## COMMONWEALTH OF KENTUCKY BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

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THE APPLICATION OF
NEW CINGULAR WIRELESS PCS, LLC,
A DELAWARE LIMITED LIABILITY COMPANY,
D/B/A AT&T MOBILITY
AND HARMONI TOWERS LLC, A DELAWARE
LIMITED LIABILITY COMPANY
FOR ISSUANCE OF A CERTIFICATE OF PUBLIC
CONVENIENCE AND NECESSITY TO CONSTRUCT
A WIRELESS COMMUNICATIONS FACILITY
IN THE COMMONWEALTH OF KENTUCKY
IN THE COUNTY OF WAYNE)
NEW CINGULAR WIRELESS PCS, LLC, ) A DELAWARE LIMITED LIABILITY COMPANY, ) D/B/A AT\&T MOBILITY
AND HARMONI TOWERS LLC, A DELAWARE LIMITED LIABILITY COMPANY

SITE NAME: WEST HIGHWAY 90 / ZULA RELO

\section*{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 Harmoni Towers LLC, a Delaware limited liability company ("Applicants"), by counsel, pursuant to (i) KRS \(\S \S 278.020,278.040,278.650,278.665\), 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. \(4^{\text {th }}\) Street, Suite 2400, Louisville, Kentucky 40202 and Harmoni Towers LLC, a Delaware limited liability company having an address of 11101 Anderson Drive, Suite 200, Little Rock, Arkansas 72212.
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. Harmoni 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). Note that Harmoni Towers LLC was formerly organized as Uniti Towers LLC (see an Amended Certificate of Authority to change entity name dated March 22, 2021 attached as part of Exhibit A). The Certificates of Authority for Uniti Towers LLC along with the Amended Certificate of Authority for Harmoni Towers LLC is attached as part of Exhibit A.
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 571 Holly Hill Tree Lane, Monticello, KY 42633 (E-911) / Hill Drive, Monticello, KY 42633 (PARCEL) ( \(36^{\circ} 46^{\prime} 32.88^{\prime \prime}\) North latitude, \(84^{\circ} 56^{\prime} 33.45^{\prime \prime}\) 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 Mark Lewis and Bryant Dunagan subject to the life estate of Robin Lewis pursuant to a deed recorded at Deed Book 351, Page 60 in the office of the County Clerk. The proposed WCF will consist of a 2-foot tall foundation below a 255-foot tall tower, with an approximately 10-foot tall lightning arrestor attached at the top, for a total height of 267 -feet, plus related ground facilities. 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

\section*{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. \({ }^{1}\)
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 Kentucky Airport Zoning Commission ("KAZC") approval for the proposed construction 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. Harmoni 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

\footnotetext{
\({ }^{1}\) AT\&T is currently co-located on an existing tower (FCC Antenna Structure Registration Number: 1258267) owned by SBA Towers VII, LLC (hereafter the "SBA Tower"). The SBA Tower is located in the vicinity where AT\&T must place its communications facility in order to meet the coverage objectives for this project. However, SBA Towers VII, LLC utilizes a non-competitive and burdensome cost structure that is not economically sustainable because of high rental rates, annual rent increases, rental upcharges and other leasing adjustments each time AT\&T needs to upgrade its equipment to keep pace with technological changes necessary to provide state of the art communication services to the area, so the SBA tower is no longer reasonably available for co-location.
}
proposed WCF are well qualified and experienced. The tower and foundation drawings for the proposed tower submitted as part of Exhibit \(\mathbf{C}\) 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 Marshall Corbin 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.

Copies of the certified green card receipts for each of the landowners who were provided notice are also included as part of Exhibit J.
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 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 \(\mathbf{N}\).
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 \(\S \S 278.020(1), 278.650\), 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: \(\quad\) (502) 543-4410
Email: dpike@pikelegal.com
Attorney for Applicants

\section*{LIST OF EXHIBITS}

A - Certificate of Authority \& FCC License Documentation
B \(\quad-\quad\) 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 \& Certified Green Card Receipts
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

\section*{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

\title{
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,

\section*{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 \(28^{\text {th }}\) day of May, 2019, in the \(227^{\text {th }}\) year of the Commonwealth.

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\hline \multicolumn{2}{|l|}{\multirow[t]{2}{*}{Alison Lundergan Grimes}} \\
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\(1 / 3 / 20173.10 \mathrm{PM}\)}} \\
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\section*{Alison Lundergan Grimes, Secretary of Stati:}


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Commonwealth of Kentucky Michael Adams, Secretary of State

Drision of Busineas Filings
P.O. Box 718

Frankfort KY 40602
(502) 56-3490
www.sos.ky.gov
\[
\begin{aligned}
& \text { Amended Certificate of Authority } \\
& \text { (Foreign Business Entity) }
\end{aligned}
\]

Pursuant to the provisions of KRS Chapter KRS 14A and 271B, 273, 274, 275, 362 or 386 the undersigned hereby applies for an amended cerificate of authority on behalf of the entity named below and, for that purpose, submits the following statements:
1. The business entity is:

2. The name of the company is: Unliti Towers LLC
(The nathe mest be fienticel to the name on neood with the Secretery of stite.)
3. It is an entity organized and exisling under the laws of the state or country of Delaware
4. The entity received authority to transact business in Kentucky on 1/3/2017
5. The entity has changed its (chock all that apply)
Domicle name to Harmoni Towers LLC
Name to be used in Kentucky to Harmoni Towers LLC
Jurisdiction of organization to
Period of duration
Form of organization
Management type: [x] Member managed \(\quad\) [. I Manager managed
6. This application will be effective upon fling, 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 effective date is \(\qquad\)

I dedare under penalty of perjury under the laws of the state of Kentucky that the foregoing is true and correct.

\section*{Delaware}

The First State

I, JEFFREY W. BULLOCK, SECRETARY OF STATE OF TEE STATE OF DELAMARE, DO HEREBY CERTIFY TEAT THE SAID "UNITI TONERS LLC", FILED A CERTIFICATE OF AMBNDIENT, CHANGING ITS NNTE TO "HARYONI TONERS LLC" ON THE EIGHTEENTH DAY OF SEPTEMBER, A.D. 2020, AT 5:13 O'CLOCK P.M.
- AND I DO GHREBY FURTHER CERTIFY THAT THE AFORESAID LIMITED LIABILITY COMPANY IS DULY FORNED UNDER TER LAWS OF TEE STATE OF delahare and is in good standing and has a legal existence not HAVING BEEN CANCELLED OR REVOEED SO FAR AS THE RECORDS OF THIS OFITCE SHOW AND IS DULY AUYHORIZED TO TRANSACT BUSINESS.

AND I DO EHERBEY FURTHER CERTIFY THAT THE SAID "RARENONI TOWERS LIC" HAS FORMED ON THE SECOND DAY OF DECEMMER, A.D. 2015.

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.

\section*{Federal Communications Commission}

Wireless Telecommunications Bureau
RADIO STATION AUTHORIZATION

LICENSEE: NEW CINGULAR WIRELESS PCS, LLC
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ATTN: FCC GROUP
NEW CINGULAR WIRELESS PCS, LLC
208 S AKARD ST., RM }210
DALLAS, TX 75202

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\begin{tabular}{|c|c|}
\hline \begin{tabular}{c} 
Call Sign \\
KNKN666
\end{tabular} & \begin{tabular}{c} 
File Number \\
0009619100
\end{tabular} \\
\hline \multicolumn{2}{|c|}{ Radio Service } \\
CL - Cellular \\
\hline \begin{tabular}{c} 
Market Numer \\
CMA447
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Channel Block \\
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FCC Registration Number (FRN): 0003291192
0
Market Name
Kentucky 5 - Barren
\begin{tabular}{|c|c|c|c|c|}
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Grant Date \\
\(09-08-2021\)
\end{tabular} & \begin{tabular}{c} 
Effective Date \\
\(09-08-2021\)
\end{tabular} & \begin{tabular}{c} 
Expiration Date \\
\(10-01-2031\)
\end{tabular} & Five Yr Build-Out Date & \begin{tabular}{c} 
Print Date \\
\(09-08-2021\)
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Site Information:
\begin{tabular}{llllll} 
Location Latitude & Longitude & \begin{tabular}{l} 
Ground Elevation \\
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Structure Hgt to Tip \\
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Antenna Structure \\
Registration No.
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7 & \(37-10-00.0 \mathrm{~N}\) & \(085-18-37.0 \mathrm{~W}\) & 282.5 & 291.4 & 1062332
\end{tabular}

Address: 1210 Cane Valley Road (94238)
City: Columbia County: ADAIR State: KY Construction Deadline:
\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline \multicolumn{9}{|l|}{Antenna: 1} \\
\hline \multicolumn{9}{|l|}{Maximum Transmitting ERP in Watts: 140.820} \\
\hline Azimuth(from true north) & 0 & 45 & 90 & 135 & 180 & 225 & 270 & 315 \\
\hline Antenna Height AAT (meters) & 180.300 & 151.200 & 132.800 & 140.500 & 155.800 & 172.800 & 186.200 & 183.500 \\
\hline Transmitting ERP (watts) & 250.037 & 98.154 & 10.266 & 2.559 & 0.527 & 0.738 & 12.510 & 102.333 \\
\hline \multicolumn{9}{|l|}{Maximum Transmitting ERP in Watts: 140.820} \\
\hline Azimuth(from true north) & 0 & 45 & 90 & 135 & 180 & 225 & 270 & 315 \\
\hline Antenna Height AAT (meters) & 180.300 & 151.200 & 132.800 & 140.500 & 155.800 & 172.800 & 186.200 & 183.500 \\
\hline Transmitting ERP (watts) & 1.408 & 30.262 & 153.476 & 217.337 & 49.025 & 5.207 & 1.772 & 0.660 \\
\hline \multicolumn{9}{|l|}{Maximum Transmitting ERP in Watts: 140.820} \\
\hline Azimuth( from true north) & 0 & 45 & 90 & 135 & 180 & 225 & 270 & 315 \\
\hline Antenna Height AAT (meters) & 180.300 & 151.200 & 132.800 & 140.500 & 155.800 & 172.800 & 186.200 & 183.500 \\
\hline Transmitting ERP (watts) & 2.948 & 0.454 & 0.942 & 4.366 & 59.310 & 210.546 & 155.347 & 22.706 \\
\hline
\end{tabular}

\section*{Conditions:}

Pursuant to \(\$ 309(\mathrm{~h})\) of the Communications Act of 1934 , as amended, 47 U.S.C. \(\$ 309(\mathrm{~h})\), 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: 0009619100
Print Date: 09-08-2021
\begin{tabular}{llllll} 
Location Latitude & Longitude & \begin{tabular}{l} 
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8 & \(36-43-12.0 \mathrm{~N}\) & \(084-28-13.0 \mathrm{~W}\) & 409.3 & 91.1 & 1042231
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Address: 100 Manor Circle (94260)
City: Whitley City County: MCCREARY State: KY Construction Deadline:
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\hline \multicolumn{9}{|l|}{Antenna: 1} \\
\hline \multicolumn{9}{|l|}{Maximum Transmitting ERP in Watts: 140.820} \\
\hline Azimuth(from true north) & 0 & 45 & 90 & 135 & 180 & 225 & 270 & 315 \\
\hline Antenna Height AAT (meters) & 123.400 & 147.100 & 135.800 & 109.800 & 103.700 & 143.600 & 127.300 & 165.300 \\
\hline Transmitting ERP (watts) & 244.175 & 220.925 & 36.790 & 4.400 & 1.072 & 1.113 & 3.637 & 56.485 \\
\hline Antenna: 2 & & & & & & & & \\
\hline \multicolumn{9}{|l|}{Maximum Transmitting ERP in Watts: 140.820} \\
\hline Azimuth(from true north) & 0 & 45 & 90 & 135 & 180 & 225 & 270 & 315 \\
\hline Antenna Height AAT (meters) & 123.400 & 147.100 & 135.800 & 109.800 & 103.700 & 143.600 & 127.300 & 165.300 \\
\hline Transmitting ERP (watts) & 2.526 & 8.109 & 37.053 & 64.172 & 73.466 & 23.019 & 4.143 & 0.935 \\
\hline Antenna: 3 & & & & & & & & \\
\hline \multicolumn{9}{|l|}{Maximum Transmitting ERP in Watts: 140.820} \\
\hline Azimuth(from true north) & 0 & 45 & 90 & 135 & 180 & 225 & 270 & 315 \\
\hline Antenna Height AAT (meters) & 123.400 & 147.100 & 135.800 & 109.800 & 103.700 & 143.600 & 127.300 & 165.300 \\
\hline Transmitting ERP (watts) & 13.438 & 3.125 & 0.649 & 0.912 & 15.291 & 122.113 & 297.793 & 117.856 \\
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Antenna Structure \\
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Address: 638 GRAHAM ROAD (87368)
City: GLASGOW County: BARREN State: KY Construction Deadline:

Antenna: 1
\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline \multicolumn{9}{|l|}{Maximum Transmitting ERP in Watts: 140.820} \\
\hline Azimuth(from true north) & 0 & 45 & 90 & 135 & 180 & 225 & 270 & 315 \\
\hline Antenna Height AAT (meters) & 76.900 & 78.700 & 69.100 & 74.800 & 91.600 & 116.000 & 101.800 & 89.500 \\
\hline Transmitting ERP (watts) & 138.618 & 59.574 & 7.477 & 1.200 & 0.283 & 0.661 & 10.185 & 66.521 \\
\hline Antenna: 2 & 138.618 & 5.574 & 7.477 & 1.200 & 0.283 & 0.661 & 10.185 & 66.521 \\
\hline \multicolumn{9}{|l|}{Maximum Transmitting ERP in Watts: 140.820} \\
\hline Azimuth(from true north) & 0 & 45 & 90 & 135 & 180 & 225 & 270 & 315 \\
\hline Antenna Height AAT (meters) & 76.900 & 78.700 & 69.100 & 74.800 & 91.600 & 116.000 & 101.800 & 89.500 \\
\hline Transmitting ERP (watts) & 2.142 & 19.146 & 94.547 & 124.562 & 33.322 & 3.559 & 0.817 & 0.257 \\
\hline Antenna: 3 & & 1.146 & 94.54 & 124.562 & 33.322 & 3.55 & & \\
\hline \multicolumn{9}{|l|}{Maximum Transmitting ERP in Watts: 140.820} \\
\hline Azimuth(from true north) & 0 & 45 & 90 & 135 & 180 & 225 & 270 & 315 \\
\hline Antenna Height AAT (meters) & 76.900 & 78.700 & 69.100 & 74.800 & 91.600 & 116.000 & 101.800 & 89.500 \\
\hline Transmitting ERP (watts) & 2.434 & 0.360 & 0.244 & 4.119 & 40.205 & 121.384 & 90.927 & 17.264 \\
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Location Latitude & Longitude & \begin{tabular}{l} 
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Structure Hgt to Tip \\
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Antenna Structure \\
Registration No.
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18 & \(36-48-31.1 \mathrm{~N}\) & \(084-50-43.5 \mathrm{~W}\) & 466.6 & 61.0 & 1004214
\end{tabular}

Address: 6565 MORRIS HILL ROAD (87856)
City: MONTICELLO County: WAYNE State: KY Construction Deadline:
\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline \multicolumn{9}{|l|}{Antenna: 1} \\
\hline \multicolumn{9}{|l|}{Maximum Transmitting ERP in Watts: 140.820} \\
\hline Azimuth(from true north) & 0 & 45 & 90 & 135 & 180 & 225 & 270 & 315 \\
\hline Antenna Height AAT (meters) & 216.900 & 160.100 & 180.400 & 174.000 & 158.000 & 164.800 & 204.700 & 214.300 \\
\hline Transmitting ERP (watts) & 159.083 & 70.430 & 5.874 & 0.769 & 0.334 & 0.371 & 9.558 & 76.538 \\
\hline Antenna: 2 & & & & & & & & \\
\hline \multicolumn{9}{|l|}{Maximum Transmitting ERP in Watts: 140.820} \\
\hline Azimuth(from true north) & 0 & 45 & 90 & 135 & 180 & 225 & 270 & 315 \\
\hline Antenna Height AAT (meters) & 216.900 & 160.100 & 180.400 & 174.000 & 158.000 & 164.800 & 204.700 & 214.300 \\
\hline Transmitting ERP (watts) & 1.547 & 33.128 & 166.094 & 241.154 & 55.397 & 5.855 & 1.952 & 0.731 \\
\hline \multicolumn{9}{|l|}{Maximum Transmitting ERP in Watts: 140.820} \\
\hline Azimuth(from true north) & 0 & 45 & 90 & 135 & 180 & 225 & 270 & 315 \\
\hline Antenna Height AAT (meters) & 216.900 & 160.100 & 180.400 & 174.000 & 158.000 & 164.800 & 204.700 & 214.300 \\
\hline Transmitting ERP (watts) & 1.611 & 0.321 & 0.293 & 4.972 & 42.968 & 145.725 & 111.912 & 13.218 \\
\hline \multicolumn{2}{|l|}{Location Latitude Longitude} & \multicolumn{3}{|r|}{Ground Elevation (meters)} & \multicolumn{2}{|l|}{Structure Hgt to Tip (meters)} & \multicolumn{2}{|l|}{Antenna Structure Registration No.} \\
\hline \(19 \quad 36-53-52.1 \mathrm{~N}\) 084-47 & 7-02.5 W & & & & & & 1238700 & \\
\hline \multicolumn{9}{|l|}{Address: ROUTE 5, BOX 9516 (87058)} \\
\hline City: Monticello County: WAYNE & State: & \multicolumn{3}{|l|}{Y Construction Deadline:} & & & & \\
\hline \multicolumn{9}{|l|}{Antenna: 1} \\
\hline \multicolumn{9}{|l|}{Maximum Transmitting ERP in Watts: 140.820} \\
\hline Azimuth(from true north) & 0 & 45 & 90 & 135 & 180 & 225 & 270 & 315 \\
\hline Antenna Height AAT (meters) & 153.300 & 160.500 & 119.100 & 104.500 & 62.300 & 124.200 & 155.000 & 148.700 \\
\hline Transmitting ERP (watts) Antenna: 2 & 151.264 & 65.591 & 5.815 & 0.740 & 0.328 & 0.344 & 9.075 & 72.988 \\
\hline \multicolumn{9}{|l|}{Maximum Transmitting ERP in Watts: 140.820} \\
\hline Azimuth(from true north) & 0 & 45 & 90 & 135 & 180 & 225 & 270 & 315 \\
\hline Antenna Height AAT (meters) & 153.300 & 160.500 & 119.100 & 104.500 & 62.300 & 124.200 & 155.000 & 148.700 \\
\hline Transmitting ERP (watts) Antenna: 3 & 2.029 & 20.018 & 108.704 & 142.806 & 33.266 & 2.825 & 0.395 & 0.478 \\
\hline \multicolumn{9}{|l|}{Maximum Transmitting ERP in Watts: 140.820} \\
\hline Azimuth(from true north) & 0 & 45 & 90 & 135 & 180 & 225 & 270 & 315 \\
\hline Antenna Height AAT (meters) & 153.300 & 160.500 & 119.100 & 104.500 & 62.300 & 124.200 & 155.000 & 148.700 \\
\hline Transmitting ERP (watts) & 1.536 & 0.299 & 0.287 & 4.752 & 41.633 & 135.419 & 106.546 & 12.709 \\
\hline
\end{tabular}

Licensee Name: NEW CINGULAR WIRELESS PCS, LLC

Call Sign: KNKN666
File Number: 0009619100
Print Date: 09-08-2021
\begin{tabular}{llllll} 
Location Latitude & Longitude & \begin{tabular}{l} 
Ground Elevation \\
(meters)
\end{tabular} & \begin{tabular}{l} 
Structure Hgt to Tip \\
(meters)
\end{tabular} & \begin{tabular}{l} 
Antenna Structure \\
Registration No.
\end{tabular} \\
20 & \(37-05-19.7 \mathrm{~N}\) & \(084-54-47.3 \mathrm{~W}\) & 331.6 & 106.4 & 1232264
\end{tabular}

Address: 1101 PINE TOP ROAD (86918)
City: RUSSELL SPRINGS County: RUSSELL State: KY Construction Deadline:

Antenna: 1
\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline \multicolumn{9}{|l|}{Maximum Transmitting ERP in Watts: 140.820} \\
\hline Azimuth(from true north) & 0 & 45 & 90 & 135 & 180 & 225 & 270 & 315 \\
\hline Antenna Height AAT (meters) & 118.700 & 77.600 & 105.400 & 136.900 & 148.600 & 127.700 & 120.400 & 134.300 \\
\hline Transmitting ERP (watts) & 106.145 & 47.603 & 4.827 & 0.278 & 0.215 & 0.233 & 6.909 & 51.527 \\
\hline \multicolumn{9}{|l|}{Maximum Transmitting ERP in Watts: 140.820} \\
\hline Azimuth(from true north) & 0 & 45 & 90 & 135 & 180 & 225 & 270 & 315 \\
\hline Antenna Height AAT (meters) & 118.700 & 77.600 & 105.400 & 136.900 & 148.600 & 127.700 & 120.400 & 134.300 \\
\hline Transmitting ERP (watts) Antenna: 3 & 2.313 & 23.146 & 119.606 & 157.272 & 35.853 & 3.353 & 0.454 & 0.536 \\
\hline \multicolumn{9}{|l|}{Maximum Transmitting ERP in Watts: 140.820} \\
\hline Azimuth(from true north) & 0 & 45 & 90 & 135 & 180 & 225 & 270 & 315 \\
\hline Antenna Height AAT (meters) & 118.700 & 77.600 & 105.400 & 136.900 & 148.600 & 127.700 & 120.400 & 134.300 \\
\hline Transmitting ERP (watts) & 1.748 & 0.347 & 0.313 & 5.295 & 45.951 & 158.160 & 122.299 & 14.137 \\
\hline
\end{tabular}
\begin{tabular}{llllll} 
Location Latitude & Longitude & \begin{tabular}{l} 
Ground Elevation \\
(meters)
\end{tabular} & \begin{tabular}{l} 
Structure Hgt to Tip \\
(meters)
\end{tabular} & \begin{tabular}{l} 
Antenna Structure \\
Registration No.
\end{tabular} \\
22 & \(36-45-21.5 \mathrm{~N}\) & \(085-03-35.7 \mathrm{~W}\) & 353.6 & 78.6 & 1258266
\end{tabular}

Address: RR BOX 200 STATE ROUTE 90 (97275)
City: Albany County: CLINTON State: KY Construction Deadline:
\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline \multicolumn{9}{|l|}{Antenna: 1} \\
\hline \multicolumn{9}{|l|}{Maximum Transmitting ERP in Watts: 140.820} \\
\hline Azimuth(from true north) & 0 & 45 & 90 & 135 & 180 & 225 & 270 & 315 \\
\hline Antenna Height AAT (meters) & 159.200 & 140.400 & 108.000 & 36.100 & 88.900 & 81.600 & 132.000 & 170.300 \\
\hline Transmitting ERP (watts) & 61.485 & 218.225 & 164.915 & 26.293 & 2.922 & 0.471 & 0.954 & 4.500 \\
\hline Antenna: 2 & & & & & & & & \\
\hline \multicolumn{9}{|l|}{Maximum Transmitting ERP in Watts: 140.820} \\
\hline Azimuth(from true north) & 0 & 45 & 90 & 135 & 180 & 225 & 270 & 315 \\
\hline Antenna Height AAT (meters) & 159.200 & 140.400 & 108.000 & 36.100 & 88.900 & 81.600 & 132.000 & 170.300 \\
\hline Transmitting ERP (watts) Antenna: 3 & 1.000 & 4.591 & 60.220 & 229.906 & 159.544 & 23.590 & 2.912 & 0.466 \\
\hline \multicolumn{9}{|l|}{Maximum Transmitting ERP in Watts: 140.820} \\
\hline Azimuth(from true north) & 0 & 45 & 90 & 135 & 180 & 225 & 270 & 315 \\
\hline Antenna Height AAT (meters) & 159.200 & 140.400 & 108.000 & 36.100 & 88.900 & 81.600 & 132.000 & 170.300 \\
\hline Transmitting ERP (watts) & 7.041 & 2.307 & 0.511 & 1.072 & 23.419 & 142.307 & 232.641 & 64.969 \\
\hline
\end{tabular}

Call Sign: KNKN666
File Number: 0009619100
Print Date: 09-08-2021
\begin{tabular}{llllll} 
Location Latitude & Longitude & \begin{tabular}{l} 
Ground Elevation \\
(meters)
\end{tabular} & \begin{tabular}{l} 
Structure Hgt to Tip \\
(meters)
\end{tabular} & \begin{tabular}{l} 
Antenna Structure \\
Registration No.
\end{tabular} \\
23 & \(36-44-36.2 \mathrm{~N}\) & \(085-08-34.1 \mathrm{~W}\) & 350.5 & 78.0 & 1258265 \\
\hline
\end{tabular}

Address: 127 North Cross (Route 6 Box 991) (94257)
City: Albany County: CLINTON State: KY Construction Deadline:
\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline \multicolumn{9}{|l|}{Antenna: 1} \\
\hline \multicolumn{9}{|l|}{Maximum Transmitting ERP in Watts: 140.820} \\
\hline Azimuth(from true north) & 0 & 45 & 90 & 135 & 180 & 225 & 270 & 315 \\
\hline Antenna Height AAT (meters) & 181.800 & 142.800 & 72.800 & 100.300 & 157.000 & 167.400 & 157.200 & 193.400 \\
\hline Transmitting ERP (watts) & 31.597 & 145.107 & 168.768 & 30.884 & 3.418 & 1.072 & 0.669 & 1.670 \\
\hline Antenna: 2 & & & & & & & & \\
\hline \multicolumn{9}{|l|}{Maximum Transmitting ERP in Watts: 140.820} \\
\hline Azimuth(from true north) & 0 & 45 & 90 & 135 & 180 & 225 & 270 & 315 \\
\hline Antenna Height AAT (meters) & 181.800 & 142.800 & 72.800 & 100.300 & 157.000 & 167.400 & 157.200 & 193.400 \\
\hline Transmitting ERP (watts) Antenna: 3 & 1.105 & 1.668 & 14.838 & 36.641 & 44.724 & 30.421 & 5.045 & 2.474 \\
\hline \multicolumn{9}{|l|}{Maximum Transmitting ERP in Watts: 140.820} \\
\hline Azimuth (from true north) & 0 & 45 & 90 & 135 & 180 & 225 & 270 & 315 \\
\hline Antenna Height AAT (meters) & 181.800 & 142.800 & 72.800 & 100.300 & 157.000 & 167.400 & 157.200 & 193.400 \\
\hline Transmitting ERP (watts) & 40.424 & 4.384 & 1.518 & 0.529 & 1.123 & 24.617 & 125.244 & 176.237 \\
\hline \multicolumn{2}{|l|}{Location Latitude Longitude} & \multicolumn{3}{|r|}{Ground Elevation (meters)} & \multicolumn{2}{|l|}{Structure Hgt to Tip (meters)} & \multicolumn{2}{|l|}{Antenna Structure Registration No.} \\
\hline 26 37-18-17.2 N 085-55 & 5-38.3 W & & & & & & 1200030 & \\
\hline \multicolumn{9}{|l|}{Address: 824 I CHILDRESS ROAD (37618)} \\
\hline City: Munfordville County: HART & State: & \multicolumn{3}{|l|}{Construction Deadline:} & & & & \\
\hline \multicolumn{9}{|l|}{Antenna: 1} \\
\hline \multicolumn{9}{|l|}{Maximum Transmitting ERP in Watts: 140.820} \\
\hline Azimuth(from true north) & 0 & 45 & 90 & 135 & 180 & 225 & 270 & 315 \\
\hline Antenna Height AAT (meters) & 137.000 & 120.900 & 185.100 & 176.500 & 166.200 & 156.000 & 134.000 & 170.100 \\
\hline Transmitting ERP (watts) Antenna: 2 & 87.882 & 116.157 & 30.423 & 3.076 & 0.288 & 0.394 & 1.136 & 15.107 \\
\hline \multicolumn{9}{|l|}{Maximum Transmitting ERP in Watts: 140.820} \\
\hline Azimuth(from true north) & 0 & 45 & 90 & 135 & 180 & 225 & 270 & 315 \\
\hline Antenna Height AAT (meters) & 137.000 & 120.900 & 185.100 & 176.500 & 166.200 & 156.000 & 134.000 & 170.100 \\
\hline Transmitting ERP (watts) Antenna: 3 & 0.236 & 4.016 & 34.037 & 111.204 & 87.767 & 11.936 & 0.954 & 0.231 \\
\hline \multicolumn{9}{|l|}{Maximum Transmitting ERP in Watts: 140.820} \\
\hline Azimuth(from true north) & & 45 & 90 & 135 & 180 & 225 & 270 & 315 \\
\hline Antenna Height AAT (meters) & 137.000 & 120.900 & 185.100 & 176.500 & 166.200 & 156.000 & 134.000 & 170.100 \\
\hline Transmitting ERP (watts) & 0.893 & 0.228 & 0.217 & 2.143 & 29.130 & 110.300 & 94.526 & 17.072 \\
\hline
\end{tabular}

Licensee Name: NEW CINGULAR WIRELESS PCS, LLC

Call Sign: KNKN666
File Number: 0009619100
Print Date: 09-08-2021
\begin{tabular}{llllll} 
Location Latitude & Longitude & \begin{tabular}{l} 
Ground Elevation \\
(meters)
\end{tabular} & \begin{tabular}{l} 
Structure Hgt to Tip \\
(meters)
\end{tabular} & \begin{tabular}{l} 
Antenna Structure \\
Registration No.
\end{tabular} \\
27 & \(36-41-54.0 \mathrm{~N}\) & \(085-41-07.0 \mathrm{~W}\) & 286.5 & 90.2 & 1065560
\end{tabular}

Address: 403 MARTIN SUBDIVISION (87881)
City: TOMPKINSVILLE County: MONROE State: KY Construction Deadline:

Antenna: 1
\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline \multicolumn{9}{|l|}{Maximum Transmitting ERP in Watts: 140.820} \\
\hline Azimuth(from true north) & 0 & 45 & 90 & 135 & 180 & 225 & 270 & 315 \\
\hline Antenna Height AAT (meters) & 69.700 & 75.300 & 146.800 & 80.100 & 75.200 & 103.200 & 86.800 & 75.200 \\
\hline Transmitting ERP (watts) & 271.841 & 109.386 & 7.417 & 0.800 & 0.553 & 0.537 & 18.630 & 138.505 \\
\hline Antenna: 2 & & & & & & & & \\
\hline \multicolumn{9}{|l|}{Maximum Transmitting ERP in Watts: 140.820} \\
\hline Azimuth(from true north) & 0 & 45 & 90 & 135 & 180 & 225 & 270 & 315 \\
\hline Antenna Height AAT (meters) & 69.700 & 75.300 & 146.800 & 80.100 & 75.200 & 103.200 & 86.800 & 75.200 \\
\hline Transmitting ERP (watts) Antenna: 3 & 1.721 & 17.109 & 89.000 & 121.386 & 26.164 & 2.348 & 0.328 & 0.400 \\
\hline \multicolumn{9}{|l|}{Maximum Transmitting ERP in Watts: 140.820} \\
\hline Azimuth(from true north) & & 45 & 90 & 135 & 180 & 225 & 270 & 315 \\
\hline Antenna Height AAT (meters) & 69.700 & 75.300 & 146.800 & 80.100 & 75.200 & 103.200 & 86.800 & 75.200 \\
\hline Transmitting ERP (watts) & 1.247 & 0.244 & 0.229 & 4.118 & 34.693 & 116.367 & 90.021 & 10.295 \\
\hline
\end{tabular}
\begin{tabular}{llllll} 
Location Latitude & Longitude & \begin{tabular}{l} 
Ground Elevation \\
(meters)
\end{tabular} & \begin{tabular}{l} 
Structure Hgt to Tip \\
(meters)
\end{tabular} & \begin{tabular}{l} 
Antenna Structure \\
Registration No.
\end{tabular} \\
28 & \(37-21-17.2 \mathrm{~N}\) & \(085-52-24.7 \mathrm{~W}\) & \(\mathbf{3 5 2 . 0}\) & 83.8 & 1220496
\end{tabular}

Address: 2830 Frenchman's Knob Road (94236)
City: Bonnieville County: HART State: KY Construction Deadline:

Antenna: 1
\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline \multicolumn{9}{|l|}{Maximum Transmitting ERP in Watts: 140.820} \\
\hline Azimuth(from true north) & 0 & 45 & 90 & 135 & 180 & 225 & 270 & 315 \\
\hline Antenna Height AAT (meters) & 193.700 & 191.000 & 195.200 & 238.600 & 217.000 & 184.800 & 226.800 & 216.700 \\
\hline Transmitting ERP (watts) & 184.924 & 99.849 & 11.423 & 0.450 & 0.602 & 0.510 & 8.026 & 87.512 \\
\hline Antenna: 2 & & & & & & & & \\
\hline \multicolumn{9}{|l|}{Maximum Transmitting ERP in Watts: 140.820} \\
\hline Azimuth(from true north) & 0 & 45 & 90 & 135 & 180 & 225 & 270 & 315 \\
\hline Antenna Height AAT (meters) & 193.700 & 191.000 & 195.200 & 238.600 & 217.000 & 184.800 & 226.800 & 216.700 \\
\hline Transmitting ERP (watts) Antenna: 3 & 2.115 & 37.767 & 246.087 & 328.098 & 100.148 & 5.709 & 0.676 & 0.788 \\
\hline \multicolumn{9}{|l|}{Maximum Transmitting ERP in Watts: 140.820} \\
\hline Azimuth(from true north) & & 45 & 90 & 135 & 180 & 225 & 270 & 315 \\
\hline Antenna Height AAT (meters) & 193.700 & 191.000 & 195.200 & 238.600 & 217.000 & 184.800 & 226.800 & 216.700 \\
\hline Transmitting ERP (watts) & 1.310 & 0.350 & 0.339 & 3.061 & 46.385 & 170.557 & 144.024 & 26.849 \\
\hline
\end{tabular}
\begin{tabular}{llllll} 
Location Latitude & Longitude & \begin{tabular}{l} 
Ground Elevation \\
(meters)
\end{tabular} & \begin{tabular}{l} 
Structure Hgt to Tip \\
(meters)
\end{tabular} & \begin{tabular}{l} 
Antenna Structure \\
Registration No.
\end{tabular} \\
32 & \(37-04-19.5 \mathrm{~N}\) & \(084-59-59.4 \mathrm{~W}\) & 317.0 & 78.0 & 1257488
\end{tabular}

Address: 227 Horn Rd (94247)
City: Russell Springs County: RUSSELL State: KY Construction Deadine:
\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline \multicolumn{9}{|l|}{\multirow[t]{2}{*}{\begin{tabular}{l}
Antenna: 1 \\
Maximum Transmitting ERP in Watts: 140.820
\end{tabular}}} \\
\hline & & & & & & & & \\
\hline Azimuth(from true north) & 0 & 45 & 90 & 135 & 180 & 225 & 270 & 315 \\
\hline Antenna Height AAT (meters) & 149.200 & 77.200 & 79.700 & 105.800 & 146.300 & 99.500 & 80.900 & 89.500 \\
\hline Transmitting ERP (watts) & 221.223 & 212.121 & 177.242 & 71.356 & 77.801 & 28.148 & 33.937 & 155.008 \\
\hline Antenna: 2 & 221.223 & 212.121 & 17.242 & .1.356 & 77.801 & 28.148 & 33.93 & 155.008 \\
\hline \multicolumn{9}{|l|}{Maximum Transmitting ERP in Watts: 140.820} \\
\hline Azimuth(from true north) & 0 & 45 & 90 & 135 & 180 & 225 & 270 & 315 \\
\hline Antenna Height AAT (meters) & 149.200 & 77.200 & 79.700 & 105.800 & 146.300 & 99.500 & 80.900 & 89.500 \\
\hline Transmitting ERP (watts) & 18.208 & 41.435 & 173.839 & 236.936 & 272.788 & 110.954 & 36.898 & 14.156 \\
\hline Antenna: 3 & & & & & & & & \\
\hline \multicolumn{9}{|l|}{Maximum Transmitting ERP in Watts: 140.820} \\
\hline Azimuth(from true north) & 0 & 45 & 90 & 135 & 180 & 225 & 270 & 315 \\
\hline Antenna Height AAT (meters) & 149.200 & 77.200 & 79.700 & 105.800 & 146.300 & 99.500 & 80.900 & 89.500 \\
\hline Transmitting ERP (watts) & 68.660 & 39.848 & 0.532 & 12.732 & 74.296 & 228.506 & 206.369 & 227.920 \\
\hline
\end{tabular}
\begin{tabular}{llllll} 
Location Latitude & Longitude & \begin{tabular}{l} 
Ground Elevation \\
(meters)
\end{tabular} & \begin{tabular}{l} 
Structure Hgt to Tip \\
(meters)
\end{tabular} & \begin{tabular}{l} 
Antenna Structure \\
Registration No.
\end{tabular} \\
33 & \(36-50-28.6 \mathrm{~N}\) & \(086-02-47.1 \mathrm{~W}\) & 225.9 & 60.7 &
\end{tabular}

Address: Austin Tracy Rd (115120)
City: Lucas County: BARREN State: KY Construction Deadline:
\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline \multicolumn{9}{|l|}{Antenna: 1} \\
\hline Maximum Transmitting ERP in Watts: & 140.820 & & & & & & & \\
\hline Azimuth(from true north) & 0 & 45 & 90 & 135 & 180 & 225 & 270 & 315 \\
\hline Antenna Height AAT (meters) & 91.800 & 79.300 & 63.800 & 43.400 & 95.100 & 66.500 & 80.300 & 112.900 \\
\hline Transmitting ERP (watts) & 79.481 & 128.527 & 48.267 & 34.537 & 0.275 & 16.613 & 58.629 & 118.330 \\
\hline Antenna: 2 & & & & & & & & \\
\hline \multicolumn{9}{|l|}{Maximum Transmitting ERP in Watts: 140.820} \\
\hline Azimuth(from true north) & 0 & 45 & 90 & 135 & 180 & 225 & 270 & 315 \\
\hline Antenna Height AAT (meters) & 91.800 & 79.300 & 63.800 & 43.400 & 95.100 & 66.500 & 80.300 & 112.900 \\
\hline Transmitting ERP (watts) & 16.424 & 105.957 & 212.448 & 227.867 & 141.232 & 41.336 & 29.497 & 11.208 \\
\hline \multicolumn{9}{|l|}{Maximum Transmitting ERP in Watts: 140.820} \\
\hline Azimuth(from true north) & , & 45 & 90 & 135 & 180 & 225 & 270 & 315 \\
\hline Antenna Height AAT (meters) & 91.800 & 79.300 & 63.800 & 43.400 & 95.100 & 66.500 & 80.300 & 112.900 \\
\hline Transmitting ERP (watts) & 3.736 & 0.847 & 2.276 & 7.728 & 35.347 & 59.316 & 65.492 & 20.964 \\
\hline Antenna: 4 & & & & & & & & \\
\hline \multicolumn{9}{|l|}{Maximum Transmitting ERP in Watts: 140.820} \\
\hline Azimuth(from true north) & 0 & 45 & 90 & 135 & 180 & 225 & 270 & 315 \\
\hline Antenna Height AAT (meters) & 91.800 & 79.300 & 63.700 & 43.400 & 95.100 & 66.500 & 80.300 & 112.900 \\
\hline Transmitting ERP (watts) Antenna: 5 & 80.215 & 129.717 & 48.867 & 34.856 & 0.278 & 16.767 & 59.174 & 119.427 \\
\hline \multicolumn{9}{|l|}{Maximum Transmitting ERP in Watts: 140.820} \\
\hline Azimuth(from true north) & 0 & 45 & 90 & 135 & 180 & 225 & 270 & 315 \\
\hline Antenna Height AAT (meters) & 91.800 & 79.300 & 63.700 & 43.400 & 95.100 & 66.500 & 80.300 & 112.900 \\
\hline Transmitting ERP (watts) & 16.576 & 106.934 & 215.086 & 229.984 & 142.541 & 41.717 & 29.770 & 11.312 \\
\hline
\end{tabular}
\begin{tabular}{lllll} 
Location Latitude & Longitude & \begin{tabular}{l} 
Ground Elevation \\
(meters)
\end{tabular} & \begin{tabular}{l} 
Structure Hgt to Tip \\
(meters)
\end{tabular} & \begin{tabular}{l} 
Antenna Structure \\
Registration No.
\end{tabular} \\
33 & \(36-50-28.6 \mathrm{~N}\) & \(086-02-47.1 \mathrm{~W}\) & 225.9 & 60.7
\end{tabular}

Address: Austin Tracy Rd (115120)
City: Lucas County: BARREN State: KY Construction Deadline:
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|}
\hline \multicolumn{11}{|l|}{\[
: 6
\]} \\
\hline Azi & nuth(from true north) & & 0 & 45 & 90 & 135 & 180 & 225 & 270 & 315 \\
\hline Antenna H & eight AAT (meters) & & 91.800 & 79.300 & 63.700 & 43.400 & 95.100 & 66.500 & 80.300 & 112.900 \\
\hline Transmitti & ng ERP (watts) & & 3.770 & 0.854 & 2.304 & 7.800 & 35.674 & 59.863 & 66.098 & 21.158 \\
\hline Location & Latitude & \multicolumn{2}{|l|}{Longitude} & & \multicolumn{2}{|l|}{Ground Elevation (meters)} & \multicolumn{2}{|l|}{Structure Hgt to Tip (meters)} & \multicolumn{2}{|l|}{Antenna Structure Registration No.} \\
\hline 34 & 36-46-44.5 N & 084-5 & -33.7 W & & 396.2 & & 78.0 & & 1258267 & \\
\hline
\end{tabular}

Address: 9096 W. Hwy 90 (94262)
City: Monticello County: WAYNE State: KY Construction Deadline:

Antenna: 1
\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline \multicolumn{9}{|l|}{Maximum Transmitting ERP in Watts: 140.820} \\
\hline Azimuth(from true north) & 0 & 45 & 90 & 135 & 180 & 225 & 270 & 315 \\
\hline Antenna Height AAT (meters) & 194.500 & 173.000 & 138.200 & 103.300 & 102.200 & 140.500 & 166.900 & 201.300 \\
\hline Transmitting ERP (watts) & 147.841 & 143.877 & 130.052 & 39.637 & 24.482 & 1.946 & 8.038 & 54.683 \\
\hline Antenna: 2 & & & & & & & & \\
\hline \multicolumn{9}{|l|}{Maximum Transmitting ERP in Watts: 140.820} \\
\hline Azimuth(from true north) & 0 & 45 & 90 & 135 & 180 & 225 & 270 & 315 \\
\hline Antenna Height AAT (meters) & 194.500 & 173.000 & 138.200 & 103.300 & 102.200 & 140.500 & 166.900 & 201.300 \\
\hline Transmitting ERP (watts) & 0.742 & 5.202 & 57.406 & 186.618 & 115.460 & 13.939 & 2.131 & 0.396 \\
\hline Antenna: 3 & & & & & & & & \\
\hline \multicolumn{9}{|l|}{Maximum Transmitting ERP in Watts: 140.820} \\
\hline Azimuth(from true north) & 0 & 45 & 90 & 135 & 180 & 225 & 270 & 315 \\
\hline Antenna Height AAT (meters) & 194.500 & 173.000 & 138.200 & 103.300 & 102.200 & 140.500 & 166.900 & 201.300 \\
\hline Transmitting ERP (watts) & 27.223 & 19.327 & 10.778 & 15.109 & 86.367 & 155.385 & 168.892 & 88.819 \\
\hline
\end{tabular}
\begin{tabular}{llllll} 
Location Latitude & Longitude & \begin{tabular}{l} 
Ground Elevation \\
(meters)
\end{tabular} & \begin{tabular}{l} 
Structure Hgt to Tip \\
(meters)
\end{tabular} & \begin{tabular}{l} 
Antenna Structure \\
Registration No.
\end{tabular} \\
35 & \(36-39-45.3 \mathrm{~N}\) & \(084-26-36.2 \mathrm{~W}\) & 428.2 & 79.9 & 1275397
\end{tabular}

Address: 6135 Hwy 1651 (115765)
City: Pine Knot County: MCCREARY State: KY Construction Deadline:

\section*{Antenna: 1}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline \multicolumn{9}{|l|}{Maximum Transmitting ERP in Watts: 140.820} \\
\hline Azimuth(from true north) & 0 & 45 & 90 & 135 & 180 & 225 & 270 & 315 \\
\hline Antenna Height AAT (meters) & 132.500 & 143.700 & 119.600 & 95.500 & 88.700 & 114.200 & 161.300 & 166.800 \\
\hline Transmitting ERP (watts) & 69.450 & 261.545 & 232.470 & 44.008 & 2.017 & 0.559 & 0.530 & 4.304 \\
\hline \multicolumn{9}{|l|}{Maximum Transmitting ERP in Watts: 140.820} \\
\hline Azimuth(from true north) & 0 & 45 & 90 & 135 & 180 & 225 & 270 & 315 \\
\hline Antenna Height AAT (meters) & 132.500 & 143.700 & 119.600 & 95.500 & 88.700 & 114.200 & 161.300 & 166.800 \\
\hline Transmitting ERP (watts) & 0.210 & 0.184 & 2.662 & 25.143 & 50.189 & 30.009 & 3.791 & 0.206 \\
\hline
\end{tabular}

\begin{tabular}{llllll}
\hline Location Latitude & Longitude & \begin{tabular}{l} 
Ground Elevation \\
(meters)
\end{tabular} & \begin{tabular}{l} 
Structure Hgt to Tip \\
(meters)
\end{tabular} & \begin{tabular}{l} 
Antenna Structure \\
Registration No.
\end{tabular} \\
36 & \(36-50-27.1 \mathrm{~N}\) & \(084-28-44.2 \mathrm{~W}\) & 425.5 & 79.6 & 1233359
\end{tabular}

Address: 165 HWY 90 (114139)
City: Parkers Lake County: MCCREARY State: KY Construction Deadline:

Antenna: 1
\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline \multicolumn{9}{|l|}{Maximum Transmitting ERP in Watts: 140.820} \\
\hline Azimuth(from true north) & 0 & 45 & 90 & 135 & 180 & 225 & 270 & 315 \\
\hline Antenna Height AAT (meters) & 185.500 & 163.600 & 170.800 & 152.900 & 106.200 & 178.000 & 165.700 & 183.000 \\
\hline Transmitting ERP (watts) & 23.185 & 14.817 & 1.670 & 0.153 & 0.104 & 0.150 & 1.655 & 13.513 \\
\hline Antenna: 2 & 23.185 & 14.817 & & & 0.104 & & & 13.513 \\
\hline \multicolumn{9}{|l|}{Maximum Transmitting ERP in Watts: 140.820} \\
\hline Azimuth(from true north) & 0 & 45 & 90 & 135 & 180 & 225 & 270 & 315 \\
\hline Antenna Height AAT (meters) & 185.500 & 163.600 & 170.800 & 152.900 & 106.200 & 178.000 & 165.700 & 183.000 \\
\hline Transmitting ERP (watts) & 2.683 & 26.605 & 140.903 & 189.301 & 44.170 & 3.813 & 0.542 & 0.629 \\
\hline Antenna: 3 & & & & & & & & \\
\hline \multicolumn{9}{|l|}{Maximum Transmitting ERP in Watts: 140.820} \\
\hline Azimuth(from true north) & 0 & 45 & 90 & 135 & 180 & 225 & 270 & 315 \\
\hline Antenna Height AAT (meters) & 185.500 & 163.600 & 170.800 & 152.900 & 106.200 & 178.000 & 165.700 & 183.000 \\
\hline Transmitting ERP (watts) & 2.063 & 0.405 & 0.373 & 6.243 & 54.676 & 179.706 & 144.196 & 16.857 \\
\hline
\end{tabular}
\begin{tabular}{llllll} 
Location Latitude & Longitude & \begin{tabular}{l} 
Ground Elevation \\
(meters)
\end{tabular} & \begin{tabular}{l} 
Structure Hgt to Tip \\
(meters)
\end{tabular} & \begin{tabular}{l} 
Antenna Structure \\
Registration No.
\end{tabular} \\
37 & \(36-41-51.7 \mathrm{~N}\) & \(085-07-19.1 \mathrm{~W}\) & 303.9 & 78.0 & 1273817
\end{tabular}

Address: 399 Daylton Road (112920)
City: Albany County: CLINTON State: KY Construction Deadline:

Antenna: 1
\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline Maximum Transmitting ERP in Watts: & 140.820 & & & & & & & \\
\hline Azimuth(from true north) & 0 & 45 & 90 & 135 & 180 & 225 & 270 & 315 \\
\hline Antenna Height AAT (meters) & 103.500 & 53.600 & 30.000 & 64.200 & 100.300 & 112.300 & 94.400 & 76.300 \\
\hline Transmitting ERP (watts) & 255.895 & 112.531 & 6.303 & 1.065 & 0.524 & 0.886 & 15.778 & 134.111 \\
\hline Antenna: 2 & 255.895 & 112.531 & 6.303 & 1.065 & 0.524 & 0.886 & 15.778 & 134.11 \\
\hline Maximum Transmitting ERP in Watts: & 140.820 & & & & & & & \\
\hline Azimuth(from true north) & 0 & 45 & 90 & 135 & 180 & 225 & 270 & 315 \\
\hline Antenna Height AAT (meters) & 103.500 & 53.600 & 30.000 & 64.200 & 100.300 & 112.300 & 94.400 & 76.300 \\
\hline Transmitting ERP (watts) & 1.151 & 13.278 & 68.092 & 80.326 & 20.259 & 1.984 & 0.205 & 0.284 \\
\hline
\end{tabular}
\begin{tabular}{llllll} 
Location Latitude & Longitude & \begin{tabular}{l} 
Ground Elevation \\
(meters)
\end{tabular} & \begin{tabular}{l} 
Structure Hgt to Tip \\
(meters)
\end{tabular} & \begin{tabular}{l} 
Antenna Structure \\
Registration No.
\end{tabular} \\
37 & \(36-41-51.7 \mathrm{~N}\) & \(085-07-19.1 \mathrm{~W}\) & 303.9 & 78.0 & 1273817
\end{tabular}

Address: 399 Daylton Road (112920)
City: Albany County: CLINTON State: KY Construction Deadline:
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|}
\hline \multicolumn{11}{|l|}{Antenna: 3} \\
\hline \multicolumn{11}{|l|}{Maximum Transmitting ERP in Watts: 140.820} \\
\hline Azin & muth(from true north) & & 0 & 45 & 90 & 135 & 180 & 225 & 270 & 315 \\
\hline \multicolumn{2}{|l|}{Antenna Height AAT (meters)} & & 103.500 & 53.600 & 30.000 & 64.200 & 100.300 & 112.300 & 94.400 & 76.300 \\
\hline \multicolumn{3}{|l|}{Transmitting ERP (watts)} & 0.327 & 0.106 & 0.101 & 1.174 & 12.741 & 41.443 & 34.130 & 5.644 \\
\hline Location & Latitude & \multicolumn{2}{|l|}{Longitude} & & \multicolumn{2}{|l|}{Ground Elevation (meters)} & \multicolumn{2}{|l|}{Structure Hgt to Tip (meters)} & \multicolumn{2}{|l|}{Antenna Structure Registration No.} \\
\hline 38 & 36-44-13.0 N & 085-42 & -10.0 W & & 309.7 & & 91.1 & & 1042225 & \\
\hline
\end{tabular}

Address: 3151 EDMONTON ROAD (94259)
City: TOMPKINSVILLE County: MONROE State: KY Construction Deadline:

Antenna: 1
\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline \multicolumn{9}{|l|}{Maximum Transmitting ERP in Watts: 140.820} \\
\hline Azimuth(from true north) & 0 & 45 & 90 & 135 & 180 & 225 & 270 & 315 \\
\hline Antenna Height AAT (meters) & 111.100 & 109.700 & 147.100 & 108.800 & 126.000 & 145.900 & 125.000 & 125.900 \\
\hline Transmitting ERP (watts) & 189.524 & 72.806 & 7.444 & 1.950 & 0.393 & 0.557 & 9.583 & 77.626 \\
\hline Antenna: 2 & & & & & & & & . 626 \\
\hline \multicolumn{9}{|l|}{Maximum Transmitting ERP in Watts: 140.820} \\
\hline Azimuth(from true north) & 0 & 45 & 90 & 135 & 180 & 225 & 270 & 315 \\
\hline Antenna Height AAT (meters) & 111.100 & 109.700 & 147.100 & 108.800 & 126.000 & 145.900 & 125.000 & 125.900 \\
\hline Transmitting ERP (watts) & 1.067 & 23.007 & 114.837 & 166.790 & 36.523 & 3.864 & 1.339 & 0.493 \\
\hline Antenna: 3 & & & 11.837 & 166.790 & & 3.86 & & 0.4 \\
\hline \multicolumn{9}{|l|}{Maximum Transmitting ERP in Watts: 140.820} \\
\hline Azimuth(from true north) & 0 & 45 & 90 & 135 & 180 & 225 & 270 & 315 \\
\hline Antenna Height AAT (meters) & 111.100 & 109.700 & 147.100 & 108.800 & 126.000 & 145.900 & 125.000 & 125.900 \\
\hline Transmitting ERP (watts) & 2.199 & 0.335 & 0.702 & 3.359 & 45.136 & 159.373 & 117.688 & 16.866 \\
\hline
\end{tabular}
\begin{tabular}{llllll} 
Location Latitude & Longitude & \begin{tabular}{l} 
Ground Elevation \\
(meters)
\end{tabular} & \begin{tabular}{l} 
Structure Hgt to Tip \\
(meters)
\end{tabular} & \begin{tabular}{l} 
Antenna Structure \\
Registration No.
\end{tabular} \\
39 & \(36-38-51.6 \mathrm{~N}\) & \(085-17-33.1 \mathrm{~W}\) & 317.0 & 60.7 &
\end{tabular}

Address: 5163 State Park (117828)
City: Cumberland County: CUMBERLAND State: KY Construction Deadline:
\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline \multicolumn{9}{|l|}{Antenna: 1} \\
\hline \multicolumn{9}{|l|}{Maximum Transmitting ERP in Watts: 140.820} \\
\hline Azimuth(from true north) & 0 & 45 & 90 & 135 & 180 & 225 & 270 & 315 \\
\hline Antenna Height AAT (meters) & 100.500 & 86.500 & 93.600 & 115.600 & 123.000 & 167.100 & 133.100 & 121.800 \\
\hline Transmitting ERP (watts) & 24.683 & 224.514 & 184.090 & 16.413 & 0.520 & 0.462 & 0.466 & 0.469 \\
\hline Antenna: 2 & 24.683 & 224.514 & 184.09 & 16.413 & 0.520 & 0.462 & 0.466 & 0.46 \\
\hline \multicolumn{9}{|l|}{Maximum Transmitting ERP in Watts: 140.820} \\
\hline Azimuth(from true north) & 0 & 45 & 90 & 135 & 180 & 225 & 270 & 315 \\
\hline Antenna Height AAT (meters) & 100.500 & 86.500 & 93.600 & 115.600 & 123.000 & 167.100 & 133.100 & 121.800 \\
\hline Transmitting ERP (watts) & 46.321 & 0.611 & 0.527 & 0.529 & 0.541 & 7.711 & 140.237 & 265.546 \\
\hline
\end{tabular}
\begin{tabular}{llllll} 
Location Latitude & Longitude & \begin{tabular}{l} 
Ground Elevation \\
(meters)
\end{tabular} & \begin{tabular}{l} 
Structure Hgt to Tip \\
(meters)
\end{tabular} & \begin{tabular}{l} 
Antenna Structure \\
Registration No.
\end{tabular} \\
40 & \(37-11-42.5 \mathrm{~N}\) & \(085-57-13.0 \mathrm{~W}\) & 267.6 & 99.1 & 1224165
\end{tabular}

Address: 1515 FISHER RIDGE ROAD (37620)
City: Horse Cave County: HART State: KY Construction Deadline:

Antenna: 1
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|}
\hline \multicolumn{10}{|l|}{Maximum Transmitting ERP in Watts: 140.820} \\
\hline Azimuth(from true north) & & 0 & 45 & 90 & 135 & 180 & 225 & 270 & 315 \\
\hline Antenna Height AAT (meters) & & 148.700 & 170.000 & 148.400 & 148.400 & 138.900 & 116.100 & 137.500 & 147.400 \\
\hline Transmitting ERP (watts) & & 96.574 & 101.465 & 19.855 & 1.861 & 0.214 & 0.322 & 2.056 & 21.126 \\
\hline Antenna: 2 & & & & & & & & & \\
\hline \multicolumn{10}{|l|}{Maximum Transmitting ERP in Watts: 140.820} \\
\hline Azimuth(from true north) & & 0 & 45 & 90 & 135 & 180 & 225 & 270 & 315 \\
\hline Antenna Height AAT (meters) & & 148.700 & 170.000 & 148.400 & 148.400 & 138.900 & 116.100 & 137.500 & 147.400 \\
\hline Transmitting ERP (watts) Antenna: 3 & & 8.514 & 101.153 & 307.468 & 229.726 & 25.253 & 1.925 & 0.630 & 0.630 \\
\hline \multicolumn{10}{|l|}{Maximum Transmitting ERP in Watts: 140.820} \\
\hline Azimuth(from true north) & & 0 & 45 & 90 & 135 & 180 & 225 & 270 & 315 \\
\hline Antenna Height AAT (meters) & & 148.700 & 170.000 & 148.400 & \[
148.400
\] & 138.900 & 116.100 & 137.500 & 147.400 \\
\hline Transmitting ERP (watts) & & 0.226 & 0.222 & 3.795 & 33.295 & 109.116 & 83.424 & 11.320 & 0.928 \\
\hline Location Latitude & Longi & ude & & ound Ele ters) & tion St & cture \(\mathbf{H}\) ers) & to Tip & Antenna & ucture No. \\
\hline 41 37-01-03.9 N & 085-5 & -42.3 W & \multicolumn{2}{|c|}{254.8} & \multicolumn{3}{|c|}{68.6} & \multicolumn{2}{|l|}{1230168} \\
\hline
\end{tabular}

Address: 170 Robert Bishop Lane (94244)
City: Glasgow County: BARREN State: KY Construction Deadline:
\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline \multicolumn{9}{|l|}{Antenna: 1} \\
\hline \multicolumn{9}{|l|}{Maximum Transmitting ERP in Watts: 140.820} \\
\hline Azimuth(from true north) & 0 & 45 & 90 & 135 & 180 & 225 & 270 & 315 \\
\hline Antenna Height AAT (meters) & 93.000 & 83.300 & 56.400 & 66300 & 91.100 & 106.300 & 92.700 & 90.500 \\
\hline Transmitting ERP (watts) & 104.518 & 139.218 & 43.033 & 2.862 & 0.290 & 0.325 & 1.008 & 15.797 \\
\hline Antenna: 2 & & 13.218 & & & & & . 008 & [5.797 \\
\hline \multicolumn{9}{|l|}{Maximum Transmitting ERP in Watts: 140.820} \\
\hline Azimuth(from true north) & 0 & 45 & 90 & 135 & 180 & 225 & 270 & 315 \\
\hline Antenna Height AAT (meters) & 93.000 & 83.300 & 56.400 & 66.300 & 91.100 & 106.300 & 92.700 & 90.500 \\
\hline Transmitting ERP (watts) & 0.395 & 3.203 & 50.041 & 189.424 & 165.261 & 28.863 & 1.290 & 0.398 \\
\hline Antenna: 3 & & & & & & & & \\
\hline \multicolumn{9}{|l|}{Maximum Transmitting ERP in Watts: 140.820} \\
\hline Azimuth(from true north) & 0 & 45 & 90 & 135 & 180 & 225 & 270 & 315 \\
\hline Antenna Height AAT (meters) & 93.000 & 83.300 & 56.400 & 66.300 & 91.100 & 106.300 & 92.700 & 90.500 \\
\hline Transmitting ERP (watts) & 11.785 & 0.490 & 0.619 & 0.543 & 8.652 & 98.226 & 207.121 & 111.304 \\
\hline
\end{tabular}

\section*{Control Points:}

Control Pt. No. 1
Address: 124 South Keeneland Drive (Suite 103)
City: RICHMOND County: MADISON State: KY Telephone Number: (859)544-4804

\section*{Waivers/Conditions:}

NONE

\section*{REFERENCE COPY}

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\section*{Federal Communications Commission}

Wireless Telecommunications Bureau
RADIO STATION AUTHORIZATION

LICENSEE: NEW CINGULAR WIRELESS PCS, LLC

\author{
ATTN: CECIL J MATHEW \\ NEW CINGULAR WIRELESS PCS, LLC \\ 208 S AKARD ST., RM 1015 \\ DALLAS, TX 75202
}
\begin{tabular}{|c|c|}
\hline \begin{tabular}{c} 
Call Sign \\
WPOI255
\end{tabular} & File Number \\
\hline \multicolumn{2}{|c|}{ Radio Service } \\
\multicolumn{2}{|c|}{ CW - PCS Broadband } \\
\hline
\end{tabular}

FCC Registration Number (FRN): 0003291192
\begin{tabular}{|c|c|c|c|}
\hline Grant Date 05-27-2015 & Effective Date 03-12-2020 & Expiration Date 06-23-2025 & Print Date \\
\hline Market Number MTA026 & & & Sub-Market Designator 19 \\
\hline \multicolumn{4}{|c|}{\begin{tabular}{l}
Market Name \\
Louisville-Lexington-Evansvill
\end{tabular}} \\
\hline 1st Build-out Date
\[
06-23-2000
\] & 2nd Build-out Date 06-23-2005 & 3rd Build-out Date & 4th Build-out Date \\
\hline
\end{tabular}

\section*{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.

\section*{Conditions:}

Pursuant to \(\$ 309(\mathrm{~h})\) of the Communications Act of 1934 , as amended, 47 U.S.C. \(\S 309(\mathrm{~h})\), 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. \(\S 310\) (d). This license is subject in terms to the right of use or control conferred by \(\S 706\) 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.

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).
Call Sign: WPOI255 File Number: Print Date:

700 MHz Relicensed Area Information:
Market Market Name Buildout Deadline \(\quad\) Buildout Notification \(\quad\) Status

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\title{
Federal Communications Commission
}

Wireless Telecommunications Bureau

\section*{RADIO STATION AUTHORIZATION}

LICENSEE: NEW CINGULAR WIRELESS PCS, LLC

\author{
ATTN: CECIL J MATHEW \\ NEW CINGULAR WIRELESS PCS, LLC \\ 208 S AKARD ST., RM 1015 \\ DALLAS, TX 75202
}
\begin{tabular}{|c|c|}
\hline \begin{tabular}{c} 
Call Sign \\
WPOK659
\end{tabular} & \begin{tabular}{c} 
File Number \\
0008716070
\end{tabular} \\
\hline \multicolumn{2}{|c|}{ Radio Service } \\
CW - PCS Broadband \\
\hline
\end{tabular}

FCC Registration Number (FRN): 0003291192
\begin{tabular}{|c|c|c|c|}
\hline Grant Date & Effective Date & Expiration Date & Print Date \\
\(09-12-2019\) & \(09-12-2019\) & \(09-29-2029\) & \(09-13-2019\) \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|}
\hline \begin{tabular}{c} 
Market Number \\
BTA423
\end{tabular} & Channel Block & \begin{tabular}{c} 
Sub-Market Designator \\
1
\end{tabular} \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|}
\hline \multicolumn{4}{|c|}{\begin{tabular}{c} 
Market Name \\
Somerset, KY
\end{tabular}} \\
\hline \begin{tabular}{|c|c|c|}
\hline 1st Build-out Date \\
\(09-29-2004\)
\end{tabular} & \begin{tabular}{c} 
2nd Build-out Date \\
\(09-29-2009\)
\end{tabular} & 3rd Build-out Date & 4th Build-out Date \\
\hline
\end{tabular}

\section*{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 toperations in the adjacent foreign territory and to ensure continuance of equal access to the frequencies by both countries.

\section*{Conditions:}

Pursuant to \(\S 309(\mathrm{~h})\) of the Communications Act of 1934 , as amended, 47 U.S.C. \(\$ 309(\mathrm{~h})\), 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. \(\S 310\) (d). This license is subject in terms to the right of use or control conferred by \(\S 706\) 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.

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

\author{
ATTN: CECIL J MATHEW \\ NEW CINGULAR WIRELESS PCS, LLC \\ 208 S AKARD ST., RM 1015 \\ DALLAS, TX 75202
}
\begin{tabular}{|c|c|}
\hline \begin{tabular}{c} 
Call Sign \\
WPXT205
\end{tabular} & File Number \\
\hline \multicolumn{2}{|c|}{ Radio Service } \\
CW - PCS Broadband \\
\hline
\end{tabular}

FCC Registration Number (FRN): 0003291192
\begin{tabular}{|c|c|c|c|}
\hline \[
\begin{aligned}
& \text { Grant Date } \\
& 06-02-2015
\end{aligned}
\] & Effective Date 08-31-2018 & \[
\begin{gathered}
\text { Expiration Date } \\
06-23-2025
\end{gathered}
\] & Print Date \\
\hline Market Number MTA026 & & & Sub-Market Designator 8 \\
\hline \multicolumn{4}{|c|}{\begin{tabular}{l}
Market Name \\
Louisville-Lexington-Evansvill
\end{tabular}} \\
\hline 1st Build-out Date
\[
06-23-2000
\] & \[
\begin{gathered}
\text { 2nd Build-out Date } \\
06-23-2005
\end{gathered}
\] & 3rd Build-out Date & 4th Build-out Date \\
\hline
\end{tabular}

\section*{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.

\section*{Conditions:}

Pursuant to \(\$ 309(\mathrm{~h})\) of the Communications Act of 1934 , as amended, 47 U.S.C. \(\S 309(\mathrm{~h})\), 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.

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

\author{
Call Sign: WPXT205
}

File Number:
Print Date:

700 MHz Relicensed Area Information:

Market \(\quad\) Market Name Buildout Deadline \(\quad\) Buildout Notification \(\quad\) Status

\section*{REFERENCE COPY}

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\title{
Federal Communications Commission
}

Wireless Telecommunications Bureau
RADIO STATION AUTHORIZATION

LICENSEE: NEW CINGULAR WIRELESS PCS, LLC
ATTN: FCC GROUP
NEW CINGULAR WIRELESS PCS, LLC
208 S AKARD ST., RM 2100
DALLAS, TX 75202
\begin{tabular}{c|l} 
Call Sign & \begin{tabular}{c} 
File Number \\
WQGA818
\end{tabular} \\
0009696747
\end{tabular}

\section*{Radio Service}

AW - AWS (1710-1755 MHz and \(2110-2155 \mathrm{MHz}\) )

FCC Registration Number (FRN): 0003291192
\begin{tabular}{|c|c|c|c|}
\hline Grant Date & Effective Date & Expiration Date & Print Date \\
\(11-16-2021\) & \(11-16-2021\) & \(11-29-2036\) & \(11-17-2021\) \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|}
\hline Market Number & Channel Block & \begin{tabular}{c} 
Sub-Market Designator \\
CMA447
\end{tabular} \\
\hline
\end{tabular}

\section*{Market Name \\ Kentucky 5 - Barren}
\begin{tabular}{|c|c|c|c|}
\hline 1st Build-out Date & 2nd Build-out Date & 3rd Build-out Date & 4th Build-out Date \\
\hline
\end{tabular}

\section*{Waivers/Conditions:}

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

\begin{abstract}
Conditions:
Pursuant to \(\$ 309(\mathrm{~h})\) of the Communications Act of 1934 , as amended, 47 U.S.C. \(\$ 309(\mathrm{~h})\), 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. \(\S 310\) (d). This license is subject in terms to the right of use or control conferred by \(\S 706\) of the Communications Act of 1934, as amended. See 47 U.S.C. \(\$ 606\).
\end{abstract}

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.
Market \(\quad\) Market Name Buildout Deadline \(\quad\) Buildout Notification \(\quad\) Status

\section*{REFERENCE COPY}

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Federal Communications Commission
Wireless Telecommunications Bureau
RADIO STATION AUTHORIZATION

LICENSEE: NEW CINGULAR WIRELESS PCS, LLC

\author{
ATTN: FCC GROUP \\ NEW CINGULAR WIRELESS PCS, LLC \\ 208 S AKARD ST., RM 2100 \\ DALLAS, TX 75202
}
\begin{tabular}{|c|c|}
\hline \begin{tabular}{c} 
Call Sign \\
WQGD755
\end{tabular} & \begin{tabular}{c} 
File Number \\
0009778271
\end{tabular} \\
\hline \multicolumn{2}{|c|}{ Radio Service } \\
AW - AWS (1710-1755 MHz and \\
\(2110-2155 \mathrm{MHz})\) \\
\hline
\end{tabular}

FCC Registration Number (FRN): 0003291192
\begin{tabular}{|c|c|c|c|}
\hline Grant Date 01-10-2022 & Effective Date
\[
01-10-2022
\] & Expiration Date
12-18-2036 & Print Date 01-11-2022 \\
\hline Market Number BEA047 & & & Sub-Market Designator 9 \\
\hline \multicolumn{4}{|c|}{\begin{tabular}{l}
Market Name \\
Lexington, KY-TN-VA-WV
\end{tabular}} \\
\hline 1st Build-out Date & 2nd Build-out Date & 3rd Build-out Date & 4th Build-out Date \\
\hline
\end{tabular}

\section*{Waivers/Conditions:}

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

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

\section*{Conditions:}

Pursuant to \(\$ 309(\mathrm{~h})\) of the Communications Act of 1934 , as amended, 47 U.S.C. \(\$ 309(\mathrm{~h})\), 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. \(\S 310(\mathrm{~d})\). This license is subject in terms to the right of use or control conferred by \(\S 706\) 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

700 MHz Relicensed Area Information:

Market \(\quad\) Market Name Buildout Deadline \(\quad\) Buildout Notification \(\quad\) Status

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.


\section*{Federal Communications Commission}

Wireless Telecommunications Bureau

\section*{RADIO STATION AUTHORIZATION}

LICENSEE: NEW CINGULAR WIRELESS PCS, LLC

\author{
ATTN: FCC GROUP \\ NEW CINGULAR WIRELESS PCS, LLC \\ 208 S AKARD ST. RM 2100 \\ DALLAS, TX 75202
}
\begin{tabular}{|c|c|}
\hline \begin{tabular}{c} 
Call Sign \\
WQUZ670
\end{tabular} & \begin{tabular}{c} 
File Number \\
0009696437
\end{tabular} \\
\hline \multicolumn{2}{|c|}{ Radio Service } \\
AW - AWS (1710-1755 MHz and \\
\(2110-2155 \mathrm{MHz})\) \\
\hline
\end{tabular}

FCC Registration Number (FRN): 0003291192
\begin{tabular}{|c|c|c|c|}
\hline Grant Date & Effective Date & Expiration Date & Print Date \\
\(11-16-2021\) & \(11-16-2021\) & \(11-29-2036\) & \(11-17-2021\) \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|}
\hline Market Number & Channel Block & Sub-Market Designator \\
REA004 & D & 10 \\
\hline
\end{tabular}
\begin{tabular}{|l|l|}
\hline \multicolumn{4}{|c|}{\begin{tabular}{c} 
Market Name \\
Mississippi Valley
\end{tabular}} \\
\hline 1st Build-out Date & 2nd Build-out Date \\
\hline
\end{tabular}

\section*{Waivers/Conditions:}

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

\section*{Conditions:}

Pursuant to \(\$ 309\) (h) of the Communications Act of 1934 , as amended, 47 U.S.C. \(\$ 309(\mathrm{~h})\), 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. \(\$ 310(\mathrm{~d})\). 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.

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

\section*{EXHIBIT B}

\section*{SITE DEVELOPMENT PLAN:}

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





\section*{LEASE AREA}

ALL THAT TRACT OR PARCEL OF LAND LYNG AND BEING IN THE SUSIE COMMUNTY, WANNE

TO FIND THE PONNT OF BEGINNING, COMMENCE, AT A \(1 /\) RREBAR FOUND AT THE NORTHEESTERN NAD 83, SINGGE ZONE VALUE OF N:3443066.6411 E:5156605.6142; THENCE RUNNNG ALONG
 NORTH, NAD 83, SINGLE ZONE VALUE OF N: 3442924.2893 E:5157687.0511, AND THE TRUE
POINT OF BEGINNING; THENCE RUNNNG, NORTH \(00^{\circ} 5050^{\circ}\) EAST, 100.00 FEET TO A POINT;
 100.00 fEET TO A POIN
POINT OF BEGINNNG.

BEARINGS BASED ON KENTUCKY GRID NORTH, NAD 83, SINGLE ZONE.
SAID TRACT CONTANS 0.2296 ACRES ( 10,000 SQUARE FEET), MORE OR LESS.

\section*{30' INGRESS-EGRESS EASEMENT}

TOGETHER WTH A 30 FOOT WDE INGRESSEGRESS EASEMENT IYING 15 FEET EACH SIDE OF CENTERLINE), LYNG AND BEEIG IN THES SUSIE COMMUNTT, WAYNE COUNT, KENTUCKY, AND
BEING A PORTON OF THE LANDS OF MARK LEWS AND BRYANT DUNAGAN, AS RECORDED IN DEED BOOK 351, PAGE 60 , WAYNE COUNTY RECORDS, AND BEING MORE PARTICULARLY DESCRIBED BY THE FOLOWNG CENTERLINE DATA:
TO FIND THE POINT OF BEGINNING, COMMENCE, AT A \(1 /\) REBAR FOUND AT THE NORTHNESTERN CORNER OF TRACT D OF SAD LANDS, SADD REBAR POST HAVING A KENTUCKY GRID NORTH, NAD
B3, SINGLE ZONE VALUE OF N:3443066.6411 E:5156605.6142; THENCE RUNNING ALONG A TE-LINE, SOUNT 82'2920 EAST, 1090.85 FEET TO A POONT ON THE LEASE AREA, SADO PONT EAVNG A KENTUCKY GRID NORTH, NAD 83, SINGLE ZONE VALUE OF N.3442924.2893



BEARINGS BASED ON KENTUCKY GRID NORTH, NAD 83, SINGLE ZONE.

\section*{15' INGRESS-EGRESS EASEMENT}

TOGETHER WTH A 15 FOOT WDE INGRESSEGRESS EASEMENT AING 7.5 FEET EACH SID OF
CENTER INE). LYNG AND BEING IN WANE COUNTY KEMUCKY ANO BEING A PORTION OF THE LANDS OF MARK LEWS AND BRYAN DUNAGAN, AS RECORDED N NDEED BOOK B5I, PAGE T6, WA YNE COUNTY REC
CENTERLINE DATA:

TO FIND THE POINT OF BEGINNNG, COMMENCE, AT A \(2 / 2\) REBAR FOUND AT THE NORTHWESTERN CORNER OF TRACT D OF THE LANDS OF MARK LEMS AND BRYAN DUNAGAN, AS RECORDED IN DEED BOOK 351, PAGE 60 , WAYNE COUNTY RECORDS, SADD REBAR POST HAVING A KENTUCKY
GRID NORTH NAD 83 , SINGIE ZONE VAUUE OF N 3443066.6411 E.5156605. 6142 : THENCE
 AREA SAD POINT HAYNG A KENTUCKY GRID NORTH, NAD 83, SINGLE Z ZNE VALUE OF A. 3442924.2893 E:5157687.0511; THENCE RUNNING, NORTH \(00^{\circ} 50^{\circ} 52^{\circ}\) EAST, 100.00 FEET TO

 PROPERTV LINE OF SADD LANDS, AND THE TRUE POINT OF BEGINNNG; THENCE LEAYNG TRACT D AND RUNNNG, SOUTH \(76^{\circ} 10 \cdot 20^{\circ}\) WEST, 269.33 FEET TO A PONT; THENCE, SOUTH \(87^{\circ} 20^{\circ} 00\)
WEST, 67.73 FEET TO A POINT; THENCE NORTH \(65^{\circ} 1324^{\circ}\) WEST. 216.40 fEET TO A PONT:


BEARINGS BASED ON KENTUCKY GRID NORTH, NAD 83, SINGLE ZONE.

\section*{10' UTILITY EASEMENT \#1}

TOGETHER WTH A 1OFOOT WDE UTLUTY EASEMENT LYNNG 5 FEET EACH SIDE OF CENTERLINE), LIING AND BEING IN WAYNE COUNTT, KENTUCKY, AND BEING A PORTION OF
THE LANDS OF MAFK LEWS AND BRYANT DUNAGAN AS RECOPDE IN DEED PAGE 60, WA MNE COUNTY RECORDS, AND BEING MORE PARTCUI ARLY DESCRIBED BY THE PAGE 60 , WAME COONIT REC
FOLOWNG CENTERLNE DATA.
TO FIND THE PONT OF BEGINNING, COMMENCE, AT A \(1 / 2\) REBAR FOUND AT THE NORTHWESTERN COPNER OF TRACT D OF THE LANOS OF MARK LEWS AND BRYANT DUNAGAN AS RECORDED IN DEE DOOK 3 31) PGGE 60 , WAME COUNT RECORDS, SAD REBAR POST HAYNG A KENTUCKY GRID NORTH, NAD 83 , SINGLE ZONE VALUE OF
N-3443066.6411 E:5156605.6142; THENCE RUNNING ALONG A TEELINE, SOUTH \(82^{\circ} 29200^{\circ}\) EAST, 1090.85 FEET TO A POINT ON THE LEASE AREA, SAD POINT HAVNG A KENTUCKY GRID NORTH, NAD 83, SNGLE ZONE VALUE OF N.3422924.2893 E.5157687.0511; THENCE RUNNNM
NORTH O0

 624.92 FEET TO APOINT; THENCE, SOMTH \(7{ }^{\circ} 10\) IO 20 WEST, 297.92 FEET TO THE ENDING AT A PONT ON A SOUTHWESTERLY YROPERTY LINE OF SADD TRACTD.
BEARINGS BASED ON KENTUCKY GRID NORTH, NAD 83, SINGLE ZONE.

\section*{10' UTILITY EASEMENT \#2}

TOGETHER WTH A 10 FOOT WDE UTLITY EASEMENT IYNG 5 FEET EACH SIDE OF
CENIERINE), IVNG AND BEING IN WAYNE COUNTY KENTUCKYY AND BEING APORTO OF THE LANDS OF MARK LEWS AND BRYANT DUNAGAN, AS RECORDED IN DEED BOOK 35 ,


TO FIND THE POINT OF BEGINNNG, COMMENCE, AT A \(1 /\)-REEAR FOUND AT THE
NORTHWESTERN CORNER OF TRACTD OF THE LANDS OF MARK LEWS AND BRYAN
 \(N\) N 3443066.6411 E. 5156605.6142 ; THENCE RUNNNG ALONG A IIE-LINE, SOUTH \(82^{\circ} 29^{\circ} 20^{\circ}\) EAST,

 TO A POONT; THENCE, SOUTH \(00^{\circ} 50^{\circ} 52^{\circ}\) WEST, 100.00 FEET TO A POINT: THENCE,
NORTH \(89^{\circ} 0900^{\circ}\) WEST, 30.00 FEET TO A PONT: THENCE LEAVNG THE LEASE AREA A RUUNNNG, SOUTH \(00^{\circ} 50^{\circ} 43^{\circ}\) WEST, 624.92 FEET TO A POINT: THENCE, SOUTH \(76^{\circ} 10^{\circ} 20^{\circ}\) WEST

 10.75 FEEE TO A POINT; THENCE, NORTH \(55^{\circ} 13244^{\text {W }}\) WEST, 159.44 FEET TO A POINT; THENCE.

BEARINGS BASED ON KENTUCKY GRID NORTH, NAD 83, SINGLE ZONE.


HARMONi
10801 EEECUTME CENTER DRNE
SHWWON BLDG. STE 100
UTLE ROCK, AR 72211
WEST HIGHWAY 90

SITE NO.
KYLEX2056 SUSE COMMNTY,
WAME COUNT,
KENUCKY,

CHECKED BY: NK.
DATE: february 22, 2021 P2P 008 \#: 202600 KY

SPECFIC PURPOSE SUNVEY PREPNRED FOR


\section*{PARENT PARCEL LEGAL DESCRIPTION}

PER FIDEITY NATIONAL TITE INSURANCE COMPANY ORDER NO. 33549117, DATED 12/28/20
TRACTB:
CERTAN TRACT OF LAND LYNG AND BEING IN THE SUSIE COMMUNTY, WAYNE COUNTY A NICCYY

UNLESS OTHERWSE STATED, ANY MONUMENT REEERRED TO HEREIN AS A REBAR AND CAP A \(5 / 8^{\circ} \times 18^{\circ}\) REBAR WTH A YELLOW PLASTIC SURVEY CAP STAMPED DONALD MLER, KY
LS \(34266^{\text {. ALL }}\) BEARIGGS STATED HEREIN ARE REEERED TO THE MAGNETC MERDIAN AS OBSERVED AUGUST 4, 1998.
EGINNNG AT A REBAR AND CAP SET THIS SURVEY AT THE SOUTHEAST CORNER OF KELY ND DARL LENE RAMSEY (DEEED BOOK 246, PAGE 184), ALSO BEING IN THE NORTHERLY IGHTOFWAY LINE OF KENUCHY HIGGWAY 834 (40 RIGN. OP...NA, THENCE LEAYNG SAD NORTHERLY RIGHT OF WAY LINE AND ALONG THE EASTERLY LINE OF SAD RAMSEY, N51 DCG
22 NN. 26 SEC. E ADISTANCE OF 129.31 FEET TO A REBAR AND CAP SET THIS SURVEY; THENCE ALONG THE EAST LINE OF WEST PROPERTES, LLC (DEED BOOK 270 , PAGE 91), N 59
DEG. 16 MIN. 13 SEC. E ADISTANCE OF 208.08 FEET TO A REBAR AND CAP FOUND STAMPED JIM WEST: THENCE LEAVNG WEST PROPERTIES, LLC AND ALONG A NEW DISSION LINE ON HE FOLOOMNG TWO (2) COURSES AND DISTANCES: 1.556 DEG. 43 MN. 29 SEC. EA STANCE OF 238.37 FEET TO A REBAR AND CAP SET THIS SURVEY; 2.233 DEGG 16 MN. 31
EC. WA DISTANCE OF 309.94 FEET TO A REBAR AND CAP SET THIS SURVEY TN THE EOREMENTONED NORTHERLY RIGHTOF WAY LINE OF KENTUCKY HIGHWAY B34; THENCE ALONG SAD NORTHERLY RIGHT OOF WAY LIN
369.74 FEET OT THE PONT OF BEGMNING.
ONTANING 2.21 ACRES MORE OR LESS AND BEING SUBJECT TO ALL EASEMENT, STRCTIONS AN RIGHTOF WAYS OF PECOPD.

RACTC:
A CERTAN TRACT OF LAND LING AND BEING IN THE SUSIE COMMUNTT, WAYNE
COUNT, KENTUCKY AND BEING MORE PARICUIARLY DESCRBED AS FOU LOWS:
UNLESS OTHERWSE STATED, ANY MONUMENT REFERRED TO HEREIN AS A REBAR AND AP ISA S/8 A 12 REBAR WIH A MERDOAN AS OBSERVED AUGUST 4, 1998 .
COMMENCING AT A REBAR AND CAP SET THIS SURVEY AT THE SOUTHEAST COPNER O

 NORTHERLY RIGHT.OFWAY AND AL ONG A NEW DMSION LINE ON THE FOLLOWNG TWO (2)
COURSES AND DISTANCES: 11 N 33 DEG. 16 MN 31 SEC E ADSTANCE OF 309 . 94 FEE OURSES ANO DISANCS. OAREBAR AND CAP SET THIS SURVEY 2 IN 56 DEG. 43 MIN. 29 SEC. WA AISTANCE O ASTERLY LINE OF AMERICAN WOODMARK CORPORATON (DEED BOOK 264, PAGE 23 N 59 DEG. 16 MN. 13 SEC. E ADISTANCE OF 193 N59 DEG. 16 MN. 13 SEC. EA AISTANCE OF 193.53 FEET TO A REBAR AND CAP SET
HIS SURVEF; 2) N 60 DEG. 53 MN. 14 SEC. E ADISTANCE OF 766.03 FEET TO AREBAR ND CAP FOUND STAMPED JM WEST; THENCE CONTINUNG ALONG SAD AMERICAN 775), N 61 DEG. 29 MIN. 06 SEC. E A DISTANCE OF 552.78 FEET TO A REBAR AND CAP OUNO STAMPEE JMM WEST: THENCE CONINUNG ALONG SADD HALLS D. \& DARIENE HICKS, 583 DEG. 51 MIN. 24 SEC. EA AISTANCE OF 314.13 FEET TO A REBAR AND CAP
FOUND STAMPED JIM WEST; THENCE LEAVNG SAD HCKS AND ALONG THE WESTERLY
 ALONG THE WESTERL Y LINE OF NANCY KLINE (DEEED BOOK 270, PAGE 5899), SO4 DEG. 00 IN. 55 SEC. W ADISTANCE OF 634.61 FEET: THENCE CONTINUNG ALONG THE ORRTHERLY LINE OF SAD KLINE ON THE FOL OONNG THREE COURSES AND DISTANCES:
N 87 DEG. 40 MN. 18 SEC. W. PASSING AREBAR ANO CAP SET THIS SUPVEY AT 5.00 FEET,
 55 MN. 40 SEC. W A DISTANCE OF 132.77 F FEET TO A REEAR AND CAP SET THIS SUUVEEF:
3) 45 DEG. 06 MN. 17 SEC. W A DISTANCE O 485.74 FEET TO A RESAR ANO CAP FOUN STAMPED 'JM WEST I THE AFOREMENTIONED NORTHERLY RIGHT OF WAY LINE OF NIUCKY HIGGWA 834; THENCE ALONG SAD NORTHERLY RIGGTIOF WAY LINE ON THE
 CURVE BEARS 43 DEG. 49 MN. 33 SEC. W ADISTANCE OF 307.90 fEET; 2) N29 DEG. 40
MN. 53 SEC. W A DISTANCE OF 154.58 FEET: 31 ALONG A CUPVE TO THE LEFT HAVNG A MN. 53 SEC. W A DISTANCE OF 154.58 FEET; 3) ALONG A CURVE TO THE LEFT HAVNG A
RADUS OF 570.00 FEET AND AN ARC LENGTH OF 269.04 FEET. THE CHORO OF SAID CURY

SEC. W A DISTANCE OF 77.41 FEET TO THE PONT OF BEGINNMM
CONTANNG 39.52 ACRES MORE OR LESS AND BEING SUBJECT TO ALL EASEMENTS,
RESTRICTONS, AND RIGHT.OFWAYS OF RECORD.

\section*{TITLE EXCEPTIONS}

THIS SURVEY WAS COMPLETED WIH THE AD OF TITE WOR PREPARED BY FIDELITY NATONAL TTLE INSURANCE COMPANY,
COMMTMENT DAIE OF JANUARY 19,2022 , BEING ORDER NUMBER COMMIMEN DAIE OF JANUARY 19, 2022, BENG ORDER NUMBER
33549117, FOR THE PARENT PARCEL, TO DEIERMIE THE MPACTS OF EXISTING TMLE EXCEPTIONS.
8. MATIERS AS SHOWV AND NOTED ON PLAT RECORDED IN PLAT BOOK B, PAGE 280.
ITHIS ITEM IS APPUCABLE TO THE PAREN PARCEL, LEASE AREA NGGRESSEGGRESS REFERENCED AND SHOWN ON SAD PLAT IS SHOWV HEREON.
9. TERMS AND CONOITONS OF MEMORANDUM OF OPTION DATED AUGUST 32021 BY AND BETWEEN MARK LEWS AND BRYANT DUNAGAN, AND HAN AE CORDED ON AUGUST 25, 2021 LINDEED LIABIITH 8 COMPANY,
BOOK 8 , PAGE 712 .
ITHIS ITEM IS APPICABLE TO THE PARENT PARCEL LEASE AREA, GGRESS EGRESS ANDE UILITH
IEMS ARE SHOWN HEREONJ

A CERTAN TRACT OF LAND LINNG AND BEING IN THE SUSIE COMMUNITY, WANNE COUNTT, KENTUCKY AN
REBAR WTHE YME STAIED, ANY MONUMENT REEERRED TO HEREIN AS A REBAR ANO CAP IS I \(5 / 8^{\prime} \times 18\) STATED HEREIN ARE REFERRED TO THE MAGNETIC MERDIAN AS OBSERVED AUGUST 4, 1998 .
COMMENCING AT A REBAR AND CAP SET THIS SURVEY AT THE SOUTHEAST CORNER OF KELY Y AND DARLENE HIGHWAY 834 (40' RIGHTOF.WAY: THENCE ALONG A TIE LINE, N 71 DEG. 56 MIN. 45 SEC. E A ISTANCE OF 2689.38 FEET TO A REBAR


 SEC. W A DISTANCE OF 499.96 FEET TO A REBAR ANO CAP SET THIS SURVEY; THENCE CONTINUING ALONG
SAID MARK LEWS ON THE FOLOOMNG THREE COURSES AND DISTANCES: 1 N 63 DEG. 49 MN. 07 SEC. W A DISTANCE OF 721.14 FEET TO A REBAR AND CAP FOUND STAMPED 'IMM WEST; 2) N OO DEG. 29 MN. 23
SEC. W A DITANCE OF 231 SEC. W A DISTANCE OF 231.00 FEET TO A REBAR AND CAP FOUND STAMPE
MIN. 23 SEC. W A DISTANC OF 82.50 FEET TO THE POINT OF BEGINNNG.

CONTAINNG 22.98 ACRES MORE OR LESS AND BEING SUBJECT TO ALL EASEMENTS, RESTRICTIONS AND
THE ABOVE DESCRIBED PROPERTY HAVNG A BENEFTT OF A 15 FOOT WDE INGRESSEGRESS EASEMENT
 LEWS AND A GRavE ROAD; THENCE WTH THE MEANDERS OF SAD GRAVEL ROAD TO KENTUCKY HIGHWA 834 AND THE PON
AND BEING THE SAME PROPERTY CONVEYED TO MARK LEWS AND BRYANT DUNAGAN FROM ROBIN IEWS B DEED OF CONVEYANCE DATED FEBRUARY 11,2013 AND RECORDED FEBRUARY 12,2013 IN DEED BOOK

TAX PARCEL NO. 02800.00001.00


SPCCIFC PURPOSE SUNVEY PREPPREED FO

HARMONi
10801 EXECUTME CENTER DRNE SHANWON BDCG, STE 100
LTIE ROCK, AR 72211
WEST HIGHWAY 90

SITE NO
KYLEX2056
SUSE EOMONT.
WAME COUNT.
KENUCKYY

\section*{(RAWBBY: GA}
arceobr:in
DAEE FEBRUMAR 22, 202






\section*{EXHIBIT C}

\section*{TOWER AND FOUNDATION DESIGN}


March 30, 2022

Kentucky Public Service Commission
211 Sower Blvd.
P.O. Box 615

Frankfort, KY 40602-0615

RE: Site Name - Zula/West Highway 90
Proposed Cell Tower
36.7758 North Latitude, -84.942625 West Longitude

Dear Commissioners:

The Construction Manager for the proposed new communications facility will be Marshall Corbin. His contact information is (540) 287-8142 or Marshall Corbin@harmonitowers.com. Marshall has been in the industry completing civil construction and constructing towers since 1996. He has worked at Harmoni Towers LLC since 2021 completing project and construction management on new site build projects.

Thank you,
Marshall Corbin

Marshall Corbin
Construction Manager - Tennessee/Kentucky Market
Harmoni Towers LLC
\begin{tabular}{|c|c|c|c|}
\hline TYPE & ELEVATION & TYPE & ELEVATION \\
\hline Ughting Rod 12x10 & 255 & SectortiCaAae 10000 Sqinjino ice & 226 \\
\hline Top Beacon & 255 & (Carriar 3) & \\
\hline Sector 1iCaAas 13333.33 Squnjvo ice (Carrier 1) & 250 & Sector2i(CaAa= 10000 Sa iniNo ite (Camer 3) & 226 \\
\hline Sector2(Cahav : 73333.33 Sqin)No Ice (Carmer 1) & 250 & Sector3(Cahas 10000 Sqinj)No lce (Carrier 3 ) & 226 \\
\hline \multirow[t]{2}{*}{Sector3(Caia: 13333.33 SqiniNo ice (Camer 1)} & \multirow[t]{2}{*}{250} & 4 1/2-OO Dish Mount (Camer 4) & 214 \\
\hline & & \(41 / 2^{\prime}\) OD Dan Mount (Camer 4) & 214 \\
\hline \multirow[t]{2}{*}{Sector II Càia= 10000 Sq iniNo ice (Camer 2)} & \multirow[t]{2}{*}{238} & \(6{ }^{6} \mathrm{MN}\) Dish (Camer 4) & 214 \\
\hline & & 6 MN Dish (Carner 4) & 214 \\
\hline \multirow[t]{2}{*}{Sector2iCaAa: 10000 SqiniNo ice (Carrier 2)} & \multirow[t]{2}{*}{278} & \(41 / 2^{\prime}\) OD Dish Mount (Camer 5) & 202 \\
\hline & & 4 1/2' OD Dish Mount (Camer S) & 202 \\
\hline \multirow[t]{2}{*}{Sector3iCaAa= 10000 Sq iniNo ice (Carrier 2)} & \multirow[t]{2}{*}{238} & 6 MWN Dish (Carner 5) & 202 \\
\hline & & 6 MW Dish (Camer 5) & 202 \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|}
\hline MARK & SYMBOL LIST \\
\hline A & \(L 13 / 4 \times 13 / 4 \times 3 / 16\) & MARK & SIZE \\
\hline B & \(2 L 13 / 4 \times 13 / 4 \times 3 / 16 \times 38\) & & C \\
\hline
\end{tabular}

\section*{MATERIAL STRENGTH}
\begin{tabular}{|c|c|c|c|c|c|}
\hline GRADE & Fy & Fu & GRADE & Fy & Fu \\
\hline A529-50 & 50 ksi & 65 ksi & A.36M-50 & 50 ksi & 65 ksi \\
\hline
\end{tabular}

\section*{TOWER DESIGN NOTES}

Tower is located in Wayne County. Kentucky.
Tower designed for Exposure C to the TIA-222-H Standard.
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 5 with Crest Height of 116.000 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: 543 K
SHEAR: 44 K
UPLIFT: -470 K
SHEAR: 41 K
\begin{tabular}{|c|c|}
\hline & \[
\begin{aligned}
& A X I A L \\
& 228 K
\end{aligned}
\] \\
\hline \begin{tabular}{l}
SHEAR \\
\(11 K\)
\end{tabular} & \(\rfloor\) \\
\hline
\end{tabular}

TORQUE \(4 \mathrm{kjp}-\mathrm{fl}\) 30 mph WIND - 1.500 in ICE


TORQUE \(40 \mathrm{kip}-\mathrm{ft}\) REACTIONS - 105 mph WIND


TELECOM STRUCTURES

\(\qquad\) Flat \(\qquad\)

\begin{tabular}{|c|c|c|c|c|}
\hline \multirow[t]{4}{*}{\[
\sqrt{5 \cdot T}
\]} & \multirow[t]{4}{*}{\begin{tabular}{l}
B+T Group \\
1717 S Boulder Ave, Suite 300 \\
Tulsa, OK 74119 \\
Phone: (918) 587-4630 \\
FAX: (918) 295-0265
\end{tabular}} & \multicolumn{3}{|l|}{ATS\#: 9537 - West Highway 90 (Site\# KYLEX205 Project 255' SST/36.7758, -84.942625} \\
\hline & & Hart Harmoni Towers & Orawn by CCoody & ppid \\
\hline & & Cose TlA-222-H & ase 05/02/22 & NTS \\
\hline & & Path & & \({ }^{1} \mathrm{No}\). E - \\
\hline
\end{tabular}




\section*{Drilled Pier Foundation}

Project Number: 163529.001
Site Name: West Highway 90 (Site EF KY Site Number: 953
TIA-222 Revison: H
Tower Type: Self Support
\begin{tabular}{|r|r|r|}
\hline \multicolumn{3}{|c|}{ Applied Loads } \\
\hline \multicolumn{3}{|c|}{ Comp. } \\
\hline Moment (kip-ft) & \multicolumn{1}{c|}{ Uplift } \\
\hline Axial Force (kips) & 543 & 470 \\
\hline Shear Force (kips) & 44 & 41 \\
\hline
\end{tabular}
\begin{tabular}{|r|r|r|}
\hline \multicolumn{3}{|c|}{ Material Properties } \\
\hline Concrete Strength, Pc: & 4 & ksi \\
\hline Rebar Strength, Fy: & 60 & ksi \\
\hline Tie Yield Strength. Fy: & 40 & ksi \\
\hline
\end{tabular}

\begin{tabular}{|c|c|c|}
\hline \multicolumn{3}{|c|}{Analysis Results} \\
\hline Soil Lateral Check & Compression & Uplift \\
\hline \(\mathrm{D}_{\text {rep }}\) (ft from TOC) & 5.33 & 5.33 \\
\hline Soil Safety Factor & 41.27 & 44.29 \\
\hline Max Moment (kip-ft) & 172.73 & 160.95 \\
\hline Rating & 3.2\% & 3.0\% \\
\hline Soil Vertical Check & Compression & Uplift \\
\hline Skin Friction (kips) & 579.62 & 579.62 \\
\hline End Bearing (kips) & 1649.34 & - \\
\hline Weight of Concrete (kips) & 26.01 & 19.51 \\
\hline Total Capacity (kips) & 2228.96 & 599.13 \\
\hline Axial (kips) & 569.01 & 470.00 \\
\hline Rating & 25.5\% & 78.4\% \\
\hline Reinforced Concrete Flexure & Compression & Upliff \\
\hline Critical Depth (ft from TOC) & 5.44 & 2.50 \\
\hline Critical Moment (kip-ft) & 172.64 & 103.01 \\
\hline Critical Moment Capacity & 1471.07 & 174.28 \\
\hline Rating & 11.7\% & 59.1\% \\
\hline Reinforced Concrete Shear & Compression & Upliff \\
\hline Critical Depth (ft from TOC) & 8.53 & 0.00 \\
\hline Critical Shear (kip) & 57.51 & 41.00 \\
\hline Critical Shear Capacity & 355.19 & 109.15 \\
\hline Rating & 16.2\% & 37.6\% \\
\hline
\end{tabular}
\begin{tabular}{|r|r|}
\hline Structural Foundation Rating & \(59.1 \%\) \\
\hline Soil Interaction Rating & \(\mathbf{7 8 . 4 \%}\) \\
\hline
\end{tabular}

Betbat krier Options Emberdad Pole lopuct EelitedPectipics

Soil Profile
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|}
\hline \multicolumn{15}{|c|}{Soil Profile} \\
\hline \multicolumn{2}{|l|}{Groundwater Depth} & N/A & \multicolumn{4}{|r|}{\# of Layers} & 4 & \multicolumn{7}{|l|}{]} \\
\hline Layer & \begin{tabular}{l}
Top \\
(ft)
\end{tabular} & Bottom (ft) & Thickness (ft) & \[
\begin{aligned}
& Y_{\text {vet }} \\
& (\mathrm{pcf})
\end{aligned}
\] & Y cenorte (pCf) & Cohesion (ksf) & Angle of Friction (degrees) & Calculated Ultimate Skin Friction Comp (ksf) & Calculated Ultimate Skin Friction Uplift (ksf) & Ultimate 5 kin Friction Comp Override (ksf) & \begin{tabular}{l}
Ultimate Skin \\
Friction Uplift \\
Override (ksf)
\end{tabular} & \begin{tabular}{l}
Ult. Gross \\
Bearing \\
Capacity \\
(ksf)
\end{tabular} & SPT Blow Count & Soil Type \\
\hline 1 & 0 & 1 & 1 & 0 & 150 & 0 & 0 & 0.000 & 0.000 & 0.00 & 0.00 & & & Cohesionless \\
\hline 2 & 1 & 2 & 1 & 155 & 150 & 0 & 0 & 0.000 & 0.000 & 0.00 & 0.00 & & & Cohesionless \\
\hline 3 & 2 & 6 & 4 & 155 & 150 & 20 & 0 & 9.000 & 9.000 & 6.00 & 6.00 & & & Cohesive \\
\hline 4 & 6 & 11 & 5 & 160 & 150 & 25 & & 11.250 & 11.250 & 7.50 & 7.50 & 175 & & Cohesive \\
\hline
\end{tabular}

\section*{SST Unit Base Foundation}

Project \#: 163529.001
Site Name: West Highway 90
Site \#: 9537
TIA-222 Revision: \(\quad \mathrm{H}\)
\begin{tabular}{|r|c|c|c|}
\hline Top \& Bot. Pad Rein. Different? & & & \\
\hline Tower Centroid Offset?: & & \(\square\) & \\
\hline Block Foundation? & & & \\
\hline Rectangular Pad?: & & & \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|}
\hline Global Moment, M: & 10733 & ft-kips \\
\hline Global Axial, P- & 80 & kips \\
\hline Global Shear, V: & 77 & kips \\
\hline Leg Compression, \(\mathrm{P}_{\text {comp }}\) & 543 & kips \\
\hline Leg Comp. Shear, \(\mathbf{V}_{\mathrm{u} \text { comp }}\) & 44 & kips \\
\hline Leg Uplift, \(\mathrm{P}_{\text {ssiet }}\) & 470 & kips \\
\hline Leg Uplift. Shear, \(\mathbf{V}_{\text {u usut }}\) & 41 & kips \\
\hline Tower Height. H: & 255 & ft \\
\hline Base Face Width, BW. & 24 & ft \\
\hline BP Dist. Above Fdn, bpoti & 3 & in \\
\hline
\end{tabular}
\begin{tabular}{|r|c|c|}
\hline \multicolumn{4}{|c|}{ Pier Properties } \\
\hline Pier Shape: & Circular & \\
\hline Pier Diameter, dpier: & 3.5 & ft \\
\hline Pier Rebar Size, Sc: & 8 & \\
\hline Pier Rebar Quantity, mc: & 13 & \\
\hline Pier Tie/Spiral Size. St: & 4 & \\
\hline Pier Tie/Spiral Quantity, mt & 14 & \\
\hline Pier Reinforcement Type: & Tie & \\
\hline Pier Clear Cover, cc & \\
\hline pier: & 3 & in \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|}
\hline & Capacity & Demand & Rating & Check \\
\hline Lateral (Sliding) (kips) & 18420.87 & 77.00 & 0.4\% & Pass \\
\hline Bearing Pressure (ksf) & 45.00 & 5.81 & 12.9\% & Pass \\
\hline Overturning (kip'fi) & 22556.23 & 11517.96 & 51.1\% & Pass \\
\hline Pier Flexure (Comp) (kip*f) & 1288.37 & 187.00 & 14.5\% & Pass \\
\hline Pier Flexure (Tension) (kip*ti) & 207.31 & 174.25 & 84.1\% & Pass \\
\hline Pier Compression (kip) & 6123.66 & 550.36 & 9.0\% & Pass \\
\hline Pad Flexure (kip'fit) & 3386.84 & 3086.08 & 91.1\% & Pass \\
\hline Pad Shear - 1-way (kips) & 812.67 & 695.90 & 85.6\% & Pass \\
\hline Pad Shear - Comp 2-way (ksi) & 0.190 & 0.125 & 65.8\% & Pass \\
\hline Flexural 2-way (Comp) (kip'fi) & 1676.79 & 112.20 & 6.7\% & Pass \\
\hline Pad Shear - Tension 2-way (ksi) & 0.190 & 0.126 & 66.6\% & Pass \\
\hline Fiexural 2-way (Tension) (kip*ti) & 1676.79 & 104.55 & 6.2\% & Pass \\
\hline
\end{tabular}
\begin{tabular}{|r|c|}
\hline Structural Rating: & \(91.1 \%\) \\
\hline Soil Rating: & \(51.1 \%\) \\
\hline
\end{tabular}

\begin{tabular}{|r|c|l|}
\hline \multicolumn{4}{|c|}{ Material Properties } \\
\hline Rebar Grade, Fy: & 60 & ksi \\
\hline Concrete Compressive Strength. F'c: & 4 & ksi \\
\hline Dry Concrete Density, \(\delta c:\) & 150 & pcf \\
\hline
\end{tabular}
\begin{tabular}{|r|c|l|}
\hline \multicolumn{4}{|c|}{ Soil Properties } \\
\hline Total Soil Unit Weight. Y: & 110 & pcf \\
\hline Ulimate Gross Bearing, Qult: & 60.000 & ksf \\
\hline Cohesion, \(\mathbf{C u}\) & 20.000 & ksf \\
\hline Friction Angle, \(\phi\) & & degrees \\
\hline SPT Blow Count, \(\mathbf{N}_{\text {biows }}\) & & \\
\hline Base Friction. \(\boldsymbol{\mu}\) & & \\
\hline Neglected Depth, \(\mathbf{N}:\) & 1.0 & ft \\
\hline Foundation Bearing on Rock? & Yes & \\
\hline Groundwater Depth, \(\mathbf{g w}\) & \(\mathrm{N} / \mathrm{A}\) & ft \\
\hline
\end{tabular}


\section*{Tower Input Data}

The main tower is a 3 x free standing tower with an overall height of 255.000 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 4.875 ft at the top and 24.000 ft at the base.
This tower is designed using the TIA-222-H standard.
The following design criteria apply:
Tower is located in Wayne County, Kentucky.
Tower base elevation above sea level: 1224.000 ft .
Basic wind speed of 105 mph .
Risk Category II.
Exposure Category C.
Crest Height: 116.000 ft .
Rigorous Topographic Factor Procedure for wind speed-up calculations is used.

\section*{Topographic Feature: Hill.}

Slope Distance L: 398.000 ft .
Distance from Crest x: 0.000 ft .
Horizontal Distance Downwind: No.
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 \(50.000^{\circ} \mathrm{F}\).
Deflections calculated using a wind speed of 60 mph .
Please see feedline plan for proper feedline placement. Deviation from plan may reduce tower capacity..
Design is preliminary and subject to change..
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.

\section*{Options}

Consider Moments - Legs
Consider Moments - Horizontals
Consider Moments - Diagonals
Use Moment Magnification
\(\sqrt{ } \sqrt{ }\) Use Code Stress Ratios
\(\checkmark\) Use Code Safety Factors - Guys Escalate Ice
Always Use Max Kz
Use Special Wind Profile
\(\sqrt{ }\) Include Bolts In Member Capacity
\(\sqrt{ }\) Leg Bolts Are At Top Of Section
\(\checkmark\) Secondary Horizontal Braces Leg
Use Diamond Inner Bracing (4 Sided)
SR Members Have Cut Ends
SR Members Are Concentric

Distribute Leg Loads As Uniform Assume Legs Pinned
\(\checkmark\) Assume Rigid Index Plate
\(\checkmark\) Use Clear Spans For Wind Area
\(\checkmark\) Use Clear Spans For KL/r Retension Guys To Initial Tension
\(\checkmark\) Bypass Mast Stability Checks
\(\checkmark\) Use Azimuth Dish Coefficients
\(\sqrt{ }\) Project Wind Area of Appurt. Autocalc Torque Arm Areas Add IBC 6D+W Combination
\(\checkmark\) Sort Capacity Reports By Component Triangulate Diamond Inner Bracing Treat Feed Line Bundles As Cylinder Ignore KL/ry For 60 Deg Angle Legs

Use ASCE 10 X-Brace Ly Rules
\(\checkmark\) Calculate Redundant Bracing Forces Ignore Redundant Members in FEA
\(\checkmark\) SR Leg Bolts Resist Compression All Leg Panels Have Same Allowable Offset Girt At Foundation
\(\checkmark\) Consider Feed Line Torque
\(\sqrt{ }\) Include Angle Block Shear Check
Use TIA-222-H Bracing Resist. Exemption
Use TIA-222-H Tension Splice Exemption 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 Radii Are
Known
\begin{tabular}{|c|c|c|c|}
\hline tnxTower & \multicolumn{2}{|l|}{Job ATS\#: 9537 - West Highway 90 (Site\# KYLEX2056)} & \[
\begin{aligned}
& \text { Page } \\
& 2 \text { of } 34
\end{aligned}
\] \\
\hline \begin{tabular}{l}
B+T Group \\
1717 S Boulder Ave. Suite 300
\end{tabular} & \multicolumn{2}{|r|}{255' SST/36.7758, -84.942625} & \[
\begin{array}{|l|}
\hline \text { Date } \\
\text { 15:09:47 05/02/22 }
\end{array}
\] \\
\hline \begin{tabular}{l}
Tulsa, OK 74119 \\
Phone: (918) 587-4630 \\
FAX: (918) 295-0265
\end{tabular} & Client & Harmoni Towers & Designed by CCoody \\
\hline
\end{tabular}


Triangular Tower

Tower Section Geometry
\begin{tabular}{cccccc}
\hline \begin{tabular}{c} 
Tower \\
Section
\end{tabular} & \begin{tabular}{c} 
Tower \\
Elevation
\end{tabular} & \begin{tabular}{c} 
Assembly \\
Database
\end{tabular} & \begin{tabular}{c} 
Description \\
\\
T1
\end{tabular} & \(255.000-240.000\) & \begin{tabular}{c} 
Section \\
Width
\end{tabular} \\
T2 & \(240.000-220.000\) & & \begin{tabular}{c} 
Number \\
of
\end{tabular} & \begin{tabular}{c} 
Section \\
Length
\end{tabular} \\
T3 & \(220.000-200.000\) & & 4.875 & Sections
\end{tabular}

\begin{tabular}{|c|c|c|c|c|c|c|c|}
\hline Tower Section & \begin{tabular}{l}
Tower Elevation \\
\(f t\)
\end{tabular} & \begin{tabular}{l}
Diagonal Spacing
 \\
ti
\end{tabular} & Bracing Type & Has \(K\) Brace End Panels & \begin{tabular}{l}
Has \\
Horizontals
\end{tabular} & \begin{tabular}{l}
Top Girt Offset \\
in
\end{tabular} & Bottom Girt Offset in \\
\hline TI & 255.000-240.000 & 4.667 & X Brace & No & No & 6.000 & 6.000 \\
\hline T2 & 240.000-220.000 & 4.750 & X Brace & No & No & 6.000 & 6.000 \\
\hline T3 & 220.000-200.000 & 4.750 & X Brace & No & No & 6.000 & 6.000 \\
\hline T4 & 200.000-180.000 & 4.750 & X Brace & No & No & 6.000 & 6.000 \\
\hline T5 & 180.000-160.000 & 4.750 & X Brace & No & No & 6.000 & 6.000 \\
\hline T6 & 160.000-140.000 & 4.750 & X Brace & No & No & 6.000 & 6.000 \\
\hline T7 & 140.000-120.000 & 4.750 & X Brace & No & No & 6.000 & 6.000 \\
\hline T8 & 120.000-100.000 & 4.750 & X Brace & No & No & 6.000 & 6.000 \\
\hline T9 & 100.000-80.000 & 4.750 & X Brace & No & No & 6000 & 6.000 \\
\hline T10 & 80.000-60.000 & 4.750 & Double K & No & Yes & 6.000 & 6.000 \\
\hline T11 & \(60.000-40.000\) & 4.750 & Double K & No & Yes & 6.000 & 6.000 \\
\hline T12 & 40.000-20.000 & 4.750 & Double K & No & Yes & 6.000 & 6.000 \\
\hline T13 & 20.000-0.000 & 4.750 & Double K & No & Yes & 6.000 & 6.000 \\
\hline
\end{tabular}

Tower Section Geometry (cont'd)
\begin{tabular}{|c|c|c|c|c|c|c|}
\hline Tower Elevation ft & \begin{tabular}{l}
Leg \\
Type
\end{tabular} & \[
\begin{aligned}
& \hline \text { Leg } \\
& \text { Size }
\end{aligned}
\] & Leg Grade & Diagonal Type & Diagonal Size & Diagonal Grade \\
\hline \[
\begin{gathered}
\mathrm{T1} \\
255.000-240.000
\end{gathered}
\] & Solid Round & \(13 / 4\) & \[
\begin{aligned}
& \text { A529-50 } \\
& (50 \mathrm{ksi})
\end{aligned}
\] & Equal Angle & L| 3/4x| 3/4x3/16 & \[
\begin{gathered}
\mathrm{A} 36 \mathrm{M}-50 \\
(50 \mathrm{ksi})
\end{gathered}
\] \\
\hline \[
\begin{gathered}
\mathrm{T} 2 \\
240.000-220.000
\end{gathered}
\] & Solid Round & 2 & \[
\begin{gathered}
\text { A529-50 } \\
(50 \mathrm{ksi})
\end{gathered}
\] & Equal Angle & LI 3/4x13/4×3/16 & \[
\begin{gathered}
\mathrm{A} 36 \mathrm{M}-50 \\
(50 \mathrm{ksi})
\end{gathered}
\] \\
\hline \[
\begin{gathered}
\mathrm{T} 3 \\
220000-200000
\end{gathered}
\] & Solid Round & \(21 / 2\) & \[
\begin{gathered}
\text { A } 529-50 \\
(50 \mathrm{ksi})
\end{gathered}
\] & Equal Angle & \(\mathrm{L} 2 \times 2 \times 3 / 16\) & \[
\begin{gathered}
\text { A } 36 \mathrm{M}-50 \\
(50 \mathrm{ksi})
\end{gathered}
\] \\
\hline \[
\begin{gathered}
\mathrm{T} 4 \\
200.000-180.000
\end{gathered}
\] & Solid Round & \(23 / 4\) & \[
\begin{aligned}
& \text { A529-50 } \\
& (50 \mathrm{ksi})
\end{aligned}
\] & Equal Angle & L2 1/2x \({ }^{1 / 2 \times 3 / 16}\) & \[
\begin{gathered}
\text { A36M-50 } \\
(50 \mathrm{ksi})
\end{gathered}
\] \\
\hline \[
\begin{gathered}
\text { T5 } \\
180.000-160.000
\end{gathered}
\] & Solid Round & 3 & \[
\begin{gathered}
\mathrm{A} 529-50 \\
(50 \mathrm{ksi})
\end{gathered}
\] & Equal Angle & L2 1/2x2 \(1 / 2 \times 3 / 16\) & \[
\begin{gathered}
\mathrm{A} 36 \mathrm{M}-50 \\
(50 \mathrm{ksi})
\end{gathered}
\] \\
\hline \[
\begin{gathered}
\text { T6 } \\
160.000-140.000
\end{gathered}
\] & Solid Round & \(31 / 4\) & \[
\begin{gathered}
\text { A529-50 } \\
(50 \mathrm{ksi})
\end{gathered}
\] & Equal Angle & L \(3 \times 3 \times 3 / 16\) & \[
\begin{gathered}
\text { A36M-50 } \\
(50 \mathrm{ksi})
\end{gathered}
\] \\
\hline \[
\begin{gathered}
\mathrm{T7} \\
140.000-120.000
\end{gathered}
\] & Solid Round & \(31 / 2\) & \[
\begin{aligned}
& \text { A529-50 } \\
& (50 \mathrm{ksi})
\end{aligned}
\] & Equal Angle & L3 \(3 \times 3 / 16\) & \[
\begin{gathered}
\text { A36M-50 } \\
(50 \mathrm{ksi})
\end{gathered}
\] \\
\hline \[
\begin{gathered}
\mathrm{T} 8 \\
120.000-100.000
\end{gathered}
\] & Solid Round & 33/4 & \[
\begin{gathered}
\text { A529-50 } \\
(50 \mathrm{ksi})
\end{gathered}
\] & Equal Angle & L3x \(3 \times 3 / 16\) & \[
\begin{gathered}
\mathrm{A} 36 \mathrm{M}-50 \\
(50 \mathrm{ksi})
\end{gathered}
\] \\
\hline \[
\begin{gathered}
\text { T9 } \\
100.000-80.000
\end{gathered}
\] & Solid Round & 33/4 & \[
\begin{gathered}
\text { A529-50 } \\
(50 \mathrm{ksi})
\end{gathered}
\] & Equal Angle & L \(3 \times 3 \times 1 / 4\) & \[
\begin{gathered}
\text { A36M-50 } \\
(50 \mathrm{ksi})
\end{gathered}
\] \\
\hline \[
\begin{gathered}
\text { T10 } \\
80.000-60.000
\end{gathered}
\] & Solid Round & 4 & \[
\begin{aligned}
& \text { A529-50 } \\
& (50 \mathrm{ksi})
\end{aligned}
\] & Double Angle & 2L2 \(1 / 2 \times 21 / 2 \times 3 / 16 \times 3 / 8\) & \[
\begin{aligned}
& \text { A36M-50 } \\
& (50 \mathrm{ksi})
\end{aligned}
\] \\
\hline \[
\begin{gathered}
\mathrm{T} 11 \\
60.000-40.000
\end{gathered}
\] & Solid Round & 4 & \[
\begin{aligned}
& \text { A529-50 } \\
& (50 \mathrm{ksi})
\end{aligned}
\] & Double Angle & 2L2 \(1 / 2 \times 21 / 2 \times 3 / 16 \times 3 / 8\) & \[
\begin{gathered}
\mathrm{A} 36 \mathrm{M}-50 \\
(50 \mathrm{ksi})
\end{gathered}
\] \\
\hline \[
\begin{gathered}
\mathrm{T} 12 \\
40.000-20.000
\end{gathered}
\] & Solid Round & \(41 / 4\) & \[
\begin{gathered}
\text { A529-50 } \\
(50 \mathrm{ksi})
\end{gathered}
\] & Double Angle & \(2 \mathrm{~L} 3 \times 3 \times 3 / 16 \times 3 / 8\) & \[
\begin{gathered}
\text { A36M-50 } \\
(50 \mathrm{ksi})
\end{gathered}
\] \\
\hline T13 20.000-0.000 & Solid Round & 41/2 & \[
\begin{aligned}
& \text { A529-50 } \\
& (50 \mathrm{ksi})
\end{aligned}
\] & Double Angle & \(2 \mathrm{~L} 3 \times 3 \times 3 / 16 \times 3 / 8\) & \[
\begin{gathered}
\text { A36M-50 } \\
(50 \mathrm{ksi}) \\
\hline
\end{gathered}
\] \\
\hline
\end{tabular}

Tower Section Geometry (cont'd)
\begin{tabular}{ccccccc}
\hline \begin{tabular}{c} 
Tower \\
Elevation \\
\(f t\)
\end{tabular} & \begin{tabular}{c} 
Top Girt \\
Type
\end{tabular} & \begin{tabular}{c} 
Top Girt \\
Size
\end{tabular} & \begin{tabular}{c} 
Top Girt \\
Grade
\end{tabular} & \begin{tabular}{c} 
Bottom Girt \\
Type
\end{tabular} & \begin{tabular}{c} 
Bottom Girt \\
Size
\end{tabular} & \begin{tabular}{c} 
Bottom Girt \\
Grade
\end{tabular} \\
\hline Tl & Equal Angle & \(\mathrm{Ll} 3 / 4 \times 13 / 4 \times 3 / 16\) & \(\mathrm{~A} 36 \mathrm{M}-50\) & Solid Round & & \(\mathrm{A} 36 \mathrm{M}-50\) \\
\hline
\end{tabular}

\begin{tabular}{ccccccc}
\hline \begin{tabular}{c} 
Tower \\
Elevation \\
\(f t\)
\end{tabular} & \begin{tabular}{c} 
Top Girt \\
Tvpe
\end{tabular} & \begin{tabular}{c} 
Top Girt \\
Size
\end{tabular} & \begin{tabular}{c} 
Top Girt \\
Grade
\end{tabular} & \begin{tabular}{c} 
Bottom Girt \\
Type
\end{tabular} & \begin{tabular}{c} 
Bottom Girt \\
Size
\end{tabular} & \begin{tabular}{c} 
Bottom Girt \\
Grade
\end{tabular} \\
\hline \(255.000-240.000\) & & & & & & \((50 \mathrm{ksi})\) \\
\hline
\end{tabular}

Tower Section Geometry (cont'd)
\begin{tabular}{|c|c|c|c|c|c|c|c|}
\hline \begin{tabular}{l}
Tower Elevation \\
ft
\end{tabular} & No. of Mid Girts & Mid Girt Type & Mid Girt Size & Mid Girt Grade & Horizontal Type & Horizontal Size & Horizontal Grade \\
\hline \[
\begin{gathered}
\mathrm{T} 10 \\
80.000-60000
\end{gathered}
\] & None & Flat Bar & & \[
\begin{gathered}
\mathrm{A} 36 \\
(36 \mathrm{ksi})
\end{gathered}
\] & Double Angle & 2L1 3/4×1 3/4×3/16x3/8 & \[
\begin{aligned}
& \mathrm{A} 36 \mathrm{M}-50 \\
& (50 \mathrm{ksi})
\end{aligned}
\] \\
\hline \[
\begin{gathered}
\text { T11 } \\
60.000-40.000
\end{gathered}
\] & None & Flat Bar & & \[
\begin{gathered}
\mathrm{A} 36 \\
(36 \mathrm{ksi})
\end{gathered}
\] & Double Angle & 2L2 \(2 \times 3 / 16 \times 3 / 8\) & \[
\begin{gathered}
\mathrm{A} 36 \mathrm{M}-50 \\
(50 \mathrm{ksi})
\end{gathered}
\] \\
\hline \[
\begin{gathered}
\text { T12 } \\
40.000-20.000
\end{gathered}
\] & None & Flat Bar & & \[
\begin{gathered}
\mathrm{A} 36 \\
(36 \mathrm{ksi})
\end{gathered}
\] & Double Angle & \(2 \mathrm{~L} 2 \times 2 \times 3 / 16 \times 3 / 8\) & \begin{tabular}{l}
A36M-50 \\
( 50 ksi )
\end{tabular} \\
\hline T1320.000-0.000 & None & Flat Bar & & \[
\begin{gathered}
\mathrm{A} 36 \\
(36 \mathrm{ksi}) \\
\hline
\end{gathered}
\] & Double Angle & 2L2 \(1 / 2 \times 21 / 2 \times 3 / 16 \times 3 / 8\) & \[
\begin{gathered}
\mathrm{A} 36 \mathrm{M}-50 \\
(50 \mathrm{ksi}) \\
\hline
\end{gathered}
\] \\
\hline
\end{tabular}

\section*{Tower Section Geometry (cont'd)}
\begin{tabular}{|c|c|c|c|c|c|c|}
\hline \begin{tabular}{l}
Tower Elevation \\
ft
\end{tabular} & \begin{tabular}{l}
Secondary \\
Horizontal Type
\end{tabular} & Secondary Horizontal Size & \begin{tabular}{l}
Secondarv \\
Horizontal Grade
\end{tabular} & Inner Bracing Type & Inner Bracing Size & Inner Bracing Grade \\
\hline T10 & Solid Round & & A36M-50 & Single Angle & L| 3/4x13/4x3/16 & A36M-50 \\
\hline 80.000-60.000 & & & (50 ksi) & & & ( 50 ksi ) \\
\hline T11 & Solid Round & & A36M-50 & Single Angle & L1 3/4x13/4x3/16 & A36M-50 \\
\hline 60.000-40.000 & & & ( 50 ksi ) & & & ( 50 ksi ) \\
\hline T12 & Solid Round & & A36M-50 & Single Angle & LI 3/4x13/4x3/16 & A36M-50 \\
\hline 40.000-20.000 & & & ( 50 ksi ) & & & ( 50 ksi ) \\
\hline T13 20.000-0.000 & Solid Round & & \[
\begin{gathered}
\text { A36M-50 } \\
(50 \mathrm{ksi})
\end{gathered}
\] & Single Angle & L1 3/4x1 3/4x3/16 & \[
\begin{gathered}
\text { A36M-50 } \\
(50 \mathrm{ksi}) \\
\hline
\end{gathered}
\] \\
\hline
\end{tabular}

\section*{Tower Section Geometry (cont'd)}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|}
\hline \begin{tabular}{l}
Tower Elevation \\
ft
\end{tabular} & \begin{tabular}{l}
Gusset \\
Area (perface)
\end{tabular} & \begin{tabular}{l}
Gusset Thickness \\
in
\end{tabular} & Gusset Grade & Adjust. Factor \(A_{t}\) & \begin{tabular}{l}
Adjust. \\
Factor \\
\(A\),
\end{tabular} & Weight Mult & Double Angle Stitch Bolt Spacing Diagonals in & Double Angle Stitch Bolt Spacing Horizontals in & \begin{tabular}{l}
Double Angle \\
Stitch Bolt Spacing Redundants in
\end{tabular} \\
\hline T1 & 0.000 & 0.375 & \[
\mathrm{A} 36 \mathrm{M}-50
\] & 1 & 1 & 1 & 36.000 & 36.000 & 36000 \\
\hline \[
\begin{gathered}
255000-2400 \\
00
\end{gathered}
\] & & & ( 50 ksi ) & & & & & & \\
\hline \[
\frac{\mathrm{T} 2}{24000 \mathrm{n}-220 \cap}
\] & 0.000 & 0.375 & \[
\mathrm{A} 36 \mathrm{M}-50
\] & 1 & 1 & 1 & 36.000 & 36.000 & 36.000 \\
\hline \[
\begin{gathered}
240.000-220.0 \\
00
\end{gathered}
\] & & & ( 50 ksi ) & & & & & & \\
\hline T3 & 0.000 & 0.375 & A36M-50 & 1 & 1 & 1 & 36.000 & 36.000 & 36.000 \\
\hline 220.000-200.0 & & & (50 ksi) & & & & & & \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|}
\hline \multirow[t]{3}{*}{\begin{tabular}{l}
tnxTower \\
B+T Group 1717 S Boulder Ave, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265
\end{tabular}} & \multicolumn{2}{|l|}{Job ATS\#: 9537 - West Highway 90 (Site\# KYLEX2056)} & Page 5 of 34 \\
\hline & Project & 255' SST/36.7758, -84.942625 & \[
\begin{array}{|l|}
\hline \text { Date } \\
\text { 15:09:47 05/02/22 }
\end{array}
\] \\
\hline & Client & Harmoni Towers & Designed by CCoody \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|}
\hline \begin{tabular}{l}
Tower Elevation
\(\qquad\) \\
ft
\end{tabular} & Gusset Area (per face)
\(\qquad\) & \begin{tabular}{l}
Gusset Thickness \\
in
\end{tabular} & Gusset Grade & Adjust. Factor \(A_{i}\) & \begin{tabular}{l}
Adjust. \\
Factor \\
\(A_{r}\)
\end{tabular} & Weight Mult. & Double Angle Stitch Bolt Spacing Diagonals in & Double Angle Stitch Bolt Spacing Horizontals in & Double Angle Stitch Bolt Spacing Redundants in \\
\hline \multicolumn{10}{|l|}{00} \\
\hline T4 & 0.000 & 0.375 & A36M-50 & 1 & 1 & 1 & 36.000 & 36.000 & 36.000 \\
\hline 200.000-180.0 & & & ( 50 ksi ) & & & & & & \\
\hline \multicolumn{10}{|l|}{00} \\
\hline T5 & 0.000 & 0.375 & A36M-50 & 1 & 1 & 1 & 36.000 & 36.000 & 36000 \\
\hline 180.000-160.0 & & & ( 50 ksi ) & & & & & & \\
\hline \multicolumn{10}{|l|}{00} \\
\hline T6 & 0.000 & 0.375 & A36M-50 & 1 & 1 & 1 & 36.000 & 36.000 & 36.000 \\
\hline 160.000-140.0 & & & ( 50 ksi ) & & & & & & \\
\hline \multicolumn{10}{|l|}{00} \\
\hline T7 & 0.000 & 0.375 & A36M-50 & 1 & 1 & 1 & 36.000 & 36.000 & 36.000 \\
\hline 140.000-120.0 & & & ( 50 ksi ) & & & & & & \\
\hline \multicolumn{10}{|l|}{00} \\
\hline T8 & 0.000 & 0.375 & A36M-50 & 1 & 1 & 1 & 36.000 & 36.000 & 36.000 \\
\hline 120.000-100.0 & & & ( 50 ksi ) & & & & & & \\
\hline \multicolumn{10}{|l|}{00} \\
\hline T9 & 0.000 & 0.375 & A36M-50 & 1 & 1 & 1 & 36.000 & 36.000 & 36.000 \\
\hline 100.000-80.00 & & & ( 50 ksi ) & & & & & & \\
\hline \multicolumn{10}{|l|}{0} \\
\hline T10 & 0.000 & 0.375 & A36M-50 & 1 & 1 & 1 & Mid-Pt & Mid-Pt & 36.000 \\
\hline 80.000-60.000 & & & ( 50 ksi ) & & & & & & \\
\hline T11 & 0.000 & 0375 & A36M-50 & 1 & 1 & 1 & Mid-Pt & Mid-Pt & 36.000 \\
\hline 60.000-40.000 & & & ( 50 ksi ) & & & & & & \\
\hline T12 & 0.000 & 0.375 & A36M-50 & 1 & 1 & 1 & Mid-Pt & Mid-Pt & 36.000 \\
\hline 40.000-20.000 & & & ( 50 ksi ) & & & & & & \\
\hline T13 & 0.000 & 0.375 & A36M-50 & 1 & 1 & 1 & Mid-Pt & Mid-Pt & 36.000 \\
\hline 20.000-0.000 & & & (50 ksi) & & & & & & \\
\hline
\end{tabular}

Tower Section Geometry (cont'd)
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|}
\hline \multirow{4}{*}{Tower Elevation} & \multirow{5}{*}{\begin{tabular}{l}
Calc K \\
Single \\
Angles
\end{tabular}} & \multirow{5}{*}{\begin{tabular}{l}
Calc \\
K \\
Solid \\
Rounds
\end{tabular}} & \multicolumn{8}{|c|}{\(K\) Factors \({ }^{\text {l }}\)} \\
\hline & & & \multirow[t]{3}{*}{Legs} & \begin{tabular}{l}
\[
X
\] \\
Brace
\end{tabular} &  & \multirow[t]{2}{*}{\begin{tabular}{l}
Single \\
Diags
\end{tabular}} & \multirow[t]{2}{*}{Girts} & \multirow[t]{2}{*}{Horiz.} & \multirow[t]{2}{*}{\begin{tabular}{l}
Sec. \\
Horiz
\end{tabular}} & \multirow[t]{2}{*}{\begin{tabular}{l}
Inner \\
Brace
\end{tabular}} \\
\hline & & & & Diags & Diags & & & & & \\
\hline & & & & \(X\) & \(X\) & \(X\) & \(X\) & \(X\) & \(X\) & \(X\) \\
\hline ft & & & & \(Y\) & \(Y\) & \(Y\) & \(Y\) & \(Y\) & \(Y\) & \(Y\) \\
\hline T1 & No & No & 1 & 1 & 1 & 1 & 1 & 1 & 1 & 1 \\
\hline 255.000-240.0 & & & & 1 & 1 & 1 & 1 & 1 & 1 & 1 \\
\hline 00 & & & & & & & & & & \\
\hline T2 & No & No & 1 & 1 & 1 & 1 & 1 & 1 & 1 & 1 \\
\hline 240.000-220.0 & & & & 1 & 1 & 1 & 1 & 1 & 1 & 1 \\
\hline 00 & & & & & & & & & & \\
\hline T3 & No & No & 1 & 1 & 1 & 1 & 1 & 1 & 1 & 1 \\
\hline 220000-200.0 & & & & 1 & 1 & 1 & 1 & 1 & 1 & 1 \\
\hline 00 & & & & & & & & & & \\
\hline T4 & No & No & 1 & 1 & 1 & I & 1 & 1 & 1 & 1 \\
\hline 200000-180.0 & & & & 1 & 1 & 1 & 1 & 1 & 1 & 1 \\
\hline 00 & & & & & & & & & & \\
\hline T5 & No & No & 1 & 1 & 1 & 1 & 1 & 1 & 1 & 1 \\
\hline \[
180.000-160.0
\] & & & & 1 & 1 & 1 & 1 & 1 & 1 & 1 \\
\hline \[
00
\] & & & & & & & & & & \\
\hline T6 & No & No & 1 & 1 & 1 & 1 & 1 & 1 & 1 & 1 \\
\hline 160.000-140.0 & & & & 1 & 1 & 1 & 1 & 1 & 1 & 1 \\
\hline 00 & & & & & & & & & & \\
\hline T7 & No & No & 1 & 1 & 1 & 1 & 1 & 1 & 1 & 1 \\
\hline
\end{tabular}

\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|}
\hline \multirow{5}{*}{Tower Elevation} & \multirow{6}{*}{Calc K Single Angles} & \multirow{6}{*}{Calc K Solid Rounds} & \multicolumn{8}{|c|}{\(K\) Factors \({ }^{\text {I }}\)} \\
\hline & & & \multirow[t]{5}{*}{Legs} & X & \multirow[t]{5}{*}{\begin{tabular}{l}
\(K\) \\
Brace \\
Diags \\
X \\
\(Y\)
\end{tabular}} & \multirow[t]{5}{*}{\begin{tabular}{l}
Single \\
Diags \\
\(X\) \\
\(Y\)
\end{tabular}} & \multirow[t]{3}{*}{Girts} & \multirow[t]{3}{*}{Horiz.} & \multirow[t]{3}{*}{\begin{tabular}{l}
Sec. \\
Horiz.
\end{tabular}} & \multirow[t]{3}{*}{\begin{tabular}{l}
Inner \\
Brace
\end{tabular}} \\
\hline & & & & Brace & & & & & & \\
\hline & & & & Diags & & & & & & \\
\hline & & & & \(X\) & & & \(X\) & \(X\) & \(X\) & \(X\) \\
\hline ft & & & & \(Y\) & & & \(Y\) & \(Y\) & \(\gamma\) & \(Y\) \\
\hline 140.000-120.0 & & & & 1 & 1 & 1 & 1 & 1 & 1 & 1 \\
\hline 00 & & & & & & & & & & \\
\hline T8 & No & No & 1 & 1 & 1 & 1 & 1 & 1 & 1 & 1 \\
\hline 120.000-100.0 & & & & 1 & 1 & 1 & 1 & 1 & 1 & 1 \\
\hline 00 & & & & & & & & & & \\
\hline T9 & No & No & 1 & 1 & 1 & 1 & 1 & 1 & 1 & 1 \\
\hline 100.000-80.00 & & & & 1 & 1 & 1 & 1 & 1 & 1 & 1 \\
\hline 0 & & & & & & & & & & \\
\hline T10 & No & No & 1 & 1 & 1 & 1 & I & 1 & 1 & 1 \\
\hline 80.000-60.000 & & & & 1 & 1 & 1 & 1 & 1 & 1 & 1 \\
\hline T11 & No & No & 1 & 1 & 1 & 1 & 1 & 1 & 1 & 1 \\
\hline 60.000-40.000 & & & & 1 & 1 & 1 & 1 & 1 & 1 & 1 \\
\hline T12 & No & No & 1 & 1 & 1 & 1 & I & 1 & 1 & 1 \\
\hline 40.000-20.000 & & & & 1 & 1 & 1 & I & 1 & 1 & 1 \\
\hline T13 & No & No & 1 & 1 & 1 & 1 & 1 & 1 & 1 & 1 \\
\hline 20.000-0.000 & & & & 1 & 1 & 1 & 1 & 1 & 1 & 1 \\
\hline
\end{tabular}
\({ }^{7}\) Note: \(K\) factors are applied to member segment lengths. \(K\)-braces without inner supporting members will have the \(K\) factor in the out-of-plane direction applied to the overall length.

Tower Section Geometry (cont'd)
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|}
\hline \multirow[t]{2}{*}{\begin{tabular}{l}
Tower \\
Elevation \\
ft
\end{tabular}} & \multicolumn{2}{|l|}{Leg} & \multicolumn{2}{|l|}{Diagonal} & \multicolumn{2}{|l|}{Top Girt} & \multicolumn{2}{|l|}{Bottom Girt} & \multicolumn{2}{|r|}{Mid Girt} & \multicolumn{2}{|l|}{Long Horizontal} & \multicolumn{2}{|l|}{Short Horizontal} \\
\hline & Net Width Deduct in & \(U\) & Net Width Deduct in & & Net Width Deduct in & & \begin{tabular}{l}
Net \\
Width \\
Deduct \\
in
\end{tabular} & \(U\) & Net Width Deduct in & \(U\) & Net Width Deduct in & \(U\) & Net Width Deduct in & \(U\) \\
\hline \[
\begin{gathered}
\mathrm{T1} \\
255.000-240.0 \\
00
\end{gathered}
\] & 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 \\
\hline \[
\begin{gathered}
\mathrm{T} 2 \\
240.000-220.0 \\
00
\end{gathered}
\] & 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 \\
\hline \[
\begin{gathered}
\mathrm{T} 3 \\
220.000-200.0 \\
00
\end{gathered}
\] & 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 \\
\hline \[
\begin{gathered}
\text { T4 } \\
200.000-180.0 \\
00
\end{gathered}
\] & 0.000 & 1 & 0.000 & 0.75 & 0000 & 0.75 & 0.000 & 0.75 & 0000 & 0.75 & 0.000 & 0.75 & 0.000 & 0.75 \\
\hline \[
\begin{gathered}
\text { T5 } \\
180.000-160.0 \\
00
\end{gathered}
\] & 0.000 & 1 & 0.000 & 0.75 & 0000 & 0.75 & 0.000 & 0.75 & 0.000 & 0.75 & 0.000 & 0.75 & 0.000 & 0.75 \\
\hline \[
\begin{gathered}
\text { T6 } \\
160.000-140.0 \\
00
\end{gathered}
\] & 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 \\
\hline \[
\begin{gathered}
\mathrm{T7} \\
140.000-120.0 \\
00
\end{gathered}
\] & 0.000 & 1 & 0.000 & 0.75 & 0.000 & 0.75 & 0.000 & 0.75 & 0000 & 0.75 & 0.000 & 0.75 & 0.000 & 0.75 \\
\hline \[
\begin{gathered}
\mathrm{T} 8 \\
120.000-100.0 \\
00
\end{gathered}
\] & 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 \\
\hline
\end{tabular}

\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|}
\hline \multirow[t]{2}{*}{Tower Elevation fi} & \multicolumn{2}{|l|}{Leg} & \multicolumn{2}{|l|}{Diagonal} & \multicolumn{2}{|l|}{Top Girt} & \multicolumn{2}{|l|}{Bottom Girt} & \multicolumn{2}{|r|}{Mid Girt} & \multicolumn{2}{|l|}{Long Horizontal} & \multicolumn{2}{|l|}{Short Horizontal} \\
\hline & Net Width Deduct in & \(U\) & Net Width Deduct in & & Net Width Deduct in & & Net Width Deduct in & \(U\) & Net Width Deduct in & \(U\) & Net Width Deduct in & \(U\) & Net Width Deduct in & \(U\) \\
\hline \[
\begin{gathered}
\text { T9 } \\
100.000-80.00 \\
0
\end{gathered}
\] & 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 \\
\hline T10 & 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 \\
\hline \[
\begin{gathered}
80.000-60.000 \\
\mathrm{~T} 11 \\
60.000-40.000
\end{gathered}
\] & 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 \\
\hline \begin{tabular}{l}
T12 \\
40.000-20 000
\end{tabular} & 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 \\
\hline \[
\begin{gathered}
\mathrm{T} 13 \\
20.000-0.000 \\
\hline
\end{gathered}
\] & 0.000 & 1 & 0.000 & 0.75 & 0.000 & 0.75 & 0.000 & 0.75 & 0.000 & 0.75 & 0000 & 0.75 & 0.000 & 0.75 \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|}
\hline \multirow[t]{2}{*}{Tower Elevation ft} & \multicolumn{2}{|l|}{Redundant Horizontal} & \multicolumn{2}{|l|}{Redundant Diagonal} & \multicolumn{2}{|l|}{Redundant Sub-Diagonal} & \multicolumn{2}{|l|}{Redundant Sub-Horizontal} & \multicolumn{2}{|l|}{Redundant Vertical} & \multicolumn{2}{|l|}{Redundant Hip} & \multicolumn{2}{|l|}{Redundant Hip Diagonal} \\
\hline & Net Width Deduct in & & Net Width Deduct in & & \[
\begin{array}{|c}
\text { Net Width } \\
\text { Deduct } \\
\text { in }
\end{array}
\] & & Net Width Deduct in & \(U\) & Net Width Deduct in & \(U\) & Net Width Deduct in & \(U\) & \begin{tabular}{l}
Net \\
Width \\
Deduct \\
in
\end{tabular} & \(U\) \\
\hline \[
\begin{gathered}
\hline \mathrm{T1} \\
255.000-2400 \\
00
\end{gathered}
\] & 0.000 & 0.75 & 0.000 & 0.75 & 0.000 & 0.75 & 0.000 & 0.75 & 0.000 & 0.75 & 0.000 & 0.75 & 0.000 & 0.75 \\
\hline \[
\begin{gathered}
\text { T2 } \\
240.000-220.0 \\
00
\end{gathered}
\] & 0.000 & 0.75 & 0.000 & 0.75 & 0.000 & 0.75 & 0.000 & 0.75 & 0.000 & 0.75 & 0.000 & 0.75 & 0.000 & 0.75 \\
\hline \[
\begin{gathered}
\mathrm{T} 3 \\
220.000-200.0 \\
00
\end{gathered}
\] & 0.000 & 0.75 & 0.000 & 0.75 & 0.000 & 0.75 & 0.000 & 0.75 & 0.000 & 0.75 & 0.000 & 0.75 & 0.000 & 0.75 \\
\hline T4 & 0.000 & 0.75 & 0.000 & 0.75 & 0.000 & 0.75 & 0.000 & 0.75 & 0000 & 0.75 & 0.000 & 0.75 & 0.000 & 0.75 \\
\hline \[
\begin{gathered}
200.000-180.0 \\
00 \\
\mathrm{~T} 5
\end{gathered}
\] & 0.000 & 0.75 & 0.000 & 0.75 & 0.000 & 0.75 & 0.000 & 0.75 & 0.000 & 0.75 & 0.000 & 0.75 & 0.000 & 0.75 \\
\hline \[
\begin{gathered}
180.000-160.0 \\
00
\end{gathered}
\] & & & & & & & & & & & & & & \\
\hline T6 & 0.000 & 0.75 & 0.000 & 0.75 & 0000 & 0.75 & 0.000 & 0.75 & 0000 & 0.75 & 0000 & 0.75 & 0.000 & 0.75 \\
\hline \[
\begin{gathered}
160.000-140.0 \\
00 \\
\mathrm{~T} 7
\end{gathered}
\] & 0.000 & 0.75 & 0.000 & 0.75 & 0.000 & 0.75 & 0000 & 0.75 & 0.000 & 0.75 & 0.000 & 075 & 0.000 & 0.75 \\
\hline \[
\begin{gathered}
140.000-120.0 \\
00
\end{gathered}
\] & & & & & & & & & & & & & & \\
\hline T8 & 0.000 & 0.75 & 0.000 & 0.75 & 0.000 & 0.75 & 0.000 & 0.75 & 0.000 & 0.75 & 0.000 & 0.75 & 0.000 & 0.75 \\
\hline 00 & & & & & & & & & & & & & & \\
\hline \[
\begin{gathered}
\text { T9 } \\
100.000-80.00 \\
0
\end{gathered}
\] & 0.000 & 0.75 & 0.000 & 0.75 & 0.000 & 0.75 & 0.000 & 0.75 & 0.000 & 0.75 & 0.000 & 0.75 & 0.000 & 0.75 \\
\hline T10 & 0.000 & 075 & 0.000 & 0.75 & 0.000 & 0.75 & 0.000 & 0.75 & 0.000 & 0.75 & 0.000 & 075 & 0.000 & 0.75 \\
\hline 80.000-60.000 & & & & & & & & & & & & & & \\
\hline \[
\begin{gathered}
\mathrm{T} 11 \\
60.000-40.000
\end{gathered}
\] & 0.000 & 0.75 & 0.000 & 0.75 & 0.000 & 0.75 & 0.000 & 0.75 & 0.000 & 0.75 & 0.000 & 0.75 & 0.000 & 0.75 \\
\hline T12 & 0.000 & 0.75 & 0.000 & 0.75 & 0.000 & 0.75 & 0.000 & 0.75 & 0.000 & 0.75 & 0.000 & 0.75 & 0.000 & 0.75 \\
\hline \[
\begin{gathered}
40.000-20000 \\
\mathrm{~T} 13 \\
20.000-0.000
\end{gathered}
\] & 0.000 & 0.75 & 0.000 & 0.75 & 0.000 & 0.75 & 0.000 & 0.75 & 0.000 & 075 & 0.000 & 0.75 & 0.000 & 0.75 \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|}
\hline tnxTower & \multicolumn{2}{|l|}{ATS\#: 9537 - West Highway 90 (Site\# KYLEX2056)} & \[
\text { Page } \begin{array}{ll} 
& \\
& 8 \text { of } 34
\end{array}
\] \\
\hline \begin{tabular}{l}
B+T Group \\
1717S Boulder Ave, Suite 300
\end{tabular} & \multicolumn{2}{|l|}{255' SST/36.7758, -84.942625} & \[
\begin{array}{|l|}
\hline \text { Date } \\
\text { 15:09:47 05/02/22 }
\end{array}
\] \\
\hline \begin{tabular}{l}
Tulsa. OK 74119 \\
Phone: (918) 587-4630) \\
FAX: (918) 295-0265
\end{tabular} & Client & Harmoni Towers & Designed by CCoody \\
\hline
\end{tabular}

Tower Section Geometry (cont'd)
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|}
\hline \multirow[t]{2}{*}{\begin{tabular}{l}
Tower \\
Elevation \\
ft
\end{tabular}} & \multirow[t]{2}{*}{Leg Connection Type} & \multicolumn{2}{|l|}{Leg} & \multicolumn{2}{|l|}{Diagonal} & \multicolumn{2}{|l|}{Top Girt} & \multicolumn{2}{|l|}{Bottom Girt} & \multicolumn{2}{|l|}{Mid Girt} & \multicolumn{2}{|l|}{Long Horizontal} & \multicolumn{2}{|l|}{Short Horizontal} \\
\hline & & Bolt Size in & No. & Bolt Size in & & Bolt Size in & & Bolt Size in & & Bolt Size in & No. & \begin{tabular}{l}
Bolt Size \\
in
\end{tabular} & No. & Bolt Size in & No. \\
\hline TI & Flange & 0.000 & 0 & 0.625 & 1 & 0.625 & 1 & 0.000 & 0 & 0.625 & 0 & 0.000 & 0 & 0.625 & 0 \\
\hline \[
\begin{gathered}
255.000-240.0 \\
00
\end{gathered}
\] & & A325N & & A325X & & A325X & & A325X & & A 325 N & & A325X & & A325N & \\
\hline T2 & Flange & 0.750 & 6 & 0.625 & 1 & 0.000 & 0 & 0.000 & 0 & 0.625 & 0 & 0.000 & 0 & 0.625 & 0 \\
\hline \[
\begin{gathered}
240.000-220.0 \\
00
\end{gathered}
\] & & A325N & & A 325 X & & A325X & & A325X & & A 325 N & & A325X & & A325N & \\
\hline T3 & Flange & 0.750 & 6 & 0.625 & 1 & 0.000 & 0 & 0.000 & 0 & 0.625 & 0 & 0.000 & 0 & 0.625 & 0 \\
\hline 220.000-200.0 & & A325N & & A325X & & A325X & & A325X & & A325N & & A325X & & A325N & \\
\hline 00 & & & & & & & & & & & & & & & \\
\hline T4 & Flange & 0.750 & 6 & 0.625 & 1 & 0000 & 0 & 0.000 & 0 & 0.625 & 0 & 0.000 & 0 & 0.625 & 0 \\
\hline 200.000-180.0 & & A325N & & A325X & & A325X & & A325X & & A325N & & A325X & & A325N & \\
\hline 00 & & & & & & & & & & & & & & & \\
\hline T5 & Flange & 1.000 & 6 & 0.625 & 1 & 0.000 & 0 & 0.000 & 0 & 0.625 & 0 & 0.000 & 0 & 0.625 & 0 \\
\hline 180.000-160.0 & & A325N & & A325X & & A325X & & A325X & & A325N & & A325X & & A325N & \\
\hline 00 & & & & & & & & & & & & & & & \\
\hline T6 & Flange & 1.000 & 6 & 0.625 & 1 & 0.000 & 0 & 0.000 & 0 & 0.625 & 0 & 0.000 & 0 & 0.625 & 0 \\
\hline 160.000-140.0 & & A325N & & A325X & & A325X & & A325X & & A325N & & A325X & & A325N & \\
\hline 00 & & & & & & & & & & & & & & & \\
\hline T7 & Flange & 1.000 & 6 & 0.625 & 1 & 0.000 & 0 & 0.000 & 0 & 0.625 & 0 & 0.000 & 0 & 0.625 & 0 \\
\hline 140.000-120.0 & & A325N & & A325X & & A 325 X & & A325X & & A 325 N & & A 325 X & & A 325 N & \\
\hline 00 & & & & & & & & & & & & & & & \\
\hline T8 & Flange & 1250 & 6 & 0.625 & 1 & 0000 & 0 & 0.000 & 0 & 0625 & 0 & 0.000 & 0 & 0.625 & 0 \\
\hline 120.000-100.0 & & A325N & & A325X & & A 325X & & A 325 X & & A 325 N & & A325X & & A325N & \\
\hline 00 & & & & & & & & & & & & & & & \\
\hline T9 & Flange & 1.250 & 6 & 0.625 & 1 & 0.000 & 0 & 0.000 & 0 & 0.625 & 0 & 0.000 & 0 & 0.625 & 0 \\
\hline \(100.000-80.00\) & & A325N & & A325X & & A325X & & A325X & & A 325 N & & A325X & & A325N & \\
\hline 0 & & & & & & & & & & & & & & & \\
\hline T10 & Flange & 1250 & 6 & 0.625 & 1 & 0.000 & 0 & 0.000 & 0 & 0.625 & 0 & 0.625 & 1 & 0.625 & 0 \\
\hline 80.000-60.000 & & A325N & & A325X & & A 325 X & & A325X & & A 325 N & & A325X & & A 325 N & \\
\hline TIl & Flange & 1250 & 6 & 0.625 & 1 & 0.000 & 0 & 0.000 & 0 & 0.625 & 0 & 0.625 & 1 & 0.625 & 0 \\
\hline 60.000-40.000 & & A325N & & A325X & & A 325X & & A325X & & A325N & & A325X & & A 325 N & \\
\hline T12 & Flange & 1250 & 6 & 0.625 & 1 & 0000 & 0 & 0000 & 0 & 0.625 & 0 & 0.625 & 1 & 0.625 & 0 \\
\hline 40.000-20.000 & & A325N & & A325X & & A 325X & & A325X & & A 325 N & & A 325 X & & A 325 N & \\
\hline T13 & Flange & 1.500 & 6 & 0.625 & 1 & 0.000 & 0 & 0.000 & 0 & 0.625 & 0 & 0.625 & 1 & 0.625 & 0 \\
\hline 20.000-0.000 & & A325N & & A325X & & A 325 X & & A325X & & A 325 N & & A325X & & A 325 N & \\
\hline
\end{tabular}

Feed Line/Linear Appurtenances - Entered As Round Or Flat
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|c|}
\hline Description & \[
\begin{gathered}
\text { Face } \\
\text { or } \\
\text { Leg }
\end{gathered}
\] & Allow Shield & \begin{tabular}{l}
Exclude \\
From \\
Torque Calculation
\end{tabular} & Component Type & \begin{tabular}{l}
Placement \\
ft
\end{tabular} & Face Offset in & Lateral Offset (Frac FW) & \# & \[
\begin{gathered}
\# \\
\text { Per } \\
\text { Row }
\end{gathered}
\] & Clear Spacing in & Width or Diameter in & \begin{tabular}{l}
Perimeter \\
in
\end{tabular} & \begin{tabular}{l}
Weight \\
\(k l f\)
\end{tabular} \\
\hline \[
1625^{\prime \prime} \text { coax }
\]
(Carrier 1) & C & No & No & Ar (CaAa) & \[
\begin{gathered}
250.000- \\
10.000
\end{gathered}
\] & 0.000 & 0 & 9 & 5 & 0.750 & 1.980 & & 0.001 \\
\hline 1.5" Hybrid (Carrier 1) ** & C & No & No & \(\operatorname{Ar}(\mathrm{CaAa})\) & \[
\begin{gathered}
250.000- \\
10.000
\end{gathered}
\] & 0.000 & -0.2 & 6 & 3 & 0.750 & 1.500 & & 0.001 \\
\hline \(1.625^{\prime \prime}\) coax & B & No & No & \(\operatorname{Ar}(\mathrm{CaAa})\) & 238.000 - & 0.000 & 0 & 9 & 5 & 0.750 & 1.980 & & 0.001 \\
\hline
\end{tabular}

\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|c|}
\hline Description & Face or Leg & Allow Shield & Exclude From Torque Calculation & Component Type & \begin{tabular}{l}
Placement \\
ft
\end{tabular} & Face Offset in & Lateral Offset (Frac FW) & \# & \[
\begin{gathered}
\# \\
\text { Per } \\
\text { Row }
\end{gathered}
\] & Clear Spacing in & Width or Diameter in & Perimeter in & \begin{tabular}{l}
Weight \\
\(k l f\)
\end{tabular} \\
\hline (Carrier 2) 1.5" Hybrid (Carrier 2) ** & B & No & No & \(\operatorname{Ar}(\mathrm{CaAa})\) & \[
\begin{gathered}
10.000 \\
238.000 \\
10.000
\end{gathered}
\] & 0.000 & -0.2 & 6 & 3 & 0.750 & 1500 & & 0001 \\
\hline \[
1.625^{\prime \prime} \text { coax }
\]
(Carrier 3) & A & No & No & \(\operatorname{Ar}(\mathrm{CaAa})\) & \[
\begin{array}{r}
226.000- \\
10.000
\end{array}
\] & 0.000 & 0 & 9 & 5 & 0.750 & 1.980 & & 0.001 \\
\hline 1.5" Hybrid (Carrier 3) ** & A & No & No & \(\operatorname{Ar}(\mathrm{CaAa})\) & \[
\begin{gathered}
226.000- \\
10.000
\end{gathered}
\] & 0.000 & -0.2 & 6 & 3 & 0.750 & 1.500 & & 0001 \\
\hline \[
\underset{* *}{1.625^{\prime \prime} \text { coax }} \underset{(\text { Carrier } 4)}{ }
\] & C & No & No & Ar (CaAa) & \[
\begin{gathered}
214.000- \\
10.000
\end{gathered}
\] & 0.000 & -0.35 & 2 & 1 & 0.750 & 1.980 & & 0.001 \\
\hline \[
\begin{aligned}
& 1.625^{\prime \prime} \text { coax } \\
& \text { (Carrier } 5 \text { ) }
\end{aligned}
\] & C & No & No & Ar (CaAa) & \[
\begin{gathered}
202.000- \\
10.000
\end{gathered}
\] & 0.000 & -0.4 & 2 & 1 & 0.750 & 1.980 & & 0.001 \\
\hline Safety Line 3/8 & A & No & No & \(\operatorname{Ar}(\mathrm{CaAa})\) & \[
\begin{gathered}
255.000- \\
10.000
\end{gathered}
\] & 0.000 & 0.45 & 1 & 1 & 0.375 & 0.375 & & 0000 \\
\hline Strobe Cable
\(* *\) & A & No & No & \(\operatorname{Ar}(\mathrm{CaAa})\) & \[
\begin{gathered}
255.000- \\
10.000
\end{gathered}
\] & 0.000 & -0.45 & 1 & 1 & 1.250 & 1.250 & & 0.001 \\
\hline Feedline Ladder (Af) & C & No & No & Af ( CaAa ) & \[
\begin{gathered}
250.000- \\
10.000
\end{gathered}
\] & 0.000 & 0.3 & 1 & 1 & 3000 & 0250 & & 0008 \\
\hline Feedline Ladder (Af) & B & No & No & Af (CaAa) & \[
\begin{gathered}
238.000- \\
10.000
\end{gathered}
\] & 0.000 & 03 & 1 & 1 & 3.000 & 0.250 & & 0.008 \\
\hline \[
\begin{gathered}
\text { Feedline } \\
\text { Ladder (Af) } \\
* * \\
\hline
\end{gathered}
\] & A & No & No & Af(CaAa) & \[
\begin{gathered}
226.000- \\
10.000
\end{gathered}
\] & 0.000 & 0.3 & 1 & 1 & 3.000 & 0.250 & & 0.008 \\
\hline
\end{tabular}

\section*{Feed Line/Linear Appurtenances - Entered As Area}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline Description & \[
\begin{gathered}
\text { Face } \\
\text { or } \\
\text { Leg }
\end{gathered}
\] & \begin{tabular}{l}
Allow \\
Shield
\end{tabular} & Exclude From Torque Calculation & Component Type & Placement
\[
f t
\] & Total Number & \[
\begin{aligned}
& C_{t} A_{1} \\
& f t^{\prime} / f t
\end{aligned}
\] & \begin{tabular}{l}
Weight \\
\(k l f\)
\end{tabular} \\
\hline
\end{tabular}

\section*{Feed Line/Linear Appurtenances Section Areas}
\begin{tabular}{|c|c|c|c|c|c|c|c|}
\hline Tower Section & Tower Elevation ft & Face & \begin{tabular}{l}
\(A_{R}\) \\
ft
\end{tabular} & \(\boldsymbol{A}_{F}\)
\[
f t^{2}
\] & \(C_{4} A_{t}\) In Face ft & \[
\begin{gathered}
C_{4} A_{1} \\
\text { Out Face } \\
f t^{2}
\end{gathered}
\] & Weight
K \\
\hline \multirow[t]{3}{*}{TI} & \multirow[t]{3}{*}{255.000-240.000} & A & 0.000 & 0.000 & 2.438 & 0.000 & 0.014 \\
\hline & & B & 0.000 & 0.000 & 0.000 & 0.000 & 0.000 \\
\hline & & C & 0.000 & 0.000 & 27.237 & 0.000 & 0.214 \\
\hline \multirow[t]{3}{*}{T2} & \multirow[t]{3}{*}{240.000-220.000} & A & 0.000 & 0.000 & 19.592 & 0.000 & 0.147 \\
\hline & & B & 0.000 & 0.000 & 49.026 & 0.000 & 0.386 \\
\hline & & C & 0.000 & 0.000 & 54.473 & 0.000 & 0.428 \\
\hline \multirow[t]{3}{*}{T3} & \multirow[t]{3}{*}{220.000-200.000} & A & 0.000 & 0.000 & 57.723 & 0.000 & 0.447 \\
\hline & & B & 0.000 & 0.000 & 54.473 & 0.000 & 0.428 \\
\hline & & C & 0.000 & 0.000 & 60.809 & 0.000 & 0.455 \\
\hline
\end{tabular}

\begin{tabular}{|c|c|c|c|c|c|c|c|}
\hline \begin{tabular}{l}
Tower \\
Section
\end{tabular} & Tower Elevation ft & Face & \(A_{R}\)

\(f{ }^{\prime}\) & \(A_{t}\)
\(f t^{2}\) & \[
\begin{gathered}
C_{\mathrm{t}} A_{i} \\
\text { In Face }
\end{gathered}
\]
\[
f t^{\prime}
\] & \(C_{1} A_{1}\) Out Face \(f t^{2}\) & \begin{tabular}{l}
Weight \\
K
\end{tabular} \\
\hline \multirow[t]{3}{*}{T4} & \multirow[t]{3}{*}{200.000-180.000} & A & 0000 & 0.000 & 57.723 & 0.000 & 0447 \\
\hline & & B & 0000 & 0.000 & 54.473 & 0.000 & 0.428 \\
\hline & & C & 0.000 & 0.000 & 70.313 & 0.000 & 0.494 \\
\hline \multirow[t]{3}{*}{T5} & \multirow[t]{3}{*}{180.000-160.000} & A & 0.000 & 0.000 & 57.723 & 0.000 & 0.447 \\
\hline & & B & 0.000 & 0.000 & 54.473 & 0.000 & 0.428 \\
\hline & & C & 0.000 & 0.000 & 70.313 & 0.000 & 0.494 \\
\hline \multirow[t]{3}{*}{T6} & \multirow[t]{3}{*}{160.000-140.000} & A & 0.000 & 0.000 & 57.723 & 0.000 & 0.447 \\
\hline & & B & 0000 & 0000 & 54.473 & 0000 & 0.428 \\
\hline & & C & 0000 & 0.000 & 70.313 & 0.000 & 0.494 \\
\hline \multirow[t]{3}{*}{T7} & \multirow[t]{3}{*}{140.000-120.000} & A & 0.000 & 0.000 & 57.723 & 0.000 & 0.447 \\
\hline & & B & 0.000 & 0.000 & 54.473 & 0.000 & 0.428 \\
\hline & & C & 0000 & 0.000 & 70.313 & 0.000 & 0.494 \\
\hline \multirow[t]{3}{*}{T8} & \multirow[t]{3}{*}{120.000-100.000} & A & 0000 & 0.000 & 57.723 & 0000 & 0.447 \\
\hline & & B & 0.000 & 0.000 & 54.473 & 0000 & 0.428 \\
\hline & & C & 0.000 & 0.000 & 70.313 & 0.000 & 0.494 \\
\hline \multirow[t]{3}{*}{T9} & \multirow[t]{3}{*}{100.000-80.000} & A & 0.000 & 0.000 & 57.723 & 0.000 & 0.447 \\
\hline & & B & 0.000 & 0.000 & 54.473 & 0.000 & 0.428 \\
\hline & & C & 0.000 & 0.000 & 70.313 & 0.000 & 0.494 \\
\hline \multirow[t]{3}{*}{T10} & \multirow[t]{3}{*}{80.000-60.000} & A & 0.000 & 0.000 & 57.723 & 0.000 & 0.447 \\
\hline & & B & 0.000 & 0.000 & 54.473 & 0.000 & 0.428 \\
\hline & & C & 0.000 & 0.000 & 70.313 & 0.000 & 0.494 \\
\hline \multirow[t]{3}{*}{T11} & \multirow[t]{3}{*}{60.000-40.000} & A & 0.000 & 0.000 & 57.723 & 0.000 & 0.447 \\
\hline & & B & 0000 & 0.000 & 54.473 & 0.000 & 0.428 \\
\hline & & C & 0000 & 0.000 & 70.313 & 0000 & 0.494 \\
\hline \multirow[t]{3}{*}{T12} & \multirow[t]{3}{*}{40000-20.000} & A & 0.000 & 0.000 & 57.723 & 0000 & 0.447 \\
\hline & & B & 0.000 & 0.000 & 54.473 & 0.000 & 0.428 \\
\hline & & C & 0.000 & 0.000 & 70.313 & 0.000 & 0.494 \\
\hline \multirow[t]{3}{*}{T13} & \multirow[t]{3}{*}{20.000-0.000} & A & 0.000 & 0.000 & 28.862 & 0.000 & 0.223 \\
\hline & & B & 0.000 & 0.000 & 27.237 & 0.000 & 0.214 \\
\hline & & C & 0.000 & 0.000 & 35.157 & 0.000 & 0.247 \\
\hline
\end{tabular}

Feed Line/Linear Appurtenances Section Areas - With Ice
\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline \begin{tabular}{l}
Tower \\
Section
\end{tabular} & Tower Elevation ft & \[
\begin{gathered}
\text { Face } \\
\text { or } \\
\text { Leg } \\
\hline
\end{gathered}
\] & Ice
Thickness
in & \(A_{k}\)

\(f t\) & \begin{tabular}{l}
\(A_{F}\) \\
ti
\end{tabular} & \(C_{1} A_{1}\) In Face \(f t\) & \(C_{A} A_{4}\) Out Face \(f t^{\prime}\) & \begin{tabular}{c} 
Weight \\
\(K\) \\
\hline
\end{tabular} \\
\hline \multirow[t]{3}{*}{TI} & \multirow[t]{3}{*}{255.000-240.000} & A & \multirow[t]{3}{*}{1.844} & 0.000 & 0.000 & 13.504 & 0000 & 0.193 \\
\hline & & B & & 0.000 & 0.000 & 0.000 & 0.000 & 0.000 \\
\hline & & C & & 0.000 & 0.000 & 42.616 & 0000 & 0.885 \\
\hline \multirow[t]{3}{*}{T2} & \multirow[t]{3}{*}{240.000-220.000} & A & \multirow[t]{3}{*}{1.834} & 0.000 & 0.000 & 43.440 & 0000 & 0.784 \\
\hline & & B & & 0.000 & 0.000 & 76.547 & 0.000 & 1.586 \\
\hline & & C & & 0.000 & 0.000 & 85.053 & 0.000 & 1.762 \\
\hline \multirow[t]{3}{*}{T3} & \multirow[t]{3}{*}{220.000-200.000} & A & \multirow[t]{3}{*}{1823} & 0.000 & 0.000 & 102683 & 0.000 & 2.007 \\
\hline & & B & & 0.000 & 0.000 & 84.851 & 0.000 & 1.754 \\
\hline & & C & & 0.000 & 0.000 & 104996 & 0.000 & 2.051 \\
\hline \multirow[t]{3}{*}{T4} & \multirow[t]{3}{*}{200.000-180.000} & A & \multirow[t]{3}{*}{1812} & 0.000 & 0.000 & 102403 & 0000 & 1.997 \\
\hline & & B & & 0.000 & 0.000 & 84.658 & 0000 & 1.746 \\
\hline & & C & & 0.000 & 0.000 & 134871 & 0000 & 2.483 \\
\hline \multirow[t]{3}{*}{T5} & \multirow[t]{3}{*}{\(180.000-160.000\)} & A & \multirow[t]{3}{*}{1.802} & 0.000 & 0.000 & 102.148 & 0000 & 1.988 \\
\hline & & B & & 0.000 & 0.000 & 84.482 & 0.000 & 1.739 \\
\hline & & C & & 0.000 & 0.000 & 134.558 & 0.000 & 2.471 \\
\hline \multirow[t]{3}{*}{T6} & \multirow[t]{3}{*}{\(160.000-140.000\)} & A & \multirow[t]{3}{*}{1.794} & 0.000 & 0.000 & 101.934 & 0.000 & 1.980 \\
\hline & & B & & 0.000 & 0.000 & 84.334 & 0.000 & 1.733 \\
\hline & & C & & 0.000 & 0.000 & 134295 & 0.000 & 2.460 \\
\hline \multirow[t]{3}{*}{T7} & \multirow[t]{3}{*}{140.000-120.000} & A & \multirow[t]{3}{*}{1.788} & 0.000 & 0.000 & 101.780 & 0.000 & 1.975 \\
\hline & & B & & 0.000 & 0.000 & 84.228 & 0.000 & 1729 \\
\hline & & C & & 0.000 & 0.000 & 134.106 & 0.000 & 2.453 \\
\hline T8 & 120.000-100.000 & A & 1.785 & 0000 & 0.000 & 101.711 & 0.000 & 1.972 \\
\hline
\end{tabular}

\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline Tower Section & Tower Elevation \(f t\) & \[
\begin{gathered}
\text { Face } \\
\text { or } \\
\text { Leg } \\
\hline
\end{gathered}
\] & Ice
Thickness
in & \begin{tabular}{l}
\(A_{R}\) \\
tir
\end{tabular} & \begin{tabular}{l}
\(A_{F}\) \\
\(f t^{\prime}\)
\end{tabular} & \[
\begin{gathered}
C_{A} A_{4} \\
\text { In Face } \\
f t^{2}
\end{gathered}
\] & \(C_{4} A_{i}\) Out Face \(f t^{2}\) & \begin{tabular}{c} 
Weight \\
\(K\) \\
\hline
\end{tabular} \\
\hline \multirow{4}{*}{T9} & \multirow{4}{*}{100.000-80.000} & B & \multirow{4}{*}{1.787} & 0000 & 0.000 & 84.181 & 0.000 & 1.727 \\
\hline & & C & & 0.000 & 0.000 & 134.021 & 0.000 & 2.450 \\
\hline & & A & & 0.000 & 0.000 & 101.750 & 0.000 & 1973 \\
\hline & & B & & 0.000 & 0.000 & 84.208 & 0.000 & 1728 \\
\hline \multirow{3}{*}{T10} & \multirow{3}{*}{\(80.000-60.000\)} & C & \multirow{3}{*}{1.793} & 0.000 & 0000 & 134.070 & 0.000 & 2451 \\
\hline & & A & & 0.000 & 0.000 & 101.906 & 0.000 & 1.979 \\
\hline & & B & & 0.000 & 0.000 & 84.315 & 0.000 & 1.732 \\
\hline \multirow{3}{*}{TII} & \multirow{3}{*}{60.000-40.000} & C & \multirow{3}{*}{1.801} & 0.000 & 0000 & 134.261 & 0.000 & 2.459 \\
\hline & & A & & 0.000 & 0.000 & 102.124 & 0.000 & 1.987 \\
\hline & & B & & 0.000 & 0.000 & 84.465 & 0.000 & 1738 \\
\hline \multirow{3}{*}{T12} & \multirow{3}{*}{40.000-20.000} & C & \multirow{3}{*}{1.801} & 0.000 & 0.000 & 134.529 & 0.000 & 2470 \\
\hline & & A & & 0.000 & 0.000 & 102.112 & 0.000 & 1.986 \\
\hline & & B & & 0.000 & 0000 & 84.457 & 0.000 & 1.738 \\
\hline \multirow{4}{*}{T13} & \multirow{4}{*}{20.000-0.000} & C & \multirow{4}{*}{1.723} & 0.000 & 0000 & 134.514 & 0.000 & 2.469 \\
\hline & & A & & 0.000 & 0.000 & 50.062 & 0.000 & 0.958 \\
\hline & & B & & 0.000 & 0000 & 41544 & 0.000 & 0842 \\
\hline & & C & & 0.000 & 0.000 & 66.036 & 0.000 & 1187 \\
\hline
\end{tabular}

Feed Line Center of Pressure
\begin{tabular}{cccccc}
\hline Section & Elevation & \(C P_{X}\) & \(C P_{Z}\) & \begin{tabular}{c}
\(C P_{X}\) \\
Ice
\end{tabular} & \begin{tabular}{c}
\(C P_{Z}\) \\
Ice
\end{tabular} \\
& ft & in & in & in & in \\
\hline T1 & \(255.000-240.000\) & 0.496 & 4.712 & -1.214 & 3.499 \\
T2 & \(240.000-220.000\) & 2.710 & -1.352 & 1.488 & -0.340 \\
T3 & \(220.000-200.000\) & 0.584 & -2.030 & 0.020 & -0.740 \\
T4 & \(200.000-180.000\) & 1.762 & -0.496 & 1.891 & 1.429 \\
T5 & \(180.000-160.000\) & 1.919 & -0538 & 2.080 & 1.555 \\
T6 & \(160.000-140.000\) & 1.923 & -0.542 & 2.182 & 1.628 \\
T7 & \(140.000-120.000\) & 2.032 & -0.572 & 2.327 & 1.727 \\
T8 & \(120.000-100.000\) & 2.129 & -0.599 & 2.459 & 1819 \\
T9 & \(100.000-80.000\) & 2.226 & -0.627 & 2.585 & 1909 \\
T10 & \(80.000-60.000\) & 2.872 & -0.790 & 3.086 & 2.243 \\
T11 & \(60.000-40.000\) & 2.970 & -0.819 & 3.216 & 2.339 \\
T12 & \(40.000-20.000\) & 2.912 & -0.808 & 3.256 & 2.374 \\
T13 & \(20.000-0.000\) & 1.765 & -0.505 & 2.057 & 1.520 \\
\hline
\end{tabular}

\section*{Shielding Factor Ka}
\begin{tabular}{|c|c|c|c|c|c|}
\hline Tower Section & Feed Line Record No. & Description & Feed Line Segment Elev. & \[
\begin{gathered}
K_{a} \\
\text { No Ice } \\
\hline
\end{gathered}
\] & \[
\begin{gathered}
K_{a} \\
\text { Ice } \\
\hline
\end{gathered}
\] \\
\hline T1 & 1 & \(1.625^{\prime \prime}\) coax & \(240.00-\)
250.00 & 0.6000 & 0.6000 \\
\hline T1 & 2 & 15" Hybrid & \(240.00-\)
250.00 & 06000 & 0.6000 \\
\hline T1 & 14 & Safety Line 3/8 & \(240.00-\)
255.00 & 06000 & 0.6000 \\
\hline T1 & 15 & Strobe Cable & \(240.00-\)
255.00 & 0.6000 & 0.6000 \\
\hline T1 & 17 & Feedline Ladder ( Af ) & \(240.00-\)
250.00 & 0.6000 & 0.6000 \\
\hline
\end{tabular}

\begin{tabular}{|c|c|c|c|c|c|}
\hline Tower Section & Feed Line Record No. & Description & Feed Line Segment Elev. & \[
\begin{gathered}
K_{u} \\
\text { No Ice } \\
\hline
\end{gathered}
\] & \[
\begin{aligned}
& K_{a} \\
& \text { Ice } \\
& \hline
\end{aligned}
\] \\
\hline T2 & 1 & 1625" coax & 22000-1 & 0.6000 & 0.6000 \\
\hline T2 & 2 & 1.5" Hybrid & \(220.00-\)
240.00 & 0.6000 & 0.6000 \\
\hline T2 & 4 & 1.625" coax & \(220.00-\)
238.00 & 0.6000 & 0.6000 \\
\hline T2 & 5 & 1.5" Hybrid & \(220.00-\)
23800 & 0.6000 & 0.6000 \\
\hline T2 & 7 & 1625" coax & 220.00- & 0.6000 & 06000 \\
\hline T2 & 8 & 1.5" Hybrid & 220.00- & 0.6000 & 0.6000 \\
\hline T2 & 14 & Safety Line 3/8 & 220.00- & 0.6000 & 0.6000 \\
\hline T2 & 15 & Strobe Cable & \(220.00-\)
240.00 & 06000 & 06000 \\
\hline T2 & 17 & Feedline Ladder (Af) & \(220.00-\)
240.00 & 0.6000 & 0.6000 \\
\hline T2 & 18 & Feedline Ladder (Af) & 220.00- & 0.6000 & 0.6000 \\
\hline T2 & 19 & Feedline Ladder ( Af ) & \(220.00-\)
226.00 & 0.6000 & 0.6000 \\
\hline T3 & 1 & \(1625^{\prime \prime}\) coax & \[
\begin{array}{r}
200.00- \\
220.00
\end{array}
\] & 0.6000 & 0.6000 \\
\hline T3 & 2 & 1.5" Hybrid & \(200.00-\)
220.00 & 0.6000 & 0.6000 \\
\hline T3 & 4 & 1.625" coax & 200.00-- & 0.6000 & 0.6000 \\
\hline T3 & 5 & 1.5" Hybrid & \(200.00-\)
220.00 & 0.6000 & 0.6000 \\
\hline T3 & 7 & 1.625" coax & 200.00- & 0.6000 & 0.6000 \\
\hline T3 & 8 & 1.5" Hybrid & \(200.00-\)
220.00 & 0.6000 & 06000 \\
\hline T3 & 10 & \(1.625^{\prime \prime}\) coax & \(200.00-\)
214.00 & 0.6000 & 06000 \\
\hline T3 & 12 & 1625" coax & \(200.00-\)
202.00 & 0.6000 & 0.6000 \\
\hline T3 & 14 & Safety Line 3/8 & \(200.00-\)
220.00 & 0.6000 & 0.6000 \\
\hline T3 & 15 & Strobe Cable & 20000- 220.00 & 0.6000 & 0.6000 \\
\hline T3 & 17 & Feedline Ladder (Af) & \(200.00-\)
220.00 & 0.6000 & 0.6000 \\
\hline T3 & 18 & Feedline Ladder (Af) & \(200.00-\)
220.00 & 0.6000 & 0.6000 \\
\hline T3 & 19 & Feedline Ladder (Af) & \(200.00-\)
220.00 & 0.6000 & 0.6000 \\
\hline T4 & 1 & 1625" coax & \(180.00-\)
20000 & 0.6000 & 0.6000 \\
\hline T4 & 2 & 1.5" Hybrid & \(180.00-\)
200.00 & 0.6000 & 0.6000 \\
\hline T4 & 4 & \(1625^{\prime \prime}\) coax & \(180.00-\)
200.00 & 0.6000 & 0.6000 \\
\hline T4 & 5 & 1.5" Hybrid & \(180.00-\)
200.00 & 0.6000 & 0.6000 \\
\hline T4 & 7 & \(1.625^{\prime \prime}\) coax & \(180.00-\)
200.00 & 0.6000 & 0.6000 \\
\hline T4 & 8 & 1.5" Hybrid & \(180.00-\)
200.00 & 0.6000 & 0.6000 \\
\hline T4 & 10 & 1.625" coax & \[
\begin{array}{r}
180.00- \\
200.00
\end{array}
\] & 0.6000 & 0.6000 \\
\hline
\end{tabular}

\begin{tabular}{|c|c|c|c|c|c|}
\hline \begin{tabular}{l}
Tower \\
Section
\end{tabular} & \begin{tabular}{l}
Feed Line \\
Record No.
\end{tabular} & Description & Feed Line Segment Elev. & \[
\begin{gathered}
K_{u} \\
\text { No Ice } \\
\hline
\end{gathered}
\] & \[
\begin{aligned}
& K_{a} \\
& \text { Ice }
\end{aligned}
\] \\
\hline T4 & 12 & 1.625" \(\operatorname{coax}\) & \(180.00-\)
200.00 & 0.6000 & 0.6000 \\
\hline T4 & 14 & Safety Line 3/8 & \(180.00-\)
200.00 & 0.6000 & 0.6000 \\
\hline T4 & 15 & Strobe Cable & \(180.00-\)
200.00 & 0.6000 & 0.6000 \\
\hline T4 & 17 & Feedline Ladder (Af) & \(180.00-\)
200.00 & 0.6000 & 0.6000 \\
\hline T4 & 18 & Feedline Ladder (Af) & 180.00- & 0.6000 & 06000 \\
\hline T4 & 19 & Feedline Ladder (Af) & \(180.00-\)
200.00 & 0.6000 & 0.6000 \\
\hline T5 & 1 & \(1.625^{\prime \prime}\) coax & \(160.00-\)
180.00 & 0.6000 & 0.6000 \\
\hline T5 & 2 & 1.5" Hybrid & \(160.00-\)
180.00 & 0.6000 & 0.6000 \\
\hline T5 & 4 & 1.625" coax & \(160.00-\)
180.00 & 0.6000 & 0.6000 \\
\hline T5 & 5 & 1.5" Hybrid & \(160.00-\)
180.00 & 0.6000 & 0.6000 \\
\hline T5 & 7 & \(1.625{ }^{\prime \prime}\) coax & \(160.00-\)
180.00 & 0.6000 & 0.6000 \\
\hline T5 & 8 & 1.5" Hybrid & \(160.00-\)
180.00 & 0.6000 & 0.6000 \\
\hline T5 & 10 & 1.625" coax & \(160.00-\)
180.00 & 0.6000 & 06000 \\
\hline T5 & 12 & \(1.625^{\prime \prime}\) coax & \(160.00-\)
180.00 & 0.6000 & 0.6000 \\
\hline T5 & 14 & Safety Line 3/8 & \(160.00-\)
180.00 & 0.6000 & 0.6000 \\
\hline T5 & 15 & Strobe Cable & \(160.00-\)
180.00 & 0.6000 & 0.6000 \\
\hline T5 & 17 & Feedline Ladder (Af) & \(160.00-\)
180.00 & 0.6000 & 0.6000 \\
\hline T5 & 18 & Feedline Ladder (Af) & \(160.00-\)
180.00 & 0.6000 & 06000 \\
\hline T5 & 19 & Feedline Ladder (Af) & \(160.00-\)
180.00 & 0.6000 & 0.6000 \\
\hline T6 & 1 & 1.625" coax & \(140.00-\)
160.00 & 0.6000 & 0.6000 \\
\hline T6 & 2 & 1.5" Hybrid & \(140.00-\)
160.00 & 0.6000 & 0.6000 \\
\hline T6 & 4 & \(1.625^{\prime \prime}\) coax & \(140.00-\)
160.00 & 0.6000 & 0.6000 \\
\hline T6 & 5 & 1.5" Hybrid & \(140.00-\)
160.00 & 0.6000 & 0.6000 \\
\hline T6 & 7 & 1.625" coax & \(140.00-\)
160.00 & 0.6000 & 0.6000 \\
\hline T6 & 8 & 1.5" Hybrid & \(140.00-\)
160.00 & 0.6000 & 0.6000 \\
\hline T6 & 10 & \(1.625^{\prime \prime}\) coax & \(140.00-\)
160.00 & 06000 & 0.6000 \\
\hline T6 & 12 & \(1625^{\prime \prime} \mathrm{coax}\) & \(140.00-\)
160.00 & 0.6000 & 06000 \\
\hline T6 & 14 & Safety Line 3/8 & \[
\begin{array}{r}
140.00- \\
160.00
\end{array}
\] & 0.6000 & 0.6000 \\
\hline T6 & 15 & Strobe Cable & \(140.00-\)
160.00 & 0.6000 & 0.6000 \\
\hline T6 & 17 & Feedline Ladder (Af) & \[
\begin{array}{r}
140.00- \\
160.00
\end{array}
\] & 0.6000 & 0.6000 \\
\hline T6 & 18 & Feedline Ladder (Af) & \[
\begin{array}{r}
140.00- \\
160.00
\end{array}
\] & 0.6000 & 0.6000 \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|}
\hline tnxTower & \multicolumn{2}{|r|}{ATS\#: 9537 - West Highway 90 (Site\# KYLEX2056)} & \[
\begin{aligned}
& \text { Page } \\
& \\
& 14 \text { of } 34
\end{aligned}
\] \\
\hline \begin{tabular}{l}
B+T Group \\
1717 S Boulder Ave. Suite 300
\end{tabular} & Project & 255' SST/36.7758, -84.942625 & \[
\begin{array}{|l|}
\hline \text { Date } \\
\text { 15:09:47 05/02/22 }
\end{array}
\] \\
\hline Tulsa. OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265 & Client & Harmoni Towers & Designed by CCoody \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|}
\hline Tower Section & Feed Line Record No. & Description & Feed Line Segment Elev. & \[
\begin{gathered}
K_{a} \\
\text { No Ice } \\
\hline
\end{gathered}
\] & \[
\begin{aligned}
& K_{u} \\
& \text { Ice }
\end{aligned}
\] \\
\hline T6 & 19 & Feedline Ladder (Af) & \(140.00-\)
160.00 & 0.6000 & 0.6000 \\
\hline T7 & 1 & \(1.625^{\prime \prime}\) coax & \(12000-\)
140.00 & 0.6000 & 0.6000 \\
\hline T7 & 2 & 1.5" Hybrid & \(120.00-\)
140.00 & 0.6000 & 0.6000 \\
\hline T7 & 4 & \(1.625^{\prime \prime}\) coax & \(120.00-\)
140.00 & 0.6000 & 0.6000 \\
\hline T7 & 5 & 1.5" Hybrid & \(120.00-\)
140.00 & 0.6000 & 0.6000 \\
\hline T7 & 7 & \(1625^{\prime \prime}\) coax & \[
\begin{array}{r}
120.00- \\
140.00
\end{array}
\] & 06000 & 0.6000 \\
\hline T7 & 8 & 1.51 Hybrid & \(120.00-\)
140.00 & 0.6000 & 06000 \\
\hline T7 & 10 & \(1.625^{\prime \prime}\) coax & \(120.00-\)
140.00 & 0.6000 & 0.6000 \\
\hline T7 & 12 & \(1.625^{\prime \prime}\) coax & \(120.00-\)
140.00 & 0.6000 & 0.6000 \\
\hline T7 & 14 & Safety Line 3/8 & \[
\begin{array}{r}
120.00- \\
140.00
\end{array}
\] & 06000 & 0.6000 \\
\hline T7 & 15 & Strobe Cable & \(120.00-\)
140.00 & 0.6000 & 0.6000 \\
\hline T7 & 17 & Feedline Ladder (Af) & \(120.00-\)
140.00 & 0.6000 & 0.6000 \\
\hline T7 & 18 & Feedline Ladder (Af) & \(120.00-\)
140.00 & 0.6000 & 0.6000 \\
\hline T7 & 19 & Feedline Ladder (Af) & \(120.00-\)
140.00 & 0.6000 & 0.6000 \\
\hline T8 & 1 & \(1.625^{\prime \prime}\) coax & \(100.00-\)
120.00 & 0.6000 & 0.6000 \\
\hline T8 & 2 & 1.5" Hybrid & \[
\begin{array}{r}
100.00- \\
120.00
\end{array}
\] & 06000 & 0.6000 \\
\hline T8 & 4 & \(1.625^{\prime \prime}\) coax & \(100.00-\)
120.00 & 0.6000 & 0.6000 \\
\hline T8 & 5 & 1.5" Hybrid & \(100.00-\)
120.00 & 0.6000 & 0.6000 \\
\hline T8 & 7 & \(1.625^{\prime \prime}\) coax & \(100.00-\)
12000 & 0.6000 & 0.6000 \\
\hline T8 & 8 & 1.5" Hybrid & \(100.00-\)
120.00 & 0.6000 & 06000 \\
\hline T8 & 10 & \(1.625^{\prime \prime}\) coax & \(100.00-\)
120.00 & 0.6000 & 0.6000 \\
\hline T8 & 12 & \(1.625^{\prime \prime}\) coax & \(100.00-\)
120.00 & 0.6000 & 0.6000 \\
\hline T8 & 14 & Safety Line 3/8 & \(100.00-\)
120.00 & 0.6000 & 06000 \\
\hline T8 & 15 & Strobe Cable & \(100.00-\)
120.00 & 0.6000 & 06000 \\
\hline T8 & 17 & Feedline Ladder (Af) & \(100.00-\)
120.00 & 0.6000 & 06000 \\
\hline T8 & 18 & Feedline Ladder (Af) & \(100.00-\)
120.00 & 0.6000 & 0.6000 \\
\hline T8 & 19 & Feedline Ladder (Af) & \(10000-\)
120.00 & 0.6000 & 0.6000 \\
\hline T9 & 1 & \(1.625^{\prime \prime}\) coax & 80.00-100.00 & 0.6000 & 0.6000 \\
\hline T9 & 2 & \(15^{\prime \prime}\) Hybrid & 8000-100.00 & 0.6000 & 0.6000 \\
\hline T9 & 4 & \(1625^{\prime \prime}\) coax & 8000-100.00 & 0.6000 & 0.6000 \\
\hline T9 & 5 & 1.5" Hybrid & 80.00-100.00 & 0.6000 & 0.6000 \\
\hline T9 & 7 & \(1625^{\prime \prime}\) coax & \(80.00-100.00\) & 0.6000 & 0.6000 \\
\hline T9 & 8 & 1.50 Hybrid & 80.00-100.00 & 0.6000 & 0.6000 \\
\hline T9 & 10 & \(1.625^{\prime \prime}\) coax & 80.00-100.00 & 0.6000 & 0.6000 \\
\hline T9 & 12 & \(1.625^{\prime \prime}\) coax & 80.00-100.00| & 0.6000 & 0.6000 \\
\hline
\end{tabular}

\begin{tabular}{|c|c|c|c|c|c|}
\hline \begin{tabular}{l}
Tower \\
Section
\end{tabular} & \begin{tabular}{l}
Feed Line \\
Record No.
\end{tabular} & Description & Feed Line Segment Elev. & \(K_{a}\) No Ice & \[
\begin{aligned}
& K_{u} \\
& \text { Ice }
\end{aligned}
\] \\
\hline T9 & 14 & Safety Line 3/8 & 80.00-100.00 & 06000 & 0.6000 \\
\hline T9 & 15 & Strobe Cable & \(80.00-100.00\) & 0.6000 & 0.6000 \\
\hline T9 & 17 & Feedline Ladder (Af) & \(80.00-100.00\) & 06000 & 0.6000 \\
\hline T9 & 18 & Feedline Ladder (Af) & 80.00-100.00 & 0.6000 & 0.6000 \\
\hline T9 & 19 & Feedline Ladder (Af) & 80.00-100.00 & 0.6000 & 0.6000 \\
\hline T10 & 1 & \(1.625^{\prime \prime}\) coax & \(60.00-80.00\) & 0.6000 & 0.6000 \\
\hline T10 & 2 & \(1.5{ }^{\prime \prime}\) Hybrid & 60.00-80.00 & 06000 & 0.6000 \\
\hline T10 & 4 & \(1.625^{\prime \prime}\) coax & 60.00-80.00 & 0.6000 & 0.6000 \\
\hline T10 & 5 & \(15^{\prime \prime}\) Hybrid & 6000-80.00 & 06000 & 0.6000 \\
\hline T10 & 7 & \(1.625^{\prime \prime}\) coax & 6000-80.00 & 0.6000 & 0.6000 \\
\hline T10 & 8 & \(15^{\prime \prime}\) Hybrid & 60.00-80.00 & 0.6000 & 0.6000 \\
\hline T10 & 10 & \(1.625^{\prime \prime}\) coax & 60.00-80.00 & 0.6000 & 0.6000 \\
\hline T10 & 12 & 1.625" coax & 60.00-80.00 & 0.6000 & 0.6000 \\
\hline T10 & 14 & Safety Line 3/8 & 60.00-80.00 & 0.6000 & 0.6000 \\
\hline T10 & 15 & Strobe Cable & 60.00-80.00 & 0.6000 & 0.6000 \\
\hline T10 & 17 & Feedline Ladder (Af) & 6000-80.00 & 0.6000 & 0.6000 \\
\hline T10 & 18 & Feedline Ladder (Af) & 60.00-80.00 & 0.6000 & 0.6000 \\
\hline T10 & 19 & Feedline Ladder (Af) & 60.00-80.00 & 06000 & 0.6000 \\
\hline T11 & 1 & \(1.625^{\prime \prime}\) coax & 4000-60.00 & 0.6000 & 0.6000 \\
\hline T11 & 2 & \(15^{\prime \prime}\) Hybrid & 4000-60.00 & 0.6000 & 0.6000 \\
\hline T11 & 4 & 1.625" coax & 40.00-60.00 & 0.6000 & 0.6000 \\
\hline T11 & 5 & \(15^{\prime \prime}\) Hybrid & 40.00-60.00 & 0.6000 & 0.6000 \\
\hline T11 & 7 & 1.625" coax & 40.00-60.00 & 0.6000 & 0.6000 \\
\hline T11 & 8 & \(1.5{ }^{\prime \prime}\) Hybrid & 4000-60.00 & 0.6000 & 0.6000 \\
\hline T11 & 10 & \(1.625^{\prime \prime}\) coax & 40.00-60.00 & 0.6000 & 0.6000 \\
\hline T11 & 12 & \(1625^{\prime \prime}\) coax & 40.00-60.00 & 0.6000 & 0.6000 \\
\hline T11 & 14 & Safety Line 3/8 & 40.00-6000 & 0.6000 & 0.6000 \\
\hline T11 & 15 & Strobe Cable & 40.00-60.00 & 06000 & 0.6000 \\
\hline T11 & 17 & Feedline Ladder (Af) & 40.00-60.00 & 06000 & 0.6000 \\
\hline T11 & 18 & Feedline Ladder (Af) & 40.00-60.00 & 06000 & 0.6000 \\
\hline T11 & 19 & Feedline Ladder (Af) & 40.00-60.00 & 06000 & 0.6000 \\
\hline T12 & 1 & 1.625" coax & 20.00-40.00 & 06000 & 0.6000 \\
\hline T12 & 2 & \(1.5{ }^{\prime \prime}\) Hybrid & 20.00-40.00 & 0.6000 & 0.6000 \\
\hline T12 & 4 & 1625" coax & 20.00-40.00 & 0.6000 & 0.6000 \\
\hline T12 & 5 & \(15^{\prime \prime}\) Hybrid & 20.00-40.00 & 0.6000 & 0.6000 \\
\hline T12 & 7 & \(1.625^{\prime \prime}\) coax & 20.00-40.00 & 0.6000 & 0.6000 \\
\hline T12 & 8 & \(1.5{ }^{\prime \prime}\) Hybrid & 2000-40.00 & 0.6000 & 0.6000 \\
\hline T12 & 10 & 1.625" coax & 20.00-40.00 & 0.6000 & 0.6000 \\
\hline T12 & 12 & 1.625" coax & 20.00-40.00 & 0.6000 & 0.6000 \\
\hline T12 & 14 & Safety Line 3/8 & 20.00-40.00 & 0.6000 & 06000 \\
\hline T12 & 15 & Strobe Cable & 20.00-40.00 & 0.6000 & 0.6000 \\
\hline T12 & 17 & Feedline Ladder (Af) & 20.00-40.00 & 0.6000 & 0.6000 \\
\hline T12 & 18 & Feedline Ladder (Af) & 20.00-40.00 & 0.6000 & 0.6000 \\
\hline T12 & 19 & Feedline Ladder (Af) & 20.00-40.00 & 0.6000 & 0.6000 \\
\hline T13 & 1 & \(1.625^{\prime \prime}\) coax & 10.00-20.00 & 0.6000 & 0.6000 \\
\hline T13 & 2 & \(1.5{ }^{\prime \prime}\) Hybrid & 1000-20.00 & 0.6000 & 0.6000 \\
\hline T13 & 4 & 1625" coax & 1000-20.00 & 0.6000 & 0.6000 \\
\hline T13 & 5 & \(1.5{ }^{\prime \prime}\) Hybrid & 10.00-20.00 & 0.6000 & 0.6000 \\
\hline T13 & 7 & 1.625" coax & 10.00-20.00 & 0.6000 & 0.6000 \\
\hline T13 & 8 & 1.5" Hybrid & 10.00-20.00 & 0.6000 & 0.6000 \\
\hline T13 & 10 & \(1.625^{\prime \prime}\) coax & 10.00-20.00 & 0.6000 & 0.6000 \\
\hline T13 & 12 & \(1.625^{\prime \prime}\) coax & 10.00-20.00 & 0.6000 & 0.6000 \\
\hline T13 & 14 & Safety Line 3/8 & 10.00-20.00 & 0.6000 & 0.6000 \\
\hline T13 & 15 & Strobe Cable & 10.00-20.00 & 0.6000 & 0.6000 \\
\hline T13 & 17 & Feedline Ladder (Af) & 10.00-20.00 & 0.6000 & 0.6000 \\
\hline T13 & 18 & Feedline Ladder (Af) & 1000-20.00 & 0.6000 & 0.6000 \\
\hline T13 & 19 & Feedline Ladder (Af) & 1000-2000 & 0.6000 & 0.6000 \\
\hline
\end{tabular}


\section*{Discrete Tower Loads}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|}
\hline Description & \[
\begin{gathered}
\hline \text { Face } \\
\text { or } \\
\text { Leg }
\end{gathered}
\] & \begin{tabular}{l}
Offset \\
Type
\end{tabular} & \begin{tabular}{l}
Offsets: \\
Horz \\
Lateral \\
Vert \\
ft \\
ft \\
\(t t\)
\end{tabular} & \begin{tabular}{l}
Azimuth Adjustment \\
-
\end{tabular} & Placement & & \(C_{1} A_{1}\) Front \(f t\) & \begin{tabular}{l}
\(C_{1} A_{1}\) \\
Side \\
\(f t^{\prime}\)
\end{tabular} & Weight \\
\hline \multirow[t]{4}{*}{Lightning Rod 1"x10'} & \multirow[t]{4}{*}{C} & \multirow[t]{4}{*}{From Leg} & 0.000 & \multirow[t]{4}{*}{0.000} & \multirow[t]{4}{*}{255.000} & No Ice & 1.000 & 1.000 & 0.040 \\
\hline & & & 0.000 & & & 1/2" Ice & 2.017 & 2.017 & 0.049 \\
\hline & & & 5.000 & & & \(1{ }^{\prime \prime}\) Ice & 3.050 & 3.050 & 0.065 \\
\hline & & & & & & \(2^{\prime \prime}\) Ice & 5.148 & 5.148 & 0.116 \\
\hline \multirow[t]{4}{*}{Top Beacon} & \multirow[t]{4}{*}{B} & \multirow[t]{4}{*}{From Leg} & 0.000 & \multirow[t]{4}{*}{0.000} & \multirow[t]{4}{*}{255.000} & No Ice & 2.700 & 2.700 & 0.050 \\
\hline & & & 0.000 & & & 1/2" Ice & 3.100 & 3.100 & 0.070 \\
\hline & & & \multirow[t]{2}{*}{1.000} & & & 1 Ice & 3.500 & 3.500 & 0.090 \\
\hline & & & & & & \(2^{\prime \prime}\) Ice & 4.300 & 4.300 & 0.130 \\
\hline \multicolumn{10}{|l|}{**} \\
\hline Sector \(1(\mathrm{CaAa}=13333.33\) & \multirow[t]{4}{*}{A} & \multirow[t]{4}{*}{From Leg} & 4.000 & \multirow[t]{4}{*}{0.000} & \multirow[t]{4}{*}{250.000} & No Ice & 92.600 & 62.040 & 0.700 \\
\hline Sq.in)No lce & & & 0.000 & & & 1/2" Ice & 115.750 & 77.550 & 1.400 \\
\hline \multirow[t]{2}{*}{(Carrier 1)} & & & & & & 1" Ice & 138.900 & 93.060 & 2.100 \\
\hline & & & & & & \(2^{\prime \prime}\) Ice & 185200 & 124.080 & 3.500 \\
\hline \multirow[t]{4}{*}{Sector \(2(\mathrm{CaAa}=13333.33\) Sq.in)No Ice (Carrier 1)} & \multirow[t]{4}{*}{B} & \multirow[t]{4}{*}{From Leg} & 4.000 & \multirow[t]{4}{*}{0.000} & \multirow[t]{4}{*}{250.000} & No Ice & 92.600 & 62.040 & 0.700 \\
\hline & & & 0.000 & & & \(1 / 2^{11}\) Ice & 115.750 & 77.550 & 1.400 \\
\hline & & & 0.000 & & & \(1^{\prime \prime}\) Ice & 138.900 & 93.060 & 2.100 \\
\hline & & & & & & \(2^{\prime \prime}\) Ice & 185.200 & 124.080 & 3.500 \\
\hline \multirow[t]{4}{*}{\[
\begin{gathered}
\text { Sector3(CaAa=13333.33 } \\
\text { Sq.in)No Ice } \\
\text { (Carrier 1) }
\end{gathered}
\]} & \multirow[t]{5}{*}{C} & \multirow[t]{5}{*}{From Leg} & 4.000 & \multirow[t]{4}{*}{0.000} & \multirow[t]{4}{*}{250.000} & No Ice & 92.600 & 62040 & 0.700 \\
\hline & & & 0.000 & & & 1/2" Ice & 115.750 & 77.550 & 1.400 \\
\hline & & & 0.000 & & & \(1^{\prime \prime}\) Ice & 138.900 & 93.060 & 2.100 \\
\hline & & & & & & 2" Ice & 185.200 & 124.080 & 3.500 \\
\hline \multicolumn{8}{|l|}{**} & & \\
\hline Sectorl(CaAa \(=10000\) & \multirow[t]{4}{*}{A} & \multirow[t]{4}{*}{From Leg} & 4.000 & \multirow[t]{4}{*}{0.000} & \multirow[t]{4}{*}{238.000} & No Ice & 69.440 & 46.525 & 0.700 \\
\hline Sq in)No Ice & & & 0.000 & & & 1/2" Ice & 86.800 & 58.156 & 1.400 \\
\hline \multirow[t]{2}{*}{(Carrier 2)} & & & 0.000 & & & \(1^{\prime \prime}\) Ice & 104.160 & 69787 & 2.100 \\
\hline & & & & & & \(2^{\prime \prime}\) Ice & 138.880 & 93.050 & 3.500 \\
\hline \multirow[t]{4}{*}{Sector2(CaAa=10000 Sq.in)No Ice (Carrier 2)} & \multirow[t]{4}{*}{B} & \multirow[t]{4}{*}{From Leg} & 4.000 & \multirow[t]{4}{*}{0.000} & \multirow[t]{4}{*}{238.000} & No Ice & 69.440 & 46.525 & 0.700 \\
\hline & & & 0.000 & & & 1/2" Ice & 86.800 & 58.156 & 1.400 \\
\hline & & & 0.000 & & & \(1^{\prime \prime}\) Ice & 104.160 & 69.787 & 2.100 \\
\hline & & & & & & \(2^{\prime \prime}\) Ice & 138.880 & 93.050 & 3.500 \\
\hline \multirow[t]{4}{*}{\begin{tabular}{l}
Sector \(3(\mathrm{CaAa}=10000\) \\
Sq.in)No Ice (Carrier 2)
\end{tabular}} & \multirow[t]{4}{*}{C} & \multirow[t]{4}{*}{From Leg} & & \multirow[t]{4}{*}{0.000} & \multirow[t]{4}{*}{238.000} & No Ice & 69.440 & 46.525 & 0.700 \\
\hline & & & 0.000 & & & 1/2" Ice & 86.800 & 58.156 & 1.400 \\
\hline & & & 0.000 & & & 1 I' Ice & 104.160 & 69.787 & 2.100 \\
\hline & & & & & & \(2^{\prime \prime}\) Ice & 138.880 & 93.050 & 3.500 \\
\hline \multirow[t]{4}{*}{Sectorl \((\mathrm{CaAa}=10000\)
Sq.in) No Ice
(Carrier 3)} & \multirow[t]{4}{*}{A} & \multirow[t]{4}{*}{From Leg} & 4.000 & \multirow[t]{4}{*}{0.000} & \multirow[t]{4}{*}{226.000} & No Ice & 69.440 & 46.525 & 0.700 \\
\hline & & & 0.000 & & & 1/2" Ice & 86.800 & 58.156 & 1.400 \\
\hline & & & 0.000 & & & 1 Ice & 104.160 & 69787 & 2.100 \\
\hline & & & & & & \(2^{\prime \prime}\) Ice & 138.880 & 93.050 & 3.500 \\
\hline \multirow[t]{4}{*}{\begin{tabular}{l}
Sector2(CaAa=10000 \\
Sq.in)No Ice (Carrier 3)
\end{tabular}} & \multirow[t]{4}{*}{B} & \multirow[t]{4}{*}{From Leg} & 4.000 & \multirow[t]{4}{*}{0.000} & \multirow[t]{4}{*}{226.000} & No Ice & 69.440 & 46.525 & 0.700 \\
\hline & & & 0.000 & & & 1/2" Ice & 86.800 & 58.156 & 1.400 \\
\hline & & & 0.000 & & & \(1^{\prime \prime}\) Ice & 104.160 & 69.787 & 2.100 \\
\hline & & & & & & \(2^{\prime \prime}\) Ice & 138.880 & 93.050 & 3.500 \\
\hline \multirow[t]{4}{*}{Sector \(3(\mathrm{CaAa}=10000\) Sq.in)No Ice (Carrier 3)} & \multirow[t]{5}{*}{C} & \multirow[t]{5}{*}{From Leg} & 4.000 & \multirow[t]{4}{*}{0.000} & \multirow[t]{4}{*}{226.000} & No Ice & 69.440 & 46.525 & 0.700 \\
\hline & & & 0.000 & & & 1/2' Ice & 86.800 & 58.156 & 1.400 \\
\hline & & & 0.000 & & & \(1^{\prime \prime}\) Ice & 104.160 & 69.787 & 2.100 \\
\hline & & & & & & \(2^{\prime \prime}\) Ice & 138880 & 93050 & 3.500 \\
\hline ** & & & & & & & & & \\
\hline \multirow[t]{4}{*}{4 1/2" OD Dish Mount (Carrier 4)} & \multirow[t]{4}{*}{C} & \multirow[t]{4}{*}{From Leg} & 0.500 & \multirow[t]{4}{*}{0.000} & \multirow[t]{4}{*}{214.000} & No Ice & 1.881 & 1.627 & 0.057 \\
\hline & & & 0.000 & & & 1/2" Ice & 2.207 & 2.207 & 0.074 \\
\hline & & & 0.000 & & & 1" Ice & 2.543 & 2.543 & 0.094 \\
\hline & & & & & & 2 " Ice & 3241 & 3.241 & 0.148 \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|}
\hline \multirow[t]{2}{*}{\begin{tabular}{l}
tnxTower \\
B+T Group \\
1717 S Boulder Ave, Suite 300 \\
Tulsa, OK 74119
\end{tabular}} & \multicolumn{2}{|l|}{Job} & \[
\begin{aligned}
& \text { Page } 17 \text { of } 34
\end{aligned}
\] \\
\hline & Project & 255' SST/36.7758, -84.942625 & \[
\begin{array}{|l|}
\hline \text { Date } \\
\text { 15:09:47 05/02/22 }
\end{array}
\] \\
\hline \begin{tabular}{l}
Tulsa. OK 74119 \\
Phone: (918) 587-4630 \\
FAX: (918) 295-0265
\end{tabular} & Client & Harmoni Towers & Designed by CCoody \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|}
\hline Description & \[
\begin{gathered}
\text { Face } \\
\text { or } \\
\text { Leg }
\end{gathered}
\] & \begin{tabular}{l}
Offset \\
Type
\end{tabular} & \begin{tabular}{l}
Offsets: \\
Horz \\
Lateral \\
Vert \\
ft \\
ft \\
ft
\end{tabular} & \begin{tabular}{l}
Azimuth Adjustment \\
-
\end{tabular} & Placement & & \(C_{A} A_{i}\) Front
\[
t t^{\prime}
\] & \begin{tabular}{l}
\(C_{A} A_{A}\) \\
Side \\
\(f i^{\prime}\)
\end{tabular} & Weight \\
\hline \multirow[t]{4}{*}{4 1/2" OD Dish Mount (Carrier 4)} & \multirow[t]{4}{*}{B} & \multirow[t]{4}{*}{From Leg} & 0.500 & \multirow[t]{4}{*}{0.000} & \multirow[t]{4}{*}{214.000} & No Ice & 1.881 & 1.627 & 0.057 \\
\hline & & & 0.000 & & & 1/2" Ice & 2.207 & 2.207 & 0.074 \\
\hline & & & \multirow[t]{2}{*}{0.000} & & & \(1^{\prime \prime}\) Ice & 2.543 & 2.543 & 0.094 \\
\hline & & & & & & 2" Ice & 3.241 & 3.241 & 0.148 \\
\hline \multicolumn{10}{|l|}{**} \\
\hline \multirow[t]{4}{*}{4 I/2" OD Dish Mount (Carrier 5)} & \multirow[t]{4}{*}{C} & \multirow[t]{4}{*}{From Leg} & 0.500 & \multirow[t]{4}{*}{0.000} & \multirow[t]{4}{*}{202.000} & No Ice & 1.881 & 1.627 & 0.057 \\
\hline & & & 0.000 & & & 1/2" Ice & 2.207 & 2.207 & 0.074 \\
\hline & & & 0.000 & & & 1 I' Ice & 2.543 & 2.543 & 0.094 \\
\hline & & & & & & 2" Ice & 3241 & 3.241 & 0.148 \\
\hline \multirow[t]{4}{*}{\(41 / 2^{\prime \prime}\) OD Dish Mount (Carrier 5)} & \multirow[t]{5}{*}{B} & \multirow[t]{5}{*}{From Leg} & 0500 & \multirow[t]{5}{*}{0.000} & \multirow[t]{5}{*}{202.000} & No Ice & 1.881 & 1.627 & 0.057 \\
\hline & & & 0.000 & & & \(1 / 2^{\text {" }}\) Ice & 2.207 & 2.207 & 0.074 \\
\hline & & & \multirow[t]{3}{*}{0.000} & & & 1" Ice & 2.543 & 2.543 & 0.094 \\
\hline & & & & & & 2 Ise & 3.241 & 3.241 & 0.148 \\
\hline ** & & & & & & & & & \\
\hline
\end{tabular}

\section*{Dishes}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|}
\hline Description & \[
\begin{gathered}
\text { Face } \\
\text { or } \\
\text { Leg }
\end{gathered}
\] & \[
\begin{aligned}
& \hline \text { Dish } \\
& \text { Type }
\end{aligned}
\] & Offset Type & \begin{tabular}{l}
Offsets: \\
Horz \\
Lateral \\
Vert \\
ft
\end{tabular} & \begin{tabular}{l}
Azimuth Adjustment \\
0
\end{tabular} & \begin{tabular}{l}
\(3 d B\) \\
Beam \\
Width
\end{tabular} & \begin{tabular}{c} 
Elevation \\
\\
ft \\
\hline
\end{tabular} & Outside Diameter
\(\qquad\) & & Aperture Area
\(\qquad\) & Weight \\
\hline \multirow[t]{4}{*}{6' MW Dish (Carrier 4)} & \multirow[t]{4}{*}{C} & \multirow[t]{4}{*}{Paraboloid w/o Radome} & \multirow[t]{4}{*}{\[
\begin{aligned}
& \text { From } \\
& \text { Leg }
\end{aligned}
\]} & 1.000 & \multirow[t]{4}{*}{0.000} & & \multirow[t]{4}{*}{214.000} & \multirow[t]{4}{*}{6.000} & No Ice & 28.270 & 0.143 \\
\hline & & & & 0.000 & & & & & 1/2" Ice & 29.050 & 0.292 \\
\hline & & & & 0.000 & & & & & 1" Ice & 29.831 & 0.441 \\
\hline & & & & & & & & & 2" Ice & 31.392 & 0.740 \\
\hline \multirow[t]{4}{*}{6' MW Dish (Carrier 4)} & \multirow[t]{4}{*}{B} & \multirow[t]{4}{*}{Paraboloid w/o Radome} & \multirow[t]{4}{*}{\[
\begin{aligned}
& \text { From } \\
& \text { Leg }
\end{aligned}
\]} & 1.000 & \multirow[t]{4}{*}{0.000} & & \multirow[t]{4}{*}{214.000} & \multirow[t]{4}{*}{6.000} & No Ice & 28.270 & 0.143 \\
\hline & & & & 0.000 & & & & & 1/2" Ice & 29.050 & 0.292 \\
\hline & & & & \multirow[t]{3}{*}{0.000} & & & & & 1" Ice & 29831 & 0.441 \\
\hline & & & & & & & & & \(2^{\prime \prime}\) Ice & 31.392 & 0.740 \\
\hline \multicolumn{11}{|l|}{**} & \\
\hline \multirow[t]{4}{*}{6' MW Dish (Carrier 5)} & \multirow[t]{4}{*}{C} & \multirow[t]{4}{*}{Paraboloid w/o Radome} & \multirow[t]{4}{*}{From Leg} & 1.000 & \multirow[t]{4}{*}{0.000} & & \multirow[t]{4}{*}{202.000} & \multirow[t]{4}{*}{6.000} & No Ice & 28.270 & 0.143 \\
\hline & & & & 0.000 & & & & & 1/2" Ice & 29.050 & 0.292 \\
\hline & & & & 0.000 & & & & & 1 " Ice & 29.831 & 0.441 \\
\hline & & & & & & & & & 2 Ice & 31.392 & 0.740 \\
\hline \multirow[t]{4}{*}{6' MW Dish (Carrier 5)} & \multirow[t]{5}{*}{B} & \multirow[t]{5}{*}{Paraboloid w/o Radome} & \multirow[t]{5}{*}{From Leg} & 1.000 & \multirow[t]{5}{*}{0.000} & & \multirow[t]{5}{*}{202.000} & \multirow[t]{5}{*}{6.000} & No Ice & 28.270 & 0.143 \\
\hline & & & & 0000 & & & & & 1/2" Ice & 29.050 & 0.292 \\
\hline & & & & 0000 & & & & & 1" Ice & 29.831 & 0.441 \\
\hline & & & & & & & & & \(2^{\prime \prime}\) Ice & 31.392 & 0.740 \\
\hline ** & & & & & & & & & & & \\
\hline
\end{tabular}

\section*{Load Combinations}
\begin{tabular}{cll}
\hline \begin{tabular}{l} 
Comb. \\
No.
\end{tabular} & & Description \\
\hline 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
\end{tabular}

\begin{tabular}{|c|c|}
\hline Comb. No. & Description \\
\hline 4 & 12 Dead +1.0 Wind 30 deg - No Ice \\
\hline 5 & 0.9 Dead+1.0 Wind 30 deg - No Ice \\
\hline 6 & 1.2 Dead+1.0 Wind 60 deg - No lce \\
\hline 7 & 0.9 Dead+1.0 Wind 60 deg - No Ice \\
\hline 8 & 12 Dead+1.0 Wind 90 deg - No Ice \\
\hline 9 & 0.9 Dead+1.0 Wind 90 deg - No lce \\
\hline 10 & 1.2 Dead+1.0 Wind 120 deg - No Ice \\
\hline 11 & 0.9 Dead+1.0 Wind 120 deg - No lce \\
\hline 12 & 1.2 Dead+1.0 Wind 150 deg - No Ice \\
\hline 13 & 0.9 Dead+1.0 Wind 150 deg - No Ice \\
\hline 14 & 1.2 Dead+1.0 Wind 180 deg - No Ice \\
\hline 15 & 0.9 Dead+1.0 Wind 180 deg - No Ice \\
\hline 16 & 12 Dead+1.0 Wind 210 deg - No lce \\
\hline 17 & 0.9 Dead+10 Wind 210 deg - No Ice \\
\hline 18 & 1.2 Dead+1.0 Wind 240 deg - No Ice \\
\hline 19 & 0.9 Dead +1.0 Wind 240 deg - No lce \\
\hline 20 & 1.2 Dead +1.0 Wind 270 deg - No Ice \\
\hline 21 & 0.9 Dead+1.0 Wind 270 deg - No Ice \\
\hline 22 & 12 Dead+1.0 Wind 300 deg - No Ice \\
\hline 23 & 0.9 Dead+1.0 Wind 300 deg - No Ice \\
\hline 24 & 12 Dead+1.0 Wind 330 deg - No Ice \\
\hline 25 & 0.9 Dead+10 Wind 330 deg - No Ice \\
\hline 26 & 1.2 Dead+1.0 Ice+10 Temp \\
\hline 27 & 1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp \\
\hline 28 & 12 Dead+1.0 Wind \(30 \mathrm{deg}+1.0\) Ice +1.0 Temp \\
\hline 29 & \(12 \mathrm{Dead}+1.0\) Wind \(60 \mathrm{deg}+1.0\) Ice +1.0 Temp \\
\hline 30 & 1.2 Dead +1.0 Wind 90 deg+1.0 Ice+1.0 Temp \\
\hline 31 & 1.2 Dead+1.0 Wind \(120 \mathrm{deg}+1.0\) Ice +10 Temp \\
\hline 32 & 1.2 Dead+1.0 Wind \(150 \mathrm{deg}+1.0\) Ice+1.0 Temp \\
\hline 33 & 1.2 Dead+1.0 Wind \(180 \mathrm{deg}+1.0\) Ice+1.0 Temp \\
\hline 34 & 1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp \\
\hline 35 & 12 Dead+10 Wind \(240 \mathrm{deg}+10\) Ice+ 10 Temp \\
\hline 36 & \(12 \mathrm{Dead}+1.0 \mathrm{~W}\) ind 270 deg+1.0 Ice+1.0 Temp \\
\hline 37 & 1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp \\
\hline 38 & 12 Dead +1.0 Wind \(330 \mathrm{deg}+1.0\) Ice +1.0 Temp \\
\hline 39 & Dead+Wind 0 deg - Service \\
\hline 40 & Dead+Wind 30 deg - Service \\
\hline 41 & Dead+Wind 60 deg - Service \\
\hline 42 & Dead+Wind 90 deg - Service \\
\hline 43 & Dead+Wind 120 deg - Service \\
\hline 44 & Dead+Wind 150 deg - Service \\
\hline 45 & Dead+Wind 180 deg - Service \\
\hline 46 & Dead+Wind 210 deg - Service \\
\hline 47 & Dead+Wind 240 deg - Service \\
\hline 48 & Dead+Wind 270 deg - Service \\
\hline 49 & Dead+Wind 300 deg - Service \\
\hline 50 & Dead+Wind 330 deg - Service \\
\hline
\end{tabular}

\section*{Maximum Member Forces}
\begin{tabular}{|c|c|c|c|c|c|c|c|}
\hline Section No. & \[
\begin{gathered}
\text { Elevation } \\
f t
\end{gathered}
\] & Component Type & Condition & \begin{tabular}{l}
Gov. \\
Load \\
Comb.
\end{tabular} & \begin{tabular}{c} 
Axial \\
\(K\) \\
\hline
\end{tabular} & Major Axis Moment kip-ft & Minor Axis Moment kip-ft \\
\hline \multirow[t]{6}{*}{TI} & \multirow[t]{6}{*}{255-240} & \multirow[t]{6}{*}{Leg} & Max Tension & 15 & 12.041 & 0.615 & -0 005 \\
\hline & & & Max Compression & 2 & -14.039 & 0.552 & -0.003 \\
\hline & & & Max. Mx & 2 & -14.037 & -0.656 & 0.006 \\
\hline & & & Max. My & 4 & -1.273 & -0.031 & -0.557 \\
\hline & & & Max. Vy & 2 & -2.416 & 0.552 & -0.003 \\
\hline & & & Max. Vx & 24 & -1.877 & -0.005 & 0.146 \\
\hline
\end{tabular}



\begin{tabular}{|c|c|c|c|c|c|c|c|}
\hline Section No. & Elevation ft & Component Type & Condition & \begin{tabular}{l}
Gov. \\
Load \\
Comb.
\end{tabular} & Axial

\(K\) & Major Axis Moment kip-ft & Minor Axis Moment kip-ft \\
\hline \multirow{23}{*}{T7} & \multirow{17}{*}{140-120} & \multirow{8}{*}{Diagonal} & Max Compression & 2 & -238.589 & 0.937 & -0.010 \\
\hline & & & Max. Mx & 18 & -195.552 & 6.650 & 0.390 \\
\hline & & & Max My & 4 & -15.067 & 0.216 & -2.846 \\
\hline & & & Max. Vy & 18 & -12.697 & 0.943 & 0.044 \\
\hline & & & Max. Vx & 4 & 5.024 & 0.025 & -0.431 \\
\hline & & & Max Tension & 20 & 9.474 & 0.000 & 0.000 \\
\hline & & & Max Compression & 20 & -9.399 & 0.000 & 0.000 \\
\hline & & & Max. Mx & 30 & 1.611 & 0.105 & 0.008 \\
\hline & & \multirow{6}{*}{Leg} & Max. My & 6 & -8.014 & 0.016 & -0.019 \\
\hline & & & Max Vy & 34 & 0.074 & 0.105 & -0.010 \\
\hline & & & Max Vx & 6 & 0.003 & 0.000 & 0.000 \\
\hline & & & Max Tension & 7 & 253.067 & 4.705 & 0.199 \\
\hline & & & Max Compression & 18 & -281.210 & 0.982 & 0.043 \\
\hline & & & Max. Mx & 18 & -238.607 & 7.269 & 0.366 \\
\hline & & \multirow{6}{*}{Diagonal} & Max. My & 4 & -18.451 & 0.207 & -2.947 \\
\hline & & & Max. Vy & 18 & -14.075 & 0.982 & 0.043 \\
\hline & & & Max. Vx & 4 & 5.354 & 0.022 & -0.458 \\
\hline & \multirow{12}{*}{120-100} & & Max Tension & 20 & 10.172 & 0.000 & 0.000 \\
\hline & & & Max Compression & 20 & -9.970 & 0.000 & 0.000 \\
\hline & & & Max. Mx & 34 & 0.439 & 0.128 & -0.012 \\
\hline & & \multirow{6}{*}{Leg} & Max. My & 6 & -8.563 & 0.022 & -0.017 \\
\hline & & & Max. Vy & 34 & 0.082 & 0.128 & -0.012 \\
\hline & & & Max. Vx & 28 & -0.003 & 0.000 & 0.000 \\
\hline \multirow[t]{12}{*}{T8} & & & Max Tension & 7 & 289.923 & 5.723 & 0.215 \\
\hline & & & Max Compression & 18 & -324.064 & 0.357 & 0.035 \\
\hline & & & Max. Mx & 18 & -281.236 & 8.000 & 0.357 \\
\hline & & \multirow{6}{*}{Diagonal} & Max. My & 4 & -21.634 & 0.200 & -3.139 \\
\hline & & & Max Vy & 18 & -15.599 & 0.357 & 0.035 \\
\hline & & & Max Vx & 4 & 5.868 & 0.009 & -0.400 \\
\hline & \multirow{12}{*}{100-80} & & Max Tension & 20 & 11.103 & 0.000 & 0.000 \\
\hline & & & Max. Compression & 20 & -10.822 & 0.000 & 0.000 \\
\hline & & & Max. Mx & 34 & 0.489 & 0.152 & -0.014 \\
\hline & & \multirow{6}{*}{Leg} & Max. My & 6 & -9.952 & 0.034 & -0.017 \\
\hline & & & Max Vy & 34 & 0.090 & 0.152 & -0.014 \\
\hline & & & Max. Vx & 28 & -0.003 & 0.000 & 0.000 \\
\hline \multirow[t]{12}{*}{T9} & & & Max Tension & 7 & 326.473 & 5.631 & 0.187 \\
\hline & & & Max Compression & 18 & -367.353 & 0.971 & 0.094 \\
\hline & & & Max. Mx & 18 & -324.088 & 8.151 & 0.351 \\
\hline & & \multirow{7}{*}{Diagonal} & Max. My & 4 & -24.704 & 0.179 & -3338 \\
\hline & & & Max Vy & 18 & -16867 & 0.971 & 0094 \\
\hline & & & Max. Vx & 4 & 6.838 & -0.012 & -1.154 \\
\hline & \multirow{20}{*}{80-60} & & Max Tension & 20 & 11.993 & 0.000 & 0.000 \\
\hline & & & Max Compression & 20 & -11.658 & 0.000 & 0.000 \\
\hline & & & Max. Mx & 30 & 0.578 & 0.195 & -0.017 \\
\hline & & & Max. My & 6 & -10.907 & 0.058 & -0.024 \\
\hline & & \multirow{4}{*}{Leg} & Max. Vy & 34 & 0.106 & 0.186 & -0.017 \\
\hline & & & Max Vx & 28 & -0.004 & 0.000 & 0.000 \\
\hline \multirow[t]{14}{*}{T10} & & & & 7 & 363.071 & 7.380 & 0.240 \\
\hline & & & Max Compression & 18 & -411.159 & -0.527 & 0.030 \\
\hline & & \multirow{9}{*}{Diagonal} & Max. Mx & 18 & -411.133 & -9.621 & -0.302 \\
\hline & & & Max. My & 4 & -27.873 & 0.165 & -4 0.576 \\
\hline & & & Max. Vy & 18 & -18.174 & -0.527 & 0.030 \\
\hline & & & Max. Vx & 4 & 7.136 & -0.033 & -0.469 \\
\hline & & & Max Tension & 21 & 13.880 & 0.000 & 0.000 \\
\hline & & & Max Compression & 18 & -14.057 & 0.000 & 0.000 \\
\hline & & & Max. Mx & 30 & 1.936 & 0.304 & 0.000 \\
\hline & & & Max. My & 35 & -0.172 & 0.000 & 0.007 \\
\hline & & & Max. Vy & 30 & -0.112 & 0.000 & 0000 \\
\hline & & \multirow{3}{*}{Horizontal} & Max. Vx & 35 & 0.003 & 0.000 & 0.000 \\
\hline & & & Max Tension & 18 & 2.033 & -0.058 & 0.000 \\
\hline & & & Max. Compression & 20 & -2.020 & 0.000 & 0.000 \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|}
\hline tnxTower & \multicolumn{2}{|l|}{Job ATS\#: 9537 - West Highway 90 (Site\# KYLEX2056)} & \[
\begin{aligned}
& \text { Page } \\
& 21 \text { of } 34
\end{aligned}
\] \\
\hline \begin{tabular}{l}
B+T Group \\
1717 S Boulder Ave, Suite 300
\end{tabular} & \multicolumn{2}{|l|}{255' SST/36.7758, -84.942625} & \[
\begin{array}{|l|}
\hline \text { Date } \\
\text { 15:09:47 05/02/22 }
\end{array}
\] \\
\hline \begin{tabular}{l}
Tulsa. OK 74119 \\
Phone: (918) 587-4630 \\
FAX: (918) 295-0265
\end{tabular} & Client & Harmoni Towers & Designed by CCoody \\
\hline
\end{tabular}


\begin{tabular}{|c|c|c|c|c|c|c|c|}
\hline Section No. & \[
\begin{gathered}
\text { Elevation } \\
f t
\end{gathered}
\] & Component Type & Condition &  & \begin{tabular}{l}
Axial \\
\(K\)
\end{tabular} & \begin{tabular}{l}
Major Axis \\
Moment kip-ft
\end{tabular} & Minor Axis Moment kip-ft \\
\hline & & & Max My & 4 & -37.624 & 0.142 & -4.750 \\
\hline & & & Max. Vy & 18 & -23686 & 0000 & 0.000 \\
\hline & & & Max. Vx & 4 & 7.957 & -0.000 & 0.000 \\
\hline & & Diagonal & Max Tension & 21 & 16.448 & 0.000 & 0.000 \\
\hline & & & Max Compression & 20 & -16.631 & 0.000 & 0.000 \\
\hline & & & Max Mx & 35 & 2.874 & 0.501 & 0.000 \\
\hline & & & Max My & 35 & 0.779 & 0000 & 0.012 \\
\hline & & & Max Vy & 35 & -0.155 & 0.000 & 0.000 \\
\hline & & & Max Vx & 35 & 0.004 & 0.000 & 0.000 \\
\hline & & Horizontal & Max Tension & 18 & 2.559 & -0.131 & 0001 \\
\hline & & & Max. Compression & 7 & -2 263 & -0.093 & 0.004 \\
\hline & & & Max Mx & 31 & -0.125 & -0.392 & 0.008 \\
\hline & & & Max My & 37 & 0.058 & -0.390 & 0.010 \\
\hline & & & Max. Vy & 31 & 0162 & -0.392 & 0.008 \\
\hline & & & Max. Vx & 37 & 0.004 & -0.390 & 0.010 \\
\hline & & Inner Bracing & Max Tension & 1 & 0.000 & 0.000 & 0.000 \\
\hline & & & Max Compression & 37 & -0.014 & 0.000 & 0.000 \\
\hline & & & Max Mx & 35 & -0.014 & -0.198 & 0.000 \\
\hline & & & Max My & 31 & -0.014 & 0.000 & -0.000 \\
\hline & & & Max. Vy & 35 & 0.067 & 0000 & 0.000 \\
\hline & & & Max. Vx & 31 & 0.000 & 0000 & 0.000 \\
\hline
\end{tabular}

\section*{Maximum Reactions}
\begin{tabular}{|c|c|c|c|c|c|}
\hline Location & Condition & \begin{tabular}{l}
Gov: \\
Load \\
Comb.
\end{tabular} & Vertical K & \[
\begin{gathered}
\text { Horizontal, } X \\
K
\end{gathered}
\] & \[
\begin{gathered}
\text { Horizontal. Z } \\
K
\end{gathered}
\] \\
\hline \multirow[t]{6}{*}{Leg C} & Max. Vert & 18 & 542.583 & 38.716 & -21.717 \\
\hline & Max. \(\mathrm{H}_{\mathrm{s}}\) & 18 & 542.583 & 38.716 & -21.717 \\
\hline & Max. \(\mathrm{H}_{2}\) & 5 & -410.154 & -29.479 & 19.994 \\
\hline & Min Vert & 7 & -470.323 & -35.498 & 19.774 \\
\hline & Min \(\mathrm{H}_{\mathbf{s}}\) & 7 & -470.323 & -35.498 & 19.774 \\
\hline & Min. \(\mathrm{H}_{t}\) & 18 & 542.583 & 38.716 & -21.717 \\
\hline \multirow[t]{6}{*}{Leg B} & Max. Vert & 10 & 540.550 & -38.512 & -21.827 \\
\hline & Max \(\mathrm{H}_{\mathrm{x}}\) & 23 & -467.766 & 35.268 & 19.894 \\
\hline & Max. \(\mathrm{H}_{2}\) & 25 & -407.885 & 29.136 & 20.370 \\
\hline & Min. Vert & 23 & -467.766 & 35.268 & 19.894 \\
\hline & Min. \(\mathrm{H}_{\mathrm{x}}\) & 10 & 540.550 & -38.512 & -21.827 \\
\hline & Min. \(\mathrm{H}_{\text {z }}\) & 10 & 540.550 & -38.512 & -21.827 \\
\hline \multirow[t]{6}{*}{Leg A} & Max Vert & 2 & 538.684 & 0.242 & 43.922 \\
\hline & Max \(\mathrm{H}_{5}\) & 21 & 32.452 & 6.914 & 1600 \\
\hline & Max. \(\mathrm{H}_{2}\) & 2 & 538.684 & 0.242 & 43.922 \\
\hline & Min. Vert & 15 & -451.867 & -0.267 & -39.165 \\
\hline & Min. \(\mathrm{H}_{\mathrm{v}}\) & 9 & 32.452 & -6.910 & 1.600 \\
\hline & Min. \(\mathrm{H}_{2}\) & 15 & -451.867 & -0.267 & -39.165 \\
\hline
\end{tabular}

Tower Mast Reaction Summary
\begin{tabular}{|c|c|c|c|c|c|c|}
\hline Load Combination & \begin{tabular}{l}
Vertical \\
K
\end{tabular} & \begin{tabular}{l}
Shear \({ }_{r}\) \\
K
\end{tabular} & \begin{tabular}{l}
Shear \\
K
\end{tabular} & Overturning Moment, \(M_{\text {s }}\) kip-ft & Overturning Moment, \(M_{\text {= }}\) kip-ft & Torque kip-ft \\
\hline Dead Only & 66.571 & 0.000 & 0.000 & 6.503 & -3005 & 0.000 \\
\hline 12 Dead+10 Wind 0 deg - No & 79.885 & -0.000 & -75.954 & -10642882 & -3.682 & 10.630 \\
\hline
\end{tabular}

\begin{tabular}{|c|c|c|c|c|c|c|}
\hline Load Combination & \begin{tabular}{l}
Vertical \\
K
\end{tabular} & \begin{tabular}{l}
Shear. \\
\(K\)
\end{tabular} & \begin{tabular}{l}
Shear: \\
\(K\)
\end{tabular} & Overturning Moment, \(M_{\text {- }}\) kip-ft & Overturning Moment, \(M\) : kip-ft & Torque \(k i p-f t\) \\
\hline Ice & & & & & & \\
\hline ```
0.9 Dead+1.0 Wind 0 deg - No
Ice
``` & 59.914 & -0.000 & -75.951 & -10624.949 & \(-2.768\) & 10.621 \\
\hline 1.2 Dead+1.0 Wind 30 deg - No Ice & 79.885 & 37.166 & -61.623 & -8660.783 & -5341.814 & 40.418 \\
\hline 0.9 Dead+1.0 Wind 30 deg - No Ice & 59.914 & 37.165 & -61.621 & -8646.550 & -5330.917 & 40.398 \\
\hline 1.2 Dead+1.0 Wind 60 deg - No Ice & 79.885 & 62.204 & -35 582 & -5044.933 & -8876.158 & 24089 \\
\hline ```
0.9 Dead+1.0 Wind 60 deg - No
Ice
``` & 59.914 & 62.203 & -35.581 & -5037.494 & -8858658 & 24.060 \\
\hline 1.2 Dead+1.0 Wind 90 deg - No Ice & 79.885 & 72.868 & -1.268 & -257.899 & -10312816 & 2.042 \\
\hline 0.9 Dead +1.0 Wind 90 deg - No Ice & 59.914 & 72.866 & -1.268 & -259406 & -10292.645 & 2.012 \\
\hline 12 Dead+1.0 Wind 120 deg No Ice & 79.885 & 67.482 & 36.423 & 4946230 & -9478.416 & 11.008 \\
\hline 0.9 Dead+1. 0 Wind 120 deg No Ice & 59.914 & 67.480 & 36.422 & 4935.129 & -9459818 & 10.986 \\
\hline 1.2 Dead+1.0 Wind 150 deg No Ice & 79.885 & 35.538 & 61.417 & 8629.527 & -4997.684 & 14.800 \\
\hline 0.9 Dead +10 Wind 150 deg No Ice & 59.914 & 35.537 & 61416 & 8611.491 & -4987.395 & 14.795 \\
\hline 1.2 Dead+1.0 Wind 180 deg No Ice & 79.885 & -0.000 & 69235 & 9827.312 & -3.671 & -10.629 \\
\hline 0.9 Dead+1.0 Wind 180 deg No Ice & 59.914 & -0.000 & 69.233 & 9806.973 & -2.759 & -10.621 \\
\hline 1.2 Dead+1.0 Wind 210 deg No Ice & 79.885 & -35.643 & 61.601 & 8672.067 & 5014892 & -34.762 \\
\hline 0.9 Dead+1. 0 Wind 210 deg No Ice & 59.914 & -35.642 & 61.599 & 8653.934 & 5006370 & -34.742 \\
\hline 1.2 Dead+1.0 Wind 240 deg No Ice & 79.885 & -67.663 & 36528 & 4970.541 & 9513.180 & -19.681 \\
\hline 0.9 Dead +1.0 Wind 240 deg No Ice & 59.914 & -67.661 & 36.527 & 4959.382 & 9496310 & -19.651 \\
\hline 12 Dead+1.0 Wind 270 deg No Ice & 79885 & -72.868 & -1.268 & -257898 & 10305555 & -2.040 \\
\hline 0.9 Dead+ 1.0 Wind 270 deg No Ice & 59.914 & -72.866 & -1.268 & -259.405 & 10287.209 & -2.011 \\
\hline 12 Dead+ 10 Wind 300 deg No Ice & 79.885 & -62.023 & -35478 & -5020.688 & 8826.834 & -15.414 \\
\hline 0.9 Dead+1.0 Wind 300 deg No Ice & 59.914 & -62.022 & -35477 & -5013.304 & 8811255 & -15.394 \\
\hline 12 Dead+1.0 Wind 330 deg No Ice & 79.885 & -37.060 & -61440 & -8618.327 & 5309.940 & -20.457 \\
\hline 0.9 Dead +1.0 Wind 330 deg No Ice & 59.914 & -37.060 & -61.438 & -8604.193 & 5300.925 & -20.451 \\
\hline 1.2 Dead+1.0 Ice+1.0 Temp & 228.232 & -0.001 & -0.002 & 45.968 & -32.829 & 0.000 \\
\hline \(12 \mathrm{Dead}+1.0\) Wind \(0 \mathrm{deg}+1.0\) & 228.232 & -0.000 & -10.682 & -1507.123 & -33.280 & 1.560 \\
\hline Ice +1.0 Temp
1.2 Dead +1.0 Wind \(30 \mathrm{deg}+1.0\) & 228.232 & 5.307 & -8946 & -1255.842 & -815.680 & 4.426 \\
\hline Ice+1.0 Temp
\(12 \mathrm{Dead}+1.0\) Wind \(60 \mathrm{deg}+1.0\) & 228232 & 9.079 & -5 213 & -715.031 & -1363 489 & 3643 \\
\hline Ice +1.0 Temp & & & & & & \\
\hline 1.2 Dead+1.0 Wind \(90 \mathrm{deg}+1.0\) Ice +1.0 Temp & 228.232 & 10.596 & -0.114 & 22.401 & -1577.208 & 1.673 \\
\hline 1.2 Dead+1.0 Wind 120 deg+1.0 Ice+ 1.0 Temp & 228.232 & 9.453 & 5.230 & 791.537 & -1407.453 & 1.421 \\
\hline 1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp & 228.232 & 5.162 & 8929 & 1345.338 & -784.398 & 1.061 \\
\hline 1.2 Dead+1.0 Wind 180 & 228.232 & -0.000 & 10.196 & 1537.815 & -33.278 & -1.559 \\
\hline
\end{tabular}

\begin{tabular}{|c|c|c|c|c|c|c|}
\hline Load Combination & \begin{tabular}{l}
Vertical \\
\(K\)
\end{tabular} & Shear \(_{x}\) \(K\) & \begin{tabular}{l}
Shear: \\
\(K\)
\end{tabular} & Overturning Moment, \(M_{x}\) kip-ft & Overturning Moment, M. kip-fi & \begin{tabular}{l}
Torque \\
\(k i p-f t\)
\end{tabular} \\
\hline \multicolumn{7}{|l|}{deg+1.0 Ice +1.0 Temp} \\
\hline 12 Dead+1.0 Wind 210 & 228.232 & -5.170 & 8.944 & 1348.886 & 719.886 & -3.916 \\
\hline deg+1.0 Ice +10 Temp & & & & & & \\
\hline 1.2 Dead+1.0 Wind 240 & 228.232 & -9.468 & 5239 & 793.587 & 1344.436 & -3.246 \\
\hline \multicolumn{7}{|l|}{deg+1.0 Ice +1.0 Temp} \\
\hline 1.2 Dead+1.0 Wind 270 & 228.232 & -10.596 & -0.114 & 22.404 & 1510.647 & -1.671 \\
\hline deg+1.0 Ice + 1.0 Temp & & & & & & \\
\hline 12 Dead+1.0 Wind 300 & 228.232 & -9.064 & -5 204 & -712.979 & 1293.380 & -1.814 \\
\hline deg+1.0 Ice+1.0 Temp & & & & & & \\
\hline 1.2 Dead+1.0 Wind 330 & 228.232 & -5.298 & -8.931 & -1252.293 & 747.069 & -1.570 \\
\hline \multicolumn{7}{|l|}{deg+1.0 Ice+10 Temp} \\
\hline Dead+Wind 0 deg - Service & 66.571 & -0.000 & -24 861 & -3468.893 & -3.029 & 3.469 \\
\hline Dead+Wind 30 deg - Service & 66.571 & 12.166 & -20.174 & -2822.233 & -1744.835 & 13.216 \\
\hline Dead+Wind 60 deg - Service & 66.571 & 20.363 & -11649 & -1642.305 & -2898.227 & 7.861 \\
\hline Dead+Wind 90 deg - Service & 66.571 & 23.853 & -0.414 & -80.125 & -3367.053 & 0.640 \\
\hline Dead+Wind 120 deg - Service & 66.571 & 22.087 & 11.923 & 1618.053 & -3094.716 & 3586 \\
\hline Dead+Wind 150 deg - Service & 66.571 & 11.634 & 20.106 & 2819.955 & -1632.705 & 4.853 \\
\hline Dead+Wind 180 deg - Service & 66.571 & -0.000 & 22.667 & 3210.840 & -3.027 & -3.470 \\
\hline Dead+Wind 210 deg - Service & 66.571 & -11.669 & 20.166 & 2833.818 & 1634.656 & -11.369 \\
\hline Dead+Wind 240 deg - Service & 66.571 & -22.146 & 11.957 & 1625.969 & 3102.378 & -6.412 \\
\hline Dead+Wind 270 deg - Service & 66.571 & -23.853 & -0.414 & -80.125 & 3361.008 & -0.639 \\
\hline Dead+Wind 300 deg - Service & 66.571 & -20.304 & -11.614 & -1634.390 & 2878.471 & -5.029 \\
\hline Dead+Wind 330 deg - Service & 66.571 & -12.131 & -20.114 & -2808.379 & 1730.781 & -6.701 \\
\hline
\end{tabular}

\section*{Solution Summary}
\begin{tabular}{|c|c|c|c|c|c|c|c|}
\hline & \multicolumn{3}{|c|}{Sum of Applied Forces} & \multicolumn{3}{|c|}{Sum of Reactions} & \multirow[b]{2}{*}{\% Error} \\
\hline Load & \(P X\) & PY & \(P Z\) & \(P X\) & PY & \(P Z\) & \\
\hline Comb. & \(K\) & \(K\) & \(K\) & \(K\) & \(K\) & \(K\) & \\
\hline 1 & 0.000 & -66.571 & 0.000 & -0.000 & 66.571 & -0.000 & 0.000\% \\
\hline 2 & 0.000 & -79.885 & -75.957 & 0.000 & 79885 & 75.954 & 0.003\% \\
\hline 3 & 0.000 & -59.914 & -75.957 & 0.000 & 59.914 & 75.951 & 0.005\% \\
\hline 4 & 37.167 & -79.885 & -61.625 & -37.166 & 79.885 & 61.623 & 0.002\% \\
\hline 5 & 37.167 & -59.914 & -61.625 & -37.165 & 59.914 & 61.621 & 0.005\% \\
\hline 6 & 62.206 & -79.885 & -35.583 & -62.204 & 79.885 & 35.582 & 0.002\% \\
\hline 7 & 62.206 & -59.914 & -35.583 & -62.203 & 59.914 & 35.581 & 0.004\% \\
\hline 8 & 72.870 & -79.885 & -1.268 & -72.868 & 79.885 & 1268 & 0.002\% \\
\hline 9 & 72.870 & -59.914 & -1.268 & -72.866 & 59.914 & 1268 & 0.005\% \\
\hline 10 & 67.484 & -79.885 & 36.425 & -67.482 & 79885 & -36.423 & 0.003\% \\
\hline 11 & 67.484 & -59.914 & 36.425 & -67.480 & 59.914 & -36.422 & 0.005\% \\
\hline 12 & 35.539 & -79.885 & 61.419 & -35.538 & 79.885 & -61.417 & 0.002\% \\
\hline 13 & 35.539 & -59.914 & 61419 & -35.537 & 59.914 & -61416 & 0005\% \\
\hline 14 & 0.000 & -79.885 & 69.237 & 0000 & 79885 & -69.235 & 0.002\% \\
\hline 15 & 0.000 & -59.914 & 69237 & 0.000 & 59.914 & -69.233 & \(0004 \%\) \\
\hline 16 & -35.645 & -79.885 & 61.603 & 35.643 & 79.885 & -61.601 & 0.002\% \\
\hline 17 & -35.645 & -59.914 & 61.603 & 35.642 & 59.914 & -61.599 & 0.005\% \\
\hline 18 & -67.666 & -79.885 & 36.529 & 67.663 & 79.885 & -36.528 & 0.003\% \\
\hline 19 & -67.666 & -59.914 & 36.529 & 67.661 & 59.914 & -36.527 & 0.005\% \\
\hline 20 & -72.870 & -79.885 & -1.268 & 72.868 & 79.885 & 1268 & 0.002\% \\
\hline 21 & -72.870 & -59.914 & -1.268 & 72.866 & 59.914 & 1.268 & 0.005\% \\
\hline 22 & -62.025 & -79.885 & -35.479 & 62.023 & 79.885 & 35478 & 0.002\% \\
\hline 23 & -62.025 & -59.914 & -35.479 & 62.022 & 59.914 & 35.477 & 0.004\% \\
\hline 24 & -37.062 & -79.885 & -61.442 & 37.060 & 79.885 & 61440 & 0.002\% \\
\hline 25 & -37.062 & -59.914 & -61.442 & 37.060 & 59.914 & 61.438 & 0.005\% \\
\hline 26 & 0.000 & -228.232 & 0.000 & 0001 & 228.232 & 0.002 & 0.001\% \\
\hline 27 & 0.000 & -228.232 & -10.683 & 0000 & 228.232 & 10.682 & 0.000\% \\
\hline 28 & 5.307 & -228 232 & -8.947 & -5 307 & 228.232 & 8.946 & 0.000\% \\
\hline 29 & 9.080 & -228.232 & -5.213 & -9 079 & 228.232 & 5.213 & 0.000\% \\
\hline
\end{tabular}

\begin{tabular}{|c|c|c|c|c|c|c|c|}
\hline & \multicolumn{3}{|c|}{Sum of Applied Forces} & \multicolumn{3}{|c|}{Sum of Reactions} & \multirow[b]{2}{*}{\% Error} \\
\hline Load & PX & PY & PZ & PX & PY & \(P Z\) & \\
\hline Comb. & \(K\) & \(K\) & K & \(K\) & \(K\) & \(K\) & \\
\hline 30 & 10.597 & -228 232 & -0.114 & -10.596 & 228.232 & 0.114 & 0.000\% \\
\hline 31 & 9.453 & -228.232 & 5.231 & -9.453 & 228.232 & -5.230 & 0.000\% \\
\hline 32 & 5.162 & -228 232 & 8.930 & -5.162 & 228.232 & -8.929 & 0000\% \\
\hline 33 & 0.000 & -228.232 & 10.197 & 0.000 & 228.232 & -10.196 & 0.000\% \\
\hline 34 & -5.171 & -228.232 & 8.945 & 5.170 & 228.232 & -8.944 & 0.000\% \\
\hline 35 & -9.468 & -228.232 & 5.239 & 9.468 & 228.232 & -5.239 & 0.000\% \\
\hline 36 & -10.597 & -228.232 & -0.114 & 10.596 & 228.232 & 0.114 & 0.000\% \\
\hline 37 & -9.065 & -228.232 & -5.205 & 9.064 & 228.232 & 5204 & 0000\% \\
\hline 38 & -5.299 & -228 232 & -8.932 & 5298 & 228.232 & 8931 & 0000\% \\
\hline 39 & 0.000 & -66.571 & -24863 & 0.000 & 66.571 & 24861 & 0002\% \\
\hline 40 & 12.167 & -66.571 & -20.175 & -12.166 & 66571 & 20.174 & 0.002\% \\
\hline 41 & 20365 & -66.571 & -11.649 & -20.363 & 66571 & 11.649 & 0002\% \\
\hline 42 & 23855 & -66.571 & -0.414 & -23.853 & 66571 & 0414 & 0.002\% \\
\hline 43 & 22.088 & -66.571 & 11.924 & -22.087 & 66.571 & -11.923 & 0.002\% \\
\hline 44 & 11.635 & -66.571 & 20.108 & -11.634 & 66571 & -20.106 & 0.002\% \\
\hline 45 & 0.000 & -66.571 & 22.668 & 0.000 & 66.571 & -22.667 & 0002\% \\
\hline 46 & -11.669 & -66.571 & 20.168 & 11.669 & 66.571 & -20.166 & 0.002\% \\
\hline 47 & -22.147 & -66.571 & 11958 & 22.146 & 66.571 & -11.957 & 0.002\% \\
\hline 48 & -23.855 & -66.571 & -0.414 & 23853 & 66.571 & 0.414 & 0.002\% \\
\hline 49 & -20.305 & -66.571 & -11.615 & 20.304 & 66571 & 11.614 & 0.002\% \\
\hline 50 & -12.132 & -66.571 & -20.115 & 12.131 & 66.571 & 20.114 & 0.002\% \\
\hline
\end{tabular}

\section*{Non-Linear Convergence Results}
\begin{tabular}{|c|c|c|c|c|}
\hline Load Combination & Converged? & Number of Cycles & Displacement Tolerance & \begin{tabular}{l}
Force \\
Tolerance
\end{tabular} \\
\hline 1 & Yes & 6 & 0.00000001 & 0.00000001 \\
\hline 2 & Yes & 13 & 0.00003614 & 0.00008171 \\
\hline 3 & Yes & 12 & 000006360 & 0.00013748 \\
\hline 4 & Yes & 13 & 0.00003295 & 0.00007479 \\
\hline 5 & Yes & 12 & 0.00005666 & 0.00012292 \\
\hline 6 & Yes & 13 & 000003029 & 0.00006897 \\
\hline 7 & Yes & 12 & 0.00005075 & 0.00011045 \\
\hline 8 & Yes & 13 & 0.00003302 & 0.00007488 \\
\hline 9 & Yes & 12 & 000005682 & 0.00012317 \\
\hline 10 & Yes & 13 & 000003607 & 0.00008146 \\
\hline 11 & Yes & 12 & 000006345 & 0.00013701 \\
\hline 12 & Yes & 13 & 000003320 & 0.00007530 \\
\hline 13 & Yes & 12 & 000005721 & 0.00012403 \\
\hline 14 & Yes & 13 & 000003036 & 000006917 \\
\hline 15 & Yes & 12 & 0.00005089 & 0.00011083 \\
\hline 16 & Yes & 13 & 0.00003321 & 0.00007535 \\
\hline 17 & Yes & 12 & 000005723 & 000012411 \\
\hline 18 & Yes & 13 & 0.00003611 & 0.00008157 \\
\hline 19 & Yes & 12 & 0.00006354 & 0.00013723 \\
\hline 20 & Yes & 13 & 0.00003302 & 0.00007489 \\
\hline 21 & Yes & 12 & 0.00005682 & 0.00012317 \\
\hline 22 & Yes & 13 & 0.00003029 & 0.00006895 \\
\hline 23 & Yes & 12 & 0.00005075 & 0.00011043 \\
\hline 24 & Yes & 13 & 0.00003294 & 0.00007473 \\
\hline 25 & Yes & 12 & 000005663 & 0.00012283 \\
\hline 26 & Yes & 8 & 0.00000001 & 000014682 \\
\hline 27 & Yes & 14 & 0.00000001 & 0.00007454 \\
\hline 28 & Yes & 14 & 0.00000001 & 0.00007415 \\
\hline 29 & Yes & 14 & 0.00000001 & 0.00007544 \\
\hline 30 & Yes & 14 & 0.00000001 & 0.00007706 \\
\hline
\end{tabular}

\begin{tabular}{lllll}
31 & Yes & 14 & 0.00000001 & 0.00007864 \\
32 & Yes & 14 & 0.00000001 & 0.00007715 \\
33 & Yes & 14 & 0.00000001 & 0.00007658 \\
34 & Yes & 14 & 0.00000001 & 0.00007639 \\
35 & Yes & 14 & 0.00000001 & 0.00007722 \\
36 & Yes & 14 & 0.00000001 & 0.00007508 \\
37 & Yes & 14 & 0.00000001 & 0.00007343 \\
38 & Yes & 14 & 0.00000001 & 0.00007283 \\
39 & Yes & 12 & 0.00000001 & 0.00013690 \\
40 & Yes & 12 & 0.00000001 & 0.00013228 \\
41 & Yes & 12 & 0.00000001 & 0.00012851 \\
42 & Yes & 12 & 0.00000001 & 0.00013227 \\
43 & Yes & 12 & 0.00000001 & 0.00013661 \\
44 & Yes & 12 & 0.00000001 & 0.00013256 \\
45 & Yes & 12 & 0.00000001 & 0.00012871 \\
46 & Yes & 12 & 0.00000001 & 0.00013266 \\
47 & Yes & 12 & 0.00000001 & 0.00013675 \\
48 & Yes & 12 & 0.00000001 & 0.00013227 \\
49 & Yes & 12 & 0.00000001 & 0.00012844 \\
50 & & 12 & 0.00000001 & 0.00013217 \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|}
\hline \multicolumn{6}{|c|}{Maximum Towe} \\
\hline Section & Elevation & Horz. & Gov. & Till & Twist \\
\hline No. & ft & \begin{tabular}{l}
Deflection \\
in
\end{tabular} & \begin{tabular}{l}
Load \\
Comb.
\end{tabular} & - & 。 \\
\hline T1 & 255-240 & 13.034 & 47 & 0434 & 0083 \\
\hline T2 & 240-220 & 11.646 & 47 & 0.430 & 0.081 \\
\hline T3 & 220-200 & 9.795 & 47 & 0.403 & 0.076 \\
\hline T4 & 200-180 & 8.058 & 47 & 0.368 & 0.066 \\
\hline T5 & 180-160 & 6.502 & 47 & 0324 & 0.055 \\
\hline T6 & 160-140 & 5.132 & 47 & 0281 & 0.045 \\
\hline T7 & 140-120 & 3.950 & 47 & 0.239 & 0.036 \\
\hline T8 & 120-100 & 2.928 & 47 & 0201 & 0.028 \\
\hline T9 & 100-80 & 2.047 & 47 & 0166 & 0.020 \\
\hline T10 & 80-60 & 1325 & 47 & 0130 & 0.014 \\
\hline T11 & 60-40 & 0.785 & 47 & 0.096 & 0.010 \\
\hline T12 & 40-20 & 0.385 & 47 & 0061 & 0.006 \\
\hline T13 & 20-0 & 0.131 & 47 & 0029 & 0.003 \\
\hline
\end{tabular}

\section*{Critical Deflections and Radius of Curvature - Service Wind}
\begin{tabular}{ccccccc}
\hline Elevation & Appurtenance & \begin{tabular}{c} 
Gov. \\
Load
\end{tabular} & Deflection & Tilt & Twist & \begin{tabular}{c} 
Radius of \\
Curvature
\end{tabular} \\
\(f t\) & & Comb. & in & in & 0 & 0
\end{tabular}


\section*{Maximum Tower Deflections - Design Wind}
\begin{tabular}{cccccc}
\hline \begin{tabular}{c} 
Section \\
No.
\end{tabular} & Elevation & \begin{tabular}{c} 
Horz. \\
Deflection \\
in
\end{tabular} & \begin{tabular}{c} 
Gov. \\
Load \\
Comb.
\end{tabular} & Tilt & Twist \\
\hline T1 & \(255-240\) & 39.990 & 18 & 1.332 & 0 \\
\hline T2 & \(240-220\) & 35.734 & 18 & 1.319 & 0.254 \\
T3 & \(220-200\) & 30.054 & 18 & 1.236 & 0.247 \\
T4 & \(200-180\) & 24.724 & 18 & 1.127 & 0.232 \\
T5 & \(180-160\) & 19.949 & 18 & 0.995 & 0.203 \\
T6 & \(160-140\) & 15.746 & 18 & 0.861 & 0.168 \\
T7 & \(140-120\) & 12.121 & 18 & 0.734 & 0.137 \\
T8 & \(120-100\) & 8.985 & 18 & 0.617 & 0.112 \\
T9 & \(100-80\) & 6.282 & 18 & 0.510 & 0.087 \\
T10 & \(80-60\) & 4.067 & 18 & 0.398 & 0.062 \\
T11 & \(60-40\) & 2.407 & 18 & 0.293 & 0.042 \\
T12 & \(40-20\) & 1.181 & 18 & 0.186 & 0.031 \\
T13 & \(20-0\) & 0.401 & 18 & 0.088 & 0.019 \\
& & & & 0.010 \\
\hline
\end{tabular}

\section*{Critical Deflections and Radius of Curvature - Design Wind}
\begin{tabular}{|c|c|c|c|c|c|c|}
\hline Elevation & Appurtenance & \begin{tabular}{l}
Gov \\
Load \\
Comb.
\end{tabular} & Deflection
in & Tilt & Twist & Radius of Curvature \(f t\) \\
\hline 255000 & Lightning Rod 1"x10' & 18 & 39.990 & 1332 & 0254 & 111964 \\
\hline 250.000 & \[
\begin{gathered}
\text { Sector } 1(\mathrm{CaAa}=13333.33 \mathrm{Sq} \text { in }) \mathrm{No} \\
\text { Ice }
\end{gathered}
\] & 18 & 38.575 & 1.331 & 0.251 & 111964 \\
\hline 238.000 & Sectorl(CaAa \(=10000 \mathrm{Sq}\) in \()\) No Ice & 18 & 35.163 & 1.314 & 0.245 & 71257 \\
\hline 226.000 & Sectorl(CaAa \(=10000 \mathrm{Sq}\) in \()\) No Ice & 18 & 31.740 & 1.267 & 0.238 & 17855 \\
\hline 214.000 & 6' MW Dish & 18 & 28.404 & 1.205 & 0.225 & 9961 \\
\hline 202.000 & 6' MW Dish & 18 & 25.234 & 1.139 & 0.207 & 8274 \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|}
\hline \multicolumn{11}{|c|}{Bolt Design Data} \\
\hline Section No. & Elevation & Component Type & Bolt Grade & Boll Size & Number Of & Maximum Load & Allowable Load & \begin{tabular}{l}
Ratio \\
Load
\end{tabular} & Allowable Ratio & Criteria \\
\hline & ft & & & in & Bolts & \[
\begin{gathered}
\text { per Bolt } \\
K
\end{gathered}
\] & \[
\begin{gathered}
\text { per Bolt } \\
K
\end{gathered}
\] & Allowable & & \\
\hline T1 & 255 & Diagonal & A325X & 0.625 & 1 & 3.139 & 9.598 & 0.327 & 1 & Member Block Shear \\
\hline & & Top Girt & A325X & 0.625 & 1 & 0.198 & 14.625 & 0.014 & 1 & Member Bearing \\
\hline T2 & 240 & Leg & A325N & 0.750 & 6 & 2.006 & 30.101 & 0.067 & 1 & Bolt Tension \\
\hline & & Diagonal & A325X & 0.625 & 1 & 6.694 & 9.598 & 0.698 & 1 & Member Block Shear \\
\hline T3 & 220 & Leg & A325N & 0.750 & 6 & 8.165 & 30.101 & 0.271 & 1 & Bolt Tension \\
\hline & & Diagonal & A325X & 0.625 & 1 & 8.072 & 10.740 & 0.752 & 1 & Member Block Shear \\
\hline T4 & 200 & Leg & A325N & 0.750 & 6 & 15.412 & 30.101 & 0.512 & 1 & Bolt Tension \\
\hline & & Diagonal & A325X & 0.625 & 1 & 8.634 & 13.025 & 0.663 & 1 & Member Block Shear \\
\hline T5 & 180 & Leg & A 325 N & 1.000 & 6 & 22.830 & 54.517 & 0.419 & 1 & Bolt Tension \\
\hline
\end{tabular}

\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|}
\hline Section No. & & Type & Grade & in & Number Of Bolts & \begin{tabular}{l}
Maximum \\
Load per Bolt K
\end{tabular} & Allowable Load per Bolt K & \multicolumn{2}{|l|}{\begin{tabular}{l}
Ratio \\
Load
\end{tabular}} & Allowable Ratio & Criteria \\
\hline \multirow[b]{2}{*}{T6} & \multirow[b]{2}{*}{160} & Diagonal & A325X & 0.625 & 1 & 8.885 & 13.025 & 0.682 & & 1 & Member Block Shear \\
\hline & & Leg & A325N & 1.000 & 6 & 29.582 & 54.517 & 0543 & \(\checkmark\) & 1 & Bolt Tension \\
\hline \multirow[b]{2}{*}{T7} & \multirow[b]{2}{*}{140} & Diagonal & A325X & 0625 & 1 & 9.474 & 14.168 & 0.669 & \(\checkmark\) & 1 & Member Block Shear \\
\hline & & \multirow[t]{2}{*}{\begin{tabular}{l}
Leg \\
Diagonal
\end{tabular}} & \multirow[t]{2}{*}{\[
\begin{aligned}
& \mathrm{A} 325 \mathrm{~N} \\
& \mathrm{~A} 325 \mathrm{X}
\end{aligned}
\]} & \multirow[t]{2}{*}{\[
\begin{aligned}
& 1.000 \\
& 0.625
\end{aligned}
\]} & 6 & 35.968 & 54.517 & 0.660 & & 1 & \\
\hline \multirow{3}{*}{T8} & \multirow{3}{*}{120} & & & & 1 & 10.172 & 14.168 & 0.718 & \(V\) & 1 & Member Block Shear \\
\hline & & Leg & A325N & 1250 & 6 & 42.175 & 87.220 & 0.484 & \(\checkmark\) & 1 & Bolt Tension \\
\hline & & Diagonal & A325X & 0.625 & 1 & 11.103 & 14.168 & 0.784 & \(\checkmark\) & 1 & Member Block Shear \\
\hline \multirow[t]{2}{*}{T9} & 100 & Leg & A325N & 1250 & 6 & 48.318 & 87.220 & 0554 & \(\checkmark\) & 1 & Bolt Tension \\
\hline & \multirow{3}{*}{80} & Diagonal & A325X & 0625 & 1 & 11.993 & 17.257 & 0695 & \(\checkmark\) & 1 & Bolt Shear \\
\hline \multirow[t]{3}{*}{T10} & & Leg & A325N & 1.250 & 6 & 54.409 & 87.220 & 0.624 & \(\checkmark\) & 1 & Bolt Tension \\
\hline & & Diagonal & A325X & 0.625 & 1 & 13.880 & 26.051 & 0533 & \(\checkmark\) & 1 & Member Block Shear \\
\hline & \multirow{3}{*}{60} & Horizontal & \multirow[t]{2}{*}{\[
\mathrm{A} 325 \mathrm{~N}
\]} & 0.625 & 1 & 7.126 & 19.195 & 0371 & \(\checkmark\) & 1 & \begin{tabular}{l}
Member Block \\
Shear
\end{tabular} \\
\hline \multirow[t]{3}{*}{T11} & & Leg & & 1.250 & 6 & 60509 & 87.220 & 0.694 & , & 1 & Bolt Tension \\
\hline & & Diagonal & A325X & 0.625 & 1 & 14.455 & 26.051 & 0.555 & \(\checkmark\) & 1 & Member Block Shear \\
\hline & & Horizontal & A325X & 0625 & 1 & 7.879 & 21480 & 0367 & \(\checkmark\) & 1 & Member Block Shear \\
\hline T12 & 40 & Leg & A325N & 1.250 & 6 & 66.513 & 87.220 & 0763 & \(\checkmark\) & 1 & Bolt Tension \\
\hline & & Diagonal & A325X & 0.625 & 1 & 15.508 & 28.336 & 0547 & \(\checkmark\) & 1 & Member Block Shear \\
\hline & & Horizontal & A325X & 0.625 & 1 & 8.649 & 21.480 & 0403 & \(V\) & 1 & Member Block Shear \\
\hline T13 & 20 & Leg & A325N & 1.500 & 6 & 72.547 & 126472 & 0.574 & \(\checkmark\) & 1 & Bolt Tension \\
\hline & & Diagonal & A325X & 0625 & 1 & 16.448 & 28.336 & 0.580 & \(\checkmark\) & 1 & Member Block Shear \\
\hline & & Horizontal & A325X & 0.625 & 1 & 9.427 & 26.051 & 0.362 & \(\checkmark\) & 1 & Member Block Shear \\
\hline
\end{tabular}

\section*{Compression Checks}

\section*{Leg Design Data (Compression)}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|}
\hline Section No. & Elevation & Size & \(L\) & \(L_{u}\) & Kl/r & \[
\bar{A}
\] & \(P_{u}\) & \(\phi P_{n}\) & \[
\begin{gathered}
\text { Ratio } \\
P_{u} \\
\hline
\end{gathered}
\] \\
\hline & \(f t\) & & \(f t\) & \(f t\) & & \(\mathrm{in}^{2}\) & K & \(K\) & \(\phi P_{n}\) \\
\hline TI & 255-240 & \(13 / 4\) & 15.014 & 4.671 & \[
\begin{gathered}
128.1 \\
\mathrm{~K}=1.00
\end{gathered}
\] & 2.405 & -11.647 & 33.103 & \[
0.352^{1}
\] \\
\hline T2 & 240-220 & 2 & 20.019 & 4.754 & \[
\begin{gathered}
114.1 \\
\mathrm{~K}=1.00
\end{gathered}
\] & 3.142 & -49.860 & 54.509 &  \\
\hline T3 & 220-200 & \(21 / 2\) & 20.019 & 4.754 & \[
\begin{gathered}
91.3 \\
\mathrm{~K}=1.00
\end{gathered}
\] & 4.909 & -97.575 & 120.108 & \(0.812^{1}\) \\
\hline
\end{tabular}

\begin{tabular}{ccccccccccc}
\hline \begin{tabular}{c} 
Section \\
No.
\end{tabular} & Elevation \\
ft
\end{tabular}
\({ }^{1} P_{u} / \phi P_{n}\) controls

\section*{Diagonal Design Data (Compression)}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|}
\hline \multirow[t]{2}{*}{Section No.} & Elevation & \multirow[t]{2}{*}{Size} & \[
L
\] & \[
\overline{L_{11}}
\] & Kl/r & \[
A
\] & \[
\overline{P_{u}}
\] & \(\phi P_{n}\) & Ratio \(P_{4}\) \\
\hline & \(f t\) & & ft & \(n\) & & \(i n^{2}\) & K & \(K\) & \(\phi P_{n}\) \\
\hline Tl & 255-240 & L1 3/4×13/4×3/16 & 7.166 & 3.605 & \[
\begin{gathered}
125.9 \\
\mathrm{~K}=1.00
\end{gathered}
\] & 0.621 & -3.163 & 11206 & \[
0.282^{1}
\] \\
\hline T2 & 240-220 & L1 3/4×13/4×3/16 & 8.697 & 4.355 & \[
\begin{gathered}
152.2 \\
K=1.00
\end{gathered}
\] & 0.621 & -6.126 & 7.677 & \[
0.798^{1}
\] \\
\hline T3 & 220-200 & L \(2 \times 2 \times 3 / 16\) & 9.987 & 4.976 & \[
\begin{gathered}
151.6 \\
K=1.00
\end{gathered}
\] & 0.715 & -7.157 & 8.909 & \[
0.803^{\prime}
\] \\
\hline T4 & 200-180 & L2 1/2x2 1/2x3/16 & 11.329 & 5.636 & \[
\begin{gathered}
136.6 \\
K=1.00
\end{gathered}
\] & 0.902 & -8.041 & 13.828 & \[
{ }^{0.582^{1}}
\] \\
\hline T5 & \(180 \cdot 160\) & L2 \(1 / 2 \times 21 / 2 \times 3 / 16\) & 12.706 & 6314 & \[
\begin{gathered}
153.1 \\
\mathrm{~K}=1.00
\end{gathered}
\] & 0.902 & -8.408 & 11.018 & \[
0.763^{1}
\] \\
\hline T6 & 160-140 & L3 \(\times 3 \times 3 / 16\) & 14.108 & 7.005 & \[
\begin{gathered}
141.0 \\
K=100
\end{gathered}
\] & 1.090 & -9.042 & 15.683 &  \\
\hline T7 & 140-120 & L3x3x3/16 & 15.529 & 7.705 & \[
\begin{gathered}
155.1 \\
K=1.00
\end{gathered}
\] & 1.090 & -9.830 & 12.964 & \[
0.758
\] \\
\hline T8 & 120-100 & L \(3 \times 3 \times 3 / 16\) & 16.963 & 8.412 & \[
\begin{gathered}
169.4 \\
K=1.00
\end{gathered}
\] & 1090 & -10822 & 10.877 & \[
0.995^{\circ}
\] \\
\hline T9 & 100-80 & L3x3x1/4 & 18.408 & 9.134 & \[
\begin{gathered}
1852 \\
K=1.00
\end{gathered}
\] & 1440 & -11658 & 12.022 & \[
0.970^{1}
\] \\
\hline T10 & 80-60 & \(2121 / 2 \times 21 / 2 \times 3 / 16 \times 3 / 8\) & 10.829 & 10.644 & \[
\begin{gathered}
168.4 \\
K=1.00
\end{gathered}
\] & 1800 & -13.625 & 17.598 & \[
0.774{ }^{1}
\] \\
\hline
\end{tabular}

\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|}
\hline Section No. & \begin{tabular}{l}
Elevation \\
fi
\end{tabular} & Size & \begin{tabular}{l}
\[
L
\] \\
ft
\end{tabular} & \begin{tabular}{l}
\[
L_{u}
\] \\
ft
\end{tabular} & Kl/r & \begin{tabular}{l}
A \\
\(i n^{2}\)
\end{tabular} & \begin{tabular}{l}
\[
\overline{P_{a}}
\] \\
K
\end{tabular} & \[
\begin{gathered}
\phi P_{n} \\
K
\end{gathered}
\] & Ratio \(P_{\text {u }}\)
\(\square\) \\
\hline T11 & 60-40 & \[
\begin{gathered}
2 \mathrm{~L}^{\prime} \mathrm{a}^{\prime}>60948 \text { in }-245 \\
2 \mathrm{~L} 21 / 2 \times 21 / 2 \times 3 / 16 \times 3 / 8
\end{gathered}
\] & 11.508 & 11325 & \[
\begin{gathered}
1792 \\
\mathrm{~K}=1.00
\end{gathered}
\] & 1.800 & -14309 & 15610 & \[
0.917^{1}
\] \\
\hline T12 & 40-20 & \[
\begin{gathered}
2 L^{\prime} \mathrm{a}^{\prime}>64.848 \text { in }-284 \\
2 \mathrm{~L} 3 \times 3 \times 3 / 16 \times 3 / 8
\end{gathered}
\] & 12.195 & 12.003 & \[
\begin{gathered}
159.7 \\
K=1.00
\end{gathered}
\] & 2.180 & -15.443 & 23.129 & \[
0.668^{\prime}
\] \\
\hline T13 & 20-0 & \[
\begin{gathered}
2 L^{\prime} a^{\prime}>68.564 \text { in }-323 \\
2 \mathrm{~L} 3 \times 3 \times 3 / 16 \times 3 / 8 \\
2 L^{\prime} a^{\prime}>72.475 \text { in }-362
\end{gathered}
\] & 12889 & 12.687 & \[
\begin{gathered}
1688 \\
K=1.00
\end{gathered}
\] & 2.180 & -16631 & 20.849 & \[
0.798^{1}
\] \\
\hline
\end{tabular}
\({ }^{1} P_{u} / \phi P_{n}\) controls
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|}
\hline \multicolumn{10}{|c|}{Horizontal Design Data (Compression)} \\
\hline Section No. & Elevation & Size & \[
L
\] & \[
\overline{L_{u}}
\] & \(\mathrm{Kl} / \mathrm{r}\) & \[
\bar{A}
\] & \(P_{*}\) & \(\phi P_{n}\) & Ratio \(P_{u}\) \\
\hline & \(f t\) & & \(t\) & \(f t\) & & in \({ }^{2}\) & \(K\) & K & \(\phi P_{n}\) \\
\hline T10 & 80-60 & 2L1 3/4×13/4×3/16x3/8 & 19.106 & 9.386 & \[
\begin{gathered}
209.8 \\
K=1.00
\end{gathered}
\] & 1.242 & -7.126 & 8.079 & \[
0.882^{1}
\] \\
\hline T11 & 60-40 & \[
\begin{gathered}
2 L^{\prime} \mathrm{a}^{\prime}>54035 \text { in }-250 \\
2 \mathrm{~L} 2 \times 2 \times 3 / 16 \times 3 / 8
\end{gathered}
\] & 20606 & 10.136 & \[
\begin{gathered}
1983 \\
K=100
\end{gathered}
\] & 1430 & -7.879 & 10268 & \[
0.767^{\prime}
\] \\
\hline T12 & 40-20 & \[
\begin{gathered}
2 \mathrm{~L}^{\prime} \mathrm{a}^{\prime}>58256 \text { in }-289 \\
2 \mathrm{~L} 2 \times 2 \times 3 / 16 \times 3 / 8
\end{gathered}
\] & 22.106 & 10.876 & \[
\begin{gathered}
212.8 \\
K=1.00
\end{gathered}
\] & 1.430 & -8.649 & 8.936 & \[
{ }^{0.968}
\] \\
\hline T13 & 20-0 & \[
\begin{gathered}
2 \mathrm{~L}^{\prime} \mathrm{a} \text { ' }>62.506 \text { in }-328 \\
2 \mathrm{~L} 21 / 2 \times 2 \mathrm{I} / 2 \times 3 / 16 \times 3 / 8
\end{gathered}
\] & 23606 & 11.616 & \[
\begin{gathered}
183.8 \\
K=1.00
\end{gathered}
\] & 1800 & -9.427 & 14.861 & \[
0.634
\] \\
\hline & & \(2 L^{\prime} \mathrm{a}^{\prime}>66.514\) in-367 & & & & & & & \\
\hline
\end{tabular}
\({ }^{1} P_{\text {a }} / \phi P_{n}\) controls

\section*{Top Girt Design Data (Compression)}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|}
\hline \multirow[t]{2}{*}{Section No.} & Elevation & \multirow[t]{2}{*}{Size} & \(L\) & \(L_{u}\) & \(\mathrm{Kl} / \mathrm{r}\) & A & \(P_{u}\) & \(\phi P_{n}\) & Ratio \(P_{u}\) \\
\hline & \(f t\) & & \(f t\) & \(f t\) & & \(\mathrm{in}^{2}\) & \(K\) & \(K\) & \(\phi P_{n}\) \\
\hline Ti & 255-240 & L1 3/4×13/4×3/16 & 4.913 & 4.767 & \[
\begin{gathered}
166.5 \\
K=1.00
\end{gathered}
\] & 0.621 & -0.198 & 6.409 & \[
0.031^{1}
\] \\
\hline
\end{tabular}

\footnotetext{
\({ }^{1} P_{"} / \phi P_{n}\) controls
}

\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|}
\hline \multirow[t]{2}{*}{Section No.} & Elevation & Size & \(L\) & \(L_{\text {a }}\) & Kl/r & \(A\) & \(P_{\text {u }}\) & \(\phi P_{n}\) & \[
\begin{gathered}
\text { Ratio } \\
P_{u} \\
\hline
\end{gathered}
\] \\
\hline & \(f t\) & & fi & \(t t\) & & in \({ }^{2}\) & \(K\) & \(K\) & \(\phi P_{n}\) \\
\hline T10 & 80-60 & L1 3/4×13/4x3/16 & 9.553 & 9.553 & \[
\begin{gathered}
333.8 \\
\mathrm{~K}=1.00
\end{gathered}
\] & 0.621 & -0.011 & 1596 & \[
0.007^{1}
\] \\
\hline T11 & 60-40 & \[
\begin{gathered}
\mathrm{KL} / \mathrm{R}>250(\mathrm{C})-255 \\
\mathrm{~L} 13 / 4 \times 13 / 4 \times 3 / 16
\end{gathered}
\] & 10303 & 10303 & \[
\begin{gathered}
3600 \\
K=1.00
\end{gathered}
\] & 0.621 & -0.012 & 1372 & \[
0.009
\] \\
\hline T12 & 40-20 & \[
\begin{gathered}
\mathrm{KL} / \mathrm{R}>250(\mathrm{C})-294 \\
\mathrm{~L} \mid 3 / 4 \times 13 / 4 \times 3 / 16
\end{gathered}
\] & 11.053 & 11.053 & \[
\begin{gathered}
386.2 \\
\mathrm{~K}=1.00
\end{gathered}
\] & 0.621 & -0014 & 1.192 & \[
0.011^{1}
\] \\
\hline \multirow[t]{2}{*}{T13} & 20-0 & \[
\begin{gathered}
\mathrm{KL} / \mathrm{R}>250(\mathrm{C})-333 \\
\mathrm{~L} 13 / 4 \times 13 / 4 \times 3 / 16
\end{gathered}
\] & 11803 & 11.803 & \[
\begin{gathered}
412.4 \\
\mathrm{~K}=1.00
\end{gathered}
\] & 0.621 & -0.014 & 1045 &  \\
\hline & & \(\mathrm{KL} / \mathrm{R}>250(\mathrm{C})-370\) & & & & & & & \\
\hline
\end{tabular}
\({ }^{1} P_{u} / \phi P_{n}\) controls

\section*{Tension Checks}

\section*{Leg Design Data (Tension)}

\begin{tabular}{|c|c|c|c|}
\hline tnxTower & \multicolumn{2}{|l|}{Job} & 32 of 34 \\
\hline \begin{tabular}{l}
B+T Group \\
1717 S Boulder Ave. Suite 300
\end{tabular} & Project & 255' SST/36.7758, -84.942625 & \[
\begin{aligned}
& \hline \text { Date } \\
& \text { 15:09:47 05/02/22 }
\end{aligned}
\] \\
\hline \begin{tabular}{l}
Tulsa, OK 74119 \\
Phone: (918) 587-4630 \\
FAX: (918) 295-0265
\end{tabular} & Client & Harmoni Towers & Designed by
CCoody \\
\hline
\end{tabular}
\begin{tabular}{lcccccccccc}
\hline \begin{tabular}{l} 
Section \\
No.
\end{tabular} & Elevation & Size & \(L\) & \(L_{u}\) & \(K l / r\) & \(A\) & \(P_{u}\) & \(\phi P_{n}\) & \begin{tabular}{c} 
Ratio \\
\(P_{u}\) \\
\end{tabular} & \(f t\)
\end{tabular}
\({ }^{1} P_{u} / \phi P_{n}\) controls
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|}
\hline \multicolumn{10}{|c|}{Diagonal Design Data (Tension)} \\
\hline \multirow[t]{2}{*}{Section No.} & Elevation & \multirow[t]{2}{*}{Size} & \(L\) & \(L_{u}\) & \multirow[t]{2}{*}{Kl/r} & \multirow[t]{2}{*}{\begin{tabular}{l}
\[
A
\] \\
\(i n^{2}\)
\end{tabular}} & \multirow[t]{2}{*}{\[
\overline{P_{u}}
\]
\[
K
\]} & \multirow[t]{2}{*}{\[
\begin{gathered}
\phi P_{n} \\
K
\end{gathered}
\]} & \[
\begin{gathered}
\text { Ratio } \\
P_{u} \\
\hline
\end{gathered}
\] \\
\hline & \(f t\) & & ft & \(f t\) & & & & & \(\phi P_{n}\) \\
\hline TI & 255-240 & L1 \(3 / 4 \times 13 / 4 \times 3 / 16\) & 7.435 & 3736 & 835 & 0360 & 3.139 & 17567 & \[
\frac{4 . n}{0.1791}
\] \\
\hline \multirow[t]{2}{*}{T2} & \multirow[t]{2}{*}{240-220} & \multirow[t]{2}{*}{L1 3/4×13/4×3/16} & \multirow[t]{2}{*}{8.697} & \multirow[t]{2}{*}{4355} & \multirow[t]{2}{*}{97.3} & \multirow[t]{2}{*}{0.360} & \multirow[t]{2}{*}{6.694} & \multirow[t]{2}{*}{17.567} & \multirow[t]{2}{*}{\[
{ }^{0.381^{\prime}}
\]} \\
\hline & & & & & & & & & \\
\hline T3 & 220-200 & L2x2x \(3 / 16\) & 9.987 & 4.976 & 96.8 & 0431 & 8072 & 21001 & \[
0.384^{\prime}
\] \\
\hline \multirow[t]{2}{*}{T4} & \multirow[t]{2}{*}{200-180} & \multirow[t]{2}{*}{L2 1/2x2 1/2x3/16} & \multirow[t]{2}{*}{11.329} & \multirow[t]{2}{*}{5.636} & \multirow[t]{2}{*}{86.9} & \multirow[t]{2}{*}{0.571} & \multirow[t]{2}{*}{8634} & \multirow[t]{2}{*}{27.838} & \multirow[t]{2}{*}{\[
0^{0.310^{1}}
\]} \\
\hline & & & & & & & & & \\
\hline T5 & 180-160 & L2 1/2x \(\mathbf{2}^{1 / 2 \times 3 / 16}\) & 12.706 & 6314 & 97.4 & 0.571 & 8.885 & 27.838 & \[
{ }^{0.319^{1}}
\] \\
\hline T6 & 160-140 & L3 3 3 \(\times 3 / 16\) & 14.108 & 7.005 & 89.5 & 0.712 & 9.474 & 34.712 & \[
0^{0.273}
\] \\
\hline \multirow[t]{2}{*}{T7} & \multirow[t]{2}{*}{140-120} & \multirow[t]{2}{*}{L3x \(3 \times 3 / 16\)} & \multirow[t]{2}{*}{15.529} & \multirow[t]{2}{*}{7.705} & \multirow[t]{2}{*}{98.5} & \multirow[t]{2}{*}{0.712} & \multirow[t]{2}{*}{10.172} & \multirow[t]{2}{*}{34.712} & \multirow[t]{2}{*}{\[
0^{0.293^{\prime}}
\]} \\
\hline & & & & & & & & & \\
\hline \multirow[t]{2}{*}{T8} & \multirow[t]{2}{*}{120-100} & \multirow[t]{2}{*}{L. \(3 \times 3 \times 3 / 16\)} & \multirow[t]{2}{*}{16.963} & \multirow[t]{2}{*}{8.412} & \multirow[t]{2}{*}{107.5} & \multirow[t]{2}{*}{0.712} & \multirow[t]{2}{*}{11.103} & \multirow[t]{2}{*}{34.712} & \multirow[t]{2}{*}{\[
\stackrel{0.320}{ }^{\gamma}
\]} \\
\hline & & & & & & & & & \\
\hline \multirow[t]{2}{*}{T9} & \multirow[t]{2}{*}{100-80} & \multirow[t]{2}{*}{L3x3x1/4} & \multirow[t]{2}{*}{18.408} & \multirow[t]{2}{*}{9.134} & \multirow[t]{2}{*}{117.9} & \multirow[t]{2}{*}{0.939} & \multirow[t]{2}{*}{11.993} & \multirow[t]{2}{*}{45.794} & \(0.262^{1}\) \\
\hline & & & & & & & & & \(\checkmark\) \\
\hline \multirow[t]{3}{*}{T10} & \multirow[t]{3}{*}{80-60} & \multirow[t]{2}{*}{2L2 1/2x2 1/2x3/16x3/8} & \multirow[t]{2}{*}{10.829} & \multirow[t]{2}{*}{10.644} & \multirow[t]{2}{*}{164.2} & \multirow[t]{2}{*}{1.139} & \multirow[t]{2}{*}{13.880} & \multirow[t]{2}{*}{55.529} & \multirow[t]{2}{*}{\[
{ }^{0.250^{1}}
\]} \\
\hline & & & & & & & & & \\
\hline & & \[
\begin{aligned}
& \text { 2L 'a' } a^{\prime}>60.948 \text { in }-246 \\
& 2 L 21 / 2 \times 21 / 2 \times 3 / 16 \times 3 / 8
\end{aligned}
\] & & & \multirow[t]{3}{*}{174.7} & & & & \\
\hline \multirow{2}{*}{T11} & \multirow{2}{*}{60-40} & \(2 \mathrm{~L} 21 / 2 \times 21 / 2 \times 3 / 16 \times 3 / 8\) & \multirow{2}{*}{11.508} & \multirow{2}{*}{11.325} & & 1.139 & 14.455 & 55.529 & \[
\stackrel{0.260}{ }_{\boldsymbol{\gamma}}
\] \\
\hline & & \multirow[t]{3}{*}{2L. \({ }^{\text {a' }} \times 664.848\) in -285
\(2 \mathrm{~L} 3 \times 3 \times 3 / 16 \times 3 / 8\)} & & & & & & & \\
\hline \multirow[t]{3}{*}{T12} & \multirow[t]{3}{*}{40-20} & & \multirow[t]{3}{*}{12.195} & \multirow[t]{3}{*}{12.003} & \multirow[t]{3}{*}{153.4} & \multirow[t]{3}{*}{1.424} & \multirow[t]{3}{*}{15.508} & \multirow[t]{3}{*}{69.423} & \multirow[t]{2}{*}{\[
\stackrel{0223}{ }^{2}
\]} \\
\hline & & & & & & & & & \\
\hline & & \[
\begin{gathered}
2 \mathrm{~L}^{\prime} \mathrm{a}^{\prime}>68.564 \text { in }-324 \\
2 \mathrm{~L} 3 \times 3 \times 3 / 16 \times 3 / 8
\end{gathered}
\] & & & & & & & \\
\hline \multirow[t]{2}{*}{T13} & \multirow[t]{2}{*}{20-0} & \(2 \mathrm{~L} 3 \times 3 \times 3 / 16 \times 3 / 8\) & \multirow[t]{2}{*}{12889} & \multirow[t]{2}{*}{12.687} & \multirow[t]{2}{*}{162.1} & \multirow[t]{2}{*}{1.424} & \multirow[t]{2}{*}{16.448} & \multirow[t]{2}{*}{69.423} & \multirow[t]{2}{*}{\[
237
\]} \\
\hline & & 2L' \(\mathrm{a}^{\prime}>72.475\) in - 363 & & & & & & & \\
\hline
\end{tabular}
\({ }^{1} P_{u} / \phi P_{n}\) controls

\section*{Horizontal Design Data (Tension)}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|}
\hline \multirow[t]{2}{*}{Section No.} & Elevation & \multirow[t]{2}{*}{Size} & \(L\) & \(L_{*}\) & Kl/r & A & \(P_{u}\) & \(\phi P_{n}\) & \[
\begin{gathered}
\text { Ratio } \\
P_{u} \\
\hline
\end{gathered}
\] \\
\hline & \(f t\) & & \(f t\) & ft & & \(\mathrm{in}^{2}\) & K & K & \(\phi P_{n}\) \\
\hline T10 & 80-60 & \(2 \mathrm{~L} 13 / 4 \times 13 / 4 \times 3 / 16 \times 3 / 8\) & 19.106 & 9386 & 209.8 & 0.721 & 7.126 & 35.134 & \(0.203{ }^{1}\) \\
\hline
\end{tabular}


\({ }^{1} P_{n} / \phi P_{n}\) controls

\section*{Top Girt Design Data (Tension)}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|}
\hline \multirow[t]{2}{*}{Section No.} & Elevation & \multirow[t]{2}{*}{Size} & \(L\) & \(L\) ، & \(\mathrm{Kl} / \mathrm{r}\) & \(A\) & \(P_{u}\) & \(\phi P_{n}\) & Ratio \(P_{u}\) \\
\hline & \(f t\) & & \(f t\) & \(t\) & & in \({ }^{2}\) & K & \(K\) & \(\phi P_{n}\) \\
\hline T1 & 255-240 & LI 3/4×1 3/4×3/16 & 4913 & 4.767 & 106.5 & 0.360 & 0.120 & 17567 & \[
0.007
\] \\
\hline
\end{tabular}
\({ }^{1} P_{u} / \phi P_{u}\) controls

\section*{Section Capacity Table}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline Section No. & \[
\begin{gathered}
\text { Elevation } \\
f t
\end{gathered}
\] & Component Type & Size & Critical Element & \[
\begin{aligned}
& \bar{P} \\
& K
\end{aligned}
\] & \[
\begin{gathered}
\sigma P_{\text {cultur }} \\
K
\end{gathered}
\] & \(\%\) Capacity & \[
\begin{aligned}
& \hline \text { Pass } \\
& \text { Fail }
\end{aligned}
\] \\
\hline T1 & 255-240 & Leg & \(13 / 4\) & 1 & -11.647 & 33.103 & 35.2 & Pass \\
\hline T2 & 240-220 & Leg & 2 & 27 & -49860 & 54.509 & 91.5 & Pass \\
\hline T3 & 220-200 & Leg & \(21 / 2\) & 54 & -97 575 & 120.108 & 812 & Pass \\
\hline T4 & 200-180 & Leg & \(23 / 4\) & 81 & -145.765 & 161.540 & 902 & Pass \\
\hline T5 & 180-160 & Leg & 3 & 108 & -190.263 & 208.347 & 91.3 & Pass \\
\hline T6 & 160-140 & Leg & \(31 / 4\) & 135 & -232.973 & 260.312 & 89.5 & Pass \\
\hline T7 & 140-120 & Leg & \(31 / 2\) & 160 & -275.412 & 317.273 & 86.8 & Pass \\
\hline T8 & 120-100 & Leg & \(33 / 4\) & 187 & -318.085 & 379.106 & 83.9 & Pass \\
\hline T9 & 100-80 & Leg & \(33 / 4\) & 214 & -361.443 & 379106 & 95.3 & Pass \\
\hline T10 & 80-60 & Leg & 4 & 241 & -399.736 & 445.717 & 89.7 & Pass \\
\hline T11 & 60-40 & Leg & 4 & 280 & -443.084 & 445717 & 99.4 & Pass \\
\hline T12 & 40-20 & Leg & \(41 / 4\) & 319 & -486.980 & 517034 & 94.2 & Pass \\
\hline T13 & 20-0 & Leg & \(41 / 2\) & 358 & -531.402 & 593.004 & 89.6 & Pass \\
\hline T1 & 255-240 & Diagonal & L1 3/4x13/4×3/16 & 16 & -3.163 & \multicolumn{3}{|c|}{32.7 (b)} \\
\hline T2 & 240-220 & Diagonal & L1 \(3 / 4 \times 13 / 4 \times 3 / 16\) & 28 & -6.126 & 7.677 & 79.8 & Pass \\
\hline T3 & 220-200 & Diagonal & L \(2 \times 2 \times 3 / 16\) & 55 & -7.157 & 8.909 & 80.3 & Pass \\
\hline T4 & 200-180 & Diagonal & L2 \(1 / 2 \times 21 / 2 \times 3 / 16\) & 82 & -8.041 & \multicolumn{3}{|c|}{66.3 (b)} \\
\hline T5 & 180-160 & Diagonal & L2 \(1 / 2 \times 21 / 2 \times 3 / 16\) & 109 & -8.408 & 11.018 & 763 & Pass \\
\hline T6 & 160-140 & Diagonal & L \(3 \times 3 \times 3 / 16\) & 136 & -9.042 & 15.683 & 57.7 & Pass \\
\hline & & & & & & & 66.9 (b) & \\
\hline
\end{tabular}

\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline Section No. & Elevation ft & Component Type & Size & \begin{tabular}{l}
Critical \\
Element
\end{tabular} & \[
\begin{aligned}
& P \\
& K
\end{aligned}
\] & \[
\begin{gathered}
{ }^{\ominus} P_{\text {athlow }} \\
K
\end{gathered}
\] & \begin{tabular}{l}
\(\%\) \\
Capacity
\end{tabular} & \begin{tabular}{l}
Pass \\
Fail
\end{tabular} \\
\hline T7 & 140-120 & Diagonal & L3x \(3 \times 3 / 16\) & 163 & -9.830 & 12.964 & 75.8 & Pass \\
\hline T8 & 120-100 & Diagonal & L \(3 \times 3 \times 3 / 16\) & 190 & -10822 & 10.877 & 99.5 & Pass \\
\hline T9 & 100-80 & Diagonal & L \(3 \times 3 \times 1 / 4\) & 217 & -11.658 & 12.022 & 97.0 & Pass \\
\hline T10 & 80-60 & Diagonal & 2L2 \(1 / 2 \times 21 / 2 \times 3 / 16 \times 3 / 8\) & 245 & -13625 & 17.598 & 77.4 & Pass \\
\hline T11 & 60-40 & Diagonal & 2L2 1/2x2 \(1 / 2 \times 3 / 16 \times 3 / 8\) & 284 & -14.309 & 15610 & 91.7 & Pass \\
\hline T12 & 40-20 & Diagonal & \(2 \mathrm{~L} 3 \times 3 \times 3 / 16 \times 3 / 8\) & 323 & -15.443 & 23.129 & 66.8 & Pass \\
\hline T13 & 20-0 & Diagonal & 2L3 \(\times 3 \times 3 / 16 \times 3 / 8\) & 362 & -16.631 & 20.849 & 79.8 & Pass \\
\hline T10 & 80-60 & Horizontal & \(2 \mathrm{LI} 3 / 4 \times 13 / 4 \times 3 / 16 \times 3 / 8\) & 250 & -7.126 & 8079 & 88.2 & Pass \\
\hline T11 & 60-40 & Horizontal & \(2 \mathrm{~L} 2 \times 2 \times 3 / 16 \times 3 / 8\) & 289 & -7.879 & 10.268 & 76.7 & Pass \\
\hline T12 & 40-20 & Horizontal & \(2 \mathrm{~L} 2 \times 2 \times 3 / 16 \times 3 / 8\) & 328 & -8.649 & 8.936 & 96.8 & Pass \\
\hline T13 & 20.0 & Horizontal & 2L2 1/2x2 \(1 / 2 \times 3 / 16 \times 3 / 8\) & 367 & -9.427 & 14.861 & 63.4 & Pass \\
\hline T1 & 255-240 & Top Girt & L1 3/4x1 3/4×3/16 & 5 & -0.198 & 6.409 & 3.1 & Pass \\
\hline T10 & 80-60 & Inner Bracing & L1 \(3 / 4 \times 13 / 4 \times 3 / 16\) & 255 & -0.011 & 1.596 & 0.7 & Pass \\
\hline T11 & 60-40 & Inner Bracing & L1 \(3 / 4 \times 13 / 4 \times 3 / 16\) & 294 & -0.012 & 1.372 & 0.9 & Pass \\
\hline T12 & 40-20 & Inner Bracing & L1 \(3 / 4 \times 13 / 4 \times 3 / 16\) & 333 & -0014 & 1.192 & 1.1 & Pass \\
\hline \multirow[t]{9}{*}{T13} & 20-0 & Inner Bracing & L1 \(3 / 4 \times 13 / 4 \times 3 / 16\) & 370 & -0.014 & 1.045 & 1.4 & Pass \\
\hline & & & & & & & Summary & \\
\hline & & & & & & Leg (T11) & 99.4 & Pass \\
\hline & & & & & & Diagonal (T8) & 99.5 & Pass \\
\hline & & & & & & \begin{tabular}{l}
Horizontal \\
(T12)
\end{tabular} & 96.8 & Pass \\
\hline & & & & & & Top Girt (T1) & 3.1 & Pass \\
\hline & & & & & & Inner Bracing (T13) & 1.4 & Pass \\
\hline & & & & & & Bolt Checks & 78.4 & Pass \\
\hline & & & & & & RATING = & 99.5 & Pass \\
\hline
\end{tabular}

Program Version 8.1.1.0

\section*{EXHIBIT D COMPETING UTILITIES, CORPORATIONS, OR PERSONS LIST}

\section*{KY Public Service Commission}

\section*{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 \begin{tabular}{l} 
Utility \\
Name
\end{tabular}\(\quad\) Address/City/Contact Utility Type \(\quad\) Status
\begin{tabular}{|c|c|c|c|c|c|c|}
\hline & \[
\begin{aligned}
& \text { Utility } \\
& \text { ID }
\end{aligned}
\] & Utility Name & \begin{tabular}{l}
Utility \\
Type
\end{tabular} & Class & City & State \\
\hline View & 4111300 & 2600Hz, Inc. dba ZSWITCH & Cellular & D & San Francisco & CA \\
\hline View & 4108300 & Air Voice Wireless, LLC & Cellular & B & Houston & TX \\
\hline View & 4110650 & Alliant Technologies of KY, L.L.C. & Cellular & D & Morristown & NJ \\
\hline View & 4111900 & ALLNETAIR, INC. & Cellular & D & West Palm Beach & FL \\
\hline View & 44451184 & Alltel Corporation d/b/a Verizon Wireless & Cellular & A & Lisle & IL \\
\hline View & 4110850 & AltaWorx, LLC & Cellular & D & Fairhope & AL \\
\hline View & 4107800 & American Broadband and Telecommunications Company & Cellular & D & Toledo & OH \\
\hline View & 4108650 & AmeriMex Communications Corp. & Cellular & A & Safety Harbor & FL \\
\hline View & 4105100 & AmeriVision Communications, Inc. d/b/a Affinity 4 & Cellular & D & Virginia Beach & VA \\
\hline View & 4105700 & Assurance Wireless USA, L.P. & Cellular & A & Atlanta & GA \\
\hline View & 4108600 & BCN Telecom, Inc. & Cellular & D & Morristown & NJ \\
\hline View & 4106000 & Best Buy Health, Inc. d/b/a GreatCall d/b/a Jitterbug & Cellular & A & San Diego & CA \\
\hline View & 4111050 & BlueBird Communications, LLC & Cellular & D & New York & NY \\
\hline View & 4202300 & Bluegrass Wireless, LLC & Cellular A & A & Elizabethtown & KY \\
\hline View & 4107600 & Boomerang Wireless, LLC & Cellular & C & Hiawatha & IA \\
\hline View & 4105500 & BullsEye Telecom, Inc. & Cellular & D & Southfield & MI \\
\hline View & 4100700 & Cellco Partnership dba Verizon Wireless & Cellular & A & Basking Ridge & NJ \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|}
\hline View & 4106600 & Cintex Wireless, LLC & Cellular \({ }^{\text {D }}\) & & Houston & TX \\
\hline View & 4111150 & Comcast OTR1, LLC & Cellular B & B & Phoeniexville & PA \\
\hline View & 4101900 & Consumer Cellular, Incorporated & Cellular A & A & Portland & OR \\
\hline View & 4112700 & Cox Wireless, LLC & Cellular & C & Atlanta & GA \\
\hline View & 4108850 & Cricket Wireless, LLC & Cellular A & A & San Antonio & TX \\
\hline View & 4111500 & CSC Wireless, LLC d/b/a Altice Wireless & Cellular D & D & Long Island City & NY \\
\hline View & 10640 & Cumberland Cellular Partnership & Cellular A & A & Elizabethtown & KY \\
\hline View & 4111650 & DataBytes, Inc. & Cellular D & D & Rogers & AR \\
\hline View & 4112000 & DISH Wireless L.L.C. & Cellular A & A & Englewood & CO \\
\hline View & 4111200 & Dynalink Communications, Inc. & Celluar & C & Brooklyn & NY \\
\hline View & 4111800 & Earthlink, LLC & Cellular D & D & Atlanta & GA \\
\hline View & 4101000 & East Kentucky Network, LLC dba Appalachian Wireless & Cellular A & A & Ivel & KY \\
\hline View & 4002300 & Easy Telephone Service Company dba Easy Wireless & Cellular \({ }^{\text {D }}\) & D & Ocala & FL \\
\hline View & 4109500 & Enhanced Communications Group, LLC & Cellular D & D & Bartlesville & OK \\
\hline View & 4110450 & Excellus Communications, LLC & Cellular D & D & Chattanooga & TN \\
\hline View & 4112400 & Excess Telecom Inc. & Cellular D & D & Beverly Hills & CA \\
\hline View & 4105900 & Flash Wireless, LLC & Cellular \({ }^{\text {d }}\) & D & Concord & NC \\
\hline View & 4104800 & France Telecom Corporate Solutions L.L.C. & Cellular D & D & Herndon & VA \\
\hline View & 4111750 & Gabb Wireless, Inc. & Cellular D & D & Provo & UT \\
\hline View & 4112300 & Gen Mobile Inc. & Cellular C & C & Redondo Beach & CA \\
\hline View & 4109350 & Global Connection Inc. of America & Cellular \({ }^{\text {d }}\) & D & Newport & KY \\
\hline View & 4102200 & Globalstar USA, LLC & Cellular C & C & Covington & LA \\
\hline View & 4109600 & Google North America Inc. & Cellular A & A & Mountain View & CA \\
\hline View & 33350363 & Granite Telecommunications, LLC & Cellular & D & Quincy & MA \\
\hline View & 4111350 & HELLO MOBILE TELECOM LLC & Cellular D & D & Dania Beach & FL \\
\hline View & 4103100 & i-Wireless, LLC & Cellular \({ }^{\text {B }}\) & B & Newport & KY \\
\hline View & 4112550 & IDT Domestic Telecom, Inc. & Cellular C & C & Newark & NJ \\
\hline View & 4109800 & IM Telecom, LLC d/b/a Infiniti Mobile & Cellular & D & Plano & TX \\
\hline View & 4112650 & Insight Mobile, Inc. & Cellular & C & Los Angeles & CA \\
\hline View & 4111950 & J Rhodes Enterprises LLC & Cellular & D & Gulf Breeze & FL \\
\hline View & 22215360 & KDDI America, Inc. & Cellular & D & Staten Island & NY \\
\hline View & 10872 & Kentucky RSA \#1 Partnership & Cellular \(A\) & A & Basking Ridge & NJ \\
\hline View & 10680 & Kentucky RSA \#3 Cellular General & Cellular & A & Elizabethtown & KY \\
\hline View & 10681 & Kentucky RSA \#4 Cellular General & Cellular & A & Elizabethtown & KY \\
\hline View & 4112200 & Lexvor Inc. & Cellular & D & Irvine & CA \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|}
\hline View & 4111250 & Liberty Mobile Wireless, LLC & Cellular \({ }^{\text {A }}\) & & Sunny Isles Beach & FL \\
\hline View & 4111400 & Locus Telecommunications, LLC & Cellular & A & Fort Lee & NJ \\
\hline View & 4107300 & Lycamobile USA, Inc. & Cellular & D & Newark & NJ \\
\hline View & 4112500 & Marconi Wireless Holdings, LLC & Cellular & C & Westlake Village & CA \\
\hline View & 4108800 & MetroPCS Michigan, LLC & Cellular & A & Bellevue & WA \\
\hline View & 4111700 & Mint Mobile, LLC & Cellular & C & Costa Mesa & CA \\
\hline View & 4111850 & Mobi, Inc. & Cellular & D & Honolulu & HI \\
\hline View & 4109400 & NetZero Wireless, Inc. dba magicJack Wireless & Cellular & D & West Palm Beach & FL \\
\hline View & 4202400 & New Cingular Wireless PCS, LLC dba AT\&T Mobility, PCS & Cellular & A & San Antonio & TX \\
\hline View & 4112350 & NewPhone Wireless, L.L.C. & Cellular & D & Houston & TX \\
\hline View & 4000800 & Nextel West Corporation & Cellular D & D & Overland Park & KS \\
\hline View & 4110700 & Norcell, LLC & Cellular & D & Buford & GA \\
\hline View & 4001300 & NPCR, Inc. dba Nextel Partners & Cellular D & D & Overland Park & S \\
\hline View & 4001800 & OnStar, LLC & Cellular & A & Detroit & MI \\
\hline View & 4110750 & Onvoy Spectrum, LLC & Cellular D & D & Chicago & IL \\
\hline View & 4109050 & Patriot Mobile LLC & Cellular D & D & Irving & TX \\
\hline View & 4110250 & Plintron Technologies USA LLC & Cellular & D & Bellevue & WA \\
\hline View & 33351182 & PNG Telecommunications, Inc. dba PowerNet Global Communications & Cellular & D & Cincinnati & OH \\
\hline View & 4107700 & Puretalk Holdings, Inc. & Cellular & A & Covington & GA \\
\hline View & 4106700 & Q Link Wireless, LLC & Cellular A & A & Dania & FL \\
\hline View & 4108700 & Ready Wireless, LLC & Cellular & C & Hiawatha & IA \\
\hline View & 4110500 & Republic Wireless, Inc. & Cellular & A & Raleigh & NC \\
\hline View & 4106200 & Rural Cellular Corporation & Cellular & A & Basking Ridge & NJ \\
\hline View & 4108550 & Sage Telecom Communications, LLC dba TruConnect & Cellular A & A & Los Angeles & CA \\
\hline View & 4109150 & SelecTel, Inc. d/b/a SelecTel Wireless & Cellular & D & Fremont & NE \\
\hline View & 4110150 & Spectrotel of the South LLC dba Touch Base Communications & Cellular & D & Neptune & NJ \\
\hline View & 4111450 & Spectrum Mobile, LLC & Cellular & A & St. Louis & MO \\
\hline View & 4200100 & Sprint Spectrum, L.P. & Cellular A & A & Atlanta & GA \\
\hline View & 4200500 & SprintCom, LLC & Cellular A & A & Atlanta & GA \\
\hline View & 4111600 & STX Group LLC dba Twigby & Cellular D & D & Murfreesboro & TN \\
\hline View & 4202200 & T-Mobile Central, LLC dba TMobile & Cellular & A & Bellevue & WA \\
\hline View & 4002500 & TAG Mobile, LLC & Cellular & D & Plano & TX \\
\hline View & 4109700 & Telecom Management, Inc. dba Pioneer Telephone & Cellular D & D & Saco & ME \\
\hline View & 4107200 & Telefonica USA, Inc. & Cellular D & D & Miami & FL \\
\hline View & 4112100 & Tello LLC & Cellular C & C & Atlanta & GA \\
\hline & 4108900 & Telrite Corporation & Cellular \({ }^{\text {D }}\) & & Covington & GA \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|}
\hline View & \multirow[b]{2}{*}{4108450} & \multirow[b]{2}{*}{Tempo Telecom, LLC} & \multicolumn{2}{|l|}{\multirow[b]{2}{*}{Cellular D}} & \multirow[b]{2}{*}{Dallas} & \multirow[b]{2}{*}{TX} \\
\hline View & & & & & & \\
\hline View & 4109000 & Ting, Inc. & Cellular B & B & Toronto & ON \\
\hline View & 4110400 & Torch Wireless Corp. & Cellular & D & Jacksonville & FL \\
\hline View & 4103300 & Touchtone Communications, Inc. & Cellular & D & Cedar Knolls & NJ \\
\hline View & 4104200 & TracFone Wireless, Inc. & Cellular D & D & Miami & FL \\
\hline View & 4112250 & TROOMI WIRELESS, Inc. & Cellular D & D & Lehi & UT \\
\hline View & 4002000 & Truphone, Inc. & Cellular & D & Durham & NC \\
\hline View & 4112600 & Tube Incorporated dba Reach Mobile & Cellular & D & Chelmsford & MA \\
\hline View & 4112750 & Unity Wireless, Inc. & Cellular C & C & Pembroke Pines & FL \\
\hline View & 4110300 & UVNV, Inc. d/b/a Mint Mobile & Cellular & D & Costa Mesa & CA \\
\hline View & 10630 & Verizon Americas LLC dba Verizon Wireless & Cellular \({ }^{\text {A }}\) & A & Basking Ridge & NJ \\
\hline View & 4110800 & Visible Service LLC & Cellular \({ }^{\text {d }}\) & D & Basking Ridge & NJ \\
\hline View & 4106500 & WiMacTel, Inc. & Cellular D & D & Calgary, AB & CA \\
\hline View & 4110950 & Wing Tel Inc. & Cellular D & D & New York & NY \\
\hline View & 4112150 & Zefcom, LLC & Cellular C & C & Wichita Falls & TX \\
\hline
\end{tabular}

\section*{EXHIBIT E}

FAA

\section*{** 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:
\begin{tabular}{ll} 
Structure: & Antenna Tower West Highway 90 (1) \\
Location: & Monticello, KY \\
Latitude: & \(36-46-32.90 \mathrm{~N}\) NAD 83 \\
Longitude: & \(84-56-33.50 \mathrm{~W}\) \\
Heights: & \begin{tabular}{l}
1221 feet site elevation (SE) \\
\\
\end{tabular} \\
& 267 feet above ground level (AGL) \\
& 1488 feet above mean sea level (AMSL)
\end{tabular}

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

As a condition to this Determination, the structure is to be marked/lighted in accordance with FAA Advisory circular 70/7460-1 M, Obstruction Marking and Lighting, a med-dual system-Chapters 4,8(M-Dual),\&15.

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

At least 10 days prior to start of construction (7460-2, Part 1)
\(\qquad\) Within 5 days after the construction reaches its greatest height ( \(7460-2\), Part 2)

This determination expires on 04/25/2023 unless:
(a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
(b) extended, revised, or terminated by the issuing office.
(c) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within

6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights, and frequencies or use of greater power, except those frequencies specified in the Colo Void Clause Coalition; Antenna System Co-Location; Voluntary Best Practices, effective 21 Nov 2007, will void this determination. Any future construction or alteration, including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA.This determination includes all previously filed frequencies and power for this structure.

If construction or alteration is dismantled or destroyed, you must submit notice to the FAA within 5 days after the construction or alteration is dismantled or destroyed.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

A copy of this determination will be forwarded to the Federal Communications Commission (FCC) because the structure is subject to their licensing authority.

If we can be of further assistance, please contact our office at (718) 553-2611, or angelique.eersteling@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2021-ASO-37305-OE.

Signature Control No: 495056009-498594711
( DNE )
Angelique Eersteling
Technician

Attachment(s)
Case Description
Frequency Data
Map(s)
cc: FCC

\section*{Case Description for ASN 2021-ASO-37305-OE}

This study should replace 2021-ASO-34273-OE for a height increase.
Telecommunications tower
\begin{tabular}{|c|c|c|c|c|}
\hline \begin{tabular}{l}
LOW \\
FREQUENCY
\end{tabular} & \[
\begin{gathered}
\text { HIGH } \\
\text { FREQUENCY } \\
\hline
\end{gathered}
\] & FREQUENCY UNIT & ERP & \[
\begin{gathered}
\text { ERP } \\
\text { UNIT }
\end{gathered}
\] \\
\hline 6 & 7 & GHz & 55 & dBW \\
\hline 6 & 7 & GHz & 42 & dBW \\
\hline 10 & 11.7 & GHz & 55 & dBW \\
\hline 10 & 11.7 & GHz & 42 & dBW \\
\hline 17.7 & 19.7 & GHz & 55 & dBW \\
\hline 17.7 & 19.7 & GHz & 42 & dBW \\
\hline 21.2 & 23.6 & GHz & 55 & dBW \\
\hline 21.2 & 23.6 & GHz & 42 & dBW \\
\hline 614 & 698 & MHz & 1000 & W \\
\hline 614 & 698 & MHz & 2000 & W \\
\hline 698 & 806 & MHz & 1000 & W \\
\hline 806 & 901 & MHz & 500 & W \\
\hline 806 & 824 & MHz & 500 & W \\
\hline 824 & 849 & MHz & 500 & W \\
\hline 851 & 866 & MHz & 500 & W \\
\hline 869 & 894 & MHz & 500 & W \\
\hline 896 & 901 & MHz & 500 & W \\
\hline 901 & 902 & MHz & 7 & W \\
\hline 929 & 932 & MHz & 3500 & W \\
\hline 930 & 931 & MHz & 3500 & W \\
\hline 931 & 932 & MHz & 3500 & W \\
\hline 932 & 932.5 & MHz & 17 & dBW \\
\hline 935 & 940 & MHz & 1000 & W \\
\hline 940 & 941 & MHz & 3500 & W \\
\hline 1670 & 1675 & MHz & 500 & W \\
\hline 1710 & 1755 & MHz & 500 & W \\
\hline 1850 & 1910 & MHz & 1640 & W \\
\hline 1850 & 1990 & MHz & 1640 & W \\
\hline 1930 & 1990 & MHz & 1640 & W \\
\hline 1990 & 2025 & MHz & 500 & W \\
\hline 2110 & 2200 & MHz & 500 & W \\
\hline 2305 & 2360 & MHz & 2000 & W \\
\hline 2305 & 2310 & MHz & 2000 & W \\
\hline 2345 & 2360 & MHz & 2000 & W \\
\hline 2496 & 2690 & MHz & 500 & W \\
\hline
\end{tabular}

Verified Map for ASN 2021-ASO-37305-OE


TOPO Map for ASN 2021-ASO-37305-OE


Page 6 of 7


EXHIBIT F
KENTUCKY AIRPORT ZONING COMMISSION

\title{
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

JIM GRAY
Secretary

February 15, 2022

APPLICANT
Harmoni Towers
B\&T Group - Jeremy Siegel
10801 Executive Center Dr. Ste. 100
Little Rock, AR 72211

SUBJECT: AS-WAYNE-EKQ-2022-006
\begin{tabular}{ll} 
STRUCTURE: & Antenna Tower \\
LOCATION: & Monticello, KY \\
COORDINATES: & \(36^{\circ} 46^{\prime} 32.90^{\prime \prime} \mathrm{N} / 84^{\circ} 56^{\prime} 33.50^{\prime \prime} \mathrm{W}\) \\
HEIGHT: & \(267^{\prime} \mathrm{AGL} / 1488^{\prime} \mathrm{AMSL}\)
\end{tabular}

The Kentucky Airport Zoning Commission has approved your application for a permit to construct 267'AGL/ \(1488^{\prime}\) AMSL Antenna Tower near Monticello, KY \(36^{\circ} 46^{\prime} 32.90^{\prime \prime} \mathrm{N} / 84^{\circ} 56^{\prime} 33.50^{\prime \prime} \mathrm{W}\).

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.

Dual red \& white medium intensity obstruction lighting is required.

\section*{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

\section*{EXHIBIT G \\ GEOTECHNICAL REPORT}


\section*{ENVIRONMENTAL CORPORATION OF AMERICA}

ENVIRONMENTAL \| GEOTECHNICAL \| WETLANDS \| ECOLOGY \| CULIURALRESOURCES

\section*{Geotechnical Investigation}

KYLEX2056 (West Highway 90)

\author{
571 Holly Hill Tree Lane Monticello, Wayne County, Kentucky
}

ECA Project No. 22-000930


\section*{SUBMITTED TO:}

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

PREPARED BY:
Environmental Corporation of America 1375 Union Hill Industrial Court, Suite A Alpharetta, GA 30004

ENVIRONMENTAL CORPORATION OF AMERICA


April 22, 2022
B+T Group Holdings, Inc.
1717 S. Boulder Ave., Suite 300
Tulsa, OK 74119
Attention: Ms. Patricia Parr, Project Manager II
\(\begin{array}{ll}\text { Subject: } & \text { Geotechnical Investigation Report } \\ & \text { KYLEX2056 (West Highway 90) } \\ & \text { 571 Holly Hill Tree Lane } \\ & \text { Monticello, Wayne County, Kentucky } \\ & \text { ECA Project No. 22-000930 }\end{array}\)
Dear Ms. Parr:
Environmental Corporation of America (ECA) is pleased to submit this report of our geotechnical investigation for the proposed project. Our services were provided as authorized by B+T Group Holdings, Inc., via a purchase order dated March 16, 2022.

This report presents a review of the information provided to us, a description of the site and subsurface conditions, and our recommendations. The appendices contain a Site Location Map, a Boring Location Plan, a Boring Log, Rock Quality Designation (RQD) Index, and Laboratory Testing Results.

We will be happy to discuss our recommendations with you and look forward to providing the additional studies or services necessary to complete this project. We appreciate the opportunity to be of service. Please call us with any questions at (770) 667-2040.

Sincerely,

\section*{Environmental Corporation of America}


Mrs. Athulya Balakrishnan, P.E. Project Engineer


\section*{Geotechnical Investigation}

\section*{Purpose and Scope of Work}

The purpose of this investigation was to obtain specific subsurface data at the site and to provide geotechnical related parameters for the design and construction of the foundations for a proposed self-supported lattice tower.

Our scope of work included the following:
- One (1) soil test boring was drilled to a depth of 11 feet below the ground surface (bgs).
- Figure 1 shows the Site Location Map. Figure 2 shows the Boring Location Plan.
- Standard penetration tests (SPTs) were performed to obtain soil samples and SPT N -values, in accordance with ASTM D-1586. Rock core drilling and sampling of rock was performed in accordance with ASTM D-2113.
- The depth to groundwater, if any, was measured in the boring after drilling was completed.
- Natural moisture content (WCN) tests were performed on a selected number of soil samples in accordance with ASTM D-2216.
- Unconfined compressive strength \(\left(\mathrm{q}_{u}\right)\) index tests were performed using the pocket penetrometer test or the spring tester test (whenever possible).
- The soil samples were visually classified in accordance with ASTM D-2488 and a boring log was prepared.
- The soil conditions were evaluated by a registered professional engineer and this geotechnical report was prepared with our recommendations.

We have recommended design parameters and settlements based on the SPT N -values, an examination of the soil samples, and our experience with similar soil conditions and structures.

\section*{Project Information}

We were provided with a project site survey prepared by Point to Point Land Surveyor, Inc and dated March 2, 2022. The proposed tower would be located at 571 Holly Hill Tree Lane, near Monticello, Wayne County, in Kentucky.

We understand that plans include constructing a 255 -foot tall self-supported lattice tower, approximately as shown in Figure 2. We assume that the equipment building/cabinet will be a prefabricated structure supported on a perimeter grade beam, spread footing or turndown slab. The project also includes the construction of a 12 -foot-wide gravel access drive within a 30 -foot wide ingress/egress and utility easement.

\section*{Field Drilling Work}

The field drilling work was conducted on April 11, 2022. Information obtained from the boring log was used to help us evaluate the subsurface conditions and to assist in formulating our recommendations. The site was staked at the time of our field visit.

\section*{Subsurface Soil Conditions (Boring B-1)}

In general, soils encountered at the site initially consisted of an initial layer topsoil to an approximate depth of 1 -feet, underlain by hard to very hard Limestone Rock to the full depth drilled of 11 feet. Auger refusal was encountered at a depth of 1 -feet.

The following table presents a summary of the existing soil conditions.
\begin{tabular}{c|c|c|c|c}
\hline \multicolumn{2}{c|}{\begin{tabular}{c} 
Soil Profile \\
Depth (ft)
\end{tabular}} & \begin{tabular}{c} 
Type of Soils \\
(Soil Manual Classification)
\end{tabular} & *Soil Symbol & \begin{tabular}{c} 
SPT N-Values \\
bpf (blows per foot)
\end{tabular} \\
\hline 0 & 1 & Fill (topsoil) & Fill & - \\
\hline 1 & 11 & Hard to very hard Limestone Rock & Limestone & \begin{tabular}{c}
\(* * \mathrm{RQD}\) between \(64 \%\) \\
and \(100 \%\)
\end{tabular} \\
\hline
\end{tabular}
*Based in the Unified Soil Classification System (USCS) and the Soil and Rock Logging, Classification, and Presentation Manual (Caltrans 2010 ed.)
**RQD: Rock Quality Designation Index.
For Boring B-1 an NQ rock core was obtained from approximately 1 to 11 feet. The encountered Limestone Rock was manually described as coarse textured, white/light grey, hard to very hard, moderately to slightly weathered, and moderately fractured.

The Percent Recovery (Rec.) and Rock Quality Designation (RQD) Index obtained during rock core drilling are described in the following table. Based on RQD value obtained, the rock encountered at the site is considered fair to excellent rock quality.
\begin{tabular}{c|c|c|c}
\hline \begin{tabular}{c} 
Boring \\
Log
\end{tabular} & \begin{tabular}{c} 
Core Length \\
Run Depth (feet)
\end{tabular} & \begin{tabular}{c} 
Percent Recovery \\
(Rec.) (inches) \(/(\%)\)
\end{tabular} & \begin{tabular}{c} 
Rock Quality Designation \\
(RQD) Index (inches) \(/(\%)\)
\end{tabular} \\
\hline \multirow{2}{*}{ B-1 } & 1 to 6 & \(42.0 / 70\) & \(38.4 / 64\) \\
\cline { 2 - 4 } & 6 to 11 & \(60.0 / 100\) & \(60.0 / 100\) \\
\hline
\end{tabular}

Please refer to Appendix C for the Rock Quality Designation (RQD) Index table per ASTM D6032.

ECA also conducted Compressive Strength of Intact Rock Cores measurements on selected rock specimens based on ASTM D7012- Method C. Please refer Appendix D for the Laboratory Testing Results.

\section*{Groundwater Level Conditions}

At the time of drilling (ATD), a groundwater level was not encountered within the depths drilled. It should be noted that groundwater level observations made within mostly cohesive soils during drilling could be misleading. It should be anticipated that the groundwater level will fluctuate due to seasonal climatic changes during the year. To determine actual groundwater level measurements, groundwater levels should be measured using observation wells installed for prolonged periods.

\section*{Foundation Construction Recommendations}

The subsurface conditions are suitable for the support of the proposed tower using either a shallow foundation system or a deep foundation system.

\section*{Shallow Foundation System}

For the case of a pad and pier foundation the existing rock is capable of a maximum net allowable soil bearing pressure ( \(\mathrm{q}_{\mathrm{ALL}}\) ) of \(20,000 \mathrm{psf}\) (pounds per square foot) at a minimum depth of foundation ( \(\mathrm{D}_{\mathrm{f}}\) ) of 5 feet below existing grade elevation. Total and differential settlement should be considered negligible.

A safety factor of 3 and a wet soil unit weight ( \(\gamma_{\text {wet }}\) ) 155 pcf (pounds per cubic foot) were considered for soil bearing computations.

The provided rock bearing pressure assumes the bottom of excavation would be dry and stable. The bottom of excavation should be proof rolled, observed, and inspected prior to placing any concrete. For more details, please refer to our Fill Placement section.

\section*{Deep Foundation System}

Based on our review of the existing subsurface conditions encountered in the boring, we offer the following average rock parameters for the design of a proposed drilled shaft.
\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline \multicolumn{2}{|l|}{Boring Depth (feet)} & *Unit Weight \(\gamma_{\text {wet }} / \gamma_{b}\) (pcf) & \begin{tabular}{l}
Friction \\
Angle \\
\(\phi\) (deg)
\end{tabular} & \begin{tabular}{l}
Rock \(q_{u}\) \\
(psf)
\end{tabular} & \(\mathbf{K}_{\mathbf{p}}\) & Allowable Skin Friction \(\mathrm{f}_{\mathrm{S}}\) (psf) & Allowable Bearing Pressure qall (psf) & Soil Modulus \(\mathbf{K}_{\mathbf{H}}\) (pci) \\
\hline 0 & 1 & - & 0 & - & 1.00 & - & - & - \\
\hline 1 & 6 & 155 & 0 & 20,000 & 1.00 & 3,000 & - & 1,250 \\
\hline 6 & 11 & 160 & 0 & 25,000 & 1.00 & 3,750 & 35,000 & 1,450 \\
\hline
\end{tabular}

\footnotetext{
Notes: A safety factor of 2 is used for allowable skin friction ( fS ). A safety factor of 5 is used for allowable soil bearing pressure (qall). *Below the groundwater level designer should consider the buoyant unit weight \(\left(\gamma_{\mathrm{b}}\right)=\gamma_{\text {wet }}-\gamma_{\text {water }}\).
Active earth pressure coefficient \(\mathrm{K}_{\mathrm{A}}=\tan ^{2}(45-\phi / 2)=1 / \mathrm{K}_{\mathrm{P}}\).
At rest earth pressure coefficient \(K_{0}=1-\sin (\phi)\).
}

Proposed drilled shaft should be designed using a combination of point bearing and friction forces. Estimated settlement for the proposed drilled shaft foundation should be considered negligible if the bottom of foundation is placed at or below 6 and 11 ft bgs.

Final shaft diameter (D) and embedment length (L) will depend upon final tower loading conditions. For these foundations ECA recommends a minimum concrete strength ( \(\mathrm{f}_{\mathrm{c}}\) ) of 4,000 psi (pounds per square inch).

As an alternative, project designer may consider the use of micropiles under a pile cap foundation. For the allowable bond capacity ( PGAlL ), a micropile should be installed within the existing hard limestone rock. Based on the current soil conditions this analysis will be considered mainly frictional. Using standard micropile casing sizes, the table below establishes a relationship between allowable bond capacity and total length (L).
\begin{tabular}{|c|c|c|c|c|}
\hline \multirow[t]{3}{*}{(Free Length) Grouted Length (feet)} & \multirow[t]{3}{*}{\[
\begin{gathered}
\text { Total } \\
\text { Length }(\mathbf{L}) \\
(\text { feet })
\end{gathered}
\]} & \multicolumn{3}{|l|}{Allowable Micropile Bond Capacity ( \(\mathbf{P}_{\text {Gall }}\) ) (Kips)} \\
\hline & & \multicolumn{3}{|c|}{Micropile Casing Diameter (inches)} \\
\hline & & 6 inches & 7 inches & 9.625 inches \\
\hline (1) 10 & 11 & 226.2 & 263.9 & 362.9 \\
\hline (1) 15 & 16 & 339.3 & 395.8 & 544.3 \\
\hline (1) 20 & 21 & 452.4 & 527.8 & 725.7 \\
\hline (1) 25 & 26 & 565.5 & 659.7 & 907.1 \\
\hline (1) 30 & 31 & 678.6 & 791.7 & 1,088.6 \\
\hline
\end{tabular}

An anchor free length of 1 -foot was considered. An allowable grout/bond stress of 500 psi was considered for the existing rock. A safety factor of 2.5 was applied to the ultimate grout/bond stress.

Please refer to Figure 3 in Appendix A for a micropile construction detail.

\section*{Building Foundations}

The proposed equipment building can be supported on a perimeter grade beam, spread footing or turndown slab foundation. For the design of the building foundation the soils are capable of a maximum net allowable soil bearing pressure ( \(\mathrm{q}_{\mathrm{ALL}}\) ) of \(2,000 \mathrm{psf}\). A minimum depth of foundation ( \(\mathrm{D}_{\mathrm{f}}\) ) of 1.5 feet below existing grade elevation. Total and differential settlements should be less than \(1 / 2\)-inch and \(1 / 4\)-inch, respectively.

The ground floor slabs may be designed as conventional slabs on grade and bearing on the existing soils or compacted fill using a Modulus of Subgrade Reaction (Ks) of 155 pci (pounds per cubic inch). The bearing pad should be prepared and compacted prior to placing any concrete. The prospective contractor should verify the Fill Placement section of this report.

\section*{Soil Site Class}

Based on our site evaluation and the information provided by the International Building Code (IBC 2012 / ASCE 7-10), to perform a dynamic analysis the clients design engineer should consider that the soils at the site fall under a Rock Profile and Site Class B.

\section*{Foundation Excavations}

A groundwater level was not encountered during excavation. Therefore, the prospective contractor would not need to consider excavation dewatering.

\section*{A very hard limestone rock was encountered at the site in Boring B-1 at the ground level. The prospective contractor should consider specialized equipment for hard rock excavation or caisson drilling.}

To avoid softening of the shallow soils exposed at the foundation bearing level, excavations should not be left open for extended periods prior to placing reinforcing steel and concrete. If rain or freezing weather is expected, excavations should not be completed. Leaving the excavations at least 1 -foot above final grade should protect the bearing soils from deterioration.

If the excavation must remain open overnight or if rainfall becomes imminent while the bearing soils are exposed, we recommend that a 2 to 4 -inch thick "mud-mat" of "lean" ( \(2,000 \mathrm{psi}\) ) concrete be placed on the bearing soils before the placement of reinforcing steel. If the bearing soils are softened by surface water intrusion or exposure, the softened soils must be removed from the foundation excavation bottom immediately prior to placement of concrete.

\section*{Fill Placement}

If required, borrow materials for fill, unless otherwise specified, should consist of essentially granular material (GM, GP, GM, GC, SW, SP or SM Unified Soil Classification System); A-2-4 or better, AASHTO Classification, as approved by the Project Geotechnical Engineer. These should be free from vegetation and should not contain rocks greater than 6 inches in size.

The amount of fill required for this project depends on the planned final grades, but we expect it to be minimal. Any fill or backfill required to attain finished grade should be placed in layers not exceeding 8 to 10 -inch thick lifts and compacted to not less than \(95 \%\) of the Standard Proctor Maximum dry density, as determined by method (ASTM D-698). The soil moisture content should be close to the optimum moisture content. All required fills should meet the specified compaction criteria.

ECA does not know the capability of the surficial soil to support pavements. However, we suggest that the upper soils be replaced by granular fill in areas of heavy traffic to improve the subgrade support capabilities and moisture sensitivity.

Field density tests should be conducted at routine intervals as the fill is being placed to verify that adequate compaction is achieved. Prior to placing any new fill, any soft or loose near surface soils should be removed and the area Proof-Rolled with a heavy vehicle or a heavy compaction vibratory roller to confirm that any unsuitable soil conditions have been discovered.

\section*{Basis for Recommendations}

The subsurface conditions encountered at the boring location is shown on the Boring Log in Appendix B. The Boring Logs represents our interpretation of the subsurface conditions based on the field logs and visual examination of field samples by an engineer. The lines designating the interface between various strata on the Boring Log represents the approximate interface locations. In addition, the transition between strata may be gradual. The water level shown on the Boring Log, if any, represents the condition only at the time of our exploration.

The recommendations contained herein are based in part on project information provided to us and only apply to the specific project and site discussed in this report. If the project information section in this report contains incorrect information or if additional information is available, please let us know so that we may review the validity of our recommendations.

Regardless of the thoroughness of a geotechnical investigation, there is always a possibility that conditions between borings will be different from those at specific boring locations and that conditions will not be as anticipated by the designers or contractors. In addition, the construction process may itself alter soil conditions. Therefore, experienced geotechnical personnel should observe and document the construction procedures used and the conditions encountered.

Unanticipated conditions and inadequate procedures should be reported to the design team along with timely recommendations to solve the problems created. ECA is best qualified to provide this service based on our familiarity with the project, the subsurface conditions, and the intent of the recommendations and design.

We wish to remind you that we will store the soil samples for 30 days. The samples will then be discarded unless you request otherwise.

\section*{APPENDICES}

\author{
Appendix A Figures \\ Appendix B Boring Log \\ Appendix C Rock Quality Designation (RQD) Index \\ Appendix D Laboratory Testing Results
}

\section*{APPENDIX A}

Figures




KYLEX2056 (West Highway 90)
571 Holly Hill Tree Lane
Monticello, Wayne County, Kentucky
Figure 3: Micropile Construction Detail


\section*{APPENDIX B}

Boring Log
\begin{tabular}{|l|c|c|}
\hline Project: KYLEX2056 & \begin{tabular}{c} 
Environmental Corp of America \\
1375 Union Hill Industrial Ct. Suite-A \\
Alpharetta, GA 30004 \\
Project Location: Monticello, KY
\end{tabular} & \begin{tabular}{c} 
Log of Boring B-1 \\
Project Number: 22-000930
\end{tabular} \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|}
\hline Date(s)
Drilled
4/11/2022 & Logged By A. Balakrishnan & Checked By H. Acosta \\
\hline Drilling
Method HSA/CB & Drill B4
Size/Type
2.25 inches & Total Depth of Borehole 11 feet bgs \\
\hline \[
\begin{array}{|l}
\hline \text { Drill Rig } \\
\text { Type }
\end{array}
\] & Drilling
Contractor South Drilling & Approximate
Surface Elevation
1,221 feet AMSL \\
\hline Groundwater Level
and Date Measured Not Encountered ATD & Sampling
Method(s) & Hammer
Data 140 Lbs hammer, rope and cathead \\
\hline Backfill \({ }^{\text {Borehole }}\) Cuttings & \multicolumn{2}{|l|}{Location Monticello, Wayne County, Kentucky} \\
\hline
\end{tabular}

\begin{tabular}{|l|c|c|}
\hline Project: KYLEX2056 & \begin{tabular}{c} 
Environmental Corp of America \\
1375 Union Hill Industrial Ct. Suite-A \\
Alpharetta, GA 30004 \\
Project Location: Monticello, KY
\end{tabular} & \begin{tabular}{c} 
Key to Log of Boring \\
Project Number: 22-000930
\end{tabular} \\
\hline
\end{tabular}


\section*{FIELD AND LABORATORY TEST ABBREVIATIONS}

CHEM: Chemical tests to assess corrosivity
COMP: Compaction test
CONS: One-dimensional consolidation test
LL: Liquid Limit, percent
MATERIAL GRAPHIC SYMBOLS
\(A F\)

TYPICAL SAMPLER GRAPHIC SYMBOLS
\(\begin{array}{lll}\text { Auger sampler } & \text { Grab Sample } \\ \text { Bulk Sample } & \text { HQ Rock Core } \\ \begin{array}{ll}\text { 3-inch-OD California w/ } \\ \text { brass rings } \\ \text { CME Sampler }\end{array} & \begin{array}{l}\text { 2.5-inch-OD Modified } \\ \text { California w/ brass liners }\end{array} \\ \text { NQ Rock Core }\end{array}\)

PI: Plasticity Index, percent
SA: Sieve analysis (percent passing No. 200 Sieve)
UC: Unconfined compressive strength test, Qu, in ksf WA: Wash sieve (percent passing No. 200 Sieve)
\(\frac{1}{4}\) Limestone
\begin{tabular}{|c|c|}
\hline & OTHER GRAPHIC SYMBOLS \\
\hline Pitcher Sample & 7. Water level (at time of drilling. ATD) \\
\hline 2-inch-OD unlined split & * Water level (after waiting) \\
\hline \begin{tabular}{l}
spoon (SPT) \\
Shelby Tube (Thin-walled.
\end{tabular} & Minor change in material properties within a stratum \\
\hline \(\triangle\) fixed head) & - Inferred/gradational contact between strata \\
\hline & - Queried contact between strata \\
\hline
\end{tabular}

\section*{GENERAL NOTES}

1: Soil classifications are based on the Unified Soil Classification System. Descriptions and stratum lines are interpretive, and actual lithologic changes may be gradual. Field descriptions may have been modified to reflect results of lab tests,
2: Descriptions on these logs apply only at the specific boring locations and at the time the borings were advanced. They are not warranted to be representative of subsurface conditions at other locations or times.

\section*{APPENDIX C \\ Rock Quality Designation (RQD) Index}

\section*{APPENDIX C}

Rock Quality Designation (RQD) Index Environmental Corporation of America (ECA)

ECA Project Name: KYLEX2056
ECA Project No. 22-000930
\begin{tabular}{|c|c|}
\hline Rock Quality Designation, RQD (\%) & *Description of Rock Quality \\
\hline \(0-25\) & Very Poor \\
\hline \(25-50\) & Poor \\
\hline \(50-75\) & Fair \\
\hline \(75-90\) & Good \\
\hline \(90-100\) & Excellent \\
\hline *Per ASTM D-6032. & \\
\hline
\end{tabular}

\section*{APPENDIX D}

Laboratory Testing Results

\section*{APPENDIX D}

Laboratory Testing Results
Environmental Corporation of America (ECA)

ECA Project Name: KYLEX2056
ECA Project No. 22-000930
\begin{tabular}{|c|c|c|c|}
\hline \begin{tabular}{c} 
Sample \\
Number
\end{tabular} & \begin{tabular}{c} 
Sample Depth \\
(feet)
\end{tabular} & \begin{tabular}{c} 
Rock Unit Weight \\
(pcf)
\end{tabular} & \begin{tabular}{c} 
*Compressive Strength of \\
Rock (psi)
\end{tabular} \\
\hline Sample RC-1 & 1 to 6 & 161.0 & 7,292 \\
\hline Sample RC-2 & 6 to 11 & 169.2 & 7,443 \\
\hline *Per ASTM D-7012 (Method C) & & \\
\hline
\end{tabular}

\section*{EXHIBIT H} DIRECTIONS TO WCF SITE

\section*{Driving Directions to Proposed Tower Site:}
1. Beginning at the 55 North Main Street, Suite 103, Monticello, KY 42633 head southwest on N Main Street toward Columbia Ave and travel approximately 230 feet.
2. Continue straight onto S Main Street and travel approximately 0.4 miles.
3. Turn right to stay on S Main Street and travel approximately 0.2 miles.
4. Continue onto Albany Road and travel approximately 0.7 miles.
5. Turn left onto \(\mathrm{KY}-90 \mathrm{~W}\) and travel approximately 6.5 miles.
6. Turn left onto state Hwy 834 and travel approximately 0.6 miles.
7. A private gravel road leading to the site is located on the left. The E-911 address for the site is 571 Holly Hill Tree Lane, Monticello, KY 42633, and the parcel address is Hill Drive, Monticello, KY 42633 (Parcel Address). The site coordinates are: \(36^{\circ} 46^{\prime} 32.88^{\prime \prime}\) North latitude, \(84^{\circ} 56^{\prime} 33.45^{\prime \prime}\) West longitude.


Prepared by:
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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

\section*{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 Mark Lewis, married, and Bryant Dunagan, married, subject to the life estate of Robin Lewis, ("Landlord") having a mailing address of 570 Holly Tree Lane, Monticello, Kentucky 42633, and Harmoni Towers LLC, a Delaware limited liability company having a mailing address of 10801 Executive Center Drive, Shannon Building, Suite 100, Little Rock AR 72211 ("Tenant").

\section*{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 570 Holly Tree Lane, in the City/Town of Monticello, County of Wayne, 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:

\section*{1. OPTION TO LEASE.}
(a) Landlord grants to Tenant an exclusive option (the "Option") to lease a certain portion of the Property containing approximately ten thousand \((10,000)\) 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 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 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 inemorialize the lease of the Additional Premises to Tenant.

\section*{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 ( \(5^{\text {l/ }}\) ) anniversary of the Term Cominencement 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

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".

\section*{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 ( \(5^{\text {til }}\) ) day of each calendar month in advance, (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 the first year of an Extension Term, the monthly Rent will increase by over the Rent paid during the previous five (5) year term, 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.

\section*{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 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 Notwithstanding the foregoing, Tenant shall have the right to self-insure such general
liability coverage.

\section*{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 Agrecment. 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 twentyfour (24) hours after receipt of notice of interference from Tenant. In the event any such interference does not cease within the aforementioned curc 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.

\section*{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.

\section*{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, nondisturbance and attornment agreement executed by Landlord and the holder of such security interest in the form attached hereto as Exhibit 10(b).

\section*{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 asbestoscontaining 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. If Tenant elects to utilize an Unmanned Aircraft System ("UAS") in connection with its installation, construction, monitoring, site audits, inspections, maintenance, repair, modification, or alteration activities at the Property, Landlord hereby grants Tenant, or any UAS operator acting on Tenant's behalf, express permission to fly over the applicable Property and Premises, and consents to the use of audio and video navigation and recording in connection with the use of the UAS. 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, 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.

\section*{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 twentyfour (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 twentyfour (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 on the Property and the Premises, at Tenant's expense and to improve present utilities on the Property and the Premises; by way of example, such utilities shall include overhead and underground electric, water, data transmission, and other necessary utility facilities (including guys, wires, poles, and other appurtenant equipment). Landlord hereby grants to Tenant and any service company providing utility or similar services, including electric power and telecommunications, 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, guys, wires, poles, circuits, conduits, associated equipment cabinets, and appurtenances thereto, as may from time to time be required. Upon Tenant's or service company's request, Landlord will execute a separate recordable easement evidencing this grant, at no cost to Tenant or service company.

\section*{15. DEFAULT AND RIGHT TO CURE.}
(a) The following will be deemed a default by Tenant and a breach of this Agreement: (i) nonpayment 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:
\begin{tabular}{ll} 
If to Tenant: & Harmoni Towers LLC \\
& Attn: Real Estate \\
& 10801 Executive Center Drive \\
& Shannon Building, Suite 100 \\
& Little Rock AR 72211 \\
& REAdmin@harmonitowers.com
\end{tabular}
cc:

> Harmoni Towers LLC c/o Symphony Wireless
> Attn: Legal
> 44 South Broadway, Suite 601
> White Plains, NY 10601

For Emergencies: NOC@harmonitowers.com
If to Landlord: Mark Lewis and Bryant Dunagan
2868 East Highway 90
Monticello, Kentucky 42633
Telephone:
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.

\section*{21. TAXES.}
(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.

\section*{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
\begin{tabular}{ll} 
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)
\end{tabular}
(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 Offer and agree in writing (the "Exercise Notice") to match the financial terms of the Offer. For the avoidance of doubt, to exercise its rights under this Section 23, Tenant shall not be required to match any compensation due to parties unrelated Landlord, including but not limited to broker compensation. The Exercise Notice shall be in the form of a contract substantially similar to the Offer (matching the financial terms as set forth herein); provided, however, that Landlord and Tenant acknowledge and agree that the Exercise Notice is intended to be a letter of intent or similar, and the parties shall thereafter negotiate in good faith the documents reasonably required to consummate Tenant's exercise of its rights under this Section 23. Tenant may assign its rights under this Section 23. 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.

\section*{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 Harmoni 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.
(1) 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.

"TENANT"

Harmoni Topyers LLC

\section*{TENANT ACKNOWLEDGMENT}

\section*{STATE OF ARKANSAS}

\section*{COUNTY OF PULASKI}
 and as such was authorized to execute this instrument on behalf of the Tenant.

\(\qquad\)

STATE OF \(\qquad\) Kentucky

COUNTY OF Wayne

BE IT REMEMBERED, that on this 23 day of Sulu, 2021 before me, the subscriber, a person authorized to take oaths in the State of Kentucky, personally appeared Mark Lewis, owner, 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.

SARA Y, RICHARDSON
Notary Public. State at Large Kentucky
My Commission Expires Feb. 4, 2023
Notary ID KYNP23072


\section*{LANDLORD ACKNOWLEDGMENT}

STATE OF Kentucky
COUNTY OF Wayne

BE IT REMEMBERED, that on this 23 day of Suly_, 2021 before me, the subscriber, a person authorized to take oaths in the State of Kentucky, personally appeared Robin Lewis, a Life Estate Holder, 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 l, 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.

\section*{SARA Y. RICHARDSON}

Notary Public - State at Large Kentucky
My Commission Expires Feb. 4, 2023
' Notary: ID KYNP23072


\section*{LANDLORD ACKNOWLEDGMENT}

STATE OF \(\qquad\) COUNTY OF Wayne

BE IT REMEMBERED, that on this 23 day of Tuly, 2021 before me, the subscriber, a person authorized to take oaths in the State of Kentucky, personally appeared Robin Lewis, a non-vested owner, 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?

\section*{LANDLORD ACKNOWLEDGMENT}

STATE OF Kentucky \(\qquad\)
COUNTY OF Wayne \(\qquad\)

BE IT REMEMBERED, that on this д3day of July, 2021 before me, the subscriber, a person authorized to take oaths in the State of Kentucky, personally appeared Bryant Dunagan, owner, 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.

SARA Y. RICHARDSON Notary Public - State at Large Kentucky
My Commission Expires Feb. 4, 2023 Notary ID KYNP23072


\section*{LANDLORD ACKNOWLEDGMENT}

\section*{STATE OF Kentucky}
\(\qquad\)
COUNTY OF Wayne \(\qquad\)

BE IT REMEMBERED, that on this 23 day of July , 20 21 before me, the subscriber, a person authorized to take oaths in the State of Kentucky, personally appeared Paige Dunagan, a non-vested owner, who, being duly sworn on his/her/their oath, deposed and made proof to my satisfaction that he/she/they is/are the persons) 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.


Notary Public - State at Large Kentucky
My Commission Expires Feb. 4, 2023
Notary ID KYNP23072

\section*{EXHIBIT 1}

\section*{DESCRIPTION OF PREMISES}

Page 1 of \(\qquad\)
to the Option and Lease Agreement dated August \(3 \quad, 2021\), by and between Mark Lewis, married, and Bryant Dunagan, married, subject to the life estate of Robin Lewis, as Landlord, and Harmoni Towers LLC, a Delaware limited liability company, as Tenant.

The Property is legally described as follows:

Tract B:
A certain tract of land lying and being in the Susie Community. Wayne County, Kentucky and being more particularly described as follows:

Unless otherwise stated, any monument referred to herein as a "Rebar and Cap" is a \(5 / 8^{\prime \prime} \times 18^{\prime \prime}\) rebar with a yellow plastic survey cap stamped "Donald Miller, KY PLS 3426". All bearings stated herein are referred to the magnetic meridian as observed August 4, 1998.

Beginning at a rebar and cap set this survey at the Southeast corner of Kelly and Dariene Ramsey (Deed Book 246, Page 184), also being in the Northerly right-of-way line of Kentucky Highway 834 ( \(40^{\prime}\) right-of-way); thence leaving said Northerly right of way line and along the Easterly line of said Ramsey, N51 deg. 22 min .26 sec . E a distance of 129.31 feet to a rebar and cap set this survey; thence along the East line of West Properties, LLC (Deed Book 270, Page 91), N 59 deg. 16 \(\min .13 \mathrm{sec}\). E a distance of 208.08 feet to a rebar and cap found stamped "Jim West"; thence leaving West Properties, LLC and along a new division line on the following two (2) courses and distances:
1. S 56 deg. 43 min .29 sec . E a distance of 238.37 feet to a rebar and cap set this survey;
2. \(\mathrm{S} 33 \mathrm{deg} .16 \mathrm{~min} .31 \mathrm{sec} . \mathrm{W}\) a distance of 309.94 feet to a rebar and cap set this survey in the aforementioned Northerly right-of-way line of Kentucky highway 834:

Thence along said Northerly right-of-way line, N 56 deg. 43 min . 29 sec . W a distance of 369.74 feet to the Point of Beginning.

Containing 2.21 acres more or less and being subject to all easements, restrictions and right-of-ways of record.

\section*{Tract C:}

A certain tract of land lying and being in the Susie Community. Wayne County, Kentucky and being more particularly described as follows:

Unless otherwise stated, any monument referred to herein as a "Rebar and Cap" is a \(5 / 8\) " \(\times 18\) " rebar with a yeilow plastic survey cap stamped "Donald Miller, KY PLS 3426". All bearings stated herein are referred to the magnetic meridian as observed August 4, 1998.

Commencing at a rebar and cap set this survey at the Southeast corner of Kelly and Darlene Ramsey (Deed Book 246, Page 184), also being in the Northerly right-of-way line of Kentucky Highway 834 (40" right-of-way); thence along said Northerty right-of-way, S 56 deg. 43 min . 29 sec . E a distance of 369.74 feet to the Point of Beginning, thence leaving said Northerly right-of-way and aiong a new division line on the following two (2) courses and distances:
1) N 33 deg. 16 min .31 sec . E a distance of 309.94 feet to a rebar and cap set this survey;
2) N 56 deg. 43 min .29 sec . W a distance of 238.37 feet to a rebar and cap found stamped "Jim West"'

Thence along the Easterly line of American Woodmark Corporation (Deed Book 264, Page 232 on the following two courses and distances:
1) N 59 deg .16 min .13 sec . E a distance of 193.53 feet to a rebar and cap set this survey;
2) N 60 deg .53 min . 14 sec . E a distance of 766.03 feet to a rebar and cap found stamped "Jim West";

Thence continuing along said American Woodmark Corporation and Hallis D. \& Nene Darlene Hicks (Deed Book 319, Page 775), N 61 deg. 29 min .06 sec . E a distance of 552.78 feet to a rebar and cap found stamped "Jim West"; thence continuing along said Hallis D. \& Darlene Hicks, S 83 deg .51 min .24 sec . E a distance of 314.13 feet to a rebar and cap found stamped "Jim West'; thence leaving said Hicks and along the Westerly line of Mark Lewis, (Deed Book 229, Page 380 ), S 04 deg. 13 min .12 sec . W a distance of 714.78 feet to a rebar and cap found stamped "Jim West"; thence along the Westerly line of Nancy Kline (Deed Book 270, Page 589), S 04 deg. 00 min .55 sec . W a distance of 634.61 feet; thence continuing along the Northerly line of said Kline on the following three courses and distances:
1) \(\mathrm{N} 87 \mathrm{deg} .40 \mathrm{~min} .18 \mathrm{sec} . \mathrm{W}\). passing a rebar and cap set this survey at 5.00 feet, a total distance of 495.00 feet to a rebar and cap set this survey;
2) S 82 deg 55 min .40 sec . W a distance of 132.77 feet to a rebar and cap set this survey;
3) \(\mathrm{S} 45 \mathrm{deg} .06 \mathrm{~min} .17 \mathrm{sec} . \mathrm{W}\) a distance of 485.74 feet to a rebar and cap found stamped "Jim West" in the aforementioned Northerly right-of-way line of Kentucky Highway 834;

Thence along said Northerly right-of-way line on the following four (4) courses and distances:
1) Along a curve to the right having a radius of 630.00 feet and an arc length of 311.05 feet, the chord of said curve bears N 43 deg. 49 min .33 sec . W a distance of 307.90 feet;
2) N 29 deg .40 min .53 sec W a distance of 154.58 feet;
3) Along a curve to the left having a radius of 570.00 feet and an arc length of 269.04 feet, the chord of said curve bears \(N\)
\(43 \mathrm{deg} .12 \mathrm{~min} .11 \mathrm{sec} . \mathrm{W}\) a distance of 266.55 feet.
4) N 56 deg. 43 min .29 sec . W a distance of 77.41 feet to the Point of Beginning

Containing 39.52 acres more or less and being subject to all easements, restrictions, and right-of-ways of record.

Tract D.
A certain tract of land lying and being in the Susie Community. Wayne County, Kentucky and being more particularly described as follows

Unless otherwise stated, any monument referred to herein as a "Rebar and Cap" is a \(5 / 8^{\prime \prime} \times 18\) " rebar with a yellow plastic survey cap stamped "Donald Miller, KY PLS 3426". All bearings stated herein are referred to the magnetic meridian as observed August 4, 1998.

Commencing at a rebar and cap set this survey at the Southeast comer of Kelly and Darlene Ramsey (Deed Book 246, Page 184), also being in the Northerly right-of-way line of Kentucky Highway 834 ( 40 ' right-of-way); thence along a tie line, N 71 deg. 56 min .45 sec . E a distance of 2689.38 feet to a rebar found in the end of a rock fence and the Point of Beginning; thence along the Southerly line of Dalton Family Trust (Deed Book 313, Page 54), S 88 deg. 26 min .31 sec . E a dislance of 1907.82 feet to a rebar and cap set this survey; thence leaving said Dalion Family Trust and along the Westerly line of Bryant Dungan (Deed Book 264, Page 210). S 44 deg. 10 min .53 sec . W a distance of 1408.10 feet to a rebar and cap set this survey; thence along the Easterly line of Mark Lewis (Deed Book 229, Page 380), N 28 deg. 40 min .

00 sec . W a distance of 499.96 feet to a rebar and cap set this survey; thence continuing along said mark Lewis on the following three courses and distances:
1) N 63 deg. \(49 \mathrm{~min} .07 \mathrm{sec} . W\) a distance of 721.14 feet to a rebar and cap found stamped "Jim West";
2) N 00 deg .29 min .23 sec . W a distance of 231.00 feel to a rebar and cap found stamped "Jim West"; 3) N 26 deg. 29 min .23 sec . W distance of 82.50 feet to the Point of Beginning.

Containing 22.98 acres more or less and being subject to all easements, restrictions and right-of-ways of record.
The above described property having a benefit of a 15 foot wide ingress-egress easement over and across Tamera Wray and an existing gravel road; beginning at Point \(A\) as listed above, \(S 00\) deg. 13 min . 12 sec . E a distance of 426.61 feet to the Northwest corner of Mark Lewis and a gravel road; thence with the meanders of said gravel road to Kentucky Highway 834 and the point of terminus.

AND BEING the same property conveyed to Mark Lewis and Bryant Dunagan from Robin Lewis by Deed of Conveyance dated February 11, 2013 and recorded February 12, 2013 in Deed Book 351, Page 60.

Tax Parcel No. 028-00-00-001.00

The Premises are described and/or depicted as follows:


LEASE AREA
HARMONI TOWERS
WEST HIGHWAY 90 KYLEX2056

All that tract or parcel of land lying and being in the Susie Community, Wayne County, Kentucky, and being a portion of the lands of Mark Lewis and Bryant Dunagan, as recorded in Deed Book 351, Page 60, Wayne County records, and being more particularly described as follows:

To find the point of beginning, COMMENCE, at a \(1 / 2\)-rebar found at the northwestern corner of Tract D of said lands, said rebar post having a Kentucky Grid North, NAD 83, Single Zone value of \(\mathrm{N}: 3443066.6411\) E:5156605.6142; thence running along a tie-line, South \(82^{\circ} 29^{\prime} 20^{\prime \prime}\) East, 1090.85 feet to a point having a Kentucky Grid North, NAD 83, Single Zone value of N:3442924.2893 E:5157687.0511, and the true POINT OF BEGINNING; Thence running, North \(00^{\circ} 50^{\prime} 52^{\prime \prime}\) East, 100.00 feet to a point; Thence, South \(89^{\circ} 09^{\prime} 08^{\prime \prime}\) East, 100.00 feet to a point; Thence, South \(00^{\circ} 50^{\prime} 52^{\prime \prime}\) West, 100.00 feet to a point; Thence, North \(89^{\circ} 09^{\prime} 08^{\prime \prime}\) West, 100.00 feet to a point and the POINT OF BEGINNING.

Bearings based on Kentucky Grid North, NAD 83, Single Zone.
Said tract contains 0.2296 acres ( 10,000 square feet), more or less, as shown in a survey prepared for Harmoni Towers by POINT TO POINT LAND SURVEYORS, INC. dated February 22, 2021.

\section*{30' INGRESS-EGRESS \& UTILITY EASEMENT \#1 \\ HARMONI TOWERS \\ WEST HIGHWAY 90 \\ KYLEX2056}

Together with a 30 -foot wide Ingress-Egress and Utility Easement (lying 15 feet each side of centerline), lying and being in the Susie Community, Wayne County, Kentucky, and being a portion of the lands of Mark Lewis and Bryant Dunagan, as recorded in Deed Book 351, Page 60, Wayne County records, and being more particularly described by the following centerline data:

To find the point of beginning, COMMENCE, at a \(1 / 2\)-rebar found at the northwestern corner of Tract \(D\) of said lands, said rebar post having a Kentucky Grid North, NAD 83, Single Zone value of \(\mathrm{N}: 3443066.6411 \mathrm{E}: 5156605.6142\); thence running along a tie-line, South \(82^{\circ} 29^{\prime} 20^{\prime \prime}\) East, 1090.85 feet to a point on the Lease Area, said point having a Kentucky Grid North, NAD 83, Single Zone value of \(\mathrm{N}: 3442924.2893 \mathrm{E}: 5157687.0511\); thence running, North \(00^{\circ} 50^{\prime} 52^{\prime \prime}\) East, 100.00 feet to a point; thence, South \(89^{\circ} 09^{\prime} 08^{\prime \prime}\) East, 100.00 feet to a point; thence, South \(00^{\circ} 50^{\prime} 52^{\prime \prime}\) West, 100.00 feet to a point; thence, North \(89^{\circ} 09^{\prime} 08^{\prime \prime}\) West, 50.00 feet to a point and the true POINT OF BEGINNING; Thence leaving the Lease Area and running, South \(00^{\circ} 50^{\prime} 43^{\prime \prime}\) West, 609.48 feet to a point; Thence, South \(76^{\circ} 10^{\prime} 20^{\prime \prime}\) West, 288.58 feet to the ENDING at a point on a southwesterly property line of said Tract D.

Bearings based on Kentucky Grid North, NAD 83, Single Zone.

As shown in a survey prepared for Harmoni Towers by POINT TO POINT LAND SURVEYORS, INC. dated February 22, 2021.

\section*{30' INGRESS-EGRESS \& UTILITY EASEMENT \#2 \\ HARMONI TOWERS \\ WEST HIGHWAY 90 \\ KYLEX2056}

Together with a 30 -foot wide Ingress-Egress and Utility Easement (lying 15 feet each side of centerline), lying and being in Wayne County, Kentucky, and being a portion of the lands of Mark Lewis and Bryant Dunagan, as recorded in Deed Book 351, Page 76, Wayne County records, and being more particularly described by the following centerline data:

To find the point of beginning, COMMENCE, at a \(1 / 2\)-rebar found at the northwestern corner of Tract \(D\) of the lands of Mark Lewis and Bryant Dunagan, as recorded in Deed Book 351, Page 60, Wayne County records, said rebar post having a Kentucky Grid North, NAD 83, Single Zone value of \(\mathrm{N}: 3443066.6411 \mathrm{E}: 5156605.6142\); thence running along a tie-line, South \(82^{\circ} 29^{\prime} 20^{\prime \prime}\) East, 1090.85 feet to a point on the Lease Area, said point having a Kentucky Grid North, NAD 83, Single Zone value of \(\mathrm{N}: 3442924.2893 \mathrm{E}: 5157687.0511\); thence running, North \(00^{\circ} 50^{\prime} 52^{\prime \prime}\) East, 100.00 feet to a point; thence, South \(89^{\circ} 09^{\prime} 08^{\prime \prime}\) East, 100.00 feet to a point; thence, South \(00^{\circ} 50^{\prime} 52^{\prime \prime}\) West, 100.00 feet to a point; thence, North \(89^{\circ} 09^{\prime} 08^{\prime \prime}\) West, 50.00 feet to a point; thence leaving the Lease Area and running, South \(00^{\circ} 50^{\prime} 43^{\prime \prime}\) West, 609.48 feet to a point; thence, South \(76^{\circ} 10^{\prime} 20^{\prime \prime}\) West, 288.58 feet to a point on the northeasterly property line of said lands, and the true POINT OF BEGINNING; Thence leaving Tract \(D\) and running, South \(76^{\circ} 10^{\prime} 20^{\prime \prime}\) West, 269.33 feet to a point; Thence, South \(87^{\circ} 20^{\prime} 00^{\prime \prime}\) West, 67.73 feet to a point; Thence, North \(65^{\circ} 13^{\prime} 24^{\prime \prime}\) West, 216.40 feet to a point; Thence, North \(78^{\circ} 20^{\prime} 06^{\prime \prime}\) West, 187.72 feet to the ENDING at a point on the western property line of said lands.

Bearings based on Kentucky Grid North, NAD 83, Single Zone.

As shown in a survey prepared for Harmoni Towers by POINT TO POINT LAND SURVEYORS, INC. dated February 22, 2021.

\section*{30' INGRESS-EGRESS \& UTILITY EASEMENT \#3 HARMONI TOWERS WEST HIGHWAY 90 KYLEX2056}

Together with a 30 -foot wide Ingress-Egress and Utility Easement (lying 15 feet each side of centerline), lying and being in Wayne County, Kentucky, and being a portion of the lands of Tamara Bell Wray, as recorded in Deed Book 308, Page 173, Wayne County records, and being more particularly described by the following centerline data:

To find the point of beginning, COMMENCE, at a \(1 / 2\)-rebar found at the northwestern corner of Tract D of the lands of Mark Lewis and Bryant Dunagan, as recorded in Deed Book 351, Page 60, Wayne County records, said rebar post having a Kentucky Grid North, NAD 83, Single Zone value of \(\mathrm{N}: 3443066.6411 \mathrm{E}: 5156605.6142\); thence running along a tie-line, South \(82^{\circ} 29^{\prime} 20^{\prime \prime}\) East, 1090.85 feet to a point on the Lease Area, said point having a Kentucky Grid North, NAD 83, Single Zone value of \(\mathrm{N}: 3442924.2893 \mathrm{E}: 5157687.0511\); thence running, North \(00^{\circ} 50^{\prime} 52^{\prime \prime}\) East, 100.00 feet to a point; thence, South \(89^{\circ} 09^{\prime} 08^{\prime \prime}\) East, 100.00 feet to a point; thence, South \(00^{\circ} 50^{\prime} 52^{\prime \prime}\) West, 100.00 feet to a point; thence, North \(89^{\circ} 09^{\prime} 08^{\prime \prime}\) West, 50.00 feet to a point; thence leaving the Lease Area and running, South \(00^{\circ} 50^{\prime} 43^{\prime \prime}\) West, 609.48 feet to a point; thence, South \(76^{\circ} 10^{\prime} 20^{\prime \prime}\) West, 288.58 feet to a point on a southwesterly property line of said Tract \(D\); thence leaving Tract \(D\) and running onto the lands of Mark Lewis and Bryant Dunagan, as recorded in Deed Book 351, Page 76, Wayne County records, South \(76^{\circ} 10^{\prime} 20^{\prime \prime}\) West, 269.33 feet to a point; thence, South \(87^{\circ} 20^{\prime} 00^{\prime \prime}\) West, 67.73 feet to a point; thence, North \(65^{\circ} 13^{\prime} 24^{\prime \prime}\) West, 216.40 feet to a point; thence, North \(78^{\circ} 20^{\prime} 06^{\prime \prime}\) West, 187.72 feet to a point on an easterly property line of said Wray lands, and the true POINT OF BEGINNING; Thence running, North \(68^{\circ} 47^{\prime} 27^{\prime \prime}\) West, 109.53 feet to a point; Thence, North \(86^{\circ} 29^{\prime} 49^{\prime \prime}\) West, 646.61 feet to a point; Thence, 67.57 feet along the arc of a curve to the left, having a radius of 46.32 feet and being scribed by a chord bearing, South \(45^{\circ} 44^{\prime} 20^{\prime \prime}\) West, 61.74 feet to a point; Thence, South \(01^{\circ} 34^{\prime} 01^{\prime \prime}\) West, 525.67 feet to a point; Thence, South \(21^{\circ} 20^{\prime} 33^{\prime \prime}\) West, 64.22 feet to the ENDING at a point on a westerly property line of said lands.

Bearings based on Kentucky Grid North, NAD 83, Single Zone.
As shown in a survey prepared for Harmoni Towers by POINT TO POINT LAND SURVEYORS, INC. dated February 22, 2021.

\section*{30' INGRESS-EGRESS \& UTILITY EASEMENT \#4 HARMONI TOWERS WEST HIGHWAY 90 KYLEX2056}

Together with a 30 -foot wide Ingress-Egress and Utility Easement (lying 15 feet each side of centerline), lying and being in the Susie Community, Wayne County, Kentucky, and being a portion of the lands of Mark Lewis and Bryant Dunagan, as recorded in Deed Book 351, Page 60, Wayne County records, and being more particularly described by the following centerline data:

To find the point of beginning, COMMENCE, at a \(1 / 2\)-rebar found at the northwestern corner of Tract \(D\) of said lands, said rebar post having a Kentucky Grid North, NAD 83, Single Zone value of \(\mathrm{N}: 3443066.6411 \mathrm{E}: 5156605.6142\); thence running along a tie-line, South \(82^{\circ} 29^{\prime} 20^{\prime \prime}\) East, 1090.85 feet to a point on the Lease Area, said point having a Kentucky Grid North, NAD 83, Single Zone value of \(\mathrm{N}: 3442924.2893 \mathrm{E}: 5157687.0511\); thence running, North \(00^{\circ} 50^{\prime} 52^{\prime \prime}\) East, 100.00 feet to a point; thence, South \(89^{\circ} 09^{\prime} 08^{\prime \prime}\) East, 100.00 feet to a point; thence, South \(00^{\circ} 50^{\prime} 52^{\prime \prime}\) West, 100.00 feet to a point; thence, North \(89^{\circ} 09^{\prime} 08^{\prime \prime}\) West, 50.00 feet to a point; thence leaving the Lease Area and running, South \(00^{\circ} 50^{\prime} 43^{\prime \prime}\) West, 609.48 feet to a point; thence, South \(76^{\circ} 10^{\prime} 20^{\prime \prime}\) West, 288.58 feet to a point on a southwesterly property line of said Tract \(D\); thence leaving Tract \(D\) and running onto the lands of Mark Lewis and Bryant Dunagan, as recorded in Deed Book 351, Page 76, Wayne County records, South \(76^{\circ} 10^{\prime} 20^{\prime \prime}\) West, 269.33 feet to a point; thence, South \(87^{\circ} 20^{\prime} 00^{\prime \prime}\) West, 67.73 feet to a point; thence, North \(65^{\circ} 13^{\prime} 24^{\prime \prime}\) West, 216.40 feet to a point; thence, North \(78^{\circ} 20^{\prime} 06^{\prime \prime}\) West, 187.72 feet to a point on an easterly property line of said lands; thence running, North \(68^{\circ} 47^{\prime} 27^{\prime \prime}\) West, 109.53 feet to a point; thence, North \(86^{\circ} 29^{\prime} 49^{\prime \prime}\) West, 646.61 feet to a point; thence, 67.57 feet along the arc of a curve to the left, having a radius of 46.32 feet and being scribed by a chord bearing, South \(45^{\circ} 44^{\prime} 20^{\prime \prime}\) West, 61.74 feet to a point; thence, South \(01^{\circ} 34^{\prime} 01^{\prime \prime}\) West, 525.67 feet to a point; thence, South \(21^{\circ} 20^{\prime} 33^{\prime \prime}\) West, 64.22 feet to a point on the eastern property line of Tract \(C\) of said lands, and the true POINT OF BEGINNING; Thence running, South \(21^{\circ} 20^{\prime} 33^{\prime \prime}\) West, 7.54 feet to the ENDING at a point on a southeasterly property line of said lands.

Bearings based on Kentucky Grid North, NAD 83, Single Zone.

As shown in a survey prepared for Harmoni Towers by POINT TO POINT LAND SURVEYORS, INC. dated February 22, 2021.

\section*{30' INGRESS-EGRESS \& UTILITY EASEMENT \#5 HARMONI TOWERS WEST HIGHWAY 90 KYLEX2056}

Together with a 30 -foot wide Ingress-Egress and Utility Easement (lying 15 feet each side of centerline), lying and being in Wayne County, Kentucky, and being a portion of the lands of Tamara Bell Wray, as recorded in Deed Book 308, Page 173, Wayne County records, and being more particularly described by the following centerline data:

To find the point of beginning, COMMENCE, at a \(1 / 2\)-rebar found at the northwestern corner of Tract \(D\) of the lands of Mark Lewis and Bryant Dunagan, as recorded in Deed Book 351, Page 60, Wayne County records, said rebar post having a Kentucky Grid North, NAD 83, Single Zone value of \(\mathrm{N}: 3443066.6411 \mathrm{E}: 5156605.6142\); thence running along a tie-line, South \(82^{\circ} 29^{\prime} 20^{\prime \prime}\) East, 1090.85 feet to a point on the Lease Area, said point having a Kentucky Grid North, NAD 83, Single Zone value of \(\mathrm{N}: 3442924.2893 \mathrm{E}: 5157687.0511\); thence running, North \(00^{\circ} 50^{\prime} 52^{\prime \prime}\) East, 100.00 feet to a point; thence, South \(89^{\circ} 09^{\prime} 08^{\prime \prime}\) East, 100.00 feet to a point; thence, South \(00^{\circ} 50^{\prime} 52^{\prime \prime}\) West, 100.00 feet to a point; thence, North \(89^{\circ} 09^{\prime} 08^{\prime \prime}\) West, 50.00 feet to a point; thence leaving the Lease Area and running, South \(00^{\circ} 50^{\prime} 43^{\prime \prime}\) West, 609.48 feet to a point; thence, South \(76^{\circ} 10^{\prime} 20^{\prime \prime \prime}\) West, 288.58 feet to a point on a southwesterly property line of said Tract \(D\); thence leaving Tract \(D\) and running onto the lands of Mark Lewis and Bryant Dunagan, as recorded in Deed Book 351, Page 76, Wayne County records, South \(76^{\circ} 10^{\prime} 20^{\prime \prime}\) West, 269.33 feet to a point; thence, South \(87^{\circ} 20^{\prime} 00^{\prime \prime}\) West, 67.73 feet to a point; thence, North \(65^{\circ} 13^{\prime} 24^{\prime \prime}\) West, 216.40 feet to a point; thence, North \(78^{\circ} 20^{\prime} 06^{\prime \prime}\) West, 187.72 feet to a point on an easterly property line of said lands; thence running, North \(68^{\circ} 47^{\prime} 27^{\prime \prime}\) West, 109.53 feet to a point; thence, North \(86^{\circ} 29^{\prime} 49^{\prime \prime}\) West, 646.61 feet to a point; thence, 67.57 feet along the arc of a curve to the left, having a radius of 46.32 feet and being scribed by a chord bearing, South \(45^{\circ} 44^{\prime} 20^{\prime \prime}\) West, 61.74 feet to a point; thence, South \(01^{\circ} 34^{\prime} 01^{\prime \prime}\) West, 525.67 feet to a point; thence, South \(21^{\circ} 20^{\prime} 33^{\prime \prime}\) West, 64.22 feet to a point on the eastern property line of Tract \(C\) of the lands of Mark Lewis and Bryant Dunagan, as recorded in Deed Book 351, Page 60, Wayne County records; thence running, South \(21^{\circ} 20^{\prime} 33^{\prime \prime}\) West, 7.54 feet to a point on a northerly property line of said Wray lands, and the true POINT OF BEGINNING; Thence running, South \(02^{\circ} 45^{\prime} 14{ }^{\prime \prime}\) West, 496.90 feet to the ENDING at a point on a southerly property line of said lands.

Bearings based on Kentucky Grid North, NAD 83, Single Zone.
As shown in a survey prepared for Harmoni Towers by POINT TO POINT LAND SURVEYORS, INC. dated February 22, 2021.

\title{
30' INGRESS-EGRESS \& UTILITY EASEMENT \#6 HARMONI TOWERS \\ WEST HIGHWAY 90 \\ KYLEX2056
}

Together with a 30 -foot wide Ingress-Egress and Utility Easement (lying 15 feet each side of centerline), lying and being in Wayne County, Kentucky, and being a portion of the lands of Tamara D. Wray, as recorded in Deed Book 316, Page 704, Wayne County records, and being more particularly described by the following centerline data:

To find the point of beginning, COMMENCE, at a \(1 / 2\)-rebar found at the northwestern corner of Tract D of the lands of Mark Lewis and Bryant Dunagan, as recorded in Deed Book 351, Page 60, Wayne County records, said rebar post having a Kentucky Grid North, NAD 83, Single Zone value of \(\mathrm{N}: 3443066.6411 \mathrm{E}: 5156605.6142\); thence running along a tie-line, South \(82^{\circ} 29^{\prime} 20^{\prime \prime}\) East, 1090.85 feet to a point on the Lease Area, said point having a Kentucky Grid North, NAD 83, Single Zone value of \(\mathrm{N}: 3442924.2893 \mathrm{E}: 5157687.0511\); thence running, North \(00^{\circ} 50^{\prime} 52^{\prime \prime}\) East, 100.00 feet to a point; thence, South \(89^{\circ} 09^{\prime} 08^{\prime \prime}\) East, 100.00 feet to a point; thence, South \(00^{\circ} 50^{\prime} 52^{\prime \prime}\) West, 100.00 feet to a point; thence, North \(89^{\circ} 09^{\prime} 08^{\prime \prime}\) West, 50.00 feet to a point; thence leaving the Lease Area and running, South \(00^{\circ} 50^{\prime} 43^{\prime \prime}\) West, 609.48 feet to a point; thence, South \(76^{\circ} 10^{\prime} 20^{\prime \prime}\) West, 288.58 feet to a point on a southwesterly property line of said Tract \(D\); thence leaving Tract \(D\) and running onto the lands of Mark Lewis and Bryant Dunagan, as recorded in Deed Book 351, Page 76, Wayne County records, South \(76^{\circ} 10^{\prime} 20^{\prime \prime}\) West, 269.33 feet to a point; thence, South \(87^{\circ} 20^{\prime} 00^{\prime \prime}\) West, 67.73 feet to a point; thence, North \(65^{\circ} 13^{\prime} 24^{\prime \prime}\) West, 216.40 feet to a point; thence, North \(78^{\circ} 20^{\prime} 06^{\prime \prime}\) West, 187.72 feet to a point on an easterly property line of said lands; thence running, North \(68^{\circ} 47^{\prime} 27^{\prime \prime}\) West, 109.53 feet to a point; thence, North \(86^{\circ} 29^{\prime} 49^{\prime \prime}\) West, 646.61 feet to a point; thence, 67.57 feet along the arc of a curve to the left, having a radius of 46.32 feet and being scribed by a chord bearing, South \(45^{\circ} 44^{\prime} 20^{\prime \prime}\) West, 61.74 feet to a point; thence, South \(01^{\circ} 34^{\prime} 01^{\prime \prime}\) West, 525.67 feet to a point; thence, South \(21^{\circ} 20^{\prime} 33^{\prime \prime}\) West, 64.22 feet to a point on the eastern property line of Tract \(C\) of the lands of Mark Lewis and Bryant Dunagan, as recorded in Deed Book 351, Page 60, Wayne County records; thence running, South \(21^{\circ} 20^{\prime} 33^{\prime \prime}\) West, 7.54 feet to a point on a northerly property line of said Wray lands; thence running, South \(02^{\circ} 45^{\prime} 14^{\prime \prime}\) West, 496.90 feet to a point on a southerly property line of said lands, and the true POINT OF BEGINNING; Thence running, South \(02^{\circ} 45^{\prime} 14^{\prime \prime}\) West, 442.61 feet to a point; Thence, 174.99 feet along the arc of a curve to the right, having a radius of 150.45 feet and being scribed by a chord bearing, South \(41^{\circ} 19^{\prime} 24^{\prime \prime}\) West, 165.29 feet to a point; Thence, North \(82^{\circ} 57^{\prime} 08^{\prime \prime}\) West, 111.00 feet to the ENDING at a point at the centerline intersection of Holly Tree Lane and Kentucky State Highway 834 (having a 40 -foot public right-of-way).

Bearings based on Kentucky Grid North, NAD 83, Single Zone.
As shown in a survey prepared for Harmoni Towers by POINT TO POINT LAND SURVEYORS, INC. dated February 22, 2021.

\section*{Notes:}
1. THIS EXHIBIT MAY BE REPLACED BY A LAND SUR VEY 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 AUTIIORITIES
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 IILUSTRATIVE ONLY. ACTUAL TYPES, NUMBERS AND MOUNTING POSITIONS MAY VARY FROM WHAT IS SIIOWN ABOVE

\section*{EXHIBIT J \\ NOTIFICATION LISTING CERTIFIED GREEN CARD RECEIPTS}

\section*{West Highway 90 / Zula Relo - Notice List}
```

LEWIS MARK \& ROBIN AND
DUNAGAN BRYANT
197 HWY 3106
MONTICELLO, KY 42633
DALTON FAMILY FARM LLP
C/O TIM DALTON
6 8 0 7 W HWY 90
MONTICELLO, KY 42633
DUNAGAN BRYANT \& HALLICE HICKS
2870 E HWY 90
MONTICELLO, KY 42633
LEWIS MARK \& ROBIN
197 HWY 3106
MONTICELLO, KY 42633
LENNEX TAMARA D WRAY
1577 HWY 3106
MONTICELLO, KY 42633
WAYNE LUMBER CO INC
PO BOX 576
MONTICELLO, KY 42633
WAYNE DRY KILN INC
193 WAYNE LUMBER DR
220 AUCTION ST
MONTICELLO, KY 42633-0576
VICKERY DAN D ETAL
4 9 0 3 ~ W ~ H W Y ~ 9 0 ~
MONTICELLO, KY 42633
HICKS HALLIS D \& NENA DARLENE
149 BATES CEMETERY RD
MONTICELLO, KY 42633
BRANSCUM CURTIS \& BARBARA
674 HWY 834 E
MONTICELLO, KY 42633
HICKS JAMES JASPER \& PATRICIA
151 SIMPSON HOLLOW RD
MONTICELLO, KY 42633

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MARCUM CLINT \& SHEILA
500 HWY 834 E
MONTICELLO, KY 42633
RAY DENISE GEORGEANNA AND
RAY CODY MARHSALL
70 HWY 834 E
MONTICELLO, KY 42633
MARCUM CLINT L
500 HWY 834 E
MONTICELLO, KY 42633
RAMSEY KELLY \& DARLENE
73 HWY 834 E
MONTICELLO, KY 42633
WEST PROPERTIES LLC
C/O IMAGE ENTRY INC
456 INDUSTRIAL BLVD
LONDON, KY 40741
AMERICAN WOODMARK CORPORATION
561 SHADY ELM RD
WINCHESTER, VA 22602

U.S. Postal Service \({ }^{\text {IT }}\)

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RAY DENISE GEORGEANNAAANDT5
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MONTICELLO，KY 42633

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\section*{EXHIBIT K}

COPY OF PROPERTY OWNER NOTIFICATION

\title{
Notice of Proposed Construction of \\ Wireless Communications Facility Site Name: West Highway 90 / Zula Relo
}

Dear Landowner:
New Cingular Wireless PCS, LLC, a Delaware limited liability company, d/b/a AT\&T Mobility and Harmoni 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 571 Holly Hill Tree Lane, Monticello, KY 42633 (E-911) / Hill Drive, Monticello, KY 42633 (PARCEL) ( \(36^{\circ} 46^{\prime} 32.88^{\prime \prime}\) North latitude, \(84^{\circ} 56^{\prime} 33.45^{\prime \prime}\) West longitude). The proposed WCF will consist of a 2 -foot tall foundation below a 255 -foot tall tower, with an approximately 10 -foot tall lightning arrestor attached at the top, for a total height of 267 -feet, plus related ground facilities. This facility is needed to provide improved coverage for wireless communications in the area. \({ }^{1}\)

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 \(500^{\prime}\) 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 2022-00279 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

\footnotetext{
\({ }^{1}\) AT\&T is currently providing wireless services from an existing tower owned by SBA Towers VII, LLC ("SBA"). The SBA owned tower (FCC Antenna Structure Registration Number: 1258267) is located in the general area where Applicants propose to construct the new tower. However, the SBA owned tower is no longer reasonably available for co-location. As a result, construction of the proposed tower is necessary to meet AT\&T's coverage objectives efficiently for this area.
}

\section*{Driving Directions to Proposed Tower Site:}
1. Beginning at the 55 North Main Street, Suite 103, Monticello, KY 42633 head southwest on N Main Street toward Columbia Ave and travel approximately 230 feet.
2. Continue straight onto \(S\) Main Street and travel approximately 0.4 miles.
3. Turn right to stay on S Main Street and travel approximately 0.2 miles.
4. Continue onto Albany Road and travel approximately 0.7 miles.
5. Turn left onto KY-90 W and travel approximately 6.5 miles.
6. Turn left onto state Hwy 834 and travel approximately 0.6 miles.
7. A private gravel road leading to the site is located on the left. The E-911 address for the site is 571 Holly Hill Tree Lane, Monticello, KY 42633, and the parcel address is Hill Drive, Monticello, KY 42633 (Parcel Address). The site coordinates are: \(36^{\circ} 46^{\prime} 32.88^{\prime \prime}\) North latitude, \(84^{\circ} 56^{\prime} 33.45^{\prime \prime}\) West longitude.


Prepared by:
Chris Shouse
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


\section*{EXHIBIT L}

COPY OF COUNTY JUDGE/EXECUTIVE NOTICE

\title{
VIA CERTIFIED MAIL
}

\author{
Mike Anderson \\ County Judge Executive \\ P.O. Box 439 \\ 55 North Main Street, Suite 103 \\ Monticello, KY 42633
}

\section*{RE: \(\quad\) Notice of Proposal to Construct Wireless Communications Facility Kentucky Public Service Commission Docket No. 2022-00279 Site Name: West Highway 90 / Zula Relo}

\section*{Dear Judge/Executive:}

New Cingular Wireless PCS, LLC, a Delaware limited liability company, d/b/a AT\&T Mobility and Harmoni 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 571 Holly Hill Tree Lane, Monticello, KY 42633 (E-911) / Hill Drive, Monticello, KY 42633 (PARCEL) ( \(36^{\circ} 46^{\prime} 32.88^{\prime \prime}\) North latitude, \(84^{\circ} 56^{\prime} 33.45^{\prime \prime}\) West longitude). The proposed WCF will consist of a 2 -foot tall foundation below a 255 -foot tall tower, with an approximately 10 -foot tall lightning arrestor attached at the top, for a total height of 267 -feet, plus related ground facilities. This facility is needed to provide improved coverage for wireless communications in the area. \({ }^{1}\)

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 2022-00279 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

\footnotetext{
' AT\&T is currently providing wireless services from an existing tower owned by SBA Towers VII, LLC ("SBA"). The SBA owned tower (FCC Antenna Structure Registration Number: 1258267) is located in the general area where Applicants propose to construct the new tower. However, the SBA owned tower is no longer reasonably available for co-location. As a result, construction of the proposed tower is necessary to meet AT\&T's coverage objectives efficiently for this area.
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Prepared by:
Chris Shouse
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 M
COPY OF POSTED NOTICES
AND NEWSPAPER NOTICE ADVERTISEMENT

\section*{SITE NAME: WEST HIGHWAY 90 / ZULA 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 Harmoni 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 2022-00279 in your correspondence.

> New Cingular Wireless PCS, LLC, a Delaware limited liability company, d/b/a AT\&T Mobility and Harmoni 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 2022-00279 in your correspondence.

VIA TELEPHONE: (606) 340-6397
VIA EMAIL: advertising@thewayneweekly.com
The Wayne Weekly
45 Park Ave
Monticello, KY 42633
RE: Legal Notice Advertisement
Site Name: West Highway 90 / Zula Relo
Dear Staff:
Please publish the following legal notice advertisement in the next edition of The Wayne Weekly:

\section*{NOTICE}

New Cingular Wireless PCS, LLC, a Delaware limited liability company, d/b/a AT\&T Mobility and Harmoni 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 571 Holly Hill Tree Lane, Monticello, KY 42633 (E-911) / Hill Drive, Monticello, KY 42633 (PARCEL) ( \(36^{\circ} 46^{\prime} 32.88^{\prime \prime}\) North latitude, \(84^{\circ} 56^{\prime} 33.45^{\prime \prime}\) 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 2022-00279 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,
Chris Shouse
Pike Legal Group, PLLC

\section*{EXHIBIT N COPY OF RADIO FREQUENCY DESIGN SEARCH AREA}
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