILITY EASEMENT LYING AND BEING IN RUSSELL COUNTY, KENTUCKY, AND BEING PART OF THE LANDS OF REBECCA DARNELL AND DOUGLAS DARNELL, AS RECORDED IN DEED BOOK 204 PAGE 200, RUSSELL COUNTY RECORDS, RUSSELL COUNTY, KENTUCKY, AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

TO FIND THE POINT OF BEGINNING, COMMENCE AT A REBAR FOUND (CAPPED: N.A. PHIPPS PLS 3446) AT THE EASTERN RIGHT-OF-WAY LINE OF HIGHWAY 1545 HAVING A 60-FOOT RIGHT-OF-WAY, SAID REBAR FOUND HAVING A KENTUCKY GRID NORTH, MAG33, SINGLE ZONE VALUE OF N: 3548038.4810, E: 5117395.9394 AND MARKING THE COMMON CORNER OF THE LANDS OF STEPHEN BRANSCUM AND RITA BRANSCUM, AS RECORDED IN DEED BOOK 204 PAGE 309 AND THE LANDS OF REBECCA DARNELL AND DOUGLAS DARNELL, AS RECORDED IN DEED BOOK 204 PAGE 200; THENCE RUNNING ALONG SAID RIGHT-OF-WAY LINE, NORTH 40°30'58" WEST, 1.00 FEET TO A POINT HAVING A KENTUCKY GRID NORTH, MAG33, SINGLE ZONE VALUE OF N: 3548038.4810, E: 5117395.9394 AND MARKING THE COMMON CORNER OF THE LANDS OF STEPHEN BRANSCUM AND RITA BRANSCUM, AS RECORDED IN DEED BOOK 204 PAGE 309 AND THE LANDS OF REBECCA DARNELL AND DOUGLAS DARNELL, AS RECORDED IN DEED BOOK 204 PAGE 200; THENCE RUNNING ALONG SAID RIGHT-OF-WAY LINE, NORTH 40°30'58" WEST, 1.00 FEET TO A POINT HAVING A KENTUCKY GRID NORTH, MAG33, SINGLE ZONE VALUE OF N: 3548038.4810, E: 5117395.9394 AND MARKING THE COMMON CORNER OF THE LANDS OF STEPHEN BRANSCUM AND RITA BRANSCUM, AS RECORDED IN DEED BOOK 204 PAGE 309 AND THE LANDS OF REBECCA DARNELL AND DOUGLAS DARNELL, AS RECORDED IN DEED BOOK 204 PAGE 200; THENCE RUNNING WITH SAID RIGHT-OF-WAY LINE, NORTH 40°30'58" WEST, 30.06 FEET TO A POINT; THENCE, LEAVING SAID RIGHT-OF-WAY LINE AND RUNNING, NORTH 48°00'17" EAST, 48.91 FEET TO A POINT; THENCE, SOUTH 43°59'43" EAST, 10.00 FEET TO A POINT; THENCE, NORTH 46°00'17" EAST, 226.81 FEET TO A POINT; THENCE, SOUTH 43°59'43" EAST, 20.00 FEET TO A POINT; THENCE, SOUTH 46°00'17" WEST, 277.54 FEET TO THE POINT OF BEGINNING.

BEARINGS ARE BASED ON KENTUCKY GRID NORTH, MAG33, SINGLE ZONE.

SAID TRACT CONTAINS 0.1384 ACRES (6,031 SQUARE FEET), MORE OR LESS.



LINE	BEARING	DISTANCE
L1	N47°30'58"W	30.06'
L2	N46°00'17"E	48.91'
L3	S43°59'43"E	10.00'
L4	N46°00'17"E	226.81'
L5	S43°59'43"E	20.00'
L6	S46°00'17"W	277.54'

LEASE AREA

ALL THAT TRACT OR PARCEL OF LAND LYING AND BEING IN RUSSELL COUNTY, KENTUCKY, AND BEING PART OF THE LANDS OF REBECCA DARNELL AND DOUGLAS DARNELL, AS RECORDED IN DEED BOOK 204 PAGE 200, RUSSELL COUNTY RECORDS, RUSSELL COUNTY, KENTUCKY, AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

TO FIND THE POINT OF BEGINNING, COMMENCE AT A REBAR FOUND (CAPPED: N.A. PHIPPS PLS 3446) AT THE EASTERN RIGHT-OF-WAY LINE OF HIGHWAY 1545 HAVING A 60-FOOT RIGHT-OF-WAY, SAID REBAR FOUND HAVING A KENTUCKY GRID NORTH, MAG33, SINGLE ZONE VALUE OF N: 3548038.4810, E: 5117395.9394 AND MARKING THE COMMON CORNER OF THE LANDS OF STEPHEN BRANSCUM AND RITA BRANSCUM, AS RECORDED IN DEED BOOK 204 PAGE 309 AND THE LANDS OF REBECCA DARNELL AND DOUGLAS DARNELL, AS RECORDED IN DEED BOOK 204 PAGE 200; THENCE RUNNING ALONG SAID RIGHT-OF-WAY LINE, NORTH 40°30'58" WEST, 1.00 FEET TO A POINT HAVING A KENTUCKY GRID NORTH, MAG33, SINGLE ZONE VALUE OF N: 3548038.4810, E: 5117395.9394; THENCE RUNNING WITH SAID RIGHT-OF-WAY LINE, NORTH 40°30'58" WEST, 30.06 FEET TO A POINT; THENCE, LEAVING SAID RIGHT-OF-WAY LINE AND RUNNING, NORTH 48°00'17" EAST, 48.91 FEET TO A POINT; THENCE, SOUTH 43°59'43" EAST, 10.00 FEET TO A POINT; THENCE, NORTH 46°00'17" EAST, 226.81 FEET TO A POINT ON THE LEASE AREA; THENCE RUNNING ALONG SAID LEASE AREA, NORTH 43°59'43" WEST, 30.00 FEET TO A POINT AND THE TRUE POINT OF BEGINNING; THENCE, NORTH 46°00'17" EAST, 100.00 FEET TO A POINT; THENCE, SOUTH 43°59'43" EAST, 100.00 FEET TO A POINT; THENCE, SOUTH 46°00'17" WEST, 100.00 FEET TO A POINT; THENCE, NORTH 43°59'43" WEST, 100.00 FEET TO A POINT AND THE POINT OF BEGINNING.

BEARINGS ARE BASED ON KENTUCKY GRID NORTH, MAG33, SINGLE ZONE. SAID TRACT CONTAINS 0.2296 ACRES (10,000 SQUARE FEET), MORE OR LESS.



STATE OF KENTUCKY
G. DARRELL TAYLOR 4179
LICENSED PROFESSIONAL LAND SURVEYOR

NO.	DATE	REVISION
1	6/22/2020	CS11 ADDITIONS
2	10/24/2020	PHIPPS CAPS - NEW

POINT TO POINT LAND SURVEYORS
100 Governors Trace, Ste. 103
Peachtree City, GA 30269
(p) 678.565.4440 (f) 678.565.4497
(w) pointtopointsurvey.com



SPECIFIC PURPOSE SURVEY PREPARED FOR:



RUSSELL SPRINGS
SITE NO. KYBGN2025
RUSSELL COUNTY, KENTUCKY

DRAWN BY: AMB
CHECKED BY: JAL
APPROVED: D. MILLER
DATE: FEBRUARY 6, 2020

SHEET: 2

Exhibit 2

Form of Amended Memorandum of Lease

OPTION AND LEASE AGREEMENT

THIS OPTION AND LEASE AGREEMENT ("**Agreement**"), dated as of the latter of the signature dates below (the "**Effective Date**"), is entered into by Rebecca Darnell and Douglas Darnell, as Joint tenants, having a mailing address of 248 Hwy. 1545 Russell Springs, KY 42642 , and Uniti Towers LLC, a Delaware limited liability company having a mailing address of 10802 Executive Center Drive, Benton Building, Suite 300, Little Rock AR 72211 ("**Tenant**").

BACKGROUND

Landlord owns or controls that certain plot, parcel or tract of land, as described on **Exhibit 1**, together with all rights and privileges arising in connection therewith, located at Blankenship Rd., 280' west of Hwy. 1545, in the City/Town of Russell Springs, County of Russell, State of Kentucky (collectively, the "**Property**"). Landlord desires to grant to Tenant the right to use a portion of the Property in accordance with this Agreement.

The parties agree as follows:

1. OPTION TO LEASE.

(a) Landlord grants to Tenant an exclusive option (the "**Option**") to lease a certain portion of the Property containing approximately 10,000 square feet including the air space above such ground space, as described on attached **Exhibit 1**, (the "**Premises**"), for the placement of a Communication Facility.

(b) During the Option Term, and during the Term, Tenant and its agents, engineers, surveyors and other representatives will have the right to enter upon the Property to inspect, examine, conduct soil borings, drainage testing, material sampling, radio frequency testing and other geological or engineering tests or studies of the Property (collectively, the "**Tests**"), to apply for and obtain licenses, permits, approvals, or other relief required of or deemed necessary or appropriate at Tenant's sole discretion for its use of the Premises and include, without limitation, applications for zoning variances, zoning ordinances, amendments, special use permits, and construction permits (collectively, the "**Government Approvals**"), initiate the ordering and/or scheduling of necessary utilities, and otherwise to do those things on or off the Property that, in the opinion of Tenant, are necessary in Tenant's sole discretion to determine the physical condition of the Property, the environmental history of the Property, Landlord's title to the Property and the feasibility or suitability of the Property for Tenant's Permitted Use, all at Tenant's expense. Tenant will not be liable to Landlord or any third party on account of any pre-existing defect or condition on or with respect to the Property, whether or not such defect or condition is disclosed by Tenant's inspection. Tenant will restore the Property to its condition as it existed at the commencement of the Option Term, reasonable wear and tear and loss by casualty or other causes beyond Tenant's control excepted.

(c) In consideration of Landlord granting Tenant the Option, Tenant agrees to pay Landlord the sum of [REDACTED] within thirty (30) business days after the Effective Date. The Option may be exercised during an initial term of one (1) year commencing on the Effective Date (the "**Initial Option Term**") which term may be renewed by Tenant for an additional one (1) year (the "**Renewal Option Term**") upon written notification to Landlord and the payment of an additional [REDACTED] no later than five (5) days prior to the expiration date of the Initial Option Term. The Initial Option Term and any Renewal Option Term are collectively referred to as the "**Option Term**."

(d) The Option may be sold, assigned or transferred at any time by Tenant without the written consent of Landlord. Upon notification to Landlord of such sale, assignment, or transfer, Tenant shall immediately be released from any and all liability under this Agreement, including the payment of any rental or other sums due, without any further action.

(e) During the Option Term, Tenant may exercise the Option by notifying Landlord in writing. If Tenant exercises the Option, then Landlord leases the Premises to Tenant subject to the terms and conditions of

this Agreement. If Tenant does not exercise the Option during the Initial Option Term or any extension thereof, this Agreement will terminate, and the parties will have no further liability to each other.

(f) If during the Option Term, or during the Term if the Option is exercised, Landlord decides to subdivide, sell, or change the status of the zoning of the Premises, Property or any of Landlord's contiguous, adjoining or surrounding property (the "**Surrounding Property**,") or in the event of a threatened foreclosure, Landlord shall immediately notify Tenant in writing. Landlord agrees that during the Option Term, or during the Term if the Option is exercised, Landlord shall not initiate or consent to any change in the zoning of the Premises, Property or Surrounding Property or impose or consent to any other use or restriction that would prevent or limit Tenant from using the Premises for the Permitted Use. Any and all terms and conditions of this Agreement that by their sense and context are intended to be applicable during the Option Term shall be so applicable.

2. **PERMITTED USE.** Tenant may use the Premises for the transmission and reception of communications signals and the installation, construction, maintenance, operation, repair, replacement and upgrade of communications fixtures and related equipment, cables, accessories and improvements, which may include a suitable support structure ("**Structure**"), associated antennas, equipment shelters or cabinets and fencing and any other items necessary to the successful and secure use of the Premises (collectively, the "**Communication Facility**"), as well as the right to test, survey and review title on the Property; Tenant further has the right but not the obligation to add, modify and/or replace equipment in order to be in compliance with any current or future federal, state or local mandated application, including, but not limited to, emergency 911 communication services, at no additional cost to Tenant or Landlord (collectively, the "**Permitted Use**"). Landlord and Tenant agree that any portion of the Communication Facility that may be conceptually described on **Exhibit 1** will not be deemed to limit Tenant's Permitted Use. If **Exhibit 1** includes drawings of the initial installation of the Communication Facility, Landlord's execution of this Agreement will signify Landlord's approval of **Exhibit 1**. For a period of ninety (90) days following the start of construction, Landlord grants Tenant, its subtenants, licensees and sublicensees, the right to use such portions of the **Surrounding Property** as may reasonably be required during construction and installation of the Communication Facility. Tenant has the right to install and operate transmission cables from the equipment shelter or cabinet to the antennas, electric lines from the main feed to the equipment shelter or cabinet and communication lines from the Property's main entry point to the equipment shelter or cabinet, install a generator and to make other improvements, alterations, upgrades or additions appropriate for Tenant's Permitted Use including the right to construct a fence around the Premises or equipment, install warning signs to make individuals aware of risks, install protective barriers, install any other control measures reasonably required by Tenant's safety procedures or applicable law, and undertake any other appropriate means to secure the Premises or equipment at Tenant's expense. Tenant has the right to modify, supplement, replace, upgrade, expand the Communication Facility (including, for example, increasing the number of antennas or adding microwave dishes) or relocate the Communication Facility within the Premises at any time during the Term. Tenant will be allowed to make such alterations to the Property in order to ensure that the Communication Facility complies with all applicable federal, state or local laws, rules or regulations. In the event Tenant desires to modify or upgrade the Communication Facility, in a manner that requires an additional portion of the Property (the "**Additional Premises**") for such modification or upgrade, Landlord agrees to lease to Tenant the Additional Premises, upon the same terms and conditions set forth herein, except that the Rent shall increase, in conjunction with the lease of the Additional Premises by the amount equivalent to the then-current per square foot rental rate charged by Landlord to Tenant times the square footage of the Additional Premises. Landlord agrees to take such actions and enter into and deliver to Tenant such documents as Tenant reasonably requests in order to effect and memorialize the lease of the Additional Premises to Tenant.

3. **TERM.**

(a) The initial lease term will be five (5) years (the "**Initial Term**"), commencing on the effective date of written notification by Tenant to Landlord of Tenant's exercise of the Option (the "**Term Commencement Date**"). The Initial Term will terminate on the fifth (5th) anniversary of the Term Commencement Date.

(b) This Agreement will automatically renew for seventeen (17) additional five (5) year term(s) (each additional five (5) year term shall be defined as an "Extension Term"), upon the same terms and conditions set forth herein unless Tenant notifies Landlord in writing of Tenant's intention not to renew this Agreement at least sixty (60) days prior to the expiration of the Initial Term or then-existing Extension Term.

(c) Unless (i) Landlord or Tenant notifies the other in writing of its intention to terminate this Agreement at least six (6) months prior to the expiration of the final Extension Term, or (ii) the Agreement is terminated as otherwise permitted by this Agreement prior to the end of the final Extension Term, this Agreement shall continue in force upon the same covenants, terms and conditions for a further term of one (1) year, and for annual terms thereafter ("Annual Term") until terminated by either party by giving to the other party written notice of its intention to so terminate at least six (6) months prior to the end of any such Annual Term. Monthly rent during such Annual Terms shall be equal to the Rent paid for the last month of the final Extension Term. If Tenant remains in possession of the Premises after the termination of this Agreement, then Tenant will be deemed to be occupying the Premises on a month-to-month basis (the "Holdover Term"), subject to the terms and conditions of this Agreement.

(d) The Initial Term, any Extension Terms, any Annual Terms and any Holdover Term are collectively referred to as the "Term".

4. RENT.

(a) Commencing on the first day of the month following the date that Tenant commences construction (the "Rent Commencement Date"). Tenant will pay Landlord on or before the fifth (5th) day of each calendar month in advance, [REDACTED] (the "Rent"), at the address set forth above. In any partial month occurring after the Rent Commencement Date, Rent will be prorated. The initial Rent payment will be forwarded by Tenant to Landlord within forty-five (45) days after the Rent Commencement Date.

(b) In year two (2) of the Initial Term, and each year thereafter, including throughout any Extension Terms exercised, the monthly Rent will increase by [REDACTED] over the Rent paid during the previous year, effective the first day of the month in which the anniversary of the Term Commencement Date occurs

(c) All charges payable under this Agreement such as utilities and taxes shall be billed by Landlord within one (1) year from the end of the calendar year in which the charges were incurred; any charges beyond such period shall not be billed by Landlord, and shall not be payable by Tenant. The foregoing shall not apply to monthly Rent which is due and payable without a requirement that it be billed by Landlord. The provisions of this subsection shall survive the termination or expiration of this Agreement.

5. APPROVALS.

(a) Landlord agrees that Tenant's ability to use the Premises is contingent upon the suitability of the Premises and Property for the Permitted Use and Tenant's ability to obtain and maintain all Government Approvals. Landlord authorizes Tenant to prepare, execute and file all required applications to obtain Government Approvals for the Permitted Use and agrees to reasonably assist Tenant with such applications and with obtaining and maintaining the Government Approvals.

(b) Tenant has the right to obtain a title report or commitment for a leasehold title policy from a title insurance company of its choice and to have the Property surveyed by a surveyor of its choice.

(c) Tenant may also perform and obtain, at Tenant's sole cost and expense, soil borings, percolation tests, engineering procedures, environmental investigation or other tests or reports on, over, and under the Property, necessary to determine if Tenant's use of the Premises will be compatible with Tenant's engineering specifications, system, design, operations or Government Approvals.

6. TERMINATION. This Agreement may be terminated, without penalty or further liability, as follows:

(a) by either party on thirty (30) days prior written notice, if the other party remains in default under Section 15 of this Agreement after the applicable cure periods;

(b) by Tenant upon written notice to Landlord, if Tenant is unable to obtain, or maintain, any required approval(s) or the issuance of a license or permit by any agency, board, court or other governmental

authority necessary for the construction or operation of the Communication Facility as now or hereafter intended by Tenant; or if Tenant determines, in its sole discretion that the cost of or delay in obtaining or retaining the same is commercially unreasonable;

(c) by Tenant, upon written notice to Landlord, if Tenant determines, in its sole discretion, due to the title report results or survey results, that the condition of the Premises is unsatisfactory for its intended uses;

(d) by Tenant upon written notice to Landlord for any reason or no reason, at any time prior to commencement of construction by Tenant; or

(e) by Tenant upon sixty (60) days' prior written notice to Landlord for any reason or no reason, so long as Tenant pays Landlord a termination fee equal to three (3) months' Rent, at the then-current rate, provided, however, that no such termination fee will be payable on account of the termination of this Agreement by Tenant under any termination provision contained in any other Section of this Agreement, including the following: Section 5 Approvals, Section 6(a) Termination, Section 6(b) Termination, Section 6(c) Termination, Section 6(d) Termination, Section 11(d) Environmental, Section 18 Condemnation or Section 19 Casualty.

7. **INSURANCE.** During the Option Term and throughout the Term, Tenant will purchase and maintain in full force and effect such general liability policy as Tenant may deem necessary. Said policy of general liability insurance will at a minimum provide a combined single limit of [REDACTED]

[REDACTED] Notwithstanding the foregoing, Tenant shall have the right to self-insure such general liability coverage.

8. **INTERFERENCE.**

(a) Prior to or concurrent with the execution of this Agreement, Landlord has provided or will provide Tenant with a list of radio frequency user(s) and frequencies used on the Property as of the Effective Date. Tenant warrants that its use of the Premises will not interfere with those existing radio frequency uses on the Property, as long as the existing radio frequency user(s) operate and continue to operate within their respective frequencies and in accordance with all applicable laws and regulations.

(b) Landlord will not grant, after the Effective Date, a lease, license or any other right to any third party, if the exercise of such grant may in any way adversely affect or interfere with the Communication Facility, the operations of Tenant or the rights of Tenant under this Agreement. Landlord will notify Tenant in writing prior to granting any third party the right to install and operate communications equipment on the Property.

(c) Landlord will not, nor will Landlord permit its employees, tenants, licensees, invitees, agents or independent contractors to interfere in any way with the Communication Facility, the operations of Tenant or the rights of Tenant under this Agreement. Landlord will cause such interference to cease within twenty-four (24) hours after receipt of notice of interference from Tenant. In the event any such interference does not cease within the aforementioned cure period, Landlord shall cease all operations which are suspected of causing interference (except for intermittent testing to determine the cause of such interference) until the interference has been corrected.

(d) For the purposes of this Agreement, "interference" may include, but is not limited to, any use on the Property or Surrounding Property that causes electronic or physical obstruction with, or degradation of, the communications signals from the Communication Facility.

9. **INDEMNIFICATION.**

(a) Tenant agrees to indemnify, defend and hold Landlord harmless from and against any and all injury, loss, damage or liability, costs or expenses in connection with a third party claim (including reasonable attorneys' fees and court costs) arising directly from the installation, use, maintenance, repair or removal of the Communication Facility or Tenant's breach of any provision of this Agreement, except to the extent attributable to the negligent or intentional act or omission of Landlord, its employees, invitees, agents or independent contractors.

(b) Landlord agrees to indemnify, defend and hold Tenant harmless from and against any and all injury, loss, damage or liability, costs or expenses in connection with a third party claim (including reasonable

attorneys' fees and court costs) arising directly from the actions or failure to act of Landlord, its employees, invitees agents or independent contractors, or Landlord's breach of any provision of this Agreement, except to the extent attributable to the negligent or intentional act or omission of Tenant, its employees, agents or independent contractors.

(c) The indemnified party: (i) shall promptly provide the indemnifying party with written notice of any claim, demand, lawsuit, or the like for which it seeks indemnification pursuant to this Section and provide the indemnifying party with copies of any demands, notices, summonses, or legal papers received in connection with such claim, demand, lawsuit, or the like; (ii) shall not settle any such claim, demand, lawsuit, or the like without the prior written consent of the indemnifying party; and (iii) shall fully cooperate with the indemnifying party in the defense of the claim, demand, lawsuit, or the like. A delay in notice shall not relieve the indemnifying party of its indemnity obligation, except (1) to the extent the indemnifying party can show it was prejudiced by the delay; and (2) the indemnifying party shall not be liable for any settlement or litigation expenses incurred before the time when notice is given.

10. WARRANTIES.

(a) Each of Tenant and Landlord (to the extent not a natural person) acknowledge and represent that it is duly organized, validly existing and in good standing and has the right, power and authority or capacity, as applicable, to enter into this Agreement and bind itself hereto through the party or individual set forth as signatory for the party below.

(b) Landlord represents, warrants and agrees that: (i) Landlord solely owns the Property as a legal lot in fee simple, or controls the Property by lease or license; (ii) the Property is not and will not be encumbered by any liens, restrictions, mortgages, covenants, conditions, easements, leases, or any other agreements of record or not of record, which would adversely affect Tenant's Permitted Use and enjoyment of the Premises under this Agreement; (iii) as long as Tenant is not in default then Landlord grants to Tenant sole, actual, quiet and peaceful use, enjoyment and possession of the Premises without hindrance or ejection by any persons lawfully claiming under Landlord ; (iv) Landlord's execution and performance of this Agreement will not violate any laws, ordinances, covenants or the provisions of any mortgage, lease or other agreement binding on Landlord; and (v) if the Property is or becomes encumbered by a deed to secure a debt, mortgage or other security interest, Landlord will provide promptly to Tenant a mutually agreeable subordination, non-disturbance and attornment agreement executed by Landlord and the holder of such security interest in the form attached hereto as **Exhibit 10(b)**.

11. ENVIRONMENTAL.

(a) Landlord represents and warrants, except as may be identified in **Exhibit 11** attached to this Agreement, (i) the Property, as of the Effective Date, is free of hazardous substances, including asbestos-containing materials and lead paint, and (ii) the Property has never been subject to any contamination or hazardous conditions resulting in any environmental investigation, inquiry or remediation. Landlord and Tenant agree that each will be responsible for compliance with any and all applicable governmental laws, rules, statutes, regulations, codes, ordinances, or principles of common law regulating or imposing standards of liability or standards of conduct with regard to protection of the environment or worker health and safety, as may now or at any time hereafter be in effect, to the extent such apply to that party's activity conducted in or on the Property.

(b) Landlord and Tenant agree to hold harmless and indemnify the other from, and to assume all duties, responsibilities and liabilities at the sole cost and expense of the indemnifying party for, payment of penalties, sanctions, forfeitures, losses, costs or damages, and for responding to any action, notice, claim, order, summons, citation, directive, litigation, investigation or proceeding ("**Claims**"), to the extent arising from that party's breach of its obligations or representations under Section 11(a). Landlord agrees to hold harmless and indemnify Tenant from, and to assume all duties, responsibilities and liabilities at the sole cost and expense of Landlord for, payment of penalties, sanctions, forfeitures, losses, costs or damages, and for responding to any Claims, to the extent arising from subsurface or other contamination of the Property with hazardous substances prior to the Effective Date or from such contamination caused by the acts or omissions of Landlord during the Term. Tenant agrees to hold harmless and indemnify Landlord from, and to assume all duties, responsibilities

and liabilities at the sole cost and expense of Tenant for, payment of penalties, sanctions, forfeitures, losses, costs or damages, and for responding to any Claims, to the extent arising from hazardous substances brought onto the Property by Tenant.

(c) The indemnification provisions contained in this Section 11 specifically include reasonable costs, expenses and fees incurred in connection with any investigation of Property conditions or any clean-up, remediation, removal or restoration work required by any governmental authority. The provisions of this Section 11 will survive the expiration or termination of this Agreement.

(d) In the event Tenant becomes aware of any hazardous materials on the Property, or any environmental, health or safety condition or matter relating to the Property, that, in Tenant's sole determination, renders the condition of the Premises or Property unsuitable for Tenant's use, or if Tenant believes that the leasing or continued leasing of the Premises would expose Tenant to undue risks of liability to a government agency or other third party, Tenant will have the right, in addition to any other rights it may have at law or in equity, to terminate this Agreement upon written notice to Landlord.

12. **ACCESS.** At all times throughout the Term of this Agreement, and at no additional charge to Tenant, Tenant and its employees, agents, and subcontractors, will have twenty-four (24) hour per day, seven (7) day per week pedestrian and vehicular access ("Access") to and over the Property, from an open and improved public road to the Premises, for the installation, maintenance and operation of the Communication Facility and any utilities serving the Premises. As may be described more fully in **Exhibit 1**, Landlord grants to Tenant an easement for such Access and Landlord agrees to provide to Tenant such codes, keys and other instruments necessary for such Access at no additional cost to Tenant. Upon Tenant's request, Landlord will execute a separate recordable easement evidencing this right. Landlord shall execute a letter granting Tenant Access to the Property substantially in the form attached as **Exhibit 12**; upon Tenant's request, Landlord shall execute additional letters during the Term. Landlord acknowledges that in the event Tenant cannot obtain Access to the Premises, Tenant shall incur significant damage. If Landlord fails to provide the Access granted by this Section 12, such failure shall be a default under this Agreement. In connection with such default, in addition to any other rights or remedies available to Tenant under this Agreement or at law or equity, Landlord shall pay Tenant, as liquidated damages and not as a penalty, [REDACTED] per day in consideration of Tenant's damages until Landlord cures such default. Landlord and Tenant agree that Tenant's damages in the event of a denial of Access are difficult, if not impossible, to ascertain, and the liquidated damages set forth above are a reasonable approximation of such damages.

13. **REMOVAL/RESTORATION.** All portions of the Communication Facility brought onto the Property by Tenant will be and remain Tenant's personal property and, at Tenant's option, may be removed by Tenant at any time during or after the Term. Landlord covenants and agrees that no part of the Communication Facility constructed, erected or placed on the Premises by Tenant will become, or be considered as being affixed to or a part of, the Property, it being the specific intention of Landlord that all improvements of every kind and nature constructed, erected or placed by Tenant on the Premises will be and remain the property of Tenant and may be removed by Tenant at any time during or after the Term. Tenant will repair any damage to the Property resulting from Tenant's removal activities. Any portions of the Communication Facility that Tenant does not remove within one hundred twenty (120) days after the later of the end of the Term and cessation of Tenant's operations at the Premises shall be deemed abandoned and owned by Landlord. Notwithstanding the foregoing, Tenant will not be responsible for the replacement of any trees, shrubs or other vegetation.

14. **MAINTENANCE/UTILITIES.**

(a) Tenant will keep and maintain the Premises in good condition, reasonable wear and tear and damage from the elements excepted. Landlord will maintain and repair the Property and access thereto and all areas of the Premises where Tenant does not have exclusive control, in good and tenantable condition, subject to reasonable wear and tear and damage from the elements. Landlord will be responsible for maintenance of landscaping on the Property, including any landscaping installed by Tenant as a condition of this Agreement or any required permit.

(b) Tenant will be responsible for paying on a monthly or quarterly basis all utilities charges for electricity, telephone service or any other utility used or consumed by Tenant on the Premises. In the event Tenant cannot secure its own metered electrical supply, Tenant will have the right, at its own cost and expense, to sub-meter from Landlord. When sub-metering is required under this Agreement, Landlord will read the meter and provide Tenant with an invoice and usage data on a monthly basis. Tenant shall reimburse Landlord for such utility usage at the same rate charged to Landlord by the utility service provider. Landlord further agrees to provide the usage data and invoice on forms provided by Tenant and to send such forms to such address and/or agent designated by Tenant. Tenant will remit payment within sixty (60) days of receipt of the usage data and required forms. Landlord shall maintain accurate and detailed records of all utility expenses, invoices and payments applicable to Tenant's reimbursement obligations hereunder. Within fifteen (15) days after a request from Tenant, Landlord shall provide copies of such utility billing records to the Tenant in the form of copies of invoices, contracts and cancelled checks. If the utility billing records reflect an overpayment by Tenant, Tenant shall have the right to deduct the amount of such overpayment from any monies due to Landlord from Tenant.

(c) As noted in Section 4(c) above, any utility fee recovery by Landlord is limited to a twelve (12) month period. If Tenant submeters electricity from Landlord, Landlord agrees to give Tenant at least twenty-four (24) hours advance notice of any planned interruptions of said electricity. Landlord acknowledges that Tenant provides a communication service which requires electrical power to operate and must operate twenty-four (24) hours per day, seven (7) days per week. If the interruption is for an extended period of time, in Tenant's reasonable determination, Landlord agrees to allow Tenant the right to bring in a temporary source of power for the duration of the interruption. Landlord will not be responsible for interference with, interruption of or failure, beyond the reasonable control of Landlord, of such services to be furnished or supplied by Landlord.

(d) Tenant will have the right to install utilities, at Tenant's expense, and to improve present utilities on the Property and the Premises. Landlord hereby grants to any service company providing utility or similar services, including electric power and telecommunications, to Tenant an easement over the Property, from an open and improved public road to the Premises, and upon the Premises, for the purpose of constructing, operating and maintaining such lines, wires, circuits, and conduits, associated equipment cabinets and such appurtenances thereto, as such service companies may from time to time require in order to provide such services to the Premises. Upon Tenant's or service company's request, Landlord will execute a separate recordable easement evidencing this grant, at no cost to Tenant or the service company.

15. DEFAULT AND RIGHT TO CURE.

(a) The following will be deemed a default by Tenant and a breach of this Agreement: (i) non-payment of Rent if such Rent remains unpaid for more than thirty (30) days after written notice from Landlord of such failure to pay; or (ii) Tenant's failure to perform any other term or condition under this Agreement within forty-five (45) days after written notice from Landlord specifying the failure. No such failure, however, will be deemed to exist if Tenant has commenced to cure such default within such period and provided that such efforts are prosecuted to completion with reasonable diligence. Delay in curing a default will be excused if due to causes beyond the reasonable control of Tenant. If Tenant remains in default beyond any applicable cure period, Landlord will have the right to exercise any and all rights and remedies available to it under law and equity.

(b) The following will be deemed a default by Landlord and a breach of this Agreement: (i) Landlord's failure to provide Access to the Premises as required by Section 12 within twenty-four (24) hours after written notice of such failure; (ii) Landlord's failure to cure an interference problem as required by Section 8 within twenty-four (24) hours after written notice of such failure; or (iii) Landlord's failure to perform any term, condition or breach of any warranty or covenant under this Agreement within forty-five (45) days after written notice from Tenant specifying the failure. No such failure, however, will be deemed to exist if Landlord has commenced to cure the default within such period and provided such efforts are prosecuted to completion with reasonable diligence. Delay in curing a default will be excused if due to causes beyond the reasonable control of Landlord. If Landlord remains in default beyond any applicable cure period, Tenant will

have: (i) the right to cure Landlord's default and to deduct the costs of such cure from any monies due to Landlord from Tenant, and (ii) any and all other rights available to it under law and equity.

16. **ASSIGNMENT/SUBLEASE.** Tenant will have the right to assign this Agreement or sublease the Premises and its rights herein, in whole or in part, without Landlord's consent. Upon notification to Landlord of such assignment, Tenant will be relieved of all future performance, liabilities and obligations under this Agreement to the extent of such assignment.

17. **NOTICES.** All notices, requests and demands hereunder will be given by first class certified or registered mail, return receipt requested, or by a nationally recognized overnight courier, postage prepaid, to be effective when properly sent and received, refused or returned undelivered. Notices will be addressed to the parties as follows:

If to Tenant: Uniti Towers LLC
 Attn: Real Estate
 10801 Executive Center Drive
 Shannon Building, Suite 100
 Little Rock AR 72211
 501.458.4724

CC: Uniti Towers LLC
 ATTN: Keith Harvey, Deputy General Counsel
 10802 Executive Center Drive
 Benton Building, Suite 300
 Little Rock AR 72211

For Emergencies: NOC 1-844-398-9716

If to Landlord: Rebecca Darnell and Douglas Darnell
 248 Hwy. 1545
 Russell Springs, KY 42642
 Telephone: (270) 585-4046

Either party hereto may change the place for the giving of notice to it by thirty (30) days' prior written notice to the other party as provided herein.

18. **CONDEMNATION.** In the event Landlord receives notification of any condemnation proceedings affecting the Property, Landlord will provide notice of the proceeding to Tenant within twenty-four (24) hours. If a condemning authority takes all of the Property, or a portion sufficient, in Tenant's sole determination, to render the Premises unsuitable for Tenant, this Agreement will terminate as of the date the title vests in the condemning authority. The parties will each be entitled to pursue their own separate awards in the condemnation proceeds, which for Tenant will include, where applicable, the value of its Communication Facility, moving expenses, prepaid Rent, and business dislocation expenses. Tenant will be entitled to reimbursement for any prepaid Rent on a *pro rata* basis.

19. **CASUALTY.** Landlord will provide notice to Tenant of any casualty or other harm affecting the Property within twenty-four (24) hours of the casualty or other harm. If any part of the Communication Facility or Property is damaged by casualty or other harm as to render the Premises unsuitable, in Tenant's sole determination, then Tenant may terminate this Agreement by providing written notice to Landlord, which termination will be effective as of the date of such casualty or other harm. Upon such termination, Tenant will be entitled to collect all insurance proceeds payable to Tenant on account thereof and to be reimbursed for any prepaid Rent on a *pro rata* basis. Landlord agrees to permit Tenant to place temporary transmission and

reception facilities on the Property, but only until such time as Tenant is able to activate a replacement transmission facility at another location; notwithstanding the termination of this Agreement, such temporary facilities will be governed by all of the terms and conditions of this Agreement, including Rent. If Landlord or Tenant undertakes to rebuild or restore the Premises and/or the Communication Facility, as applicable, Landlord agrees to permit Tenant to place temporary transmission and reception facilities on the Property at no additional Rent until the reconstruction of the Premises and/or the Communication Facility is completed. If Landlord determines not to rebuild or restore the Property, Landlord will notify Tenant of such determination within thirty (30) days after the casualty or other harm. If Landlord does not so notify Tenant and Tenant decides not to terminate under this Section, then Landlord will promptly rebuild or restore any portion of the Property interfering with or required for Tenant's Permitted Use of the Premises to substantially the same condition as existed before the casualty or other harm. Landlord agrees that the Rent shall be abated until the Property and/or the Premises are rebuilt or restored, unless Tenant places temporary transmission and reception facilities on the Property.

20. WAIVER OF LANDLORD'S LIENS. Landlord waives any and all lien rights it may have, statutory or otherwise, concerning the Communication Facility or any portion thereof. The Communication Facility shall be deemed personal property for purposes of this Agreement, regardless of whether any portion is deemed real or personal property under applicable law; Landlord consents to Tenant's right to remove all or any portion of the Communication Facility from time to time in Tenant's sole discretion and without Landlord's consent.²¹

(a) Landlord shall be responsible for (i) all taxes and assessments levied upon the lands, improvements and other property of Landlord including any such taxes that may be calculated by a taxing authority using any method, including the income method (ii) all sales, use, license, value added, documentary, stamp, gross receipts, registration, real estate transfer, conveyance, excise, recording, and other similar taxes and fees imposed in connection with this Agreement and (iii) all sales, use, license, value added, documentary, stamp, gross receipts, registration, real estate transfer, conveyance, excise, recording, and other similar taxes and fees imposed in connection with a sale of the Property or assignment of Rent payments by Landlord. Tenant shall be responsible for (y) any taxes and assessments attributable to and levied upon Tenant's leasehold improvements on the Premises if and as set forth in this Section 21 and (z) all sales, use, license, value added, documentary, stamp, gross receipts, registration, real estate transfer, conveyance, excise, recording, and other similar taxes and fees imposed in connection with an assignment of this Agreement or sublease by Tenant. Nothing herein shall require Tenant to pay any inheritance, franchise, income, payroll, excise, privilege, rent, capital stock, stamp, documentary, estate or profit tax, or any tax of similar nature, that is or may be imposed upon Landlord.

(b) In the event Landlord receives a notice of assessment with respect to which taxes or assessments are imposed on Tenant's leasehold improvements on the Premises, Landlord shall provide Tenant with copies of each such notice immediately upon receipt, but in no event later than thirty (30) days after the date of such notice of assessment. If Landlord does not provide such notice or notices to Tenant in a timely manner and Tenant's rights with respect to such taxes are prejudiced by the delay, Landlord shall reimburse Tenant for any increased costs directly resulting from the delay and Landlord shall be responsible for payment of the tax or assessment set forth in the notice, and Landlord shall not have the right to reimbursement of such amount from Tenant. If Landlord provides a notice of assessment to Tenant within such time period and requests reimbursement from Tenant as set forth below, then Tenant shall reimburse Landlord for the tax or assessments identified on the notice of assessment on Tenant's leasehold improvements, which has been paid by Landlord. If Landlord seeks reimbursement from Tenant, Landlord shall, no later than thirty (30) days after Landlord's payment of the taxes or assessments for the assessed tax year, provide Tenant with written notice including evidence that Landlord has timely paid same, and Landlord shall provide to Tenant any other documentation reasonably requested by Tenant to allow Tenant to evaluate the payment and to reimburse Landlord.

(c) For any tax amount for which Tenant is responsible under this Agreement, Tenant shall have the right to contest, in good faith, the validity or the amount thereof using such administrative, appellate or other proceedings as may be appropriate in the jurisdiction, and may defer payment of such obligations, pay same under protest, or take such other steps as permitted by law. This right shall include the ability to institute any legal, regulatory or informal action in the name of Landlord, Tenant, or both, with respect to the valuation of

the Premises. Landlord shall cooperate with respect to the commencement and prosecution of any such proceedings and will execute any documents required therefor. The expense of any such proceedings shall be borne by Tenant and any refunds or rebates secured as a result of Tenant's action shall belong to Tenant, to the extent the amounts were originally paid by Tenant. In the event Tenant notifies Landlord by the due date for assessment of Tenant's intent to contest the assessment, Landlord shall not pay the assessment pending conclusion of the contest, unless required by applicable law.

(d) Landlord shall not split or cause the tax parcel on which the Premises are located to be split, bifurcated, separated or divided without the prior written consent of Tenant.

(e) Tenant shall have the right but not the obligation to pay any taxes due by Landlord hereunder if Landlord fails to timely do so, in addition to any other rights or remedies of Tenant. In the event that Tenant exercises its rights under this Section 21(e) due to such Landlord default, Tenant shall have the right to deduct such tax amounts paid from any monies due to Landlord from Tenant as provided in Section 15(b), provided that Tenant may exercise such right without having provided to Landlord notice and the opportunity to cure per Section 15(b).

(f) Any tax-related notices shall be sent to Tenant in the manner set forth in Section 17. Promptly after the Effective Date of this Agreement, Landlord shall provide the Notice address set forth in Section 17 to the taxing authority for the authority's use in the event the authority needs to communicate with Tenant. In the event that Tenant's tax address changes by notice to Landlord, Landlord shall be required to provide Tenant's new tax address to the taxing authority or authorities.

(g) Notwithstanding anything to the contrary contained in this Section 21, Tenant shall have no obligation to reimburse any tax or assessment for which the Landlord is reimbursed or rebated by a third party.

22. SALE OF PROPERTY.

(a) Landlord may sell the Property or a portion thereof to a third party, provided: (i) the sale is made subject to the terms of this Agreement; and (ii) if the sale does not include the assignment of Landlord's full interest in this Agreement, the purchaser must agree to perform, without requiring compensation from Tenant or any subtenant, any obligation of Landlord under this Agreement, including Landlord's obligation to cooperate with Tenant as provided hereunder.

(b) If Landlord, at any time during the Term of this Agreement, decides to rezone or sell, subdivide or otherwise transfer all or any part of the Premises, or all or any part of the Property or Surrounding Property, to a purchaser other than Tenant, Landlord shall promptly notify Tenant in writing, and such rezoning, sale, subdivision or transfer shall be subject to this Agreement and Tenant's rights hereunder. In the event of a change in ownership, transfer or sale of the Property, within ten (10) days of such transfer, Landlord or its successor shall send the documents listed below in this Section 22(b) to Tenant. Until Tenant receives all such documents, Tenant's failure to make payments under this Agreement shall not be an event of default and Tenant reserves the right to hold payments due under this Agreement.

- i. Old deed to Property
- ii. New deed to Property
- iii. Bill of Sale or Transfer
- iv. Copy of current Tax Bill
- v. New IRS Form W-9
- vi. Completed and Signed Tenant Payment Direction Form
- vii. Full contact information for new Landlord including phone number(s)

(c) Landlord agrees not to sell, lease or use any areas of the Property or Surrounding Property for the installation, operation or maintenance of other wireless communication facilities if such installation, operation or maintenance would interfere with Tenant's Permitted Use or communications equipment as determined by radio propagation tests performed by Tenant in its sole discretion. Landlord or Landlord's prospective purchaser shall reimburse Tenant for any costs and expenses of such testing. If the radio frequency propagation tests demonstrate levels of interference unacceptable to Tenant, Landlord shall be prohibited from

selling, leasing or using any areas of the Property or the Surrounding Property for purposes of any installation, operation or maintenance of any other wireless communication facility or equipment.

(d) The provisions of this Section shall in no way limit or impair the obligations of Landlord under this Agreement, including interference and access obligations.

23. RIGHT OF FIRST REFUSAL. Notwithstanding the provisions contained in Section 22, if at any time after the Effective Date, Landlord receives a bona fide written offer from a third party seeking any sale, conveyance, assignment or transfer, whether in whole or in part, of any property interest in or related to the Premises, including without limitation any offer seeking an assignment or transfer of the Rent payments associated with this Agreement or an offer to purchase an easement with respect to the Premises (“Offer”), Landlord shall immediately furnish Tenant with a copy of the Offer. Tenant shall have the right within ninety (90) days after it receives such copy to match the financial terms of the Offer and agree in writing to match such terms of the Offer. Such writing shall be in the form of a contract substantially similar to the Offer, but Tenant may assign its rights to a third party. If Tenant chooses not to exercise this right or fails to provide written notice to Landlord within the ninety (90) day period, Landlord may sell, convey, assign or transfer such property interest in or related to the Premises pursuant to the Offer, subject to the terms of this Agreement. If Landlord attempts to sell, convey, assign or transfer such property interest in or related to the Premises without complying with this Section 23, the sale, conveyance, assignment or transfer shall be void. Tenant shall not be responsible for any failure to make payments under this Agreement and reserves the right to hold payments due under this Agreement until Landlord complies with this Section 23. Tenant’s failure to exercise the right of first refusal shall not be deemed a waiver of the rights contained in this Section 23 with respect to any future proposed conveyances as described herein.

24. MISCELLANEOUS.

(a) **Amendment/Waiver.** This Agreement cannot be amended, modified or revised unless done in writing and signed by Landlord and Tenant. No provision may be waived except in a writing signed by both parties. The failure by a party to enforce any provision of this Agreement or to require performance by the other party will not be construed to be a waiver, or in any way affect the right of either party to enforce such provision thereafter.

(b) **Memorandum.** Contemporaneously with the execution of this Agreement, the parties will execute a recordable Memorandum of Lease substantially in the form attached as **Exhibit 24b**. Either party may record this Memorandum of Lease at any time during the Term, in its absolute discretion. Thereafter during the Term, either party will, at any time upon fifteen (15) business days’ prior written notice from the other, execute, acknowledge and deliver to the other a recordable Memorandum of Lease.

(c) **Limitation of Liability.** Except for the indemnity obligations set forth in this Agreement, and otherwise notwithstanding anything to the contrary in this Agreement, Tenant and Landlord each waives any claims that each may have against the other with respect to consequential, incidental or special damages, however caused, based on any theory of liability.

(d) **Compliance with Law.** Tenant agrees to comply with all federal, state and local laws, orders, rules and regulations (“Laws”) applicable to Tenant’s use of the Communication Facility on the Property. Landlord agrees to comply with all Laws relating to Landlord’s ownership and use of the Property and any improvements on the Property.

(e) **Bind and Benefit.** The terms and conditions contained in this Agreement will run with the Property and bind and inure to the benefit of the parties, their respective heirs, executors, administrators, successors and assigns.

(f) **Entire Agreement.** This Agreement and the exhibits attached hereto, all being a part hereof, constitute the entire agreement of the parties hereto and will supersede all prior offers, negotiations and agreements with respect to the subject matter of this Agreement. Exhibits are numbered to correspond to the Section wherein they are first referenced. Except as otherwise stated in this Agreement, each party shall bear its own fees and expenses (including the fees and expenses of its agents, brokers, representatives, attorneys, and accountants) incurred in connection with the negotiation, drafting, execution and performance of this Agreement and the transactions it contemplates.

(g) **Governing Law.** This Agreement will be governed by the laws of the state in which the Premises are located, without regard to conflicts of law.

(h) **Interpretation.** Unless otherwise specified, the following rules of construction and interpretation apply: (i) captions are for convenience and reference only and in no way define or limit the construction of the terms and conditions hereof; (ii) use of the term "including" will be interpreted to mean "including but not limited to"; (iii) whenever a party's consent is required under this Agreement, except as otherwise stated in the Agreement or as same may be duplicative, such consent will not be unreasonably withheld, conditioned or delayed; (iv) exhibits are an integral part of this Agreement and are incorporated by reference into this Agreement; (v) use of the terms "termination" or "expiration" are interchangeable; (vi) reference to a default will take into consideration any applicable notice, grace and cure periods; (vii) to the extent there is any issue with respect to any alleged, perceived or actual ambiguity in this Agreement, the ambiguity shall not be resolved on the basis of who drafted the Agreement; (viii) the singular use of words includes the plural where appropriate and (ix) if any provision of this Agreement is held invalid, illegal or unenforceable, the remaining provisions of this Agreement shall remain in full force if the overall purpose of the Agreement is not rendered impossible and the original purpose, intent or consideration is not materially impaired.

(i) **Affiliates.** All references to "Tenant" shall be deemed to include any Affiliate of Uniti Towers LLC using the Premises for any Permitted Use or otherwise exercising the rights of Tenant pursuant to this Agreement. "Affiliate" means with respect to a party to this Agreement, any person or entity that (directly or indirectly) controls, is controlled by, or under common control with, that party. "Control" of a person or entity means the power (directly or indirectly) to direct the management or policies of that person or entity, whether through the ownership of voting securities, by contract, by agency or otherwise.

(j) **Survival.** Any provisions of this Agreement relating to indemnification shall survive the termination or expiration hereof. In addition, any terms and conditions contained in this Agreement that by their sense and context are intended to survive the termination or expiration of this Agreement shall so survive.

(k) **W-9.** As a condition precedent to payment, Landlord agrees to provide Tenant with a completed IRS Form W-9, or its equivalent, upon execution of this Agreement and at such other times as may be reasonably requested by Tenant, including any change in Landlord's name or address.

(l) **Execution/No Option.** The submission of this Agreement to any party for examination or consideration does not constitute an offer, reservation of or option for the Premises based on the terms set forth herein. This Agreement will become effective as a binding Agreement only upon the handwritten legal execution, acknowledgment and delivery hereof by Landlord and Tenant. This Agreement may be executed in two (2) or more counterparts, all of which shall be considered one and the same agreement and shall become effective when one or more counterparts have been signed by each of the parties. All parties need not sign the same counterpart.

(m) **Attorneys' Fees.** In the event that any dispute between the parties related to this Agreement should result in litigation, the prevailing party in such litigation shall be entitled to recover from the other party all reasonable fees and expenses of enforcing any right of the prevailing party, including reasonable attorneys' fees and expenses. Prevailing party means the party determined by the court to have most nearly prevailed even if such party did not prevail in all matters. This provision will not be construed to entitle any party other than Landlord, Tenant and their respective Affiliates to recover their fees and expenses.

(n) **WAIVER OF JURY TRIAL.** EACH PARTY, TO THE EXTENT PERMITTED BY LAW, KNOWINGLY, VOLUNTARILY AND INTENTIONALLY WAIVES ITS RIGHT TO A TRIAL BY JURY IN ANY ACTION OR PROCEEDING UNDER ANY THEORY OF LIABILITY ARISING OUT OF OR IN ANY WAY CONNECTED WITH THIS AGREEMENT OR THE TRANSACTIONS IT CONTEMPLATES.

(o) **Incidental Fees.** Unless specified in this Agreement, no unilateral fees or additional costs or expenses are to be applied by either party to the other party, including review of plans, structural analyses, consents, provision of documents or other communications between the parties.

(p) **Further Acts.** Upon request, Landlord will cause to be promptly and duly taken, executed, acknowledged and delivered all such further acts, documents, and assurances as Tenant may request from time to time in order to effectuate, carry out and perform all of the terms, provisions and conditions of this Agreement and all transactions and permitted use contemplated by this Agreement.

(q) **Force Majeure.** No party shall be liable or responsible to the other party, nor be deemed to have defaulted under or breached this Agreement, for any failure or delay in fulfilling or performing any term of this Agreement, when and to the extent such failure or delay is caused by or results from acts beyond the affected party's reasonable control, including, without limitation: (a) acts of God; (b) flood, fire, earthquake, or explosion; (c) war, invasion, hostilities (whether war is declared or not), terrorist threats or acts, riot, or other civil unrest; (d) government order or law; (e) embargoes, or blockades in effect on or after the date of this Agreement; (f) action by any governmental authority; (g) national or regional emergency; and (h) strikes, labor stoppages or slowdowns, or other industrial disturbances. The party suffering a force majeure event shall give written notice to the other party, stating the period of time the occurrence is expected to continue and shall use diligent efforts to end the failure or delay and ensure the effects of such force majeure event are minimized.

[SIGNATURES APPEAR ON NEXT PAGE]

IN WITNESS WHEREOF, the parties have caused this Agreement to be effective as of the last date written below.

"LANDLORD"

Rebecca Darnell and Douglas Darnell

By: Rebecca Darnell

Print Name: Rebecca Darnell

Its: Landlord

Date: 2-25-2020

By: Douglas Darnell

Print Name: Douglas Darnell

Its: Landlord

Date: 2-25-2020

"TENANT"

Uniti Towers LLC

By: Ginger Mayers

Print Name: Ginger Mayers

Its: VP-Real Estate

Date: 5-4-2020

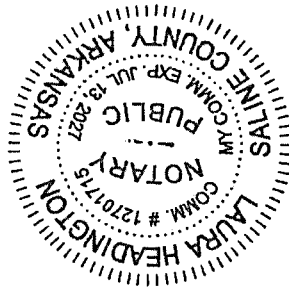
[ACKNOWLEDGMENTS APPEAR ON NEXT PAGE]

TENANT ACKNOWLEDGMENT

STATE OF ARKANSAS

COUNTY OF PULASKI

On the 4th day of March, 2020, before me personally appeared Ginger Majors, who acknowledged under oath that he/ (she) is the VP Real Estate of Uniti Towers LLC, the Tenant named in the attached instrument, and as such was authorized to execute this instrument on behalf of the Tenant.



Laura Headington
Notary Public: 12701715
My Commission Expires: 7/13/2027

LANDLORD ACKNOWLEDGMENT

STATE OF Kentucky
COUNTY OF Russell

BE IT REMEMBERED, that on this 25 day of Feb, 2020 before me, the subscriber, a person authorized to take oaths in the State of Kentucky, personally appeared **Rebecca Darnell** who, being duly sworn on his/her/their oath, deposed and made proof to my satisfaction that he/she/they is/are the person(s) named in the within instrument; and I, having first made known to him/her/them the contents thereof, he/she/they did acknowledge that he/she/they signed, sealed and delivered the same as his/her/their voluntary act and deed for the purposes therein contained.

H.K. Cooper
Notary Public: State of Kentucky
My Commission Expires: 3/8/20

#551105

LANDLORD ACKNOWLEDGMENT

STATE OF Kentucky
COUNTY OF Russell

BE IT REMEMBERED, that on this 25 day of Feb., 2020 before me, the subscriber, a person authorized to take oaths in the State of Kentucky, personally appeared **Douglas Darnell** who, being duly sworn on his/her/their oath, deposed and made proof to my satisfaction that he/she/they is/are the person(s) named in the within instrument; and I, having first made known to him/her/them the contents thereof, he/she/they did acknowledge that he/she/they signed, sealed and delivered the same as his/her/their voluntary act and deed for the purposes therein contained.

H.K. Cooper
Notary Public: State of Kentucky
My Commission Expires: 3/8/20

#551105

EXHIBIT 1

DESCRIPTION OF PREMISES

Page 1 of 4

to the Option and Lease Agreement dated March 4, 2010, by and between Rebecca Darnell and Douglas Darnell, as Joint tenants, as Landlord, and Uniti Towers LLC, a Delaware limited liability company, as Tenant.

The Property is legally described as follows:

Property located in Russell County, Kentucky

Beginning on an iron pin in the East RIW of Bottom's Road, thence with Road N 36° 05' W 2603 feet to an iron pin, thence leaving the road with Ralph Richardson line and being a new division line N 54° 23' E 233.2 feet to a steel post, thence S 35° 11' E 228.5 feet to an iron pin, thence S 46° 50' W 231.4 feet to the beginning, containing 1.30 acres, more or less, and being a portion of the property found in Deed Book 21, Page 157, in the Russell County Clerk's Office. Survey by Michael W. Flanagan, R.L.S.

AND BEING the same property conveyed to Rebecca Darnell and Douglas Darnell from Catherean Loy Richardson, by and through her Attorney in Fact, Marion Richardson by General Warranty Deed dated April 9, 1999 and recorded April 20, 1999 in Deed Book 175, Page 545.

Being Lot #5.

Being and Lying in Russell County, Kentucky, at a set 3/4" re-bar on the Northeast side of the right of way of Old Dunnvillle Road and Highway '1545' said right of ways being sixty (60) feet. Thence N 46° 54' 22" W 338.55 to a set re-bar being the True Point of Beginning, all set re-bars are 3/4" x 18" with an orange identification cap stamped N.A. Phipps PLS #3448;

Thence N 48° 28' 33" W, a distance of 130.00' to a found one half (1/2) inch re-bar, said re-bar is a corner with Doug & Rebecca Darnell (Deed Book 126 Page 296);

Thence N 34° 41' 03" E, a distance of 391.17' with Darnell and then with the line of and corner with Carl Richardson (Deed Book 154 Page 201), and corner with Boyd Richardson (Deed Book 126 Page 278) to a found steel post;

Thence S 47° 41' 28" E, a distance of 153.11' with Boyd Richardson to a set re-bar;

Thence S 38° 02' 38" W, a distance of 387.00' a new division line to the point of beginning; said described tract containing 1.258 Acres as determined by a survey performed by Nathaniel Phipps and completed this 30th day of April, 2002.

AND BEING the same property conveyed to Rebecca Darnell and Douglas Darnell from Marlene Alley and Lloyd Alley, Marion Richardson and Bonnie Richardson, Danny Richardson and Mary Richardson, Carl Richardson and Ann Richardson, Glen Richardson and Willodean Richardson, Kathy Holt, Boyd Richardson, Dale Stilts and Ray Stilts and Rebecca Darnell and Douglas Darnell by General Warranty Deed dated May 11, 2002 and recorded May 20, 2002 in Deed Book 204, Page 200.

Tax Parcel No. 032-00-00-045.03

The Premises are described and/or depicted as follows:

LEASE AREA

All that tract or parcel of land lying and being in Russell County, Kentucky, and being part of the lands of Rebecca Darnell and Douglas Darnell, as recorded in Deed Book 204 Page 200, Russell County Records, Russell County, Kentucky, and being more particularly described as follows:

To find the point of beginning, COMMENCE at a rebar found (Capped: N.A Phipps PLS 3448) at the easterly right-of-way line of Highway 1545 (having a 60-foot right-of-way), said rebar found having a Kentucky Grid North, NAD83, Single Zone Value of N: 3549038.4810, E: 5117395.9394 and marking the common corner of the lands of Stephen Branscum and Rita Branscum, as recorded in Deed Book 204 Page 309 and the lands of Rebecca Darnell and Douglas Darnell, as recorded in Deed Book 204 Page 200; thence running along said right-of-way line, North 40°30'58" West, 11.01 feet to a point having a Kentucky Grid North, NAD83, Single Zone Value of N: 3549046.8546, E: 5117388.7835; thence leaving said right-of-way line and running, North 46°00'17" East, 276.93 feet to a point on the Lease Area; thence running along said

Lease Area, North 43°59'43" West, 90.00 feet to a point and the true POINT OF BEGINNING; Thence, North 46°00'17" East, 100.00 feet to a point; Thence, South 43°59'43" East, 100.00 feet to a point; Thence, South 46°00'17" West, 100.00 feet to a point; Thence, North 43°59'43" West, 100.00 feet to a point and the POINT OF BEGINNING.

Bearings are based on Kentucky Grid North, NAD83, Single Zone.

Said tract contains 0.2296 acres (10,000 square feet), more or less, as shown in a survey prepared for Uniti Towers, LLC by POINT TO POINT LAND SURVEYORS, INC. dated February 06, 2020.

20' INGRESS-EGRESS & UTILITY EASEMENT

Together with a 20-foot wide Ingress-Egress and Utility Easement (lying 10 feet each side of centerline) lying and being in Russell County, Kentucky, and being part of the lands of Rebecca Darnell and Douglas Darnell, as recorded in Deed Book 204 Page 200, Russell County Records, Russell County, Kentucky, and being more particularly described by the following centerline data:

To find the point of beginning, COMMENCE at a rebar found (Capped: N.A Phipps PLS 3448) at the easterly right-of-way line of Highway 1545 (having a 60-foot right-of-way), said rebar found having a Kentucky Grid North, NAD83, Single Zone Value of N: 3549038.4810, E: 5117395.9394 and marking the common corner of the lands of Stephen Branscum and Rita Branscum, as recorded in Deed Book 204 Page 309 and the lands of Rebecca Darnell and Douglas Darnell, as recorded in Deed Book 204 Page 200; thence running along said right-of-way line, North 40°30'58" West, 11.01 feet to a point having a Kentucky Grid North, NAD83, Single Zone Value of N: 3549046.8546, E: 5117388.7835 and the true POINT OF BEGINNING; Thence leaving said right-of-way line and running, North 46°00'17" East, 276.93 feet to the ENDING at a point on the Lease Area.

Bearings are based on Kentucky Grid North, NAD83, Single Zone.

As shown in a survey prepared for Uniti Towers, LLC by POINT TO POINT LAND SURVEYORS, INC. dated February 06, 2020.

Notes:

1. THIS EXHIBIT MAY BE REPLACED BY A LAND SURVEY AND/OR CONSTRUCTION DRAWINGS OF THE PREMISES ONCE RECEIVED BY TENANT.
2. ANY SETBACK OF THE PREMISES FROM THE PROPERTY'S BOUNDARIES SHALL BE THE DISTANCE REQUIRED BY THE APPLICABLE GOVERNMENT AUTHORITIES.
3. WIDTH OF ACCESS ROAD SHALL BE THE WIDTH REQUIRED BY THE APPLICABLE GOVERNMENT AUTHORITIES, INCLUDING POLICE AND FIRE DEPARTMENTS.
4. THE TYPE, NUMBER AND MOUNTING POSITIONS AND LOCATIONS OF ANTENNAS AND TRANSMISSION LINES ARE ILLUSTRATIVE ONLY. ACTUAL TYPES, NUMBERS AND MOUNTING POSITIONS MAY VARY FROM WHAT IS SHOWN ABOVE.

PARENT PARCEL

(AS PROVIDED PER ORDER NO. 30663681)

PROPERTY LOCATED IN RUSSELL COUNTY, KENTUCKY

BEGINNING ON AN IRON PIN IN THE EAST RWY OF BOTTOM'S ROAD, THENCE WITH ROAD IN 36° 05' W 260.3 FEET TO AN IRON PIN, THENCE LEAVING THE ROAD WITH RALPH RICHARDSON LINE AND BEING A NEW DIVISION LINE IN 84° 23' E 233.2 FEET TO A STEEL POST, THENCE S 39° 11' E 228.5 FEET TO AN IRON PIN, THENCE S 46° 50' W 231.4 FEET TO THE BEGINNING, CONTAINING 1.20 ACRES, MORE OR LESS, AND BEING A PORTION OF THE PROPERTY FOUND IN DEED BOOK 21, PAGE 157, IN THE RUSSELL COUNTY CLERK'S OFFICE. SURVEY BY MICHAEL W. FLANNAGAN, R.L.S.

AND BEING THE SAME PROPERTY CONVEYED TO REBECCA DARNELL AND DOUGLAS DARNELL FROM CATHEREAN LOY RICHARDSON, BY AND THROUGH HER ATTORNEY IN FACT, MARION RICHARDSON BY GENERAL WARRANTY DEED DATED APRIL 9, 1999 AND RECORDED APRIL 20, 1999 IN DEED BOOK 175, PAGE 545.

BEING LOT #6.

BEING AND LYING IN RUSSELL COUNTY, KENTUCKY, AT A SET 3/4" RE-BAR ON THE NORTHEAST SIDE OF THE RIGHT OF WAY OF OLD LUNNVILLE ROAD AND HIGHWAY 1545 SAID RIGHT OF WAY BEING SIXTY (60) FEET. THENCE N 46° 54' 22" W 338.55 TO A SET RE-BAR BEING THE TRUE POINT OF BEGINNING, ALL SET RE-BARS ARE 3/4" X 1 1/2" WITH AN ORANGE IDENTIFICATION CAP STAMPED N.A. PHIPPS PLS #3448;

THENCE N 48° 28' 33" W, A DISTANCE OF 130.00' TO A ROUND ONE HALF (1/2) INCH RE-BAR, SAID RE-BAR IS A CORNER WITH DOUG & REBECCA DARNELL DEED BOOK 126 PAGE 296;

THENCE N 34° 41' 03" E, A DISTANCE OF 391.17' WITH DARNELL AND THEN WITH THE LINE OF AND CORNER WITH CARL RICHARDSON (DEED BOOK 154 PAGE 201), AND CORNER WITH BOYD RICHARDSON DEED BOOK 126 PAGE 278 TO A ROUND STEEL POST;

THENCE S 47° 41' 28" E, A DISTANCE OF 153.11' WITH BOYD RICHARDSON TO A SET RE-BAR;

THENCE S 38° 02' 38" W, A DISTANCE OF 387.00' A NEW DIVISION LINE TO THE POINT OF BEGINNING; SAID DESCRIBED TRACT CONTAINING 1.258 ACRES AS DETERMINED BY A SURVEY PERFORMED BY NATHANIEL PHIPPS AND COMPLETED THIS 30TH DAY OF APRIL, 2002.

AND BEING THE SAME PROPERTY CONVEYED TO REBECCA DARNELL AND DOUGLAS DARNELL FROM MARLENE ALLEY AND LLOYD ALLEY, MARION RICHARDSON AND BONNIE RICHARDSON, DAWNY RICHARDSON AND MARY RICHARDSON, CARL RICHARDSON AND ANNI RICHARDSON, GLEN RICHARDSON AND WILLODEAN RICHARDSON, KATHY HOLT, BOYD RICHARDSON, DALE STILTS AND RAY STILTS AND REBECCA DARNELL AND DOUGLAS DARNELL, BY GENERAL WARRANTY DEED DATED MAY 11, 2002 AND RECORDED MAY 20, 2002 IN DEED BOOK 204, PAGE 200.

TAX PARCEL NO. 032-00-0045.03

SITE INFORMATION

LEASE AREA = 10,000 SQUARE FEET (0.2286 ACRES)

LATITUDE = 37°04'07.26" NAD 83 (37.068689°)
LONGITUDE = -82°04'27.57" NAD 83 (-82.077047°)
AT CENTER OF LEASE AREA

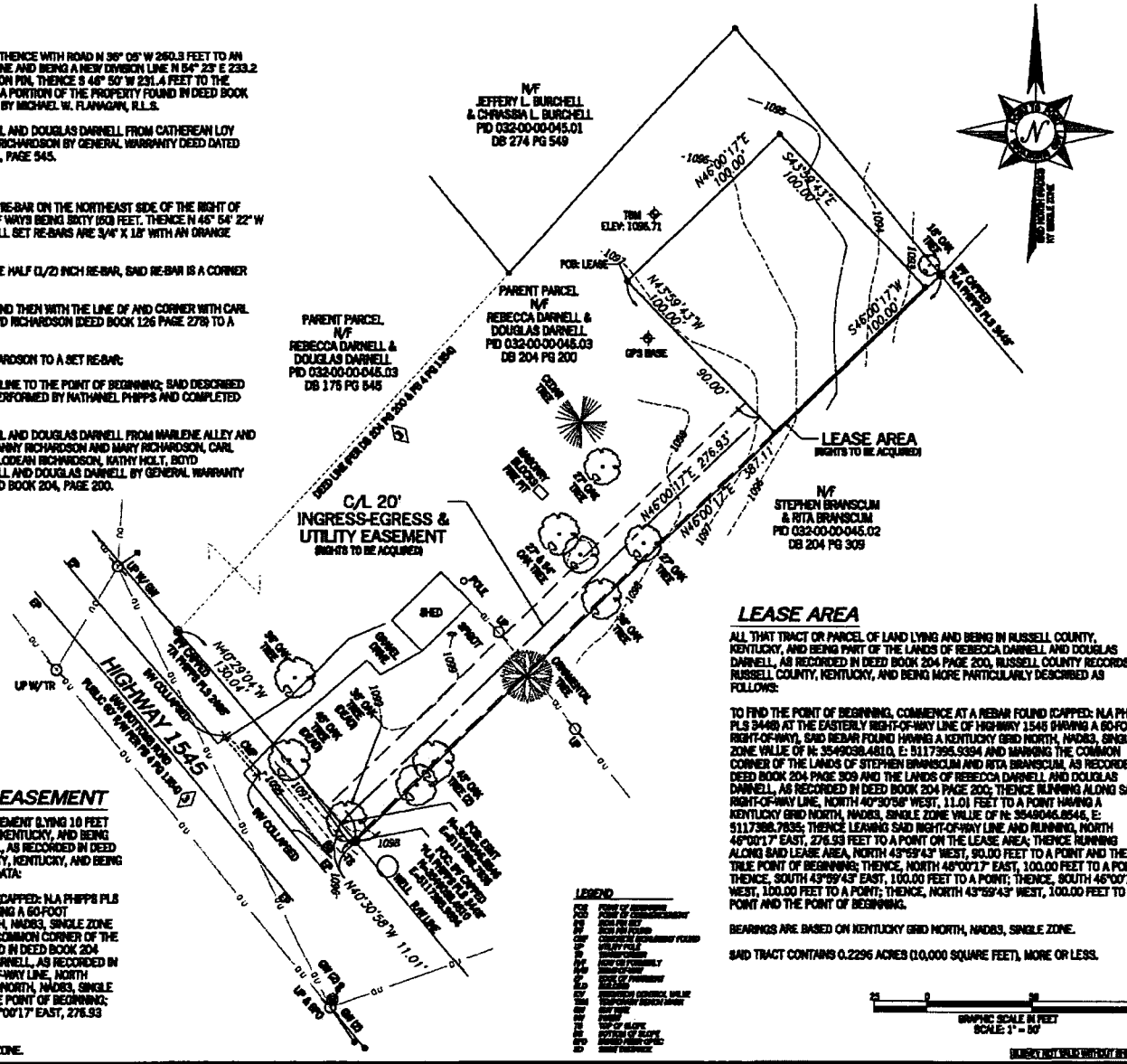
ELEVATION AT CENTER OF LEASE AREA = 1086.0' A.M.S.L.

20' INGRESS-EGRESS & UTILITY EASEMENT

TOGETHER WITH A 20-FOOT WIDE INGRESS-EGRESS AND UTILITY EASEMENT LYING 10 FEET EACH SIDE OF CENTERLINE LYING AND BEING IN RUSSELL COUNTY, KENTUCKY, AND BEING PART OF THE LANDS OF REBECCA DARNELL AND DOUGLAS DARNELL, AS RECORDED IN DEED BOOK 204 PAGE 200, RUSSELL COUNTY RECORDS, RUSSELL COUNTY, KENTUCKY, AND BEING MORE PARTICULARLY DESCRIBED BY THE FOLLOWING CENTERLINE DATA:

TO FIND THE POINT OF BEGINNING, COMMENCE AT A REBAR FOUND (CAPPED: N.A. PHIPPS PLS 3448) AT THE EASTERLY RIGHT-OF-WAY LINE OF HIGHWAY 1545 (HAVING A 60-FOOT RIGHT-OF-WAY), SAID REBAR FOUND HAVING A KENTUCKY GRID NORTH, NAD83, SINGLE ZONE VALUE OF N: 3548038.4810, E: 5117395.9394 AND MARKING THE COMMON CORNER OF THE LANDS OF STEPHEN BRANSUM AND RITA BRANSUM, AS RECORDED IN DEED BOOK 204 PAGE 309 AND THE LANDS OF REBECCA DARNELL AND DOUGLAS DARNELL, AS RECORDED IN DEED BOOK 204 PAGE 200; THENCE RUNNING ALONG SAID RIGHT-OF-WAY LINE, NORTH 40°30'58" WEST, 11.01 FEET TO A POINT HAVING A KENTUCKY GRID NORTH, NAD83, SINGLE ZONE VALUE OF N: 3548046.8544, E: 5117395.7835; THENCE LEAVING SAID RIGHT-OF-WAY LINE AND RUNNING, NORTH 46°00'17" EAST, 276.93 FEET TO A POINT ON THE LEASE AREA; THENCE RUNNING ALONG SAID LEASE AREA, NORTH 43°59'43" WEST, 90.00 FEET TO A POINT AND THE TRUE POINT OF BEGINNING; THENCE, NORTH 46°00'17" EAST, 100.00 FEET TO A POINT; THENCE, SOUTH 43°59'43" EAST, 100.00 FEET TO A POINT; THENCE, SOUTH 46°00'17" WEST, 100.00 FEET TO A POINT; THENCE, NORTH 43°59'43" WEST, 100.00 FEET TO A POINT AND THE POINT OF BEGINNING.

BEARINGS ARE BASED ON KENTUCKY GRID NORTH, NAD83, SINGLE ZONE.



STATE OF KENTUCKY
G. DARRELL TAYLOR
4179
LICENSED PROFESSIONAL LAND SURVEYOR

NO.	DATE	REVISION

POINT TO POINT LAND SURVEYORS
100 Governors Trace, Ste. 103
Peachtree City, GA 30269
(w) 678.565.4440 (f) 678.565.4497
(w) pointtopointsurvey.com



SPECIFIC PURPOSE SURVEY PREPARED FOR:



RUSSELL SPRINGS
SITE NO.
KYBGN2025
RUSSELL COUNTY,
KENTUCKY

DRAWN BY: AHS
CHECKED BY: JAL
APPROVED: D. MILLER
DATE: FEBRUARY 8, 2020
227 JOB #: 20012107

LEASE AREA

ALL THAT TRACT OR PARCEL OF LAND LYING AND BEING IN RUSSELL COUNTY, KENTUCKY, AND BEING PART OF THE LANDS OF REBECCA DARNELL AND DOUGLAS DARNELL, AS RECORDED IN DEED BOOK 204 PAGE 200, RUSSELL COUNTY RECORDS, RUSSELL COUNTY, KENTUCKY, AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

TO FIND THE POINT OF BEGINNING, COMMENCE AT A REBAR FOUND (CAPPED: N.A. PHIPPS PLS 3448) AT THE EASTERLY RIGHT-OF-WAY LINE OF HIGHWAY 1545 (HAVING A 60-FOOT RIGHT-OF-WAY), SAID REBAR FOUND HAVING A KENTUCKY GRID NORTH, NAD83, SINGLE ZONE VALUE OF N: 3548038.4810, E: 5117395.9394 AND MARKING THE COMMON CORNER OF THE LANDS OF STEPHEN BRANSUM AND RITA BRANSUM, AS RECORDED IN DEED BOOK 204 PAGE 309 AND THE LANDS OF REBECCA DARNELL AND DOUGLAS DARNELL, AS RECORDED IN DEED BOOK 204 PAGE 200; THENCE RUNNING ALONG SAID RIGHT-OF-WAY LINE, NORTH 40°30'58" WEST, 11.01 FEET TO A POINT HAVING A KENTUCKY GRID NORTH, NAD83, SINGLE ZONE VALUE OF N: 3548046.8544, E: 5117395.7835; THENCE LEAVING SAID RIGHT-OF-WAY LINE AND RUNNING, NORTH 46°00'17" EAST, 276.93 FEET TO A POINT ON THE LEASE AREA; THENCE RUNNING ALONG SAID LEASE AREA, NORTH 43°59'43" WEST, 90.00 FEET TO A POINT AND THE TRUE POINT OF BEGINNING; THENCE, NORTH 46°00'17" EAST, 100.00 FEET TO A POINT; THENCE, SOUTH 43°59'43" EAST, 100.00 FEET TO A POINT; THENCE, SOUTH 46°00'17" WEST, 100.00 FEET TO A POINT; THENCE, NORTH 43°59'43" WEST, 100.00 FEET TO A POINT AND THE POINT OF BEGINNING.

BEARINGS ARE BASED ON KENTUCKY GRID NORTH, NAD83, SINGLE ZONE.
SAID TRACT CONTAINS 0.2286 ACRES (10,000 SQUARE FEET), MORE OR LESS.



- LEGEND**
- 1.00' = 1.00' (1:1)
 - 2.00' = 2.00' (1:2)
 - 3.00' = 3.00' (1:3)
 - 4.00' = 4.00' (1:4)
 - 5.00' = 5.00' (1:5)
 - 6.00' = 6.00' (1:6)
 - 7.00' = 7.00' (1:7)
 - 8.00' = 8.00' (1:8)
 - 9.00' = 9.00' (1:9)
 - 10.00' = 10.00' (1:10)
 - 11.01' = 11.01' (1:11.01)
 - 12.00' = 12.00' (1:12)
 - 13.00' = 13.00' (1:13)
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 - 97.00' = 97.00' (1:97)
 - 98.00' = 98.00' (1:98)
 - 99.00' = 99.00' (1:99)
 - 100.00' = 100.00' (1:100)

DATE: FEBRUARY 8, 2020

2

**EXHIBIT J
NOTIFICATION LISTING**

Russell Springs Notice List

DARNELL REBECCA & DOUGLAS
248 HWY 1545
RUSSELL SPRINGS KY 42642

BURCHELL JEFFERY L & CHRASSIA L
PO BOX 2045
RUSSELL SPRINGS KY 42642-2045

GODBY NOEL B & BARBARA ANN
126 MEADOW LARK DR
RUSSELL SPRINGS KY 42642

KEAN RUBY GAIL
45 KINNETT AVE
JAMESTOWN KY 42629

BRANSCUM STEVE & RITA
PO BOX 559
RUSSELL SPRINGS KY 42642

ARMSTRONG NICHOLAS & EMILEE
3050 HWY 1870
RUSSELL SPRINGS KY 42642

MEECE ZACHARY
PO BOX 545
RUSSELL SPRINGS KY 42642

HUDSON JACK M
PO BOX 277
RUSSELL SPRINGS KY 42642-

EMERSON MARY LOIS
C/O GARY EMERSON & KATHY REXROAT
150 EMERSON DR
RUSSELL SPRINGS KY 42642

BROWN RENA BELLE
58 MEADOWLARK DR
RUSSELL SPRINGS KY 42642

BAILEY ALEX & JOIE
90 MEADOWLARK DR
RUSSELL SPRINGS KY 42642

COFFEY VALERIE & RONNIE D
108 MEADOW LARK DRIVE
RUSSELL SPRINGS KY 42642

BLOYD TYLER B & AMBER D
465 DUNVILLE RD
RUSSELL SPRINGS KY 42642

HAGGARD HOWARD C & THELMA
972 HAGGARD DR
LIBERTY KY 42539

EXHIBIT K
COPY OF PROPERTY OWNER NOTIFICATION



1578 Highway 44 East, Suite 6
P.O. Box 369
Shepherdsville, KY 40165-0369
Phone (502) 955-4400 or (800) 516-4293
Fax (502) 543-4410 or (800) 541-4410

**Notice of Proposed Construction of
Wireless Communications Facility
Site Name: Russell Springs Relo**

Dear Landowner:

New Cingular Wireless PCS, LLC, a Delaware limited liability company, d/b/a AT&T Mobility and Uniti Towers LLC, a Delaware limited liability company have filed an application with the Kentucky Public Service Commission ("PSC") to construct a new wireless communications facility on a site located at 244 Highway 1545, Russell Springs, KY 42642 (E-911)/ 248 Highway 1545, Russell Springs, KY 42642 (PARCEL) (37° 04' 07.28" North latitude, 85° 04' 37.37" West longitude). The proposed facility will include a 230-foot tall tower, with an approximately 10-foot tall lightning arrestor attached at the top, for a total height of 240-feet, plus 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 2020-00345 in any correspondence sent in connection with this matter.

We have attached a map showing the site location for the proposed tower. AT&T Mobility'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 toll free at (800) 516-4293 if you have any comments or questions about this proposal.

Sincerely,
David A. Pike
Attorney for Applicants

enclosures

Driving Directions to Proposed Russell Springs Relo Tower Site

1. Beginning at the Russell County Judge Executive's Office, located at 410 Monument Sq # 110, Jamestown, KY 42629 start out going northeast on Monument Sq/US-127 Bus N/KY-619.
2. Enter next roundabout and take the 3rd exit onto US-127 Bus N. US-127 Bus N becomes US-127 N.
3. Turn left onto W Steve Wariner Dr/KY-80.
4. Turn right onto Highway 1545/KY-1545.
5. Arrive at 248 Highway 1545, Russell Springs, KY 42642-9534.
6. The site coordinates are 37° 04' 07.28" North latitude, 85° 04' 37.37" West longitude



Prepared by:
Robert W. Grant
Pike Legal Group
1578 Highway 44 East, Suite 6
P.O. Box 396
Shepherdsville, KY 40165-3069
Telephone: 502-955-4400 or 800-516-4293



#	OWNER	ADDRESS	PID	REF
1	REBECCA & DOUGLAS DARNELL	248 HWY 1545 RUSSELL SPRINGS, KY 42642	032-00 00 045.03 032-00 00 045.03	DB 204 PG 200 DB 175 PG 545
2	CHRASSIA & JEFFERY BURCHELL	336 HWY 1545 RUSSELL SPRINGS, KY 42642	032-00 00 045.05	DB 274 PG 553
3	CHRASSIA & JEFFERY BURCHELL	336 HWY 1545 RUSSELL SPRINGS, KY 42642	032-00 00 045.01	DB 274 PG 549
4	NOEL & BARBARA ANN GODDY	334 HWY 1545 RUSSELL SPRINGS, KY 42642	032-40 01 002.00	-
5	CHARLES & DIANE BLANKENSHIP	378 OLD DUNNVILLE RD RUSSELL SPRINGS, KY 42642	034-90 20 015.00	DB 334 PG 566
6	RITA & STEPHEN BRANSCUJ	OLD DUNNVILLE RD RUSSELL SPRINGS, KY 42642	032-40 01 007.00	-
7	RITA & STEPHEN BRANSCUJ	BLANKENSHIP RD RUSSELL SPRINGS, KY 42642	032-40 01 006.02	-
8	RITA & STEPHEN BRANSCUJ	495 OLD DUNNVILLE RD RUSSELL SPRINGS, KY 42642	032-40 01 008.00	-
9	RITA & STEPHEN BRANSCUJ	OLD DUNNVILLE RD RUSSELL SPRINGS, KY 42642	032-00 00 045.02	DB 204 PG 309
10	ELIZABETH & MILTON HOLT	389 MILTON HEIGHTS RUSSELL SPRINGS, KY 42642	032-00 00 043.01	-
11	ZACHARY MECCE	MILTON HEIGHTS RUSSELL SPRINGS, KY 42642	032-00 00 043.00	-
12	JACK M. HUDSON	437 HWY 1545 RUSSELL SPRINGS, KY 42642	032-00 00 044.01	-
13	MARY EMERSON c/o GARY EMERSON & KATHY REIROAT	360 HWY 1545 RUSSELL SPRINGS, KY 42642	032-40 05 001.00	-
14	RENA BELLE BROWN	58 MEADOWLARK DR RUSSELL SPRINGS, KY 42642	032-40 05 002.00	-
15	ALEX & JOIE BAILEY	90 MEADOWLARK DR RUSSELL SPRINGS, KY 42642	032-40 05 003.00	-
16	VALERIE & RONALD COFFEY	108 MEADOWLARK DR RUSSELL SPRINGS, KY 42642	032-40 05 004.00	-
17	RITA & STEPHEN BRANSCUJ	OLD DUNNVILLE RD RUSSELL SPRINGS, KY 42642	032-80 01 002.00	-
18	RONALD & BARBARA WILSON	465 DUNNVILLE ROAD RUSSELL SPRINGS, KY 42642	032-80 01 001.00	-
19	RONALD & BARBARA WILSON	465 DUNNVILLE ROAD RUSSELL SPRINGS, KY 42642	032-50 07 002.00	-
20	HOWARD & THELMA HAGGARD	MILTON HTS. HWY 1545 RUSSELL SPRINGS, KY 42642	032-50 07 001.00	-

NOTE:

- PVA INFORMATION WAS OBTAINED ON 12/4/2020 FROM THE OFFICIAL RECORDS OF THE COUNTY'S PROPERTY VALUATION ADMINISTRATOR.
- THIS MAP IS FOR GENERAL INFORMATION PURPOSES ONLY AND IS NOT A BOUNDARY SURVEY.
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HARMONI TOWERS
RUSSELL SPRINGS
 147 15145568
 P.O. # 0013047956
 P.O. # 00130609
 244 HIGHWAY 1545 (E 911)
 248 HIGHWAY 1545 (S111)
 RUSSELL SPRINGS, KY 42642
 UNINCORPORATED 230' SELF-SUPPORT TOWER

PROJECT NO.: 2020-114
 CHECKED BY: MAS

ISSUED FOR

REV	DATE	BY	DESCRIPTION
0	09/08/20	DLS	ISSUE DRAWINGS
1	10/29/20	DLS	ISSUE DRAWINGS
2	12/07/20	DLS	ISSUE DRAWINGS

B&T ENGINEERING, INC.
 COA 4011
 Expires 12/31/20



IF IT IS A VIOLATION OF LAW FOR ANY PERSON UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL, CHANGES TO THIS DOCUMENT

500' RADIUS & ADJOINER'S DRAWING

SHEET NUMBER:
C-1

BAT NOTE:
 MUST DO TREE CLEARING BETWEEN OCTOBER 15th AND MARCH 31st, DUE TO BAT TREES ON PROPERTY



CALL KENTUCKY ONE CALL
 (800) 752-6007
 CALL 3 WORKING DAYS
 BEFORE YOU DIG!



EXHIBIT L
COPY OF COUNTY JUDGE/EXECUTIVE NOTICE



1578 Highway 44 East, Suite 6
P.O. Box 369
Shepherdsville, KY 40165-0369
Phone (502) 955-4400 or (800) 516-4293
Fax (502) 543-4410 or (800) 541-4410

VIA CERTIFIED MAIL

Hon. Gary D. Robertson
County Judge Executive
P. O. Box 397
410 Monument Square, Suite 205
Jamestown, KY 42629

RE: Notice of Proposal to Construct Wireless Communications Facility
Kentucky Public Service Commission Docket No. 2020-00345
Site Name: Russell Springs Relo

Dear Judge/Executive:

New Cingular Wireless PCS, LLC, a Delaware limited liability company, d/b/a AT&T Mobility and Uniti Towers LLC, a Delaware limited liability company have filed an application with the Kentucky Public Service Commission ("PSC") to construct a new wireless communications facility on a site located at 244 Highway 1545, Russell Springs, KY 42642 (E-911)/ 248 Highway 1545, Russell Springs, KY 42642 (PARCEL) (37° 04' 07.28" North latitude, 85° 04' 37.37" West longitude). The proposed facility will include a 230-foot tall tower, with an approximately 10-foot tall lightning arrestor attached at the top, for a total height of 240-feet, plus 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 2020-00345 in any correspondence sent in connection with this matter.

We have attached a map showing the site location for the proposed tower. AT&T Mobility'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 with any comments or questions you may have.

Sincerely,
David A. Pike
Attorney for Applicants
enclosures

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5. Arrive at 248 Highway 1545, Russell Springs, KY 42642-9534.
6. The site coordinates are 37° 04' 07.28" North latitude, 85° 04' 37.37" West longitude



Prepared by:
Robert W. Grant
Pike Legal Group
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HARMONI TOWERS
RUSSELL SPRINGS
 PAR 15145568
 PVA # VIR1N047956
 PI # 0015669
 244 HIGHWAY 1545 (E 911)
 RUSSELL SPRINGS, KY 42642
 UNLICENSED 230' SELF-SUPPORT TOWER

PROJECT NO.: 2020-114
 CHECKED BY: MAS

REV	DATE	BY	DESCRIPTION
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500' RADIUS & ADJOINER'S DRAWING

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 CALL 3 WORKING DAYS
 BEFORE YOU DIG!



**EXHIBIT M
COPY OF POSTED NOTICES
AND NEWSPAPER NOTICE ADVERTISEMENT**

SITE NAME: RUSSELL SPRINGS RELO
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.

New Cingular Wireless PCS, LLC, a Delaware limited liability company, d/b/a AT&T Mobility and Uniti Towers LLC, a Delaware limited liability company propose to construct a telecommunications **tower** on this site. If you have questions, please contact Pike Legal Group, PLLC, P.O. Box 369, Shepherdsville, KY 40165; telephone: (800) 516-4293, or the Executive Director, Public Service Commission, 211 Sower Boulevard, PO Box 615, Frankfort, Kentucky 40602. Please refer to docket number 2020-00345 in your correspondence.

New Cingular Wireless PCS, LLC, a Delaware limited liability company, d/b/a AT&T Mobility and Uniti Towers LLC, a Delaware limited liability company propose to construct a telecommunications **tower** near this site. If you have questions, please contact Pike Legal Group, PLLC, P.O. Box 369, Shepherdsville, KY 40165; telephone: (800) 516-4293, or the Executive Director, Public Service Commission, 211 Sower Boulevard, PO Box 615, Frankfort, Kentucky 40602. Please refer to docket number 2020-00345 in your correspondence.



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P.O. Box 369
Shepherdsville, KY 40165-0369
Phone (502) 955-4400 or (800) 516-4293
Fax (502) 543-4410 or (800) 541-4410

VIA TELEPHONE: (270) 866-3191

The Russell County News-Register
120 Wilson St.
Russell Springs, KY
42642-4315

RE: Legal Notice Advertisement
Site Name: Russell Springs Relo

Dear Russell County News-Register:

Please publish the following legal notice advertisement in the next edition of *The Russell County News-Register*.

NOTICE

New Cingular Wireless PCS, LLC, a Delaware limited liability company, d/b/a AT&T Mobility and Uniti Towers LLC, a Delaware limited liability company have filed an application with the Kentucky Public Service Commission ("PSC") to construct a new wireless communications facility on a site located on 244 Highway 1545, Russell Springs, KY 42642 (E-911)/ 248 Highway 1545, Russell Springs, KY 42642 (PARCEL) (37° 04' 07.28" North latitude, 85° 04' 37.37" West longitude). 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 2020-00345 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 Pike Legal Group, PLLC, P. O. Box 369, Shepherdsville, KY 40165. Please call me at (800) 516-4293 if you have any questions. Thank you for your assistance.

Sincerely,
Robert W. Grant
Pike Legal Group, PLLC

EXHIBIT N
COPY OF RADIO FREQUENCY DESIGN SEARCH AREA



Lat: 37.064974
Long: -85.072951
Radius: .35 miles

Russell Springs Relo Search Area