COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

THE APPLICATION OF	)	
NEW CINGULAR WIRELESS PCS, LLC,	)	
A DELAWARE LIMITED LIABILITY COMPANY,	)	
D/B/A AT&T MOBILITY	)	
AND TILLMAN INFRASTRUCTURE LLC, A DELAWARE	)	
LIMITED LIABILITY COMPANY	)	
FOR ISSUANCE OF A CERTIFICATE OF PUBLIC	)	CASE NO.: 2022-00414
CONVENIENCE AND NECESSITY TO CONSTRUCT	)	
A WIRELESS COMMUNICATIONS FACILITY	)	
IN THE COMMONWEALTH OF KENTUCKY	)	
IN THE COUNTY OF BALLARD	)	

SITE NAME: KEVIL RELO

****

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

New Cingular Wireless PCS, LLC, a Delaware limited liability company, d/b/a AT&T Mobility and Tillman Infrastructure LLC, a Delaware limited liability company ("Applicants"), by counsel, pursuant to (i) KRS §§ 278.020, 278.040, 278.650, 278.665, and other statutory authority, and the rules and regulations applicable thereto, and (ii) the Telecommunications Act of 1996, respectfully submit this Application requesting issuance of a Certificate of Public Convenience and Necessity ("CPCN") from the Kentucky Public Service Commission ("PSC") to construct, maintain, and operate a Wireless Communications Facility ("WCF") to serve the customers of the Applicants with wireless communications services.

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

information:

1. The complete names and addresses of the Applicants are: New Cingular Wireless PCS, LLC, a Delaware limited liability company, d/b/a AT&T Mobility, having an address of Meidinger Tower, 462 S. 4th Street, Suite 2400, Louisville, Kentucky 40202 and Tillman Infrastructure LLC, a Delaware limited liability company having an address of 152 W 57th Street, New York, NY 10019.

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. Tillman Infrastructure is a limited liability company organized in the State of Delaware on June 13, 2016.

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

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

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

accordance with applicable FCC regulations.

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

8. To address the above-described service needs, Applicants propose to construct a WCF at 562 Wallace Ave., Kevil, KY 42053 (37° 05' 14.174" North latitude, 88° 53' 08.368" 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 Ronald Vance pursuant to deeds recorded at Deed Book 88, Page 472 and Deed Book 117, Page 211 in the office of the County Clerk. The proposed WCF will consist of a 245-foot tall tower, with an approximately 5-foot tall lightning arrestor attached at the top, for a total height of 250-feet. The WCF will also include concrete foundations and a shelter or cabinets to accommodate the placement of AT&T Mobility's radio electronics equipment and appurtenant equipment. The Applicants' equipment cabinet or shelter will be approved for use in the Commonwealth of Kentucky by the relevant building inspector. The WCF compound will be fenced and all access gate(s) will be secured. A

description of the manner in which the proposed WCF will be constructed is attached as **Exhibit B** and **Exhibit C**.

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

10. The site development plan and a vertical profile sketch of the WCF signed and sealed by a professional engineer registered in Kentucky depicting the tower height, as well as a proposed configuration for AT&T Mobility's antennas has also been included as part of **Exhibit B**.

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

12. Applicants have considered the likely effects of the installation of the proposed WCF on nearby land uses and values and have concluded that there is no more suitable location reasonably available from which adequate services can be provided, and that there are no reasonably available opportunities to co-locate AT&T Mobility's antennas on an existing structure. When suitable towers or structures exist, AT&T Mobility attempts to co-locate on existing structures such as communications towers or other structures capable of supporting AT&T Mobility's facilities; however, no other suitable or available co-location site was found to be located in the vicinity of the site.[1]

[1] AT&T is currently co-located on an existing tower (FCC Antenna Structure Registration Number: 1265272) owned by TV6 Holdings LLC a subsidiary of SBA Communications Corporation (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 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.

13. A copy of the of the application to the Federal Aviation Administration ("FAA") for the proposed tower is attached as **Exhibit E**.

14. A copy of the application to the Kentucky Airport Zoning Commission ("KAZC") for the proposed tower 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. Tillman Infrastructure, pursuant to a written agreement, has acquired the right to use the WCF site and associated property rights. A copy of the agreements or abbreviated agreements recorded with the County Clerk are attached as **Exhibit I**.

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

19. The Construction Manager for the proposed facility is John Lounsbury 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 N**.

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

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

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

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

WHEREFORE, Applicants respectfully request that the PSC accept the foregoing Application for filing, and having met the requirements of KRS §§ 278.020(1), 278.650, and 278.665 and all applicable rules and regulations of the PSC, grant a Certificate of Public Convenience and Necessity to construct and operate the WCF at the location set forth herein.

Respectfully submitted,

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

LIST OF EXHIBITS

A - Certificate of Authority & FCC License Documentation

B - Site Development Plan:

- 500' Vicinity Map
- Legal Descriptions
- Flood Plain Certification
- Site Plan
- Vertical Tower Profile

C - Tower and Foundation Design

D - Competing Utilities, Corporations, or Persons List

E - FAA

F - Kentucky Airport Zoning Commission

G - Geotechnical Report

H - Directions to WCF Site

I - Copy of Real Estate Agreement

J - Notification Listing & 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

Commonwealth of Kentucky
Alison Lundergan Grimes, Secretary of State

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

Certificate of Authorization

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

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

NEW CINGULAR WIRELESS PCS, LLC

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

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

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

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

0998026.06 dwilliam AD

Michael G. Adams
Kentucky Secretary of State
Received and Filed:
11/18/2021 10:04 AM
Fee Receipt: $148.00

COMMONWEALTH OF KENTUCKY
MICHAEL G. ADAMS, SECRETARY OF STATE

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

Certificate of Authority
(Foreign Business Entity)

FBE

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

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

2. The name of the entity is TILLMAN INFRASTRUCTURE LLC.
(The name must be identical to the name on record with the Secretary of State.)

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

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

5. The date of organization is JUNE 13, 2016 and the period of duration is PERPETUAL.
(If left blank, duration is considered perpetual.)

6. The mailing address of the entity's principal office is

152 W 57TH STREET	NEW YORK	NY	10019
Street Address	**City**	**State**	**Zip Code**

7. The street address of the entity's registered office in Kentucky is

421 WEST MAIN ST	FRANKFORT	KY	40601
Street Address (No P.O. Box Numbers)	**City**	**State**	**Zip Code**

and the name of the registered agent at that office is BLUMBERG CORPORATE SERVICES, LLC.

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

Name	Street or P.O. Box	City	State	Zip Code
SURUCHI AHUJA	152 W 57TH STREET	NEW YORK	NY	10019

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

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

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

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

13. This application will be effective upon filing.

Signature of Authorized Representative	SURUCHI AHUJA, MANAGER Printed Name & Title	11/16/2021 Date

I, BLUMBERG CORPORATE SERVICES, LLC, consent to serve as the registered agent on behalf of the business entity.
Type/Print Name of Registered Agent

Signature of Registered Agent	JOSE MOJICA Printed Name	ASSISTANT SECRETARY Title	11/16/2021 Date

(7-10)

Delaware

The First State

I, JEFFREY W. BULLOCK, SECRETARY OF STATE OF THE STATE OF DELAWARE, DO HEREBY CERTIFY THE ATTACHED IS A TRUE AND CORRECT COPY OF THE CERTIFICATE OF FORMATION OF 'TILLMAN INFRASTRUCTURE LLC', FILED IN THIS OFFICE ON THE THIRTEENTH DAY OF JUNE, A.D. 2016, AT 11:07 O`CLOCK A.M.

Jeffrey W. Bullock, Secretary of State

6067508 8100
SR# 20164424697

Authentication: 202480828
Date: 06-13-16

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

State of Delaware
Secretary of State
Division of Corporations
Delivered 11:07 AM 06/13/2016
FILED 11:07 AM 06/13/2016
SR 20164424697 - File Number 6067508

CERTIFICATE OF FORMATION

of

TILLMAN INFRASTRUCTURE LLC

A LIMITED LIABILITY COMPANY

Pursuant to Section 18-201:

FIRST: The name of the limited liability company is: TILLMAN INFRASTRUCTURE LLC

SECOND: Its registered office in the State of Delaware is to be located at: 1013 Centre Road, Suite 403S, Wilmington, DE 19805, County of New Castle and its registered agent at such address is: BlumbergExcelsior Corporate Services, Inc.

THIRD: The duration of the limited liability company is perpetual.

IN WITNESS WHEREOF, the undersigned, being the individual forming the limited liability company, has executed, signed and acknowledged this Certificate of Formation this 13th day of June, 2016

/s/ Jose Mojica
Jose Mojica
Organizer

Statement of Organizers Action

of

TILLMAN INFRASTRUCTURE LLC

The undersigned, being the initial authorized person of the within named limited liability company does hereby state that:

1. The Certificate of Formation of the Limited Liability Company (herein known as the "LLC") was filed by the State of Delaware on June 13, 2016. The Certificate of Formation is annexed hereto. The same hereby, is ordered filed with the Operating Agreement of the LLC.

2. At the time of its formation, the LLC had at least one member/manager, to wit: Sanjiv Ahuja, Anju Ahuja, Sachit Ahuja and Suruchi Ahuja

3. The initial organizer herein is neither a member nor a manager of the LLC.

4. From this date hence, the undersigned, effective this date, has fulfilled the duties as the initial organizer of LLC and herewith relinquishes all further duties to the LLC.

IN WITNESS WHEREOF, I have made and subscribed this Initial Election of Members, this 13th day of June, 2016

Jose Mojica
Organizer

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

Call Sign	File Number
KNKN830	0009619230
Radio Service CL - Cellular	
Market Numer CMA443	**Channel Block** A
Sub-Market Designator 0	

FCC Registration Number (FRN): 0003291192

Market Name
Kentucky 1 - Fulton

Grant Date	Effective Date	Expiration Date	Five Yr Build-Out Date	Print Date
09-08-2021	09-08-2021	10-01-2031		09-08-2021

Site Information:

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
4	36-32-58.2 N	088-19-52.1 W	162.8	215.9	1044609

Address: SOUTH OF 521 MIDWAY ROAD (76098)
City: MURRAY **County:** CALLOWAY **State:** KY **Construction Deadline:**

Antenna: 1

Maximum Transmitting ERP in Watts: 140.820								
Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	94.300	98.100	103.900	91.600	77.400	92.600	89.800	92.800
Transmitting ERP (watts)	90.905	315.534	257.251	45.036	1.831	0.631	0.653	5.479

Antenna: 2

Maximum Transmitting ERP in Watts: 140.820								
Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	94.300	98.100	103.900	91.600	77.400	92.600	89.800	92.800
Transmitting ERP (watts)	0.189	0.181	2.710	24.477	46.412	26.231	3.140	0.165

Antenna: 3

Maximum Transmitting ERP in Watts: 140.820								
Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	94.300	98.100	103.900	91.600	77.400	92.600	89.800	92.800
Transmitting ERP (watts)	93.187	5.247	0.653	0.792	2.286	40.640	253.641	324.312

Conditions:

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

Licensee Name: NEW CINGULAR WIRELESS PCS, LLC

Call Sign: KNKN830 **File Number:** 0009619230 **Print Date:** 09-08-2021

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
7	36-40-48.5 N	088-59-38.9 W	125.6	97.5	1043413

Address: 368 US HIGHWAY 51 NORTH (76095)
City: Clinton **County:** HICKMAN **State:** KY **Construction Deadline:**

Antenna: 1
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	99.500	101.100	87.000	99.800	107.400	111.400	116.100	103.500
Transmitting ERP (watts)	46.473	43.365	8.875	2.867	0.271	1.698	13.116	39.622

Antenna: 2
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	99.500	101.100	87.000	99.800	107.400	111.400	116.100	103.500
Transmitting ERP (watts)	16.262	75.054	100.598	95.375	87.529	27.061	32.457	15.298

Antenna: 3
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	99.500	101.100	87.000	99.800	107.400	111.400	116.100	103.500
Transmitting ERP (watts)	26.123	10.219	13.943	31.412	138.549	180.577	193.913	76.304

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
8	36-45-30.7 N	088-10-11.4 W	156.1	96.3	1043411

Address: 771 Rudolph Road (76099)
City: Hardin **County:** MARSHALL **State:** KY **Construction Deadline:**

Antenna: 1
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	130.300	111.500	104.000	127.200	98.400	106.100	109.000	115.300
Transmitting ERP (watts)	138.810	181.853	201.332	78.257	26.754	10.412	13.921	31.435

Antenna: 2
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	130.300	111.500	104.000	127.200	98.400	106.100	109.000	115.300
Transmitting ERP (watts)	0.495	0.767	13.331	103.933	243.934	88.607	9.081	2.358

Antenna: 3
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	130.300	111.500	104.000	127.200	98.400	106.100	109.000	115.300
Transmitting ERP (watts)	121.085	34.811	25.322	9.647	14.734	94.724	185.217	194.265

Licensee Name: NEW CINGULAR WIRELESS PCS, LLC

Call Sign: KNKN830 **File Number:** 0009619230 **Print Date:** 09-08-2021

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
9	36-57-02.0 N	089-04-57.4 W	139.6	35.1	

Address: 966 Westvaco Road (76102)
City: WICKLIFFE **County:** BALLARD **State:** KY **Construction Deadline:**

Antenna: 1
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	66.700	39.500	47.700	59.600	40.400	76.800	74.900	77.800
Transmitting ERP (watts)	208.387	279.525	57.987	6.279	2.348	0.861	2.044	43.197

Antenna: 2
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	66.700	39.500	47.700	59.600	40.400	76.800	74.900	77.800
Transmitting ERP (watts)	13.096	122.483	310.652	139.984	16.567	3.121	0.637	1.151

Antenna: 3
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	66.700	39.500	47.700	59.600	40.400	76.800	74.900	77.800
Transmitting ERP (watts)	1.083	3.141	55.641	235.301	265.480	45.044	5.015	1.649

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
14	36-31-12.4 N	088-50-41.5 W	144.2	122.2	1030665

Address: 550 Powell Road (76108)
City: FULTON **County:** HICKMAN **State:** KY **Construction Deadline:** 10-17-2014

Antenna: 1
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	54.600	50.500	50.000	62.400	74.100	82.600	70.400	68.900
Transmitting ERP (watts)	54.186	259.791	165.189	15.440	1.821	0.520	0.538	2.272

Antenna: 2
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	54.600	50.500	50.000	62.400	74.100	82.600	70.400	68.900
Transmitting ERP (watts)	37.483	3.445	0.681	0.543	0.696	23.278	173.429	255.845

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
15	36-38-43.9 N	088-28-32.2 W	171.9	129.8	1210819

Address: 1211 Bazzell Cemetery Road (76104)
City: Murray **County:** CALLOWAY **State:** KY **Construction Deadline:** 10-17-2014

Antenna: 1
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	119.500	104.900	100.600	100.600	101.500	99.400	106.900	111.600
Transmitting ERP (watts)	90.670	314.927	257.500	45.061	1.817	0.634	0.658	5.547

Licensee Name: NEW CINGULAR WIRELESS PCS, LLC

Call Sign: KNKN830 **File Number:** 0009619230 **Print Date:** 09-08-2021

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
15	36-38-43.9 N	088-28-32.2 W	171.9	129.8	1210819

Address: 1211 Bazzell Cemetery Road (76104)
City: Murray **County:** CALLOWAY **State:** KY **Construction Deadline:** 10-17-2014

Antenna: 4
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	119.500	104.900	100.600	100.600	101.500	99.400	106.900	111.600
Transmitting ERP (watts)	0.367	0.330	5.484	55.361	112.914	58.679	6.523	0.289

Antenna: 5
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	119.500	104.900	100.600	100.600	101.500	99.400	106.900	111.600
Transmitting ERP (watts)	92.571	5.224	0.656	0.800	2.278	41.111	254.363	324.895

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
19	36-36-41.4 N	088-47-03.9 W	155.7	98.4	1215493

Address: 13111 State Route 45 South (76105)
City: Wingo **County:** GRAVES **State:** KY **Construction Deadline:** 10-17-2014

Antenna: 1
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	113.900	104.300	100.500	100.100	118.200	120.600	142.500	118.400
Transmitting ERP (watts)	75.324	249.922	174.975	24.513	3.151	0.522	1.154	5.702

Antenna: 2
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	113.900	104.300	100.500	100.100	118.200	120.600	142.500	118.400
Transmitting ERP (watts)	0.327	2.041	16.058	48.846	56.920	53.682	10.688	3.498

Antenna: 3
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	113.900	104.300	100.500	100.100	118.200	120.600	142.500	118.400
Transmitting ERP (watts)	52.956	5.694	1.994	0.772	1.841	39.724	185.306	249.412

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
21	37-01-59.6 N	088-55-53.8 W	137.2	81.7	1061534

Address: HIGHWAY 358 SOUTH (76094)
City: LA CENTER **County:** BALLARD **State:** KY **Construction Deadline:** 10-17-2014

Antenna: 1
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	89.800	81.800	70.500	81.800	84.100	79.400	91.200	97.100
Transmitting ERP (watts)	112.389	322.213	224.476	23.789	1.892	0.660	0.706	9.624

Licensee Name: NEW CINGULAR WIRELESS PCS, LLC

Call Sign: KNKN830 **File Number:** 0009619230 **Print Date:** 09-08-2021

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
21	37-01-59.6 N	088-55-53.8 W	137.2	81.7	1061534

Address: HIGHWAY 358 SOUTH (76094)
City: LA CENTER **County:** BALLARD **State:** KY **Construction Deadline:** 10-17-2014

Antenna: 2
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	89.800	81.800	70.500	81.800	84.100	79.400	91.200	97.100
Transmitting ERP (watts)	0.245	0.296	9.047	63.327	119.917	49.080	4.913	0.289

Antenna: 3
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	89.800	81.800	70.500	81.800	84.100	79.400	91.200	97.100
Transmitting ERP (watts)	61.077	6.560	2.321	0.892	2.139	46.212	218.148	287.895

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
22	37-02-00.0 N	088-22-10.0 W	105.5	106.7	1040303

Address: 641 GARY JOHNSON ROAD (76096)
City: CALVERT CITY **County:** MARSHALL **State:** KY **Construction Deadline:** 10-17-2014

Antenna: 1
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	86.900	86.100	95.100	91.700	77.400	93.100	107.000	101.600
Transmitting ERP (watts)	19.290	27.291	31.707	11.704	2.348	0.517	1.589	4.904

Antenna: 2
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	86.900	86.100	95.100	91.700	77.400	93.100	107.000	101.600
Transmitting ERP (watts)	0.103	0.173	3.333	26.500	50.592	22.618	2.382	0.161

Antenna: 3
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	86.900	86.100	95.100	91.700	77.400	93.100	107.000	101.600
Transmitting ERP (watts)	51.334	5.515	1.916	0.726	1.742	37.531	178.683	239.865

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
24	36-52-41.6 N	088-12-19.4 W	132.3	94.5	1223751

Address: 3018 Barge Island Road (76116)
City: Benton **County:** MARSHALL **State:** KY **Construction Deadline:** 10-17-2014

Antenna: 1
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	100.900	74.800	82.900	90.300	83.200	75.100	82.700	89.800
Transmitting ERP (watts)	64.257	218.461	153.987	21.410	2.758	0.447	1.004	4.863

Licensee Name: NEW CINGULAR WIRELESS PCS, LLC

Call Sign: KNKN830 **File Number:** 0009619230 **Print Date:** 09-08-2021

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
24	36-52-41.6 N	088-12-19.4 W	132.3	94.5	1223751

Address: 3018 Barge Island Road (76116)
City: Benton **County:** MARSHALL **State:** KY **Construction Deadline:** 10-17-2014

Antenna: 2
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	100.900	74.800	82.900	90.300	83.200	75.100	82.700	89.800
Transmitting ERP (watts)	0.516	0.812	13.931	109.389	254.428	92.990	9.535	2.468

Antenna: 3
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	100.900	74.800	82.900	90.300	83.200	75.100	82.700	89.800
Transmitting ERP (watts)	126.395	36.677	26.446	10.150	15.357	99.601	194.625	203.444

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
26	37-06-39.7 N	088-57-32.4 W	118.3	86.6	1244919

Address: 2967 BANDANA ROAD (76122)
City: LA CENTER **County:** BALLARD **State:** KY **Construction Deadline:** 10-17-2014

Antenna: 1
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	98.000	96.700	81.000	73.300	74.700	89.200	104.100	92.500
Transmitting ERP (watts)	40.898	65.024	70.503	22.298	3.898	0.957	2.616	9.032

Antenna: 2
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	98.000	96.700	81.000	73.300	74.700	89.200	104.100	92.500
Transmitting ERP (watts)	0.519	25.920	110.565	221.603	140.992	214.122	87.608	63.085

Antenna: 3
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	98.000	96.700	81.000	73.300	74.700	89.200	104.100	92.500
Transmitting ERP (watts)	37.744	5.696	3.296	2.226	3.676	28.040	60.416	72.478

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
27	36-48-47.4 N	089-01-13.9 W	114.0	92.7	1244912

Address: 461 COUNTY ROAD 1235 (76123)
City: ARLINGTON **County:** CARLISLE **State:** KY **Construction Deadline:** 10-17-2014

Antenna: 1
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	90.300	82.200	73.600	91.100	97.500	88.700	101.500	87.500
Transmitting ERP (watts)	106.670	236.325	87.322	9.136	2.326	0.497	0.777	13.791

Licensee Name: NEW CINGULAR WIRELESS PCS, LLC

Call Sign: KNKN830 **File Number:** 0009619230 **Print Date:** 09-08-2021

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
27	36-48-47.4 N	089-01-13.9 W	114.0	92.7	1244912

Address: 461 COUNTY ROAD 1235 (76123)
City: ARLINGTON **County:** CARLISLE **State:** KY **Construction Deadline:** 10-17-2014

Antenna: 2
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	90.300	82.200	73.600	91.100	97.500	88.700	101.500	87.500
Transmitting ERP (watts)	3.771	6.725	70.667	194.932	224.510	93.220	19.059	10.392

Antenna: 3
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	90.300	82.200	73.600	91.100	97.500	88.700	101.500	87.500
Transmitting ERP (watts)	17.405	2.960	0.738	2.081	7.101	31.894	50.141	56.076

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
28	36-32-49.7 N	088-09-16.0 W	128.6	77.7	1245399

Address: 10475 STATE ROAD 121 (76124)
City: NEW CONCORD **County:** CALLOWAY **State:** KY **Construction Deadline:** 10-17-2014

Antenna: 1
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	65.300	82.000	68.100	72.000	52.100	54.800	45.900	46.700
Transmitting ERP (watts)	103.508	96.740	121.896	67.061	24.395	17.896	22.126	33.816

Antenna: 2
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	65.300	82.000	68.100	72.000	52.100	54.800	45.900	46.700
Transmitting ERP (watts)	0.291	1.775	14.241	42.943	50.803	47.977	9.728	3.207

Antenna: 3
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	65.300	82.000	68.100	72.000	52.100	54.800	45.900	46.700
Transmitting ERP (watts)	131.978	37.385	27.253	10.383	15.864	101.405	199.819	210.869

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
29	36-33-30.0 N	088-35-22.0 W	172.2	98.7	1041880

Address: 2539 State Rte 94E (100720)
City: Sedalia **County:** GRAVES **State:** KY **Construction Deadline:** 10-17-2014

Antenna: 3
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	88.800	79.000	80.100	102.800	107.300	113.300	86.100	90.300
Transmitting ERP (watts)	118.798	346.026	241.383	25.538	2.032	0.686	0.737	10.121

Licensee Name: NEW CINGULAR WIRELESS PCS, LLC

Call Sign: KNKN830 **File Number:** 0009619230 **Print Date:** 09-08-2021

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
29	36-33-30.0 N	088-35-22.0 W	172.2	98.7	1041880

Address: 2539 State Rte 94E (100720)
City: Sedalia **County:** GRAVES **State:** KY **Construction Deadline:** 10-17-2014

Antenna: 4								
Maximum Transmitting ERP in Watts: 140.820								
Azimuth(from true north)	**0**	**45**	**90**	**135**	**180**	**225**	**270**	**315**
Antenna Height AAT (meters)	88.800	79.000	80.100	102.800	107.300	113.300	86.100	90.300
Transmitting ERP (watts)	0.101	0.148	0.723	2.670	2.039	2.501	0.544	0.100
Antenna: 5								
Maximum Transmitting ERP in Watts: 140.820								
Azimuth(from true north)	**0**	**45**	**90**	**135**	**180**	**225**	**270**	**315**
Antenna Height AAT (meters)	88.800	79.000	80.100	102.800	107.300	113.300	86.100	90.300
Transmitting ERP (watts)	39.858	3.632	0.525	0.681	3.083	30.083	155.327	190.084
Antenna: 6								
Maximum Transmitting ERP in Watts: 140.820								
Azimuth(from true north)	**0**	**45**	**90**	**135**	**180**	**225**	**270**	**315**
Antenna Height AAT (meters)	88.800	79.000	80.100	102.800	107.300	113.300	86.100	90.300
Transmitting ERP (watts)	116.175	337.516	238.141	25.039	2.002	0.669	0.719	9.904
Antenna: 7								
Maximum Transmitting ERP in Watts: 140.820								
Azimuth(from true north)	**0**	**45**	**90**	**135**	**180**	**225**	**270**	**315**
Antenna Height AAT (meters)	88.800	79.000	80.100	102.800	107.300	113.300	86.100	90.300
Transmitting ERP (watts)	0.100	0.100	0.108	1.032	1.990	0.939	0.099	0.100
Antenna: 8								
Maximum Transmitting ERP in Watts: 140.820								
Azimuth(from true north)	**0**	**45**	**90**	**135**	**180**	**225**	**270**	**315**
Antenna Height AAT (meters)	88.800	79.000	80.100	102.800	107.300	113.300	86.100	90.300
Transmitting ERP (watts)	39.129	3.555	0.510	0.662	3.020	29.428	154.053	187.149

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
30	36-38-26.2 N	088-16-00.1 W	165.8	90.8	1030663

Address: 1431 Van Cleave Road
City: MURRAY **County:** CALLOWAY **State:** KY **Construction Deadline:** 03-19-2014

Antenna: 1								
Maximum Transmitting ERP in Watts: 140.820								
Azimuth(from true north)	**0**	**45**	**90**	**135**	**180**	**225**	**270**	**315**
Antenna Height AAT (meters)	95.400	94.000	102.000	97.700	75.000	79.400	73.500	84.000
Transmitting ERP (watts)	99.973	347.694	284.408	49.684	2.009	0.693	0.722	6.047
Antenna: 2								
Maximum Transmitting ERP in Watts: 140.820								
Azimuth(from true north)	**0**	**45**	**90**	**135**	**180**	**225**	**270**	**315**
Antenna Height AAT (meters)	95.400	94.000	102.000	97.700	75.000	79.400	73.500	84.000
Transmitting ERP (watts)	0.658	0.593	9.481	98.900	202.269	103.412	11.469	0.466
Antenna: 3								
Maximum Transmitting ERP in Watts: 140.820								
Azimuth(from true north)	**0**	**45**	**90**	**135**	**180**	**225**	**270**	**315**
Antenna Height AAT (meters)	95.400	94.000	102.000	97.700	75.000	79.400	73.500	84.000
Transmitting ERP (watts)	102.904	5.789	0.721	0.870	2.492	44.530	280.630	358.642

Licensee Name: NEW CINGULAR WIRELESS PCS, LLC

Call Sign: KNKN830 **File Number:** 0009619230 **Print Date:** 09-08-2021

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
31	37-01-59.2 N	088-32-46.3 W	104.9	60.7	

Address: 311 PUGH ROAD (82847)

City: PADUCAH **County:** MCCRACKEN **State:** KY **Construction Deadline:** 10-17-2014

Antenna: 1

Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	56.200	65.400	62.700	44.400	60.400	47.900	41.900	64.900
Transmitting ERP (watts)	138.239	395.682	273.086	31.636	2.365	0.791	0.870	14.102

Antenna: 2

Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	56.200	65.400	62.700	44.400	60.400	47.900	41.900	64.900
Transmitting ERP (watts)	0.870	0.945	31.495	230.326	421.829	159.645	11.045	1.137

Antenna: 3

Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	56.200	65.400	62.700	44.400	60.400	47.900	41.900	64.900
Transmitting ERP (watts)	1.780	0.299	0.112	0.233	0.252	1.208	2.817	2.371

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
32	36-59-09.8 N	088-21-18.6 W	108.2	95.4	1222232

Address: 1285 US HIGHWAY 95 (93609)

City: CALVERT CITY **County:** MARSHALL **State:** KY **Construction Deadline:** 10-17-2014

Antenna: 1

Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	57.000	62.900	62.000	50.300	45.400	47.200	53.800	67.500
Transmitting ERP (watts)	114.888	331.792	230.236	24.563	1.953	0.671	0.707	9.579

Antenna: 2

Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	57.000	62.900	62.000	50.300	45.400	47.200	53.800	67.500
Transmitting ERP (watts)	0.719	1.299	23.038	188.836	348.890	135.248	7.214	1.404

Antenna: 3

Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	57.000	62.900	62.000	50.300	45.400	47.200	53.800	67.500
Transmitting ERP (watts)	38.772	3.498	0.494	0.647	2.930	29.401	150.126	182.816

Licensee Name: NEW CINGULAR WIRELESS PCS, LLC

Call Sign: KNKN830 **File Number:** 0009619230 **Print Date:** 09-08-2021

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
33	37-03-27.6 N	088-39-35.9 W	126.5	56.4	1261390

Address: 4147 Alben Barkley Drive (99179)

City: Paducah **County:** MCCRACKEN **State:** KY **Construction Deadline:** 10-17-2014

Antenna: 1

Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	75.600	77.100	83.500	78.100	49.200	54.800	60.700	73.700
Transmitting ERP (watts)	63.658	183.190	130.542	23.950	3.395	0.525	0.398	6.814

Antenna: 2

Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	75.600	77.100	83.500	78.100	49.200	54.800	60.700	73.700
Transmitting ERP (watts)	0.323	0.908	12.412	76.128	155.305	62.287	7.839	1.323

Antenna: 3

Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	75.600	77.100	83.500	78.100	49.200	54.800	60.700	73.700
Transmitting ERP (watts)	47.164	5.084	1.161	0.385	3.481	30.943	146.763	183.338

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
34	36-36-12.1 N	089-01-51.1 W	101.2	60.7	

Address: 5151 State Route 1529 (115776)

City: Clinton **County:** HICKMAN **State:** KY **Construction Deadline:** 10-17-2014

Antenna: 1

Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	52.300	37.600	51.800	46.600	43.300	54.500	71.100	62.300
Transmitting ERP (watts)	278.250	103.782	10.449	2.715	0.593	0.966	15.867	122.648

Antenna: 2

Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	52.300	37.600	51.800	46.600	43.300	54.500	71.100	62.300
Transmitting ERP (watts)	7.844	85.062	223.646	261.822	111.972	23.150	11.903	4.338

Antenna: 3

Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	52.300	37.600	51.800	46.600	43.300	54.500	71.100	62.300
Transmitting ERP (watts)	30.528	12.489	16.284	37.081	166.124	217.556	229.754	89.752

Licensee Name: NEW CINGULAR WIRELESS PCS, LLC

Call Sign: KNKN830 **File Number:** 0009619230 **Print Date:** 09-08-2021

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
35	37-00-56.6 N	088-43-49.8 W	143.3	71.6	1261050

Address: 2136 Mayfield Metropolis Road (109666)

City: Paducah **County:** MCCRACKEN **State:** KY **Construction Deadline:** 10-17-2014

Antenna: 1

Maximum Transmitting ERP in Watts: 140.820								
Azimuth(from true north)	**0**	**45**	**90**	**135**	**180**	**225**	**270**	**315**
Antenna Height AAT (meters)	105.700	96.700	95.000	75.800	73.800	88.800	68.000	82.900
Transmitting ERP (watts)	156.876	63.244	5.131	0.692	0.325	0.405	10.985	82.231

Antenna: 2

Maximum Transmitting ERP in Watts: 140.820								
Azimuth(from true north)	**0**	**45**	**90**	**135**	**180**	**225**	**270**	**315**
Antenna Height AAT (meters)	105.700	96.700	95.000	75.800	73.800	88.800	68.000	82.900
Transmitting ERP (watts)	3.414	33.471	169.860	202.694	40.839	2.592	0.626	0.446

Antenna: 3

Maximum Transmitting ERP in Watts: 140.820								
Azimuth(from true north)	**0**	**45**	**90**	**135**	**180**	**225**	**270**	**315**
Antenna Height AAT (meters)	105.700	96.700	95.000	75.800	73.800	88.800	68.000	82.900
Transmitting ERP (watts)	1.525	0.525	0.550	7.646	91.503	257.113	180.615	19.227

Control Points:

Control Pt. No. 1

Address: 1650 Lyndon Farms Court

City: LOUISVILLE **County:** **State:** KY **Telephone Number:** (502)332-4700

Waivers/Conditions:

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).

Federal Communications Commission

Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: NEW CINGULAR WIRELESS PCS, LLC

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

Call Sign	File Number
KNLH653	
Radio Service CW - PCS Broadband	

FCC Registration Number (FRN): 0003291192

Grant Date	Effective Date	Expiration Date	Print Date
04-11-2017	08-31-2018	04-28-2027	

Market Number	Channel Block	Sub-Market Designator
BTA339	F	0

Market Name
Paducah-Murray-Mayfield, KY

1st Build-out Date	2nd Build-out Date	3rd Build-out Date	4th Build-out Date
04-28-2002			

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.

Grant conditioned upon consummation of the assignment of license to Banana Communications, LLC within 180 days of June 9, 2008, per Memorandum Opinion and Order, DA 08-1380, released June 9, 2008.

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

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

Licensee Name: NEW CINGULAR WIRELESS PCS, LLC

Call Sign: KNLH653 **File Number:** **Print Date:**

700 MHz Relicensed Area Information:

Market	Market Name	Buildout Deadline	Buildout Notification	Status

Federal Communications Commission

Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: NEW CINGULAR WIRELESS PCS, LLC

ATTN: FCC GROUP
NEW CINGULAR WIRELESS PCS, LLC
208 S. AKARD ST., ROOM 2100
DALLAS, TX 75202

Call Sign	File Number
WPSJ971	0009434416
Radio Service	
CW - PCS Broadband	

FCC Registration Number (FRN): 0003291192

Grant Date	Effective Date	Expiration Date	Print Date
04-29-2021	04-29-2021	05-29-2031	04-30-2021

Market Number	Channel Block	Sub-Market Designator
BTA339	C	1

Market Name
Paducah-Murray-Mayfield, KY

1st Build-out Date	2nd Build-out Date	3rd Build-out Date	4th Build-out Date
05-29-2006			

Waivers/Conditions:

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

Conditions:

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

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

FCC 601-MB
August 2021

Licensee Name: NEW CINGULAR WIRELESS PCS, LLC

Call Sign: WPSJ971 **File Number:** 0009434416 **Print Date:** 04-30-2021

700 MHz Relicensed Area Information:

Market	Market Name	Buildout Deadline	Buildout Notification	Status

Federal Communications Commission

Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: NEW CINGULAR WIRELESS PCS, LLC

ATTN: CECIL J MATHEW
NEW CINGULAR WIRELESS PCS, LLC
208 S. AKARD STREET, RM 1016
DALLAS, TX 75202

Call Sign	File Number
WPSJ972	
Radio Service CW - PCS Broadband	

FCC Registration Number (FRN): 0003291192

Grant Date	Effective Date	Expiration Date	Print Date
05-14-2021	04-15-2021	05-29-2031	06-08-2021

Market Number	Channel Block	Sub-Market Designator
BTA339	C	2

Market Name
Paducah-Murray-Mayfield, KY

1st Build-out Date	2nd Build-out Date	3rd Build-out Date	4th Build-out Date
05-29-2006			

Waivers/Conditions:

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

Conditions:

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

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

Licensee Name: NEW CINGULAR WIRELESS PCS, LLC

Call Sign: WPSJ972 **File Number:** **Print Date:** 06-08-2021

700 MHz Relicensed Area Information:

Market	Market Name	Buildout Deadline	Buildout Notification	Status

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

Call Sign	File Number
WQGD472	0009724413
Radio Service AW - AWS (1710-1755 MHz and 2110-2155 MHz)	

FCC Registration Number (FRN): 0003291192

Grant Date	Effective Date	Expiration Date	Print Date
12-21-2021	12-21-2021	12-18-2036	12-22-2021

Market Number	Channel Block	Sub-Market Designator
CMA443	A	0

Market Name
Kentucky 1 - Fulton

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

Waivers/Conditions:

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

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

Conditions:

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

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

Licensee Name: NEW CINGULAR WIRELESS PCS, LLC

Call Sign: WQGD472 **File Number:** 0009724413 **Print Date:** 12-22-2021

700 MHz Relicensed Area Information:

Market	Market Name	Buildout Deadline	Buildout Notification	Status

Federal Communications Commission

Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: NEW CINGULAR WIRELESS PCS, LLC

ATTN: CECIL J MATHEW
NEW CINGULAR WIRELESS PCS, LLC
208 S. AKARD STREET, RM 1016
DALLAS, TX 75202

Call Sign	File Number
WQGI505	
Radio Service AW - AWS (1710-1755 MHz and 2110-2155 MHz)	

FCC Registration Number (FRN): 0003291192

Grant Date	Effective Date	Expiration Date	Print Date
02-16-2022	02-16-2022	01-29-2037	04-09-2022

Market Number	Channel Block	Sub-Market Designator
CMA522	A	0

Market Name
Missouri 19 - Stoddard

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

Waivers/Conditions:

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

Conditions:

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

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

Licensee Name: NEW CINGULAR WIRELESS PCS, LLC

Call Sign: WQGI505 **File Number:** **Print Date:** 04-09-2022

700 MHz Relicensed Area Information:

Market	Market Name	Buildout Deadline	Buildout Notification	Status

EXHIBIT B

SITE DEVELOPMENT PLAN:

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

VICINITY MAP

DRIVING DIRECTIONS

DIRECTIONS FROM BALLARD COUNTY COURT
132 4TH ST, WICKLIFFE, KY 42087

- TURN LEFT ONTO OHIO ST246 FT
- TURN RIGHT AT THE 1ST CROSS STREET ONTO 4TH ST 0.4 MI. 4TH ST TURNS SLIGHTLY RIGHT AND BECOMES LEE ST 0.1 MI
- CONTINUE ONTO US-60 E/N 6TH ST 6.1 MI
- TURN RIGHT ONTO US-60 E/BROADWAY ST & CONTINUE TO FOLLOW US-60 E 9.4 MI
- TURN LEFT ONTO WALLACE AVE 0.3 MI
- TURN RIGHT ONTO N 1ST ST 427 FT
- TURN LEFT AT THE 1ST CROSS STREET ONTO WYATT AVE 102 FT
- DESTINATION WILL BE ON THE LEFT-HAND SIDE OF THE ROAD

SCOPE OF WORK

THIS PROJECT CONSISTS OF:

- NEW 60'-0"X60'-0" FENCED COMPOUND INSIDE NEW 80'-0"X80'-0" LEASE AREA
- NEW 245' TALL SELF SUPPORT TOWER
- NEW AT&T WUC & GENERATOR ON 9'-6"X12'-0" CONCRETE PAD
- NEW AT&T ANTENNAS ON SELF SUPPORT TOWER

KENTUCKY ONE-CALL
STATE WIDE CALL: 811
CALL BEFORE YOU DIG

DEPARTMENT	NAME/SIGNATURE	DATE
LAND/TOWER OWNER		
SITE ACQU. AGENT		
ZONING/PERMITING AGENT		
A&E MANAGER		
CONSTRUCTION MANAGER		
RF MANAGER		

Tillman Infrastructure

at&t

SITE NAME:

KEVIL (TI-OPP-19611)

FA NUMBER:

15762578

PROJECT DESCRIPTION:

PROPOSED 245' SELF SUPPORT TOWER

THESE CD'S WERE COMPILED IN PART BY UTILIZING AT&T RFDS 5171952 v1.00 DATED 07/27/22.

REFER TO THE PROVIDED STRUCTURAL DESIGN REPORT DRAWN BY SABRE INDUSTRIES, DATED 09/01/22.

KENTUCKY CODE COMPLIANCE

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

CODE TYPE	CODE
BUILDING	2018 KENTUCKY BUILDING CODE, 4TH EDITION/2015 IBC
MECHANICAL	2018 KENTUCKY BUILDING CODE, 4TH EDITION/2015 IMC
ELECTRICAL	2018 KENTUCKY BUILDING CODE, 4TH EDITION/2014 NEC

FOR ANY CONFLICTS BETWEEN SECTIONS OF LISTED CODES AND STANDARDS, THE MOST RESTRICTIVE REQUIREMENT SHALL GOVERN.

PROJECT INFORMATION

SITE ADDRESS:	562 WALLACE AVE. KEVIL, KY 42053
LATITUDE (NAD 83): LONGITUDE (NAD 83):	N 37° 05' 14.174" W 88° 53' 08.368"
PARCEL ID:	64-51
ZONING: JURISDICTION: PROPERTY OWNER:	N/A STATE OF KENTUCKY RONALD VANCE
CO-APPLICANT/ TOWER OWNER:	TILLMAN INFRASTRUCTURE 152 W. 57TH STREET NEW YORK, NY 10019
CO-APPLICANT:	NEW CINGULAR WIRELESS PCS, LLC, A DELAWARE LIMITED LIABILITY COMPANY 462 SOUTH 4TH ST, SUITE 2400 LOUISVILLE, KY 40202
PROJECT MANAGEMENT FIRM:	TILLMAN INFRASTRUCTURE 152 W. 57TH STREET NEW YORK, NY 10019 (212) 706-1677
ENGINEER:	SMW ENGINEERING 158 BUSINESS CENTER DRIVE BIRMINGHAM, AL 35244 CONTACT: JEREMY SHARIT, PE PHONE: 205-397-6781
POWER: FIBER:	NOT PROVIDED NOT PROVIDED

DRAWING INDEX

SMW ENGINEERING GROUP, INC.
TOGETHER PLANNING A BETTER TOMORROW

SMW#: 22-0278

Tillman Infrastructure
152 W. 57TH STREET
NEW YORK, NEW YORK 10019
TEL: 212-706-1677

at&t

#	DATE	DESCRIPTION:
0	09/27/22	CLIENT REVIEW
1	10/24/22	CLIENT REVIEW
2	11/17/22	CLIENT REVIEW
3	11/30/22	CONSTRUCTION

CA#: KY 2865

STATE OF KENTUCKY
JEREMY D. SHARIT
26823
LICENSED PROFESSIONAL ENGINEER

11/30/22

FA #: 15762578

DESIGNED: JDS
CHECKED: RTB
DRAWN: BMD
LAST REV BY: BMD

SITE NAME

KEVIL (TI-OPP-19611)

SHEET NAME

TITLE SHEET & PROJECT INFORMATION

SHEET NUMBER

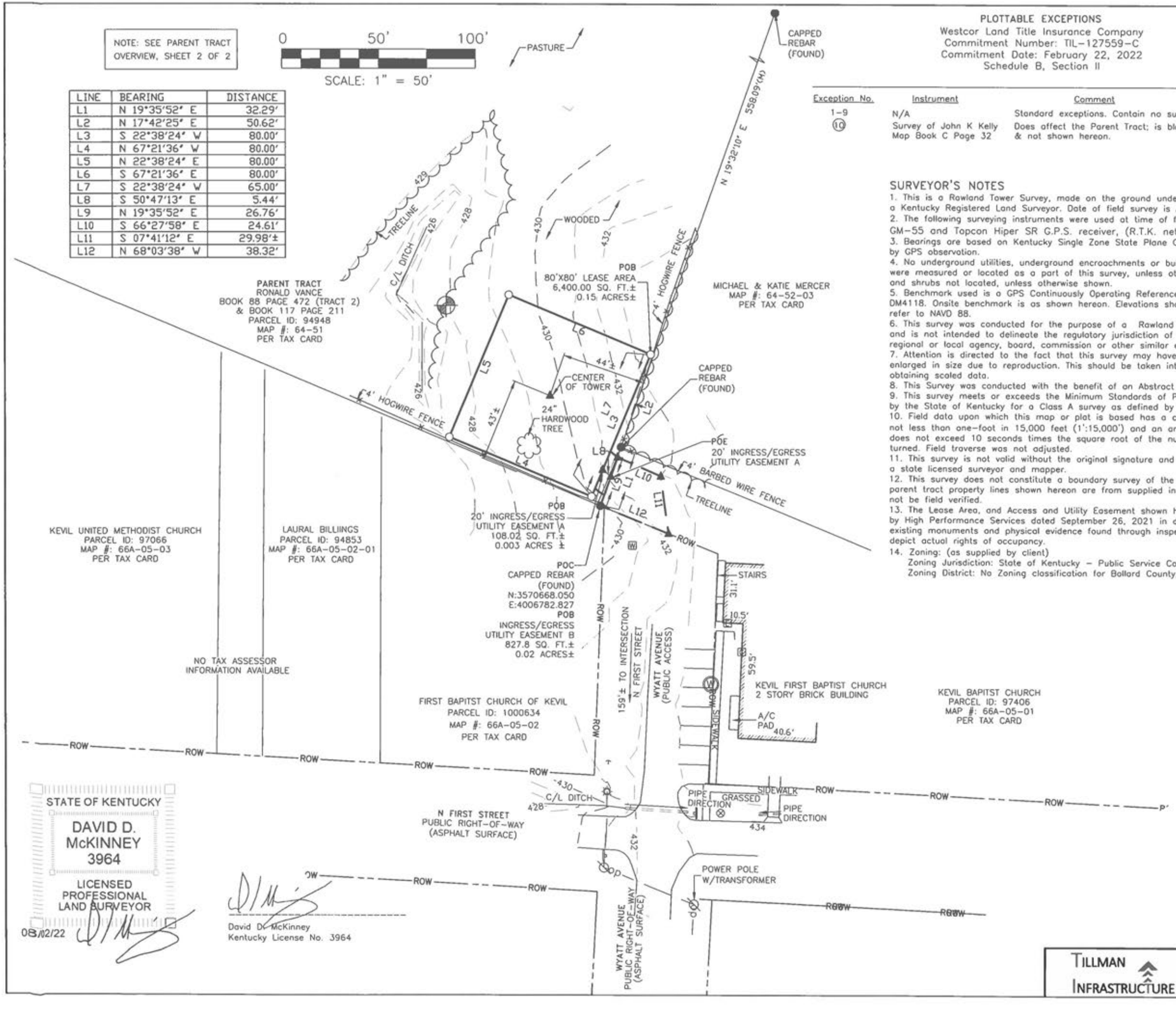
T-1

NOTE: SEE PARENT TRACT OVERVIEW, SHEET 2 OF 2

0 50' 100'

SCALE: 1" = 50'

LINE	BEARING	DISTANCE
L1	N 19°35'52" E	32.29'
L2	N 17°42'25" E	50.62'
L3	S 22°38'24" W	80.00'
L4	N 67°21'36" W	80.00'
L5	N 22°38'24" E	80.00'
L6	S 67°21'36" E	80.00'
L7	S 22°38'24" W	65.00'
L8	S 50°47'13" E	5.44'
L9	N 19°35'52" E	26.76'
L10	S 66°27'58" E	24.61'
L11	S 07°41'12" E	29.98'±
L12	N 68°03'38" W	38.32'



STATE OF KENTUCKY
DAVID D. McKINNEY
3964
LICENSED PROFESSIONAL LAND SURVEYOR
08/02/22

David D. McKinney
Kentucky License No. 3964

PLOTTABLE EXCEPTIONS

Westcor Land Title Insurance Company
Commitment Number: TIL-127559-C
Commitment Date: February 22, 2022
Schedule B, Section II

Exception No.	Instrument	Comment
1-9 (10)	N/A	Standard exceptions. Contain no survey matters.
	Survey of John K Kelly Map Book C Page 32	Does affect the Parent Tract; is blanket in nature & not shown hereon.

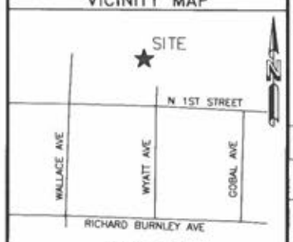
SURVEYOR'S NOTES

1. This is a Rawland Tower Survey, made on the ground under the supervision of a Kentucky Registered Land Surveyor. Date of field survey is April 5, 2022.
2. The following surveying instruments were used at time of field visit: Topcon GM-55 and Topcon Hiper SR G.P.S. receiver, (R.T.K. network capable).
3. Bearings are based on Kentucky Single Zone State Plane Coordinates NAD 83 by GPS observation.
4. No underground utilities, underground encroachments or building foundations were measured or located as a part of this survey, unless otherwise shown. Trees and shrubs not located, unless otherwise shown.
5. Benchmark used is a GPS Continuously Operating Reference Station, PID DM4118. Onsite benchmark is as shown hereon. Elevations shown are in feet and refer to NAVD 88.
6. This survey was conducted for the purpose of a Rawland Tower Survey only, and is not intended to delineate the regulatory jurisdiction of any federal, state, regional or local agency, board, commission or other similar entity.
7. Attention is directed to the fact that this survey may have been reduced or enlarged in size due to reproduction. This should be taken into consideration when obtaining scaled data.
8. This Survey was conducted with the benefit of an Abstract Title Search.
9. This survey meets or exceeds the Minimum Standards of Practice as required by the State of Kentucky for a Class A survey as defined by 201 KAR 18:150.
10. Field data upon which this map or plat is based has a closure precision of not less than one-foot in 15,000 feet (1':15,000') and an angular error that does not exceed 10 seconds times the square root of the number of angles turned. Field traverse was not adjusted.
11. This survey is not valid without the original signature and the original seal of a state licensed surveyor and mapper.
12. This survey does not constitute a boundary survey of the Parent Tract. Any parent tract property lines shown hereon are from supplied information and may not be field verified.
13. The Lease Area, and Access and Utility Easement shown hereon was provided by High Performance Services dated September 26, 2021 in direct correlation with existing monuments and physical evidence found through inspection and may not depict actual rights of occupancy.
14. Zoning: (as supplied by client)
    Zoning Jurisdiction: State of Kentucky – Public Service Commi
    Zoning District: No Zoning classification for Bollard County, Kentucky

TOWER INFO

LATITUDE: 37°05'14.174" NORTH
LONGITUDE: 88°53'08.368" WEST
(NAD 83)
GROUND ELEVATION: 429.6'
ABOVE MEAN SEA LEVEL (NAVD88)

VICINITY MAP



NOT TO SCALE

KENTUCKY SINGLE ZONE

GRID NORTH

GRID TO TRUE NORTH CONVERGENCE
1°55'

TRUE NORTH TO MAGNETIC DECLINATION
2°37' W

COMBINED SCALE FACTOR
0.999999060

LEGEND

- ○ = 5/8" REBAR SET
- ● = FOUND PROPERTY MARKER
- POB = POINT OF BEGINNING
- POC = POINT OF COMMENCEMENT
- POE = POINT OF ENDING
- ▲ = CALCULATED POINT
- (M) = MEASURED
- = POWER POLE
- = GUY ANCHOR
- = LIGHT POLE
- = 8" PVC DRAIN INLET
- = WATER METER
- = 8" PVC DRAIN INLET
- = WATER METER MANHOLE
- = GAS METER
- = HARDWOOD TREE
- = TEMPORARY BENCH MARK
  NAIL IN 36" HARDWOOD TREE
  ELEVATION = 429.63'

ROW = RIGHT-OF-WAY
OP = OVERHEAD POWER

FLOOD NOTE

By graphic plotting only, the subject property appears to lie in Zone 'X' of the Flood Insurance Rate Map Community Panel No. 21007C0125C, which bears an effective date of July 7, 2014 and IS NOT in a special flood hazard area.
Zone 'X': Areas determined to be outside the 0.2% annual chance floodplain.

NO.	REVISION	DATE	BY
1	UPDATED TO 20' ACCESS EASEMENT	07/14/22	PWK
2	UPDATED ACCESS EASEMENT B	7/29/22	CS

PROJECT NO. 22-0278

DRAWN BY: KM
CHECKED BY: PWK
FIELD CREW: DM
APPROVED BY: CDM
DATE: 04/12/22
SCALE: 1" = 50'

SHEET 1 OF 2

RAWLAND TOWER SURVEY

FOR: HIGH PERFORMANCE SERVICES
111 EAST SAINT PETER STREET
CARENCO, LA 70520

SMW Engineering Group, Inc.
158 Business Center Drive
Birmingham, Alabama 35244
Ph: 205-252-6985
www.smweng.com
CA 758, Expires December 31, 2021

SMW ENGINEERING GROUP, INC.

TILLMAN INFRASTRUCTURE

KEVIL TI-OPP-19611
15762578
BALLARD COUNTY, KENTUCKY

80' x 80' LEASE AREA (AS-SURVEYED)

A portion of the Ronald Vance tract described in Book 88, Page 472 as recorded in the Office of County Clerk for Ballard County, Kentucky, and being more particularly described as follows:

Commencing at a capped rebar found marking the Southeast corner of said Vance tract and having Kentucky Single Zone State Plane coordinates: N:3570668.050, E:4006782.827; thence run N 19°35'52" E for a distance of 32.29 feet to a found capped rebar; thence run N 17°42'25" E for a distance of 50.62 feet to a set 5/8" rebar and the Point of Beginning; thence run S 22°38'24" W for a distance of 80.00 feet to a set 5/8" rebar; thence run N 67°21'36" W for a distance of 80.00 feet to a set 5/8" rebar; thence run N 22°38'24" E for a distance of 80.00 feet to a set 5/8" rebar; thence run S 67°21'36" E for a distance of 80.00 feet to the Point of Beginning. Said Lease Area contains 6,400.00 square feet or 0.15 acres, more or less.

20' INGRESS/EGRESS & UTILITY EASEMENT A (AS-SURVEYED)

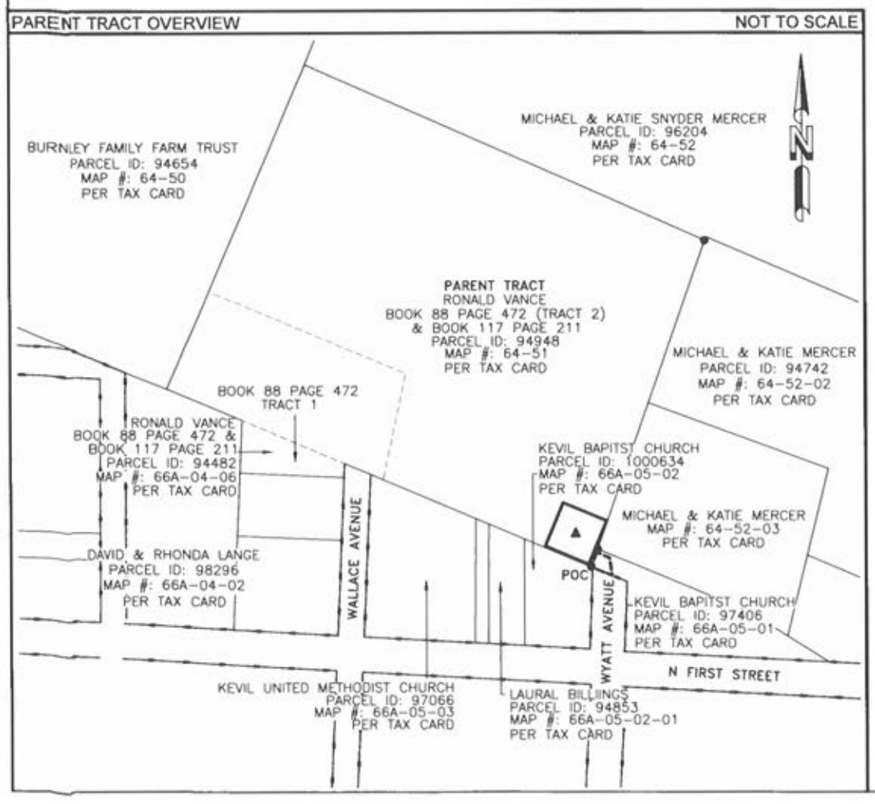
A portion of the Ronald Vance tract described in Book 88, Page 472 as recorded in the Office of County Clerk for Ballard County, Kentucky, and being more particularly described as follows: Commencing at a capped rebar found marking the Southeast corner of said Vance tract and having Kentucky Single Zone State Plane coordinates: N: 3570668.050, E: 4006782.827; thence run N 19°35'52" E for a distance of 32.29 feet to a found capped rebar; thence run N 17°42'25" E for a distance of 50.62 feet to a set 5/8" rebar; thence run S 22°38'24" W for a distance of 65.00 feet to the Point of Beginning of Ingress/Egress & Utility Easement A being 20 feet in width and lying 10 feet each side of the following described centerline; thence run S 50°47'13" E for a distance of 5.44 feet to a point on the east line of said Vance Tract and the West line of Kevil Baptist Church Tract, having Ballard County Tax Assessor Account #: 66A-05-02; Said point also being the Point of Ending. Said easement contains 108.02 square feet or 0.003 acres, more or less.

INGRESS/EGRESS & UTILITY EASEMENT B (AS-SURVEYED)

A portion of the Kevil Baptist Church tract having Ballard County Tax Assessor Account #: 66A-05-01, lying in Ballard County, Kentucky, and being more particularly described as follows:

Beginning at a capped rebar found marking the Southeast corner of Ronald Vance tract, described in Book 88, Page 472, and having Kentucky Single Zone State Plane coordinates: N:3570668.050, E:4006782.827 a capped rebar found bears N 19°35'52" E for a distance of 32.29 feet; thence N 19°35'52" E a distance of 26.76 feet to a point; thence S 66°27'58" E a distance of 24.61 feet to a point; thence S 07°41'12" E a distance of 29.98 feet, more or less, to a point on the North right-of-way line of Wyatt Avenue; thence N 68°03'38" W along said North right-of-way line a distance of 38.32 feet to the Point of Beginning. Said easement contains 827.8 square feet or 0.02 acres, more or less.

PARENT TRACT OVERVIEW — NOT TO SCALE



PARENT TRACT (FROM TITLE)

Parcel 1:

Tract No. 1:

Beginning at a stake in the line of the Kevil City Improvement Co's tract of land; thence West with Kevil Improvement Co's line 380 feet to J.R. Nuckolls Southeast corner; thence North with J.R. Nuckolls line 180 feet to a stake; thence parallel with first line 350 feet to a stake; thence South 180 feet to beginning, containing 1 ½ acres. Also the following described real estate lying in Ballard County, KY., adjoining the above described tract; Beginning at a stake, corner to Lot 12 on Wallace Avenue; thence with North line of Lot 12 180 feet to an alley; thence with alley line 88 feet and four inches to corner in Mattie E. Beck's line; thence with Beck's line 189 feet East to Wallace Avenue; thence with Wallace Avenue 23 feet and nine inches to the beginning. Being Lot No. 13 in Block No. 18, in the Town of Kevil. And in all respects being the same property conveyed to Annie L. Mangrunder from W.L. Beck and wife by deed Jan. 2nd 1923 and recorded in Deed Book No. 33, Page 183 in the Ballard Court Clerk's Office.

Tract No. 2:

Beginning at (Point A) an iron pipe in corner between W.E. Stephens and Lisle House and Richard Burnley, known as the Nuckols land; thence running South 15° 35' West a distance of 423 feet to (Point B) an iron pipe in corner between W.E. Stephens and High Brothers and Richard Burnley line; thence South 73°55' East a distance of 356.84 feet to (Point C) an iron pipe; thence South 55°47' West a distance of 185 feet to (Point D) an iron pipe; thence South 74°35' East a distance of 384.58 feet to an iron pipe in W.E. Stephens and North City Limited line; thence North 13°01' East a distance of 602.47 feet to an iron pipe in fence between W.E. Stephens and Lisle House; thence W3est 74°00' West a distance of 746.0 feet to an iron pipe the point of beginning and containing 9.0 acres (Point A, B, C and D are corners that have been accepted for as correct for 50 years). The above described tract of land being known on a survey of John K. Kelly, dated June 26, 1969, and recorded in Plat Book C, Page 32, of the Ballard County Court Clerk's Office.

The above described Parcel 1 is also described as follows:

Lying at the Northerly end of Wallace Avenue and being the Ronald Keith Vance property recorded in Deed Book 88, page 472 and Plat Book "C", page 32 in the Ballard County Clerk's Office, Ballard County, Kentucky and more particularly bounded and described as follows to wit:

Beginning at a 1/2" rebar with Cap 3732 set at the Southeast corner of Lot 13 in Block 18 to Kevil City Improvement Company Plat, recorded in Plat Book "B", Page 153, said point being in the West right-of-way line of Wallace Avenue (30 feet from the centerline) that is N 2° 45' 30" E as measured along said West right-of-way line 275.00 feet from an existing 4" x 4" concrete monument with Cap 2105 at its intersection with the North right-of-way line of North 1st Street and having Kentucky State Plane Coordinates (South Zone 1602, NAD 83) of Northing 1930187.912 and Easting 725563.680; THENCE FROM SAID POINT OF BEGINNING N 87° 18' 29" W with the South line of said Lot 13 a distance of 180.00 feet to a 1/2" rebar with Cap 3732 set at the Southwest corner of said Lot 13 and in the East line of a 15 foot alley; thence N 2° 45' 30" E with the West line of said Lot 13 and the East line of said 15 foot alley 89.67 feet to a 1/2" rebar with Cap 3732 set at the Northwest corner of said Lot 13 and the approximate corporate limits line to the City of Kevil; thence N 67° 09' 44" W with the Northerly line of said 15 foot alley and the Northerly line of the David and Rhonda Longe property per Cabinet 1, Drawer 21, Card 44,326 and following the aforesaid approximate corporate limits line to the City of Kevil 136.88 feet to a 1/2" rebar with Cap 3732 set at the Southeasterly corner of the Burnley Family Farm Trust property per Deed Book 115, Page 593; thence N 23° 23' 23" E with the Easterly line of said Burnley Family Farm Trust property per Deed Book 115, Page 593 a distance of 602.56 feet to a .1/2" rebar with Cap 3732 set at the Southwesterly corner of the Katie Snyder and Mike Mercer property per Deed Book 95, Page 246; thence S 66° 11' 37" E with the Southerly line of said Mercer property per Deed Book 95, Page 246 a distance of 746.00 feet to a 1/2" rebar with Cap 3732 set at the base of an existing corner post at the Northwesterly corner of the Michael S. Sr. and Katie Ann Mercer property per Deed Book 91, Page 372; thence S 19° 34' 46" W with the Westerly line of said Mercer property per Deed Book 91, Page 372 and the Westerly line of the Kevil Baptist Church property per Deed Book 21, Page 279 and Deed Book 59, Page 411 a distance of 590.88 feet to a 1/2" rebar with cap 3732 set in the Northerly line of Block 19 per aforesaid Kevil City Improvement Company Plat recorded in Plat Book "B", Page 153 and also in the Northerly line of the First Baptist Church of Kevil property per Deed Book 112, Page 287; thence N 67° 09' 44" W with the Northerly line of said Block 19 and the Northerly line of said First Baptist Church of Kevil property per Deed Book 112, Page 287 and the Northerly lines of the Laura Billings property per Deed Book 94, Page 438 and Kevil United Methodist Church property and also the Northerly end of aforesaid Wallace Avenue 456.75 feet to a 1/2" rebar with Cap 3732 set at the Northeasterly corner of aforesaid Lot 13 in Block 18 and the Northwesterly end of said Wallace Avenue; thence S 2° 45' 30" W with the Westerly right-of-way line of said Wallace Avenue 23.66 feet to the Point of Beginning and containing 10.711 acres as shown on "Boundary Survey of the Ronald Vance Property" prepared by Siteworx Survey & Design LLC dated June 30, 2021.

Parcel ID #64-51

This being the same property conveyed to Ronald Vance from Sheila Shearon, a single person, in a Quitclaim Deed dated August 5, 2009 and recorded August 5, 2009 in Book 88 Page 472.

Parcel 2:

Tract 1:

Said Lot Beginning at a stake flanked for a corner on Hyatt Avenue and with First St.; Thence with Hyatt Avenue 116 feet to Steven's Line; thence with Steven's Line East 192 One Hundred and Ninety Two Feet and (4) Four inches to an alley; Thence with West line of Alley 48 feet to corner in North First Street; Thence with said Street 180 feet to the Place of Beginning.

Tract 2:

Beginning at an iron pipe in North City limits and Westline of North South Alley in Block 26; Thence Westerly along North City Limits and W.E. Stephens property line a distance of 117 feet to an iron pipe (Point A); Thence Northerly a distance of 31 feet to an iron pipe (Point B); Thence Easterly and parallel to North City Limits a distance of 117 feet to an iron pipe; Thence in a Southerly direction a distance of 31 feet to the Point of Beginning: (Points A and B are corner described as stakes at northeast and southeast corner in Deed Book 59 Page 411 in Ballard County Court Clerk's office,

Tract 3:

Adjoining the present city limits of the Town of Kevil and lying just North of and adjacent to the present Baptist Church lot designated as Block 26 on the plat of said town and more fully described as follows:

Beginning at a stake, the north-west corner of the present Baptist Church lot above referred to and being the intersection of the east line of Wyatt Avenue with the north city limits of Stephens line; Thence Northerly and at right angles with the city limit or Stephen's line a distance of thrity-one (31) feet to a stake, a new corner; Thence S 73-1/2 E or parallel with the city limit or Stephen's south line (the north line of the present Church lot) a distance of of 75 feet to a stake, a new corner; Thence southerly at right angles a distance of 31 feet to a stake in the line of the present church lot; Thence with the City limits line or north line of the present church lot Westerly N. 73-1/2 W. 75 feet to the Beginning.

Parcel ID #66A-05-01

Tract 1 being the same property conveyed to the Trustees of the Kevil Baptist Church, from the Kevil City Improvement Company, a Kentucky corporation, in a Deed dated September 1, 1906 and recorded in Book 21 Page 279.

Tract 2 being the same property conveyed to the Trustees of Kevil Baptist Church, from Lutie M. Stephens, a widow, in a Deed of Conveyance, dated August 18, 1969 and recorded October 13, 1969 in Cabinet 1 Drawer 2-125.

Tract 3 being the same property conveyed to the Trustees of Kevil Baptist Church from W.E. Stephens and wife, Lutie M. Stevens, in a Deed dated July 24, 1953 and recorded July 30, 1953 in Book 59 Page 411.

STATE OF KENTUCKY
DAVID D. McKINNEY
3964
LICENSED PROFESSIONAL LAND SURVEYOR

08/02/22

SURVEYOR'S CERTIFICATION

I certify that all parts of this survey and drawing have been completed in accordance with the current requirements of the Standards of Practice for Surveying in the State of Kentucky to the best of my knowledge, information, and belief.

David D. McKinney
Kentucky License No. 3964

NO.	REVISION	DATE	BY
1	UPDATED TO 20' ACCESS EASEMENT	07/14/22	PWK
2	UPDATED ACCESS EASEMENT B	7/29/22	CS

PROJECT NO. 22-0278

DRAWN BY: KM
CHECKED BY: PWK
FIELD CREW: DM
APPROVED BY: DDM
DATE: 04/12/22
SCALE: N.T.S.
SHEET 2 OF 2

RAWLAND TOWER SURVEY

FOR: HIGH PERFORMANCE INFRASTRUCTURE
111 EAST SAINT PETER STREET
CARENCO, LA 70520

SMW Engineering Group, Inc.
158 Business Center Drive
Birmingham, Alabama 35244
Ph: 205-252-6985
www.smweng.com
CA 758. Expires December 31, 2021

SMW ENGINEERING GROUP, INC.

TILLMAN INFRASTRUCTURE

KEVIL TI-OPP-19611
15762578
BALLARD COUNTY, KENTUCKY

GENERAL NOTES:

1. ALL REFERENCES TO OWNER HEREIN SHALL BE CONSTRUED TO MEAN AT&T OR IT'S DESIGNATED REPRESENTATIVE.
2. ALL WORK PRESENTED ON THESE DRAWINGS MUST BE COMPLETED BY THE CONTRACTOR UNLESS NOTED OTHERWISE. THE CONTRACTOR MUST HAVE CONSIDERABLE EXPERIENCE IN PERFORMANCE OF WORK SIMILAR TO THAT DESCRIBED HEREIN. BY ACCEPTANCE OF THIS ASSIGNMENT, THE CONTRACTOR IS ATTESTING THAT HE DOES HAVE SUFFICIENT EXPERIENCE AND ABILITY, THAT HE IS KNOWLEDGEABLE OF THE WORK TO BE PERFORMED AND THAT HE IS PROPERLY LICENSED AND PROPERLY REGISTERED TO DO THIS WORK IN THE STATE AND/OR COUNTY IN WHICH IT IS TO BE PERFORMED.
3. UNLESS SHOWN OR NOTED OTHERWISE ON THE CONTRACT DRAWINGS, OR IN THE SPECIFICATIONS, THE FOLLOWING NOTES SHALL APPLY TO THE MATERIALS LISTED HEREIN, AND TO THE PROCEDURES TO BE USED ON THIS PROJECT.
4. ALL HARDWARE ASSEMBLY MANUFACTURER'S INSTRUCTIONS SHALL BE FOLLOWED EXACTLY AND SHALL SUPERCEDE ANY CONFLICTING NOTES ENCLOSED HEREIN.
5. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO DETERMINE ERECTION PROCEDURE AND SEQUENCE TO INSURE THE SAFETY OF THE STRUCTURE AND ITS COMPONENT PARTS DURING ERECTION AND/OR FIELD MODIFICATIONS. THIS INCLUDES, BUT IS NOT LIMITED TO, THE ADDITION OF WHATEVER TEMPORARY BRACING, GUYS OR TIE DOWNS THAT MAY BE NECESSARY. SUCH MATERIAL SHALL BE REMOVED AND SHALL REMAIN THE PROPERTY OF THE CONTRACTOR AFTER THE COMPLETION OF THE PROJECT.
6. ALL DIMENSIONS, ELEVATIONS, AND EXISTING CONDITIONS SHOWN ON THE DRAWINGS SHALL BE FIELD VERIFIED BY THE CONTRACTOR AND THE TESTING AGENCY PRIOR TO BEGINNING ANY MATERIALS ORDERING, FABRICATION OR CONSTRUCTION WORK ON THIS PROJECT. ANY DISCREPANCIES SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE OWNER AND THE OWNER'S ENGINEER. THE DISCREPANCIES MUST BE RESOLVED BEFORE THE CONTRACTOR IS TO PROCEED WITH THE WORK. THE CONTRACT DOCUMENTS DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES. OBSERVATION VISITS TO THE SITE BY THE OWNER AND/OR THE ENGINEER SHALL NOT INCLUDE INSPECTION OF THE PROTECTIVE MEASURES OR THE CONSTRUCTION PROCEDURES.
7. ALL MATERIALS AND EQUIPMENT FURNISHED SHALL BE NEW AND OF GOOD QUALITY, FREE FROM FAULTS AND DEFECTS AND IN CONFORMANCE WITH THE CONTRACT DOCUMENTS. ANY AND ALL SUBSTITUTIONS MUST BE PROPERLY APPROVED AND AUTHORIZED IN WRITING BY THE OWNER AND ENGINEER PRIOR TO INSTALLATION. THE CONTRACTOR SHALL FURNISH SATISFACTORY EVIDENCE AS TO THE KIND AND QUALITY OF THE MATERIALS AND EQUIPMENT BEING SUBSTITUTED.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INITIATING, MAINTAINING, AND SUPERVISING ALL SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK. THE CONTRACTOR IS RESPONSIBLE FOR INSURING THAT THIS PROJECT AND RELATED WORK COMPLIES WITH ALL APPLICABLE LOCAL, STATE, AND FEDERAL SAFETY CODES AND REGULATIONS GOVERNING THIS WORK.
9. ALL WORK SHALL BE COMPLETED IN ACCORDANCE WITH THE LATEST EDITION OF THE LOCAL BUILDING CODE.
10. ALL PROPOSED CELLULAR EQUIPMENT AND FIXTURES SHALL BE FURNISHED BY OWNER FOR INSTALLATION BY THE CONTRACTOR, UNLESS SPECIFICALLY NOTED OTHERWISE HEREIN.
11. ACCESS TO THE PROPOSED WORK SITE MAY BE RESTRICTED. THE CONTRACTOR SHALL COORDINATE INTENDED CONSTRUCTION ACTIVITY, INCLUDING WORK SCHEDULE AND MATERIALS ACCESS, WITH THE RESIDENT LEASING AGENT FOR APPROVAL.
12. PREFABRICATED BUILDING INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.

STRUCTURAL STEEL NOTES:

1. STRUCTURAL STEEL SHALL CONFORM TO THE LATEST EDITION OF THE A.I.S.C. SPECIFICATIONS FOR STRUCTURAL STEEL BUILDINGS– ALLOWABLE STRESS DESIGN AND PLASTIC DESIGN INCLUDING THE COMMENTARY AND THE A.I.S.C. CODE OF STANDARD PRACTICE.
2. STRUCTURAL STEEL PLATES AND SHAPES SHALL CONFORM TO ASTM A26. ALL STRUCTURAL STEEL PIPES SHALL CONFORM TO ASTM A53 GRADE B. ALL STRUCTURAL STEEL TUBING SHALL CONFORM TO ASTM A500 GRADE B. ALL STRUCTURAL STEEL COMPONENTS AND FABRICATED ASSEMBLIES SHALL BE HOT DIP GALVANIZED AFTER FABRICATION.
3. WELDING SHALL BE IN ACCORDANCE WITH THE AMERICAN WELDING SOCIETY (AWS) D.1.1/D1.1M:2010. STRUCTURAL WELDING CODE–STEEL WELD ELECTRODES SHALL BE E70XX.
4. ALL COAXIAL CABLE CONNECTORS AND TRANSMITTER EQUIPMENT SHALL BE AS SPECIFIED BY THE OWNER AND IS NOT INCLUDED IN THESE CONSTRUCTION DOCUMENTS. THE CONTRACTOR SHALL FURNISH ALL CONNECTION HARDWARE REQUIRED TO SECURE THE CABLES. CONNECTION HARDWARE SHALL BE STAINLESS STEEL.
5. ALL REINFORCING STEEL SHALL CONFORM TO ASTM 615 GRADE 60, DEFORMED BILLET STEEL BARS. WELDED WIRE FABRIC REINFORCING SHALL CONFORM TO ASTM A185.
6. THE FABRICATION AND ERECTION OF STRUCTURAL STEEL SHALL CONFORM TO THE LATEST A.I.S.C. SPECIFICATIONS.
7. ALL CONNECTIONS NOT FULLY DETAILED ON THESE PLANS SHALL BE DETAILED BY THE STEEL FABRICATOR IN ACCORDANCE WITH A.I.S.C. SPECIFICATIONS.
8. HOT–DIP GALVANIZE ITEMS SPECIFIED TO BE ZINC–COATED, AFTER FABRICATION WHERE PRACTICAL. GALVANIZING: ASTM A 123, ASTM, A 153/A 153M OR ASTM A 653/A 653M, G90, AS APPLICABLE.
9. REPAIR DAMAGED SURFACES WITH GALVANIZING REPAIR METHOD AND PAINT CONFORMING TO ASTM A 780 OR BY APPLICATION OF STICK OR THICK PASTE MATERIAL SPECIFICALLY DESIGNED FOR REPAIR OF GALVANIZING. CLEAN AREAS TO BE REPAIRED, AND REMOVE SLAG FROM WELDS. HEAT SURFACES TO WHICH STICK OR PASTE MATERIAL IS APPLIED WITH A TORCH TO A TEMPERATURE SUFFICIENT TO MELT THE METALLICS. IN STICK OR PASTE, SPREAD MOLTEN MATERIAL UNIFORMLY OVER SURFACES TO BE COATED AND WIPE OFF EXCESS MATERIAL.
10. CONTRACTOR SHALL FOLLOW THE MANUFACTURER'S INSTRUCTIONS/SPECIFICATIONS IF NO INFORMATION IS CONTAINED IN THESE PLANS OR IF THE MANUFACTURER'S SPECIFICATIONS ARE STRICTER.

NOTE: REFER TO AT&T SPECIFICATIONS AS THE CONTROLLING STANDARD FOR PROPOSED CONSTRUCTION.

PERMITS:

1. CONTRACTOR SHALL SECURE ALL NECESSARY PERMITS FOR THIS PROJECT FROM ALL APPLICABLE GOVERNMENTAL AGENCIES.
2. ANY PERMITS WHICH MUST BE OBTAINED SHALL BE THE CONTRACTOR'S RESPONSIBILITY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ABIDING BY ALL CONDITIONS AND REQUIREMENTS OF THE PERMITS.
3. ALL WORK SHALL BE IN ACCORDANCE WITH LOCAL CODES AND THE ACI 318–08, "BUILDING REQUIREMENTS FOR STRUCTURAL CONCRETE".
4. THE CONTRACTOR SHALL NOTIFY THE APPLICABLE JURISDICTIONAL (STATE, COUNTY OR CITY) ENGINEER 24 HOURS PRIOR TO THE BEGINNING OF CONSTRUCTION.
5. ALL DIMENSIONS SHALL BE VERIFIED WITH THE PLANS (LATEST REVISION) PRIOR TO COMMENCING CONSTRUCTION. NOTIFY THE OWNER IMMEDIATELY IF DISCREPANCIES ARE DISCOVERED. THE CONTRACTOR SHALL HAVE A SET OF APPROVED PLANS AVAILABLE AT THE SITE AT ALL TIMES WHEN WORK IS BEING PERFORMED. A DESIGNATED RESPONSIBLE EMPLOYEE SHALL BE AVAILABLE FOR CONTACT BY GOVERNING AGENCY INSPECTORS.

MISCELLANEOUS:

1. ALL THREADED STRUCTURAL FASTENERS FOR ANTENNA SUPPORT ASSEMBLES SHALL CONFORM TO ASTM A307 OR ASTM 36. ALL STRUCTURAL FASTNERS FOR STRUCTURAL STEEL FRAMING SHALL CONFORM TO ASTM A325. FASTENERS SHALL BE 5/8" MIN. DIA. BEARING TYPE CONNECTIONS WITH THREADS EXCLUDED FROM THE PLANE. ALL EXPOSED FASTENERS, NUTS, AND WASHERS SHALL BE GALVANIZED UNLESS OTHERWISE NOTED. ALL ANCHORS INTO CONCRETE SHALL BE STAINLESS STEEL.
2. THE CONTRACTOR SHALL FURNISH ALL CONNECTION HARDWARE REQUIRED TO SECURE THE CABLES. CONNECTION HARDWARE SHALL BE STAINLESS STEEL.
3. NORTH ARROW SHOWN ON PLANS REFERS TO TRUE NORTH. CONTRACTOR SHALL VERIFY NORTH AND NOTIFY CONSULTANT OF ANY DISCREPANCY BEFORE STARTING CONSTRUCTION.
4. PROVIDE LOCK WASHERS FOR ALL MECHANICAL CONNECTIONS FOR GROUND CONDUCTORS. USE STAINLESS STEEL HARDWARE THROUGHOUT.
5. THOROUGHLY REMOVE ALL PAINT AND CLEAN ALL DIRT FROM SURFACES REQUIRING GROUND CONNECTIONS.
6. MAKE ALL GROUND CONNECTIONS AS SHORT AND DIRECT AS POSSIBLE. AVOID SHARP BENDS. ALL BENDS TO BE A MIN. OF 8" RADIUS.
7. FOR GROUNDING TO BUILDING FRAME AND HATCH PLATE GROUND BARS, USE A TWO–BOLT HOLE NEPA DRILLED CONNECTOR SUCH AS T&B 32007 OR APPROVED EQUAL.
8. FOR ALL EXTERNAL GROUND CONNECTIONS, CLAMPS AND CADWELDS, APPLY A LIBERAL PROTECTIVE COATING OR AN ANTI–OXIDE COMPOUND SUCH AS 'NO–OXIDE A' BY DEARBORN CHEMICAL COMPANY.
9. REPAIR ALL METAL SURFACES THAT HAVE BEEN CUT OR DAMAGED BY REMOVING ANY EXISTING RUST AND APPLYING COLD GALVANIZATION.
10. ANTENNA CABLE LENGTHS HAVE BEEN DETERMINED BASED ON THESE PLANS. CABLE LENGTHS LISTED ARE APPROXIMATED AND ARE NOT INTENDED TO BE USED FOR FABRICATION. DUE TO FIELD CONDITIONS, ACTUAL CABLE LENGTHS VARY. CONTRACTOR MUST FIELD VERIFY ANTENNA CABLE LENGTHS PRIOR TO ORDER.

SYMBOL LEGEND:

- FENCE
- CONTOUR LINE
- PROPERTY LINE/ROW
- LEASE AREA
- EASEMENT
- DISCONNECT SWITCH
- METER
- CIRCUIT BREAKER
- CODED NOTE NUMBER
- CHEMICAL GROUND ROD
- GROUND ROD
- GROUND ROD W/ INSPECTION SLEEVE
- CADWELD TYPE CONNECTION
- COMPRESSION TYPE CONNECTION
- GROUND WIRE

SMW ENGINEERING GROUP, INC.
TOGETHER PLANNING A BETTER TOMORROW

SMW#: 22–0278

Tillman Infrastructure
152 W. 57TH STREET
NEW YORK, NEW YORK 10019
TEL: 212–706–1877

at&t

#	DATE	DESCRIPTION:
0	09/27/22	CLIENT REVIEW
1	10/24/22	CLIENT REVIEW
2	11/17/22	CLIENT REVIEW
3	11/30/22	CONSTRUCTION

CA#: KY 2865

STATE OF KENTUCKY
JEREMY D. SHARIT
26823
LICENSED
PROFESSIONAL ENGINEER

11/30/22

FA #: 15762578

DESIGNED: JDS
CHECKED: RTB
DRAWN: BMD
LAST REV BY: BMD

SITE NAME

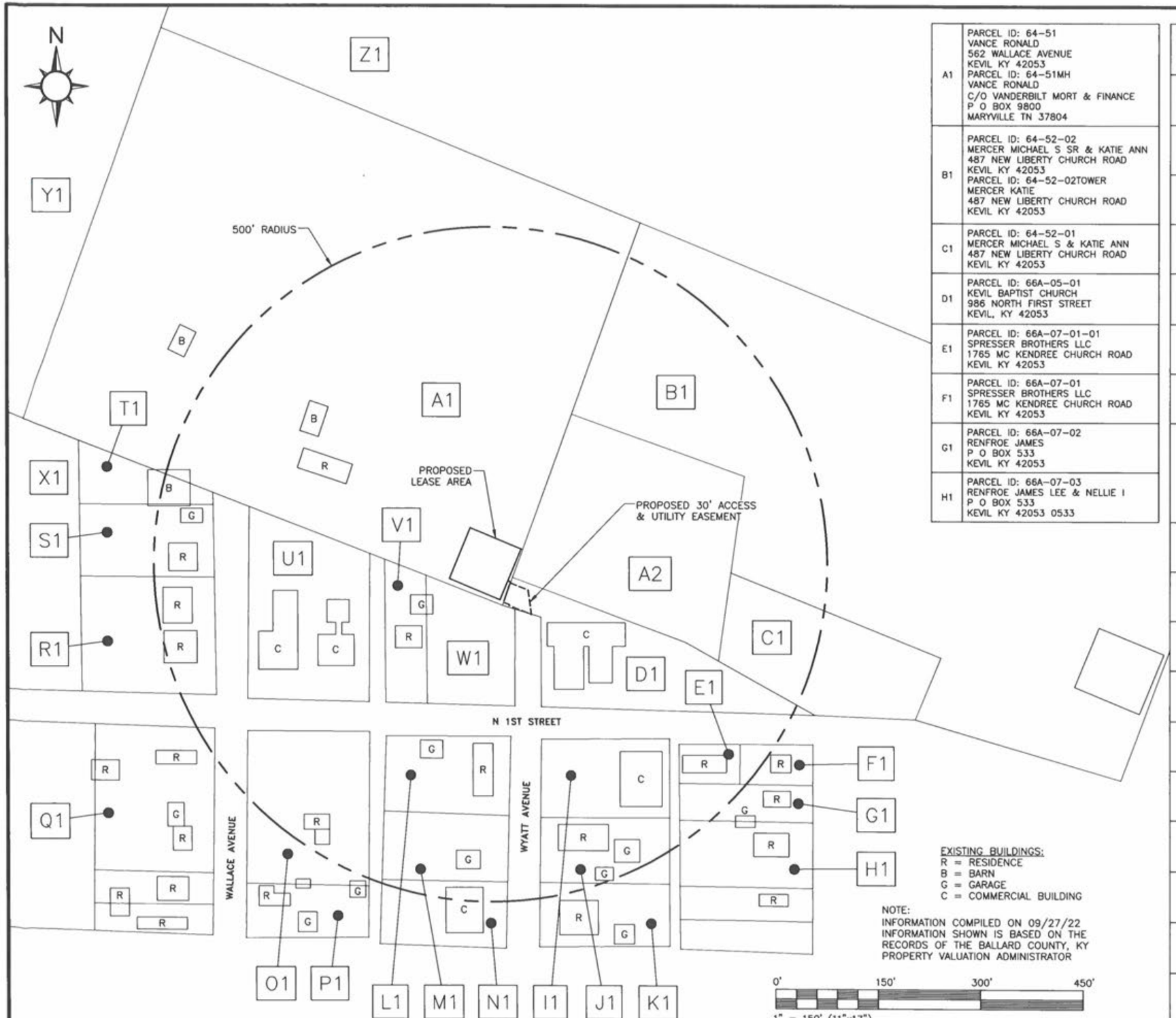
KEVIL (TI-OPP-19611)

SHEET NAME

GENERAL NOTES

SHEET NUMBER

GN-1



A1	PARCEL ID: 64-51 VANCE RONALD 562 WALLACE AVENUE KEVIL KY 42053 PARCEL ID: 64-51MH VANCE RONALD C/O VANDERBILT MORT & FINANCE P O BOX 9800 MARYVILLE TN 37804
B1	PARCEL ID: 64-52-02 MERCER MICHAEL S SR & KATIE ANN 487 NEW LIBERTY CHURCH ROAD KEVIL KY 42053 PARCEL ID: 64-52-02TOWER MERCER KATIE 487 NEW LIBERTY CHURCH ROAD KEVIL KY 42053
C1	PARCEL ID: 64-52-01 MERCER MICHAEL S & KATIE ANN 487 NEW LIBERTY CHURCH ROAD KEVIL KY 42053
D1	PARCEL ID: 66A-05-01 KEVIL BAPTIST CHURCH 986 NORTH FIRST STREET KEVIL, KY 42053
E1	PARCEL ID: 66A-07-01-01 SPRESSER BROTHERS LLC 1765 MC KENDREE CHURCH ROAD KEVIL KY 42053
F1	PARCEL ID: 66A-07-01 SPRESSER BROTHERS LLC 1765 MC KENDREE CHURCH ROAD KEVIL KY 42053
G1	PARCEL ID: 66A-07-02 RENFROE JAMES P O BOX 533 KEVIL KY 42053
H1	PARCEL ID: 66A-07-03 RENFROE JAMES LEE & NELLIE I P O BOX 533 KEVIL KY 42053 0533

I1	PARCEL ID: 66A-07-10 KEVIL BAPTIST CHURCH NORTH 1ST STREET KEVIL, KY 42053
J1	PARCEL ID: 66A-07-09 HOLT CHARLOTTE M & JOHN M 470 WYATT AVENUE KEVIL KY 42053
K1	PARCEL ID: 66A-07-08 MC DANIEL CHARLES ROBERT, ANNIE HEAL P O BOX 274, KEVIL KY 42053 0274
L1	PARCEL ID: 66A-08-01 ABERNATHY SIDNEY RAY, CHERYL ABERNATHY 477 WYATT AVENUE KEVIL KY 42053 0221
M1	PARCEL ID: 66A-08-02-01 BRYANT JAYCEE 463 WYATT AVENUE KEVIL KY 42053
N1	PARCEL ID:66A-08-02 MORROW FUNERAL CHAPEL INC P O BOX 210 LA CENTER KY 42056
O1	PARCEL ID: 66A-08-07 KP LEASING LLC 262 ALLEN STREET KEVIL KY 42053
P1	PARCEL ID: 66A-08-06 WARFORD MAXINE 8002 PADUCAH ROAD KEVIL KY 42053
Q1	PARCEL ID: 66A-09-01 GRAVES JESSIE WILSON P O BOX 482 KEVIL KY 42053 PARCEL ID: 66A-09-01MH TERRY LORETTA P O BOX 131 KEVIL KY 42053 0131
R1	PARCEL ID: 66A-04-02 LANGE DAVID D & RHONDA P O BOX 232 KEVIL KY 42053 0232
S1	PARCEL ID: 66A-04-01 SCHOO CYNTHIA D 541 WALLACE AVENUE KEVIL KY 42053
T1	PARCEL ID: 66A-04-06 VANCE RONALD 562 WALLACE AVENUE KEVIL KY 42053
U1	PARCEL ID: 66A-05-03 KEVIL UNITED METHODIST CHURCH 1072 NORTH FIRST STREET KEVIL, KY 42053
V1	PARCEL ID: 66A-05-02-01 BILLINGS LAURA L 1034 NORTH FIRST STREET KEVIL KY 42053
W1	PARCEL ID: 66A-05-02 FIRST BAPTIST CHURCH OF KEVIL 986 NORTH FIRST STREET KEVIL KY 42053
X1	PARCEL ID: 66A-04-02: LANGE DAVID D & RHONDA P O BOX 232 KEVIL KY 42053 0232
Y1	PARCEL ID: 64-50: BURNLEY FAMILY FARM TRUST P O BOX 83 KEVIL KY 42053
Z1	PARCEL ID: 64-52: MERCER KATIE SNYDER & MIKE 487 NEW LIBERTY CHURCH ROAD KEVIL KY 42053
A2	PARCEL ID: 64-52-03: SUMMERS JOHN & TAMMY P O BOX 255 KEVIL KY 42053

SMW ENGINEERING GROUP, INC.
TOGETHER PLANNING A BETTER TOMORROW

SMW#: 22-0278

Tillman Infrastructure
152 W. 57TH STREET
NEW YORK, NEW YORK 10019
TEL: 212-708-1877

at&t

#	DATE	DESCRIPTION:
0	09/27/22	CLIENT REVIEW
1	10/24/22	CLIENT REVIEW
2	11/17/22	CLIENT REVIEW
3	11/30/22	CONSTRUCTION

CA#: KY 2865

STATE OF KENTUCKY
JEREMY D. SHARIT
26823
LICENSED
PROFESSIONAL ENGINEER

11/30/22

FA #: 15762578

DESIGNED: JDS
CHECKED: RTB
DRAWN: BMD
LAST REV BY: BMD

SITE NAME

KEVIL (TI-OPP-19611)

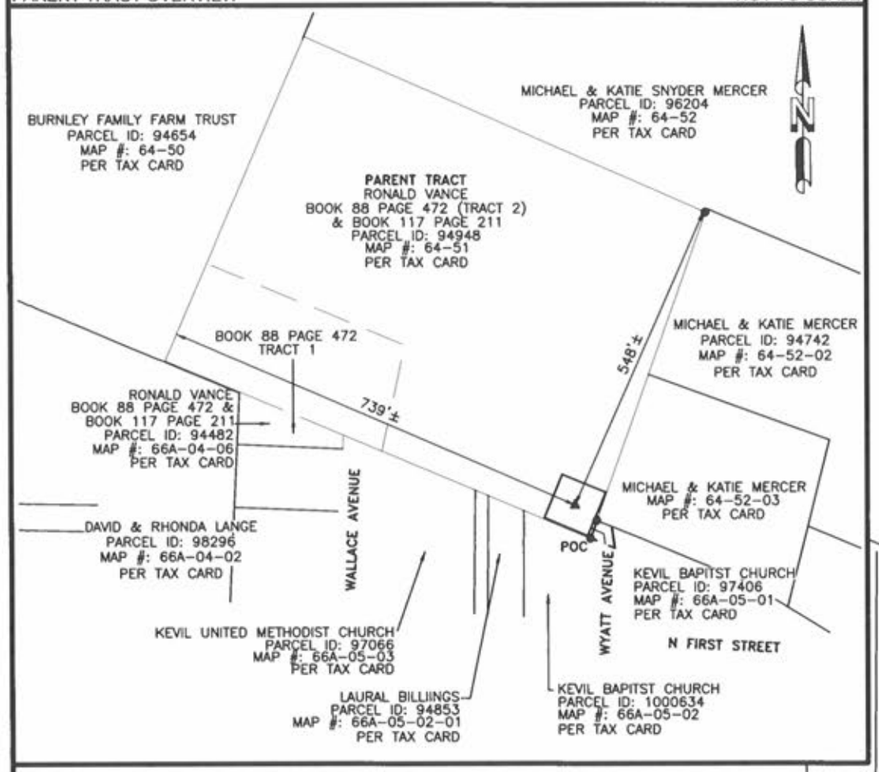
SHEET NAME

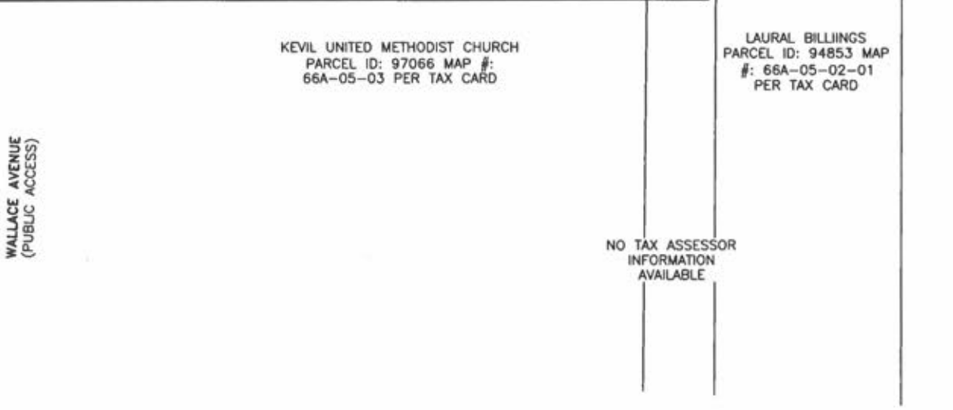
500' RADIUS AND ABUTTERS MAP

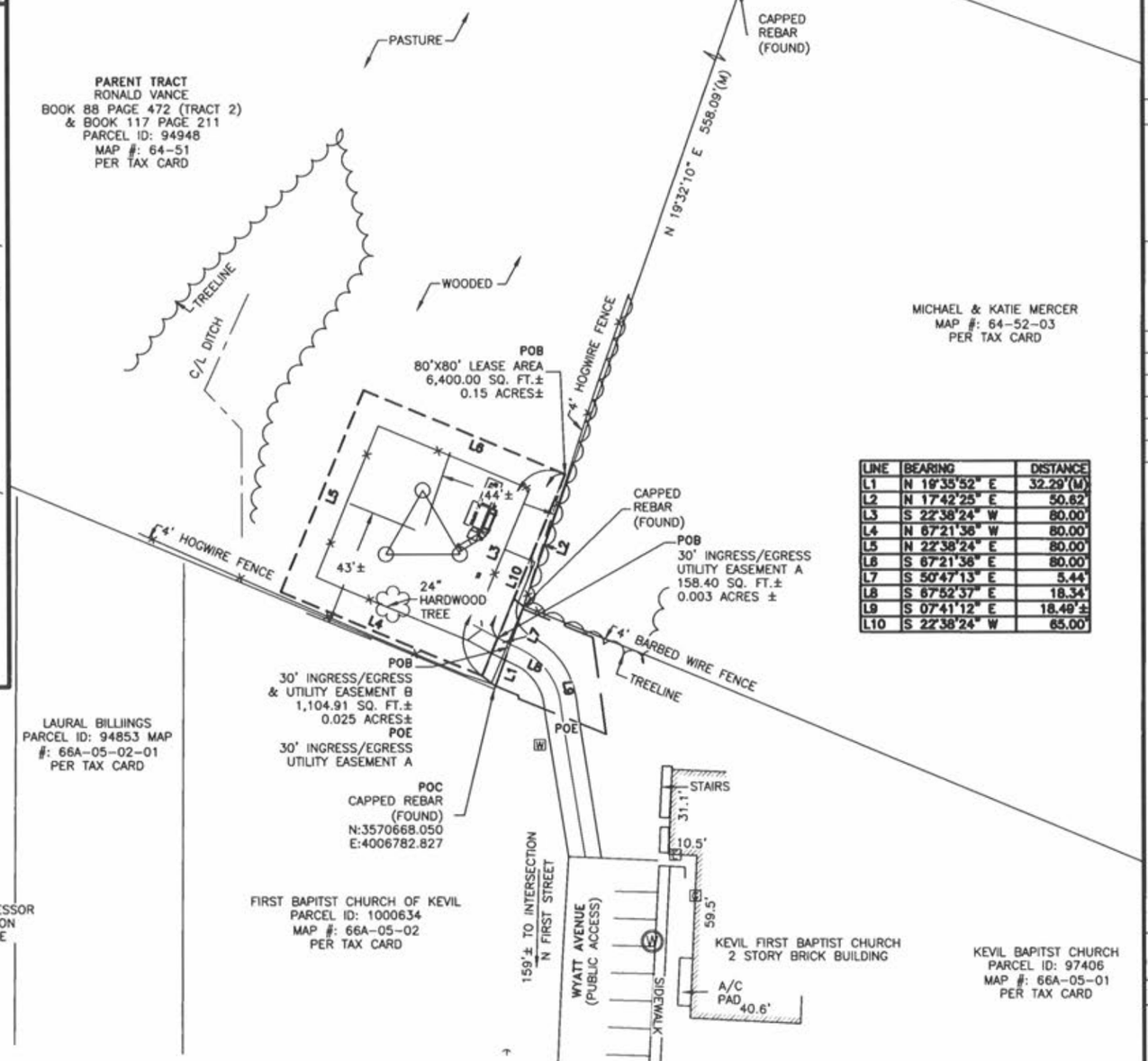
SHEET NUMBER

B-1

PARENT TRACT OVERVIEW NOT TO SCALE







LINE	BEARING	DISTANCE
L1	N 19°35'52" E	32.29'(M)
L2	N 17°42'25" E	50.62'
L3	S 22°38'24" W	80.00'
L4	N 67°21'36" W	80.00'
L5	N 22°38'24" E	80.00'
L6	S 67°21'36" E	80.00'
L7	S 50°47'13" E	5.44'
L8	S 67°52'37" E	18.34'
L9	S 07°41'12" E	18.48'±
L10	S 22°38'24" W	65.00'

N

1 / C-1 AERIAL SITE PLAN

0' 50' 100' 150'

1" = 50' (11"x17")

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STATE OF KENTUCKY
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26823
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PROFESSIONAL ENGINEER

11/30/22

FA #: 15762578

DESIGNED: JDS
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DRAWN: BMD
LAST REV BY: BMD

SITE NAME

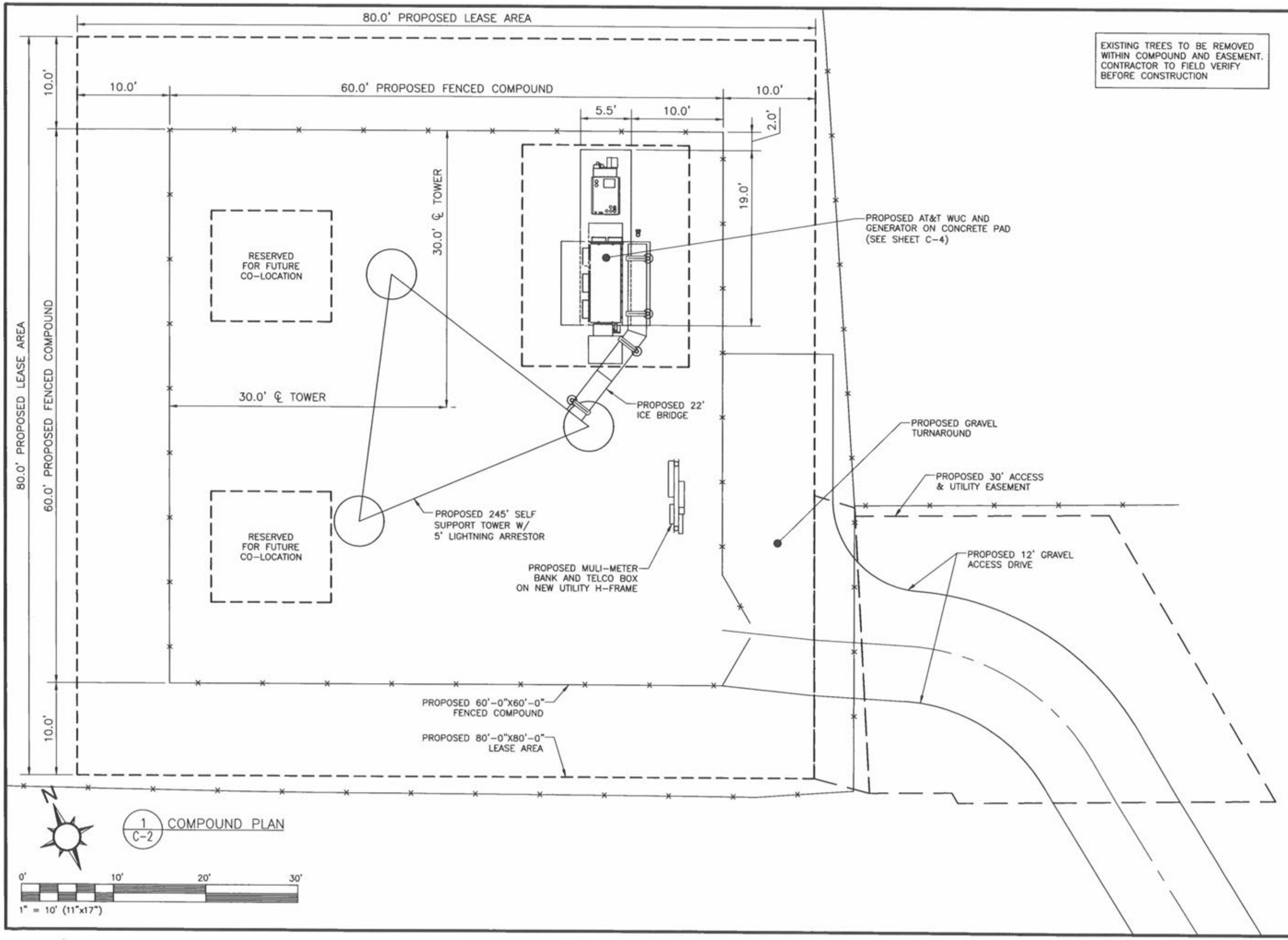
KEVIL (TI-OPP-19611)

SHEET NAME

OVERALL SITE LAYOUT

SHEET NUMBER

C-1



EXISTING TREES TO BE REMOVED WITHIN COMPOUND AND EASEMENT. CONTRACTOR TO FIELD VERIFY BEFORE CONSTRUCTION

SMW ENGINEERING GROUP, INC.
TOGETHER PLANNING A BETTER TOMORROW

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STATE OF KENTUCKY
JEREMY D. SHARIT
26823
LICENSED PROFESSIONAL ENGINEER

11/30/22

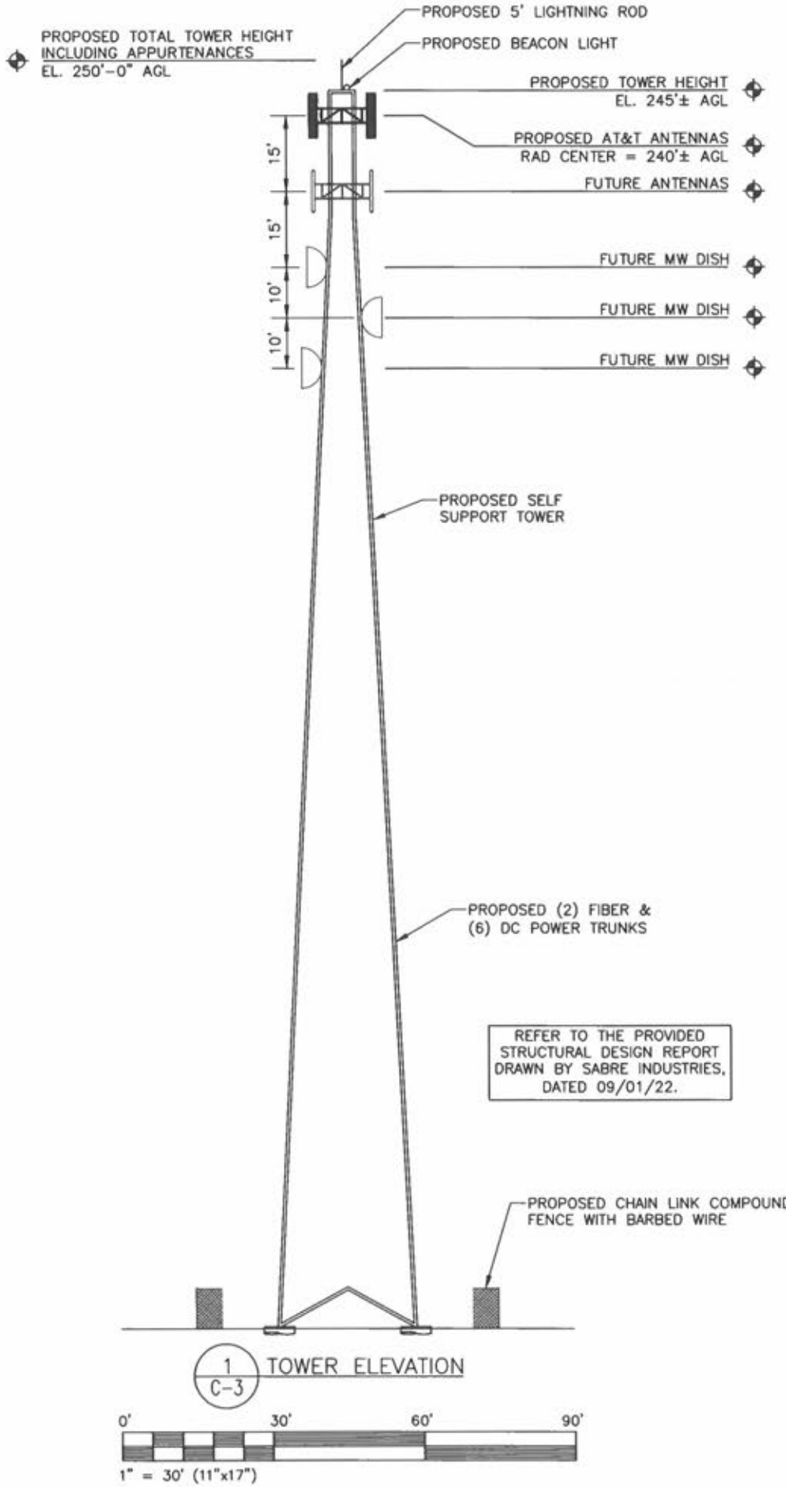
FA #: 15762578

DESIGNED: JDS
CHECKED: RTB
DRAWN: BMD
LAST REV BY: BMD

SITE NAME
KEVIL (TI-OPP-19611)

SHEET NAME
COMPOUND PLAN

SHEET NUMBER
C-2



REFER TO THE PROVIDED STRUCTURAL DESIGN REPORT DRAWN BY SABRE INDUSTRIES, DATED 09/01/22.

1/C-3 TOWER ELEVATION

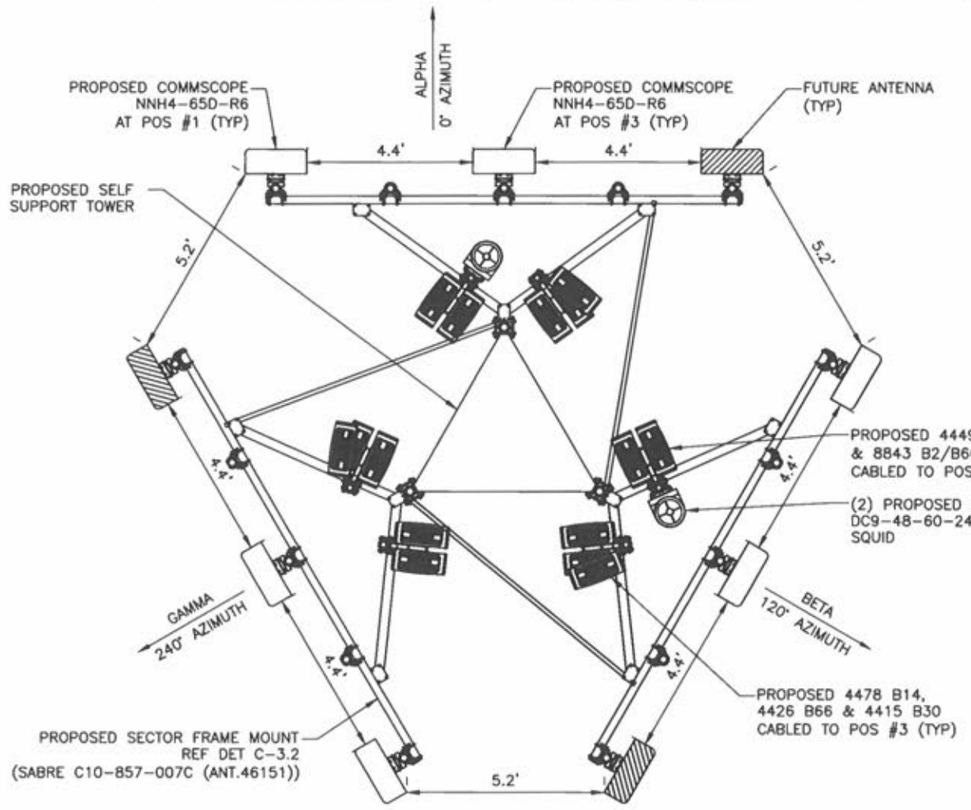
0' 30' 60' 90'

1" = 30' (11"x17")

NO MAPPING OR ANALYSIS HAS BEEN PERFORMED ON SECTOR MOUNTS, AND STRUCTURAL INTEGRITY OF MOUNTS UNDER NEW LOADING IS UNDETERMINED

REFER TO CURRENT RFDS FOR EQUIPMENT INFORMATION

ANTENNA SEPARATION REQUIREMENTS:
INSTALLERS TO MAINTAIN:
1. A 3' SEPARATION BETWEEN ALL ANTENNAS* ON THE SAME MOUNT (*SEE NOTE 3)
2. A 4' SEPARATION IS TO BE MAINTAINED BETWEEN ANTENNAS ON DIFFERENT SECTOR MOUNTS
3. IF ANTENNAS ARE 700 B/C (B12/B17) AND 700 D/E (B29); THEN A 6' SEPARATION WILL BE REQUIRED FOR THESE ANTENNAS.



2/C-3 PROPOSED ANTENNA PLAN

0' 4' 8' 12'

1" = 4' (11"x17")

NOTES:
1. THESE CDS, PREPARED BY SMW ENGINEERING GROUP, INC., DO NOT SPEAK TO THE STRUCTURAL INTEGRITY OF THE TOWER OR CARRIER EQUIPMENT INSTALLED ON THE TOWER. CONTRACTOR SHALL HAVE THE LATEST STRUCTURAL ANALYSIS AND LATEST MOUNT ANALYSIS IN HAND BEFORE ANY NEW EQUIPMENT INSTALLATION PERFORMED.
2. THIS ANTENNA ORIENTATION PLAN IS A SCHEMATIC. THE CONTRACTOR SHALL VERIFY TOWER ORIENTATION AND FIELD COORDINATE REQUIRED ADJUSTMENTS TO ACHIEVE THE DESIRED ANTENNA AZIMUTHS.
3. ANTENNA CENTERLINE HEIGHT BASED ON TOP OF FOOTING ELEVATION.
4. ALL ANTENNAS, CABLES AND MOUNTS SHALL BE INSTALLED IN ACCORDANCE WITH THE TOWER ENGINEER'S RECOMMENDATIONS IN A MANNER CONSISTENT WITH THE STRUCTURAL ANALYSIS REPORT.
5. ALL ANTENNA BRACKETS PER ANTENNA MANUFACTURER, OR EQUAL CONTRACTOR TO COORDINATE REQUIRED MECHANICAL DOWNTILT WITH AT&T.
6. ALL ANTENNA INFORMATION TO BE CONFIRMED WITH LATEST AT&T RF DESIGN PRIOR TO INSTALLATION.

SMW ENGINEERING GROUP, INC.
TOGETHER PLANNING A BETTER TOMORROW

SMW#: 22-0278

Tillman Infrastructure
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at&t

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3	11/30/22	CONSTRUCTION

CA#: KY 2865

11/30/22

FA #: 15762578

DESIGNED:	JDS
CHECKED:	RTB
DRAWN:	BMD
LAST REV BY:	BMD

SITE NAME

KEVIL (TI-OPP-19611)

SHEET NAME

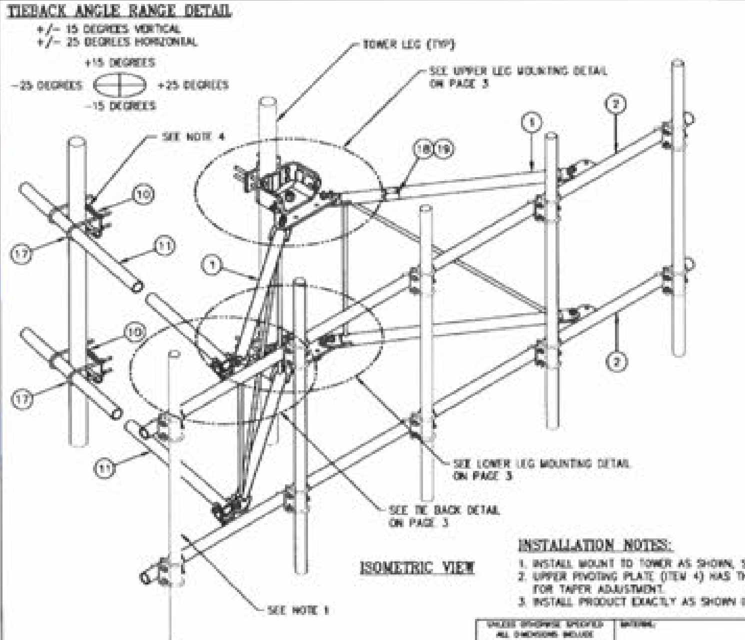
TOWER ELEVATION & ANTENNA PLAN

SHEET NUMBER

C-3

TIEBACK ANGLE RANGE DETAIL

+/- 15 DEGREES VERTICAL
+/- 25 DEGREES HORIZONTAL



ISOMETRIC VIEW

C10857007C 12' EHD V-BOOM ASSEMBLY W/TIEBACKS				
ITEM	QTY.	PART NO.	DESCRIPTION	WEIGHT
1.	2	CW01222	WELDMENT, STANDOFF ARM	126
2.	2	CW01223	WELDMENT, FACE PIPE	147
3.	2	CS03109	PLATE, ROTATING	34
4.	1	CS03110	PLATE, PIVOTING (UPPER)	16
5.	1	CS03111	PLATE, LEG CLAMP (UPPER)	17
6.	1	CS03112	PLATE, PIVOTING (LOWER)	14
7.	1	CS03113	PLATE, LEG CLAMP (LOWER)	17
8.	2	CS03114	PLATE, LEG CLAMP (BACK)	14
9.	2	CS00098	PLATE, TIE BACK SWIVEL	5
10.	2	CS03285	PLATE, TIE BACK CLAMP	9
11.	2	CS03333	PIPE, TIE BACK	78
12.	2	C40026073	BOLT ASSEMBLY, 1 # X 3 A325	4
13.	8	C40140004	BOLT ASSEMBLY, 5/8 # X 8 A307	13
14.	2	C40026033	BOLT ASSEMBLY, 5/8 # X 4 1/2 A325	2
15.	12	C40026025	BOLT ASSEMBLY, 5/8 # X 2 1/2 A325	6
16.	6	C40026024	BOLT ASSEMBLY, 5/8 # X 2 1/4 A325	3
17.	4	C40034183	U-BOLT ASSEMBLY, 1/2 # X 2 9/16 C-C	6
18.	1	Z30092017	MOUNT CLASSIFICATION TAG C10857007C	1
19.	2	C40062103	STAINLESS STEEL SELF-LOCKING CABLE TIE	1
			TOTAL WEIGHT	511

PACKAGING NOTE

CK00388 INCLUDES ITEMS 1, 3, 4, 5, 6, 7, 12 & 15 (8 QTY)
CK00392 INCLUDES ITEMS 2, 8, 9, 10, 11, 13, 14, 15 (4 QTY), 16, 17, 18 & 19

INSTALLATION NOTES:

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

NOTES:

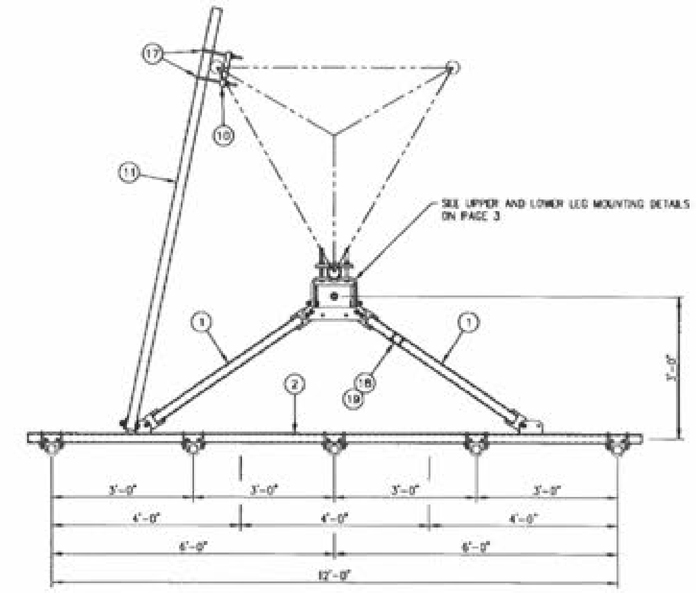
1. MOUNTING PIPES & CROSSOVER PLATE KITS MUST BE PURCHASED SEPARATELY.
2. QUANTITIES SHOWN IN LISTS OF MATERIAL ARE FOR ONE (1) V-BOOM ONLY.
3. THIS V-BOOM WILL MOUNT TO THE FOLLOWING: 1 1/2"# TO 5 9/16"# ROUND LEG.
4. TIEBACKS MUST BE CONNECTED TO A RIGID MEMBER THAT PROVIDES ADEQUATE SUPPORT WITHIN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

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

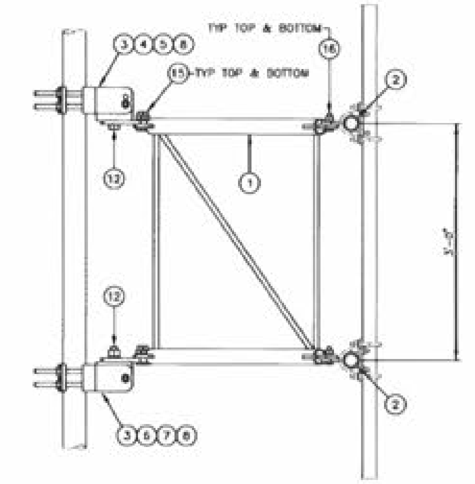
Sabre Industries Towers and Poles

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

DATE	02/29/16	SIZE B	DRAWING NO. C10857007C	REV 1
DRAWN BY	WSF		SCALE None	PAGE 1 OF 3
CHECKED BY	KLE			



MOUNTING OPTIONS
SHOWING MOUNTING PIPE PLACEMENTS

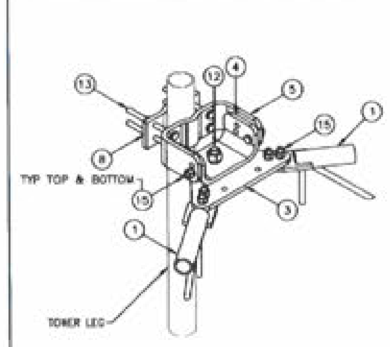


SIDE VIEW

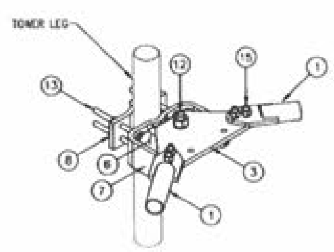
Sabre Industries Towers and Poles

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

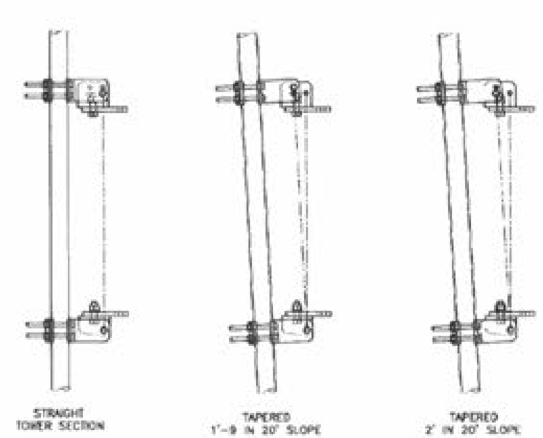
DATE	02/29/16	SIZE B	DRAWING NO. C10857007C	REV 1
DRAWN BY	WSF		SCALE None	PAGE 2 OF 3
CHECKED BY	KLE			



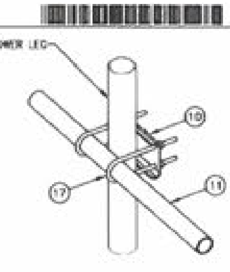
UPPER LEG MOUNTING DETAIL



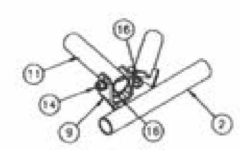
LOWER LEG MOUNTING DETAIL



PIVOTING OPTIONS



TIE BACK DETAIL
AT TOWER LEG



TIE BACK DETAIL
AT ANTENNA MOUNTING FRAME

Sabre Industries Towers and Poles

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

DATE	02/29/16	SIZE B	DRAWING NO. C10857007C	REV 1
DRAWN BY	WSF		SCALE None	PAGE 3 OF 3
CHECKED BY	KLE			

SMW ENGINEERING GROUP, INC.
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Tillman Infrastructure
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CA#: KY 2865

STATE OF KENTUCKY JEREMY D. SHARIT 26823 LICENSED PROFESSIONAL ENGINEER

11/30/22

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

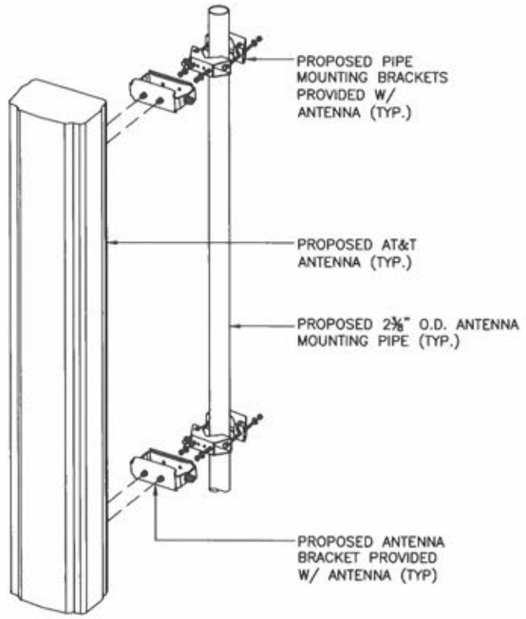
FA #: 15762578

DESIGNED: JDS
CHECKED: RTB
DRAWN: BMD
LAST REV BY: BMD

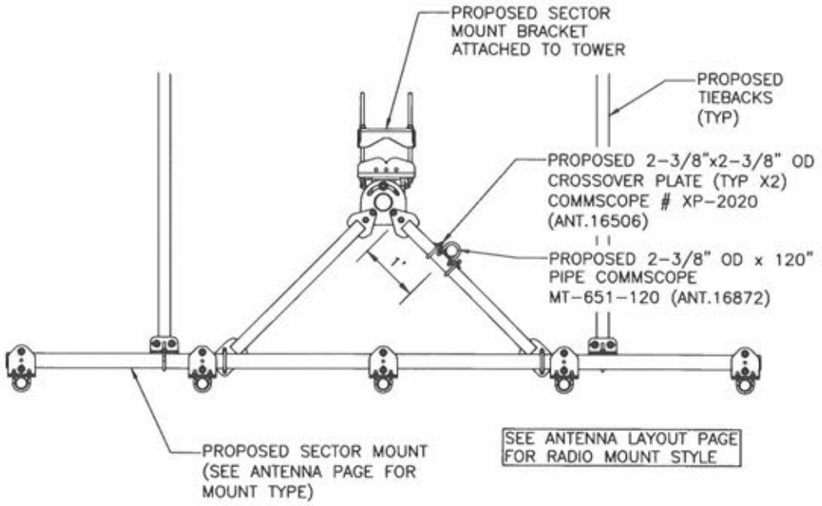
SITE NAME
KEVIL (TI-OPP-19611)

SHEET NAME
MOUNT DETAILS

SHEET NUMBER
C-3.1

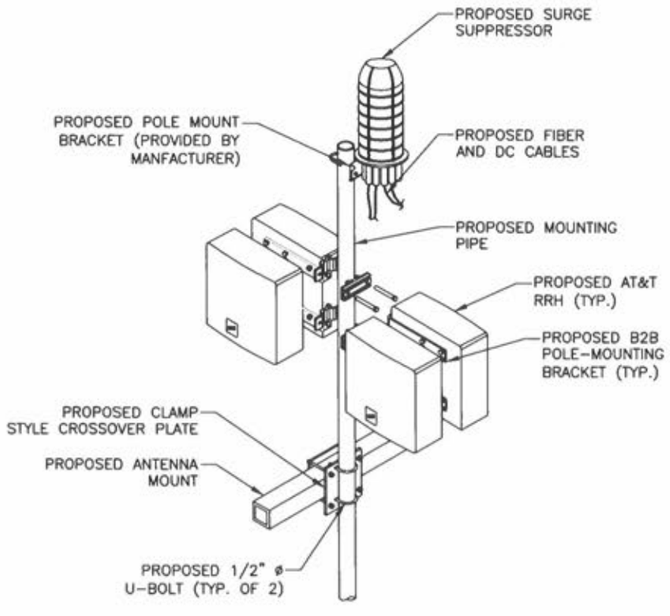


1 / C-3.2 ANTENNA MOUNTING DETAIL

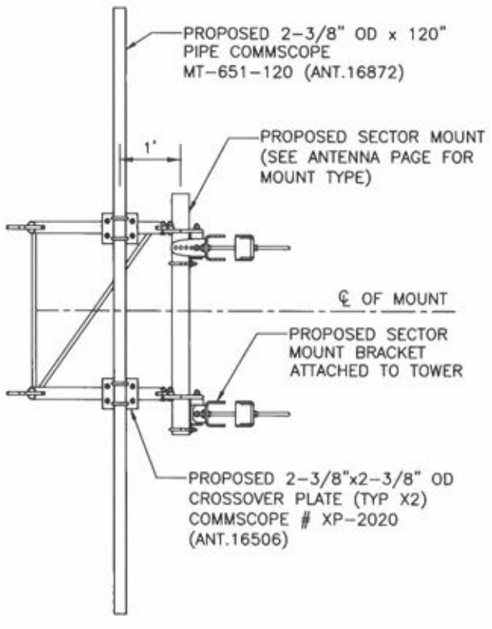


PLAN VIEW

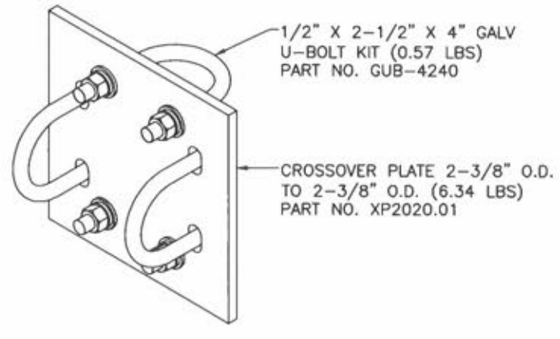
MOUNT SHOWN IS TO HELP LOCATE WHERE THE CROSSOVER PLATES AND PIPE ARE TO BE INSTALLED ON THE MOUNT. FOR MOUNT TYPE AND TIEBACK NUMBERS AND TIEBACK LOCATION, SEE CALLOUTS ON THE ANTENNA LAYOUT PAGE.



3 / C-3.2 RRU/SQUID MOUNTING DETAIL
NOT TO SCALE



ELEVATION VIEW



3 / C-3.2 CROSSOVER DETAIL
NOT TO SCALE

SMW ENGINEERING GROUP, INC.
TOGETHER PLANNING A BETTER TOMORROW

SMW#: 22-0278

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CA#: KY 2865

STATE OF KENTUCKY
JEREMY D. SHARIT
26823
LICENSED PROFESSIONAL ENGINEER

11/30/22

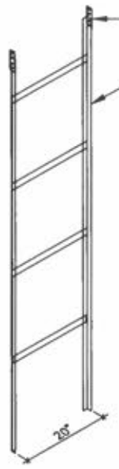
FA #: 15762578

DESIGNED: JDS
CHECKED: RTB
DRAWN: BMD
LAST REV BY: BMD

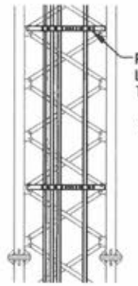
SITE NAME
KEVIL (TI-OPP-19611)

SHEET NAME
TOWER EQUIPMENT DETAILS

SHEET NUMBER
C-3.2

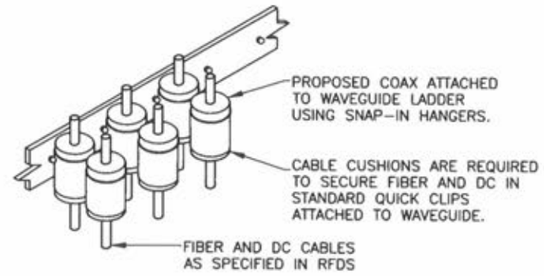


1 C-3.3 LADDER DETAIL
NOT TO SCALE



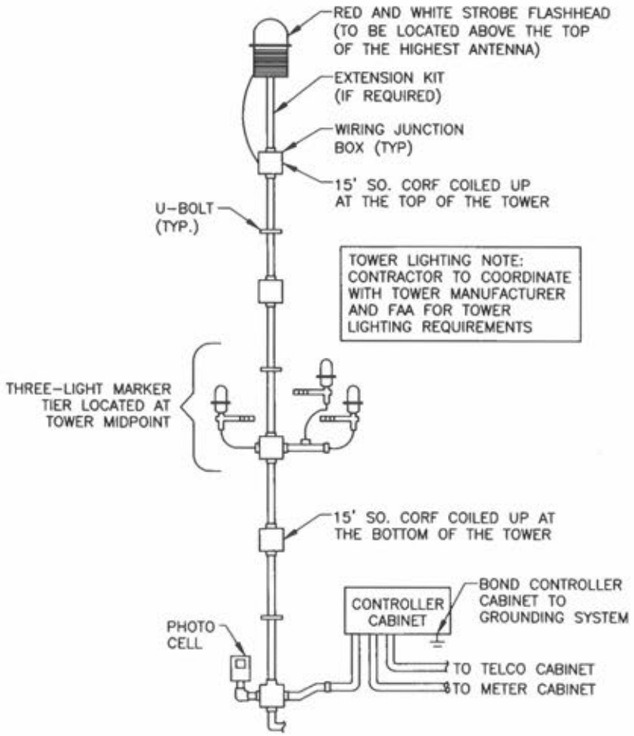
NOTES:
1) THE LAYOUT ON THIS DETAIL IS FOR REFERENCE ONLY.
2) CONTRACTOR SHALL VERIFY EXACT PLACEMENT OF NEW COAX WITH CURRENT STRUCTURAL ANALYSIS BY OTHERS.
3) NOT ALL CABLES SHOWN FOR CLARITY.

2 C-3.3 WAVEGUIDE DETAIL
NOT TO SCALE



NOTE: THIS LAYOUT FOR REFERENCE ONLY. CONTRACTOR SHALL VERIFY EXACT PLACEMENT OF NEW FIBER AND DC CABLES WITH CURRENT STRUCTURAL ANALYSIS OR TOWER MANUFACTURES DESIGN BY OTHERS.

3 C-3.3 CABLE CONFIGURATION DETAIL
NOT TO SCALE



4 C-3.3 TOWER LIGHTING DETAIL
NOT TO SCALE

ENGINEERING GROUP, INC.
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CA#: KY 2865

FA #: 15762578

DESIGNED: JDS
CHECKED: RTB
DRAWN: BMD
LAST REV BY: BMD

SITE NAME
KEVIL (TI-OPP-19611)

SHEET NAME
TOWER EQUIPMENT DETAILS

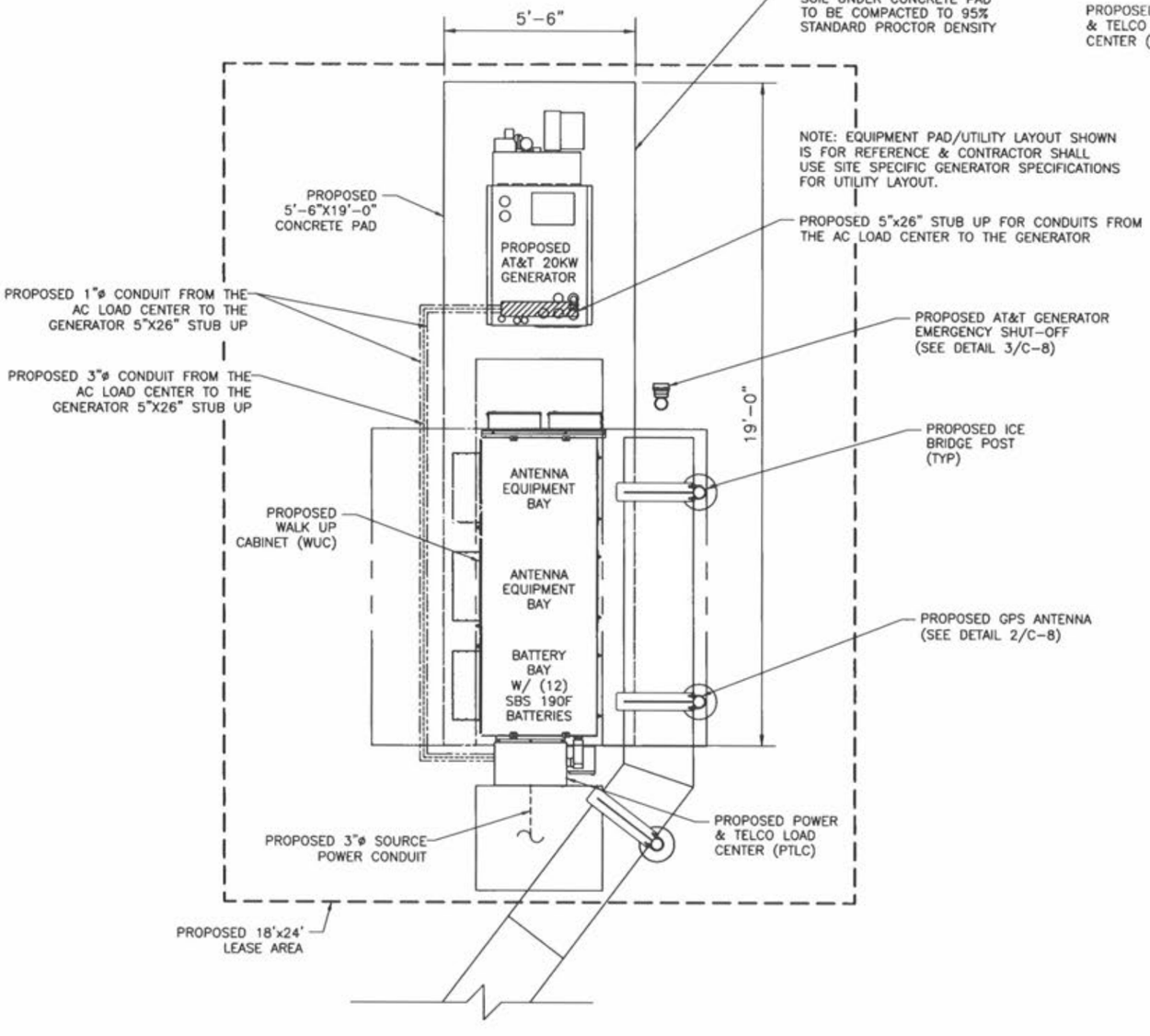
SHEET NUMBER
C-3.3

BATTERY SPECIFICATIONS:

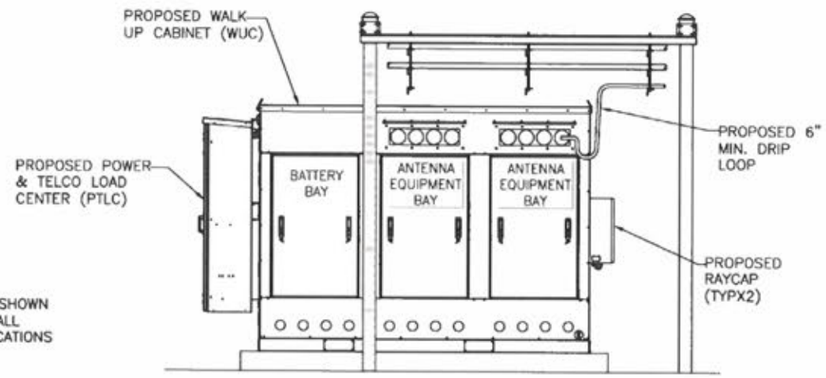
ENERSYS POWERSAFE SBS-190F BATTERY 12V 190AH FRONT TERM

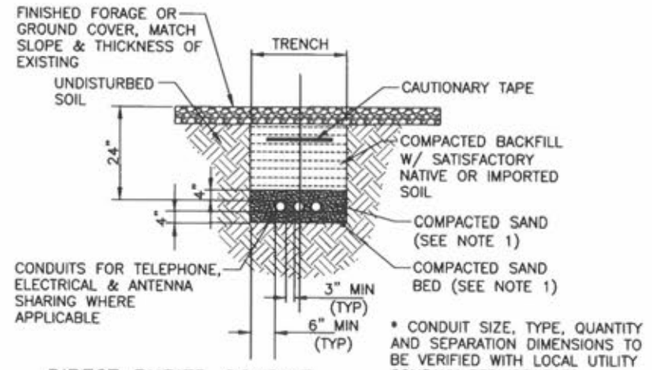
QUANTITY:	12
SKU / OSI ITEM NUMBER:	SBS-190F
CHEMISTRY:	SEALED LEAD ACID
NOMINAL VOLTAGE:	12V
NOMINAL CAPACITY:	190.0AH
TERMINALS:	M6
DIMENSIONS (L X W X H):	22.10 X 4.90 X 12.40
WEIGHT (POUNDS):	132.3

NOTES:
1. REFER TO C-4.1 & C-4.2 FOR WUC SPECIFICATIONS
2. REFER TO ATTACHMENTS FOR GENERATOR SPECIFICATIONS



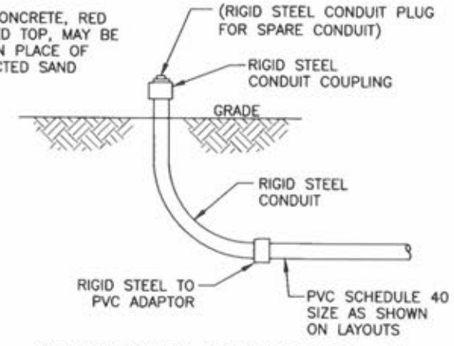
1/C-4 CONCRETE PAD LAYOUT
NOT TO SCALE





DIRECT BURIED CONDUIT
NOT TO SCALE

NOTES:
1. LEAN CONCRETE, RED COLORED TOP, MAY BE USED IN PLACE OF COMPACTED SAND



UNDERGROUND CONDUIT STUB-UP
NOT TO SCALE

ENGINEERING GROUP, INC.
TOGETHER PLANNING A BETTER TOMORROW

SMW#: 22-0278

Tillman Infrastructure
152 W. 57TH STREET
NEW YORK, NEW YORK 10019
TEL: 212-706-1877

at&t

#	DATE	DESCRIPTION:
0	09/27/22	CLIENT REVIEW
1	10/24/22	CLIENT REVIEW
2	11/17/22	CLIENT REVIEW
3	11/30/22	CONSTRUCTION

CA#: KY 2865

STATE OF KENTUCKY
JEREMY D. SHARIT
26823
LICENSED
PROFESSIONAL ENGINEER

11/30/22

FA #: 15762578

DESIGNED: JDS
CHECKED: RTB
DRAWN: BMD
LAST REV BY: BMD

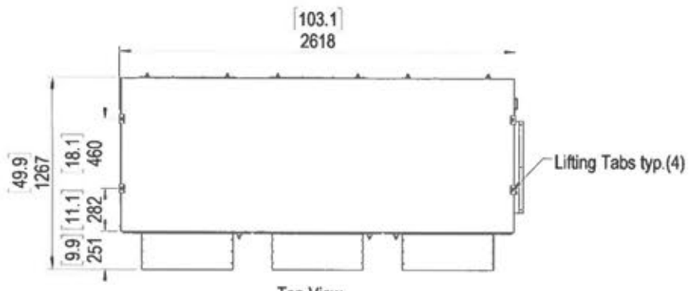
SITE NAME
KEVIL (TI-OPP-19611)

SHEET NAME
EQUIPMENT PLAN

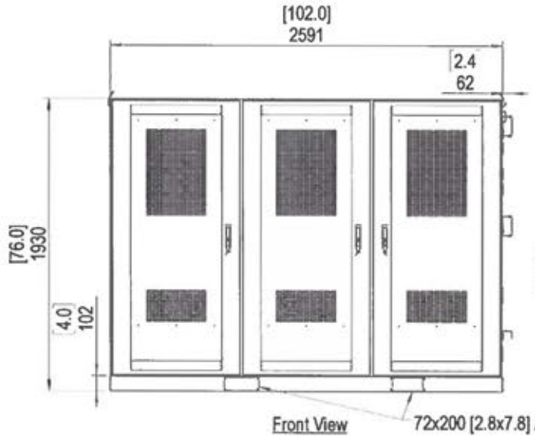
SHEET NUMBER
C-4

Outline Dimension and Mounting Hole and Lifting Tab Layout

WUC BATTERY CABINET TO HAVE (12) SBS 190F BATTERIES (SEE ATTACHMENTS)

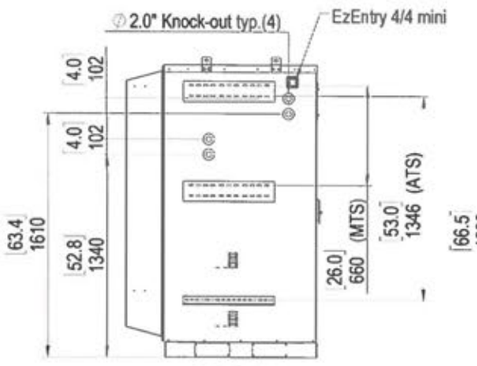


Top View

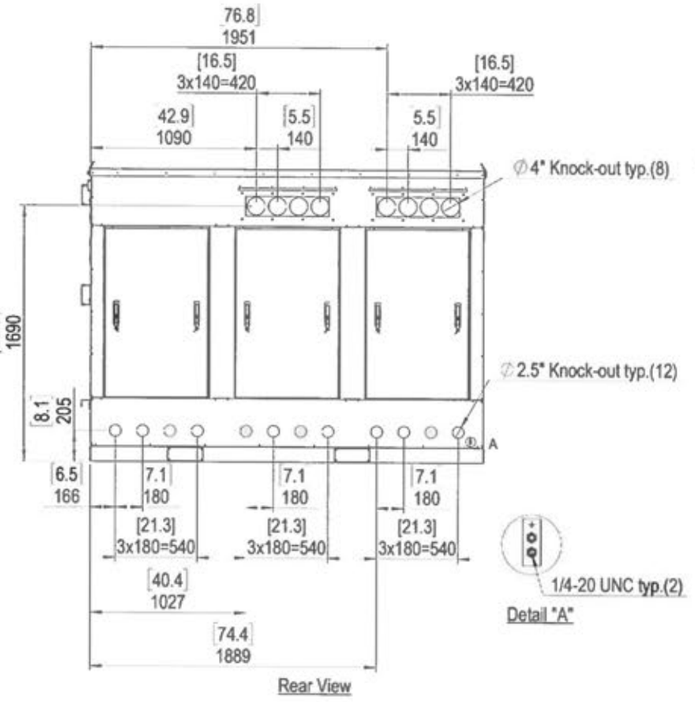


Front View

72x200 [2.8x7.8] Access for Forks



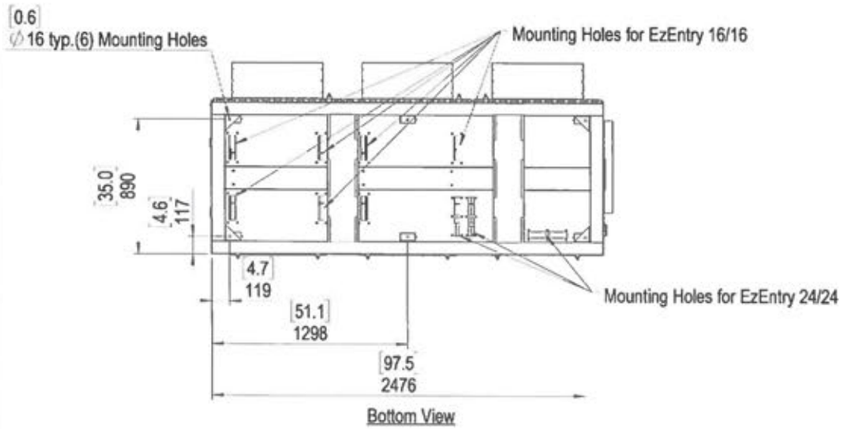
Right Side View



Rear View

1/4-20 UNC typ.(2)

Detail "A"



Bottom View

台達電子工業股份有限公司
DELTA ELECTRONICS, INC.

DIMENSIONAL TOLERANCES — HOLES : ±0.05 ANGLES : ±0.5°

( )		(V)		( )		( )		( )	
<30	±0.25	DECIMALS		UP~100	±0.2	250~300	±0.4	UP~600	±1.5
>30~100	±0.35	X	±0.3	100~150	±0.25	300~350	±0.45	600~900	±2.4
>100~300	±0.5	X.X	±0.2	150~200	±0.3	350~400	±0.5	900~OVER	±3.1
ABOVE 300	±0.8	X.XX	±0.1	200~250	±0.35				

SCALE 1:50 | UNIT mm | USED ON ESOF030-HCU01

Drawn: 08/30/2018 | Design: 08/30/2018

THIRD ANGLE PROJECTION

A3 SIZE

Description: AT&T Cabinet

Part No. ESOF030-HCU01 REV. 00

SHEET 1 OF 2 | ISSUE DATE: 08/30/2018

V:\CAD Vault_PLM Database\OO System\ESOF030-HCU01\AT&T Step\ESOF030-HCU01 (Close)
C:\Users\APL\HUANG\Desktop\ESOF030-HCU01-PD

FRAME NAME:DF-MEA3H-1R01.SLDDRT

SMW ENGINEERING GROUP, INC.
TOGETHER PLANNING A BETTER TOMORROW

SMW#: 22-0278

Tillman Infrastructure
152 W. 57TH STREET
NEW YORK, NEW YORK 10019
TEL: 212-706-1877

at&t

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3	11/30/22	CONSTRUCTION

CA#: KY 2865

STATE OF KENTUCKY
JEREMY D. SHARIT
26823
LICENSED PROFESSIONAL ENGINEER

11/30/22

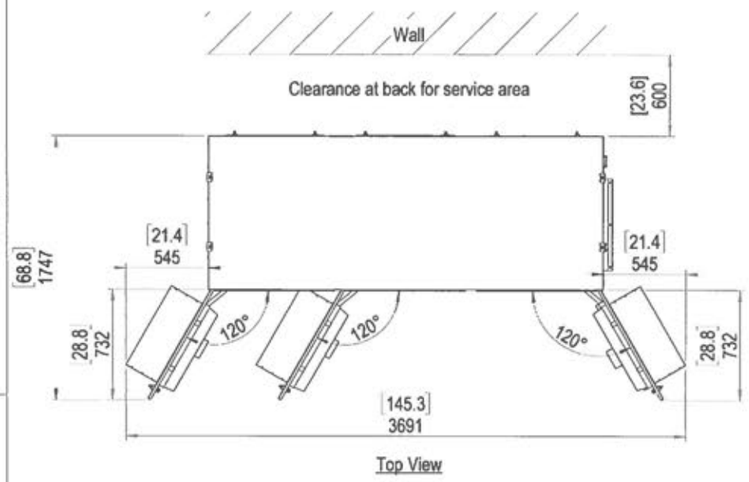
FA #: 15762578

DESIGNED: JDS
CHECKED: RTB
DRAWN: BMD
LAST REV BY: BMD

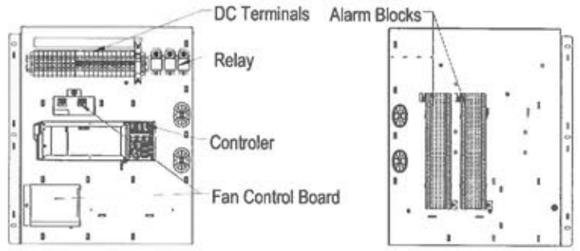
SITE NAME
KEVIL (TI-OPP-19611)

SHEET NAME
EQUIPMENT SPECIFICATIONS

SHEET NUMBER
C-4.1



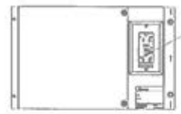
Top View



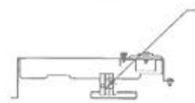
Control Board
Front View

Control Board
Rear View

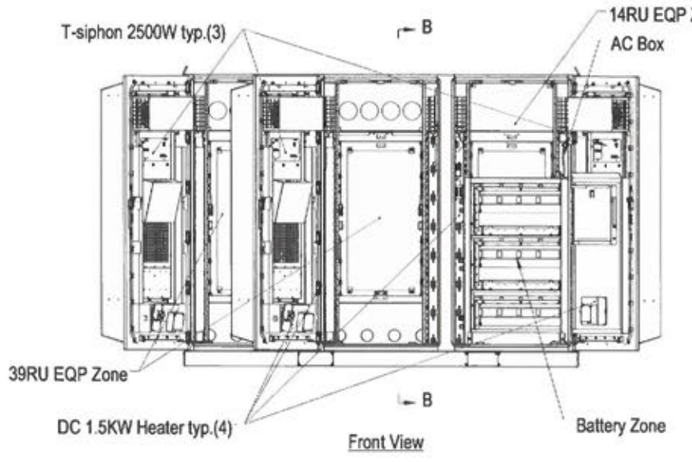
Door Swing Out Layouts



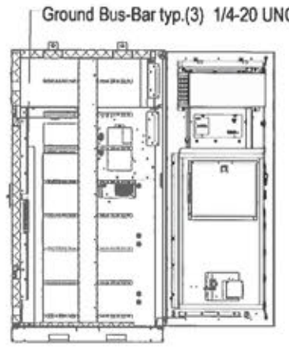
AC Box
Front View



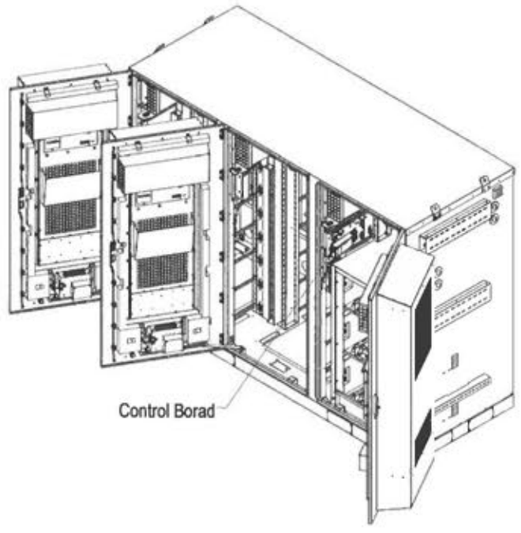
AC Box
Bottom View



Front View



Section B-B



WUC BATTERY CABINET TO HAVE (12) SBS 190F BATTERIES (SEE ATTACHMENTS)

台達電子工業股份有限公司
DELTA ELECTRONICS, INC.

DIMENSIONAL TOLERANCES HOLES : ±0.05 ANGLES : ±0.5°

( )		(V)		( )		( )	
<30	±0.25	DECIMALS		UP~100	±0.2	250~300	±0.4	UP~600	±1.5
>30~100	±0.35	X	±0.3	100~150	±0.25	300~350	±0.45	600~900	±2.4
>100~300	±0.5	X X	±0.2	150~200	±0.3	350~400	±0.5	900~OVER	±3.1
ABOVE 300	±0.6	X XX	±0.1	200~250	±0.35				

SCALE 1:50 UNIT mm USED ON ESOF030-HCU01

THIRD ANGLE PROJECTION

A3 SIZE

Drawn: 08/30/2018 Design: 08/30/2018

Description: AT&T Cabinet

Part No. ESOF030-HCU01 REV. 00

SHEET 2 OF 2 ISSUE DATE: 08/30/2018

V:\CAD Vault_PLM Database\ODD System\ESOF030-HCU01(AT&T 3Sky)\ESOF030-HCU01 (Open)
C:\Users\APL HUANG\Desktop\ESOF030-HCU01-PD

FRAME NAME:DF-MEA3H-1R01.SLDDRT

SMW ENGINEERING GROUP, INC.
TOGETHER PLANNING A BETTER TOMORROW

SMW#: 22-0278

Tillman Infrastructure
153 W. 57TH STREET
NEW YORK, NEW YORK 10019
TEL: 212-706-1677

at&t

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3	11/30/22	CONSTRUCTION

CA#: KY 2865

STATE OF KENTUCKY
JEREMY D. SHARIT
26823
LICENSED
PROFESSIONAL ENGINEER

11/30/22

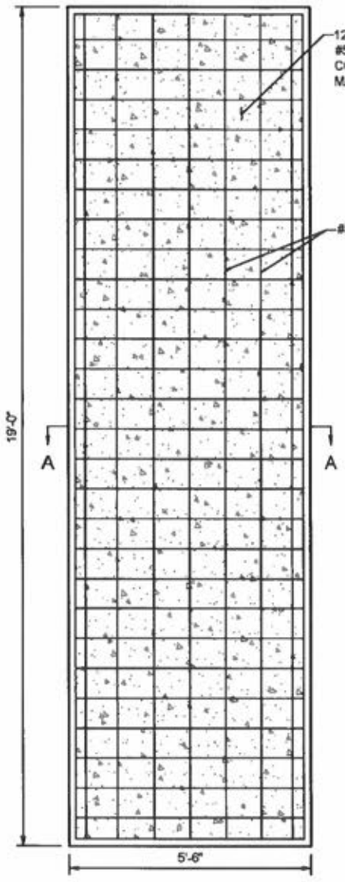
FA #: 15762578

DESIGNED: JDS
CHECKED: RTB
DRAWN: BMD
LAST REV BY: BMD

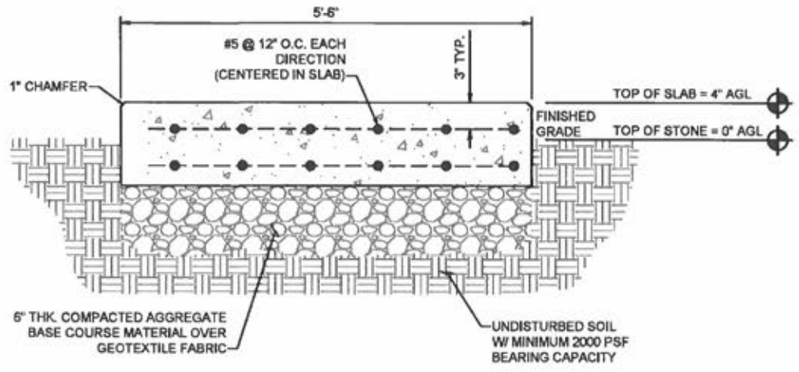
SITE NAME
KEVIL (TI-OPP-19611)

SHEET NAME
EQUIPMENT SPECIFICATIONS

SHEET NUMBER
C-4.2



1 C-5 CONCRETE PAD DETAIL
SCALE: NOT TO SCALE



SECTION A-A
NOT TO SCALE

NOTES:

1. SLAB TO BE LEVEL ±1/4".
2. FOOTING TO EXTEND A MINIMUM OF 24" BELOW UNDISTURBED SOIL OR 6" BELOW FROST LINE.
3. FINAL SITE DESIGN IS THE RESPONSIBILITY OF THE SITE CONTRACTOR.
4. CONTRACTOR SHALL VERIFY DESIGN WITH ACTUAL SITE CONDITIONS. CONTRACTOR TO NOTIFY ENGINEER OF ANY DISCREPANCIES.
5. SLAB FOUNDATION DESIGNED ASSUMING ALLOWABLE SOIL BEARING PRESSURE OF 2000 PSF.
6. SLAB FOUNDATION DESIGNED ASSUMING MAXIMUM SOIL PLASTICITY INDEX OF 27.
7. CONCRETE STRENGTH SHALL BE A MINIMUM OF 3000 PSI.
8. CONTRACTOR SHALL VERIFY DIMENSIONS AND BOLT LAYOUT WITH SELECTED SHELTER.

SMW ENGINEERING GROUP, INC.
TOGETHER PLANNING A BETTER TOMORROW
SMW#: 22-0278

Tillman Infrastructure
152 W. 57TH STREET
NEW YORK, NEW YORK 10019
TEL: 212-706-1877

at&t

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CA#: KY 2865

11/30/22

FA #: 15762578

DESIGNED: JDS
CHECKED: RTB
DRAWN: BMD
LAST REV BY: BMD

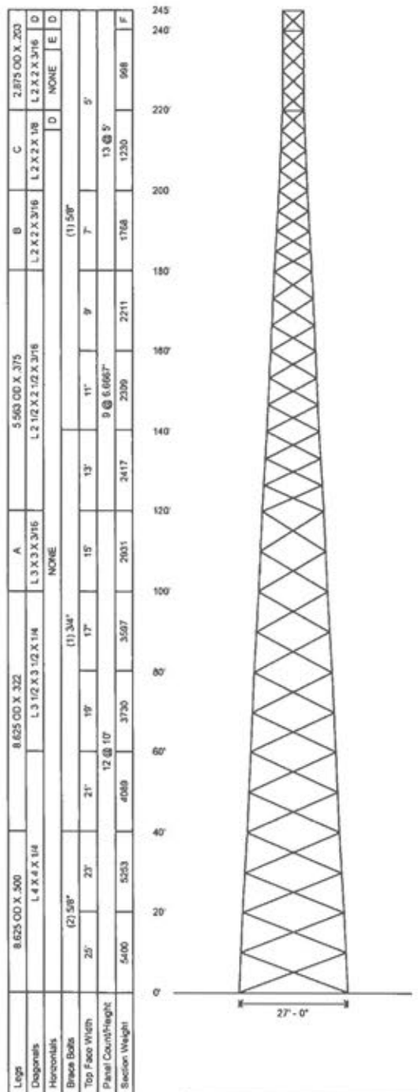
SITE NAME
KEVIL (TI-OPP-19611)

SHEET NAME
CONCRETE PAD DETAILS

SHEET NUMBER
C-5

DETAIL BY OTHERS NOTE:
TOWER FOUNDATION DETAIL SHOWN ON THIS PAGE PROVIDED BY SABRE INDUSTRIES AND ARE NOT CARRIED UNDER THE SIGNATURE AND SEAL OF SMW AND/OR IT'S ENGINEERS.

REFER TO THE PROVIDED STRUCTURAL DESIGN REPORT DRAWN BY SABRE INDUSTRIES, DATED 09/01/22.



Design Criteria - ANSI/TIA-222-H

Wind Speed (No Ice)	106 mph
Wind Speed (Ice)	30 mph
Design Ice Thickness	1.50 in
Risk Category	II
Exposure Category	C
Topographic Factor Procedure	Method 1 (Simplified)
Topographic Category	1
Ground Elevation	430 ft
Seismic Importance Factor, Ie	1.00
0.2-sec Spectral Response, Ss	1.514 g
1-sec Spectral Response, S1	0.501 g
Site Class	D
Seismic Design Category	D
Basic Seismic Force-Resisting System	Telecommunication Tower (Truss: Steel)

Base Reactions - Wind/Ice

Total Foundation		Individual Footing	
Shear (kips)	58.71	Shear (kips)	34.61
Axial (kips)	151.23	Compression (kips)	383
Moment (ft-kips)	8645	Uplift (kips)	340

Base Reactions - Seismic

Total Foundation		Individual Footing	
Shear (kips)	16.72	Shear (kips)	12.62
Axial (kips)	78.15	Compression (kips)	158
Moment (ft-kips)	3061	Uplift (kips)	119

Notes

1) All legs are A500 (50 ksi Min. Yield).
2) All braces are A572 Grade 50.
3) All brace bolts are A325-X.
4) The tower model is S3TL Series HD1.
5) Transmission lines are to be attached to standard 8 hole waveguide ladders with stackable hangers.
6) Azimuths are relative (not based on true north).
7) Foundation loads shown are maximums.
8) All unequal angles are oriented with the short leg vertical.
9) Weights shown are estimates. Final weights may vary.
10) This tower design and, if applicable, the foundation design(s) shown on the following page(s) also meet or exceed the requirements of the 2015 International Building Code.
11) Tower Rating: 98.43%

Sabre Industries
INNOVATION DELIVERED

Sabre Industries
7101 Southbridge Drive
P.O. Box 658
Sioux City, IA 51102-0658
Phone (712) 258-6690
Fax (712) 279-6251

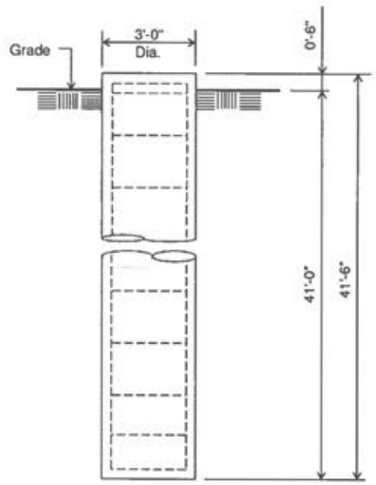
Information contained herein is the sole property of Sabre Communications Corporation, constitutes a trade secret as defined by Iowa Code Ch. 550 and shall not be reproduced, copied or used in whole or part for any purpose whatsoever without the prior written consent of Sabre Communications Corporation.

Job:	23-1837-TJH
Customer:	TILLMAN INFRASTRUCTURE LLC
Site Name:	TI-OPP-19611, KY 15762578
Description:	245' S3TL
Date:	9/1/2022 By: REB

Sabre Industries
INNOVATION DELIVERED

No.: 23-1837-TJH
Date: 09/01/2022
By: TTW

Customer: TILLMAN INFRASTRUCTURE, LLC
Site: TI-OPP-19611, KY 15762578
245 ft. Model S3TL Series HD1 Self Supporting Tower



ELEVATION VIEW
(10.9 cu. yds.)
(3 REQUIRED; NOT TO SCALE)

Notes:
1) Concrete shall have a minimum 28-day compressive strength of 4,500 psi, in accordance with ACI 318-14.
2) Rebar to conform to ASTM specification A615 Grade 60.
3) All rebar to have a minimum of 3" concrete cover.
4) All exposed concrete corners to be chamfered 3/4".
5) The foundation design is based on the geotechnical report by Environmental Corporation of America, Project No. 22-002632, dated August 26, 2022.
6) See the geotechnical report for drilled pier installation requirements, if specified.
7) The bottom anchor bolt template shall be positioned as closely as possible to the bottom of the anchor bolts.
8) Tie overlaps shall be staggered with a nominal 180° separation.
9) This foundation is designed for a max capacity ratio of 90%.

Rebar Schedule per Pier	
Pier	(14) #10 vertical rebar w/ #4 ties, two (2) within top 5" of pier then 12" C/C
Anchor Bolts per Leg	
(6) 1.25" dia. x 63" F1554-105 on a 12.75" B.C. w/ 8" max. projection above concrete.	

7101 Southbridge Dr - P.O. Box 658 - Sioux City, IA 51102-0658 - Phone 712.258.6690 - Fax 712.258.6250

SMW ENGINEERING GROUP, INC.
TOGETHER PLANNING A BETTER TOMORROW

SMW#: 22-0278

Tillman Infrastructure
152 W. 57TH STREET
NEW YORK, NEW YORK 10019
TEL: 212-706-1877

at&t

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CA#: KY 2865

STATE OF KENTUCKY
JEREMY D. SHARIT
26823
LICENSED
PROFESSIONAL ENGINEER

11/30/22

FA #: 15762578

DESIGNED: JDS
CHECKED: RTB
DRAWN: BMD
LAST REV BY: BMD

SITE NAME
KEVIL (TI-OPP-19611)

SHEET NAME
TOWER DESIGN

SHEET NUMBER
C-5.1

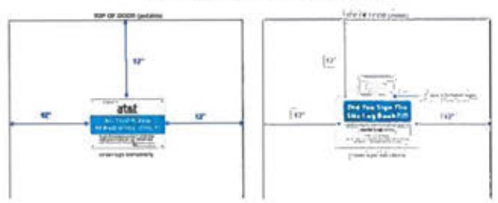
Section 1: Standard Cell Site Signage

- AT&T owned sites require the following signs:

1. Gate sign
   - 15" x 20" aluminum gate sign

2. Door sign (shelter or tenant improvement room)
   - 8" x 12" door sign

Recommended layouts for main shelter door



3. FCC Custodial License sign *(note change in address for FCC Group effective 9/2017)*
   - 3" x 6.5"

4. No Trespassing signs

- AT&T leased sites (not owned by AT&T) only require a door and FCC Custodial License sign

Combination sign packages for shelters and WIC (Walk-in-Cabinet):

- Available from Excel Signs, item # *ATT-SWIC-DC-3KIT*. Includes door, log book and FCC Custodial Letter signs

Section 4: FCC Signs

- Antenna Structure Registration (ASR) sign
  1. 8" x 12" sign

- FCC custodial letter
  1. 3" x 6.5" decal sign (available through Excel Sign, part #ATT DC CUS 653)

OR

2. 8.5" x 11" standard paper

THE CUSTODIAN OF THIS STATION'S LICENSE IS:
AT&T
ATTENTION TO: FCC GROUP
208 S. AKARD STREET, RM 1016
DALLAS, TEXAS 75202
855-699-7073
FCCMW@att.com

Section 6: Miscellaneous signs

The following signs are optional and may be posted as needed:

- Log Book sign
  1. Posting on inside of shelter door recommended

- Padlock decal
  1. Can be affixed to padlocks to indicate an AT&T lock
  2. Can also be used to label items such as electrical disconnect boxes, electrical meters, etc.
  3. 1" x 8" decal if ordered from Excel Sign

- Gate signs

- Door Exit sign
  1. May be posted on the inside of shelter doors at sites currently not equipped with an Exit sign (or emergency light/exit sign combination) above the door
  2. Sign has glow in the dark letters and border to aid visibility
  3. Excel part # EXT-128-DL

NEW *INFO-2 SIGN POLICY*

Effective immediately Information 2 signs shall be retired from AT&T sign inventory and 5"x7" **Caution Sign 2C** sign will be used instead

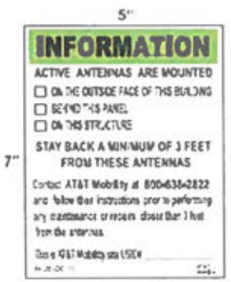
Vendors/AT&T Field technicians shall remove existing "**Information Sign 2**" sign/s that currently exist at the site (i.e. parapet mount) and replace them with the following "**Caution Sign 2C** sign which has 5"x7" dimensions

INFORMATION Sign 2

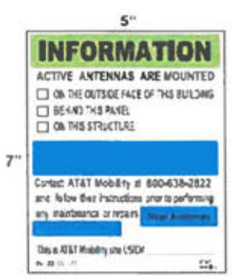
Caution Sign 2C

NEW *INFO-2 SIGN POLICY (Existing Historical Signs)*

If **Information sign 2** sign/s are not able to be removed (i.e. existing stocks or damage risk to structure, the verbiage will be covered as example on bottom right as well as adding "**Near Antenna**" with a marker



INFORMATION Sign 2



Covered INFORMATION Sign 2

SMW ENGINEERING GROUP, INC.
TOGETHER PLANNING A BETTER TOMORROW

SMW#: 22-0278

Tillman Infrastructure
152 W. 57TH STREET
NEW YORK, NEW YORK 10019
TEL: 212-706-1877

at&t

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CA#: KY 2865

STATE OF KENTUCKY
JEREMY D. SHARIT
26823
LICENSED
PROFESSIONAL ENGINEER

11/30/22

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

FA #: 15762578

DESIGNED: JDS
CHECKED: RTB
DRAWN: BMD
LAST REV BY: BMD

SITE NAME
KEVIL (TI-OPP-19611)

SHEET NAME
SITE SIGNAGE

SHEET NUMBER
C-6

Section 2: Outdoor Cabinet Site Signage

Outdoor sites require the same gate and no trespassing signs as indoor sites if owned by AT&T. In place of the door sign the cabinets must have the following signs:

- Single cabinet sites require a sign, such as a door sign, that indicates AT&T as the owner and has provisions for adding the site number along with the MNRC contact number
  1. Sign must be affixed to the side of the cabinet (front, rear or side) which is most visible when approaching the cabinet from the site access point
     - 8" x 12" decal acceptable for outdoor cabinet

- Multiple cabinet sites require the sign specified in the previous bullet attached to the side of each cabinet on the end of the lineup. In addition, a sign indicating AT&T as the owner must be affixed to the front or rear of every cabinet (not both).
  1. AT&T identification sign is to be affixed to the most visible area (front or rear) when approaching the cabinets from the site access point
     - 3" x 6.5" decal is acceptable for front or rear of outdoor cabinets

- Example of AT&T identification signs on outdoor cabinets (signs on each end of lineup not shown but are required)

- Diesel generators installed outdoors such as on a pad in a compound, shall have signs affixed to the tank on both of the long sides of the generator. For belly tank style generators, if signs will not properly adhere to the tank they may be installed on the generator housing (alternate locations shown in yellow boxes below)
  1. AT&T identification sign, 8" x 12" or 3" x 6.5"
  2. Hazard diamond sign, 15" x 15" with 6" numbers (1-2-0)
  3. Yellow EH&S sign, approximately 10" x 10"
  4. Diesel Fuel, Combustible, No Smoking (Excel combination sign is recommended)

Note for stand-alone tank style generators (not belly tank) the only required sign on the generator itself is the AT&T identification sign. All 4 signs listed above will be installed on the stand-alone fuel tank

Belly Type Tank Style Generator

NOTE: If ribs on the generator tank do not allow enough room to place signs, it is acceptable to affix the signs to the generator housing

Stand-alone Type Tank Style

Section 3: Fixed Generator Signage (continued)

Per AT&T EH&S, fixed generators are required to have the following signage:

1. **AT&T identification sign, 8" x 12" or 3" x 6.5"**

OR

2. **Yellow EH&S sign**

3. **Fuel type, Combustible (Diesel), Flammable (Propane & Natural Gas) and No Smoking signs (individual signs or the Excel combination sign shown below are acceptable). Fuel tank capacity is optional**

4. **Hazard diamond sign, 15" x 15" with 6" numbers (1-2-0) Diesel only**

Section 3: Fixed Generator Signage (continued)

Diesel generator signs may be purchased in a kit from Excel Signs (link below). The kit contains 2 of each required sign and provides all of the signage needed for a diesel generator site

Excel Sign Diesel Generator Combo Pack

Diesel Generator Combo Pack

Contains of:

(1) Diesel Fuel 15x12 Decals
(1) EH&S 11x11 Decals
(1) NFPA Pre-printed 200 15x15 Decals
(1) ATT Mobility 6.5x3 Logo Decals

Natural gas and propane generators signage requirements are identical to diesel generators with the exception that the Hazard Diamond sign is not required unless mandated by the Authority Having Jurisdiction (AHJ). Combination signs are available for both natural gas and propane through Excel sign. A combo sign pack is also available for propane generators.

Excel Sign Propane Generator Combo Pack

Propane Generator Combo Pack

(2) Propane Fuel 15x12 Decals
(2) EH&S 11x11 Decals
(2) NFPA Pre-printed 200 15x15 Decals
(2) ATT Mobility 6.5x3 Logo Decals

Section 3: Fixed Generator Signage (continued)

Per AT&T EH&S, fixed generators are required to have signage posted as follows:

- Diesel generators installed indoors such as a shelter generator room, shall have signs affixed to the entrance door to the room the generator is housed in and one of the long sides of the generator tank. If signs will not properly adhere to the tank they may be installed on the end of the generator housing (yellow box on far right photo below)
  1. AT&T identification sign, 8" x 12" or 3" x 6.5"
  2. Hazard diamond sign, 15" x 15" with 6" numbers (1-2-0)
  3. Yellow EH&S sign
  4. Diesel Fuel, Combustible, No Smoking signs (Excel combination sign is recommended)

Door Signage ***Preferred Tank Signage Location*** ***Alternate Tank Signage Location***

Recommended layout for a 4' x 7' generator room door

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Tillman Infrastructure
153 W. 57TH STREET
NEW YORK, NEW YORK 10019
TEL: 212-706-1677

at&t

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3	11/30/22	CONSTRUCTION

CA#: KY 2865

STATE OF KENTUCKY
JEREMY D. SHARIT
26823
LICENSED
PROFESSIONAL ENGINEER
11/30/22

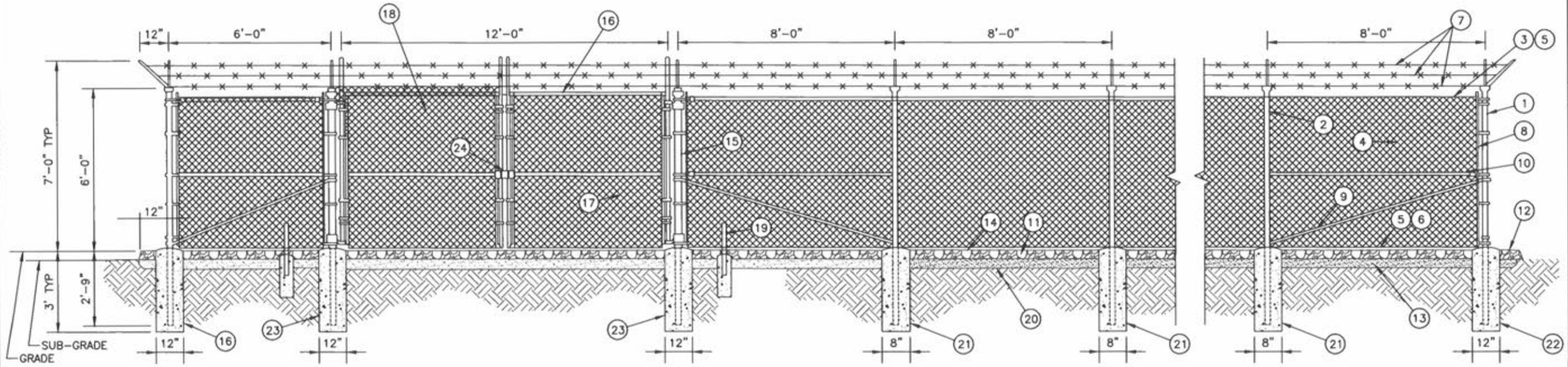
FA #: 15762578

DESIGNED: JDS
CHECKED: RTB
DRAWN: BMD
LAST REV BY: BMD

SITE NAME
KEVIL (TI-OPP-19611)

SHEET NAME
CABINET & GENERATOR SIGNAGE

SHEET NUMBER
C-6.1



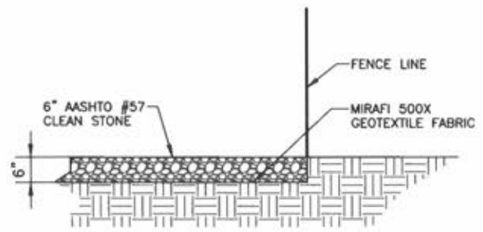
GENERAL NOTES:

1. INSTALL FENCING PER ASTM F-567
2. INSTALL SWING GATES PER ASTM-900
3. LOCAL ORDINANCE OF BARBED WIRE PERMIT REQUIREMENT SHALL BE COMPLIED IF REQUIRED
4. POST & GATE PIPE SIZES ARE INDUSTRY STANDARDS. ALL PIPE TO BE 1 1/2" GALV. (HOT DIP, ASTM A120 GRADE "A" STEEL) ALL GATE FRAMES SHALL BE WELDED, ALL WELDING SHALL BE COATED WITH (3) COATS OF COLD GALV, (OR EQUAL)
5. ALL OPEN POSTS SHALL HAVE END-CAPS
6. USE GALVANIZED HOG-RING WORE TO MOUNT ALL SIGNS
7. ALL SIGNS MUST BE MOUNTED ON INSIDE OF FENCE FABRIC
8. USE COMMERCIAL GRADE MATERIALS ONLY

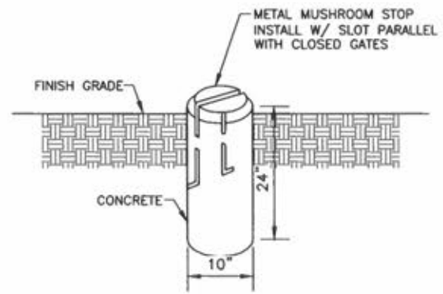
REFERENCE NOTES:

1. CORNER END OR PULL POST 3" NOMINAL SCHEDULE 40 PIPE.
2. LINE POST: 2 1/2"SCHEDULE 40 PIPE, PER ASTM-F1083. LINE POSTS SHALL BE EQUALLY SPACED AT MAXIMUM 8'-0" O.C.
3. TOP RAIL & BRACE RAIL: 1 1/2" PIPE, PER ASTM-F1083
4. FABRIC" 9GA CORE WIRE SIZE 2' MESH, CONFORMING TO ASTM-A392
5. TIE WIRE: MINIMUM II GA GALVANIZED STEEL AT POSTS AND RAILS A SINGLE WRAP OF FABRIC TIE END AT TENSIONS WIRE BU HOG RINGS SPACED AX. AT 24" O.C.
6. TENSION WIRE: 9GA GALVANIZE STEEL
7. BARBED WIRE: DOUBLE STRAND 12 1/2" OD TWISTED WIRE TO MATCH WITH FABRIC 14GA, 4PT. BARBS SPACE ON APPROX.5" CENTERS
8. STRETCHER BAR
9. 3/8" DIAGONAL ROD WITH GALVANIZED STEEL TURNBUCKLE OR DIAGONAL THREADED ROD
10. FENCE CORNER POST BRACE: 1 5/8" DIAZ. EACH CORNER EACH WAY
11. 1 1/2" MAXIMUM CLEARANCE FROM GRADE
12. 2" FINISH OR AS DETERMINED BY CONSTRUCTION MANAGER DURING BID WALK
13. 4" COMPACTED 95% BASE MATERIAL OR AS DETERMINED BY CONSTRUCTION MANAGER DURING BID WALK.
14. FINISH GRADE SHALL BE UNIFORM AND LEVEL
15. GATE POST 4" SCHEDULE 40 PIPE. FOR GATE WIDTHS UP THRU 7 FEET OR 4 FEET FOR DOUBLE SWING GATE, PER ASTM-F1083
16. GATE FRAME: 1 1/2" PIPE, PER ASTM-F1083
17. GATE FRAME: 1 5/8" PIPE, PER ASTM-F1083
18. GATE DIAGONAL GALVANIZED STEEL 1 1/2" PIPE
19. DUCK BILL OPEN GATE HOLDER. VERIFY LOCATION IN FIELD PRIOR TO INSTALLATION
20. GEOMETRIES FABRIC
21. LINE POST: CONCRETE FOUNDATION (2000 PSI)
22. CORNER POST: CONCRETE FOUNDATION (2000 PSI
23. GATE POST" CONCRETE FOUNDATION (2000 PSI)
24. STYMIE LOCK OR EQUIVALENT

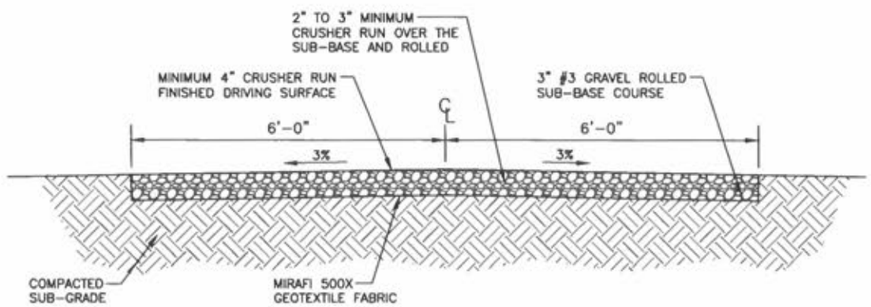
1 / C-7 FENCE DETAIL
NOT TO SCALE



2 / C-7 GRAVEL COMPOUND DETAIL
NOT TO SCALE



3 / C-7 MUSHROOM STOP DETAIL
NOT TO SCALE



4 / C-7 GRAVEL DRIVEWAY TYPICAL SECTION
NOT TO SCALE

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STATE OF KENTUCKY
JEREMY D. SHARIT
26823
LICENSED PROFESSIONAL ENGINEER

11/30/22

FA #: 15762578

DESIGNED: JDS
CHECKED: RTB
DRAWN: BMD
LAST REV BY: BMD

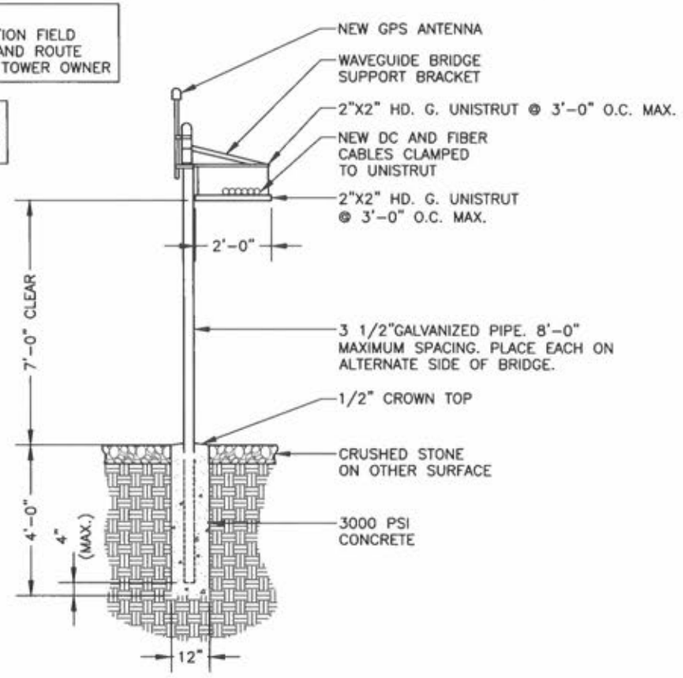
SITE NAME
KEVIL (TI-OPP-19611)

SHEET NAME
FENCE DETAILS

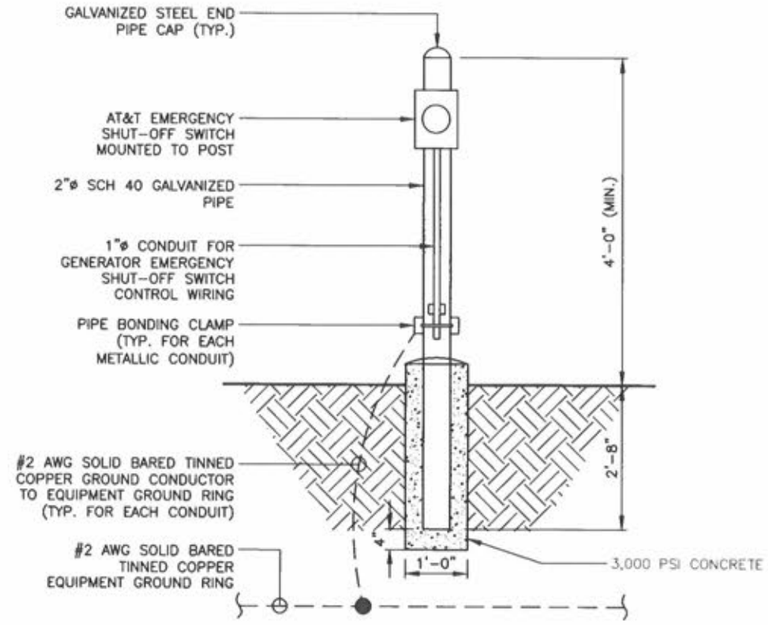
SHEET NUMBER
C-7

ICE BRIDGE NOTE:
PRIOR TO CONSTRUCTION FIELD COORDINATE HEIGHT AND ROUTE OF ICE BRIDGE WITH TOWER OWNER

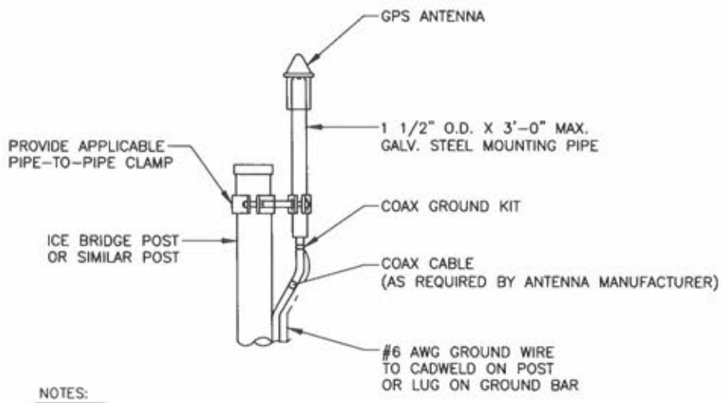
ICE BRIDGE NOTE:
ALL SUPPORT POSTS MUST BE GROUNDED



1 / C-8 CABLE BRIDGE DETAIL
NOT TO SCALE



3 / C-8 EMERGENCY SHUT-OFF SWITCH DETAIL
NOT TO SCALE



NOTES:

1. LOCATION OF ANTENNA MUST HAVE CLEAR VIEW OF SOUTHERN SKY AND CANNOT HAVE BLOCKAGES EXCEEDING 25% OF THE SURFACE AREA OF A HEMISPHERE AROUND THE GPS ANTENNA.
2. ALL GPS LOCATIONS MUST BE ABLE TO RECIEVE CLEAR SIGNALS FROM A MINIMUM OF FOUR (4) SATELLITES. VERIFY WITH HANDHELD GPS BEFORE FINAL LOCATION OF GPS ANTENNA.

2 / C-8 GPS ANTENNA MOUNTING DETAIL
NOT TO SCALE

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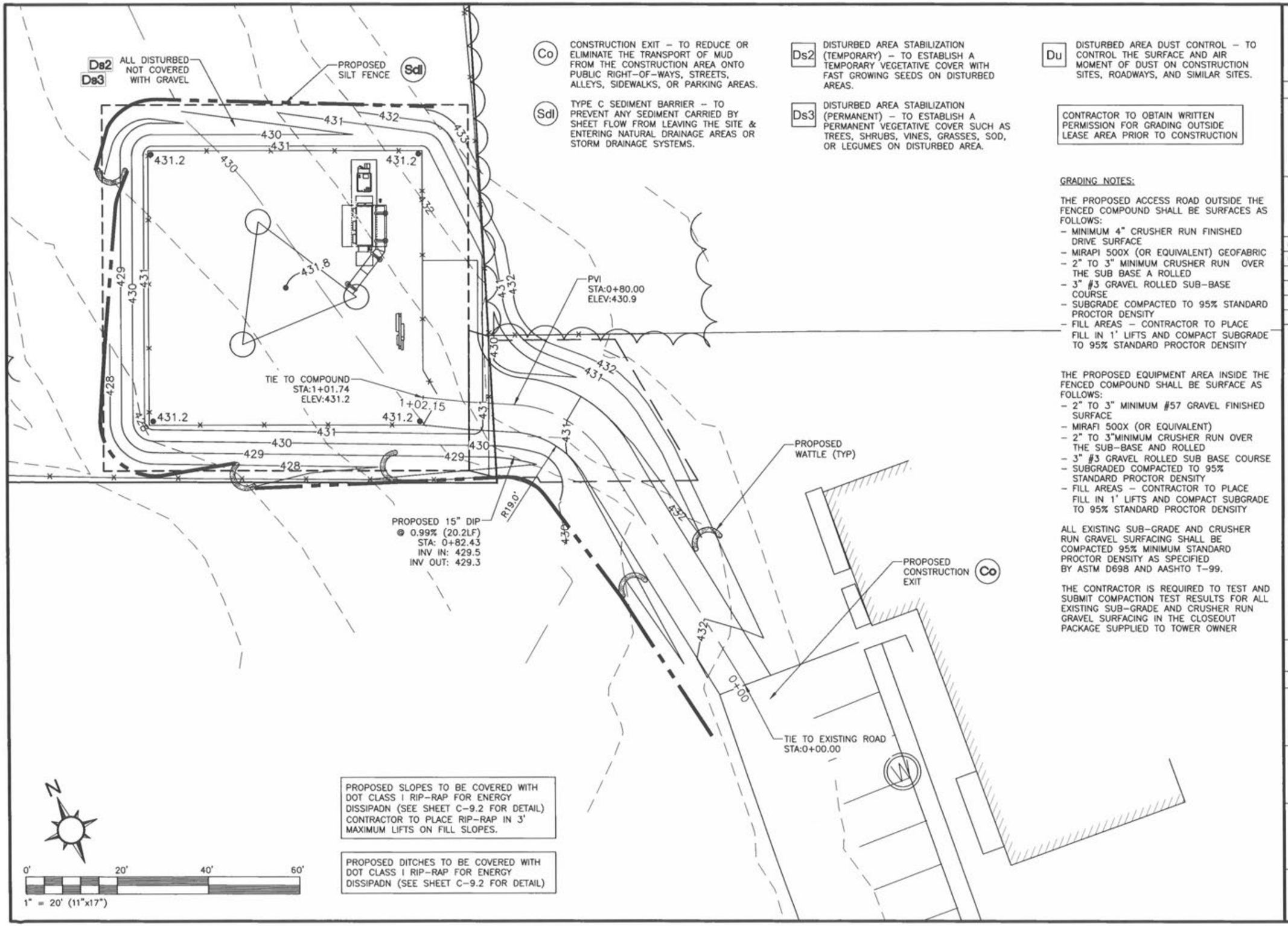
SHEET NAME
CONSTRUCTION DETAILS

SHEET NUMBER
C-8



Co CONSTRUCTION EXIT – TO REDUCE OR ELIMINATE THE TRANSPORT OF MUD FROM THE CONSTRUCTION AREA ONTO PUBLIC RIGHT-OF-WAYS, STREETS, ALLEYS, SIDEWALKS, OR PARKING AREAS.

Sdl TYPE C SEDIMENT BARRIER – TO PREVENT ANY SEDIMENT CARRIED BY SHEET FLOW FROM LEAVING THE SITE & ENTERING NATURAL DRAINAGE AREAS OR STORM DRAINAGE SYSTEMS.

Ds2 DISTURBED AREA STABILIZATION (TEMPORARY) – TO ESTABLISH A TEMPORARY VEGETATIVE COVER WITH FAST GROWING SEEDS ON DISTURBED AREAS.

Ds3 DISTURBED AREA STABILIZATION (PERMANENT) – TO ESTABLISH A PERMANENT VEGETATIVE COVER SUCH AS TREES, SHRUBS, VINES, GRASSES, SOD, OR LEGUMES ON DISTURBED AREA.

Du DISTURBED AREA DUST CONTROL – TO CONTROL THE SURFACE AND AIR MOMENT OF DUST ON CONSTRUCTION SITES, ROADWAYS, AND SIMILAR SITES.

CONTRACTOR TO OBTAIN WRITTEN PERMISSION FOR GRADING OUTSIDE LEASE AREA PRIOR TO CONSTRUCTION

GRADING NOTES:

THE PROPOSED ACCESS ROAD OUTSIDE THE FENCED COMPOUND SHALL BE SURFACES AS FOLLOWS:
- MINIMUM 4" CRUSHER RUN FINISHED DRIVE SURFACE
- MIRAPI 500X (OR EQUIVALENT) GEOFABRIC
- 2" TO 3" MINIMUM CRUSHER RUN OVER THE SUB BASE A ROLLED
- 3" #3 GRAVEL ROLLED SUB-BASE COURSE
- SUBGRADE COMPACTED TO 95% STANDARD PROCTOR DENSITY
- FILL AREAS – CONTRACTOR TO PLACE FILL IN 1' LIFTS AND COMPACT SUBGRADE TO 95% STANDARD PROCTOR DENSITY

THE PROPOSED EQUIPMENT AREA INSIDE THE FENCED COMPOUND SHALL BE SURFACE AS FOLLOWS:
- 2" TO 3" MINIMUM #57 GRAVEL FINISHED SURFACE
- MIRAFI 500X (OR EQUIVALENT)
- 2" TO 3"MINIMUM CRUSHER RUN OVER THE SUB-BASE AND ROLLED
- 3" #3 GRAVEL ROLLED SUB BASE COURSE
- SUBGRADED COMPACTED TO 95% STANDARD PROCTOR DENSITY
- FILL AREAS – CONTRACTOR TO PLACE FILL IN 1' LIFTS AND COMPACT SUBGRADE TO 95% STANDARD PROCTOR DENSITY

ALL EXISTING SUB-GRADE AND CRUSHER RUN GRAVEL SURFACING SHALL BE COMPACTED 95% MINIMUM STANDARD PROCTOR DENSITY AS SPECIFIED BY ASTM D698 AND AASHTO T-99.

THE CONTRACTOR IS REQUIRED TO TEST AND SUBMIT COMPACTION TEST RESULTS FOR ALL EXISTING SUB-GRADE AND CRUSHER RUN GRAVEL SURFACING IN THE CLOSEOUT PACKAGE SUPPLIED TO TOWER OWNER

PROPOSED SLOPES TO BE COVERED WITH DOT CLASS I RIP-RAP FOR ENERGY DISSIPADN (SEE SHEET C-9.2 FOR DETAIL) CONTRACTOR TO PLACE RIP-RAP IN 3' MAXIMUM LIFTS ON FILL SLOPES.

PROPOSED DITCHES TO BE COVERED WITH DOT CLASS I RIP-RAP FOR ENERGY DISSIPADN (SEE SHEET C-9.2 FOR DETAIL)

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26823
LICENSED
PROFESSIONAL ENGINEER

11/30/22

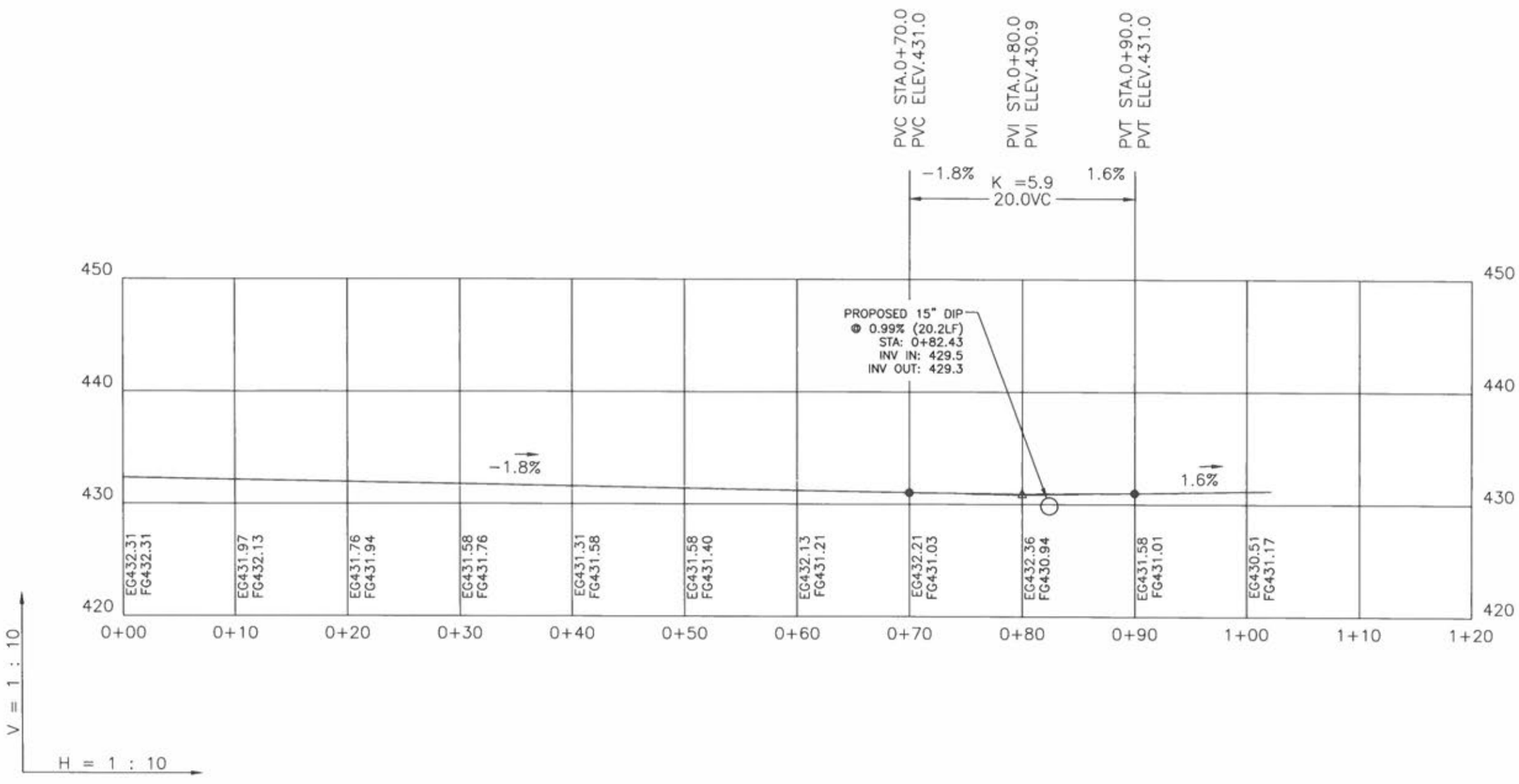
FA #: 15762578

DESIGNED: JDS
CHECKED: RTB
DRAWN: BMD
LAST REV BY: BMD

SITE NAME
KEVIL (TI-OPP-19611)

SHEET NAME
SITE GRADING PLAN

SHEET NUMBER
C-9



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SITE NAME

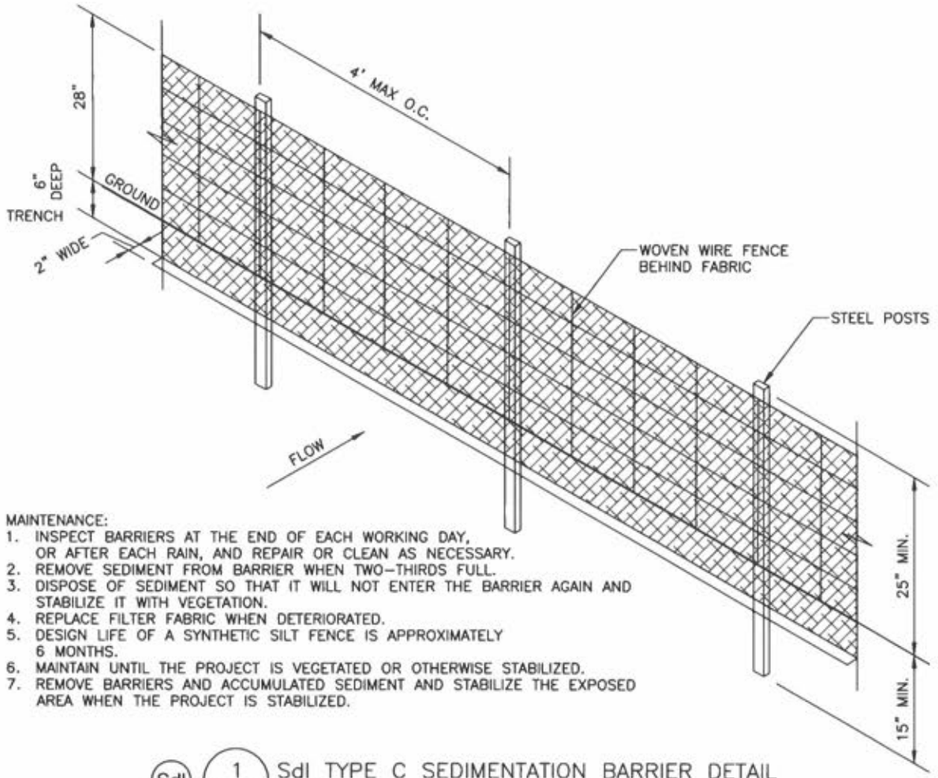
KEVIL (TI-OPP-19611)

SHEET NAME

ROAD PROFILES

SHEET NUMBER

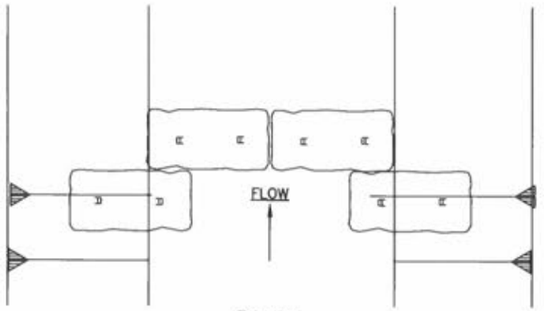
C-9.1



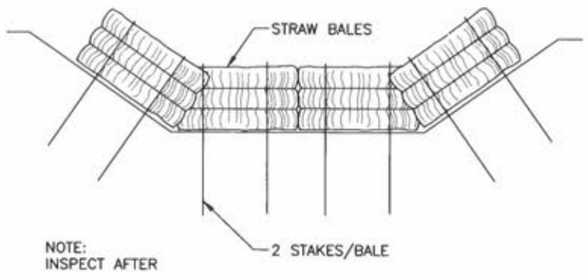
MAINTENANCE:

1. INSPECT BARRIERS AT THE END OF EACH WORKING DAY, OR AFTER EACH RAIN, AND REPAIR OR CLEAN AS NECESSARY.
2. REMOVE SEDIMENT FROM BARRIER WHEN TWO–THIRDS FULL.
3. DISPOSE OF SEDIMENT SO THAT IT WILL NOT ENTER THE BARRIER AGAIN AND STABILIZE IT WITH VEGETATION.
4. REPLACE FILTER FABRIC WHEN DETERIORATED.
5. DESIGN LIFE OF A SYNTHETIC SILT FENCE IS APPROXIMATELY 6 MONTHS.
6. MAINTAIN UNTIL THE PROJECT IS VEGETATED OR OTHERWISE STABILIZED.
7. REMOVE BARRIERS AND ACCUMULATED SEDIMENT AND STABILIZE THE EXPOSED AREA WHEN THE PROJECT IS STABILIZED.

Sdl 1 / C-9.2 Sdl TYPE C SEDIMENTATION BARRIER DETAIL
NOT TO SCALE



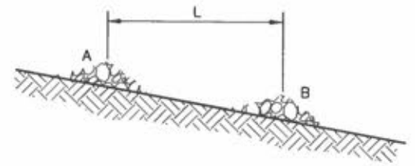
PLAN



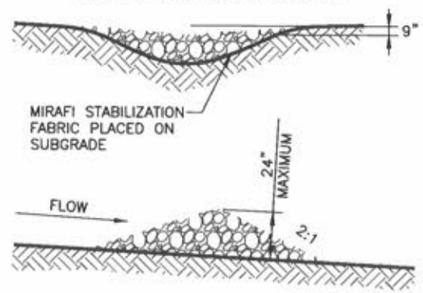
NOTE:
INSPECT AFTER EACH RAINFALL AND REMOVE ANY SEDIMENT DEPOSIT

3 / C-9.2 HAY BALES
NOT TO SCALE

L = THE DISTANCE SUCH THAT POINTS A AND B ARE OF EQUAL ELEVATION.



SPACING CHECK IN BETWEEN DAMS



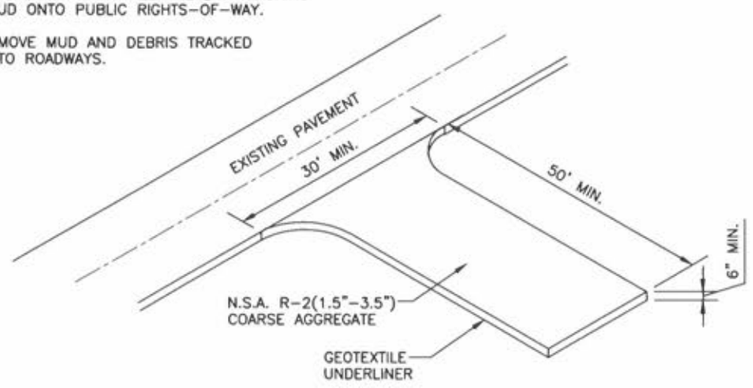
NOTES:

1. CHECK DAMS TO BE CONSTRUCTED OF GRADED SIZE 2 – 10 INCH STONE. MECHANICAL OR HAND PLACEMENT SHALL BE REQUIRED TO INSURE COMPLETE COVERAGE OF ENTIRE WIDTH OF DITCH OR SWALE AND THAT CENTER OF DAM IS LOWER THAN EDGES.
2. SEDIMENT TO BE REMOVED WHEN A LEVEL OF 1/2 THE ORIGINAL DAM HEIGHT OR LESS IS REACHED. REMOVE CHECK DAMS AT COMPLETION OF

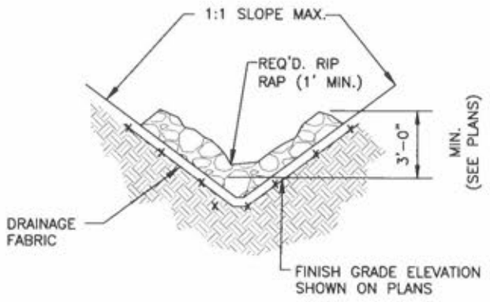
Cd 4 / C-9.2 CHECK DAM
NOT TO SCALE

MAINTENANCE:

1. PERIODICALLY DRESS WITH 1.5"–3.5" STONE.
2. MAINTAIN IN A CONDITION THAT WILL PREVENT TRACKING OR FLOW OF MUD ONTO PUBLIC RIGHTS–OF–WAY.
3. IMMEDIATELY REMOVE MUD AND DEBRIS TRACKED OR SPILLED ONTO ROADWAYS.



Co 2 / C-9.2 CONSTRUCTION EXIT DETAIL
NOT TO SCALE



5 / C-9.2 TYPICAL RIP RAP DITCH SECTION
SCALE: N.T.S.

Co CONSTRUCTION EXIT – TO REDUCE OR ELIMINATE THE TRANSPORT OF MUD FROM THE CONSTRUCTION AREA ONTO PUBLIC RIGHT–OF–WAYS, STREETS, ALLEYS, SIDEWALKS, OR PARKING AREAS.

Sdl TYPE C SEDIMENT BARRIER – TO PREVENT ANY SEDIMENT CARRIED BY SHEET FLOW FROM LEAVING THE SITE & ENTERING NATURAL DRAINAGE AREAS OR STORM DRAINAGE SYSTEMS.

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Du DISTURBED AREA DUST CONTROL – TO CONTROL THE SURFACE AND AIR MOMENT OF DUST ON CONSTRUCTION SITES, ROADWAYS, AND SIMILAR SITES.

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11/30/22

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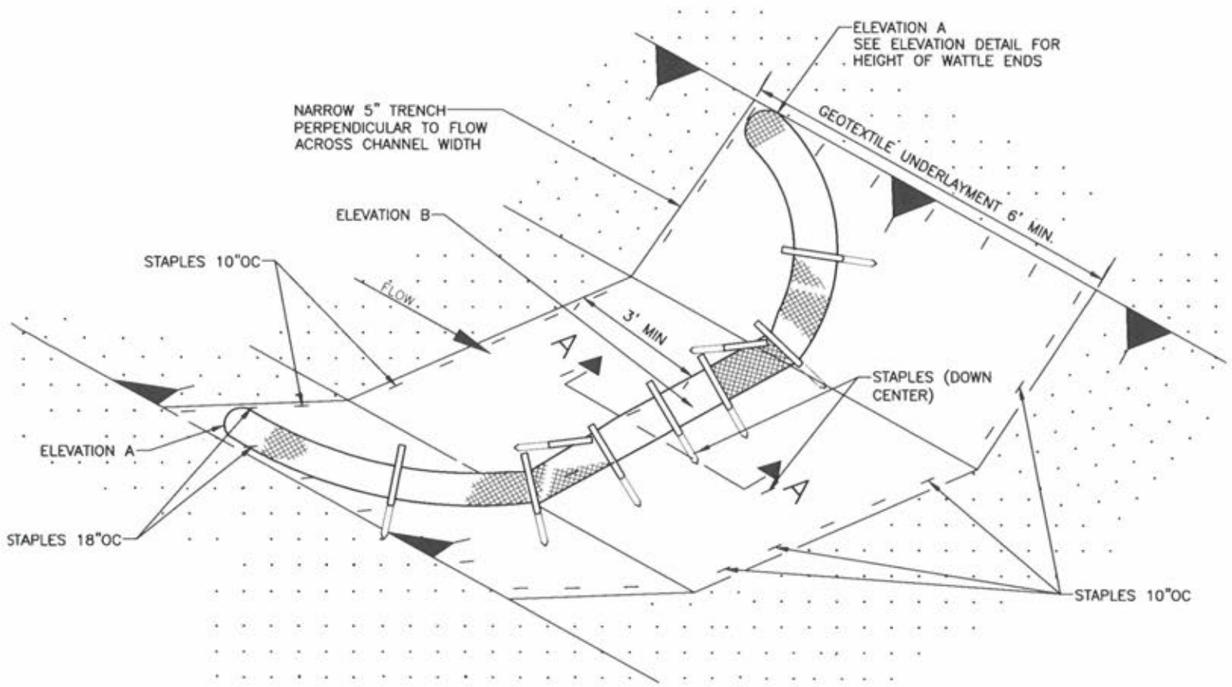
DESIGNED:	JDS
CHECKED:	RTB
DRAWN:	BMD
LAST REV BY:	BMD

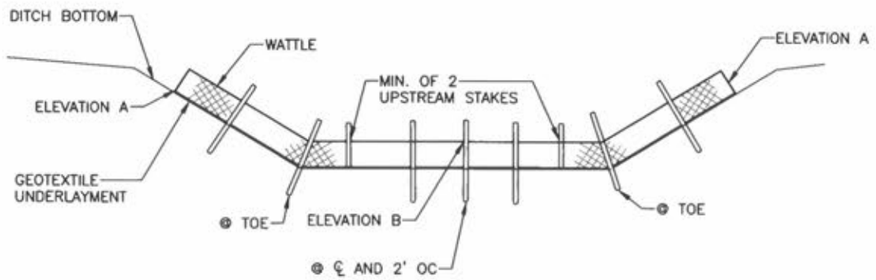
SITE NAME
KEVIL (TI-OPP-19611)

SHEET NAME
GRADING, SEDIMENT & EROSION CONTROL DETAILS

SHEET NUMBER
C-9.2

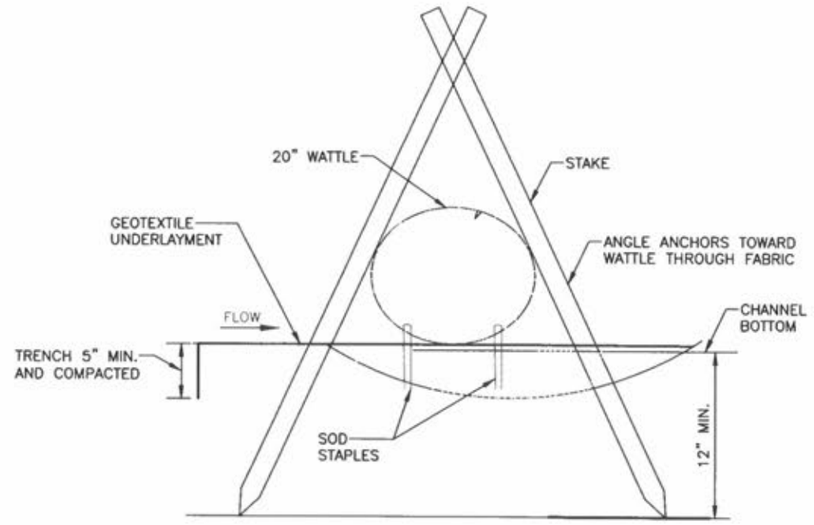


DETAIL (DITCH CHECK)



ELEVATION DETAIL

NOTE: END POINTS A MUST BE HIGHER THAN FLOWLINE POINT B



SECTION A–A

NOTES:

1. MINIMUM RECOMMENDED PLACEMENT INTERVAL BETWEEN WATTLE DITCH CHECK IS 50 FEET UNLESS SHOWN OTHERWISE ON THE PLANS OR APPROVED BY THE ENGINEER.
2. ANCHORING STAKES SHALL BE SIZED, SPACED, DRIVEN, AND BE OF A MATERIAL THAT EFFECTIVELY SECURES THE CHECK. STAKE SPACING SHALL BE A MAXIMUM OF TWO FEET.
3. SECURE GEOTEXTILE UNDERLAYMENT BY PLACING STAPLES 18 INCHES APART ALONG THE CHANNEL EDGES AND DOWN THE CENTER OF THE CHANNEL. SPACE STAPLES 10 INCHES APART ACROSS THE UPSTREAM AND DOWNSTREAM EDGES.
4. PLACE STAPLES ON BOTH SIDES OF WATTLE AT 10" SPACING.

SMW ENGINEERING GROUP, INC.
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SMW#: 22-0278

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CA#: KY 2865

STATE OF KENTUCKY
JEREMY D. SHARIT
26823
LICENSED
PROFESSIONAL ENGINEER

11/30/22

FA #: 15762578

DESIGNED: JDS
CHECKED: RTB
DRAWN: BMD
LAST REV BY: BMD

SITE NAME
KEVIL (TI-OPP-19611)

SHEET NAME
GRADING, SEDIMENT & EROSION CONTROL DETAILS

SHEET NUMBER
C-9.3

PIEDMONT VEGETATIVE COVERS

CALENDAR MONTH	TEMPORARY SEED	APPLICATION RATE/ACRE	PERMANENT SEED	APPLICATION RATE/ACRE
1. JANUARY	RYE GRASS	20–40 LB.	UNHULLED BERMUDA SERICEA LESPEDEZA	8–10 LB. 30–40 LB.
2. FEBRUARY			UNHULLED BERMUDA SERICEA LESPEDEZA FESCUE	8–10 LB. 30–40 LB. 30–50 LB.
3. MARCH	RYE ANNUAL LESPEDZA WEEPING LOVE GRASS	2–3 BU. 20–25 LB. 4–6 LB.	UNHULLED BERMUDA SERICEA LESPEDEZA FESCUE	8–10 LB. 30–40 LB. 30–50 LB.
4. APRIL	RYE BROWN TOP MULLET ANNUAL LESPEDZA SUDAN ANNUAL	2–3 BU. 30–40 LB. 20–25 LB. 35 LB.	WEEPING LOVE GRASS HULLED BERMUDA BAJA	4–6 LB. 5–6 LB. 40–60 LB.
5. MAY	WEEPING LOVE GRASS SUDAN GRASS BROWN TOP MULLET	4–6 BU. 35 LB. 30–40 LB.	WEEPING LOVE GRASS HULLED BERMUDA BAJA	4–6 LB. 5–6 LB. 40–60 LB.
6. JUNE	WEEPING LOVE GRASS SUDAN GRASS BROWN TOP MULLET	4–6 LB. 35 LB. 30–40 LB.	WEEPING LOVE GRASS HULLED BERMUDA BAJA	4–6 LB. 5–6 LB. 40–60 LB.
7. JULY	WEEPING LOVE GRASS SUDAN GRASS BROWN TOP MULLET	4–6 LB. 35 LB. 30–40 LB.		
8. AUGUST	RYE GRASS WEEPING LOVE GRASS	40–50 LB. 4–6 LB.		
9. SEPTEMBER			TALL FESCUE	30–50 LB.
10. OCTOBER	WHEAT	2–3 BU.	UNHULLED BERMUDA SERICEA LESPEDEZA FESCUE	8–10 LB. 30–40 LB. 30–50 LB.
11. NOVEMBER	WHEAT	2–3 BU.	UNHULLED BERMUDA SERICEA LESPEDEZA FESCUE	8–10 LB. 30–40 LB. 30–50 LB.
12. DECEMBER	RYE RYE GRASS WHEAT	2–3 BU. 40–50 LB. 2–3 BU.	UNHULLED BERMUDA SERICEA LESPEDEZA FESCUE	8–10 LB. 30–40 LB. 30–50 LB.

1. USE A MINIMUM OF 40 LBS. SCARIFIED SEED. THE REMAINING MAY BE UNSCARIFIED, CLEAN HULLED SEED.
2. USE EITHER COMMON SERIAL OR INTERSTATE SERICEA LESPEDEZA

Ds2 DISTURBED AREA STABILIZATION (WITH TEMPORARY SEEDING)

Ds3 DISTURBED AREA STABILIZATION (WITH PERMANENT VEGETATION)

GENERAL

THIS VEGETATIVE PLAN WILL BE CARRIED OUT IN ROAD CUT AND FILL SLOPES, SHOULDERS, AND OTHER CRITICAL AREAS CREATED BY CONSTRUCTION. SEEDING WILL BE DONE AS SOON AS CONSTRUCTION IN AN AREA IS COMPLETED. PLANTINGS WILL BE MADE TO CONTROL EROSION, TO REDUCE DAMAGE FROM SEDIMENT AND RUNOFF TO DOWNSTREAM ARE, AND TO IMPROVE THE SAFETY AND BEAUTY OF THE DEVELOPMENT AREA.

SOIL CONDITIONS

DUE TO GRADING AND CONSTRUCTIONS, THE AREAS TO BE TREATED ARE MAINLY SUBSOIL AND SUBSTRATES. FERTILITY IS LOW AND THE PHYSICAL CHARACTERISTICS OF THE EXPOSED MATERIAL ARE UNFAVORABLE TO ALL BUT THE MOST HARDY PLANTS.

TREATMENT SPECIFICATIONS

HYDRAULIC SEEDING EQUIPMENT: WHEN HYDRAULIC SEEDING AND FERTILIZING EQUIPMENT IS USED, NO GRADING AND SHAPING OF SEEDED PREPARATIONS WILL BE REQUIRED. THE FERTILIZER, SEED, AND WOOD CELLULOSE FIBER MULCH WILL BE MIXED WITH WATER AND SUPPLIED IN A SLURRY. ALL SLURRY INGREDIENTS MUST BE COMBINED TO FORM A HOMOGENEOUS MIXTURE, AND SPREAD UNIFORMLY OVER THE AREA WITH ONE HOUR AFTER MIXTURE IS MADE. STRAW OR HAW MULCH AND ASPHALT EMULSION WILL BE APPLIED WITH BLOWER–TYPE MULCH SPREADING EQUIPMENT WITHIN 24 HOURS AFTER SEEDING. THE MULCH WILL BE SPREAD UNIFORMLY OVER THE AREA, LEAVING ABOUT 25 PERCENT OF THE GROUND SURFACE EXPOSED. THE PER ACRE APPLICATION RATES ARE AS FOLLOWS:

A. SEEDING WITH MULCH: (HYDRAULIC SEEDING EQUIPMENT ON SLOPES 3:1 AND STEEPER)

AGRICULTURAL LIMESTONE #75	400 LBS/ACRE
FERTILIZER, 05–10–15	500 LBS/ACRE
MULCH (STRAW OR HAY)	5000 LBS/ACRE
MULCH (WOOD CELLULOSE FIBER)	1000 LBS/ACRE

SEED SPECIES	APPLICATION RATE/ACRE	PLANTING DATES
SERICIA LESPEDEZA, SCARIFIED WEEPING LOVE GRASS, OR COMMON BERMUDA, HULLED	60 LBS. 4 LBS. 6 LBS.	3/1–6/15
FESCUE SERICEA LESPEDEZA, UNCERTIFIED	40 LBS. 60 LBS.	4/1–10/31
FESCUE SERICEA LESPEDEZA, UNCERTIFIED RYE	40 LBS. 75 LBS. 50 LBS.	11/1–12/28
HAY MULCH FOR TEMPORARY COVER	5000 LBS.	6/15–8/31

B. TOP DRESSING: APPLY WHEN PLANTS ARE 2 TO 4 INCHES TALL

FERTILIZER (AMMONIUM NITRATE 33.5%) 300 LBS/ACRE

C. SECOND YEAR TREATMENT:

FERTILIZER (0–20–20 OR EQUIVALENT) 500 LBS/ACRE

GENERAL

THIS VEGETATIVE PLAN WILL BE CARRIED OUT IN ROAD CUT AND FILL SLOPES, SHOULDERS, AND OTHER CRITICAL AREAS CREATED BY CONSTRUCTION. SEEDING WILL BE DONE AS SOON AS CONSTRUCTION IN AN AREA IS COMPLETED. PLANTINGS WILL BE MADE TO CONTROL EROSION, TO REDUCE DAMAGE FROM SEDIMENT AND RUNOFF TO DOWNSTREAM ARE, AND TO IMPROVE THE SAFETY AND BEAUTY OF THE DEVELOPMENT AREA.

SOIL CONDITIONS

DUE TO GRADING AND CONSTRUCTIONS, THE AREAS TO BE TREATED ARE MAINLY SUBSOIL AND SUBSTRATES. FERTILITY IS LOW AND THE PHYSICAL CHARACTERISTICS OF THE EXPOSED MATERIAL ARE UNFAVORABLE TO ALL BUT THE MOST HARDY PLANTS.

TREATMENT SPECIFICATIONS

CONVENTIONAL SEEDING EQUIPMENT: GRADE, SHAPE, AND SMOOTH WHERE NEEDED TO PROVIDE FOR SAFE EQUIPMENT OPERATION AT SEEDING TIME AND FOR MAINTENANCE PURPOSES. THE LIME AND FERTILIZER IN DRY FORM WILL SPREAD UNIFORMLY OVER THE AREA IMMEDIATELY BEFORE SEEDBED PREPARATION. A SEEDBED WILL BE PREPARED BY SCARIFYING TO A DEPTH OF 1 TO 4 INCHES AS DETERMINED ON SITE. THE SEEDBED MUST BE WELL PULVERIZED, SMOOTHED, AND FIRMED. SEEDING WILL BE DONE WITH A CULTIPACKER–SEEDER, ROTARY SEEDER, OR OTHER MECHANICAL OR HAND SEEDER. SEED WILL BE DISTRIBUTED UNIFORMLY OVER A FRESH PREPARED SEEDBED AND COVERED LIGHTLY OVER THE AREA, LEAVING ABOUT 25 PERCENT OF THE GROUND SURFACE EXPOSED. MULCH WILL BE SPREAD EITHER BY BLOWER–TYPE MULCH EQUIPMENT OR BY HAND AND ANCHORED IMMEDIATELY AFTER IT WAS SPREAD. A DISK HARROW WITH THE DISK SET STRAIGHT OR A SPECIAL PACKER DISK MAY BE USED TO PRESS THE MULCH INTO THE SOIL. THE PER ACRE APPLICATION ARE AS FOLLOWS:

A. SEEDING WITH MULCH: (CONVENTIONAL SEEDING EQUIPMENT ON SLOPES LESS THAN 3:1)

AGRICULTURAL LIMESTONE #15	400 LBS/ACRE
FERTILIZER, 5–10–15	1500 LBS/ACRE
MULCH (STRAW OR HAY)	5000 LBS/ACRE

SEED SPECIES	APPLICATION RATE/ACRE
COMMON BERMUDA, HULLED	10 LBS.
FESCUE	50 LBS.
FESCUE RYE GRASS	50 LBS. 50 LBS.
HAY MULCH FOR TEMPORARY COVER	5000 LBS.

B. TOP DRESSING: APPLY WHEN PLANTS ARE 2 TO 4 INCHES TALL

FERTILIZER (AMMONIUM NITRATE 33.5%) 300 LBS/ACRE

C. SECOND YEAR TREATMENT:

FERTILIZER (0–20–20 OR EQUIVALENT) 800 LBS/ACRE

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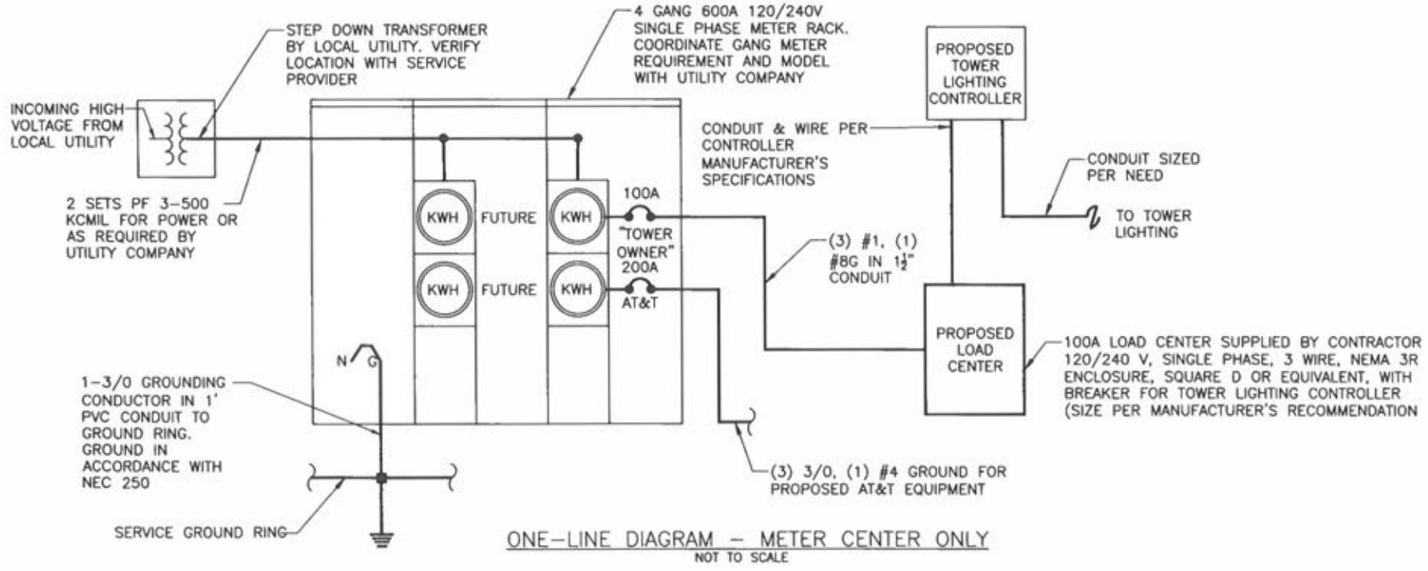
C-9.4

ELECTRICAL INSTALLATION NOTES

1. ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS, NEC AND ALL APPLICABLE LOCAL CODES.
2. CONDUIT ROUTINGS ARE SCHEMATIC. SUBCONTRACTOR SHALL INSTALL CONDUITS SO THAT ACCESS TO EQUIPMENT IS NOT BLOCKED.
3. WIRING, RACEWAY AND SUPPORT METHODS AND MATERIALS SHALL COMPLY WITH THE REQUIREMENTS OF THE NEC AND TELCORDIA
4. ALL CIRCUITS SHALL BE SEGREGATED AND MAINTAIN MINIMUM CABLE SEPARATION AS REQUIRED BY THE NEC AND TELCORDIA.
5. CABLES SHALL NOT BE ROUTED THROUGH LADDER-STYLE CABLE TRAY RUNGS.
6. EACH END OF EVERY POWER, POWER PHASE CONDUCTOR (I.E., HOTS), GROUNDING, AND T1 CONDUCTOR AND CABLE SHALL BE LABELED WITH COLOR-CODED INSULATION OR ELECTRICAL TAPE (3M BRAND, 1/2 INCH PLASTIC ELECTRICAL TAPE WITH UV PROTECTION, OR EQUAL). THE IDENTIFICATION METHOD SHALL CONFORM WITH NEC & OSHA.
7. ALL ELECTRICAL COMPONENTS SHALL BE CLEARLY LABELED WITH ENGRAVED LAMACOID PLASTIC LABELS. ALL EQUIPMENT SHALL BE LABELED WITH THEIR VOLTAGE RATING, PHASE CONFIGURATION, WIRE CONFIGURATION, POWER OR CAPACITY RATING, AND BRANCH CIRCUIT ID NUMBERS (I.E., PANELBOARD AND CIRCUIT ID'S).
8. PANELBOARDS (ID NUMBERS) AND INTERNAL CIRCUIT BREAKERS (CIRCUIT ID NUMBERS) SHALL BE CLEARLY LABELED WITH ENGRAVED LAMACOID PLASTIC LABELS.
9. ALL TIE WRAPS SHALL BE CUT FLUSH WITH APPROVED CUTTING TOOL TO REMOVE SHARP EDGES.
10. POWER, CONTROL, AND EQUIPMENT GROUND WIRING IN TUBING OR CONDUIT SHALL BE SINGLE CONDUCTOR (#14 AWG OR LARGER), 600 V, OIL RESISTANT THHN OR THWN-2, CLASS B STRANDED COPPER CABLE RATED FOR 90°C (WET AND DRY) OPERATION; LISTED OR LABELED FOR THE LOCATION AND RACEWAY SYSTEM USED, UNLESS OTHERWISE SPECIFIED.
11. SUPPLEMENTAL EQUIPMENT GROUND WIRING LOCATED INDOORS SHALL BE SINGLE CONDUCTOR (#6 AWG OR LARGER), 600V, OIL RESISTANT THHN OR THWN-2 GREEN INSULATION, CLASS B STRANDED COPPER CABLE RATED FOR 90°C (WET AND DRY) OPERATION; LISTED OR LABELED FOR THE LOCATION AND RACEWAY SYSTEM USED, UNLESS OTHERWISE SPECIFIED.
12. POWER AND CONTROL WIRING, NOT IN TUBING OR CONDUIT, SHALL BE MULTI-CONDUCTOR, TYPE TC CABLE (#14 AWG OR LARGER), 600 V, OIL RESISTANT THHN OR THWN-2, CLASS B STRANDED COPPER CABLE RATED FOR 90°C (WET AND DRY) OPERATION; WITH OUTER JACKET; LISTED OR LABELED FOR THE LOCATION USED, UNLESS OTHERWISE SPECIFIED.
13. ALL POWER AND POWER GROUNDING CONNECTIONS SHALL BE CRIMP-STYLE, COMPRESSION WIRE LUGS AND WIRENUTS BY THOMAS AND BETTS (OR EQUAL). LUGS AND WIRENUTS SHALL BE RATED FOR OPERATION AT NO LESS THAN 75°C (90°C IF AVAILABLE).
14. RACEWAY AND CABLE TRAY SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE, AND NEC.
15. ELECTRICAL METALLIC TUBING (EMT) OR RIGID NONMETALLIC CONDUIT (I.E., RIGID PVC SCHEDULE 40, OR RIGID PVC SCHEDULE 80 FOR LOCATIONS SUBJECT TO PHYSICAL DAMAGE) SHALL BE USED FOR EXPOSED INDOOR LOCATIONS.
16. ELECTRICAL METALLIC TUBING (EMT), ELECTRICAL NONMETALLIC TUBING (ENT), OR RIGID NONMETALLIC CONDUIT (RIGID PVC, SCHEDULE 40) SHALL BE USED FOR CONCEALED INDOOR LOCATIONS.
17. GALVANIZED STEEL INTERMEDIATE METALLIC CONDUIT (IMC) SHALL BE USED FOR OUTDOOR LOCATIONS ABOVE GRADE.
18. RIGID NONMETALLIC CONDUIT (I.E., RIGID PVC SCHEDULE 40 OR RIGID PVC SCHEDULE 80) SHALL BE USED UNDERGROUND; DIRECT BURIED, IN AREAS OF OCCASIONAL LIGHT VEHICLE TRAFFIC OR ENCASED IN REINFORCED CONCRETE IN AREAS OF HEAVY VEHICLE TRAFFIC.
19. LIQUID-TIGHT FLEXIBLE METALLIC CONDUIT (LIQUID-TITE FLEX) SHALL BE USED INDOORS AND OUTDOORS, WHERE VIBRATION OCCURS OR FLEXIBILITY IS NEEDED.
20. CONDUIT AND TUBING FITTINGS SHALL BE THREADED OR COMPRESSION-TYPE AND APPROVED FOR THE LOCATION USED. SETSCREW FITTINGS ARE NOT ACCEPTABLE.
21. CABINETS, BOXES, AND WIREWAYS SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE, AND NEC.
22. WIREWAYS SHALL BE EPOXY-COATED (GRAY) AND INCLUDE A HINGED COVER, DESIGNED TO SWING OPEN DOWNWARD; SHALL BE PANDUIT TYPE E (OR EQUAL); AND RATED NEMA 1 (OR BETTER) INDOORS, OR NEMA 3R (OR BETTER) OUTDOORS.
23. EQUIPMENT CABINETS, TERMINAL BOXES, JUNCTION BOXES, AND PULL BOXES SHALL BE GALVANIZED OR EPOXY-COATED SHEET STEEL, SHALL MEET OR EXCEED UL 50, AND RATED NEMA 1 (OR BETTER) INDOORS, OR NEMA 3R (OR BETTER) OUTDOORS
24. METAL RECEPTACLE, SWITCH, AND DEVICE BOXES SHALL BE GALVANIZED, EPOXY-COATED, OR NON-CORRODING; SHALL MEET OR EXCEED UL 514A AND NEMA OS 1; AND RATED NEMA 1 (OR BETTER) INDOORS, OR WEATHER PROTECTED (WP OR BETTER) OUTDOORS.
25. NONMETALLIC RECEPTACLE, SWITCH, AND DEVICE BOXES SHALL MEET OR EXCEED NEMA OS 2; AND RATED NEMA 1 (OR BETTER) INDOORS, OR WEATHER PROTECTED (WP OR BETTER) OUTDOORS.
26. THE SUBCONTRACTOR SHALL NOTIFY AND OBTAIN NECESSARY AUTHORIZATION FROM THE CONTRACTOR BEFORE COMMENCING WORK ON THE AC POWER DISTRIBUTION PANELS.
27. THE SUBCONTRACTOR SHALL PROVIDE NECESSARY TAGGING ON THE BREAKERS, CABLES AND DISTRIBUTION PANELS IN ACCORDANCE WITH THE APPLICABLE CODES AND STANDARDS TO SAFEGUARD AGAINST LIFE AND PROPERTY.
28. THE SUBCONTRACTOR SHALL LABEL THE METER BASE PER LOCAL UTILITY REQUIREMENTS.



ONE-LINE DIAGRAM - METER CENTER ONLY
NOT TO SCALE

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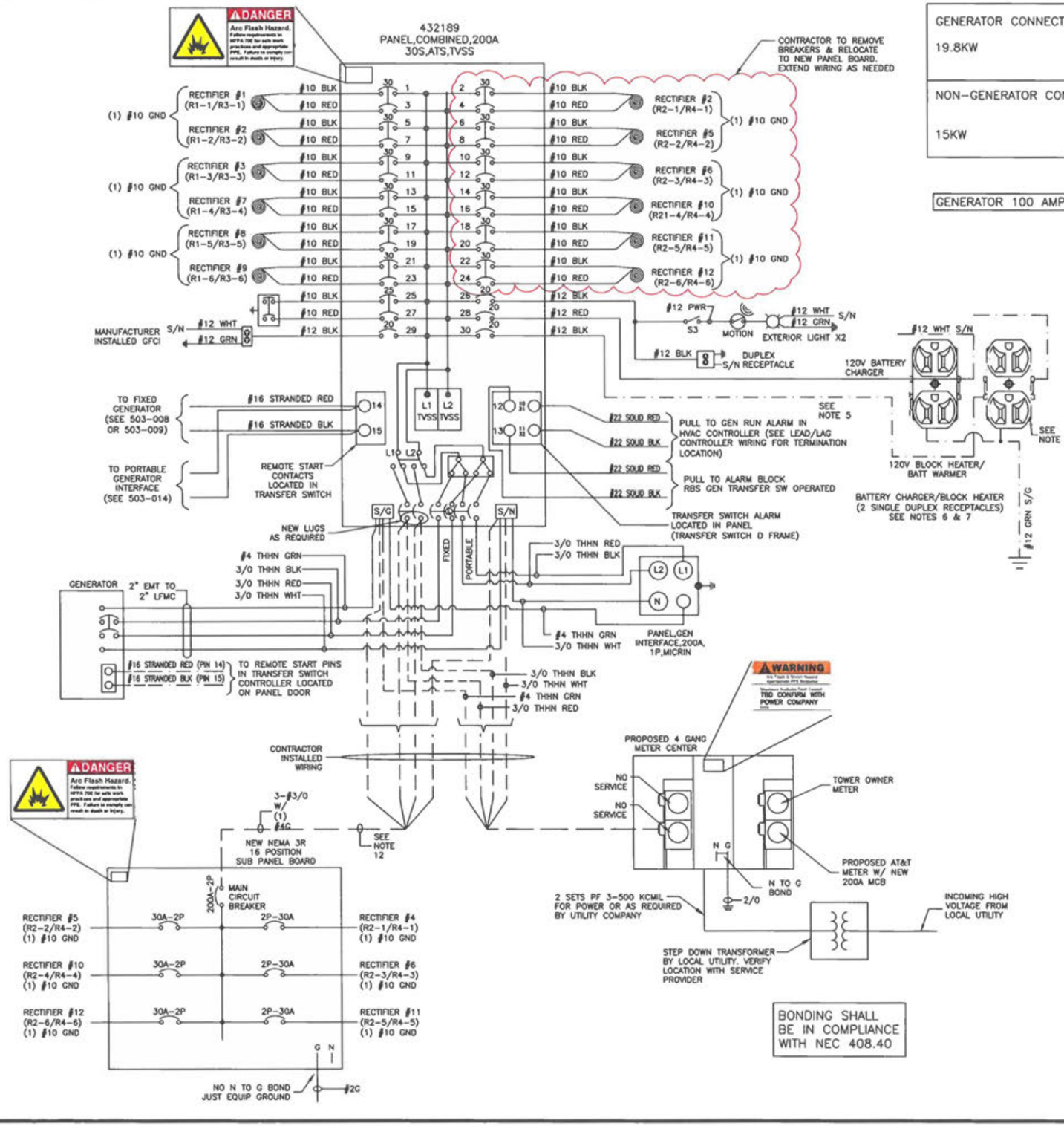
SHEET NAME

ELECTRICAL SPECS, DETAILS & METER CENTER ONE-LINE DIAGRAM

SHEET NUMBER

E-1



BONDING SHALL BE IN COMPLIANCE WITH NEC 408.40

GENERATOR CONNECTED LOAD
19.8KW
NON-GENERATOR CONNECTED LOAD
15KW

GENERATOR 100 AMP BREAKER

KEY NOTES:

1. INSTALL ARC FLASH HAZARD LABEL ON ANY EQUIPMENT WITH AC POTENTIAL NEC 110.16 AND 110.24.
2. INSTALL MAXIMUM AVAILABLE FAULT CURRENT (MAFC) LABEL WITH VOLTAGE, PHASE, AND DATE ON SERVICE DISCONNECT, SECONDARY DISCONNECT, AND OR DISTRIBUTION PANEL UNTIL MAFC IS BELOW OCPD KAIC RATING NEC 110.16 AND 110.24.
3. FIELD VERIFY EXISTING CONDITIONS AND DOCUMENT ELECTRICAL INFORMATION FOR AS-BUILT PURPOSES AND ANY CHANGES MADE PER THIS SCOPE OF WORK.

GENERAL NOTES:

1. CONTRACTOR SHALL CONFIRM THAT THE CURRENT ELECTRICAL SYSTEM IS AS SHOWN IN THIS SET OF ELECTRICAL DRAWINGS. CONTRACTOR SHALL EITHER NOTIFY THE ENGINEER OF THE DISCREPANCY OR MAKE THE NECESSARY CORRECTIONS AS REQUIRED.
2. ALL CONDUCTORS SHALL BE COPPER, 75 DEGREES C RATED, AND CONDUCTOR INSULATION SHALL BE THWN OR THHN
3. ALL TERMINATIONS SHALL BE LISTED AND IDENTIFIED FOR USE WITH 75°C RATED CONDUCTORS OPERATING AT 75°C
4. GROUND FAULT PROTECTION REQUIRED FOR UTILITY RECEPTACLES.
5. SERVICE NEUTRAL SHALL BE GROUNDED AT ONE LOCATION ONLY.
6. WHITE/NEUTRAL, GREEN/GROUND SHALL BE MAINTAINED THROUGHOUT THE SITE ELECTRICAL SYSTEM.
7. EQUIPMENT LOCATED OUTSIDE OR EXPOSED TO MOISTURE SHALL BE IN NEMA 3R RATED.
8. CONTRACTOR SHALL USE SCHEDULE 80 PVC CONDUIT THROUGHOUT, UNLESS OTHERWISE NOTED.
9. ALL NEWLY INSTALLED EQUIPMENT SHAL BE RATED AT 10K AIC MINIMUM. HIGHER RATINGS SHALL BE REQUIRED WHERE AVAILABLE FAULT CURRENT EXCEEDS THIS VALUE. EXACT FAULT CURRENT AVAILABLE SHALL BE COORDINATED WITH LOCAL UTILITY BASED ON EXACT CONDITIONS (XFMR SIZE, PERCENT IMPEDANCE, LENGTH OF CONDUCTORS, ETC, OR AS SHOWN IN THESE DRAWINGS).
10. CONTRACTOR TO VERIFY THAT EXISTING POWER FEED IS AT LEAST 200A, 120/240 VAC.
11. ELECTRICAL CONTRACTOR TO VERIFY ADDITIONAL/PROPOSED LOADING DOES NOT EXCEED SYSTEM CAPACITY. PLEASE NOTIFY SMW WITH ANY DISCREPANCIES.
12. ANY FEEDER TAPS SHALL BE INSTALLED AS REQUIRED TO MEET THE REQUIREMENTS OF NEC SECTION 240.21. NOTE THE SUB PANEL SHALL BE CONNECTED AS SHOWN ON THIS DRAWING TO INCLUDE A MEANS OF DISCONNECT AND OVERCURRENT PROTECTION BY ADDING A TWO POLE MAIN CIRCUIT BREAKER IN A WALL MOUNTED PANEL BOARD WITH ADDITIONAL WIRING AND CONDUIT AS REQUIRED.

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SHEET NAME

ELECTRICAL ONE-LINE DIAGRAM

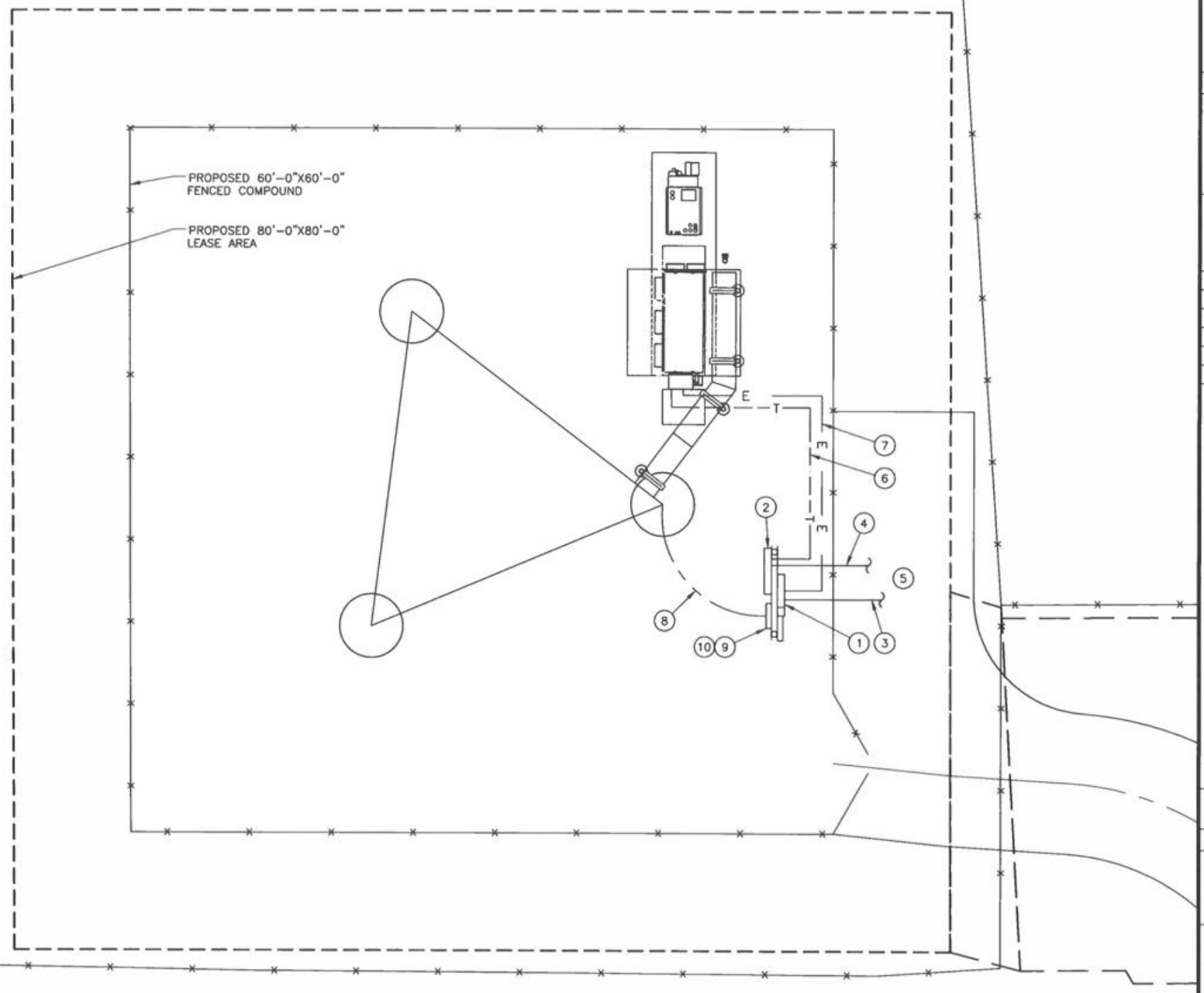
SHEET NUMBER

E-1.1

ELECTRICAL KEY NOTES:

1. PROPOSED 4 GANG METER PANEL. SEE SHEET E-3 FOR MOUNTING DETAILS. SEE SHEET E-1 FOR ELECTRICAL ONE-LINE DIAGRAM ELECTRICAL KEY NOTES
2. PROPOSED 36"x36"x12" TELCO CABINET. SEE E-3 FOR MOUNTING DETAILS
3. PROPOSED (2) 3" PVC CONDUIT FOR POWER SERVICE
4. PROPOSED (1) 4" PVC CONDUIT W/ PULLSTRINGS FOR TELCO SERVICE
5. PROPOSED SERVICE TRANSFORMER TO BE COORDINATE WITH UTILITY PROVIDER FOR FINAL CONNECTION TO EXISTING UTILITIES
6. PROPOSED TRENCH FOR NEW U/G TELCO SERVICES (APPROX 45'±) (1) 4" PVC W/ (3) 1-1/4" INNERDUCTS AND MULE TAPE FROM NEW COMMUNITY UTILITIES RACK TO NEW AT&T EQUIPMENT WUC.
7. PROPOSED TRENCH FOR NEW U/G ELECTRICAL SERVICE (APPROX. 45'±) (1) 2" PVC W/ (3) #3/0 & (1) #4 GROUND FROM NEW COMMUNITY UTILITIES RACK TO NEW AT&T WUC.
8. PROPOSED CONDUIT FOR TOWER LIGHTING, COORDINATE SIZE WITH MANUFACTURER
9. PROPOSED 100A RATED NEMA SR. LOAD CENTER FOR TOWER LIGHTING CONTROLS (TYP)
10. PROPOSED TOWER LIGHTING FLASH CONTROLLER AND PHOTOCELL (TYP)

REFER TO 2/C-4 FOR CONDUIT SIZE, ROUTING & STUB UP LOCATIONS



N

1/E-2 UTILITY SITE PLAN

0' 10' 20' 30'

1" = 10' (11"x17")

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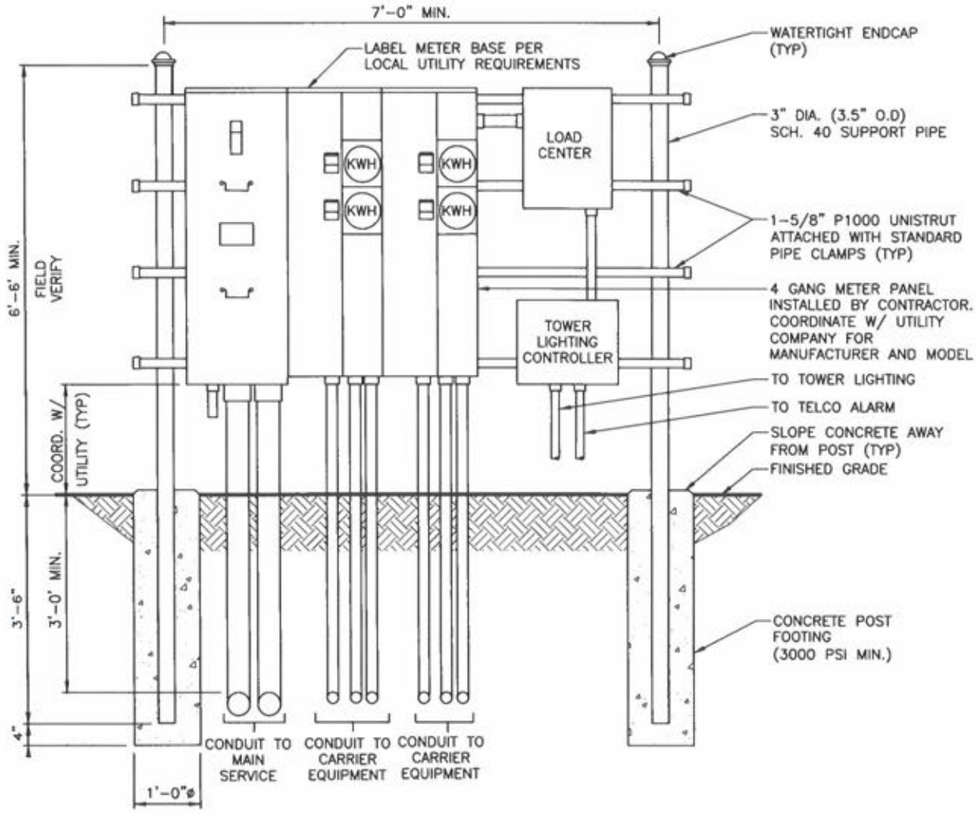
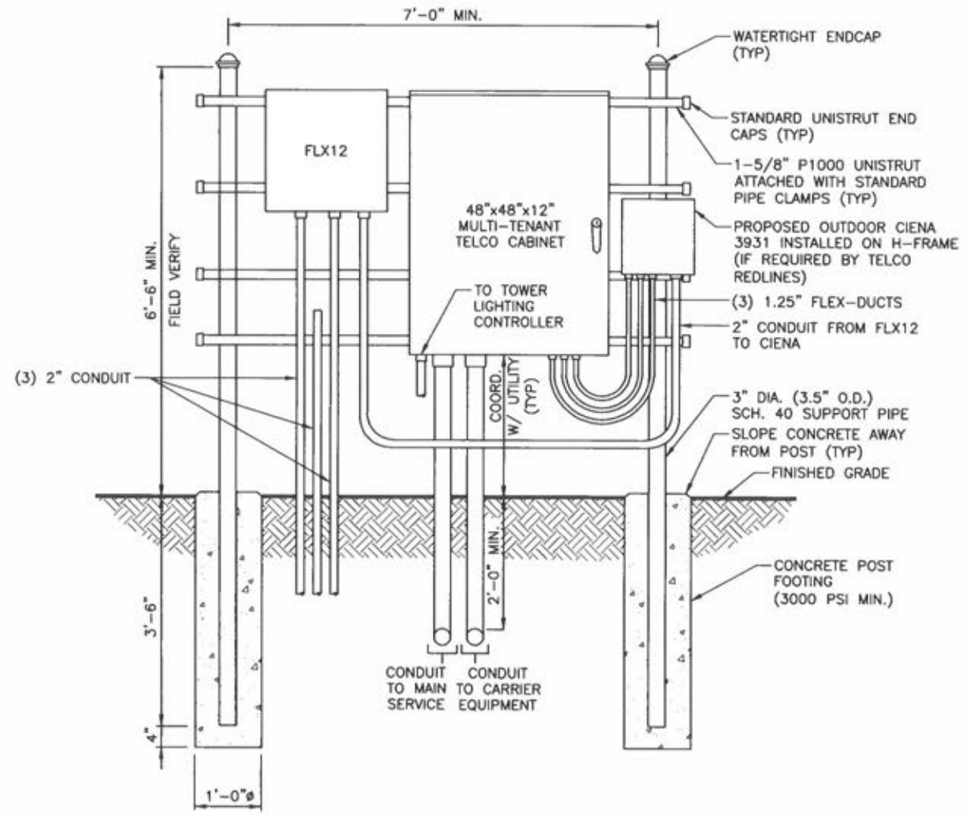
UTILITY SITE PLAN

SHEET NUMBER

E-2



UTILITY FRAME DETAIL (GANG METER)
NOT TO SCALE



UTILITY FRAME DETAIL (TELCO)
NOT TO SCALE

NOTES:

1. CONTRACTOR SHALL FIELD LOCATE THE METER PEDESTAL AS SHOWN ON SITE PLAN. INSTALL THE METER PEDESTAL NEAR THE PERIMETER OF THE FENCED COMPOUND WITH THE METERS FACING AS SHOWN.
2. THE CONTRACTOR SHALL COORDINATE WITH THE LOCAL UTILITY COMPANY FOR THE CONDUIT RUN TO THE MAIN SERVICE CONNECTION OR TRANSFORMER.
3. THE CONTRACTOR SHALL COORDINATE WITH THE LOCAL UTILITY COMPANY FOR GROUND ROD REQUIREMENTS. IF REQUIRED, THE CONTRACTOR SHALL ORDER AND PAY FOR NECESSARY GROUND TESTS.
4. SUPPORT POST AND UNISTRUT SHALL BE GALVANIZED. PIPE CLAMPS AND HARDWARE SHALL BE GALVANIZED OR STAINLESS STEEL.
5. TELCO CABINET SHALL BE 48"x48"x12" HOFFMAN OR EQUIVALENT. PROVIDE 3/4" PLYWOOD BACKBOARD INSIDE THE MULTI-TENANT TELCO CABINET.
6. ADJUSTMENTS TO THE METER PEDESTAL DESIGN MAY BE REQUIRED DEPENDING ON THE EXACT METER PANEL INSTALLED. CONTRACTOR SHALL FIELD COORDINATE ADJUSTMENTS AND INFORM THE ENGINEER IF ANY UNUSUAL CONDITIONS ARE FOUND TO EXIST.

1/E-3 H-FRAME DETAIL
NOT TO SCALE

SMW ENGINEERING GROUP, INC.
TOGETHER PLANNING A BETTER TOMORROW

SMW#: 22-0278

Tillman Infrastructure
152 W. 57TH STREET
NEW YORK, NEW YORK 10019
TEL: 212-706-1677

at&t

#	DATE	DESCRIPTION:
0	09/27/22	CLIENT REVIEW
1	10/24/22	CLIENT REVIEW
2	11/17/22	CLIENT REVIEW
3	11/30/22	CONSTRUCTION

CA#: KY 2865

STATE OF KENTUCKY
JEREMY D. SHARIT
26823
LICENSED
PROFESSIONAL ENGINEER
11/30/22

FA #: 15762578

DESIGNED: JDS
CHECKED: RTB
DRAWN: BMD
LAST REV BY: BMD

SITE NAME
KEVIL (TI-OPP-19611)

SHEET NAME
UTILITY FRAME DETAILS

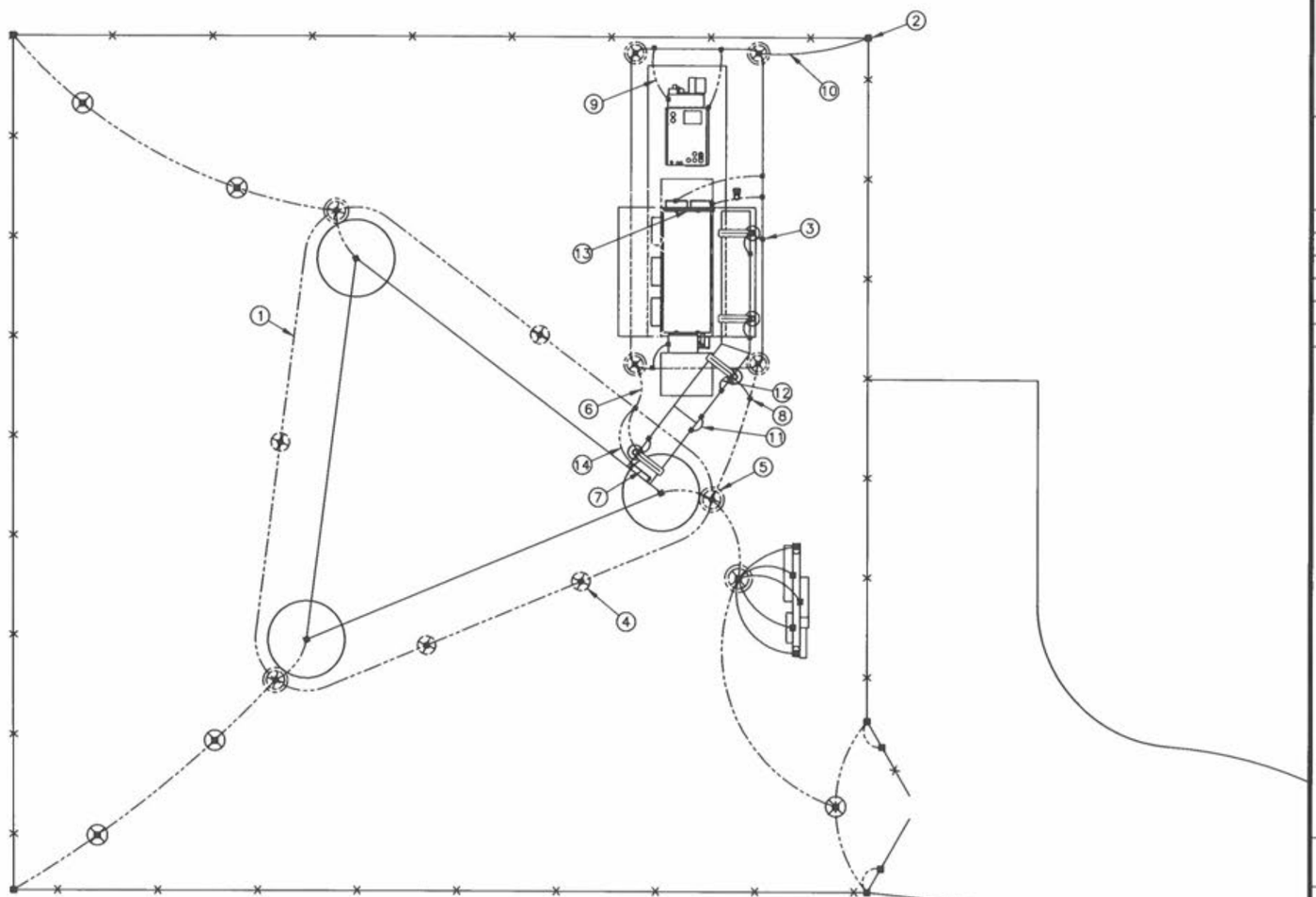
SHEET NUMBER
E-3

BALLOON REFERENCE NOTES:

1. #2 AWG TINNED COPPER WIRE GROUND RING AROUND EQUIPMENT SHELTER @ DEPTH OF 30" MIN
2. EXOTHERMIC WELD (CADWELD) (TYP)
3. ICE BRIDGE GROUND (POST TO POST)
4. COPPER CLAD GROUND ROD (TYP) 5/8"ø x 8' LONG
5. 5/8"ø x 10' GROUND ROD W/INSPECTION WELL
6. #2 AWG COPPER GROUND WIRE TO TOWER GROUND RING (TYPx2)
7. BOTTOM TOWER GROUND BAR
8. #2 AWG GREEN INSULATED JUMPER FROM ICE BRIDGE POST TO GRIPSTRUT
9. #2 AWG TINNED COPPER WIRE IN 1/2" FLEX BOND TO GENERATOR FRAME W/2 HOLE BOLTED LUG AT OPPOSITE CORNERS (TYP X2)
10. #2 AWG GROUND FENCE POST TO SHELTER GROUND RING (TYP)
11. #2 AWG GREEN INSULATED JUMPER AT ICE BRIDGE SPLICES
12. #2 AWG TINNED COPPER WIRE GROUND FROM ICE BRIDGE POST TO CLOSEST GROUND RING (TYP)
13. SHELTER GROUND BAR (TYP X2)
14. #2 SOLID BARE TINNED COPPER GROUND WIRE (TYP X2 PER GROUND BAR)

SYMBOLS LEGEND

GROUND ROD WITH ACCESS	MECHANICAL CONNECTION
GROUND ROD	GROUND BAR
EXOTHERMIC CONNECTION	GROUND WIRE



N

1/G-1 UTILITY SITE PLAN

0' 10' 20' 30'

1" = 10' (11"x17")

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FA #: 15762578

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SITE NAME

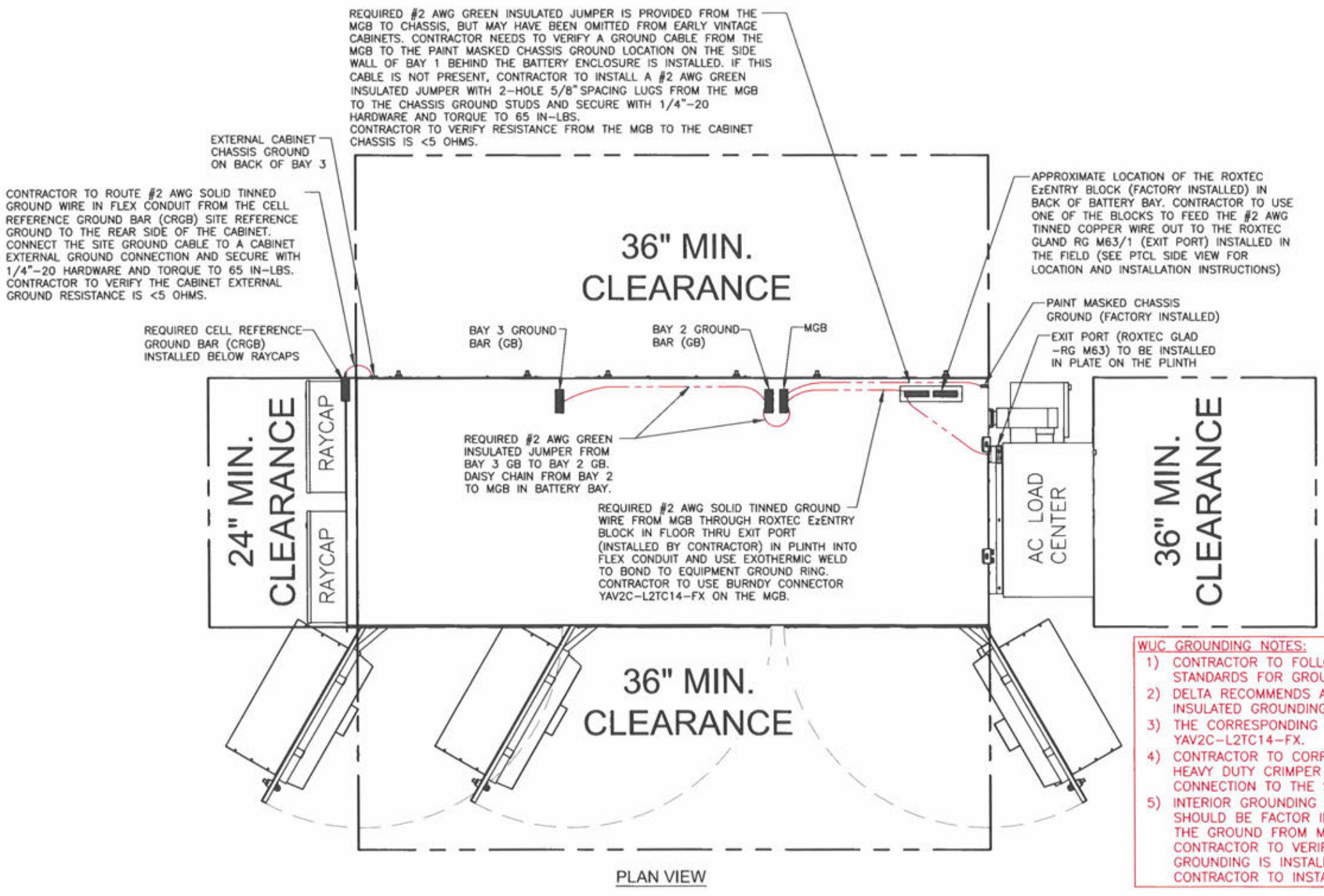
KEVIL (TI-OPP-19611)

SHEET NAME

GROUNDING SITE PLAN

SHEET NUMBER

G-1



PLAN VIEW

WUC GROUNDING NOTES:

1) CONTRACTOR TO FOLLOW COMPANY AND LOCAL STANDARDS FOR GROUNDING PRACTICES.
2) DELTA RECOMMENDS A #2 AWG MINIMUM INSULATED GROUNDING CONDUCTOR.
3) THE CORRESPONDING LUG FROM BURNDY IS YAV2C-L2TC14-FX.
4) CONTRACTOR TO CORRECT HYDRAULIC RATED HEAVY DUTY CRIMPER TO CONNECT BURNDY CONNECTION TO THE SOLID GROUND WIRE.
5) INTERIOR GROUNDING SHOWN INSIDE THE WUC SHOULD BE FACTOR INSTALLED, EXCEPT FOR THE GROUND FROM MGB TO GROUND RING. CONTRACTOR TO VERIFY ALL REQUIRED INTERIOR GROUNDING IS INSTALLED. IF MISSING CONTRACTOR TO INSTALL REQUIRED GROUNDING.

1 / G-1.1 GROUNDING FOR WUC - PLAN VIEW
SCALE: NOT TO SCALE

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SITE NAME
KEVIL (TI-OPP-19611)

SHEET NAME
EQUIPMENT GROUNDING PLAN

SHEET NUMBER
G-1.1

GROUNDING NOTES:

1. GROUNDING SHALL COMPLY WITH ARTICLE 250 OF THE NATIONAL ELECTRICAL CODE.
2. ALL GROUNDING DEVICES SHALL BE U.L. APPROVED OR LISTED FOR THEIR INTENDED USE.
3. ALL WIRES SHALL BE AWG THHN/THWN COPPER UNLESS NOTED OTHERWISE.
4. GROUNDING CONNECTIONS TO GROUND RODS, GROUND RING WIRE, TOWER BASE AND FENCE POSTS SHALL BE EXOTHERMIC ("CADWELDS") UNLESS NOTED OTHERWISE. CLEAN SURFACES TO SHINY METAL. WHERE GROUND WIRES ARE CADWELDED TO GALVANIZED SURFACES, SPRAY CADWELD WITH GALVANIZING PAINT.
5. GROUNDING CONNECTIONS TO GROUND BARS ARE TO BE TWO-HOLE BRASS MECHANICAL CONNECTORS WITH STAINLESS STEEL HARDWARE (INCLUDING SCREW SET) CLEAN GROUND BAR TO SHINY METAL. AFTER MECHANICAL CONNECTION, TREAT WITH PROTECTIVE ANTIOXIDANT COATING.
6. GROUND COAXIAL CABLE SHIELDS AT BOTH ENDS WITH MANUFACTURER'S GROUNDING KITS.
7. ROUTE GROUNDING CONDUCTORS THE SHORTEST AND STRAIGHTEST PATH POSSIBLE. BEND GROUNDING LEADS WITH A MINIMUM 12" RADIUS.
8. INSTALL #2 AWG GREEN-INSULATED STRANDED WIRE FOR ABOVE GRADE GROUNDING AND #2 BARE TINNED COPPER WIRE FOR BELOW GRADE GROUNDING UNLESS OTHERWISE NOTED.
9. REFER TO GROUNDING PLAN FOR GROUND BAR LOCATIONS. GROUNDING CONNECTIONS SHALL BE EXOTHERMIC TYPE ("CADWELDS") TO ANTENNA MOUNTS AND GROUND RING. REMAINING GROUNDING CONNECTIONS SHALL BE COMPRESSION FITTINGS. CONNECTIONS TO GROUND BARS SHALL BE MADE WITH TWO-HOLE LUGS.
10. THE GROUND ELECTRODE SYSTEM SHALL CONSIST OF DRIVEN GROUND RODS POSITION ACCORDING TO GROUNDING PLAN. THE GROUND RODS SHALL BE 5/8"X10'-0" COPPER CLAD STEEL INTERCONNECTED WITH #2 BARE TINNED COPPER WIRE BURIED 36" BELOW GRADE. BURY GROUND RODS A MAXIMUM OF 15' APART, AND A MINIMUM OF 8' APART.
11. IF ROCK IS ENCOUNTERED GROUND RODS SHALL BE PLACED AT AN OBLIQUE ANGLE NOT TO EXCEED 45'.
12. EXOTHERMIC WELDS SHALL BE MADE IN ACCORDANCE WITH ERICO PRODUCTS BULLETIN A-AT.
13. CONSTRUCTION OF GROUND RING AND CONNECTIONS TO EXISTING GROUND RING SYSTEM SHALL BE DOCUMENTED WITH PHOTOGRAPHS PRIOR TO BACKFILLING SITE. PROVIDE PHOTOS TO THE VERIZON WIRELESS CONSTRUCTION MANAGER.
14. ALL GROUND LEADS EXCEPT THOSE TO THE EQUIPMENT ARE TO BE #2 BARE TINNED COPPER WIRE. ALL EXTERIOR GROUND BARS TINNED COPPER.
15. PRIOR TO INSTALLING LUGS ON GROUND WIRES, APPLY THOMAS & BETTS KOPR-SHIELD (TM OF JET LUBE INC.). PRIOR TO BOLTING GROUND WIRE LUGS TO GROUND BARS, APPLY KOPR-SHIELD OR EQUAL.
16. ENGAGE AN INDEPENDENT ELECTRICAL TESTING FIRM TO TEST AND VERIFY THAT IMPEDANCE DOES NOT EXCEED FIVE OHMS TO GROUND BY MEANS OF "FALL OF POTENTIAL TEST". TEST SHALL BE WITNESSED BY A AT&T REPRESENTATIVE, AND RECORDED ON THE "GROUND RESISTANCE TEST" FORM.
17. WHERE BARE COPPER GROUND WIRES ARE ROUTED FROM ANY CONNECTION ABOVE GRADE TO GROUND RING, INSTALL WIRE IN 3/4" PVC SLEEVE, FROM 1' BELOW GRADE AND SEAL TOP WITH SILICONE MATERIAL.
18. PREPARE ALL BONDING SURFACES FOR GROUNDING CONNECTIONS BY REMOVING ALL PAINT AND CORROSION DOWN TO SHINY METAL. FOLLOWING CONNECTION, APPLY APPROPRIATE ANTI-OXIDIZATION PAINT.
19. ANY SITE WHERE THE EQUIPMENT (BTS, CABLE BRIDGE, PPC, GENERATOR, ETC.) IS LOCATED WITHIN 6 FEET OF METAL FENCING, THE GROUND RING SHALL BE BONDED TO THE NEAREST FENCE POST USING (3) RUNS OF #2 BARE TINNED COPPER WIRE.

CABLE COLOR CODING NOTES:

1. SECTOR ORIENTATION/AZIMUTH WILL VARY FROM REGION AND IS SITE SPECIFIC. REFER TO RF REPORT FOR EACH SITE TO DETERMINE THE ANTENNA LOCATION AND FUNCTION OF EACH TOWER SECTOR FACE.
2. THE ANTENNA SYSTEM CABLES SHALL BE LABELED WITH VINYL TAPE EXCEPT IN LOCATIONS WHERE ENVIRONMENTAL CONDITIONS CAUSE PHYSICAL DAMAGE, THEN PHYSICAL TAGS ARE PREFERRED.
3. THE STANDARD IS BASED ON EIGHT COLORED TAPES – RED, BLUE, GREEN, YELLOW, ORANGE, BROWN, WHITE & VIOLET. THESE TAPES MUST BE 3/4" WIDE & UV RESISTANT SUCH AS SCOTCH 35 VINYL ELECTRICAL COLOR CODING TAPE AND SHOULD BE READILY AVAILABLE TO THE ELECTRICIAN OR SUBCONTRACTOR ON SITE.
4. USING COLOR BANDS ON THE CABLES, MARK ALL RF CABLES BY SECTOR AND NUMBER AS SHOWN ON "CABLE MARKING COLOR CONVENTION TABLE".
5. WHEN AN EXISTING COAXIAL LINE THAT IS INTENDED TO BE A SHARED LINE BETWEEN GSM/3G AND IS-136 TDMA IS ENCOUNTERED, THE SUBCONTRACTOR SHALL REMOVE THE EXISTING COLOR CODING SCHEME AND REPLACE IT WITH THE COLOR CODING AND TAGGING STANDARD THAT IS OUTLINED IN THE CURRENT VERSION OF ND-00027. IN THE ABSENCE OF AN EXISTING COLOR CODING TAGGING SCHEME, OR WHEN INSTALLING PROPOSED COAXIAL CABLES, THIS GUIDELINE SHALL BE IMPLEMENTED AT THAT SITE REGARDLESS OF TECHNOLOGY.
6. ALL COLOR CODE TAPE SHALL BE 3M-35 AND SHALL BE A MINIMUM OR (3) WRAPS OF TAPE AND SHALL BE NEATLY TRIMMED AND SMOOTHED OUT SO AS TO AVOID UNRAVELING.
7. ALL COLOR BANDS INSTALLED AT THE TOP OF TOWER SHALL BE A MINIMUM OF 3" WIDE AND SHALL HAVE A MINIMUM OF 3/4" OF SPACE IN BETWEEN EACH COLOR.
8. ALL COLOR CODES SHALL BE INSTALLED AS TO ALIGN NEATLY WITH ONE ANOTHER FROM SIDE TO SIDE.
9. IF EXISTING CABLES AT THE SITE ALREADY HAVE A COLOR CODING SCHEME AND THEY ARE NOT INTENDED TO BE REUSED OR SHARED WITH THE GSM TECHNOLOGY, THE EXISTING COLOR CODING SCHEME SHALL REMAIN UNTOUCHED.

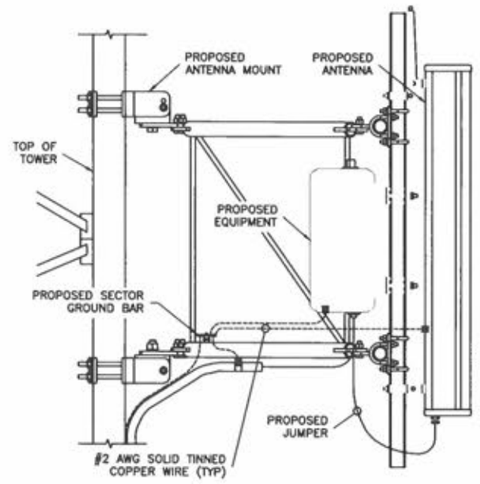
CABLE MARKING TAGS:

WHEN USING THE ALTERNATIVE LABELING METHOD, EACH RF CABLE SHALL BE IDENTIFIED WITH A METAL ID TAG MADE OF STAINLESS STEEL OR BRASS. THE TAG SHALL BE 1-1/2" IN DIAMETER WITH 1/4" STAMPED LETTERS AND NUMBERS INDICATION THE SECTOR, ANTENNA POSITION AND CABLE NUMBER. ID MARKING LOCATIONS SHOULD BE AS PER "CABLE MARKING LOCATIONS TABLE". THE TAG SHOULD BE ATTACHED WITH CORROSION PROOF WIRE AROUND THE CABLE AT THE SAME LOCATION AS DEFINED ABOVE. THE TAG SHOULD BE LABELED AS SHOWN ON THE "GSM AND UMTS LINE TAG" DETAIL.

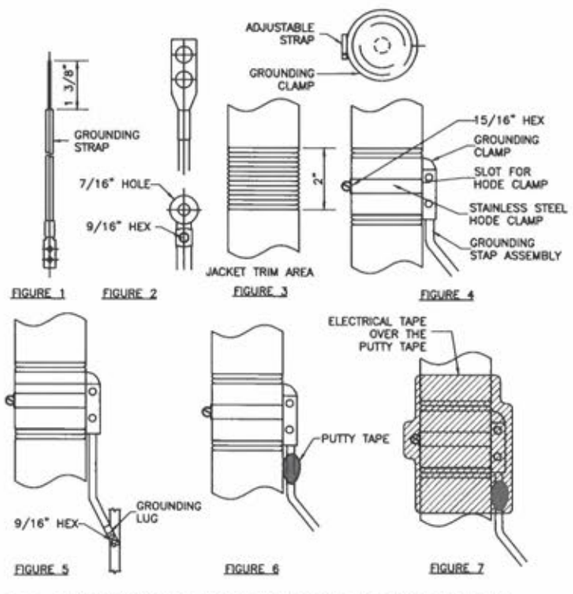
CABLE MARKING LOCATIONS TABLE

NO.	LOCATIONS
1	EACH JUMPER SHALL BE COLOR CODED WITH (1) SET OF 3" WIDE BANDS.
2	EACH MAIN COAX SHALL BE COLOR CODED WITH (1) SET OF 3" WIDE BANDS AT THE TOP JUMPER CONNECTION AND WITH (1) SET OF 3/4" WIDE COLOR BANDS PRIOR TO ENTERING THE BTS OR SHELTER.
3	CABLE ENTRY PORT ON THE INTERIOR OF SHELTER.
4	ALL BOTTOM JUMPERS SHALL BE COLOR CODED WITH (1) SET OF 3/4" WIDE BANDS ON EACH END OF THE BOTTOM JUMPER.
5	ALL BOTTOM JUMPERS SHALL BE COLOR CODED WITH (1) SET OF 3/4" WIDE BANDS ON EACH END OF THE BOTTOM JUMPER.

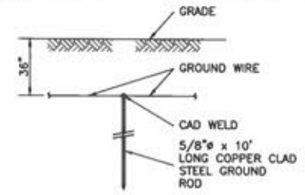
1 CADWELD GROUNDING CONNECTION DETAILS
SCALE: N.T.S.



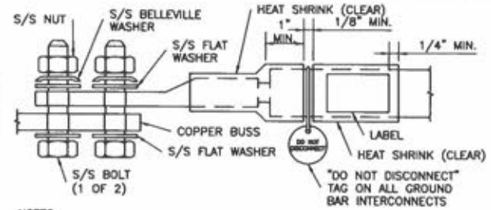
2 ANTENNA & CABLE GROUNDING
SCALE: N.T.S.



5 GROUNDING STRAP WEATHERPROOFING DETAIL
SCALE: N.T.S.

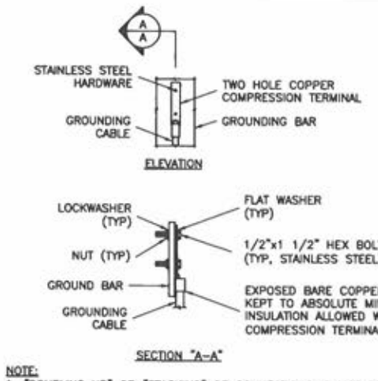


3 GROUNDING ROD DETAIL
SCALE: N.T.S.



NOTES:
1. ALL HARDWARE 18-8 STAINLESS STEEL INCLUDING BELLEVILLES. COAT ALL SURFACES WITH ANTI-OXIDATION COMPOUND BEFORE MATING.
2. FOR GROUND BOND TO STEEL ONLY: INSERT A DRAGON TOOTH WASHER BETWEEN LUG AND STEEL, COAT ALL SURFACES WITH ANTI-OXIDATION COMPOUND.
3. COAT ALL BARRELS WITH ANTI-OXIDATION COMPOUND BEFORE CRIMPING.

4 GENERAL LUG DETAIL
SCALE: N.T.S.



NOTE:
1. "DOUBLING UP" OR "STACKING" OF CONNECTIONS IS NOT PERMITTED.
2. OXIDE INHIBITING COMPOUND TO BE USED AT ALL LOCATIONS.

6 TYPICAL GROUND BAR CONNECTION DETAIL
SCALE: N.T.S.

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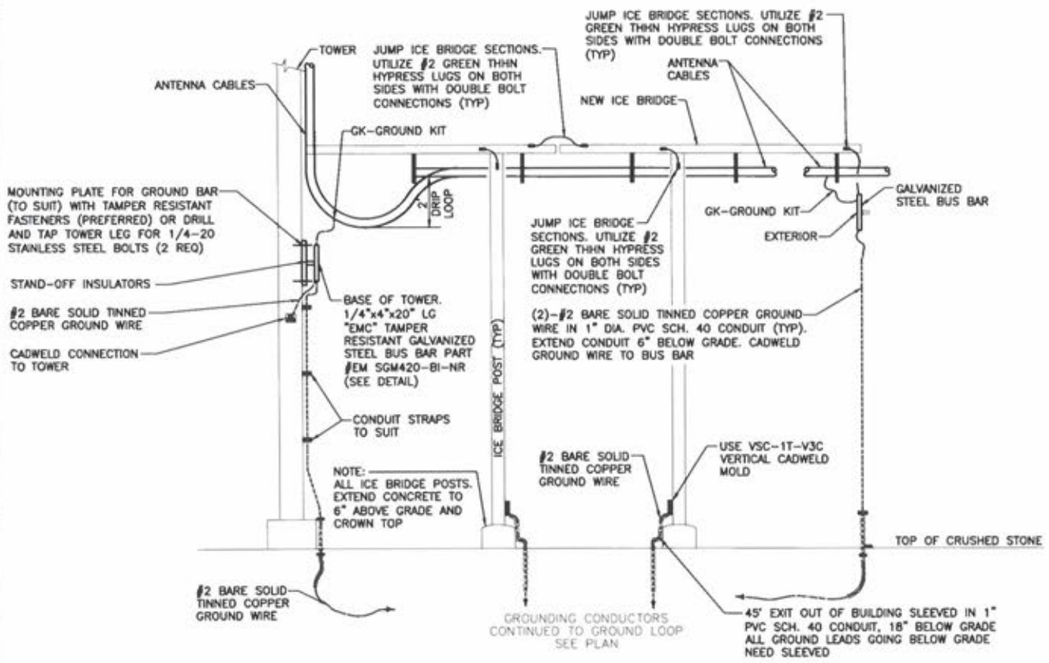
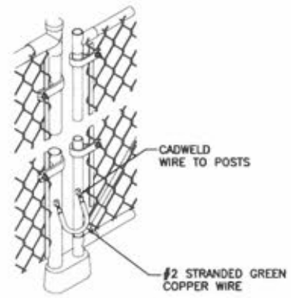
SHEET NAME
GROUNDING DETAILS

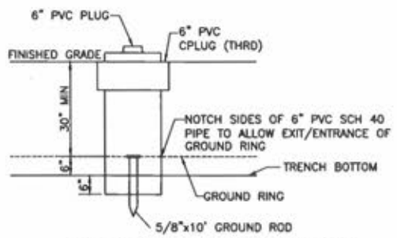
SHEET NUMBER
G-2



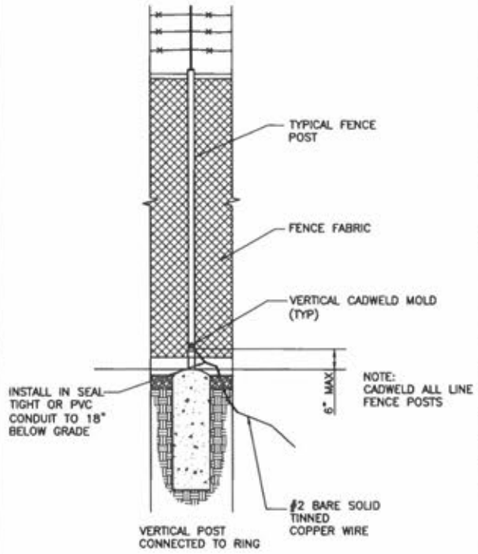
1 COAXIAL GROUNDING AT ICE BRIDGE
SCALE: N.T.S.



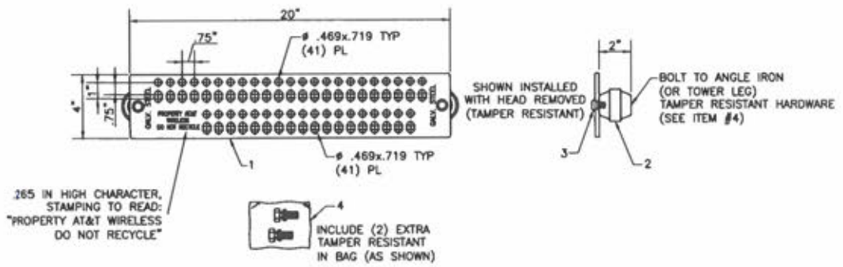
4 GATE GROUNDING DETAIL
SCALE: N.T.S.



3 INSPECTION WELL DETAIL
SCALE: N.T.S.



4 TYPICAL FENCE POST GROUNDING
SCALE: N.T.S.



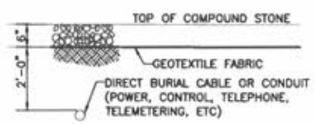
ITEM	PART NO.	DESCRIPTION	REQ
4	02-009-0663-000 (SUB ASSEMBLY)	3/8-16x5/8" TORQUE SHEAR HEAD BOLT IN A STANDARD 4x6 BAG INCLUDES: (2) 3/8-16x5/8" TORQUE SHEAR HEAD BOLT (NON-REMOVABLE) WITH VIBRSEAL; STAINLESS STEEL (303) P/N 02-009-0603-000 (1) STANDARD 4"x6" BAG (P/N 03-009-0209-00)	1
3	02-009-0633-000	3/8-16x5/8" TORQUE SHEAR HEAD BOLT (NON-REMOVABLE) WITH VIBRSEAL; STAINLESS STEEL (303)	2
2	03-009-0118-000	2"x2" INSULATOR; FIBERGLASS	2
1	02-009-0672-000	20" GROUND BAR; STEEL; GALVANIZED	1

ELECTRIC MOTION CO., INC.
110 GROPPO DR./ BOX 626
WINSTED, CT 06098
PART #EM SGM420-BI-NR

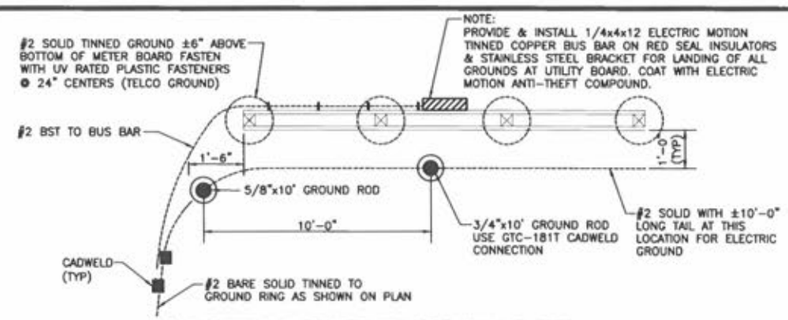
5 TOWER LEG BUS BAR DETAIL
SCALE: N.T.S.

INSTALLATION
1. THE TAPE SHALL BE LAID DIRECTLY ABOVE THE CABLE OR CONDUIT UNDER RIGID TYPE AND OIL MAT PAVEMENTS, AND DIRECTLY ON TOP OF THE COMPACTED EARTH SUBGRADE IMMEDIATELY BEFORE RESTORING THE PAVEMENT.
2. IN OPEN AREAS, THE TAPE SHALL BE LAID DURING THE BACKFILLING OPERATION ON SMOOTH, COMPACTED BACKFILL AT A DISTANCE OF 8" BELOW THE SURFACE OF THE AREA.
3. THE ENDS OF THE TAPE SHALL BE LAPPED APPROXIMATELY SIX (6) INCHES.
4. TAPE SHALL BE THE COLOR AS INDICATED AND HAVE THE FOLLOWING MARKINGS:

RED	CAUTION BURIED ELECTRIC LINE BELOW	CAUTION	CAUTION
ORANGE	CAUTION BURIED TELEPHONE LINE BELOW	CAUTION	CAUTION



6 STANDARD MARKER TAPE DETAIL
SCALE: N.T.S.



7 METER BOARD UTILITY GROUNDING DETAIL
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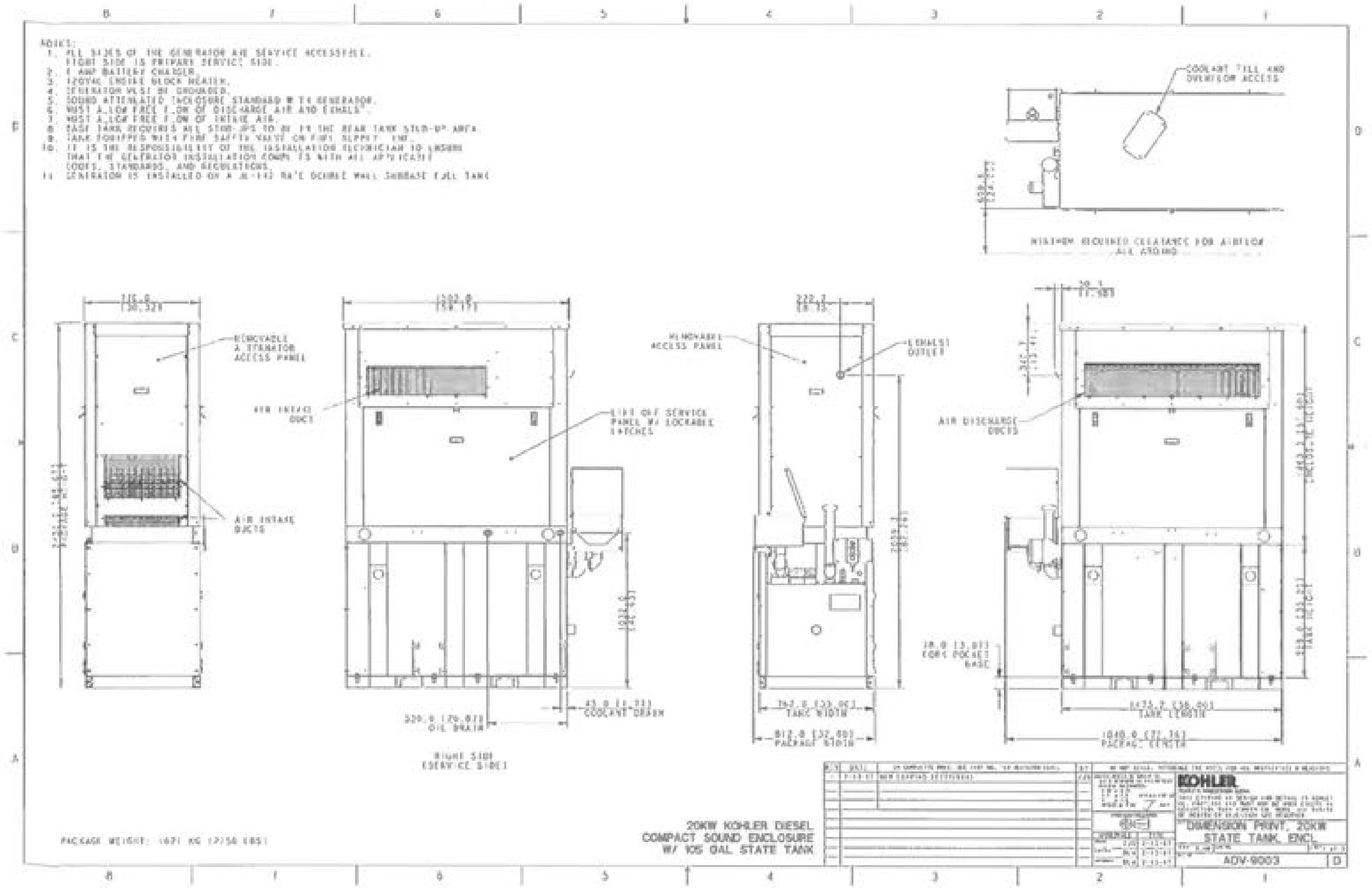
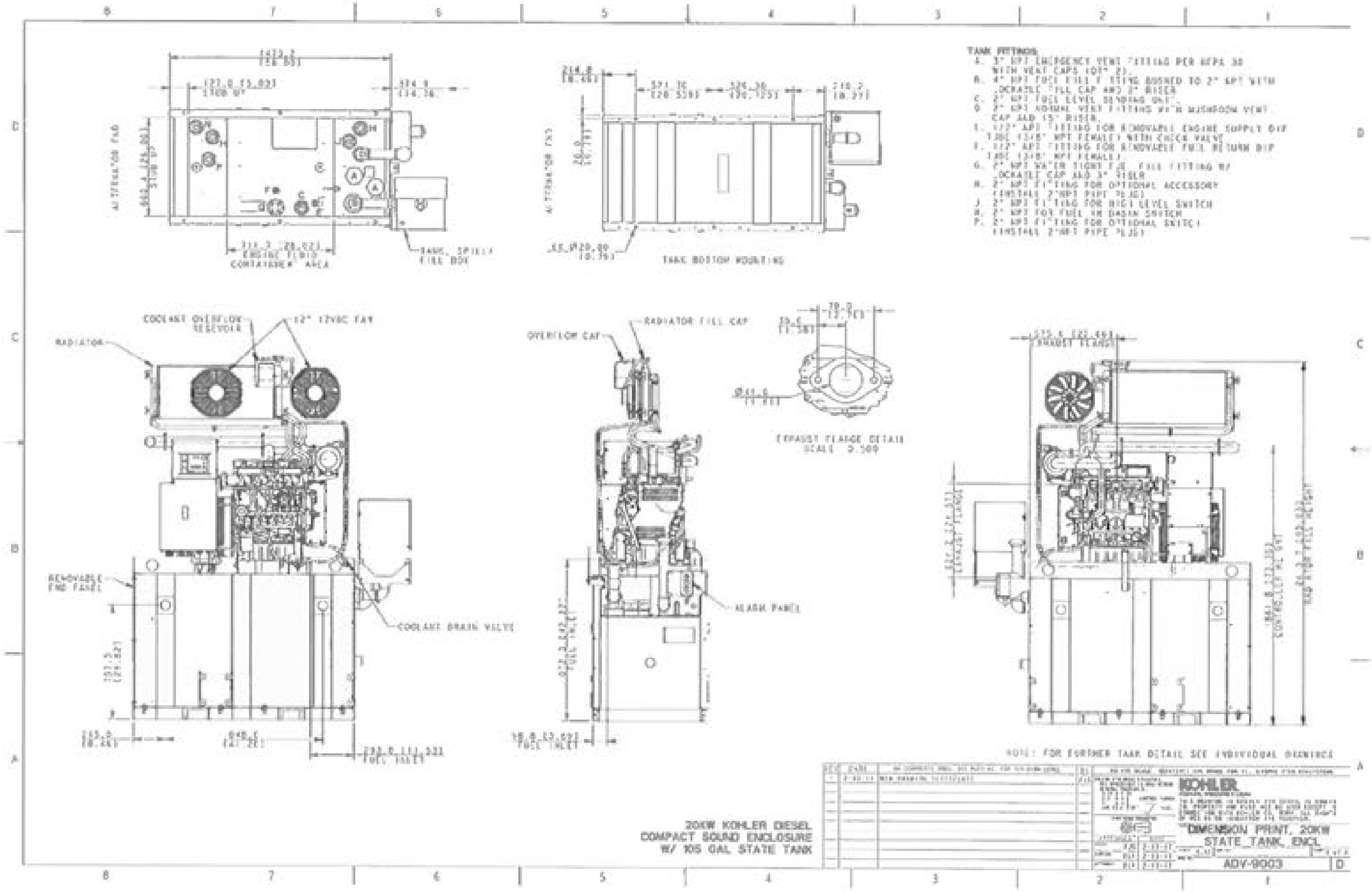
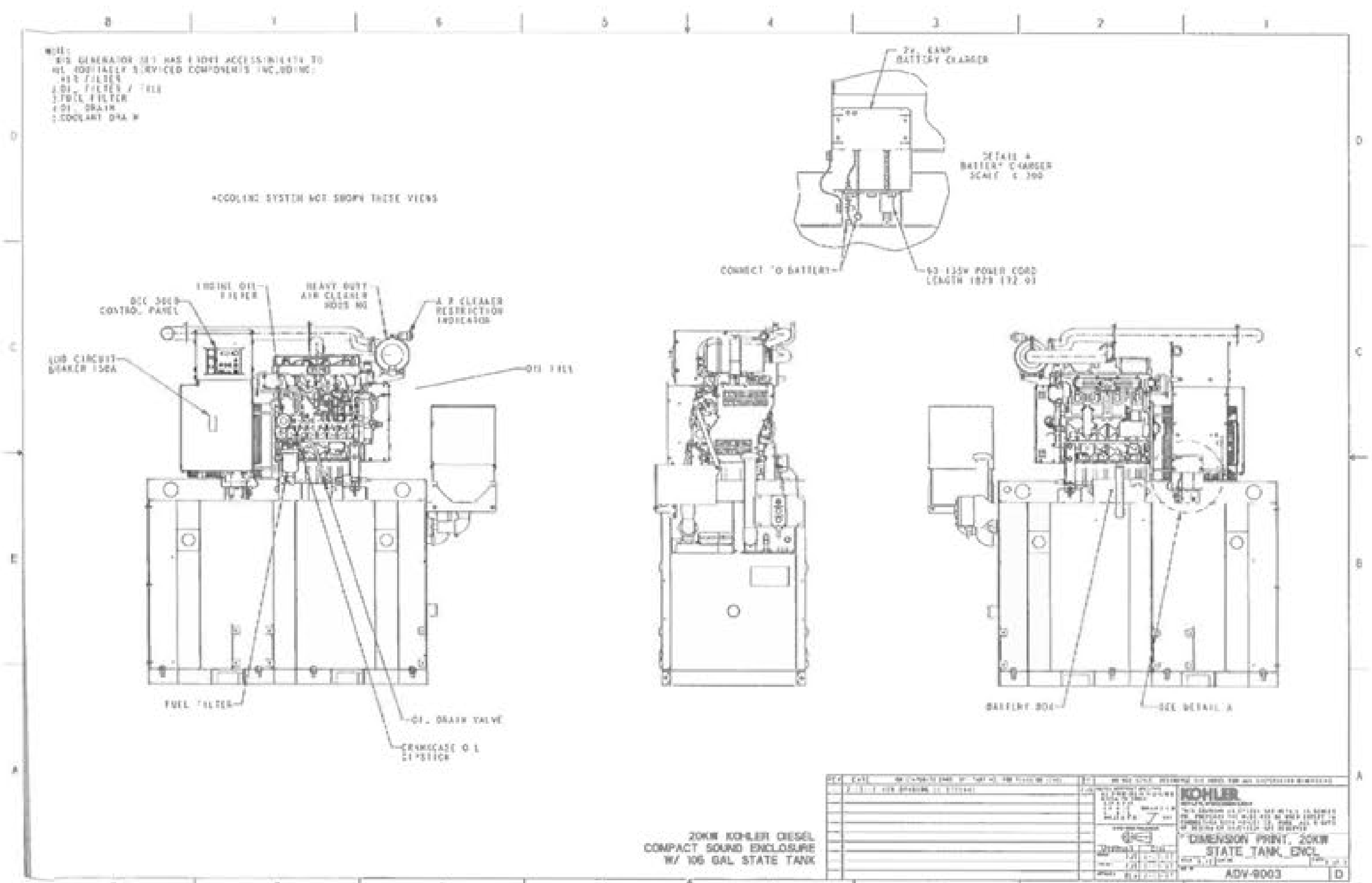

NOTES:
1. ALL SIDES OF THE GENERATOR ARE SERVICE ACCESSIBLE. RIGHT SIDE IS PRIMARY SERVICE SIDE.
2. 6 AMP BATTERY CHARGER.
3. 120VAC ENGINE BLOCK HEATER.
4. GENERATOR MUST BE GROUNDED.
5. SOUND ATTENUATED ENCLOSURE STANDARD WITH GENERATOR.
6. MUST ALLOW FREE FLOW OF DISCHARGE AIR AND EXHAUST.
7. MUST ALLOW FREE FLOW OF INTAKE AIR.
8. BASE TANK REQUIRES ALL STUB-UPS TO BE IN THE REAR TANK STUB-UP AREA.
9. TANK EQUIPPED WITH FIRE SAFETY VALVE ON FUEL SUPPLY LINE.
10. IT IS THE RESPONSIBILITY OF THE INSTALLATION TECHNICIAN TO ENSURE THAT THE GENERATOR INSTALLATION COMPLIES WITH ALL APPLICABLE CODES, STANDARDS, AND REGULATIONS.
11. GENERATOR IS INSTALLED ON A UL-142 RATED DOUBLE WALL SUBBASE FUEL TANK
COOLANT FILL AND OVERFLOW ACCESS
MINIMUM REQUIRED CLEARANCE FOR AIRFLOW ALL AROUND
REMOVABLE ALTERNATOR ACCESS PANEL
AIR INTAKE DUCT
AIR INTAKE DUCTS
LIFT OFF SERVICE PANEL W/ LOCKABLE LATCHES
REMOVABLE ACCESS PANEL
EXHAUST OUTLET
AIR DISCHARGE DUCTS
OIL DRAIN
COOLANT DRAIN
TANK WIDTH
PACKAGE WIDTH
FORK POCKET BASE
TANK LENGTH
PACKAGE LENGTH
RIGHT SIDE (SERVICE SIDE)
PACKAGE WEIGHT
20KW KOHLER DIESEL COMPACT SOUND ENCLOSURE W/ 105 GAL STATE TANK
KOHLER
DIMENSION PRINT, 20KW STATE_TANK_ENCL
ADV-9003


TANK FITTINGS
A. 3" NPT EMERGENCY VENT FITTING PER NFPA 30 WITH VENT CAPS (QTY 2).
B. 4" NPT FUEL FILL FITTING BUSHED TO 2" NPT WITH LOCKABLE FILL CAP AND 2" RISER
C. 2" NPT FUEL LEVEL SENDING UNIT.
D. 2" NPT NORMAL VENT FITTING WITH MUSHROOM VENT CAP AND 15" RISER.
E. 1/2" NPT FITTING FOR REMOVABLE ENGINE SUPPLY DIP TUBE (3/8" NPT FEMALE) WITH CHECK VALVE
F. 1/2" NPT FITTING FOR REMOVABLE FUEL RETURN DIP TUBE (3/8" NPT FEMALE)
G. 2" NPT WATER TIGHT FUEL FILL FITTING W/ LOCKABLE CAP AND 3" RISER
H. 2" NPT FITTING FOR OPTIONAL ACCESSORY (INSTALL 2" NPT PIPE PLUG)
J. 2" NPT FITTING FOR HIGH LEVEL SWITCH
K. 2" NPT FOR FUEL IN BASIN SWITCH
P. 2" NPT FITTING FOR OPTIONAL SWITCH (INSTALL 2" NPT PIPE PLUG)
ENGINE FLUID CONTAINMENT AREA
TANK, SPILL FILL BOX
TANK BOTTOM MOUNTING
COOLANT OVERFLOW RESERVOIR
12" 12VDC FAN
RADIATOR
OVERFLOW CAP
RADIATOR FILL CAP
EXHAUST FLANGE DETAIL SCALE 0.500
EXHAUST FLANGE
REMOVABLE END PANEL
COOLANT DRAIN VALVE
ALARM PANEL
FUEL INLET
FUEL INLET
NOTE: FOR FURTHER TANK DETAIL SEE INDIVIDUAL DRAWINGS
20KW KOHLER DIESEL COMPACT SOUND ENCLOSURE W/ 105 GAL STATE TANK
KOHLER
DIMENSION PRINT, 20KW STATE_TANK_ENCL
ADV-9003


*COOLING SYSTEM NOT SHOWN THESE VIEWS
2A, 6AMP BATTERY CHARGER
DETAIL A BATTERY CHARGER SCALE 0.300
CONNECT TO BATTERY
ENGINE OIL FILTER
HEAVY DUTY AIR CLEANER
AIR CLEANER RESTRICTION INDICATOR
DEC 3000 CONTROL PANEL
LINE CIRCUIT BREAKER 150A
OIL FILL
FUEL FILTER
OIL DRAIN VALVE
CRANKCASE OIL DIPSTICK
BATTERY BOX
SEE DETAIL A
20KW KOHLER DIESEL COMPACT SOUND ENCLOSURE W/ 105 GAL STATE TANK
KOHLER
DIMENSION PRINT, 20KW STATE_TANK_ENCL
ADV-9003

Section 1 - RFDS GENERAL INFORMATION

RFDS NAME:	KYL03182	DATE:	05/03/2022	RF DESIGN ENG:	Sherri Lewis
ISSUE:		Approved? (Y/N):	Yes	RF DESIGN PHONE:	8126472281
REVISION:		RF MANAGER:	Byron Horn	RF DESIGN EMAIL:	SL1906@ATT.COM
INITIATIVE /PROJECT:	LTE: Add (6) MMH4-65D-R5 12-port antennas, (2) per sector. Add (3) 850/700MHz 4449, (3) AWS/PCS 8843 DB, (3) 700MHz B14 4478, (3) 4415 WCS. & (3) AWS 4426. Add (2) 24-pair fiber lines. Add (2) DC9 & (6) power lines. Final baseband configuration is (1) 6648. At least 6' horizontal separation between 700 MHz DIE and 700 MHz B/C antennas within the same sector/face and 3' horizontal separation between 700 B14 FNET. For antennas with no working ports, add DF-CAPKIT to open ports and add DUST CAP to RET port. For antennas with working ports, add T-2-DM - 2 Watt load to open ports				

RF PERF ENG:		RFDS PROGRAM TYPE:	2023 New Site
RF PERF PHONE:		RFDS TECHNOLOGY:	Expansion
RF PERF EMAIL:		STATE/STATUS:	Preliminary/Submitted for Approval
ADDITIONAL WORKFLOW NOTIFICATIONS:		RFDS ID:	5171952
RFDS VERSION:	1.00	Created By: / Updated By:	sl1906 / ka2331
UMTS FREQUENCY:		Date Created: / Date Updated:	5/3/2022 10:19:58 AM / 7/27/2022 2:51:59 PM
LTE FREQUENCY:	700, 1900, AWS, WCS	Estimated SQIX: / Explosion:	17.146 /
5G FREQUENCY:	850	RER Initiative: / Calculation ID:	/ 20220727105232681 8
I-PLAN JOB # 1:	ER_-RTNK-21-04210	IPLAN PRD GRP || SUB GRP #1:	New Site || LTE1C Cell Site Replacement ABM
I-PLAN JOB # 2:	ER_-RTNK-22-01340	IPLAN PRD GRP || SUB GRP #2:	LTE Next Carrier || LTE 4C ABM
I-PLAN JOB # 3:	ER_-RTNK-22-01289	IPLAN PRD GRP || SUB GRP #3:	5G NR Software Radio || 5G NR 1DR 2 ABM
I-PLAN JOB # 4:	ER_-RTNK-22-01283	IPLAN PRD GRP || SUB GRP #4:	LTE Next Carrier || LTE 3C ABM
I-PLAN JOB # 5:	ER_-RTNK-22-01321	IPLAN PRD GRP || SUB GRP #5:	LTE Software Carrier || LTE 5C ABM
I-PLAN JOB # 6:	ER_-RTNK-22-01341	IPLAN PRD GRP || SUB GRP #6:	LTE Additional Radio || BWE Tower Top RRH Add
I-PLAN JOB # 7:	ER_-RTNK-22-01291	IPLAN PRD GRP || SUB GRP #7:	LTE Next Carrier || LTE 2C ABM
I-PLAN JOB # 8:		IPLAN PRD GRP || SUB GRP #8:	
I-PLAN JOB # 9:		IPLAN PRD GRP || SUB GRP #9:	
I-PLAN JOB # 10:		IPLAN PRD GRP || SUB GRP #10:	
I-PLAN JOB # 11:		IPLAN PRD GRP || SUB GRP #11:	
I-PLAN JOB # 12:		IPLAN PRD GRP || SUB GRP #12:	
I-PLAN JOB # 13:		IPLAN PRD GRP || SUB GRP #13:	
I-PLAN JOB # 14:		IPLAN PRD GRP || SUB GRP #14:	
I-PLAN JOB # 15:		IPLAN PRD GRP || SUB GRP #15:	
I-PLAN JOB # 16:		IPLAN PRD GRP || SUB GRP #16:	

Section 2 - LOCATION INFORMATION

USID:	315725	FA LOCATION CODE:	15762578	LOCATION NAME:	KEVIL RELO
REGION:	SOUTHEAST	MARKET CLUSTER:	TENNESSEE/KENTUCKY	MARKET:	EVANSVILLE
ADDRESS:	562 WALLACE AVE DUP-1	CITY:	KEVIL	STATE:	KY
ZIP CODE:	42053	COUNTY:	BALLARD	LONG (DEC. DEG.):	-88.8856580
LATITUDE (D-M-S):	37d 5m 14.172s	LONGITUDE (D-M-S):	-88d -53m -8.3688s	LAT (DEC. DEG.):	37.0872700
DIRECTIONS, ACCESS AND EQUIPMENT LOCATION:	TBD				

ORACLE PTN # 1:	2452A13QF4	PACE JOB # 1:	MRTNK062709
ORACLE PTN # 2:	2452A14CET	PACE JOB # 2:	MRTNK062230
ORACLE PTN # 3:	2452A14C7C	PACE JOB # 3:	MRTNK062216
ORACLE PTN # 4:	2452A14C6J	PACE JOB # 4:	MRTNK062231
ORACLE PTN # 5:	2452A14C6B	PACE JOB # 5:	MRTNK062226
ORACLE PTN # 6:	2452A14C6H	PACE JOB # 6:	MRTNK062223
ORACLE PTN # 7:	2452A14CEB	PACE JOB # 7:	MRTNK062219
ORACLE PTN # 8:		PACE JOB # 8:	
ORACLE PTN # 9:		PACE JOB # 9:	
ORACLE PTN # 10:		PACE JOB # 10:	
ORACLE PTN # 11:		PACE JOB # 11:	
ORACLE PTN # 12:		PACE JOB # 12:	
ORACLE PTN # 13:		PACE JOB # 13:	
ORACLE PTN # 14:		PACE JOB # 14:	
ORACLE PTN # 15:		PACE JOB # 15:	
ORACLE PTN # 16:		PACE JOB # 16:	
BORDER CELL WITH CONTOUR COORD:		SEARCH RING NAME:	
AM STUDY REQ'D (Y/N):	No	SEARCH RING ID:	
FREQ COORD:		BTA: / MSA / RSA:	/
		LAC/(UMTS):	
RF DISTRICT:	KY West		
RF ZONE:	Evansville	RNC(UMTS):	
		MME POOL ID(LTE):	FF20
PARENT NAME(UMTS):			

Section 3 - LICENSE COVERAGE/FILING INFORMATION

CGSA - NO FILING TRIGGERED (Yes/No):	No	CGSA LOSS:		PCS REDUCED - UPS ZIP:	
CGSA - MINOR FILING NEEDED (Yes/No):	No	CGSA EXT AGMT NEEDED:		PCS POPS REDUCED:	
CGSA - MAJOR FILING NEEDED (Yes/No):	Yes	CGSA SCORECARD UPDATED:			
CGSA CALL SIGNS:					

Section 4 - TOWER/REGULATORY INFORMATION

STRUCTURE AT&T OWNED?:	No	GROUND ELEVATION (ft):	430	STRUCTURE TYPE:	SELF SUPPORT	MARKET LOCATION 700 MHz Band:		
ADDITIONAL REGULATORY?:	Yes	HEIGHT OVERALL (ft):		FCC ASR NUMBER:		MARKET LOCATION 850 MHz Band:		
SUB-LEASE RIGHTS?:	No	STRUCTURE HEIGHT (ft):	246.00			MARKET LOCATION 1900 MHz Band:		
LIGHTING TYPE:						MARKET LOCATION AWS Band:		
						MARKET LOCATION WCS Band:		
						MARKET LOCATION Future Band:		

Section 5 - E-911 INFORMATION - existing

		PSAP NAME:	PSAP ID:	E911 PHASE:	MPC SVC PROVIDER:	LMU REQUIRED:	ESRN:	DATE LIVE PH1:	DATE LIVE PH2:		
SECTOR A	E-911										
SECTOR B											
SECTOR C											
SECTOR D											
SECTOR E											
SECTOR F											
OMNI											

Section 5 - E-911 INFORMATION - final

		PSAP NAME:	PSAP ID:	E911 PHASE:	MPC SVC PROVIDER:	LMU REQUIRED:	ESRN:	DATE LIVE PH1:	DATE LIVE PH2:		
SECTOR A	E-911										
SECTOR B											
SECTOR C											
SECTOR D											
SECTOR E											
SECTOR F											
OMNI											

SECTION 6/7 - BBU INFORMATION - final									
	BBU 1								
BBU RBS ID:	RFDS_79262560								
TECHNOLOGY:	LTE,5G								
BBU NAME:	KYL03182,KYEN003182								
BBU USID:	315725								
CELL ID / BCF:	KYEN003182								
BTA/TID:									
4-9 DIGIT SITE ID:	23003182								
COW OR TOY?:	No								
CELL SITE TYPE:	SECTORIZED								
SITE TYPE:	MACRO-CONVENTIONAL								
BTS LOCATION ID:	GROUND								
BASE STATION TYPE:	BASE								
EQUIPMENT NAME:	KYL03182 Kevil Relo								
DISASTER PRIORITY:	0								
EQUIPMENT VENDOR:	ERICSSON								
EQUIPMENT TYPE (Model):	BASEBAND 6648								
BASEBAND CONFIGURATION:	xxxxx / 1x6648 / xxxxx								
MARKET STATE CODE:	KY,KYE								
NODE B NUMBER:	3182,3182								
SIDEHAUL SWITCH VENDOR:									
SIDEHAUL SWITCH MODEL:									
SIDEHAUL SWITCH NAME:									
SIDEHAUL SWITCH ADDITIONAL CARDS:									
UL-CoMP:									
CSS - CTS COMMON ID:									
CSS - SECONDARY FUNCTION ID:									

Section 8 - RBS/SECTOR ASSOCIATION - final

	BBU 1
CTS Common ID	KYL03182,KYEN03182
Soft Sector IDs	KYEN03182_N005A_1
	KYEN03182_N005B_1
	KYEN03182_N005C_1
	KYL03182_2A_1
	KYL03182_2A_2
	KYL03182_2B_1
	KYL03182_2B_2
	KYL03182_2C_1
	KYL03182_2C_2
	KYL03182_3A_1
	KYL03182_3B_1
	KYL03182_3C_1
	KYL03182_7A_1
	KYL03182_7A_2_F
	KYL03182_7B_1
	KYL03182_7B_2_F
	KYL03182_7C_1
	KYL03182_7C_2_F
	KYL03182_9A_1
	KYL03182_9A_2
	KYL03182_9B_1
	KYL03182_9B_2
	KYL03182_9C_1
	KYL03182_9C_2

Section 9 - SOFT SECTOR ID - existing

	LTE 1ST 700	LTE 1ST 1900	LTE 1ST AWS	LTE 1ST WCS	LTE 2ND 700	LTE 2ND 1900	LTE 2ND AWS	5G 1ST 850
USEID (excluding Hard Sector)								
SECTOR A SOFT SECTOR ID								
SECTOR B								
SECTOR C								
SECTOR D								
SECTOR E								
SECTOR F								
OMNI								

Section 9 - SOFT SECTOR ID - final

	LTE 1ST 700	LTE 1ST 1900	LTE 1ST AWS	LTE 1ST WCS	LTE 2ND 700	LTE 2ND 1900	LTE 2ND AWS	5G 1ST 850
USEID (excluding Hard Sector)								
SECTOR A SOFT SECTOR ID								
SECTOR B								
SECTOR C								
SECTOR D								
SECTOR E								
SECTOR F								
OMNI								

Section 9 - Cell Number - existing

	LTE 1ST 700	LTE 1ST 1900	LTE 1ST AWS	LTE 1ST WCS	LTE 2ND 700	LTE 2ND 1900	LTE 2ND AWS	5G 1ST 850																		
USEID (excluding Hard Sector)																										
SECTOR A CELL NUMBER																										
SECTOR B																										
SECTOR C																										
SECTOR D																										
SECTOR E																										
SECTOR F																										
OMNI																										

Section 9 - Cell Number - final

	LTE 1ST 700	LTE 1ST 1900	LTE 1ST AWS	LTE 1ST WCS	LTE 2ND 700	LTE 2ND 1900	LTE 2ND AWS	5G 1ST 850																		
USEID (excluding Hard Sector)																										
SECTOR A CELL NUMBER																										
SECTOR B																										
SECTOR C																										
SECTOR D																										
SECTOR E																										
SECTOR F																										
OMNI																										

Section 10 - CID/SAC - existing

		LTE 1ST 700	LTE 1ST 1900	LTE 1ST AWS	LTE 1ST WCS	LTE 2ND 700	LTE 2ND 1900	LTE 2ND AWS	5G 1ST 850																	
SECTOR A	CID/SAC																									
SECTOR B																										
SECTOR C																										
SECTOR D																										
SECTOR E																										
SECTOR F																										
OMNI																										

Section 10 - CID/SAC - final

		LTE 1ST 700	LTE 1ST 1900	LTE 1ST AWS	LTE 1ST WCS	LTE 2ND 700	LTE 2ND 1900	LTE 2ND AWS	5G 1ST 850																	
SECTOR A	CID/SAC																									
SECTOR B																										
SECTOR C																										
SECTOR D																										
SECTOR E																										
SECTOR F																										
OMNI																										

Section 16A - PLANNED/PROPOSED TOWER CONFIGURATION - SECTOR A (OR OMNI)

ANTENNA POSITION is LEFT to RIGHT from BACK OF ANTENNA (unless otherwise specified)	ANTENNA POSITION 1		ANTENNA POSITION 2		ANTENNA POSITION 3		ANTENNA POSITION 4		ANTENNA POSITION 5		ANTENNA POSITION 6		ANTENNA POSITION 7	
Existing Antenna?														
ANTENNA MAKE - MODEL					NNH4-65D-R6									
ANTENNA VENDOR					Commscope									
ANTENNA SIZE (H x W x D)					105.8X19.6X7.8									
ANTENNA WEIGHT					88.2									
AZIMUTH					0									
MAGNETIC DECLINATION														
RADIATION CENTER (feet)					240									
ANTENNA TIP HEIGHT														
MECHANICAL DOWNTILT					0									
FEEDER AMOUNT														
VERTICAL SEPARATION from ANTENNA ABOVE (TIP to TIP)														
VERTICAL SEPARATION from ANTENNA BELOW (TIP to TIP)														
HORIZONTAL SEPARATION from CLOSEST ANTENNA to LEFT (CENTERLINE to CENTERLINE)														
HORIZONTAL SEPARATION from CLOSEST ANTENNA to RIGHT (CENTERLINE to CENTERLINE)														
HORIZONTAL SEPARATION from ANOTHER ANTENNA (which antenna # / # of inches)	3	36			1	36								
Antenna RET Motor (QTY/MODEL)														
SURGE ARRESTOR (QTY/MODEL)														
DIPLEXER (QTY/MODEL)														
DUPLEXER (QTY/MODEL)														
Antenna RET CONTROL UNIT (QTY/MODEL)														
DC BLOCK (QTY/MODEL)														
TMA/LNA (QTY/MODEL)														
CURRENT INJECTORS FOR TMA (QTY/MODEL)														
PDU FOR TMAS (QTY/MODEL)														
FILTER (QTY/MODEL)														
SQUID (QTY/MODEL)	2	DC9-48-60-24-8C-EV												
FIBER TRUNK (QTY/MODEL)	2													
DC TRUNK (QTY/MODEL)	6													
REPEATER (QTY/MODEL)														
RRH - 700 band (QTY/MODEL)	1	4449 B5/B12			1	4478 B14								
RRH - 850 band (QTY/MODEL)		RRH is shared with another band												
RRH - 1900 band (QTY/MODEL)	1	8843 B2/B66A												
RRH - AWS band (QTY/MODEL)		RRH is shared with another band			1	4426 B66								
RRH - WCS band (QTY/MODEL)					1	4415 B30								
Additional RRH #1 - any band (QTY/MODEL)														
Additional RRH #2 - any band (QTY/MODEL)														
RRH 7B 1 (QTY/MODEL)														
RRH 7B 2 (QTY/MODEL)														
RRH 7B 3 (QTY/MODEL)														
Additional Component 1 (QTY/MODEL)														
Additional Component 2 (QTY/MODEL)														
Additional Component 3 (QTY/MODEL)														
Local Market Note 1	Antennas are left to right facing the front of the antennas													
Local Market Note 2														
Local Market Note 3														

PORT SPECIFIC FIELDS	PORT NUMBER	USEID (CSSng)	USEID (AtoR)	ATOLL TXID	ATOLL CELL ID	TX/RX ?	TECHNOLOGY/FREQUENCY	ANTENNA ATOLL	ANTENNA GAIN	ELECTRICAL AZIMUTH	ELECTRICAL TILT	RRH LOCATION (Top/Bottom/Integrated/None)	FEEDERS TYPE	FEEDER LENGTH (feet)	RXAIT KIT MODULE?	TRIPLEXER or LLC (QTY)	TRIPLEXER or LLC (MODEL)	SCPA/MCPA MODULE?	HATCHPLATE POWER (Watts)	ERP (Watts)	Antenna RET Name	CABLE NUMBER	CABLE ID (CSSNG)
ANTENNA POSITION 1	PORT 1	315725 A 700 4G tmp1		KYL03182_7A_1	KYL03182_7A_1		LTE 700	NNH4-65D-R6_728MHz_03DT	15.6		3	TOP	Fiber	0	NO								
	PORT 2	315725 A 850 5G tmp1		KYEN003182_N005A_1	KYEN003182_N005A_1		5G 850	NNH4-65D-R6_849MHz_03DT	16.1	0	3	TOP	Fiber	0	NO								

	PORT 3	315725 A 1900 4G tmp1 315725 A 1900 4G tmp2		KYL03182_9A_1 KYL03182_9A_1	KYL03182_9A_2 KYL03182_9A_1		LTE 1900	NNH4-65D-R6_1930MHz_03DT	17.3	0	3	TOP	Fiber	0	NO							
	PORT 4	315725 A AWS 4G tmp1		KYL03182_2A_1	KYL03182_2A_1		LTE AWS	NNH4-65D-R6_2130MHz_03DT	17.5	0	3	TOP	Fiber	0	NO							
ANTENNA POSITION 3	PORT 1	315725 A 700 4G tmp2		KYL03182_7A_2_F	KYL03182_7A_2_F		LTE 700	NNH4-65D-R6_768MHz_03DT	15.8	0	3	TOP	Fiber	0	NO							
	PORT 3	315725 A WCS 4G tmp1		KYL03182_3A_1	KYL03182_3A_1		LTE WCS	NNH4-65B-R6_2355MHz_03DT	17.8		3	TOP	Fiber	0	NO							
	PORT 4	315725 A AWS 4G tmp2		KYL03182_2A_2	KYL03182_2A_2		LTE AWS	NNH4-65D-R6_2130MHz_03DT	17.5	0	3	TOP	Fiber	0	NO							

Section 16B - PLANNED/PROPOSED TOWER CONFIGURATION - SECTOR B

ANTENNA POSITION In LEFT to RIGHT from BACK OF ANTENNA (unless otherwise specified)	ANTENNA POSITION 1		ANTENNA POSITION 2		ANTENNA POSITION 3		ANTENNA POSITION 4		ANTENNA POSITION 5		ANTENNA POSITION 6		ANTENNA POSITION 7	
Existing Antenna?														
ANTENNA MAKE - MODEL	NNH4-65D-R6				NNH4-65D-R6									
ANTENNA VENDOR	Commscope				Commscope									
ANTENNA SIZE (H x W x D)	105.8X19.6X7.8				105.8X19.6X7.8									
ANTENNA WEIGHT	88.2				88.2									
AZIMUTH	120				120									
MAGNETIC DECLINATION														
RADIATION CENTER (feet)	240				240									
ANTENNA TIP HEIGHT														
MECHANICAL DOWNTILT	0				0									
FEEDER AMOUNT														
VERTICAL SEPARATION from ANTENNA ABOVE (TIP to TIP)														
VERTICAL SEPARATION from ANTENNA BELOW (TIP to TIP)														
HORIZONTAL SEPARATION from CLOSEST ANTENNA to LEFT (CENTERLINE to CENTERLINE)														
HORIZONTAL SEPARATION from CLOSEST ANTENNA to RIGHT (CENTERLINE to CENTERLINE)														
HORIZONTAL SEPARATION from ANOTHER ANTENNA (which antenna # / # of inches)	3	36			1	36								
Antenna RET Motor (QTY/MODEL)														
SURGE ARRESTOR (QTY/MODEL)														
DIPLEXER (QTY/MODEL)														
DUPLEXER (QTY/MODEL)														
Antenna RET CONTROL UNIT (QTY/MODEL)														
DC BLOCK (QTY/MODEL)														
TMA/LNA (QTY/MODEL)														
CURRENT INJECTORS FOR TMA (QTY/MODEL)														
PDU FOR TMAS (QTY/MODEL)														
FILTER (QTY/MODEL)														
SQUID (QTY/MODEL)														
FIBER TRUNK (QTY/MODEL)														
DC TRUNK (QTY/MODEL)														
REPEATER (QTY/MODEL)														
RRH - 700 band (QTY/MODEL)	1	4449 B5/B12			1	4478 B14								
RRH - 850 band (QTY/MODEL)		RRH is shared with another band												
RRH - 1900 band (QTY/MODEL)	1	8843 B2/B66A												
RRH - AWS band (QTY/MODEL)		RRH is shared with another band			1	4426 B66								
RRH - WCS band (QTY/MODEL)					1	4415 B30								
Additional RRH #1 - any band (QTY/MODEL)														
Additional RRH #2 - any band (QTY/MODEL)														
RRH 7B 1 (QTY/MODEL)														
RRH 7B 2 (QTY/MODEL)														
RRH 7B 3 (QTY/MODEL)														
Additional Component 1 (QTY/MODEL)														
Additional Component 2 (QTY/MODEL)														
Additional Component 3 (QTY/MODEL)														
Local Market Note 1	Antennas are left to right facing the front of the antennas													
Local Market Note 2														
Local Market Note 3														

PORT SPECIFIC FIELDS	PORT NUMBER	USEID (CSSng)	USEID (Atoll)	ATOLL TXID	ATOLL CELL ID	TX/RX ?	TECHNOLOGY/FREQUENCY	ANTENNA ATOLL	ANTENNA GAIN	ELECTRICAL AZIMUTH	ELECTRICAL TILT	RRH LOCATION (Top/Bottom/ Integrated/None)	FEEDERS TYPE	FEEDER LENGTH (feet)	RXAIT KIT MODULE?	TRIPLEXER or LLC (QTY)	TRIPLEXER or LLC (MODEL)	SCPA/MCPA MODULE?	HATCHPLATE POWER (Watts)	ERP (Watts)	Antenna RET Name	CABLE NUMBER	CABLE ID (CSSNG)
ANTENNA POSITION 1	PORT 1	315725-B 700 4G Impl		KYL03182_7B_1	KYL03182_7B_1		LTE 700	NNH4-65D-R6_728MHz_03DT	15.6		3	TOP	Fiber	0	NO								
	PORT 2	315725-B 850 5G Impl		KYEN003182_N005B_1	KYEN003182_N005B_1		5G 850	NNH4-65D-R6_849MHz_03DT	16.1	120	3	TOP	Fiber	0	NO								

	PORT 3	315725:B:1900:4G:tmp1, 315725:B:1900:4G:tmp2		KYL03182_9B_1, KYL03182_9B_1	KYL03182_9B_2, KYL03182_9B_1		LTE 1900	NNH4-65D-R6_1930MHz_03DT	17.3	120	3	TOP	Fiber	0	NO								
	PORT 4	315725:B:AWS:4G:tmp1		KYL03182_2B_1	KYL03182_2B_1		LTE AWS	NNH4-65D-R6_2130MHz_03DT	17.5	120	3	TOP	Fiber	0	NO								
ANTENNA POSITION 3	**PORT 1**	315725:B:700:4G:tmp2		KYL03182_7B_2_F	KYL03182_7B_2_F		LTE 700	NNH4-65D-R6_768MHz_03DT	15.8	120	3	TOP	Fiber	0	NO								
	PORT 3	315725:B:WCS:4G:tmp1		KYL03182_3B_1	KYL03182_3B_1		LTE WCS	NNH4-65B-R6_2355MHz_03DT	17.8		3	TOP	Fiber	0	NO								
	PORT 4	315725:B:AWS:4G:tmp2		KYL03182_2B_2	KYL03182_2B_2		LTE AWS	NNH4-65D-R6_2130MHz_03DT	17.5	120	3	TOP	Fiber	0	NO								

Section 16C - PLANNED/PROPOSED TOWER CONFIGURATION - SECTOR C

ANTENNA POSITION is LEFT to RIGHT from BACK OF ANTENNA (unless otherwise specified)	ANTENNA POSITION 1		ANTENNA POSITION 2		ANTENNA POSITION 3		ANTENNA POSITION 4		ANTENNA POSITION 5		ANTENNA POSITION 6		ANTENNA POSITION 7	
Existing Antenna?														
ANTENNA MAKE - MODEL	NNH4-65D-R6				NNH4-65D-R6									
ANTENNA VENDOR	Commscope				Commscope									
ANTENNA SIZE (H x W x D)	105 8X19 6X7 8				105 8X19 6X7 8									
ANTENNA WEIGHT	88 2				88 2									
AZIMUTH	240				240									
MAGNETIC DECLINATION														
RADIATION CENTER (feet)	240				240									
ANTENNA TIP HEIGHT														
MECHANICAL DOWNTILT	0				0									
FEEDER AMOUNT														
VERTICAL SEPARATION from ANTENNA ABOVE (TIP to TIP)														
VERTICAL SEPARATION from ANTENNA BELOW (TIP to TIP)														
HORIZONTAL SEPARATION from CLOSEST ANTENNA to LEFT (CENTERLINE to CENTERLINE)														
HORIZONTAL SEPARATION from CLOSEST ANTENNA to RIGHT (CENTERLINE to CENTERLINE)														
HORIZONTAL SEPARATION from ANOTHER ANTENNA (which antenna # / # of inches)	3	36			1	36								
Antenna RET Motor (QTY/MODEL)														
SURGE ARRESTOR (QTY/MODEL)														
DIPLEXER (QTY/MODEL)														
DUPLEXER (QTY/MODEL)														
Antenna RET CONTROL UNIT (QTY/MODEL)														
DC BLOCK (QTY/MODEL)														
TMA/LNA (QTY/MODEL)														
CURRENT INJECTORS FOR TMA (QTY/MODEL)														
PDU FOR TMAS (QTY/MODEL)														
FILTER (QTY/MODEL)														
SQUID (QTY/MODEL)														
FIBER TRUNK (QTY/MODEL)														
DC TRUNK (QTY/MODEL)														
REPEATER (QTY/MODEL)														
RRH - 700 band (QTY/MODEL)	1	4449 B5/B12			1	4478 B14								
RRH - 850 band (QTY/MODEL)		RRH is shared with another band												
RRH - 1900 band (QTY/MODEL)	1	8843 B2/B66A												
RRH - AWS band (QTY/MODEL)		RRH is shared with another band			1	4426 B66								
RRH - WCS band (QTY/MODEL)					1	4415 B30								
Additional RRH #1 - any band (QTY/MODEL)														
Additional RRH #2 - any band (QTY/MODEL)														
RRH 7B 1 (QTY/MODEL)														
RRH 7B 2 (QTY/MODEL)														
RRH 7B 3 (QTY/MODEL)														
Additional Component 1 (QTY/MODEL)														
Additional Component 2 (QTY/MODEL)														
Additional Component 3 (QTY/MODEL)														
Local Market Note 1	Antennas are left to right facing the front of the antennas													
Local Market Note 2														
Local Market Note 3														

PORT SPECIFIC FIELDS	PORT NUMBER	USEID (CSSng)	USEID (Atoll)	ATOLL TXID	ATOLL CELL ID	TX/RX ?	TECHNOLOGY/FREQUENCY	ANTENNA ATOLL	ANTENNA GAIN	ELECTRICAL AZIMUTH	ELECTRICAL TILT	RRH LOCATION (Top/Bottom/Integrated/None)	FEEDERS TYPE	FEEDER LENGTH (feet)	RXAIT KIT MODULE?	TRIPLEXER or LLC (QTY)	TRIPLEXER or LLC (MODEL)	SCPA/MCPA MODULE?	HATCHPLATE POWER (Watts)	ERP (Watts)	Antenna RET Name	CABLE NUMBER	CABLE ID (CSSNG)
ANTENNA POSITION 1	PORT 1	315725 C 700 4G tmp1		KYL03182_7C_1	KYL03182_7C_1		LTE 700	NNH4-65D-R6_728MHz_03DT	15.6		3	TOP	Fiber	0	NO								
	PORT 2	315725 C 850 5G tmp1		KYEN03182_N05C_1	KYEN03182_N05C_1		5G 850	NNH4-65D-R6_849MHz_03DT	16.1	240	3	TOP	Fiber	0	NO								

	PORT 3	315725 C 1900 4G tmp1, 315725 C 1900 4G tmp2		KYL03182_9C_1, KYL03182_9C_1	KYL03182_9C_2, KYL03182_9C_1		LTE 1900	NNH4-65D-R6_1930MHz_03DT	17.3	240	3	TOP	Fiber	0	NO								
	PORT 4	315725 C AWS 4G tmp1		KYL03182_2C_1	KYL03182_2C_1		LTE AWS	NNH4-65D-R6_2130MHz_03DT	17.5	240	3	TOP	Fiber	0	NO								
ANTENNA POSITION 3	PORT 1	315725 C 700 4G tmp2		KYL03182_7C_2_F	KYL03182_7C_2_F		LTE 700	NNH4-65D-R6_768MHz_03DT	15.8	240	3	TOP	Fiber	0	NO								
	PORT 3	315725 C WCS 4G tmp1		KYL03182_3C_1	KYL03182_3C_1		LTE WCS	NNH4-65B-R6_2355MHz_03DT	17.8		3	TOP	Fiber	0	NO								
	PORT 4	315725 C AWS 4G tmp2		KYL03182_2C_2	KYL03182_2C_2		LTE AWS	NNH4-65D-R6_2130MHz_03DT	17.5	240	3	TOP	Fiber	0	NO								

Section 17A - FINAL TOWER CONFIGURATION - SECTOR A (OR OMNI)

ANTENNA POSITION is LEFT to RIGHT from BACK OF ANTENNA (unless otherwise specified)	ANTENNA POSITION 1		ANTENNA POSITION 2		ANTENNA POSITION 3		ANTENNA POSITION 4		ANTENNA POSITION 5		ANTENNA POSITION 6		ANTENNA POSITION 7	
ANTENNA MAKE - MODEL	NNH4-65D-R6				NNH4-65D-R6									
ANTENNA VENDOR	Commscope				Commscope									
ANTENNA SIZE (H x W x D)	105.8X19.6X7.8				105.8X19.6X7.8									
ANTENNA WEIGHT	88.2				88.2									
AZIMUTH	0				0									
MAGNETIC DECLINATION														
RADIATION CENTER (feet)	240				240									
ANTENNA TIP HEIGHT														
MECHANICAL DOWNTILT	0				0									
FEEDER AMOUNT														
VERTICAL SEPARATION from ANTENNA ABOVE (TIP to TIP)														
VERTICAL SEPARATION from ANTENNA BELOW (TIP to TIP)														
HORIZONTAL SEPARATION from CLOSEST ANTENNA to LEFT (CENTERLINE to CENTERLINE)														
HORIZONTAL SEPARATION from CLOSEST ANTENNA to RIGHT (CENTERLINE to CENTERLINE)														
HORIZONTAL SEPARATION from ANOTHER ANTENNA (which antenna # / # of inches)	3	36			1	36								
Antenna RET Motor (QTY/MODEL)														
SURGE ARRESTOR (QTY/MODEL)														
DIPLEXER (QTY/MODEL)														
DUPLEXER (QTY/MODEL)														
Antenna RET CONTROL UNIT (QTY/MODEL)														
DC BLOCK (QTY/MODEL)														
TMA/LNA (QTY/MODEL)														
CURRENT INJECTORS FOR TMA (QTY/MODEL)														
PDU FOR TMAS (QTY/MODEL)														
FILTER (QTY/MODEL)														
SQUID (QTY/MODEL)	2	DC9-48-60-24-8C-EV												
FIBER TRUNK (QTY/MODEL)	2													
DC TRUNK (QTY/MODEL)	6													
REPEATER (QTY/MODEL)														
RRH - 700 band (QTY/MODEL)	1	4449 B5/B12			1	4478 B14								
RRH - 850 band (QTY/MODEL)		RRH is shared with another band												
RRH - 1900 band (QTY/MODEL)	1	8843 B2/B66A												
RRH - AWS band (QTY/MODEL)		RRH is shared with another band			1	4426 B66								
RRH - WCS band (QTY/MODEL)					1	4415 B30								
Additional RRH #1 - any band (QTY/MODEL)														
Additional RRH #2 - any band (QTY/MODEL)														
RRH 7B 1 (QTY/MODEL)														
RRH 7B 2 (QTY/MODEL)														
RRH 7B 3 (QTY/MODEL)														
Additional Component 1 (QTY/MODEL)														
Additional Component 2 (QTY/MODEL)														
Additional Component 3 (QTY/MODEL)														
Local Market Note 1	Antennas are left to right facing the front of the antennas													
Local Market Note 2														
Local Market Note 3														

PORT SPECIFIC FIELDS	PORT NUMBER	USEID (CSSng)	USEID (AtoII)	ATOLL TXID	ATOLL CELL ID	TX/RX ?	TECHNOLOGY/FREQUENCY	ANTENNA ATOLL	ANTENNA GAIN	ELECTRICAL AZIMUTH	ELECTRICAL TILT	RRH LOCATION (Top/Bottom/ Integrated/None)	FEEDERS TYPE	FEEDER LENGTH (feet)	RX/AT KIT MODULE?	TRIPLEXER or LLC (QTY)	TRIPLEXER or LLC (MODEL)	SCPA/MCPA MODULE?	HATCHPLATE POWER (Watts)	ERP (Watts)	Antenna RET Name	CABLE NUMBER	CABLE ID (CSSNG)
ANTENNA POSITION 1	PORT 1	315725 A 700 4G tmp1		KYL03182_7A_1	KYL03182_7A_1		LTE 700	NNH4-65D-R6_728MHz_03OT	15.6		3	TOP	Fiber	0	NO								
	PORT 2	315725 A 850 5G tmp1		KYEN003182_N005A_1	KYEN003182_N005A_1		5G 850	NNH4-65D-R6_849MHz_03OT	16.1	0	3	TOP	Fiber	0	NO								
	PORT 3	315725 A 1900 4G tmp1		KYL03182_9A_1	KYL03182_9A_2		LTE 1900	NNH4-65D-	17.3	0	3	TOP	Fiber	0	NO								

		315725 A 1900 4G tmp2		KYL03182_9A_1	KYL03182_9A_1			R6_1930MHz_03DT															
	PORT 4	315725 A AWS 4G tmp1		KYL03182_2A_1	KYL03182_2A_1		LTE AWS	NNH4-65D-R6_2130MHz_03DT	17.5	0	3	TOP	Fiber	0	NO								
ANTENNA POSITION 3	PORT 1	315725 A 700 4G tmp2		KYL03182_7A_2_F	KYL03182_7A_2_F		LTE 700	NNH4-65D-R6_768MHz_03DT	15.8	0	3	TOP	Fiber	0	NO								
	PORT 3	315725 A WCS 4G tmp1		KYL03182_3A_1	KYL03182_3A_1		LTE WCS	NNH4-65B-R6_2355MHz_03DT	17.8		3	TOP	Fiber	0	NO								
	PORT 4	315725 A AWS 4G tmp2		KYL03182_2A_2	KYL03182_2A_2		LTE AWS	NNH4-65D-R6_2130MHz_03DT	17.5	0	3	TOP	Fiber	0	NO								

Section 17B - FINAL TOWER CONFIGURATION - SECTOR B

ANTENNA POSITION to LEFT to RIGHT from BACK OF ANTENNA (unless otherwise specified)	ANTENNA POSITION 1		ANTENNA POSITION 2		ANTENNA POSITION 3		ANTENNA POSITION 4		ANTENNA POSITION 5		ANTENNA POSITION 6		ANTENNA POSITION 7	
ANTENNA MAKE - MODEL					NNH4-65D-R6									
ANTENNA VENDOR					Commscope									
ANTENNA SIZE (H x W x D)					105.8X19.6X7.8									
ANTENNA WEIGHT					88.2									
AZIMUTH					120									
MAGNETIC DECLINATION														
RADIATION CENTER (feet)					240									
ANTENNA TIP HEIGHT														
MECHANICAL DOWNTILT					0									
FEEDER AMOUNT														
VERTICAL SEPARATION from ANTENNA ABOVE (TIP to TIP)														
VERTICAL SEPARATION from ANTENNA BELOW (TIP to TIP)														
HORIZONTAL SEPARATION from CLOSEST ANTENNA to LEFT (CENTERLINE to CENTERLINE)														
HORIZONTAL SEPARATION from CLOSEST ANTENNA to RIGHT (CENTERLINE to CENTERLINE)														
HORIZONTAL SEPARATION from ANOTHER ANTENNA (which antenna # / # of inches)	3	36			1	36								
Antenna RET Motor (QTY/MODEL)														
SURGE ARRESTOR (QTY/MODEL)														
DIPLEXER (QTY/MODEL)														
DUPLEXER (QTY/MODEL)														
Antenna RET CONTROL UNIT (QTY/MODEL)														
DC BLOCK (QTY/MODEL)														
TMA/LNA (QTY/MODEL)														
CURRENT INJECTORS FOR TMA (QTY/MODEL)														
PDU FOR TMAS (QTY/MODEL)														
FILTER (QTY/MODEL)														
SQUID (QTY/MODEL)														
FIBER TRUNK (QTY/MODEL)														
DC TRUNK (QTY/MODEL)														
REPEATER (QTY/MODEL)														
RRH - 700 band (QTY/MODEL)	1	4449 B5/B12			1	4478 B14								
RRH - 850 band (QTY/MODEL)		R/RH is shared with another band												
RRH - 1900 band (QTY/MODEL)	1	8843 B2/B66A												
RRH - AWS band (QTY/MODEL)		RRH is shared with another band			1	4426 B66								
RRH - WCS band (QTY/MODEL)					1	4415 B30								
Additional RRH #1 - any band (QTY/MODEL)														
Additional RRH #2 - any band (QTY/MODEL)														
RRH 7B 1 (QTY/MODEL)														
RRH 7B 2 (QTY/MODEL)														
RRH 7B 3 (QTY/MODEL)														
Additional Component 1 (QTY/MODEL)														
Additional Component 2 (QTY/MODEL)														
Additional Component 3 (QTY/MODEL)														
Local Market Note 1	Antennas are left to right facing the front of the antennas.													
Local Market Note 2														
Local Market Note 3														

PORT SPECIFIC FIELDS	PORT NUMBER	USEID (CSSmg)	USEID (AtoII)	ATOLL TXID	ATOLL CELL ID	TX/RX ?	TECHNOLOGY/FREQUENCY	ANTENNA ATOLL	ANTENNA GAIN	ELECTRICAL AZIMUTH	ELECTRICAL TILT	RRH LOCATION (Top/Bottom/ Integrated/None)	FEEDERS TYPE	FEEDER LENGTH (feet)	RX/AT KIT MODULE?	TRIPLEXER or LLC (QTY)	TRIPLEXER or LLC (MODEL)	SCPA/MCPA MODULE?	HATCHPLATE POWER (Watts)	ERP (Watts)	Antenna RET Name	CABLE NUMBER	CABLE ID (CSSMG)
ANTENNA POSITION 1	PORT 1	315725:B 700 4G tmp1		KYL03182_7B_1	KYL03182_7B_1		LTE 700	NNH4-65D-R6_728MHz_03DT	15.6		3	TOP	Fiber	0	NO								
	PORT 2	315725:B 850 5G tmp1		KYEN003182_N005B_1	KYEN003182_N005B_1		5G 850	NNH4-65D-R6_849MHz_03DT	16.1	120	3	TOP	Fiber	0	NO								
	PORT 3	315725:B 1900 4G tmp1		KYL03182_9B_1	KYL03182_9B_2		LTE 1900	NNH4-65D-	17.3	120	3	TOP	Fiber	0	NO								

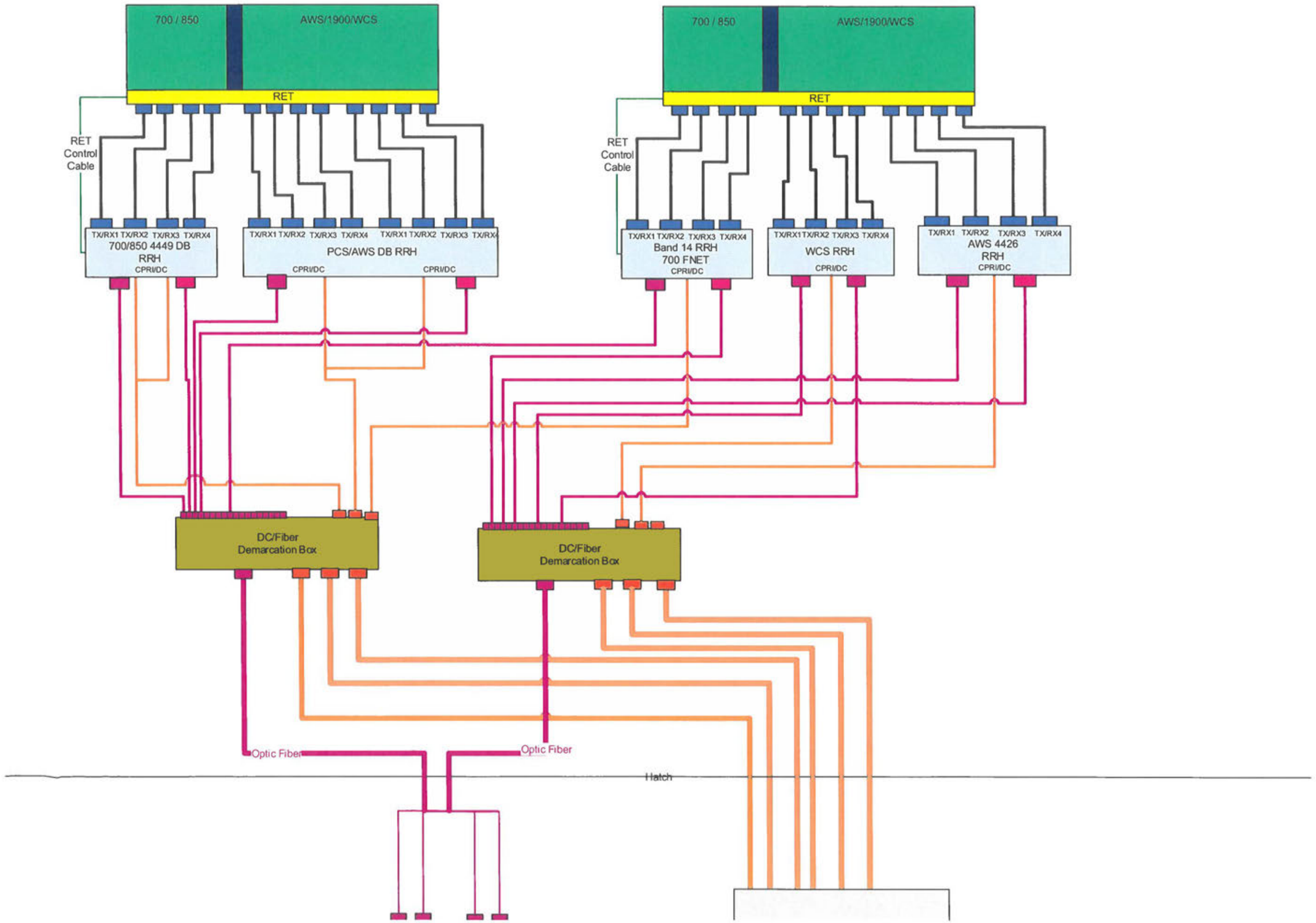
		315725 B 1900 4G tmp2		KYL03182_9B_1	KYL03182_9B_1			R6_1930MHz_03DT														
	PORT 4	315725 B AWS 4G tmp1		KYL03182_2B_1	KYL03182_2B_1		LTE AWS	NNH4-65D-R6_2130MHz_03DT	17.5	120	3	TOP	Fiber	0	NO								
ANTENNA POSITION 3	PORT 1	315725 B 700 4G tmp2		KYL03182_7B_2_F	KYL03182_7B_2_F		LTE 700	NNH4-65D-R6_768MHz_03DT	15.8	120	3	TOP	Fiber	0	NO								
	PORT 3	315725 B WCS 4G tmp1		KYL03182_3B_1	KYL03182_3B_1		LTE WCS	NNH4-65B-R6_2355MHz_03DT	17.8		3	TOP	Fiber	0	NO								
	PORT 4	315725 B AWS 4G tmp2		KYL03182_2B_2	KYL03182_2B_2		LTE AWS	NNH4-65D-R6_2130MHz_03DT	17.5	120	3	TOP	Fiber	0	NO								

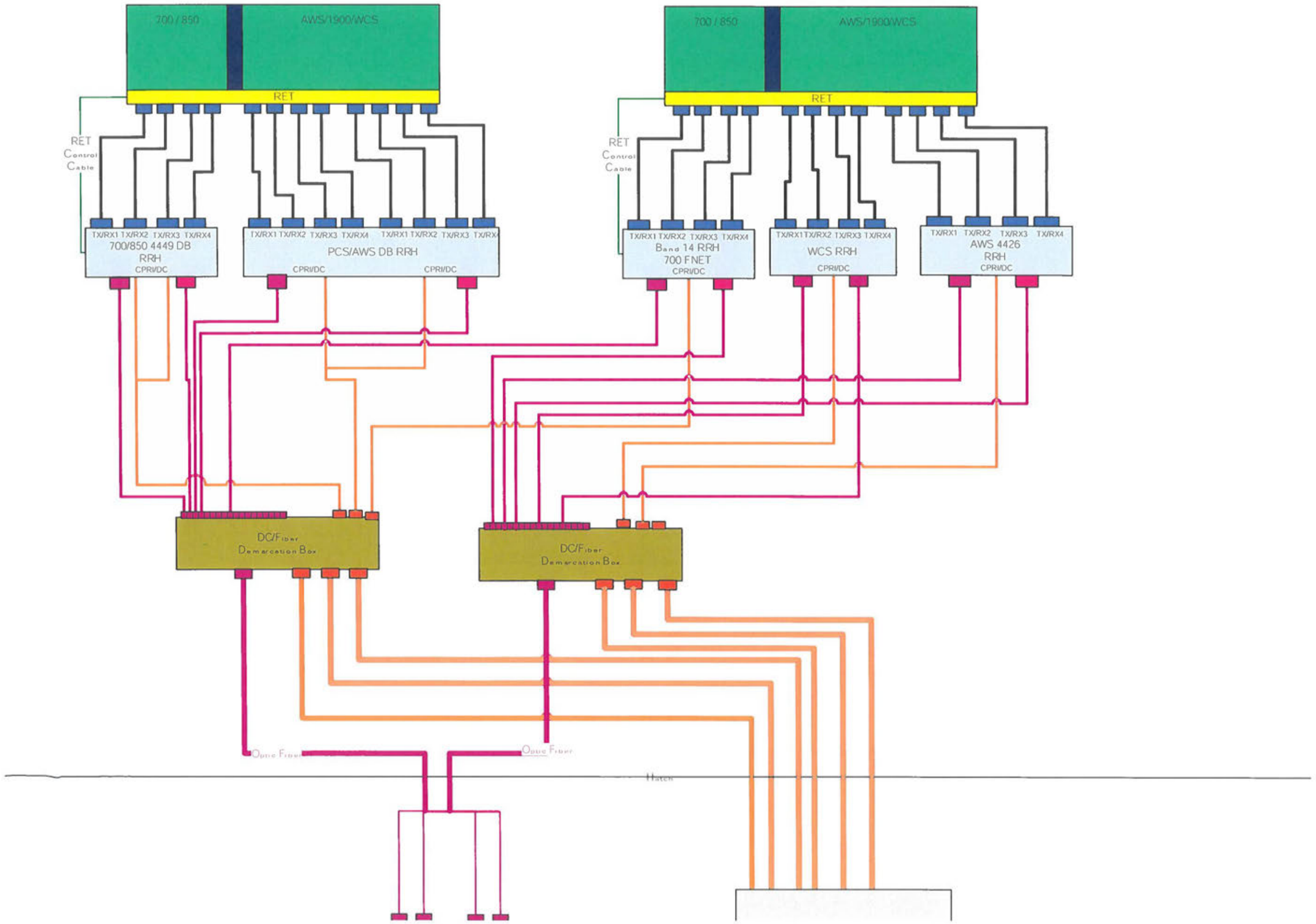
Section 17C - FINAL TOWER CONFIGURATION - SECTOR C

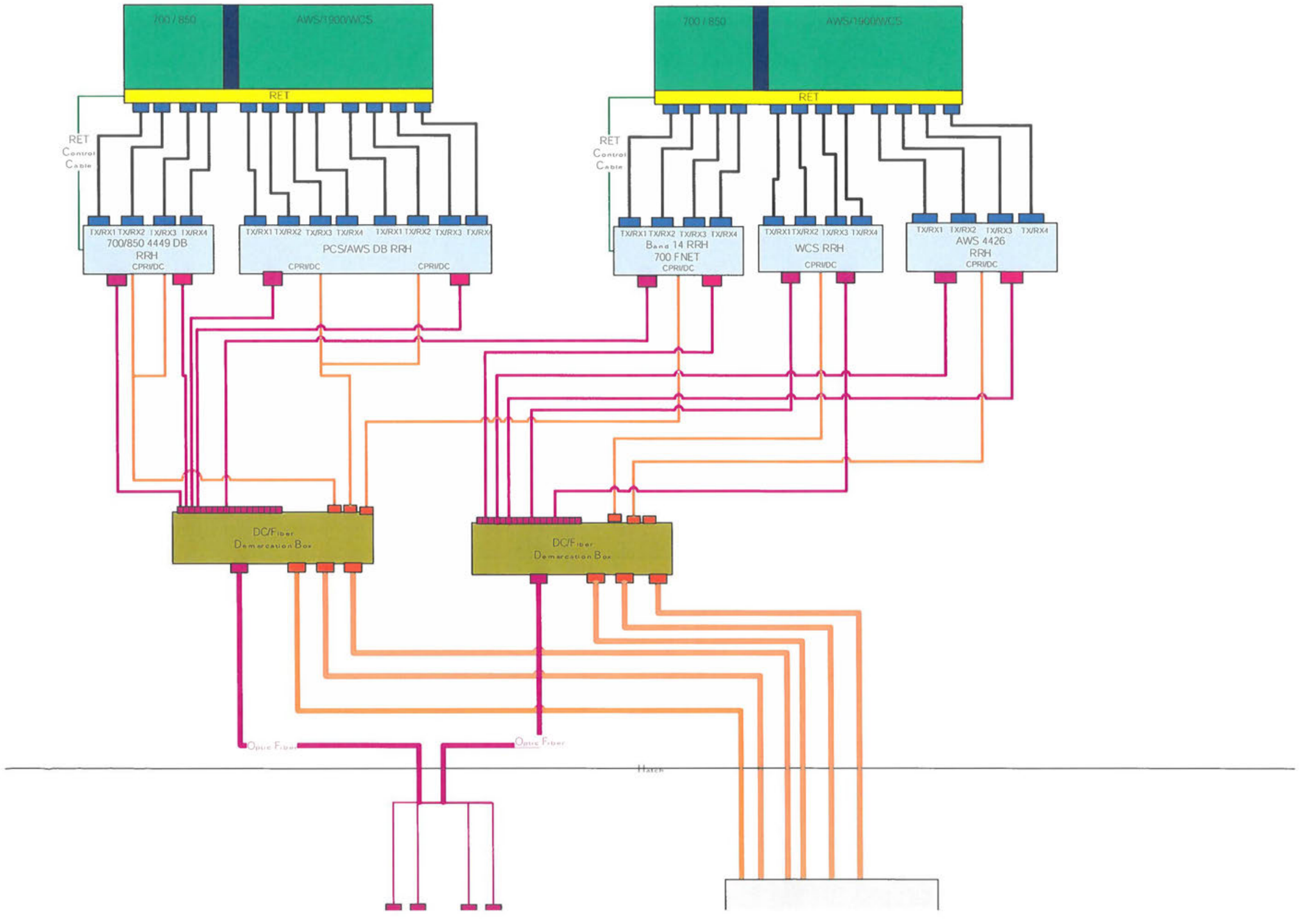
ANTENNA POSITION is LEFT to RIGHT from BACK OF ANTENNA (unless otherwise specified)	ANTENNA POSITION 1		ANTENNA POSITION 2		ANTENNA POSITION 3		ANTENNA POSITION 4		ANTENNA POSITION 5		ANTENNA POSITION 6		ANTENNA POSITION 7	
ANTENNA MAKE - MODEL					NNH4-65D-R6									
ANTENNA VENDOR					Commscope									
ANTENNA SIZE (H x W x D)					105.8X19.6X7.8									
ANTENNA WEIGHT					88.2									
AZIMUTH					240									
MAGNETIC DECLINATION														
RADIATION CENTER (feet)					240									
ANTENNA TIP HEIGHT														
MECHANICAL DOWNTILT					0									
FEEDER AMOUNT														
VERTICAL SEPARATION from ANTENNA ABOVE (TIP to TIP)														
VERTICAL SEPARATION from ANTENNA BELOW (TIP to TIP)														
HORIZONTAL SEPARATION from CLOSEST ANTENNA to LEFT (CENTERLINE to CENTERLINE)														
HORIZONTAL SEPARATION from CLOSEST ANTENNA to RIGHT (CENTERLINE to CENTERLINE)														
HORIZONTAL SEPARATION from ANOTHER ANTENNA (which antenna # / # of inches)	3	36			1	36								
Antenna RET Motor (QTY/MODEL)														
SURGE ARRESTOR (QTY/MODEL)														
DIPLEXER (QTY/MODEL)														
DUPLEXER (QTY/MODEL)														
Antenna RET CONTROL UNIT (QTY/MODEL)														
DC BLOCK (QTY/MODEL)														
TMA/LNA (QTY/MODEL)														
CURRENT INJECTORS FOR TMA (QTY/MODEL)														
PDU FOR TMAS (QTY/MODEL)														
FILTER (QTY/MODEL)														
SQUID (QTY/MODEL)														
FIBER TRUNK (QTY/MODEL)														
DC TRUNK (QTY/MODEL)														
REPEATER (QTY/MODEL)														
RRH - 700 band (QTY/MODEL)	1	4449 B5/B12			1	4478 B14								
RRH - 850 band (QTY/MODEL)		RRH is shared with another band												
RRH - 1900 band (QTY/MODEL)	1	8843 B2/B66A												
RRH - AWS band (QTY/MODEL)		RRH is shared with another band			1	4426 B66								
RRH - WCS band (QTY/MODEL)					1	4415 B30								
Additional RRH #1 - any band (QTY/MODEL)														
Additional RRH #2 - any band (QTY/MODEL)														
RRH 7B 1 (QTY/MODEL)														
RRH 7B 2 (QTY/MODEL)														
RRH 7B 3 (QTY/MODEL)														
Additional Component 1 (QTY/MODEL)														
Additional Component 2 (QTY/MODEL)														
Additional Component 3 (QTY/MODEL)														
Local Market Note 1	Antennas are left to right facing the front of the antennas													
Local Market Note 2														
Local Market Note 3														

PORT SPECIFIC FIELDS	PORT NUMBER	USEID (CSSng)	USEID (AtoI)	ATOLL TXID	ATOLL CELL ID	TX/RX ?	TECHNOLOGY/FREQUENCY	ANTENNA ATOLL	ANTENNA GAIN	ELECTRICAL AZIMUTH	ELECTRICAL TILT	RRH LOCATION (Top/Bottom/ Integrated/None)	FEEDERS TYPE	FEEDER LENGTH (feet)	RX/AT KIT MODULE?	TRIPLEXER or LLC (QTY)	TRIPLEXER or LLC (MODEL)	SCPA/MCPA MODULE?	HATCHPLATE POWER (Watts)	ERP (Watts)	Antenna RET Name	CABLE NUMBER	CABLE ID (CSSNG)
ANTENNA POSITION 1	PORT 1	315725 C 700 4G tmp1		KYL03182_7C_1	KYL03182_7C_1		LTE 700	NNH4-65D-R6_728MHz_03DT	15.6		3	TOP	Fiber	0	NO								
	PORT 2	315725 C 850 5G tmp1		KYEN003182_N05C_1	KYEN003182_N05C_1		5G 850	NNH4-65D-R6_849MHz_03DT	16.1	240	3	TOP	Fiber	0	NO								
	PORT 3	315725 C 1900 4G tmp1		KYL03182_9C_1	KYL03182_9C_2		LTE 1900	NNH4-65D-	17.3	240	3	TOP	Fiber	0	NO								

		315725 C 1900 4G tmp2		KYL03182_9C_1	KYL03182_9C_1			R6_1930MHz_03DT														
	PORT 4	315725 C AWS 4G tmp1		KYL03182_2C_1	KYL03182_2C_1		LTE AWS	NNH4-65D-R6_2130MHz_03DT	17.5	240	3	TOP	Fiber	0	NO							
ANTENNA POSITION 3	PORT 1	315725 C 700 4G tmp2		KYL03182_7C_2_F	KYL03182_7C_2_F		LTE 700	NNH4-65D-R6_768MHz_03DT	15.8	240	3	TOP	Fiber	0	NO							
	PORT 3	315725 C WCS 4G tmp1		KYL03182_3C_1	KYL03182_3C_1		LTE WCS	NNH4-65B-R6_2355MHz_03DT	17.8		3	TOP	Fiber	0	NO							
	PORT 4	315725 C AWS 4G tmp2		KYL03182_2C_2	KYL03182_2C_2		LTE AWS	NNH4-65D-R6_2130MHz_03DT	17.5	240	3	TOP	Fiber	0	NO							


700 / 850
AWS/1900/WCS
RET
RET Control Cable
TX/RX1 TX/RX2 TX/RX3 TX/RX4
700/850 4449 DB RRH
CPRI/DC
TX/RX1 TX/RX2 TX/RX3 TX/RX4 TX/RX1 TX/RX2 TX/RX3 TX/RX4
PCS/AWS DB RRH
CPRI/DC
CPRI/DC
700 / 850
AWS/1900/WCS
RET
RET Control Cable
TX/RX1 TX/RX2 TX/RX3 TX/RX4
Band 14 RRH
700 FNET
CPRI/DC
TX/RX1 TX/RX2 TX/RX3 TX/RX4
WCS RRH
CPRI/DC
TX/RX1 TX/RX2 TX/RX3 TX/RX4
AWS 4426
RRH
CPRI/DC
DC/Fiber Demarcation Box
DC/Fiber Demarcation Box
Optic Fiber
Optic Fiber
Hatch


700 / 850
AWS/1900/WCS
RET
RET Control Cable
TX/RX1 TX/RX2 TX/RX3 TX/RX4
700/850 4449 DB RRH
CPRI/DC
PCS/AWS DB RRH
CPRI/DC
CPRI/DC
Band 14 RRH
700 FNET
WCS RRH
AWS 4426 RRH
DC/Fiber Demarcation Box
Optic Fiber
Optic Fiber
Hatch


700 / 850
AWS/1900/WCS
RET
RET Control Cable
TX/RX1 TX/RX2 TX/RX3 TX/RX4
700/850 4449 DB RRH
CPRI/DC
PCS/AWS DB RRH
CPRI/DC
Band 14 RRH
700 FNET
WCS RRH
AWS 4426 RRH
DC/Fiber Demarcation Box
Optic Fiber
Hatch

7/3/2022 12:22:19 PM	1.00	ka2331	Preliminary review; approved.
7/27/2022 2:51:59 PM	1.00	ka2331	Preliminary review; BBU changed to 6648; ready to scope.

05/03/2022	Preliminary In Progress	sl1906	Preliminary Submitted for Approval	KA2331	Promote		ER_-RTNK-21-04210 MRTNK060709 SUCCESS 05/03/2022 11:52:19 AM ER_-RTNK-22-01340 MRTNK062230 SUCCESS 05/03/2022 11:52:19 AM ER_-RTNK-22-01289 PENDING 05/03/2022 11:52:19 AM ER_-RTNK-22-01283 MRTNK062231 SUCCESS 05/03/2022 11:52:19 AM ER_-RTNK-22-01321 PENDING 05/03/2022 11:52:19 AM ER_-RTNK-22-01341 MRTNK062223 SUCCESS 05/03/2022 11:52:19 AM ER_-RTNK-22-01291 MRTNK062219 SUCCESS 05/03/2022 11:52:19 AM
07/26/2022	Preliminary Submitted for Approval	KA2331	Preliminary In Progress	sl1906	Pull Back		
07/27/2022	Preliminary In Progress	sl1906	Preliminary Submitted for Approval	KA2331	Promote		ER_-RTNK-21-04210 FAILURE 07/27/2022 2:43:51 PM ER_-RTNK-22-01340 PENDING 07/27/2022 2:43:51 PM ER_-RTNK-22-01289 PENDING 07/27/2022 2:43:51 PM ER_-RTNK-22-01283 FAILURE 07/27/2022 2:43:51 PM ER_-RTNK-22-01321 FAILURE 07/27/2022 2:43:51 PM ER_-RTNK-22-01341 FAILURE 07/27/2022 2:43:51 PM ER_-RTNK-22-01291 FAILURE 07/27/2022 2:43:51 PM

EXHIBIT C
TOWER AND FOUNDATION DESIGN

Tillman Infrastructure

November 1, 2022

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

RE: Site Name – Kevil Relo
Proposed Cell Tower
37°05'14.174" N (37.087270) / -88°53'08.368" W (-88.885658)

Dear Commissioners:

The Project / Construction Manager for the proposed new communications facility will be John Lounsbury. His contact information is (770) 865-2254 or jlounsbury@Tillmaninfrastructure.com

John has been in the industry completing civil construction and constructing towers since 1996. He has worked at Tillman Infrastructures since 2018 completing project and construction management on new site build projects.

Thank you,

Kendra Moorhead

Kendra Morehead
Director of Construction East Region - Tillman Infrastructure
770-714-9771

Sabre Industries™
INNOVATION DELIVERED

November 9, 2022

Ms. Chelsea Reeves
Tillman Infrastructure, LLC
299 Market St, Suite 350
Saddle Brook, NJ 07663

RE: Proposed 245' Sabre Self-Supporting Tower for TI-OPP-19611, KY

Dear Ms. Reeves,

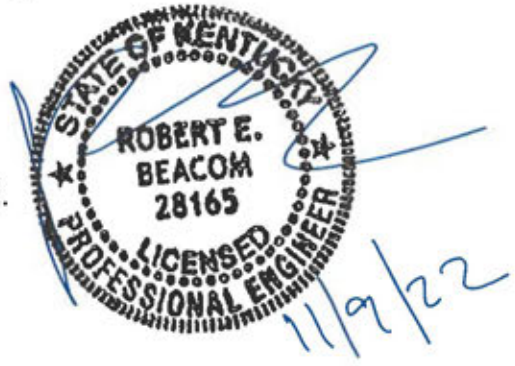
Upon receipt of order, we propose to design a tower for the above referenced project for a Basic Wind Speed of 106 mph and 30 mph with 1.5" radial ice, Risk Category II, Exposure Category C, and Topographic Category 1 in accordance with the Telecommunications Industry Association Standard ANSI/TIA-222-H, "Structural Standard for Antenna Supporting Structures and Antennas".

When designed according to this standard, the wind pressures and steel strength capacities include several safety factors. Therefore, it is highly unlikely that the tower will fail structurally in a wind event where the design wind speed is exceeded within the range of the built-in safety factors.

Should the wind speed increase beyond the capacity of the built-in safety factors, to the point of failure of one or more structural elements, the most likely location of the failure would be within one or more of the tower members in the upper portion. This would result in a buckling failure mode, where the loaded member would bend beyond its elastic limit (beyond the point where the member would return to its original shape upon removal of the wind load).

Therefore, it is likely that the overall effect of such an extreme wind event would be localized buckling of a tower section. Assuming that the wind pressure profile is similar to that used to design the tower, the tower is most likely to buckle at the location of the highest combined stress ratio in the upper portion of the tower. This would result in the portion of the tower above the failure location "folding over" onto the portion of the tower below the failure location. *Please note that this letter only applies to the above referenced tower designed and manufactured by Sabre Towers & Poles.* In the unlikely event of total separation, this would result in a "zero fall radius" at ground level.

Sincerely,



Robert E. Beacom, P.E., S.E.
Engineering Manager

Sabre Industries, Inc. • 7101 Southbridge Drive • Sioux City, IA 51111
P: 712-258-6690 **F:** 712-279-0814 **W:** www.SabreIndustries.com

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INNOVATION DELIVERED

Structural Design Report

245' S3TL Series HD1 Self-Supporting Tower
Site: TI-OPP-19611, KY
Site Number: 15762578

Prepared for: TILLMAN INFRASTRUCTURE, LLC
by: Sabre Industries ™

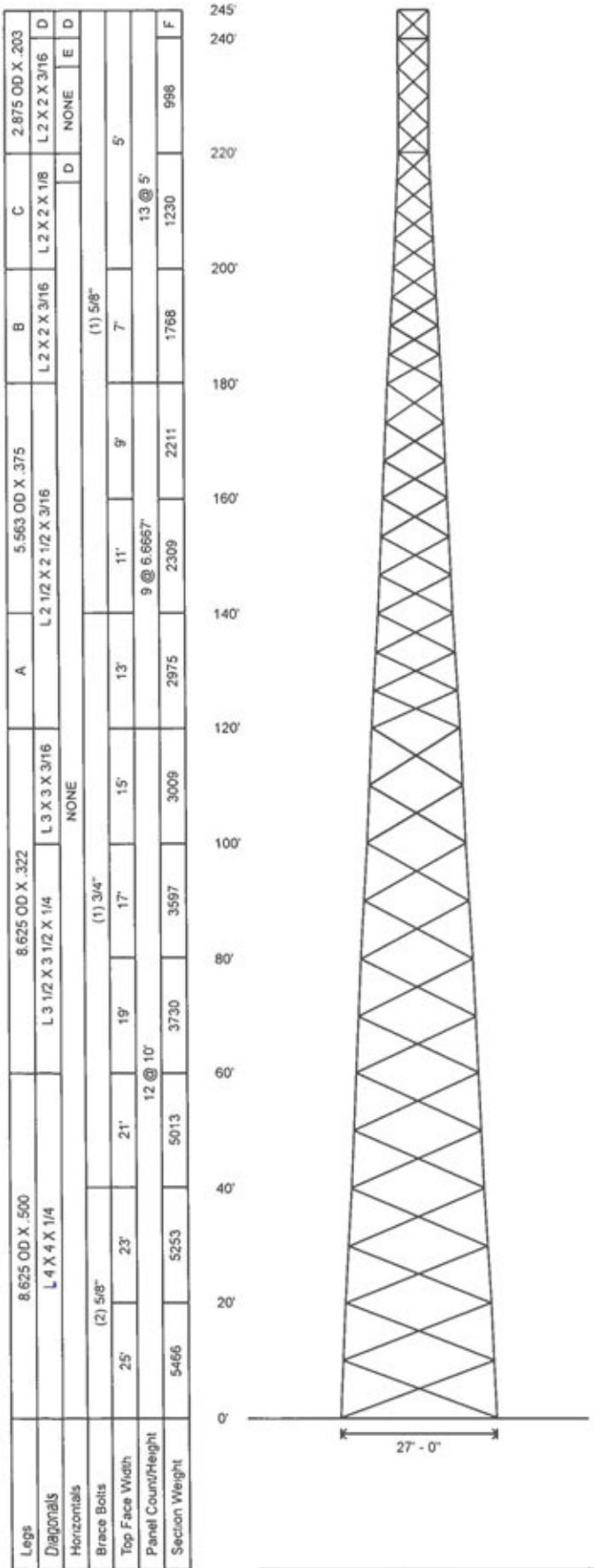
Job Number: 23-1837-TJH-R1

November 9, 2022

STATE OF KENTUCKY
ROBERT E. BEACOM
28165
LICENSED PROFESSIONAL ENGINEER

11/9/22

Digitally Signed By Robert Beacom
DN: c=US, st=Texas, l=Alvarado, o=SABRE INDUSTRIES, INC., cn=Robert Beacom, email=rebeacom@sabreindustries.com Date: 2022.11.09 13:29:36



Design Criteria - ANSI/TIA-222-H

Wind Speed (No Ice)	106 mph
Wind Speed (Ice)	30 mph
Design Ice Thickness	1.50 in
Risk Category	II
Exposure Category	C
Topographic Factor Procedure	Method 1 (Simplified)
Topographic Category	1
Ground Elevation	430 ft
Seismic Importance Factor, Ie	1.00
0.2-sec Spectral Response, Ss	1.514 g
1-sec Spectral Response, S1	0.501 g
Site Class	D
Seismic Design Category	D
Basic Seismic Force-Resisting System	Telecommunication Tower (Truss, Steel)

Base Reactions - Wind/Ice

Total Foundation		Individual Footing	
Shear (kips)	58.93	Shear (kips)	36.08
Axial (kips)	159.23	Compression (kips)	406
Moment (ft-kips)	9133	Uplift (kips)	360

Base Reactions - Seismic

Total Foundation		Individual Footing	
Shear (kips)	17.93	Shear (kips)	13.49
Axial (kips)	83.24	Compression (kips)	170
Moment (ft-kips)	3328	Uplift (kips)	129

Notes

1) All legs are A500 (50 ksi Min. Yield).
2) All braces are A572 Grade 50.
3) All brace bolts are A325-X.
4) The tower model is S3TL Series HD1.
5) Transmission lines are to be attached to standard 8 hole waveguide ladders with stackable hangers.
6) Azimuths are relative (not based on true north).
7) Foundation loads shown are maximums.
8) All unequal angles are oriented with the short leg vertical.
9) Weights shown are estimates. Final weights may vary.
10) This tower design and, if applicable, the foundation design(s) shown on the following page(s) also meet or exceed the requirements of the 2015 International Building Code.
11) Tower Rating: 99.7%
12) No grout is required under the base plates.

Sabre Industries
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Sabre Industries
7101 Southbridge Drive
P.O. Box 658
Sioux City, IA 51102-0658
Phone (712) 258-6690
Fax (712) 279-0814

Job	23-1837-TJH-R1
Customer	TILLMAN INFRASTRUCTURE, LLC
Site Name	TI-OPP-19611, KY 15762578
Description	245' S3TL
Date	11/9/2022 By DO

Designed Appurtenance Loading

Elev	Description	Tx-Line
240	(1) 278 sq. ft. EPA 6000# (no Ice)	(9) 1 5/8"
225	(1) 278 sq. ft. EPA 6000# (no Ice)	(9) 1 5/8"
210	Leg Dish Mount	
210	(1) 8' Solid Dish W/ Radome	(1) EW63

Elev	Description	Tx-Line
200	Leg Dish Mount	
200	(1) 8' Solid Dish W/ Radome	(1) EW63
190	Leg Dish Mount	
190	(1) 8' Solid Dish W/ Radome	(1) EW63

Material List

Display	Value
A	5.563 OD X .500
B	4.500 OD X .337
C	3.500 OD X .300

Display	Value
D	L 2 X 2 X 1/8
E	L 2 X 2 X 3/16
F	300

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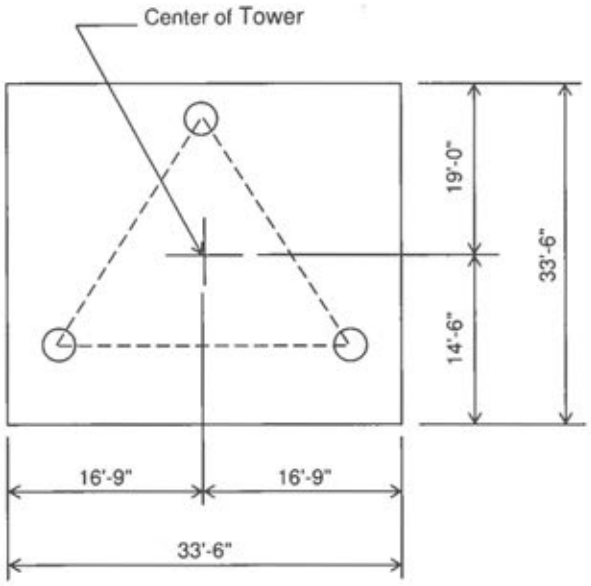
Job	23-1837-TJH-R1
Customer	TILLMAN INFRASTRUCTURE, LLC
Site Name	TI-OPP-19611, KY 15762578
Description	245' S3TL
Date	11/9/2022 By DO

Par

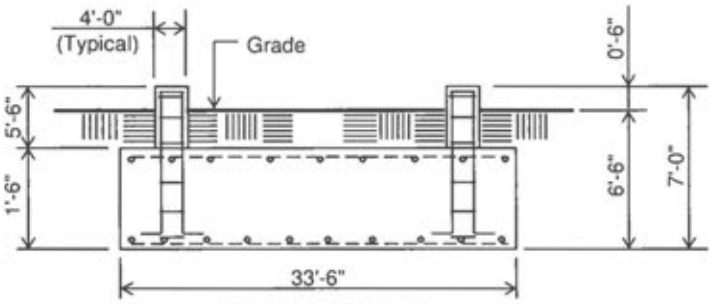
Sabre Industries
INNOVATION DELIVERED

No.: 23-1837-TJH-R1
Date: 11/09/2022
By: DO

Customer: TILLMAN INFRASTRUCTURE, LLC
Site: TI-OPP-19611, KY 15762578
245 ft. Model S3TL Series HD1 Self Supporting Tower



PLAN VIEW



ELEVATION VIEW
(70.0 cu. yds.)
(1 REQD.; NOT TO SCALE)

CAUTION: Center of tower is not in center of slab.

Notes:

1) Concrete shall have a minimum 28-day compressive strength of 4,500 psi, in accordance with ACI 318-14.
2) Rebar to conform to ASTM specification A615 Grade 60.
3) All rebar to have a minimum of 3" concrete cover.
4) All exposed concrete corners to be chamfered 3/4".
5) The foundation design is based on the geotechnical repo by Environmental Corporation of America, Project No. 22 002632, dated August 26, 2022.
6) See the geotechnical report for compaction requirements if specified.
7) 5' of soil cover is required over the entire area of the foundation slab.
8) The bottom anchor bolt template shall be positioned as closely as possible to the bottom of the anchor bolts.
9) Tie overlaps shall be staggered with a nominal 180° separation.
10) This foundation is designed for a max capacity ratio of 90%.

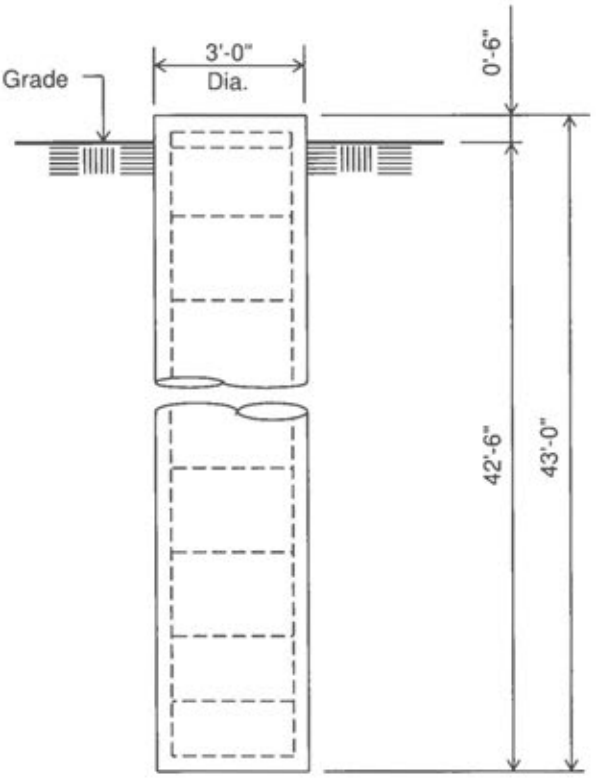
Rebar Schedule per Mat and per Pier	
Pier	(22) #7 vertical rebar w/ hooks at bottom w #4 rebar ties, two (2) within top 5" of pier the 4" C/C
Mat	(59) #9 horizontal rebar evenly spaced eacl way top and bottom. (236 total)
Anchor Bolts per Leg	
(6) 1.5" dia. x 78" F1554-105 on a 13.25" B.C. w/ 9.5" max. projection above concrete.	

7101 Southbridge Dr - P.O. Box 658 - Sioux City, IA 51102-0658 - Phone 712.258.6690 - Fax 712.258.8250

Sabre Industries
INNOVATION DELIVERED

No.: 23-1837-TJH-R1
Date: 11/09/2022
By: DO

Customer: TILLMAN INFRASTRUCTURE, LLC
Site: TI-OPP-19611, KY 15762578
245 ft. Model S3TL Series HD1 Self Supporting Tower



ELEVATION VIEW
(11.3 cu. yds.)
(3 REQUIRED; NOT TO SCALE)

Notes:

1) Concrete shall have a minimum 28-day compressive strength of 4,500 psi, in accordance with ACI 318-14.
2) Rebar to conform to ASTM specification A615 Grade 60.
3) All rebar to have a minimum of 3" concrete cover.
4) All exposed concrete corners to be chamfered 3/4".
5) The foundation design is based on the geotechnical repo by Environmental Corporation of America, Project No. 22 002632, dated August 26, 2022.
6) See the geotechnical report for drilled pier installation requirements, if specified.
7) The bottom anchor bolt template shall be positioned as closely as possible to the bottom of the anchor bolts.
8) Tie overlaps shall be staggered with a nominal 180° separation.
9) This foundation is designed for a max capacity ratio of 90%.

Rebar Schedule per Pier	
Pier	(16) #10 vertical rebar w/ #4 ties, two (2) within top 5" of pier then 12" C/C
Anchor Bolts per Leg	
(6) 1.5" dia. x 78" F1554-105 on a 13.25" B.C. w/ 9.5" max. projection above concrete.	

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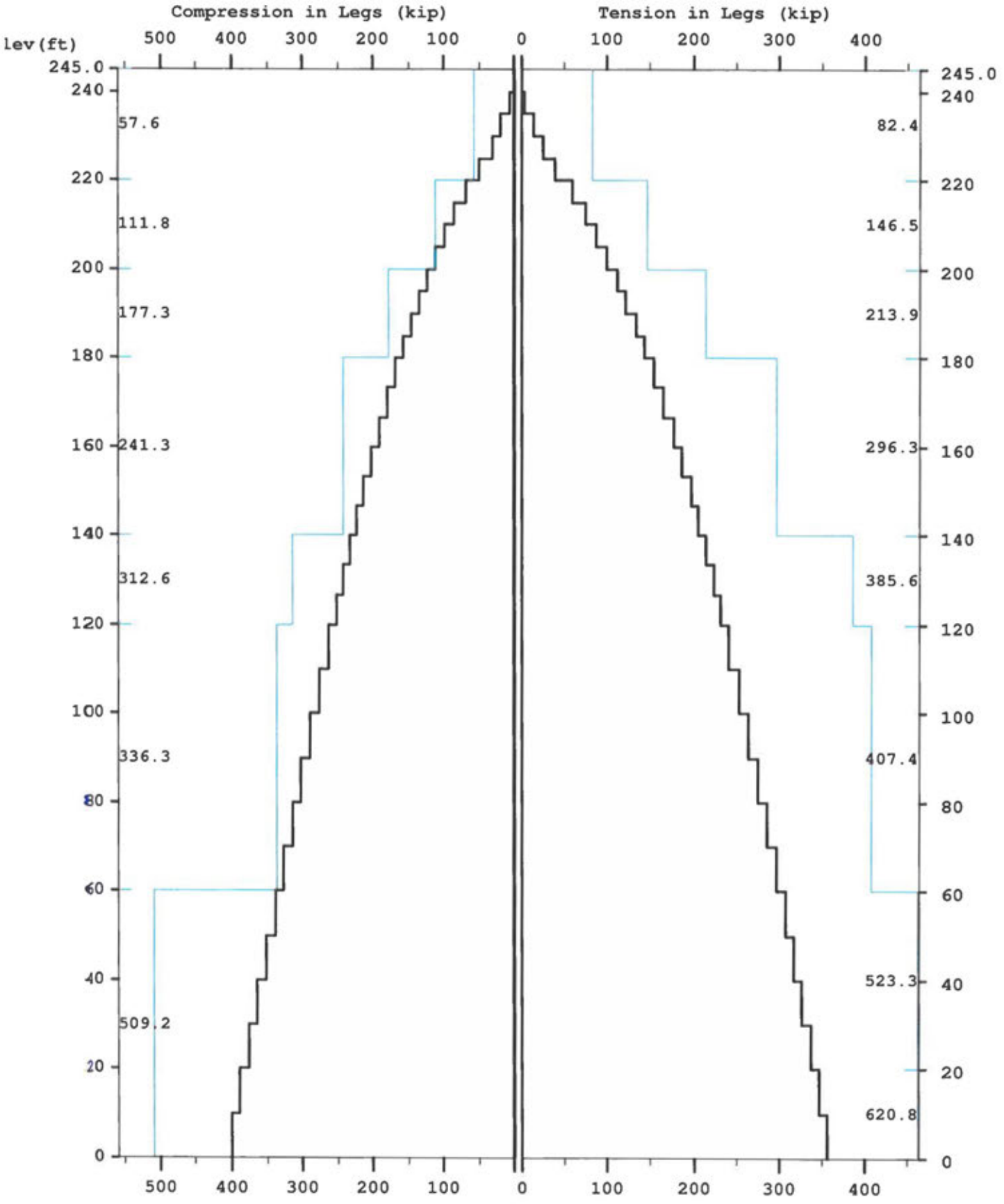
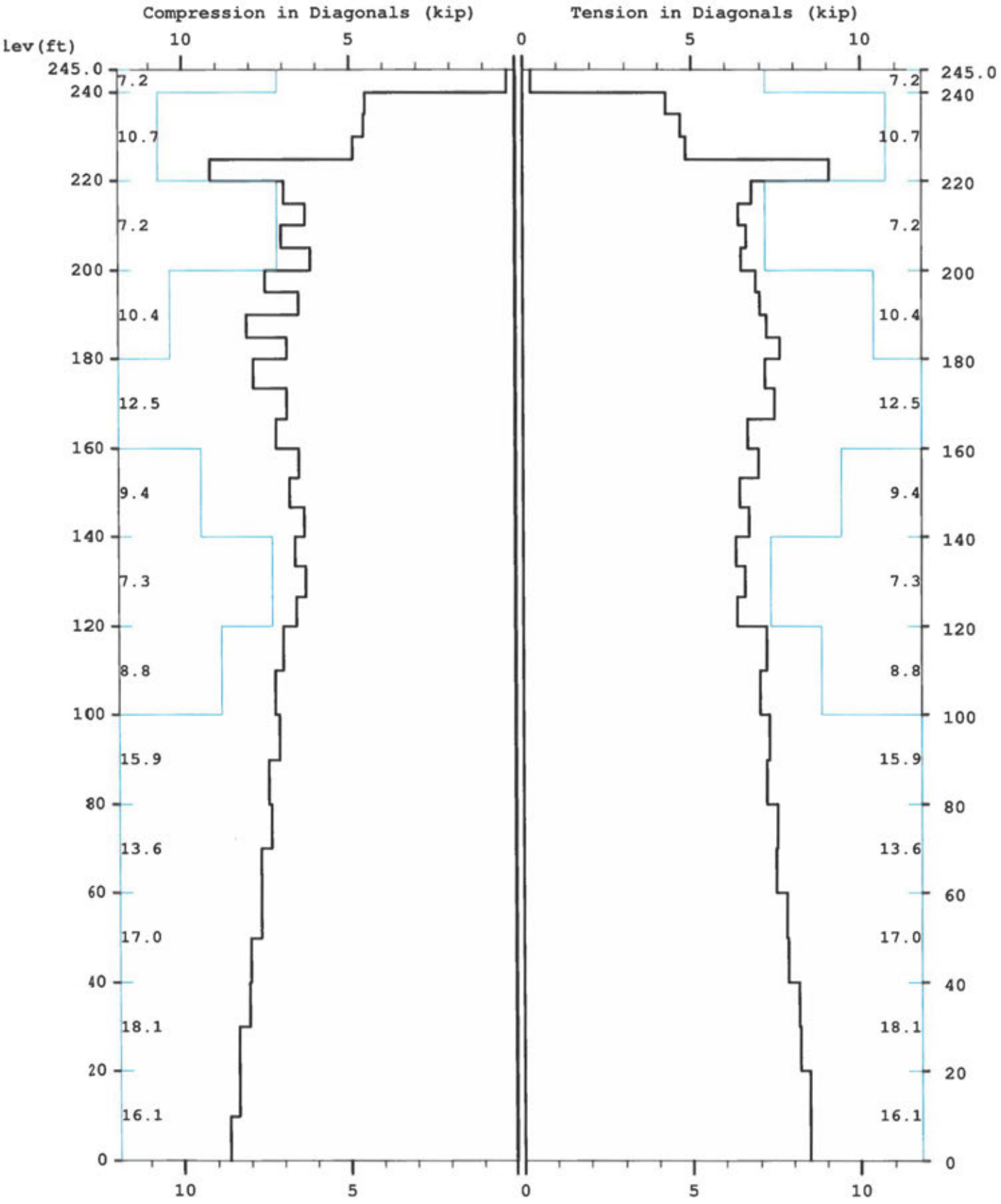
Par

Maximum

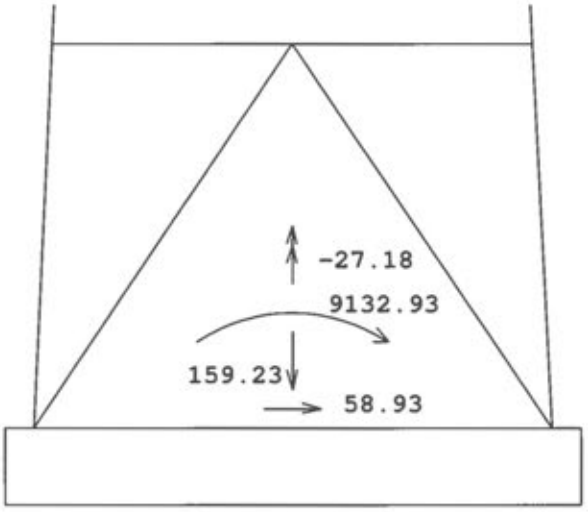

Compression in Legs (kip)
Tension in Legs (kip)
lev(ft)
500 400 300 200 100 0 100 200 300 400
245.0
240
220
200
180
160
140
120
100
80
60
40
20
0
57.6
111.8
177.3
241.3
312.6
336.3
509.2
82.4
146.5
213.9
296.3
385.6
407.4
523.3
620.8

Maximum

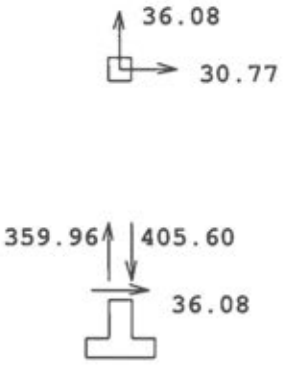

Compression in Diagonals (kip)
Tension in Diagonals (kip)
lev (ft)
10
5
0
5
10
245.0
240
220
200
180
160
140
120
100
80
60
40
20
0
7.2
10.7
7.2
10.4
12.5
9.4
7.3
8.8
15.9
13.6
17.0
18.1
16.1

Maximum

TOTAL FOUNDATION LOADS (kip, ft-kip)



INDIVIDUAL FOOTING LOADS (kip)



Latticed Tower Analysis (Unguyed) (c)2017 Guymast Inc. 416-736-7453
Processed under license at:

Sabre Towers and Poles on: 9 nov 2022 at: 9:34:22

MAST GEOMETRY (ft)

PANEL TYPE	NO.OF LEGS	ELEV.AT BOTTOM	ELEV.AT TOP	F.W..AT BOTTOM	F.W..AT TOP	TYPICAL PANEL HEIGHT
X	3	240.00	245.00	5.00	5.00	5.00
X	3	235.00	240.00	5.00	5.00	5.00
X	3	220.00	235.00	5.00	5.00	5.00
X	3	215.00	220.00	5.50	5.00	5.00
X	3	200.00	215.00	7.00	5.50	5.00
X	3	180.00	200.00	9.00	7.00	5.00
X	3	160.00	180.00	11.00	9.00	6.67
X	3	140.00	160.00	13.00	11.00	6.67
X	3	120.00	140.00	15.00	13.00	6.67
X	3	100.00	120.00	17.00	15.00	10.00
X	3	80.00	100.00	19.00	17.00	10.00
X	3	60.00	80.00	21.00	19.00	10.00
X	3	40.00	60.00	23.00	21.00	10.00
X	3	20.00	40.00	25.00	23.00	10.00
X	3	0.00	20.00	27.00	25.00	10.00

MEMBER PROPERTIES

MEMBER TYPE	BOTTOM ELEV ft	TOP ELEV ft	X-SECTN AREA in.sq	RADIUS OF GYRAT in	ELASTIC MODULUS ksi	THERMAL EXPANSN /deg
LE	220.00	245.00	1.704	0.947	29000.	0.0000117
LE	200.00	220.00	3.016	0.947	29000.	0.0000117
LE	180.00	200.00	4.407	0.947	29000.	0.0000117
LE	140.00	180.00	6.111	0.947	29000.	0.0000117
LE	120.00	140.00	7.952	0.947	29000.	0.0000117
LE	60.00	120.00	8.399	0.947	29000.	0.0000117
LE	0.00	60.00	12.763	0.947	29000.	0.0000117
DI	240.00	245.00	0.484	0.626	29000.	0.0000117
DI	220.00	240.00	0.715	0.626	29000.	0.0000117
DI	200.00	220.00	0.484	0.626	29000.	0.0000117
DI	180.00	200.00	0.715	0.626	29000.	0.0000117
DI	120.00	180.00	0.902	0.626	29000.	0.0000117
DI	100.00	120.00	1.090	0.626	29000.	0.0000117
DI	60.00	100.00	1.688	0.626	29000.	0.0000117
DI	0.00	60.00	1.938	0.626	29000.	0.0000117
HO	240.00	245.00	0.484	0.626	29000.	0.0000117
HO	235.00	240.00	0.715	0.626	29000.	0.0000117
HO	215.00	220.00	0.484	0.626	29000.	0.0000117

FACTORED MEMBER RESISTANCES

BOTTOM ELEV ft	TOP ELEV ft	LEGS COMP kip	LEGS TENS kip	DIAGONALS COMP kip	DIAGONALS TENS kip	HORIZONTALS COMP kip	HORIZONTALS TENS kip	INT BRACING COMP kip	INT BRACING TENS kip
240.0	245.0	57.62	82.45	7.16	7.16	7.16	7.16	0.00	0.00
235.0	240.0	57.62	82.45	10.74	10.74	10.72	10.72	0.00	0.00
220.0	235.0	57.62	82.45	10.74	10.74	0.00	0.00	0.00	0.00
215.0	220.0	111.82	146.47	7.16	7.16	7.16	7.16	0.00	0.00
200.0	215.0	111.82	146.47	7.16	7.16	0.00	0.00	0.00	0.00
180.0	200.0	177.29	213.88	10.38	10.38	0.00	0.00	0.00	0.00
160.0	180.0	241.28	296.33	12.47	12.47	0.00	0.00	0.00	0.00
140.0	160.0	241.28	296.33	9.45	9.45	0.00	0.00	0.00	0.00
120.0	140.0	312.59	385.58	7.32	7.32	0.00	0.00	0.00	0.00
100.0	120.0	336.31	407.40	8.84	8.84	0.00	0.00	0.00	0.00
80.0	100.0	336.31	407.40	15.88	15.88	0.00	0.00	0.00	0.00
60.0	80.0	336.31	407.40	13.59	13.59	0.00	0.00	0.00	0.00
40.0	60.0	509.22	523.32	17.02	17.02	0.00	0.00	0.00	0.00
20.0	40.0	509.22	523.32	18.13	18.13	0.00	0.00	0.00	0.00

0.0	20.0	509.22	620.80	16.06	16.06	0.00	0.00	0.00	0.00

* Only 5 condition(s) shown in full
* Some wind loads may have been derived from full-scale wind tunnel testing

LOADING CONDITION A

106 mph wind with no ice. Wind Azimuth: 0° (1.2 D + 1.0 Wo)

MAST LOADING

LOAD TYPE	ELEV ft	APPLY..LOAD..AT RADIUS ft	AZI	LOAD AZI	.....FORCES..... HORIZ kip	DOWN kip	.....MOMENTS..... VERTICAL ft-kip	TORSNAL ft-kip
C	240.0	0.00	0.0	0.0	8.66	7.20	0.00	0.00
C	225.0	0.00	0.0	0.0	8.54	7.20	0.00	0.00
D	245.0	0.00	180.0	0.0	0.06	0.05	0.00	0.00
D	240.0	0.00	180.0	0.0	0.06	0.05	0.00	0.00
D	240.0	0.00	47.3	0.0	0.09	0.07	0.04	0.06
D	225.0	0.00	47.3	0.0	0.08	0.06	0.04	0.06
D	225.0	0.00	107.3	0.0	0.11	0.08	0.04	0.07
D	220.0	0.00	107.3	0.0	0.11	0.08	0.04	0.07
D	220.0	0.00	103.6	0.0	0.12	0.09	0.04	0.07
D	210.0	0.00	106.1	0.0	0.12	0.09	0.04	0.07
D	210.0	0.00	97.4	0.0	0.12	0.09	0.04	0.08
D	200.0	0.00	99.5	0.0	0.12	0.09	0.04	0.08
D	200.0	0.00	91.9	0.0	0.13	0.12	0.05	0.09
D	180.0	0.00	92.1	0.0	0.14	0.13	0.05	0.10
D	180.0	0.00	85.9	0.0	0.14	0.15	0.06	0.11
D	160.0	0.00	89.1	0.0	0.15	0.15	0.05	0.10
D	160.0	0.00	82.1	0.0	0.15	0.15	0.07	0.12
D	140.0	0.00	84.5	0.0	0.15	0.16	0.06	0.11
D	140.0	0.00	79.2	0.0	0.15	0.18	0.08	0.12
D	120.0	0.00	81.0	0.0	0.16	0.19	0.07	0.12
D	120.0	0.00	77.0	0.0	0.15	0.19	0.09	0.13
D	100.0	0.00	78.2	0.0	0.15	0.19	0.08	0.13
D	100.0	0.00	75.2	0.0	0.16	0.22	0.10	0.13
D	80.0	0.00	76.0	0.0	0.16	0.23	0.09	0.13
D	80.0	0.00	73.6	0.0	0.16	0.23	0.11	0.14
D	60.0	0.00	74.3	0.0	0.16	0.23	0.10	0.14
D	60.0	0.00	72.3	0.0	0.16	0.30	0.11	0.14
D	40.0	0.00	72.9	0.0	0.16	0.31	0.11	0.14
D	40.0	0.00	71.2	0.0	0.15	0.31	0.12	0.13
D	20.0	0.00	71.7	0.0	0.15	0.32	0.12	0.13
D	20.0	0.00	70.3	0.0	0.14	0.32	0.13	0.12
D	0.0	0.00	70.7	0.0	0.14	0.33	0.13	0.12

ANTENNA LOADING

.....ANTENNA..... TYPE	ELEV ft	AZI	ATTACHMENT RAD ft	AZI	.....ANTENNA FORCES..... AXIAL kip	SHEAR kip	GRAVITY kip	TORSION ft-kip
STD+R	210.0	0.0	5.0	0.0	1.31	0.00	0.40	0.00
STD+R	200.0	0.0	5.5	0.0	1.30	0.00	0.40	0.00
STD+R	190.0	0.0	6.1	0.0	1.29	0.00	0.40	0.00

LOADING CONDITION M

106 mph wind with no ice. Wind Azimuth: 0° (0.9 D + 1.0 Wo)

MAST LOADING

LOAD TYPE	ELEV ft	APPLY..LOAD..AT RADIUS ft	AZI	LOAD AZI	.....FORCES..... HORIZ kip	DOWN kip	.....MOMENTS..... VERTICAL ft-kip	TORSNAL ft-kip

C	240.0	0.00	0.0	0.0	8.66	5.40	0.00	0.00
C	225.0	0.00	0.0	0.0	8.54	5.40	0.00	0.00
D	245.0	0.00	180.0	0.0	0.06	0.03	0.00	0.00
D	240.0	0.00	180.0	0.0	0.06	0.03	0.00	0.00
D	240.0	0.00	47.3	0.0	0.09	0.05	0.03	0.06
D	225.0	0.00	47.3	0.0	0.08	0.05	0.03	0.06
D	225.0	0.00	107.3	0.0	0.11	0.06	0.03	0.07
D	220.0	0.00	107.3	0.0	0.11	0.06	0.03	0.07
D	220.0	0.00	103.6	0.0	0.12	0.07	0.03	0.07
D	210.0	0.00	106.1	0.0	0.12	0.07	0.03	0.07
D	210.0	0.00	97.4	0.0	0.12	0.07	0.03	0.08
D	200.0	0.00	99.5	0.0	0.12	0.07	0.03	0.08
D	200.0	0.00	91.9	0.0	0.13	0.09	0.04	0.09
D	180.0	0.00	92.1	0.0	0.14	0.09	0.04	0.10
D	180.0	0.00	85.9	0.0	0.14	0.11	0.05	0.11
D	160.0	0.00	89.1	0.0	0.15	0.11	0.04	0.10
D	160.0	0.00	82.1	0.0	0.15	0.12	0.05	0.12
D	140.0	0.00	84.5	0.0	0.15	0.12	0.05	0.11
D	140.0	0.00	79.2	0.0	0.15	0.14	0.06	0.12
D	120.0	0.00	81.0	0.0	0.16	0.14	0.05	0.12
D	120.0	0.00	77.0	0.0	0.15	0.14	0.06	0.13
D	100.0	0.00	78.2	0.0	0.15	0.14	0.06	0.13
D	100.0	0.00	75.2	0.0	0.16	0.17	0.07	0.13
D	60.0	0.00	74.3	0.0	0.16	0.17	0.08	0.14
D	60.0	0.00	72.3	0.0	0.16	0.23	0.09	0.13
D	20.0	0.00	71.7	0.0	0.15	0.24	0.09	0.13
D	20.0	0.00	70.3	0.0	0.14	0.24	0.10	0.12
D	0.0	0.00	70.7	0.0	0.14	0.24	0.10	0.12

ANTENNA LOADING
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.....ANTENNA.....			ATTACHMENT		.....ANTENNA FORCES.....			
TYPE	ELEV ft	AZI	RAD ft	AZI	AXIAL kip	SHEAR kip	GRAVITY kip	TORSION ft-kip
STD+R	210.0	0.0	5.0	0.0	1.31	0.00	0.30	0.00
STD+R	200.0	0.0	5.5	0.0	1.30	0.00	0.30	0.00
STD+R	190.0	0.0	6.1	0.0	1.29	0.00	0.30	0.00

LOADING CONDITION Y

30 mph wind with 1.5 ice. Wind Azimuth: 0◆ (1.2 D + 1.0 Di + 1.0 Wi)

MAST LOADING
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LOAD TYPE	ELEV ft	APPLY..LOAD..AT RADIUS ft	AZI	LOAD AZI	.....FORCES..... HORIZ kip	DOWN kip	.....MOMENTS..... VERTICAL ft-kip	TORSNAL ft-kip
C	240.0	0.00	0.0	0.0	1.20	18.18	0.00	0.00
C	225.0	0.00	0.0	0.0	1.18	18.10	0.00	0.00
D	245.0	0.00	180.0	0.0	0.01	0.19	0.00	0.00
D	240.0	0.00	180.0	0.0	0.01	0.19	0.00	0.00
D	240.0	0.00	47.3	0.0	0.01	0.27	0.16	0.01
D	235.0	0.00	47.3	0.0	0.01	0.27	0.16	0.01
D	235.0	0.00	47.3	0.0	0.01	0.23	0.16	0.01
D	225.0	0.00	47.3	0.0	0.01	0.23	0.16	0.01
D	225.0	0.00	107.3	0.0	0.01	0.30	0.16	0.01
D	220.0	0.00	107.3	0.0	0.01	0.30	0.16	0.01
D	220.0	0.00	103.6	0.0	0.02	0.35	0.17	0.01
D	215.0	0.00	103.6	0.0	0.02	0.35	0.17	0.01
D	215.0	0.00	106.1	0.0	0.01	0.32	0.16	0.01
D	210.0	0.00	106.1	0.0	0.01	0.32	0.16	0.01
D	210.0	0.00	95.9	0.0	0.01	0.33	0.19	0.01
D	200.0	0.00	98.0	0.0	0.01	0.33	0.18	0.01
D	200.0	0.00	89.1	0.0	0.02	0.37	0.21	0.01
D	190.0	0.00	90.9	0.0	0.02	0.38	0.20	0.01
D	190.0	0.00	89.3	0.0	0.02	0.39	0.24	0.01
D	180.0	0.00	90.8	0.0	0.02	0.40	0.23	0.01
D	180.0	0.00	84.6	0.0	0.02	0.42	0.27	0.01
D	160.0	0.00	87.8	0.0	0.02	0.44	0.25	0.01
D	160.0	0.00	80.8	0.0	0.02	0.44	0.31	0.01
D	140.0	0.00	83.2	0.0	0.02	0.46	0.28	0.01
D	140.0	0.00	77.9	0.0	0.02	0.48	0.34	0.01

D	120.0	0.00	79.7	0.0	0.02	0.50	0.32	0.01
D	120.0	0.00	75.7	0.0	0.02	0.49	0.38	0.01
D	110.0	0.00	75.7	0.0	0.02	0.49	0.38	0.01
D	110.0	0.00	76.8	0.0	0.02	0.50	0.36	0.01
D	100.0	0.00	76.8	0.0	0.02	0.50	0.36	0.01
D	100.0	0.00	73.8	0.0	0.02	0.55	0.41	0.01
D	90.0	0.00	73.8	0.0	0.02	0.55	0.41	0.01
D	90.0	0.00	74.7	0.0	0.02	0.56	0.39	0.01
D	80.0	0.00	74.7	0.0	0.02	0.56	0.39	0.01
D	80.0	0.00	72.3	0.0	0.02	0.56	0.44	0.01
D	60.0	0.00	73.0	0.0	0.02	0.57	0.43	0.01
D	60.0	0.00	71.0	0.0	0.02	0.65	0.47	0.01
D	40.0	0.00	71.6	0.0	0.02	0.66	0.46	0.01
D	40.0	0.00	69.9	0.0	0.02	0.66	0.49	0.01
D	20.0	0.00	70.4	0.0	0.02	0.66	0.48	0.01
D	20.0	0.00	69.5	0.0	0.01	0.58	0.23	0.01
D	10.0	0.00	69.5	0.0	0.01	0.58	0.23	0.01
D	10.0	0.00	69.5	0.0	0.02	0.61	0.41	0.01
D	0.0	0.00	69.5	0.0	0.02	0.61	0.41	0.01

ANTENNA LOADING

.....ANTENNA.....			ATTACHMENT		.....ANTENNA FORCES.....			
TYPE	ELEV ft	AZI	RAD ft	AZI	AXIAL kip	SHEAR kip	GRAVITY kip	TORSION ft-kip
STD+R	210.0	0.0	5.0	0.0	0.11	0.00	1.54	0.00
STD+R	200.0	0.0	5.5	0.0	0.11	0.00	1.54	0.00
STD+R	190.0	0.0	6.1	0.0	0.11	0.00	1.53	0.00

LOADING CONDITION k

Seismic - Azimuth: 0◆ (1.2 D + 1.0 Ev + 1.0 Eh)

MAST LOADING

LOAD TYPE	ELEV ft	APPLY..LOAD..AT RADIUS ft	AZI	LOAD AZI	.....FORCES..... HORIZ kip	DOWN kip	.....MOMENTS..... VERTICAL ft-kip	TORSNAL ft-kip
C	242.5	0.00	0.0	0.0	0.19	0.42	0.00	0.00
C	240.0	0.00	0.0	0.0	3.76	8.41	0.00	0.00
C	232.5	0.00	0.0	0.0	0.12	0.28	0.00	0.00
C	230.0	0.00	0.0	0.0	0.59	1.40	0.00	0.00
C	225.0	0.00	0.0	0.0	3.47	8.41	0.00	0.00
C	222.5	0.00	0.0	0.0	0.04	0.09	0.00	0.00
C	222.5	0.00	0.0	0.0	0.04	0.09	0.00	0.00
C	215.0	0.00	0.0	0.0	0.07	0.19	0.00	0.00
C	215.0	0.00	0.0	0.0	0.07	0.19	0.00	0.00
C	210.0	0.00	0.0	0.0	0.24	0.63	0.00	0.00
C	210.0	0.00	0.0	0.0	0.03	0.07	0.00	0.00
C	210.0	0.00	0.0	0.0	0.27	0.70	0.00	0.00
C	210.0	0.00	0.0	0.0	0.65	1.72	0.00	0.00
C	205.0	0.00	0.0	0.0	0.07	0.19	0.00	0.00
C	205.0	0.00	0.0	0.0	0.07	0.19	0.00	0.00
C	200.0	0.00	0.0	0.0	0.22	0.63	0.00	0.00
C	200.0	0.00	0.0	0.0	0.03	0.07	0.00	0.00
C	200.0	0.00	0.0	0.0	0.25	0.70	0.00	0.00
C	195.0	0.00	0.0	0.0	0.06	0.19	0.00	0.00
C	195.0	0.00	0.0	0.0	0.07	0.20	0.00	0.00
C	190.0	0.00	0.0	0.0	0.02	0.07	0.00	0.00
C	190.0	0.00	0.0	0.0	0.23	0.70	0.00	0.00
C	190.0	0.00	0.0	0.0	0.21	0.63	0.00	0.00
C	190.0	0.00	0.0	0.0	0.83	2.48	0.00	0.00
C	185.0	0.00	0.0	0.0	0.06	0.19	0.00	0.00
C	185.0	0.00	0.0	0.0	0.07	0.20	0.00	0.00
C	170.0	0.00	0.0	0.0	0.12	0.40	0.00	0.00
C	170.0	0.00	0.0	0.0	0.90	3.10	0.00	0.00
C	170.0	0.00	0.0	0.0	0.11	0.39	0.00	0.00
C	150.0	0.00	0.0	0.0	0.81	3.24	0.00	0.00
C	150.0	0.00	0.0	0.0	0.10	0.39	0.00	0.00
C	150.0	0.00	0.0	0.0	0.10	0.40	0.00	0.00
C	130.0	0.00	0.0	0.0	0.08	0.40	0.00	0.00
C	130.0	0.00	0.0	0.0	0.87	4.17	0.00	0.00
C	130.0	0.00	0.0	0.0	0.08	0.39	0.00	0.00
C	110.0	0.00	0.0	0.0	0.07	0.40	0.00	0.00

C	110.0	0.00	0.0	0.0	0.07	0.39	0.00	0.00
C	110.0	0.00	0.0	0.0	0.71	4.22	0.00	0.00
C	90.0	0.00	0.0	0.0	0.05	0.39	0.00	0.00
C	90.0	0.00	0.0	0.0	0.05	0.40	0.00	0.00
C	90.0	0.00	0.0	0.0	0.66	5.04	0.00	0.00
C	70.0	0.00	0.0	0.0	0.04	0.39	0.00	0.00
C	70.0	0.00	0.0	0.0	0.04	0.40	0.00	0.00
C	70.0	0.00	0.0	0.0	0.50	5.23	0.00	0.00
C	50.0	0.00	0.0	0.0	0.02	0.39	0.00	0.00
C	50.0	0.00	0.0	0.0	0.03	0.40	0.00	0.00
C	50.0	0.00	0.0	0.0	0.44	7.03	0.00	0.00
C	30.0	0.00	0.0	0.0	0.01	0.40	0.00	0.00
C	30.0	0.00	0.0	0.0	0.01	0.39	0.00	0.00
C	30.0	0.00	0.0	0.0	0.25	7.36	0.00	0.00
C	10.0	0.00	0.0	0.0	0.00	0.39	0.00	0.00
C	10.0	0.00	0.0	0.0	0.06	7.66	0.00	0.00
C	10.0	0.00	0.0	0.0	0.00	0.40	0.00	0.00
D	245.0	0.00	180.0	180.0	0.00	0.00	0.00	0.00
D	0.0	0.00	180.0	180.0	0.00	0.00	0.00	0.00

ANTENNA LOADING

.....ANTENNA.....			ATTACHMENT		.....ANTENNA FORCES.....			
TYPE	ELEV ft	AZI	RAD ft	AZI	AXIAL kip	SHEAR kip	GRAVITY kip	TORSION ft-kip
STD+R	210.0	0.0	5.0	0.0	0.00	0.00	0.00	0.00
STD+R	200.0	0.0	5.5	0.0	0.00	0.00	0.00	0.00
STD+R	190.0	0.0	6.1	0.0	0.00	0.00	0.00	0.00

LOADING CONDITION n

Seismic - Azimuth: 0° (0.9 D - 1.0 Ev + 1.0 Eh)

MAST LOADING

LOAD TYPE	ELEV ft	APPLY..LOAD..AT RADIUS ft	AZI	LOAD AZI	.....FORCES..... HORIZ kip	DOWN kip	.....MOMENTS..... VERTICAL ft-kip	TORSNAL ft-kip
C	242.5	0.00	0.0	0.0	0.19	0.21	0.00	0.00
C	240.0	0.00	0.0	0.0	3.76	4.19	0.00	0.00
C	232.5	0.00	0.0	0.0	0.12	0.14	0.00	0.00
C	230.0	0.00	0.0	0.0	0.59	0.70	0.00	0.00
C	225.0	0.00	0.0	0.0	3.47	4.19	0.00	0.00
C	222.5	0.00	0.0	0.0	0.04	0.05	0.00	0.00
C	222.5	0.00	0.0	0.0	0.04	0.05	0.00	0.00
C	215.0	0.00	0.0	0.0	0.07	0.09	0.00	0.00
C	215.0	0.00	0.0	0.0	0.07	0.09	0.00	0.00
C	210.0	0.00	0.0	0.0	0.24	0.31	0.00	0.00
C	210.0	0.00	0.0	0.0	0.03	0.03	0.00	0.00
C	210.0	0.00	0.0	0.0	0.27	0.35	0.00	0.00
C	210.0	0.00	0.0	0.0	0.65	0.86	0.00	0.00
C	205.0	0.00	0.0	0.0	0.07	0.10	0.00	0.00
C	205.0	0.00	0.0	0.0	0.07	0.09	0.00	0.00
C	200.0	0.00	0.0	0.0	0.22	0.31	0.00	0.00
C	200.0	0.00	0.0	0.0	0.03	0.03	0.00	0.00
C	200.0	0.00	0.0	0.0	0.25	0.35	0.00	0.00
C	195.0	0.00	0.0	0.0	0.06	0.09	0.00	0.00
C	195.0	0.00	0.0	0.0	0.07	0.10	0.00	0.00
C	190.0	0.00	0.0	0.0	0.02	0.03	0.00	0.00
C	190.0	0.00	0.0	0.0	0.23	0.35	0.00	0.00
C	190.0	0.00	0.0	0.0	0.21	0.31	0.00	0.00
C	190.0	0.00	0.0	0.0	0.83	1.23	0.00	0.00
C	185.0	0.00	0.0	0.0	0.06	0.10	0.00	0.00
C	185.0	0.00	0.0	0.0	0.07	0.10	0.00	0.00
C	170.0	0.00	0.0	0.0	0.12	0.20	0.00	0.00
C	170.0	0.00	0.0	0.0	0.90	1.54	0.00	0.00
C	170.0	0.00	0.0	0.0	0.11	0.19	0.00	0.00
C	150.0	0.00	0.0	0.0	0.81	1.61	0.00	0.00
C	150.0	0.00	0.0	0.0	0.10	0.19	0.00	0.00
C	150.0	0.00	0.0	0.0	0.10	0.20	0.00	0.00
C	130.0	0.00	0.0	0.0	0.08	0.20	0.00	0.00
C	130.0	0.00	0.0	0.0	0.87	2.08	0.00	0.00
C	130.0	0.00	0.0	0.0	0.08	0.19	0.00	0.00

C	110.0	0.00	0.0	0.0	0.07	0.20	0.00	0.00
C	110.0	0.00	0.0	0.0	0.07	0.19	0.00	0.00
C	110.0	0.00	0.0	0.0	0.71	2.10	0.00	0.00
C	90.0	0.00	0.0	0.0	0.05	0.19	0.00	0.00
C	90.0	0.00	0.0	0.0	0.05	0.20	0.00	0.00
C	90.0	0.00	0.0	0.0	0.66	2.51	0.00	0.00
C	70.0	0.00	0.0	0.0	0.04	0.19	0.00	0.00
C	70.0	0.00	0.0	0.0	0.04	0.20	0.00	0.00
C	70.0	0.00	0.0	0.0	0.50	2.60	0.00	0.00
C	50.0	0.00	0.0	0.0	0.02	0.19	0.00	0.00
C	50.0	0.00	0.0	0.0	0.03	0.20	0.00	0.00
C	50.0	0.00	0.0	0.0	0.44	3.50	0.00	0.00
C	30.0	0.00	0.0	0.0	0.01	0.20	0.00	0.00
C	30.0	0.00	0.0	0.0	0.01	0.19	0.00	0.00
C	30.0	0.00	0.0	0.0	0.25	3.67	0.00	0.00
C	10.0	0.00	0.0	0.0	0.00	0.19	0.00	0.00
C	10.0	0.00	0.0	0.0	0.06	3.82	0.00	0.00
C	10.0	0.00	0.0	0.0	0.00	0.20	0.00	0.00
D	245.0	0.00	180.0	180.0	0.00	0.00	0.00	0.00
D	0.0	0.00	180.0	180.0	0.00	0.00	0.00	0.00

ANTENNA LOADING

.....ANTENNA.....			ATTACHMENT		.....ANTENNA FORCES.....			
TYPE	ELEV ft	AZI	RAD ft	AZI	AXIAL kip	SHEAR kip	GRAVITY kip	TORSION ft-kip
STD+R	210.0	0.0	5.0	0.0	0.00	0.00	0.00	0.00
STD+R	200.0	0.0	5.5	0.0	0.00	0.00	0.00	0.00
STD+R	190.0	0.0	6.1	0.0	0.00	0.00	0.00	0.00

MAXIMUM ANTENNA AND REFLECTOR ROTATIONS:

ELEV ft	AZI deg	TYPE *	.....BEAM DEFLECTIONS (deg)..... ROLL	YAW	PITCH	TOTAL
210.0	0.0	STD+R	-1.527 G	0.240 V	-1.430 J	1.449 J
200.0	0.0	STD+R	-1.362 G	0.212 V	-1.269 J	1.287 J
190.0	0.0	STD+R	-1.240 G	0.183 D	-1.152 J	1.166 J

MAXIMUM TENSION IN MAST MEMBERS (kip)

ELEV ft	LEGS	DIAG	HORIZ	BRACE
245.0	----------		0.15 A	0.00 A
	0.05 S	0.25 X		
240.0	----------		1.22 C	0.00 A
	3.30 M	4.26 T		
235.0	----------		0.18 Y	0.00 A
	14.60 M	4.66 H		
230.0	----------		0.02 Q	0.00 A
	25.41 M	4.82 T		
225.0	----------		0.18 A	0.00 A
	39.31 M	9.07 T		
220.0	----------		1.13 M	0.00 A
	58.94 M	6.76 N		
215.0	----------		0.31 E	0.00 A
	74.47 M	6.36 H		
210.0	----------		0.07 S	0.00 A
	87.28 M	6.61 T		
205.0	----------		0.28 E	0.00 A
	99.42 M	6.44 B		
200.0	----------		0.10 S	0.00 A
	111.58 M	6.88 T		
195.0	----------		0.21 D	0.00 A
	121.73 M	7.00 B		
190.0	----------		0.12 A	0.00 A
	133.35 M	7.21 T		
185.0	----------		0.18 J	0.00 A
	142.31 M	7.62 B		
180.0	----------		0.11 A	0.00 A
	154.68 M	7.16 T		
173.3	----------		0.16 D	0.00 A
	165.28 M	7.46 B		

166.7	----------	0.10 A	0.00 A
	177.23 M 6.65 T		
160.0	----------	0.13 E	0.00 A
	186.77 M 6.96 B		
153.3	----------	0.07 A	0.00 A
	197.18 M 6.40 T		
146.7	----------	0.11 E	0.00 A
	205.96 M 6.69 B		
140.0	----------	0.06 A	0.00 A
	215.33 M 6.31 T		
133.3	----------	0.13 E	0.00 A
	223.50 M 6.59 B		
126.7	----------	0.05 A	0.00 A
	232.16 M 6.33 T		
120.0	----------	0.12 E	0.00 A
	241.72 M 7.22 B		
110.0	----------	0.11 A	0.00 A
	253.79 M 7.01 T		
100.0	----------	0.10 A	0.00 A
	264.70 M 7.29 B		
90.0	----------	0.10 A	0.00 A
	275.93 M 7.21 T		
80.0	----------	0.06 E	0.00 A
	286.39 M 7.52 B		
70.0	----------	0.09 A	0.00 A
	297.09 M 7.49 T		
60.0	----------	0.05 A	0.00 A
	307.17 M 7.81 B		
50.0	----------	0.05 A	0.00 A
	317.32 M 7.83 H		
40.0	----------	0.05 A	0.00 A
	327.05 M 8.15 B		
30.0	----------	0.05 A	0.00 A
	336.90 M 8.19 T		
20.0	----------	0.02 k	0.00 A
	346.39 M 8.46 B		
10.0	----------	0.04 A	0.00 A
	355.88 M 8.48 T		
0.0	----------	0.00 A	0.00 A

MAXIMUM COMPRESSION IN MAST MEMBERS (kip)

ELEV ft	LEGS	DIAG	HORIZ	BRACE
245.0	----------		-0.14 S	0.00 A
	-0.15 Y	-0.26 F		
240.0	----------		-1.04 U	0.00 A
	-7.45 G	-4.51 B		
235.0	----------		-0.07 S	0.00 A
	-19.58 G	-4.56 N		
230.0	----------		-0.07 i	0.00 A
	-30.55 G	-4.86 H		
225.0	----------		-0.08 S	0.00 A
	-48.97 G	-9.18 G		
220.0	----------		-1.16 G	0.00 A
	-68.92 G	-6.97 H		
215.0	----------		-0.23 W	0.00 A
	-85.33 G	-6.30 N		
210.0	----------		-0.10 B	0.00 A
	-98.68 G	-7.05 B		
205.0	----------		-0.20 W	0.00 A
	-111.48 G	-6.16 T		
200.0	----------		-0.12 L	0.00 A
	-123.88 G	-7.53 B		
195.0	----------		-0.14 V	0.00 A
	-134.82 G	-6.50 T		
190.0	----------		-0.13 A	0.00 A
	-146.49 G	-8.08 B		
185.0	----------		-0.12 P	0.00 A
	-156.30 G	-6.90 T		
180.0	----------		-0.10 A	0.00 A
	-168.10 G	-7.88 B		
173.3	----------		-0.12 W	0.00 A
	-179.89 G	-6.89 T		

166.7	----------		-0.09	S	0.00	A
	-191.73	G	-7.19	B			
160.0	----------		-0.10	W	0.00	A
	-202.34	G	-6.52	T			
153.3	----------		-0.06	S	0.00	A
	-213.00	G	-6.82	B			
146.7	----------		-0.09	W	0.00	A
	-222.79	G	-6.35	T			
140.0	----------		-0.05	S	0.00	A
	-232.69	G	-6.65	B			
133.3	----------		-0.11	W	0.00	A
	-241.96	G	-6.33	T			
126.7	----------		-0.05	S	0.00	A
	-251.37	G	-6.60	B			
120.0	----------		-0.10	W	0.00	A
	-262.28	G	-7.00	T			
110.0	----------		-0.10	S	0.00	A
	-275.69	G	-7.26	B			
100.0	----------		-0.09	W	0.00	A
	-288.38	G	-7.12	H			
90.0	----------		-0.08	S	0.00	A
	-301.30	G	-7.43	B			
80.0	----------		-0.05	W	0.00	A
	-313.74	G	-7.38	H			
70.0	----------		-0.08	S	0.00	A
	-326.28	G	-7.69	B			
60.0	----------		-0.05	W	0.00	A
	-338.64	G	-7.69	H			
50.0	----------		-0.04	S	0.00	A
	-351.18	G	-8.02	B			
40.0	----------		-0.04	W	0.00	A
	-363.52	G	-8.06	H			
30.0	----------		-0.04	S	0.00	A
	-375.89	G	-8.35	B			
20.0	----------		-0.01	p	0.00	A
	-388.07	G	-8.38	H			
10.0	----------		-0.04	S	0.00	A
	-400.18	G	-8.64	B			
0.0	----------		0.00	A	0.00	A

FORCE/RESISTANCE RATIO IN LEGS
==========

MAST ELEV ft	-- LEG COMPRESSION - MAX COMP	COMP RESIST	FORCE/ RESIST RATIO	---- LEG TENSION --- MAX TENS	TENS RESIST	FORCE/ RESIST RATIO
245.00	----------					
	0.15	57.62	0.00	0.05	82.45	0.00
240.00	----------					
	7.45	57.62	0.13	3.30	82.45	0.04
235.00	----------					
	19.58	57.62	0.34	14.60	82.45	0.18
230.00	----------					
	30.55	57.62	0.53	25.41	82.45	0.31
225.00	----------					
	48.97	57.62	0.85	39.31	82.45	0.48
220.00	----------					
	68.92	111.82	0.62	58.94	146.47	0.40
215.00	----------					
	85.33	111.82	0.76	74.47	146.47	0.51
210.00	----------					
	98.68	111.82	0.88	87.28	146.47	0.60
205.00	----------					
	111.48	111.82	1.00	99.42	146.47	0.68
200.00	----------					
	123.88	177.29	0.70	111.58	213.88	0.52
195.00	----------					
	134.82	177.29	0.76	121.73	213.88	0.57
190.00	----------					
	146.49	177.29	0.83	133.35	213.88	0.62
185.00	----------					
	156.30	177.29	0.88	142.31	213.88	0.67
180.00	----------					
	168.10	241.28	0.70	154.68	296.33	0.52
173.33	----------					
	179.89	241.28	0.75	165.28	296.33	0.56
166.67	----------					
	191.73	241.28	0.79	177.23	296.33	0.60

160.00						
	202.34	241.28	0.84	186.77	296.33	0.63
153.33						
	213.00	241.28	0.88	197.18	296.33	0.67
146.67						
	222.79	241.28	0.92	205.96	296.33	0.70
140.00						
	232.69	312.59	0.74	215.33	385.58	0.56
133.33						
	241.96	312.59	0.77	223.50	385.58	0.58
126.67						
	251.37	312.59	0.80	232.16	385.58	0.60
120.00						
	262.28	336.31	0.78	241.72	407.40	0.59
110.00						
	275.69	336.31	0.82	253.79	407.40	0.62
100.00						
	288.38	336.31	0.86	264.70	407.40	0.65
90.00						
	301.30	336.31	0.90	275.93	407.40	0.68
80.00						
	313.74	336.31	0.93	286.39	407.40	0.70
70.00						
	326.28	336.31	0.97	297.09	407.40	0.73
60.00						
	338.64	509.22	0.67	307.17	523.32	0.59
50.00						
	351.18	509.22	0.69	317.32	523.32	0.61
40.00						
	363.52	509.22	0.71	327.05	523.32	0.62
30.00						
	375.89	509.22	0.74	336.90	523.32	0.64
20.00						
	388.07	509.22	0.76	346.39	620.80	0.56
10.00						
	400.18	509.22	0.79	355.88	620.80	0.57
0.00						

FORCE/RESISTANCE RATIO IN DIAGONALS

MAST ELEV ft	- DIAG COMPRESSION - MAX COMP	COMP RESIST	FORCE/ RESIST RATIO	--- DIAG TENSION -- MAX TENS	TENS RESIST	FORCE/ RESIST RATIO
245.00						
	0.26	7.16	0.04	0.25	7.16	0.04
240.00						
	4.51	10.74	0.42	4.26	10.74	0.40
235.00						
	4.56	10.74	0.42	4.66	10.74	0.43
230.00						
	4.86	10.74	0.45	4.82	10.74	0.45
225.00						
	9.18	10.74	0.86	9.07	10.74	0.84
220.00						
	6.97	7.16	0.97	6.76	7.16	0.94
215.00						
	6.30	7.16	0.88	6.36	7.16	0.89
210.00						
	7.05	7.16	0.98	6.61	7.16	0.92
205.00						
	6.16	7.16	0.86	6.44	7.16	0.90
200.00						
	7.53	10.38	0.73	6.88	10.38	0.66
195.00						
	6.50	10.38	0.63	7.00	10.38	0.67
190.00						
	8.08	10.38	0.78	7.21	10.38	0.69
185.00						
	6.90	10.38	0.66	7.62	10.38	0.73
180.00						
	7.88	12.47	0.63	7.16	12.47	0.57
173.33						
	6.89	12.47	0.55	7.46	12.47	0.60
166.67						
	7.19	12.47	0.58	6.65	12.47	0.53
160.00						
	6.52	9.45	0.69	6.96	9.45	0.74
153.33						

	6.82	9.45	0.72	6.40	9.45	0.68
146.67						
	6.35	9.45	0.67	6.69	9.45	0.71
140.00						
	6.65	7.32	0.91	6.31	7.32	0.86
133.33						
	6.33	7.32	0.86	6.59	7.32	0.90
126.67						
	6.60	7.32	0.90	6.33	7.32	0.86
120.00						
	7.00	8.84	0.79	7.22	8.84	0.82
110.00						
	7.26	8.84	0.82	7.01	8.84	0.79
100.00						
	7.12	15.88	0.45	7.29	15.88	0.46
90.00						
	7.43	15.88	0.47	7.21	15.88	0.45
80.00						
	7.38	13.59	0.54	7.52	13.59	0.55
70.00						
	7.69	13.59	0.57	7.49	13.59	0.55
60.00						
	7.69	17.02	0.45	7.81	17.02	0.46
50.00						
	8.02	17.02	0.47	7.83	17.02	0.46
40.00						
	8.06	18.13	0.44	8.15	18.13	0.45
30.00						
	8.35	18.13	0.46	8.19	18.13	0.45
20.00						
	8.38	16.06	0.52	8.46	16.06	0.53
10.00						
	8.64	16.06	0.54	8.48	16.06	0.53
0.00						

MAXIMUM INDIVIDUAL FOUNDATION LOADS: (kip)

LOAD---COMPONENTS				TOTAL
NORTH	EAST	DOWN	UPLIFT	SHEAR
36.08 G	30.77 K	405.60 G	-359.96 M	36.08 G

MAXIMUM TOTAL LOADS ON FOUNDATION : (kip & kip-ft)

HORIZONTAL			DOWN	OVERTURNING			TORSION
NORTH	EAST	TOTAL @ 150.1		NORTH	EAST	TOTAL @ 150.1	
58.6 G	-52.6 P	58.9 L	159.2 g	8991.4 G	8177.8 J	9132.9 L	-27.2 S

Latticed Tower Analysis (Unguyed) (c)2017 Guymast Inc. 416-736-7453
Processed under license at:

Sabre Towers and Poles on: 9 nov 2022 at: 9:34:34

********** Service Load Condition **********

* Only 1 condition(s) shown in full
* Some wind loads may have been derived from full-scale wind tunnel testing

LOADING CONDITION A

60 mph wind with no ice. Wind Azimuth: 0◆ (1.0 D + 1.0 Wo)

MAST LOADING
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LOAD TYPE	ELEV ft	APPLY..LOAD..AT RADIUS ft	AZI	LOAD AZI	.....FORCES..... HORIZ kip	DOWN kip	.....MOMENTS..... VERTICAL ft-kip	TORSNAL ft-kip
C	240.0	0.00	0.0	0.0	2.77	6.00	0.00	0.00
C	225.0	0.00	0.0	0.0	2.74	6.00	0.00	0.00
D	245.0	0.00	180.0	0.0	0.02	0.04	0.00	0.00
D	240.0	0.00	180.0	0.0	0.02	0.04	0.00	0.00
D	240.0	0.00	47.3	0.0	0.03	0.06	0.03	0.02
D	225.0	0.00	47.3	0.0	0.03	0.05	0.03	0.02
D	225.0	0.00	107.3	0.0	0.04	0.07	0.03	0.02
D	220.0	0.00	107.3	0.0	0.04	0.07	0.03	0.02
D	220.0	0.00	103.6	0.0	0.04	0.08	0.03	0.02
D	200.0	0.00	99.4	0.0	0.04	0.08	0.03	0.03
D	200.0	0.00	91.9	0.0	0.04	0.10	0.04	0.03
D	180.0	0.00	92.1	0.0	0.04	0.10	0.04	0.03
D	180.0	0.00	85.9	0.0	0.05	0.12	0.05	0.03
D	160.0	0.00	89.1	0.0	0.05	0.13	0.05	0.03
D	160.0	0.00	82.1	0.0	0.05	0.13	0.06	0.04
D	140.0	0.00	84.5	0.0	0.05	0.13	0.05	0.04
D	140.0	0.00	79.2	0.0	0.05	0.15	0.07	0.04
D	120.0	0.00	81.0	0.0	0.05	0.16	0.06	0.04
D	120.0	0.00	77.0	0.0	0.05	0.16	0.07	0.04
D	100.0	0.00	78.2	0.0	0.05	0.16	0.07	0.04
D	100.0	0.00	75.2	0.0	0.06	0.18	0.08	0.04
D	80.0	0.00	76.0	0.0	0.06	0.19	0.08	0.04
D	80.0	0.00	73.6	0.0	0.05	0.19	0.09	0.04
D	60.0	0.00	74.3	0.0	0.06	0.19	0.08	0.04
D	60.0	0.00	72.3	0.0	0.06	0.25	0.10	0.04
D	40.0	0.00	72.9	0.0	0.06	0.26	0.09	0.04
D	40.0	0.00	71.2	0.0	0.05	0.26	0.10	0.04
D	20.0	0.00	71.7	0.0	0.05	0.26	0.10	0.04
D	20.0	0.00	70.3	0.0	0.05	0.27	0.11	0.04
D	0.0	0.00	70.7	0.0	0.05	0.27	0.11	0.04

ANTENNA LOADING
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.....ANTENNA..... TYPE	ELEV ft	AZI	ATTACHMENT RAD ft	AZI	.....ANTENNA FORCES..... AXIAL kip	SHEAR kip	GRAVITY kip	TORSION ft-kip
STD+R	210.0	0.0	5.0	0.0	0.42	0.00	0.34	0.00
STD+R	200.0	0.0	5.5	0.0	0.42	0.00	0.34	0.00
STD+R	190.0	0.0	6.1	0.0	0.41	0.00	0.34	0.00

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MAXIMUM MAST DISPLACEMENTS:
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ELEV ft	------DEFLECTIONS (ft)----- NORTH	EAST	DOWN	--TILTS (DEG)--- NORTH	EAST	TWIST DEG
245.0	1.064 G	-0.986 D	0.013 L	0.599 G	-0.564 D	-0.076 J
240.0	1.011 G	-0.937 D	0.013 L	0.599 G	-0.564 D	-0.076 J
235.0	0.959 G	-0.887 D	0.013 L	0.596 G	-0.561 D	-0.076 J
230.0	0.907 G	-0.838 D	0.012 L	0.585 G	-0.550 D	-0.076 J
225.0	0.855 G	-0.790 D	0.012 L	0.567 G	-0.532 D	-0.077 J
220.0	0.806 G	-0.743 D	0.011 L	0.538 G	-0.505 D	-0.077 J
215.0	0.758 G	-0.699 D	0.011 L	0.518 G	-0.484 D	-0.077 J
210.0	0.713 G	-0.657 D	0.010 L	0.494 G	-0.462 D	-0.077 J
205.0	0.670 G	-0.616 D	0.010 L	0.468 G	-0.436 D	-0.072 J
200.0	0.629 G	-0.578 D	0.009 L	0.441 G	-0.410 D	-0.068 J
195.0	0.591 G	-0.542 D	0.009 L	0.421 G	-0.391 D	-0.063 J
190.0	0.554 G	-0.509 D	0.009 L	0.402 G	-0.372 D	-0.059 J
185.0	0.519 G	-0.476 D	0.008 L	0.381 G	-0.353 D	-0.053 J
180.0	0.486 G	-0.446 D	0.008 L	0.360 G	-0.333 D	-0.047 J
173.3	0.445 G	-0.407 D	0.008 L	0.340 G	-0.314 D	-0.042 J
166.7	0.406 G	-0.371 D	0.007 L	0.320 G	-0.296 D	-0.038 J
160.0	0.369 G	-0.337 D	0.007 L	0.300 G	-0.277 D	-0.034 J
153.3	0.334 G	-0.306 D	0.007 L	0.280 G	-0.258 D	-0.030 J
146.7	0.302 G	-0.276 D	0.006 L	0.260 G	-0.239 D	-0.027 J
140.0	0.272 G	-0.248 D	0.006 L	0.241 G	-0.221 D	-0.024 J

133.3	0.244 G	-0.222 D	0.006 L	0.226 G	-0.207 D	-0.021 J
126.7	0.218 G	-0.199 D	0.005 L	0.211 G	-0.194 D	-0.018 J
120.0	0.193 G	-0.176 D	0.005 L	0.196 G	-0.180 D	-0.016 J
110.0	0.159 G	-0.145 D	0.005 L	0.176 G	-0.161 D	-0.013 J
100.0	0.129 G	-0.118 D	0.004 L	0.155 G	-0.142 D	-0.010 J
90.0	0.103 G	-0.094 D	0.004 L	0.135 G	-0.123 D	-0.009 J
80.0	0.081 G	-0.074 D	0.003 G	0.115 G	-0.105 D	-0.008 J
70.0	0.062 G	-0.056 D	0.003 L	0.095 G	-0.086 D	-0.006 J
60.0	0.046 G	-0.042 D	0.002 G	0.075 G	-0.068 D	-0.005 J
50.0	0.033 G	-0.030 D	0.002 L	0.062 G	-0.057 D	-0.004 J
40.0	0.023 G	-0.020 D	0.002 G	0.049 G	-0.045 D	-0.003 J
30.0	0.014 G	0.013 J	0.001 A	0.037 G	-0.034 D	-0.002 J
20.0	0.007 G	-0.007 D	0.001 G	0.025 G	-0.022 D	-0.002 G
10.0	0.002 G	0.002 J	0.000 A	0.012 G	-0.011 D	-0.001 G
0.0	0.000 A	0.000 A	0.000 A	0.000 A	0.000 A	0.000 A

MAXIMUM ANTENNA AND REFLECTOR ROTATIONS:

ELEV ft	AZI deg	TYPE *	.....BEAM DEFLECTIONS (deg)..... ROLL	YAW	PITCH	TOTAL
210.0	0.0	STD+R	-0.494 G	0.077 J	0.462 D	0.468 D
200.0	0.0	STD+R	-0.441 G	0.068 J	0.410 D	0.415 D
190.0	0.0	STD+R	-0.402 G	0.059 J	0.372 D	0.377 D

MAXIMUM TENSION IN MAST MEMBERS (kip)

ELEV ft	LEGS	DIAG	HORIZ	BRACE
245.0	----------	0.08 L	0.05 A	0.00 A
	0.00 A			
240.0	----------	1.29 H	0.45 C	0.00 A
	0.00 A			
235.0	----------	1.53 H	0.09 A	0.00 A
	3.10 A			
230.0	----------	1.54 H	0.00 A	0.00 A
	6.58 A			
225.0	----------	2.88 H	0.09 A	0.00 A
	9.60 A			
220.0	----------	2.09 B	0.35 A	0.00 A
	15.88 A			
215.0	----------	2.07 H	0.12 E	0.00 A
	20.62 A			
210.0	----------	2.03 H	0.02 A	0.00 A
	24.57 A			
205.0	----------	2.12 B	0.11 E	0.00 A
	28.28 A			
200.0	----------	2.10 H	0.03 A	0.00 A
	32.03 A			
195.0	----------	2.31 B	0.08 J	0.00 A
	35.05 A			
190.0	----------	2.19 H	0.04 A	0.00 A
	38.64 A			
185.0	----------	2.53 B	0.07 J	0.00 A
	41.26 A			
180.0	----------	2.21 H	0.04 A	0.00 A
	45.29 A			
173.3	----------	2.47 B	0.06 J	0.00 A
	48.36 A			
166.7	----------	2.08 H	0.04 A	0.00 A
	52.17 A			
160.0	----------	2.30 B	0.05 E	0.00 A
	54.96 A			
153.3	----------	2.02 H	0.03 A	0.00 A
	58.24 A			
146.7	----------	2.20 B	0.04 E	0.00 A
	60.82 A			
140.0	----------	2.01 H	0.02 A	0.00 A
	63.72 A			
133.3	----------	2.17 B	0.05 E	0.00 A
	66.11 A			
126.7	----------	2.03 H	0.02 A	0.00 A
	68.73 A			
120.0	----------	2.37 B	0.04 E	0.00 A
	71.53 A			
110.0	----------		0.04 A	0.00 A

	75.17 A	2.28 H		
100.0	----------		0.04 E	0.00 A
	78.35 A	2.41 B		
90.0	----------		0.04 A	0.00 A
	81.68 A	2.37 H		
80.0	----------		0.02 E	0.00 A
	84.70 A	2.51 B		
70.0	----------		0.03 A	0.00 A
	87.86 A	2.48 H		
60.0	----------		0.02 E	0.00 A
	90.70 A	2.62 B		
50.0	----------		0.02 A	0.00 A
	93.55 A	2.61 H		
40.0	----------		0.02 E	0.00 A
	96.21 A	2.74 B		
30.0	----------		0.02 A	0.00 A
	98.95 A	2.74 H		
20.0	----------		0.00 J	0.00 A
	101.52 A	2.86 B		
10.0	----------		0.02 A	0.00 A
	104.13 A	2.84 H		
0.0	----------		0.00 A	0.00 A

MAXIMUM COMPRESSION IN MAST MEMBERS (kip)

ELEV ft	LEGS	DIAG	HORIZ	BRACE
245.0	----------		-0.04 G	0.00 A
	-0.06 A	-0.08 F		
240.0	----------		-0.28 I	0.00 A
	-3.59 G	-1.53 H		
235.0	----------		0.00 A	0.00 A
	-7.70 G	-1.44 B		
230.0	----------		-0.03 K	0.00 A
	-11.24 G	-1.58 B		
225.0	----------		0.00 A	0.00 A
	-18.42 G	-2.98 B		
220.0	----------		-0.38 G	0.00 A
	-24.85 G	-2.31 H		
215.0	----------		-0.05 K	0.00 A
	-30.35 G	-1.99 B		
210.0	----------		-0.03 B	0.00 A
	-34.78 G	-2.34 B		
205.0	----------		-0.04 K	0.00 A
	-39.06 G	-1.93 H		
200.0	----------		-0.04 B	0.00 A
	-43.18 G	-2.51 B		
195.0	----------		-0.03 D	0.00 A
	-46.91 G	-2.02 H		
190.0	----------		-0.04 A	0.00 A
	-50.79 G	-2.70 B		
185.0	----------		-0.02 D	0.00 A
	-54.18 G	-2.12 H		
180.0	----------		-0.03 A	0.00 A
	-57.94 G	-2.63 B		
173.3	----------		-0.03 G	0.00 A
	-62.06 G	-2.15 H		
166.7	----------		-0.03 L	0.00 A
	-65.92 G	-2.39 B		
160.0	----------		-0.02 G	0.00 A
	-69.63 G	-2.06 H		
153.3	----------		-0.02 L	0.00 A
	-73.18 G	-2.26 B		
146.7	----------		-0.02 G	0.00 A
	-76.60 G	-2.03 H		
140.0	----------		-0.02 L	0.00 A
	-79.95 G	-2.20 B		
133.3	----------		-0.03 G	0.00 A
	-83.22 G	-2.04 H		
126.7	----------		-0.01 L	0.00 A
	-86.46 G	-2.18 B		
120.0	----------		-0.03 G	0.00 A
	-90.31 G	-2.28 H		
110.0	----------		-0.03 G	0.00 A

	-94.99 G	-2.41 B		
100.0	----------		-0.02 G	0.00 A
	-99.55 G	-2.35 H		
90.0	----------		-0.02 G	0.00 A
	-104.17 G	-2.49 B		
80.0	----------		-0.01 G	0.00 A
	-108.70 G	-2.45 H		
70.0	----------		-0.02 G	0.00 A
	-113.25 G	-2.59 B		
60.0	----------		-0.01 G	0.00 A
	-117.84 G	-2.58 H		
50.0	----------		-0.01 G	0.00 A
	-122.53 G	-2.71 B		
40.0	----------		-0.01 G	0.00 A
	-127.20 G	-2.71 H		
30.0	----------		-0.01 G	0.00 A
	-131.87 G	-2.83 B		
20.0	----------		0.00 K	0.00 A
	-136.51 G	-2.83 H		
10.0	----------		-0.01 G	0.00 A
	-141.11 G	-2.94 B		
0.0	----------		0.00 A	0.00 A

MAXIMUM INDIVIDUAL FOUNDATION LOADS: (kip)

LOAD---COMPONENTS				TOTAL
NORTH	EAST	DOWN	UPLIFT	SHEAR
12.52 G	10.68 K	143.21 G	-105.20 A	12.52 G

MAXIMUM TOTAL LOADS ON FOUNDATION : (kip & kip-ft)

HORIZONTAL			DOWN	OVERTURNING			TORSION
NORTH	EAST	TOTAL @ 150.1		NORTH	EAST	TOTAL @ 150.1	
19.3 G	17.4 J	19.4 L	52.7 K	2938.1 G	-2675.3 D	2980.6 L	-8.7 G

Seismic Load Effects
Equivalent Lateral Force Procedure
ANSI/TIA-222-H

Parameters	
Risk Category	II
R	3.000
S_S	1.514
S_1	0.501
Site Class	D
T_L (sec)	12.000
F_a	1.000
F_v	1.799
S_{MS}	1.514
S_{M1}	0.901
S_{DS}	1.009
S_{D1}	0.601
T_s	0.596
I_e	1.000
Ω	1.500
C_S	0.302
h (ft)	245.00
K_f	4.540
W_a (ft)	14.88
W_o (ft)	27.00
W (kips)	59.377
W_1 (kips)	26.941
W_2 (kips)	6.862
f_1 (Hertz)	1.005
T (sec)	0.995
k_e	1.2475
V_s (kips)	17.932
Seismic Design Category	D

Vertical Distribution of Seismic Forces

Description	h_i (ft.)	w_i (kips)	W_2 (kips)	$w_i h_i^{ke}$	F_{vi} or E_v (kips)	E_v (kips)	1.2 D + 1.0 E_v (kips)	0.9 D - 1.0 E_v (kips)
Structure - Section 1	242.50	0.3000	0.3000	283.1712	0.1904	0.0605	0.4205	0.2095
Antenna Load	240.00	6.0000	6.0000	5,590.6818	3.7599	1.2108	8.4108	4.1892
Ladder/Line	232.50	0.2004	0.2004	179.4776	0.1207	0.0404	0.2809	0.1400
Structure - Section 2	230.00	0.9980	0.3618	881.8323	0.5931	0.2014	1.3990	0.6968
Antenna Load	225.00	6.0000	0.0000	5,158.2091	3.4691	1.2108	8.4108	4.1892
Ladder/Line	222.50	0.0668	0.0000	56.6331	0.0381	0.0135	0.0937	0.0466
Ladder/Line	222.50	0.0668	0.0000	56.6331	0.0381	0.0135	0.0937	0.0466
Ladder/Line	215.00	0.1336	0.0000	108.5234	0.0730	0.0270	0.1873	0.0932
Ladder/Line	215.00	0.1336	0.0000	108.5234	0.0730	0.0270	0.1873	0.0932
Antenna Load	210.00	0.4500	0.0000	354.9614	0.2387	0.0908	0.6308	0.3142
Mount Load	210.00	0.0500	0.0000	39.4402	0.0265	0.0101	0.0701	0.0349
Mount/Antenna Load	210.00	0.5000	0.0000	394.4015	0.2652	0.1009	0.7009	0.3491
Structure - Section 3	210.00	1.2300	0.0000	970.2277	0.6525	0.2482	1.7242	0.8588
Ladder/Line	205.00	0.1387	0.0000	106.1670	0.0714	0.0280	0.1944	0.0968
Ladder/Line	205.00	0.1336	0.0000	102.2632	0.0688	0.0270	0.1873	0.0932
Antenna Load	200.00	0.4500	0.0000	334.0007	0.2246	0.0908	0.6308	0.3142
Mount Load	200.00	0.0500	0.0000	37.1112	0.0250	0.0101	0.0701	0.0349
Mount/Antenna Load	200.00	0.5000	0.0000	371.1119	0.2496	0.1009	0.7009	0.3491
Ladder/Line	195.00	0.1336	0.0000	96.0782	0.0646	0.0270	0.1873	0.0932
Ladder/Line	195.00	0.1438	0.0000	103.4135	0.0695	0.0290	0.2016	0.1004
Antenna Load	190.00	0.4500	0.0000	313.2980	0.2107	0.0908	0.6308	0.3142
Mount Load	190.00	0.0500	0.0000	34.8109	0.0234	0.0101	0.0701	0.0349
Mount/Antenna Load	190.00	0.5000	0.0000	348.1089	0.2341	0.1009	0.7009	0.3491
Structure - Section 4	190.00	1.7680	0.0000	1,230.9131	0.8278	0.3568	2.4784	1.2344
Ladder/Line	185.00	0.1387	0.0000	93.4057	0.0628	0.0280	0.1944	0.0968
Ladder/Line	185.00	0.1438	0.0000	96.8402	0.0651	0.0290	0.2016	0.1004
Ladder/Line	170.00	0.2876	0.0000	174.2906	0.1172	0.0580	0.4031	0.2008
Ladder/Line	170.00	0.2774	0.0000	168.1092	0.1131	0.0560	0.3889	0.1937
Structure - Section 5	170.00	2.2110	0.0000	1,339.9043	0.9011	0.4462	3.0994	1.5437
Ladder/Line	150.00	0.2774	0.0000	143.8071	0.0967	0.0560	0.3889	0.1937
Ladder/Line	150.00	0.2876	0.0000	149.0949	0.1003	0.0580	0.4031	0.2008
Structure - Section 6	150.00	2.3090	0.0000	1,197.0100	0.8050	0.4660	3.2368	1.6121
Ladder/Line	130.00	0.2774	0.0000	120.2959	0.0809	0.0560	0.3889	0.1937
Ladder/Line	130.00	0.2876	0.0000	124.7192	0.0839	0.0580	0.4031	0.2008
Structure - Section 7	130.00	2.9750	0.0000	1,290.1235	0.8677	0.6004	4.1704	2.0771

Seismic Load Effects
Equivalent Lateral Force Procedure
ANSI/TIA-222-H

				Vertical Distribution of Seismic Forces				
Description	h_i (ft.)	w_i (kips)	W_2 (kips)	$w_i h_i^{ke}$	F_{ai} or E_{hi} (kips)	E_v (kips)	1.2 D + 1.0 E_v (kips)	0.9 D - 1.0 E_v (kips)
Ladder/Line	110.00	0.2876	0.0000	101.2573	0.0681	0.0580	0.4031	0.2008
Ladder/Line	110.00	0.2774	0.0000	97.6661	0.0657	0.0560	0.3889	0.1937
Structure - Section 8	110.00	3.0090	0.0000	1,059.3990	0.7125	0.6072	4.2180	2.1009
Ladder/Line	90.00	0.2774	0.0000	76.0368	0.0511	0.0560	0.3889	0.1937
Ladder/Line	90.00	0.2876	0.0000	78.8327	0.0530	0.0580	0.4031	0.2008
Structure - Section 9	90.00	3.5970	0.0000	985.9570	0.6631	0.7259	5.0423	2.5114
Ladder/Line	70.00	0.2774	0.0000	55.5733	0.0374	0.0560	0.3889	0.1937
Ladder/Line	70.00	0.2876	0.0000	57.6167	0.0387	0.0580	0.4031	0.2008
Structure - Section 10	70.00	3.7300	0.0000	747.2547	0.5026	0.7527	5.2287	2.6043
Ladder/Line	50.00	0.2774	0.0000	36.5234	0.0246	0.0560	0.3889	0.1937
Ladder/Line	50.00	0.2876	0.0000	37.8664	0.0255	0.0580	0.4031	0.2008
Structure - Section 11	50.00	5.0130	0.0000	660.0286	0.4439	1.0116	7.0272	3.5001
Ladder/Line	30.00	0.2876	0.0000	20.0215	0.0135	0.0580	0.4031	0.2008
Ladder/Line	30.00	0.2774	0.0000	19.3115	0.0130	0.0560	0.3889	0.1937
Structure - Section 12	30.00	5.2530	0.0000	365.6926	0.2459	1.0601	7.3637	3.6676
Ladder/Line	10.00	0.2774	0.0000	4.9046	0.0033	0.0560	0.3889	0.1937
Ladder/Line	10.00	0.2876	0.0000	5.0850	0.0034	0.0580	0.4031	0.2008
Structure - Section 13	10.00	5.4660	0.0000	96.6428	0.0650	1.1030	7.6622	3.8164
	Σ	59.38	6.8622	26,663.26	17.93	11.98	83.24	41.46

Leg Connection Details												
Bottom Elevation (ft)	Top Elevation (ft)	Pipe Dimensions	Top Splice					Bottom Splice/Base				
			Bolt Qty.	Bolt Dia. (in)	Bolt Circle (in)	Plate Thickness (in)	Plate Dia. (in)	Bolt Qty.	Bolt Dia. (in)	Bolt Circle (in)	Plate Thickness (in)	Plate Dia. (in)
240	245	2.875 OD X .203						6	0.75	6.50	1.00	8.50
220	240	2.875 OD X .203	6	0.75	6.50	1.00	8.50	6	0.75	6.50	1.00	8.50
200	220	3.500 OD X .300	6	0.75	6.50	1.00	8.50	6	1.00	9.00	1.25	11.50
180	200	4.500 OD X .337	6	1.00	9.00	1.25	11.50	6	1.00	9.00	1.25	11.50
160	180	5.563 OD X .375	6	1.00	9.00	1.25	11.50	6	1.00	9.00	1.25	11.50
140	160	5.563 OD X .375	6	1.00	9.00	1.25	11.50	6	1.00	9.00	1.25	11.50
120	140	5.563 OD X .500	6	1.00	9.00	1.25	11.50	6	1.25	12.50	1.75	15.75
100	120	8.625 OD X .322	6	1.25	12.50	1.50	15.75	6	1.25	12.50	1.50	15.75
80	100	8.625 OD X .322	6	1.25	12.50	1.50	15.75	6	1.25	12.50	1.50	15.75
60	80	8.625 OD X .322	6	1.25	12.50	1.50	15.75	6	1.25	12.50	1.50	15.75
40	60	8.625 OD X .500	6	1.25	12.50	1.50	15.75	6	1.25	12.50	1.50	15.75
20	40	8.625 OD X .500	6	1.25	12.50	1.50	15.75	6	1.25	12.50	1.50	15.75
0	20	8.625 OD X .500	6	1.25	12.50	1.50	15.75	6	1.50	13.25	1.75	17.00

Diagonal Bracing Connection Details								
Bottom Elevation (ft)	Top Elevation (ft)	Angle Shape	Bolt Qty.	Bolt Dia. (in)	Bolt End Distance (in)	Bolt Spacing (in)	Gage Distance From Heel (in)	Gusset Plate Thickness (in)
240	245	L 2 X 2 X 1/8	1	0.625	1.500		1.125	0.375
220	240	L 2 X 2 X 3/16	1	0.625	1.500		1.125	0.375
200	220	L 2 X 2 X 1/8	1	0.625	1.500		1.125	0.375
180	200	L 2 X 2 X 3/16	1	0.625	1.500		1.125	0.375
160	180	L 2 1/2 X 2 1/2 X 3/16	1	0.625	1.500		1.375	0.375
140	160	L 2 1/2 X 2 1/2 X 3/16	1	0.625	1.500		1.375	0.375
120	140	L 2 1/2 X 2 1/2 X 3/16	1	0.750	1.500		1.375	0.375
100	120	L 3 X 3 X 3/16	1	0.750	1.625		1.750	0.375
80	100	L 3 1/2 X 3 1/2 X 1/4	1	0.750	1.625		1.750	0.375
60	80	L 3 1/2 X 3 1/2 X 1/4	1	0.750	1.625		1.750	0.375
40	60	L 4 X 4 X 1/4	1	0.750	1.625		2.000	0.375
20	40	L 4 X 4 X 1/4	2	0.625	1.625	2.1250	2.000	0.500
0	20	L 4 X 4 X 1/4	2	0.625	1.625	2.1250	2.000	0.500

MAT FOUNDATION DESIGN BY SABRE INDUSTRIES

245' S3TL Series HD1 TILLMAN INFRASTRUCTURE, LLC TI-OPP-19611, KY (23-1837-TJH-R1) 2022-11-09 DO

Overall Loads:			
Factored Moment (ft-kips)	10147.70		
Factored Axial (kips)	176.92		
Factored Shear (kips)	65.48		
Individual Leg Loads:		Tower eccentric from mat (ft)=	2.25
Factored Uplift (kips)	400.00		
Factored Download (kips)	451.11		
Factored Shear (kips)	40.00		
Width of Tower (ft)	27	Allowable Bearing Pressure (ksf)	3.00
Ultimate Bearing Pressure	9.00	Safety Factor	3.00
Bearing Φs	0.75		
Bearing Design Strength (ksf)	6.75	Max. Factored Net Bearing Pressure (ksf)	3.07
Water Table Below Grade (ft)	999		
Width of Mat (ft)	33.5	Minimum Mat Width (ft)	33.33
Thickness of Mat (ft)	1.5		
Depth to Bottom of Slab (ft)	6.5		
Bolt Circle Diameter (in)	13.25		
Effective Anchor Bolt Embedment	65.125		
Diameter of Pier (ft)	4	Minimum Pier Diameter (ft)	2.44
Ht. of Pier Above Ground (ft)	0.5	Equivalent Square b (ft)	3.54
Ht. of Pier Below Ground (ft)	5		
Quantity of Bars in Mat	59		
Bar Diameter in Mat (in)	1.128		
Area of Bars in Mat (in^2)	58.96		
Spacing of Bars in Mat (in)	6.81	Recommended Spacing (in)	6 to 12
Quantity of Bars Pier	22		
Bar Diameter in Pier (in)	0.875		
Tie Bar Diameter in Pier (in)	0.5		
Spacing of Ties (in)	4		
Area of Bars in Pier (in2)	13.23	Minimum Pier A_s (in^2)	9.05
Spacing of Bars in Pier (in)	5.71	Recommended Spacing (in)	5 to 12
f'c (ksi)	4.5		
fy (ksi)	60		
Unit Wt. of Soil (kcf)	0.11		
Unit Wt. of Concrete (kcf)	0.15		
Volume of Concrete (yd^3)	70.03		

MAT FOUNDATION DESIGN BY SABRE INDUSTRIES (CONTINUED)

Two-Way Shear:

Average d (in)	13.872		
ϕv_c (ksi)	0.201	v_u (ksi)	0.144
$\phi v_c = \phi(2 + 4/\beta_c)f'_c{}^{1/2}$	0.302		
$\phi v_c = \phi(\alpha_s d/b_o+2)f'_c{}^{1/2}$	0.224		
$\phi v_c = \phi 4f'_c{}^{1/2}$	0.201		
Shear perimeter, b_o (in)	225.64		
β_c	1		

Stability:

Overturning Design Strength (ft-k)	13874.9	Factored Overturning Moment (ft-k)	10606.0

One-Way Shear:

ϕV_c (kips)	561.1	V_u (kips)	468.7

Pier Design:

Design Tensile Strength (kips)	714.4	Tu (kips)	400.0

Shear:

ϕ	0.75		
V_c (kips)	138.0		
V_s (kips)	226.2	$V_{s,max}$ (kips)	989.2
ϕV_n (kips)	273.1	V_u (kips)	40.0
Maximum Spacing (in)	9.76	(Only if Shear Ties are Required)	
Actual Hook Development (in)	12.74	Req'd Hook Development l_{dh} (in) - Tension	10.96
		Req'd Hook Development l_{dc} (in) - Compression	11.81

Anchor Bolt Pull-Out:

$N_{ua} / \phi N_n$	0.67	$V_{ua} / \phi V_n$	0.12
Pier Rebar Development Length (in)	52.72	Required Length of Development (in)	23.48

Flexure in Slab:

ϕM_n (ft-kips)	3375.3	M_u (ft-kips)	3333.5
a (in)	2.30		
Steel Ratio	0.01057		
β_1	0.825		
Maximum Steel Ratio (ρ_t)	0.0197		
Minimum Steel Ratio	0.0018		

Condition	1 is OK, 0 Fails
Minimum Mat Width	1
Maximum Soil Bearing Pressure	1
Pier Area of Steel	1
Pier Shear	1
Two-Way Shear	1
Overturning	1
Anchor Bolt Pull-Out	1
Flexure	1
Steel Ratio	1
Interaction Diagram	1
One-Way Shear	1
Hook Development	1
Minimum Mat Depth	1
Anchor Bolt Punching Shear	1

DRILLED STRAIGHT PIER DESIGN BY SABRE INDUSTRIES

245' S3TL Series HD1 TILLMAN INFRASTRUCTURE, LLC TI-OPP-19611, KY (23-1837-TJH-R1) 2022-11-0

Factored Uplift (kips)	400
Factored Download (kips)	451.1111111
Factored Shear (kips)	40
Ultimate Bearing Pressure	37.5
Bearing ϕ_s	0.75
Bearing Design Strength (ksf)	28.125
Water Table Below Grade (ft)	999
Bolt Circle Diameter (in)	13.25
Effective Anchor Bolt Embedment	65.125
Pier Diameter (ft)	3
Ht. Above Ground (ft)	0.5
Pier Length Below Ground (ft)	42.5
Quantity of Bars	16
Bar Diameter (in)	1.27
Area of Bars (in^2)	20.27
Spacing of Bars (in)	5.41
Tie Bar Diameter (in)	0.5
Spacing of Ties (in)	12
f'_c (ksi)	4.5
f_y (ksi)	60
Unit Wt. of Concrete (kcf)	0.15
Volume of Concrete (yd^3)	11.26

Minimum Pier Diameter (ft): 2.44

Minimum Area of Steel (in^2): 5.09

Length to ignore download (ft): 0

Ignore bottom length in download? ☐

Depth at Bottom of Layer (ft)	Ult. Skin Friction (ksf)	(Ult. Skin Friction)*(Uplift Factor)	γ (kcf)
3.5	1.03	1.03	0.11
6	0.87	0.87	0.11
13.5	0.96	0.96	0.11
18.5	1.10	1.10	0.11
33.5	1.11	1.11	0.11
43.5	1.75	1.75	0.11
50	1.26	1.26	0.11

DRILLED STRAIGHT PIER DESIGN BY SABRE INDUSTRIES (CONTINUED)

Download:			
Φ_s, Download Friction	0.75		
Q_f, Skin Friction (kips)	479.5	W_s (kips)	33.0
Q_b, End Bearing Strength (kips)	265.1	W_c (kips)	45.6
Download Design Strength (kips)	558.5	Factored Net Download (kips)	466.2
Uplift (skin friction):			
Φ_s, Uplift (friction)	0.75		
Q_f, Skin Friction (kips)	479.5		
W_c (kips)	45.6		
W_w (kips)	0.0		
Uplift Design Strength (kips)	400.7	Factored Uplift (kips)	400.0
Uplift (cone):			
Φ_s, Uplift (cone)	0.75		
$W_{s,cone}$ (kips)	3488.2		
$W_{w,cone}$ (kips)	0.0		
W_c (kips)	45.6		
$W_{w,cyl}$ (kips)	0.0		
Uplift Design Strength (kips)	2657.2	Factored Uplift (kips)	400.0
Tension:			
Design Tensile Strength (kips)	1094.5	T_u (kips)	400.0
Shear:			
ϕ	0.75		
V_c (kips)	29.8		
V_s (kips)	56.5	$V_{s,max}$ (kips)	556.4
ϕV_n (kips)	64.7	V_u (kips)	40.0
Anchor Bolt Pull-Out:			
$N_{ua} / \phi N_n$	0.67	$V_{ua} / \phi V_n$	0.12
Rebar Development Length (in)	57.06	Required Length of Development (in)	40.00

Condition	1 is OK, 0 Fails
Download	1
Uplift	1
Area of Steel	1
Shear	1
Anchor Bolt Pull-Out	1
Interaction Diagram	1

EXHIBIT D
COMPETING UTILITIES, CORPORATIONS, OR PERSONS LIST

KY Public Service Commission

Master Utility Search

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

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

Active

Search

	Utility ID	Utility Name	Utility Type	Class	City	State
View	4111300	2600Hz, Inc. dba ZSWITCH	Cellular	D	Henderson	NV
View	4108300	Air Voice Wireless, LLC d/b/a AirTalk Wireless	Cellular	B	Houston	TX
View	4113150	ALLDATA COMMUNICATIONS CORP.	Cellular	C	Brooklyn	NY
View	4111900	ALLNETAIR, INC.	Cellular	D	West Palm Beach	FL
View	44451184	Alltel Corporation d/b/a Verizon Wireless	Cellular	A	Lisle	IL
View	4110850	AltaWorx, LLC	Cellular	D	Fairhope	AL
View	4107800	American Broadband and Telecommunications Company	Cellular	D	Toledo	OH
View	4108650	AmeriMex Communications Corp.	Cellular	A	Safety Harbor	FL
View	4105100	AmeriVision Communications, Inc. d/b/a Affinity 4	Cellular	D	Virginia Beach	VA
View	4105700	Assurance Wireless USA, L.P.	Cellular	A	Atlanta	GA
View	4113100	BARK TECHNOLOGIES, INC.	Cellular	C	Atlanta	GA
View	4108600	BCN Telecom, Inc.	Cellular	D	Morristown	NJ
View	4106000	Best Buy Health, Inc. d/b/a GreatCall d/b/a Jitterbug	Cellular	A	San Diego	CA
View	4111050	BlueBird Communications, LLC	Cellular	D	New York	NY
View	4107600	Boomerang Wireless, LLC	Cellular	B	Kennett Square	PA
View	4105500	BullsEye Telecom, Inc.	Cellular	D	Southfield	MI

View	4100700	Cellco Partnership dba Verizon Wireless	Cellular	A	Basking Ridge	NJ
View	4106600	Cintex Wireless, LLC	Cellular	D	Houston	TX
View	4112900	Clear Mobile, LLC	Cellular	C	Edmond	OK
View	4111150	Comcast OTR1, LLC	Cellular	B	Phoeniexville	PA
View	4101900	Consumer Cellular, Incorporated	Cellular	A	Portland	OR
View	4112700	Cox Wireless, LLC	Cellular	C	Atlanta	GA
View	4108850	Cricket Wireless, LLC	Cellular	A	San Antonio	TX
View	4111500	CSC Wireless, LLC d/b/a Altice Wireless	Cellular	D	Long Island City	NY
View	4112000	DISH Wireless L.L.C.	Cellular	A	Englewood	CO
View	4111200	Dynalink Communications, Inc.	Cellular	C	Brooklyn	NY
View	4111800	Earthlink, LLC	Cellular	B	Atlanta	GA
View	4101000	East Kentucky Network, LLC dba Appalachian Wireless	Cellular	A	Ivel	KY
View	4002300	Easy Telephone Service Company dba Easy Wireless	Cellular	D	Ocala	FL
View	4113250	Elevate Platforms, LLC	Cellular	C	Nashville	TN
View	4109500	Enhanced Communications Group, LLC	Cellular	D	Bartlesville	OK
View	4110450	Excellus Communications, LLC	Cellular	D	Harrisburg	SD
View	4112400	Excess Telecom Inc.	Cellular	D	Beverly Hills	CA
View	4105900	Flash Wireless, LLC	Cellular	D	Charlotte	NC
View	4104800	France Telecom Corporate Solutions L.L.C.	Cellular	D	Herndon	VA
View	4111750	Gabb Wireless, Inc.	Cellular	D	Lehi	UT
View	4109350	Global Connection Inc. of America	Cellular	D	Newport	KY
View	4102200	Globalstar USA, LLC	Cellular	C	Covington	LA
View	4112850	GO TECHNOLOGY MANAGEMENT, LLC	Cellular	C	Atlanta	GA
View	4109600	Google North America Inc.	Cellular	A	Mountain View	CA
View	33350363	Granite Telecommunications, LLC	Cellular	D	Quincy	MA
View	4111350	HELLO MOBILE TELECOM LLC	Cellular	D	Dania Beach	FL
View	4112950	Hoop Wireless, LLC	Cellular	C	Lakewood	NJ
View	4103100	i-Wireless, LLC	Cellular	B	Newport	KY
View	4112550	IDT Domestic Telecom, Inc.	Cellular	D	Newark	NJ
View	4109800	IM Telecom, LLC d/b/a Infiniti Mobile	Cellular	D	Plano	TX
View	4112650	Insight Mobile, Inc.	Cellular	C	Los Angeles	CA
View	4111950	J Rhodes Enterprises LLC	Cellular	D	Gulf Breeze	FL
View	22215360	KDDI America, Inc.	Cellular	D	Staten Island	NY
View	10872	Kentucky RSA #1 Partnership	Cellular	A	Basking Ridge	NJ
View	4112200	Lexvor Inc.	Cellular	D	Irvine	CA

View	4111250	Liberty Mobile Wireless, LLC	Cellular	A	Sunny Isles Beach	FL
View	4111400	Locus Telecommunications, LLC	Cellular	D	Fort Lee	NJ
View	4107300	Lycamobile USA, Inc.	Cellular	D	Newark	NJ
View	4112500	Marconi Wireless Holdings, LLC	Cellular	D	Westlake Village	CA
View	4108800	MetroPCS Michigan, LLC	Cellular	A	Bellevue	WA
View	4111700	Mint Mobile, LLC	Cellular	C	Costa Mesa	CA
View	4111850	Mobi, Inc.	Cellular	D	Honolulu	HI
View	4113350	NatWireless, LLC	Cellular	C	Houston	TX
View	4109400	NetZero Wireless, Inc. dba magicJack Wireless	Cellular	D	West Palm Beach	FL
View	4202400	New Cingular Wireless PCS, LLC dba AT&T Mobility, PCS	Cellular	A	San Antonio	TX
View	4112350	NewPhone Wireless, L.L.C.	Cellular	D	Houston	TX
View	4000800	Nextel West Corporation	Cellular	D	Overland Park	KS
View	4110700	Norcell, LLC	Cellular	D	Clayton	WA
View	4001300	NPCR, Inc. dba Nextel Partners	Cellular	D	Overland Park	KS
View	4001800	OnStar, LLC	Cellular	A	Detroit	MI
View	4110750	Onvoy Spectrum, LLC	Cellular	D	Chicago	IL
View	4109050	Patriot Mobile LLC	Cellular	D	Grapevine	TX
View	4110250	Plintron Technologies USA LLC	Cellular	D	Bellevue	WA
View	33351182	PNG Telecommunications, Inc. dba PowerNet Global Communications	Cellular	D	Cincinnati	OH
View	4112800	Prepaid Wireless Group, LLC dba Prepaid Wireless Wholesale	Cellular	C	Rockville	MD
View	4107700	Puretalk Holdings, Inc.	Cellular	A	Covington	GA
View	4106700	Q Link Wireless, LLC	Cellular	A	Dania	FL
View	4108700	Ready Wireless, LLC	Cellular	D	Cedar Rapids	IA
View	4113200	Red Pocket Inc.	Cellular	C	Thousand Oaks	CA
View	4106200	Rural Cellular Corporation	Cellular	A	Basking Ridge	NJ
View	4108550	Sage Telecom Communications, LLC dba TruConnect	Cellular	A	Los Angeles	CA
View	4113050	Sarver Corporation	Cellular	C	Ontario	CA
View	4109150	SelecTel, Inc. d/b/a SelecTel Wireless	Cellular	D	Fremont	NE
View	4110150	Spectrotel of the South LLC dba Touch Base Communications	Cellular	D	Neptune	NJ
View	4111450	Spectrum Mobile, LLC	Cellular	A	St. Louis	MO
View	4200100	Sprint Spectrum, L.P.	Cellular	A	Atlanta	GA
View	4200500	SprintCom, LLC	Cellular	A	Atlanta	GA
View	4111600	STX Group LLC dba Twigby	Cellular	D	Murfreesboro	TN
View	4202200	T-Mobile Central, LLC dba T-	Cellular	A	Bellevue	WA

		Mobile				
View	4002500	TAG Mobile, LLC	Cellular	D	Plano	TX
View	4109700	Telecom Management, Inc. dba Pioneer Telephone	Cellular	D	Saco	ME
View	4107200	Telefonica USA, Inc.	Cellular	D	Miami	FL
View	4112100	Tello LLC	Cellular	C	Atlanta	GA
View	4108900	Telrite Corporation	Cellular	D	Covington	GA
View	4108450	Tempo Telecom, LLC	Cellular	D	Dallas	TX
View	4110400	Torch Wireless Corp.	Cellular	D	Jacksonville	FL
View	4103300	Touchtone Communications, Inc.	Cellular	D	Cedar Knolls	NJ
View	4104200	TracFone Wireless, Inc.	Cellular	D	Miami	FL
View	4112250	TROOMI WIRELESS, Inc.	Cellular	D	Lehi	UT
View	4002000	Truphone, Inc.	Cellular	D	Durham	NC
View	4112600	Tube Incorporated dba Reach Mobile	Cellular	D	Chelmsford	MA
View	4112750	Unity Wireless, Inc.	Cellular	C	Pembroke Pines	FL
View	4110300	UVNV, Inc. d/b/a Mint Mobile	Cellular	D	Costa Mesa	CA
View	10630	Verizon Americas LLC dba Verizon Wireless	Cellular	A	Basking Ridge	NJ
View	4113300	Via Wireless, LLC	Cellular	C	Houston	TX
View	4110800	Visible Service LLC	Cellular	D	Basking Ridge	NJ
View	4113000	Whoop Connect Inc.	Cellular	C	New York	NY
View	4106500	WiMacTel, Inc.	Cellular	D	Calgary, AB	CA
View	4110950	Wing Tel Inc.	Cellular	D	New York	NY
View	4112150	Zefcom, LLC	Cellular	D	Wichita Falls	TX

EXHIBIT E
FAA

Proposed Case for : 2022-ASO-18346-OE

For information only.
This proposal has not yet been studied. Study outcomes will be posted at a later date.
Public comments are not requested, and will not be considered at this time.

Overview

Study (ASN): 2022-ASO-18346-OE
Prior Study:
Status: Work In Progress

Received Date: 05/11/2022
Entered Date: 05/11/2022
Map: View Map

Construction Info

Notice Of: CONSTR
Duration: PERM (Months: 0 Days: 0)
Work Schedule:

Structure Summary

Structure Type: Antenna Tower
Structure Name: Kevil KY - TI-19611
FCC Number:

Structure Details

Latitude (NAD 83): 37° 05' 14.17" N
Longitude (NAD 83): 88° 53' 08.36" W
Datum: NAD 83
City: Kevil
State: KY
Nearest County: Ballard

Height and Elevation

	Proposed
Site Elevation:	430
Structure Height:	260
Total Height (AMSL):	690

Frequencies

Low Freq	High Freq	Unit	ERP	Unit
6	7	GHz	55	dBW
6	7	GHz	42	dBW
10	11.7	GHz	55	dBW
10	11.7	GHz	42	dBW
17.7	19.7	GHz	55	dBW
17.7	19.7	GHz	42	dBW
21.2	23.6	GHz	55	dBW
21.2	23.6	GHz	42	dBW
614	698	MHz	2000	W
614	698	MHz	1000	W
698	806	MHz	1000	W
806	901	MHz	500	W
806	824	MHz	500	W
824	849	MHz	500	W
851	866	MHz	500	W
869	894	MHz	500	W
896	901	MHz	500	W
901	902	MHz	7	W
929	932	MHz	3500	W
930	931	MHz	3500	W
931	932	MHz	3500	W
932	932.5	MHz	17	dBW
935	940	MHz	1000	W
940	941	MHz	3500	W
1670	1675	MHz	500	W
1710	1755	MHz	500	W
1850	1910	MHz	1640	W
1850	1990	MHz	1640	W
1930	1990	MHz	1640	W
1990	2025	MHz	500	W
2110	2200	MHz	500	W
2305	2360	MHz	2000	W
2305	2310	MHz	2000	W
2345	2360	MHz	2000	W
2496	2690	MHz	500	W
3700	3980	MHz	3280	W

Previous Back to Search Result Next

EXHIBIT F
KENTUCKY AIRPORT ZONING COMMISSION

KENTUCKY TRANSPORTATION CABINET

KENTUCKY AIRPORT ZONING COMMISSION

TC 55-2
Rev. 05/2017

APPLICATION FOR PERMIT TO CONSTRUCT OR ALTER A STRUCTURE

APPLICANT (*name*) Tillman Infrastructure, LLC	**PHONE** 212-706-1677	**FAX**	**KY AERONAUTICAL STUDY #**
ADDRESS (*street*) 147 West 57th Street, 27th Floor	**CITY** New York	**STATE** NY	**ZIP** 10019
APPLICANT'S REPRESENTATIVE (*name*)	**PHONE**	**FAX**	
ADDRESS (*street*)	**CITY**	**STATE**	**ZIP**
APPLICATION FOR [X] New Construction [ ] Alteration [ ] Existing **DURATION** [ ] Permanent [ ] Temporary (*months* *days*)			**WORK SCHEDULE** Start 8/3/2024 End 8/23/2024
TYPE [ ] Crane [ ] Building [X] Antenna Tower [ ] Power Line [ ] Water Tank [ ] Landfill [ ] Other	**MARKING/PAINTING/LIGHTING PREFERRED** [ ] Red Lights & Paint [ ] White- medium intensity [ ] White- high intensity [X] Dual- red & medium intensity white [ ] Dual- red & high intensity white [ ] Other		
LATITUDE 37° 05' 14.17" N	**LONGITUDE** 88° 53' 08.36" W		**DATUM** [ ] NAD83 [ ] NAD27 [ ] Other
NEAREST KENTUCKY City Kevil County Ballard	**NEAREST KENTUCKY PUBLIC USE OR MILITARY AIRPORT** Barkley Regional Airport		
SITE ELEVATION (AMSL, *feet*) 430	**TOTAL STRUCTURE HEIGHT** (AGL, *feet*) 260		**CURRENT** (*FAA aeronautical study #*) 2022-ASO-18346-OE
OVERALL HEIGHT (*site elevation plus total structure height, feet*) 690			**PREVIOUS** (*FAA aeronautical study #*)
DISTANCE (*from nearest Kentucky public use or Military airport to structure*) 8.6 miles			**PREVIOUS** (*KY aeronautical study #*)
DIRECTION (*from nearest Kentucky public use or Military airport to structure*) NW			

DESCRIPTION OF LOCATION (*Attach USGS 7.5 minute quadrangle map or an airport layout drawing with the precise site marked and any certified survey.*)

521 Wyatt Ave, Kevil, KY 42053

DESCRIPTION OF PROPOSAL

Installation of a Self Support lattice Tower for Communication Services

FAA Form 7460-1 (*Has the "Notice of Construction or Alteration" been filed with the Federal Aviation Administration?*)
[ ] No [X] Yes, when? Filed with FAA 5/11/2022 (see attached)

CERTIFICATION (*I hereby certify that all the above entries, made by me, are true, complete, and correct to the best of my knowledge and belief.*)

PENALITIES (*Persons failing to comply with KRS 183.861 to 183.990 and 602 KAR 050 are liable for fines and/or imprisonment as set forth in KRS 183.990(3). Noncompliance with FAA regulations may result in further penalties.*)

NAME	**TITLE**	**SIGNATURE**	**DATE**
Donna-Marie Stipo	National Director Regulatory Compliance	Donna-Marie Stipo	11/8/2022

COMMISSION ACTION

[ ] Chairperson, KAZC
[ ] Administrator, KAZC

[ ] Approved
[ ] Disapproved

SIGNATURE

DATE

EXHIBIT G
GEOTECHNICAL REPORT

ENVIRONMENTAL CORPORATION OF AMERICA

ENVIRONMENTAL | GEOTECHNICAL | WETLANDS | ECOLOGY | CULTURAL RESOURCES

Geotechnical Investigation

Kevil (TI-OPP-19611)
(FA #15762578)

562 Wallace Avenue
Kevil, Ballard County, Kentucky

ECA Project No. 22-002632

SUBMITTED TO:

High Performance Services, Inc
3001 Mills Street
Lafayette, LA 70507

PREPARED BY:

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

ENVIRONMENTAL CORPORATION OF AMERICA
ENVIRONMENTAL | GEOTECHNICAL | WETLANDS | ECOLOGY | CULTURAL RESOURCES

August 26, 2022

High Performance Services, Inc
3001 Mills Street
Lafayette, Louisiana 70507

Attention: Ms. Lisa Zappa, Project Coordinator

Subject: **Geotechnical Investigation Report**
Kevil (TI-OPP-19611) (FA #15762578)
562 Wallace Avenue
Kevil, Ballard County, Kentucky
ECA Project No. 22-002632

Dear Ms. Zappa:

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 High Performance Services, Inc (HPS) via purchase order approval and dated August 5th, 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, and a Boring Log.

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,
Environmental Corporation of America

Mrs. Athulya Balakrishnan, P.E.
Project Engineer

Héctor A. Acosta, M.S.C.E., P.E.
Principal Geotechnical Engineer
State of Kentucky P.E. #31144

Geotechnical Investigation

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 self-supported lattice tower.

Our scope of work included the following:

- One (1) soil test boring was drilled to a depth of 50 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 conducted to obtain soil samples and SPT N-values, in accordance with ASTM D-1586.
- The depth to groundwater, if any, was measured in the boring after drilling was completed.
- Natural moisture content (WC_N) tests were performed on a selected number of soil samples in accordance with ASTM D-2216.
- Unconfined compressive strength (q_u) 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.

Project Information

We were provided with a project site survey prepared by the SMW Engineering Group and dated July 29th, 2022. The proposed tower would be located at 562 Wallace Avenue, in Kevil, Ballard County, Kentucky.

We understand that plans include constructing a 245-foot tall self-supported lattice tower, approximately as shown on Figure 2 in Appendix A. 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 20-foot wide ingress/egress and utility easement.

Field Drilling Work

The field drilling work was conducted on August 19th, 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.

Subsurface Soil Conditions (Boring B-1)

In general, soils encountered at the site consisted of very stiff sandy-clayey Silt (MH) to an approximate depth of 3.5 feet, underlain by stiff to very stiff plastic silty Clay (CH) and hard sandy Clay (CL) to an approximate depth of 18.5 feet, underlain by very dense clayey Sand and sandy Clay (SC-CL) to an approximate depth of 23.5 feet, underlain by dense clayey Sand (SC) and very dense clayey-gravelly Sand (SC-SW) to an approximate depth of 33.5 feet, underlain by very dense fine silty Sand (SM) to an approximate depth of 43.5 feet, underlain by hard sandy Clay (CL) with trace amounts of gravel to the full depth drilled of 50 feet bgs.

The following table presents a summary of the existing soil conditions.

Soil Profile Depth (ft)		Type of Soils (Soil Manual Classification)	*Soil Symbols	SPT N-Values bpf (blows per foot)
0	3.5	Very stiff sandy-clayey Silt	MH	26
3.5	13.5	Stiff to very stiff plastic silty Clay	CH	9 to 20
13.5	18.5	Hard sandy Clay	CL	31
18.5	23.5	Very dense clayey Sand/sandy Clay	SC-CL	50/3'' (+100 bpf)
23.5	28.5	Dense clayey Sand	SC	41
28.5	33.5	Very dense Clayey-gravelly Sand	SC-SW	50/1'' (+100 bpf)
33.5	43.5	Very dense fine silty Sand	SM	50/2'' (+100 bpf)
43.5	50	Hard sandy Clay	CL	50/2'' (+100 bpf)

*Soil symbols are based in the Unified Soil Classification System (USCS).

The SPT N-values ranged between 9 and 31 blows per foot (bpf) for the upper clayey silt, clay layers, between 41 and with 50 blows in 3 inches (+100 bpf) of penetration within the middle and lower sand layers, and with 50 blows in 2 inches (+100 bpf) of penetration for the lower sandy clay layers.

The encountered silty clay and sandy clay soil layers between 3.5 and 18.5 feet were considered stiff to very stiff in terms of consistency. The encountered clayey sand and silty sand layers between 18.5 and 43.5 feet are considered as dense to very dense in terms of relative density. The encountered lower sandy clay soil layers between 43.5 and 50 feet were considered hard in terms of consistency.

Natural moisture (WC_N) content measurements were conducted on selected soil samples and ranged between 8.8% and 23.8%. A final boring log is shown in Appendix B.

Groundwater Level Conditions

At 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.

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.

Shallow Foundation System

For the case of a pad and pier foundation the soils are capable of a maximum net allowable soil bearing pressure (q_{ALL}) of 3,000 psf at a minimum depth of foundation (D_f) of 6 feet below existing grade elevation. Total and differential settlement should be less than 1-inch and ½-inch, respectively. A safety factor of 3 and a wet soil unit weight (γ_{wet}) of 110 pcf were considered for soil bearing computations.

The provided soil 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.

Deep Foundation System

Based on our review of the subsurface soil conditions encountered in the boring, we offer the following average soil parameters for the design of a proposed drilled shaft.

Boring Depth (feet)		*Unit Weight γ_{wet} / γ_b (pcf)	Friction Angle ϕ (deg)	Soil Cohesion C_u (psf)	K_p	Allowable Skin Friction f_S (psf)	Allowable Bearing Pressure q_{ALL} (psf)	Soil Modulus K_H (pci)
0	3.5	115	0	2,300	1.00	513	-	60
3.5	6	110	0	950	1.00	436	-	60
6	13.5	115	0	1,500	1.00	482	-	100
13.5	18.5	115	0	2,700	1.00	548	-	185
18.5	33.5	120	34	0	3.54	554	6,000	250
38.5	43.5	125	36	0	3.85	876	7,500	310
43.5	50	125	0	5,000	1.00	628	9,000	375

Notes: A safety factor of 2 is used for allowable skin friction (f_S). A safety factor of 5 is used for allowable soil bearing pressure (q_{ALL}). *Below the groundwater level designer should consider the buoyant unit weight (γ_b) = $\gamma_{wet} - \gamma_{water}$.
Active earth pressure coefficient $K_A = \tan^2(45 - \phi/2) = 1/K_P$.
At rest earth pressure coefficient $K_O = 1 - \sin(\phi)$.

The proposed drilled shaft should be designed using a combination of point bearing and friction forces. Total drilled shaft foundation settlement should be limited to 0.50-inch. Final shaft diameter (D) and embedment length (L) will depend upon final tower loading conditions. For these foundations ECA recommends a minimum concrete strength (f'_c) of 4,000 psi (pounds per square inch).

Based on the existing soil conditions, project designer may consider using single piers under each tower leg. Drilled piers may range between 4 and 6 feet in diameter. The following table presents the relationship between the allowable drilled pier compression load capacity, pier diameter (Diam.), and pier length (L).

Pier Length (L) (feet)	Allowable Drilled Pier Capacity (Kips)		
	Pier Diameter-feet (inches)		
	4-feet (48-in.)	5-feet (60-in.)	6-feet (72-in.)
30	296	393	500
35	366	487	620
40	425	560	708

Notes: A safety factor of 2 is used for allowable skin friction (f_s). A safety factor of 5 is used for allowable soil bearing pressure (q_{ALL}).

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 (q_{ALL}) of 2,000 psf. A minimum depth of foundation (D_f) of 1.5 feet below existing grades elevations should be considered. Total and differential settlements should be less than 1/2-inch and 1/4-inch, respectively.

For ground floor slabs may be designed as conventional slabs on grade over the existing soils or on engineered compacted fill using a Modulus of Subgrade Reaction (K_s) of 85 pci (pounds per cubic inch). The bearing pad should be prepared and compacted prior to placing any concrete. Contractors should verify the Fill Placement section of this report.

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 **Stiff Soil Profile and Site Class D.**

Foundation Excavations

A groundwater level was not encountered during our site visit, therefore prospective contractor *would not need to consider* excavation dewatering.

A very dense silty sand and hard sandy clay formation was encountered at the site in Boring B-1 at 28.5 feet bgs. The prospective contractor should consider specialized equipment for hard soil excavation or caisson drilling. Further, though we were able to drill to a depth of 50 feet bgs using a small diameter auger, drilling with large diameter foundation augers may not be possible below 28.5 feet.

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 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.

Fill Placement

If required, borrow materials for fill, unless otherwise specified, should consist of essentially granular material (GW, GM, GP, 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. 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.

Basis for Recommendations

The subsurface conditions encountered at the boring location is shown on the Boring Log in Appendix B. The Boring Log 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.

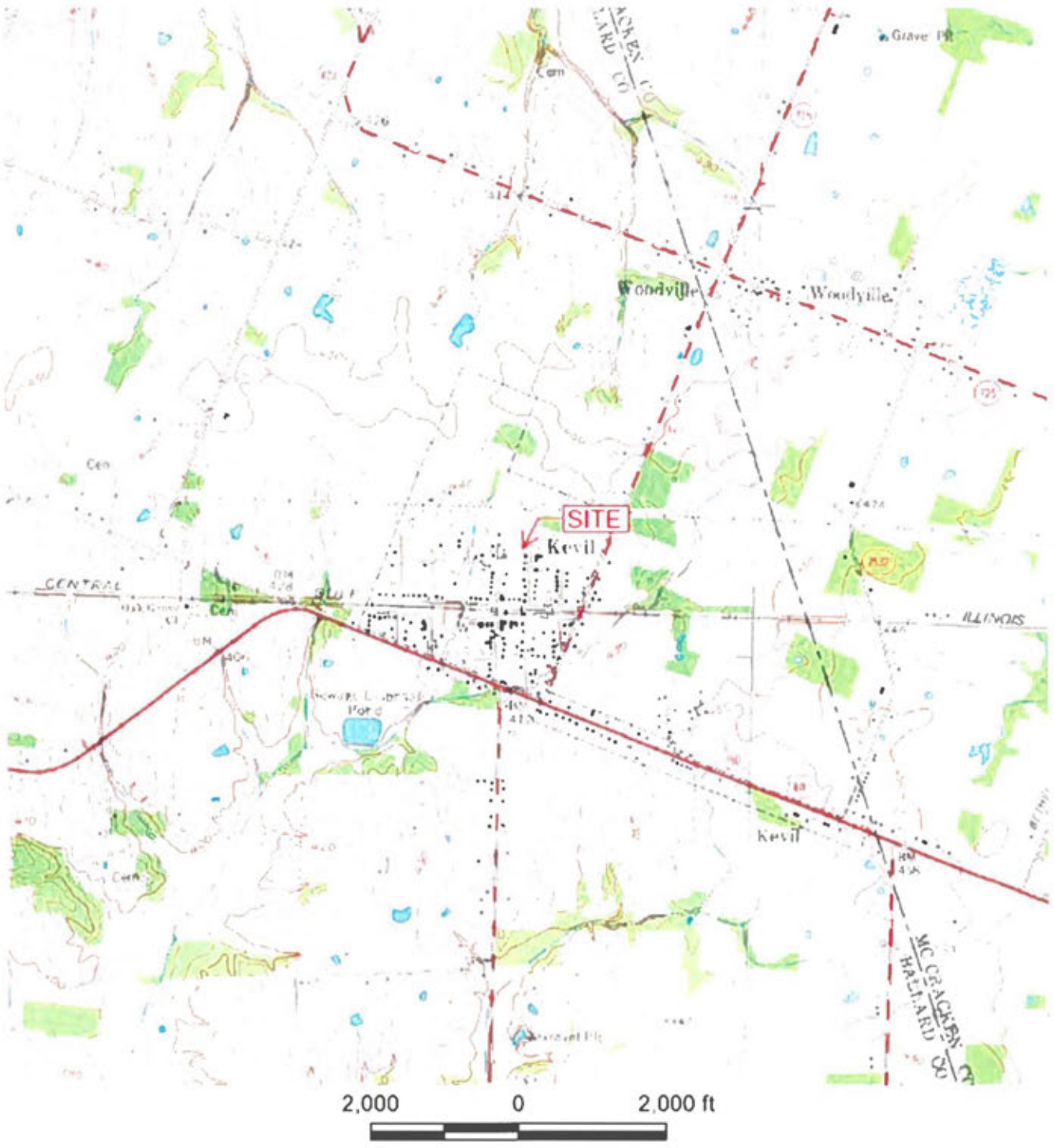
We wish to remind you that we will store the soil samples for 30 days. The samples will then be discarded unless you request otherwise.

APPENDICES

Appendix A Figures
Appendix B Boring Log

APPENDIX A

Figures



Source: USGS Topographic Map 7.5 Minute Series, La Center-KY (2019).

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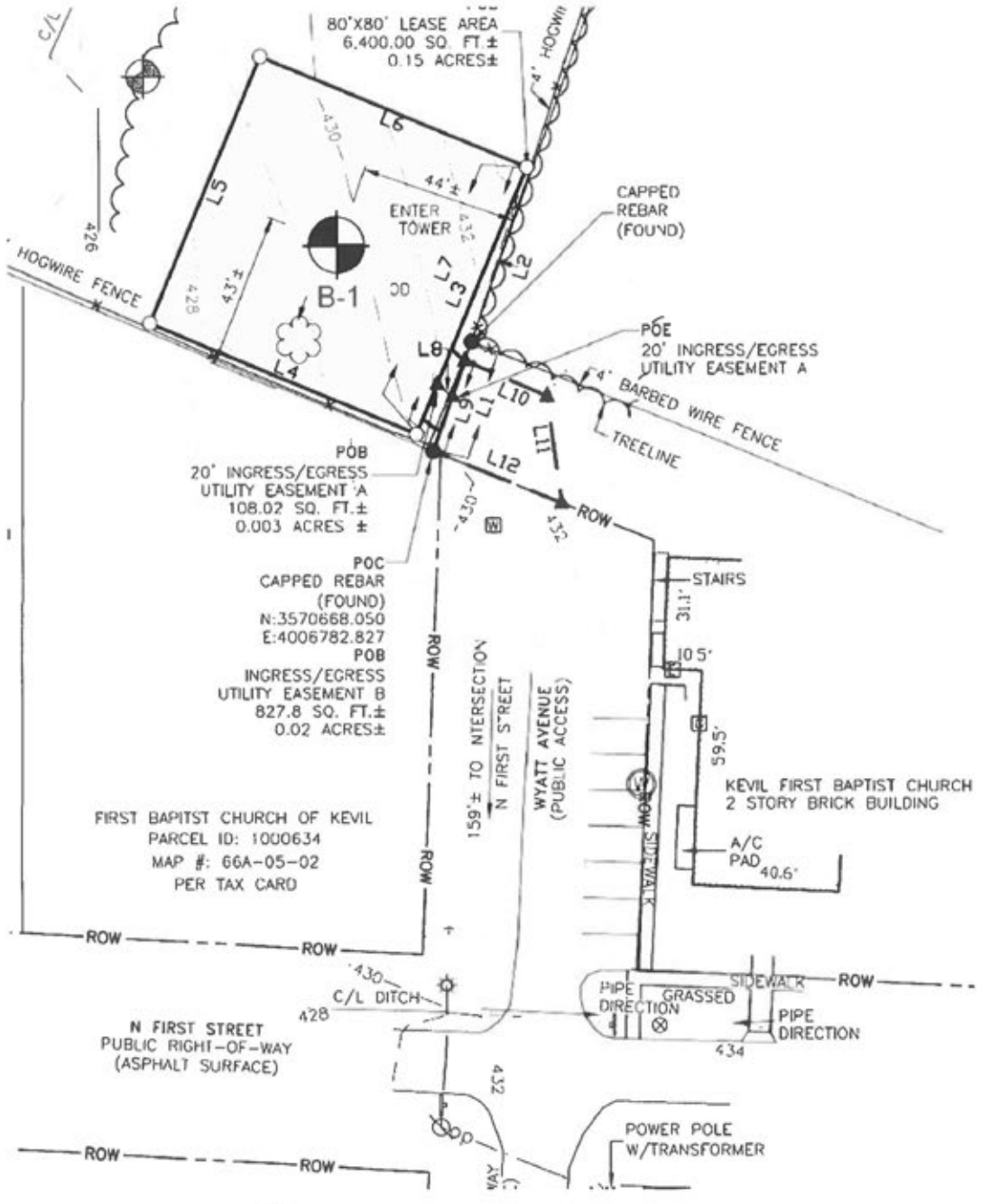
Kevil (TI-OPP-19611 / FA #15762578)

562 Wallace Avenue

Kevil, Ballard County, Kentucky

Figure 1: Site Location Map

ECA Project #22-002632



Source: Project site survey was prepared by SMW Engineering Group and dated July 29, 2022.

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Kevil (TI-OPP-19611 / FA #15762578)

562 Wallace Avenue

Kevil, Ballard County, Kentucky

Figure 2: Boring Location Plan

ECA Project #22-002632

APPENDIX B

Boring Log

Project: **Kevil** Project Location: **Kevil, KY** Project Number: **22-002632**	**Environmental Corp of America** 1375 Union Hill Industrial Ct. Suite-A Alpharetta, GA 30004 (770) 667-2040	Log of Boring B-1 **Sheet 1 of 2**

Date(s) Drilled **8/19/2022**	Logged By **A. Balakrishnan**	Checked By **H. Acosta**
Drilling Method **HSA**	Drill Bit Size/Type **2.25 inches**	Total Depth of Borehole **50 feet bgs**
Drill Rig Type **Truck**	Drilling Contractor **South Drilling**	Approximate Surface Elevation **430 feet AMSL**
Groundwater Level and Date Measured **Not Encountered ATD**	Sampling Method(s) **SPT**	Hammer Data **140 Lbs hammer, rope and cathead**
Borehole Backfill **Cuttings**	Location **Kevil, Ballard County, Kentucky**	

Depth (feet)	Sample Number	Sample Type	Sampling Resistance, blows/ft	SPT N-Values	Rec (%) / RQD (%)	MATERIAL DESCRIPTION	Material Type	USCS Symbol	Water Content (%)	qu (tsf)	qu (tsf)- Spring Tester	LL (%)	PI (%)
0	1		10-12-14	26		Yellowish brown, very stiff sandy clayey Silt, damp (Topsoil 6")	MH		-				
	2		4-4-5	9		Reddish brown, stiff plastic silty Clay, damp	CH		23.8				
5	3		6-7-8	15		Same as above, stiff, damp	CH		-				
	4		8-9-11	20		Same as above, very stiff, trace sand, damp	CH		19.1				
10	5		10-14-17	31		Reddish brown, hard sandy Clay, dry	CL		-				
15	6		16-50/3"	50/3"		Reddish brown, very dense clayey Sand/sandy Clay, dry	SC-CL		13.7				
20	7		14-18-23	41		Reddish brown, dense clayey Sand, dry	SC		-				
25	8		50/1"	50/1"		Dark brown, very dense clayey-gravelly Sand, damp	SC-SW		10.9				
30													

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ENVIRONMENTAL CORPORATION OF AMERICA

Project: **Kevil** Project Location: **Kevil, KY** Project Number: **22-002632**	**Environmental Corp of America** 1375 Union Hill Industrial Ct. Suite-A Alpharetta, GA 30004 (770) 667-2040	Log of Boring B-1 **Sheet 2 of 2**

Depth (feet)	Sample Number	Sample Type	Sampling Resistance, blows/ft	SPT N-Values	Rec (%) / RQD (%)	MATERIAL DESCRIPTION	Material Type	USCS Symbol	Water Content (%)	qu (tsf)	qu (tsf)- Spring Tester	LL (%)	PI (%)
30						Dark brown, very dense clayey-gravelly Sand, damp	SC-SW						
	9		50/1"	50/1"		Brown, very dense fine silty Sand, dry	SM		-				
35													
	10		50/2"	50/2"		Same as above, very dense, dry	SM		8.8				
40													
	11		50/2"	50/2"		Brown, hard sandy Clay, trace gravel, damp	CL		-				
45													
	12		50/2"	50/2"		Same as above, hard, damp	CL		12.6				
50						End of Boring at 50 feet.							
55													
60													

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ENVIRONMENTAL CORPORATION OF AMERICA

Project: **Kevil** Project Location: **Kevil, KY** Project Number: **22-002632**	**Environmental Corp of America** 1375 Union Hill Industrial Ct. Suite-A Alpharetta, GA 30004 (770) 667-2040	Key to Log of Boring **Sheet 1 of 1**

1 Depth (feet)	2 Sample Number	3 Sample Type	4 Sampling Resistance, blows/ft	5 SPT N-Values	6 Rec (%) / RQD (%)	7 MATERIAL DESCRIPTION	8 Material Type	9 USCS Symbol	10 Water Content (%)	11 qu (tsf)	12 qu (tsf)- Spring Tester	13 LL (%)	14 PI (%)

COLUMN DESCRIPTIONS

1. Depth (feet): Depth in feet below the ground surface.
2. Sample Number: Sample identification number.
3. Sample Type: Type of soil sample collected at the depth interval shown.
4. Sampling Resistance, blows/ft: Number of blows to advance driven sampler one foot (or distance shown) beyond seating interval using the hammer identified on the boring log.
5. SPT N-Values: SPT N-values
6. Rec (%) / RQD (%): Core Recovery (%) and RQD (%)
7. MATERIAL DESCRIPTION: Description of material encountered. May include consistency, moisture, color, and other descriptive text.
8. Material Type: Type of material encountered.
9. USCS Symbol: Graphic depiction of the subsurface material encountered.
10. Water Content (%): Water content of the soil sample, expressed as percentage of dry weight of sample.
11. qu (tsf): Unconfined compression test
12. qu (tsf)- Spring Tester: Unconfined Compression test value from a spring tester
13. LL (%): Liquid Limit, expressed as a water content.
14. PI (%): Plasticity Index, expressed as a water content.

FIELD AND LABORATORY TEST ABBREVIATIONS

CHEM: Chemical tests to assess corrosivity
COMP: Compaction test
CONS: One-dimensional consolidation test
LL: Liquid Limit, percent
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)

MATERIAL GRAPHIC SYMBOLS

- Fat CLAY, CLAY w/SAND, SANDY CLAY (CH)
- Lean CLAY, CLAY w/SAND, SANDY CLAY (CL)
- SILT, SILT w/SAND, SANDY SILT (MH)
- Clayey SAND (SC)
- Clayey SAND to Sandy CLAY (SC-CL)
- Clayey SAND (SC) and well graded Sand
- Silty SAND (SM)

TYPICAL SAMPLER GRAPHIC SYMBOLS

- Auger sampler
- Bulk Sample
- 3-inch-OD California w/ brass rings
- CME Sampler
- Grab Sample
- HQ Rock Core
- 2.5-inch-OD Modified California w/ brass liners
- NQ Rock Core
- Pitcher Sample
- 2-inch-OD unlined split spoon (SPT)
- Shelby Tube (Thin-walled, fixed head)

OTHER GRAPHIC SYMBOLS

- Water level (at time of drilling, ATD)
- Water level (after waiting)
- Minor change in material properties within a stratum
- Inferred/gradational contact between strata
- Queried contact between strata

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.

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ENVIRONMENTAL CORPORATION OF AMERICA

EXHIBIT H
DIRECTIONS TO WCF SITE

Driving Directions to Proposed Tower Site

1. Beginning at 437 Ohio St, Wickliffe, KY 42087, head west on Ohio Street and travel approximately 246 feet.
2. Turn right at the first cross street onto 4th Street and travel approximately 0.4 miles.
3. Follow 4th Street for approximately 0.1 miles as it turns slightly right and becomes Lee Street.
4. Continue onto US-60 E / N 6th Steet and travel approximately 6.1 miles.
5. Turn right onto US 60-E / Broadway Street and travel approximately 9.4 miles.
6. Turn left onto Wallace Avenue and travel approximately 0.3 miles.
7. Turn right onto N. 1st Street and travel approximately 427 feet.
8. The access road for the site is located on the left. The site address is 562 Wallace Ave., Kevil, KY 42053.
9. The site coordinates are:
    a. North 37 deg 05 min 14.174 sec
    b. West 88 deg 53 min 08.368 sec

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 I
COPY OF REAL ESTATE AGREEMENT

Market: Kentucky
Cell Site Number: TI-OPP-19611
Cell Site Name: N/A
Search Ring Name: Kevil
Fixed Asset Number: 15762578

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 Ronald Vance, a single Landowner having a mailing address of 562 Wallace Avenue, Kevil, Kentucky 42053 ("**Landlord**") and Tillman Infrastructure LLC, a Delaware limited liability company, having an address at 152West 57th Street, New York, New York 10019 ("**Tenant**").

BACKGROUND

Landlord owns or controls that certain plot, parcel or tract of land, as described on **Exhibit 1,** together with all rights and privileges arising in connection therewith, located at 562 Wallace Avenue, in the County of Ballard, State of Kentucky (collectively, the "**Property**"). Landlord desires to grant to Tenant the right to use a portion of the Property in accordance with this Agreement.

The parties agree as follows:

1. **OPTION TO LEASE.**

(a) Landlord grants to Tenant an exclusive option (the "**Option**") to lease a certain portion of the Property consisting of an 80' x 80' parcel of property including the air space above, as described on attached **Exhibit 1**, (the "**Premises**"), for the placement of a Communication Facility in accordance with the terms of this Agreement.

(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, registrations with the Federal Communications Commissions and construction permits (collectively, the "**Government Approvals**"), initiate the ordering and/or scheduling of necessary utilities. 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 Options contained in this Agreement, Tenant agrees to pay Landlord the sum of [redacted] within thirty (30) business days after the Effective Date. The Option may be exercised during an initial term of one (1) year commencing on the Effective Date (the "**Initial Option Term**"). If the Option is not exercised during the Initial Term, the term shall automatically renew for an additional one (1) year (the "**Renewal Option Term**"). Tenant shall pay Landlord an additional [redacted] within thirty (30) business days after the start date of the Renewal 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, then 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, the Property, (the "**Surrounding Property**"), or in the event of a threatened foreclosure on any of the foregoing, 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 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.

2. **PERMITTED USE.** Tenant may use the Premises for the transmission and reception of communications signals and related activities, 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 tower and 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; (collectively, the ""**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 one hundred twenty (120) 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 shelters or cabinets to the antennas, electric lines from the main feed to the equipment shelters or cabinets and communication lines from the Property's main entry point to the equipment shelters or cabinets, install a generator(s) and to make other improvements, additions, 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. 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 to the Structure or relocate the Communication Facility or add additional cabinets 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.

3. **TERM.**

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

(b) This Agreement will automatically renew for Twelve (12) 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 the then-existing Extension Term.

(c) The Initial Term and any Extension Terms, are collectively referred to as the "**Term**."

4. **RENT.**

(a) Commencing on the first day of the calendar month following the date that Tenant commences construction (the "**Rent Commencement Date**"), Tenant will pay Landlord on or before the tenth (10th) day of each calendar month in advance, [redacted] (the "**Rent**"), at the address set forth above. In any partial month occurring after the Rent Commencement Date, the 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) Upon the commencement of each Extension Term, the monthly Rent will increase by [redacted] over the Rent paid during the previous term.

(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 provisions of this subsection shall survive the termination or expiration of this Agreement.

5. **APPROVALS.**

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

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

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

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

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

(b) by Tenant upon written notice to Landlord, if Tenant is unable to obtain, or maintain, any required approval(s) or the issuance of a license or permit by any agency, board, court or other governmental authority necessary for the construction or operation of the Communication Facility as now or hereafter intended by Tenant; or if Tenant determines, in its sole discretion that the cost of or delay in obtaining or retaining the same is commercially unreasonable;

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

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

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

7. **INSURANCE.** During the Option Term and throughout the Term, Tenant will purchase and maintain in full force and effect such general liability policy as Tenant may deem necessary. Said policy of general liability insurance will at a minimum provide a combined single limit of [redacted] Notwithstanding the foregoing, Tenant shall have the right to self-insure such general liability coverage or by adding this site as an endorsement on a pre-existing master policy which contains the above limit.

8. **INTERFERENCE.**

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

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

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

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

9. **INDEMNIFICATION.**

(a) Tenant agrees to indemnify and save Landlord harmless from and against any and all liability, damage, expense, claims or judgments, including reasonable attorneys' fees, resulting from injury to person or damage to property resulting from or arising out of the use and occupancy of the Premises by Tenant if caused by the gross negligence or willful misconduct Tenant, its agents, employees, invitees, guests or arising out of the breach of any provision of this Agreement during the term of this Agreement

(b) Landlord agrees to indemnify and save Tenant harmless from and against any and all liability, damage, expense, claims or judgments, including reasonable attorneys' fees, resulting from injury to person or damage to property resulting from or arising out of the use and occupancy of the Property by Landlord if caused by the gross negligence or willful misconduct of Landlord, its agents, employees, invitees, guests or arising out of the breach of any provision of this Agreement during the term of this Agreement
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10. **WARRANTIES.**

(a) Each of Tenant and Landlord (to the extent not a natural person) each 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, 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) Landlord grants to Tenant sole, actual, quiet and peaceful use, enjoyment and possession of the Premises in accordance with the terms of this Agreement without 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, then Landlord will provide promptly to Tenant a mutually agreeable subordination, non-disturbance and attornment agreement executed by Landlord and the holder of such security interest in the form attached hereto as Exhibit 2.

11. ENVIRONMENTAL.

(a) Landlord represents and warrants, except as may be identified in **Exhibit 3** attached to this Agreement, (i) the Property, as of the Effective Date, is free of hazardous substances, including asbestos-containing materials and lead paint, and (ii) the Property has never been subject to any contamination or hazardous conditions resulting in any environmental investigation, inquiry or remediation. Landlord and Tenant agree that each will be responsible for compliance with any and all applicable governmental laws, rules, statutes, regulations, codes, ordinances, or principles of common law regulating or imposing standards of liability or standards of conduct with regard to protection of the environment or worker health and safety, as may now or at any time hereafter be in effect, to the extent such apply to that party's activity conducted in or on the Property.

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

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

(d) In the event Tenant becomes aware of any hazardous materials on the Property, , that, in Tenant's sole determination, renders the condition of the Premises or Property unsuitable for Tenant's use, , then Tenant will have the right, in addition to any other rights it may have at law or in equity, to terminate this Agreement upon written notice to Landlord.

12. ACCESS. At all times throughout the Term of this Agreement, and at no additional charge to Tenant, Tenant and its employees, agents, and subcontractors, will have twenty-four (24) hour per day, seven (7) day per week pedestrian and vehicular access ("**Access**") to and over the Property, from an open and improved public road to the Premises, for the installation, maintenance and operation of the Communication Facility and any utilities serving the Premises. As may be described more fully in **Exhibit 1**, Landlord grants to Tenant, it's subtenants, lessees assigns and licensees 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 (the "Access Easement"). Upon Tenant's request, Landlord will execute a separate recordable easement evidencing this right. 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. If Tenant elects to utilize an Unmanned Aircraft System ("UAS") in connection with its installation, construction, monitoring, suite audits, inspections, maintenance, repair, modification, or alteration activities at the Property, Landlord hereby grants Tenant, as 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

13. REMOVAL/RESTORATION. All portions of the Communication Facility brought onto the Property by Tenant will be and remain Tenant's personal property and, at Tenant's option, may be removed by Tenant at any time during or after the Term. Landlord covenants and agrees that no part of the Communication Facility constructed, erected or placed on the Premises by Tenant will become, or be considered as being affixed to or a part of, the Property, it being the specific intention of Landlord that all improvements of every kind and nature

constructed, erected or placed by Tenant on the Premises will be and remain the property of Tenant and may be removed by Tenant at any time during or after the Term. Tenant will repair any damage to the Property resulting from Tenant's removal activities. Any portions of the Communication Facility that Tenant does not remove within one hundred twenty (120) days after the later of the end of the Term and cessation of Tenant's operations at the Premises shall be deemed abandoned and owned by Landlord. Notwithstanding the foregoing, Tenant will not be responsible for the replacement of any trees, shrubs or other vegetation.

14. MAINTENANCE/UTILITIES.

(a) Tenant will keep and maintain the Premises in good condition, reasonable wear and tear and damage from the elements excepted. Landlord will maintain and repair the Property and access thereto and all areas of the Premises where Tenant does not have exclusive control, in good and tenantable condition, subject to reasonable wear and tear and damage from the elements.

(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. . Landlord acknowledges that Tenant provides a communication service which requires electrical power to operate and must operate twenty-four (24) hours per day, seven (7) days per week. If the interruption is for an extended period of time, in Tenant's reasonable determination, Landlord agrees to allow Tenant the right to bring in a temporary source of power for the duration of the interruption.

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

15. DEFAULT AND RIGHT TO CURE.

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

16. ASSIGNMENT/SUBLEASE.

(a) 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.

(b) Subject to the terms of this Agreement, Landlord shall have the right to assign and transfer this Agreement only to a successor owner of the Property. Only upon Tenant receipt of written verification of a sale, or transfer of the Property shall Landlord be relieved of all liabilities and obligations to and Tenant shall look solely to the new landlord for performance under this Agreement. Landlord shall not attempt to assign, or otherwise transfer this Agreement separate from a transfer of ownership of the Property (the "Severance Transaction"), without the prior written consent of Tenant, which consent may be withheld or conditioned in Tenant's sole discretion. If the Tenant consents to a Severance Transaction, Landlord and its successors and assigns shall remain jointly and severally responsible for the performance of all duties and obligations of the Landlord under this Agreement.

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 hereto as follows:

If to Tenant:	Tillman Infrastructure LLC 152 West 57th Street 27th Floor New York, New York 10019 Attn: Lease Administration
With a copy to:	Tillman Infrastructure LLC 152 West 57th Street 27th Floor New York, New York 10019 Attn: Suruchi Ahuja
If to Landlord:	Ronald Vance 562 Wallace Ave Kevil, KY 42053

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 hereto 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 Structure and Communication Facility, moving expenses, prepaid Rent, and business dislocation expenses.

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 the 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 Tenant undertakes to rebuild or restore 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 Communication Facility is completed.

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

21. TAXES.

(a) Tenant shall have the responsibility to pay any personal property, real estate taxes, assessments, or charges owed on the Property which Landlord demonstrates is the result of Tenant's use of the Premises and/or the installation, maintenance, and operation of the Tenant's improvements, and any sales tax imposed on the rent (except to the extent that Tenant is or may become exempt from the payment of sales tax in the jurisdiction in which the Property is located), including any increase in real estate taxes at the Property which Landlord demonstrates arises from the Tenant's improvements and/or Tenant's use of the Premises. Landlord and Tenant shall each be responsible for the payment of any taxes, levies, assessments and other charges imposed including franchise and similar taxes imposed upon the business conducted by Landlord or Tenant at the Property. Notwithstanding the foregoing, tenant shall not have the obligation to pay any tax, assessment, or charge that Tenant is disputing in good faith in appropriate proceedings prior to a final determination that such tax is properly assessed provided that no lien attaches to the Property. Nothing in this Paragraph shall be construed as making Tenant liable for any portion of Landlord's income taxes in connection with any Property or otherwise. Except as set forth in this Paragraph, Landlord shall have the responsibility to pay any personal property, real estate taxes, assessments, or charges owed on the Property and shall do so prior to the imposition of any lien on the Property.

(b) Tenant shall have the right, at its sole option and at its sole cost and expense, to appeal, challenge or seek modification of any tax assessment or billing for which Tenant is wholly or partly responsible for payment. Landlord shall reasonably cooperate with Tenant at Tenant's expense in filing, prosecuting and perfecting any appeal or challenge to taxes as set forth in the preceding sentence, including but not limited to, executing any consent, appeal or other similar document. In the event that as a result of any appeal or challenge by Tenant, there is a reduction, credit or repayment received by the Landlord for any taxes previously paid by Tenant, Landlord agrees to promptly reimburse to Tenant the amount of said reduction, credit or repayment. In the event that Tenant does not have the standing rights to pursue a good faith and reasonable dispute of any taxes under this paragraph, Landlord will pursue such dispute at Tenant's sole cost and expense upon written request of Tenant.

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 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. New deed to Property
ii. New IRS Form W-9
iii. Completed and Signed Tenant Payment Direction Form
iv. Full contact information for new Landlord including phone number(s)

(c) Landlord agrees not to sell, lease or use any areas of the Property or the 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. . 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.

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

24. ELECTRONIC SIGNATURE. The parties acknowledge and agree that this Agreement may be executed by electronic signature, which shall be considered as an original signature for all purposes and shall have the same force and effect as an original signature. Without limitation, "electronic signature" shall include faxed version of an original signature or electronically scanned and transmittal version (e.g. via pdf) of an original signature.

25. . 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/Short Form Lease.** Contemporaneously with the execution of this Agreement, the parties will execute a recordable Memorandum of Lease substantially in the form attached as **Exhibit 4.** Either party may record this Memorandum of Lease at any time during the Term, in its absolute discretion.

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

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

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

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

(m) **Attorneys' Fees.** In the event that any dispute between the parties related to this Agreement should result in litigation, the prevailing party in such litigation shall be entitled to recover from the other party all reasonable fees and expenses of enforcing any right of the prevailing party, including reasonable attorneys' fees and expenses. Prevailing party means the party determined by the court to have most nearly prevailed even

if such party did not prevail in all matters. This provision will not be construed to entitle any party other than Landlord, Tenant and their respective Affiliates to recover their fees and expenses.

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

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

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

(q) **Confidentiality**. The terms and conditions of this Agreement are confidential between the parties and Landlord shall not disclose the same to anyone else, except to Landlord's accountant, attorney and as agreed to by the Parties (except as to sublessees), or as is necessary to effectuate the terms of this Agreement. Any Disclosure in violation of this Section shall be deemed a material breach of this Agreement.

(r) **Estoppel**. Either party will, at any time upon twenty (20) business days prior written notice from the other, execute, acknowledge and deliver to the other a statement in writing (i) certifying that this Agreement is unmodified and in full force and effect (or, if modified, stating the nature of such modification and certifying this Agreement, as so modified, is in full force and effect) and the date to which the Rent and other charges are paid in advance, if any, and (ii) acknowledging that there are not, to such party's knowledge, any uncured defaults on the part of the other party hereunder, or specifying such defaults if any are claimed.

(s) **Rules Against Perpetuities**. If this Agreement or any covenants or provisions herein would otherwise be unlawful, void or voidable for violation of the Rule against Perpetuities, then the same shall continue until 20 years and 6 months after the date of death of the last survivor of the members of Congress of the United States of America (including the House of Representatives and the Senate) representing the State in which the Premises is located who are serving on the date of this Agreement

(t) **Security Interest**. Tenant has the right to assign, mortgage or grant a security interest in all or a portion of Tenant's interest in and to this Agreement, Premises, the Structure, Communication Facility, equipment and Easements, and may assign such Tenant's interests to any such assignee, mortgagees, or holders of security interests, all without Landlord's consent ("Secured Party" or, collectively, "Secured Parties"). If requested, Lessor shall execute such consent to Tenant's financing as may reasonably be required by Secured Parties.

[SIGNATURE PAGES TO FOLLOW]

IN WITNESS WHEREOF, the parties have caused this Agreement to be effective as of the Effective Date.

"WITNESSES"

Name: JARED LYNN

Name: Tyler Chandler

"LANDLORD"

By: Ronald Vance

Print Name: Ronald Vance

Its: Owner

Date: 4-27-22

INDIVIDUAL ACKNOWLEDGMENT

STATE OF Kentucky)
) ss:
COUNTY OF Ballard)

BE IT REMEMBERED, that on this 27 day of April, 2022 before me, the subscriber, a person authorized to take oaths in the State of Kentucky, personally appeared Ronald Vance 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.

Notary Public: Lindsey Hargrove

My Commission Expires: 10-5-22

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

"WITNESSES"

_____
Name: _____

_____
Name: _____

"TENANT"

TILLMAN INFRASTRUCTURE LLC,
a Delaware limited liability company

By: _____
Name: Chris Mularadelis
Its: Authorized Signatory
Date: 8-24-2022

STATE OF NEW JERSEY)
) **ss.**
COUNTY OF BERGEN)

On the 24th day of August in the year of 2022, before me, the undersigned, a Notary Public in and for said state, personally appeared Chris Mularadelis, Authorized Signatory of Tillman Infrastructure LLC, a Delaware limited liability company, personally known to me or proved to me on the basis of satisfactory evidence to be the individual whose name is subscribed to the within instrument and acknowledged to me that he/she executed the same in his/her authorized capacity, and that by his/her signature on the instrument the individual or the entity upon behalf of which the individual acted, executed the instrument.

WITNESS my hand and official seal.

Signature: _____
My Commission Expires: _____
Commission Number: _____

CAROLINE M SEARLES
Notary Public, State of New Jersey
Comm. # 0050188038
My Commission Expires 3/7/2027

Exhibit 1

Description of the Premises & Access and Utility Easements:

to the Option and Lease Agreement dated August 24, 2022, by and between Ronald Vance, a single Landowner, as Landlord, and Tillman Infrastructure LLC, a Delaware limited liability company, as Tenant.

The Property is legally described as follows:

Parcel 1:
Tract No. 1:
Beginning at a stake in the line of the Kevil City Improvement Co's tract of land; thence West with Kevil Improvement Co's line 380 feet to J.R. Nuckolls Southeast corner; thence North with J.R. Nuckolls line 180 feet to a stake; thence parallel with first line 350 feet to a stake; thence South 180 feet to beginning, containing 1 ½ acres. Also the following described real estate lying in Ballard County, KY., adjoining the above described tract; Beginning at a stake, corner to Lot 12 on Wallace Avenue; thence with North line of Lot 12 180 feet to an alley; thence with alley line 88 feet and four inches to corner in Mattie E. Beck's line; thence with Beck's line 189 feet East to Wallace Avenue; thence with Wallace Avenue 23 feet and nine inches to the beginning. Being Lot No. 13 in Block No. 18, in the Town of Kevil. And in all respects being the same property conveyed to Annie L. Mangrunder from W.L. Beck and wife by deed Jan. 2nd 1923 and recorded in Deed Book No. 33, Page 183 in the Ballard Court Clerk's Office.

Tract No. 2:
Beginning at (Point A) an iron pipe in corner between W.E. Stephens and Lisle House and Richard Burnley, known as the Nuckols land; thence running South 15° 35' West a distance of 423 feet to (Point B) an iron pipe in corner between W.E. Stephens and High Brothers and Richard Burnley line; thence South 73°55' East a distance of 356.84 feet to (Point C) an iron pipe; thence South 55°47' West a distance of 185 feet to (Point D) an iron pipe; thence South 74°35' East a distance of 384.58 feet to an iron pipe in W.E. Stephens and North City Limited line; thence North 13°01' East a distance of 602.47 feet to an iron pipe in fence between W.E. Stephens and Lisle House; thence W3est 74°00' West a distance of 746.0 feet
to an iron pipe the point of beginning and containing 9.0 acres (Point A, B, C and D are corners that have been accepted for as correct for 50 years). The above described tract of land being known on a survey of John K. Kelly, dated June 26, 1969, and recorded in Plat Book C, Page 32, of the Ballard County Court Clerk's Office.

The above described Parcel 1 is also described as follows:

Lying at the Northerly end of Wallace Avenue and being the Ronald Keith Vance property recorded in Deed Book 88, page 472 and Plat Book "C", page 32 in the Ballard County Clerk's Office, Ballard County, Kentucky and more particularly bounded and described as follows to wit:
Beginning at a 1/2" rebar with Cap 3732 set at the Southeast corner of Lot 13 in Block 18 to Kevil City Improvement Company Plat, recorded in Plat Book "B", Page 153, said point being in the West right-of-way line of Wallace Avenue (30 feet from the centerline) that is N 2° 45' 30" E as measured along said West right-of-way line 275.00 feet from an existing 4" x 4" concrete monument with Cap 2105 at its intersection with the North right-of-way line of North 1° Street and having Kentucky State Plane Coordinates (South Zone 1602, NAD 83) of Northing 1930187.912 and Easting 725563.680; THENCE FROM SAID POINT OF BEGINNING N 87° 18' 29" W with the South line of said Lot 13 a distance of 180.00 feet to a l/2" rebar with Cap 3732 set at the Southwest corner of said Lot 13 and in the East line of a 15 foot alley; thence N 2° 45' 30" E with the West line of said Lot 13 and the East line of said 15 foot alley 89.67 feet to a 1/2" rebar with Cap 3732 set at the Northwest corner of said Lot 13 and the approximate corporate limits line to the City of Kevil; thence N 67° 09' 44" W with the Northerly line of said 15 foot alley and the Northerly line of the David and Rhonda Lange property per Cabinet 1, Drawer 21, Card 44,326 and following the aforesaid approximate corporate limits line to the City of Kevil 136.88 feet to a 1/2" rebar with Cap 3732 set at the Southeasterly corner of the Burnley Family Farm Trust property per Deed Book 115, Page 593; thence N 23° 23' 23" E with the Easterly line of said Burnley Family

Exhibit 1

Description of the Premises & Access and Utility Easements:

Farm Trust property per Deed Book 115. Page 593 a distance of 602.56 feet to a .1/2" rebar with Cap 3732 set at the Southwesterly corner of the Katie Snyder and Mike Mercer property per Deed Book 95, Page 246; thence S 66° 11' 37" E with the Southerly line of said Mercer property per Deed Book 95, Page 246 a distance of 746.00 feet to a 1/2" rebar with Cap 3732 set at the base of an existing corner post at the Northwesterly corner of the Michael S. Sr. and Katie Ann Mercer property per Deed Book 91, Page 372; thence S 19° 34' 46" W with the Westerly line of said Mercer property per Deed Book 91, Page 372 and the Westerly line of the Kevil Baptist Church property per Deed Book 21, Page 279 and Deed Book 59, Page 411 a distance of 590.88 feet to a 1/2" rebar with cap 3732 set in the Northerly line of Block 19 per aforesaid Kevil City Improvement

Company Plat recorded in Plat Book "B", Page 153 and also in the Northerly line of the First Baptist Church of Kevil property per Deed Book 112, Page 287; thence N 67° 09' 44" W with the Northerly line of said Block 19 and the Northerly line of said First Baptist Church of Kevil property per Deed Book 112, Page 287 and the Northerly lines of the Laura Billings property per Deed Book 94, Page 438 and Kevil United Methodist Church property and also the Northerly end of aforesaid Wallace Avenue 456.75 feet to a 1/2" rebar with Cap 3732 set at the Northeasterly corner of aforesaid Lot 13 in Block 18 and the Northwesterly end of said Wallace Avenue; thence S 2° 45' 30" W with the Westerly right-of-way line of said Wallace Avenue 23.66 feet to the Point of Beginning and containing 10.711 acres as shown on "Boundary Survey of the Ronald Vance Property" prepared by Siteworx Survey & Design LLC dated June 30, 2021,

Parcel ID #64-51

This being the same property conveyed to Ronald Vance from Sheila Shearon, a single person, in a Quitclaim Deed dated August 5, 2009 and recorded August 5, 2009 in Book 88 Page 472.

The Premises and Access and Fiber/Utility Easement are described and/or depicted as follows:

80' x 80' LEASE AREA (AS-SURVEYED)
A portion of the Ronald Vance tract described in Book 88, Page 4 72 as recorded in the Office of County Clerk for Ballard County, Kentucky, and being more particularly described as follows:
Commencing at a capped rebar found marking the Southeast comer of said Vance tract and having Kentucky Single Zone State Plane coordinates: N:3570668.050, E:4006782.827; thence run N 19°35'52" E for a distance of 32.29 feet to a found capped rebar; thence run N 17°42'25" E for a distance of 50.62 feet to a set 5/8" rebar and the Point of Beginning; thence run S 22°38'24" W for a distance of 80.00 feet to a set 5/8" rebar; thence run N 67° 21 '36" W for a distance of 80.00 feet to a set 5/8" rebar; thence run N 22°38'24" E for a distance of 80.00 feet to a set 5/8" rebar; thence run S 67°21 '36" E for a distance of 80.00 feet to the Point of Beginning. Said Lease Area contains 6,400.00 square feet or 0.15 acres, more or less.

Exhibit 1

Description of the Premises & Access and Utility Easements:

20' INGRESS/EGRESS & UTILITY EASEMENT A (AS-SURVEYED)

A portion of the Ronald Vance tract described in Book 88, Page 472 as recorded in the Office of County Clerk for Ballard County, Kentucky, and being more particularly described as follows: Commencing at a capped rebar found marking the Southeast corner of said Vance tract and having Kentucky Single Zone State Plane coordinates: N: 3570668.050, E: 4006782.827; thence run N 19°35'52" E for a distance of 32.29 feet to a found capped rebar; thence run N 17°42'25" E for a distance of 50.62 feet to a set 5/8" rebar; thence run S 22°38'24" W for a distance of 65.00 feet to the Point of Beginning of Ingress/Egress & Utility Easement A being 20 feet in width and lying 10 feet each side of the following described centerline; thence run S 50°47'13" E for a distance of 5.44 feet to a point on the east line of said Vance Tract and the West line of Kevil Baptist Church Tract, having Ballard County Tax Assessor Account #: 66A-05-02; Said point also being the Point of Ending. Said easement contains 108.02 square feet or 0.003 acres, more or less.

INGRESS/EGRESS & UTILITY EASEMENT B (AS-SURVEYED)

A portion of the Kevil Baptist Church tract having Ballard County Tax Assessor Account #: 66A-05-01, lying in Ballard County, Kentucky, and being more particularly described as follows:

Beginning at a capped rebar found marking the Southeast corner of Ronald Vance tract, described in Book 88, Page 472, and having Kentucky Single Zone State Plane coordinates: N:3570668.050, E:4006782.827 a capped rebar found bears N 19°35'52" E for a distance of 32.29 feet; thence N 19°35'52" E a distance of 26.76 feet to a point; thence S 66°27'58" E a distance of 24.61 feet to a point; thence S 07°41'12" E a distance of 29.98 feet, more or less, to a point on the North right-of-way line of Wyatt Avenue; thence N 68°03'38" W along said North right-of-way line a distance of 38.32 feet to the Point of Beginning. Said easement contains 827.8 square feet or 0.02 acres, more or less.

Notes:

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

Prepared by and Return to:

Tillman Infrastructure LLC
152 West 57th Street, 27th Floor
New York, New York 10019
Tel: (646) 354-7603
FA# 10146926

ACCESS AND UTILITIES EASEMENT AGREEMENT

This Access and Utilities Easement Agreement ("Agreement") is entered into as of this 24th day of August, 2022 by and among Kevil Baptist Church, a Kentucky Non-Profit Corporation ("Grantor"), whose address is 986 N 1st St, Kevil, KY 42053 and Tillman Infrastructure LLC, a Delaware limited liability company, whose address is 152 w 57th Street, New York, New York 10019 ("Grantee").

WITNESSETH:

WHEREAS, Grantor is the owner of that certain real property located in Ballard County, State of State of Kentucky, located at 986 N 1st ST, Kevil (the "Grantor Property"), and as is more particularly described on Exhibit A attached hereto and incorporated herein by reference; and

WHEREAS, Grantee has entered into an Option and Lease Agreement (the "Lease Agreement") with Ronald Vance, a single Landowner (the "Landlord"), dated August 24, 2022, as evidenced by that Memorandum of Option and Lease Agreement dated August 24, 2022 and recorded on _____ in Book _____, Page _____, in the official records of _____ County, State of Kentucky, pursuant to which Grantee has leased a portion of the Landlord's Property located at 562 Wallace Avenue and described as Parcel# 64-51 and is more particularly described in a deed recorded in Book 88 page 472, in the Official Records of Ballard County, State of Kentucky ("Landlord's Property") (said portion of Landlord's Property being referred to herein as the "Tower Site") for the purpose of constructing, maintaining and operating a wireless communications facility, including tower structures, equipment shelters, meter boards and related improvements and structures and uses incidental thereto. The Tower Site is described in said Lease Agreement; and

WHEREAS, convenient access to and from the Tower Site is over and across the Grantor Property; and

WHEREAS, Grantee desires to obtain the consent of Grantor for Grantee to use the Grantor Property and to further provide for the grant by Grantor to Grantee of an easement over, under, across and upon the Grantor Property pursuant to the terms set forth herein.

AGREEMENT:

NOW, THEREFORE, in consideration of the premises, and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties agree as follows:

1. **Incorporation by Reference.** The foregoing recitations are incorporated herein by this reference.

2. **Easement.** Grantor hereby conveys and grants to Grantee, its successors, agents, and assigns, and Grantee accepts from Grantor, a non-exclusive, perpetual appurtenant easement over, under, across and upon the Grantor Property (the "Easement Area"), as is more particularly described on Exhibit B, for the construction, use, maintenance and repair of an access road for ingress and egress seven (7) days per week, twenty-four (24) hours per day, for pedestrians and all types of motor vehicles, including trucks and construction equipment, and for use as a utility easement for the installation, repair, replacement and maintenance of utility wires, fiber, poles, cables, conduits and pipes, serving the Tower Site, to be used by Grantee, its successors, agents, assigns, representatives, tenants, licensees, contractors, and subcontractors (collectively, "Grantee's Representatives"); together with the right to do all things necessary for such uses and purposes, including, without limitation, to keep the Easement Area cleared of trees, shrubs, undergrowth and other obstructions, including improvements, and to improve the Easement Area as necessary for the uses and purposes described herein. Grantee may, in its discretion, prepare a survey of the Easement Area in which case Grantor agrees to execute a recordable amendment to this Agreement to provide notice of the modified description of the Easement Area.

3.

TO HAVE AND TO HOLD the Easement, together with all privileges and appurtenances thereunto belonging, for the uses and purposes aforesaid unto the parties hereto, their successors, agents and assigns in accordance with the terms of this Agreement. And Grantor covenants with the Grantee, that Grantor is seized of the Grantor Property and Easement Area in fee simple, has the right to grant the easements and rights granted herein, that title thereto is marketable and free and clear of all encumbrances, and that Grantor will warrant and defend the title thereto against the lawful claims of all persons whomsoever.

4. **Term.** The consents and rights granted herein shall exist for the duration of the term of the Lease Agreement ("Term"), and shall terminate automatically upon 180 days following the earlier of the termination or expiration of the Term. Grantor covenants not to do or permit any act or acts that will prevent or hinder Grantee's or Grantee's Representatives' use of the Easement Area.

5. **Easement Appurtenant.** Each and all of the covenants and provisions contained herein (a) are made as an appurtenance for the benefit of the Tower Site; (b) will create mutual equitable servitudes upon the Grantor Property and the Tower Site and shall be covenants running with the land; (c) will bind every person having any fee, leasehold, easement, license or other interest

in any portion of the Grantor Property or the Tower Site to the extent that such portion is affected or bound by any term, covenant or provision set forth herein; and (d) will inure to the benefit of the parties and their respective successors, agents and assigns as to the Grantor Property and the Tower Site.

6. **Miscellaneous.** This Agreement shall be governed by the laws of the State of Kentucky. Any amendment to this Agreement must be recorded in the Official Records of Ballard County. This Agreement constitutes the entire agreement between the parties hereto with respect to the transactions contemplated herein, and this Agreement supersedes all prior oral or written agreements, commitments, or understandings with respect to the matters provided herein. If any term, covenant or condition of this Agreement or the application thereof to either party shall be held to be invalid or unenforceable, then the remaining terms, covenants and conditions of this Agreement shall not be affected thereby, and shall be enforceable to the fullest extent permitted bylaw.

[REMAINDER OF PAGE INTENTIONALLY LEFT BLANK]

IN WITNESS WHEREOF, the parties hereto have executed this Agreement as of the date first above written.

WITNESSES

Trustee
Name: Myra Thomasee

Trustee
Name: [illegible]

GRANTOR

By: [signature]
Name: Lana Sullivan, Trustee

THE STATE OF KY

COUNTY OF McCracken

BEOFRE ME the undersigned authority, on this day personally appeared Lana Sullivan known to me to be the person whose name is subscribed to the foregoing instrument, and who, after being by me duly sworn, acknowledged to me that he executed the foregoing instrument for the purpose and consideration therein expressed.

GIVEN UNDER MY HAND AND SEAL OF OFFICE THIS 14th DAY OF Aug 2022

SARAH JENKINS
NOTARY PUBLIC
STATE AT LARGE, KENTUCKY

Sarah Jenkins

NOTARY PUBLIC, STATE OF KY

KYNP37391

Expires 10-19-2025

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

"WITNESSES"

_____
Name: _____

_____
Name: _____

"TENANT"

TILLMAN INFRASTRUCTURE LLC,
a Delaware limited liability company

By: _____
Name: Chris Mularadelis
Its: Authorized Signatory
Date: 8-24-2022

STATE OF NEW JERSEY)
) **ss.**
COUNTY OF BERGEN)

On the 24th day of August in the year of 2022, before me, the undersigned, a Notary Public in and for said state, personally appeared Chris Mularadelis, Authorized Signatory of Tillman Infrastructure LLC, a Delaware limited liability company, personally known to me or proved to me on the basis of satisfactory evidence to be the individual whose name is subscribed to the within instrument and acknowledged to me that he/she executed the same in his/her authorized capacity, and that by his/her signature on the instrument the individual or the entity upon behalf of which the individual acted, executed the instrument.

WITNESS my hand and official seal.

Signature: _____
My Commission Expires: _____
Commission Number: _____

CAROLINE M SEARLES
Notary Public, State of New Jersey
Comm. # 0050188038
My Commission Expires 3/7/2027

EXHIBIT A

GRANTOR PROPERTY

Parcel 2:
Tract 1:
Said Lot Beginning at a stake flanked for a corner on Hyatt Avenue and with First St.; Thence with Hyatt Avenue 116 feet to Steven's Line; thence with Steven's Line East 192 One Hundred and Ninety Two Feet and (4) Four inches to an alley; Thence with West line of Alley 48 feet to corner in North First Street; Thence with said Street 180 feet to the Place of Beginning.

Tract 2:
Beginning at an iron pipe in North City limits and Westline of North South Alley in Block 26; Thence Westerly along North City Limits and W.E. Stephens property line a distance of 117 feet to an iron pipe (Point A); Thence Northerly a distance of 31 feet to an iron pipe (Point B); Thence Easterly and parallel to North City Limits a distance of 117 feet to an iron pipe; Thence in a Southerly direction a distance of 31 feet to the Point of Beginning: (Points A and B are corner described as stakes at northeast and southeast corner in Deed Book 59 Page 411 in Ballard County Court Clerk's office,

Tract 3:
Adjoining the present city limits of the Town of Kevil and lying just North of and adjacent to the present Baptist Church lot designated as Block 26 on the plat of said town and more fully described as follows:

Beginning at a stake, the north-west corner of the present Baptist Church lot above referred to and being the intersection of the east line of Wyatt Avenue with the north city limits of Stephens line; Thence Northerly and at right angles with the city limit or Stephen's line a distance of thrity-one (31) feet to a stake, a new corner; Thence S 73-1/2 E or parallel with the city limit or Stephen's south line (the north line of the present Church lot) a distance of of 75 feet to a stake, a new corner; Thence southerly at right angles a distance of 31 feet to a stake in the line of the present church lot; Thence with the City limits line or north line of the present church lot Westerly N. 73-1/2 W. 75 feet to the Beginning.

Parcel ID #66A-05-01

Tract 1 being the same property conveyed to the Trustees of the Kevil Baptist Church, from the Kevil City Improvement Company, a Kentucky corporation, in a Deed dated September 1, 1906 and recorded in Book 21 Page 279.

Tract 2 being the same property conveyed to the Trustees of Kevil Baptist Church, from Lutie M. Stephens, a widow, in a Deed of Conveyance, dated August 18, 1969 and recorded October 13, 1969 in Cabinet 1 Drawer 2-125.

Tract 3 being the same property conveyed to the Trustees of Kevil Baptist Church from W.E. Stephens and wife, Lutie M. Stevens, in a Deed dated July 24, 1953 and recorded July 30, 1953 in Book 59 Page 411.

EXHIBIT B

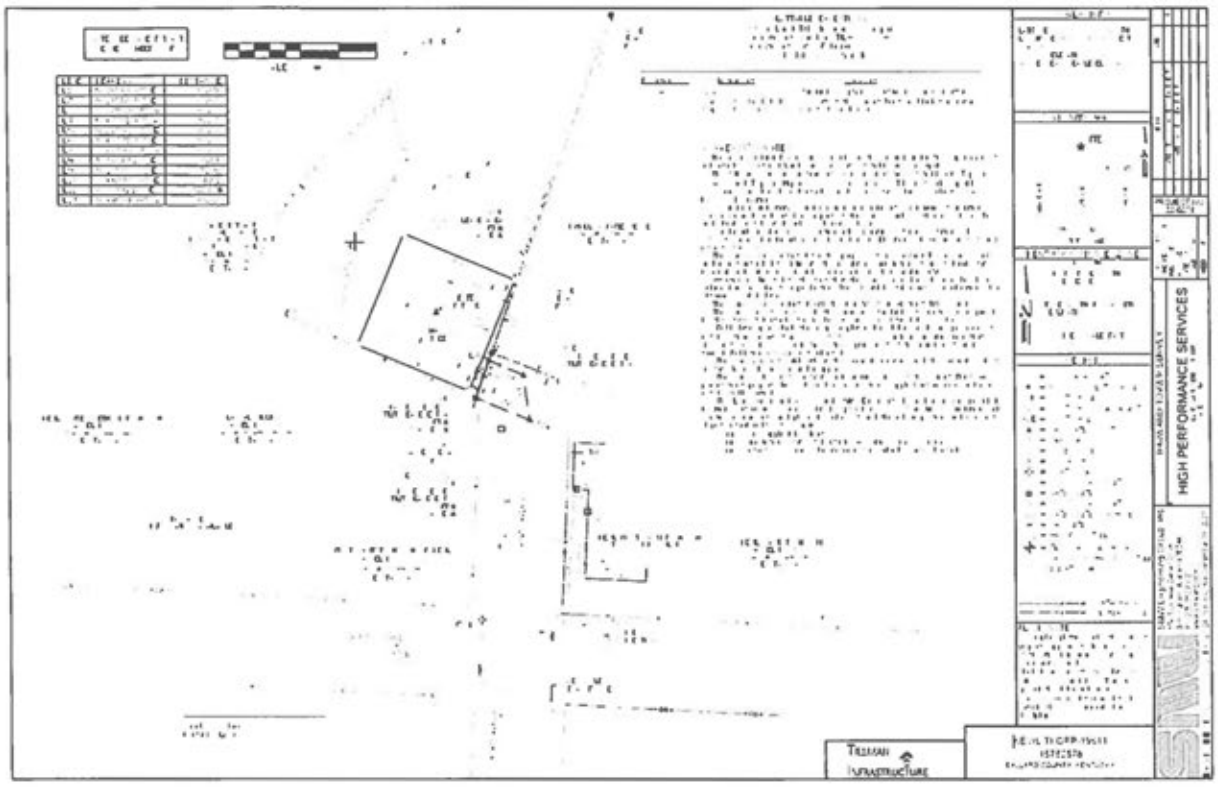
ACCESS AND UTILITY EASEMENTS

INGRESS/EGRESS & UTILITY EASEMENT B (AS-SURVEYED)
A portion of the Kevil Baptist Church tract having Ballard County Tax Assessor Account #: 66A-05-01, lying in Ballard County, Kentucky, and being more particularly described as follows:
Beginning at a capped rebar found marking the Southeast corner of Ronald Vance tract, described in Book 88, Page 472, and having Kentucky Single Zone State Plane coordinates: N:3570668.050, E:4006782.827 a capped rebar found bears N 19°35'52" E for a distance of 32.29 feet; thence N 19°35'52" E a distance of 26.76 feet to a point; thence S 66°27'58" E a distance of 24.61 feet to a point; thence S 07°41'12" E a distance of 29.98 feet, more or less, to a point on the North right-of-way line of Wyatt Avenue; thence N 68°03'38" W along said North right-of-way line a distance of 38.32 feet to the Point of Beginning. Said easement contains 827.8 square feet or 0.02 acres, more or less.

EXHIBIT B

Page 2 of 2

ACCESS AND UTILITY EASEMENTS DIAGRAM



Notes:

1. THIS EXHIBIT MAY BE REPLACED BY A LAND SURVEY AND/OR CONSTRUCTION DRAWINGS OF THE PREMISES ONCE RECEIVED BY TENANT.
2. ANY SETBACK OF THE PREMISES FROM THE PROPERTY'S BOUNDARIES SHALL BE THE DISTANCE REQUIRED BY THE APPLICABLE GOVERNMENT AUTHORITIES.
3. WIDTH OF ACCESS ROAD SHALL BE THE WIDTH REQUIRED BY THE APPLICABLE GOVERNMENT AUTHORITIES, INCLUDING POLICE AND FIRE DEPARTMENTS.

EXHIBIT J
NOTIFICATION LISTING
CERTIFIED GREEN CARD RECEIPTS

Kevil Relo – Notice List

VANCE RONALD
562 WALLACE AVENUE
KEVIL KY 42053

VANCE RONALD
C/O VANDERBILT MORT & FINANCE
P O BOX 9800
MARYVILLE TN 37804

MERCER MICHAEL S SR & KATIE ANN
487 NEW LIBERTY CHURCH ROAD
KEVIL KY 42053

MERCER KATIE
487 NEW LIBERTY CHURCH ROAD
KEVIL KY 42053

MERCER MICHAEL S & KATIE ANN
487 NEW LIBERTY CHURCH ROAD
KEVIL KY 42053

KEVIL BAPTIST CHURCH
986 NORTH FIRST STREET
KEVIL, KY 42053

SPRESSER BROTHERS LLC
1765 MC KENDREE CHURCH ROAD
KEVIL KY 42053

RENFROE JAMES
P O BOX 533
KEVIL KY 42053

RENFROE JAMES LEE & NELLIE I
P O BOX 533
KEVIL KY 42053 0533

KEVIL BAPTIST CHURCH
NORTH 1ST STREET
KEVIL, KY 42053

HOLT CHARLOTTE M & JOHN M
470 WYATT AVENUE
KEVIL KY 42053

MC DANIEL CHARLES ROBERT
ANNIE HEAL
P O BOX 274
KEVIL KY 42053 0274

ABERNATHY SIDNEY RAY
CHERYL ABERNATHY
477 WYATT AVENUE
KEVIL KY 42053 0221

BRYANT JAYCEE
463 WYATT AVENUE
KEVIL KY 42053

MORROW FUNERAL CHAPEL INC
P O BOX 210
LA CENTER KY 42056

KP LEASING LLC
262 ALLEN STREET
KEVIL KY 42053

WARFORD MAXINE
8002 PADUCAH ROAD
KEVIL KY 42053

GRAVES JESSIE WILSON
P O BOX 482
KEVIL KY 42053

TERRY LORETTA
P O BOX 131
KEVIL KY 42053 0131

LANGE DAVID D & RHONDA
P O BOX 232
KEVIL KY 42053 0232

SCHOO CYNTHIA D
541 WALLACE AVENUE
KEVIL KY 42053

KEVIL UNITED METHODIST CHURCH
1072 NORTH FIRST STREET
KEVIL, KY 42053

BILLINGS LAURA L
1034 NORTH FIRST STREET
KEVIL KY 42053

FIRST BAPTIST CHURCH OF KEVIL
986 NORTH FIRST STREET
KEVIL KY 42053

BURNLEY FAMILY FARM TRUST
P O BOX 83
KEVIL KY 42053

MERCER KATIE SNYDER & MIKE
487 NEW LIBERTY CHURCH ROAD
KEVIL KY 42053

SUMMERS JOHN & TAMMY
P O BOX 255
KEVIL KY 42053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KY 40165
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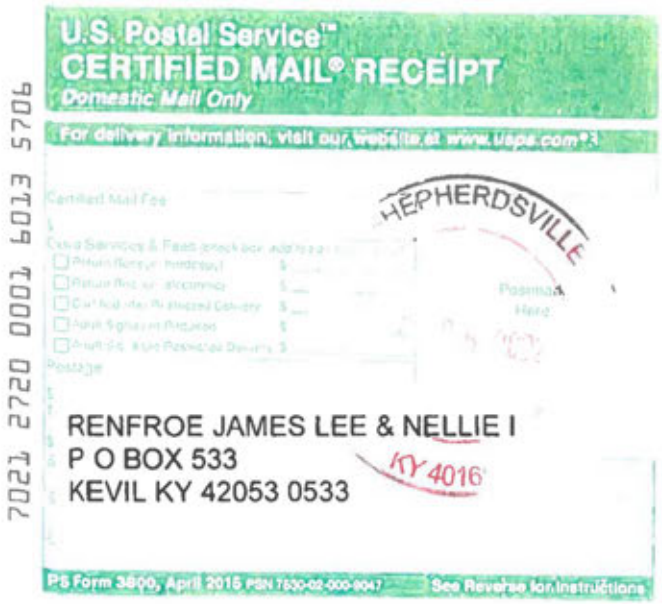
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KY 4016
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KEVIL KY 42053
KY 40165
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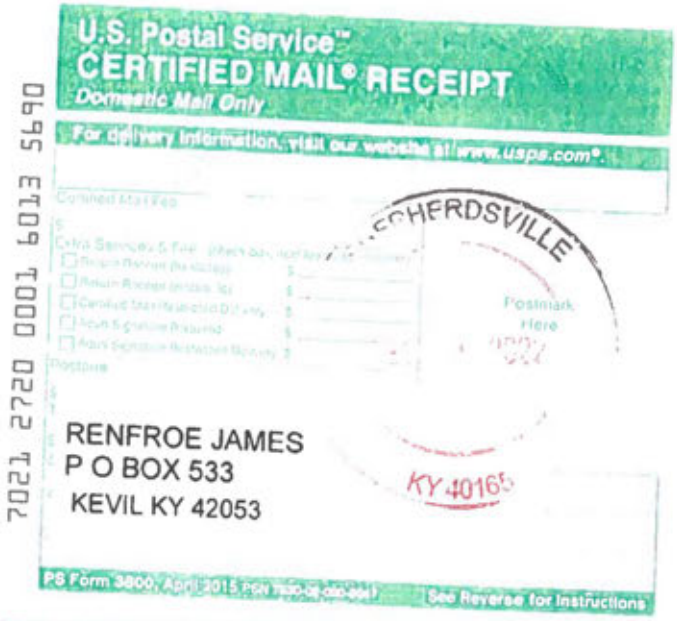
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KEVIL KY 42053
KY 40165
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P O BOX 210
LA CENTER KY 42056
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KP LEASING LLC
262 ALLEN STREET
KEVIL KY 42053
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ABERNATHY SIDNEY RAY
CHERYL ABERNATHY
477 WYATT AVENUE
KEVIL KY 42053 0221
PS Form 3800, April 2015 PSN 7530-02-000-9047
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BRYANT JAYCEE
463 WYATT AVENUE
KEVIL KY 42053
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470 WYATT AVENUE
KEVIL KY 42053
PS Form 3800, April 2015 PSN 7530-02-000-9047
See Reverse for Instructions
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MC DANIEL CHARLES ROBERT
ANNIE HEAL
P O BOX 274
KEVIL KY 42053 0274
7021 2720 0001 6013 5737


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KY 40165
Postmark Here
7021 2720 0000 5437 0138
SCHOO CYNTHIA D
541 WALLACE AVENUE
KEVIL KY 42053
PS Form 3800, April 2015 PSN 7530-02-000-9047
See Reverse for Instructions


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KY 40165
Postmark Here
7021 2720 0000 5437 0145
KEVIL UNITED METHODIST CHURCH
1072 NORTH FIRST STREET
KEVIL, KY 42053
PS Form 3800, April 2015 PSN 7530-02-000-9047


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KY 40165
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7021 2720 0001 6013 5799
GRAVES JESSIE WILSON
P O BOX 482
KEVIL KY 42053
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DEC 05 2022
KY 40165
7021 2720 0000 5437 0190
SUMMERS JOHN & TAMMY
P O BOX 255
KEVIL KY 42053
PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions


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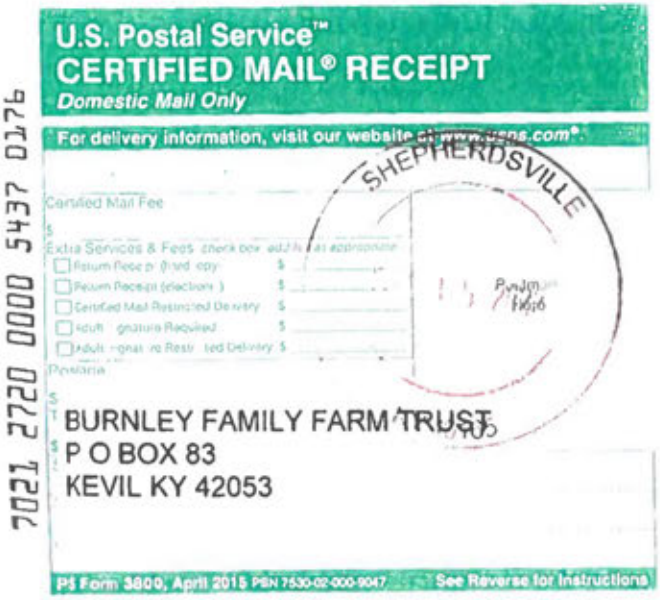
SHEPHERDSVILLE
DEC 05 2022
KY 40165
7021 2720 0000 5437 0206
Todd Cooper
County Judge Executive
P. O. Box 276
Wickliffe, KY 42087
PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions


U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
Domestic Mail Only
For delivery information, visit our website at www.usps.com®.
SHEPHERDSVILLE
7021 2720 0000 5437 0176
BURNLEY FAMILY FARM TRUST
P O BOX 83
KEVIL KY 42053
PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions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For delivery information, visit our website at www.usps.com®.
SHEPHERDSVILLE
DEC 05 2022
KY 40165
7021 2720 0000 5437 0183
MERCER KATIE SNYDER & MIKE
487 NEW LIBERTY CHURCH ROAD
KEVIL KY 42053
PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions


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SHEPHERDSVILLE
KY 40165
7021 2720 0000 5437 0152
BILLINGS LAURA L
1034 NORTH FIRST STREET
KEVIL KY 42053
PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions


U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
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SHEPHERDSVILLE
DEC 05 2022
KY 40165
7021 2720 0000 5437 0169
FIRST BAPTIST CHURCH OF KEVIL
986 NORTH FIRST STREET
KEVIL KY 42053
PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

EXHIBIT K
COPY OF PROPERTY OWNER NOTIFICATION

PIKE LEGAL

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

Notice of Proposed Construction of Wireless Communications Facility Site Name: Kevil Relo

Dear Landowner:

New Cingular Wireless PCS, LLC, a Delaware limited liability company, d/b/a AT&T Mobility and Tillman Infrastructure 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 562 Wallace Ave., Kevil, KY 42053 (37° 05' 14.174" North latitude, 88° 53' 08.368" West longitude). The proposed facility will include a 245-foot tall tower, with an approximately 5-foot tall lightning arrestor attached at the top, for a total height of 250-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' 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 2022-00414 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

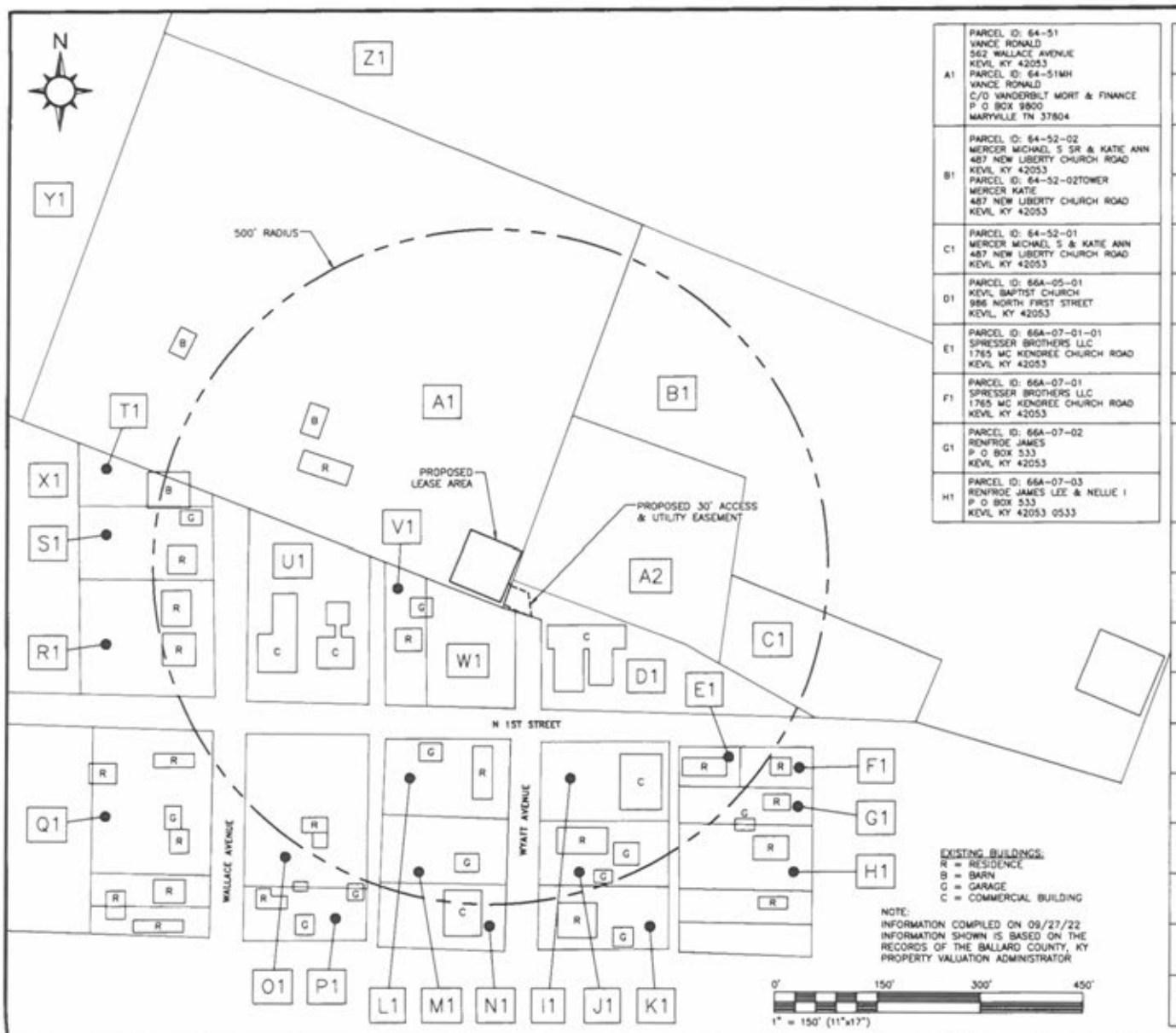
enclosures

[1] AT&T is currently providing wireless services from an existing tower owned by TV6 Holdings LLC, a subsidiary of SBA Communications Corporation ("SBA"). The SBA owned tower (FCC Antenna Structure Registration Number: 1265272) 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 for this area.

Driving Directions to Proposed Tower Site

1. Beginning at 437 Ohio St, Wickliffe, KY 42087, head west on Ohio Street and travel approximately 246 feet.
2. Turn right at the first cross street onto 4th Street and travel approximately 0.4 miles.
3. Follow 4th Street for approximately 0.1 miles as it turns slightly right and becomes Lee Street.
4. Continue onto US-60 E / N 6th Steet and travel approximately 6.1 miles.
5. Turn right onto US 60-E / Broadway Street and travel approximately 9.4 miles.
6. Turn left onto Wallace Avenue and travel approximately 0.3 miles.
7. Turn right onto N. 1st Street and travel approximately 427 feet.
8. The access road for the site is located on the left. The site address is 562 Wallace Ave., Kevil, KY 42053.
9. The site coordinates are:
    a. North 37 deg 05 min 14.174 sec
    b. West 88 deg 53 min 08.368 sec

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



A1	PARCEL ID: 64-51 VANCE RONALD 562 WALLACE AVENUE KEVIL KY 42053 PARCEL ID: 64-51MH VANCE RONALD C/O VANDERBILT MORT & FINANCE P O BOX 9800 MARYVILLE TN 37804
B1	PARCEL ID: 64-52-02 MERCER MICHAEL S SR & KATIE ANN 487 NEW LIBERTY CHURCH ROAD KEVIL KY 42053 PARCEL ID: 64-52-02TOWER MERCER KATIE 487 NEW LIBERTY CHURCH ROAD KEVIL KY 42053
C1	PARCEL ID: 64-52-01 MERCER MICHAEL S & KATIE ANN 487 NEW LIBERTY CHURCH ROAD KEVIL KY 42053
D1	PARCEL ID: 66A-05-01 KEVIL BAPTIST CHURCH 986 NORTH FIRST STREET KEVIL, KY 42053
E1	PARCEL ID: 66A-07-01-01 SPRESSER BROTHERS LLC 1765 MC KENDREE CHURCH ROAD KEVIL KY 42053
F1	PARCEL ID: 66A-07-01 SPRESSER BROTHERS LLC 1765 MC KENDREE CHURCH ROAD KEVIL KY 42053
G1	PARCEL ID: 66A-07-02 RENFROE JAMES P O BOX 533 KEVIL KY 42053
H1	PARCEL ID: 66A-07-03 RENFROE JAMES LEE & NELLIE I P O BOX 533 KEVIL KY 42053 0533

I1	PARCEL ID: 66A-07-10 KEVIL BAPTIST CHURCH NORTH 1ST STREET KEVIL, KY 42053
J1	PARCEL ID: 66A-07-09 HOLT CHARLOTTE M & JOHN M 470 WYATT AVENUE KEVIL KY 42053
K1	PARCEL ID: 66A-07-08 MC DANIEL CHARLES ROBERT, ANNIE HEAL P O BOX 274, KEVIL KY 42053 0274
L1	PARCEL ID: 66A-08-01 ABERNATHY SIDNEY RAY, CHERYL ABERNATHY 477 WYATT AVENUE KEVIL KY 42053 0221
M1	PARCEL ID: 66A-08-02-01 BRYANT JAYCEE 463 WYATT AVENUE KEVIL KY 42053
N1	PARCEL ID:66A-08-02 MORROW FUNERAL CHAPEL INC P O BOX 210 LA CENTER KY 42056
O1	PARCEL ID: 66A-08-07 KP LEASING LLC 262 ALLEN STREET KEVIL KY 42053
P1	PARCEL ID: 66A-08-06 WARFORD MAXINE 8002 PADUCAH ROAD KEVIL KY 42053
Q1	PARCEL ID: 66A-09-01 GRAVES JESSIE WILSON P O BOX 482 KEVIL KY 42053 PARCEL ID: 66A-09-01MH TERRY LORETTA P O BOX 131 KEVIL KY 42053 0131
R1	PARCEL ID: 66A-04-02 LANGE DAVID D & RHONDA P O BOX 232 KEVIL KY 42053 0232
S1	PARCEL ID: 66A-04-01 SCHOO CYNTHIA D 541 WALLACE AVENUE KEVIL KY 42053
T1	PARCEL ID: 66A-04-06 VANCE RONALD 562 WALLACE AVENUE KEVIL KY 42053
U1	PARCEL ID: 66A-05-03 KEVIL UNITED METHODIST CHURCH 1072 NORTH FIRST STREET KEVIL, KY 42053
V1	PARCEL ID: 66A-05-02-01 BILLINGS LAURA L 1034 NORTH FIRST STREET KEVIL KY 42053
W1	PARCEL ID: 66A-05-02 FIRST BAPTIST CHURCH OF KEVIL 986 NORTH FIRST STREET KEVIL KY 42053
X1	PARCEL ID: 66A-04-02: LANGE DAVID D & RHONDA P O BOX 232 KEVIL KY 42053 0232
Y1	PARCEL ID: 64-50: BURNLEY FAMILY FARM TRUST P O BOX 83 KEVIL KY 42053
Z1	PARCEL ID: 64-52: MERCER KATIE SNYDER & MIKE 487 NEW LIBERTY CHURCH ROAD KEVIL KY 42053
A2	PARCEL ID: 64-52-03: SUMMERS JOHN & TAMMY P O BOX 255 KEVIL KY 42053

SMW ENGINEERING GROUP, INC.

SMW#: 22-0278

Tillman Infrastructure

at&t

#	DATE	DESCRIPTION
0	09/27/22	CLIENT REVIEW
1	10/24/22	CLIENT REVIEW
2	11/17/22	CLIENT REVIEW
3	11/30/22	CONSTRUCTION

CA#: KY 2865

STATE OF KENTUCKY
JEREMY D. SHARIT
20823
LICENSED PROFESSIONAL ENGINEER

11/30/22

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

FA #: 15762578

DESIGNED: JDS
CHECKED: RTB
DRAWN: BMD
LAST REV BY: BMD

SITE NAME

KEVIL (TI-OPP-19611)

SHEET NAME

500' RADIUS AND ABUTTERS MAP

SHEET NUMBER

B-1

EXHIBIT L
COPY OF COUNTY JUDGE/EXECUTIVE NOTICE

PIKE LEGAL

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

VIA CERTIFIED MAIL

Todd Cooper
County Judge Executive
P.O. Box 276
Wickliffe, KY 42087

RE: Notice of Proposal to Construct Wireless Communications Facility
Kentucky Public Service Commission Docket No. 2022-00414
Site Name: Kevil Relo

Dear Judge/Executive:

New Cingular Wireless PCS, LLC, a Delaware limited liability company, d/b/a AT&T Mobility and Tillman Infrastructure 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 562 Wallace Ave., Kevil, KY 42053 (37° 05' 14.174" North latitude, 88° 53' 08.368" West longitude). The proposed facility will include a 245-foot tall tower, with an approximately 5-foot tall lightning arrestor attached at the top, for a total height of 250-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 2022-00414 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

[1] AT&T is currently providing wireless services from an existing tower owned by TV6 Holdings LLC, a subsidiary of SBA Communications Corporation ("SBA"). The SBA owned tower (FCC Antenna Structure Registration Number: 1265272) 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 for this area.

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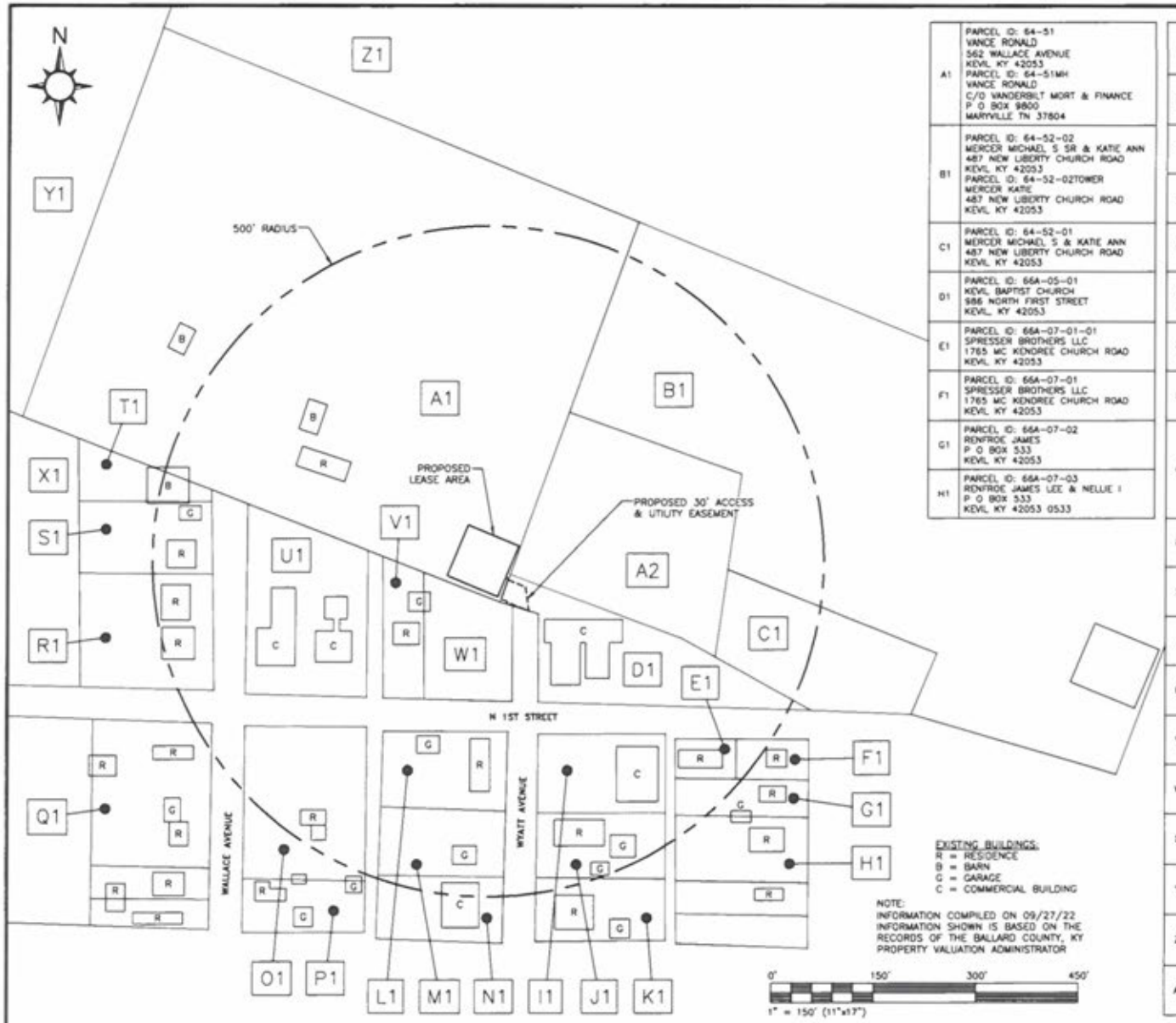
3. Follow 4th Street for approximately 0.1 miles as it turns slightly right and becomes Lee Street.
4. Continue onto US-60 E / N 6th Steet and travel approximately 6.1 miles.
5. Turn right onto US 60-E / Broadway Street and travel approximately 9.4 miles.
6. Turn left onto Wallace Avenue and travel approximately 0.3 miles.
7. Turn right onto N. 1st Street and travel approximately 427 feet.
8. The access road for the site is located on the left. The site address is 562 Wallace Ave., Kevil, KY 42053.
9. The site coordinates are:
    a. North 37 deg 05 min 14.174 sec
    b. West 88 deg 53 min 08.368 sec

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



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E1	PARCEL ID: 66A-07-01-01 SPRESSER BROTHERS LLC 1765 MC KENDREE CHURCH ROAD KEVIL KY 42053
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G1	PARCEL ID: 66A-07-02 RENFROE JAMES P O BOX 533 KEVIL KY 42053
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A2	PARCEL ID: 64-52-03: SUMMERS JOHN & TAMMY P O BOX 255 KEVIL KY 42053

SMW ENGINEERING GROUP, INC.
TOGETHER PLANNING A BETTER TOMORROW

SMW#: 22-0278

Tillman Infrastructure
100 N. 6TH STREET
NEW YORK, NEW YORK 10013
TEL: 212-796-1577

at&t

#	DATE	DESCRIPTION:
0	09/27/22	CLIENT REVIEW
1	10/24/22	CLIENT REVIEW
2	11/17/22	CLIENT REVIEW
3	11/30/22	CONSTRUCTION

CA#: KY 2865

STATE OF KENTUCKY
JEREMY D. SHARIT
26823
LICENSED
PROFESSIONAL ENGINEER

11/30/22

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

FA #: 15762578

DESIGNED: JDS
CHECKED: RTB
DRAWN: BMD
LAST REV BY: BMD

SITE NAME
KEVIL (TI-OPP-19611)

SHEET NAME
500' RADIUS AND ABUTTERS MAP

SHEET NUMBER
B-1

EXHIBIT M
COPY OF POSTED NOTICES
AND NEWSPAPER NOTICE ADVERTISEMENT

SITE NAME: KEVIL 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 Tillman Infrastructure 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 2022-00414 in your correspondence.

New Cingular Wireless PCS, LLC, a Delaware limited liability company, d/b/a AT&T Mobility and Tillman Infrastructure 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 2022-00414 in your correspondence.

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

VIA EMAIL: larrahj.workman@gmail.com

Advance Yeoman
347 Broadway
La Center, KY 42056

RE: Legal Notice Advertisement
Site Name: Kevil Relo

Dear Advance Yeoman:

Please publish the following legal notice advertisement in the next edition of the *Advance Yeoman*:

NOTICE

New Cingular Wireless PCS, LLC, a Delaware limited liability company, d/b/a AT&T Mobility and Tillman Infrastructure 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 562 Wallace Ave., Kevil, KY 42053 (37° 05' 14.174" North latitude, 88° 53' 08.368" 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 2022-00414 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

EXHIBIT N
COPY OF RADIO FREQUENCY DESIGN SEARCH AREA


473
Woodland Dr
Britton Dr
New Liberty Church Rd
Summers Ln
Charles Dr
N 1st St
Park Dr
Graham Ave
Nuckolls Ave
Wallace Ave
Wyatt Ave
Gobel Ave
N Main St
Richard Burnley Ave
Clyde Elrod Ave
Kentucky Ave
Owens Dr
S 1st St
Willowood Farm Rd
60
Babb Ln
200 m
500 ft
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