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PUBLIC SERVICE COMMISSION

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

THE APPLICATION OF	)	
NEW CINGULAR WIRELESS PCS, LLC,	)	
A DELAWARE LIMITED LIABILITY COMPANY,	)	
D/B/A AT&T MOBILITY	)	
FOR ISSUANCE OF A CERTIFICATE OF PUBLIC	)	CASE NO.: 2018-00343
CONVENIENCE AND NECESSITY TO CONSTRUCT	)	
A WIRELESS COMMUNICATIONS FACILITY	)	
IN THE COMMONWEALTH OF KENTUCKY	)	
IN THE COUNTY OF MORGAN	)	

SITE NAME: LENVILLE FN

* * * * * * *

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 146 Yocum Road, West Liberty, Kentucky 41472 (37°58'48.084" North latitude, 83°18'36.599" 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 Ray and Marie Engle pursuant to a Deed recorded at Deed Book 98, Page 458 in the office of the County Clerk. The proposed WCF will consist of a 195-foot tall tower, with an approximately 4-foot tall lightning arrestor attached at the top, for a total height of 199-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. Documentation confirming that notice to the Federal Aviation Administration ("FAA") is not required for this site is attached as **Exhibit E**.

12. Documentation confirming that a Kentucky Airport Zoning Commission ("KAZC") permit is not required for this site 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 legal notice advertisement regarding the location of the proposed facility has been published in a newspaper of general circulation in the county in which the WCF is proposed to be located. A copy of the newspaper legal notice advertisement is attached

as part of **Exhibit M**.

23. The general area where the proposed facility is to be located is rural and heavily wooded. There are no existing structures within 500' of the proposed site location.

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.

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 - Copy of Posted Notices and Newspaper Notice Advertisement

N - Copy of Radio Frequency Design Search Area

EXHIBIT A
FCC LICENSE DOCUMENTATION

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	File Number
KNKN861	
Radio Service CL - Cellular	
Market Numer CMA451	**Channel Block** A
Sub-Market Designator 0	

FCC Registration Number (FRN): 0003291192

Market Name
Kentucky 9 - Elliott

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

Site Information:

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
5	38-03-04.7 N	082-38-07.3 W	292.6	61.0	

Address: 16 Hylton Road (76319)
City: LOUISA **County:** LAWRENCE **State:** KY **Construction Deadline:**

Antenna: 1

Maximum Transmitting ERP in Watts: 140.820								
Azimuth(from true north)	**0**	**45**	**90**	**135**	**180**	**225**	**270**	**315**
Antenna Height AAT (meters)	131.000	117.600	84.400	96.600	123.000	77.500	118.100	102.400
Transmitting ERP (watts)	297.900	112.600	11.500	2.900	0.600	0.900	15.800	126.300

Antenna: 2

Maximum Transmitting ERP in Watts: 140.820								
Azimuth(from true north)	**0**	**45**	**90**	**135**	**180**	**225**	**270**	**315**
Antenna Height AAT (meters)	131.000	117.600	84.400	96.600	123.000	77.500	118.100	102.400
Transmitting ERP (watts)	1.700	37.700	190.100	260.900	55.500	5.900	2.100	0.800

Antenna: 3

Maximum Transmitting ERP in Watts: 140.820								
Azimuth(from true north)	**0**	**45**	**90**	**135**	**180**	**225**	**270**	**315**
Antenna Height AAT (meters)	131.000	117.600	84.400	96.600	123.000	77.500	118.100	102.400
Transmitting ERP (watts)	3.300	0.510	1.100	5.400	73.100	255.000	185.800	25.500

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

FCC 601-C
March 2018

Licensee Name: NEW CINGULAR WIRELESS PCS, LLC

Call Sign: KNKN861 **File Number:** **Print Date:**

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
7	38-05-15.0 N	083-07-14.2 W	303.0	59.4	

Address: 801 HWY 32 (76328)
City: SANDY HOOK **County:** ELLIOTT **State:** KY **Construction Deadline:**

Antenna: 1
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	83.100	91.400	84.000	75.400	72.200	40.200	52.600	53.100
Transmitting ERP (watts)	69.400	21.700	3.700	0.900	2.400	8.100	37.600	61.600

Antenna: 2
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	83.100	91.400	84.000	75.400	72.200	40.200	52.600	53.100
Transmitting ERP (watts)	69.700	206.800	185.400	206.800	60.700	33.900	0.413	12.600

Antenna: 3
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	83.100	91.400	84.000	75.400	72.200	40.200	52.600	53.100
Transmitting ERP (watts)	2.100	0.800	1.700	37.200	187.500	257.300	54.700	5.800

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
8	37-56-10.7 N	083-15-13.4 W	338.3	80.8	1043797

Address: 1050 Cedar Road (76318)
City: WEST LIBERTY **County:** MORGAN **State:** KY **Construction Deadline:**

Antenna: 1
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	108.900	121.700	96.900	142.700	137.300	137.300	142.000	117.600
Transmitting ERP (watts)	73.300	121.600	45.200	32.000	0.243	16.000	56.900	113.500

Antenna: 2
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	108.900	121.700	96.900	142.700	137.300	137.300	142.000	117.600
Transmitting ERP (watts)	16.900	82.900	111.800	105.100	98.100	29.600	37.300	16.900

Antenna: 3
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	108.900	121.700	96.900	142.700	137.300	137.300	142.000	117.600
Transmitting ERP (watts)	24.500	18.100	22.500	33.200	102.700	98.100	125.400	68.900

Licensee Name: NEW CINGULAR WIRELESS PCS, LLC

Call Sign: KNKN861 **File Number:** **Print Date:**

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
14	37-18-52.9 N	082-30-11.9 W	626.1	126.2	1043792

Address: 2701 Hwy 611 (76324)
City: DORTON **County:** PIKE **State:** KY **Construction Deadline:**

Antenna: 1
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	377.200	319.300	339.000	220.600	163.100	228.900	306.500	351.000
Transmitting ERP (watts)	211.300	79.900	8.100	2.100	0.422	0.600	11.200	89.600

Antenna: 2
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	377.200	319.300	339.000	220.600	163.100	228.900	306.500	351.000
Transmitting ERP (watts)	1.200	26.800	134.900	185.100	39.400	4.200	1.500	0.500

Antenna: 3
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	377.200	319.300	339.000	220.600	163.100	228.900	306.500	351.000
Transmitting ERP (watts)	2.300	0.400	0.800	3.800	51.900	180.900	131.800	18.100

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
17	37-30-04.3 N	082-13-39.2 W	768.1	43.3	

Address: 9066 Phelps 632 Road (76329)
City: Phelps **County:** PIKE **State:** KY **Construction Deadline:** 06-09-2015

Antenna: 1
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	444.300	462.300	396.500	295.100	344.400	360.200	360.500	415.600
Transmitting ERP (watts)	89.500	148.600	55.200	39.100	0.300	19.600	69.500	138.700

Antenna: 2
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	444.300	462.300	396.500	295.100	344.400	360.200	360.500	415.600
Transmitting ERP (watts)	3.500	28.200	63.900	76.500	40.600	6.100	3.500	2.300

Antenna: 3
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	444.300	462.300	396.500	295.100	344.400	360.200	360.500	415.600
Transmitting ERP (watts)	3.600	0.600	1.300	5.900	79.800	278.300	202.800	27.800

Licensee Name: NEW CINGULAR WIRELESS PCS, LLC

Call Sign: KNKN861 **File Number:** **Print Date:**

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
18	38-06-36.6 N	082-36-36.2 W	251.5	120.1	1052938

Address: 380 Tower Hill Road (76331)

City: LOUISA **County:** LAWRENCE **State:** KY **Construction Deadline:** 06-09-2015

Antenna: 1

Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	152.400	85.400	83.000	117.700	110.900	106.400	109.900	114.000
Transmitting ERP (watts)	0.900	3.200	49.200	188.300	164.700	24.800	2.800	0.700

Antenna: 2

Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	152.400	85.400	83.000	117.700	110.900	106.400	109.900	114.000
Transmitting ERP (watts)	2.800	0.700	0.900	3.200	49.200	188.300	164.700	24.800

Antenna: 3

Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	152.400	85.400	83.000	117.700	110.900	106.400	109.900	114.000
Transmitting ERP (watts)	198.000	85.900	26.400	14.400	13.400	23.400	118.100	179.800

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
19	37-29-09.9 N	082-47-54.0 W	450.8	111.6	1065556

Address: 892 KY ROUTE 680 WEST (76327)

City: Eastern **County:** FLOYD **State:** KY **Construction Deadline:** 06-09-2015

Antenna: 1

Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	260.800	269.800	233.600	173.200	209.000	238.200	196.700	229.200
Transmitting ERP (watts)	172.600	192.500	56.500	31.600	0.400	11.700	64.900	192.500

Antenna: 2

Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	260.800	269.800	233.600	173.200	209.000	238.200	196.700	229.200
Transmitting ERP (watts)	1.500	34.600	174.600	239.600	50.900	5.400	1.900	0.700

Antenna: 3

Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	260.800	269.800	233.600	173.200	209.000	238.200	196.700	229.200
Transmitting ERP (watts)	30.000	11.600	15.600	34.200	153.800	203.900	230.100	89.000

Licensee Name: NEW CINGULAR WIRELESS PCS, LLC

Call Sign: KNKN861 **File Number:** **Print Date:**

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
20	37-44-50.6 N	083-10-40.2 W	329.5	93.0	1245619

Address: LAUREL BRANCH ROAD (76332)
City: SALYERSVILLE **County:** MAGOFFIN **State:** KY **Construction Deadline:** 06-09-2015

Antenna: 1
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	120.000	111.100	127.900	92.400	91.300	84.200	91.600	104.200
Transmitting ERP (watts)	300.600	113.600	11.600	3.000	0.601	0.900	16.000	127.500

Antenna: 2
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	120.000	111.100	127.900	92.400	91.300	84.200	91.600	104.200
Transmitting ERP (watts)	1.700	38.100	191.900	263.300	56.000	6.000	2.100	0.800

Antenna: 3
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	120.000	111.100	127.900	92.400	91.300	84.200	91.600	104.200
Transmitting ERP (watts)	3.300	0.514	1.200	5.400	73.800	257.300	187.500	25.700

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
21	37-42-32.6 N	082-57-19.9 W	399.0	104.8	1245637

Address: 883 DRY BREAD ROAD (76333)
City: SALYERSVILLE **County:** MAGOFFIN **State:** KY **Construction Deadline:** 06-09-2015

Antenna: 1
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	182.700	243.900	204.300	203.600	166.500	160.600	190.800	182.200
Transmitting ERP (watts)	162.900	68.400	5.600	0.700	0.325	0.400	10.700	82.100

Antenna: 2
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	182.700	243.900	204.300	203.600	166.500	160.600	190.800	182.200
Transmitting ERP (watts)	2.200	22.700	121.500	152.300	32.100	2.900	0.400	0.500

Antenna: 3
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	182.700	243.900	204.300	203.600	166.500	160.600	190.800	182.200
Transmitting ERP (watts)	3.100	0.500	1.100	5.100	69.300	241.800	176.200	24.200

Licensee Name: NEW CINGULAR WIRELESS PCS, LLC

Call Sign: KNKN861 **File Number:** **Print Date:**

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
22	37-35-16.8 N	082-22-44.7 W	567.8	89.9	1041887

Address: 13074 US Hwy 119 North (101423)

City: BENT MOUNTAIN **County:** PIKE **State:** KY **Construction Deadline:** 06-09-2015

Antenna: 1

Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	355.900	286.300	230.800	185.900	246.700	311.000	304.700	286.000
Transmitting ERP (watts)	254.100	103.500	5.400	1.000	0.508	0.900	16.400	136.400

Antenna: 2

Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	355.900	286.300	230.800	185.900	246.700	311.000	304.700	286.000
Transmitting ERP (watts)	2.800	39.300	197.200	231.700	49.600	2.200	0.500	0.500

Antenna: 3

Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	355.900	286.300	230.800	185.900	246.700	311.000	304.700	286.000
Transmitting ERP (watts)	1.400	0.500	0.500	6.700	80.300	242.600	175.700	18.400

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
23	37-52-27.2 N	082-32-19.7 W	338.3	86.9	1041882

Address: 1190 Main St. (101415)

City: INEZ **County:** MARTIN **State:** KY **Construction Deadline:** 06-09-2015

Antenna: 1

Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	184.200	141.700	139.700	143.100	126.700	122.300	163.300	180.300
Transmitting ERP (watts)	145.500	61.100	5.000	0.600	0.300	0.300	9.500	73.300

Antenna: 2

Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	184.200	141.700	139.700	143.100	126.700	122.300	163.300	180.300
Transmitting ERP (watts)	2.000	20.300	108.500	136.100	28.600	2.600	0.400	0.500

Antenna: 3

Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	184.200	141.700	139.700	143.100	126.700	122.300	163.300	180.300
Transmitting ERP (watts)	1.300	0.300	0.300	4.900	40.500	136.100	103.400	11.200

Licensee Name: NEW CINGULAR WIRELESS PCS, LLC

Call Sign: KNKN861 **File Number:** **Print Date:**

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
25	37-49-02.0 N	082-33-35.9 W	315.8	107.0	1002325

Address: 1027 BLACKBERRY ROAD (76322)

City: INEZ **County:** MARTIN **State:** KY **Construction Deadline:** 06-09-2015

Antenna: 1

Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	182.200	155.000	148.600	122.000	112.300	130.900	142.000	160.500
Transmitting ERP (watts)	128.200	170.000	191.900	74.200	25.000	9.700	13.000	28.500

Antenna: 2

Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	182.200	155.000	148.600	122.000	112.300	130.900	142.000	160.500
Transmitting ERP (watts)	0.321	9.800	54.100	160.500	143.900	160.500	47.100	26.300

Antenna: 3

Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	182.200	155.000	148.600	122.000	112.300	130.900	142.000	160.500
Transmitting ERP (watts)	114.300	32.800	24.200	9.000	13.100	87.200	175.000	182.200

Control Points:

Control Pt. No. 1

Address: 1650 Lyndon Farms Court

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

Control Pt. No. 2

Address: 707 CONCORD ROAD

City: KNOXVILLE **County:** **State:** TN **Telephone Number:**

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).

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

Federal Communications Commission

Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: NEW CINGULAR WIRELESS PCS, LLC

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

Call Sign	File Number
KNLF251	
Radio Service CW - PCS Broadband	

FCC Registration Number (FRN): 0003291192

Grant Date	Effective Date	Expiration Date	Print Date
06-02-2015	08-31-2018	06-23-2025	

Market Number	Channel Block	Sub-Market Designator
MTA026	A	15

Market Name
Louisville-Lexington-Evansvill

1st Build-out Date	2nd Build-out Date	3rd Build-out Date	4th Build-out Date
06-23-2000	06-23-2005		

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.

FCC 601-MB
October 2017

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).

Licensee Name: NEW CINGULAR WIRELESS PCS, LLC

Call Sign: KNLF251 **File Number:** **Print Date:**

700 MHz Relicensed Area Information:

Market	Market Name	Buildout Deadline	Buildout Notification	Status

Federal Communications Commission

Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: NEW CINGULAR WIRELESS PCS, LLC

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

Call Sign	File Number
KNLH398	
Radio Service CW - PCS Broadband	

FCC Registration Number (FRN): 0003291192

Grant Date	Effective Date	Expiration Date	Print Date
04-14-2017	08-31-2018	04-28-2027	

Market Number	Channel Block	Sub-Market Designator
BTA252	D	0

Market Name
Lexington, KY

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

Waivers/Conditions:

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

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.

FCC 601-MB
October 2017

Licensee Name: NEW CINGULAR WIRELESS PCS, LLC

Call Sign: KNLH398 **File Number:** **Print Date:**

700 MHz Relicensed Area Information:

Market	Market Name	Buildout Deadline	Buildout Notification	Status

Federal Communications Commission

Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: NEW CINGULAR WIRELESS PCS, LLC

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

Call Sign	File Number
WPOI255	
Radio Service CW - PCS Broadband	

FCC Registration Number (FRN): 0003291192

Grant Date	Effective Date	Expiration Date	Print Date
05-27-2015	08-31-2018	06-23-2025	

Market Number	Channel Block	Sub-Market Designator
MTA026	A	19

Market Name
Louisville-Lexington-Evansvill

1st Build-out Date	2nd Build-out Date	3rd Build-out Date	4th Build-out Date
06-23-2000	06-23-2005		

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.

FCC 601-MB
October 2017

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).

Licensee Name: NEW CINGULAR WIRELESS PCS, LLC

Call Sign: WPOI255 **File Number:** **Print Date:**

700 MHz Relicensed Area Information:

Market	Market Name	Buildout Deadline	Buildout Notification	Status

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	File Number
WQGA822	
Radio Service AW - AWS (1710-1755 MHz and 2110-2155 MHz)	

FCC Registration Number (FRN): 0003291192

Grant Date	Effective Date	Expiration Date	Print Date
11-29-2006	08-31-2018	11-29-2021	

Market Number	Channel Block	Sub-Market Designator
CMA451	A	0

Market Name
Kentucky 9 - Elliott

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

Waivers/Conditions:

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

Conditions:

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

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

FCC 601-MB
October 2017

Licensee Name: NEW CINGULAR WIRELESS PCS, LLC

Call Sign: WQGA822 **File Number:** **Print Date:**

700 MHz Relicensed Area Information:

Market	Market Name	Buildout Deadline	Buildout Notification	Status

Federal Communications Commission

Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: NEW CINGULAR WIRELESS PCS, LLC

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

Call Sign	File Number
WQGD755	
Radio Service AW - AWS (1710-1755 MHz and 2110-2155 MHz)	

FCC Registration Number (FRN): 0003291192

Grant Date	Effective Date	Expiration Date	Print Date
12-18-2006	08-31-2018	12-18-2021	

Market Number	Channel Block	Sub-Market Designator
BEA047	C	9

Market Name
Lexington, KY-TN-VA-WV

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

Waivers/Conditions:

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

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

Conditions:

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

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

FCC 601-MB
October 2017

Licensee Name: NEW CINGULAR WIRELESS PCS, LLC

Call Sign: WQGD755 **File Number:** **Print Date:**

700 MHz Relicensed Area Information:

Market	Market Name	Buildout Deadline	Buildout Notification	Status

EXHIBIT B

SITE DEVELOPMENT PLAN:

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

LOCATION MAP

DRIVING DIRECTIONS

FROM 450 PRESTONSBURG ST., WEST LIBERTY, KY 41472:

- HEAD WEST ON PRESTONSBURG ST TOWARD BAILEY LN 0.2 MI
- TURN RIGHT ONTO KY-7 N/MAIN ST & CONTINUE TO FOLLOW KY-7 N 2.7 MI
- CONTINUE ONTO KY-519 N 2.7 MI
- TURN RIGHT ONTO CR-1443-70/YOCUM RD CON. 184 FT
- TURN RIGHT ONTO LENVILLE PERRY RD/YOCUM RD 112 FT
- THE DESTINATION WILL BE ON THE LEFT.

BUILDING CODES AND STANDARDS

CONTRACTOR'S WORK SHALL COMPLY WITH ALL APPLICABLE NATIONAL, STATE AND LOCAL CODES AS ADOPTED BY THE LOCAL AUTHORITY HAVING JURISDICTION FOR THE LOCATION.

CONTRACTOR'S WORK SHALL COMPLY WITH THE LATEST EDITION OF THE FOLLOWING STANDARDS:

- AMERICAN CONCRETE INSTITUTE 318
- AMERICAN INSTITUTE OF STEEL CONSTRUCTION MANUAL OF STEEL CONSTRUCTION
- TELECOMMUNICATIONS INDUSTRY ASSOCIATION TIA-222
- STRUCTURAL STANDARDS FOR STEEL ANTENNA TOWER AND SUPPORTING STRUCTURES TIA-601
- COMMERCIAL BUILDING GROUNDING AND BONDING REQUIREMENTS FOR TELECOMMUNICATIONS
- INSTITUTE FOR ELECTRICAL AND ELECTRONICS ENGINEERS IEEE-81, IEEE 1100, IEEE C62.41
- ANSI T1.311, FOR TELECOM - DC POWER SYSTEMS - TELECOM, ENVIRONMENTAL PROTECTION
- 2014 KBC
- 2014 NEC

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

SITE NAME:

LENVILLE FN

FA #:

12719590

PROPOSED RAW LAND SITE WITH A 195' MONOPOLE WITH A 4' LIGHTNING ARRESTOR AND INSTALLATION OF AN 80"x80" WALK-IN CABINET ON PLATFORM & DIESEL GENERATOR ON PLATFORM

PREPARED FOR:

at&t

PREPARED BY:

ENGINEERING GROUP, INC.
TOGETHER PLANNING A BETTER TOMORROW
158 BUSINESS CENTER DRIVE
BIRMINGHAM, AL 35244
TEL: 205-252-6985 FAX: 205-320-1504

PROJECT INFORMATION

SITE ADDRESS:	146 YOKUM ROAD WEST LIBERTY, KY 41472
LATITUDE (NAD 83):	N 37° 58' 48.084"
LONGITUDE (NAD 83):	W 83° 18' 36.599"
LATITUDE (NAD DECIMAL):	N 37.980023°
LONGITUDE (NAD DECIMAL):	W 83.310166°
PARCEL ID:	068-00-00-045.00
JURISDICTION:	KENTUCKY PUBLIC SERVICE COMMISSION
PROPERTY OWNER:	ENGLE, RAY AND MARIE
APPLICANT:	NEW CINGULAR WIRELESS PCS, LLC A DELAWARE LIMITED LIABILITY COMPANY, D/B/A AT&T MOBILITY MEIDINGER TOWER 462 S. 4TH STREET, SUITE 2400 LOUISVILLE, KY 40202
ENGINEER:	SMW ENGINEERING 158 BUSINESS CENTER DRIVE BIRMINGHAM, AL 35244 CONTACT: JEREMY SHARIT, PE PHONE: 205-397-6781
POWER:	TO BE DETERMINED
FIBER:	FIBER COMPANY AWARDED BY AT&T AT FUTURE TIME, CONSULT CM

DRAWING INDEX

SCOPE OF WORK

ZONING DRAWINGS FOR:
CONSTRUCTION OF A NEW UNMANNED TELECOMMUNICATIONS FACILITY.

SITE WORK: NEW TOWER UNMANNED WALK-IN CABINET ON A STEEL PLATFORM, GENERATOR ON A STEEL PLATFORM, AND UTILITY INSTALLATIONS.

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

CA#: 2865

STATE OF KENTUCKY
JEREMY D. SHARIT
26823
LICENSED
PROFESSIONAL ENGINEER

10/18/18

SMW ENGINEERING GROUP, INC.
TOGETHER PLANNING A BETTER TOMORROW

SMW #: 18-0768

at&t

#	DATE	DESCRIPTION:
0	10/05/18	ISSUED FOR CLIENT REV.
1	10/15/18	REISSUED FOR CLIENT REV.
2	10/18/18	ISSUED FOR CONSTRUCTION

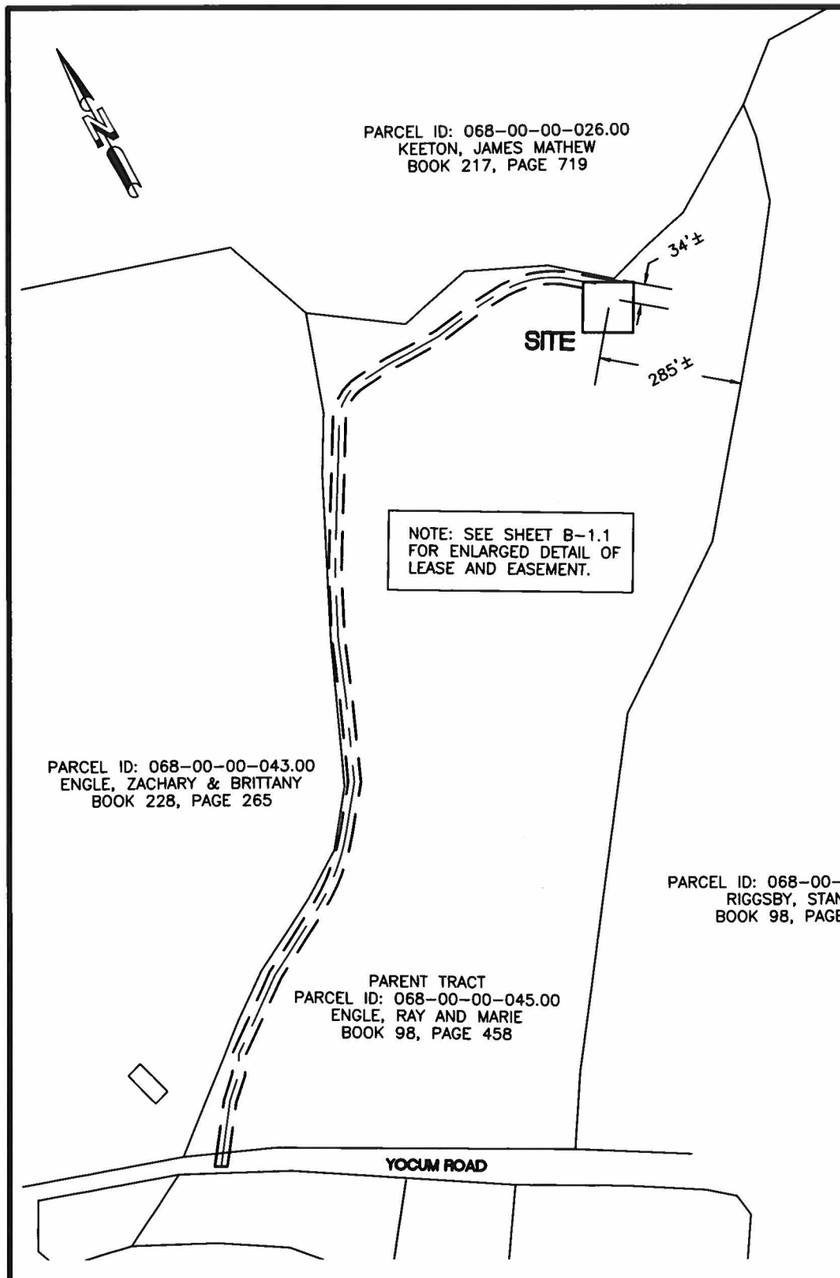
LENVILLE FN

TITLE SHEET & PROJECT INFORMATION

DESIGNED: JDS
DRAWN: BMD
CHECKED: RTB

JOB #: 12719590

T-1



PLOTTABLE EXCEPTIONS
U.S. TITLE SOLUTIONS
Report of Title, File No. 59001-KY1801-5030
Date January 25, 2018
Schedule B

Exception No.	Instrument	Comment
1 – 7		Standard exceptions containing no survey matters
(8)	Book 61, Page 407	Document contains insufficient information to plot, show, or determine affects on subject property.

PARENT TRACT (BOOK 98, PAGE 458)

A certain tract of parcel of land lying and being in Morgan County and State of Kentucky, and on the McClannahan Branch, (near Yocum Post Office), and more fully described as follows:
Beginning at a walnut stump on the south side of the highway at the F.C. and Bessie Oakley property; thence a southerly direction with the line of F.C. and Bessie Oakley to the top of the hill to a corner of the land of Clella Engle and F.C. and Bessie Oakley and the land hereby conveyed; thence with the said Engle line a westerly direction to the corner of Darrell and Drexell Lewis property; thence a westerly direction with said line and dividing ridge between Grassy Creek and McClannahan Branch to line and corner of Omar Lewis property; thence a northerly direction and with the Omer Lewis line to the top of the bluff near the McClannahan Branch and corner of Omer Lewis property; thence an easterly direction with Jim Frank Lewis (now Drexell Lewis) line and top of the bluff near McClannahan to a corner of the Jim Frank Lewis (or Drexell Lewis) property; thence a northerly direction down the bluff and crossing McClannahan Branch with said Lewis line to the county road at a culvert; thence coming up the road and with some to the last line of the cemetery lot; thence crossing said county road (no highway No.) to a forked white oak in the line of Rachel and Myrtle Cassity; thence a Northeast direction with said Cassity line to the line of Alvie Riggsby (now Devene Quicksall Knox) on top of the ridge; thence an easterly direction with the center of the ridge and Riggsby's line to the corner of Walter Riggsby property; thence with the line of Walter Riggsby to county road and crossing the same to the point of beginning. There is Excluded and specifically Reserved from this conveyance the Cemetery as it is now located on said property.

100' X 100' LEASE AREA (AS-SURVEYED)

Being a portion of that certain tract of land as described and recorded in Book 98, Page 458, in the Office of the Clerk of Morgan County, Kentucky and having Morgan County Tax Parcel ID: 068-00-00-045.00 and being more particularly described as follows:
Commencing at a pk nail found at the centerline intersection of Yocum Road and C.R. 1443; thence run N 71°47'27" W for a distance of 85.66 feet to a 6" x 6" concrete right-of-way monument found; thence N 19°11'48" E for a distance of 1719.16 feet to a 5/8" rebar set and the Point of Beginning; thence N 21°34'23" E for a distance of 100.00 feet to a 5/8" rebar set; thence S 68°25'38" E for a distance of 100.00 feet to a 5/8" rebar set; thence S 21°34'23" W for a distance of 100.00 feet to a 5/8" rebar set; thence N 68°25'38" W for a distance of 100.00 feet to the Point of Beginning. Said above described Lease Area contains 10,000.0 square feet or 0.23 acres, more or less.

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

Being a portion of that certain tract of land as described and recorded in Book 98, Page 458, in the Office of the Clerk of Morgan County, Kentucky and having Morgan County Tax Parcel ID: 068-00-00-045.00 and being more particularly described as follows:
Commencing at a pk nail found at the centerline intersection of Yocum Road and C.R. 1443; thence run N 71°47'27" W for a distance of 85.66 feet to a 6" x 6" concrete right-of-way monument found; thence N 19°11'48" E for a distance of 1719.16 feet to a 5/8" rebar set; thence N 21°34'23" E for a distance of 100.00 feet to a 5/8" rebar set; thence S 68°25'38" E for a distance of 24.11 feet to the Point of Beginning of an Ingress/Egress & Utility Easement being 30 feet in width and lying 15 feet each side of the following described centerline; thence N 52°05'50" W for a distance of 69.56 feet to a point; thence with a curve turning to the left, with a radius of 204.25 feet, an arc length of 117.25 feet, and having a chord bearing of N 74°30'01" W for a chord length of 115.65 feet to a point; thence S 85°44'06" W for a distance of 56.00 feet to a point; thence S 80°45'41" W for a distance of 103.79 feet to a point; thence S 88°47'58" W for a distance of 115.09 feet to a point; thence S 84°45'39" W for a distance of 61.55 feet to a point; thence with a curve turning to the left, with a radius of 92.37 feet, an arc length of 84.11 feet, and having a chord bearing of S 59°20'25" W for a chord length of 81.23 feet to a point; thence S 29°25'08" W for a distance of 304.03 feet to a point; thence S 25°11'30" W for a distance of 133.88 feet to a point; thence S 20°30'23" W for a distance of 117.58 feet to a point; thence S 21°50'35" W for a distance of 169.56 feet to a point; thence S 37°03'26" W for a distance of 101.80 feet to a point; thence with a curve to the right, with a radius of 409.61 feet, an arc length of 160.00 feet, and having a chord bearing of S 48°14'52" W for a chord length of 158.99 feet to a point; thence S 60°09'17" W for a distance of 157.24 feet to a point; thence S 52°16'34" W for a distance of 172.32 feet to a point; thence S 28°27'46" W for a distance of 41.12 feet to a point; thence S 45°29'12" W for a distance of 55.28 feet to a point; thence S 35°35'55" W for a distance of 130.34 feet, more or less, to the centerline of Yocum Road and the Point of Ending.
Said above described Easement contains 53,823.6 square feet or 1.24 acres, more or less.
Less and Except any and all right-of-way lying over and/or across the above described Easement.

SURVEYOR'S NOTES

1. This is a Rowland Tower Survey, made on the ground under the supervision of a Kentucky Registered Land Surveyor. Date of field survey is March 29, 2018.
2. The following surveying instruments were used at time of field visit: Nikon NPL-352, Total Station, Reflectorless and Hiper + Legacy E RTK, GD 1HZ.
3. Bearings are based on Kentucky State Plane Coordinates NAD 83 by GPS observation.
4. No underground utilities, underground encroachments or building foundations were measured or located as a part of this survey, unless otherwise shown. Trees and shrubs not located, unless otherwise shown.
5. Benchmark used is a GPS Continuously Operating Reference Station, PID DH7117. Onsite benchmark is as shown hereon. Elevations shown are in feet and refer to NAVD 88.
6. This survey was conducted for the purpose of a Rowland Tower Survey only, and is not intended to delineate the regulatory jurisdiction of any federal, state, regional or local agency, board, commission or other similar entity.
7. Attention is directed to the fact that this survey may have been reduced or enlarged in size due to reproduction. This should be taken into consideration when obtaining scaled data.
8. This Survey was conducted in reference to a Report of Title prepared by U.S. Title Solutions, File No. 59001-KY1801-5030, and dated January 25, 2018.
9. This survey meets or exceeds the Minimum Standards of Practice as required by the State of Kentucky for a Class A survey as defined by 201 KAR 18:150.
10. Field data upon which this map or plat is based has a closure precision of not less than one-foot in 15,000 feet (1':15,000') and an angular error that does not exceed 10 seconds times the square root of the number of angles turned. Field traverse was not adjusted.
11. This survey is not valid without the original signature and the original seal of a state licensed surveyor and mapper.
12. This survey does not constitute a boundary survey of the Parent Tract. Any parent tract property lines shown hereon are from supplied information and may not be field verified.
13. The Lease Area, and Access and Utility Easement shown hereon was provided by CLIENT dated March 29, 2018 in direct correlation with existing monuments and physical evidence found through inspection and may not depict actual rights of occupancy.
14. No zoning information supplied by client.

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

SURVEYOR'S CERTIFICATION

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

David McKinney

David D. McKinney
Kentucky License No. 3964

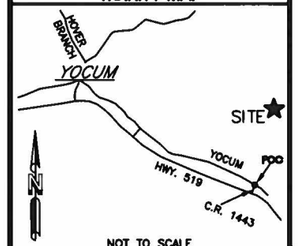
TOWER INFO

CENTER OF TOWER:

LATITUDE: 37°58'48.084" NORTH
LONGITUDE: 83°18'36.599" WEST
(NAD 83)
GROUND ELEVATION: 1093.9'
ABOVE MEAN SEA LEVEL (NAVD88)

PARCEL NO. 068-00-00-045.00
OWNER: ENGLE, RAY AND MARIE
PARCEL ADDRESS:
146 YOCUM ROAD
WEST LIBERTY, KY 41472

VICINITY MAP



NOT TO SCALE

KENTUCKY

GRID NORTH

GRID TO TRUE NORTH CONVERGENCE
1°29'52.66305"

TRUE NORTH TO MAGNETIC DECLINATION
6°33' W

COMBINED SCALE FACTOR
0.999906570

LEGEND

- ○ = 5/8" REBAR SET
- ● = FOUND PROPERTY MARKER
- POB = POINT OF BEGINNING
- POC = POINT OF COMMENCEMENT
- POE = POINT OF ENDING
- ▲ = CALCULATED POINT
- = POWER POLE
- = TEMPORARY BENCHMARK PK NAIL SET IN ASPHALT ELEVATION: 891.32'

——— = OVERHEAD TELEPHONE
——— = OVERHEAD POWER

FLOOD NOTE

By graphic plotting only, the subject property appears to lie in Zone "X" of the Flood Insurance Rate Map Community Panel No. 21175C0175C, which bears an effective date of August 19, 2008 and IS NOT in a special flood hazard area.
Zone 'X': Areas determined to be outside the 0.2% chance annual floodplain.

LENVILLE FN
MORGAN COUNTY, KENTUCKY

SMW ENGINEERING GROUP, INC.
SMW #: 18-0768

at&t

#	DATE	DESCRIPTION:
0	10/05/18	ISSUED FOR CLIENT REV.
1	10/15/18	REISSUED FOR CLIENT REV.
2	10/18/18	ISSUED FOR CONSTRUCTION

LENVILLE FN

SITE SURVEY

DESIGNED: JDS
DRAWN: BMD
CHECKED: RTB

JOB #: 12719590

B-1

L=84.11'
R=92.37'
CHD B=S 59°20'25" W
CHD L=81.23'

S 84°45'39" W
61.55'

S 80°45'41" W
103.79'

L=117.25'
R=204.25'
CHD B=N 74°30'01" W
CHD L=115.65'

POB (AS-SURVEYED)
30' INGRESS/EGRESS
& UTILITY EASEMENT
53,823.6 SQ.FT.±
1.24 ACRES±

S 88°47'58" W
115.09'

S 85°44'06" W
56.00'

N 52°05'50" W
69.56'

PARCEL ID: 068-00-00-043.00
ENGLE, ZACHARY & BRITTANY
BOOK 228, PAGE 265

POB (AS-SURVEYED)
100' X 100' LEASE AREA
10,000.0 SQ.FT.±
0.23 ACRES±

PARENT TRACT
PARCEL ID: 068-00-00-045.00
ENGLE, RAY AND MARIE
BOOK 98, PAGE 458

N 19°11'48" E 1719.16'

S 29°25'08" W
304.03'

6" X 6" CONCRETE
RIGHT-OF-WAY
MONUMENT

ROAD
YOCUM

N 71°47'27" W
85.66'

C.R. 1443

POC (AS-SURVEYED)
PK NAIL @ CENTERLINE
INTERSECTION OF YOCUM
ROAD AND C.R. 1443

S 25°11'30" W
133.88'

MATCH LINE

TREE LINE (TYP.)

10' WIDE
FIELD ROAD

S 52°16'34" W
172.32'

S 60°09'17" W
157.24'

S 45°29'12" W
55.28'

S 28°27'46" W
41.12'

S 35°35'55" W
130.34'±

YOCUM ROAD
(PUBLIC RIGHT-OF-WAY)
16' WIDE ASPHALT ROAD

POE (AS-SURVEYED)
30' INGRESS/EGRESS
& UTILITY EASEMENT

893'

1068'± TO NEAREST
INTERSECTION (C.R. 1443)

SIGHT DISTANCE
335'± 833'±

0 100' 200'

SCALE: 1" = 100'

LENVILLE FN
MORGAN COUNTY, KENTUCKY

S 20°30'23" W
117.58'

MATCH LINE

S 21°50'35" W
169.56'

PARCEL ID: 068-00-00-043.00
ENGLE, ZACHARY & BRITTANY
BOOK 228, PAGE 265

S 37°03'26" W
101.80'

L=160.00'
R=409.61'
CHD B=S 48°14'52" W
CHD L=158.99'

PARENT TRACT
PARCEL ID: 068-00-00-045.00
ENGLE, RAY AND MARIE
BOOK 98, PAGE 458

PLOTTABLE EXCEPTIONS
U.S. TITLE SOLUTIONS
Report of Title, File No. 59001-KY1801-5030
Date January 25, 2018
Schedule B

Exception No.	Instrument	Comment
1 - 7		Standard exceptions containing no survey matters
(8)	Book 61, Page 407 (Oil & Gas Lease)	Document contains insufficient information to plot, show, or determine affects on subject property.

COMPOUND DETAIL SCALE: 1" = 40'

POB (AS-SURVEYED)
30' INGRESS/EGRESS
& UTILITY EASEMENT
53,823.6 SQ.FT.±
1.24 ACRES±

N 52°05'50" W
69.56'

24.11'

S 68°25'38" E
100.00'

CENTER OF
TOWER

N 21°34'23" E 100.00'

S 21°34'23" W 100.00'

N 68°25'38" W 100.00'

N 19°11'48" E 1719.16'

POB (AS-SURVEYED)
100' X 100' LEASE AREA
10,000.0 SQ.FT.±
0.23 ACRES±

N

SMW ENGINEERING GROUP, INC.
SMW #: 18-0768

at&t

#	DATE	DESCRIPTION:
0	10/05/18	ISSUED FOR CLIENT REV.
1	10/15/18	REISSUED FOR CLIENT REV.
2	10/18/18	ISSUED FOR CONSTRUCTION

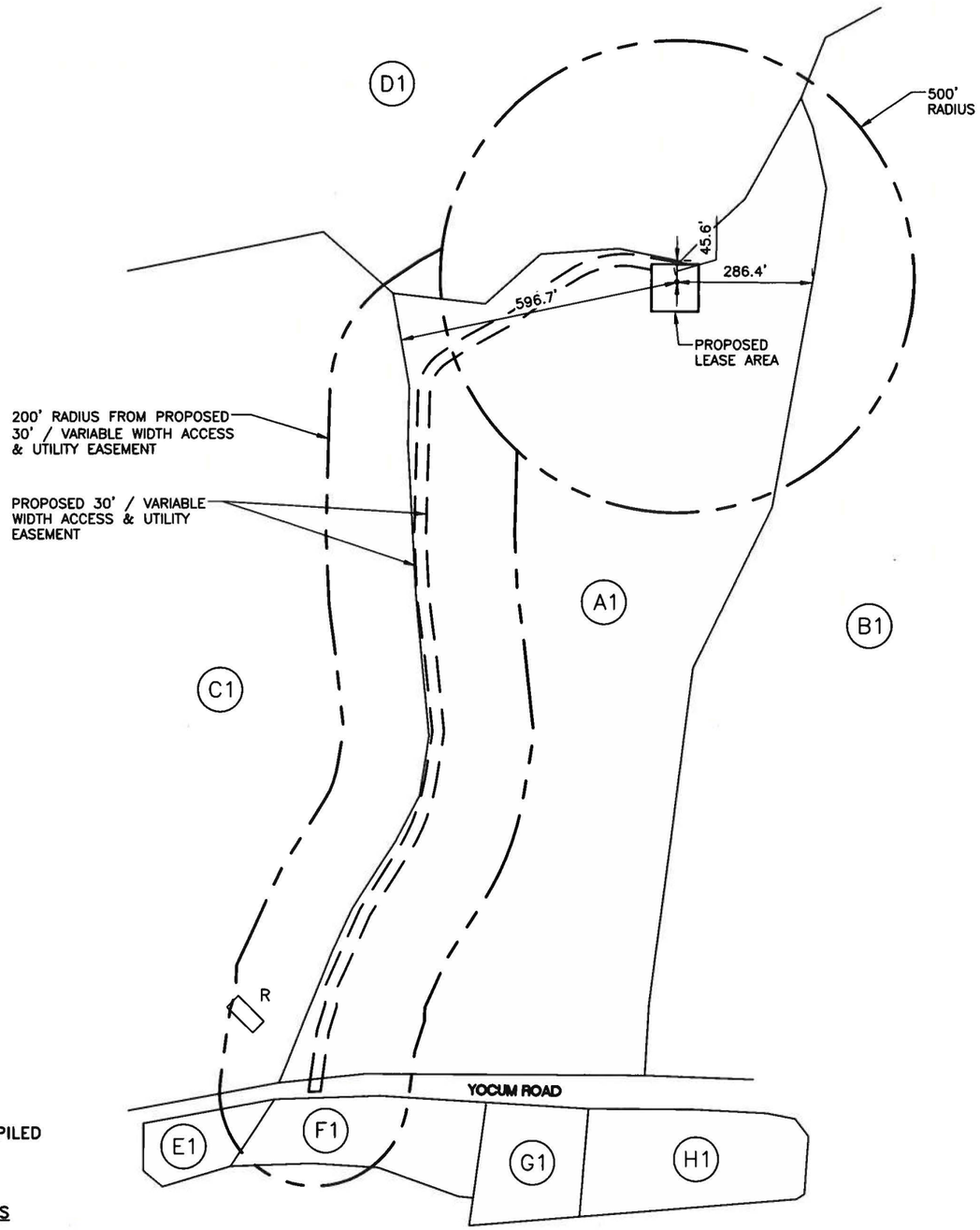
LENVILLE FN

SITE SURVEY

DESIGNED: JDS
DRAWN: BMD
CHECKED: RTB

JOB #: 12719590

B-1.1



NOTE:
INFORMATION COMPILED ON 10/15/18

EXISTING BUILDINGS
R = RESIDENCE
B = BARN
S = SHED
G = GARAGE

(A1) PARCEL ID: 068-00-00-045.00
ENGLE, RAY AND MARIE
BOOK 98, PAGE 458
146 YOCUM RD
WEST LIBERTY, KY 4147

(B1) PARCEL ID: 068-00-00-046.00
ZACHARY & BRITTANY ENGLE
282 YOCUM RD
WEST LIBERTY, KY 41472

(C1) PARCEL ID: 068-00-00-026.00
ZACHARY & BRITTANY ENGLE
282 YOCUM RD
WEST LIBERTY, KY 41472

(D1) PARCEL ID: 068-00-00-043.00
JAMES MATTHEW KEETON
736 PLEASANT RUN RD
WEST LIBERTY, KY 41472

(E1) PARCEL ID: 068-00-00-044.00
RAY & MARIE ENGLE
146 YOCUM RD
WEST LIBERTY KY 41472

(F1) PARCEL ID: 068-00-00-045.00
RAY & MARIE ENGLE
146 YOCUM RD
WEST LIBERTY KY 41472

(G1) PARCEL ID: 068-00-00-045.03
KENNETH & LINDA MARTIN
121 YOCUM RD
WEST LIBERTY KY 41472

(H1) PARCEL ID: 068-00-00-040.02
MARGARET DEHAVEN
117 YOCUM RD
WEST LIBERTY KY 41472

SURVEYOR'S NOTES

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14. No zoning information supplied by client.

SURVEYOR'S CERTIFICATION

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

_____
David D. McKinney
Kentucky License No. 3964

SMW ENGINEERING GROUP, INC.
SMW #: 18-0768

at&t

#	DATE	DESCRIPTION:
0	10/05/18	ISSUED FOR CLIENT REV.
1	10/15/18	REISSUED FOR CLIENT REV.
2	10/18/18	ISSUED FOR CONSTRUCTION

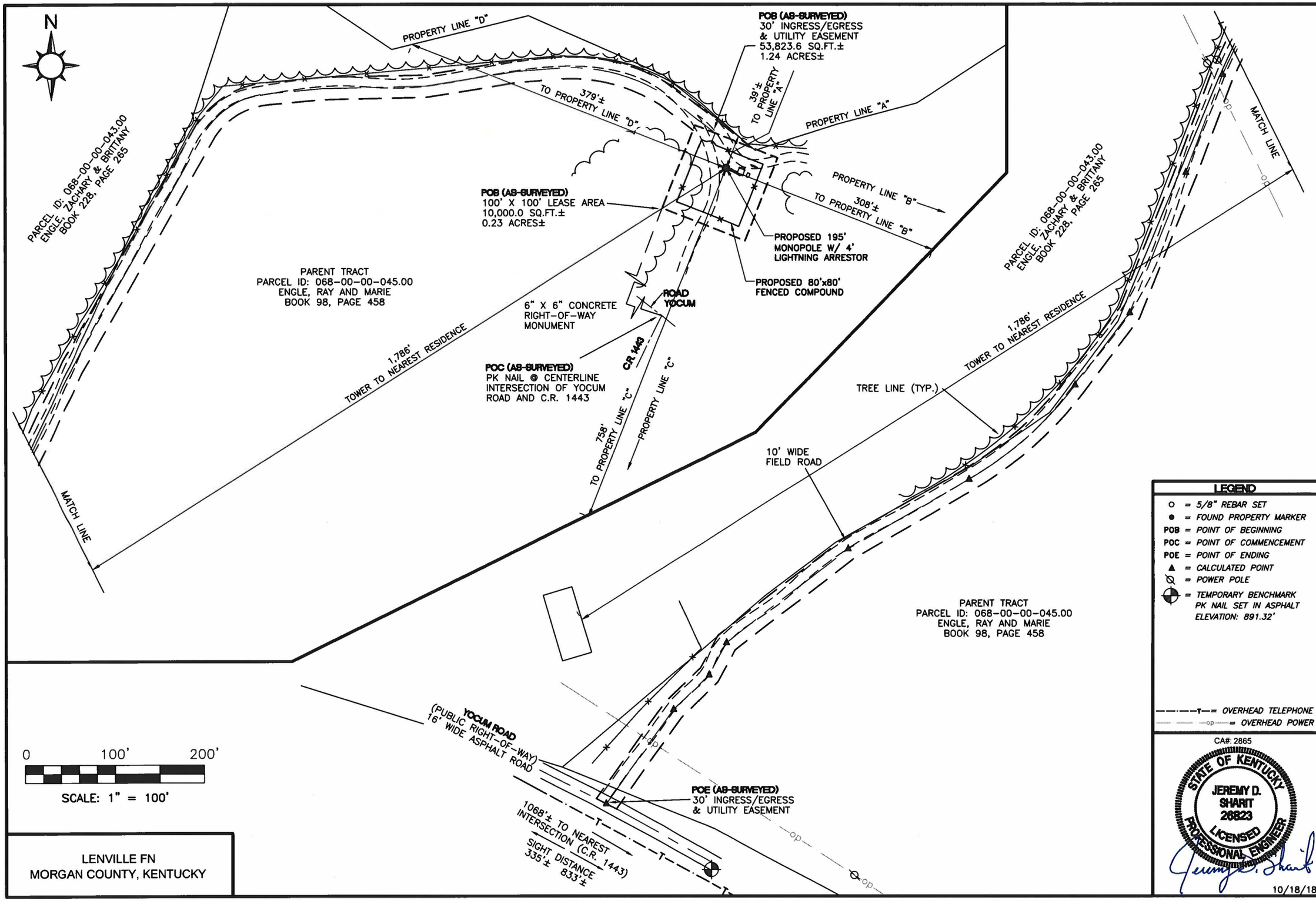
LENVILLE FN

500' RADIUS AND ABUTTERS MAP

DESIGNED: JDS
DRAWN: BMD
CHECKED: RTB

JOB #: 12719590

B-2



LENVILLE FN
MORGAN COUNTY, KENTUCKY

LEGEND

- ○ = 5/8" REBAR SET
- ● = FOUND PROPERTY MARKER
- POB = POINT OF BEGINNING
- POC = POINT OF COMMENCEMENT
- POE = POINT OF ENDING
- ▲ = CALCULATED POINT
- ⌀ = POWER POLE
- = TEMPORARY BENCHMARK PK NAIL SET IN ASPHALT ELEVATION: 891.32'
- —T— = OVERHEAD TELEPHONE
- —op— = OVERHEAD POWER

CA#: 2865

STATE OF KENTUCKY
JEREMY D. SHARIT
26823
LICENSED PROFESSIONAL ENGINEER

10/18/18

SMW ENGINEERING GROUP, INC.
TRUSTED PLANNING & BUILT TECHNOLOGY

SMW #: 18-0768

at&t

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2	10/18/18	ISSUED FOR CONSTRUCTION

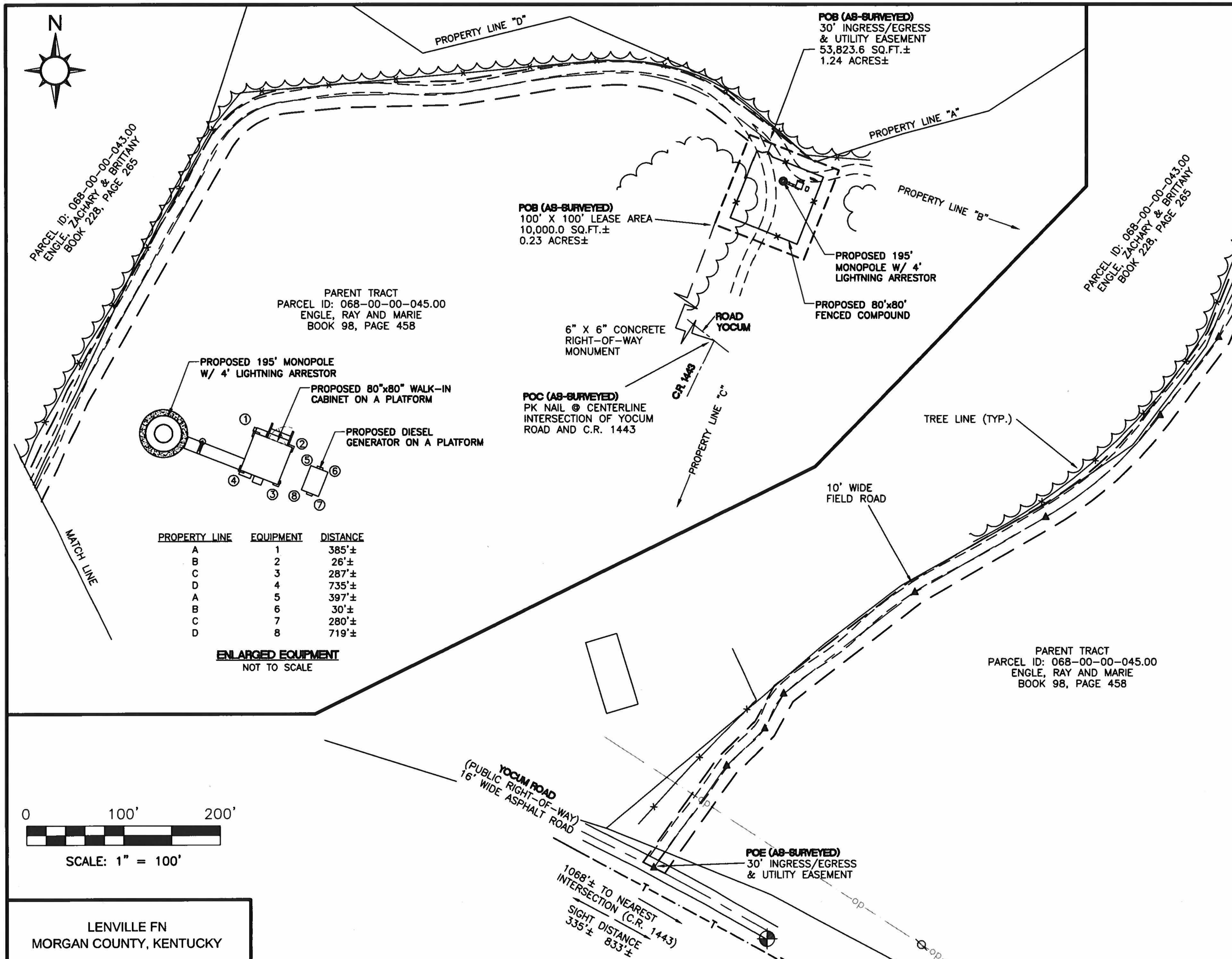
LENVILLE FN

OVERALL SITE LAYOUT

DESIGNED: JDS
DRAWN: BMD
CHECKED: RTB

JOB #: 12719590

C-1



PROPERTY LINE	EQUIPMENT	DISTANCE
A	1	385'±
B	2	26'±
C	3	287'±
D	4	735'±
A	5	397'±
B	6	30'±
C	7	280'±
D	8	719'±

ENLARGED EQUIPMENT
NOT TO SCALE

LENVILLE FN
MORGAN COUNTY, KENTUCKY

LEGEND

- ○ = 5/8" REBAR SET
- ● = FOUND PROPERTY MARKER
- POB = POINT OF BEGINNING
- POC = POINT OF COMMENCEMENT
- POE = POINT OF ENDING
- ▲ = CALCULATED POINT
- = POWER POLE
- = TEMPORARY BENCHMARK PK NAIL SET IN ASPHALT ELEVATION: 891.32'
- —T— = OVERHEAD TELEPHONE
- —op— = OVERHEAD POWER

CA#: 2865
STATE OF KENTUCKY
JEREMY D. SHARIT
26823
LICENSED PROFESSIONAL ENGINEER
10/18/18

SMW ENGINEERING GROUP, INC.
SMW #: 18-0768
at&t

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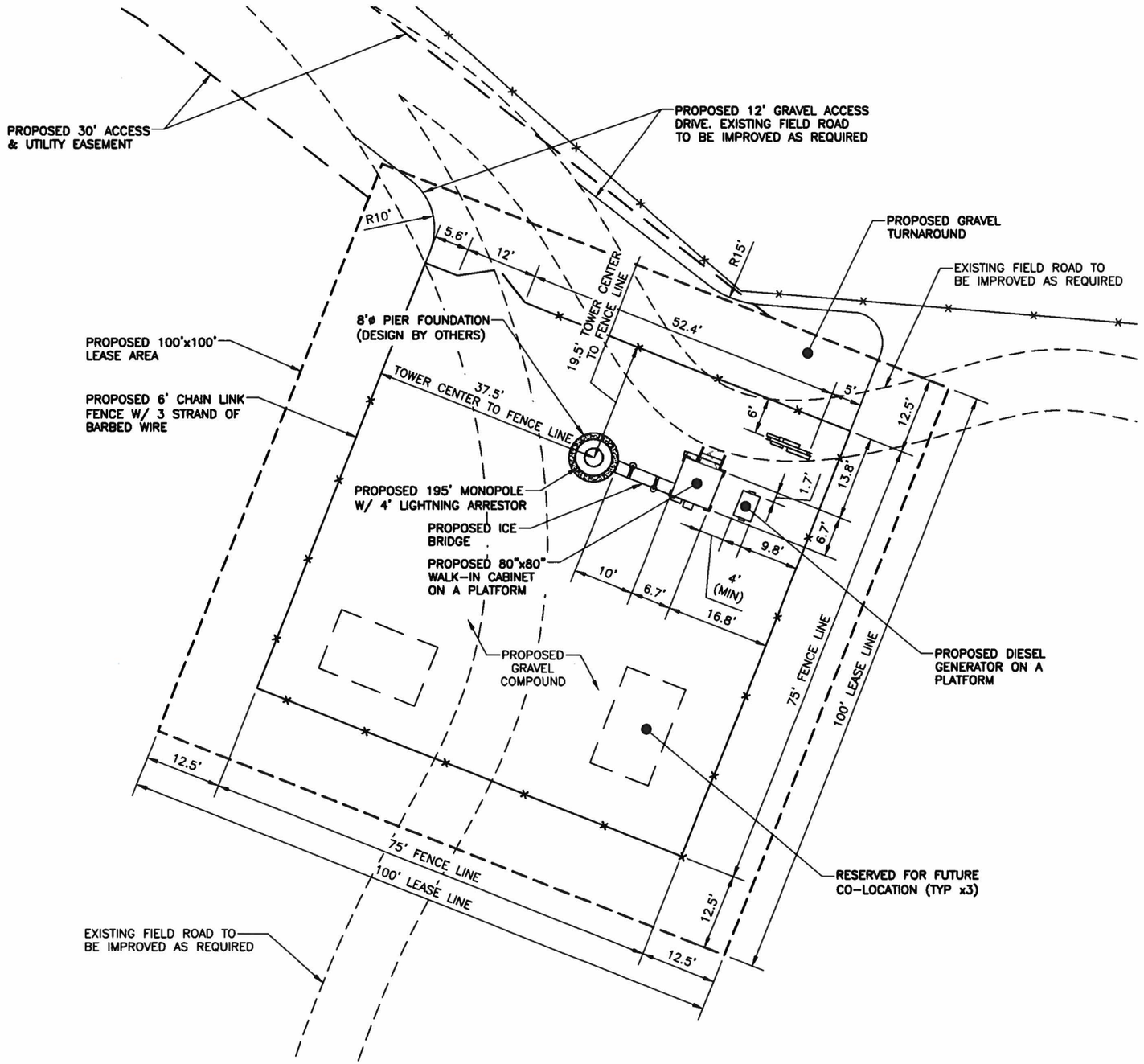
LENVILLE FN
OVERALL SITE LAYOUT - CONT'D

DESIGNED: JDS
DRAWN: BMD
CHECKED: RTB
JOB #: 12719590

C-2

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



N

0' 20' 40' 60'
1" = 20' (11"x17")

0' 10' 20' 30'
1" = 10' (24"x36")

1/C-3 ENLARGED COMPOUND LAYOUT

SMW ENGINEERING GROUP, INC.
SMW #: 18-0768

at&t

#	DATE	DESCRIPTION:
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1	10/15/18	REISSUED FOR CLIENT REV.
2	10/18/18	ISSUED FOR CONSTRUCTION

LENVILLE FN

ENLARGED COMPOUND LAYOUT

CA#: 2865
STATE OF KENTUCKY
JEREMY D. SHARIT
26823
LICENSED PROFESSIONAL ENGINEER
10/18/18

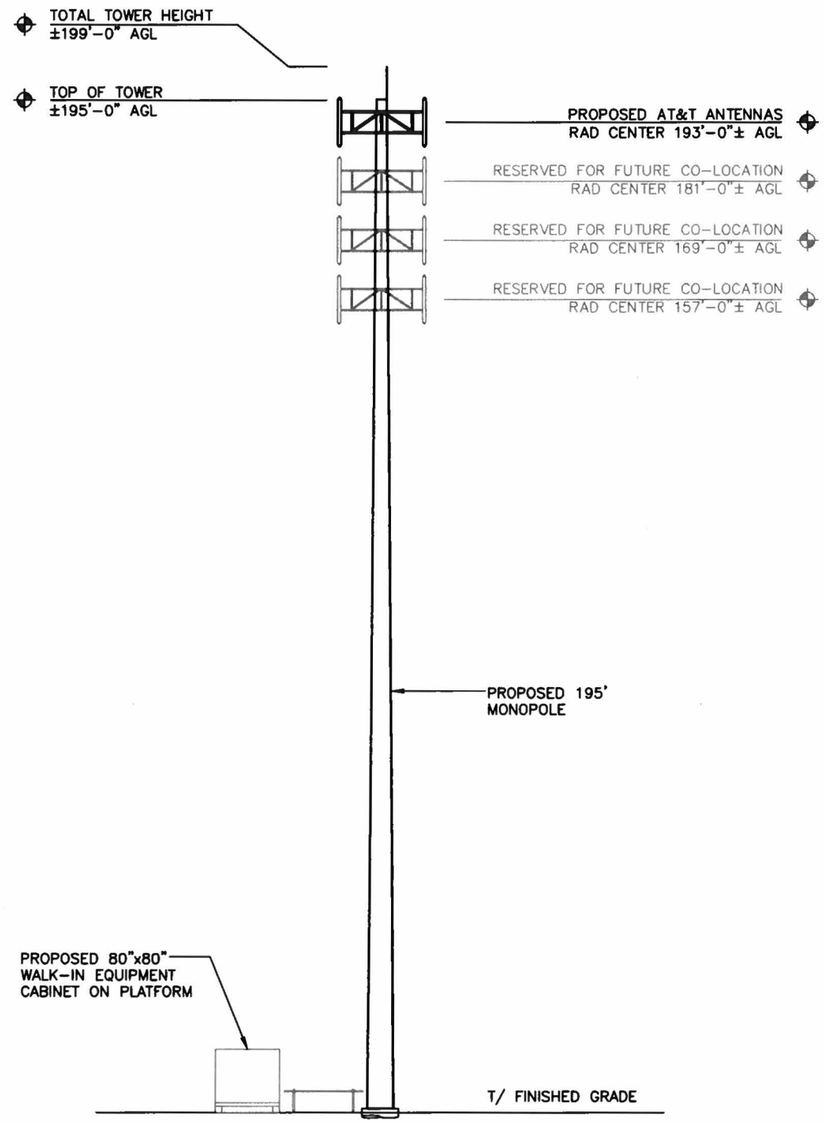
DESIGNED: JDS
DRAWN: BMD
CHECKED: RTB

JOB #: 12719590

C-3

TOWER NOTES

1. THE PROPOSED TOWER, FOUNDATION, ANTENNA MOUNTS AND ANTENNAS WERE DESIGNED BY OTHERS.
2. THE TOWER ELEVATION SHOWN IS FOR REFERENCE ONLY.
3. SEE TOWER MANUFACTURER'S DRAWINGS FOR TOWER AND FOUNDATION DETAILS & SPECIFICATIONS.
4. MANUFACTURER'S DRAWINGS SUPERSCEDE A&E DRAWINGS.



CA#: 2865

STATE OF KENTUCKY
JEREMY D. SHARIT
26823
LICENSED
PROFESSIONAL ENGINEER

10/18/18

SMW ENGINEERING GROUP, INC.
TOGETHER MAKING A BETTER TOMORROW

SMW #: 18-0768

at&t

#	DATE	DESCRIPTION:
0	10/05/18	ISSUED FOR CLIENT REV.
1	10/15/18	REISSUED FOR CLIENT REV.
2	10/18/18	ISSUED FOR CONSTRUCTION

LENVILLE FN

TOWER ELEVATION

DESIGNED: JDS
DRAWN: BMD
CHECKED: RTB

JOB #: 12719590

C-4

EXHIBIT C
TOWER AND FOUNDATION DESIGN

MasTec
Network Solutions

September 14, 2018
Kentucky Public Service Commission
211 Sower Blvd.
P.O. Box 615
Frankfort, KY 40602-0615

RE: Site Name – Lenville FN
Proposed Cell Tower
37 58 48.08 North Latitude, 83 18 36.59 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,

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

Sabre Industries™
Towers and Poles

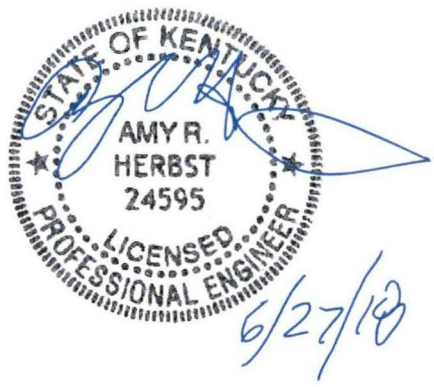
Structural Design Report

195' Monopole
Site: Lenville FN, KY

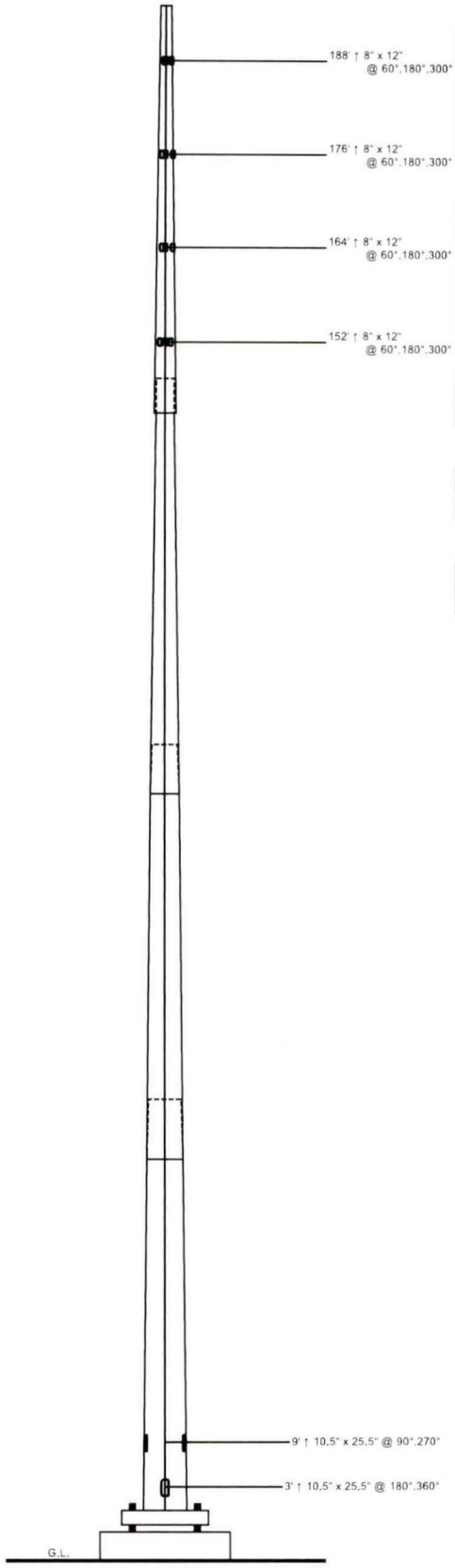
Prepared for: AT&T
by: Sabre Towers & Poles ™

Job Number: 412287

June 27, 2018



Length (ft)	53'-3"										52'-3"
Number Of Sides		18									
Thickness (in)			1/2"								3/8"
Lap Splice (ft)				7' - 9"				6' - 3"		A	
Top Diameter (in)	53.21"				41.62"				29.63"		17.25"
Bottom Diameter (in)	67.85"				56.34"				44.34"		31.62"
Taper (in/ft)						0.275					
Grade						A572-65					
Weight (lbs)	20555				14838				11165		5779
Overall Steel Height (ft)				194							



Designed Appurtenance Loading

Elev	Description	Tx-Line
190	(1) 278 sq. ft. EPA 6000# (no Ice)	(18) 1 5/8"
178	(1) 208 sq. ft. EPA 4000# (no ice)	(18) 1 5/8"
166	(1) 208 sq. ft. EPA 4000# (no ice)	(18) 1 5/8"
154	(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	93.21	61.35	9751.04	20.12	12.13
3s Gusted Wind 0.9 Dead	69.97	61.52	9565.8	19.59	11.76
3s Gusted Wind&Ice	142.09	10.05	1774.68	3.91	2.32
Service Loads	77.72	15.62	2479.38	5.28	3.12

Base Plate Dimensions

Shape	Diameter	Thickness	Bolt Circle	Bolt Qty	Bolt Diameter
Round	81"	2.5"	75.25"	26	2.25"

Anchor Bolt Dimensions

Length	Diameter	Hole Diameter	Weight	Type	Finish
84"	2.25"	2.625"	3148.6	A615-75	Galv

Material List

Display	Value
A	4' - 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 Industries™
Towers and Poles

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

Job:	**412287**
Customer:	AT&T
Site Name:	Lenville FN, KY
Description:	195' Monopole
Date:	6/27/2018 By: ARH

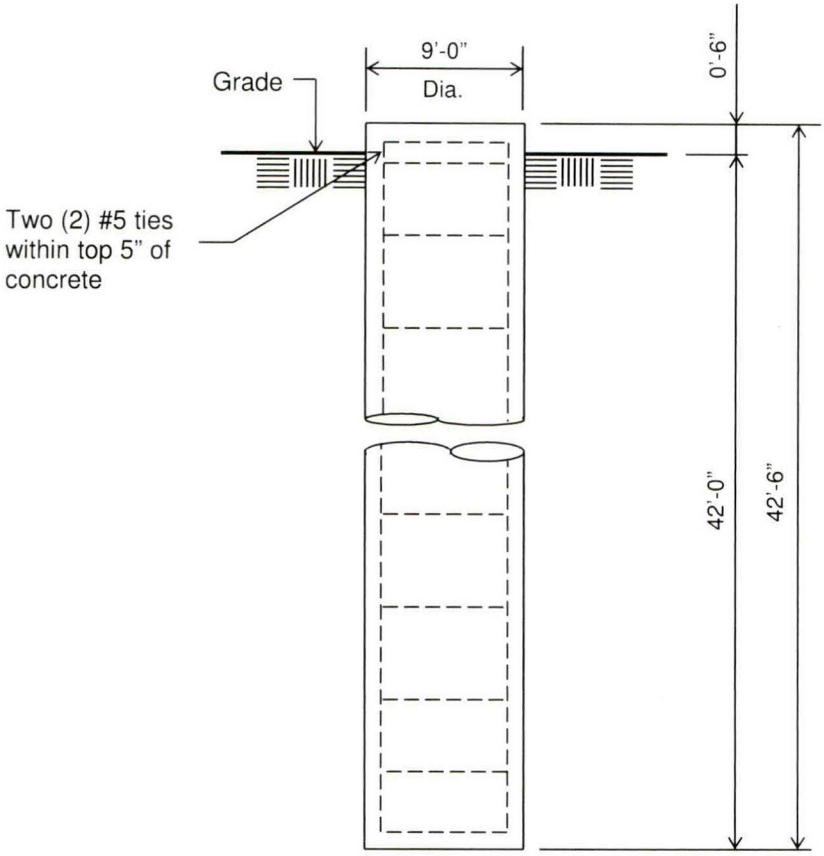
Sabre Industries™
Towers and Poles

No.: 412287

Date: 06/27/18
By: ARH

Customer: AT&T
Site: Lenville FN, KY
195' Monopole at
89 mph wind and 30 mph wind with 0.75" ice per ANSI/TIA-222-G.

PRELIMINARY -NOT FOR CONSTRUCTION-



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

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 presumptive clay soil as defined in ANSI/TIA-222-G-2005. It is recommended that a soil analysis of the site be performed to verify the soil parameters used in the design.

6) The foundation is based on the following factored loads:
   Moment = 9,751.04 k-ft
   Axial = 93.21 k
   Shear = 61.35 k

Rebar Schedule for Pier	
Pier	(36) #11 vertical rebar w/ #5 ties, two within top 5" of pier, then 12" C/C

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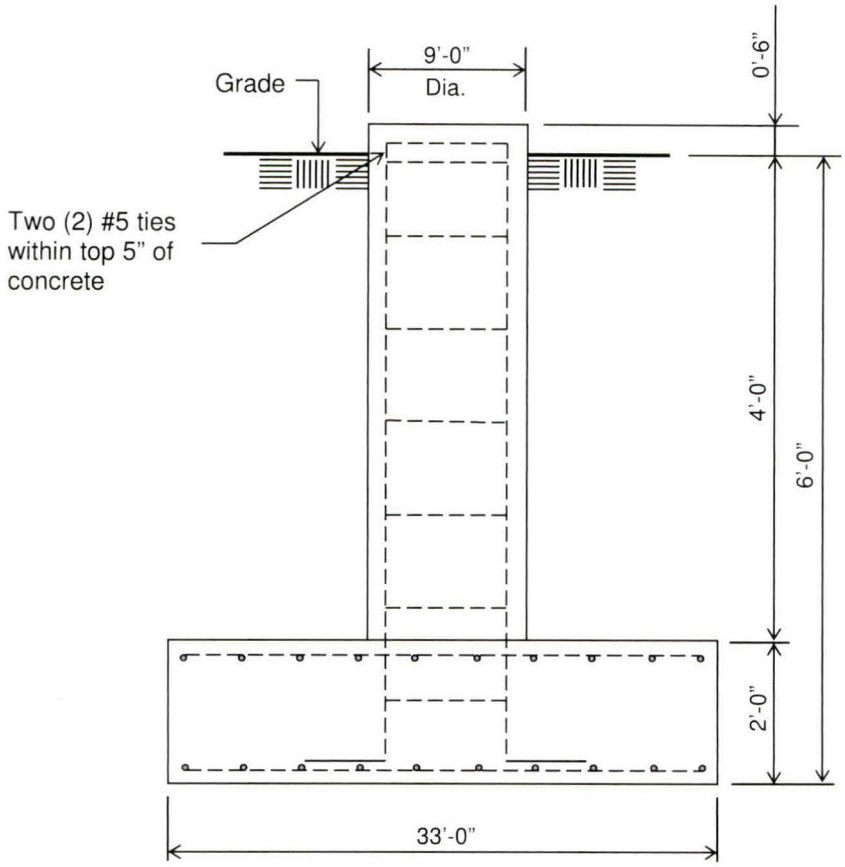
Sabre Industries™
Towers and Poles

No.: 412287

Date: 06/27/18
By: ARH

Customer: AT&T
Site: Lenville FN, KY
195' Monopole at
89 mph wind and 30 mph wind with 0.75" ice per ANSI/TIA-222-G.

PRELIMINARY -NOT FOR CONSTRUCTION-



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

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 presumptive clay soil as defined in ANSI/TIA-222-G-2005. It is recommended that a soil analysis of the site be performed to verify the soil parameters used in the design.

6) 4 ft of soil cover is required over the entire area of the foundation slab.

7) The foundation is based on the following factored loads:
   Moment = 9,751.04 k-ft
   Axial = 93.21 k
   Shear = 61.35 k

Rebar Schedule for Pad and Pier	
Pier	(60) #8 vertical rebar w/ hooks at bottom w/ #5 ties, two within top 5" of pier, then 12" C/C
Pad	(71) #8 horizontal rebar evenly spaced each way top and bottom (284 total)

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195' Monopole / Lenville FN, 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 ϕ*Pn kip	RESISTANCES ϕ*Mn ft-kip	SPLICE TYPE	...OVERLAP... LENGTH ft	...OVERLAP... RATIO	w/t
194.0										
			17.52	0.375	1492.2	510.9				
	A	18								6.3
			30.84	0.375	2652.4	1629.1				
146.2										
			30.84	0.375	2652.4	1629.1				
	A/B	18					SLIP	4.50	1.75	
			31.36	0.500	3582.0	2219.9				
141.7										
			31.36	0.500	3582.0	2219.9				
	B	18								9.1
			43.27	0.500	4965.0	4283.7				
99.0										
			43.27	0.500	4965.0	4283.7				
	B/C	18					SLIP	6.25	1.73	
			44.03	0.500	5053.3	4438.4				
92.7										
			44.03	0.500	5053.3	4438.4				
	C	18								13.5
			55.03	0.500	6211.3	6849.9				
53.2										
			55.03	0.500	6211.3	6849.9				
	C/D	18					SLIP	7.75	1.68	
			56.21	0.500	6308.0	7108.5				
45.5										
			56.21	0.500	6308.0	7108.5				
	D	18								17.8
			68.90	0.500	7246.5	10043.1				
0.0										

POLE ASSEMBLY

SECTION NAME	BASE ELEV ft	BOLTS AT BASE OF SECTION: NUMBER	TYPE	DIAM in	STRENGTH ksi	THREADS IN SHEAR PLANE	CALC BASE ELEV ft
A	141.750	0	A325	0.00	92.0	0	141.750
B	92.750	0	A325	0.00	92.0	0	92.750
C	45.500	0	A325	0.00	92.0	0	45.500
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	OUTSIDE.DIAMETER TOP * in	BEND RAD in	MAT-ERIAL ID	FLANGE.ID BOT	FLANGE.ID TOP	FLANGE.WELD ..GROUP.ID.. BOT	FLANGE.WELD ..GROUP.ID.. TOP
A	18	52.25	32.11	17.52	0.000	1	0	0	0	0
B	18	53.50	45.03	30.09	0.000	2	0	0	0	0
C	18	53.50	57.21	42.27	0.000	3	0	0	0	0
D	18	53.25	68.90	54.03	0.000	4	0	0	0	0

* - Diameter of circumscribed circle

MATERIAL TYPES

TYPE OF SHAPE	TYPE NO	NO OF ELEM.	ORIENT & deg	HEIGHT in	WIDTH in	.THICKNESS. WEB in	FLANGE in	IRREGULARITY .PROJECTION. % OF AREA	ORIENT deg
PL	1	1	0.0	32.11	0.38	0.375	0.375	0.00	0.0
PL	2	1	0.0	45.03	0.50	0.500	0.500	0.00	0.0
PL	3	1	0.0	57.21	0.50	0.500	0.500	0.00	0.0
PL	4	1	0.0	68.90	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 .. Fu ksi	Fy ksi	THERMAL COEFFICIENT /deg
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..LOAD..AT RADIUS ft	AZI	LOAD AZI	.....FORCES..... HORIZ kip	DOWN kip	.....MOMENTS..... VERTICAL ft-kip	TORSNAL ft-kip
C	189.000	0.00	0.0	0.0	0.0000	4.2457	0.0000	0.0000
C	189.000	0.00	0.0	0.0	13.6549	7.2000	0.0000	0.0000
C	177.000	0.00	0.0	0.0	0.0000	3.9761	0.0000	0.0000
C	177.000	0.00	0.0	0.0	10.0773	4.8000	0.0000	0.0000
C	165.000	0.00	0.0	0.0	0.0000	3.7066	0.0000	0.0000
C	165.000	0.00	0.0	0.0	9.9303	4.8000	0.0000	0.0000
C	153.000	0.00	0.0	0.0	0.0000	3.4370	0.0000	0.0000
C	153.000	0.00	0.0	0.0	9.7746	4.8000	0.0000	0.0000
D	194.000	0.00	180.0	0.0	0.0523	0.0930	0.0000	0.0000
D	178.083	0.00	180.0	0.0	0.0523	0.0930	0.0000	0.0000
D	178.083	0.00	180.0	0.0	0.0629	0.1140	0.0000	0.0000
D	162.167	0.00	180.0	0.0	0.0629	0.1140	0.0000	0.0000
D	162.167	0.00	180.0	0.0	0.0730	0.1349	0.0000	0.0000
D	146.250	0.00	180.0	0.0	0.0730	0.1349	0.0000	0.0000
D	146.250	0.00	180.0	0.0	0.0791	0.3418	0.0000	0.0000
D	141.750	0.00	180.0	0.0	0.0791	0.3418	0.0000	0.0000
D	141.750	0.00	180.0	0.0	0.0826	0.2099	0.0000	0.0000
D	127.500	0.00	180.0	0.0	0.0826	0.2099	0.0000	0.0000
D	127.500	0.00	180.0	0.0	0.0903	0.2350	0.0000	0.0000
D	113.250	0.00	180.0	0.0	0.0903	0.2350	0.0000	0.0000
D	113.250	0.00	180.0	0.0	0.0974	0.2600	0.0000	0.0000
D	99.000	0.00	180.0	0.0	0.0974	0.2600	0.0000	0.0000
D	99.000	0.00	180.0	0.0	0.1019	0.5506	0.0000	0.0000
D	92.750	0.00	180.0	0.0	0.1019	0.5506	0.0000	0.0000
D	92.750	0.00	180.0	0.0	0.1035	0.2897	0.0000	0.0000
D	79.583	0.00	180.0	0.0	0.1035	0.2897	0.0000	0.0000
D	79.583	0.00	180.0	0.0	0.1080	0.3129	0.0000	0.0000
D	66.417	0.00	180.0	0.0	0.1080	0.3129	0.0000	0.0000
D	66.417	0.00	180.0	0.0	0.1114	0.3361	0.0000	0.0000
D	53.250	0.00	180.0	0.0	0.1114	0.3361	0.0000	0.0000
D	53.250	0.00	180.0	0.0	0.1129	0.7034	0.0000	0.0000
D	45.500	0.00	180.0	0.0	0.1129	0.7034	0.0000	0.0000
D	45.500	0.00	180.0	0.0	0.1112	0.3657	0.0000	0.0000
D	34.125	0.00	180.0	0.0	0.1112	0.3657	0.0000	0.0000
D	34.125	0.00	180.0	0.0	0.1095	0.3858	0.0000	0.0000
D	22.750	0.00	180.0	0.0	0.1095	0.3858	0.0000	0.0000
D	22.750	0.00	180.0	0.0	0.1040	0.4059	0.0000	0.0000
D	0.000	0.00	180.0	0.0	0.1051	0.4260	0.0000	0.0000

LOADING CONDITION M

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

LOADS ON POLE

LOAD TYPE	ELEV ft	APPLY..LOAD..AT RADIUS ft	AZI	LOAD AZI	.....FORCES..... HORIZ kip	DOWN kip	.....MOMENTS..... VERTICAL ft-kip	TORSNAL ft-kip
C	189.000	0.00	0.0	0.0	0.0000	3.1843	0.0000	0.0000
C	189.000	0.00	0.0	0.0	13.6549	5.4000	0.0000	0.0000
C	177.000	0.00	0.0	0.0	0.0000	2.9821	0.0000	0.0000
C	177.000	0.00	0.0	0.0	10.0773	3.6000	0.0000	0.0000
C	165.000	0.00	0.0	0.0	0.0000	2.7799	0.0000	0.0000
C	165.000	0.00	0.0	0.0	9.9303	3.6000	0.0000	0.0000
C	153.000	0.00	0.0	0.0	0.0000	2.5777	0.0000	0.0000
C	153.000	0.00	0.0	0.0	9.7746	3.6000	0.0000	0.0000
D	194.000	0.00	180.0	0.0	0.0523	0.0698	0.0000	0.0000
D	178.083	0.00	180.0	0.0	0.0523	0.0698	0.0000	0.0000
D	178.083	0.00	180.0	0.0	0.0629	0.0855	0.0000	0.0000
D	162.167	0.00	180.0	0.0	0.0629	0.0855	0.0000	0.0000
D	162.167	0.00	180.0	0.0	0.0730	0.1012	0.0000	0.0000
D	146.250	0.00	180.0	0.0	0.0730	0.1012	0.0000	0.0000
D	146.250	0.00	180.0	0.0	0.0791	0.2563	0.0000	0.0000
D	141.750	0.00	180.0	0.0	0.0791	0.2563	0.0000	0.0000
D	141.750	0.00	180.0	0.0	0.0826	0.1574	0.0000	0.0000
D	127.500	0.00	180.0	0.0	0.0826	0.1574	0.0000	0.0000
D	127.500	0.00	180.0	0.0	0.0903	0.1762	0.0000	0.0000
D	113.250	0.00	180.0	0.0	0.0903	0.1762	0.0000	0.0000
D	113.250	0.00	180.0	0.0	0.0974	0.1950	0.0000	0.0000
D	99.000	0.00	180.0	0.0	0.0974	0.1950	0.0000	0.0000
D	99.000	0.00	180.0	0.0	0.1019	0.4129	0.0000	0.0000
D	92.750	0.00	180.0	0.0	0.1019	0.4129	0.0000	0.0000
D	92.750	0.00	180.0	0.0	0.1035	0.2172	0.0000	0.0000
D	79.583	0.00	180.0	0.0	0.1035	0.2172	0.0000	0.0000
D	79.583	0.00	180.0	0.0	0.1080	0.2347	0.0000	0.0000
D	66.417	0.00	180.0	0.0	0.1080	0.2347	0.0000	0.0000
D	66.417	0.00	180.0	0.0	0.1114	0.2521	0.0000	0.0000
D	53.250	0.00	180.0	0.0	0.1114	0.2521	0.0000	0.0000
D	53.250	0.00	180.0	0.0	0.1129	0.5275	0.0000	0.0000
D	45.500	0.00	180.0	0.0	0.1129	0.5275	0.0000	0.0000
D	45.500	0.00	180.0	0.0	0.1112	0.2743	0.0000	0.0000
D	34.125	0.00	180.0	0.0	0.1112	0.2743	0.0000	0.0000
D	34.125	0.00	180.0	0.0	0.1095	0.2894	0.0000	0.0000
D	22.750	0.00	180.0	0.0	0.1095	0.2894	0.0000	0.0000
D	22.750	0.00	180.0	0.0	0.1040	0.3045	0.0000	0.0000
D	0.000	0.00	180.0	0.0	0.1051	0.3195	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..LOAD..AT RADIUS ft	AZI	LOAD AZI	.....FORCES..... HORIZ kip	DOWN kip	.....MOMENTS..... VERTICAL ft-kip	TORSNAL ft-kip
C	189.000	0.00	0.0	0.0	0.0000	4.2457	0.0000	0.0000
C	189.000	0.00	0.0	0.0	1.6678	17.9218	0.0000	0.0000
C	177.000	0.00	0.0	0.0	0.0000	3.9761	0.0000	0.0000
C	177.000	0.00	0.0	0.0	1.9861	11.9014	0.0000	0.0000
C	165.000	0.00	0.0	0.0	0.0000	3.7066	0.0000	0.0000
C	165.000	0.00	0.0	0.0	1.9484	11.8520	0.0000	0.0000
C	153.000	0.00	0.0	0.0	0.0000	3.4370	0.0000	0.0000
C	153.000	0.00	0.0	0.0	1.9087	11.7993	0.0000	0.0000
D	194.000	0.00	180.0	0.0	0.0081	0.1400	0.0000	0.0000
D	178.083	0.00	180.0	0.0	0.0081	0.1400	0.0000	0.0000
D	178.083	0.00	180.0	0.0	0.0095	0.1701	0.0000	0.0000
D	162.167	0.00	180.0	0.0	0.0095	0.1701	0.0000	0.0000
D	162.167	0.00	180.0	0.0	0.0107	0.1999	0.0000	0.0000
D	146.250	0.00	180.0	0.0	0.0107	0.1999	0.0000	0.0000

D	146.250	0.00	180.0	0.0	0.0115	0.4124	0.0000	0.0000
D	141.750	0.00	180.0	0.0	0.0115	0.4124	0.0000	0.0000
D	141.750	0.00	180.0	0.0	0.0120	0.2839	0.0000	0.0000
D	127.500	0.00	180.0	0.0	0.0120	0.2839	0.0000	0.0000
D	127.500	0.00	180.0	0.0	0.0129	0.3164	0.0000	0.0000
D	113.250	0.00	180.0	0.0	0.0129	0.3164	0.0000	0.0000
D	113.250	0.00	180.0	0.0	0.0138	0.3486	0.0000	0.0000
D	99.000	0.00	180.0	0.0	0.0138	0.3486	0.0000	0.0000
D	99.000	0.00	180.0	0.0	0.0144	0.6441	0.0000	0.0000
D	92.750	0.00	180.0	0.0	0.0144	0.6441	0.0000	0.0000
D	92.750	0.00	180.0	0.0	0.0146	0.3856	0.0000	0.0000
D	79.583	0.00	180.0	0.0	0.0146	0.3856	0.0000	0.0000
D	79.583	0.00	180.0	0.0	0.0151	0.4145	0.0000	0.0000
D	66.417	0.00	180.0	0.0	0.0151	0.4145	0.0000	0.0000
D	66.417	0.00	180.0	0.0	0.0155	0.4429	0.0000	0.0000
D	53.250	0.00	180.0	0.0	0.0155	0.4429	0.0000	0.0000
D	53.250	0.00	180.0	0.0	0.0156	0.8137	0.0000	0.0000
D	45.500	0.00	180.0	0.0	0.0156	0.8137	0.0000	0.0000
D	45.500	0.00	180.0	0.0	0.0154	0.4771	0.0000	0.0000
D	11.375	0.00	180.0	0.0	0.0143	0.5194	0.0000	0.0000
D	11.375	0.00	180.0	0.0	0.0143	0.5332	0.0000	0.0000
D	0.000	0.00	180.0	0.0	0.0143	0.5332	0.0000	0.0000

195' Monopole / Lenville FN, KY

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

MAST ELEV ft	.....DEFLECTIONS (ft)..... HORIZONTAL ALONG	ACROSS	DOWN	.....ROTATIONS (deg)..... TILT ALONG	ACROSS	TWIST
194.0	20.12K	-0.04E	3.00K	12.13K	-0.02E	0.01o
178.1	16.91K	-0.04E	2.32K	11.92K	-0.02E	0.01o
162.2	13.83K	-0.03E	1.70K	11.05K	-0.02E	0.01o
146.2	11.03K	-0.03E	1.20K	9.72K	-0.02E	0.00o
141.7	10.30L	-0.03E	1.07L	9.39K	-0.02E	0.00o
127.5	8.16L	-0.02E	0.75L	8.22L	-0.02E	0.00o
113.2	6.29L	-0.02E	0.50L	7.07L	-0.02E	0.00o
99.0	4.69L	-0.01E	0.31L	5.97L	-0.02E	0.00o
92.7	4.07L	-0.01E	0.25L	5.52L	-0.01E	0.00o
79.6	2.93L	-0.01E	0.15L	4.55L	-0.01E	0.00o
66.4	1.99L	-0.01E	0.08L	3.65L	-0.01E	0.00o
53.2	1.25L	0.00E	0.04L	2.83L	-0.01E	0.00o
45.5	0.90L	0.00E	0.03L	2.38L	-0.01E	0.00o
34.1	0.49L	0.00E	0.01L	1.72L	0.00E	0.00o
22.7	0.21L	0.00E	0.00K	1.11L	0.00E	0.00o
11.4	0.05L	0.00E	0.00K	0.53L	0.00E	0.00o
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	TOTAL	SHEAR.w.r.t.WIND.DIR	MOMENT.w.r.t.WIND.DIR	TORSION

ELEV ft	AXIAL kip	ALONG kip	ACROSS kip	ALONG ft-kip	ACROSS ft-kip	ft-kip
194.0						
	-0.01 A	0.00 O	0.00 R	0.01 R	0.00 R	0.00 W
	24.39 AA	14.47 O	0.00 R	-176.50 C	-0.03 C	0.05 O
178.1						
	24.40 AA	14.48 A	0.01 K	-176.50 C	-0.03 C	0.05 O
	58.54 AA	35.47 A	0.01 K	-648.30 K	-0.16 C	0.17 O
162.2						
	58.54 AJ	35.47 Q	-0.01 B	-648.33 C	-0.14 C	0.17 O
	76.95 AJ	46.39 Q	-0.01 B	-1369.58 K	0.35 B	0.37 O
146.2						
	76.95 AA	46.48 M	-0.17 Q	-1370.15 K	0.31 O	0.35 O
	78.81 AA	46.84 M	-0.17 Q	-1604.94 C	-0.62 K	0.48 O
141.7						
	78.81 AA	46.94 N	0.22 O	-1605.27 K	-0.70 K	0.45 O
	82.85 AA	48.10 N	0.22 O	-2362.20 K	-2.55 O	1.11 O
127.5						
	82.86 AG	48.23 N	-0.21 E	-2362.21 K	-2.55 O	1.12 O
	87.36 AG	49.51 N	-0.21 E	-3133.92 K	5.27 E	1.65 O
113.2						
	87.36 AG	49.49 N	0.20 O	-3133.93 K	5.32 E	1.65 O
	92.33 AG	50.87 N	0.20 O	-3920.29 L	8.17 E	2.15 O
99.0						
	92.33 AG	50.95 N	-0.25 E	-3920.38 L	8.09 E	2.14 O
	96.36 AG	51.58 N	-0.25 E	-4270.21 L	9.68 E	2.33 O
92.7						
	96.35 AG	51.48 N	0.22 N	-4270.24 K	9.70 E	2.33 O
	101.43 AG	52.83 N	0.22 N	-5016.91 K	11.55 E	2.65 O
79.6						
	101.43 AG	52.87 M	-0.20 E	-5016.91 K	11.60 E	2.65 O
	106.89 AG	54.29 M	-0.20 E	-5774.31 L	14.31 E	2.88 O
66.4						
	106.89 AG	54.28 M	-0.22 E	-5774.26 L	14.30 E	2.88 O
	112.72 AG	55.74 M	-0.22 E	-6543.61 L	17.24 E	3.06 O
53.2						
	112.72 AG	55.74 N	0.24 N	-6543.61 L	17.23 E	3.06 O
	119.03 AG	56.61 N	0.24 N	-7001.77 L	18.55 E	3.16 O
45.5						
	119.03 AG	56.62 N	0.21 F	-7001.86 L	18.51 E	3.16 O
	124.53 AG	57.88 N	0.21 F	-7680.82 L	20.89 E	3.27 O
34.1						
	124.53 AG	57.90 N	0.21 F	-7680.79 L	20.90 E	3.27 O
	130.20 AG	59.14 N	0.21 F	-8366.00 L	23.13 E	3.34 O
22.7						
	130.20 AG	59.15 N	0.22 F	-8366.00 L	23.13 E	3.34 O
	136.03 AG	60.34 N	0.22 F	-9056.26 L	25.48 E	3.39 O
11.4						
	136.03 AG	60.33 N	0.21 F	-9056.27 L	25.48 E	3.39 O
	142.09 AG	61.52 N	0.21 F	-9751.04 L	27.75 E	3.40 O
base reaction	142.09 AG	-61.52 N	-0.21 F	9751.04 L	-27.75 E	-3.40 O

COMPLIANCE WITH 4.8.2 & 4.5.4

ELEV ft	AXIAL	BENDING	SHEAR + TORSIONAL		TOTAL	SATISFIED	D/t(w/t)	MAX ALLOWED
194.00								
	0.00A	0.00R	0.000	0.00R		YES	6.35A	45.2
	0.01AA	0.22C	0.020	0.22C		YES	8.41A	45.2
178.08								

	0.01AA	0.22C	0.02A	0.22C	YES	8.41A	45.2
	0.03AA	0.55K	0.03A	0.56B	YES	10.46A	45.2
162.17							
	0.03AJ	0.55C	0.03Q	0.56C	YES	10.46A	45.2
	0.03AJ	0.84K	0.03Q	0.86K	YES	12.52A	45.2
146.25							
	0.02AA	0.64K	0.03M	0.65K	YES	8.95A	45.2
	0.02AA	0.69C	0.03M	0.70C	YES	9.39A	45.2
141.75							
	0.02AA	0.72K	0.03N	0.74K	YES	9.12A	45.2
	0.02AA	0.83K	0.02N	0.85K	YES	10.50A	45.2
127.50							
	0.02AG	0.83K	0.02N	0.85K	YES	10.50A	45.2
	0.02AG	0.89K	0.02N	0.90K	YES	11.89A	45.2
113.25							
	0.02AG	0.89K	0.02N	0.90K	YES	11.89A	45.2
	0.02AG	0.91L	0.02N	0.93L	YES	13.27A	45.2
99.00							
	0.02AG	0.91L	0.02N	0.93L	YES	13.27A	45.2
	0.02AG	0.92L	0.02N	0.93K	YES	13.88A	45.2
92.75							
	0.02AG	0.96K	0.02N	0.97K	YES	13.52A	45.2
	0.02AG	0.96K	0.02N	0.97K	YES	14.80A	45.2
79.58							
	0.02AG	0.96K	0.02N	0.97K	YES	14.80A	45.2
	0.02AG	0.95L	0.02N	0.96K	YES	16.08A	45.2
66.42							
	0.02AG	0.95L	0.02N	0.96K	YES	16.08A	45.2
	0.02AG	0.95L	0.02N	0.97L	YES	17.35A	45.2
53.25							
	0.02AG	0.95L	0.02N	0.97L	YES	17.35A	45.2
	0.02AG	0.96L	0.02N	0.97L	YES	18.11A	45.2
45.50							
	0.02AG	0.99L	0.02N	1.00L	YES	17.75A	45.2
	0.02AG	0.98L	0.02N	1.00L	YES	18.86A	45.2
34.12							
	0.02AG	0.98L	0.02N	1.00L	YES	18.86A	45.2
	0.02AG	0.98L	0.02N	0.99L	YES	19.96A	45.2
22.75							
	0.02AG	0.98L	0.02N	0.99L	YES	19.96A	45.2
	0.02AG	0.98L	0.02N	0.99L	YES	21.06A	45.2
11.37							
	0.02AG	0.98L	0.02N	0.99L	YES	21.06A	45.2
	0.02AG	0.97L	0.02N	0.98L	YES	22.17A	45.2
0.00							

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

DOWN	SHEAR.w.r.t.WIND.DIR ALONG	ACROSS	MOMENT.w.r.t.WIND.DIR ALONG	ACROSS	TORSION
kip	kip	kip	ft-kip	ft-kip	ft-kip
142.09	61.52	0.21	-9751.04	27.75	3.40
AG	N	F	L	E	O

****
********** 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

LOAD TYPE	ELEV ft	APPLY..LOAD..AT RADIUS ft	AZI	LOAD AZI	.....FORCES..... HORIZ kip	DOWN kip	.....MOMENTS..... VERTICAL ft-kip	TORSNAL ft-kip
C	189.000	0.00	0.0	0.0	0.0000	3.5381	0.0000	0.0000
C	189.000	0.00	0.0	0.0	3.4705	6.0000	0.0000	0.0000
C	177.000	0.00	0.0	0.0	0.0000	3.3134	0.0000	0.0000
C	177.000	0.00	0.0	0.0	2.5612	4.0000	0.0000	0.0000
C	165.000	0.00	0.0	0.0	0.0000	3.0888	0.0000	0.0000
C	165.000	0.00	0.0	0.0	2.5238	4.0000	0.0000	0.0000
C	153.000	0.00	0.0	0.0	0.0000	2.8642	0.0000	0.0000
C	153.000	0.00	0.0	0.0	2.4843	4.0000	0.0000	0.0000
D	194.000	0.00	180.0	0.0	0.0133	0.0775	0.0000	0.0000
D	178.083	0.00	180.0	0.0	0.0133	0.0775	0.0000	0.0000
D	178.083	0.00	180.0	0.0	0.0160	0.0950	0.0000	0.0000
D	162.167	0.00	180.0	0.0	0.0160	0.0950	0.0000	0.0000
D	162.167	0.00	180.0	0.0	0.0186	0.1125	0.0000	0.0000
D	146.250	0.00	180.0	0.0	0.0186	0.1125	0.0000	0.0000
D	146.250	0.00	180.0	0.0	0.0201	0.2848	0.0000	0.0000
D	141.750	0.00	180.0	0.0	0.0201	0.2848	0.0000	0.0000
D	141.750	0.00	180.0	0.0	0.0210	0.1749	0.0000	0.0000
D	127.500	0.00	180.0	0.0	0.0210	0.1749	0.0000	0.0000
D	127.500	0.00	180.0	0.0	0.0230	0.1958	0.0000	0.0000
D	113.250	0.00	180.0	0.0	0.0230	0.1958	0.0000	0.0000
D	113.250	0.00	180.0	0.0	0.0247	0.2167	0.0000	0.0000
D	99.000	0.00	180.0	0.0	0.0247	0.2167	0.0000	0.0000
D	99.000	0.00	180.0	0.0	0.0259	0.4588	0.0000	0.0000
D	92.750	0.00	180.0	0.0	0.0259	0.4588	0.0000	0.0000
D	92.750	0.00	180.0	0.0	0.0263	0.2414	0.0000	0.0000
D	79.583	0.00	180.0	0.0	0.0263	0.2414	0.0000	0.0000
D	79.583	0.00	180.0	0.0	0.0275	0.2607	0.0000	0.0000
D	66.417	0.00	180.0	0.0	0.0275	0.2607	0.0000	0.0000
D	66.417	0.00	180.0	0.0	0.0283	0.2801	0.0000	0.0000
D	53.250	0.00	180.0	0.0	0.0283	0.2801	0.0000	0.0000
D	53.250	0.00	180.0	0.0	0.0287	0.5862	0.0000	0.0000
D	45.500	0.00	180.0	0.0	0.0287	0.5862	0.0000	0.0000
D	45.500	0.00	180.0	0.0	0.0283	0.3048	0.0000	0.0000
D	34.125	0.00	180.0	0.0	0.0283	0.3048	0.0000	0.0000
D	34.125	0.00	180.0	0.0	0.0278	0.3215	0.0000	0.0000
D	22.750	0.00	180.0	0.0	0.0278	0.3215	0.0000	0.0000
D	22.750	0.00	180.0	0.0	0.0264	0.3383	0.0000	0.0000
D	0.000	0.00	180.0	0.0	0.0267	0.3550	0.0000	0.0000

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

MAST ELEV ft	.....DEFLECTIONS (ft)..... HORIZONTAL ..... ALONG	ACROSS	DOWN	.....ROTATIONS (deg)..... TILT ..... ALONG	ACROSS	TWIST
194.0	5.28C	0.01K	0.21C	3.12C	0.00K	0.00F
178.1	4.41C	0.01K	0.16C	3.07C	0.00K	0.00F
162.2	3.59C	0.01K	0.12C	2.84C	0.00K	0.00F
146.2	2.85C	0.01K	0.08C	2.49C	0.00K	0.00F
141.7	2.66C	0.01K	0.07C	2.41C	0.00K	0.00F
127.5	2.10C	0.01K	0.05C	2.10C	0.00K	0.00F

113.2	1.61C	0.00K	0.03C	1.80C	0.00K	0.00F
99.0	1.20C	0.00K	0.02C	1.52C	0.00K	0.00F
92.7	1.04C	0.00K	0.02C	1.41C	0.00K	0.00F
79.6	0.75C	0.00K	0.01C	1.16C	0.00K	0.00F
66.4	0.51C	0.00K	0.01C	0.93C	0.00K	0.00F
53.2	0.32C	0.00K	0.00C	0.72C	0.00K	0.00F
45.5	0.23C	0.00K	0.00C	0.61C	0.00K	0.00F
34.1	0.13C	0.00K	0.00C	0.44C	0.00K	0.00F
22.7	0.05C	0.00K	0.00C	0.28C	0.00K	0.00F
11.4	0.01C	0.00K	0.00C	0.14C	0.00K	0.00F
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 ALONG kip	ACROSS kip	MOMENT.w.r.t.WIND.DIR ALONG ft-kip	ACROSS ft-kip	TORSION ft-kip
194.0	0.00 A	0.00 K	0.00 L	0.00 I	0.00 I	0.00 I
	10.77 A	3.68 K	0.00 L	-45.62 D	0.01 I	0.00 F
178.1	10.77 E	3.68 E	0.00 H	-45.62 D	0.01 F	0.00 F
	26.68 E	9.02 E	0.00 H	-167.19 D	0.03 F	0.01 F
162.2	26.68 B	9.02 H	0.00 B	-167.19 D	0.03 F	0.01 F
	35.34 B	11.80 H	0.00 B	-352.11 D	0.05 F	0.02 F
146.2	35.34 E	11.86 L	-0.05 C	-352.20 F	0.13 F	0.02 I
	36.62 E	11.95 L	-0.05 C	-412.35 L	0.15 L	0.03 F
141.7	36.64 D	11.97 C	-0.04 C	-412.37 L	0.18 L	0.03 F
	39.13 D	12.27 C	-0.04 C	-605.82 C	0.63 C	0.05 F
127.5	39.13 C	12.25 C	0.04 K	-605.80 C	0.62 C	0.05 F
	41.92 C	12.58 C	0.04 K	-802.15 C	-1.11 K	0.08 F
113.2	41.92 C	12.57 C	0.04 K	-802.14 C	-1.11 K	0.08 F
	45.01 C	12.93 C	0.04 K	-1001.56 C	-1.71 K	0.10 F
99.0	45.01 C	12.94 C	0.04 F	-1001.52 C	-1.76 K	0.10 F
	47.87 C	13.10 C	0.04 F	-1090.32 C	-1.98 K	0.11 F
92.7	47.87 C	13.08 C	0.05 K	-1090.30 C	-2.00 K	0.11 F
	51.05 C	13.42 C	0.05 K	-1279.18 C	-2.65 K	0.13 F
79.6	51.05 C	13.42 C	0.06 K	-1279.17 C	-2.65 K	0.13 F
	54.48 C	13.78 C	0.06 K	-1470.72 C	-3.42 K	0.14 F
66.4	54.48 C	13.78 C	0.06 K	-1470.72 C	-3.42 K	0.14 F
	58.17 C	14.15 C	0.06 K	-1665.19 C	-4.21 K	0.15 F
53.2	58.17 C	14.16 C	0.05 K	-1665.18 C	-4.21 K	0.15 F
	62.71 C	14.38 C	0.05 K	-1781.12 C	-4.57 K	0.16 F
45.5	62.71 C	14.38 C	0.05 K	-1781.12 C	-4.57 K	0.16 F
	66.18 C	14.70 C	0.05 K	-1953.12 C	-5.07 K	0.16 F
34.1	66.18 C	14.70 C	0.04 K	-1953.12 C	-5.08 K	0.16 F

22.7	69.84 C	15.02 C	0.04 K	-2126.94 C	-5.57 K	0.17 F
	69.84 C	15.02 C	0.04 K	-2126.95 C	-5.57 K	0.17 F
11.4	73.73 C	15.32 C	0.04 K	-2302.41 C	-6.05 K	0.17 F
	73.73 C	15.32 C	0.04 K	-2302.41 C	-6.05 K	0.17 F
	77.72 C	15.62 C	0.04 K	-2479.38 C	-6.53 K	0.17 F
base reaction	77.72 C	-15.62 C	-0.04 K	2479.38 C	6.53 K	-0.17 F

COMPLIANCE WITH 4.8.2 & 4.5.4

ELEV ft	AXIAL	BENDING	SHEAR + TORSIONAL	TOTAL	SATISFIED	D/t(w/t)	MAX ALLOWED
194.00	0.00A	0.00I	0.00K	0.00I	YES	6.35A	45.2
	0.01A	0.06D	0.00K	0.06D	YES	8.41A	45.2
178.08	0.01E	0.06D	0.00E	0.06D	YES	8.41A	45.2
	0.01E	0.14D	0.01E	0.15D	YES	10.46A	45.2
162.17	0.01B	0.14D	0.01H	0.15D	YES	10.46A	45.2
	0.01B	0.22D	0.01H	0.23D	YES	12.52A	45.2
146.25	0.01E	0.16F	0.01L	0.17F	YES	8.95A	45.2
	0.01E	0.18L	0.01L	0.19L	YES	9.39A	45.2
141.75	0.01D	0.19L	0.01C	0.20L	YES	9.12A	45.2
	0.01D	0.21C	0.01C	0.22C	YES	10.50A	45.2
127.50	0.01C	0.21C	0.01C	0.22C	YES	10.50A	45.2
	0.01C	0.23C	0.01C	0.24C	YES	11.89A	45.2
113.25	0.01C	0.23C	0.01C	0.24C	YES	11.89A	45.2
	0.01C	0.23C	0.01C	0.24C	YES	13.27A	45.2
99.00	0.01C	0.23C	0.01C	0.24C	YES	13.27A	45.2
	0.01C	0.23C	0.01C	0.24C	YES	13.88A	45.2
92.75	0.01C	0.25C	0.01C	0.26C	YES	13.52A	45.2
	0.01C	0.24C	0.00C	0.25C	YES	14.80A	45.2
79.58	0.01C	0.24C	0.00C	0.25C	YES	14.80A	45.2
	0.01C	0.24C	0.00C	0.25C	YES	16.08A	45.2
66.42	0.01C	0.24C	0.00C	0.25C	YES	16.08A	45.2
	0.01C	0.24C	0.00C	0.25C	YES	17.35A	45.2
53.25	0.01C	0.24C	0.00C	0.25C	YES	17.35A	45.2
	0.01C	0.24C	0.00C	0.25C	YES	18.11A	45.2
45.50	0.01C	0.25C	0.00C	0.26C	YES	17.75A	45.2
	0.01C	0.25C	0.00C	0.26C	YES	18.86A	45.2
34.12	0.01C	0.25C	0.00C	0.26C	YES	18.86A	45.2
	0.01C	0.25C	0.00C	0.26C	YES	19.96A	45.2
22.75	0.01C	0.25C	0.00C	0.26C	YES	19.96A	45.2
	0.01C	0.25C	0.00C	0.26C	YES	21.06A	45.2
11.37	0.01C	0.25C	0.00C	0.26C	YES	21.06A	45.2

	0.01C	0.25C	0.00C	0.26C	YES	22.17A	45.2
0.00	.....						

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

DOWN	SHEAR.w.r.t.WIND.DIR ALONG	ACROSS	MOMENT.w.r.t.WIND.DIR ALONG	ACROSS	TORSION
kip	kip	kip	ft-kip	ft-kip	ft-kip
77.72	15.62	0.04	-2479.38	-6.53	0.17
C	C	K	C	K	F

Sabre Industries™
Towers and Poles

SO#: 412287
Site Name: Lenville FN, KY
Date: 6/27/2018

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

Pole Data

Diameter:	67.850	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:	9751.04	ft-kips
Axial, Pu:	93.21	kips
Shear, Vu:	61.35	kips

Anchor Rod Data

Quantity:	26		
Diameter:	2.25	in	
Rod Material:	A615		
Strength (Fu):	100	ksi	
Yield (Fy):	75	ksi	
BC Diam. (in):	75.25	BC Override:	

Anchor Rod Results

Maximum Rod (Pu+ Vu/η):	247.5 Kips	
Allowable Φ*Rnt:	260.0 Kips	(per 4.9.9)
Anchor Rod Interaction Ratio:	**95.2%** **Pass**	

Plate Data

Diameter (in):	81	Dia. Override:	
Thickness:	2.5	in	
Yield (Fy):	50	ksi	
Eff Width/Rod:	8.28	in	
Drain Hole:	2.625	in. diameter	
Drain Location:	31.75	in. center of pole to center of drain hole	
Center Hole:	55.5	in. diameter	

Base Plate Results

Base Plate (Mu/Z):	43.7 ksi	
Allowable Φ*Fy:	45.0 ksi	(per AISC)
Base Plate Interaction Ratio:	**97.1%** **Pass**	

LPile for Windows, Version 2018-10.003

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

This copy of LPile is being used by:

Amy R. Herbst
Sabre

Serial Number of Security Device: 227886682

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Files Used for Analysis

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

Name of input data file:
412287.lp10

Name of output report file:
412287.lp10

Name of plot output file:
412287.lp10

Name of runtime message file:
412287.lp10

Date and Time of Analysis

Date: June 27, 2018 Time: 16:53:54

Problem Title

Site : Lenville FN, KY

Tower : 195' Monopole

Prepared for : AT&T

Job Number : 412287

Engineer : ARH

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 = 42.500 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	108.0000
2	42.500	108.0000

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 = 42.500000 ft
Shaft Diameter = 108.000000 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 1 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 = 60.500000 ft
Effective unit weight at top of layer = 110.000000 pcf
Effective unit weight at bottom of layer = 110.000000 pcf
Undrained cohesion at top of layer = 1000.000000 psf
Undrained cohesion at bottom of layer = 1000.000000 psf

Epsilon-50 at top of layer	=	0.010000
Epsilon-50 at bottom of layer	=	0.010000

(Depth of the lowest soil layer extends 18.000 ft below the pile tip)

Summary of Input Soil Properties

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 60.5000	110.0000 110.0000	1000.0000 1000.0000	0.01000 0.01000

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 = 81800. lbs	M = 156016640. in-lbs	124280.	No
2	1	V = 15620. lbs	M = 29752560. in-lbs	77720.	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

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	=	42.500000 ft
Shaft Diameter	=	108.000000 in
Concrete Cover Thickness	=	3.625000 in
Number of Reinforcing Bars	=	36 bars
Yield Stress of Reinforcing Bars	=	60000. psi
Modulus of Elasticity of Reinforcing Bars	=	29000000. psi
Gross Area of Shaft	=	9161. sq. in.
Total Area of Reinforcing Steel	=	56.212203 sq. in.
Area Ratio of Steel Reinforcement	=	0.61 percent
Edge-to-Edge Bar Spacing	=	7.248051 in
Maximum Concrete Aggregate Size	=	0.750000 in
Ratio of Bar Spacing to Aggregate Size	=	9.66
Offset of Center of Rebar Cage from Center of Pile	=	0.0000 in

Axial Structural Capacities:

Nom. Axial Structural Capacity = 0.85 Fc Ac + Fy As	=	38198.102 kips
Tensile Load for Cracking of Concrete	=	-4196.692 kips
Nominal Axial Tensile Capacity	=	-3372.732 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	49.670000	0.00000
2	1.410000	1.561450	48.915401	8.625105
3	1.410000	1.561450	46.674532	16.988141
4	1.410000	1.561450	43.015482	24.835000
5	1.410000	1.561450	38.049427	31.927261
6	1.410000	1.561450	31.927261	38.049427
7	1.410000	1.561450	24.835000	43.015482
8	1.410000	1.561450	16.988141	46.674532
9	1.410000	1.561450	8.625105	48.915401
10	1.410000	1.561450	0.00000	49.670000
11	1.410000	1.561450	-8.625105	48.915401
12	1.410000	1.561450	-16.988141	46.674532
13	1.410000	1.561450	-24.835000	43.015482
14	1.410000	1.561450	-31.927261	38.049427
15	1.410000	1.561450	-38.049427	31.927261
16	1.410000	1.561450	-43.015482	24.835000
17	1.410000	1.561450	-46.674532	16.988141
18	1.410000	1.561450	-48.915401	8.625105
19	1.410000	1.561450	-49.670000	0.00000
20	1.410000	1.561450	-48.915401	-8.625105
21	1.410000	1.561450	-46.674532	-16.988141
22	1.410000	1.561450	-43.015482	-24.835000
23	1.410000	1.561450	-38.049427	-31.927261
24	1.410000	1.561450	-31.927261	-38.049427
25	1.410000	1.561450	-24.835000	-43.015482
26	1.410000	1.561450	-16.988141	-46.674532
27	1.410000	1.561450	-8.625105	-48.915401
28	1.410000	1.561450	0.00000	-49.670000
29	1.410000	1.561450	8.625105	-48.915401
30	1.410000	1.561450	16.988141	-46.674532
31	1.410000	1.561450	24.835000	-43.015482
32	1.410000	1.561450	31.927261	-38.049427
33	1.410000	1.561450	38.049427	-31.927261
34	1.410000	1.561450	43.015482	-24.835000
35	1.410000	1.561450	46.674532	-16.988141
36	1.410000	1.561450	48.915401	-8.625105

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

Minimum spacing between any two bars not equal to zero = 7.248 inches
between bars 22 and 23.

Ratio of bar spacing to maximum aggregate size = 9.66

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	77.720
2	124.280

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	77.720	160545.622	0.00300000
2	124.280	162472.567	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	160546.	50.518000	104355.	4.3954E+09
2	0.65	162473.	80.782000	105607.	4.4565E+09
1	0.70	160546.	54.404000	112382.	4.3806E+09
2	0.70	162473.	86.996000	113731.	4.4372E+09
1	0.75	160546.	58.290000	120409.	4.2331E+09
2	0.75	162473.	93.210000	121854.	4.2944E+09

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	81800.	M, in-lb	1.56E+08	124280.	19.0049	-0.07214	-660400.	1.59E+08
2	V, lb	15620.	M, in-lb	2.98E+07	77720.	0.04875	-2.97E-04	-114885.	3.02E+07

Maximum pile-head deflection = 19.0048652453 inches
Maximum pile-head rotation = -0.0721379407 radians = -4.133200 deg.

The analysis ended normally.

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

Moment (ft·k)	9,751.04	
Shear (k)	61.35	
Caisson diameter (ft)	9	
Caisson height above ground (ft)	0.5	
Caisson height below ground (ft)	33	
Lateral soil pressure (lb/ft^2)	300.00	
Ground to application of force, h (ft)	159.44	
Applied lateral force, P (lb)	61,350	
Lateral soil bearing pressure, S_1 (lb/ft)	3,300.00	
Diameter, b (ft)	9	
A	4.83	$= (2.34P)/(S_1 b)$
Minimum depth of embedment, d (ft)	31.50	$= 0.5A[\ 1 + (\ 1 + (\ 4.36h / A\ )\ )^{1/2}\ ]$

MAT FOUNDATION DESIGN BY SABRE TOWERS & POLES
195' Monopole AT&T Lenville FN, KY (412287) 06/27/18 ARH

Overall Loads:			
Factored Moment (ft-kips)	9751.04		
Factored Axial (kips)	93.21		
Factored Shear (kips)	61.35		
Bearing Design Strength (ksf)	3.75	Max. Net Bearing Press. (ksf)	3.32
Water Table Below Grade (ft)	999		
Width of Mat (ft)	33	Allowable Bearing Pressure (ksf)	2.50
Thickness of Mat (ft)	2	Safety Factor	2.00
Depth to Bottom of Slab (ft)	6	Ultimate Bearing Pressure (ksf)	5.00
Quantity of Bolts in Bolt Circle	26	Bearing Φs	0.75
Bolt Circle Diameter (in)	75.25		
Top of Concrete to Top of Bottom Threads (in)	60		
Diameter of Pier (ft)	9	Minimum Pier Diameter (ft)	7.60
Ht. of Pier Above Ground (ft)	0.5	Equivalent Square b (ft)	7.98
Ht. of Pier Below Ground (ft)	4	Square Pier? (Y/N)	N
Quantity of Bars in Mat	71		
Bar Diameter in Mat (in)	1		
Area of Bars in Mat (in^2)	55.76		
Spacing of Bars in Mat (in)	5.56	Recommended Spacing (in)	5 to 12
Quantity of Bars Pier	60		
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)	47.12	Minimum Pier A_s (in^2)	45.80
Spacing of Bars in Pier (in)	5.22	Recommended Spacing (in)	5 to 12
f'c (ksi)	4.5		
fy (ksi)	60		
Unit Wt. of Soil (kcf)	0.11		
Unit Wt. of Concrete (kcf)	0.15		
Volume of Concrete (yd^3)	91.27		
Two-Way Shear Action:			
Average d (in)	20		
ϕv_c (ksi)	0.227	v_u (ksi)	0.197
$\phi v_c = \phi(2 + 4/\beta_c)f'_c{}^{1/2}$	0.342		
$\phi v_c = \phi(\alpha_s d/b_o+2)f'_c{}^{1/2}$	0.227		
$\phi v_c = \phi 4f'_c{}^{1/2}$	0.228		
Shear perimeter, b_o (in)	402.12		
β_c	1		
One-Way Shear:			
ϕV_c (kips)	903.2	V_u (kips)	552.5
Stability:			
Overturning Design Strength (ft-k)	13342.5	Total Applied M (ft-k)	10149.8

Pier Design:

ϕV_n (kips)	1069.5	V_u (kips)	61.4
$\phi V_c=\phi 2(1+N_u/(2000A_g))f'_c{}^{1/2}b_wd$	1069.5		
V_s (kips)	0.0	*** V_s max = 4 $f'_c{}^{1/2}b_wd$ (kips)	2503.8
Maximum Spacing (in)	6.78	(Only if Shear Ties are Required)	
Actual Hook Development (in)	19.00	Req'd Hook Development l_{dh} (in)	12.17
		*** Ref. To Spacing Requirements ACI 11.5.4.3	

Flexure in Slab:

ϕM_n (ft-kips)	4741.6	M_u (ft-kips)	4715.0
a (in)	2.21		
Steel Ratio	0.00704		
β_1	0.825		
Maximum Steel Ratio (ρ_t)	0.0197		
Minimum Steel Ratio	0.0018		
Rebar Development in Pad (in)	147.14	Required Development in Pad (in)	26.64

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

EXHIBIT D
COMPETING UTILITIES, CORPORATIONS, OR PERSONS LIST

KY Public Service Commission

Master Utility Search

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

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

Search

	Utility ID	Utility Name	Utility Type	Class	City	State
View	4111300	2600Hz, Inc. dba ZSWITCH	Cellular	C	San Francisco	CA
View	4107900	365 Wireless, LLC	Cellular	D	Atlanta	GA
View	4109300	Access Point, Inc.	Cellular	D	Cary	NC
View	4108300	Air Voice Wireless, LLC	Cellular	A	Bloomfield Hill	MI
View	4110650	Alliant Technologies of KY, L.L.C.	Cellular	D	Morristown	NJ
View	44451184	Alltel Communications, LLC	Cellular	A	Basking Ridge	NJ
View	4110850	AltaWorx, LLC	Cellular	D	Fairhope	AL
View	4107800	American Broadband and Telecommunications Company	Cellular	D	Toledo	OH
View	4108650	AmeriMex Communications Corp.	Cellular	D	Dunedin	FL
View	4105100	AmeriVision Communications, Inc. d/b/a Affinity 4	Cellular	D	Virginia Beach	VA
View	4110700	Andrew David Balholm dba Norcell	Cellular	D	Clayton	WA
View	4108600	BCN Telecom, Inc.	Cellular	D	Morristown	NJ
View	4110550	Blue Casa Mobile, LLC	Cellular	D	Santa Barbara	CA
View	4108750	Blue Jay Wireless, LLC	Cellular	C	Carrollton	TX
View	4111050	BlueBird Communications, LLC	Cellular	C	New York	NY
View	4202300	Bluegrass Wireless, LLC	Cellular	A	Elizabethtown	KY
View	4107600	Boomerang Wireless, LLC	Cellular	B	Hiawatha	IA

View	4105500	BullsEye Telecom, Inc.	Cellular	D	Southfield	MI
View	4100700	Cellco Partnership dba Verizon Wireless	Cellular	A	Basking Ridge	NJ
View	4106600	Cintex Wireless, LLC	Cellular	D	Rockville	MD
View	4111150	Comcast OTR1, LLC	Cellular	D	Philadelphia	PA
View	4101900	Consumer Cellular, Incorporated	Cellular	A	Portland	OR
View	4106400	Credo Mobile, Inc.	Cellular	B	San Francisco	CA
View	4108850	Cricket Wireless, LLC	Cellular	D	San Antonio	TX
View	10640	Cumberland Cellular Partnership	Cellular	A	Elizabethtown	KY
View	4111200	Dynalink Communications, Inc.	Cellular	C	Brooklyn	NY
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	A	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	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	4111250	Liberty Mobile Wireless, LLC	Cellular	C	Sunny Isles Beach	
View	4111400	Locus Telecommunications, LLC	Cellular	C	Fort Lee	NJ
View	4110900	Lunar Labs, Inc.	Cellular	D	Detroit	MI
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	D	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	4111350	Q LINK MOBILE LLC	Cellular	C	Dania Beach	FL
View	4106700	Q Link Wireless, LLC	Cellular	B	Dania	FL
View	4108700	Ready Wireless, LLC	Cellular	B	Hiawatha	IA
View	4110500	Republic Wireless, Inc.	Cellular	D	Raleigh	NC
View	4111100	ROK Mobile, Inc.	Cellular	C	Culver City	CA
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	Atlanta	GA
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. d/b/a Mint Mobile	Cellular	D	Costa Mesa	CA
View	4105700	Virgin Mobile USA, L.P.	Cellular	A	Atlanta	GA
View	4110800	Visible Service LLC	Cellular	D	Lone Tree	CO
View	4106500	WiMacTel, Inc.	Cellular	D	Palo Alto	CA
View	4110950	Wing Tel Inc.	Cellular	D	New York	NY
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: Lenville FN

Location: West Liberty, KY

Latitude: 37°-58'-48.08" Longitude: 83°-18'-36.59"

SITE ELEVATION AMSL.....1094 ft.
STRUCTURE HEIGHT.....199 ft.
OVERALL HEIGHT AMSL.....1293 ft.
SURVEY HEIGHT AMSL.....1293 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 9I3
FAR 77.9: NNR (No Expected TERPS® impact SYM)
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: 9I3: WEST LIBERTY
Type: A RD: 28933.51 RE: 897
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: SYM: MOREHEAD-ROWAN COUNTY CLYDE
Type: A RD: 115800.2 RE: 1028.4
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): DNE - No Airway Found

PRIVATE LANDING FACILITIES
No Private Landing Facilites Are Within 6 NM

AIR NAVIGATION ELECTRONIC FACILITIES

FAC IDNT	TYPE	ST AT	FREQ	VECTOR	DIST (ft)	DELTA ELEVA	ST	LOCATION	GRND APCH ANGLE	BEAR
ECB	VORTAC	I	110.4	60.46	132243	+223	KY	NEWCOMBE	.10	
KJKL	RADAR WXL	Y		180.33	141741	-159	KY	JACKSON	-.06	

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.

No AM Stations were located within 3.0 km.

Airspace® Summary Version 18.5.504

06-05-2018
09:22:09

EXHIBIT F
KENTUCKY AIRPORT ZONING COMMISSION

Cody Knox

From: Houlihan, John F (KYTC) <John.Houlihan@ky.gov>
Sent: Friday, June 01, 2018 12:13 PM
To: Cody Knox
Subject: RE: AT&T KAZC permit determination - Lenville FN

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

From: Cody Knox <cknox@integrisite.net>
Sent: Thursday, May 31, 2018 5:11 PM
To: Houlihan, John F (KYTC) <John.Houlihan@ky.gov>
Cc: GLASGOW, MARIE <marie.glasgow@mastec.com>; MILANA, STEVEN <steven.milana@mastec.com>; Wayne Barnett <wbarnett@integrisite.net>; Roy Johnson <rjohnson@johnsonpm.com>; Matt Hill <Joseph.Hill2@mastec.com>; Sam Astrahan <Sam.Astrahan@mastec.com>; Ed Coachman <edward.coachman@mastec.com>
Subject: AT&T KAZC permit determination - Lenville FN

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: Lenville FN
Latitude: 37 58 48.084 N
Longitude: 83 18 36.599 W
GE: 1,093.9'
Tower height including lightning arrestor: 199'
Overall height: 1,292.9'

Thank you,

Cody Knox
Integrisite, Inc.
214 Expo Circle, Suite 4
West Monroe, LA 71292

EXHIBIT G
GEOTECHNICAL REPORT

ENVIRONMENTAL CORPORATION OF AMERICA

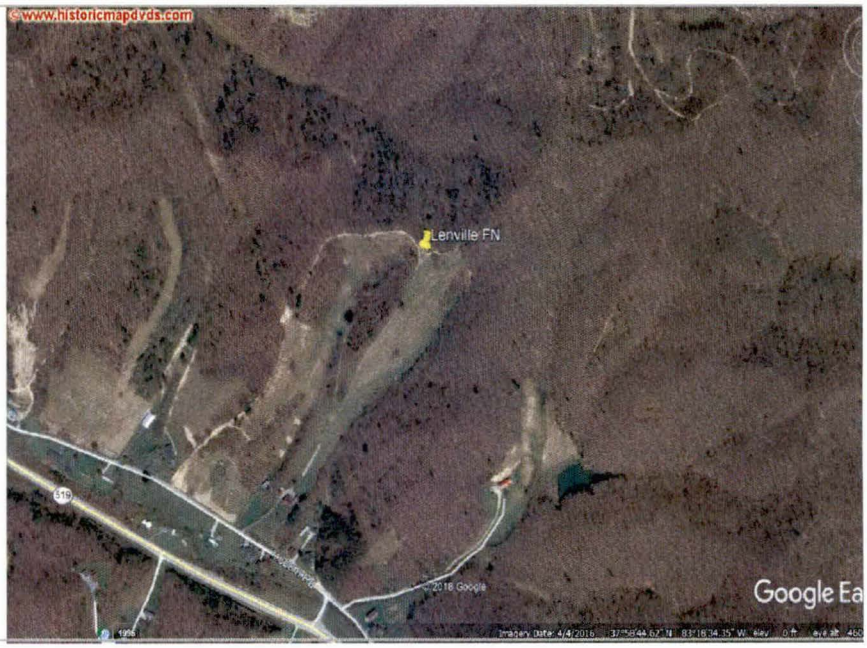
ENVIRONMENTAL | GEOTECHNICAL | WETLANDS | ECOLOGY | CULTURAL RESOURCES

Preliminary Geotechnical Investigation

Lenville FN

146 Yocum Road
West Liberty, Morgan County,
Kentucky

ECA Project No. U3007



SUBMITTED TO:

SMW Engineering Group, Inc.
158 Business Center Drive
Birmingham, AL 35244

PREPARED BY:

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

September 21, 2018

SMW Engineering Group, Inc.
158 Business Center Drive
Birmingham, AL 35244

Attention: Mr. Jeremy Sharit

Subject: **Report of Preliminary Geotechnical Investigation**
Lenville FN
146 Yocum Road
West Liberty, Morgan County, Kentucky
ECA Project No. U3007

Dear Mr. Sharit:

Environmental Corporation of America (ECA) is pleased to submit this report of our Preliminary Geotechnical Investigation for the proposed project. Our services were provided as authorized by an email approval dated September 17, 2018.

This report presents a review of the information provided to us, a description of the site and subsurface conditions, and our recommendations. The appendices contain a USGS Topographic Map, Project Site Survey, Local Geology, USDA Web Soil Survey Map, and Soil Descriptions for mapped soil types.

Purpose and Scope of Work

The purpose of this effort was to evaluate the likely site conditions so that preliminary foundation design plans can be prepared. No soil borings or testing has been conducted for this report. A final Geotechnical Investigation including borings should be conducted for the proposed tower.

Project Information

We were provided with a project site survey prepared by SMW Engineering Group, Inc., and dated April 27, 2018. The proposed tower would be located at 146 Yocum Road, West Liberty, Morgan County, Kentucky. In general, the proposed tower compound would be located within a hilly terrain with surface elevations ranging between 1,069 to 1,095 feet Above Mean Sea Level (AMSL) within the proposed 10,000 (100-foot by 100- foot) square foot lease area. The ground

surface within the proposed lease area is partially wooded. We understand that plans include constructing a 199-foot tall monopole tower, approximately as shown on Figure 1 in Appendix A.

Estimated Site and Subsurface Conditions

The topography leading up to the proposed compound is hilly. The elevation at the proposed tower location is about 1,094 feet AMSL. The soil survey shows three potential soil types near the proposed tower location. The soil survey described the existing site soils as mainly silt and sandy loam. A complete description of the soil types is attached in Appendix B. The geology of the site is best described by the Geological Map of State of Kentucky, Kentucky Geological Survey, and the U.S. Geological Survey, as being within Breathitt Formation, lower part. The local geology is also shown in Appendix B. In general, the general soil profile descriptions include siltstone, sandstone or conglomerate occurring at relatively shallow depth.

Groundwater will not likely be encountered in foundation excavations.

Recommendations

Based on the anticipated rocky soil conditions and relatively shallow bed rock, the tower will likely be supported on a shallow mat (pad and pier) foundation system. Assuming residual soils at the tower foundation bearing level, a nominal bearing pressure of about 3,000 pounds per square foot (psf) is likely appropriate.

We appreciate the opportunity to be of service. Please call us with any questions at (770) 667-2040.

Sincerely,
Environmental Corporation of America

Héctor A. Acosta, M.S.C.E., P.E.
Principal Geotechnical Engineer
State of Kentucky Reg. No. 31144

Athulya Balakrishnan
Project Engineer

Appendix-A Figure 1 – Topographic Map and Site Survey
Appendix-B Local Geology, Soil Survey, and Soil Description

APPENDIX A

Topographic Map and Site Survey

Source: USGS Topographic Map, West Liberty, KY (1977, photorevised 1993).

N

Lenville FN

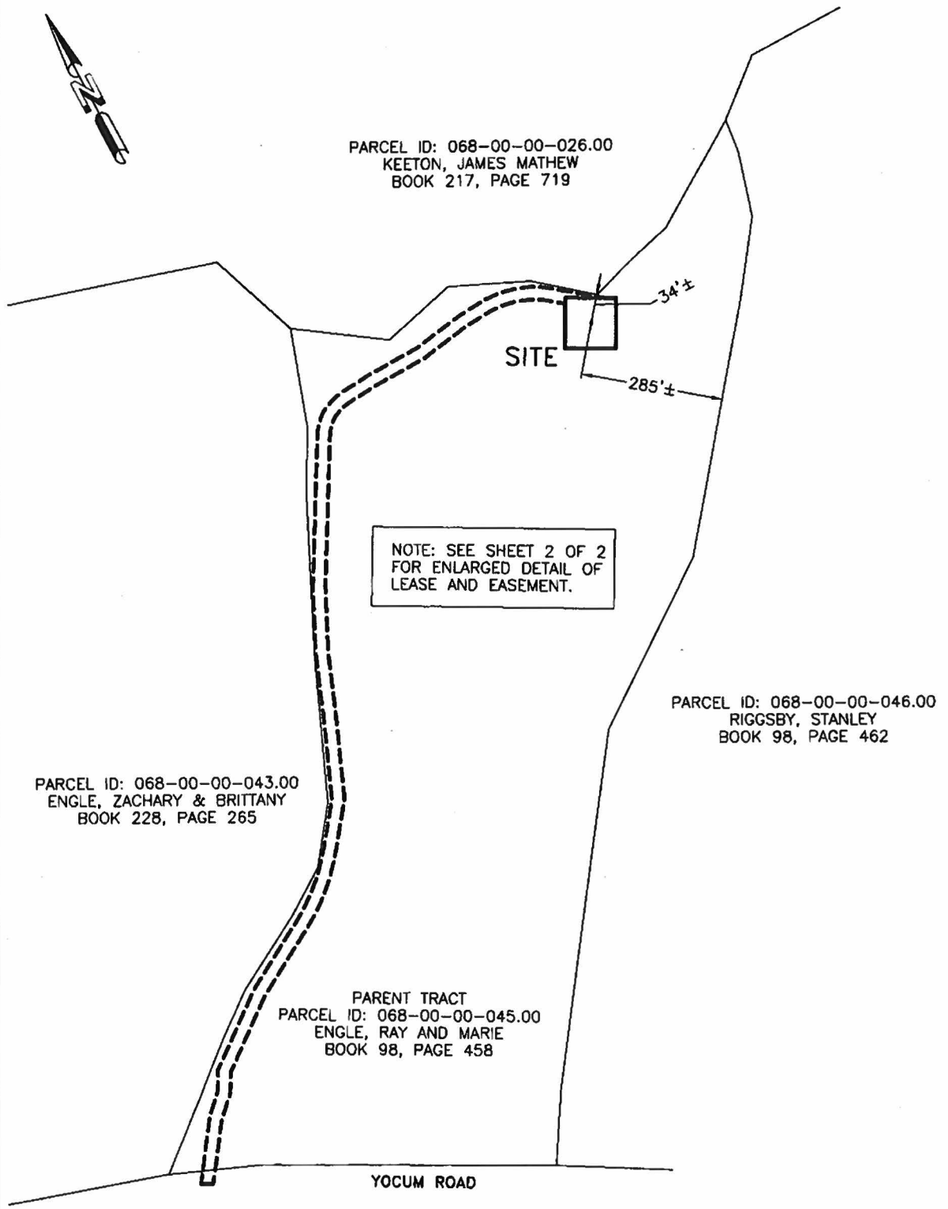
146 Yocum Road

West Liberty, Morgan County, Kentucky

Figure 1: Site Location Map

ENVIRONMENTAL CORPORATION OF AMERICA ECA

ECA Project No. U3007



PLOTTABLE EXCEPTIONS
U.S. TITLE SOLUTIONS
Report of Title, File No. 59001-KY1801-5030
Date January 25, 2018
Schedule B

Exception No.	Instrument	Comment
1 - 7		Standard exceptions containing no survey matters
(8)	Book 61, Page 407	Document contains insufficient information to plot, show, or determine affects on subject property.

PARENT TRACT (BOOK 98, PAGE 458)

A certain tract of parcel of land lying and being in Morgan County and State of Kentucky, and on the McClannahan Branch, (near Yocum Post Office), and more fully described as follows:
Beginning at a walnut stump on the south side of the highway at the F.C. and Bessie Oakley property; thence a southerly direction with the line of F.C. and Bessie Oakley to the top of the hill to a corner of the land of Clella Engle and F.C. and Bessie Oakley and the land hereby conveyed; thence with the said Engle line a westerly direction to the corner of Darrell and Drexell Lewis property; thence a westerly direction with said line and dividing ridge between Grassy Creek and McClannahan Branch to line and corner of Omar Lewis property; thence a northerly direction and with the Omer Lewis line to the top of the bluff near the McClannahan Branch and corner of Omer Lewis property; thence an easterly direction with Jim Frank Lewis (now Drexell Lewis) line and top of the bluff near McClannahan to a corner of the Jim Frank Lewis (or Drexell Lewis) property; thence a northerly direction down the bluff and crossing McClannahan Branch with said Lewis line to the county road at a culvert; thence coming up the road and with some to the last line of the cemetery lot; thence crossing said county road (no highway No.) to a forked white oak in the line of Rachel and Myrtle Cassity; thence a Northeast direction with said Cassity line to the line of Alvie Riggsby (now Devene Quicksall Knox) on top of the ridge; thence an easterly direction with the center of the ridge and Riggsby's line to the corner of Walter Riggsby property; thence with the line of Walter Riggsby to county road and crossing the same to the point of beginning. There is Excluded and specifically Reserved from this conveyance the Cemetery as it is now located on said property.

100' X 100' LEASE AREA (AS-SURVEYED)

Being a portion of that certain tract of land as described and recorded in Book 98, Page 458, in the Office of the Clerk of Morgan County, Kentucky and having Morgan County Tax Parcel ID: 068-00-00-045.00 and being more particularly described as follows:
Commencing at a pk nail found at the centerline intersection of Yocum Road and C.R. 1443; thence run N 71°47'27" W for a distance of 85.66 feet to a 6" x 6" concrete right-of-way monument found; thence N 19°11'48" E for a distance of 1719.16 feet to a 5/8" rebar set and the Point of Beginning; thence N 21°34'23" E for a distance of 100.00 feet to a 5/8" rebar set; thence S 68°25'38" E for a distance of 100.00 feet to a 5/8" rebar set; thence S 21°34'23" W for a distance of 100.00 feet to a 5/8" rebar set; thence N 68°25'38" W for a distance of 100.00 feet to the Point of Beginning. Said above described Lease Area contains 10,000.0 square feet or 0.23 acres, more or less.

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

Being a portion of that certain tract of land as described and recorded in Book 98, Page 458, in the Office of the Clerk of Morgan County, Kentucky and having Morgan County Tax Parcel ID: 068-00-00-045.00 and being more particularly described as follows:
Commencing at a pk nail found at the centerline intersection of Yocum Road and C.R. 1443; thence run N 71°47'27" W for a distance of 85.66 feet to a 6" x 6" concrete right-of-way monument found; thence N 19°11'48" E for a distance of 1719.16 feet to a 5/8" rebar set; thence N 21°34'23" E for a distance of 100.00 feet to a 5/8" rebar set; thence S 68°25'38" E for a distance of 24.11 feet to the Point of Beginning of an Ingress/Egress & Utility Easement being 30 feet in width and lying 15 feet each side of the following described centerline; thence N 52°05'50" W for a distance of 69.56 feet to a point; thence with a curve turning to the left, with a radius of 204.25 feet, an arc length of 117.25 feet, and having a chord bearing of N 74°30'01" W for a chord length of 115.65 feet to a point; thence S 85°44'06" W for a distance of 56.00 feet to a point; thence S 80°45'41" W for a distance of 103.79 feet to a point; thence S 88°47'58" W for a distance of 115.09 feet to a point; thence S 84°45'39" W for a distance of 61.55 feet to a point; thence with a curve turning to the left, with a radius of 92.37 feet, an arc length of 84.11 feet, and having a chord bearing of S 59°20'25" W for a chord length of 81.23 feet to a point; thence S 29°25'08" W for a distance of 304.03 feet to a point; thence S 25°11'30" W for a distance of 133.88 feet to a point; thence S 20°30'23" W for a distance of 117.58 feet to a point; thence S 21°50'35" W for a distance of 169.56 feet to a point; thence S 37°03'26" W for a distance of 101.80 feet to a point; thence with a curve to the right, with a radius of 409.61 feet, an arc length of 160.00 feet, and having a chord bearing of S 48°14'52" W for a chord length of 158.99 feet to a point; thence S 60°09'17" W for a distance of 157.24 feet to a point; thence S 52°16'34" W for a distance of 172.32 feet to a point; thence S 28°27'46" W for a distance of 41.12 feet to a point; thence S 45°29'12" W for a distance of 55.28 feet to a point; thence S 35°35'55" W for a distance of 130.34 feet, more or less, to the centerline of Yocum Road and the Point of Ending. Said above described Easement contains 53,823.6 square feet or 1.24 acres, more or less.
Less and Except any and all right-of-way lying over and/or across the above described Easement.

SURVEYOR'S NOTES

1. This is a Rowland Tower Survey, made on the ground under the supervision of a Kentucky Registered Land Surveyor. Date of field survey is March 29, 2018.
2. The following surveying instruments were used at time of field visit: Nikon NPL-352, Total Station, Reflectorless and Hiper + Legacy E RTK, GD 1HZ.
3. Bearings are based on Kentucky State Plane Coordinates NAD 83 by GPS observation.
4. No underground utilities, underground encroachments or building foundations were measured or located as a part of this survey, unless otherwise shown. Trees and shrubs not located, unless otherwise shown.
5. Benchmark used is a GPS Continuously Operating Reference Station, PID DH7117. Onsite benchmark is as shown hereon. Elevations shown are in feet and refer to NAVD 88.
6. This survey was conducted for the purpose of a Rowland Tower Survey only, and is not intended to delineate the regulatory jurisdiction of any federal, state, regional or local agency, board, commission or other similar entity.
7. Attention is directed to the fact that this survey may have been reduced or enlarged in size due to reproduction. This should be taken into consideration when obtaining scaled data.
8. This Survey was conducted in reference to a Report of Title prepared by U.S. Title Solutions, File No. 59001-KY1801-5030, and dated January 25, 2018.
9. This survey meets or exceeds the Minimum Standards of Practice as required by the State of Kentucky for a Class A survey as defined by 201 KAR 18:150.
10. Field data upon which this map or plat is based has a closure precision of not less than one-foot in 15,000 feet (1':15,000') and an angular error that does not exceed 10 seconds times the square root of the number of angles turned. Field traverse was not adjusted.
11. This survey is not valid without the original signature and the original seal of a state licensed surveyor and mapper.
12. This survey does not constitute a boundary survey of the Parent Tract. Any parent tract property lines shown hereon are from supplied information and may not be field verified.
13. The Lease Area, and Access and Utility Easement shown hereon was provided by CLIENT dated March 29, 2018 in direct correlation with existing monuments and physical evidence found through inspection and may not depict actual rights of occupancy.
14. No zoning information supplied by client.

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

SURVEYOR'S CERTIFICATION

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

David D. McKinney
Kentucky License No. 3964

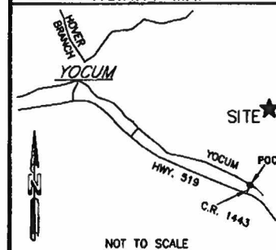
TOWER INFO

CENTER OF TOWER:

LATITUDE: 37°58'48.084" NORTH
LONGITUDE: 83°18'36.599" WEST
(NAD 83)
GROUND ELEVATION: 1093.9'
ABOVE MEAN SEA LEVEL (NAVD88)

PARCEL NO. 068-00-00-045.00
OWNER: ENGLE, RAY AND MARIE
PARCEL ADDRESS:
146 YOCUM ROAD
WEST LIBERTY, KY 41472

VICINITY MAP



NOT TO SCALE

KENTUCKY

GRID NORTH

GRID TO TRUE NORTH CONVERGENCE
1°29'52.66305"

TRUE NORTH TO MAGNETIC DECLINATION
6°33' W

COMBINED SCALE FACTOR
0.999906570

LEGEND

- ○ = 5/8" REBAR SET
- ● = FOUND PROPERTY MARKER
- POB = POINT OF BEGINNING
- POC = POINT OF COMMENCEMENT
- POE = POINT OF ENDING
- ▲ = CALCULATED POINT
- ⊘ = POWER POLE
- ⊕ = TEMPORARY BENCHMARK PK NAIL SET IN ASPHALT ELEVATION: 891.32'

---T-= OVERHEAD TELEPHONE
---OP-= OVERHEAD POWER

FLOOD NOTE

By graphic plotting only, the subject property appears to lie in Zone "X" of the Flood Insurance Rate Map Community Panel No. 21175C0175C, which bears an effective date of August 19, 2008 and IS NOT in a special flood hazard area.
Zone 'X': Areas determined to be outside the 0.2% chance annual floodplain.

LENVILLE FN
MORGAN COUNTY, KENTUCKY

NO.	REVISION	DATE	BY
1	MOVE LEASE/EASE./CLIENT COMMENTS	04/27/18	PWK

PROJECT NO. 18-0768

DRAWN BY: PWK
CHECKED BY: MC
FIELD CREW: BB
APPROVED BY: DM
DATE: 04/06/18
SCALE: 1" = 300'
SHEET 1 OF 2

RAWLAND TOWER SURVEY

FOR: INTEGRISITE
2106 NORTH 7TH ST. SUITE 228
WEST MONROE, LA 71291

SMW Engineering Group, Inc.
158 Business Center Drive
Birmingham, Alabama 35244
Ph: 205-252-6985
www.smweng.com

SMW ENGINEERING GROUP, INC.

L=84.11'
R=92.37'
CHD B=S 59°20'25" W
CHD L=81.23'

S 84°45'39" W
61.55'

S 80°45'41" W
103.79'

L=117.25'
R=204.25'
CHD B=N 74°30'01" W
CHD L=115.65'

POB (AS-SURVEYED)
30' INGRESS/EGRESS
& UTILITY EASEMENT
53,823.6 SQ.FT.±
1.24 ACRES±

S 88°47'58" W
115.09'

S 85°44'06" W
56.00'

N 52°05'50" E
69.56'

PARCEL ID: 068-00-00-043.00
ENGLE, ZACHARY & BRITTANY
BOOK 228, PAGE 265

POB (AS-SURVEYED)
100' X 100' LEASE AREA
10,000.0 SQ.FT.±
0.23 ACRES±

CENTER OF TOWER

N 19°11'48" E 1719.16'

PARENT TRACT
PARCEL ID: 068-00-00-045.00
ENGLE, RAY AND MARIE
BOOK 98, PAGE 458

6" X 6" CONCRETE
RIGHT-OF-WAY
MONUMENT

ROAD YOCUM

N 71°47'27" W
85.66'

POC (AS-SURVEYED)
PK NAIL @ CENTERLINE
INTERSECTION OF YOCUM
ROAD AND C.R. 1443

C.R. 1443

S 29°25'08" W
304.03'

S 25°11'30" W
133.88'

MATCH LINE

S 20°30'23" W
117.58'

MATCH LINE

S 21°50'35" W
169.56'

PARCEL ID: 068-00-00-043.00
ENGLE, ZACHARY & BRITTANY
BOOK 228, PAGE 265

S 37°03'26" W
101.80'

TREE LINE(TYP.)

L=160.00'
R=409.61'
CHD B=S 48°14'52" W
CHD L=158.99'

10' WIDE
FIELD ROAD

S 52°16'34" W
172.32'

S 60°09'17" W
157.24'

PARENT TRACT
PARCEL ID: 068-00-00-045.00
ENGLE, RAY AND MARIE
BOOK 98, PAGE 458

S 45°29'12" W
55.28'

S 28°27'46" W
41.12'

YOCUM ROAD
(PUBLIC RIGHT-OF-WAY)
16' WIDE ASPHALT ROAD

S 35°35'55" W
130.34'±

POE (AS-SURVEYED)
30' INGRESS/EGRESS
& UTILITY EASEMENT

1068'± TO NEAREST
INTERSECTION (C.R. 1443)

SIGHT DISTANCE
335'±
833'±

0 100' 200'

SCALE: 1" = 100'

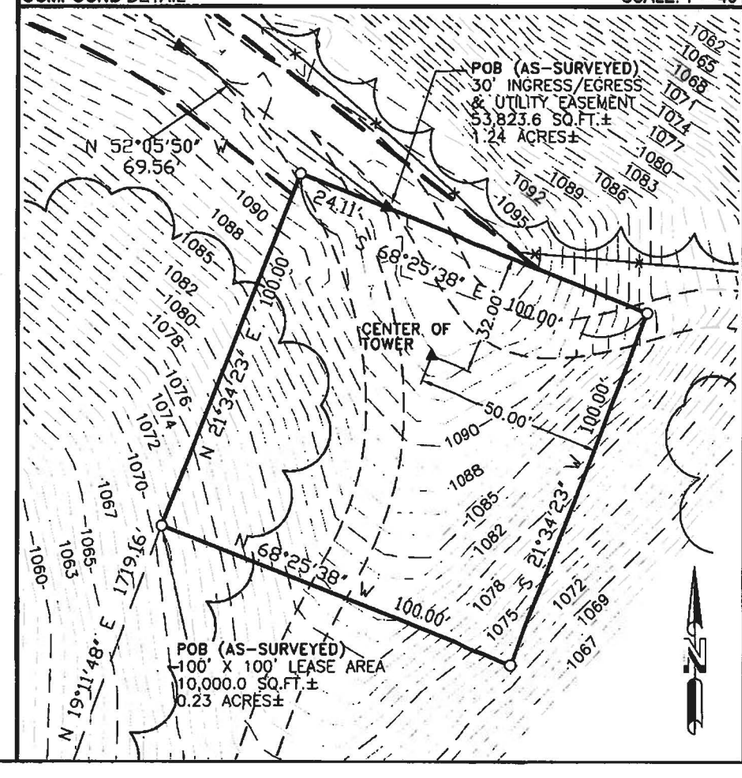
LENVILLE FN
MORGAN COUNTY, KENTUCKY

STATE OF KENTUCKY
DAVID D. McKINNEY
3984
LICENSED PROFESSIONAL LAND SURVEYOR

PLOTTABLE EXCEPTIONS
U.S. TITLE SOLUTIONS
Report of Title, File No. 59001-KY1801-5030
Date January 25, 2018
Schedule B

Exception No.	Instrument	Comment
1 - 7		Standard exceptions containing no survey matters
(8)	Book 61, Page 407 (Oil & Gas Lease)	Document contains insufficient information to plot, show, or determine affects on subject property.

COMPOUND DETAIL SCALE: 1" = 40'



NO.	REVISION	DATE	BY
1	MOVE LEASE&EASE./CLIENT COMMENTS	04/27/18	PWK

PROJECT NO.
18-0768

DRAWN BY: PWK
CHECKED BY: MC
FIELD CREW: BB
APPROVED BY: DM
DATE: 04/06/18
SCALE: AS SHOWN
SHEET 2 OF 2

RAWLAND TOWER SURVEY

FOR:

INTEGRISITE
2106 NORTH 7TH ST. SUITE 228
WEST MONROE, LA 71291

SMW Engineering Group, Inc.
158 Business Center Drive
Birmingham, Alabama 35244
Ph: 205-252-6985
www.smweng.com
ENGINEERING GROUP, INC.

APPENDIX B

Local Geology, Soil Survey, and Soil Descriptions

Breathitt Formation, lower part

XML (/geology/state/xml/KYPAbl;0) JSON (/geology/state/json/KYPAbl;0)

lower part which includes Livingston Conglomerate Member of Lee Formation in eastern Rockcastle County

State Kentucky (/geology/state/state.php?state=KY)

Name Breathitt Formation, lower part

Geologic age Pennsylvanian

Lithologic constituents

Major

Sedimentary > Clastic > Siltstone *lithologies and lithology percentages estimated from stratigraphic column on paper source map; collectively these units are about 45% shale, 40% siltstone, 15% sandstone, and <5% coal and conglomerate*

Sedimentary > Clastic > Mudstone > Shale *lithologies and lithology percentages estimated from stratigraphic column on paper source map; collectively these units are about 45% shale, 40% siltstone, 15% sandstone, and <5% coal and conglomerate*

Minor

Sedimentary > Clastic > Sandstone *lithologies and lithology percentages estimated from stratigraphic column on paper source map; collectively these units are about 45% shale, 40% siltstone, 15% sandstone and <5% coal and conglomerate*

Incidental

Sedimentary > Clastic > Conglomerate *lithologies and lithology percentages estimated from stratigraphic column on paper source map; collectively these units are about 45% shale, 40% siltstone, 15% sandstone, and <5% coal and conglomerate*

Sedimentary > Coal *lithologies and lithology percentages estimated from stratigraphic column on paper source map; collectively these units are about 45% shale, 40% siltstone, 15% sandstone, and <5% coal and conglomerate*

Comments along and south of Pine Mountain; thickness is 625-800 m; in south-central Kentucky, thickness is at least 500+ m; in northeastern Kentucky, thickness is 50-300+ m; in east-central Kentucky, thickness is 225-415 m

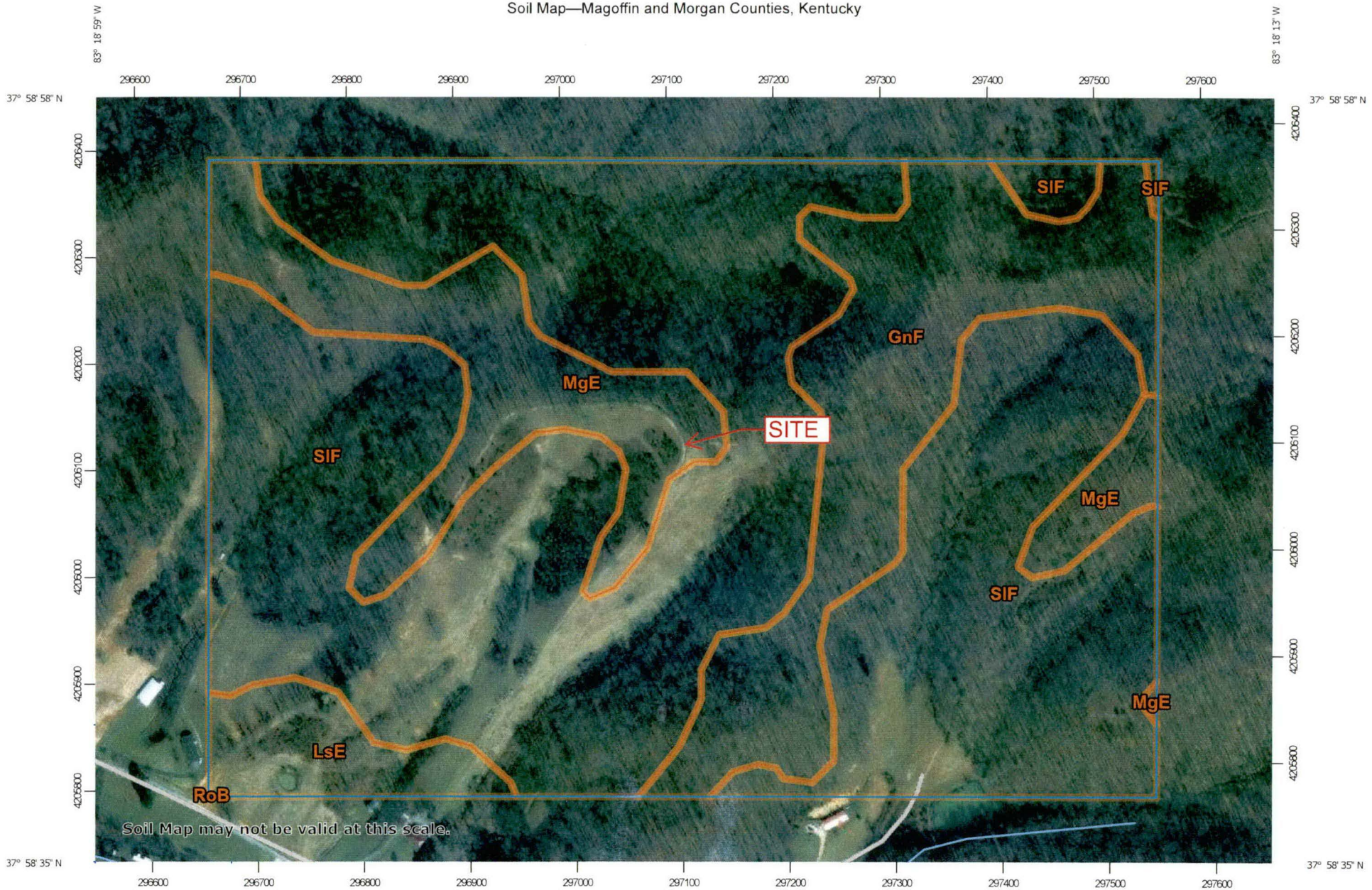
References

Noger, M.C., compiler, 1988, Geologic map of Kentucky: sesquicenntennial edition of the Kentucky Geological Survey: U.S. Geological Survey and the Kentucky Geological Survey, scale 1:500,000.

NGMDB product NGMDB product page for 16355 (https://ngmdb.usgs.gov/Prodesc/proddesc_16355.htm)

Counties Bell (/geology/state/fips-unit.php?code=f21013) - Breathitt (/geology/state/fips-unit.php?code=f21025) - Carter (/geology/state/fips-unit.php?code=f21043) - Clay (/geology/state/fips-unit.php?code=f21051) - Clinton (/geology/state/fips-unit.php?code=f21053) - Elliott (/geology/state/fips-unit.php?code=f21063) - Estill (/geology/state/fips-unit.php?code=f21065) - Floyd (/geology/state/fips-unit.php?code=f21071) - Greenup (/geology/state/fips-unit.php?code=f21089) - Harlan (/geology/state/fips-unit.php?code=f21095) - Jackson (/geology/state/fips-unit.php?code=f21109) - Johnson (/geology/state/fips-unit.php?code=f21115) - Knott (/geology/state/fips-unit.php?code=f21119) - Knox (/geology/state/fips-unit.php?code=f21121) - Laurel (/geology/state/fips-unit.php?code=f21125) - Lawrence (/geology/state/fips-unit.php?code=f21127) - Lee (/geology/state/fips-unit.php?code=f21129) - Leslie (/geology/state/fips-unit.php?code=f21131) - Letcher (/geology/state/fips-unit.php?code=f21133) - Lewis (/geology/state/fips-unit.php?code=f21135) - McCreary (/geology/state/fips-unit.php?code=f21147) - Madison (/geology/state/fips-unit.php?code=f21151) - Magoffin (/geology/state/fips-unit.php?code=f21153) - Martin (/geology/state/fips-unit.php?code=f21159) - Menifee (/geology/state/fips-unit.php?code=f21165) - Montgomery (/geology/state/fips-unit.php?code=f21173) - Morgan (/geology/state/fips-unit.php?code=f21175) - Owsley (/geology/state/fips-unit.php?code=f21189) - Perry (/geology/state/fips-unit.php?code=f21193) - Pike (/geology/state/fips-unit.php?code=f21195) - Powell (/geology/state/fips-unit.php?code=f21197) - Pulaski (/geology/state/fips-unit.php?code=f21199) - Rockcastle (/geology/state/fips-unit.php?code=f21203) - Rowan (/geology/state/fips-unit.php?code=f21205) - Wayne (/geology/state/fips-unit.php?code=f21231) - Whitley (/geology/state/fips-unit.php?code=f21235) Wolfe (/geology/state/fips-unit.php?code=f21237)

Soil Map—Magoffin and Morgan Counties, Kentucky



83° 18' 59" W 296600 296700 296800 296900 297000 297100 297200 297300 297400 297500 297600 83° 18' 13" W

37° 58' 58" N 4206400 4206300 4206200 4206100 4206000 4205900 4205800 37° 58' 58" N

37° 58' 35" N 37° 58' 35" N

Map Scale: 1:5,060 if printed on A landscape (11" x 8.5") sheet.

N

Meters 0 50 100 200 300

Feet 0 200 400 800 1200

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 17N WGS84

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features

- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Magoffin and Morgan Counties, Kentucky
Survey Area Data: Version 13, Oct 3, 2017

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Feb 27, 2016—Mar 4, 2017

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
GnF	Gilpin-Latham-Marrowbone complex, 20 to 60 percent slopes	21.3	16.1%
LsE	Latham-Shelocta-Gilpin complex, 12 to 30 percent slopes	5.1	3.9%
MgE	Marrowbone-Gilpin-Latham complex, 15 to 30 percent slopes	16.3	12.4%
RoB	Rowdy loam, 0 to 4 percent slopes, occasionally flooded	0.0	0.0%
SlF	Shelocta-Gilpin complex, 20 to 65 percent slopes, stony	89.1	67.6%
Totals for Area of Interest		**131.8**	**100.0%**

LOCATION MARROWBONE KY+VA WV

Established Series
JDM/Rev. MDJ
08/2014

MARROWBONE SERIES

TAXONOMIC CLASS: Coarse-loamy, mixed, semiactive, mesic Typic Dystrudepts

TYPICAL PEDON: Marrowbone fine sandy loam - on a 44 percent south facing slope under mixed hardwoods at 1,480 feet elevation. (Colors are for moist soil unless otherwise indicated).

Oi--0 to 3 cm (0 to 1 inch); loose, slightly decomposed hardwood leaf litter; moderately acid; abrupt wavy boundary. 0 to 5 cm (0 to 2 inches) thick

A--3 to 15 cm (1 to 6 inches); brown (10YR 4/3) fine sandy loam; moderate medium granular structure; very friable; common fine to coarse roots; 10 percent sandstone fragments; moderately acid; clear smooth boundary. 5 to 18 cm (3 to 7 inches) thick

Bw1--15 to 25 cm (6 to 10 inches); brown (7.5YR 4/4) loam; moderate medium subangular blocky structure; friable; few fine and medium roots; few thin discontinuous brown (10YR 4/3) organic coatings on surfaces of peds; 5 percent sandstone fragments; strongly acid; clear smooth boundary.

Bw2--25 to 43 cm (10 to 17 inches); strong brown (7.5YR 5/6) fine sandy loam; moderate medium subangular blocky structure; friable; few fine and medium roots; 10 percent sandstone fragments; very strongly acid; clear smooth boundary.

Bw3--43 to 58 cm (17 to 23 inches); strong brown (7.5YR 5/6) loam; moderate medium subangular blocky structure; friable; few fine and medium roots; very thin discontinuous silt coatings on faces of peds; 10 percent sandstone fragments; very strongly acid; clear smooth boundary. (Combined thickness of the Bw horizon is 43 to 64 cm (17 to 25 inches))

BC--58 to 71 cm (23 to 28 inches); yellowish brown (10YR 5/6) channery loam; common medium distinct strong brown (7.5YR 5/6) and light yellowish brown (2.5Y 6/4) lithochromic mottles; weak medium subangular blocky structure; friable; 20 percent sandstone fragments; strongly acid; abrupt wavy boundary. 0 to 20 cm (0 to 8 inches) thick

R--71 cm (28 inches); slightly weathered sandstone bedrock.

TYPE LOCATION:
County: Pike
State: Kentucky
USGS Quadrangle: Millard
Latitude (Decimal Degrees, NAD 83): 37.476944

Longitude (Decimal Degrees, NAD 83): -82.385000
Directions to the pedon: about 7.3 miles south of the community of Zebulon; 1000 yards east of the confluence of Raccoon Creek and Morris Branch in the head of Raccoon Creek on a south facing mountain slope

RANGE IN CHARACTERISTICS:
Depth to the top of the Cambic: 08 to 23 cm (3 to 9 inches)
Depth to the base of the Cambic: 46 to 102 cm (18 to 40 Inches)
Solum Thickness: 51 to 102 cm (20 to 40 inches)
Depth to Bedrock: Less than 102 cm (40 inches)
Depth Class: Moderately Deep
Rock Fragment content: 0 to 15 percent, by volume, in the surface horizon and 0 to 50 percent in underlying horizons, but average less than 35 percent in the particle size control section
Soil Reaction: very strongly acid to moderately acid, except where limed
Other Soil Features: Some pedons range to neutral in the upper 25 centimeters (10 inches)

Range of Individual Horizons:
A horizon:
Color--hue of 7.5YR to 2.5Y, value of 3 to 5, and chroma of 2 to 4
Texture (fine-earth fraction)--sandy loam, fine sandy loam, loam, or silt loam
Other features--structure is weak or moderate, fine or medium granular

B or BC horizon (if it occurs):
Color--hue of 7.5YR to 2.5Y, value of 4 to 6, and chroma of 3 to 8
Texture (fine-earth fraction)--sandy loam, fine sandy loam, loam, and, rarely, silt loam
Mottles (if they occur)--are in shades of yellow, brown, or red, and gray in the lower part
Other features--thin silt coatings and, rarely, clay films are present in some pedons

C or CB horizons (if they occur):
Color--hue of 7.5YR to 2.5Y, value of 4 to 6, and chroma of 3 to 8
Texture (fine-earth fraction)--loamy sand, loamy fine sand, fine sandy loam, sandy loam, loam, silt loam, sandy clay loam, and clay loam
Mottles (if they occur)--are lithochromic in shades of yellow, red, brown, or gray
Other features--a Cr horizon is present in some pedons with soft bedrock

R horizon:
Interbedded sandstone or siltstone bedrock that ranges to more weathered conditions on some landforms

COMPETING SERIES:
Bannertown soils--formed in residuum from metamorphic or igneous rocks in the piedmont region
Cheshire soils--are very deep to bedrock and formed in glacial till on uplands in New England
Devotion soils--formed in residuum from felsic to intermediate metamorphic or igneous rock in the piedmont region
Ditney soils--formed in residuum affected by soil creep that weathered from metasedimentary rock such as arkose, metagraywacke, metasandstone or quartzite in the Blue Ridge Mountains
Fedscreek soils--formed in colluvium, commonly located downslope of the Marrowbone soils, but deep to bedrock
Maymead soils--formed in colluvium that contains coarse fragments of feldspathic quartzite,

graywacke and arkosic sandstone in the Unaka Mountains
Mine Run soils--are excessively well drained and formed in residuum weathered from metamonzonite and gneiss in the northern piedmont region
Tipsaw soils--formed exclusively over paralithic contact with moderately cemented and interbedded sedimentary rock in the Kentucky and Indiana Sandstone and Shale Hills and Valleys, Northwestern part (MLRA 120B)

GEOGRAPHIC SETTING:
MLRA(s) using this series: 125
Landscape: Hills and Mountains
Landform: Hill slopes, mountain slopes, and ridges
Geomorphic Component: Interfluves, crests, nose slopes, side slopes, mountaintops and mountainflanks
Hillslope Profile Position: Summit, shoulder, and backslope
Parent Material Origin: Pennsylvanian aged sandstone and siltstone
Parent Material Kind: Residuum
Slope: 8 to 120 percent
Elevation: 214 to 915 meters (700 to 3,000 ft)
Frost-free period: 188 to 241 days
Mean Annual Air Temperature: 11.7 to 13.9 degrees C. (53 to 57 degrees F.)
Mean Annual Precipitation: 980 to 1245 millimeters (40 to 49 inches)

GEOGRAPHICALLY ASSOCIATED SOILS:
Berks soils--are in a loamy-skeletal family and formed in residuum derived mostly from shale
Cloverlick soils--are in a loamy-skeletal family, formed in colluvium, and they are deep and very deep to bedrock
Cutshin soils--are in a fine-loamy family, formed in colluvium, have umbric surface layers, and are deep and very deep to bedrock
Fedscreek soils--formed in colluvium and are deep and very deep to bedrock
Gilpin soils--are in a fine-loamy family and have argillic horizons
Guyandotte soils--are in a loamy-skeletal family, formed in colluvium, have umbric surface layers, and are very deep to bedrock
Handshoe soils--are in a loamy-skeletal family, formed in colluvium, and are very deep to bedrock
Highsplint soils--are in a loamy-skeletal family, formed in colluvium, and are deep and very deep to bedrock
Kimper soils--are in a fine-loamy family, formed in colluvium, and are deep and very deep to bedrock
Latham soils--are in a fine family, formed in residuum weathered from shale, have argillic horizons and a perched water table in the subsoil
Muskingum soils--are in a fine-loamy family and have less sand in their subsoils
Pineville soils--are in a fine-loamy family, formed in colluvium, have argillic horizons and are very deep to bedrock
Rayne soils--are in a fine-loamy family, have argillic horizons and are deep and very deep to bedrock
Sharondale soils--are in a loamy-skeletal family, formed in colluvium, have mollic surface layers, and are very deep to bedrock
Shelocta soils--are in a fine-loamy family, formed in colluvium, have argillic horizons, and are deep and very deep to bedrock

DRAINAGE AND SATURATED HYDRAULIC CONDUCTIVITY:
Drainage Class (Agricultural): Well drained

Index Surface Runoff: Low to medium on slopes less than 20 percent and from medium to high on slopes greater than 20 percent
Saturated Hydraulic Conductivity Class: Moderately high
Permeability Class (obsolete): Moderately rapid
Flooding Frequency and Duration: None
Ponding Frequency and Duration: None

USE AND VEGETATION:
Major Uses: Dominantly woodland, but also pasture, and sites for homes and gardens
Dominant Vegetation: Where cultivated--tall fescue. Where wooded--white oak, black oak, scarlet oak, chestnut oak, red maple, American beech, shortleaf and Virginia pine.

DISTRIBUTION AND EXTENT:
Distribution: The Allegheny and Cumberland Plateaus of eastern Kentucky, Virginia, and West Virginia
Extent: Large, about 250,000 acres

MLRA SOIL SURVEY REGIONAL OFFICE (MO) RESPONSIBLE: Morgantown, West Virginia

SERIES ESTABLISHED: Pike County, Kentucky; 1985. Source of the name is a small community in Pike County.

REMARKS: Diagnostic horizons recognized in this pedon are:
Ochric epipedon - 0 to 15 cm (0 to 6 inches) Oi and A.
Cambic horizon - 15 to 58 cm (5 to 23 inches) Bw and 58 to 71 cm (23 to 28 inches) BC.

ADDITIONAL DATA: Characterization sample S83KY-195-017 by NSSL. Supplemental data for pedons S83KY-195-014, S82KY-195-018, and S83KY-195-016.

National Cooperative Soil Survey
U.S.A.

LOCATION GILPIN PA+GA IN KY MD NY OH TN VA WV

Established Series
SLH/Rev. MDJ
10/2014

GILPIN SERIES

TAXONOMIC CLASS: Fine-loamy, mixed, active, mesic Typic Hapludults

TYPICAL PEDON: Gilpin channery silt loam on a 3 percent northwest facing slope in cropland. (Colors are for moist soil unless otherwise indicated.)

Ap--0 to 20 cm (0 to 8 inches); dark grayish brown (10YR 4/2) channery silt loam; weak fine granular structure; friable, slightly sticky and slightly plastic; 20 percent rock fragments of subangular siltstone and shale; moderately acid; abrupt smooth boundary. (15 to 25 cm (6 to 10 inches thick)

Bt1--20 to 33 cm (8 to 13 inches); yellowish brown (10YR 5/4) channery silt loam; weak fine and medium subangular blocky structure; friable, slightly sticky and slightly plastic; few distinct clay films on faces of peds and in pores; 25 percent rock fragments of subangular siltstone and shale; moderately acid; gradual wavy boundary.

Bt2--33 to 61 cm (13 to 24 inches); yellowish brown (10YR 5/6) channery silt loam; moderate medium subangular blocky structure; friable, slightly sticky and moderately plastic; few distinct clay films on faces of peds and in pores; 30 percent rock fragments of subangular siltstone and shale; very strongly acid; clear wavy boundary. (Combined thickness of the Bt horizon is 30 to 66 cm thick (12 to 26 inches.)

C--61 to 79 cm (24 to 30 inches); brown (10YR 5/3) extremely channery loam; massive; friable, slightly sticky and slightly plastic; few faint clay films and common prominent black coatings on fragments; 60 percent rock fragments of subangular siltstone and shale; very strongly acid; clear wavy boundary. (0 to 25 cm (0 to 10 inches thick)

R--79 cm (30 inches); light olive brown (2.5Y 5/4) fractured, thin bedded, shale and siltstone with silt and clay coatings in fractures; strongly acid.

TYPE LOCATION:
County: Indiana
State: Pennsylvania
USGS Quadrangle: Marion Center
Latitude (Decimal Degrees, NAD 83): 40.8550642
Longitude (Decimal Degrees, NAD 83): -79.018367
Directions to the pedon: In North Mahoning Township about mile southeast of Marchand, on a hilltop 500 feet east of Township Road 660.

RANGE IN CHARACTERISTICS:
Depth to the top of the Argillic: 13 to 38 cm (5 to 15 inches)
Depth to the base of the Argillic: 53 to 94 cm (21 to 37 inches)
Solum Thickness: 45 to 91 cm (18 to 36 inches)
Depth to Bedrock: 51 to 102 cm (20 to 40 inches)
Depth Class: Moderately deep
Rock Fragment content: 5 to 40 percent, by volume, in the solum and 30 to 90 percent, by volume, in the C horizon. The rock fragment content is less than 35 percent, by volume, in the upper 20 inches of the argillic horizon. Rock fragments are mostly angular to subangular channers of shale, siltstone, and sandstone.
Soil Reaction: Extremely acid through strongly acid throughout, except where limed

Range of Individual Horizons:
Ap horizon:
Color--hue of 10YR or 2.5Y, value of 3 through 5, and chroma of 2 through 4
Texture (fine-earth fraction)--silt loam or loam

A horizon (if it occurs):
Color--hue of 10YR or 2.5Y, value of 2 through 4, and chroma of 1 through 3
Texture (fine-earth fraction)--silt loam or loam

E, BE, or BA horizons (if they occur):
Color--hue of 7.5YR or 10YR, value of 4 through 6, and chroma of 3 through 6
Texture (fine-earth fraction)--silt loam or loam

Bt horizon:
Color--hue of 7.5YR through 2.5Y, value of 4 through 6, and chroma of 4 through 8
Texture (fine-earth fraction)--silt loam, loam, clay loam, or silty clay loam
Clay films--occur on ped faces, pores, and on rock fragments and are few or common and faint or distinct.

BC horizon (if it occurs):
Color--hue of 7.5YR through 2.5Y, value of 3 through 6, and chroma of 2 through 6
Texture (fine-earth fraction)--silt loam, loam, or silty clay loam

C horizon:
Color--hue of 7.5YR through 2.5Y, value of 3 through 6, and chroma of 2 through 6
Texture (fine-earth fraction)--silt loam, loam, or silty clay loam

Some pedons have a Cr horizon.

The R horizon is horizontal interbedded shale, siltstone, or fine grained sandstone.

COMPETING SERIES:
Arcola soils--are weathered from Triassic and Jurassic bedrock
Bedington soils--are very deep to bedrock
Bucks soils--are deep to bedrock with a silt mantle
Collington soils--are very deep to bedrock
Edgemont soils--are deep and very deep to quartzitic bedrock

Edneytown soils--are very deep to igneous and high-grade metamorphic bedrock
Freehold soils--are very deep and form in marine sediments containing glauconite
Gladstone soils--are very deep to residual and colluvial granitic gneiss bedrock
Joanna soils--are very deep to Triassic bedrock
Leedsville soils--are very deep to Triassic and Jurassic bedrock
Millstone soils--are very deep and form in loamy alluvium
Penargyl soils--are very deep and form in till over shale residuum bedrock
Pennval soils--are very deep and form in colluvium
Pigeonroost soils--form from igneous and high-grade metamorphic bedrock
Pineville soils--are very deep and form in colluvium
Quakertown soils--are deep to bedrock
Rayne soils--are deep and very deep to bedrock
Shelocta soils--are deep and very deep and form in colluvium or colluvium and residuum
Syenite soils--form from residual granite bedrock
Wist soils--are very deep to bedrock and form from glauconite bearing fluviomarine deposits

GEOGRAPHIC SETTING:
MLRA(s) using this series: 118, 119, 120, 122, 123, 124, 125, 126, 127, 128, 130, 147
Landscape: Upland
Landform: Ridge, hill, and hillslope
Geomorphic Component: Interfluve, head slope, nose slope, or side slope
Hillslope Profile Position: Summit, shoulder, or backslope
Parent Material Origin: Nearly horizontal, interbedded gray and brown acid siltstone, shale, and sandstone
Parent Material Kind: Residuum
Slope: 0 to 70 percent
Elevation: 91 to 1097 meters (300 to 3600 feet)
Frost-free period: 120 to 180 days
Mean Annual Air Temperature: 7 to 14 degrees C. (46 to 57 degrees F.)
Mean Annual Precipitation: 914 to 1270 millimeters (36 to 50 inches)

GEOGRAPHICALLY ASSOCIATED SOILS:
Beech soils--occur on footslopes and are moderately well drained
Berks soils--occur on similar landscapes, do not have an argillic horizon, and have more coarse fragments in the solum and substratum
Cavode soils--occur on similar landscapes and are somewhat poorly drained
Clarksburg soils--occur on footslopes and are moderately well drained
Dekalb soils--occur on similar landscapes, have sandier textures, and have more coarse fragments in the solum and substratum
Ernest soils--occur on footslopes and are moderately well or somewhat poorly drained
Muskingum soils--occur on similar landscapes, do not have an argillic horizon, and are deep to bedrock
Rayne soils--occur on similar landscapes and are deeper than 102 cm to bedrock
Shelocta soils--occur on similar landscapes and are deeper than 102 cm to bedrock
Upshur soils--occur on similar landscapes, have finer textures in the solum and substratum, and are deep and very deep to bedrock
Vandalia soils--occur on footslopes, have finer textures in the solum and substratum, and are very deep to bedrock
Wellston soils--occur on similar landscapes and are deep and very deep to bedrock

Westmoreland soils--occur on similar landscapes and are deep and very deep to bedrock
Wharton soils--occur on similar landscapes, are moderately well drained, and are deep and very deep to bedrock

DRAINAGE AND SATURATED HYDRAULIC CONDUCTIVITY:
Drainage Class (Agricultural): Well drained
Index Surface Runoff: Negligible through high
Saturated Hydraulic Conductivity Class: High
Permeability Class (obsolete): Moderate
Shrink-Swell Class: Low
Flooding Frequency and Duration: None
Ponding Frequency and Duration: None

USE AND VEGETATION:
Major Uses: Hayland, pasture, cropland, and woodland
Dominant Vegetation: Where cultivated--Grass-legume hay, corn, soybeans, wheat, or oats. Where wooded--Oaks, maple, hickory, and yellow-poplar.

DISTRIBUTION AND EXTENT:
Distribution: Pennsylvania, Georgia, Indiana, Kentucky, Maryland, New York, Ohio, Tennessee, Virginia, and West Virginia
Extent: Large, over 6 million acres, at the time of this revision

MLRA SOIL SURVEY REGIONAL OFFICE (MO) RESPONSIBLE: MORGANTOWN, WEST VIRGINIA

SERIES ESTABLISHED: Indiana County, Pennsylvania, 1931.

REMARKS:
Diagnostic horizons and features recognized in this pedon are:
Ochric epipedon--the zone from 0 to 20 cm (Ap horizon)
Argillic horizon--the zone from 20 to 61 cm (Bt1 and Bt2 horizons)
Lithic contact--the zone starting at 79 cm (R horizon)
Series control section--the zone from 0 to 79 cm

ADDITIONAL DATA:
Characterization sample 61PA063056 is from the Type Location, and was used as the basis for placing this series in the active CEC class.
Characterization data is available from the Pennsylvania State Soil Characterization Laboratory for the following pedons: 75PA003001, 61PA063054, 65PA003008, S1965PA063180
Characterization data is available from The Ohio State Soil Characterization Laboratory for the following pedons: KX-043, PR-004, PR-005, ho-011, cs-019, cs-020, cs-024, mn-w15, mn-w20, at-W03, lw-s01, ws-023, ws-w08, ws-w10, ws-w34, ws-w35, As-007, Sk-025, bt-w02, AS-7, CA-W20, CA-W21, CS-W9, CS-W10, CS-W11, BT-S2, BT-W2, JF-16, MS-W1, MS-W2, MS-S4, TU-1, MN-8, MN-10, MN-26, MN-W3, MN-W9, MN-W43, SK-25, PR-4, PR-5, WS-W34, WS-W35

LOCATION LATHAM OH+KY WV

Established Series
DDC, SLH/ Rev. MDJ
04/2013

LATHAM SERIES

TAXONOMIC CLASS: Fine, mixed, semiactive, mesic Aquic Hapludults

TYPICAL PEDON: Latham silt loam - on a 20 percent north-facing convex slope in a forested area. (Colors are for moist soil unless otherwise stated.)

Oe--0 to 5 cm (0 to 2 inches); partly decomposed mixed hardwood leaf litter.

A--5 to 10 cm (2 to 4 inches); brown (10YR 4/3) silt loam, light brownish gray (10YR 6/2) dry; moderate fine granular structure; very friable; many fine and very fine roots; 10 percent fragments of siltstone; very strongly acid; clear smooth boundary. (2 to 10 cm thick)

E--10 to 25 cm (4 to 10 inches); yellowish brown (10YR 5/4) silt loam; moderate fine subangular blocky structure; firm; many very fine and few fine roots; 10 percent fragments of siltstone; very strongly acid; clear smooth boundary. (0 to 20 cm thick)

Bt1--25 to 43 cm (10 to 17 inches); strong brown (7.5YR 5/8) silty clay loam; moderate medium subangular blocky structure; firm; few very fine roots; many faint strong brown (7.5YR 5/6) clay films on faces of peds; 5 percent fragments of siltstone; very strongly acid; clear wavy boundary.

Bt2--43 to 61 cm (17 to 24 inches); strong brown (7.5YR 5/6) silty clay; common fine prominent pinkish gray (7.5YR 6/2) iron depletions and common fine distinct yellowish red (5YR 5/8) iron-manganese masses; moderate medium subangular blocky structure; firm; few very fine roots; many distinct pale brown (10YR 6/3) clay films on faces of peds; 5 percent fragments of siltstone; very strongly acid; clear wavy boundary.

Bt3--61 to 91 cm (24 to 36 inches); light olive brown (2.5Y 5/4) channery silty clay; many fine prominent pinkish gray (7.5YR 6/2) iron depletions and common fine prominent strong brown (7.5YR 5/8) iron-manganese masses; moderate coarse subangular blocky structure; very firm; few very fine roots; many prominent light brownish gray (2.5Y 6/2) clay films on faces of peds; 3 percent fragments of siltstone and 15 percent fragments of soft shale; very strongly acid; gradual smooth boundary. (Combined thickness of the Bt horizon is 38 to 76 cm)

Cr--91 to 116 cm (36 to 46 inches); light olive brown (2.5Y 5/4) and light brownish gray (2.5Y 6/2) soft shale interbedded with thin layers of yellowish brown (10YR 5/6) siltstone.

TYPE LOCATION:
County: Pike

State: Ohio
USGS Quadrangle: Waverly North, Ohio
Latitude (Decimal Degrees, NAD 83): 39.152778 N
Longitude (Decimal Degrees, NAD 83): 82.992222 W
Directions to Pedon: About 2 miles north of Waverly, Pee Pee Township, about 5,400 feet north of the intersection of Prussia Road (CR-46) and Denver Road (CR-47) along Prussia Road, then about 810 feet southwest.

RANGE IN CHARACTERISTICS:
Depth to the top of the Argillic: 2 to 35 cm (1 to 14 inches)
Depth to the base of the Argillic: 40 to 102 cm (16 to 40 inches)
Solum Thickness: 40 to 102 cm (16 to 40 inches)
Depth to Bedrock: 51 to 102 cm (20 to 40 inches)
Depth Class: Moderately Deep
Depth to Seasonal High Water Table: 35 to 58 cm (14 to 23 inches), January to April
Rock Fragment content: 0 to 14 percent, by volume, in the A and E horizons and 0 to 30 percent, by volume, in the B horizons and substratum
Fine-Earth Fraction: 35 to 55 percent clay in the particle size control section
Soil Reaction: Strongly acid through extremely acid in A and E horizons, and very strongly acid or extremely acid in the Bt, BC, and C horizons, except where limed

Range Of Individual Horizons:
A or Ap horizon:
Color--hue of 10YR; value of 3 through 5; and chroma of 2 through 4
Texture (fine-earth fraction)--silt loam or silty clay loam

E horizon (if it occurs):
Color--hue of 10YR; value of 5 or 6; and chroma of 2 through 4
Texture (fine-earth fraction)--silt loam or silty clay loam

BA or BE horizon (if it occurs):
Color--hue of 10YR or 7.5YR; value of 5 or 6; and chroma of 4 through 6
Texture (fine-earth fraction)--silt loam or silty clay loam

Bt horizon:
Color--hue of 2.5Y through 7.5YR; value of 4 through 6; and chroma of 2 through 8
Texture (fine-earth fraction)--silty clay loam or silty clay
Redoximorphic features--iron masses in shades of red, yellow, or brown and iron depletions in shades of brown, yellow, olive, or gray

BC or C horizon (if it occurs):
Color--hue of 2.5Y or 10YR; value of 5 or 6; chroma of 2 through 6
Texture (fine-earth fraction)--silty clay loam or silty clay
Redoximorphic features--iron masses in shades of red, yellow, or brown and iron depletions in shades of brown, yellow, olive, or gray

COMPETING SERIES:
Cruze soils--have a paralithic contact that is greater than 102 centimeters deep.
Flatwoods soils--have a lithic contact between 51 and 102 cm, and have moderately slow

permeability.
Halifax soils--are very deep and formed from igneous and metamorphic rocks.
Kanuga soils--are very deep and have moderately slow permeability.
Keyport soils--are very deep and formed in fluviomarine sediments.
Lackstown soils--are very deep and formed from Triassic rocks.
Zoar soils--are very deep and formed in clayey lacustrine sediments.

GEOGRAPHIC SETTING:
MLRA(s): 124 (Western Allegheny Plateau), 125 (Cumberland Plateau and Mountains), 126 (Central Allegheny Plateau)
Landscape: Uplands
Landform: Hill and hillslope
Hillslope Profile Position: Backslope, shoulder, or summit
Geomorphic Component: Side slope, nose slope, head slope, or crest
Parent Material: Residuum from soft acid shale; in some areas strata of more resistant bedrock, such as siltstone, are included with the shale
Slope: 0 to 35 percent
Elevation: 150 to 450 meters (490 to 1475 feet)
Frost-Free Period: 176 to 213 days
Mean Annual Air Temperature: 9 to 13 degrees C. (48 to 55 degrees F.)
Mean Annual Precipitation: 1012 to 1270 mm (40 to 50 inches)

GEOGRAPHICALLY ASSOCIATED SOILS:
Berks soils--occur on well drained summits and upper shoulders that are loamy-skeletal.
Brownsville soils--occur on well drained summits and upper shoulders that are loamy-skeletal and have a lithic contact that is greater than 102 centimeters deep.
Coolville soils--occur on uplands that have a silt mantle and a paralithic contact that is greater than 102 centimeters deep.
Gilpin soils--occur on well drained uplands that are fine-loamy.
Lily soils--occur on well drained uplands that are fine-loamy and siliceous.
Rarden soils--occur on broader summits that have a fine particle-size class and hues redder than 10YR.
Shelocta soils--occur on well drained uplands that are fine-loamy and have a lithic contact that is greater than 102 centimeters deep.
Steinsburg soils--occur on well drained narrow summits and upper shoulders that are dominated by sandstone.
Wharton soils--occur on uplands that are fine-loamy and have a paralithic contact that is greater than 102 centimeters deep.

DRAINAGE AND SATURATED HYDRAULIC CONDUCTIVITY:
Drainage Class (Agricultural): Moderately well drained
Internal Free Water Occurrence: Thin (30 cm-1 m), shallow (25 cm-50 cm), and common (present 3-6 months)
Flooding Frequency and Duration: None
Ponding Frequency and Duration: None
Index Surface Runoff: Medium through very rapid
Saturated Hydraulic Conductivity: Moderately low and moderately high
Shrink-Swell Potential: Low

USE AND VEGETATION:
Major Uses: Hayland, pasture, cropland, and woodland
Dominant Vegetation: Grass-legume hay, corn, wheat, oats, and mixed hardwood trees dominated by oak and maple

DISTRIBUTION AND EXTENT:
Distribution: Southeastern Ohio, West Virginia, and northeastern Kentucky; mainly MLRAs 124, 125, and 126
Extent: Large, about 700,000 acres at the time of this revision

MLRA SOIL SURVEY REGIONAL OFFICE (MO) RESPONSIBLE: MORGANTOWN, WEST VIRGINIA

SERIES ESTABLISHED: Adams County, Ohio, 1932.

REMARKS:
Diagnostic horizons and soil characteristics recognized in this pedon are:
Ochric epipedon--the zone from 5 to 25 cm (A and E horizons)
Argillic horizon--the zone from 25 to 91 cm (Bt1, Bt2, Bt3 horizons)
Redoximorphic depletions with chroma 2 or less--the zone from 43 to 91 cm
Paralithic contact--91 cm

Previous revisions: 10/98-AR,DRM

ADDITIONAL DATA:
Refer to sample pedon PK-12 (OSD type location) for characterization data, analyzed by The Ohio State University Soil Characterization Laboratory, Columbus, Ohio. Other sampled pedons include 83P0702, 73KY19-42, 69KY-165-075, 69KY-165-076, and 73KY-089-035. These samples were analyzed by the University of Kentucky, Lexington, KY.

National Cooperative Soil Survey
U.S.A.

EXHIBIT H
DIRECTIONS TO WCF SITE

Driving Directions to Proposed Tower Site

1. Beginning at 450 Prestonsburg Street, West Liberty, Kentucky, head west (toward Main Street) and travel approximately 0.2 miles.
2. Turn right onto KY-7 N / Main Street and travel approximately 2.7 miles.
3. Continue straight onto KY-519 N and travel approximately 2.7 miles.
4. Turn right onto Cr-1443-70/Yocum Road Con and travel approximately 184 feet.
5. Cr-1443-70/Yocum Rd Con turns left and becomes Old 519 No 1 Rd/Yocum Road. Continue on Old 519 No 1 Rd/Yocum Road for approximately 0.1 miles.
6. The site is on the right at 146 Yocum Road, West Liberty, KY. The site coordinates are:
    a. North 37 deg 58 min 48.084 sec
    b. West 83 deg 18 min 36.599 sec

Prepared by:
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Pike Legal Group PLLC
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Shepherdsville, KY 40165-3069
Telephone: 502-955-4400 or 800-516-4293

EXHIBIT I
COPY OF REAL ESTATE AGREEMENT

Market: Lexington
Cell Site Number:
Cell Site Name: Lenville LN
Fixed Asset Number: 12710500

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 Ray Engle and Marie Engle, a married couple, having a mailing address of 146 Yocum Road, West Liberty, KY 41472 ("**Landlord**") and New Cingular Wireless PCS, LLC, a Delaware limited liability company, having a mailing address of 575 Morosgo Drive, 13F, 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 146 Yocum Road, in the County of Morgan, 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, gates, 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. Tenant, at its own expense, is obligated to construct a gate near the beginning of Tenant's access easement as noted in **Exhibit 1**. 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 occurring after the Rent Commencement Date, Rent will be prorated. The initial Rent payment will be forwarded by Tenant to Landlord within forty-five (45) days after the Rent Commencement Date.

(b) In year 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 six (6) months' Rent, (paid in six (6) monthly installments), 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] per occurrence and [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. Tenant, at its own expense, must construct a gate near the beginning of the access easement as shown in **Exhibit 1**. 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 Landlord intentionally denies Access to the Premises, Tenant shall incur significant damage. If Landlord fails to provide the Access granted by this Section 12, excluding acts of nature beyond Landlord's control, such failure shall be a default under this Agreement. In connection with such default, in addition to any other rights or remedies available to Tenant under this Agreement or at law or equity, Landlord shall pay Tenant, as liquidated damages and not as a penalty, [redacted] per day in consideration of Tenant's damages until Landlord cures such default. Landlord and Tenant agree that Tenant's damages in the event of a denial of Access are difficult, if not impossible, to ascertain, and the liquidated damages set forth above are a reasonable approximation of such damages.

13. **REMOVAL/RESTORATION.** All portions of the Communication Facility brought onto the Property by Tenant will be and remain Tenant's personal property and, at Tenant's option, may be removed by Tenant at any time during 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 the Term. Tenant will repair any damage to the Property resulting from Tenant's removal activities. Within one hundred twenty (120) days after the termination of this Agreement, Tenant will remove all of Tenant's above-ground improvements including any above-ground portions of the Communications Facility and Tenant will, to the extent reasonable, restore the Premises to its condition at the commencement of this Agreement, reasonable wear and tear and loss by casualty or other causes beyond Tenant's control excepted. If any portions of the Communication Facility are not removed within one hundred twenty (120) days after the later of the end of the Term and cessation of Tenant's operations at the Premises, Tenant shall pay Landlord the current monthly rent until said portions are removed. Notwithstanding the foregoing, Tenant will not be responsible for the replacement of any trees, shrubs or other vegetation, nor will Tenant be required to remove from the Premises or the Property any below-ground structural steel or any foundations or underground utilities.

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, excluding any landscaping installed by Tenant as a condition of this Agreement or any required permit. Notwithstanding the foregoing, Tenant shall be responsible for the construction, maintenance, and upkeep of any Tenant constructed access road installed on the Property to the Premises. Any damage Tenant causes to the access road, Tenant will repair at its cost and expense.

(b) Tenant will be responsible for securing and paying for all utilities for electricity, telephone service or any other utility used or consumed by Tenant on the Premises.

(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. Tenant will notify Landlord in writing when Tenant subleases the Premises.

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 # _____ : Cell Site Name: Lenville FN (KY)
Fixed Asset No.: 12719590
575 Morosgo Drive, 13I
Atlanta, GA 30324

With a copy to:
New Cingular Wireless PCS, LLC
Attn.: Legal Department
Re: Cell Site # _____ , Cell Site Name: Lenville FN (KY)
Fixed Asset No.: 12719590
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:
Ray and Marie Engle
146 Yocum Road
West Liberty, KY 41472

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, of 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 # _____; Cell Site Name: Lenville FN (KY)
Fixed Asset No. 12719590
575 Morosgo Drive, 13F
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"

Ray Engle

Ray Engle

Print Name: Ray Engle
Date: 5-23-18

Marie Engle

Marie Engle

Print Name: Marie Engle
Date: 5-23-18

LANDLORD ACKNOWLEDGMENT

STATE OF Ky)
) ss:
COUNTY OF Pike)

On the 23rd day of May, 2018 before me, personally appeared Ray Engle and Marie Engle, 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.

Notary Public: Alicia Wagoner
My Commission Expires: 5-7-21

ALICIA WAGONER
NOTARY PUBLIC
STATE AT LARGE KENTUCKY
ID # 511053

"TENANT"

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

By: Jason Allday
Print Name: Jason Allday
Its: Area Manager – TN/KY
Date: 5/22/18

TENANT ACKNOWLEDGMENT

STATE OF ALABAMA)
) ss:
COUNTY OF JEFFERSON)

On the 22 day of May, 2018, before me personally appeared Jason Allday, 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.

Lisa Henderson
Notary Public: Lisa Henderson
My Commission Expires: 7/9/2018

LISA HENDERSON NOTARY PUBLIC ALABAMA STATE AT LARGE

EXHIBIT 1

DESCRIPTION OF PREMISES

to the Option and Lease Agreement dated May 22, 2018, by and between Ray Engle and Marie Engle, a married couple, 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 Morgan County and State of Kentucky, and on the McClannahan Branch, (near Yocum Post Office), and more fully described as follows:
Beginning at a walnut stump on the south side of the Highway at the F. C. and Bessie Oakley property; thence a southerly direction with the line of F. C. and Bessie Oakley to the top of the hill to a corner of the land of Clella Engle and F. C. and Bessie Oakley and the land hereby conveyed; thence with the said Engle line a westerly direction to the corner of Darrell and Drexell Lewis property; thence a westerly direction with said line and dividing ridge between Grassy Creek and McClannanan Branch to line and corner of Omar Lewis property; thence a northerly direction and with the Omer Lewis line to the top of the bluff near the McClannahan Branch and corner of Omer Lewis property; thence an easterly direction with Jim Frank Lewis (now Drexell Lewis) line and top of the bluff near McClannahan to a corner of the Jim Frank Lewis (or Drexell Lewis) property; thence a northerly direction down the bluff and crossing McClannahan Branch with said Lewis line to the county road at a culvert; thence coming up the road and with some to the last line of the cemetery lot; thence crossing said county road (now highway No.) to a forked white oak in the line of Rachel and Myrtle Cassity; thence a Northeast direction

with said Cassity line to the line of Alvie Riggsby (now Devene Quicksall Knox) on top of the ridge; thence an easterly direction with the center of the ridge and Riggsby's line to the corner of Walter Riggsby property; thence with the line of Walter Riggsby to county road and crossing the same to the point of beginning. There is Excluded and specifically Reserved from this conveyance the Cemetery as it is now located on said property.

Excepting from the above, is the following:

(1) That portion conveyed to Marie Engle, by Deed from Vernon Ray Engle, dated May 3, 1978 and recorded May 9, 1978, of record in Deed Book 124, Page 358-A, in the Office of the Clerk of Morgan County, Kentucky; and

(2) That portion conveyed to Vernon Ray Engle, by Deed from Marie Engle, dated May 7, 1978 and recorded May 9, 1978, of record in Deed Book 124, Page 358-A, which was then conveyed a one-half interest to Marie Engle, by Deed from Vernon Ray Engle, dated November 6, 1978 and recorded November 16, 1978, of record in Deed Book 125, Page 651, both in the Office of the Clerk of Morgan County, Kentucky; and

(3) That portion conveyed to the Commonwealth of Kentucky, for the use and benefit of the Transportation Cabinet, Department of Highways, by Deed from Joleen Frederick, as Special Commissioner of the Morgan County Circuit Court, for and on behalf of Ray Engle and Marie Engle, dated November 10, 1992 and recorded November 24, 1992, of record in Deed Book 160, Page 15, in the Office of the Clerk of Morgan County, Kentucky; and

(4) That portion conveyed to Johnny Ray Engle and Melinda Charlene Engle, by Deed from Vernon Ray Engle and Marie Engle, dated June 27, 2003 and recorded July 22, 2003, of record in Deed Book 195, Page 331, in the Office of the Clerk of Morgan County, Kentucky; and

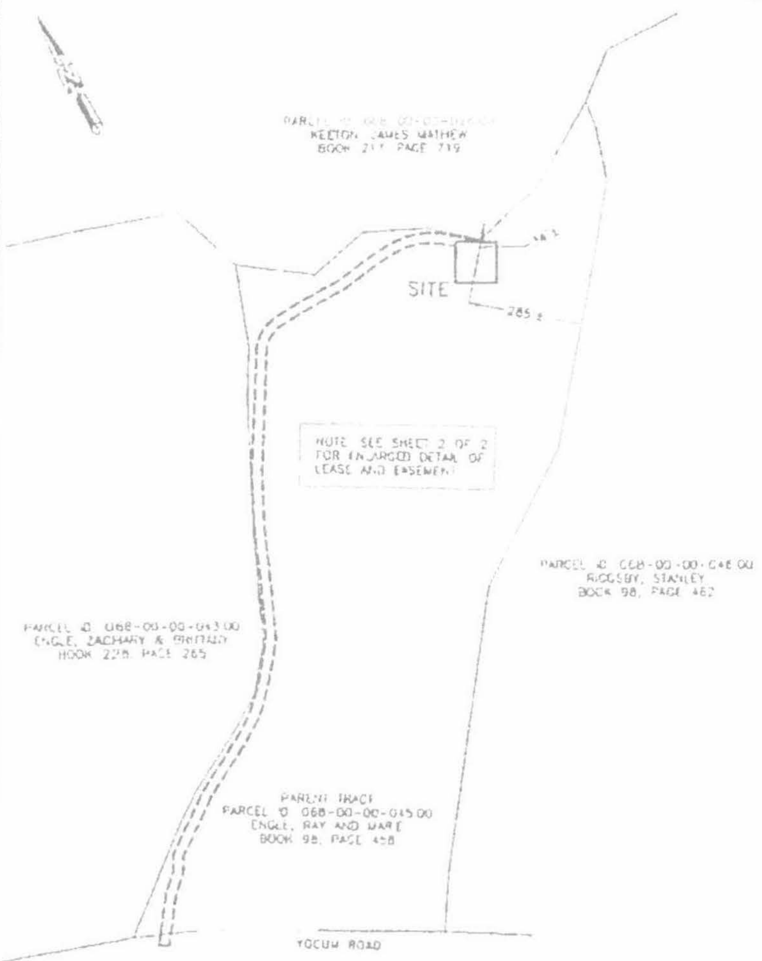
(5) That portion conveyed to Teddy Gunnell and Rita Mae Gunnell, by Deed from Vernon Ray Engle and Marie Engle, dated October 6, 2003 and recorded October 6, 2003, of record in Deed Book 196, Page 81, in the Office of the Clerk of Morgan County, Kentucky; and

(6) That portion conveyed to Kenneth Martin and Linda Martin, by Deed from Ray Engle and Marie Engle, dated September 23, 2004 and recorded September 27, 2004, of record in Deed Book 199, Page 673, in the Office of the Clerk of Morgan County, Kentucky; and

(7) That portion conveyed to Zachary Ray Engle, by Deed from Ray and Marie Engle, dated July 27, 2009 and recorded July 27, 2009, of record in Deed Book 215, Page 365, in the Office of the Clerk of Morgan County, Kentucky.

The Premises are described and/or depicted as follows:

An approximately 10,000 square foot portion (100' x 100') of the above described Property along with certain 25' access and utility easements across such Property, and which Premises and easements are depicted as follows:



PLOTTABLE EXCEPTIONS
U.S. TITLE SOLUTIONS
Report of File, File No. 5900-KY1801-5030
Date January 25, 2018
Schedule B

Exception No.	Instrument	Comment
1 - 7		Standard exceptions pertaining to survey matters
(8)	Book 81, Page 407	Document contains insufficient information to plot, show, or determine affects on subject property

PARENT TRACT (BOOK 98, PAGE 458)

A certain tract or parcel of land lying and being in Morgan County and State of Kentucky, and on the McClanahan Branch (near Yocum Post Office), and more fully described as follows:

Beginning at a walnut stump on the south side of the highway at the F.C. and Bessie Oakley property, thence a southerly direction with the line of F.C. and Bessie Oakley to the top of the hill to a corner of the land of Ossie Engle and F.C. and Bessie Oakley and the land hereby conveyed, thence with the said Engle line a westerly direction to the corner of Derrel and Grover Lewis property, thence a westerly direction with said line and dividing ridge between Grassy Creek and McClanahan Branch to line and corner of Omer Lewis property; thence a northerly direction and with the Omer Lewis line to the top of the bluff near the McClanahan Branch and corner of Omer Lewis property, thence an easterly direction with Jim Frank Lewis (now Dressel Lewis) line and top of the bluff near McClanahan to a corner of the Jim Frank Lewis (or Dressel Lewis) property, thence a northerly direction down the bluff and crossing McClanahan Branch with said Lewis line to the county road at a culvert, thence coming up the road and with same to the east side of the cemetery lot; thence crossing said county road (or highway No.) to a forked white oak in the line of Hector and Myrtle Casity; thence a northeast direction with said Casity line to the line of Kyle Riggsby (now Lewene Duckworth Knox) on top of the ridge; thence an easterly direction with the center of the ridge and Riggsby line to the corner of Walter Riggsby property; thence with the line of Walter Riggsby to county road and crossing the same to the point of beginning. There is Excepted and specifically Reserved from this conveyance the Cemetery as it is now located on said property.

100' X 100' LEASE AREA (AS-SURVEYED)

Being a portion of that certain tract of land as described and recorded in Book 98, Page 458, in the Office of the Clerk of Morgan County, Kentucky and having Morgan County Tax Parcel ID 068-00-00-045.00 and being more particularly described as follows:

Commencing at a pk nail found at the centerline intersection of Yocum Road and C.R. 1443, thence run N 71°47'27" W for a distance of 85.66 feet to a 6" x 6" concrete right-of-way monument found; thence N 18°11'48" E for a distance of 1718.16 feet to a 5/8" rebar set and the Point of Beginning; thence N 21°34'23" E for a distance of 100.00 feet to a 5/8" rebar set; thence S 68°25'38" E for a distance of 100.00 feet to a 5/8" rebar set; thence S 21°34'23" W for a distance of 100.00 feet to a 5/8" rebar set; thence N 68°25'38" W for a distance of 100.00 feet to the Point of Beginning. Said above described Lease Area contains 10,000.0 square feet or 0.23 acres, more or less.

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

Being a portion of that certain tract of land as described and recorded in Book 98, Page 458, in the Office of the Clerk of Morgan County, Kentucky and having Morgan County Tax Parcel ID 068-00-00-045.00 and being more particularly described as follows:

Commencing at a pk nail found at the centerline intersection of Yocum Road and C.R. 1443, thence run N 71°47'27" W for a distance of 85.66 feet to a 6" x 6" concrete right-of-way monument found; thence N 18°11'48" E for a distance of 1718.16 feet to a 5/8" rebar set; thence N 21°34'23" E for a distance of 100.00 feet to a 5/8" rebar set; thence S 68°25'38" E for a distance of 24.11 feet to the Point of Beginning of an Ingress/Egress & Utility Easement being 30 feet in width and lying 15 feet each side of the following described centerline: thence N 57°05'50" W for a distance of 87.50 feet to a point; thence with a curve turning to the left, with a radius of 204.25 feet, an arc length of 117.25 feet, and having a chord bearing of N 74°30'01" W for a chord length of 115.65 feet to a point; thence S 85°44'06" W for a distance of 59.00 feet to a point; thence S 80°43'41" W for a distance of 103.79 feet to a point; thence S 88°47'58" W for a distance of 115.09 feet to a point; thence S 81°45'39" W for a distance of 61.55 feet to a point; thence with a curve turning to the left, with a radius of 92.37 feet, an arc length of 84.11 feet and having a chord bearing of S 56°20'25" W for a chord length of 81.23 feet to a point; thence S 29°25'08" W for a distance of 304.03 feet to a point; thence S 25°11'30" W for a distance of 133.88 feet to a point; thence S 20°30'23" W for a distance of 117.58 feet to a point; thence S 17°50'35" W for a distance of 163.56 feet to a point; thence S 37°03'28" W for a distance of 101.80 feet to a point; thence with a curve to the right, with a radius of 409.81 feet, an arc length of 160.00 feet, and having a chord bearing of S 48°14'57" W for a chord length of 158.98 feet to a point; thence S 60°07'17" W for a distance of 157.24 feet to a point; thence S 57°18'24" W for a distance of 172.32 feet to a point; thence S 28°27'48" W for a distance of 41.12 feet to a point; thence S 45°22'17" W for a distance of 55.28 feet to a point; thence S 35°35'55" W for a distance of 133.34 feet, more or less, to the centerline of Yocum Road and the Point of Ending. Said above described Easement contains 57,823.6 square feet or 1.24 acres, more or less.

Less and Except any and all right-of-way lying over and/or across the above described Easement.

SURVEYOR'S NOTES:

1. This is a Raw Land Tower Survey, made on the ground under the supervision of a Kentucky Registered Land Surveyor. Date of field survey is March 29, 2018.
2. The following surveying instruments were used at time of field visit: Nikon Nivo-3S2, Total Station, Reflectorless and Hiper V Legacy E RTK, CQ 112.
3. Bearings are based on Kentucky State Plane Coordinates NAD 83 by GPS observation.
4. No underground utilities, underground encroachments or building foundations were measured or located as a part of this survey, unless otherwise shown. Trees and shrubs not located unless otherwise shown.
5. Benchmark used is a GPS Continuously Operating Reference Station, PID LW7111. Orate benchmark is as shown hereon. Elevations shown are in feet and refer to NAVD 88.
6. This survey was conducted for the purpose of a Raw Land Tower Survey only, and is not intended to delineate the regulatory jurisdiction of any federal, state, regional or local agency, board, commission or other similar entity.
7. Attention is directed to the fact that this survey may have been reduced or enlarged in size due to reproduction. This should be taken into consideration when obtaining scaled data.
8. This Survey was conducted in reference to a Report of Title prepared by U.S. Title Solutions, File No. 5900-KY1801-5030, and dated January 25, 2018.
9. This survey meets or exceeds the Minimum Standards of Practice as required by the State of Kentucky for a Class A survey as defined by 201 KAR 18:150.
10. Field data upon which this map or plat is based has a closure precision of not less than one-foot in 15,000 feet (1:15,000) and an angular error that does not exceed 10 seconds times the square root of the number of angles turned. Field traverse was not adjusted.
11. This survey is not valid without the original signature and the original seal of a state licensed surveyor and mapper.
12. This survey does not constitute a boundary survey of the Parent Tract. Any parent tract property lines shown hereon are from supplied information and may not be field verified.
13. The Lease Area, and Access and Utility Easement shown hereon was provided by CLIENT dated March 28, 2018 in direct correlation with existing monuments and physical evidence found through inspection and may not depict actual rights of occupancy.
14. No zoning information supplied by client.

SURVEYOR'S CERTIFICATION

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

David D. McKinney
Kentucky License No. 3954

STATE OF KENTUCKY
DAVID D. McKINNEY
3954
LICENSED PROFESSIONAL LAND SURVEYOR

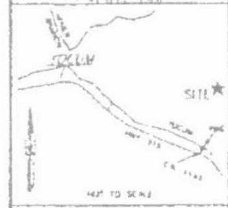
TOWER INFO

CENTER OF TOWER

LATITUDE: 37°58'45.084" NORTH
LONGITUDE: 83°18'38.539" WEST
(NAD 83)
GROUND ELEVATION: 1393.9'
ABOVE MEAN SEA LEVEL (NAVD88)

PARCEL NO: 068-00-00-045.00
OWNER: ENGLE, RAY AND MARIE
PARCEL ADDRESS:
145 YOCUM ROAD
WEST LIBERTY, KY 41472

VICINITY MAP



KENTUCKY

GRID NORTH

GRID TO TRUE NORTH CONVERGENCE
1°29'52.68305"

TRUE NORTH TO MAGNETIC DECLINATION
6°33' W

COMBINED SCALE FACTOR
0.999906570

LEGEND

- ○ = 5/8" REBAR SET
- ● = FOUND PROPERTY MARKER
- POB = POINT OF BEGINNING
- POC = POINT OF COMMENCEMENT
- POE = POINT OF ENDING
- ▲ = CALCULATED POINT
- ⊠ = POWER POLE
- ⊕ = TEMPORARY BENCHMARK PK NAIL SET IN ASPHALT ELEVATION: 1381.32'
- — OVERHEAD TELEPHONE
- — OVERHEAD POWER

FLOOD NOTE

By graphic plotting only, the subject property appears to lie in Zone "X" of the Flood Insurance Rate Map Community Panel No. 21175C0175C, which bears an effective date of August 18, 2008 and IS NOT in a special flood hazard area. Zone "X" Areas determined to be outside the 0.2% chance annual floodplain.

LENVILLE FN
MORGAN COUNTY, KENTUCKY

RAW LAND TOWER SURVEY
INTEGRISITE

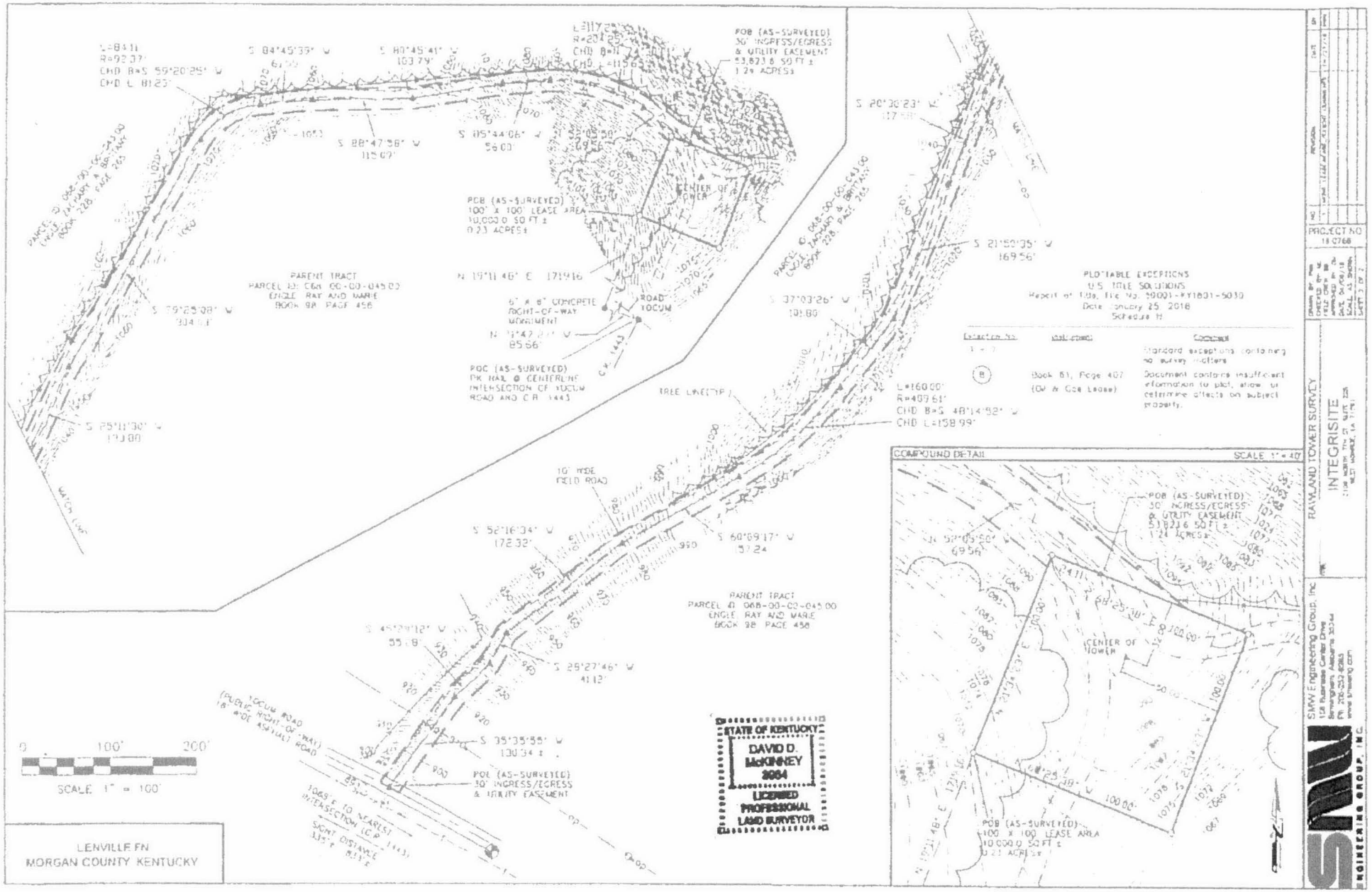
PROJECT NO. 18-0768
SHEET 1 OF 2

SMW Engineering Group, Inc.
158 Business Center Drive
Birmingham, Alabama 35244
Ph: 205-252-6985
www.smweng.com

SMW ENGINEERING GROUP, INC.

Ray Engle
5-16-18

Marie Engle 5/16/18



Roy Engle
5-16-18

Marie Engle
5-16-18

EXHIBIT 11

ENVIRONMENTAL DISCLOSURE

Landlord represents and warrants that the Property, as of the date of this Agreement, is free of hazardous substances except as follows:

1. NONE.

[Landlord Letterhead]

DATE

Building Staff / Security Staff
Landlord, Lessee, Licensee
Street Address
City, State, Zip

Re: Authorized Access granted to AT&T

Dear Building and Security Staff,

Please be advised that we have signed a lease with AT&T permitting AT&T to install, operate and maintain telecommunications equipment at the property. The terms of the lease grant AT&T and its representatives, employees, agents and subcontractors ("representatives") 24 hour per day, 7 day per week access to the leased area.

To avoid impact on telephone service during the day, AT&T representatives may be seeking access to the property outside of normal business hours. AT&T representatives have been instructed to keep noise levels at a minimum during their visit.

Please grant the bearer of a copy of this letter access to the property and to leased area. Thank you for your assistance.

Ray Eagle
Landlord Signature

Landlord Signature

MEMORANDUM OF LEASE

Prepared by:
Cody Knox
Integrisite, Inc.
214 Expo Circle, Suite 4
West Monroe, LA 71292

Return to:
New Cingular Wireless PCS, LLC
Attn: Network Real Estate Administration
575 Morosgo Drive, 13F
Atlanta, GA 30324

Re: Cell Site #_____ ; Cell Site Name: Lenville FN
Fixed Asset #: 12719590
State: Kentucky
County: Morgan

MEMORANDUM OF LEASE

This Memorandum of Lease is entered into on this 22 day of May, 2018, by and between Ray Engle and Marie Engle, a married couple, having a mailing address of 146 Yocum Road, West Liberty, KY 41472 (hereinafter referred to as "**Landlord**") and New Cingular Wireless PCS, LLC, a Delaware limited liability company, having a mailing address of 575 Morosgo Drive, 13F, Atlanta, GA 30324 (hereinafter referred to as "**Tenant**").

1. Landlord and Tenant entered into a certain Option and Lease Agreement ("**Agreement**") on the _____ day of _____, 2018, for the purpose of installing, operating and maintaining a communications facility and other improvements. All of the foregoing is set forth in the Agreement

2. The initial lease term will be five (5) years commencing on the effective date of written notification by Tenant to Landlord of Tenant's exercise of its option, with four (4) successive five (5) year options to renew

3. The portion of the land being leased to Tenant and associated easements are described in **Exhibit 1** annexed hereto.

4. This Memorandum of Lease is not intended to amend or modify, and shall not be deemed or construed as amending or modifying, any of the terms, conditions or provisions of the Agreement, all of which are hereby ratified and affirmed. In the event of a conflict between the provisions of this Memorandum of Lease and the provisions of the Agreement, the provisions of the Agreement shall control. The Agreement shall be binding upon and inure to the benefit of the parties and their respective heirs, successors, and assigns, subject to the provisions of the Agreement.

[SIGNATURES APPEAR ON NEXT PAGE]

IN WITNESS WHEREOF, the parties have executed this Memorandum of Lease as of the day and year first above written.

"LANDLORD"

Ray Engle

Ray Engle

Print Name: Ray Engle
Date: 3-23-18

Marie Engle

Marie Engle

Print Name: Marie Engle
Date: 3-23-18

LANDLORD ACKNOWLEDGMENT

STATE OF _____)
) ss:
COUNTY OF _____)

On the 23 day of March, 2018 before me, personally appeared Ray Engle and Marie Engle, who acknowledged under oath, that he/she is the person/officer named in the within instrument, and that he/she executed the same in his/her stated capacity as the voluntary act and deed of Landlord for the purposes therein contained.

Notary Public: Alicia Wagoner
My Commission Expires: 3-21-19

ALICIA WAGONER
NOTARY PUBLIC
STATE AT LARGE KENTUCKY
ID # 511053

"TENANT"

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

By: Jason Allday
Print Name: Jason Allday
Its: Area Manager – TN/KY
Date: 5/22/18

TENANT ACKNOWLEDGMENT

STATE OF ALABAMA)
) ss:
COUNTY OF JEFFERSON)

On the 22 day of May, 2018, before me personally appeared Jason Allday, 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

Lisa Henderson
Notary Public: Lisa Henderson
My Commission Expires: 7/9/2018

LISA F. HENDERSON
NOTARY PUBLIC
ALABAMA STATE AT LARGE

EXHIBIT 1

DESCRIPTION OF PREMISES

to the Memorandum of Lease dated May 22, 2018, by and between Ray Engle and Marie Engle, a married couple, 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 Morgan County and State of Kentucky, and on the M'Clannahan Branch, (near Yocum Post Office), and more fully described as follows:
Beginning at a walnut stump on the south side of the highway at the F. C. and Bessie Oakley property; thence a southerly direction with the line of F. C. and Bessie Oakley to the top of the hill to a corner of the land of Clella Engle and F. C. and Bessie Oakley and the land hereby conveyed; thence with the said Engle line a westerly direction to the corner of Darrell and Drexell Lewis property; thence a westerly direction with said line and dividing ridge between Grassy Creek and McClannahan Branch to line and corner of Omar Lewis property; thence a northerly direction and with the Omer Lewis line to the top of the bluff near the McClannahan Branch and corner of Omer Lewis property; thence an easterly direction with Jim Frank Lewis (now Drexell Lewis) line and top of the bluff near McClannahan to a corner of the Jim Frank Lewis (or Drexell Lewis) property; thence a northerly direction down the bluff and crossing McClannahan Branch with said Lewis line to the county road at a culvert; thence coming up the road and with same to the last line of the cemetery lot; thence crossing said county road (now highway No.) to a forked white oak in the line of Rachel and Myrtle Cassity; thence a Northeast direction

with said Cassity line to the line of Alvie Riggsby (now Devene Quicksall Knox) on top of the ridge; thence an easterly direction with the center of the ridge and Riggsby's line to the corner of Walter Riggsby property; thence with the line of Walter Riggsby to county road and crossing the same to the point of beginning. There is Excluded and specifically Reserved from this conveyance the Cemetery as it is now located on said property.

Excepting from the above, is the following:

(1) That portion conveyed to Marie Engle, by Deed from Vernon Ray Engle, dated May 3, 1978 and recorded May 9, 1978, of record in Deed Book 124, Page 358-A, in the Office of the Clerk of Morgan County, Kentucky; and

(2) That portion conveyed to Vernon Ray Engle, by Deed from Marie Engle, dated May 7, 1978 and recorded May 9, 1978, of record in Deed Book 124, Page 358-A, which was then conveyed a one-half interest to Marie Engle, by Deed from Vernon Ray Engle, dated November 6, 1978 and recorded November 16, 1978, of record in Deed Book 125, Page 651, both in the Office of the Clerk of Morgan County, Kentucky; and

(3) That portion conveyed to the Commonwealth of Kentucky, for the use and benefit of the Transportation Cabinet, Department of Highways, by Deed from Joleen Frederick, a Special Commissioner of the Morgan County Circuit Court, for and on behalf of Ray Engle and Marie Engle, dated November 10, 1992 and recorded November 24, 1992, of record in Deed Book 160, Page 15, in the Office of the Clerk of Morgan County, Kentucky; and

(4) That portion conveyed to Johnny Ray Engle and Melinda Charlene Engle, by Deed from Vernon Ray Engle and Marie Engle, dated June 27, 2003 and recorded July 22, 2003, of record in Deed Book 196, Page 331, in the Office of the Clerk of Morgan County, Kentucky; and

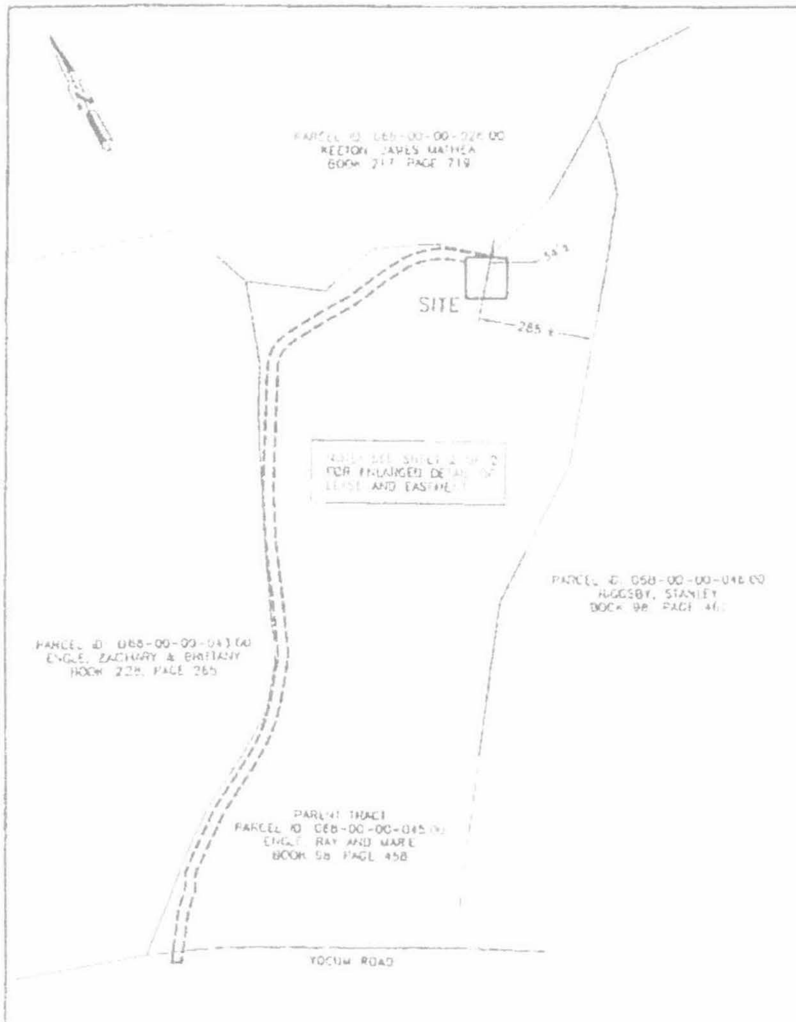
(5) That portion conveyed to Teddy Gunnell and Rita Mae Gunnell, by Deed from Vernon Ray Engle and Marie Engle, dated October 6, 2003 and recorded October 6, 2003, of record in Deed Book 196, Page 81, in the Office of the Clerk of Morgan County, Kentucky; and

(6) That portion conveyed to Kenneth Martin and Linda Martin, by Deed from Ray Engle and Marie Engle, dated September 23, 2004 and recorded September 27, 2004, of record in Deed Book 199, Page 673, in the Office of the Clerk of Morgan County, Kentucky; and

(7) That portion conveyed to Zachary Ray Engle, by Deed from Ray and Marie Engle, dated July 27, 2009 and recorded July 27, 2009, of record in Deed Book 215, Page 366, in the Office of the Clerk of Morgan County, Kentucky.

The Premises are described and/or depicted as follows:

An approximately 10,000 square foot portion (100' x 100') of the above described Property along with certain 25' access and utility easements across such Property, and which Premises and easements are depicted as follows:



PARENT TRACT (BOOK 98, PAGE 458)

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Less and Except any and all right-of-way lying over and/or across the above described Easement.

SURVEYOR'S NOTES:

1. This is a Rawland Tower Survey, made on the ground under the supervision of a Kentucky Registered Land Surveyor. Date of field survey is March 29, 2018.
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14. No zoning information supplied by client.

SURVEYOR'S CERTIFICATION

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

STATE OF KENTUCKY
DAVID D. McKINNEY
3954
LICENSED PROFESSIONAL LAND SURVEYOR

David D. McKinney
Kentucky License No. 3954

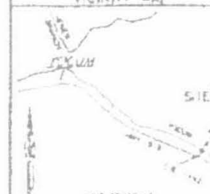
TOWER INFO

CENTER OF TOWER

LATITUDE: 37°58'48.584" NORTH
LONGITUDE: 83°18'36.493" WEST
(NAD 83)
GROUND ELEVATION: 1083.9
ABOVE MEAN SEA LEVEL (NAVD88)

PARCEL NO: 068-00-00-045.00
OWNER: ENGLE, RAY AND MARIE
PARCEL ADDRESS:
146 YOCUM ROAD
WEST LIBERTY, KY 41472

VICINITY MAP



NOT TO SCALE

KENTUCKY

GRID NORTH

GRID TO TRUE NORTH
CONVERGENCE
1°28'52.0625"

TRUE NORTH TO MAGNETIC
DECLINATION
5°33' W

COMBINED SCALE FACTOR
0.999990657

LEGEND

- ○ = 5/8" REBAR SET
- ● = FOUND PROPERTY MARKER
- POB = POINT OF BEGINNING
- POC = POINT OF COMMENCEMENT
- POE = POINT OF ENDING
- △ = CALCULATED POINT
- = POWER POLE
- = TEMPORARY BENCHMARK PK NAIL SET IN ASPHALT ELEVATION: 997.32'
- —OT— OVERHEAD TELEPHONE
- —OP— OVERHEAD POWER

FLOOD NOTE

By graphic plotting only, the subject property appears to be in Zone "X" of the Flood Insurance Rate Map Community Panel No. 21175C0175C, which bears an effective date of August 18, 2008 and IS NOT in a special flood hazard area.
Zone X: Areas determined to be outside the 0.2% chance annual floodplain.

LENVILLE FN
MORGAN COUNTY, KENTUCKY

PROJECT NO.
16.0768

RAWLAND TOWER SURVEY
INTEGRISITE

SMW Engineering Group, Inc.
SMW ENGINEERING GROUP, INC.

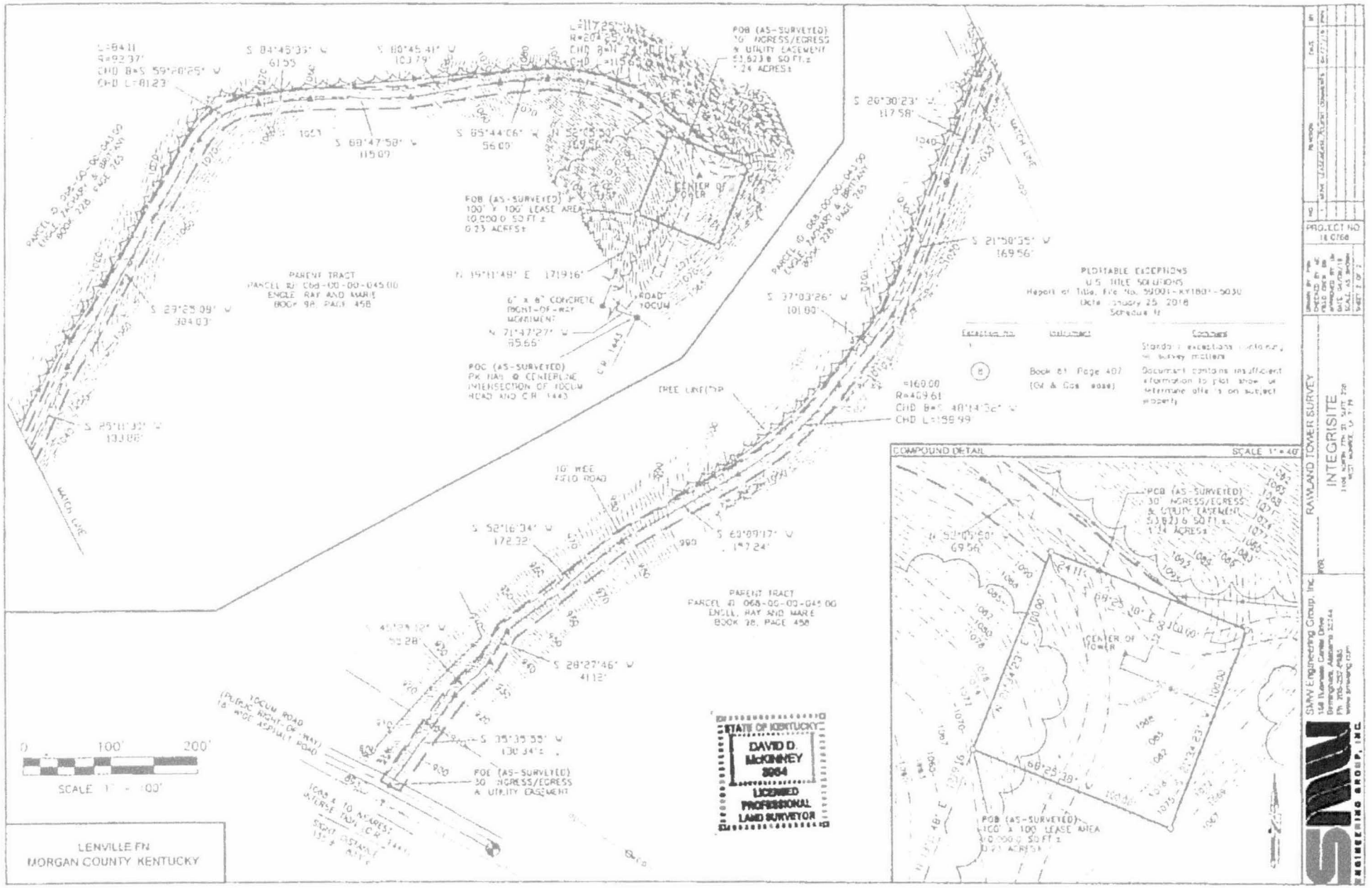
PLOTTABLE EXCEPTIONS

U.S. TITLE SOLUTIONS
Report of Title, File No. 59001-KY1801-5030
Date: January 25, 2018
Schedule B

Exception No.	Instrument	Comment
1 - 7		Standard exceptions containing no survey matters
(8)	Book 8, Page 407	Document contains insufficient information to plot, show, or determine effects on subject property

Ray Engle
5-16-18

Marie Engle 5/16/18



Ray Engle
5-16-18

Marie Engle
5-16-18

EXHIBIT J
NOTIFICATION LISTING

Lenville FN – Notice List

Engle Ray & Marie
146 Yocum Rd
West Liberty, KY 41472

Engle Zachary & Brittany
282 Yocum Rd
West Liberty, KY 41472

Keeton James Matthew
736 Pleasant Run Rd
West Liberty, KY 41472

Oakley Cemetery
Old 519 No. 1 Rd
West Liberty, KY 41472

Martin Kenneth & Linda
121 Yocum Rd
West Liberty, KY 41472

Dehaven Margaret
117 Yokum Rd
West Liberty, KY 41472

EXHIBIT K
COPY OF PROPERTY OWNER NOTIFICATION

PIKE LEGAL

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

Notice of Proposed Construction of Wireless Communications Facility Site Name: Lenville FN

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 146 Yocum Road, West Liberty, Kentucky 41472 (37°58'48.084" North latitude, 83°18'36.599" West longitude). The proposed facility will include a 195-foot tall antenna tower, plus a 4-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 2018-00343 in any correspondence sent in connection with this matter.

We have attached a map showing the site location for the proposed tower. Applicant's radio frequency engineers assisted in selecting the proposed site for the facility, and they have determined it is the proper location and elevation needed to provide quality service to wireless customers in the area. Please feel free to contact us toll free at (800) 516-4293 if you have any comments or questions about this proposal.

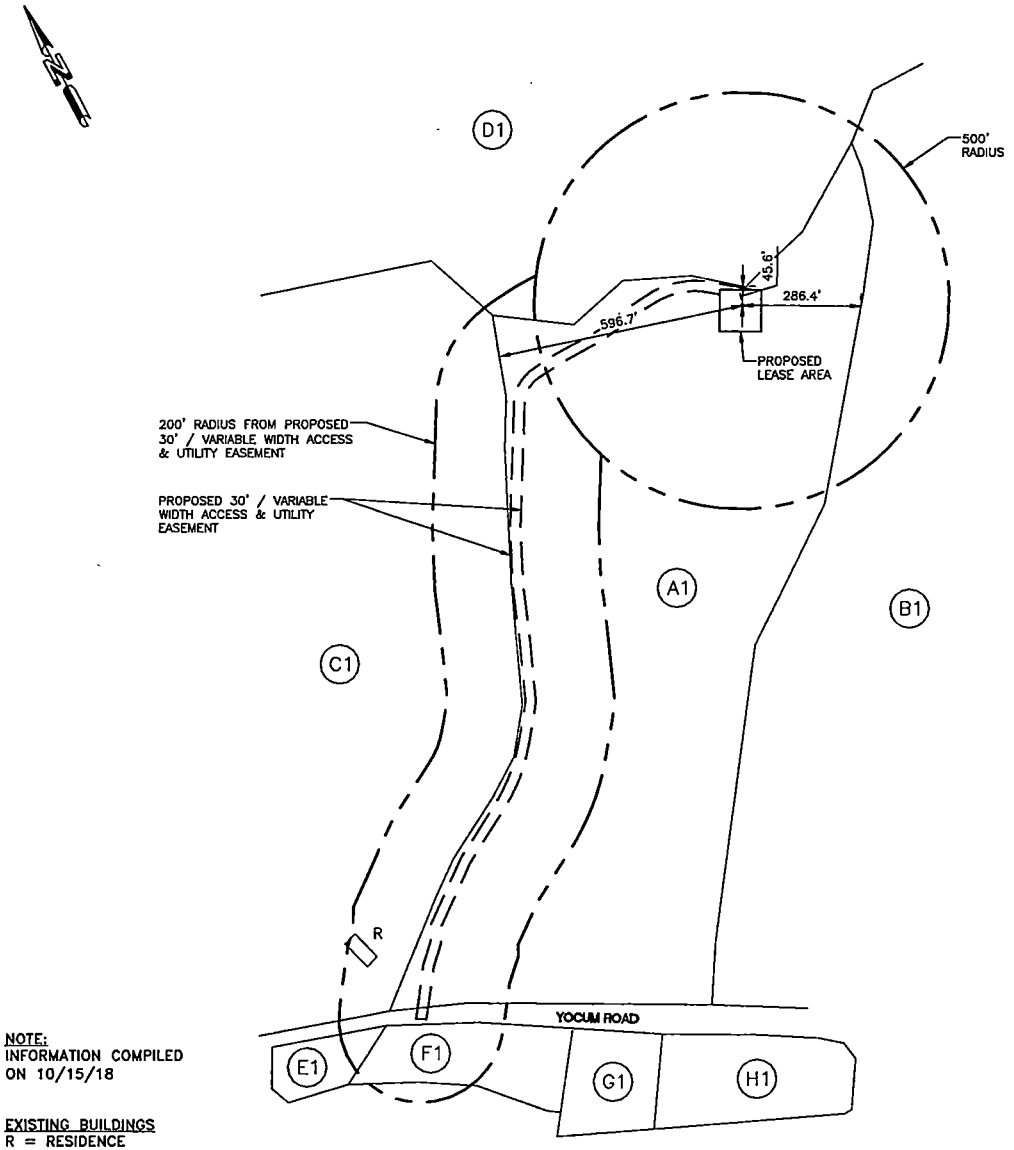
Sincerely,
David A. Pike
Attorney for Applicant

enclosure

Driving Directions to Proposed Tower Site

1. Beginning at 450 Prestonsburg Street, West Liberty, Kentucky, head west (toward Main Street) and travel approximately 0.2 miles.
2. Turn right onto KY-7 N / Main Street and travel approximately 2.7 miles.
3. Continue straight onto KY-519 N and travel approximately 2.7 miles.
4. Turn right onto Cr-1443-70/Yocum Road Con and travel approximately 184 feet.
5. Cr-1443-70/Yocum Rd Con turns left and becomes Old 519 No 1 Rd/Yocum Road. Continue on Old 519 No 1 Rd/Yocum Road for approximately 0.1 miles.
6. The site is on the right at 146 Yocum Road, West Liberty, KY. The site coordinates are:
    a. North 37 deg 58 min 48.084 sec
    b. West 83 deg 18 min 36.599 sec

Prepared by:
Aaron Roof
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



NOTE:
INFORMATION COMPILED ON 10/15/18

EXISTING BUILDINGS
R = RESIDENCE
B = BARN
S = SHED
G = GARAGE

A1	PARCEL ID: 068-00-00-045.00 ENGLE, RAY AND MARIE BOOK 98, PAGE 458 146 YOCUM RD WEST LIBERTY, KY 4147	E1	PARCEL ID: 068-00-00-044.00 RAY & MARIE ENGLE 146 YOCUM RD WEST LIBERTY KY 41472
B1	PARCEL ID: 068-00-00-046.00 ZACHARY & BRITTANY ENGLE 282 YOCUM RD WEST LIBERTY, KY 41472	F1	PARCEL ID: 068-00-00-045.00 RAY & MARIE ENGLE 146 YOCUM RD WEST LIBERTY KY 41472
C1	PARCEL ID: 068-00-00-026.00 ZACHARY & BRITTANY ENGLE 282 YOCUM RD WEST LIBERTY, KY 41472	G1	PARCEL ID: 068-00-00-045.03 KENNETH & LINDA MARTIN 121 YOCUM RD WEST LIBERTY KY 41472
D1	PARCEL ID: 068-00-00-043.00 JAMES MATTHEW KEETON 736 PLEASANT RUN RD WEST LIBERTY, KY 41472	H1	PARCEL ID: 068-00-00-040.02 MARGARET DEHAVEN 117 YOCUM RD WEST LIBERTY KY 41472

SURVEYOR'S NOTES

1. This is a Rowland Tower Survey, made on the ground under the supervision of a Kentucky Registered Land Surveyor. Date of field survey is March 29, 2018.
2. The following surveying instruments were used at time of field visit: Nikon NPL-352, Total Station, Reflectorless and Hiper + Legacy E RTK, GD 1HZ.
3. Bearings are based on Kentucky State Plane Coordinates NAD 83 by GPS observation.
4. No underground utilities, underground encroachments or building foundations were measured or located as a part of this survey, unless otherwise shown. Trees and shrubs not located, unless otherwise shown.
5. Benchmark used is a GPS Continuously Operating Reference Station, PID DH7117. Onsite benchmark is as shown hereon. Elevations shown are in feet and refer to NAVD 88.
6. This survey was conducted for the purpose of a Rowland Tower Survey only, and is not intended to delineate the regulatory jurisdiction of any federal, state, regional or local agency, board, commission or other similar entity.
7. Attention is directed to the fact that this survey may have been reduced or enlarged in size due to reproduction. This should be taken into consideration when obtaining scaled data.
8. This Survey was conducted in reference to a Report of Title prepared by U.S. Title Solutions, File No. 59001-KY1801-5030, and dated January 25, 2018.
9. This survey meets or exceeds the Minimum Standards of Practice as required by the State of Kentucky for a Class A survey as defined by 201 KAR 18:150.
10. Field data upon which this map or plat is based has a closure precision of not less than one-foot in 15,000 feet (1':15,000') and an angular error that does not exceed 10 seconds times the square root of the number of angles turned. Field traverse was not adjusted.
11. This survey is not valid without the original signature and the original seal of a state licensed surveyor and mapper.
12. This survey does not constitute a boundary survey of the Parent Tract. Any parent tract property lines shown hereon are from supplied information and may not be field verified.
13. The Lease Area, and Access and Utility Easement shown hereon was provided by CLIENT dated March 29, 2018 in direct correlation with existing monuments and physical evidence found through inspection and may not depict actual rights of occupancy.
14. No zoning information supplied by client.

SURVEYOR'S CERTIFICATION

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

David D. McKinney
Kentucky License No. 3964

SMW#: 18-0768

at&t

#	DATE	DESCRIPTION:
0	10/05/18	ISSUED FOR CLIENT REV.
1	10/15/18	REISSUED FOR CLIENT REV.
2	10/18/18	ISSUED FOR CONSTRUCTION

LENVILLE FN

500' RADIUS AND ABUTTERS MAP

DESIGNED: JDS
DRAWN: BMD
CHECKED: RTB

JOB #: 12719590

B-2

EXHIBIT L
COPY OF COUNTY JUDGE/EXECUTIVE NOTICE

PIKE LEGAL

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

VIA CERTIFIED MAIL

Hon. Stanley Franklin
County Judge Executive
450 Prestonsburg Street
West Liberty, KY 41472

RE: Notice of Proposal to Construct Wireless Communications Facility
Kentucky Public Service Commission Docket No. 2018-00343
Site Name: Lenville FN

Dear Judge/Executive:

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 146 Yocum Road, West Liberty, Kentucky 41472 (37°58'48.084" North latitude, 83°18'36.599" West longitude). The proposed facility will include a 195-foot tall antenna tower, plus a 4-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 2018-00343 in any correspondence sent in connection with this matter.

We have attached a map showing the site location for the proposed tower. AT&T Mobility's radio frequency engineers assisted in selecting the proposed site for the facility, and they have determined it is the proper location and elevation needed to provide quality service to wireless customers in the area. Please feel free to contact us with any comments or questions you may have.

Sincerely,
David A. Pike
Attorney for Applicant

enclosures

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6. The site is on the right at 146 Yocum Road, West Liberty, KY. The site coordinates are:
    a. North 37 deg 58 min 48.084 sec
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Prepared by:
Aaron Roof
Pike Legal Group PLLC
1578 Highway 44 East, Suite 6
P.O. Box 369
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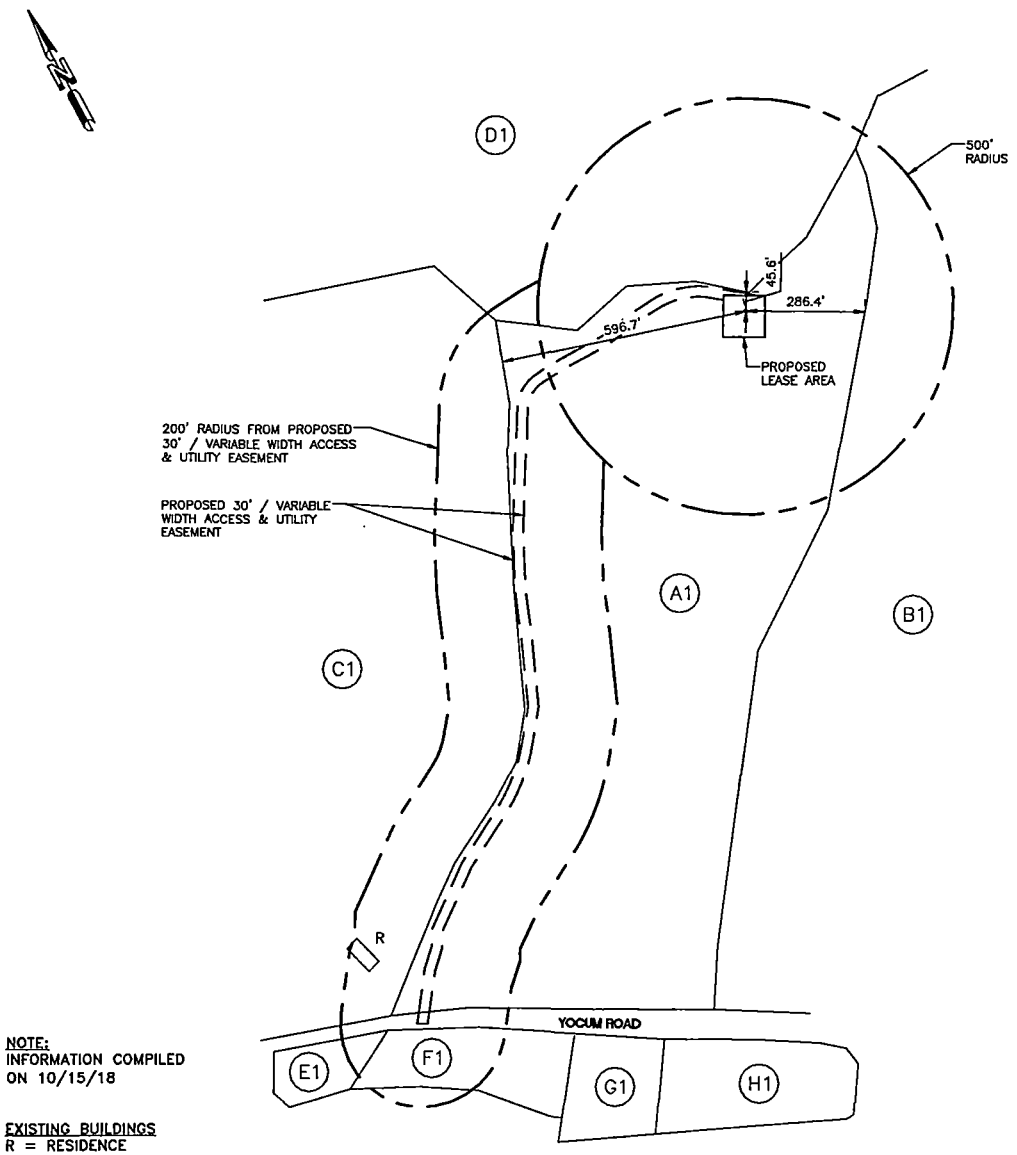
Telephone: 502-955-4400 or 800-516-4293



NOTE:
INFORMATION COMPILED
ON 10/15/18

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BOOK 98, PAGE 458
146 YOCUM RD
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WEST LIBERTY, KY 41472

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146 YOCUM RD
WEST LIBERTY KY 41472

(F1) PARCEL ID: 068-00-00-045.00
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WEST LIBERTY KY 41472

(H1) PARCEL ID: 068-00-00-040.02
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14. No zoning information supplied by client.

SURVEYOR'S CERTIFICATION

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

David D. McKinney
Kentucky License No. 3964

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at&t

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LENVILLE FN

500' RADIUS AND ABUTTERS MAP

DESIGNED: JDS
DRAWN: BMD
CHECKED: RTB

JOB #: 12719590

B-2

EXHIBIT M
COPY OF POSTED NOTICES
AND NEWSPAPER NOTICE ADVERTISEMENT

SITE NAME: LENVILLE FN
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 2018-00343 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 2018-00343 in your correspondence.

TELEPHONE: 606-743-3551

The Licking Valley Courier
P.O. Box 187
West Liberty, KY 41472

RE: Legal Notice Advertisement
Site Name: Lenville FN

Dear Licking Valley Courier:

Please publish the following legal notice advertisement in the next edition of *The Licking Valley Courier*:

NOTICE

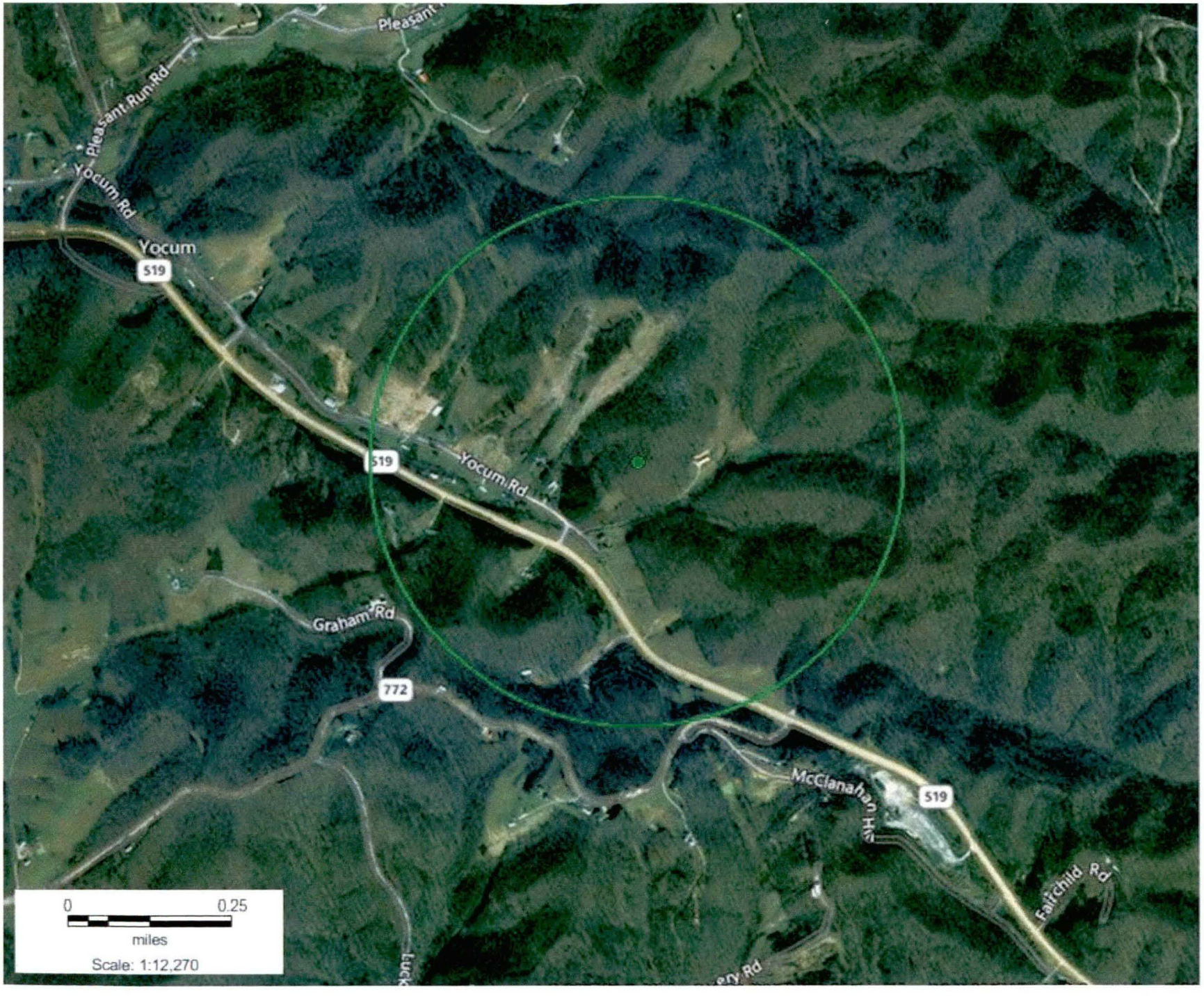
New Cingular Wireless PCS, LLC, a Delaware limited liability company, d/b/a AT&T Mobility has filed an application with the Kentucky Public Service Commission ("PSC") to construct a new wireless communications facility on a site located at 146 Yocum Road, West Liberty, Kentucky 41472 (37°58'48.084" North latitude, 83°18'36.599" 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 2018-00343 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,

Aaron L. Roof
Pike Legal Group, PLLC

EXHIBIT N
COPY OF RADIO FREQUENCY DESIGN SEARCH AREA



Lat: 37.97676931
Lon: -83.31032053

Radius: .4 miles

Lenville Search Area