

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

RECEIVED

In the Matter of:

JUN 29 2018

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

**PUBLIC SERVICE
COMMISSION**

CASE NO.: 2018-00210

SITE NAME: MORRIS CREEK

**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 ("Applicant"), by counsel, pursuant to (i) KRS §§ 278.020, 278.040, 278.650, 278.665, and other statutory authority, and the rules and regulations applicable thereto, and (ii) the Telecommunications Act of 1996, respectfully submits this Application requesting issuance of a Certificate of Public Convenience and Necessity ("CPCN") from the Kentucky Public Service Commission ("PSC") to construct, maintain, and operate a Wireless Communications Facility ("WCF") to serve the customers of the Applicant with wireless communications services.

In support of this Application, Applicant respectfully provides and states the following information:

1. The complete name and address of the Applicant: New Cingular Wireless PCS, LLC, a Delaware limited liability company, d/b/a AT&T Mobility, having a local address of Meidinger Tower, 462 S. 4th Street, Suite 2400, Louisville, Kentucky 40202.

2. Applicant proposes construction of an antenna tower for communications services, which is to be located in an area outside the jurisdiction of a planning commission, and Applicant submits 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. The Certificate of Authority filed with the Kentucky Secretary of State for the Applicant entity was attached to a prior application and is part of the case record for PSC case number 2011-00473 and is hereby incorporated by reference.

4. The Applicant operates on frequencies licensed by the Federal Communications Commission ("FCC") pursuant to applicable FCC requirements. A copy of the Applicant'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.

5. The public convenience and necessity require the construction of the proposed WCF. The construction of the WCF will bring or improve the Applicant's services to an area currently not served or not adequately served by the Applicant 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 the Applicant'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 the Applicant's network design that must be in place to provide adequate coverage to the service area.

6. To address the above-described service needs, Applicant proposes to construct a WCF at 3569 Paint Creek Road, Stanton, Kentucky (37°53'07.48" North latitude, 83°52'26.20" 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 Randle & Georgia Wireman pursuant to a Deed recorded at Deed Book 76, Page 584 in the office of the Powell County Clerk. The proposed WCF will consist of a 165-foot monopole tower, with an approximately 15-foot tall lightning arrestor attached at the top, for a total height of 180-feet. The WCF will also include concrete foundations and a shelter or cabinets to accommodate the placement of the Applicant's radio electronics equipment and appurtenant equipment. The Applicant's equipment cabinet or shelter will be approved for use in the Commonwealth of Kentucky by the relevant building inspector. The WCF compound will be fenced and all access gate(s) will be secured. A description of the manner in which the proposed WCF will be constructed is attached as **Exhibit B** and **Exhibit C**.

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

8. The site development plan and a vertical profile sketch of the WCF signed and sealed by a professional engineer registered in Kentucky depicting the tower height, as well as a proposed configuration for the antennas of the Applicant has also been included

as part of **Exhibit B**.

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

10. Applicant has considered the likely effects of the installation of the proposed WCF on nearby land uses and values and has concluded that there is no more suitable location reasonably available from which adequate services can be provided, and that there are no reasonably available opportunities to co-locate Applicant's antennas on an existing structure. When suitable towers or structures exist, Applicant attempts to co-locate on existing structures such as communications towers or other structures capable of supporting Applicant's facilities; however, no other suitable or available co-location site was found to be located in the vicinity of the site.

11. A copy of the documentation that notice to the Federal Aviation Administration ("FAA") is not required at the analyzed location and height for slope, height or Straight-In procedures is attached as **Exhibit E**.

12. A copy of documentation that approval is not required from the Kentucky Airport Zoning Commission ("KAZC") to construct the tower is attached as **Exhibit F**.

13. 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.

14. 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.

15. Applicant, pursuant to a written agreement, has acquired the right to use the WCF site and associated property rights. A copy of the agreement or an abbreviated agreement recorded with the County Clerk is attached as **Exhibit I**.

16. Personnel directly responsible for the design and construction of the proposed WCF are well qualified and experienced. The tower and foundation drawings for the proposed tower submitted as part of **Exhibit 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.

17. The Construction Manager for the proposed facility is Don Murdock and the identity and qualifications of each person directly responsible for design and construction of the proposed tower are contained in **Exhibits B & C**.

18. 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.

19. **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**.

20. Applicant has 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.

21. Applicant has 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**.

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

is included as part of **Exhibit M**.

23. The general area where the proposed facility is to be located is rural.

24. The process that was used by the Applicant'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. Applicant'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 Applicant when searching for sites for its antennas that would provide the coverage deemed necessary by the Applicant. A map of the area in which the tower is proposed to be located which is drawn to scale and clearly depicts the necessary search area within which the site should be located pursuant to radio frequency requirements is attached as **Exhibit N**.

25. The tower must be located at the proposed location and proposed height to provide necessary service to wireless communications users in the subject area. In addition to expanding and improving voice and data service for AT&T mobile customers, this site will also provide wireless local loop ("WLL") broadband internet service in the subject area. As a participant in the FCC's Connect America Fund Phase II (CAF II) program, AT&T is aggressively deploying WLL service infrastructure to bring expanded internet access to residential and business customers in rural and other underserved

areas. WLL will support internet access at the high speeds required to use and enjoy the most current business, education and entertainment technologies. Broadband service via WLL will be delivered from the tower to a dedicated antenna located at the home or business receiving service and will support downloads at 10 Mbps and uploads at 1 Mbps.

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

27. 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, Applicant 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 New Cingular Wireless PCS, LLC
d/b/a AT&T Mobility

LIST OF EXHIBITS

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

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- K - Copy of Property Owner Notification
- L - Copy of County Judge/Executive Notice
- M - Notice Sign and Newspaper Notice Text
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EXHIBIT A
FCC LICENSE DOCUMENTATION

REFERENCE COPY

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



Federal Communications Commission

Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: NEW CINGULAR WIRELESS PCS, LLC

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

Table with Call Sign (KNLF251), File Number, and Radio Service (CW - PCS Broadband).

FCC Registration Number (FRN): 0003291192

Table with columns: Grant Date, Effective Date, Expiration Date, Print Date, Market Number, Channel Block, Sub-Market Designator, Market Name, 1st Build-out Date, 2nd Build-out Date, 3rd Build-out Date, 4th Build-out Date.

Waivers/Conditions:

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

License renewal granted on a conditional basis, subject to the outcome of FCC proceeding WT Docket No. 10-112 (see FCC 10-86, paras. 113 and 126).

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.

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).

Licensee Name: NEW CINGULAR WIRELESS PCS, LLC

Call Sign: KNLF251

File Number:

Print Date:

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

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

Spectrum Lease Associated with this License. See Spectrum Leasing Arrangement Letter dated 12/06/2004 and File # 0001918512.

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).

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**Federal Communications Commission
Wireless Telecommunications Bureau**

RADIO STATION AUTHORIZATION

LICENSEE: NEW CINGULAR WIRELESS PCS, LLC

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

Call Sign KNLH398	File Number
Radio Service CW - PCS Broadband	

FCC Registration Number (FRN): 0003291192

Grant Date 04-14-2017	Effective Date 06-14-2017	Expiration Date 04-28-2027	Print Date
Market Number BTA252	Channel Block D	Sub-Market Designator 0	
Market Name Lexington, KY			
1st Build-out Date 04-28-2002	2nd Build-out Date	3rd Build-out Date	4th Build-out Date

Waivers/Conditions:

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

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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.

REFERENCE COPY

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**Federal Communications Commission
Wireless Telecommunications Bureau**

RADIO STATION AUTHORIZATION

LICENSEE: NEW CINGULAR WIRELESS PCS, LLC

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

Call Sign KNKN841	File Number
Radio Service CL - Cellular	
Market Numer CMA452	Channel Block A
Sub-Market Designator 0	

FCC Registration Number (FRN): 0003291192

Market Name Kentucky 10 - Powell
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Grant Date 08-30-2011	Effective Date 06-13-2017	Expiration Date 10-01-2021	Five Yr Build-Out Date	Print Date
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Site Information:

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
5	37-04-39.7 N	082-48-27.8 W	856.5	95.4	1061533

Address: 103 TOWER HILL ROAD (76337)
City: WHITESBURG **County:** LETCHER **State:** KY **Construction Deadline:**

Antenna: 1 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	469.200	417.400	315.300	222.000	132.100	356.800	457.700	492.500
Transmitting ERP (watts)	12.022	8.233	13.016	5.482	3.813	0.108	1.481	5.717
Antenna: 2 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	469.200	417.400	315.300	222.000	132.100	356.800	457.700	492.500
Transmitting ERP (watts)	0.497	0.110	0.136	2.162	18.537	40.538	17.478	2.020
Antenna: 3 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	469.200	417.400	315.300	222.000	132.100	356.800	457.700	492.500
Transmitting ERP (watts)	51.423	16.329	8.850	0.158	2.803	14.815	46.596	45.493

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: KNKN841

File Number:

Print Date:

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
7	37-48-18.3 N	083-50-24.1 W	403.3	106.4	1043803

Address: 3690 Furnace Road (76341)

City: STANTON County: POWELL State: KY Construction Deadline:

Antenna: 1 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	239.600	224.300	179.900	162.000	195.500	176.800	262.600	283.200
Transmitting ERP (watts)	13.906	21.652	8.665	5.943	0.123	2.628	9.451	19.854
Antenna: 2 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	239.600	224.300	179.900	162.000	195.500	176.800	262.600	283.200
Transmitting ERP (watts)	0.562	11.483	60.345	87.582	20.025	2.235	0.703	0.268
Antenna: 3 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	239.600	224.300	179.900	162.000	195.500	176.800	262.600	283.200
Transmitting ERP (watts)	1.261	0.189	0.376	1.717	22.517	83.071	60.872	9.440

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
8	37-25-58.7 N	084-00-12.8 W	422.1	96.6	1043802

Address: 1 MILE NW OF MCKEE (76343)

City: MCKEE County: JACKSON State: KY Construction Deadline:

Antenna: 1 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	139.700	155.200	150.500	131.100	145.400	147.600	127.600	123.400
Transmitting ERP (watts)	26.126	93.835	72.381	11.143	1.397	0.214	0.430	1.977
Antenna: 2 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	139.700	155.200	150.500	131.100	145.400	147.600	127.600	123.400
Transmitting ERP (watts)	0.119	1.588	5.852	12.166	8.174	13.032	5.144	3.553
Antenna: 3 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	139.700	155.200	150.500	131.100	145.400	147.600	127.600	123.400
Transmitting ERP (watts)	17.060	5.344	6.326	3.080	2.938	13.608	19.087	18.277

Licensee Name: NEW CINGULAR WIRELESS PCS, LLC

Call Sign: KNKN841

File Number:

Print Date:

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
11	37-43-36.1 N	083-56-30.1 W	428.5	105.2	1041588

Address: 1850 Chestnut Stand Road (76344)

City: IRVINE County: ESTILL State: KY Construction Deadline:

Antenna: 1 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	268.100	191.200	185.400	224.200	235.300	293.800	271.800	266.500
Transmitting ERP (watts)	21.827	35.355	13.530	9.226	0.129	4.117	15.601	31.961
Antenna: 2 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	268.100	191.200	185.400	224.200	235.300	293.800	271.800	266.500
Transmitting ERP (watts)	0.672	14.167	72.140	103.407	24.559	2.608	0.888	0.327
Antenna: 3 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	268.100	191.200	185.400	224.200	235.300	293.800	271.800	266.500
Transmitting ERP (watts)	1.492	0.235	0.449	2.041	27.595	98.921	76.583	11.514

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
12	37-22-08.0 N	083-00-10.8 W	529.7	108.2	1043800

Address: 792 AMON FINLEY ROAD (76338)

City: HINDMAN County: KNOTT State: KY Construction Deadline:

Antenna: 1 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	231.800	219.900	201.700	233.100	202.300	239.000	278.600	245.800
Transmitting ERP (watts)	345.918	142.771	15.858	3.731	0.807	1.018	16.311	138.097
Antenna: 2 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	231.800	219.900	201.700	233.100	202.300	239.000	278.600	245.800
Transmitting ERP (watts)	1.551	31.288	164.802	238.390	59.476	6.231	2.030	0.777
Antenna: 3 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	231.800	219.900	201.700	233.100	202.300	239.000	278.600	245.800
Transmitting ERP (watts)	4.316	0.653	1.244	5.580	75.771	271.432	209.105	33.455

Licensee Name: NEW CINGULAR WIRELESS PCS, LLC

Call Sign: KNKN841

File Number:

Print Date:

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
13	37-44-34.1 N	083-32-43.4 W	360.0	86.6	1043799

Address: 1726 KY 746 (76340)

City: CAMPTON County: WOLFE State: KY Construction Deadline:

Antenna: 1 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	105.200	129.700	112.600	121.800	158.600	129.600	97.300	142.500
Transmitting ERP (watts)	113.535	44.045	5.001	1.193	0.243	0.337	5.446	43.123
Antenna: 2 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	105.200	129.700	112.600	121.800	158.600	129.600	97.300	142.500
Transmitting ERP (watts)	0.641	12.645	67.380	97.109	22.543	2.584	0.854	0.294
Antenna: 3 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	105.200	129.700	112.600	121.800	158.600	129.600	97.300	142.500
Transmitting ERP (watts)	0.787	0.112	0.226	1.022	13.467	50.517	39.258	5.570

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
14	37-45-19.1 N	083-20-19.6 W	362.7	93.9	1058724

Address: 929 LEE CITY ROAD (76347)

City: LEE CITY County: WOLFE State: KY Construction Deadline:

Antenna: 1 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	160.500	126.900	136.400	100.600	123.400	127.200	118.400	134.900
Transmitting ERP (watts)	105.412	44.973	4.744	1.221	0.238	0.320	5.172	42.213
Antenna: 2 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	160.500	126.900	136.400	100.600	123.400	127.200	118.400	134.900
Transmitting ERP (watts)	0.595	12.504	63.904	97.920	22.073	2.452	0.810	0.293
Antenna: 3 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	160.500	126.900	136.400	100.600	123.400	127.200	118.400	134.900
Transmitting ERP (watts)	1.345	0.215	0.399	1.899	24.230	89.305	69.406	10.402

Licensee Name: NEW CINGULAR WIRELESS PCS, LLC

Call Sign: KNKN841

File Number:

Print Date:

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
15	37-11-21.8 N	083-10-57.4 W	577.6	156.1	1204858

Address: 2620 FOURSEAM BUFFALO ROAD (76349)

City: Hazard County: PERRY State: KY Construction Deadline:

Antenna: 1 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	361.100	304.700	308.200	300.700	255.900	299.100	341.500	375.800
Transmitting ERP (watts)	120.607	50.344	5.408	1.326	0.280	0.356	5.726	47.544
Antenna: 2 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	361.100	304.700	308.200	300.700	255.900	299.100	341.500	375.800
Transmitting ERP (watts)	1.079	22.080	114.046	169.090	41.240	4.315	1.412	0.525
Antenna: 3 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	361.100	304.700	308.200	300.700	255.900	299.100	341.500	375.800
Transmitting ERP (watts)	1.561	0.241	0.451	2.076	27.836	99.507	76.454	11.774

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
16	37-12-40.4 N	082-36-36.9 W	716.0	128.0	1222747

Address: 699 LINRAN DRIVE (76350)

City: JENKINS County: LETCHER State: KY Construction Deadline:

Antenna: 1 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	449.600	258.900	252.200	271.800	242.200	295.700	300.600	326.500
Transmitting ERP (watts)	0.562	0.658	0.841	0.365	0.110	0.096	0.097	0.214
Antenna: 2 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	449.600	258.900	252.200	271.800	242.200	295.700	300.600	326.500
Transmitting ERP (watts)	0.390	0.116	0.125	0.832	9.565	30.462	19.683	2.648
Antenna: 3 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	449.600	258.900	252.200	271.800	242.200	295.700	300.600	326.500
Transmitting ERP (watts)	48.868	7.353	1.008	0.183	0.318	2.103	23.291	76.831

Licensee Name: NEW CINGULAR WIRELESS PCS, LLC

Call Sign: KNKN841

File Number:

Print Date:

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
17	37-25-28.5 N	082-56-07.1 W	514.8	93.0	1246019

Address: 6068 EAST HIGHWAY 80 (80850)

City: Hindman County: KNOTT State: KY Construction Deadline:

Antenna: 1 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	232.300	300.300	246.700	186.200	173.800	220.100	214.400	203.300
Transmitting ERP (watts)	93.499	72.680	16.930	6.754	0.249	1.848	15.549	67.492
Antenna: 2 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	232.300	300.300	246.700	186.200	173.800	220.100	214.400	203.300
Transmitting ERP (watts)	2.853	28.250	86.426	109.267	48.855	9.880	5.119	1.857
Antenna: 3 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	232.300	300.300	246.700	186.200	173.800	220.100	214.400	203.300
Transmitting ERP (watts)	6.962	1.659	2.458	7.317	48.522	94.690	98.650	28.609

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
18	37-24-06.7 N	083-54-56.1 W	400.2	93.0	1252879

Address: 664 STATE ROAD 1071 (86076)

City: MCKEE County: JACKSON State: KY Construction Deadline:

Antenna: 1 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	182.900	174.200	158.700	146.400	115.600	116.900	95.600	99.100
Transmitting ERP (watts)	59.149	48.638	10.534	4.195	0.155	1.251	10.442	44.296
Antenna: 2 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	182.900	174.200	158.700	146.400	115.600	116.900	95.600	99.100
Transmitting ERP (watts)	2.874	30.589	89.034	109.683	50.425	10.217	5.307	1.868
Antenna: 3 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	182.900	174.200	158.700	146.400	115.600	116.900	95.600	99.100
Transmitting ERP (watts)	4.331	3.245	3.900	5.785	17.854	17.299	21.960	12.442

Licensee Name: NEW CINGULAR WIRELESS PCS, LLC

Call Sign: KNKN841

File Number:

Print Date:

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
19	37-39-54.7 N	083-57-20.9 W	415.1	62.2	1272311

Address: 698 Little Doe Creek Road (109702)

City: Estill County: ESTILL State: KY Construction Deadline:

Antenna: 1 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	189.600	137.300	216.800	140.600	175.000	209.200	242.000	246.700
Transmitting ERP (watts)	147.672	98.700	12.008	4.052	0.328	0.354	9.692	72.782
Antenna: 2 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	189.600	137.300	216.800	140.600	175.000	209.200	242.000	246.700
Transmitting ERP (watts)	0.502	21.583	90.846	147.900	51.365	5.484	1.333	0.318
Antenna: 3 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	189.600	137.300	216.800	140.600	175.000	209.200	242.000	246.700
Transmitting ERP (watts)	8.223	1.146	0.387	4.798	55.608	132.151	134.692	33.348

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
20	37-54-33.3 N	083-55-30.3 W	431.9	78.6	1245218

Address: 2271B BLACK CREEK ROAD (76353)

City: CLAY County: POWELL State: KY Construction Deadline:

Antenna: 1 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	225.200	233.700	158.700	270.200	295.200	285.300	261.400	231.600
Transmitting ERP (watts)	0.138	2.791	14.890	20.205	4.916	0.538	0.179	0.103

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
21	37-14-49.4 N	083-19-33.9 W	432.8	93.6	1272180

Address: Dogwood Ln (106520)

City: Busy County: PERRY State: KY Construction Deadline:

Antenna: 1 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	172.100	163.400	158.200	101.100	131.500	140.000	142.300	199.400
Transmitting ERP (watts)	155.239	65.080	4.886	0.516	0.312	0.310	9.765	73.998
Antenna: 2 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	172.100	163.400	158.200	101.100	131.500	140.000	142.300	199.400
Transmitting ERP (watts)	1.558	22.222	110.717	145.006	30.764	1.939	0.302	0.269

Licensee Name: NEW CINGULAR WIRELESS PCS, LLC

Call Sign: KNKN841

File Number:

Print Date:

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
21	37-14-49.4 N	083-19-33.9 W	432.8	93.6	1272180

Address: Dogwood Ln (106520)

City: Busy County: PERRY State: KY Construction Deadline:

Antenna: 3 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	172.100	163.400	158.200	101.100	131.500	140.000	142.300	199.400
Transmitting ERP (watts)	1.049	0.313	0.291	4.476	43.772	139.964	106.333	12.797

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
22	37-10-34.0 N	082-53-47.0 W	576.1	123.4	1252950

Address: 1125 ARTHURS LOOP(85581)

City: Isom County: LETCHER State: KY Construction Deadline:

Antenna: 1 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	235.200	224.500	218.400	188.600	210.000	292.300	197.500	250.000
Transmitting ERP (watts)	197.029	81.390	8.984	2.219	0.445	0.571	9.626	76.319
Antenna: 2 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	235.200	224.500	218.400	188.600	210.000	292.300	197.500	250.000
Transmitting ERP (watts)	0.557	11.226	58.900	88.634	20.717	2.200	0.784	0.268
Antenna: 3 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	235.200	224.500	218.400	188.600	210.000	292.300	197.500	250.000
Transmitting ERP (watts)	2.584	0.390	0.738	3.418	44.259	159.691	132.673	19.036

Control Points:

Control Pt. No. 1

Address: 1650 Lyndon Farms Court

City: LOUISVILLE County: State: KY Telephone Number: (502)329-4700

Waivers/Conditions:

License renewal granted on a conditional basis, subject to the outcome of FCC proceeding WT Docket No. 10-112 (see FCC 10-86, paras. 113 and 126).

WE MAKE NO FINDING IN THESE CASES CONCERNING THE ISSUES RAISED IN FOOTNOTE 3 OF LA STAR CELLULAR TELEPHONE COMPANY, 7 FCC Rcd 3762 (1992). THEREFORE, THESE GRANTS OF TRANSFERS/ASSIGNMENTS ARE CONDITIONED ON ANY SUBSEQUENT ACTION THE COMMISSION MAY TAKE C

Licensee Name: NEW CINGULAR WIRELESS PCS, LLC

Call Sign: KNKN841

File Number:

Print Date:

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

Reference Copy

REFERENCE COPY

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**Federal Communications Commission
Wireless Telecommunications Bureau**

RADIO STATION AUTHORIZATION

LICENSEE: NEW CINGULAR WIRELESS PCS, LLC

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

Call Sign WPOI255	File Number
Radio Service CW - PCS Broadband	

FCC Registration Number (FRN): 0003291192

Grant Date 05-27-2015	Effective Date 06-14-2017	Expiration Date 06-23-2025	Print Date
Market Number MTA026	Channel Block A	Sub-Market Designator 19	
Market Name Louisville-Lexington-Evansville			
1st Build-out Date 06-23-2000	2nd Build-out Date 06-23-2005	3rd Build-out Date	4th Build-out Date

Waivers/Conditions:

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

License renewal granted on a conditional basis, subject to the outcome of FCC proceeding WT Docket No. 10-112 (see FCC 10-86, paras. 113 and 126).

Conditions:

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

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

Licensee Name: NEW CINGULAR WIRELESS PCS, LLC

Call Sign: WPOI255

File Number:

Print Date:

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

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

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

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

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



**Federal Communications Commission
Wireless Telecommunications Bureau**

Spectrum Leasing Arrangement

ATTN: REGINALD YOUNGBLOOD
NEW CINGULAR WIRELESS PCS LLC
3300 E RENNER ROAD, B3132
RICHARDSON, TX 75082

Date: 02/09/2018
Reference Number:

This approval allows the Lessee to lease spectrum from the Licensee pursuant to the provisions and requirements of Subpart X of Part 1 of the Commission's Rules, 47 C.F.R. Part 1, and as described in the associated spectrum leasing application or notification.

Type of Lease Arrangement	Lease Term	Lease Identifier
Spectrum Manager Lease	Short Term	L000019467

Lease Grant/Accepted Date	Lease Commencement Date	Lease Expiration Date
06/01/2016	03/30/2016	03/30/2017

Call Sign	Radio Service
WQDI527	CW - PCS Broadband

Lessee Information
0003291192 NEW CINGULAR WIRELESS PCS LLC Attn: REGINALD YOUNGBLOOD 3300 E RENNER ROAD, B3132 RICHARDSON, TX 75082

Licensee Information
0003290673 CELLCO PARTNERSHIP Attn: REGULATORY 5055 NORTH POINT PKWY, NP2NE NETWORK ENGINEERING ALPHARETTA, GA 30022

Geographically-Licensed Services		
Market Number	Market Name	Channel Block
BTA252	Lexington, KY	C

Condition:
 This lease may not authorize operation throughout the entire geographic area or spectrum identified on the hardcopy version. To view the specific geographic area and spectrum associated with this leasing agreement, 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.

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.

EXHIBIT B

SITE DEVELOPMENT PLAN:

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

PROPOSED LEASE AREA

ALL THAT TRACT OR PARCEL OF LAND LYING IN THE COUNTY OF POWELL, STATE OF KENTUCKY, CONSISTING OF A 100 FEET BY 100 FEET LEASE AREA, COMMENCING AT A FOUND 1/2" IR, THAT IS 685 FEET SOUTH-WESTERLY OF THE INTERSECTION OF (KY615) PAINT CREEK ROAD AND COURTNERY LANE, MORE PARTICULARLY DESCRIBED AS FOLLOWS:

THENCE NORTH 77 DEGREES 43 MINUTES 46 SECONDS WEST, A DISTANCE OF 331.46 FEET TO THE POINT OF BEGINNING;
 THENCE NORTH 76 DEGREES 08 MINUTES 56 SECONDS WEST, A DISTANCE OF 100.00 FEET;
 THENCE NORTH 13 DEGREES 51 MINUTES 04 SECONDS EAST, A DISTANCE OF 100.00 FEET;
 THENCE SOUTH 76 DEGREES 08 MINUTES 56 SECONDS EAST, A DISTANCE OF 100.00 FEET;
 THENCE SOUTH 13 DEGREES 51 MINUTES 04 SECONDS WEST, A DISTANCE OF 100.00 FEET TO THE POINT OF BEGINNING.

10,000 SQUARE FEET OR 0.2295 ACRES, MORE OR LESS

PROPOSED ACCESS & UTILITY EASEMENT "A"

ALL THAT TRACT OR PARCEL OF LAND LYING IN THE COUNTY OF POWELL, STATE OF KENTUCKY, CONSISTING OF A 25 FEET WIDE ACCESS AND UTILITY EASEMENT COMMENCING OF A 25 FEET WIDE ACCESS AND UTILITY EASEMENT LYING 12.50 FEET ON EACH SIDE OF THE FOLLOWING DESCRIBED CENTERLINE:

THENCE NORTH 77 DEGREES 43 MINUTES 46 SECONDS WEST, A DISTANCE OF 331.46 FEET, THENCE NORTH 13 DEGREES 51 MINUTES 04 SECONDS EAST, A DISTANCE OF 50.49 FEET TO THE POINT OF BEGINNING OF A 25 FEET WIDE ACCESS AND UTILITY EASEMENT LYING 12.50 FEET ON EACH SIDE OF THE FOLLOWING DESCRIBED CENTERLINE:
 THENCE SOUTH 76 DEGREES 08 MINUTES 56 SECONDS EAST, A DISTANCE OF 54.68 FEET;
 THENCE SOUTH 88 DEGREES 51 MINUTES 36 SECONDS EAST, A DISTANCE OF 108.49 FEET;
 THENCE SOUTH 59 DEGREES 59 MINUTES 01 SECONDS EAST, A DISTANCE OF 163.71 FEET;
 THENCE NORTH 31 DEGREES 59 MINUTES 26 SECONDS EAST, A DISTANCE OF 41.62 FEET;
 THENCE NORTH 56 DEGREES 12 MINUTES 58 SECONDS EAST, A DISTANCE OF 86.39 FEET TO THE POINT OF TERMINUS

PROPOSED ACCESS & UTILITY EASEMENT "B"

ALL THAT TRACT OR PARCEL OF LAND LYING IN THE COUNTY OF POWELL, STATE OF KENTUCKY, CONSISTING OF A 25 FEET WIDE ACCESS AND UTILITY EASEMENT COMMENCING OF A 25 FEET WIDE ACCESS AND UTILITY EASEMENT LYING 12.50 FEET ON EACH SIDE OF THE FOLLOWING DESCRIBED CENTERLINE:

THENCE NORTH 77 DEGREES 43 MINUTES 46 SECONDS WEST, A DISTANCE OF 331.46 FEET;
 THENCE NORTH 13 DEGREES 51 MINUTES 04 SECONDS EAST, A DISTANCE OF 50.49 FEET;
 THENCE SOUTH 76 DEGREES 08 MINUTES 56 SECONDS WEST, A DISTANCE OF 100.00 FEET;
 THENCE SOUTH 88 DEGREES 51 MINUTES 36 SECONDS EAST, A DISTANCE OF 108.49 FEET;
 THENCE SOUTH 59 DEGREES 59 MINUTES 01 SECONDS EAST, A DISTANCE OF 163.71 FEET;
 THENCE NORTH 31 DEGREES 59 MINUTES 26 SECONDS EAST, A DISTANCE OF 41.62 FEET;
 THENCE NORTH 56 DEGREES 12 MINUTES 58 SECONDS EAST, A DISTANCE OF 86.39 FEET TO THE POINT OF BEGINNING OF A 25 FEET WIDE ACCESS AND UTILITY EASEMENT LYING 12.50 FEET ON EACH SIDE OF THE FOLLOWING DESCRIBED CENTERLINE:
 THENCE NORTH 54 DEGREES 53 MINUTES 17 SECONDS EAST, A DISTANCE OF 183.67 FEET TO THE POINT OF TERMINUS

LINE	BEARING	LENGTH
L1	S76°29'22"E	54.68
L2	S88°51'36"E	108.49
L3	S59°59'01"E	163.71
L4	N31°59'26"E	41.62
L5	N56°12'58"E	86.39
L6	N54°53'17"E	183.67
L7	N35°56'16"E	101.23
L8	N25°16'57"E	100.58
L9	N42°11'26"E	57.08
L10	N55°40'08"E	95.71

CENTER OF TOWER
POSITION OF GEODETIC COORDINATES

GRID N 3851469.069
GRID E 5462576.456
LATITUDE: 37°53'08.077"
LONGITUDE: -83°52'26.644"

GRID N 3851409.065
GRID E 5462613.202
LATITUDE: 37°53'07.477"
LONGITUDE: -83°52'26.201"

GRID N 3851371.977
GRID E 5462552.516
LATITUDE: 37°53'07.122"
LONGITUDE: -83°52'26.967"

GRID N 3851348.037
GRID E 5462649.608
LATITUDE: 37°53'06.867"
LONGITUDE: -83°52'25.762"

GRID N 3851445.129
GRID E 5462673.548
LATITUDE: 37°53'07.822"
LONGITUDE: -83°52'25.439"

GRID N 3851277.594
GRID E 5462973.491
LATITUDE: 37°53'06.106"
LONGITUDE: -83°52'21.740"

PROPOSED ACCESS & UTILITY EASEMENT "C"

ALL THAT TRACT OR PARCEL OF LAND LYING IN THE COUNTY OF POWELL, STATE OF KENTUCKY, CONSISTING OF A 25 FEET WIDE ACCESS AND UTILITY EASEMENT COMMENCING OF A 25 FEET WIDE ACCESS AND UTILITY EASEMENT LYING 12.50 FEET ON EACH SIDE OF THE FOLLOWING DESCRIBED CENTERLINE:

THENCE NORTH 77 DEGREES 43 MINUTES 46 SECONDS WEST, A DISTANCE OF 331.46 FEET;
 THENCE NORTH 13 DEGREES 51 MINUTES 04 SECONDS EAST, A DISTANCE OF 50.49 FEET;
 THENCE SOUTH 76 DEGREES 08 MINUTES 56 SECONDS WEST, A DISTANCE OF 100.00 FEET;
 THENCE SOUTH 88 DEGREES 51 MINUTES 36 SECONDS EAST, A DISTANCE OF 108.49 FEET;
 THENCE SOUTH 59 DEGREES 59 MINUTES 01 SECONDS EAST, A DISTANCE OF 163.71 FEET;
 THENCE NORTH 31 DEGREES 59 MINUTES 26 SECONDS EAST, A DISTANCE OF 41.62 FEET;
 THENCE NORTH 56 DEGREES 12 MINUTES 58 SECONDS EAST, A DISTANCE OF 86.39 FEET;
 THENCE NORTH 54 DEGREES 53 MINUTES 17 SECONDS EAST, A DISTANCE OF 183.67 FEET TO THE POINT OF BEGINNING OF A 25 FEET WIDE ACCESS AND UTILITY EASEMENT LYING 12.50 FEET ON EACH SIDE OF THE FOLLOWING DESCRIBED CENTERLINE:
 THENCE NORTH 35 DEGREES 56 MINUTES 16 SECONDS EAST, A DISTANCE OF 101.23 FEET;
 THENCE NORTH 25 DEGREES 16 MINUTES 57 SECONDS EAST, A DISTANCE OF 100.58 FEET;
 THENCE NORTH 42 DEGREES 11 MINUTES 26 SECONDS EAST, A DISTANCE OF 57.08 FEET;
 THENCE NORTH 55 DEGREES 40 MINUTES 08 SECONDS EAST, A DISTANCE OF 95.71 FEET TO THE POINT OF TERMINUS.

TITLE REPORT INFO

REFERENCE IS MADE TO THE TITLE REPORT ORDER #00300-20170075, ISSUED BY STEWART TITLE INSURANCE COMPANY, DATED 03.03.2017 & TITLE REPORT ORDER #00300-20170155, ISSUED BY STEWART TITLE INSURANCE COMPANY, DATED 04.27.2017. ALL EASEMENTS CONTAINED WITHIN SAID TITLE REPORT AFFECTING THE IMMEDIATE AREA SURROUNDING THE LEASE HAVE BEEN PLOTTED (EXCEPT FOR ROOFTOPS).

SCHEDULE B ITEMS:

NONE WITHIN PERIOD SEARCHED

SITE INFO

TAX PARCEL NO: 018-00-00-006.27

PROPERTY OWNER: WIREMAN RANDLE & GEORGIA

SOURCE OF TITLE: DB 76/584

LAND SURVEYOR'S CERTIFICATE

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

SIGNED: *A. Clay Robinson*

6.13.18

DATE



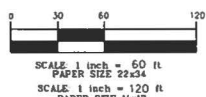
Know what's below. Call before you dig.

FAA COORDINATE POINT

CENTER OF TOWER (NAD83)
 LATITUDE 37° 53' 07.48" NORTH
 LONGITUDE 83° 52' 26.20" WEST
 ELEVATION 789.1' (NAVD88)

1-A ACCURACY CERTIFICATION

THE HORIZONTAL ACCURACY OF THE LATITUDE AND LONGITUDE OF THE GEODETIC COORDINATES FALL WITHIN TWENTY (20) FEET. THE ELEVATIONS (NAVD88) OF THE GROUND AND FIXTURES FALL WITHIN THREE (3) FEET.

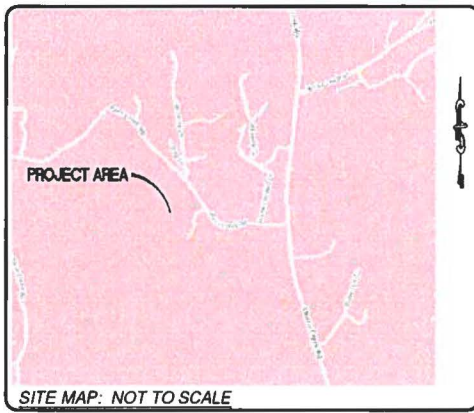


FLOOD INFORMATION

THE PROPOSED LEASE AREA SHOWN HEREON IS NOT LOCATED IN A 100-YEAR FLOOD PLAIN PER FLOOD HAZARD BOUNDARY MAP, COMMUNITY-PANEL NO. 21197C0075D, DATED 02.17.2010. THE PROPOSED LEASE AREA IS LOCATED IN ZONE "X".

LEGEND

- POB POINT OF BEGINNING
- POT POINT OF TERMINUS
- PUE PUBLIC UTILITY EASEMENT
- ROW RIGHT OF WAY
- DW DRIVEWAY
- SW SIDEWALK
- SET 1/2"x24" IR CAPPED: #3219 OR FOUND AS NOTED
- SPOT ELEVATION
- POSITION OF GEODETIC COORDINATES
- WATER CONTROL VALVE
- FIRE HYDRANT
- POWER POLE
- ELECTRIC MANHOLE
- TELCO MANHOLE
- OVERHEAD ELECTRIC
- PROPERTY LINE
- BARBED WIRE FENCE



SITE MAP: NOT TO SCALE

BENCHMARK

ELEVATION ESTABLISHED FROM GPS OBSERVATIONS CONSTRAINED TO OPUS SOLUTIONS, APPLYING GEOID 12A SEPARATIONS NAVD88 DATUM.

BASIS OF BEARINGS

BEARINGS SHOWN HEREON ARE BASED UPON U.S. STATE PLANE NAD83 COORDINATE SYSTEM KENTUCKY SINGLE ZONE US FOOT, DETERMINED BY GPS OBSERVATIONS, COMPLETED ON 3.10.17

UTILITY NOTES

SURVEYOR DOES NOT GUARANTEE THAT ALL UTILITIES ARE SHOWN OR THEIR LOCATIONS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR AND DEVELOPER TO CONTACT LOCAL 811 AND ANY OTHER INVOLVED AGENCIES TO LOCATE ALL UTILITIES PRIOR TO CONSTRUCTION. REMOVAL, RELOCATION AND/OR REPLACEMENT IS THE RESPONSIBILITY OF THE CONTRACTOR.

SURVEYOR NOTES

NO SEARCH OF PUBLIC RECORDS HAS BEEN COMPLETED TO DETERMINE ANY DEFECTS AND/OR AMBIGUITIES IN THE TITLE OF THE PARENT PARCEL.

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

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

THIS SURVEY IS NOT INTENDED FOR LAND TRANSFER.

SURVEYOR HAS NOT PERFORMED A SEARCH OF PUBLIC RECORDS TO DETERMINE ANY DEFECT IN TITLE ISSUED. THE BOUNDARY SHOWN HEREON IS PLOTTED FROM RECORD INFORMATION AND DOES NOT CONSTITUTE A BOUNDARY SURVEY OF THE PROPERTY.

THIS SURVEY PLAN WAS PERFORMED UNDER THE AUTHORITY OF KENTUCKY REVISED STATUTES (201 KAR 18, 150), AND IS NOT TO BE CONSIDERED A GENERAL PROPERTY BOUNDARY SURVEY AS DEFINED WITH KENTUCKY REVISED STATUTES. DIMENSIONS (IF SHOWN) ALONG THE PERIMETER OF THE LANDOWNER'S PROPERTY ARE PROVIDED UNDER THIS SURVEYOR'S SCOPE OF SERVICES WITH AT&T AND ARE TO BE CONSIDERED FOR REFERENCE ONLY. THE EXACT LOCATION OF THE LANDOWNER'S PROPERTY MAY DIFFER UPON THE PREPARATION OF A FULL BOUNDARY SURVEY IN ACCORDANCE WITH THE REQUIREMENTS ESTABLISHED BY THE STATE OF KENTUCKY.

THIS SURVEY WAS PERFORMED WITH A TRIMBLE RB DUAL FREQUENCY, REAL TIME KINEMATIC GLOBAL POSITIONING SYSTEM ROVER AND BASE STATION 4531154139 & 4624117200 SERIAL NUMBERS, REDUNDANT AND REPETITIVE MEASUREMENTS WERE TAKEN TO INSURE CORRECT POSITIONS OF ALL DATA POINTS. A TOLERANCE OF 0.04' FOR POSITIONAL ACCURACY.



DRAWN BY: MD
 CHECKED BY: JC/ACR

REV	DATE	DESCRIPTION
A	3.31.17	REVIEW



FA # 13800704
 SITE # KYL06085
 SITE NAME: MORRIS CREEK
 SITE ADDRESS: 3569 PAINT CREEK ROAD STANTON, KY 40380 POWELL COUNTY

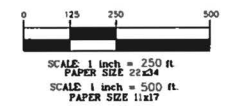
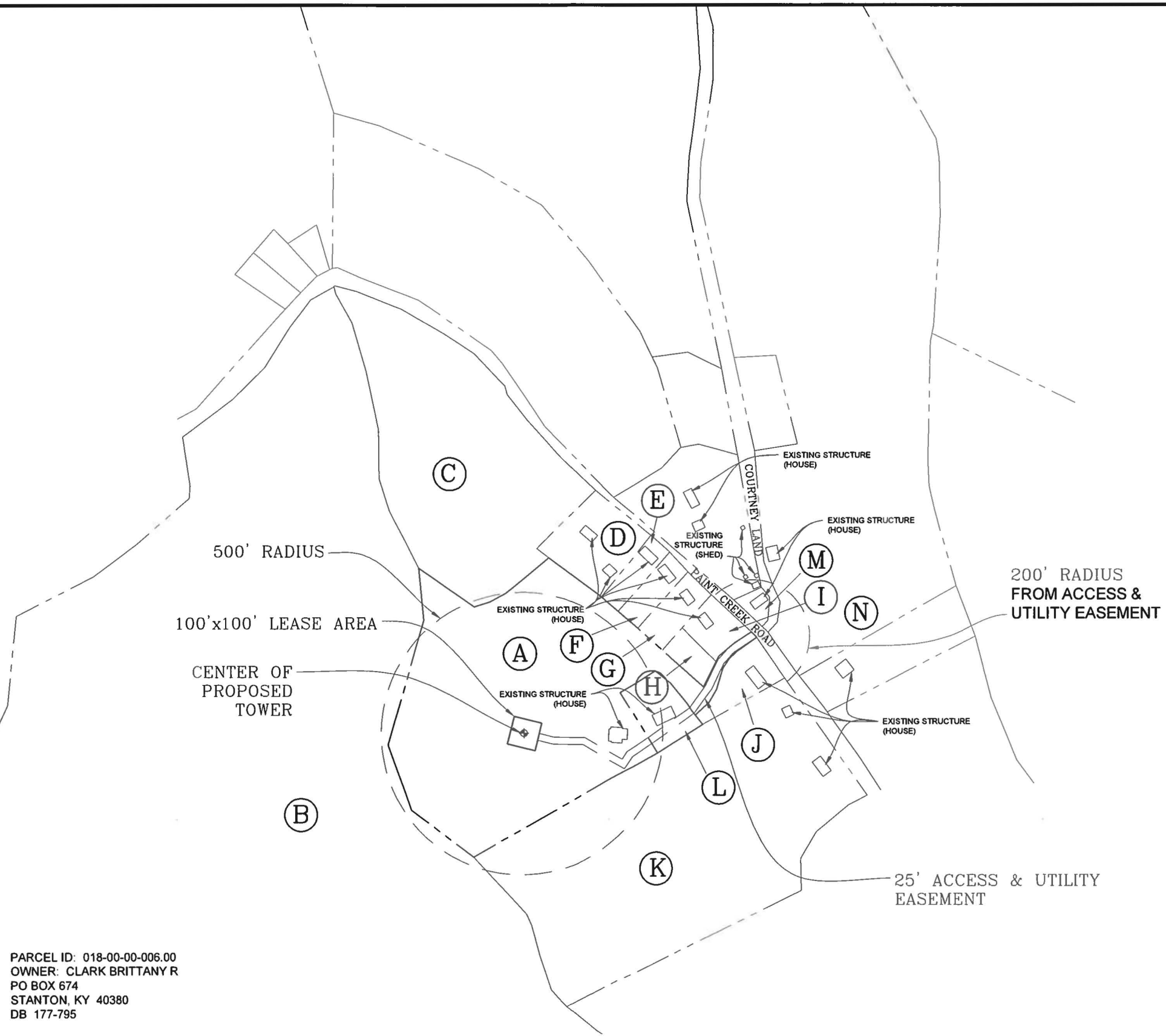
SHEET TITLE TOPOGRAPHIC SITE SURVEY
 SHEET NUMBER B-1

- (A)** PARCEL ID: 018-00-00-006.27
OWNER: WIREMAN RANDLE & GEORGIA
3569 PAINT CREEK ROAD
STANTON, KY 40380
DB 76/584
- (B)** PARCEL ID: 019-00-00-037.00
OWNER: DRAKE GEORGE L & JESSE H
2159 MORRIS CREEK ROAD
STANTON, KY 40380
DB N/A
- (C)** PARCEL ID: 018-00-00-005.00
OWNER: CAUDILL JAMES
3378 PAINT CREEK ROAD
STANTON, KY 40380
DB 188/298
- (D)** PARCEL ID: 018-00-00-006.32
OWNER: ISON SHERMAN & ELOISE
3437 PAINT CREEK ROAD
STANTON, KY 40380
DB 136/595
- (E)** PARCEL ID: 018-00-00-006.31
OWNER: LAYNE DANNY & KATHY
3483 PAINT CREEK ROAD
STANTON, KY 40380
DB 141/63
- (F)** PARCEL ID: 018-00-00-006.30
OWNER: VERES WADE
3499 PAINT CREEK ROAD
STANTON, KY 40380
DB 166/519
- (G)** PARCEL ID: 018-00-00-006.29
OWNER: KING JUANITA FAYE
PO BOX 607
STANTON, KY 40380
DB 167/300
- (H)** PARCEL ID: 018-00-00-006.28
OWNER: RITCHIE DELL O & PARTRICIA
3539 PAINT CREEK ROAD
STANTON, KY 40380
DB 115/522
- (I)** PARCEL ID: 018-00-00-006.28
OWNER: RITCHIE DELL O & PARTRICIA
3539 PAINT CREEK ROAD
STANTON, KY 40380
DB 115/522
- (J)** PARCEL ID: 018-00-00-006.26
OWNER: CLEMONS GORDON & PATRICIA
3601 PAINT CREEK ROAD
STANTON, KY 40380
DB 82-380
- (K)** PARCEL ID: 018-00-00-007.13
OWNER: ARNETT MEYERS & MARGARITA
PO BOX 573
STANTON, KY 40380
DB 147-78
- (L)** PARCEL ID: 018-00-00-006.37
OWNER: WIREMAN RANDEL S
3567 PAINT CREEK ROAD
STANTON, KY 40380
DB 164-269

(M) PARCEL ID: 018-00-00-006.00
OWNER: CLARK BRITTANY R
PO BOX 674
STANTON, KY 40380
DB 177-795

(N) PARCEL ID: 018-00-00-006.11
OWNER: WILLIAM THORPE,
64 COUNTNEY LANE
STANTON, KY 40380
DB N/A

SURVEYOR NOTES
1. ALL INFORMATION SHOWN HEREON WAS OBTAINED 6.13.18 FROM POWELL COUNTY PROPERTY VALUATION OFFICE. RECORDS MAY NOT REFLECT THE CURRENT OWNERS AND ADDRESSES DUE TO THE INACCURACIES AND THE TIME LAPSE IN UPDATING FILES.
2. THIS MAP IS FOR GENERAL INFORMATION PURPOSES ONLY AND DOES CONSTITUTE A BOUNDARY SURVEY.
3. THIS MAP IS NOT FOR RECORDING OR PROPERTY TRANSFER.



SITE INFO
TAX PARCEL NO: 018-00-00-006.27
PROPERTY OWNER: WIREMAN RANDLE & GEORGIA
SOURCE OF TITLE: DB 76/584



DRAWN BY: MD
CHECKED BY: JC/ACR

REV	DATE	DESCRIPTION
A	3.31.17	REVIEW

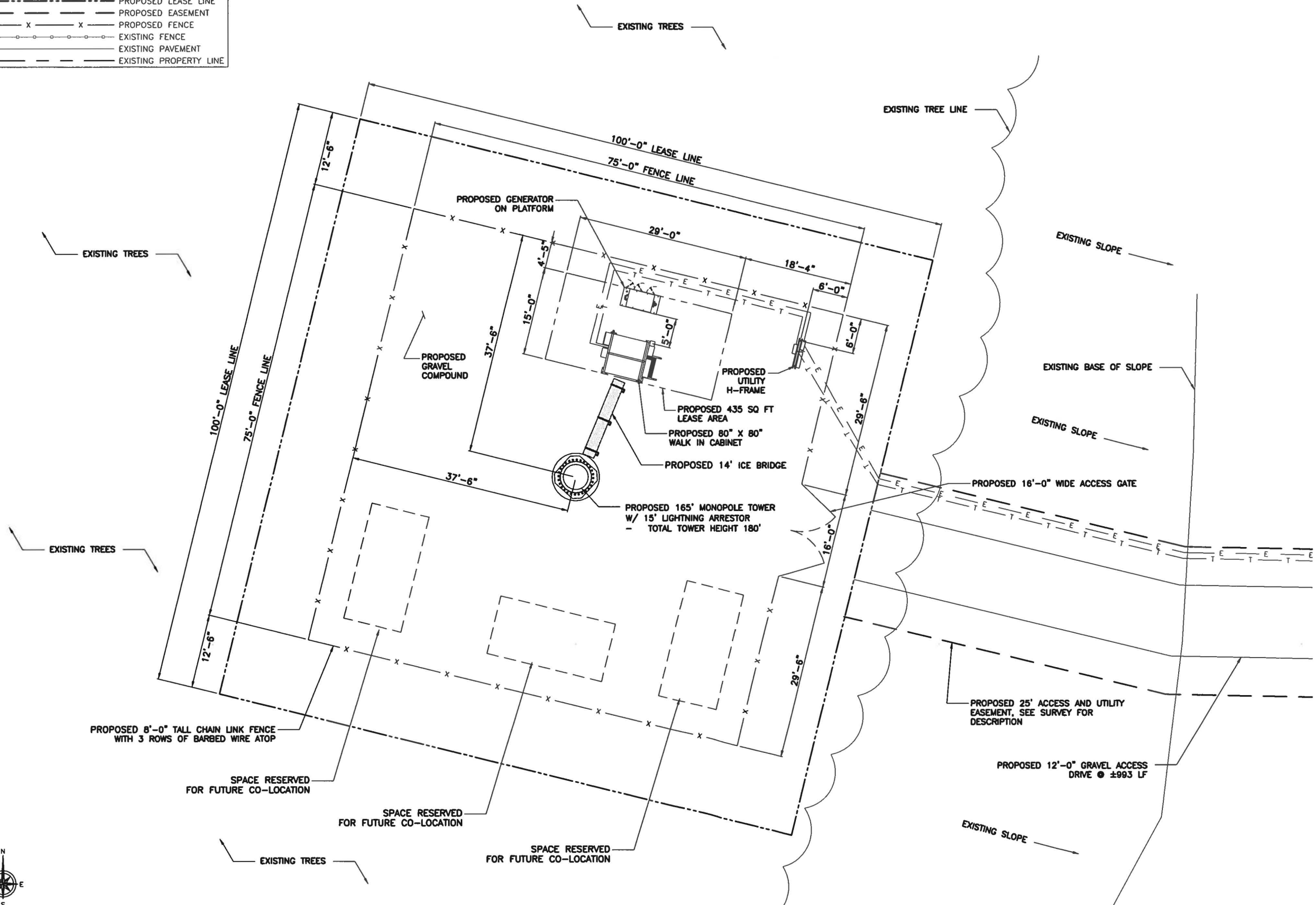


FA #
13800704
SITE #
KYL06085
SITE NAME:
MORRIS CREEK
SITE ADDRESS:
**3569 PAINT CREEK ROAD
STANTON, KY 40380
POWELL COUNTY**

SHEET TITLE
**500' RADIUS
&
ABUTTER'S MAP**

SHEET NUMBER
B-2

LEGEND	
	PROPOSED LEASE LINE
	PROPOSED EASEMENT
	PROPOSED FENCE
	EXISTING FENCE
	EXISTING PAVEMENT
	EXISTING PROPERTY LINE



ENLARGED COMPOUND LAYOUT

22"x34" SCALE: 1/8" = 1'-0"
 11"x17" SCALE: 1/16" = 1'-0"



IRISH TOWER
 GENERAL CONSTRUCTION | ENGINEERING | PROJECT MANAGEMENT
 4603 Bermuda Drive, Sugar Land, TX 77479
 Voice: (281) 796-2651 | Fax: (866) 598-3136
 irishtower.com

ZONING DRAWINGS
 NOT FOR CONSTRUCTION

DRAWN BY: DL
 CHECKED BY: JRG

REV	DATE	DESCRIPTION
0	06/28/17	ISSUED FOR ZONING
1	07/31/17	UPDATED ADDRESS
2	06/13/18	ZONING-TOWER CHG.

Jacob Goralski
 STATE OF KENTUCKY
 JACOB GORALSKI
 30898
 LICENSED PROFESSIONAL ENGINEER
 6/13/2018
 ENG. PERMIT # 4363

FA # 13800704
 SITE # KYL06085
 SITE NAME: MORRIS CREEK
 SITE ADDRESS: 3569 PAINT CREEK ROAD STANTON, KY 40380

SHEET TITLE
ENLARGED COMPOUND LAYOUT

SHEET NUMBER
C-1



MasTec



IRISH TOWER

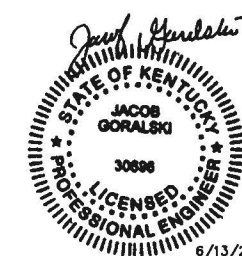
GENERAL CONSTRUCTION | ENGINEERING | PROJECT MANAGEMENT
4603 Bermuda Drive, Sugar Land, TX 77479
Voice: (281) 796-2651 | Fax: (866) 598-3136
IrishTower.com

ZONING DRAWINGS
NOT FOR CONSTRUCTION

DRAWN BY: DL

CHECKED BY: JRG

REV	DATE	DESCRIPTION
0	06/28/17	ISSUED FOR ZONING
1	07/31/17	UPDATED ADDRESS
2	06/13/18	ZONING-TOWER CHG.



ENG. PERMIT # 4363

FA # 13800704
SITE # KYL06085
SITE NAME: MORRIS CREEK
SITE ADDRESS: 3569 PAINT CREEK ROAD STANTON, KY 40380

SHEET TITLE
TOWER ELEVATION

SHEET NUMBER
C-2

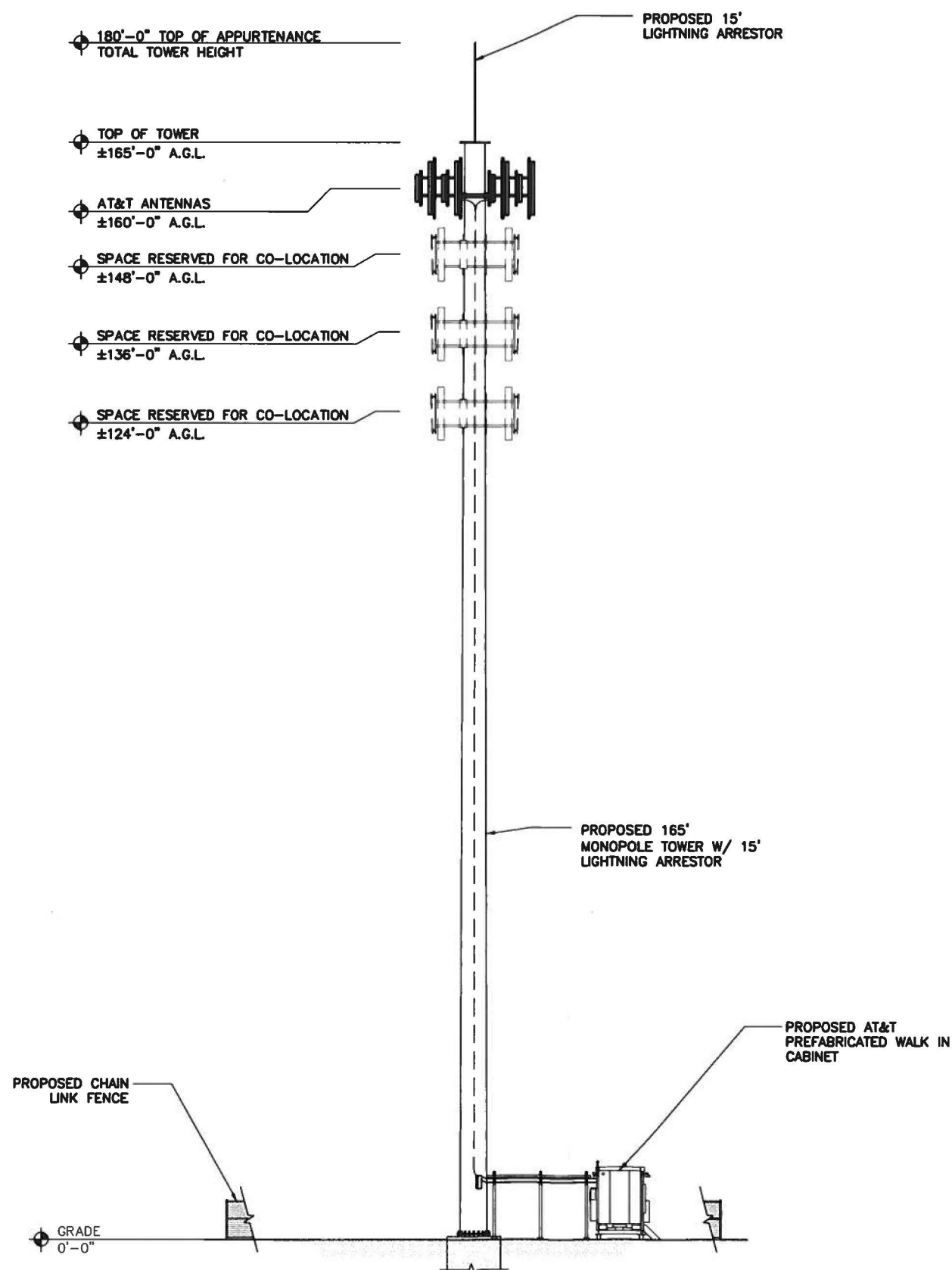


EXHIBIT C
TOWER AND FOUNDATION DESIGN



Structural Design Report

165' Monopole

Site: Morris Creek, KY

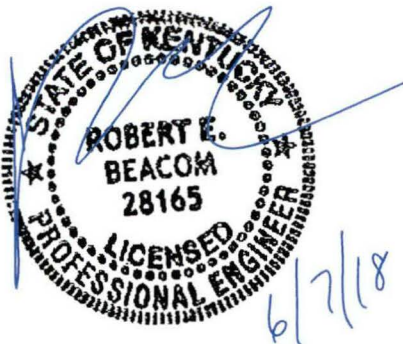
Site Number: KYL06085

Prepared for: AT&T
by: Sabre Towers & Poles™

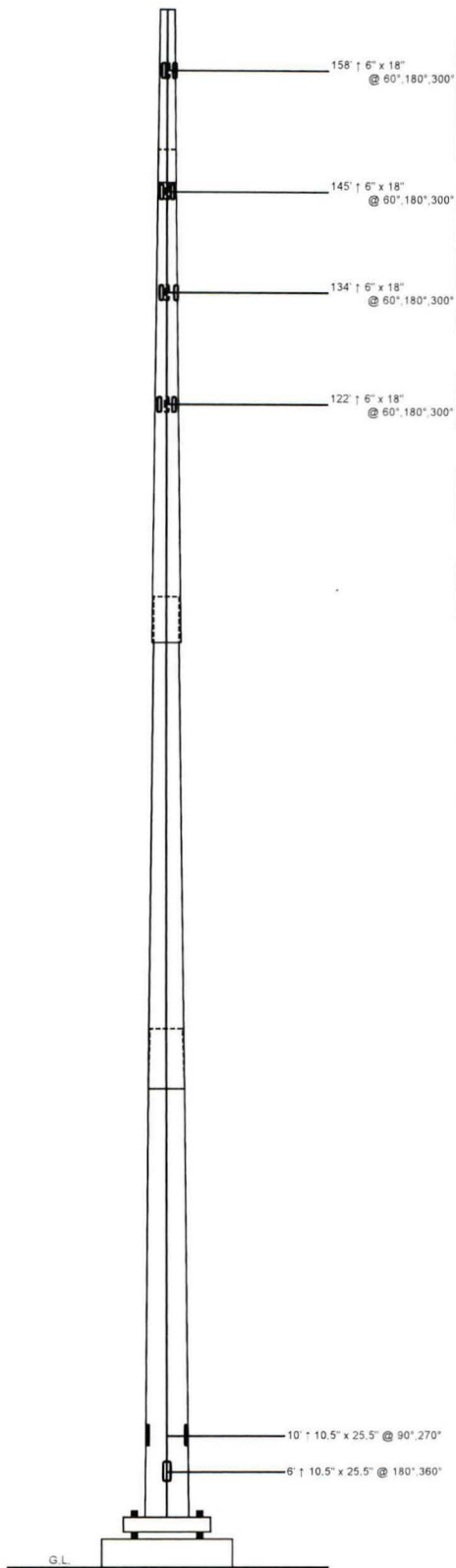
Job Number: 410611

June 7, 2018

Monopole Profile.....	1
Foundation Design Summary (Option 1).....	2
Foundation Design Summary (Option 2).....	3
Pole Calculations.....	4-14
Foundation Calculations.....	15-23



Length (ft)	53'-3"	53'-6"	18	53'-6"	18'-9"
Number Of Sides	18				
Thickness (in)	3/8"				
Lap Splice (ft)	5'-0"				
Top Diameter (in)	44.74"	34.18"	23"	19.75"	1/4"
Bottom Diameter (in)	57.84"	47.34"	36.16"	24.36"	A
Taper (in/ft)	0.246				
Grade	A572-55				
Weight (lbs)	17432	12322	7087	1303	
Overall Steel Height (ft)	164				



Designed Appurtenance Loading

Elev	Description	Tx-Line
160	(1) 278 sq. ft. EPA 6000# (no ice)	(18) 1 5/8"
148	(1) 208 sq. ft. EPA 4000# (no ice)	(18) 1 5/8"
136	(1) 208 sq. ft. EPA 4000# (no ice)	(18) 1 5/8"
124	(1) 208 sq. ft. EPA 4000# (no ice)	(18) 1 5/8"

Load Case Reactions

Description	Axial (kips)	Shear (kips)	Moment (ft-k)	Deflection (ft)	Sway (deg)
3s Gusted Wind	74.65	55.34	7476.71	15.83	10.53
3s Gusted Wind 0.9 Dead	56.04	55.32	7326.56	15.43	10.24
3s Gusted Wind&Ice	118.89	9.07	1338.25	2.98	1.94
Service Loads	62.25	14.06	1892.06	4.1	2.69

Base Plate Dimensions

Shape	Diameter	Thickness	Bolt Circle	Bolt Qty	Bolt Diameter
Round	70.75"	2.5"	65"	22	2.25"

Anchor Bolt Dimensions

Length	Diameter	Hole Diameter	Weight	Type	Finish
84"	2.25"	2.625"	2664.2	A615-75	Galv

Material List

Display	Value
A	3' - 6"

Notes

- 1) Antenna Feed Lines Run Inside Pole
- 2) All dimensions are above ground level, unless otherwise specified.
- 3) Weights shown are estimates. Final weights may vary.
- 4) The Monopole was designed for a basic wind speed of 89 mph with 0" of radial ice, and 30 mph with 3/4" of radial ice, in accordance with ANSI/TIA-222-G, Structure Class II, Exposure Category C, Topographic Category 1.
- 5) The tower design meets the requirements for an Ultimate Wind Speed of 115 mph (Risk Category II), in accordance with the 2012 International Building Code.
- 6) Full Height Step Bolts
- 7) Tower Rating: 99.8%

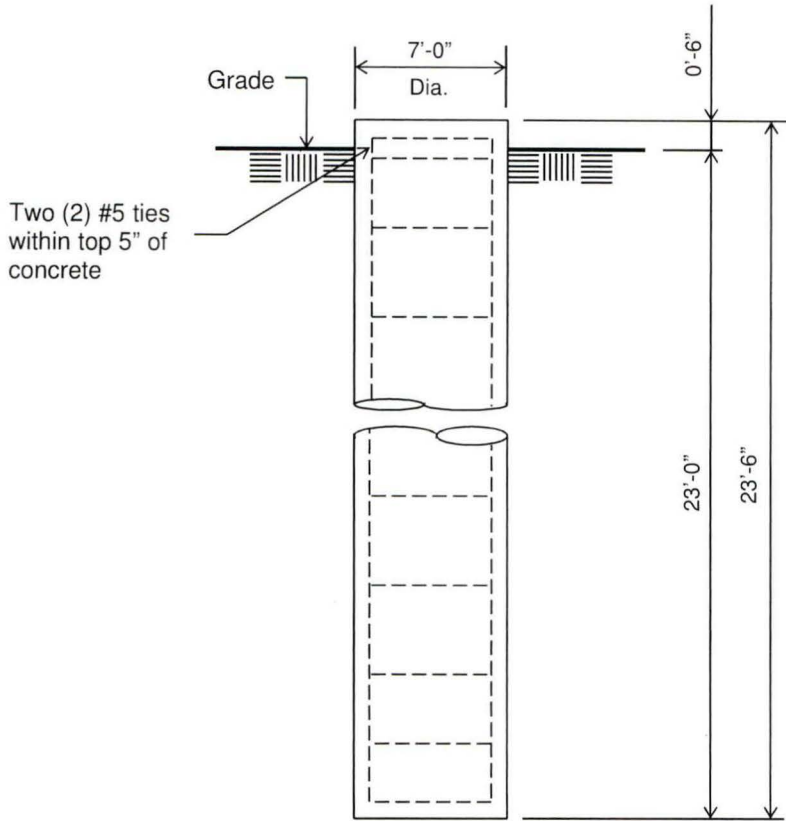
	Sabre Communications Corporation 7101 Southbridge Drive P.O. Box 658 Sioux City, IA 51102-0658 Phone: (712) 258-6690 Fax: (712) 279-0814	Job: 410611 Customer: AT&T Site Name: Morris Creek, KY KYL06085 Description: 165' Monopole Date: 6/7/2018	By: REB
	<small>Information contained herein is the sole property 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.</small>		

Customer: AT&T
Site: Morris Creek, KY KYL06085

165' Monopole at
89 mph wind and 30 mph wind with 0.75" ice per ANSI/TIA-222-G.

Notes:

- 1) Concrete shall have a minimum 28-day compressive strength of 4,500 psi, in accordance with ACI 318-11.
- 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 ECS project no. 26:3125-Q2, dated: 4/27/18
- 6) See the geotechnical report for drilled pier installation requirements, if specified.
- 7) The foundation is based on the following factored loads:
Moment = 7,476.71 k-ft
Axial = 74.65 k
Shear = 55.34 k



ELEVATION VIEW

(33.5 Cu. Yds.)
(1 REQUIRED; NOT TO SCALE)

Rebar Schedule for Pier	
Pier	(38) #11 vertical rebar w/ #5 ties, two within top 5" of pier, then 8" C/C

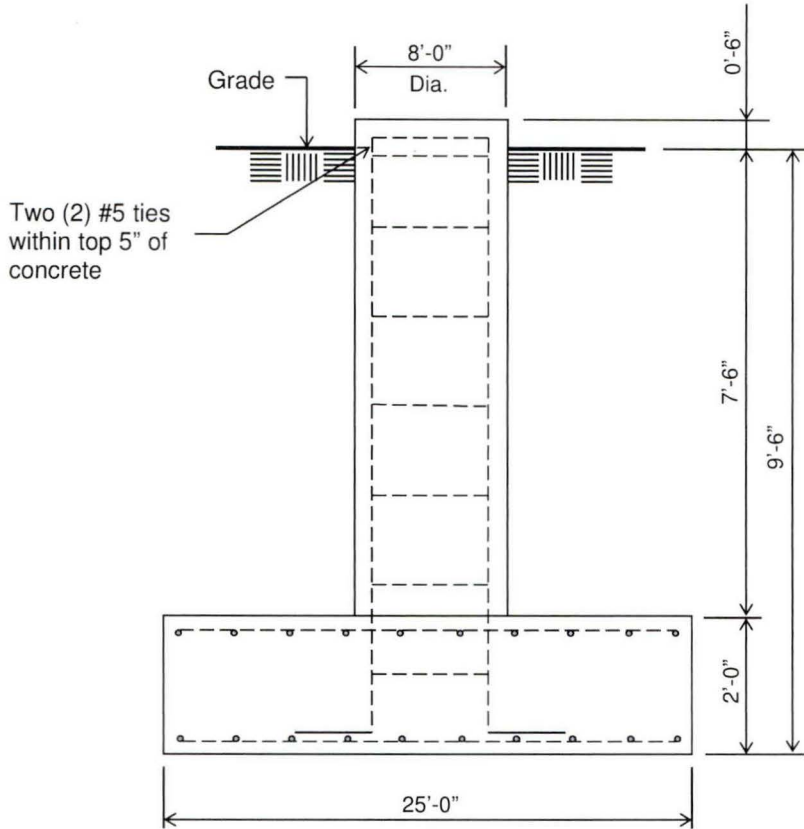
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Customer: AT&T
Site: Morris Creek, KY KYL06085

165' Monopole at
89 mph wind and 30 mph wind with 0.75" ice per ANSI/TIA-222-G.

Notes:

- 1) Concrete shall have a minimum 28-day compressive strength of 4,500 psi, in accordance with ACI 318-11.
- 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 ECS project no. 26:3125-Q2, dated: 4/27/18
- 6) See the geotechnical report for compaction requirements, if specified.
- 7) 7.5 ft of soil cover is required over the entire area of the foundation slab.
- 8) The foundation is based on the following factored loads:
Moment = 7,476.71 k-ft
Axial = 74.65 k
Shear = 55.34 k



ELEVATION VIEW
(61.19 Cu. Yds.)
(1 REQUIRED; NOT TO SCALE)

Rebar Schedule for Pad and Pier	
Pier	(54) #8 vertical rebar w/ hooks at bottom w/ #5 ties, two within top 5" of pier, then 12" C/C
Pad	(50) #9 horizontal rebar evenly spaced each way top and bottom (200 total)

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410611

=====

(USA 222-G) - Monopole Spatial Analysis (c)2015 Guymast Inc.
 Tel:(416)736-7453 Fax:(416)736-4372 Web:www.guymast.com

Processed under license at:

Sabre Towers and Poles on: 7 jun 2018 at: 11:35:44

=====

165' Monopole / Morris Creek, KY

* All pole diameters shown on the following pages are across corners.
 See profile drawing for widths across flats.

POLE GEOMETRY

=====

ELEV ft	SECTION NAME	No. SIDE	OUTSIDE DIAM in	THICK -NESS in	RESISTANCES ♦*Pn ♦*Mn kip ft-kip	SPLICE TYPE	...OVERLAP... LENGTH ft	RATIO	w/t
164.0	A	18	20.06	0.250	1149.6 458.9				12.2
148.7	A/B	18	23.86	0.250	1370.3 653.3	SLIP	3.50	1.76	
145.2	B	18	24.24	0.375	2077.6 996.2				9.5
100.2	B/C	18	35.46	0.375	3054.9 2164.5	SLIP	5.00	1.69	
95.2	C	18	35.97	0.500	4117.7 2939.5				10.7
53.2	C/D	18	46.44	0.500	5332.8 4945.9	SLIP	6.50	1.68	
46.7	D	18	47.07	0.500	5407.0 5085.2				14.6
0.0			58.74	0.500	6509.8 7671.9				

POLE ASSEMBLY

=====

SECTION NAME	BASE ELEV ft	BOLTS NUMBER	AT BASE TYPE	OF SECTION DIAM in	STRENGTH ksi	THREADS IN SHEAR PLANE	CALC BASE ELEV ft
A	145.250	0	A325	0.00	92.0	0	145.250
B	95.250	0	A325	0.00	92.0	0	95.250
C	46.750	0	A325	0.00	92.0	0	46.750
D	0.000	0	A325	0.00	92.0	0	0.000

POLE SECTIONS

=====

SECTION NAME	No.of SIDES	LENGTH ft	OUTSIDE DIAMETER BOT * in	TOP * in	BEND RAD in	MAT- ERIAL ID	FLANGE.ID BOT	TOP	FLANGE.WELD ..GROUP.ID.. BOT	TOP
A	18	18.75	24.74	20.06	0.000	1	0	0	0	0
B	18	53.50	36.72	23.36	0.000	2	0	0	0	0
C	18	53.50	48.07	34.71	0.000	3	0	0	0	0
D	18	53.25	58.74	45.44	0.000	4	0	0	0	0

410611

* - Diameter of circumscribed circle

MATERIAL TYPES

TYPE OF SHAPE	TYPE NO	NO OF ELEM.	ORIENT	HEIGHT	WIDTH	.THICKNESS.		IRREGULARITY	
			& deg	in	in	WEB	FLANGE	.PROJECTION. % OF AREA	ORIENT deg
PL	1	1	0.0	24.74	0.25	0.250	0.250	0.00	0.0
PL	2	1	0.0	36.72	0.38	0.375	0.375	0.00	0.0
PL	3	1	0.0	48.07	0.50	0.500	0.500	0.00	0.0
PL	4	1	0.0	58.74	0.50	0.500	0.500	0.00	0.0

& - with respect to vertical

MATERIAL PROPERTIES

MATERIAL TYPE NO.	ELASTIC MODULUS ksi	UNIT WEIGHT pcf	.. STRENGTH ..		THERMAL COEFFICIENT /deg
			Fu ksi	Fy ksi	
1	29000.0	490.0	80.0	65.0	0.00001170
2	29000.0	490.0	80.0	65.0	0.00001170
3	29000.0	490.0	80.0	65.0	0.00001170
4	29000.0	490.0	80.0	65.0	0.00001170

* Only 3 condition(s) shown in full

* Some concentrated wind loads may have been derived from full-scale wind tunnel testing

LOADING CONDITION A

89 mph wind with no ice. Wind Azimuth: 0°

LOADS ON POLE

LOAD TYPE	ELEV ft	APPLY RADIUS ft	LOAD AT AZI ft	LOAD AZIFORCES.....	MOMENTS.....	
					HORIZ kip	DOWN kip	VERTICAL ft-kip	TORSNAL ft-kip
C	159.000	0.00	0.0	0.0	0.0000	3.5718	0.0000	0.0000
C	159.000	0.00	0.0	0.0	13.1697	7.2000	0.0000	0.0000
C	147.000	0.00	0.0	0.0	0.0000	3.3022	0.0000	0.0000
C	147.000	0.00	0.0	0.0	9.6932	4.8000	0.0000	0.0000
C	135.000	0.00	0.0	0.0	0.0000	3.0326	0.0000	0.0000
C	135.000	0.00	0.0	0.0	9.5222	4.8000	0.0000	0.0000
C	123.000	0.00	0.0	0.0	0.0000	2.7631	0.0000	0.0000
C	123.000	0.00	0.0	0.0	9.3388	4.8000	0.0000	0.0000
D	164.000	0.00	180.0	0.0	0.0533	0.0653	0.0000	0.0000
D	148.750	0.00	180.0	0.0	0.0590	0.0733	0.0000	0.0000
D	148.750	0.00	180.0	0.0	0.0613	0.1891	0.0000	0.0000
D	145.250	0.00	180.0	0.0	0.0613	0.1891	0.0000	0.0000
D	145.250	0.00	180.0	0.0	0.0650	0.1234	0.0000	0.0000
D	130.250	0.00	180.0	0.0	0.0650	0.1234	0.0000	0.0000
D	130.250	0.00	180.0	0.0	0.0726	0.1411	0.0000	0.0000
D	115.250	0.00	180.0	0.0	0.0726	0.1411	0.0000	0.0000
D	115.250	0.00	180.0	0.0	0.0795	0.1588	0.0000	0.0000
D	100.250	0.00	180.0	0.0	0.0795	0.1588	0.0000	0.0000
D	100.250	0.00	180.0	0.0	0.0837	0.3934	0.0000	0.0000
D	95.250	0.00	180.0	0.0	0.0837	0.3934	0.0000	0.0000
D	95.250	0.00	180.0	0.0	0.0856	0.2377	0.0000	0.0000
D	81.250	0.00	180.0	0.0	0.0856	0.2377	0.0000	0.0000
D	81.250	0.00	180.0	0.0	0.0902	0.2598	0.0000	0.0000
D	67.250	0.00	180.0	0.0	0.0902	0.2598	0.0000	0.0000
D	67.250	0.00	180.0	0.0	0.0937	0.2818	0.0000	0.0000
D	53.250	0.00	180.0	0.0	0.0937	0.2818	0.0000	0.0000

					410611			
D	53.250	0.00	180.0	0.0	0.0953	0.5903	0.0000	0.0000
D	46.750	0.00	180.0	0.0	0.0953	0.5903	0.0000	0.0000
D	46.750	0.00	180.0	0.0	0.0939	0.3066	0.0000	0.0000
D	35.063	0.00	180.0	0.0	0.0939	0.3066	0.0000	0.0000
D	35.063	0.00	180.0	0.0	0.0929	0.3251	0.0000	0.0000
D	23.375	0.00	180.0	0.0	0.0929	0.3251	0.0000	0.0000
D	23.375	0.00	180.0	0.0	0.0886	0.3436	0.0000	0.0000
D	11.688	0.00	180.0	0.0	0.0886	0.3436	0.0000	0.0000
D	11.688	0.00	180.0	0.0	0.0894	0.3620	0.0000	0.0000
D	0.000	0.00	180.0	0.0	0.0894	0.3620	0.0000	0.0000

LOADING CONDITION M

89 mph wind with no ice. Wind Azimuth: 0°

LOADS ON POLE

LOAD TYPE	ELEV ft	APPLY. RADIUS ft	LOAD. AT AZI	LOAD AZIFORCES.....	MOMENTS.....	
					HORIZ kip	DOWN kip	VERTICAL ft-kip	TORSNAL ft-kip
C	159.000	0.00	0.0	0.0	0.0000	2.6788	0.0000	0.0000
C	159.000	0.00	0.0	0.0	13.1697	5.4000	0.0000	0.0000
C	147.000	0.00	0.0	0.0	0.0000	2.4767	0.0000	0.0000
C	147.000	0.00	0.0	0.0	9.6932	3.6000	0.0000	0.0000
C	135.000	0.00	0.0	0.0	0.0000	2.2745	0.0000	0.0000
C	135.000	0.00	0.0	0.0	9.5222	3.6000	0.0000	0.0000
C	123.000	0.00	0.0	0.0	0.0000	2.0723	0.0000	0.0000
C	123.000	0.00	0.0	0.0	9.3388	3.6000	0.0000	0.0000
D	164.000	0.00	180.0	0.0	0.0533	0.0490	0.0000	0.0000
D	148.750	0.00	180.0	0.0	0.0590	0.0550	0.0000	0.0000
D	148.750	0.00	180.0	0.0	0.0613	0.1418	0.0000	0.0000
D	145.250	0.00	180.0	0.0	0.0613	0.1418	0.0000	0.0000
D	145.250	0.00	180.0	0.0	0.0650	0.0925	0.0000	0.0000
D	130.250	0.00	180.0	0.0	0.0650	0.0925	0.0000	0.0000
D	130.250	0.00	180.0	0.0	0.0726	0.1058	0.0000	0.0000
D	115.250	0.00	180.0	0.0	0.0726	0.1058	0.0000	0.0000
D	115.250	0.00	180.0	0.0	0.0795	0.1191	0.0000	0.0000
D	100.250	0.00	180.0	0.0	0.0795	0.1191	0.0000	0.0000
D	100.250	0.00	180.0	0.0	0.0837	0.2950	0.0000	0.0000
D	95.250	0.00	180.0	0.0	0.0837	0.2950	0.0000	0.0000
D	95.250	0.00	180.0	0.0	0.0856	0.1783	0.0000	0.0000
D	81.250	0.00	180.0	0.0	0.0856	0.1783	0.0000	0.0000
D	81.250	0.00	180.0	0.0	0.0902	0.1948	0.0000	0.0000
D	67.250	0.00	180.0	0.0	0.0902	0.1948	0.0000	0.0000
D	67.250	0.00	180.0	0.0	0.0937	0.2114	0.0000	0.0000
D	53.250	0.00	180.0	0.0	0.0937	0.2114	0.0000	0.0000
D	53.250	0.00	180.0	0.0	0.0953	0.4427	0.0000	0.0000
D	46.750	0.00	180.0	0.0	0.0953	0.4427	0.0000	0.0000
D	46.750	0.00	180.0	0.0	0.0939	0.2300	0.0000	0.0000
D	35.063	0.00	180.0	0.0	0.0939	0.2300	0.0000	0.0000
D	35.063	0.00	180.0	0.0	0.0929	0.2438	0.0000	0.0000
D	23.375	0.00	180.0	0.0	0.0929	0.2438	0.0000	0.0000
D	23.375	0.00	180.0	0.0	0.0886	0.2577	0.0000	0.0000
D	11.688	0.00	180.0	0.0	0.0886	0.2577	0.0000	0.0000
D	11.688	0.00	180.0	0.0	0.0894	0.2715	0.0000	0.0000
D	0.000	0.00	180.0	0.0	0.0894	0.2715	0.0000	0.0000

LOADING CONDITION Y

30 mph wind with 0.75 ice. Wind Azimuth: 0°

LOADS ON POLE

LOAD TYPE	ELEV ft	APPLY. RADIUS ft	LOAD. AT AZI	LOAD AZIFORCES.....	MOMENTS.....	
					HORIZ kip	DOWN kip	VERTICAL ft-kip	TORSNAL ft-kip
C	159.000	0.00	0.0	0.0	0.0000	3.5718	0.0000	0.0000

					410611			
C	159.000	0.00	0.0	0.0	1.5971	17.7391	0.0000	0.0000
C	147.000	0.00	0.0	0.0	0.0000	3.3022	0.0000	0.0000
C	147.000	0.00	0.0	0.0	1.8881	11.7715	0.0000	0.0000
C	135.000	0.00	0.0	0.0	0.0000	3.0326	0.0000	0.0000
C	135.000	0.00	0.0	0.0	1.8448	11.7128	0.0000	0.0000
C	123.000	0.00	0.0	0.0	0.0000	2.7631	0.0000	0.0000
C	123.000	0.00	0.0	0.0	1.7988	11.6492	0.0000	0.0000
D	164.000	0.00	180.0	0.0	0.0082	0.1135	0.0000	0.0000
D	148.750	0.00	180.0	0.0	0.0089	0.1266	0.0000	0.0000
D	148.750	0.00	180.0	0.0	0.0092	0.2446	0.0000	0.0000
D	145.250	0.00	180.0	0.0	0.0092	0.2446	0.0000	0.0000
D	145.250	0.00	180.0	0.0	0.0097	0.1823	0.0000	0.0000
D	130.250	0.00	180.0	0.0	0.0097	0.1823	0.0000	0.0000
D	130.250	0.00	180.0	0.0	0.0106	0.2071	0.0000	0.0000
D	115.250	0.00	180.0	0.0	0.0106	0.2071	0.0000	0.0000
D	115.250	0.00	180.0	0.0	0.0115	0.2317	0.0000	0.0000
D	100.250	0.00	180.0	0.0	0.0115	0.2317	0.0000	0.0000
D	100.250	0.00	180.0	0.0	0.0120	0.4706	0.0000	0.0000
D	95.250	0.00	180.0	0.0	0.0120	0.4706	0.0000	0.0000
D	95.250	0.00	180.0	0.0	0.0122	0.3174	0.0000	0.0000
D	81.250	0.00	180.0	0.0	0.0122	0.3174	0.0000	0.0000
D	81.250	0.00	180.0	0.0	0.0128	0.3450	0.0000	0.0000
D	67.250	0.00	180.0	0.0	0.0128	0.3450	0.0000	0.0000
D	67.250	0.00	180.0	0.0	0.0132	0.3721	0.0000	0.0000
D	53.250	0.00	180.0	0.0	0.0132	0.3721	0.0000	0.0000
D	53.250	0.00	180.0	0.0	0.0133	0.6837	0.0000	0.0000
D	46.750	0.00	180.0	0.0	0.0133	0.6837	0.0000	0.0000
D	46.750	0.00	180.0	0.0	0.0131	0.4006	0.0000	0.0000
D	35.063	0.00	180.0	0.0	0.0131	0.4006	0.0000	0.0000
D	35.063	0.00	180.0	0.0	0.0128	0.4221	0.0000	0.0000
D	0.000	0.00	180.0	0.0	0.0121	0.4546	0.0000	0.0000

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165' Monopole / Morris Creek, KY

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 MAXIMUM POLE DEFORMATIONS CALCULATED(w.r.t. wind direction)
 =====

MAST ELEV ft	DEFLECTIONS (ft)			ROTATIONS (deg)		
	HORIZONTAL ALONG	ACROSS	DOWN	TILT ALONG	ACROSS	TWIST
164.0	15.83B	0.06L	2.12B	10.53B	0.04L	0.01W
158.9	14.93B	0.06L	1.95B	10.53B	0.04L	0.01W
153.8	14.03B	0.06L	1.79B	10.48B	0.04L	0.01W
148.7	13.13B	0.05L	1.62B	10.33B	0.04L	0.01W
145.2	12.52B	0.05L	1.51B	10.24B	0.04L	0.01W
130.2	10.01B	0.04L	1.08B	9.49B	0.04L	0.01W
115.2	7.72B	0.03L	0.72B	8.35B	0.03L	0.01W
100.2	5.74B	0.02L	0.46B	6.97B	0.03L	0.01W
95.2	5.16B	0.02L	0.39B	6.60B	0.03L	0.00W
81.2	3.70B	0.02L	0.23B	5.51B	0.02L	0.00W
67.2	2.49B	0.01L	0.13B	4.45B	0.02L	0.00W
53.2	1.53B	0.01L	0.06B	3.44B	0.02L	0.00W

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46.7	1.17B	0.01L	0.04B	2.99B	0.01L	0.00W
35.1	0.64B	0.00L	0.02B	2.17B	0.01L	0.00W
23.4	0.28B	0.00L	0.00B	1.40B	0.01L	0.00W
11.7	0.07B	0.00L	0.00B	0.68B	0.00L	0.00W
0.0	0.00A	0.00A	0.00A	0.00A	0.00A	0.00A

MAXIMUM POLE FORCES CALCULATED(w.r.t. to wind direction)

MAST ELEV ft	TOTAL AXIAL kip	SHEAR.w.r.t. ALONG kip	WIND.DIR ACROSS kip	MOMENT.w.r.t. ALONG ft-kip	WIND.DIR ACROSS ft-kip	TORSION ft-kip
164.0	-0.03 W	0.03 A	-0.02 X	0.11 A	-0.04 X	0.01 X
158.9	21.90 AG	13.47 A	-0.02 X	-2.14 A	0.04 X	-0.01 X
153.8	22.51 Z	13.80 M	0.05 R	-79.07 B	0.25 F	0.10 W
148.7	22.52 Z	13.81 X	-0.09 F	-79.04 C	-0.24 U	0.11 W
145.2	23.16 Z	14.10 X	-0.09 F	-157.80 C	0.70 F	0.15 W
130.2	23.16 Z	14.17 U	-0.11 C	-158.00 C	-0.80 R	0.15 R
115.2	39.09 Z	24.08 U	-0.11 C	-232.07 C	0.75 F	0.20 W
100.2	39.09 Z	24.14 I	-0.21 T	-232.28 C	-0.86 U	0.18 W
95.2	56.57 Z	34.62 I	-0.21 T	-694.33 B	3.24 T	-0.74 T
81.2	56.57 AG	34.60 N	0.14 R	-694.30 B	3.22 T	-0.74 T
67.2	74.09 AG	45.01 N	0.14 R	-1359.63 B	-5.21 R	-1.12 T
53.2	74.09 AG	45.05 I	0.17 L	-1359.64 B	-5.19 R	-1.12 T
35.1	77.56 AG	46.23 I	0.17 L	-2112.38 B	-7.00 L	1.54 W
23.4	77.56 AG	46.33 I	0.21 L	-2112.28 B	-7.09 R	1.51 W
0.0	79.91 AG	46.74 I	0.21 L	-2366.59 I	-8.04 L	1.68 W
	79.91 AG	46.65 D	0.26 L	-2366.64 I	-8.12 L	1.68 W
	84.35 AG	47.84 D	0.26 L	-3087.28 B	-12.00 L	2.15 W
	84.35 AG	47.88 B	0.24 L	-3087.28 B	-12.00 L	2.15 W
	89.18 AG	49.14 B	0.24 L	-3820.96 B	-15.60 L	2.67 W
	89.18 AG	49.15 B	0.25 L	-3820.96 B	-15.58 L	2.67 W
	94.39 AG	50.46 B	0.25 L	-4565.80 B	-19.22 L	3.08 W
	94.39 AG	50.46 B	0.30 L	-4565.81 B	-19.17 L	3.08 W
	98.84 AG	51.08 B	0.30 L	-4915.51 B	-21.18 L	3.25 W
	98.84 AG	51.09 B	0.26 L	-4915.39 B	-21.15 L	3.24 W
	103.52 AG	52.19 B	0.26 L	-5549.57 B	-24.31 L	3.49 W
	103.52 AG	52.15 B	0.28 L	-5549.57 B	-24.33 L	3.49 W
	108.51 AG	53.23 B	0.28 L	-6188.21 B	-27.71 L	3.65 W
	108.51 AG	53.27 B	0.28 L	-6188.21 B	-27.70 L	3.65 W
	113.64 AG	54.30 B	0.28 L	-6831.01 B	-31.04 L	3.76 W

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11.7	113.64 AG	54.30 B	0.28 L	-6831.02 B	-31.04 L	3.76 W
	118.89 AG	55.34 B	0.28 L	-7476.71 B	-34.36 L	3.79 W
base reaction	118.89 AG	-55.34 B	-0.28 L	7476.71 B	34.36 L	-3.79 W

COMPLIANCE WITH 4.8.2 & 4.5.4

ELEV ft	AXIAL	BENDING	SHEAR + TORSIONAL	TOTAL	SATISFIED	D/t(w/t)	MAX ALLOWED
164.00	0.00W	0.00A	0.00A	0.00A	YES	12.17A	45.2
	0.02AG	0.00A	0.02A	0.02A	YES	13.05A	45.2
158.92	0.02Z	0.00H	0.02M	0.02A	YES	13.05A	45.2
	0.02Z	0.14B	0.02M	0.14C	YES	13.93A	45.2
153.83	0.02Z	0.14C	0.02X	0.14C	YES	13.93A	45.2
	0.02Z	0.24C	0.02X	0.25C	YES	14.81A	45.2
148.75	0.01Z	0.16C	0.01U	0.17C	YES	9.29A	45.2
	0.02Z	0.22C	0.02U	0.23C	YES	9.69A	45.2
145.25	0.02Z	0.23C	0.02I	0.24C	YES	9.46A	45.2
	0.02Z	0.52B	0.03I	0.53B	YES	11.19A	45.2
130.25	0.02AG	0.52B	0.03N	0.53B	YES	11.19A	45.2
	0.03AG	0.79B	0.03N	0.80B	YES	12.93A	45.2
115.25	0.03AG	0.79B	0.03I	0.80B	YES	12.93A	45.2
	0.03AG	0.98B	0.03I	0.99B	YES	14.66A	45.2
100.25	0.02AG	0.74B	0.02I	0.75B	YES	10.56A	45.2
	0.02AG	0.77I	0.02I	0.78I	YES	10.99A	45.2
95.25	0.02AG	0.81I	0.02B	0.82I	YES	10.73A	45.2
	0.02AG	0.87B	0.02B	0.88B	YES	11.94A	45.2
81.25	0.02AG	0.87B	0.02B	0.88B	YES	11.94A	45.2
	0.02AG	0.91B	0.02N	0.92B	YES	13.15A	45.2
67.25	0.02AG	0.91B	0.02N	0.92B	YES	13.15A	45.2
	0.02AG	0.92B	0.02N	0.93B	YES	14.37A	45.2
53.25	0.02AG	0.92B	0.02N	0.93B	YES	14.37A	45.2
	0.02AG	0.93B	0.02N	0.94B	YES	14.93A	45.2
46.75	0.02AG	0.97B	0.02B	0.98B	YES	14.58A	45.2
	0.02AG	0.97B	0.02B	0.98B	YES	15.59A	45.2
35.06	0.02AG	0.97B	0.02N	0.98B	YES	15.59A	45.2
	0.02AG	0.97B	0.02N	0.98B	YES	16.61A	45.2
23.37	0.02AG	0.97B	0.02N	0.98B	YES	16.61A	45.2
	0.02AG	0.97B	0.02N	0.98B	YES	17.62A	45.2
11.69	0.02AG	0.97B	0.02N	0.98B	YES	17.62A	45.2

0.00 0.02AG 0.97B 0.02W 0.99B 410611 YES 18.64A 45.2

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MAXIMUM LOADS ONTO FOUNDATION(w.r.t. wind direction)

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DOWN	SHEAR.w.r.t.WIND.DIR	WIND.DIR	MOMENT.w.r.t.WIND.DIR	WIND.DIR	TORSION
kip	ALONG	ACROSS	ALONG	ACROSS	ft-kip
	kip	kip	ft-kip	ft-kip	
118.89	55.34	0.28	-7476.71	-34.36	3.79
AG	B	L	B	L	W

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165' Monopole / Morris Creek, KY

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

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

LOADING CONDITION A =====

60 mph wind with no ice. Wind Azimuth: 0°

LOADS ON POLE

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LOAD TYPE	ELEV ft	APPLY.RADIUS ft	LOAD.AZI	LOAD.AZIFORCES.....	MOMENTS.....	
					HORIZ kip	DOWN kip	VERTICAL ft-kip	TORSNAL ft-kip
C	159.000	0.00	0.0	0.0	0.0000	2.9765	0.0000	0.0000
C	159.000	0.00	0.0	0.0	3.3471	6.0000	0.0000	0.0000
C	147.000	0.00	0.0	0.0	0.0000	2.7518	0.0000	0.0000
C	147.000	0.00	0.0	0.0	2.4636	4.0000	0.0000	0.0000
C	135.000	0.00	0.0	0.0	0.0000	2.5272	0.0000	0.0000
C	135.000	0.00	0.0	0.0	2.4201	4.0000	0.0000	0.0000
C	123.000	0.00	0.0	0.0	0.0000	2.3026	0.0000	0.0000
C	123.000	0.00	0.0	0.0	2.3735	4.0000	0.0000	0.0000
D	164.000	0.00	180.0	0.0	0.0135	0.0544	0.0000	0.0000
D	148.750	0.00	180.0	0.0	0.0150	0.0611	0.0000	0.0000
D	148.750	0.00	180.0	0.0	0.0156	0.1576	0.0000	0.0000
D	145.250	0.00	180.0	0.0	0.0156	0.1576	0.0000	0.0000
D	145.250	0.00	180.0	0.0	0.0165	0.1028	0.0000	0.0000
D	130.250	0.00	180.0	0.0	0.0165	0.1028	0.0000	0.0000
D	130.250	0.00	180.0	0.0	0.0184	0.1176	0.0000	0.0000
D	115.250	0.00	180.0	0.0	0.0184	0.1176	0.0000	0.0000
D	115.250	0.00	180.0	0.0	0.0202	0.1323	0.0000	0.0000
D	100.250	0.00	180.0	0.0	0.0202	0.1323	0.0000	0.0000
D	100.250	0.00	180.0	0.0	0.0213	0.3278	0.0000	0.0000
D	95.250	0.00	180.0	0.0	0.0213	0.3278	0.0000	0.0000
D	95.250	0.00	180.0	0.0	0.0217	0.1981	0.0000	0.0000
D	81.250	0.00	180.0	0.0	0.0217	0.1981	0.0000	0.0000
D	81.250	0.00	180.0	0.0	0.0229	0.2165	0.0000	0.0000
D	67.250	0.00	180.0	0.0	0.0229	0.2165	0.0000	0.0000
D	67.250	0.00	180.0	0.0	0.0238	0.2349	0.0000	0.0000
D	53.250	0.00	180.0	0.0	0.0238	0.2349	0.0000	0.0000

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D	53.250	0.00	180.0	0.0	0.0242	0.4919	0.0000
D	46.750	0.00	180.0	0.0	0.0242	0.4919	0.0000
D	46.750	0.00	180.0	0.0	0.0239	0.2555	0.0000
D	35.063	0.00	180.0	0.0	0.0239	0.2555	0.0000
D	35.063	0.00	180.0	0.0	0.0236	0.2709	0.0000
D	23.375	0.00	180.0	0.0	0.0236	0.2709	0.0000
D	23.375	0.00	180.0	0.0	0.0225	0.2863	0.0000
D	11.688	0.00	180.0	0.0	0.0225	0.2863	0.0000
D	11.688	0.00	180.0	0.0	0.0227	0.3017	0.0000
D	0.000	0.00	180.0	0.0	0.0227	0.3017	0.0000

=====

MAXIMUM POLE DEFORMATIONS CALCULATED(w.r.t. wind direction)

=====

MAST ELEV ft	DEFLECTIONS (ft)			ROTATIONS (deg)		TWIST
	HORIZONTAL ALONG	ACROSS	DOWN	TILT ALONG	ACROSS	
164.0	4.10A	-0.03C	0.14E	2.69A	-0.02F	0.00C
158.9	3.86A	-0.03C	0.13E	2.69A	-0.02F	0.00C
153.8	3.63A	-0.02C	0.12E	2.68A	-0.02F	0.00C
148.7	3.39A	-0.02C	0.11E	2.64A	-0.02F	0.00C
145.2	3.23A	-0.02C	0.10E	2.61A	-0.02F	0.00C
130.2	2.57E	-0.02C	0.07E	2.42A	-0.02F	0.00C
115.2	1.98E	-0.01C	0.05E	2.13A	-0.01F	0.00C
100.2	1.47E	-0.01C	0.03E	1.77A	-0.01C	0.00C
95.2	1.32E	-0.01C	0.03E	1.68E	-0.01C	0.00C
81.2	0.94E	-0.01C	0.02E	1.40E	-0.01C	0.00C
67.2	0.63E	0.00C	0.01E	1.13E	-0.01C	0.00C
53.2	0.39E	0.00C	0.01E	0.87E	-0.01C	0.00C
46.7	0.30E	0.00C	0.00E	0.76E	-0.01C	0.00C
35.1	0.16E	0.00C	0.00E	0.55E	0.00C	0.00C
23.4	0.07E	0.00C	0.00E	0.36E	0.00C	0.00C
11.7	0.02E	0.00C	0.00A	0.17E	0.00C	0.00C
0.0	0.00A	0.00A	0.00A	0.00A	0.00A	0.00A

=====

MAXIMUM POLE FORCES CALCULATED(w.r.t. to wind direction)

=====

MAST ELEV ft	TOTAL AXIAL kip	SHEAR.w.r.t.WIND.DIR		MOMENT.w.r.t.WIND.DIR		TORSION ft-kip
		ALONG kip	ACROSS kip	ALONG ft-kip	ACROSS ft-kip	
164.0	0.00 H	-0.01 D	0.01 B	0.02 C	0.02 B	0.00 B
158.9	9.26 H	3.42 C	0.01 B	-0.54 B	-0.01 B	0.00 B
153.8	9.27 D	3.44 F	0.02 I	-0.55 I	-0.02 B	0.00 B
148.7	9.56 D	3.51 F	0.02 I	-20.33 B	-0.07 I	0.01 I
145.2	9.56 A	3.51 A	-0.02 F	-20.33 B	-0.06 L	0.01 I
141.7	9.87 A	3.58 A	-0.02 F	-40.53 F	-0.11 B	0.01 I
138.2	9.88 A	3.61 B	-0.04 H	-40.56 A	0.09 F	0.01 I
134.7	17.18 A	6.13 B	-0.04 H	-59.68 B	0.21 F	0.02 I

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145.2	17.19 C	6.13 A	-0.08 C	-59.57 B	0.24 F	0.02 I
	25.26 C	8.80 A	-0.08 C	-177.83 A	1.24 C	-0.05 C
130.2	25.25 A	8.77 L	-0.08 F	-177.83 A	1.24 C	-0.05 C
	33.32 A	11.42 L	-0.08 F	-347.10 A	2.41 F	-0.09 C
115.2	33.32 A	11.42 L	-0.08 F	-347.10 A	2.41 F	-0.09 C
	35.30 A	11.72 L	-0.08 F	-537.94 A	3.62 F	-0.11 F
100.2	35.30 A	11.74 E	-0.08 C	-537.93 A	3.62 F	-0.11 F
	36.94 A	11.85 E	-0.08 C	-602.26 A	4.00 F	-0.13 C
95.2	36.94 A	11.84 E	-0.10 C	-602.36 A	4.02 F	-0.13 C
	39.71 A	12.15 E	-0.10 C	-784.10 A	5.13 F	-0.16 C
81.2	39.71 A	12.16 C	-0.11 C	-784.11 A	5.14 F	-0.16 C
	42.74 A	12.48 C	-0.11 C	-968.72 A	6.52 C	-0.19 C
67.2	42.74 A	12.48 C	-0.11 C	-968.72 A	6.53 C	-0.19 C
	46.03 A	12.81 C	-0.11 C	-1156.06 A	8.12 C	-0.22 C
53.2	46.03 A	12.81 E	-0.10 C	-1156.06 A	8.12 C	-0.22 C
	49.23 A	12.97 E	-0.10 C	-1244.22 E	8.78 C	-0.23 C
46.7	49.23 A	12.97 E	-0.10 C	-1244.20 E	8.78 C	-0.23 C
	52.21 A	13.25 E	-0.10 C	-1404.18 E	9.95 C	-0.24 C
35.1	52.21 A	13.25 E	-0.10 C	-1404.18 E	9.95 C	-0.24 C
	55.38 A	13.52 E	-0.10 C	-1565.58 E	11.08 C	-0.24 C
23.4	55.38 A	13.53 E	-0.10 C	-1565.57 E	11.08 C	-0.24 C
	58.72 A	13.79 E	-0.10 C	-1728.26 E	12.24 C	-0.25 C
11.7	58.72 A	13.79 E	-0.10 C	-1728.26 E	12.24 C	-0.25 C
	62.25 A	14.06 E	-0.10 C	-1892.06 E	13.38 C	-0.25 C
base	62.25 A	-14.06 E	0.10 C	1892.06 E	-13.38 C	0.25 C
reaction						

COMPLIANCE WITH 4.8.2 & 4.5.4

ELEV ft	AXIAL	BENDING	SHEAR + TORSIONAL	TOTAL	SATISFIED	D/t(w/t)	MAX ALLOWED
164.00	0.00H	0.00C	0.00D	0.00C	YES	12.17A	45.2
	0.01H	0.00B	0.01C	0.01B	YES	13.05A	45.2
158.92	0.01D	0.00I	0.01F	0.01I	YES	13.05A	45.2
	0.01D	0.03B	0.01F	0.04B	YES	13.93A	45.2
153.83	0.01A	0.03B	0.01A	0.04B	YES	13.93A	45.2
	0.01A	0.06F	0.01A	0.07F	YES	14.81A	45.2
148.75	0.00A	0.04A	0.00B	0.05A	YES	9.29A	45.2
	0.01A	0.06B	0.01B	0.07B	YES	9.69A	45.2
145.25	0.01C	0.06B	0.01A	0.07B	YES	9.46A	45.2

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130.25	0.01C	0.13A	0.01A	0.14A	YES	11.19A	45.2
	0.01A	0.13A	0.01L	0.14A	YES	11.19A	45.2
115.25	0.01A	0.20A	0.01L	0.21A	YES	12.93A	45.2
	0.01A	0.20A	0.01L	0.21A	YES	12.93A	45.2
100.25	0.01A	0.25A	0.01L	0.26A	YES	14.66A	45.2
	0.01A	0.19A	0.01E	0.20A	YES	10.56A	45.2
95.25	0.01A	0.20A	0.01E	0.21A	YES	10.99A	45.2
	0.01A	0.21A	0.01E	0.21A	YES	10.73A	45.2
81.25	0.01A	0.22A	0.01E	0.23A	YES	11.94A	45.2
	0.01A	0.22A	0.01C	0.23A	YES	11.94A	45.2
67.25	0.01A	0.23A	0.01C	0.24A	YES	13.15A	45.2
	0.01A	0.23A	0.01C	0.24A	YES	13.15A	45.2
53.25	0.01A	0.23A	0.00C	0.24A	YES	14.37A	45.2
	0.01A	0.23A	0.00E	0.24A	YES	14.37A	45.2
46.75	0.01A	0.23E	0.00E	0.24E	YES	14.93A	45.2
	0.01A	0.24E	0.00E	0.25E	YES	14.58A	45.2
35.06	0.01A	0.24E	0.00E	0.25E	YES	15.59A	45.2
	0.01A	0.24E	0.00C	0.25E	YES	15.59A	45.2
23.37	0.01A	0.24E	0.00C	0.25E	YES	16.61A	45.2
	0.01A	0.24E	0.00C	0.25E	YES	16.61A	45.2
11.69	0.01A	0.25E	0.00C	0.26E	YES	17.62A	45.2
	0.01A	0.25E	0.00C	0.26E	YES	17.62A	45.2
0.00	0.01A	0.25E	0.00C	0.26E	YES	18.64A	45.2

MAXIMUM LOADS ONTO FOUNDATION(w.r.t. wind direction)

DOWN kip	SHEAR.w.r.t.WIND.DIR		MOMENT.w.r.t.WIND.DIR		TORSION ft-kip
	ALONG kip	ACROSS kip	ALONG ft-kip	ACROSS ft-kip	
62.25 A	14.06 E	-0.10 C	-1892.06 E	13.38 C	-0.25 C

Round Base Plate and Anchor Rods, per ANSI/TIA 222-G

Pole Data

Diameter: 57.840 in (flat to flat)
Thickness: 0.5 in
Yield (Fy): 65 ksi
of Sides: 18 "0" IF Round
Strength (Fu): 80 ksi

Reactions

Moment, Mu: 7476.71 ft-kips
Axial, Pu: 74.65 kips
Shear, Vu: 55.34 kips

Anchor Rod Data

Quantity: 22
Diameter: 2.25 in
Rod Material: A615
Strength (Fu): 100 ksi
Yield (Fy): 75 ksi
BC Diam. (in): 65 BC Override:

Anchor Rod Results

Maximum Rod (Pu+ Vu/η): 259.4 Kips
Allowable $\Phi \cdot R_{nt}$: 260.0 Kips (per 4.9.9)
Anchor Rod Interaction Ratio: **99.8% Pass**

Plate Data

Diameter (in): 70.75 Dia. Override:
Thickness: 2.5 in
Yield (Fy): 50 ksi
Eff Width/Rod: 8.34 in
Drain Hole: 2.625 in. diameter
Drain Location: 26.75 in. center of pole to center of drain hole
Center Hole: 45.5 in. diameter

Base Plate Results

Base Plate (Mu/Z): 43.5 ksi
Allowable $\Phi \cdot F_y$: 45.0 ksi (per AISC)
Base Plate Interaction Ratio: **96.7% Pass**

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LPILE for Windows, Version 2018-10.003

Analysis of Individual Piles and Drilled Shafts
Subjected to Lateral Loading Using the p-y Method
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Files Used for Analysis

Path to file locations:
\Program Files (x86)\Ensoft\Lpile2018\files\

Name of input data file:
410611.lp10

Name of output report file:
410611.lp10

Name of plot output file:
410611.lp10

Name of runtime message file:
410611.lp10

Date and Time of Analysis

Date: June 7, 2018

Time: 11:42:51

Problem Title

Site : Morris Creek, KY

Tower : 165' Monopole

Prepared for : AT&T

Job Number : 410611

Engineer : REB

Program Options and Settings

Computational Options:

- Use unfactored loads in computations (conventional analysis)
- Engineering Units Used for Data Input and Computations:
- US Customary System Units (pounds, feet, inches)

Analysis Control Options:

- Maximum number of iterations allowed = 999
- Deflection tolerance for convergence = 1.0000E-05 in
- Maximum allowable deflection = 100.0000 in
- Number of pile increments = 100

Loading Type and Number of Cycles of Loading:

- Static loading specified
- Use of p-y modification factors for p-y curves not selected
- Analysis uses layering correction (Method of Georgiadis)
- No distributed lateral loads are entered
- Loading by lateral soil movements acting on pile not selected
- Input of shear resistance at the pile tip not selected
- Computation of pile-head foundation stiffness matrix not selected
- Push-over analysis of pile not selected
- Buckling analysis of pile not selected

Output Options:

- Output files use decimal points to denote decimal symbols.
- Report only summary tables of pile-head deflection, maximum bending moment, and maximum shear force in output report file.
- No p-y curves to be computed and reported for user-specified depths
- Print using wide report formats

 Pile Structural Properties and Geometry

- Number of pile sections defined = 1
- Total length of pile = 23.500 ft
- Depth of ground surface below top of pile = 0.5000 ft

Pile diameters used for p-y curve computations are defined using 2 points.

p-y curves are computed using pile diameter values interpolated with depth over the length of the pile. A summary of values of pile diameter vs. depth follows.

Point No.	Depth Below Pile Head feet	Pile Diameter inches
1	0.000	84.0000
2	23.500	84.0000

Input Structural Properties for Pile Sections:

. Pile Section No. 1:

- section 1 is a round drilled shaft, bored pile, or CIDH pile
- Length of section = 23.500000 ft
- Shaft Diameter = 84.000000 in
- Shear capacity of section = 0.0000 lbs

 Ground Slope and Pile Batter Angles

- Ground Slope Angle = 0.000 degrees
- = 0.000 radians
- Pile Batter Angle = 0.000 degrees
- = 0.000 radians

 Soil and Rock Layering Information

The soil profile is modelled using 2 layers

Layer 1 is stiff clay without free water

Distance from top of pile to top of layer	=	0.500000	ft
Distance from top of pile to bottom of layer	=	10.000000	ft
Effective unit weight at top of layer	=	125.000000	pcf
Effective unit weight at bottom of layer	=	125.000000	pcf
Undrained cohesion at top of layer	=	3000.	psf
Undrained cohesion at bottom of layer	=	3000.	psf
Epsilon-50 at top of layer	=	0.004000	
Epsilon-50 at bottom of layer	=	0.004000	

Layer 2 is stiff clay without free water

Distance from top of pile to top of layer	=	10.000000	ft
Distance from top of pile to bottom of layer	=	30.500000	ft
Effective unit weight at top of layer	=	135.000000	pcf
Effective unit weight at bottom of layer	=	135.000000	pcf
Undrained cohesion at top of layer	=	5000.	psf
Undrained cohesion at bottom of layer	=	5000.	psf
Epsilon-50 at top of layer	=	0.0010000	
Epsilon-50 at bottom of layer	=	0.0010000	

(Depth of the lowest soil layer extends 7.000 ft below the pile tip)

Summary of Input Soil Properties

Layer Layer Num.	Soil Type Name (p-y Curve Type)	Layer Depth ft	Effective Unit Wt. pcf	Undrained Cohesion psf	E50 or krm
1	Stiff Clay w/o Free Water	0.5000	125.0000	3000.	0.00400
2	Stiff Clay w/o Free Water	10.0000 30.5000	125.0000 135.0000	3000. 5000.	0.00400 0.00100

Static Loading Type

Static loading criteria were used when computing p-y curves for all analyses.

Pile-head Loading and Pile-head Fixity Conditions

Number of loads specified = 2

Load No.	Load Type	Condition 1	Condition 2	Axial Thrust Force, lbs	Compute Top y vs. Pile Length
1	1	V = 73787. lbs	M = 119627360. in-lbs	99533.	No
2	1	V = 14060. lbs	M = 22704720. in-lbs	62250.	No

V = shear force applied normal to pile axis

M = bending moment applied to pile head

y = lateral deflection normal to pile axis

S = pile slope relative to original pile batter angle

R = rotational stiffness applied to pile head

Values of top y vs. pile lengths can be computed only for load types with specified shear loading (Load Types 1, 2, and 3).

Thrust force is assumed to be acting axially for all pile batter angles.

Computations of Nominal Moment Capacity and Nonlinear Bending Stiffness

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Axial thrust force values were determined from pile-head loading conditions

Number of Pile Sections Analyzed = 1

Pile Section No. 1:

 Dimensions and Properties of Drilled Shaft (Bored Pile):

Length of Section = 23.500000 ft
 Shaft Diameter = 84.000000 in
 Concrete Cover Thickness = 3.625000 in
 Number of Reinforcing Bars = 38 bars
 Yield Stress of Reinforcing Bars = 60000. psi
 Modulus of Elasticity of Reinforcing Bars = 29000000. psi
 Gross Area of Shaft = 5542. sq. in.
 Total Area of Reinforcing Steel = 59.335103 sq. in.
 Area Ratio of Steel Reinforcement = 1.07 percent
 Edge-to-Edge Bar Spacing = 4.811528 in
 Maximum Concrete Aggregate Size = 0.750000 in
 Ratio of Bar Spacing to Aggregate Size = 6.42
 Offset of Center of Rebar Cage from Center of Pile = 0.0000 in

 Axial Structural Capacities:

Nom. Axial Structural Capacity = $0.85 F_c A_c + F_y A_s$ = 24530.418 kips
 Tensile Load for Cracking of Concrete = -2612.177 kips
 Nominal Axial Tensile Capacity = -3560.106 kips

Reinforcing Bar Dimensions and Positions Used in Computations:

Bar Number	Bar Diam. inches	Bar Area sq. in.	X inches	Y inches
1	1.410000	1.561450	37.670000	0.000000
2	1.410000	1.561450	37.156230	6.200278
3	1.410000	1.561450	35.628935	12.231429
4	1.410000	1.561450	33.129776	17.928938
5	1.410000	1.561450	29.726923	23.137393
6	1.410000	1.561450	25.513197	27.714720
7	1.410000	1.561450	20.603537	31.536061
8	1.410000	1.561450	15.131867	34.497181
9	1.410000	1.561450	9.247438	36.517308
10	1.410000	1.561450	3.110764	37.541338
11	1.410000	1.561450	-3.110764	37.541338
12	1.410000	1.561450	-9.247438	36.517308
13	1.410000	1.561450	-15.131867	34.497181
14	1.410000	1.561450	-20.603537	31.536061
15	1.410000	1.561450	-25.513197	27.714720
16	1.410000	1.561450	-29.726923	23.137393
17	1.410000	1.561450	-33.129776	17.928938
18	1.410000	1.561450	-35.628935	12.231429
19	1.410000	1.561450	-37.156230	6.200278
20	1.410000	1.561450	-37.670000	0.000000
21	1.410000	1.561450	-37.156230	-6.200278
22	1.410000	1.561450	-35.628935	-12.231429
23	1.410000	1.561450	-33.129776	-17.928938
24	1.410000	1.561450	-29.726923	-23.137393
25	1.410000	1.561450	-25.513197	-27.714720
26	1.410000	1.561450	-20.603537	-31.536061
27	1.410000	1.561450	-15.131867	-34.497181
28	1.410000	1.561450	-9.247438	-36.517308
29	1.410000	1.561450	-3.110764	-37.541338
30	1.410000	1.561450	3.110764	-37.541338
31	1.410000	1.561450	9.247438	-36.517308
32	1.410000	1.561450	15.131867	-34.497181
33	1.410000	1.561450	20.603537	-31.536061
34	1.410000	1.561450	25.513197	-27.714720
35	1.410000	1.561450	29.726923	-23.137393
36	1.410000	1.561450	33.129776	-17.928938
37	1.410000	1.561450	35.628935	-12.231429
38	1.410000	1.561450	37.156230	-6.200278

NOTE: The positions of the above rebars were computed by LPile

410611.1p10o

Minimum spacing between any two bars not equal to zero = 4.812 inches
between bars 32 and 33.

Ratio of bar spacing to maximum aggregate size = 6.42

Concrete Properties:

Compressive Strength of Concrete	=	4500. psi
Modulus of Elasticity of Concrete	=	3823676. psi
Modulus of Rupture of Concrete	=	-503.115295 psi
Compression Strain at Peak Stress	=	0.002001
Tensile Strain at Fracture of Concrete	=	-0.0001152
Maximum Coarse Aggregate Size	=	0.750000 in

Number of Axial Thrust Force Values Determined from Pile-head Loadings = 2

Number	Axial Thrust Force kips
1	62.250
2	99.533

Summary of Results for Nominal (Unfactored) Moment Capacity for Section 1

Moment values interpolated at maximum compressive strain = 0.003
or maximum developed moment if pile fails at smaller strains.

Load No.	Axial Thrust kips	Nominal Mom. Cap. in-kip	Max. Comp. Strain
1	62.250	123790.539	0.00300000
2	99.533	124853.504	0.00300000

Note that the values of moment capacity in the table above are not factored by a strength reduction factor (phi-factor).

In ACI 318, the value of the strength reduction factor depends on whether the transverse reinforcing steel bars are tied hoops (0.65) or spirals (0.70).

The above values should be multiplied by the appropriate strength reduction factor to compute ultimate moment capacity according to ACI 318, Section 9.3.2.2 or the value required by the design standard being followed.

The following table presents factored moment capacities and corresponding bending stiffnesses computed for common resistance factor values used for reinforced concrete sections.

Axial Load No.	Resist. Factor for Moment	Nominal Moment Cap in-kips	Ult. (Fac) Ax. Thrust kips	Ult. (Fac) Moment Cap in-kips	Bend. Stiff. at Ult Mom kip-in ²
1	0.65	123791.	40.462500	80464.	2.4606E+09
2	0.65	124854.	64.696667	81155.	2.4840E+09
1	0.70	123791.	43.575000	86653.	2.4520E+09
2	0.70	124854.	69.673333	87397.	2.4738E+09
1	0.75	123791.	46.687500	92843.	2.3762E+09
2	0.75	124854.	74.650000	93640.	2.3998E+09

Layering Correction Equivalent Depths of Soil & Rock Layers

Layer No.	Top of Layer Below Pile Head ft	Equivalent Top Depth Below Grnd Surf ft	Same Layer Type AS Layer Above	Layer is Rock or is Below Rock Layer	F0 Integral for Layer lbs	F1 Integral for Layer lbs
1	0.5000	0.00	N.A.	No	0.00	706487.
2	10.0000	6.1254	Yes	No	706487.	N.A.

Notes: The F0 integral of Layer n+1 equals the sum of the F0 and F1 integrals for Layer n. Layering correction equivalent depths are computed only for soil types with both shallow-depth and deep-depth expressions for peak lateral load transfer. These soil types are soft and stiff clays, non-liquefied sands, and cemented c-phi soil.

 Summary of Pile-head Responses for Conventional Analyses

Definitions of Pile-head Loading Conditions:

Load Type 1: Load 1 = Shear, V, lbs, and Load 2 = Moment, M, in-lbs
 Load Type 2: Load 1 = Shear, V, lbs, and Load 2 = Slope, S, radians
 Load Type 3: Load 1 = Shear, V, lbs, and Load 2 = Rot. Stiffness, R, in-lbs/rad.
 Load Type 4: Load 1 = Top Deflection, y, inches, and Load 2 = Moment, M, in-lbs
 Load Type 5: Load 1 = Top Deflection, y, inches, and Load 2 = Slope, S, radians

Load Case No.	Load Type 1	Pile-head Load 1	Load Type 2	Pile-head Load 2	Axial Loading lbs	Pile-head Deflection inches	Pile-head Rotation radians	Max Shear in Pile lbs	Max Moment in Pile in-lbs
1	V, lb	73787.	M, in-lb	1.20E+08	99533.	6.4398	-0.04277	-961615.	1.21E+08
2	V, lb	14060.	M, in-lb	2.27E+07	62250.	0.02762	-3.16E-04	-156399.	2.29E+07

Maximum pile-head deflection = 6.4398029976 inches
 Maximum pile-head rotation = -0.0427748629 radians = -2.450819 deg.

The analysis ended normally.

1807.3.2.1 (2009 IBC, 2012 IBC, & 2015 IBC)

Moment (ft-k)	7,476.71	
Shear (k)	55.34	
Caisson diameter (ft)	7	
Caisson height above ground (ft)	0.5	
Caisson height below ground (ft)	23	
Lateral soil pressure (lb/ft ²)	828.26	
Ground to application of force, h (ft)	135.60	
Applied lateral force, P (lb)	55,340	
Lateral soil bearing pressure, S ₁ (lb/ft)	6,350.00	
Diameter, b (ft)	7	
A	2.91	= (2.34P)/(S ₁ b)
Minimum depth of embedment, d (ft)	22.26	= 0.5A[1 + (1 + (4.36h / A)) ^{1/2}]

MAT FOUNDATION DESIGN BY SABRE TOWERS & POLES

165' Monopole AT&T Morris Creek, KY (410611) 06/07/18 REB

Overall Loads:

Factored Moment (ft-kips)	7476.71
Factored Axial (kips)	74.65
Factored Shear (kips)	55.34
Bearing Design Strength (ksf)	15
Water Table Below Grade (ft)	999
Width of Mat (ft)	25
Thickness of Mat (ft)	2
Depth to Bottom of Slab (ft)	9.5
Quantity of Bolts in Bolt Circle	22
Bolt Circle Diameter (in)	65
Top of Concrete to Top of Bottom Threads (in)	60
Diameter of Pier (ft)	8
Ht. of Pier Above Ground (ft)	0.5
Ht. of Pier Below Ground (ft)	7.5
Quantity of Bars in Mat	50
Bar Diameter in Mat (in)	1.128
Area of Bars in Mat (in ²)	49.97
Spacing of Bars in Mat (in)	5.98
Quantity of Bars Pier	54
Bar Diameter in Pier (in)	1
Tie Bar Diameter in Pier (in)	0.625
Spacing of Ties (in)	12
Area of Bars in Pier (in ²)	42.41
Spacing of Bars in Pier (in)	5.11
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 (yd³) 61.19

Two-Way Shear Action:

Average d (in)	19.872
ϕv_c (ksi)	0.228
$\phi v_c = \phi(2 + 4/\beta_c)f'_c{}^{1/2}$	0.342
$\phi v_c = \phi(\alpha_s d/b_o + 2)f'_c{}^{1/2}$	0.239
$\phi v_c = \phi 4f'_c{}^{1/2}$	0.228
Shear perimeter, b _o (in)	364.02
β_c	1

One-Way Shear:

ϕV_c (kips)	679.9
-------------------	-------

Stability:

Overtuning Design Strength (ft-k)	8822.1
-----------------------------------	--------

Max. Net Bearing Press. (ksf)	13.15
-------------------------------	-------

Allowable Bearing Pressure (ksf)	10.00
Safety Factor	2.00
Ultimate Bearing Pressure (ksf)	20.00
Bearing Φ_s	0.75

Minimum Pier Diameter (ft)	6.75
Equivalent Square b (ft)	7.09
Square Pier? (Y/N)	N

Recommended Spacing (in)	5 to 12
--------------------------	---------

Minimum Pier A _s (in ²)	36.19
Recommended Spacing (in)	5 to 12

v _u (ksi)	0.189
----------------------	-------

V _u (kips)	534.0
-----------------------	-------

Total Applied M (ft-k)	8030.1
------------------------	--------

Pier Design:

ϕV_n (kips)	845.1	V_u (kips)	55.3
$\phi V_c = \phi 2(1 + N_u / (2000 A_g)) f'_c{}^{1/2} b_w d$	845.1		
V_s (kips)	0.0	*** $V_s \text{ max} = 4 f'_c{}^{1/2} b_w d$ (kips)	1978.3
Maximum Spacing (in)	7.62	(Only if Shear Ties are Required)	
Actual Hook Development (in)	18.74	Req'd Hook Development l_{dh} (in)	11.88

*** Ref. To Spacing Requirements ACI 11.5.4.3

Flexure in Slab:

ϕM_n (ft-kips)	4174.5	M_u (ft-kips)	4117.6
a (in)	2.61		
Steel Ratio	0.00838		
β_1	0.825		
Maximum Steel Ratio (ρ_t)	0.0197		
Minimum Steel Ratio	0.0018		
Rebar Development in Pad (in)	104.46	Required Development in Pad (in)	29.78

Condition	1 is OK, 0 Fails
Maximum Soil Bearing Pressure	1
Pier Area of Steel	1
Pier Shear	1
Interaction Diagram Visual Check	1
Two-Way Shear Action	1
One-Way Shear Action	1
Overturning	1
Flexure	1
Steel Ratio	1
Length of Development in Pad	1
Hook Development	1



March 5th, 2018
Kentucky Public Service Commission
211 Sower Blvd.
P.O. Box 615
Frankfort, KY 40602-0615

RE: Site Name – Morris Creek
Proposed Cell Tower
37 53 07.48 North Latitude, 83 52 26.20 West Longitude

Dear Commissioners:

The Project / Construction Manager for the proposed new communications facility will be Don Murdock. His contact information is (615) 207-8280 or Don.Murdock@mastec.com

Don has been in the industry completing civil construction and constructing towers since 2009. He has worked at Mastec Network Solutions since 2009 completing project and construction management on new site build projects.

Thank you,

A handwritten signature in black ink, appearing to read "Don Murdock".

Don Murdock, Sr. Project Manager – Tennessee/Kentucky Market
MasTec Network Solutions
(615) 207-8280

EXHIBIT D
COMPETING UTILITIES, CORPORATIONS, OR PERSONS LIST

Navigation

Reports

PSC Home

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
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	Active <input type="text"/>
<input type="button" value="Search"/>				

	Utility ID	Utility Name	Utility Type	Class	City	State
<input type="button" value="View"/>	4107900	365 Wireless, LLC	Cellular	D	Atlanta	GA
<input type="button" value="View"/>	4109300	Access Point, Inc.	Cellular	D	Cary	NC
<input type="button" value="View"/>	4108300	Air Voice Wireless, LLC	Cellular	A	Bloomfield Hill	MI
<input type="button" value="View"/>	4110650	Alliant Technologies of KY, L.L.C.	Cellular	C	Morristown	NJ
<input type="button" value="View"/>	44451184	Alltel Communications, LLC	Cellular	A	Basking Ridge	NJ
<input type="button" value="View"/>	4107800	American Broadband and Telecommunications Company	Cellular	C	Toledo	OH
<input type="button" value="View"/>	4108650	AmeriMex Communications Corp.	Cellular	D	Dunedin	FL
<input type="button" value="View"/>	4105100	AmeriVision Communications, Inc. d/b/a Affinity 4	Cellular	D	Virginia Beach	VA
<input type="button" value="View"/>	4110700	Andrew David Balholm dba Norcell	Cellular	C	Clayton	WA
<input type="button" value="View"/>	4107400	Bandwidth.com, Inc.	Cellular	A	Raleigh	NC
<input type="button" value="View"/>	4108600	BCN Telecom, Inc.	Cellular	D	Morristown	NJ
<input type="button" value="View"/>	4110550	Blue Casa Mobile, LLC	Cellular	D	Santa Barbara	CA
<input type="button" value="View"/>	4108750	Blue Jay Wireless, LLC	Cellular	C	Carrollton	TX
<input type="button" value="View"/>	4202300	Bluegrass Wireless, LLC	Cellular	A	Elizabethtown	KY
<input type="button" value="View"/>	4107600	Boomerang Wireless, LLC	Cellular	B	Hiawatha	IA
<input type="button" value="View"/>	4105500	BullsEye Telecom, Inc.	Cellular	D	Southfield	MI
<input type="button" value="View"/>	4110050	CampusSims, Inc.	Cellular	D	Boston	MA

View	4100700	Cellco Partnership dba Verizon Wireless	Cellular	A	Basking Ridge	NJ
View	4106600	Cintex Wireless, LLC	Cellular	D	Rockville	MD
View	4101900	Consumer Cellular, Incorporated	Cellular	A	Portland	OR
View	4106400	Credo Mobile, Inc.	Cellular	A	San Francisco	CA
View	4108850	Cricket Wireless, LLC	Cellular	A	San Antonio	TX
View	4001900	CTC Communications Corp. d/b/a EarthLink Business I	Cellular	D	Grand Rapids	MI
View	10640	Cumberland Cellular Partnership	Cellular	A	Elizabethtown	KY
View	4101000	East Kentucky Network, LLC dba Appalachian Wireless	Cellular	A	Ivel	KY
View	4002300	Easy Telephone Service Company dba Easy Wireless	Cellular	D	Ocala	FL
View	4109500	Enhanced Communications Group, LLC	Cellular	D	Bartlesville	OK
View	4110450	Excellus Communications, LLC	Cellular	D	Chattanooga	TN
View	4105900	Flash Wireless, LLC	Cellular	C	Concord	NC
View	4104800	France Telecom Corporate Solutions L.L.C.	Cellular	D	Oak Hill	VA
View	4109350	Global Connection Inc. of America	Cellular	D	Norcross	GA
View	4102200	Globalstar USA, LLC	Cellular	B	Covington	LA
View	4109600	Google North America Inc.	Cellular	B	Mountain View	CA
View	33350363	Granite Telecommunications, LLC	Cellular	D	Quincy	MA
View	4106000	GreatCall, Inc. d/b/a Jitterbug	Cellular	A	San Diego	CA
View	10630	GTE Wireless of the Midwest dba Verizon Wireless	Cellular	A	Basking Ridge	NJ
View	4110600	Horizon River Technologies, LLC	Cellular	C	Atlanta	GA
View	4103100	i-Wireless, LLC	Cellular	A	Newport	KY
View	4109800	IM Telecom, LLC d/b/a Infiniti Mobile	Cellular	D	Tulsa	OK
View	22215360	KDDI America, Inc.	Cellular	D	New York	NY
View	10872	Kentucky RSA #1 Partnership	Cellular	A	Basking Ridge	NJ
View	10680	Kentucky RSA #3 Cellular General	Cellular	A	Elizabethtown	KY
View	10681	Kentucky RSA #4 Cellular General	Cellular	A	Elizabethtown	KY
View	4109750	Konatel, Inc. dba telecom.mobi	Cellular	D	Johnstown	PA
View	4107300	Lycamobile USA, Inc.	Cellular	D	Newark	NJ
View	4108800	MetroPCS Michigan, LLC	Cellular	A	Bellevue	WA
View	4109650	Mitel Cloud Services, Inc.	Cellular	D	Mesa	AZ
View	4202400	New Cingular Wireless PCS, LLC dba AT&T Mobility, PCS	Cellular	A	San Antonio	TX

View	10900	New Par dba Verizon Wireless	Cellular	A	Basking Ridge	NJ
View	4000800	Nextel West Corporation	Cellular	D	Overland Park	KS
View	4001300	NPCR, Inc. dba Nextel Partners	Cellular	D	Overland Park	KS
View	4001800	OnStar, LLC	Cellular	A	Detroit	MI
View	4110750	Onvoy Spectrum, LLC	Cellular	C	Plymouth	MN
View	4109050	Patriot Mobile LLC	Cellular	D	Southlake	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	4202100	Powertel/Memphis, Inc. dba T-Mobile	Cellular	A	Bellevue	WA
View	4107700	Puretalk Holdings, LLC	Cellular	A	Covington	GA
View	4106700	Q Link Wireless, LLC	Cellular	A	Dania	FL
View	4108700	Ready Wireless, LLC	Cellular	B	Hiawatha	IA
View	4110350	Regional Strategic Partners LLC	Cellular	D	Buford	GA
View	4110500	Republic Wireless, Inc.	Cellular	D	Raleigh	NC
View	4106200	Rural Cellular Corporation	Cellular	A	Basking Ridge	NJ
View	4108550	Sage Telecom Communications, LLC dba TruConnect	Cellular	D	Los Angeles	CA
View	4109150	Selectel, Inc. d/b/a Selectel Wireless	Cellular	D	Freemont	NE
View	4106300	SI Wireless, LLC	Cellular	A	Carbondale	IL
View	4110150	Spectrotel, Inc. d/b/a Touch Base Communications	Cellular	D	Neptune	NJ
View	4200100	Sprint Spectrum, L.P.	Cellular	A	Atlanta	GA
View	4200500	SprintCom, Inc.	Cellular	A	Atlanta	GA
View	4109550	Stream Communications, LLC	Cellular	D	Dallas	TX
View	4110200	T C Telephone LLC d/b/a Horizon Cellular	Cellular	D	Red Bluff	CA
View	4202200	T-Mobile Central, LLC dba T-Mobile	Cellular	A	Bellevue	WA
View	4002500	TAG Mobile, LLC	Cellular	D	Carrollton	TX
View	4109700	Telecom Management, Inc. dba Pioneer Telephone	Cellular	D	South Portland	ME
View	4107200	Telefonica USA, Inc.	Cellular	D	Miami	FL
View	4108900	Telrite Corporation dba Life Wireless	Cellular	D	Covington	GA
View	4108450	Tempo Telecom, LLC	Cellular	D	Kansas City	MO
View	4109950	The People's Operator USA, LLC	Cellular	D	New York	NY
View	4109000	Ting, Inc.	Cellular	A	Toronto	ON
View	4110400	Torch Wireless Corp.	Cellular	D	Jacksonville	FL
View	4103300	Touchtone Communications, Inc.	Cellular	D	Whippany	NJ

View	4104200	TracFone Wireless, Inc.	Cellular	D	Miami	FL
View	4002000	Truphone, Inc.	Cellular	D	Durham	NC
View	4110300	UVNV, Inc.	Cellular	D	Costa Mesa	CA
View	4105700	Virgin Mobile USA, L.P.	Cellular	A	Atlanta	GA
View	4110800	Visible Service LLC	Cellular	C	Lone Tree	CO
View	4200600	West Virginia PCS Alliance, L.C.	Cellular	A	Waynesboro	VA
View	4106500	WiMacTel, Inc.	Cellular	D	Palo Alto	CA
View	4110100	Windward Wireless LLC	Cellular	D	Suwanee	GA
View	4109900	Wireless Telecom Cooperative, Inc. dba theWirelessFreeway	Cellular	D	Louisville	KY

EXHIBIT E
FAA

* Federal Airways & Airspace *
* Summary Report: New Construction *
* Antenna Structure *

Airspace User: Not Identified

File: Morris Creek

Location: Stanton, KY

Latitude: 37°-53'-07.5" Longitude: 83°-52'-26.2"

SITE ELEVATION AMSL.....790 ft.
STRUCTURE HEIGHT.....180 ft.
OVERALL HEIGHT AMSL.....970 ft.
SURVEY HEIGHT AMSL.....970 ft.

NOTICE CRITERIA

FAR 77.9(a): NNR (DNE 200 ft AGL)
FAR 77.9(b): NNR (DNE Notice Slope)
FAR 77.9(c): NNR (Not a Traverse Way)
FAR 77.9: NNR FAR 77.9 IFR Straight-In Notice Criteria for I50
FAR 77.9: NNR FAR 77.9 IFR Straight-In Notice Criteria for IOB
FAR 77.9(d): NNR (Off Airport Construction)

NR = Notice Required

NNR = Notice Not Required

PNR = Possible Notice Required (depends upon actual IFR procedure)
For new construction review Air Navigation Facilities at bottom
of this report.

Notice to the FAA is not required at the analyzed location and height for
slope, height or Straight-In procedures. Please review the 'Air
Navigation'
section for notice requirements for offset IFR procedures and EMI.

OBSTRUCTION STANDARDS

FAR 77.17(a)(1): DNE 499 ft AGL
FAR 77.17(a)(2): DNE - Airport Surface
FAR 77.19(a): DNE - Horizontal Surface
FAR 77.19(b): DNE - Conical Surface
FAR 77.19(c): DNE - Primary Surface
FAR 77.19(d): DNE - Approach Surface
FAR 77.19(e): DNE - Approach Transitional Surface
FAR 77.19(e): DNE - Abeam Transitional Surface

VFR TRAFFIC PATTERN AIRSPACE FOR: I50: STANTON

Type: A RD: 15187.29 RE: 649
FAR 77.17(a)(1): DNE

FAR 77.17(a)(2): Does Not Apply.
 VFR Horizontal Surface: DNE
 VFR Conical Surface: DNE
 VFR Primary Surface: DNE
 VFR Approach Surface: DNE
 VFR Transitional Surface: DNE

VFR TRAFFIC PATTERN AIRSPACE FOR: IOB: MOUNT STERLING-MONTGOMERY CO
 Type: A RD: 68403.88 RE: 1019.3

FAR 77.17(a)(1): DNE
 FAR 77.17(a)(2): DNE - Greater Than 5.99 NM.
 VFR Horizontal Surface: DNE
 VFR Conical Surface: DNE
 VFR Primary Surface: DNE
 VFR Approach Surface: DNE
 VFR Transitional Surface: DNE

TERPS DEPARTURE PROCEDURE (FAA Order 8260.3, Volume 4)
 FAR 77.17(a)(3) Departure Surface Criteria (40:1)
 DNE Departure Surface

MINIMUM OBSTACLE CLEARANCE ALTITUDE (MOCA)
 FAR 77.17(a)(4) MOCA Altitude Enroute Criteria
 The Maximum Height Permitted is 2400 ft AMSL

PRIVATE LANDING FACILITIES
 No Private Landing Facilities Are Within 6 NM

AIR NAVIGATION ELECTRONIC FACILITIES

APCH	FAC	ST	DIST	DELTA	GRND				
ANGLE	IDNT	TYPE	AT	FREQ	VECTOR	(ft)	ELEVA	ST	LOCATION
BEAR	-----								
.17	XYC	NDB	I	39	224.16	64742	+190	KY	SECO
-.01	IOB	NDB	I	21	334.00	70728	-14	KY	MOUNT STERLING
-.02	HYK	VOR/DME	I	112.6	279.87	175155	-65	KY	LEXINGTON
-.14	KJKL	RADAR WXL	Y		123.65	194483	-482	KY	JACKSON
-.02	LEX	RADAR	ON	2750.	284.27	217480	-90	KY	BLUE GRASS

CFR Title 47, §1.30000-§1.30004
 AM STUDY NOT REQUIRED: Structure is not near a FCC licensed AM station.
 Movement Method Proof as specified in §73.151(c) is not required.
 Please review 'AM Station Report' for details.

Nearest AM Station: WBFC @ 785 meters.

Airspace® Summary Version 18.5.504

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06-06-2018
13:59:46

EXHIBIT F
KENTUCKY AIRPORT ZONING COMMISSION

Cody Knox

From: Houlihan, John F (KYTC) <John.Houlihan@ky.gov>
Sent: Monday, June 04, 2018 11:18 AM
To: Cody Knox
Subject: RE: AT&T KAZC permit determination - Morris Creek

No permit is required from the KAZC. Thank you

Kentucky Airport Zoning Commission (KAZC)
John Houlihan, Administrator
Department of Highways, District Six
421 Buttermilk Pike
Covington, KY 41017
Office 859-341-2700, Desk 859-341-2707 Ext. 292, Cell 502-330-3955

KAZC webpage: <https://transportation.ky.gov/Aviation/Pages/airportzoning.aspx>

CONFIDENTIALITY NOTICE: This e-mail message, including any attachments, is for the sole use of the intended recipient(s) and may contain confidential and privileged information. Any unauthorized review, use, disclosure or distribution is prohibited. If you are not the intended recipient, please contact the sender by reply e-mail or call (859) 341-2700 and destroy all copies of the original message.

From: Cody Knox <cknox@integrisite.net>
Sent: Monday, June 04, 2018 12:14 PM
To: Houlihan, John F (KYTC) <John.Houlihan@ky.gov>
Subject: AT&T KAZC permit determination - Morris Creek

John,
AT&T is proposing to construct a new tower per the specifications below. Can you confirm if a KAZC permit is required?

Project Name: Morris Creek
Latitude: 37 53 07.5 N
Longitude: 83 52 26.2 W
GE: 790'
Tower height including lightning arrestor: 180'
Overall height: 970'

Thank you,

Cody Knox
Integrissite, Inc.
214 Expo Circle, Suite 4
West Monroe, LA 71292
318-355-6599

EXHIBIT G
GEOTECHNICAL REPORT



April 27, 2018

Mr. Jacob Goralski, P.E.
Irish Tower, LLC
4603 Bermuda Drive,
Sugar Land, TX 77479

ECS Project No. 26:3125-Q2

Reference: Report of Subsurface Exploration and Geotechnical Engineering Services
Morris Creek Tower
3569 Paint Creek Road
Stanton, KY

Dear Mr. Goralski:

ECS Southeast, LLP (ECS) has completed the subsurface exploration for the proposed construction of a monopole tower located at 3569 Paint Creek Road, in Stanton, Kentucky, approximately 685 feet southwest of the intersection with Courtney Lane. The purpose of these services was to explore the subsurface soil and groundwater conditions at the site, and to develop geotechnical recommendations pertaining to foundation support of the structures. This report explains our understanding of the project, documents our findings, and presents our conclusions and geotechnical engineering recommendations to serve as an aid during the design and construction of the project.

PROJECT INFORMATION AND PROPOSED CONSTRUCTION

The project will consist of the construction of a new 165+/-foot tall monopole tower with a 15-foot lightning arrester and fenced equipment compound. The proposed tower site is located on a grassy field. See the attached Site Location Diagram (Figure 1) and Boring Location Diagram (Figure 2). We have received preliminary site plans showing the site boundaries and proposed tower location. No loading information was provided for the tower. Based on information provided from the client, the current ground surface elevation at the center of the tower is approximately 789.1 feet MSL. To achieve the proposed grading at the tower site, we anticipate no cut and fill will be required. We do not anticipate that any significant stormwater management (SWM) facilities or site retaining walls will be required for this project.

EXPLORATION PROCEDURES

The site subsurface conditions were explored on April 16, 2018, completing one Standard Penetration Test (SPT) boring drilled at the staked center of the tower location. The boring was drilled to an approximate depth of 9 ½ feet (depth of auger refusal). The approximate boring location is shown on the attached Boring Location diagram (Figure 2). The boring location was based on a survey stake-out that was performed by others. Prior to drilling, underground utilities were cleared through the Kentucky 811 system.

A CME 45 truck-mounted drill rig was utilized to complete the SPT boring. The drill rig utilized 3-¼ inch hollow stem augers to advance the boreholes. Representative soil samples were secured by means of conventional split-barrel sampling procedures (ASTM D1586). In this procedure, a 2-inch O.D., split-barrel sampler is driven into the soil a distance of 18 inches by a 140-pound hammer falling 30 inches. The number of blows required to drive the sampler

through the final 12-inch interval, after initial setting of 6 inches, is termed the Standard Penetration Test (SPT) value or N-value, and is indicated for each sample on the attached boring log.

The SPT values can be used as a qualitative indication of the in-place relative density of cohesionless soils, and as a relative indication of consistency in cohesive soils. This indication is qualitative, since many factors can affect the standard penetration resistance value and prevent a direct correlation between drill crews, drill rigs, drilling procedures, and hammer-rod-sampler assemblies. The drill rig utilized an automatic hammer to drive the sampler.

A field log of the soil encountered at the boring location was maintained by the drilling crew. After recovery, each soil sample was removed from the sampler and visually classified by the driller. Representative portions of each soil sample were then sealed in plastic bags and transported to our laboratory in Nashville (Franklin), Tennessee, for further visual observation and classification. Observations for groundwater were made during sampling and upon completion of the drilling operations. After completion of the drilling operations, the borehole was backfilled with auger cuttings and excess soil was mounded at the surface.

CLASSIFICATION AND LABORATORY TESTING PROCEDURES

A geotechnical engineer classified each soil sample on the basis of texture and plasticity in accordance with the Unified Soil Classification System (ASTM D 2487). The group symbols for each soil type are indicated in parentheses following the soil descriptions on the boring log. A brief explanation of the Unified Soil Classification System (USCS) is included with this report. The engineer grouped the various soil types into the major zones noted on the boring log. The stratification lines designating the interfaces between materials on the exploration records are approximate; in situ, the transitions may be gradual.

The soil samples will be retained in our laboratory for a period of 60 days, after which, they will be discarded unless other instructions are received as to their disposition.

SITE GEOLOGY

The USGS Geologic Map of the Means Quadrangle (1976) indicates this particular site is underlain by the Nancy and Farmers Members of the Borden Formation. The Borden Formation is typically light-olive to medium-gray, variably silty, mostly crudely laminated shale with an olive- to greenish-gray siltstone.

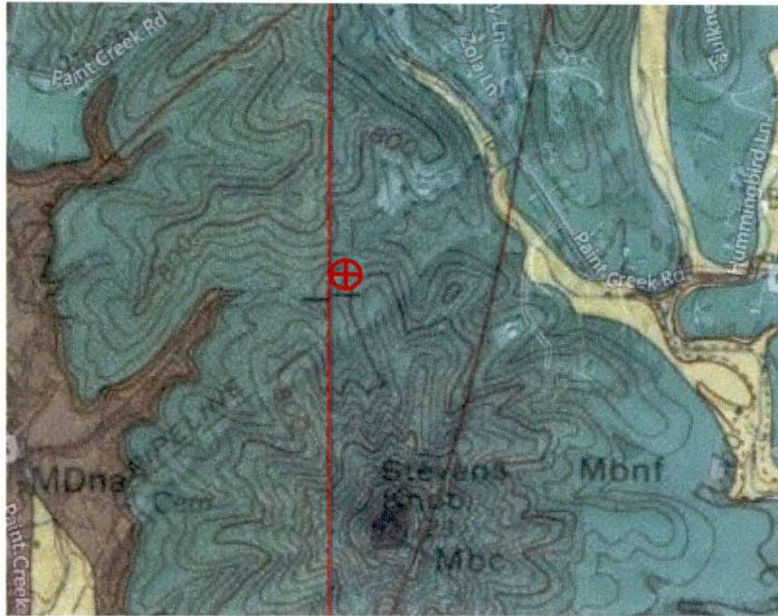


Figure 1 - USGS Geologic Map of the Means Quadrangle
(approximate site location highlighted)

SUBSURFACE CONDITIONS

The subsurface conditions discussed in the following paragraphs, and those shown on the boring log, represent an estimate of the subsurface conditions based on interpretation of the exploration data using normally accepted geotechnical engineering judgments. It should be noted that the transition between different soil strata is often less distinct than what is shown on the exploration records.

In general, the exploration revealed a layer of topsoil underlain by lean clay extending to a depth of auger refusal (approximately 9 ½ feet). SPT N-values for the lean clay materials varied from 24 to 44 blows per foot (bpf). The encountered conditions are shown on the attached boring log.

Groundwater was not encountered at the time of our exploration. It should be noted that groundwater can vary on a seasonal basis due to precipitation, evaporation, surface run-off, area stream levels and other factors not immediately apparent at the time of this exploration. It is also possible for groundwater to exist in a perched condition within the soil overburden or at the soil/rock interface.

ANALYSIS AND RECOMMENDATIONS

General

The following recommendations have been developed on the basis of the previously described project information and subsurface conditions identified during this study. If there are any changes to the project characteristics, or if differing subsurface conditions are encountered during construction, ECS should be consulted so that the recommendations of this report can be reviewed and revised, as necessary.

Subgrade Preparation

Vegetation, and all other soft, unsuitable, or deleterious material should be removed from the existing ground surface at the foundation areas. These operations should extend at least 5 feet beyond the edge of planned structures, where practical. After examining the exposed soils, loose and yielding areas should be identified by proofrolling with an approved piece of equipment, such as a loaded dump truck, having an axle weight of at least 10 tons. Unsuitable or unstable subgrade materials may require moisture conditioning, in-place densification, or removal and replacement with new engineered fill.

Engineered Fill

The first layer of fill should be placed in a relatively uniform horizontal lift and be adequately keyed into the stripped and scarified subgrade soils. Fill materials should be free of organics, wet/frozen materials, or other deleterious materials. Engineered fill materials should consist of low to moderately plastic clays and silts, or coarse grained material such as sand and gravel. Engineered fill should have a maximum Liquid Limit no greater than 50, and a maximum Plasticity Index no greater than 30. In general, we recommend material to be used as engineered fill have a Standard Proctor maximum dry density of at least 90 pcf. Engineered soil fill should be placed in maximum loose lifts of 8 inches and compacted to at least 95 percent of the Standard Proctor (ASTM D698) maximum dry density. Soil engineered fill should be compacted within 3 percentage points of the optimum moisture content determined by the Standard Proctor method. Soil fill should not contain rock material greater than 4 inches in diameter.

Fill operations should be observed on a full-time basis by an experienced engineering technician to check that the required degree of compaction is being achieved. We recommend a minimum of one compaction test per 2,500 square-foot area be performed for each lift of engineered fill for structural areas, and that at least one test per lift per 100 linear feet of utility trench backfill.

Equipment Shelter Foundation

Based upon our findings, the equipment shelter may be supported by a turned-down monolithic slab-on-grade with foundation elements bearing on the weathered bedrock or properly-compacted engineered fill. These foundations can be designed for a maximum net allowable soil bearing pressure of up to 2,500 psf.

For footings constructed in accordance with the requirements outlined in this report, maximum total settlement is expected to be less than 1 inch (plus any consolidation settlement from new fill loads). Maximum differential settlement is expected to be half the total settlement. Shallow foundations should be designed to bear at least 18 inches below the final exterior grades. The slab-on-grade may be designed using a modulus of subgrade reaction of 90 pounds per cubic inch (pci). A layer of free draining gravel may be used underlying the slab to serve as a leveling pad and provide a capillary break. All slab and foundation subgrades should be evaluated immediately prior to concrete placement by ECS to verify that the exposed subgrades are capable of satisfactorily supporting the design loads.

Monopole Tower Foundation

The proposed tower can be supported on a drilled shaft (caisson) foundation or a pad and pier foundation. Based on previous experience with monopole structures, we anticipate that wind loading, associated uplift resistance, and lateral loading may control the sizing and depth of the

pole foundation. We have provided estimated soil parameters at various depths to aid in drilled shaft foundation design in the attached Geotechnical Data Form.

Uplift forces can be resisted by the factored weight of the shaft and the side shear along the circumference of the shaft (skin friction). The compression forces can be resisted by the side shear along the circumference of the shaft and the end bearing capacity. In determining the dimensions of the drilled shafts, we recommend that a minimum factor of safety of 1.25 with regard to the weight of the concrete should be used in conjunction with the presented allowable side shear values. For uplift and compression, we recommend no contribution to resisting loads be considered from side shear within 5 feet of the ground surface, soft clay or from potentially liquefiable zones.

The installation contractor should be prepared to case the excavation, if needed, depending on the condition of the soils and the ground water elevation at the time of construction. Once the bearing level is reached, all loose materials and any accumulated water seepage should be removed prior to placement of pier reinforcing cage and concrete. Up to 1 inch of water standing in the base of the pier is acceptable at the time of concrete placement and an inflow rate of 1 inch per 5 minutes is also acceptable. Higher inflow rates, which could occur, may require additional control or that drilled shaft concrete be placed by tremie method. The drilled shaft contractor should be prepared to handle such a condition and to ensure suitable end bearing conditions.

The drilled shaft concrete should be placed in intimate contact with undisturbed natural soil/rock. To reduce the potential for arching, we recommend the drilled shaft concrete mix be designed for a slump of 5 to 7 inches. Provided water seepage is minimal, our experience and current research in the field indicates that the drilled shafts can be constructed by "free fall" placement of concrete without affecting the strength and quality of concrete. The concrete should "free fall" without hitting the sides of the casing or reinforcing steel. The use of a hopper or other suitable device is recommended to control concrete placement and direct it toward the center of the shaft. The placement of concrete in the cased shaft should proceed until the concrete level is above the external fluid level and should be maintained above this level throughout casing removal. However, if significant seepage is present within the excavation or if slurry is used, it will be necessary to place the concrete by tremie method, and we recommend a concrete slump of 7 to 9 inches for this method of concrete placement.

Pad and Pier Recommendations: Based on the relatively depth to bedrock, a pad and pier foundation approach would also be reasonable. We recommend that the foundation be excavated down to bedrock and can be designed for a net allowable bearing capacity of 10,000 psf.

The foundation design and construction procedures should be reviewed with the foundation contractor prior to the start of construction. If you desire, we would be pleased to review the plans and specifications for the project once they are completed so we may have the opportunity to comment on the impact of the soil/rock and groundwater conditions on the final design.

Seismic Site Classification

Based on our interpretation of the International Building Code (IBC) 2012, it is our opinion that a Seismic Site Class "B" is appropriate for this site. In accordance with IBC 2012 and United States Geological Survey's (USGS) Seismic Hazard Curves and Uniform Hazard Response Spectra program, the following parameters may be used in design:

- Latitude: 37.88541111, Longitude: -83.87394444
 - $S_s = 0.202$, $S_1 = 0.089$
 - $SMS = 0.202$, $SM_1 = 0.089$
 - $S_{DS} = 0.135$, $S_{D1} = 0.060$
- *Spectral accelerations were determined from USGS National Seismic Hazard Maps

General Construction Considerations

Positive site drainage should be maintained during earthwork operations, which should help maintain the integrity of the soil. Placement of fill on the near surface soils which have become wet may be difficult. When wet, these soils will degrade quickly with disturbance from contractor operations and will be difficult to stabilize for fill placement.

The surficial soils are considered moderately erodible. All erosion and sedimentation shall be controlled in accordance with Best Management Practices and current County requirements. At the appropriate time, we would be pleased to provide a proposal for NPDES monitoring and construction materials testing related services.

CLOSING

Our professional services have been performed, our findings obtained, and our recommendations prepared in accordance with generally accepted geotechnical engineering principles and practices. ECS is not responsible for the conclusions, opinions, or recommendations made by others based on these data. No third party is given the right to rely on this report without express written permission.

The scope of services for this study does not include environmental assessment or investigation for the presence or absence of wetlands, hazardous or toxic materials in the soil or groundwater within or beyond the site studied. Any statements in this report regarding odors, staining of soils, or other unusual conditions observed are strictly for the information of our client.

We appreciate this opportunity to be of service to you during the design phase of this project. If you have any questions with regard to the information and recommendations presented in this report, please do not hesitate to contact us.

Respectfully,

ECS SOUTHEAST, LLP



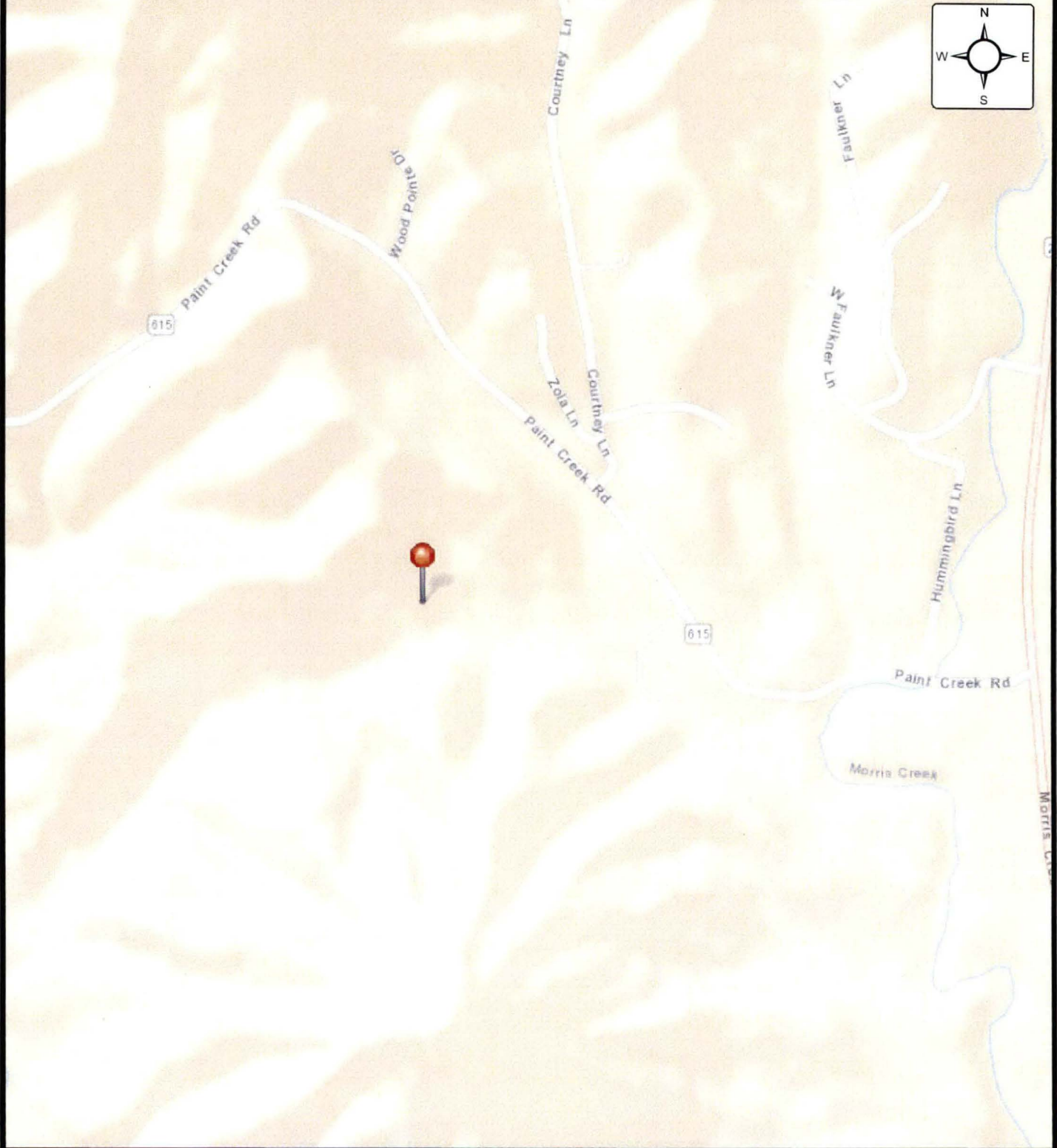
Eric M. Gasiiecki, P.E.
Geotechnical Department Manager



Dan Franklin
Principal Reviewer

Attachments: Figure 1: Site Location Map
Figure 2: Boring Location Diagrams
Geotechnical Data Form
SPT Boring Log (B-1)
Reference Notes for Boring Log
USGS Summary Report

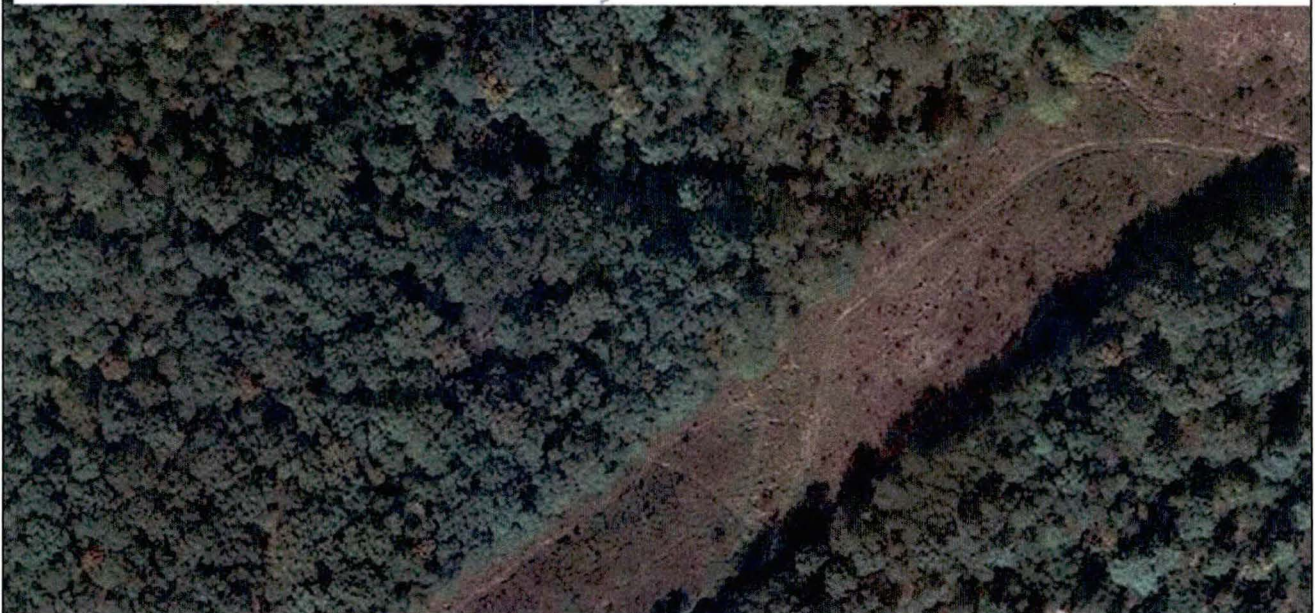
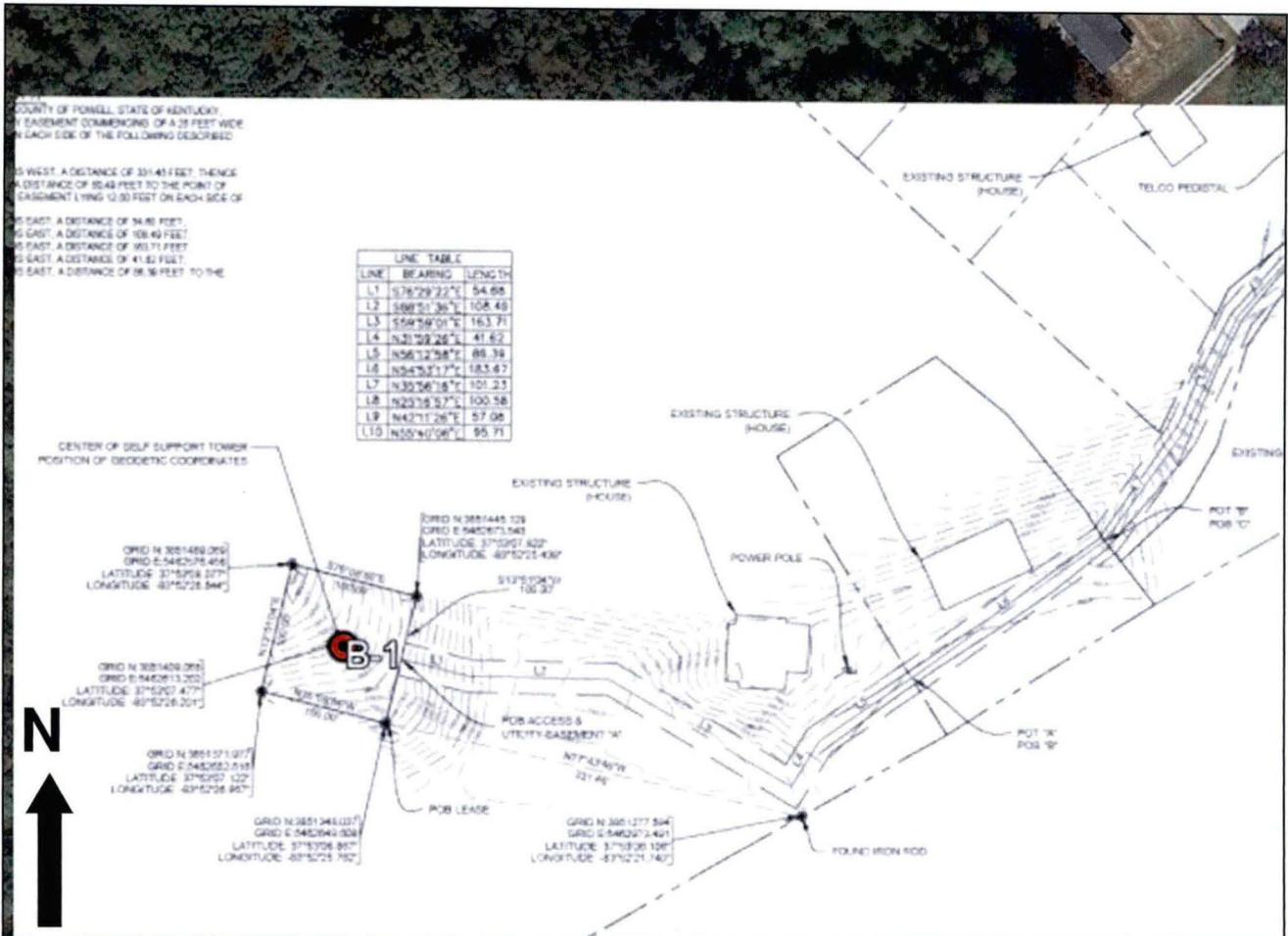
Mark D. Luskin, P.E.
Engineering Manager



SITE LOCATION DIAGRAM
IRISH TOWER SITES-MORRIS CREEK,
KY

STANTON, KY 40380
IRISH TOWER, LLC

ENGINEER	SC
SCALE	NTS
PROJECT NO.	26:3125-Q2
SHEET	1 OF 1
DATE	4/11/2018



Irish Tower – Morris Creek
 3569 Paint Creek Road
 Stanton, KY
 ECS Project No. 26:3125-Q2



Figure 2: Boring Location Diagram
 ● Approximate Boring Locations

GEOTECHNICAL DATA FORM

Background Information

Client: Irish Tower, LLC
 Project: Morris Creek
 Location: 3569 Paint Creek Road, Stanton, KY

ECS Project No.: 26:3125-Q2
 Type: Monopole
 Height: 165'+/-



Subsurface Conditions

Depth (feet)	Soil Behavior Type	Average N (spt)	Relative Density/Consistency	USCS Classification
0 - 9.5	Lean Clay	34	Hard	CL
9.5+	Shale Bedrock	50/0	-	-

Estimated Soil Parameters for LPILE

Depth (feet)	LPILE Soil Type	γ (pcf)	S_u (psf)	ϕ' (°)	K^* (pci)	E_{50}^*
0 - 9.5	Hard Clay	125	3000	-	125	0.004
9.5+	Shale Bedrock	135	5000+	-	2000	0.001

γ = In-situ Soil Density
 S_u = Undrained Shear Strength
 ϕ' = Effective Friction Angle
 K = Horizontal Subgrade Reaction

*Parameters estimated from values suggested in LPILE user manual.

Foundation Recommendations

For Drilled Shaft Foundations**


Depth (ft)	Allowable End Bearing (KSF)
0 - 3	2.5
3 - 9.5	3
9.5+	10

Depth Interval	Allowable Average Side Friction (PSF)
0 - 3	-
3 - 9.5	750
9.5+	2,000

**Ignore in top 5 feet in design, minimum embedment depth of 10% tower height applies.
 *Parameters were increased with embedment depth due to anticipated increase in bedrock quality

Construction Criteria

- 1) Proofroll site prior to construction to detect unsuitable soil near the surface.
- 2) Compact building pads/roadway subgrade and each 8 inch lift of approved fill to 95% maximum dry density in accordance with ASTM D698 standard proctor.
- 3) Approved fill materials are soils with less than 3% organics, less than 50 liquid limit and less than 30 plastic index.
- 4) Foundation construction should be observed by Geotechnical Engineer.
- 5) Drilled shaft foundations should be installed in accordance with the requirements of the Deep Foundation Institute and monitored by the Geotechnical Engineer.

CLIENT Irish Tower, LLC	Job #. 26:3125-Q2	BORING # B-1	SHEET 1 OF 1	
PROJECT NAME Irish Tower Sites-Morris Creek, KY	ARCHITECT-ENGINEER			

SITE LOCATION
3569 Paint Creek Road, Stanton, Powell, KY

NORTHING	EASTING	STATION
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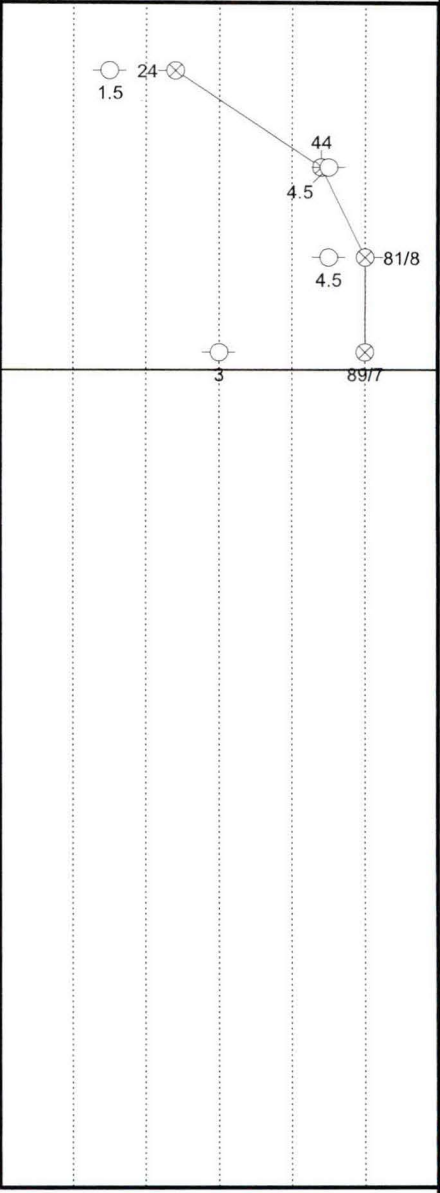
○ CALIBRATED PENETROMETER TONS/FT²

ROCK QUALITY DESIGNATION & RECOVERY
RQD% - - - - REC% - - - -

PLASTIC LIMIT% WATER CONTENT% LIQUID LIMIT%

⊗ STANDARD PENETRATION BLOWS/FT

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	ENGLISH UNITS	WATER LEVELS ELEVATION (FT)	BLOWS/6"
0					BOTTOM OF CASING	LOSS OF CIRCULATION		
					SURFACE ELEVATION	789.1		
0 - 5	S-1	SS	18	18	(CL) LEAN CLAY WITH SAND, gray, moist, very stiff to very hard		6	24
	S-2	SS	18	18		785	16	44
	S-3	SS	14	14		780	26	81/8
	S-4	SS	13	13		780	50/2	4.5
5 - 10					AUGER REFUSAL @ 9.5'		32	3
							39	89/7
							50/1	
10 - 15							775	
15 - 20							770	
20 - 25							765	
25 - 30							760	



THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL.

WL	WS <input type="checkbox"/> WD <input checked="" type="checkbox"/>	BORING STARTED	04/16/18	CAVE IN DEPTH
WL(SHW)	WL(ACR) <input checked="" type="checkbox"/>	BORING COMPLETED	04/16/18	HAMMER TYPE Auto
WL		RIG ATV	FOREMAN B. Jones	DRILLING METHOD



REFERENCE NOTES FOR BORING LOGS

MATERIAL ^{1,2}	
	ASPHALT
	CONCRETE
	GRAVEL
	TOPSOIL
	VOID
	BRICK
	AGGREGATE BASE COURSE
	FILL³ MAN-PLACED SOILS
	GW WELL-GRADED GRAVEL gravel-sand mixtures, little or no fines
	GP POORLY-GRADED GRAVEL gravel-sand mixtures, little or no fines
	GM SILTY GRAVEL gravel-sand-silt mixtures
	GC CLAYEY GRAVEL gravel-sand-clay mixtures
	SW WELL-GRADED SAND gravelly sand, little or no fines
	SP POORLY-GRADED SAND gravelly sand, little or no fines
	SM SILTY SAND sand-silt mixtures
	SC CLAYEY SAND sand-clay mixtures
	ML SILT non-plastic to medium plasticity
	MH ELASTIC SILT high plasticity
	CL LEAN CLAY low to medium plasticity
	CH FAT CLAY high plasticity
	OL ORGANIC SILT or CLAY non-plastic to low plasticity
	OH ORGANIC SILT or CLAY high plasticity
	PT PEAT highly organic soils

DRILLING SAMPLING SYMBOLS & ABBREVIATIONS			
SS	Split Spoon Sampler	PM	Pressuremeter Test
ST	Shelby Tube Sampler	RD	Rock Bit Drilling
WS	Wash Sample	RC	Rock Core, NX, BX, AX
BS	Bulk Sample of Cuttings	REC	Rock Sample Recovery %
PA	Power Auger (no sample)	RQD	Rock Quality Designation %
HSA	Hollow Stem Auger		

PARTICLE SIZE IDENTIFICATION		
DESIGNATION	PARTICLE SIZES	
Boulders	12 inches (300 mm) or larger	
Cobbles	3 inches to 12 inches (75 mm to 300 mm)	
Gravel: Coarse	¾ inch to 3 inches (19 mm to 75 mm)	
Fine	4.75 mm to 19 mm (No. 4 sieve to ¾ inch)	
Sand: Coarse	2.00 mm to 4.75 mm (No. 10 to No. 4 sieve)	
Medium	0.425 mm to 2.00 mm (No. 40 to No. 10 sieve)	
Fine	0.074 mm to 0.425 mm (No. 200 to No. 40 sieve)	
Silt & Clay ("Fines")	<0.074 mm (smaller than a No. 200 sieve)	

COHESIVE SILTS & CLAYS		
UNCONFINED COMPRESSIVE STRENGTH, Q _p ⁴	SPT ⁵ (BPF)	CONSISTENCY ⁷ (COHESIVE)
<0.25	<3	Very Soft
0.25 - <0.50	3 - 4	Soft
0.50 - <1.00	5 - 8	Medium Stiff
1.00 - <2.00	9 - 15	Stiff
2.00 - <4.00	16 - 30	Very Stiff
4.00 - 8.00	31 - 50	Hard
>8.00	>50	Very Hard

RELATIVE AMOUNT ⁷	COARSE GRAINED (%) ⁸	FINE GRAINED (%) ⁸
Trace	≤5	≤5
Dual Symbol (ex: SW-SM)	10	10
With	15 - 20	15 - 25
Adjective (ex: "Silty")	≥25	≥30

GRAVELS, SANDS & NON-COHESIVE SILTS	
SPT ⁵	DENSITY
<5	Very Loose
5 - 10	Loose
11 - 30	Medium Dense
31 - 50	Dense
>50	Very Dense

WATER LEVELS ⁶		
	WL	Water Level (WS)(WD) (WS) While Sampling (WD) While Drilling
	SHW	Seasonal High WT
	ACR	After Casing Removal
	SWT	Stabilized Water Table
	DCI	Dry Cave-In
	WCI	Wet Cave-In

¹Classifications and symbols per ASTM D 2488-09 (Visual-Manual Procedure) unless noted otherwise.

²To be consistent with general practice, "POORLY GRADED" has been removed from GP, GP-GM, GP-GC, SP, SP-SM, SP-SC soil types on the boring logs.

³Non-ASTM designations are included in soil descriptions and symbols along with ASTM symbol [Ex: (SM-FILL)].

⁴Typically estimated via pocket penetrometer or Torvane shear test and expressed in tons per square foot (tsf).

⁵Standard Penetration Test (SPT) refers to the number of hammer blows (blow count) of a 140 lb. hammer falling 30 inches on a 2 inch OD split spoon sampler required to drive the sampler 12 inches (ASTM D 1586). "N-value" is another term for "blow count" and is expressed in blows per foot (bpf).

⁶The water levels are those levels actually measured in the borehole at the times indicated by the symbol. The measurements are relatively reliable when augering, without adding fluids, in granular soils. In clay and cohesive silts, the determination of water levels may require several days for the water level to stabilize. In such cases, additional methods of measurement are generally employed.

⁷Minor deviation from ASTM D 2488-09 Note 16.

⁸Percentages are estimated to the nearest 5% per ASTM D 2488-09.

USGS Design Maps Summary Report

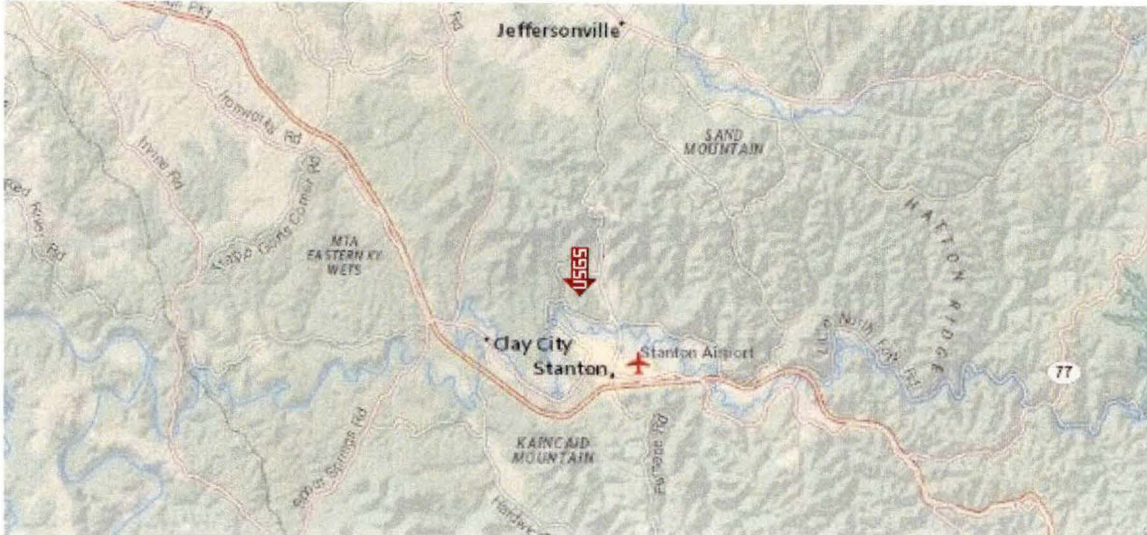
User-Specified Input

Building Code Reference Document 2012/2015 International Building Code
(which utilizes USGS hazard data available in 2008)

Site Coordinates 37.88541°N, 83.87394°W

Site Soil Classification Site Class B – “Rock”

Risk Category I/II/III

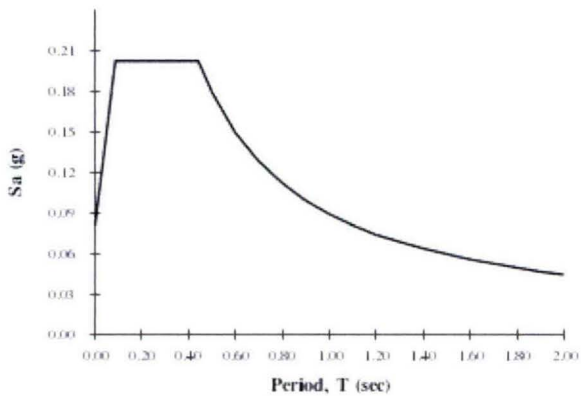


USGS-Provided Output

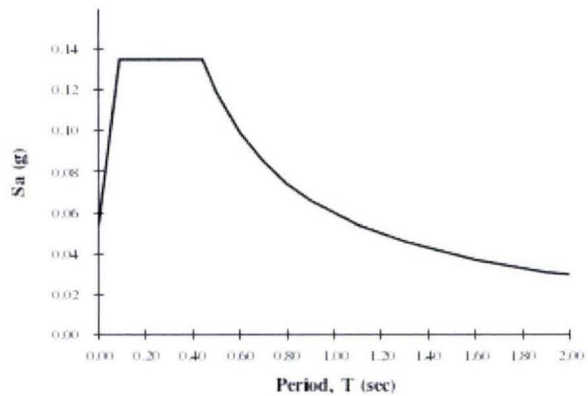
$S_s = 0.202 \text{ g}$	$S_{MS} = 0.202 \text{ g}$	$S_{DS} = 0.135 \text{ g}$
$S_1 = 0.089 \text{ g}$	$S_{M1} = 0.089 \text{ g}$	$S_{D1} = 0.060 \text{ g}$

For information on how the S_s and S_1 values above have been calculated from probabilistic (risk-targeted) and deterministic ground motions in the direction of maximum horizontal response, please return to the application and select the “2009 NEHRP” building code reference document.

MCE_R Response Spectrum



Design Response Spectrum



Although this information is a product of the U.S. Geological Survey, we provide no warranty, expressed or implied, as to the accuracy of the data contained therein. This tool is not a substitute for technical subject-matter knowledge.

Important Information About Your Geotechnical Engineering Report

Subsurface problems are a principal cause of construction delays, cost overruns, claims, and disputes

The following information is provided to help you manage your risks.

Geotechnical Services Are Performed for Specific Purposes, Persons, and Projects

Geotechnical engineers structure their services to meet the specific needs of their clients. A geotechnical engineering study conducted for a civil engineer may not fulfill the needs of a construction contractor or even another civil engineer. Because each geotechnical engineering study is unique, each geotechnical engineering report is unique, prepared *solely* for the client. No one except you should rely on your geotechnical engineering report without first conferring with the geotechnical engineer who prepared it. *And no one - not even you - should apply the report for any purpose or project except the one originally contemplated.*

Read the Full Report

Serious problems have occurred because those relying on a geotechnical engineering report did not read it all. Do not rely on an executive summary. Do not read selected elements only.

A Geotechnical Engineering Report Is Based on A Unique Set of Project-Specific Factors

Geotechnical engineers consider a number of unique, project-specific factors when establishing the scope of a study. Typical factors include: the client's goals, objectives, and risk management preferences; the general nature of the structure involved, its size, and configuration; the location of the structure on the site; and other planned or existing site improvements, such as access roads, parking lots, and underground utilities. Unless the geotechnical engineer who conducted the study specifically indicates otherwise, do not rely on a geotechnical engineering report that was:

- not prepared for you,
- not prepared for your project,
- not prepared for the specific site explored, or
- completed before important project changes were made.

Typical changes that can erode the reliability of an existing geotechnical engineering report include those that affect:

- the function of the proposed structure, as when it's changed from a parking garage to an office building, or from a light industrial plant to a refrigerated warehouse,

- elevation, configuration, location, orientation, or weight of the proposed structure,
- composition of the design team, or
- project ownership.

As a general rule, *always* inform your geotechnical engineer of project changes - even minor ones - and request an assessment of their impact. *Geotechnical engineers cannot accept responsibility or liability for problems that occur because their reports do not consider developments of which they were not informed.*

Subsurface Conditions Can Change

A geotechnical engineering report is based on conditions that existed at the time the study was performed. *Do not rely on a geotechnical engineering report* whose adequacy may have been affected by: the passage of time; by man-made events, such as construction on or adjacent to the site; or by natural events, such as floods, earthquakes, or groundwater fluctuations. *Always* contact the geotechnical engineer before applying the report to determine if it is still reliable. A minor amount of additional testing or analysis could prevent major problems.

Most Geotechnical Findings Are Professional Opinions

Site exploration identifies subsurface conditions only at those points where subsurface tests are conducted or samples are taken. Geotechnical engineers review field and laboratory data and then apply their professional judgment to render an opinion about subsurface conditions throughout the site. Actual subsurface conditions may differ-sometimes significantly from those indicated in your report. Retaining the geotechnical engineer who developed your report to provide construction observation is the most effective method of managing the risks associated with unanticipated conditions.

A Report's Recommendations Are *Not* Final

Do not overrely on the construction recommendations included in your report. *Those recommendations are not final*, because geotechnical engineers develop them principally from judgment and opinion. Geotechnical engineers can finalize their recommendations only by observing actual

subsurface conditions revealed during construction. The geotechnical engineer who developed your report cannot assume responsibility or liability for the report's recommendations if that engineer does not perform construction observation.

A Geotechnical Engineering Report Is Subject to Misinterpretation

Other design team members' misinterpretation of geotechnical engineering reports has resulted in costly problems. Lower that risk by having your geotechnical engineer confer with appropriate members of the design team after submitting the report. Also retain your geotechnical engineer to review pertinent elements of the design team's plans and specifications. Contractors can also misinterpret a geotechnical engineering report. Reduce that risk by having your geotechnical engineer participate in prebid and preconstruction conferences, and by providing construction observation.

Do Not Redraw the Engineer's Logs

Geotechnical engineers prepare final boring and testing logs based upon their interpretation of field logs and laboratory data. To prevent errors or omissions, the logs included in a geotechnical engineering report should *never* be redrawn for inclusion in architectural or other design drawings. Only photographic or electronic reproduction is acceptable, *but recognize that separating logs from the report can elevate risk.*

Give Contractors a Complete Report and Guidance

Some owners and design professionals mistakenly believe they can make contractors liable for unanticipated subsurface conditions by limiting what they provide for bid preparation. To help prevent costly problems, give contractors the complete geotechnical engineering report, *but* preface it with a clearly written letter of transmittal. In that letter, advise contractors that the report was not prepared for purposes of bid development and that the report's accuracy is limited; encourage them to confer with the geotechnical engineer who prepared the report (a modest fee may be required) and/or to conduct additional study to obtain the specific types of information they need or prefer. A prebid conference can also be valuable. *Be sure contractors have sufficient time* to perform additional study. Only then might you be in a position to give contractors the best information available to you, while requiring them to at least share some of the financial responsibilities stemming from unanticipated conditions.

Read Responsibility Provisions Closely

Some clients, design professionals, and contractors do not recognize that geotechnical engineering is far less exact than other engineering disciplines. This lack of understanding has created unrealistic expectations that have led

to disappointments, claims, and disputes. To help reduce the risk of such outcomes, geotechnical engineers commonly include a variety of explanatory provisions in their reports. Sometimes labeled "limitations" many of these provisions indicate where geotechnical engineers' responsibilities begin and end, to help others recognize their own responsibilities and risks. *Read these provisions closely.* Ask questions. Your geotechnical engineer should respond fully and frankly.

Geoenvironmental Concerns Are Not Covered

The equipment, techniques, and personnel used to perform a *geoenvironmental* study differ significantly from those used to perform a *geotechnical* study. For that reason, a geotechnical engineering report does not usually relate any geoenvironmental findings, conclusions, or recommendations; e.g., about the likelihood of encountering underground storage tanks or regulated contaminants. *Unanticipated environmental problems have led to numerous project failures.* If you have not yet obtained your own geoenvironmental information, ask your geotechnical consultant for risk management guidance. *Do not rely on an environmental report prepared for someone else.*

Obtain Professional Assistance To Deal with Mold

Diverse strategies can be applied during building design, construction, operation, and maintenance to prevent significant amounts of mold from growing on indoor surfaces. To be effective, all such strategies should be devised for the express purpose of mold prevention, integrated into a comprehensive plan, and executed with diligent oversight by a professional mold prevention consultant. Because just a small amount of water or moisture can lead to the development of severe mold infestations, a number of mold prevention strategies focus on keeping building surfaces dry. While groundwater, water infiltration, and similar issues may have been addressed as part of the geotechnical engineering study whose findings are conveyed in this report, the geotechnical engineer in charge of this project is not a mold prevention consultant; ***none of the services performed in connection with the geotechnical engineer's study were designed or conducted for the purpose of mold prevention. Proper implementation of the recommendations conveyed in this report will not of itself be sufficient to prevent mold from growing in or on the structure involved.***

Rely on Your ASFE-Member Geotechnical Engineer For Additional Assistance

Membership in ASFE/The Best People on Earth exposes geotechnical engineers to a wide array of risk management techniques that can be of genuine benefit for everyone involved with a construction project. Confer with your ASFE-member geotechnical engineer for more information.



8811 Colesville Road/Suite G106, Silver Spring, MD 20910
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e-mail: info@asfe.org www.asfe.org

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**EXHIBIT H
DIRECTIONS TO WCF SITE**

Driving Directions to Proposed Tower Site
Site Name: Morris Creek

1. Beginning at the offices of the County Judge Executive located at 525 Washington Street, Stanton, Kentucky start out going north on Washington St/KY-2486 toward Court St/KY-2476.
2. Turn right onto Maple St/KY-2026.
3. Turn left onto N Main St/KY-213. Continue to follow KY-213.
4. Turn left onto Paint Creek Rd.
5. Arrive at 3569 Paint Creek Road on the left.
6. The coordinates for the site are 37°53'07.48" North latitude, 83°52'26.20" West longitude.



Prepared by:
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EXHIBIT I
COPY OF REAL ESTATE AGREEMENT

Market: Lexington
Cell Site Number: KYL06085
Cell Site Name: Morris Creek
Fixed Asset Number: 13800704

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 Randle Wireman (a/k/a Randall Wireman), a widowed man, having a mailing address of 3569 Paint Creek Road, Stanton, KY 40380 ("**Landlord**") and New Cingular Wireless PCS, LLC, a Delaware limited liability company, having a mailing address of 575 Morosgo Drive NE, Atlanta, GA 30324 ("**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 3569 Paint Creek Road, Stanton, in the County of Powell, State of Kentucky (collectively, the "**Property**"). Tenant desires to use a portion of the Property in connection with its federally licensed communications business. 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 option (the "**Option**") to lease a certain portion of the Property containing approximately 10,000 square feet including the air space above such ground space, as described on attached **Exhibit 1** (the "**Premises**"), for the placement of Tenant's Communication Facility.

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

(c) In consideration of Landlord granting Tenant the Option, Tenant agrees to pay Landlord the sum of [REDACTED] within forty five (45) business days of the Effective Date. The Option will be for an initial term of one (1) year commencing on the Effective Date (the "**Initial Option Term**") and may be renewed by Tenant for an additional one (1) year (the "**Renewal Option Term**") upon written notification to Landlord and the payment of an additional [REDACTED] no later than five (5) days prior to the expiration date of the Initial Option Term. The Initial Option Term and any Renewal Option Term are collectively referred to as the "**Option Term**."

(d) The Option may be sold, assigned or transferred at any time by Tenant to an Affiliate (as that term is hereinafter defined) of Tenant or to any third party agreeing to be subject to the terms hereof. Otherwise,

the Option may not be sold, assigned or transferred without the written consent of Landlord, such consent not to be unreasonably withheld, conditioned or delayed. From and after the date the Option has been sold, assigned or transferred by Tenant to an Affiliate or a third party agreeing to be subject to the terms hereof, Tenant shall immediately be released from any and all liability under this Agreement, including the payment of any rental or other sums due, without any further action.

(e) During the Option Term, Tenant may exercise the Option by notifying Landlord in writing. If Tenant exercises the Option then Landlord leases the Premises to Tenant subject to the terms and conditions of this Agreement. If Tenant does not exercise the Option during the Initial Option Term or any extension thereof, this Agreement will terminate and the parties will have no further liability to each other.

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

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

3. **TERM.**

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

(b) This Agreement will automatically renew for four (4) additional five (5) year term(s) (each five (5) year term shall be defined as an "**Extension Term**"), upon the same terms and conditions unless Tenant notifies Landlord in writing of Tenant's intention not to renew this Agreement at least sixty (60) days prior to the expiration of the Initial Term or then-existing Extension Term.

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

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

4. **RENT.**

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

(b) In year one (1) of each Extension Term, the monthly Rent will increase by [REDACTED] over the Rent paid during the previous five (5) year 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 foregoing shall not apply to monthly Rent which is due and payable without a requirement that it be billed by Landlord. The provisions of this subsection shall survive the termination or expiration of this Agreement.

5. **APPROVALS.**

(a) Landlord agrees that Tenant's ability to use the Premises is contingent upon the suitability of the Premises and Property for Tenant's 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 Tenant's Permitted Use under this Agreement and agrees to reasonably assist Tenant with such applications and with obtaining and maintaining the Government Approvals.

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

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

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

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

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

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

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

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

7. **INSURANCE.**

(a) During the Term, Tenant will carry, at its own cost and expense, the following insurance: (i) workers' compensation insurance as required by law; and (ii) commercial general liability (CGL) insurance with respect to its activities on the Property, such insurance to afford protection of up to [REDACTED]

[REDACTED] general aggregate, based on Insurance Services Office (ISO) Form CG 00 01 or a substitute form providing substantially equivalent coverage. Tenant's CGL insurance shall contain a provision including Landlord as an additional insured. Such additional insured coverage:

(i) shall be limited to bodily injury, property damage or personal and advertising injury caused, in whole or in part, by Tenant, its employees, agents or independent contractors;

(ii) shall not extend to claims for punitive or exemplary damages arising out of the acts or omissions of Landlord, its employees, agents or independent contractors or where such coverage is prohibited by law or to claims arising out of the gross negligence of Landlord, its employees, agents or independent contractors; and

(iii) shall not exceed Tenant's indemnification obligation under this Agreement, if any.

(b) Notwithstanding the foregoing, Tenant shall have the right to self-insure the coverages required in subsection (a). In the event Tenant elects to self-insure its obligation to include Landlord as an additional insured, the following provisions shall apply (in addition to those set forth in subsection (a)):

(i) Landlord shall promptly and no later than thirty (30) days after notice thereof provide Tenant with written notice of any claim, demand, lawsuit, or the like for which it seeks coverage pursuant to this Section and provide Tenant with copies of any demands, notices, summonses, or legal papers received in connection with such claim, demand, lawsuit, or the like;

(ii) Landlord shall not settle any such claim, demand, lawsuit, or the like without the prior written consent of Tenant; and

(iii) Landlord shall fully cooperate with Tenant in the defense of the claim, demand, lawsuit, or the like.

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 those 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 date of this Agreement, a lease, license or any other right to any third party, if the exercise of such grant may in any way adversely affect or interfere with the Communication Facility, the operations of Tenant or the rights of Tenant under this Agreement. Landlord will notify Tenant in writing prior to granting any third party the right to install and operate communications equipment on the Property.

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

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

9. INDEMNIFICATION.

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

(b) Landlord agrees to indemnify, defend and hold Tenant harmless from and against any and all injury, loss, damage or liability (or any claims in respect of the foregoing), costs or expenses (including reasonable attorneys' fees and court costs) arising directly from the actions or failure to act of Landlord, its employees or agents, or Landlord's breach of any provision of this Agreement, except to the extent attributable to the negligent or intentional act or omission of Tenant, its employees, agents or independent contractors.

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

10. WARRANTIES.

(a) Tenant and Landlord each acknowledge and represent that it is duly organized, validly existing and in good standing and has the right, power and authority to enter into this Agreement and bind itself hereto through the party set forth as signatory for the party below.

(b) Landlord represents, warrants and agrees that: (i) Landlord solely owns the Property as a legal lot in fee simple, or controls the Property by lease or license; (ii) the Property is not and will not be encumbered by any liens, restrictions, mortgages, covenants, conditions, easements, leases, or any other agreements of record or not of record, which would adversely affect Tenant's Permitted Use and enjoyment of the Premises under this

Agreement; (iii) as long as Tenant is not in default then Landlord grants to Tenant sole, actual, quiet and peaceful use, enjoyment and possession of the Premises without hindrance or ejection by any persons lawfully claiming under Landlord; (iv) Landlord's execution and performance of this Agreement will not violate any laws, ordinances, covenants or the provisions of any mortgage, lease or other agreement binding on Landlord; and (v) if the Property is or becomes encumbered by a deed to secure a debt, mortgage or other security interest, Landlord will provide promptly to Tenant a mutually agreeable subordination, non-disturbance and attornment agreement executed by Landlord and the holder of such security interest.

11. ENVIRONMENTAL.

(a) Landlord represents and warrants that, except as may be identified in **Exhibit 11** attached to this Agreement, (i) the Property, as of the date of this Agreement, 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 of this Agreement 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 indemnifications of 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 substances on the Property, or any environmental, health or safety condition or matter relating to the Property, that, in Tenant's sole determination, renders the condition of the Premises or Property unsuitable for Tenant's use, or if Tenant believes that the leasing or continued leasing of the Premises would expose Tenant to undue risks of liability to a government agency or other third party, Tenant will have the right, in addition to any other rights it may have at law or in equity, to terminate this Agreement upon written notice to Landlord.

12. ACCESS. At all times throughout the Term of this Agreement, and at no additional charge to Tenant, Tenant and its employees, agents, and subcontractors, will have twenty-four (24) hour per day, seven (7) day per week pedestrian and vehicular access ("Access") to and over the Property, from an open and improved public road to the Premises, for the installation, maintenance and operation of the Communication Facility and any utilities serving the Premises. As may be described more fully in **Exhibit 1**, Landlord grants to Tenant an easement for such Access and Landlord agrees to provide to Tenant such codes, keys and other instruments necessary for such Access at no additional cost to Tenant. Upon Tenant's request, Landlord will execute a separate recordable easement evidencing this right. Landlord shall execute a letter granting Tenant Access to the Property substantially in the form attached as **Exhibit 12**; upon Tenant's request, Landlord shall execute additional letters during the Term. Landlord acknowledges that in the event Tenant cannot obtain Access to the

Premises, Tenant shall incur significant damage. If Landlord fails to provide the Access granted by this Section 12, such failure shall be a default under this Agreement. In connection with such default, in addition to any other rights or remedies available to Tenant under this Agreement or at law or equity, Landlord shall pay Tenant, as liquidated damages and not as a penalty, \$500.00 per day in consideration of Tenant's damages until Landlord cures such default. Landlord and Tenant agree that Tenant's damages in the event of a denial of Access are difficult, if not impossible, to ascertain, and the liquidated damages set forth above are a reasonable approximation of such damages.

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

14. MAINTENANCE/UTILITIES.

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

(b) Tenant will be responsible for paying on a monthly or quarterly basis all utilities charges for electricity, telephone service or any other utility used or consumed by Tenant on the Premises. In the event Tenant cannot secure its own metered electrical supply, Tenant will have the right, at its own cost and expense, to submeter from Landlord. When submetering is required under this Agreement, Landlord will read the meter and provide Tenant with an invoice and usage data on a monthly basis. Landlord agrees that it will not include a markup on the utility charges. Landlord further agrees to provide the usage data and invoice on forms provided by Tenant and to send such forms to such address and/or agent designated by Tenant. Tenant will remit payment within forty-five (45) days of receipt of the usage data and required forms. As noted in Section 4(c) above, any utility fee recovery by Landlord is limited to a twelve (12) month period. If Tenant submeters electricity from Landlord, Landlord agrees to give Tenant at least twenty-four (24) hours advance notice of any planned interruptions of said electricity. Landlord acknowledges that Tenant provides a communication service which requires electrical power to operate and must operate twenty-four (24) hours per day, seven (7) days per week. If the interruption is for an extended period of time, in Tenant's reasonable determination, Landlord agrees to allow Tenant the right to bring in a temporary source of power for the duration of the interruption. Landlord will not be responsible for interference with, interruption of or failure, beyond the reasonable control of Landlord, of such services to be furnished or supplied by Landlord.

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

15. DEFAULT AND RIGHT TO CURE.

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

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

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

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

If to Tenant: New Cingular Wireless PCS, LLC
Attn: Network Real Estate Administration
Re: Cell Site #: KYL06085; Cell Site Name: Morris Creek (KY)
Fixed Asset No.: 13800704
575 Moroogo Drive NE
Atlanta, GA 30324

With a copy to: New Cingular Wireless PCS, LLC
Attn.: Legal Department
Re: Cell Site #: KYL06085; Cell Site Name: Morris Creek (KY)
Fixed Asset No.: 13800704
208 S. Akard Street
Dallas, TX 75202-4206

The copy sent to the Legal Department is an administrative step which alone does not constitute legal notice.

If to Landlord: Randall Wireman
3569 Paint Creek Road
Stanton, KY 40380

Either party hereto may change the place for the giving of notice to it by thirty (30) days' prior written notice to the other 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 forty-eight (48) hours. If a condemning authority takes all of the Property, or a portion sufficient, in Tenant's sole determination, to render the Premises unsuitable for Tenant, this Agreement will terminate as of the date the title vests in the condemning authority. The parties will each be entitled to pursue their own separate awards in the condemnation proceeds, which for Tenant will include, where applicable, the value of its Communication Facility, moving expenses, prepaid Rent, and business dislocation expenses. Tenant will be entitled to reimbursement for any prepaid Rent on a prorata basis.

19. **CASUALTY.** Landlord will provide notice to Tenant of any casualty or other harm affecting the Property within forty-eight (48) hours of the casualty or other harm. If any part of the Communication Facility or Property is damaged by casualty or other harm as to render the Premises unsuitable, in Tenant's sole determination, then Tenant may terminate this Agreement by providing written notice to Landlord, which termination will be effective as of the date of such casualty or other harm. Upon such termination, Tenant will be entitled to collect all insurance proceeds payable to Tenant on account thereof and to be reimbursed for any prepaid Rent on a prorata 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 the Agreement, such temporary facilities will be governed by all of the terms and conditions of this Agreement, including Rent. If Landlord or Tenant undertakes to rebuild or restore the Premises and/or the Communication Facility, as applicable, Landlord agrees to permit Tenant to place temporary transmission and reception facilities on the Property at no additional Rent until the reconstruction of the Premises and/or the Communication Facility is completed. If Landlord determines not to rebuild or restore the Property, Landlord will notify Tenant of such determination within thirty (30) days after the casualty or other harm. If Landlord does not so notify Tenant, and Tenant decides not to terminate under this Section, then Landlord will promptly rebuild or restore any portion of the Property interfering with or required for Tenant's Permitted Use of the Premises to substantially the same condition as existed before the casualty or other harm. Landlord agrees that the Rent shall be abated until the Property and/or the Premises are rebuilt or restored, unless Tenant places temporary transmission and reception facilities on the Property.

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

21. **TAXES.**

(a) Landlord shall be responsible for timely payment of all taxes and assessments levied upon the lands, improvements and other property of Landlord, including any such taxes that may be calculated by the taxing authority using any method, including the income method. Tenant shall be responsible for any taxes and assessments attributable to and levied upon Tenant's leasehold improvements on the Premises if and as set forth in this Section 21. Nothing herein shall require Tenant to pay any inheritance, franchise, income, payroll, excise, privilege, rent, capital stock, stamp, documentary, estate or profit tax, or any tax of similar nature, that is or may be imposed upon Landlord.

(b) In the event Landlord receives a notice of assessment with respect to which taxes or assessments are imposed on Tenant's leasehold improvements on the Premises, Landlord shall provide Tenant with copies of each such notice immediately upon receipt, but in no event later than thirty (30) days after the date of such

notice of assessment. If Landlord does not provide such notice or notices to Tenant within such time period, Landlord shall be responsible for payment of the tax or assessment set forth in the notice, and Landlord shall not have the right to reimbursement of such amount from Tenant. If Landlord provides a notice of assessment to Tenant within such time period and requests reimbursement from Tenant as set forth below, then Tenant shall reimburse Landlord for the tax or assessments identified on the notice of assessment on Tenant's leasehold improvements, which has been paid by Landlord. If Landlord seeks reimbursement from Tenant, Landlord shall, no later than thirty (30) days after Landlord's payment of the taxes or assessments for the assessed tax year, provide Tenant with written notice including evidence that Landlord has timely paid same, and Landlord shall provide to Tenant any other documentation reasonably requested by Tenant to allow Tenant to evaluate the payment and to reimburse Landlord.

(c) For any tax amount for which Tenant is responsible under this Agreement, Tenant shall have the right to contest, in good faith, the validity or the amount thereof using such administrative, appellate or other proceedings as may be appropriate in the jurisdiction, and may defer payment of such obligations, pay same under protest, or take such other steps as Tenant may deem appropriate. This right shall include the ability to institute any legal, regulatory or informal action in the name of Landlord, Tenant, or both, with respect to the valuation of the Premises. Landlord shall cooperate with respect to the commencement and prosecution of any such proceedings and will execute any documents required therefor. The expense of any such proceedings shall be borne by Tenant and any refunds or rebates secured as a result of Tenant's action shall belong to Tenant, to the extent the amounts were originally paid by Tenant. In the event Tenant notifies Landlord by the due date for assessment of Tenant's intent to contest the assessment, Landlord shall not pay the assessment pending conclusion of the contest, unless required by applicable law.

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

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

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

New Cingular Wireless PCS, LLC
Attn: Network Real Estate Administration -- Taxes
Re: Cell Site #: KYL06085; Cell Site Name: Morris Creek (KY)
Fixed Asset No: 13800704
575 Morosgo Drive NE
Atlanta, GA 30324

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

22. SALE OF PROPERTY

(a) Landlord shall not be prohibited from the selling, leasing or use of any of the Property or the Surrounding Property except as provided below.

(b) If Landlord, at any time during the Term of this Agreement, decides to rezone or sell, subdivide or otherwise transfer all or any part of the Premises, or all or any part of the Property or Surrounding Property, to a purchaser other than Tenant, Landlord shall promptly notify Tenant in writing, and such rezoning, sale, subdivision or transfer shall be subject to this Agreement and Tenant's rights hereunder. In the event of a change in ownership, transfer or sale of the Property, within ten (10) days of such transfer, Landlord or its successor shall send the documents listed below in this subsection (b) to Tenant. Until Tenant receives all such documents, 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.

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

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

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

23. RENTAL STREAM OFFER. If at any time after the date of this Agreement, Landlord receives a bona fide written offer from a third party seeking an assignment or transfer of Rent payments associated with this Agreement ("Rental Stream Offer"), Landlord shall immediately furnish Tenant with a copy of the Rental Stream Offer. Tenant shall have the right within twenty (20) days after it receives such copy to match the Rental Stream Offer and agree in writing to match the terms of the Rental Stream Offer. Such writing shall be in the form of a contract substantially similar to the Rental Stream Offer. If Tenant chooses not to exercise this right or fails to provide written notice to Landlord within the twenty (20) day period, Landlord may assign the right to receive Rent payments pursuant to the Rental Stream Offer, subject to the terms of this Agreement. If Landlord attempts to assign or transfer Rent payments without complying with this Section, the 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.

24. MISCELLANEOUS.

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

(b) Memorandum/Short Form Lease. Contemporaneously with the execution of this Agreement, the parties will execute a recordable Memorandum or Short Form of Lease substantially in the form attached as **Exhibit 24b**. Either party may record this Memorandum or Short Form of Lease at any time during the Term, in

its absolute discretion. Thereafter during the Term of this Agreement, either party will, at any time upon fifteen (15) business days' prior written notice from the other, execute, acknowledge and deliver to the other a recordable Memorandum or Short Form of Lease.

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

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

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

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

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

(h) **Interpretation.** Unless otherwise specified, the following rules of construction and interpretation apply: (i) captions are for convenience and reference only and in no way define or limit the construction of the terms and conditions hereof; (ii) use of the term "including" will be interpreted to mean "including but not limited to"; (iii) whenever a party's consent is required under this Agreement, except as otherwise stated in this 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 New Cingular Wireless PCS, 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 without limitation, 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.

[SIGNATURES APPEAR ON NEXT PAGE]

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

"LANDLORD"

Randle Wireman

By: Randle Wireman
Print Name: Randle Wireman
Its: Owner
Date: 7.19.17

LANDLORD ACKNOWLEDGMENT

STATE OF Ky)
COUNTY OF Powell) ss:

On the 19 day of July, 2017 before me, personally appeared Randle Wireman, who acknowledged under oath, that he/she/they is/are the person/officer named in the within instrument, and that he/she/they executed the same in his/her/their stated capacity as the voluntary act and deed of the Landlord for the purposes therein contained.

Debbie Jarboe
Notary Public: Debbie Jarboe
My Commission Expires: 1-17-19

"TENANT"

New Cingular Wireless PCS, LLC,
a Delaware limited liability company
By: AT&T Mobility Corporation
Its: Manager

By: [Signature]
Print Name: Bryan Coleman
Its: Area Manager - TN/KY
Date: 3/12/2018

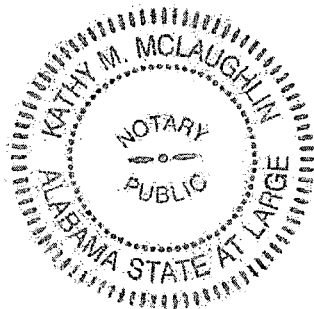
TENANT ACKNOWLEDGMENT

STATE OF ALABAMA

)
) ss:
)

COUNTY OF JEFFERSON

On the 12 day of March, 2018, before me personally appeared Bryan Coleman, and acknowledged under oath that he is the Area Manager - TN/KY of AT&T Mobility Corporation, the Manager of New Cingular Wireless PCS, LLC, the Tenant named in the attached instrument, and as such was authorized to execute this instrument on behalf of the Tenant.



[Signature]
Notary Public: Kathy M. McLaughlin
My Commission Expires: 10-26-2020

EXHIBIT 1

DESCRIPTION OF PREMISES

Page 1 of 4

to the Option and Lease Agreement dated March 12, 2018, by and between Randle Wireman, a widowed man, as Landlord, and New Cingular Wireless PCS, LLC, a Delaware limited liability company, as Tenant.

The Property is legally described as follows:

A certain tract or parcel of land, lying and being in Powell County, Kentucky, and on the waters of Paint Creek and Morris Creek which is more particularly bounded and described as follows:

BEGINNING at the original Jack Martin corner and the ridge on the Elihu Joseph's line; thence east course with said Joseph's line to a beech at the branch, Lenox Brewer corner; thence northeast with said Brewer's line to a marked oak in low gap; thence same course around the hill to marked corner stone and J.D. Center's line; thence a west course with the divide of the ridge with said Center's line to top of the hill, W.J. Brewer's line; thence south course with the divide of the ridge with said Center's line to top of the hill, W.J. Brewer's line; thence south course with the divide of the ridge with said Brewer's line to the point of beginning, containing 25 acres, more or less.

It is understood and agreed by all parties hereto that one-eight (1/8) of the minerals in and under the above described tract or land, of whatever nature and description, are expressly excepted and reserved from this conveyance, the same having reserved by an earlier deed.

There is also conveyed hereby, unto the parties of the second part, a right of way for a road through land of John Centers tract, beginning on the northeast corner and running through barn lot to intersect Morris Creek and Paint Creek Road, the same having been conveyed to James Booth in a former deed.

AND BEING the same property conveyed to Randall (more correctly Randle) Wireman and Georgia Wireman, husband and wife, by Deed dated April 26, 1977, and of record in Deed Book 76, Page 584, Powell County Clerk's Office.

EXCEPTED THEREFROM is a 1 acre tract of land more particularly described by metes and bounds in the Deed dated July 19, 2004 from Randle Wireman and Georgia Wireman, husband and wife, to their son and daughter-in-law Randle S. Wireman and Rose Wireman, husband and wife, of record in Deed Book 15, Page 146.

The Premises are described and/or depicted as follows:

PROPOSED LEASE AREA

ALL THAT TRACT OR PARCEL OF LAND LYING IN THE COUNTY OF POWELL, STATE OF KENTUCKY, CONSISTING OF A 100 FEET BY 100 FEET LEASE AREA, COMMENCING AT A POUND $\frac{1}{2}$ IR. THAT IS 665 FEET SOUTHWESTERLY OF THE INTERSECTION OF KY 6151 FAINT CREEK ROAD AND COURTNEY LANE, MORE PARTICULARLY DESCRIBED AS FOLLOWS

THENCE NORTH 77 DEGREES 43 MINUTES 46 SECONDS WEST, A DISTANCE OF 331.46 FEET TO THE POINT OF BEGINNING.

THENCE NORTH 76 DEGREES 08 MINUTES 56 SECONDS WEST, A DISTANCE OF 100.00 FEET.

THENCE NORTH 13 DEGREES 51 MINUTES 04 SECONDS EAST, A DISTANCE OF 100.00 FEET.

THENCE SOUTH 76 DEGREES 08 MINUTES 56 SECONDS EAST, A DISTANCE OF 100.00 FEET.

THENCE SOUTH 13 DEGREES 51 MINUTES 04 SECONDS WEST, A DISTANCE OF 100.00 FEET TO THE POINT OF BEGINNING.

10,000 SQUARE FEET OR 0.2295 ACRES, MORE OR LESS

PROPOSED ACCESS & UTILITY EASEMENT 'A'

ALL THAT TRACT OR PARCEL OF LAND LYING IN THE COUNTY OF POWELL, STATE OF KENTUCKY, CONSISTING OF A 25 FEET WIDE ACCESS AND UTILITY EASEMENT COMMENCING OF A 25 FEET WIDE ACCESS AND UTILITY EASEMENT LYING 12.50 FEET ON EACH SIDE OF THE FOLLOWING DESCRIBED CENTERLINE.

THENCE NORTH 77 DEGREES 43 MINUTES 46 SECONDS WEST, A DISTANCE OF 331.46 FEET. THENCE NORTH 13 DEGREES 51 MINUTES 04 SECONDS EAST, A DISTANCE OF 50.49 FEET TO THE POINT OF BEGINNING OF A 25 FEET WIDE ACCESS AND UTILITY EASEMENT LYING 12.50 FEET ON EACH SIDE OF THE FOLLOWING DESCRIBED CENTERLINE.

THENCE SOUTH 76 DEGREES 29 MINUTES 22 SECONDS EAST, A DISTANCE OF 54.68 FEET.

THENCE SOUTH 83 DEGREES 51 MINUTES 36 SECONDS EAST, A DISTANCE OF 105.49 FEET.

THENCE SOUTH 59 DEGREES 59 MINUTES 01 SECONDS EAST, A DISTANCE OF 163.71 FEET.

THENCE NORTH 31 DEGREES 59 MINUTES 26 SECONDS EAST, A DISTANCE OF 41.62 FEET.

THENCE NORTH 35 DEGREES 12 MINUTES 58 SECONDS EAST, A DISTANCE OF 86.35 FEET TO THE POINT OF TERMINUS.

PROPOSED ACCESS & UTILITY EASEMENT 'B'

ALL THAT TRACT OR PARCEL OF LAND LYING IN THE COUNTY OF POWELL, STATE OF KENTUCKY, CONSISTING OF A 25 FEET WIDE ACCESS AND UTILITY EASEMENT COMMENCING OF A 25 FEET WIDE ACCESS AND UTILITY EASEMENT LYING 12.50 FEET ON EACH SIDE OF THE FOLLOWING DESCRIBED CENTERLINE.

THENCE NORTH 77 DEGREES 43 MINUTES 46 SECONDS WEST, A DISTANCE OF 331.46 FEET.

THENCE NORTH 13 DEGREES 51 MINUTES 04 SECONDS EAST, A DISTANCE OF 50.49 FEET.

THENCE SOUTH 76 DEGREES 29 MINUTES 22 SECONDS EAST, A DISTANCE OF 54.68 FEET.

THENCE SOUTH 83 DEGREES 51 MINUTES 36 SECONDS EAST, A DISTANCE OF 105.49 FEET. THENCE

SOUTH 59 DEGREES 59 MINUTES 01 SECONDS EAST, A DISTANCE OF 163.71 FEET.

THENCE NORTH 31 DEGREES 59 MINUTES 26 SECONDS EAST, A DISTANCE OF 41.62 FEET.

THENCE NORTH 35 DEGREES 12 MINUTES 58 SECONDS EAST, A DISTANCE OF 86.35 FEET TO THE POINT

OF BEGINNING OF A 25 FEET WIDE ACCESS AND UTILITY EASEMENT LYING 12.50 FEET ON EACH SIDE OF THE FOLLOWING DESCRIBED CENTERLINE.

THENCE NORTH 54 DEGREES 59 MINUTES 47 SECONDS EAST, A DISTANCE OF 183.67 FEET TO THE

POINT OF TERMINUS.

PROPOSED ACCESS & UTILITY EASEMENT 'C'

ALL THAT TRACT OR PARCEL OF LAND LYING IN THE COUNTY OF POWELL, STATE OF KENTUCKY, CONSISTING OF A 25 FEET WIDE ACCESS AND UTILITY EASEMENT COMMENCING OF A 25 FEET WIDE ACCESS AND UTILITY EASEMENT LYING 12.50 FEET ON EACH SIDE OF THE FOLLOWING DESCRIBED CENTERLINE:

THENCE NORTH 77 DEGREES 43 MINUTES 46 SECONDS WEST, A DISTANCE OF 301.46 FEET;
THENCE NORTH 13 DEGREES 51 MINUTES 04 SECONDS EAST, A DISTANCE OF 60.49 FEET;
THENCE SOUTH 78 DEGREES 29 MINUTES 22 SECONDS EAST, A DISTANCE OF 64.68 FEET;
THENCE SOUTH 54 DEGREES 51 MINUTES 36 SECONDS EAST, A DISTANCE OF 108.49 FEET;
THENCE SOUTH 58 DEGREES 59 MINUTES 01 SECONDS EAST, A DISTANCE OF 163.71 FEET;
THENCE NORTH 31 DEGREES 59 MINUTES 26 SECONDS EAST, A DISTANCE OF 41.62 FEET;
THENCE NORTH 58 DEGREES 12 MINUTES 58 SECONDS EAST, A DISTANCE OF 28.39 FEET;
THENCE NORTH 54 DEGREES 53 MINUTES 17 SECONDS EAST, A DISTANCE OF 153.67 FEET TO THE POINT OF BEGINNING, OF A 25 FEET WIDE ACCESS AND UTILITY EASEMENT LYING 12.50 FEET ON EACH SIDE OF THE FOLLOWING DESCRIBED CENTERLINE:
THENCE NORTH 35 DEGREES 26 MINUTES 16 SECONDS EAST, A DISTANCE OF 101.23 FEET;
THENCE NORTH 25 DEGREES 16 MINUTES 57 SECONDS EAST, A DISTANCE OF 100.58 FEET;
THENCE NORTH 42 DEGREES 11 MINUTES 26 SECONDS EAST, A DISTANCE OF 97.08 FEET;
THENCE NORTH 55 DEGREES 40 MINUTES 08 SECONDS EAST, A DISTANCE OF 95.71 FEET TO THE POINT OF TERMINUS.

EXHIBIT J
NOTIFICATION LISTING

Morris Creek – Notice List

WIREMAN RANDLE & GEORGIA
3569 PAINT CREEK ROAD
STANTON, KY 40380

DRAKE GEORGE L & JESSE H
2159 MORRIS CREEK ROAD
STANTON, KY 40380

CAUDILL JAMES
3378 PAINT CREEK ROAD
STANTON, KY 40380

ISON SHERMAN & ELOISE
3437 PAINT CREEK ROAD
STANTON, KY 40380

LAYNE DANNY & KATHY
3483 PAINT CREEK ROAD
STANTON, KY 40380

VERES WADE
3499 PAINT CREEK ROAD
STANTON, KY 40380

KING JUANITA FAYE
PO BOX 607
STANTON, KY 40380

RITCHIE DELL O & PARTRICIA
3539 PAINT CREEK ROAD
STANTON, KY 40380

CLEMONS GORDON & PATRICIA
3601 PAINT CREEK ROAD
STANTON, KY 40380

ARNETT MEYERS & MARGARITA
PO BOX 573
STANTON, KY 40380

WIREMAN RANDEL S
3567 PAINT CREEK ROAD
STANTON, KY 40380

CLARK BRITTANY R
PO BOX 674
STANTON, KY 40380

WILLIAM THORPE,
64 COUNTNEY LANE
STANTON, KY 40380

EXHIBIT K
COPY OF PROPERTY OWNER NOTIFICATION



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

**Notice of Proposed Construction of
Wireless Communications Facility
Site Name: Morris Creek**

Dear Landowner:

New Cingular Wireless PCS, LLC, a Delaware limited liability company, d/b/a AT&T Mobility has filed an application with the Kentucky Public Service Commission ("PSC") to construct a new wireless communications facility on a site located at 3569 Paint Creek Road, Stanton, Kentucky (37°53'07.48" North latitude, 83°52'26.20" West longitude). The proposed facility will include a 165-foot tall antenna tower, plus a 15-foot lightning arrestor and related ground facilities. This facility is needed to provide improved coverage for wireless communications in the area.

This notice is being sent to you because the County Property Valuation Administrator's records indicate that you may own property that is within a 500' radius of the proposed tower site or contiguous to the property on which the tower is to be constructed. You have a right to submit testimony to the Kentucky Public Service Commission ("PSC"), either in writing or to request intervention in the PSC's proceedings on the application. You may contact the PSC for additional information concerning this matter at: Kentucky Public Service Commission, Executive Director, 211 Sower Boulevard, P.O. Box 615, Frankfort, Kentucky 40602. Please refer to docket number 2018-00210 in any correspondence sent in connection with this matter.

In addition to expanding and improving voice and data service for AT&T mobile customers, this site will also provide wireless local loop ("WLL") broadband internet service to homes and businesses in the area. WLL will support internet access at the high speeds required to use and enjoy the most current business, education and entertainment technologies.

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 Applicant

enclosure

Driving Directions to Proposed Tower Site
Site Name: Morris Creek

1. Beginning at the offices of the County Judge Executive located at 525 Washington Street, Stanton, Kentucky start out going north on Washington St/KY-2486 toward Court St/KY-2476.
2. Turn right onto Maple St/KY-2026.
3. Turn left onto N Main St/KY-213. Continue to follow KY-213.
4. Turn left onto Paint Creek Rd.
5. Arrive at 3569 Paint Creek Road on the left.
6. The coordinates for the site are 37°53'07.48" North latitude, 83°52'26.20" West longitude.



Prepared by:
Robert W. Grant
Pike Legal Group PLLC
1578 Highway 44 East, Suite 6
P.O. Box 369
Shepherdsville, KY 40165-3069
Telephone: 502-955-4400 or 800-516-4293

(A) PARCEL ID: 018-00-00-006.27
 OWNER: WIREMAN RANDLE & GEORGIA
 3569 PAINT CREEK ROAD
 STANTON, KY 40380
 DB 76/584

(B) PARCEL ID: 019-00-00-037.00
 OWNER: DRAKE GEORGE L & JESSE H
 2159 MORRIS CREEK ROAD
 STANTON, KY 40380
 DB N/A

(C) PARCEL ID: 018-00-00-005.00
 OWNER: CAUDILL JAMES
 3378 PAINT CREEK ROAD
 STANTON, KY 40380
 DB 188/298

(D) PARCEL ID: 018-00-00-006.32
 OWNER: ISON SHERMAN & ELOISE
 3437 PAINT CREEK ROAD
 STANTON, KY 40380
 DB 136/595

(E) PARCEL ID: 018-00-00-006.31
 OWNER: LAYNE DANNY & KATHY
 3483 PAINT CREEK ROAD
 STANTON, KY 40380
 DB 141/63

(F) PARCEL ID: 018-00-00-006.30
 OWNER: VERES WADE
 3499 PAINT CREEK ROAD
 STANTON, KY 40380
 DB 166/519

(G) PARCEL ID: 018-00-00-006.29
 OWNER: KING JUANITA FAYE
 PO BOX 607
 STANTON, KY 40380
 DB 167/300

(H) PARCEL ID: 018-00-00-006.28
 OWNER: RITCHIE DELL O & PATRICIA
 3539 PAINT CREEK ROAD
 STANTON, KY 40380
 DB 115/522

(I) PARCEL ID: 018-00-00-006.28
 OWNER: RITCHIE DELL O & PATRICIA
 3539 PAINT CREEK ROAD
 STANTON, KY 40380
 DB 115/522

(J) PARCEL ID: 018-00-00-006.26
 OWNER: CLEMONS GORDON & PATRICIA
 3601 PAINT CREEK ROAD
 STANTON, KY 40380
 DB 82-380

(K) PARCEL ID: 018-00-00-007.13
 OWNER: ARNETT MEYERS & MARGARITA
 PO BOX 573
 STANTON, KY 40380
 DB 147-78

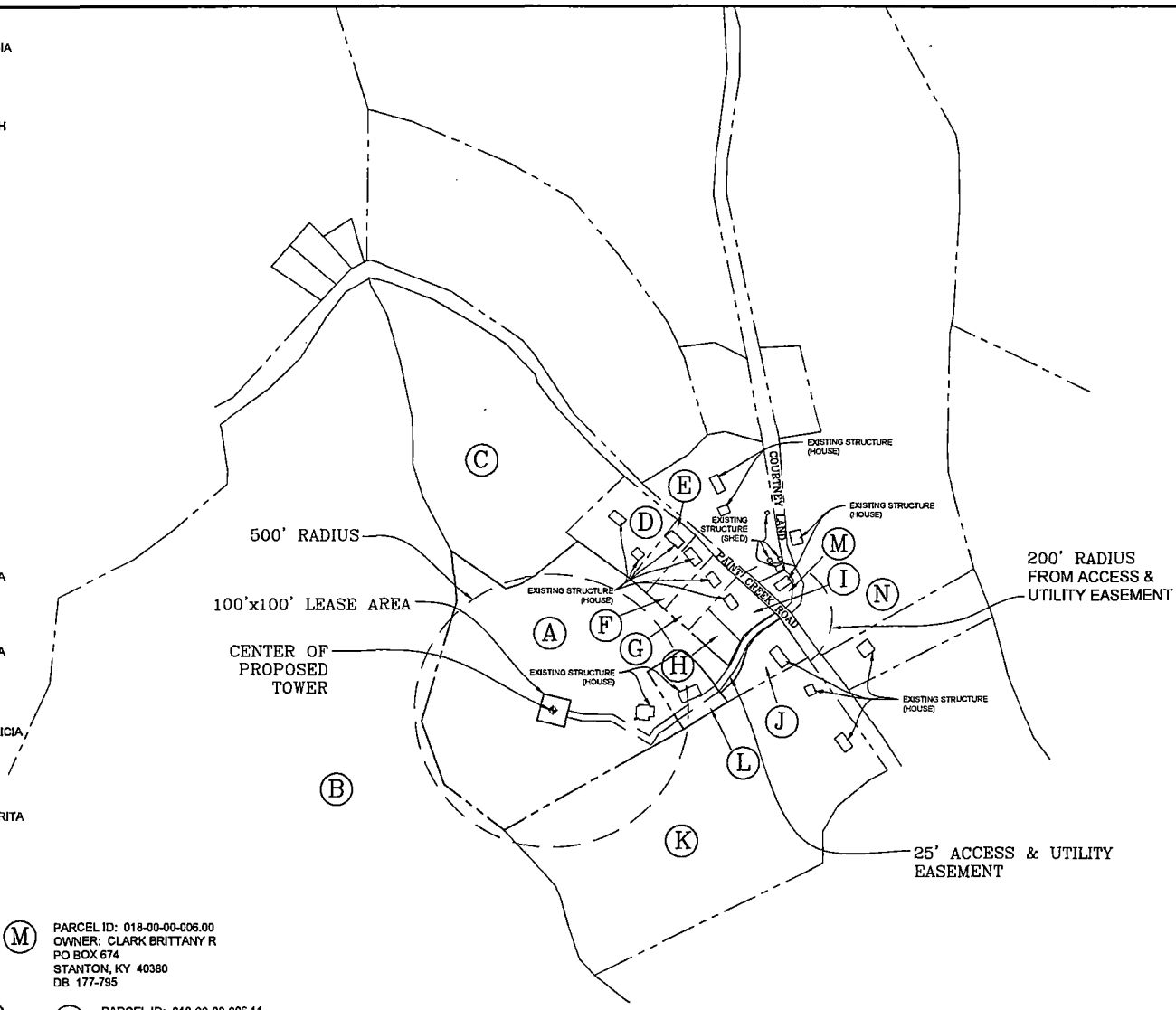
(L) PARCEL ID: 018-00-00-006.37
 OWNER: WIREMAN RANDEL S
 3567 PAINT CREEK ROAD
 STANTON, KY 40380
 DB 164-269

(M) PARCEL ID: 018-00-00-006.00
 OWNER: CLARK BRITTANY R
 PO BOX 674
 STANTON, KY 40380
 DB 177-795

(N) PARCEL ID: 018-00-00-006.11
 OWNER: WILLIAM THORPE,
 64 COUNTRY LANE
 STANTON, KY 40380
 DB N/A

SURVEYOR NOTES

1. ALL INFORMATION SHOWN HEREON WAS OBTAINED 6.13.18 FROM POWELL COUNTY PROPERTY VALUATION OFFICE. RECORDS MAY NOT REFLECT THE CURRENT OWNERS AND ADDRESSES DUE TO THE INACCURACIES AND THE TIME LAPSE IN UPDATING FILES.
2. THIS MAP IS FOR GENERAL INFORMATION PURPOSES ONLY AND DOES NOT CONSTITUTE A BOUNDARY SURVEY.
3. THIS MAP IS NOT FOR RECORDING OR PROPERTY TRANSFER.



DRAWN BY: MD
 CHECKED BY: J.C./ACR

REV	DATE	DESCRIPTION
A	3.31.17	REVIEW



FA #
 13800704
 SITE #
 KYL06095
 SITE NAME:
 MORRIS CREEK
 SITE ADDRESS:
 3569 PAINT CREEK ROAD
 STANTON, KY 40380
 POWELL COUNTY

SHEET TITLE
**500' RADIUS
 &
 ABUTTER'S MAP**

SHEET NUMBER
B-2

SITE INFO
 TAX PARCEL NO: 018-00-00-006.27
 PROPERTY OWNER: WIREMAN RANDLE & GEORGIA
 SOURCE OF TITLE: DB 76/584

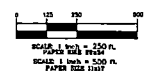


EXHIBIT L
COPY OF COUNTY JUDGE/EXECUTIVE NOTICE



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

VIA CERTIFIED MAIL

Hon. James D. Anderson Jr.
County Judge Executive
525 Washington St # 102
P.O. Box 506
Stanton, KY 40380

RE: Notice of Proposal to Construct Wireless Communications Facility
Kentucky Public Service Commission Docket No. 2018-00210
Site Name: Morris Creek

Dear Judge Anderson:

New Cingular Wireless PCS, LLC, a Delaware limited liability company, d/b/a AT&T Mobility has filed an application with the Kentucky Public Service Commission ("PSC") to construct a new wireless communications facility on a site located at 3569 Paint Creek Road, Stanton, Kentucky (37°53'07.48" North latitude, 83°52'26.20" West longitude). The proposed facility will include a 165-foot tall antenna tower, plus a 15-foot lightning arrestor and related ground facilities. This facility is needed to provide improved coverage for wireless communications in the area.

You have a right to submit comments to the PSC or to request intervention in the PSC's proceedings on the application. You may contact the PSC at: Executive Director, Public Service Commission, 211 Sower Boulevard, P.O. Box 615, Frankfort, Kentucky 40602. Please refer to docket number 2018-00210 in any correspondence sent in connection with this matter.

In addition to expanding and improving voice and data service for AT&T mobile customers, this site will also provide wireless local loop ("WLL") broadband internet service to homes and businesses in the area. WLL will support internet access at the high speeds required to use and enjoy the most current business, education and entertainment technologies.

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 Applicant
enclosures

Driving Directions to Proposed Tower Site
Site Name: Morris Creek

1. Beginning at the offices of the County Judge Executive located at 525 Washington Street, Stanton, Kentucky start out going north on Washington St/KY-2486 toward Court St/KY-2476.
2. Turn right onto Maple St/KY-2026.
3. Turn left onto N Main St/KY-213. Continue to follow KY-213.
4. Turn left onto Paint Creek Rd.
5. Arrive at 3569 Paint Creek Road on the left.
6. The coordinates for the site are 37°53'07.48" North latitude, 83°52'26.20" West longitude.



Prepared by:
Robert W. Grant
Pike Legal Group PLLC
1578 Highway 44 East, Suite 6
P.O. Box 369
Shepherdsville, KY 40165-3069
Telephone: 502-955-4400 or 800-516-4293

(A) PARCEL ID: 018-00-00-006.27
 OWNER: WIREMAN RANDLE & GEORGIA
 3569 PAINT CREEK ROAD
 STANTON, KY 40380
 DB 76/584

(B) PARCEL ID: 019-00-00-037.00
 OWNER: DRAKE GEORGE L & JESSE H
 2159 MORRIS CREEK ROAD
 STANTON, KY 40380
 DB N/A

(C) PARCEL ID: 018-00-00-005.00
 OWNER: CAUDILL JAMES
 3378 PAINT CREEK ROAD
 STANTON, KY 40380
 DB 188/298

(D) PARCEL ID: 018-00-00-006.32
 OWNER: ISON SHERMAN & ELOISE
 3437 PAINT CREEK ROAD
 STANTON, KY 40380
 DB 136/595

(E) PARCEL ID: 018-00-00-006.31
 OWNER: LAYNE DANNY & KATHY
 3483 PAINT CREEK ROAD
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 DB 141/63

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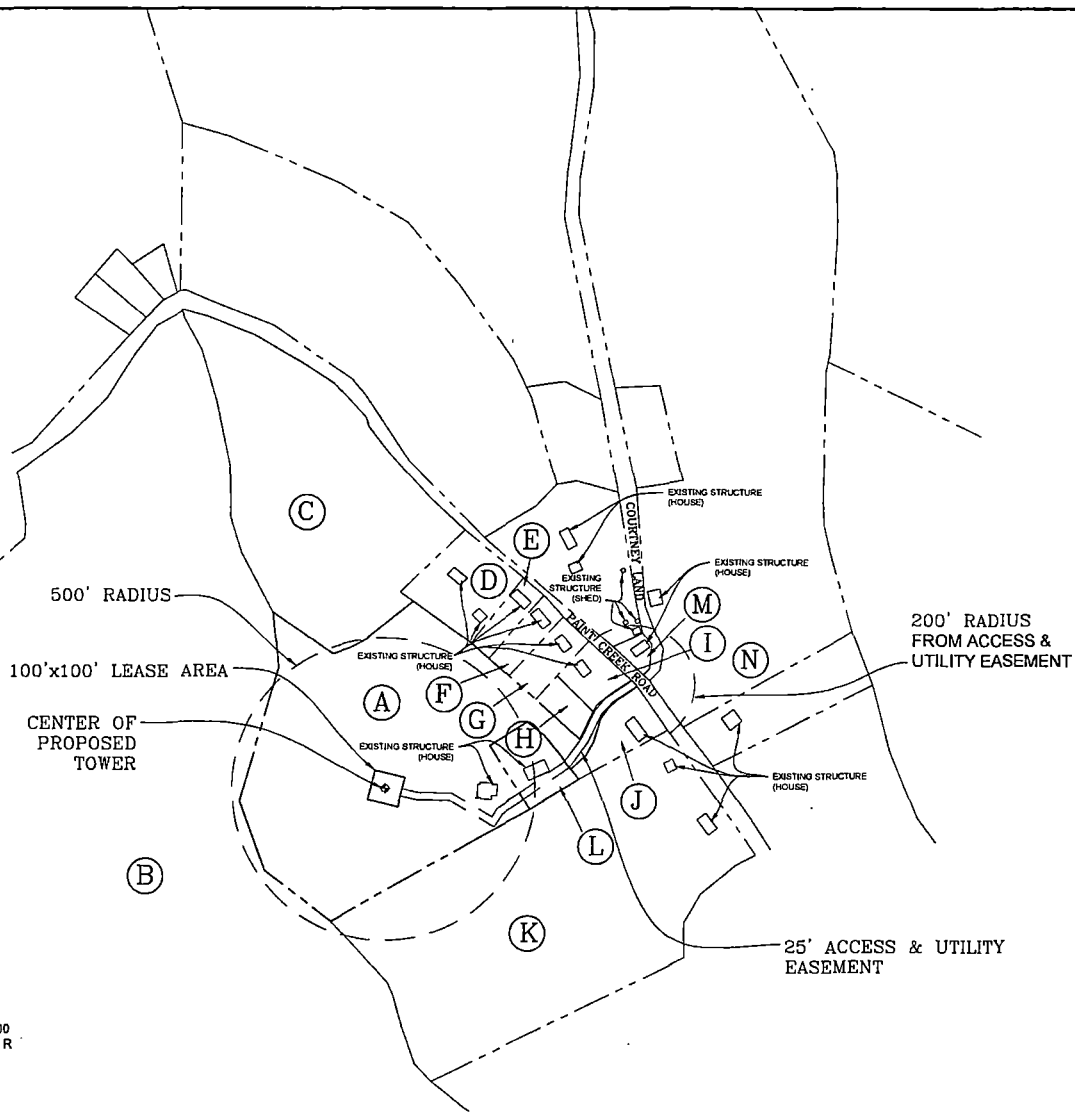
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(N) PARCEL ID: 018-00-00-006.11
 OWNER: WILLIAM THORPE,
 64 COUNTNEY LANE
 STANTON, KY 40380
 DB N/A

SURVEYOR NOTES

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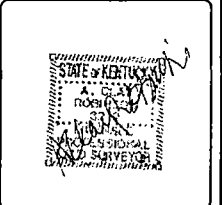


SITE INFO
 TAX PARCEL NO: 018-00-00-006.27
 PROPERTY OWNER: WIREMAN RANDLE & GEORGIA
 SOURCE OF TITLE: DB 76/584



DRAWN BY: JLD
 CHECKED BY: JAC/ACR

REV	DATE	DESCRIPTION
A	3.31.17	REVIEW



FA # 13800704
 SITE KYL06085
 SITE NAME MORRIS CREEK
 SITE ADDRESS 3569 PAINT CREEK ROAD
 STANTON, KY 40380
 POWELL COUNTY

SHEET TITLE
500' RADIUS & ABUTTER'S MAP

SHEET NUMBER
B-2

**EXHIBIT M
NOTICE SIGN
AND
NEWSPAPER NOTICE TEXT**



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 TELEFAX: 606-663-6397

The Clay City Times
Attn: Public Notice Ad Placement
4477 Main Street
PO Box 668
Clay City, KY 40312

RE: Legal Notice Advertisement
Site Name: Morris Creek

Dear Clay City Times:

Please publish the following legal notice advertisement in the next edition of *The Clay City Times*:

NOTICE

New Cingular Wireless PCS, LLC, a Delaware limited liability company, d/b/a AT&T Mobility has filed an application with the Kentucky Public Service Commission ("PSC") to construct a new wireless communications facility on a site located at 3569 Paint Creek Road, Stanton, Kentucky (37°53'07.48" North latitude, 83°52'26.20" 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 2018-00210 in any correspondence sent in connection with this matter.

After this advertisement has been published, please forward a tearsheet copy, affidavit of publication, and invoice to Pike Legal Group, PLLC, P. O. Box 369, Shepherdsville, KY 40165. Please call me at (800) 516-4293 if you have any questions. Thank you for your assistance.

Sincerely,
Robert W. Grant
Pike Legal Group, PLLC

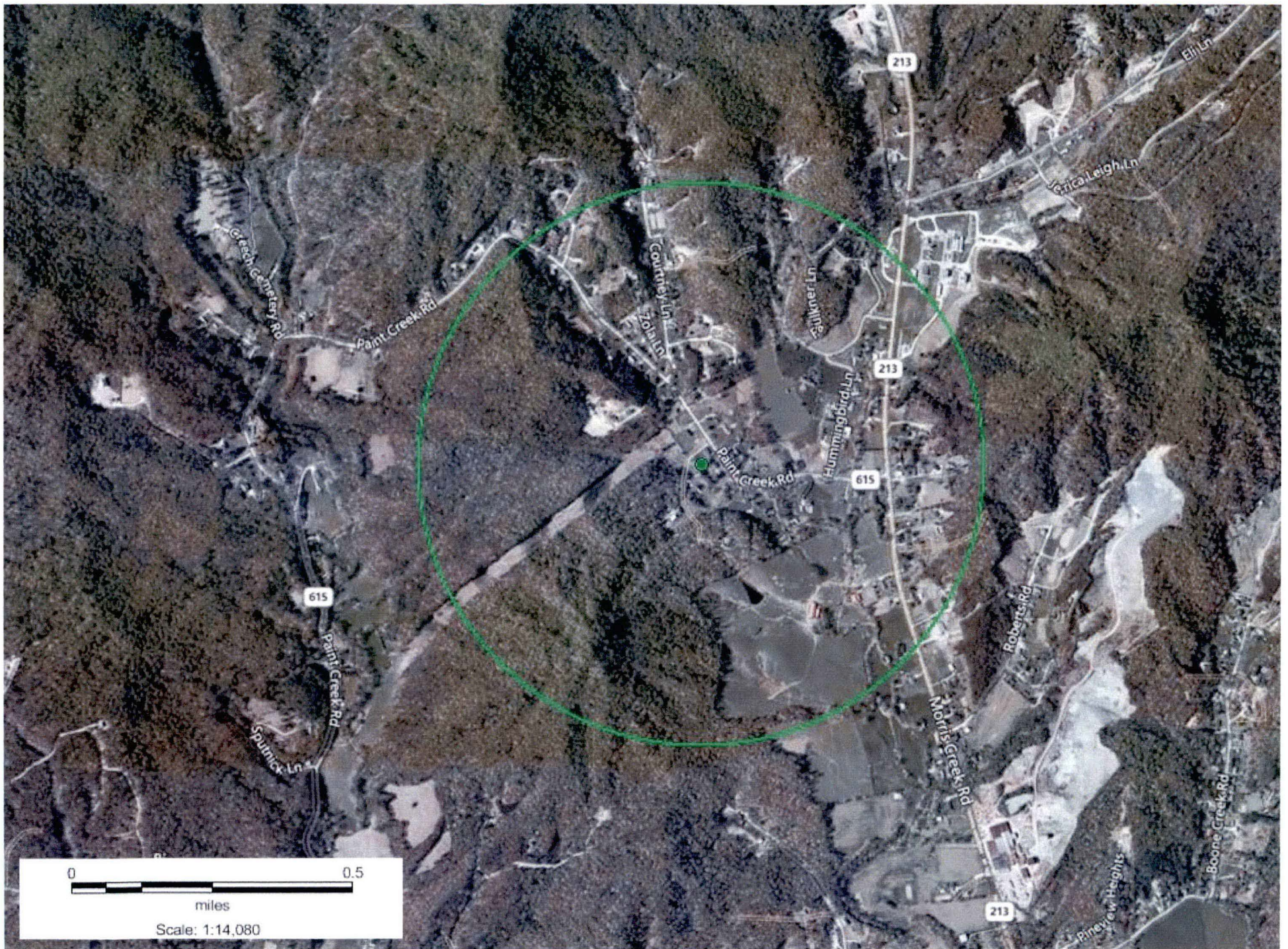
SITE NAME: MORRIS CREEK
NOTICE SIGNS

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 proposes 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 2018-00210 in your correspondence.

New Cingular Wireless PCS, LLC, a Delaware limited liability company, d/b/a AT&T Mobility proposes 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 2018-00210 in your correspondence.

EXHIBIT N
COPY OF RADIO FREQUENCY DESIGN SEARCH AREA



Lat: 37.884194
Lon: -83.869979
Radius: .5 miles

Morris Creek Search Area