

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

**RECEIVED**

APR 4 2014

In the Matter of:

PUBLIC SERVICE  
COMMISSION

THE APPLICATION OF )  
NEW CINGULAR WIRELESS PCS, LLC )  
AND AMERICAN TOWERS LLC )  
FOR ISSUANCE OF A CERTIFICATE OF PUBLIC )  
CONVENIENCE AND NECESSITY TO CONSTRUCT )  
A WIRELESS COMMUNICATIONS FACILITY )  
IN THE COMMONWEALTH OF KENTUCKY )  
IN THE COUNTY OF WOLFE )

CASE NO.: 2014-00108

SITE NAME: PEA RIDGE

\*\*\*\*\*

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

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

1. The complete name and address of the Applicants: New Cingular Wireless PCS, LLC, a Delaware limited liability company, d/b/a AT&T Mobility, having a local address of 601 West Chestnut Street, Louisville, Kentucky 40203; American Towers LLC, a Delaware limited liability company d/b/a Delaware American Towers LLC, having a mailing address of 10 Presidential Way, Woburn, MA 01801.

2. Applicants propose construction of an antenna tower for communications services, which is to be located in an area outside the jurisdiction of a planning commission, and Applicants submit this application to the PSC for a certificate of public convenience and necessity pursuant to KRS §§ 278.020(1), 278.040, 278.650, 278.665, and other statutory authority.

3. The Certificate of Authority filed with the Kentucky Secretary of State for AT&T Mobility 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. AT&T Mobility is in good standing in the state in which it is organized and is authorized to transact business in Kentucky.

4. A certificate of formation for American Towers LLC was attached to a prior application and is part of the case record for PSC case number 2013-00435 and is hereby incorporated by reference. American Towers LLC is in good standing in the state in which it is organized and is authorized to transact business in Kentucky.

5. AT&T Mobility operates on frequencies licensed by the Federal Communications Commission ("FCC") pursuant to applicable FCC requirements. A copy of the AT&T Mobility's FCC license to provide wireless services is 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. American Towers LLC will build, own and manage the tower and tower compound where AT&T Mobility will place its equipment building, antennas, radio electronics equipment and appurtenances.

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

7. To address the above-described service needs, Applicants propose to construct a WCF at 395 Miller Ridge Road, Pine Ridge, Kentucky 41360 (37°46'24.18" North latitude, 83°38'08.92" 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 Ronnie Halsey pursuant to a Deed recorded at Deed Book 120, Page 607 in the office of the Wolfe County Clerk. The proposed WCF will consist of a 255-foot tall tower, with an approximately 10-foot tall lightning arrestor attached at the top, for a total height of 265-feet. The WCF will also include concrete foundations and a shelter or cabinets to accommodate the placement of the AT&T Mobility's radio electronics

equipment and appurtenant equipment. The WCF 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**.

8. A list of utilities, corporations, or persons with whom the proposed WCF is likely to compete is attached as **Exhibit D**, along with a map of suitable scale showing the location of the proposed new construction as well as the location of any like facilities located anywhere within the map area, along with a map key showing the owner of such other facilities.

9. 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 has also been included as part of **Exhibit B**.

10. 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**.

11. Applicants have considered the likely effects of the installation of the proposed WCF on nearby land uses and values and have concluded that there is no more suitable location reasonably available from which adequate services can be provided, and that there are no reasonably available opportunities to co-locate the necessary antennas on an existing structure. When suitable towers or structures exist, AT&T Mobility attempts

to co-locate on existing structures such as communications towers or other structures capable of supporting its facilities; however, no other suitable or available co-location site was found to be located in the vicinity of the site. A report detailing the site selection process for the subject site (including documentation as to why co-location is not possible for this site) is attached as **Exhibit E**.

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

13. A copy of the Application for Kentucky Airport Zoning Commission ("KAZC") Approval to construct the tower is attached as **Exhibit G**.

14. 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 H**. 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.

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

16. Applicants, pursuant to a written agreement, have 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 J**.

17. 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.

18. The Construction Manager for the proposed facility is Ron Rohr, and the identity and qualifications of each person directly responsible for design and construction of the proposed tower are contained **Exhibits B & C**.

19. 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.

20. **Exhibit B** includes a map drawn to a scale of no less than 1 inch equals 200 feet 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**.

21. Applicants have notified every person who, according to the records of the County Property Valuation Administrator, owns property which is within 500 feet of the proposed tower or contiguous to the site property, by certified mail, return receipt requested, of the proposed construction. Each notified property owner has been provided with a map of the location of the proposed construction, the telephone number and 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 K** and **Exhibit L**, respectively.

22. Applicants have notified the applicable County Judge/Executive by certified mail, return receipt requested, of the proposed construction. This notice included the PSC docket number under which the application will be processed and informed the County Judge/Executive of his/her right to request intervention. A copy of this notice is attached as **Exhibit M**.

23. 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 N**. Notice of 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.

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

25. The process that was used by the AT&T Mobility radio frequency engineers in selecting the site for the proposed WCF was consistent with the general process used for selecting all other existing and proposed WCF facilities within the proposed network design area. AT&T Mobility's radio frequency engineers have conducted studies and tests in order to develop a highly efficient network that is designed to handle voice and data traffic in the service area. The engineers determined an optimum area for the placement of the proposed facility in terms of elevation and location to provide the best quality service to

customers in the service area. A radio frequency design search area prepared in reference to these radio frequency studies was considered when searching for sites for antennas that would provide the coverage deemed necessary by AT&T Mobility. A map of the area in which the tower is proposed to be located which is drawn to scale and clearly depicts the necessary search area within which the site should be located pursuant to radio frequency requirements is attached as **Exhibit O**.

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](mailto:dpike@pikelegal.com)

Patrick W. Turner  
General Attorney-Kentucky  
AT&T Kentucky  
1600 Williams Street, Suite 5200  
Columbia, South Carolina 29201  
Telephone: (803) 401-2900  
Telefax: (803) 254-1731  
Email: [pt1285@att.com](mailto:pt1285@att.com)

Matthew Russell  
Attorney  
American Towers LLC  
10 Presidential Way  
Woburn, MA 01801  
Telephone: 781.926.7154  
Email: [matthew.russell@americantower.com](mailto:matthew.russell@americantower.com)

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

Respectfully submitted,



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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](mailto:dpike@pikelegal.com)  
Attorney for New Cingular Wireless PCS, LLC  
d/b/a AT&T Mobility

and

Matthew Russell  
10 Presidential Way  
Woburn, MA 01801  
Telephone: 781.926.7154  
Email: [matthew.russell@americantower.com](mailto:matthew.russell@americantower.com)  
Attorney for American Towers LLC d/b/a Delaware  
American Towers LLC

## 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 and Map of Like Facilities in Vicinity
- E - Co-location Report
- F - FAA
- G - Kentucky Airport Zoning Commission
- H - Geotechnical Report
- I - Directions to WCF Site
- J - Copy of Real Estate Agreement
- K - Notification Listing
- L - Copy of Property Owner Notification
- M - Copy of County Judge/Executive Notice
- N - Copy of Posted Notices
- O - Copy of Radio Frequency Design Search Area



**EXHIBIT A**  
**FCC LICENSE DOCUMENTATION**

ULS License

**Cellular License - KNKN841 - NEW CINGULAR WIRELESS PCS, LLC**

Call Sign	KNKN841	Radio Service	CL - Cellular
Status	Active	Auth Type	Regular

**Market**

Market	CMA452 - Kentucky 10 - Powell	Channel Block	A
Submarket	0	Phase	2

**Dates**

Grant	08/30/2011	Expiration	10/01/2021
Effective	02/14/2014	Cancellation	

**Five Year Buildout Date**

02/05/1997

**Control Points**

**1** 1650 Lyndon Farms Court, LOUISVILLE, KY  
P: (502)329-4700

**Licensee**

FRN	0003291192	Type	Limited Liability Company
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**Licensee**

NEW CINGULAR WIRELESS PCS, LLC 3300 E. Renner Road, B3132 Richardson, TX 75082 ATTN Reginald Youngblood	P:(855)699-7073 F:(972)907-1131 E:FCCMW@att.com
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**Contact**

AT&T MOBILITY LLC Michael P Goggin 1120 20th Street, NW - Suite 1000 Washington, DC 20036 ATTN Michael P. Goggin	P:(202)457-2055 F:(202)457-3073 E:michael.p.goggin@att.com
--	--

**Ownership and Qualifications**

Radio Service Type	Mobile
Regulatory Status	Common Carrier Interconnected Yes

**Alien Ownership**

The Applicant answered "No" to each of the Alien Ownership questions.

**Basic Qualifications**

The Applicant answered "No" to each of the Basic Qualification questions.

**Demographics**

Race		Gender	
Ethnicity			



ULS License

# AWS, 1710-1755/2110-2155 MHz bands License - WQGA823 - New Cingular Wireless PCS, LLC

Call Sign	WQGA823	Radio Service	AW - AWS, 1710-1755/2110-2155 MHz bands
Status	Active	Auth Type	Regular
<b>Market</b>			
Market	CMA452 - Kentucky 10 - Powell	Channel Block	A
Submarket	0	Associated Frequencies (MHz)	001710.00000000-001720.00000000 002110.00000000-002120.00000000

**Dates**

Grant	11/29/2006	Expiration	11/29/2021
Effective	02/12/2014	Cancellation	

**Buildout Deadlines**

1st	2nd
-----	-----

**Notification Dates**

1st	2nd
-----	-----

**Licensee**

FRN	0003291192	Type	Limited Liability Company
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**Licensee**

New Cingular Wireless PCS, LLC 3300 E. Renner Road, B3132 Richardson, TX 75082 ATTN Reginald Youngblood	P:(855)699-7073 F:(972)907-1131 E:FCCMW@att.com
--	---

**Contact**

AT&T Mobility LLC Michael P Goggin 1120 20th Street, NW - Suite 1000 Washington, DC 20036 ATTN Michael P. Goggin	P:(202)457-2055 F:(202)457-3073 E:michael.p.goggin@att.com
--	--

**Ownership and Qualifications**

Radio Service Type	Mobile
Regulatory Status	Common Carrier Interconnected Yes

**Alien Ownership**

The Applicant answered "No" to each of the Alien Ownership questions.

**Basic Qualifications**

The Applicant answered "No" to each of the Basic Qualification questions.

**Tribal Land Bidding Credits**

This license did not have tribal land bidding credits.

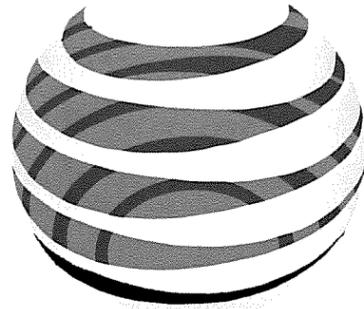


**EXHIBIT B**

**SITE DEVELOPMENT PLAN:**

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





# at&t

# AMERICAN TOWER CORPORATION

## AT&T SITE # 143436 / ATC SITE #: 281378 ATC SITE NAME: PEA RIDGE

PROPOSED AT&T ANTENNAS MOUNTED ON A NEW 255' SELF-SUPPORT TOWER  
WITH AT&T CENTERLINE OF 250'  
(NOT TO EXCEED 265' IN OVERALL STRUCTURE HEIGHT)  
WITH PROPOSED COMMUNICATIONS EQUIPMENT ON GROUND.

### CONSULTANT TEAM

PROJECT CONSULTANT: TERRA CONSULTING GROUP, LTD.  
600 BUSSE HIGHWAY  
PARK RIDGE, IL 60068  
(847) 698-6400

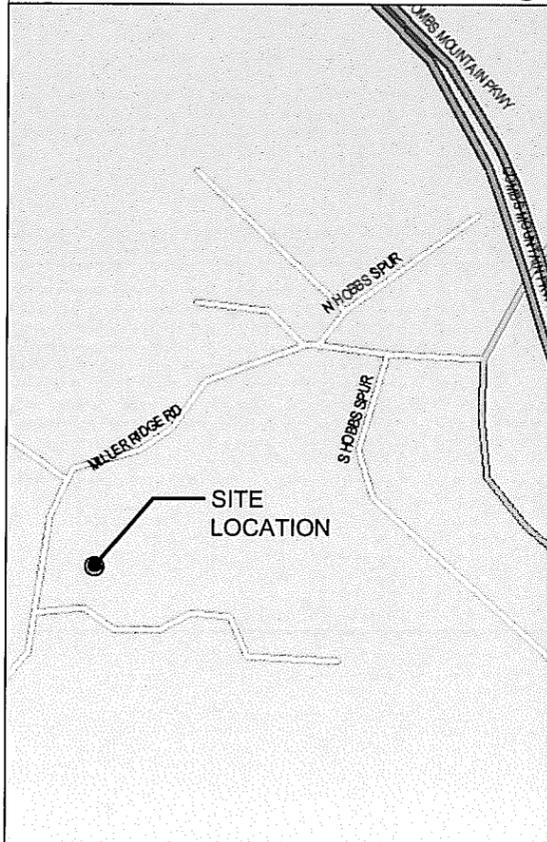
SURVEYOR: ROLLING & HOCEVAR  
257 SOUTH COURT ST. SUITE 6  
MEDINA, OHIO  
(330) 723-1828



**TERRA CONSULTING GROUP, LTD.**  
600 Busse Highway  
Park Ridge, IL 60068  
Ph: 847/698-6400  
Fax: 847/698-6401

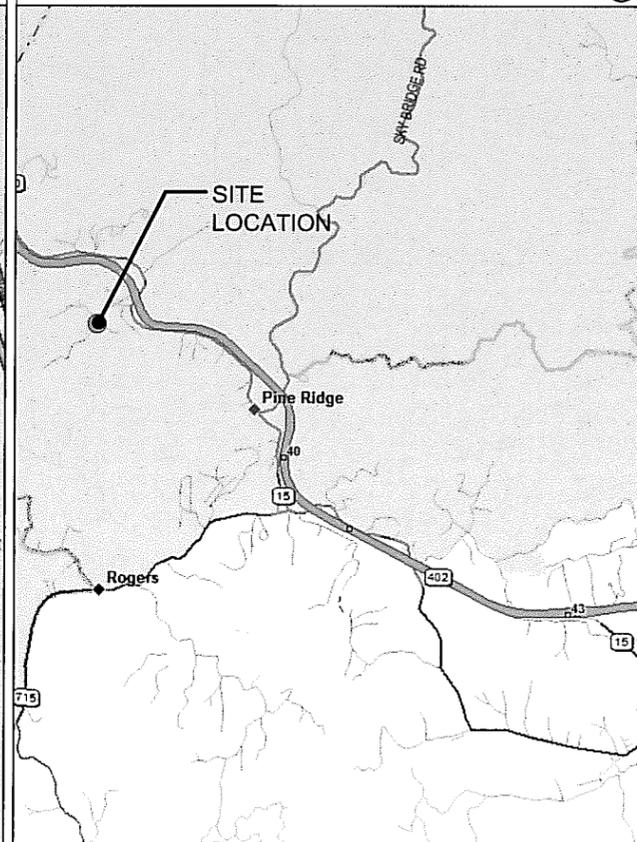
### VICINITY MAP

N.T.S.



### REGIONAL MAP

N.T.S.



### PROJECT INFORMATION

ATC SITE #: 281378  
ATC SITE NAME: PEA RIDGE  
P.I.N. #: -  
SITE ADDRESS: 395 MILLER RIDGE ROAD,  
PINE RIDGE, KENTUCKY, 41360  
JURISDICTION: WOLFE COUNTY  
LATITUDE: N 37° 46' 24.18" (FROM 1-A)  
LONGITUDE: W 83° 38' 08.92" (FROM 1-A)  
TELCO COMPANY: MOUNTAIN RURAL TELEPHONE  
606-668-7313  
POWER COMPANY: LICKING VALLEY RECC  
606-743-3179  
CONSTRUCTION TYPE: RAW LAND  
APPLICANT: AMERICAN TOWER CORPORATION  
116 HUNTINGTON AVE  
BOSTON, MA 02116  
(617) 375-7500  
AT&T  
601 WEST CHESTNUT STREET  
LOUISVILLE, KY 40203  
CONTACT PERSON: KATHIE TAYLOR  
PROJECT MANAGER  
SITE DEVELOPMENT  
(740) 603-5159  
PROPERTY OWNER: RONNIE HALSEY  
67 MILLER RIDGE  
PINE RIDGE KY., 41360

### SHEET INDEX

SHEET	DESCRIPTION	REVISION
T-1	TITLE SHEET	A,0,1,2
S1	ENLARGED COMPOUND PLAN	-
S2	EASEMENT DETAIL	-
S3	OVERALL SITE	-
S4	LEGAL DESCRIPTION	-
Z-1	LOCATION PLAN	A,0,1,2
Z-2	SITE PLAN	A,0,1,2
Z-3	ENLARGED SITE PLAN	A,0,1,2
Z-4	SITE ELEVATION	A,0,1,2



NO	DATE	BY	DESCRIPTION
A	10/23/13	JLR	ISSUED FOR REVIEW
0	11/05/13	JLR	REVISED PER COMMENTS
1	02/04/14	JLR	ISSUED FOR FINAL
2	4/11/14	JAY	CLIENT COMMENTS

AT&T # 143436  
ATC# 281378  
PEA RIDGE

395 MILLER RIDGE ROAD  
PINE RIDGE, KY 41360

DRAWN BY: JLR  
CHECKED BY: TAZ  
DATE: 07/24/13  
PROJECT #: 70-007

SHEET TITLE  
TITLE SHEET

SHEET NUMBER  
**T-1**



CALL BEFORE YOU DIG - DRILL - BLAST  
CALL 811 OR 1-800-752-6007  
REQUIRES NOTIFICATION TO ONE CALL SYSTEM 2 WORKING DAYS FOR CONSTRUCTION PHASE AND 10 WORKING DAYS FOR DESIGN PHASE BEFORE YOU EXCAVATE.

### DRIVING DIRECTIONS

FROM CAMPTON COUNTY CLERK  
(10 COURT ST, CAMPTON, KY 41301):  
TURN RIGHT ONTO HAZARD SPUR. STAY STRAIGHT TO GO ONTO KY-402 W/MOUNTAIN PKWY W. TAKE THE KY-15 EXIT, EXIT 40, TOWARD KY-715/BEATTYVILLE. TURN LEFT ONTO KY-15/OLD KENTUCKY 15. TURN LEFT ONTO MILLER RIDGE RD.

### SPECIAL NOTES

**HANDICAPPED REQUIREMENTS:**  
FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION HANDICAPPED ACCESS REQUIREMENTS NOT REQUIRED

**PLUMBING REQUIREMENTS:**  
FACILITY HAS NO PLUMBING OR REFRIGERANTS

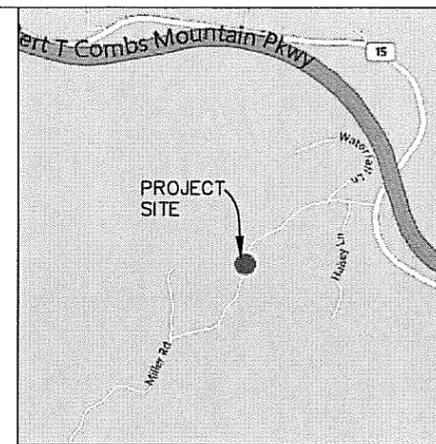
**FAA AND FCC REQUIREMENTS:**  
THIS FACILITY SHALL MEET OR EXCEED ALL FAA AND FCC REQUIREMENTS

**CONSTRUCTION REQUIREMENTS:**  
ALL WORK MUST CONFORM TO AMERICAN TOWER CORPORATION & AT&T CONSTRUCTION INSTALLATION STANDARDS & ALL APPLICABLE CODES AND ORDINANCES.

### APPROVALS

LANDLORD	OPERATIONS	TELCO APPROVAL
SIGNATURE _____ DATE _____	SIGNATURE _____ DATE _____	SIGNATURE _____ DATE _____
RF ENGINEER	CONSTRUCTION FIELD MGR.	ELEC. APPROVAL
SIGNATURE _____ DATE _____	SIGNATURE _____ DATE _____	SIGNATURE _____ DATE _____
ZONING	SITE ACQUISITION	LESSOR APPROVAL
SIGNATURE _____ DATE _____	SIGNATURE _____ DATE _____	SIGNATURE _____ DATE _____

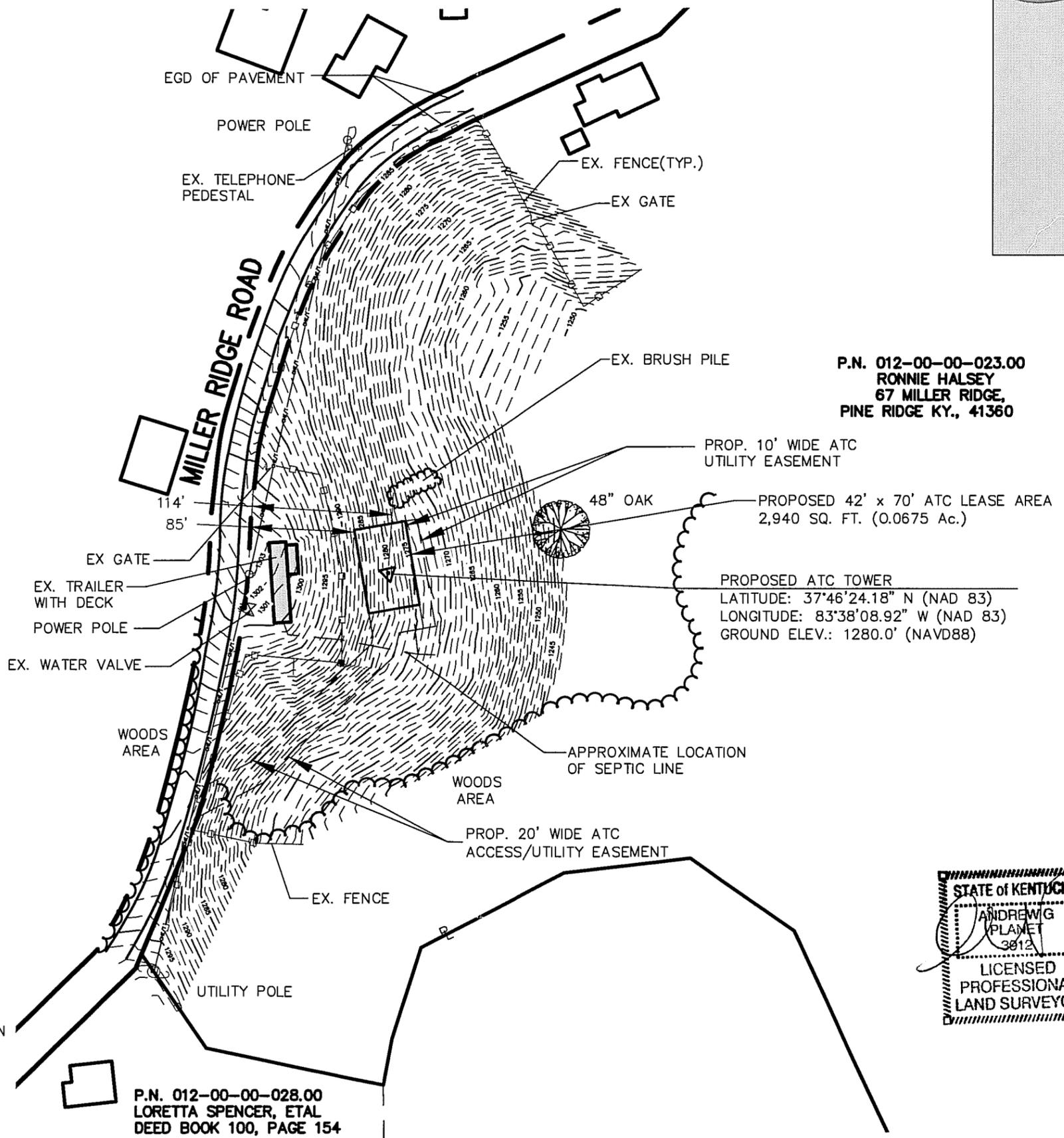
SITUATED IN WOLFE COUNTY, KENTUCKY, ON PINE RIDGE



(NOT TO SCALE)  
VICINITY MAP

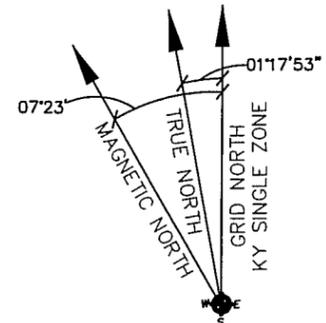
**AMERICAN TOWER CORPORATION**  
1101 PERIMETER DRIVE, SUITE 205  
SCHAUMBURG, IL 60173

**TERRA CONSULTING GROUP, LTD.**  
600 Busse Highway  
Pine Ridge, KY 40368  
PH: 847/698-6400  
Fax: 847/698-6401

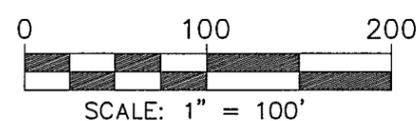


P.N. 012-00-00-023.00  
RONNIE HALSEY  
67 MILLER RIDGE,  
PINE RIDGE KY., 41360

P.N. 012-00-00-028.00  
LORETTA SPENCER, ETAL  
DEED BOOK 100, PAGE 154



TRUE NORTH (NAD 83) AND ELEVATIONS  
WERE ESTABLISHED FROM EXISTING GEODETIC  
CONTROL MONUMENTATION USING G.P.S.



THIS SURVEY PLAN IS NOT THE RESULT OF A FULL BOUNDARY SURVEY.  
IT IS THE RESULT OF COMPILATION OF RECORD INFORMATION AND LOCATION  
OF AVAILABLE MONUMENTATION.

*Andrew G. Planet*

4-1-2014  
DATE

ANDREW G. PLANET, PLS #3912

STATE OF KENTUCKY  
ANDREW G. PLANET  
3012  
LICENSED PROFESSIONAL LAND SURVEYOR



CIVIL ENGINEERING SURVEYING  
257 SOUTH COURT ST. SUITE 6  
MEDINA, OHIO (330)723-1828  
FAX (330)723-6637

NO.	DESCRIPTION	DATE	BY
0			
1	FINAL SURVEY	12-18-13	AGP
2	REVISE FLOOD STATEMENT - UPDATE OWNERSHIP	01-28-14	AGP
3			
4			
5			
6			

AT&T SITE # 143436  
ATC SITE # 281378

PEA RIDGE

395 MILLER RIDGE ROAD  
PINE RIDGE,  
KENTUCKY 41360

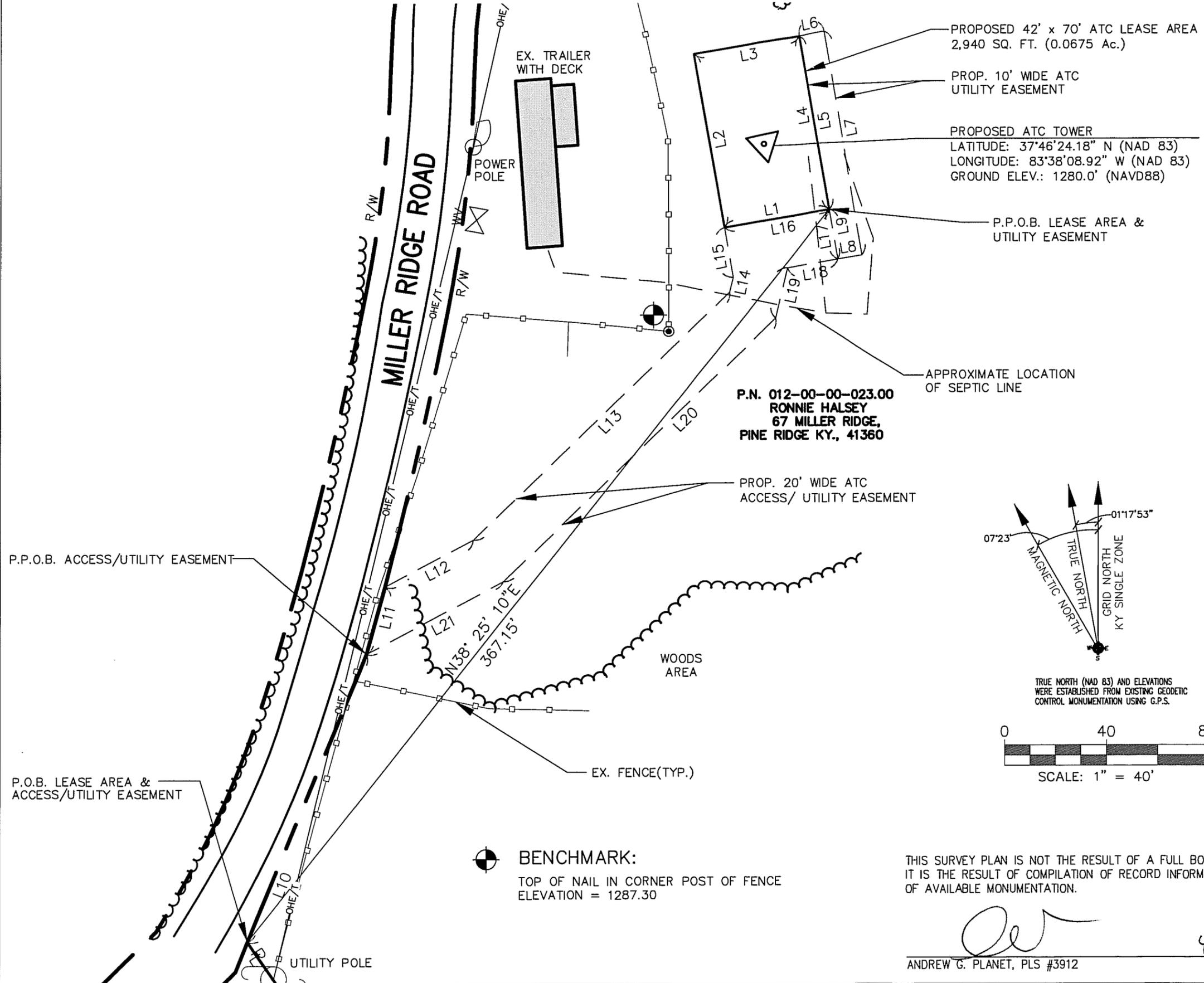
DRAWN BY: PRE  
CHECKED BY: AGP  
DATE: 10/18/2013  
PROJECT #: 1008-471

SHEET TITLE  
ENLARGED  
COMPOUND PLN

SHEET NUMBER

S1

SITUATED IN WOLFE COUNTY, KENTUCKY, ON PINE RIDGE



Line #	Length	Direction
L1	42.00	S80° 15' 19"W
L2	70.00	N9° 44' 41"W
L3	42.00	N80° 15' 19"E
L4	70.00	S9° 44' 41"E
L5	70.00	N9° 44' 41"W
L6	10.00	N80° 15' 19"E
L7	90.00	S9° 44' 41"E
L8	10.00	S80° 15' 19"W
L9	20.00	N9° 44' 41"W
L10	121.55	N22° 20' 13"E
L11	27.45	N15° 20' 01"E
L12	39.41	N62° 06' 34"E
L13	140.14	N45° 48' 33"E
L14	5.98	N13° 17' 13"E
L15	20.00	N9° 44' 41"W
L16	42.00	N80° 15' 19"E
L17	20.00	S9° 44' 41"E
L18	20.27	S80° 15' 19"W
L19	20.31	S13° 17' 13"W
L20	148.84	S45° 48' 33"W
L21	61.07	S62° 06' 34"W

**AMERICAN TOWER CORPORATION**  
 1101 PERUMETER DRIVE, SUITE 225  
 SCHUMBERG, IL 60173

**TERRA CONSULTING GROUP, LTD.**  
 600 Busse Highway  
 Park Ridge, IL 60068  
 Ph: 847/698-6400  
 Fax: 847/698-6401

NO	DATE	BY	DESCRIPTION
1	12-16-13	AGP	FINAL SURVEY
2	01-28-14	AGP	REVISE FLOOD STATEMENT - UPDATE OWNERSHIP
3			
4			
5			
6			

AT&T SITE # 143436  
 ATC SITE # 281378  
 PEA RIDGE  
 395 MILLER RIDGE ROAD  
 PINE RIDGE,  
 KENTUCKY 41360

DRAWN BY:	PRE
CHECKED BY:	AGP
DATE:	10/18/2013
PROJECT #:	1008-471

SHEET TITLE  
**EASEMENT  
 DETAIL**  
 SHEET NUMBER  
**S2**

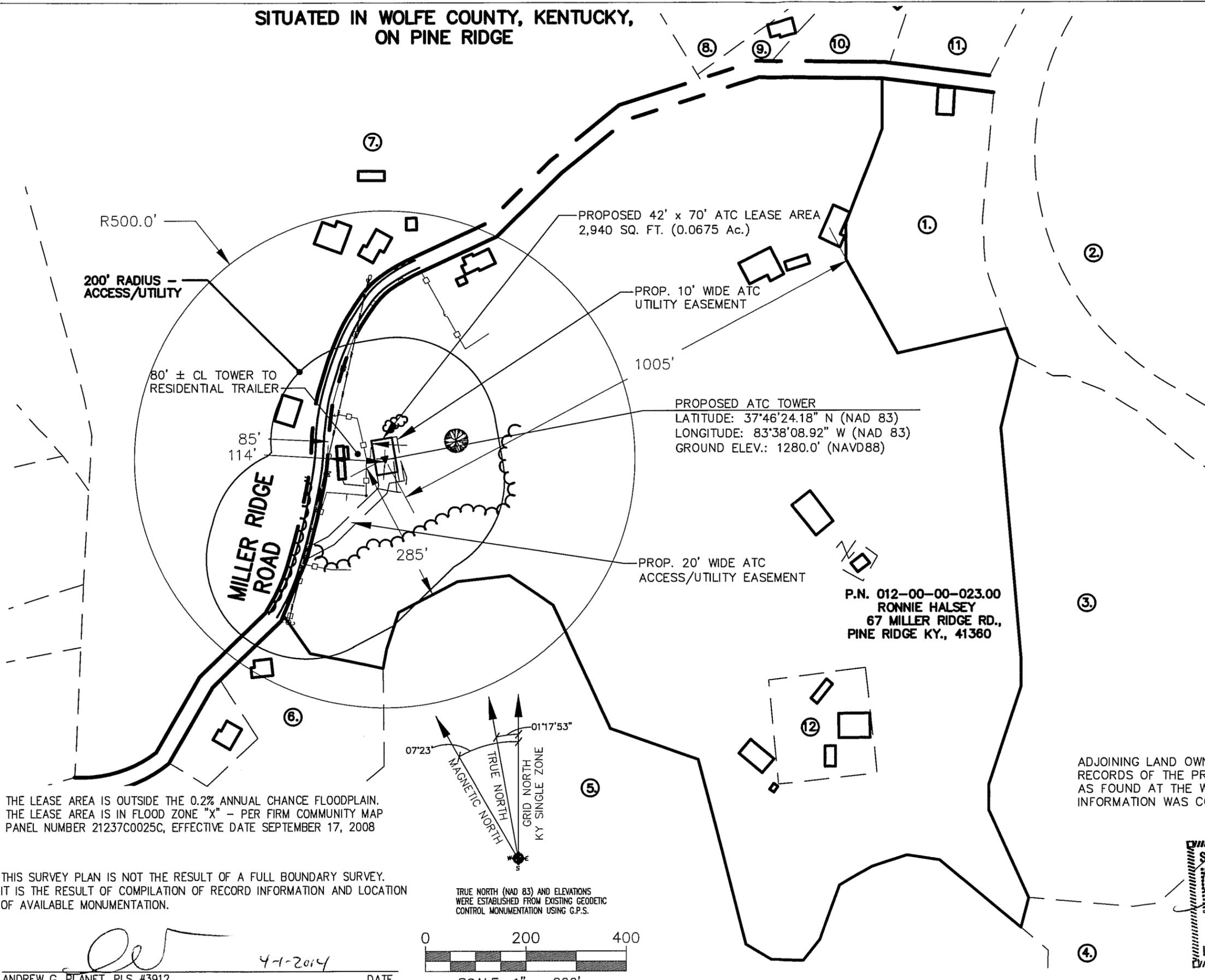
THIS SURVEY PLAN IS NOT THE RESULT OF A FULL BOUNDARY SURVEY. IT IS THE RESULT OF COMPILATION OF RECORD INFORMATION AND LOCATION OF AVAILABLE MONUMENTATION.

*Andrew G. Planet*  
 ANDREW G. PLANET, PLS #3912  
 DATE 4-1-2014

STATE OF KENTUCKY  
 ANDREW G. PLANET  
 3912  
 LICENSED PROFESSIONAL LAND SURVEYOR

**ROLLING & HOCCAR INC.**  
 A One International Group Company  
 CIVIL ENGINEERING SURVEYING  
 257 SOUTH COURT ST. SUITE 6  
 MEDINA, OHIO (330)723-1828  
 FAX (330)723-6637

**SITUATED IN WOLFE COUNTY, KENTUCKY,  
ON PINE RIDGE**



**OWNERSHIP INFORMATION**

1. P.N. 012-00-00-022.00  
FAYE BREWER  
57 MEADOWBROOK DR.,  
STANTON, KY., 40380
2. P.N. 012-00-00-043.00  
DONNA EXMAN  
P.O. BOX 431,  
MEDWAY, OHIO, 45341
3. P.N. 012-00-00-044.00  
ERNEST & OPAL PENNINGTON  
6395 OLD KY., 15  
PINE RIDGE, KY., 41360
4. P.N. 012-00-00-045.00  
ERNIE TYRA  
8050 OLD KY., 15  
PINE RIDGE, KY., 41360
5. P.N. 020-00-00-012.00  
USDA US FORESTRY DIVISION  
100 VAUGHT ROAD  
WINCHESTER, KY., 40391
6. P.N. 012-00-00-028.00  
LORETTA SPENCER, ETAL  
C/O DEPHIA GRAHAM  
P.O. BOX 455,  
WINCHESTER, KY., 40392
7. P.N. 012-00-00-025.00  
DANNY PHILLIPS  
270 MILLER RIDGE RD.  
PINE RIDGE, KY., 41360
8. P.N. 012-00-00-026.02  
MICHAEL PRATER  
1019 SILVERLEAF LANE  
LIBERTY, MISSOURI, 64068
9. P.N. 012-00-00-026.01  
JOHN & APRIL ABNER  
540 OLD KY 15  
CAMPTON, KY., 41301
10. P.N. 012-00-00-026.01  
JOHN & APRIL ABNER  
540 OLD KY 15  
CAMPTON, KY., 41301
11. P.N. 012-00-00-021.00  
DIANNIA HANEY  
68 MILLER RIDGE ROAD  
PINE RIDGE, KY., 41360
12. P.N. 012-00-00-024.00  
RONNIE HALSEY  
67 MILLER RIDGE RD.  
PINE RIDGE, KY., 41360

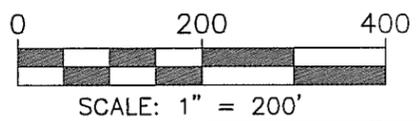
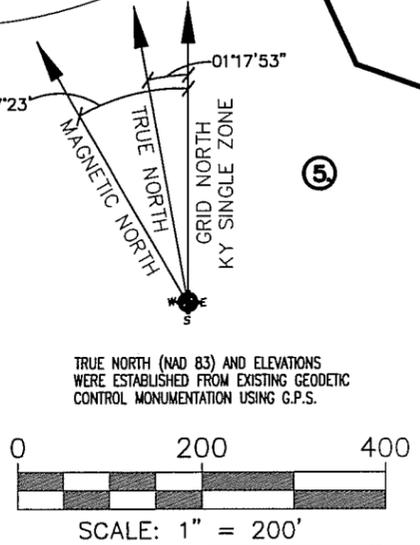
P.N. 012-00-00-023.00  
RONNIE HALSEY  
67 MILLER RIDGE RD.,  
PINE RIDGE KY., 41360

ADJOINING LAND OWNERS LISTED ARE ACCORDING TO THE RECORDS OF THE PROPERTY VALUATION ADMINISTRATOR AS FOUND AT THE WOLFE COUNTY PVA OFFICE. THIS INFORMATION WAS COMPILED ON 01-22-2014.

THE LEASE AREA IS OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN. THE LEASE AREA IS IN FLOOD ZONE "X" - PER FIRM COMMUNITY MAP PANEL NUMBER 21237C0025C, EFFECTIVE DATE SEPTEMBER 17, 2008

THIS SURVEY PLAN IS NOT THE RESULT OF A FULL BOUNDARY SURVEY. IT IS THE RESULT OF COMPILATION OF RECORD INFORMATION AND LOCATION OF AVAILABLE MONUMENTATION.

ANDREW G. PLANET, PLS #3912  
DATE 4-1-2014



**AMERICAN TOWER CORPORATION**  
1101 PERIMETER DRIVE, SUITE 225  
SCHLAUBURG, IL 60173

**TERRA CONSULTANTS, LTD.**  
600 Busse Highway, Suite 600  
Park Ridge, IL 60068  
PH: 847/988-6400  
Fax: 847/698-6401

NO.	DATE	BY	DESCRIPTION
1	12-19-13	AGP	FINAL SURVEY
2	01-28-14	AGP	REVISE FLOOD STATEMENT - UPDATE OWNERSHIP
3			
4			
5			
6			

AT&T SITE # 143436  
ATC SITE # 281378

PEA RIDGE

395 MILLER RIDGE ROAD  
PINE RIDGE,  
KENTUCKY 41360

DRAWN BY:	PRE
CHECKED BY:	AGP
DATE:	10/18/2013
PROJECT #:	1008-471

SHEET TITLE  
**OVERALL SITE**

SHEET NUMBER  
**S3**

STATE OF KENTUCKY  
ANDREW G. PLANET  
3912  
LICENSED PROFESSIONAL LAND SURVEYOR

**ROLLING & HOCKVAR, INC.**  
A One-Stop Surveying Firm  
CIVIL ENGINEERING SURVEYING  
257 SOUTH COURT ST. SUITE 6  
MEDINA, OHIO (330)723-1828  
FAX (330)723-6837

Parent Parcel:

EXHIBIT "A"

THAT CERTAIN TRACT OR PARCEL OF LAND LYING AND BEING IN WOLFE COUNTY, KENTUCKY, BEING MORE PARTICULARLY BOUNDED AND DESCRIBED AS FOLLOWS:

BEGINNING AT A SET STONE AT A FENCE AND THE MILLER RIDGE ROAD; THENCE WITH THE FENCE AN EAST COURSE 210 FEET TO A SET STONE AT THE CORNER OF THE FENCE; THENCE WITH THE FENCE A SOUTH COURSE 250 FEET TO A SET STONE AT THE CORNER OF THE FENCE; THENCE WITH THE FENCE A WEST COURSE 185 FEET TO A SET STONE AT THE MILLER RIDGE ROAD; THENCE WITH THE MILLER RIDGE ROAD A NORTH COURSE 210 FEET TO THE FENCE AND SET STONE THE PLACE OF BEGINNING.

TAX I.D. NUMBER: 012-00-00-023.00

SCHEDULE B - SECTION II

Commitment: 01-13103849-01T

Commitment Effective Date: 07/25/2013 at 7:00 AM

Items 1 - 7 are not survey related.

Legal Description for a 20-foot Access/Utility Easement  
Project No. 1008-471  
October 18, 2013

Situated in Wolfe County, State of Kentucky and known as being a part of Wolfe County Parcel Number: 012-00-00-023.00 as conveyed to Ronnie Halsey by Deed Book 120 Page 607 and more recorded deed documents, further bound and described as follows:

Commencing at the Southwest corner of said lands conveyed to Halsey, the same being a point in the Eastern Right-of-Way line of Miller Ridge Road, and the Northwest corner of lands conveyed to Loretta Spencer, etal by deed dated August 4, 1997 as recorded in Deed Book 100, Page 154 of Wolfe County Clerk Records;

Thence along said Right-of-Way line, bearing North 22°20'13" East, a distance of 121.55 feet to a point thereon and being the TRUE PLACE OF BEGINNING of the Access/Utility Easement herein described;

Thence continuing along said Right-of-Way line, bearing North 15°20'01" East, a distance of 27.45 feet to a point thereon;

Thence, bearing North 62°06'34" East, a distance of 39.41 feet to a point;

Thence, bearing North 45°48'33" East, a distance of 140.14 feet to a point;

Thence, bearing North 13°17'13" East, a distance of 5.98 feet to a point;

Thence, bearing North 09°44'41" West, a distance of 20.00 feet to an iron pin set at the Southwestern corner of a proposed American Tower Corporation Lease Area;

Thence at a right angle and along the Southern line of said Lease Area, bearing North 80°15'19" East, a distance of 42.00 feet to an iron pin set at the Southeastern corner thereof;

Thence leaving said Lease Area line at a right angle, bearing South 09°44'41" East, a distance of 20.00 feet to a point;

Thence at a right angle, bearing South 80°15'19" West, a distance of 20.27 feet to a point;

Thence, bearing South 13°17'13" West, a distance of 20.31 feet to a point;

Thence, bearing South 45°48'33" West, a distance of 148.84 feet to a point;

Thence, bearing South 62°06'34" West, a distance of 61.07 feet to the TRUE PLACE OF BEGINNING, containing 0.1147 acres of land, intending to be a 20-foot wide strip of land, more or less but subject to all legal highways and all covenants and agreements of record.

Bearings are based on Grid North of KY Single Zone NAD 83 and are used herein to indicate angles only.

This legal description was prepared based on a survey under the supervision of Andrew G. Planet, P.L.S. #3912 by Rolling & Hocevar, Inc. in October 2013.

Legal Description for a 42' X 70' Lease Area  
Project No. 1008-467  
October 18, 2013

Situated in Wolfe County, State of Kentucky and known as being a part of Wolfe County Parcel Number: 012-00-00-023.00 as conveyed to Ronnie Halsey by Deed Book 120 Page 607 and more recorded deed documents, further bound and described as follows:

Commencing at the Southwest corner of said lands conveyed to Halsey, the same being a point in the Eastern Right-of-Way line of Miller Ridge Road, and the Northwest corner of lands conveyed to Loretta Spencer, etal by deed dated August 4, 1997 as recorded in Deed Book 100, Page 154 of Wolfe County Clerk Records;

Thence leaving said Right-of-Way line, bearing North 38°25'10" East, a distance of 367.15 feet to an iron pin set and being the TRUE PLACE OF BEGINNING of the Lease Area herein described;

Thence, bearing South 80°15'19" West, a distance of 42.00 feet to an iron pin set;

Thence at a right angle, bearing North 09°44'41" West, a distance of 70.00 feet to an iron pin set;

Thence at a right angle, bearing North 80°15'19" East, a distance of 42.00 feet to an iron pin set;

Thence at a right angle, bearing South 09°44'41" East, a distance of 70.00 feet to the TRUE PLACE OF BEGINNING, containing 0.0675 acres of land, more or less but subject to all legal highways and all covenants and agreements of record.

Bearings are based on Grid North of KY Single Zone NAD 83 and are used herein to indicate angles only.

This legal description was prepared based on a survey under the supervision of Andrew G. Planet, P.L.S. #3912 by Rolling & Hocevar, Inc. in October 2013.

Legal Description for a 10-foot Utility Easement  
Project No. 1008-471  
October 18, 2013

Situated in Wolfe County, State of Kentucky and known as being a part of Wolfe County Parcel Number: 012-00-00-023.00 as conveyed to Ronnie Halsey by Deed Book 120 Page 607 and more recorded deed documents, further bound and described as follows:

Commencing at the Southwest corner of said lands conveyed to Halsey, the same being a point in the Eastern Right-of-Way line of Miller Ridge Road, and the Northwest corner of lands conveyed to Loretta Spencer, etal by deed dated August 4, 1997 as recorded in Deed Book 100, Page 154 of Wolfe County Clerk Records;

Thence leaving said Right-of-Way line, bearing North 38°25'10" East, a distance of 367.15 feet to an iron pin set at the Southeastern corner of a proposed American Tower Corporation Lease Area and being the TRUE PLACE OF BEGINNING of the Utility Easement herein described;

Thence along the Eastern line of said Lease Area, bearing North 09°44'41" West, a distance of 70.00 feet to an iron pin set at the Northeastern corner thereof;

Thence leaving said Lease Area line at a right angle, bearing North 80°15'19" East, a distance of 10.00 feet to a point;

Thence at a right angle, bearing South 09°44'41" East, a distance of 90.00 feet to a point;

Thence at a right angle, bearing South 80°15'19" West, a distance of 10.00 feet to a point;

Thence at a right angle, bearing North 09°44'41" West, a distance of 20.00 feet to the TRUE PLACE OF BEGINNING, containing 0.0207 acres of land, intending to be a 10-foot wide strip of land, more or less but subject to all legal highways and all covenants and agreements of record.

Bearings are based on Grid North of KY Single Zone NAD 83 and are used herein to indicate angles only.

This legal description was prepared based on a survey under the supervision of Andrew G. Planet, P.L.S. #3912 by Rolling & Hocevar, Inc. in October 2013.

THIS SURVEY PLAN IS NOT THE RESULT OF A FULL BOUNDARY SURVEY. IT IS THE RESULT OF COMPILATION OF RECORD INFORMATION AND LOCATION OF AVAILABLE MONUMENTATION.

*Andrew G. Planet*  
ANDREW G. PLANET, PLS #3912  
4-1-2014  
DATE



NO	DATE	BY	REVISIONS			
			DESCRIPTION	DATE	BY	AGP
1	12-18-13	AGP	FINAL SURVEY			
2	01-28-14	AGP	REVISE FLOOD STATEMENT - UPDATE OWNERSHIP			
3						
4						
5						
6						

AT&T SITE # 143436  
ATC SITE # 281378

PEA RIDGE

395 MILLER RIDGE ROAD  
PINE RIDGE,  
KENTUCKY 41360

DRAWN BY:	PRE
CHECKED BY:	AGP
DATE:	10/18/2013
PROJECT #:	1008-471

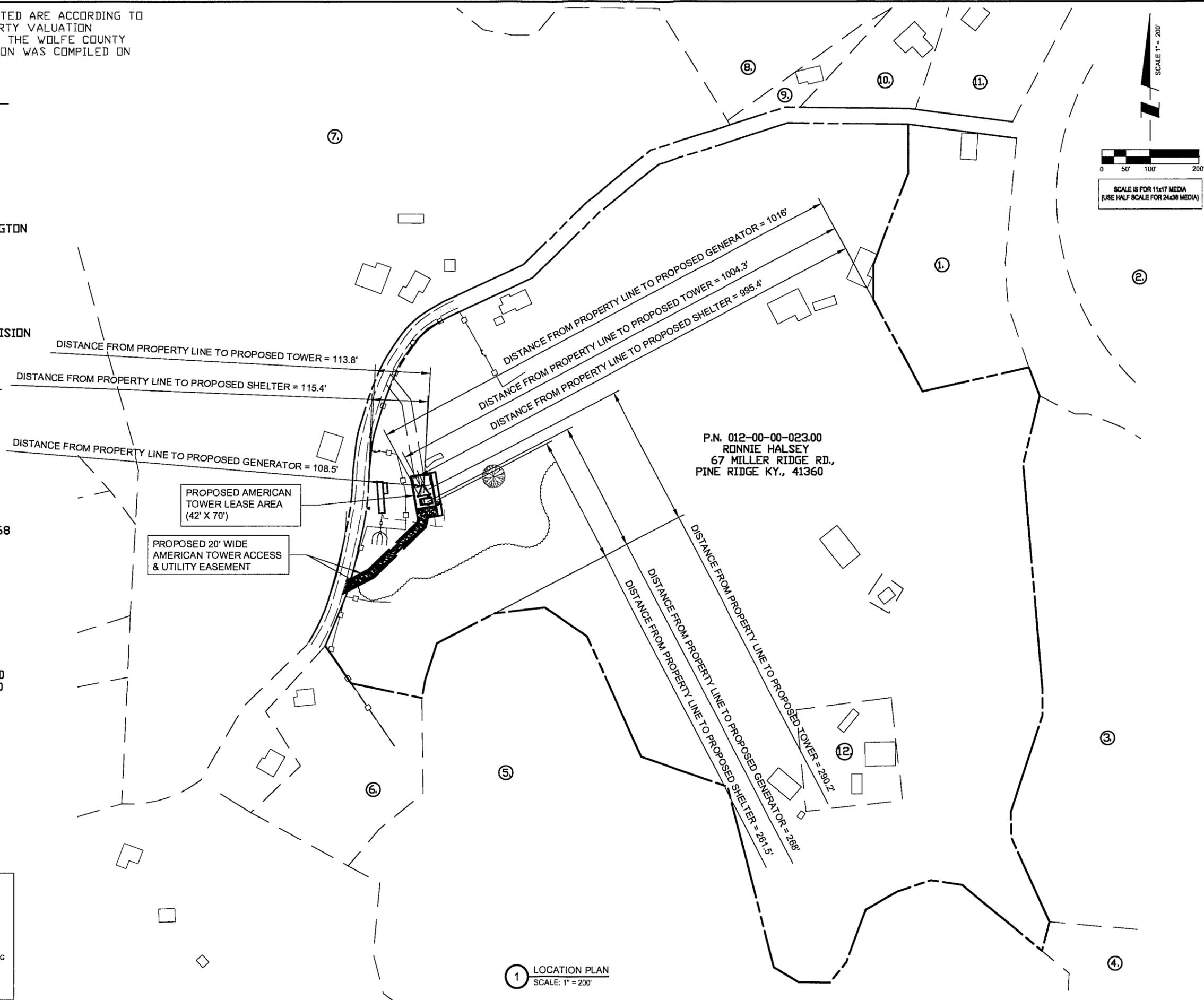
SHEET TITLE  
LEGAL DESCRIPTION

SHEET NUMBER  
S4

ADJOINING LAND OWNERS LISTED ARE ACCORDING TO THE RECORDS OF THE PROPERTY VALUATION ADMINISTRATOR AS FOUND AT THE WOLFE COUNTY PVA OFFICE. THIS INFORMATION WAS COMPILED ON 10-16-2013.

**OWNERSHIP INFORMATION**

1. P.N. 012-00-00-022.00  
FAYE BREWER  
57 MEADOWBROOK DR.,  
STANTON, KY., 40380
2. P.N. 012-00-00-043.00  
DONNA EXMAN  
P.O. BOX 431,  
MEDWAY, OHIO, 45341
3. P.N. 012-00-00-044.00  
ERNEST & OPAL PENNINGTON  
6395 OLD KY., 15  
PINE RIDGE, KY., 41360
4. P.N. 012-00-00-045.00  
ERNIE TYRA  
8050 OLD KY., 15  
PINE RIDGE, KY., 41360
5. P.N. 020-00-00-012.00  
USDA US FORESTRY DIVISION  
100 VAUGHT ROAD  
WINCHESTER, KY., 40391
6. P.N. 012-00-00-028.00  
LORETTA SPENCER, ETAL  
C/O DEPHIA GRAHAM  
P.O. BOX 455,  
WINCHESTER, KY., 40392
7. P.N. 012-00-00-025.00  
DANNY PHILLIPS  
270 MILLER RIDGE RD.  
PINE RIDGE, KY., 41360
8. P.N. 012-00-00-026.02  
MICHAEL PRATER  
1019 SILVERLEAF LANE  
LIBERTY, MISSOURI, 64068
9. P.N. 012-00-00-026.01  
JOHN & APRIL ABNER  
540 OLD KY 15  
CAMPTON, KY., 41301
10. P.N. 012-00-00-026.01  
JOHN & APRIL ABNER  
540 OLD KY 15  
CAMPTON, KY., 41301
11. P.N. 012-00-00-021.00  
DIANNIA HANEY  
68 MILLER RIDGE ROAD  
PINE RIDGE, KY., 41360
12. P.N. 012-00-00-024.00  
RONNIE HALSEY  
67 MILLER RIDGE RD.  
PINE RIDGE, KY., 41360



REVISIONS		DATE	BY
NO.	DESCRIPTION		
1	ISSUED FOR REVIEW	10/23/13	JLR
2	REVISED PER COMMENTS	1/15/13	JLR
3	ISSUED FOR FINAL	3/24/14	JLR
4	CLIENT COMMENTS	4/1/14	JAY

AT&T # 143436  
ATC# 281378

PEA RIDGE

395 MILLER RIDGE ROAD  
PINE RIDGE, KY 41360

DRAWN BY:	JLR
CHECKED BY:	TAZ
DATE:	07/24/13
PROJECT #:	70-007

SHEET TITLE  
LOCATION PLAN

SHEET NUMBER  
**Z-1**

SURVEY PREPARED BY

**TR**  
ROLLING HILLS SURVEYING, INC.  
A Division of

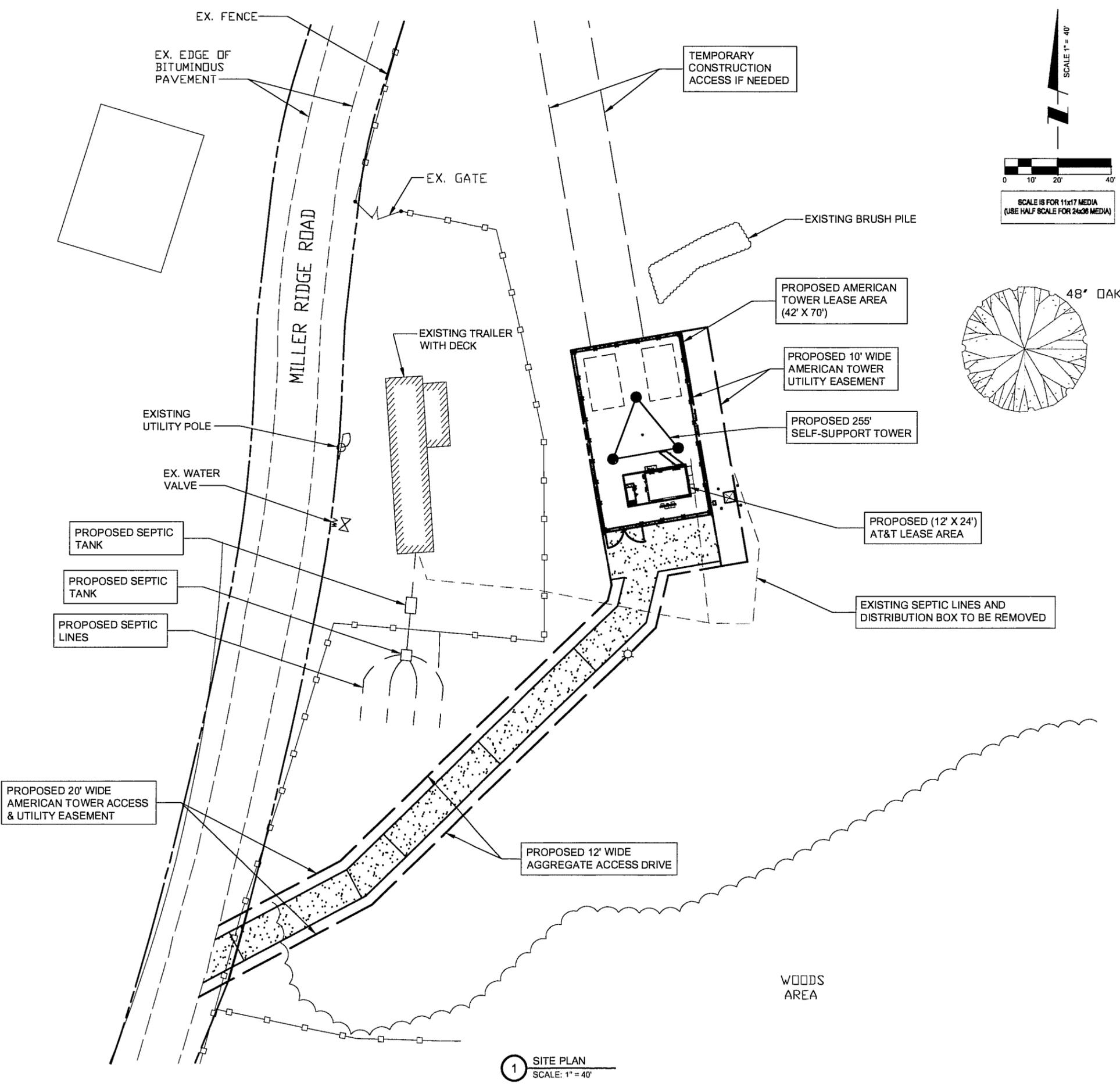
CIVIL ENGINEERING SURVEYING  
257 SOUTH COURT ST. SUITE 6  
MEDINA, OHIO (330)723-1828  
FAX (330)723-6637

1 LOCATION PLAN  
SCALE: 1" = 200'

SURVEY PREPARED BY  
  
**ROLLING & HOCKLEY, INC.**  
 A Division of Hockley & Associates  
 CIVIL ENGINEERING SURVEYING  
 257 SOUTH COURT ST. SUITE 6  
 MEDINA, OHIO (330)723-1828  
 FAX (330)723-6637

**LEGEND**

	EXISTING TRANSFORMER
	EXISTING TREE
	BENCHMARK
	IRON PIN SET
	IRON PIN FOUND
	EXISTING WATER VALVE
	EXISTING FIRE HYDRANT
	EXISTING WATER MANHOLE
	EXISTING WATER METER
	EXISTING PARKING METER
	EXISTING STREET SIGN
	EXISTING BILLBOARD & LARGE SIGNS
	EXISTING GUARDRAIL
	EXISTING LIGHT POLE
	EXISTING UTILITY POLE
	EXISTING UTILITY POLE WITH STREET LIGHT
	EXISTING GROUND GUY WIRE
	EXISTING GAS VALVE
	EXISTING TRAFFIC SIGNAL POLE
	EXISTING SANITARY MANHOLE
	EXISTING STORM MANHOLE
	EXISTING ELEC OR TELE MH
	EXISTING INLET
	EXISTING TRENCH DRAIN
	EXISTING STORM DRAIN
	EXISTING SANITARY
	EXISTING WATER MAIN
	EXISTING ELECTRIC WIRE
	EXISTING FENCE
	EXISTING CONCRETE
	EXISTING BUILDING
	PROPOSED
	EXISTING
	PROPOSED ELEVATION MARK
	MONUMENT BDX W/IRON PIN
	IRON PIPE FOUND



**TERRA**  
 CONSULTING GROUP, LTD.  
 600 Blouse Highway  
 Park Ridge, IL 60068  
 Ph: 847/698-6400  
 Fax: 847/698-6401

NO.	DESCRIPTION	DATE	BY
1	ISSUED FOR REVIEW	10/23/13	JLR
2	REVISED PER COMMENTS	11/15/13	JLR
3	ISSUED FOR FINAL	3/24/14	JLR
4	CLIENT COMMENTS	4/1/14	JAY

AT&T # 143436  
 ATC# 281378  
 PEA RIDGE

395 MILLER RIDGE ROAD  
 PINE RIDGE, KY 41360

DRAWN BY:	JLR
CHECKED BY:	TAZ
DATE:	07/24/13
PROJECT #:	70-007

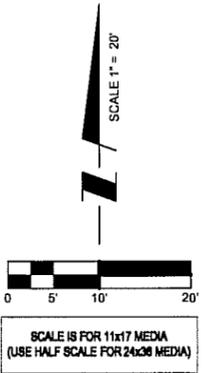
SHEET TITLE  
**SITE PLAN**

SHEET NUMBER  
**Z-2**

1 SITE PLAN  
 SCALE: 1" = 40'

MILLER RIDGE ROAD

TEMPORARY CONSTRUCTION ACCESS IF NEEDED



EX. FENCE

PROPOSED AMERICAN TOWER LEASE AREA (42' X 70')

PROPOSED 6' HIGH CHAIN-LINK (40' X 68') FENCED COMPOUND

PROPOSED 255' SELF-SUPPORT TOWER

42'  
40'  
20'

PROPOSED 10' WIDE AMERICAN TOWER UTILITY EASEMENT

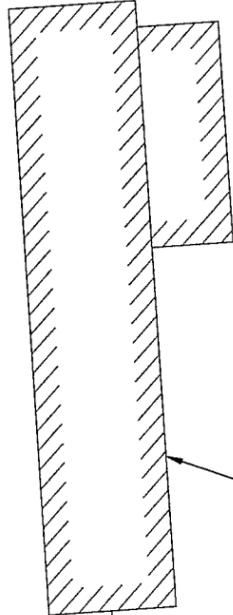
FUTURE CARRIER EQUIPMENT AREA

PROPOSED AT&T (11'-5" X 24'-0") EQUIPMENT SHELTER WITH CONCRETE PATIO WITH EXTERNAL GENERATOR

EXISTING UTILITY POLE

PROPOSED (12' X 24') AT&T LEASE AREA

NOTE:  
TOWER FACE WIDTH IS TO BE VERIFIED WITH TOWER MANUFACTURER DRAWINGS PRIOR TO LAYING OUT FOUNDATION



EXISTING TRAILER WITH DECK

BEFORE AND DURING CONSTRUCTION, THE CONTRACTOR SHALL PROVIDE ADEQUATE EROSION CONTROL AS NECESSARY IN THE FORM OF SILT FENCES FOR THE SITE AND BALES AROUND ANY EXISTING MANHOLES, INLETS, OR CATCHBASINS SUSCEPTIBLE TO EROSION. EROSION CONTROL MEASURES SHALL BE PERIODICALLY INSPECTED TO ENSURE PROPER FUNCTION. EROSION CONTROL SHALL BE REMOVED UPON COMPLETION OF WORK.

PROPOSED 14' WIDE DOUBLE-SWING GATE WITH SECURITY LATCH

PROPOSED UTILITY H-FRAME

CONTRACTOR TO PROVIDE APPROXIMATE 50'x50' STAGING AREA AND TEMPORARY ROAD. CONTRACTOR SHALL COORDINATE WITH ANTENNA CONTRACTOR, A STAGING AREA AND TEMPORARY ROAD THAT IS ACCEPTABLE TO THE OWNER. STAGING AREA AND TEMPORARY ROAD SHALL BE RESTORED TO EXISTING CONDITIONS AS NECESSARY UPON COMPLETION OF THE PROJECT.

REQUIRES NOTIFICATION TO ONE CALL SYSTEM 2 WORKING DAYS FOR CONSTRUCTION PHASE AND 10 WORKING DAYS FOR DESIGN PHASE BEFORE YOU EXCAVATE.



PROPOSED SEPTIC TANK

PROPOSED 20' WIDE AMERICAN TOWER ACCESS & UTILITY EASEMENT

CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE TO EXISTING PAVEMENT. CONTRACTOR SHALL PHOTOGRAPH AND VIDEOTAPE EXISTING PAVEMENT PRIOR TO CONSTRUCTION. ANY DAMAGE CAUSED DURING CONSTRUCTION SHALL BE REPLACED TO EXISTING OR BETTER CONDITION AT NO ADDITIONAL COST.

PROPOSED SEPTIC TANK

PROPOSED SEPTIC LINES

THE CONTRACTOR WILL, UPON BECOMING AWARE OF SUBSURFACE OR LATENT PHYSICAL CONDITIONS DIFFERING FROM THOSE DISCLOSED BY THE ORIGINAL SOIL INVESTIGATION WORK, PROMPTLY NOTIFY THE OWNER VERBALLY AND IN WRITING, AS TO THE NATURE OF THE DIFFERING CONDITIONS. NO CLAIM BY THE CONTRACTOR FOR ANY CONDITIONS DIFFERING FROM THOSE ANTICIPATED IN THE PLANS AND SPECIFICATIONS AND DISCLOSED BY THE SOIL STUDIES WILL BE ALLOWED UNLESS THE CONTRACTOR HAS SO NOTIFIED THE OWNER, VERBALLY AND IN WRITING, AS REQUIRED ABOVE, OF SUCH DIFFERING SUBSURFACE CONDITIONS.

PROPOSED 12' WIDE AGGREGATE ACCESS DRIVE

1 SITE PLAN SCALE: 1" = 20'

SURVEY PREPARED BY  
**ROLLING HILLS ENGINEERING, INC.**  
CIVIL ENGINEERING SURVEYING  
257 SOUTH COURT ST. SUITE 6  
MEDINA, OHIO (330)723-1828  
FAX (330)723-6637



**TERRA**  
CONSULTING GROUP, LTD.  
600 Busse Highway  
Park Ridge, IL 60068  
Ph: 847/698-6400  
Fax: 847/698-6401

NO.	DESCRIPTION	DATE	BY
1	ISSUED FOR REVIEW	10/23/13	JLR
2	REVISED PER COMMENTS	11/25/13	JLR
3	ISSUED FOR FINAL	3/24/14	JLR
4	CLIENT COMMENTS	4/1/14	JAY

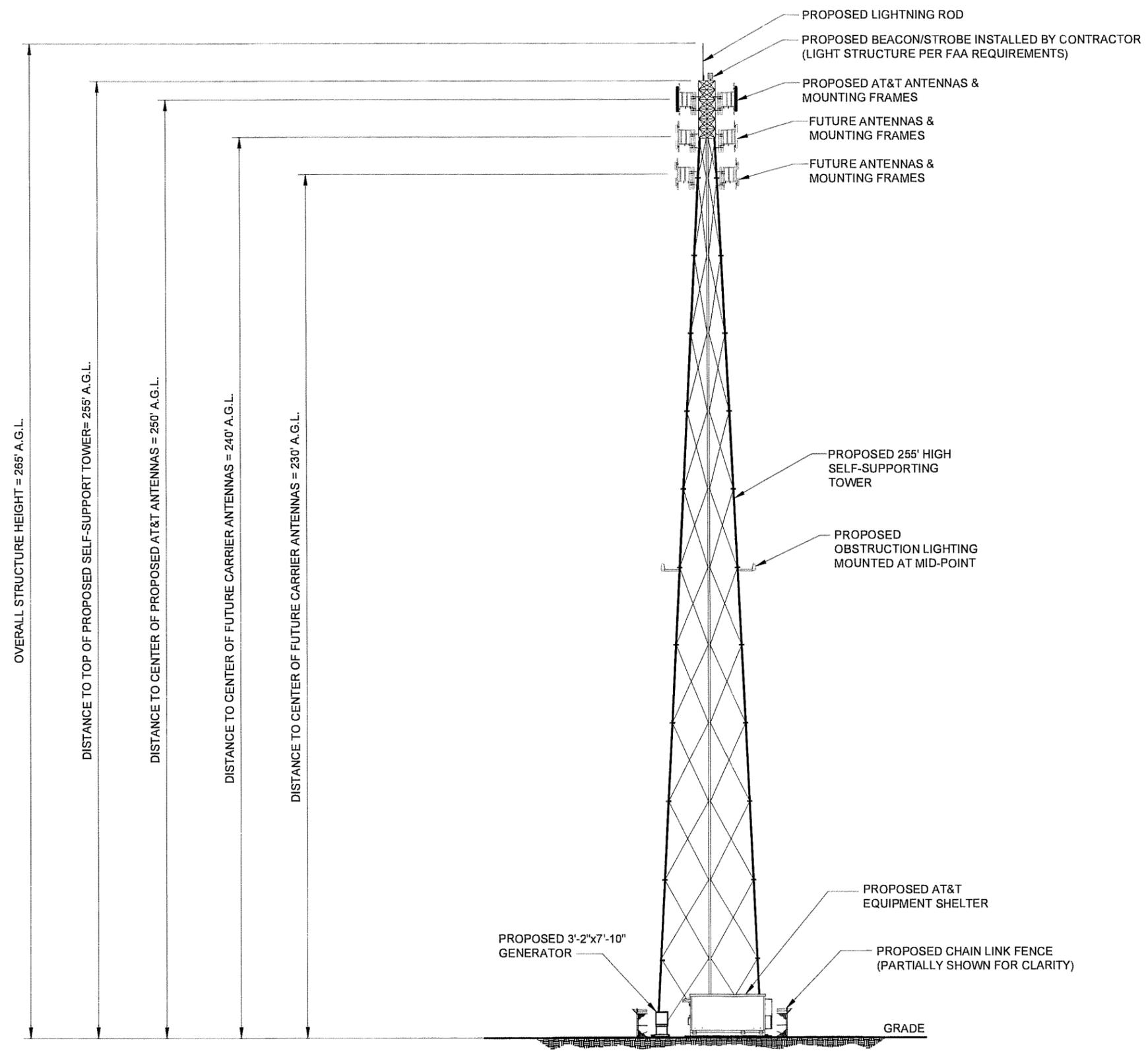
AT&T # 143436  
ATC# 281378  
PEA RIDGE

395 MILLER RIDGE ROAD  
PINE RIDGE, KY 41360

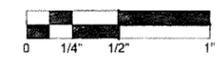
DRAWN BY: JLR  
CHECKED BY: TAZ  
DATE: 07/24/13  
PROJECT #: 70-007

SHEET TITLE  
ENLARGED  
SITE PLAN

SHEET NUMBER  
**Z-3**



1 SITE ELEVATION  
SCALE: 1/32" = 1'-0"



SCALE IS FOR 11x17 MEDIA  
(USE HALF SCALE FOR 24x36 MEDIA)



REVISIONS		NO.	DESCRIPTION	DATE	BY
0	ISSUED FOR REVIEW	10/23/13	JLR		
1	REVISED PER COMMENTS	1/15/13	JLR		
2	ISSUED FOR FINAL	3/24/14	JLR		
	CLIENT COMMENTS	4/11/14	JAY		

AT&T # 143436  
ATC# 281378

PEA RIDGE

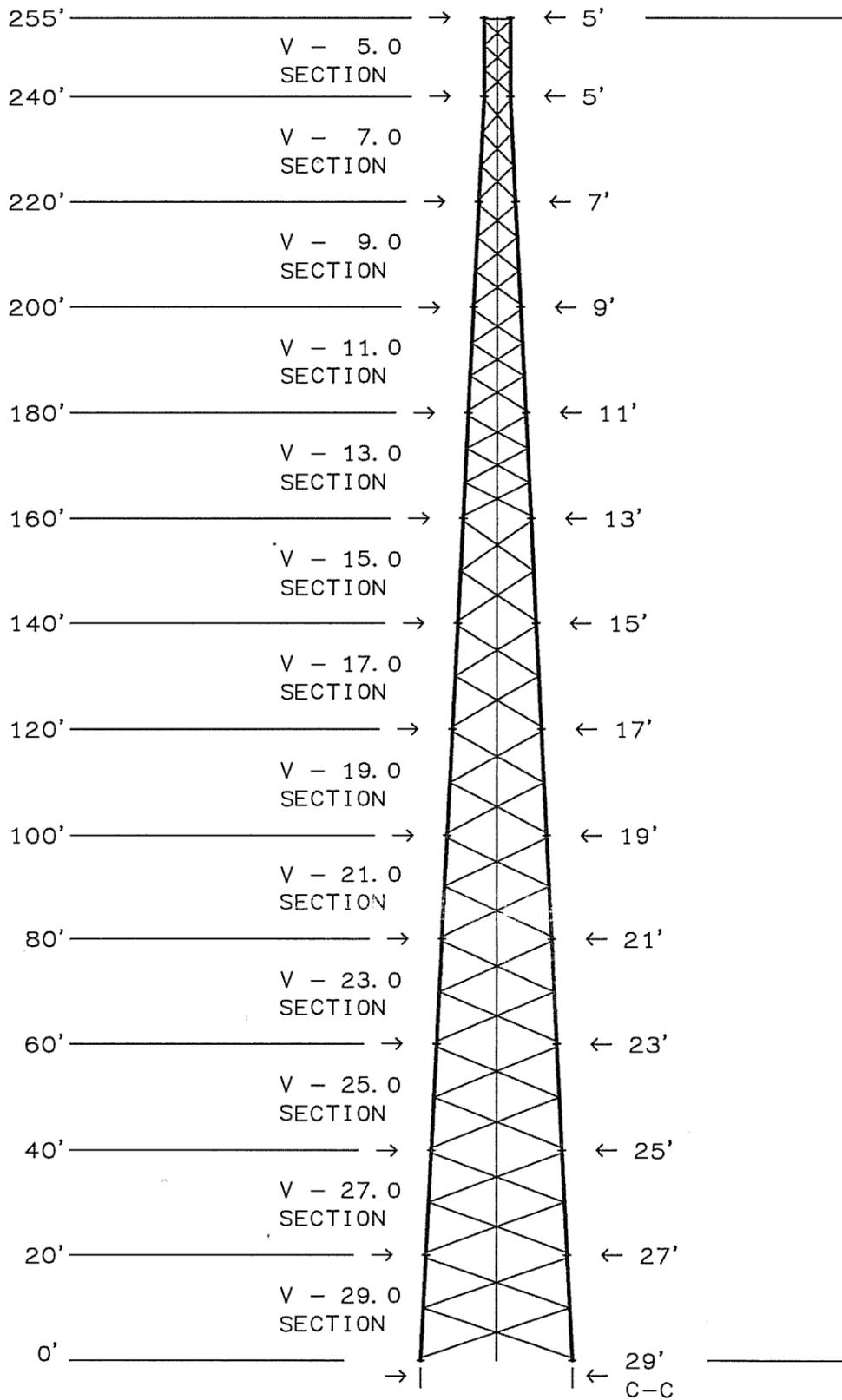
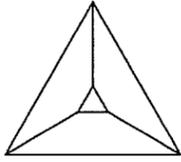
395 MILLER RIDGE ROAD  
PINE RIDGE, KY 41360

DRAWN BY:	JLR
CHECKED BY:	TAZ
DATE:	07/24/13
PROJECT #:	70-007

SHEET TITLE  
SITE ELEVATION

SHEET NUMBER  
**Z-4**

**EXHIBIT C**  
**TOWER AND FOUNDATION DESIGN**



V-SERIES  
SINGLE ANGLE SECTIONS  
SEE PAGE 2



Nitesh Ahuja, KY Professional Engineer #28866

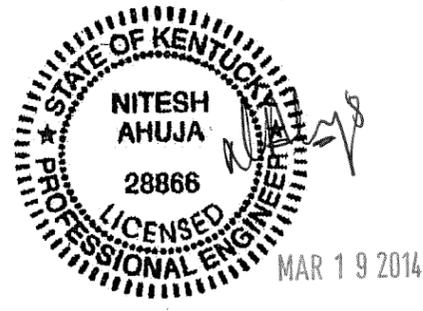
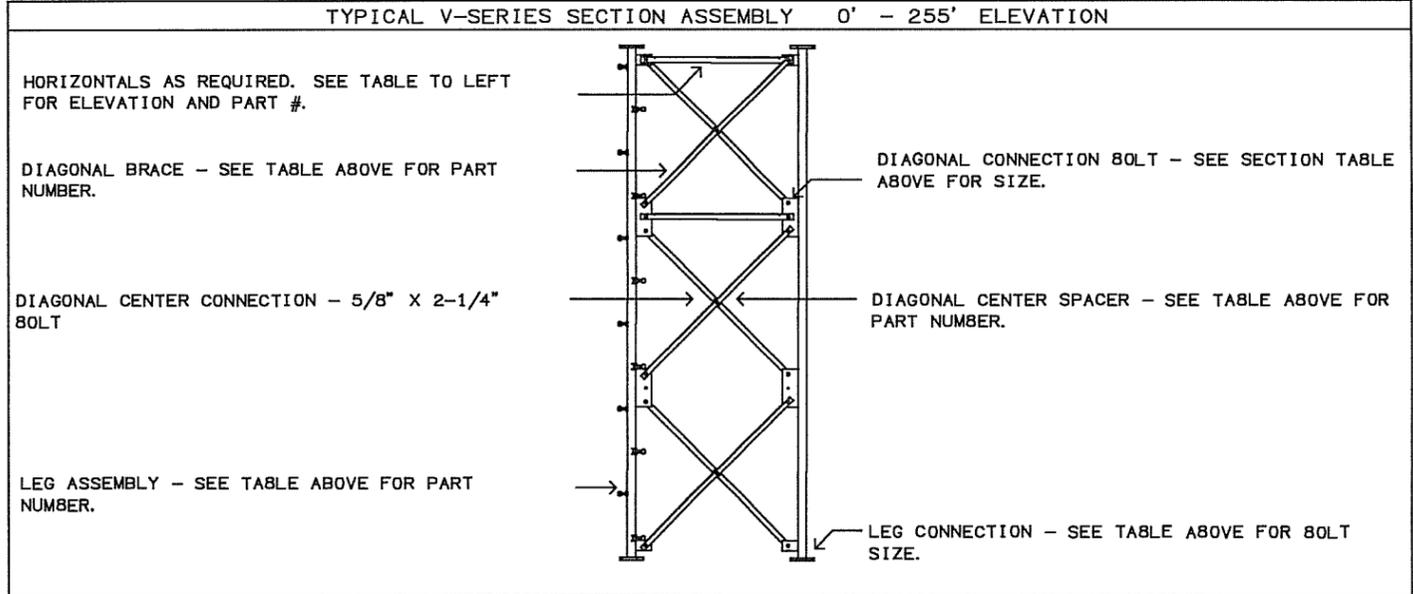
				AMERICAN TOWER CORP. #281378 PEA RIDGE, KY V-29.0 X 255'		
C	WAS A V-27 NOW A V-29	KWD	03/18/2014	APPROVED/ENG.		M_S 3/18/2014
B	ADDED FOUNDATIONS PER SOIL REPORT	MS	03/18/2014	APPROVED/FOUND.		N/A
A	UPDATED DESIGN WITH A FALL RADIUS	KWD	10/31/2013	COPYRIGHT 2014		
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Printed from 251471_01@C.DWG - 10/31/2013 07: 49 @ 03/19/2014 08: 09				ARCHIVE F-1015688		PAGE 1 OF 11



V-SERIES LEG SECTION DATA 0' - 255' ELEVATION																				
SECTION			LEG										DIAGONAL BRACE						HOR	
#	LENGTH	* WEIGHT	NOM SIZE	WALL	GRADE	CLIMBING		NON-CLIMB		CONNECT BOLT+		PART NUMBER **			ANGLE		CONNECT BOLT		CENTER SPACER	QTY
						QTY	PART#	QTY	PART#	DIAM	LENGTH	#1	#2	#3	FACE	THICK	DIAM	LENGTH		
V- 5.0	15'	1002#	4"	0.237	A572-50	1	231042	2	231043	3/4"	3-1/2"	227077	227077	227077	2"	1/8"	3/4"	2-1/4"	116467	1
V- 7.0	20'	1609#	5"	0.258	A572-50	1	226200	2	226201	3/4"	3-1/2"	226190	226189	231342	2"	3/16"	3/4"	2-1/4"	116467	
V- 9.0	20'	1861#	5"	0.258	A572-50	3	226192			3/4"	3-1/2"	225035	225034	231345	2-1/2"	3/16"	3/4"	2-1/4"	116467	
V-11.0	20'	1958#	5"	0.258	A572-50	3	226192			3/4"	3-1/2"	225038	225037	231347	2-1/2"	3/16"	3/4"	2-1/4"	116467	
V-13.0	20'	2572#	6"	0.280	A572-50	3	226224			1"	4-3/4"	225041	225040	231350	3"	3/16"	3/4"	2-1/4"	116467	
V-15.0	20'	3616#	8"	0.322	A572-50	3	226230			1"	4-3/4"	227172	227173		3"	5/16"	1"	2-3/4"	116467	
V-17.0	20'	3815#	8"	0.322	A572-50	3	226867			1"	4-3/4"	227174	227175		3"	5/16"	1"	2-3/4"	116467	
V-19.0	20'	4610#	10"	0.365	A572-50	3	226240			1"	4-3/4"	226237	226238		3-1/2"	1/4"	1"	2-3/4"	116467	
V-21.0	20'	4948#	10"	0.365	A572-50	3	226240			1"	4-3/4"	226567	226568		4"	1/4"	1"	2-3/4"	116467	
V-23.0	20'	6116#	10"	0.365	A572-50	3	226907			1"	4-3/4"	227176	227177		4"	3/8"	1"	2-3/4"	116467	
V-25.0	20'	6941#	12"	0.375	A572-50	3	226250			1"	4-3/4"	227178	227179		4"	3/8"	1"	2-3/4"	116467	
V-27.0	20'	7336#	12"	0.375	A572-50	3	226250			1"	4-3/4"	226480	226281		5"	5/16"	1"	2-3/4"	116467	
V-29.0	20'	7518#	12"	0.375	A572-50	3	228250					226483	228284		5"	5/16"	1"	2-3/4"	116467	

+ AT BOTTOM OF SECTION  
\* THE WEIGHTS LISTED ARE THEORETICAL. THE ACTUAL WEIGHTS WILL VARY. ALL WEIGHTS SHOULD BE CONFIRMED IN THE FIELD PRIOR TO ERECTION.  
\*\* PANELS ARE NUMBERED BEGINNING AT THE TOP OF THE SECTION.

HORIZONTAL DATA		
HORIZ HT	IN SEC#	HORIZ PART#
255	V- 5.0	227584



Nitesh Ahuja, KY Professional Engineer #28866

				AMERICAN TOWER CORP. #281378 PEA RIDGE, KY V-29.0 X 255'			
C	WAS A V-27 NOW A V-29	KWD	03/18/2014	APPROVED/ENG.		M_S	3/18/2014
A	UPDATED DESIGN WITH A FALL RADIUS	KWD	10/31/2013	APPROVED/FOUND.		N/A	
REV	DESCRIPTION OF REVISIONS	INI	DATE	COPYRIGHT 2014			
				DRAWN BY		KWD	
From: F1015688.DFT - 10/31/2013 07:45				ENG. FILE NO. A-237100-		251471	
Printed from 251471_02@C.DWG - 10/31/2013 07:49 @ 03/19/2014 08:10				ARCHIVE F-1015688		PAGE 2 OF 11	

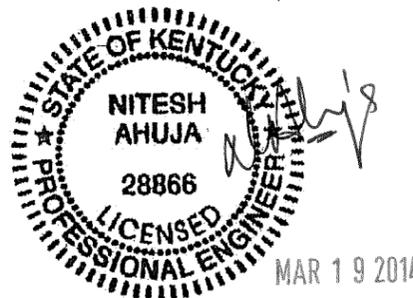


GENERAL NOTES

1. TOWER DESIGN CONFORMS TO STANDARD TIA-222-G UTILIZING AN 90 MPH 3-SEC GUST BASIC WIND SPEED WITH A STRUCTURE CLASS OF II, TOPOGRAPHIC CATEGORY OF 1 AND EXPOSURE C CRITERIA WITH NO ICE.  
TOWER DESIGN CONFORMS TO STANDARD TIA-222-G UTILIZING AN 30 MPH 3-SEC GUST BASIC WIND SPEED WITH A STRUCTURE CLASS OF II, TOPOGRAPHIC CATEGORY OF 1 AND EXPOSURE C CRITERIA WITH .75" RADIAL ICE.  
TOWER MEETS THE REQUIREMENTS OF THE 2013 KENTUCKY BUILDING CODE UTILIZING AN 115 MPH 3-SEC GUST BASIC WIND SPEED WITH A STRUCTURE CLASS OF II, TOPOGRAPHIC CATEGORY OF 1 AND EXPOSURE C CRITERIA WITH NO ICE PER ANSI/TIA-222-G.
2. NO TWIST AND SWAY LIMITATIONS SPECIFIED OR USED FOR THIS TOWER.
3. MATERIAL: (A) SOLID RODS TO ASTM A572 GRADE 50. (B) ANGLES TO ASTM A36. (C) ANTENNA MOUNTING PIPE TO BE ASTM A500 GRADE B. (D) STEEL PLATES TO ASTM A36. (E) CONNECTION BOLTS TO ASTM A325 OR ASTM A449 (Fu=120 KSI AND Fy=92 KSI) AND ANCHOR BOLTS TO ASTM F1554 (Fu=150 KSI AND Fy=105 KSI). (F) TOWER LEG PIPE TO BE ASTM A500 GRADE B/C WITH 50KSI MIN. YIELD STRENGTH
4. BASE REACTIONS PER TIA-222-G FOR 90 MPH BASIC WIND SPEED WITH NO ICE (REACTIONS INCLUDE TIA-222-G LOAD FACTORS): TOTAL WEIGHT = 89.0 KIPS. MAXIMUM COMPRESSION = 617.0 KIPS PER LEG. MOMENT = 14755.0 KIP-FT. MAXIMUM UPLIFT = 546.0 KIPS PER LEG. MAXIMUM SHEAR = 106.0 KIPS TOTAL.
5. BASE REACTIONS PER TIA-222-G FOR 30 MPH BASIC WIND SPEED WITH 0.75" RADIAL ICE (REACTIONS INCLUDE TIA-222-G LOAD FACTORS): TOTAL WEIGHT = 246.0 KIPS. MOMENT = 1647.0 KIP-FT. MAXIMUM SHEAR = 11.0 KIPS TOTAL.
6. FINISH: ALL BOLTS ARE GALVANIZED IN ACCORDANCE WITH ASTM A153 (HOT DIPPED) OR ASTM B695 CLASS 50 (MECHANICAL). ALL OTHER STRUCTURAL MATERIALS ARE GALVANIZED IN ACCORDANCE WITH ASTM A123.
7. ANTENNAS: 250'-135 SQ. FT. AREA WITH 3,000# WITH ICE/115 SQ. FT. AREA WITH 2,000# NO ICE AND (18) 1-5/8" LINES  
240'-135 SQ. FT. AREA WITH 3,000# WITH ICE/115 SQ. FT. AREA WITH 2,000# NO ICE AND (18) 1-5/8" LINES  
230'-135 SQ. FT. AREA WITH 3,000# WITH ICE/115 SQ. FT. AREA WITH 2,000# NO ICE AND (18) 1-5/8" LINES  
220'-135 SQ. FT. AREA WITH 3,000# WITH ICE/115 SQ. FT. AREA WITH 2,000# NO ICE AND (18) 1-5/8" LINES  
NOTE: (A) ELEVATIONS ARE TO THE BOTTOM OF THE ANTENNAS EXCEPT FOR MICROWAVE DISHES, WHICH ARE TO THE CENTERLINE. (B) ALL TRANSMISSION LINES MUST BE PLACED ON PIROD SUPPLIED LINE BRACKETS.
8. REMOVE FOUNDATION TEMPLATE PRIOR TO ERECTING TOWER. INSTALL BASE SECTION WITH MAXIMUM OF 2" CLEARANCE ABOVE CONCRETE. SEE BASE SECTION PLACEMENT PAGE FOR MORE INFORMATION.
9. MIN. WELDS 5/16" UNLESS OTHERWISE SPECIFIED. ALL WELDING TO CONFORM TO AWS D1.1 SPECIFICATIONS .
10. THIS DRAWING DOES NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND HE SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, SEQUENCES AND PROCEDURES.
11. ALL BOLTS AND NUTS MUST BE IN PLACE BEFORE THE ADJOINING SECTIONS ARE INSTALLED.
12. ALL STRUCTURAL BOLTS ARE TO BE TIGHTENED TO A SNUG TIGHT CONDITION AS DEFINED BY AISC SPECIFICATION UNLESS OTHERWISE NOTED.
13. ATTENTION TOWER ERECTOR: COAT ALL BOLT ASSEMBLIES THAT USE PIN LOCK NUTS WITH ZINC RICH COLD GALVANIZING COMPOUND AFTER FINAL TIGHTENING.
14. TIA-222-G GROUNDING FOR TOWER.
15. TOWER LIGHTING SUPPLIED BY OTHERS.

FOUNDATION NOTES

1. FOUNDATION DESIGN BY OTHERS.



Nitesh Ahuja, KY Professional Engineer #28866

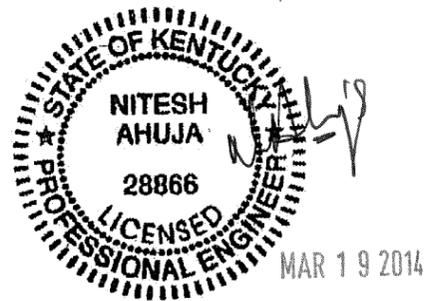
AMERICAN TOWER CORP.  
#281378 PEA RIDGE, KY  
V-29.0 X 255'

C	WAS A V-27 NOW A V-29	KWD	03/18/2014			 1-877-467-4763 Plymouth, IN 1-888-880-9191 Salem, OR
A	UPDATED DESIGN WITH A FALL RADIUS	KWD	10/31/2013	APPROVED/ENG.	M_S 3/18/2014	
REV	DESCRIPTION OF REVISIONS	INI	DATE	APPROVED/FOUND.	M_S 3/18/2014	DRAWING NO. 251471
				COPYRIGHT 2014		
				DRAWN BY	KWD	PAGE 3 OF 11
From: F1015688.DFT - 10/31/2013 08: 58				ENG. FILE NO. A-237100-		
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FOUNDATION NOTES

ALTERNATE FOUNDATION #1

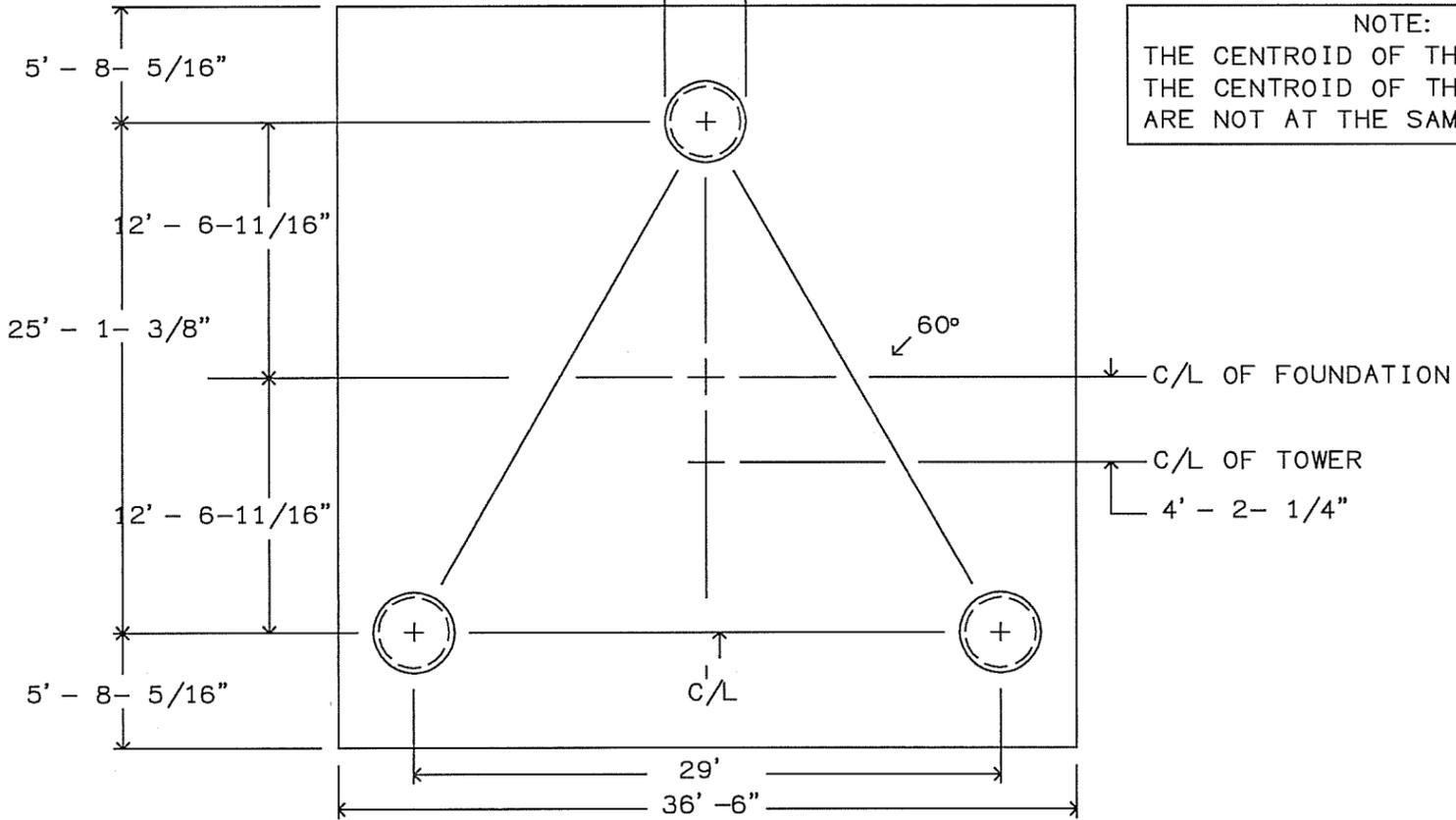
1. SOIL AS PER REPORT BY FSTAN, DATED 03/12/14, PROJECT# 13-8782
2. CONCRETE TO BE 4000 PSI @ 28 DAYS. REINFORCING BAR TO CONFORM TO ASTM A615 GRADE 60 SPECIFICATIONS. CONCRETE INSTALLATION TO CONFORM TO ACI-318 (2008) BUILDING REQUIREMENTS FOR REINFORCED CONCRETE. ALL CONCRETE TO BE PLACED AGAINST UNDISTURBED EARTH FREE OF WATER AND ALL FOREIGN OBJECTS AND MATERIALS. A MINIMUM OF THREE INCHES OF CONCRETE SHALL COVER ALL REINFORCEMENT. WELDING OF REBAR NOT PERMITTED.
3. A COLD JOINT IS PERMISSIBLE UPON CONSULTATION WITH PIROD. ALL COLD JOINTS SHALL BE COATED WITH BONDING AGENTS PRIOR TO SECOND POUR.
4. ALL FILL SHOULD BE PLACED IN LOOSE LEVEL LIFTS OF NO MORE THAN 8" THICK. FILL MATERIALS SHOULD BE CLEAN AND FREE OF ORGANIC AND FROZEN MATERIALS OR ANY OTHER DELETERIOUS MATERIALS. COMPACT FILL TO 98% OF STANDARD PROCTOR MAXIMUM DRY DENSITY IN ACCORDANCE WITH ASTM D698.
5. BENDING, STRAIGHTENING OR REALIGNING (HOT OR COLD) OF THE ANCHOR BOLTS BY ANY METHOD IS PROHIBITED.
6. CROWN TOP OF FOUNDATION FOR PROPER DRAINAGE.
7. THE ON-SITE GEOTECHNICAL ENGINEER SHALL CONFIRM THAT THE INSITU SOIL STRENGTHS MEET OR EXCEED THOSE PARAMETERS GIVEN IN THE SOIL REPORT.
8. A SUMP PUMP OR OTHER DEWATERING SYSTEM MAY BE REQUIRED TO LOWER THE WATER TABLE TO FACILITATE THE INSTALLATION OF THE FOUNDATION.
9. ANY SOFT OR UNSTABLE SUBGRADE SOILS DETECTED DURING THE EXCAVATION SHOULD BE REMOVED AND REPLACED WITH COMPACTED FILL.
10. DIFFICULTIES DURING EXCAVATION MAY ARISE DUE TO THE PRESENCE OF BOULDERS, COBBLES, AND/OR SHALLOW BEDROCK. THE BOULDERS, COBBLES, AND/OR ROCK MUST BE REMOVED FROM THE EXCAVATION OR DRILLED THROUGH.
11. A CONCRETE MAT MAY BE USED TO LEVEL THE BEARING SURFACE. THE CONCRETE IN THE LEVELING MAT IS TO HAVE A MINIMUM COMPRESSIVE STRENGTH OF 2000 PSI AT 28 DAYS AND CAN NOT EXCEED 12" IN THICKNESS.



Nitesh Ahuja, KY Professional Engineer #28866

				AMERICAN TOWER CORP. #281378 PEA RIDGE, KY V-29.0 X 255'			
C	WAS A V-27 NOW A V-29	KWD	03/18/2014				
B	ADDED FOUNDATIONS PER SOIL REPORT	MS	03/18/2014				
A	UPDATED DESIGN WITH A FALL RADIUS	KWD	10/31/2013	APPROVED/ENG.	M_S	3/18/2014	<b>valmont</b> 1-877-467-4763 Plymouth, IN 1-888-880-9191 Salem, OR STRUCTURES
REV	DESCRIPTION OF REVISIONS	INI	DATE	APPROVED/FOUND.	M_S	3/18/2014	
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4' ROUND, CENTERED AROUND THE CIRCULAR REBAR CAGE

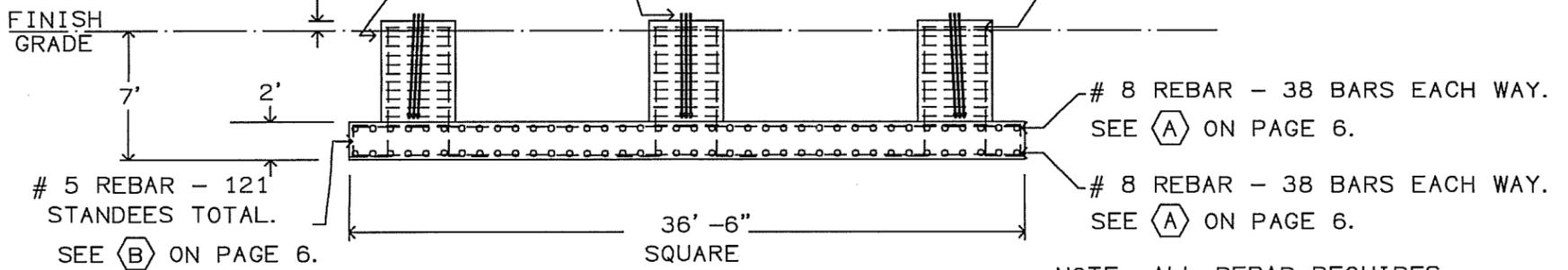


NOTE:  
THE CENTROID OF THE TOWER AND THE CENTROID OF THE FOUNDATION ARE NOT AT THE SAME POINT!

# 9 VERTICAL REBAR - SEE (C) ON PAGE 6. 20 PIECES REQ. PER PIER, EQUALLY SPACED, TO BE PLACED INSIDE TIES.

FOR ANCHOR STEEL IDENTIFICATION AND PLACEMENT INFORMATION, SEE PAGE 10 OF THIS DRAWING. SEE PAGE 11 FOR BASE SECTION INSTALLATION DETAIL.

# 4 TIES - SEE (D) ON PAGE 6. 13 PIECES REQ. PER PIER



NOTE: ALL REBAR REQUIRES MIN. 3" CONCRETE COVERAGE

**ALTERNATE FOUNDATION #1**

106.4 CUBIC YARDS CONCRETE REQUIRED FOR INSTALLATION SPECIFICATIONS AND ADDITIONAL INFORMATION, SEE PAGE 4 OF THIS DRAWING.



Nitesh Ahuja, KY Professional Engineer #28866

AMERICAN TOWER CORP.  
#281378 PEA RIDGE, KY  
V-29.0 X 255'

REV	DESCRIPTION OF REVISIONS	INI	DATE
C	WAS A V-27 NOW A V-29	KWD	03/18/2014
B	ADDED FOUNDATIONS PER SOIL REPORT	MS	03/18/2014
A	UPDATED DESIGN WITH A FALL RADIUS	KWD	10/31/2013

APPROVED/ENG.	M_S	3/18/2014
APPROVED/FOUND.	M_S	3/18/2014



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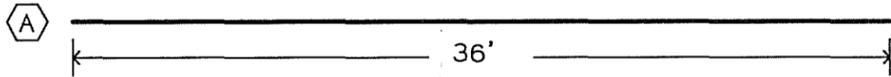
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DRAWING NO.

251471

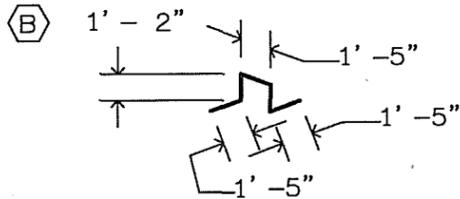
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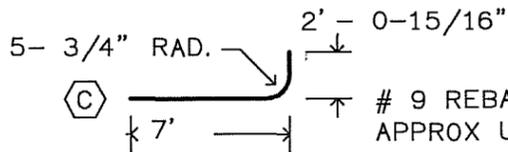


# 8 REBAR - 152 PIECES REQ. TOTAL  
APPROX WT = 96.1# EACH, 14607# TOTAL

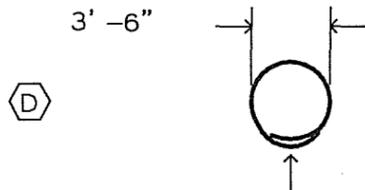
REBAR SUPPORTS MAY CONSIST OF ANY ACCEPTABLE MEANS OF SECURELY SUPPORTING THE TOP REINFORCEMENT GRID ABOVE THE BOTTOM REINFORCEMENT GRID WHILE MAINTAINING A SEPARATION OF 1'-6" (OUTSIDE REBAR TO OUTSIDE REBAR).



# 5 REBAR - 121 PIECES REQUIRED TOTAL  
TYPE 26 STANDEE PLACED BETWEEN REBAR GRIDS ON NOMINAL 4' SPACING THROUGHOUT  
APPROX UNBENT LENGTH = 6'-6-1/8"  
APPROX WT = 6.8# EACH, 823# TOTAL



# 9 REBAR - 60 PIECES REQUIRED TOTAL  
APPROX UNBENT LENGTH = 8'-10-1/2"  
APPROX WT = 30.2# EACH, 1812# TOTAL



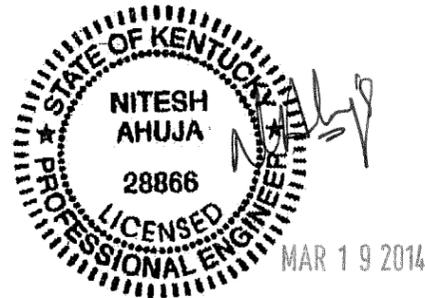
# 4 REBAR - 39 PIECES REQUIRED TOTAL  
APPROX UNBENT LENGTH = 12'-6-1/2"  
APPROX WT = 8.4# EACH, 328# TOTAL

LAP DIMENSION: 1'-6-1/2"  
PLACE CIRCULAR TIES SO THAT LAPS ON ADJACENT TIES ARE 180 DEGREES APART. PLACE ONE TIE AT TOP OF PAD AND TWO TIES AT TOP OF PIER REBAR. EQUALLY SPACE REMAINING TIES ALONG PIER.

**ALTERNATE FOUNDATION #1**

**REBAR DETAIL**

TOTAL APPROX REBAR WEIGHT = 17570#  
REINFORCING BAR TO CONFORM TO  
ASTM A615 GRADE 60 SPECIFICATIONS.



Nitesh Ahuja, KY Professional Engineer #28866

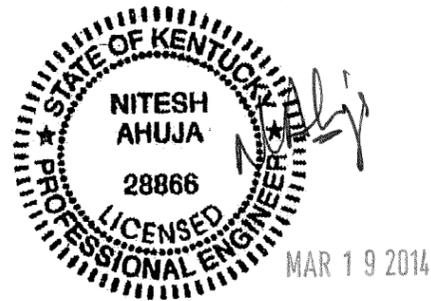
				AMERICAN TOWER CORP. #281378 PEA RIDGE, KY V-29.0 X 255'		
C	WAS A V-27 NOW A V-29	KWD	03/18/2014	APPROVED/ENG.		M_S 3/18/2014
B	ADDED FOUNDATIONS PER SOIL REPORT	MS	03/18/2014	APPROVED/FOUND.		M_S 3/18/2014
REV	DESCRIPTION OF REVISIONS	INI	DATE	COPYRIGHT 2014		
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FOUNDATION NOTES

ALTERNATE FOUNDATION #2

1. SOIL AS PER REPORT BY FSTAN, DATED 03/12/14, PROJECT# 13-8782
2. CONCRETE TO BE 4000 PSI @ 28 DAYS. REINFORCING BAR TO CONFORM TO ASTM A615 GRADE 60 SPECIFICATIONS. CONCRETE INSTALLATION TO CONFORM TO ACI-318 (2008) BUILDING REQUIREMENTS FOR REINFORCED CONCRETE. ALL CONCRETE TO BE PLACED AGAINST UNDISTURBED EARTH FREE OF WATER AND ALL FOREIGN OBJECTS AND MATERIALS. A MINIMUM OF THREE INCHES OF CONCRETE SHALL COVER ALL REINFORCEMENT. WELDING OF REBAR NOT PERMITTED.
3. A COLD JOINT IS PERMISSIBLE UPON CONSULTATION WITH PIROD. ALL COLD JOINTS SHALL BE COATED WITH BONDING AGENTS PRIOR TO SECOND POUR.
4. ALL REINFORCING STEEL TO BE FORMED INTO A CAGE PRIOR TO SETTING INTO POSITION IN THE EXCAVATED PIER.
5. PERMANENT STEEL CASING SHALL NOT BE USED WITHOUT CONSENT FROM FOUNDATION DESIGNERS.
6. BENDING, STRAIGHTENING OR REALIGNING (HOT OR COLD) OF THE ANCHOR BOLTS BY ANY METHOD IS PROHIBITED.
7. CROWN TOP OF FOUNDATION FOR PROPER DRAINAGE.
8. FOUNDATION IS TO BEAR ON INSITU WEATHERED CLAY SHALE AT APPROXIMATELY 28.5' BELOW GRADE. THE BEARING SURFACE IS TO BE FREE OF ANY LOOSE MATERIAL & SUBSEQUENTLY INSPECTED BY A QUALIFIED ON-SITE GEOTECHNICAL ENGINEER.
9. A TEMPORARY, FULL LENGTH STEEL CASING MAY BE REQUIRED DURING INSTALLATION.
10. IF MORE THAN 3" OF WATER IS PRESENT AT THE BOTTOM OF THE DRILLED SHAFT, EITHER WATER SHALL BE REMOVED OR CONCRETE SHALL BE PLACED USING THE TREMIE METHODS.
11. DIFFICULTIES DURING EXCAVATION MAY ARISE DUE TO THE PRESENCE OF BOULDERS, COBBLES, AND/OR SHALLOW BEDROCK. THE BOULDERS, COBBLES, AND/OR ROCK MUST BE REMOVED FROM THE EXCAVATION OR DRILLED THROUGH.
12. THE CAISSON MUST EXTEND A MINIMUM OF 20.5' INTO THE WEATHERED CLAY SHALE LAYER ENCOUNTERED AT APPROXIMATELY 8' BELOW GRADE.

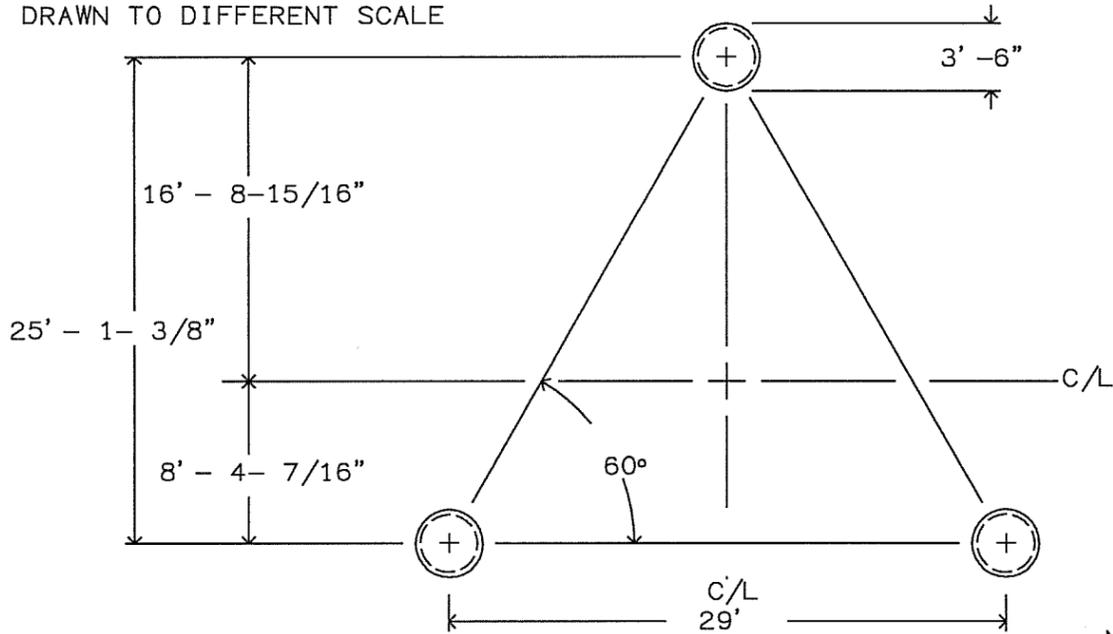


Nitesh Ahuja, KY Professional Engineer #28866

				AMERICAN TOWER CORP. #281378 PEA RIDGE, KY V-29.0 X 255'			
C	WAS A V-27 NOW A V-29	KWD	03/18/2014				
B	ADDED FOUNDATIONS PER SOIL REPORT	MS	03/18/2014	APPROVED/ENG.	M_S	3/18/2014	<b>valmont</b> 1-877-467-4763 Plymouth, IN 1-888-880-9191 Salem, OR STRUCTURES
REV	DESCRIPTION OF REVISIONS	INI	DATE	APPROVED/FOUND.	M_S	3/18/2014	
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TOP VIEW

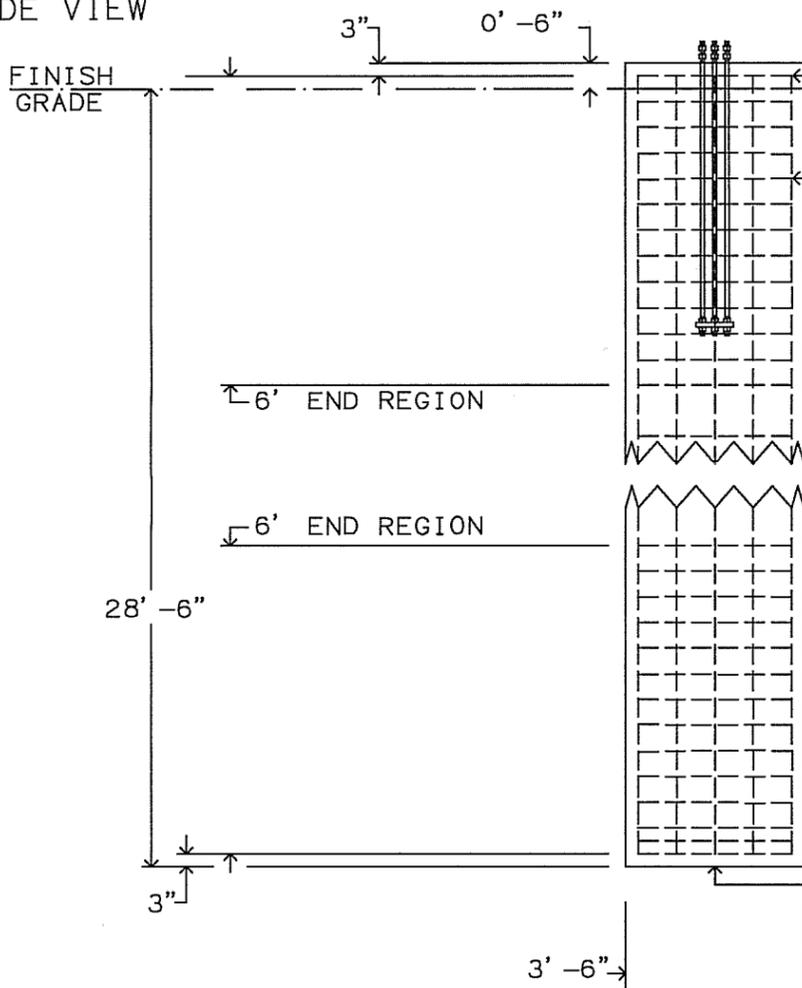
TOP AND SIDE VIEWS ARE  
DRAWN TO DIFFERENT SCALE



NOTE: ALL REBAR REQUIRES MINIMUM  
3" CONCRETE COVERAGE

FOR ANCHOR STEEL IDENTIFICATION  
AND PLACEMENT INFORMATION, SEE  
PAGE 10. SEE PAGE 11 FOR BASE  
SECTION INSTALLATION DETAIL.

SIDE VIEW



FOR DETAIL VIEW OF REBAR  
END AREA, SEE (E) ON PAGE 9.

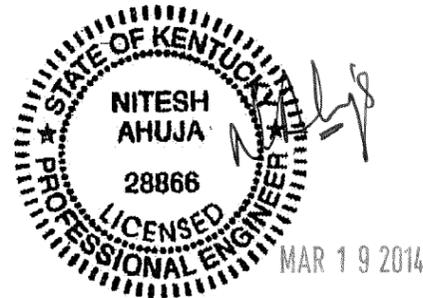
# 5 HORIZONTAL TIES - SEE (B) ON PAGE 9.  
44 PIECES REQUIRED PER PIER.  
PLACE TIES AT 0' - 6" NOMINAL  
SPACING WITHIN END REGIONS,  
AND 1' NOMINAL SPACING IN  
REMAINDER OF PIER.

#10 VERTICAL REBAR - SEE (A) ON PAGE 9.  
17 PIECES REQUIRED PER PIER,  
EQUALLY SPACED, TO BE PLACED  
INSIDE TIES.

**ALTERNATE FOUNDATION #2**

THREE PIERS REQUIRED  
10.3 CUBIC YARDS CONCRETE REQUIRED EACH PIER

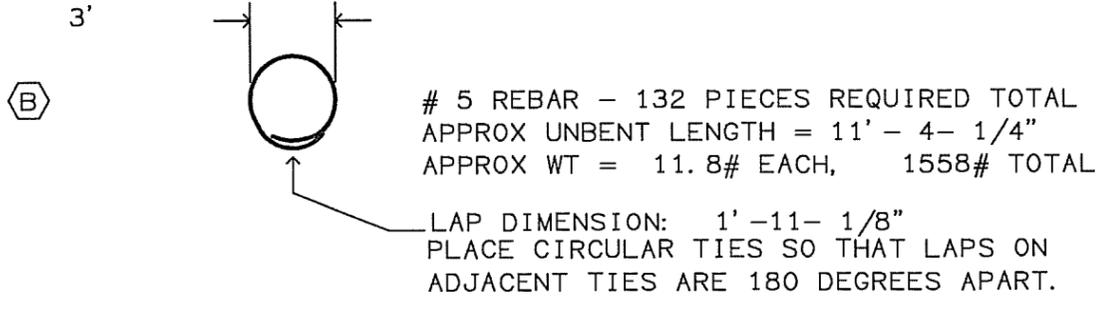
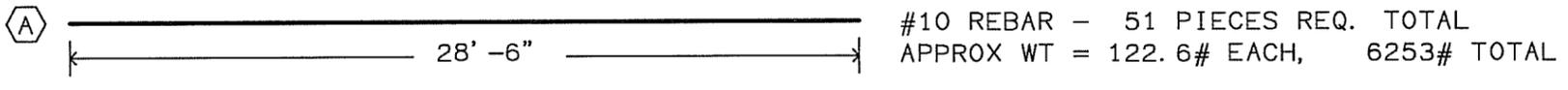
FOR INSTALLATION SPECIFICATIONS AND  
ADDITIONAL INFORMATION, SEE PAGE 7  
OF THIS DRAWING.



Nitesh Ahuja, KY Professional Engineer #28866

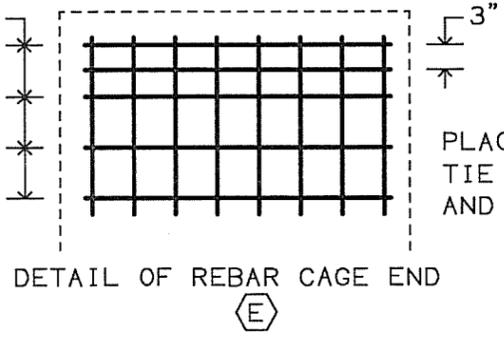
AMERICAN TOWER CORP.  
#281378 PEA RIDGE, KY  
V-29.0 X 255'

C	WAS A V-27 NOW A V-29	KWD	03/18/2014			
B	ADDED FOUNDATIONS PER SOIL REPORT	MS	03/18/2014	APPROVED/ENG.	M_S 3/18/2014	
REV	DESCRIPTION OF REVISIONS	INI	DATE	APPROVED/FOUND.	M_S 3/18/2014	1-877-467-4763 Plymouth, IN 1-888-880-9191 Salem, OR
				COPYRIGHT 2014		DRAWING NO. 251471
				DRAWN BY	KWD	
From: F1015688.DFT - 03/18/2014 12:06				ENG. FILE NO.	A-237100-	PAGE 8 OF 11
Printed from 251471_08@C.DWG - 03/18/2014 12:09 @ 03/19/2014 08:10				ARCHIVE	F-1015688	



0' - 6"

PLACE 13 CIRCULAR TIES WITHIN EACH END REGION (TOP AND BOTTOM). PLACE FIRST TIE AT END OF VERTICAL BARS AND CONTINUE SPACING AS SHOWN. SEE PAGE 8 FOR REGION DEFINITION.

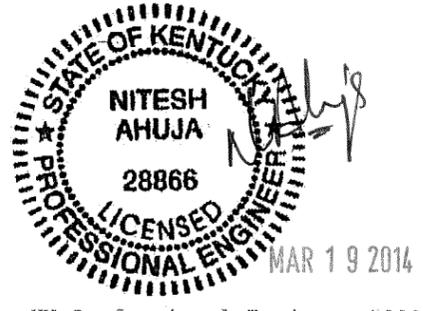


PLACE AN ADDITIONAL CIRCULAR TIE 3" FROM THE END TIE (TOP AND BOTTOM) AS SHOWN.

**ALTERNATE FOUNDATION #2**

REBAR DETAIL

TOTAL APPROX REBAR WEIGHT = 7811#  
REINFORCING BAR TO CONFORM TO  
ASTM A615 GRADE 60 SPECIFICATIONS.



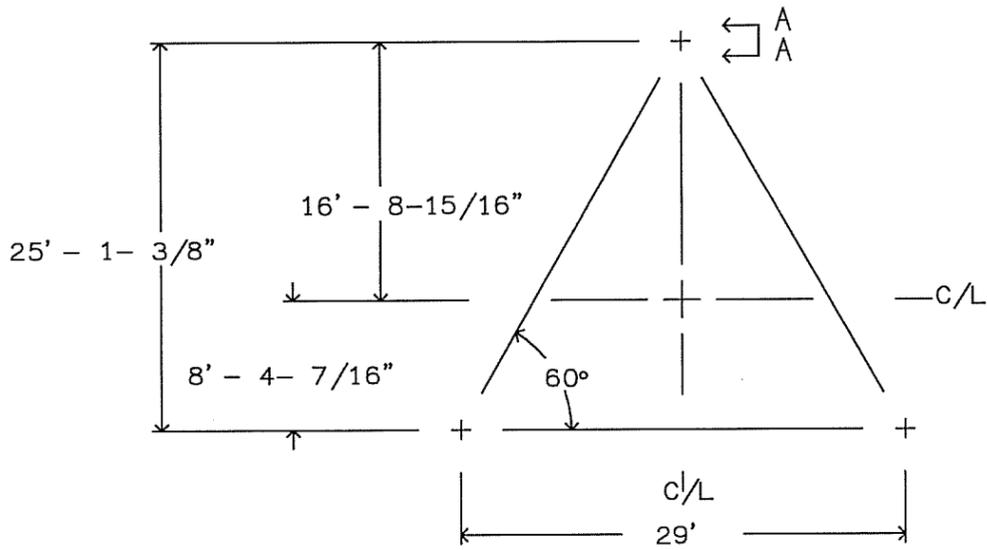
Nitesh Ahuja, KY Professional Engineer #28866

				AMERICAN TOWER CORP. #281378 PEA RIDGE, KY V-29.0 X 255'		
C	WAS A V-27 NOW A V-29	KWD	03/18/2014	APPROVED/ENG.		M_S 3/18/2014
B	ADDED FOUNDATIONS PER SOIL REPORT	MS	03/18/2014	APPROVED/FOUND.		M_S 3/18/2014
REV	DESCRIPTION OF REVISIONS	INI	DATE	COPYRIGHT 2014		
				DRAWN BY		KWD
From: F1015688.DFT - 03/18/2014 12:06				ENG. FILE NO. A-237100-		251471
Printed from 251471_09@C.DWG * 03/18/2014 12:32 @ 03/19/2014 08:11				ARCHIVE F-1015688		PAGE 9 OF 11

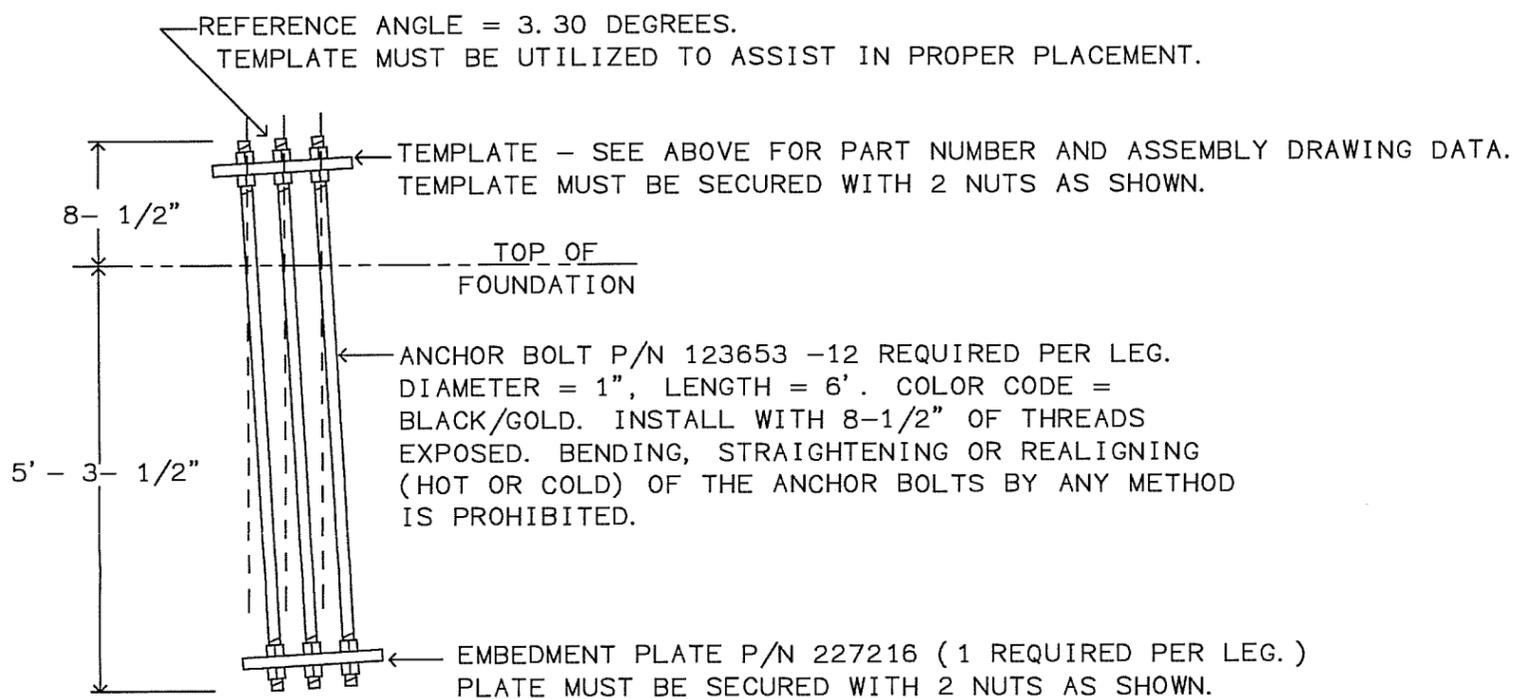


TEMPLATE ASSEMBLY P/N 227164 IS REQUIRED FOR INSTALLATION AND MUST BE PLACED AS SHOWN. SEE PAGE 5 FOR TOWER C/L LOCATION RELATIVE TO THE FOUNDATION LAYOUT. TEMPLATE PLACEMENT  $\pm 3"$ . EACH LEG MUST BE CENTERED IN PIER WITHIN  $\pm 10\%$  OF PIER DIAMETER. TEMPLATE MUST BE LEVEL  $\pm 1$  DEGREE. INSTALL TEMPLATE WITH SUFFICIENT SPACE BENEATH (2" MINIMUM) TO PERMIT FINISHING OF CONCRETE AND TO FACILITATE TEMPLATE REMOVAL PRIOR TO TOWER ERECTION.

SEE PAGE 11 FOR BASE SECTION INSTALLATION DETAIL.



TOWER ANCHOR STEEL PLACEMENT - TOP VIEW



VIEW A - A - ANCHOR BOLT INSTALLATION DETAIL (NOT TO SCALE)

**ATTENTION CONTRACTOR INSTALLING THE ANCHOR BOLTS!**

1" DIAMETER ANCHOR BOLTS FOR TAPERED TOWER.

VERIFY THE PART NUMBERS AND SIZES FOR ALL COMPONENTS ON THIS PAGE AND PAGE 11.

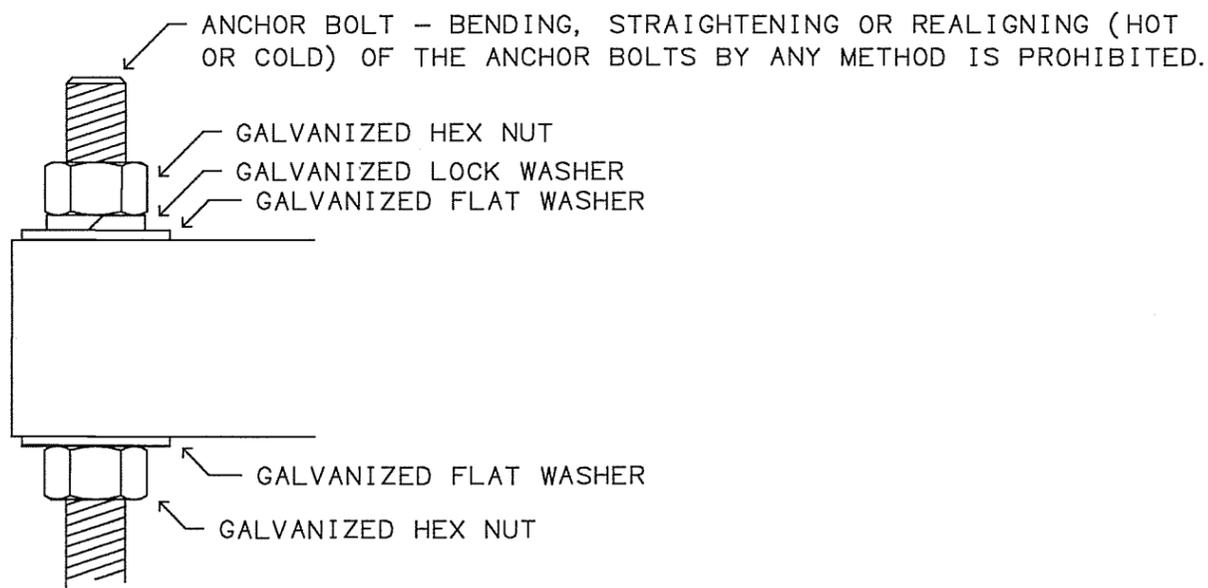
IF THERE ARE ANY DISCREPANCIES, PLEASE NOTIFY PIROD, INC. PRIOR TO INSTALLATION!!



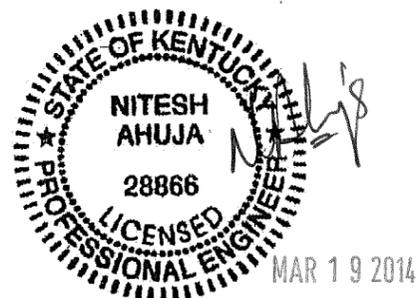
Nitesh Ahuja, KY Professional Engineer #28866

AMERICAN TOWER CORP.  
#281378 PEA RIDGE, KY  
V-29.0 X 255'

				AMERICAN TOWER CORP. #281378 PEA RIDGE, KY V-29.0 X 255'			
C	WAS A V-27 NOW A V-29	KWD	03/18/2014	APPROVED/ENG.	M_S	3/18/2014	 1-877-467-4763 Plymouth, IN 1-888-880-9191 Salem, OR
B	ADDED FOUNDATIONS PER SOIL REPORT	MS	03/18/2014	APPROVED/FOUND.	M_S	3/18/2014	
REV	DESCRIPTION OF REVISIONS	INI	DATE	COPYRIGHT 2014			
				DRAWN BY	KWD		DRAWING NO.
From: F1015688.DFT - 03/18/2014 12:06				ENG. FILE NO.	A-237100-		251471
Printed from 251471_10@C.DWG - 03/18/2014 12:10 @ 03/19/2014 08:11				ARCHIVE	F-1015688		PAGE 10 OF 11



BASE SECTION INSTALLATION DETAIL



Nitesh Ahuja, KY Professional Engineer #28866

				AMERICAN TOWER CORP. #281378 PEA RIDGE, KY V-29.0 X 255'		
C	WAS A V-27 NOW A V-29	KWD	03/18/2014			
B	ADDED FOUNDATIONS PER SOIL REPORT	MS	03/18/2014	APPROVED/ENG.	M_S	3/18/2014
REV	DESCRIPTION OF REVISIONS	INI	DATE	APPROVED/FOUND.	M_S	3/18/2014
				COPYRIGHT 2014		
				DRAWN BY	KWD	
From: F1015688.DFT - 03/18/2014 12:06				ENG. FILE NO. A-237100-		DRAWING NO.
Printed from 251471_11@C.DWG - 03/18/2014 12:10 @ 03/19/2014 08:11				ARCHIVE F-1015688		251471
						PAGE 11 OF 11





11/7/13

Dear Commissioners:

The construction manager for the proposed new communications facility will be Ron Rohr. His contact information is 740-438-9710. Ron Rohr has been involved in the construction of communications facilities for over 17 years, and general construction for over 20 years.

Some of the notable and most recent projects are:

2010 - Present

American Tower Corporation – Construction Manager

- Successfully led the construction team on the 140 site, Southern Ohio Launch while maintaining a respectful and professional demeanor under difficult circumstances.
- Played a key part in the collaborating efforts to build the scope of work, pricing matrix, and close out documentation on several projects.
- Have cultivated a pool of responsible, dependable and quality driven GC's to work on ATC projects throughout the Midwest and Northeast Region.

1990 – 2009

Superior Concepts – Owner

- Contract Project and Construction Manager to multiple wireless carriers. Work included, but not limited to, permitting all the way through to final construction close outs. Also managed several DAS projects in shopping malls and residential areas.
- Equipment operator, cell site super intendant, regional foreman, etc...
- Carpentry, Construction and Consulting

Accreditations and Licenses

OSHA Electrical Safety  
Vallen Safety Knowledge Systems / Fall Protection  
Builders Exchange of Central Ohio / Estimating & Bid Preparation  
Amphenol Wireless Cable Connector Training  
Commscope Connector Training  
Andrew Connector Training  
Current OSHA Safety Training  
Current Haz Com Training  
FAA/FCC Training

Thank you,

A handwritten signature in black ink that reads "Ron Rohr".

Ron Rohr  
Construction Manager



**Thomas A. Zimmermann, P.E.**

Thomas A. Zimmermann has been involved with the practice of land development engineering and civil infrastructure design since 1990. Mr. Zimmermann has over 16 years of experience in telecommunications infrastructure design. He joined Terra Consulting Group in 1995 and is currently the Vice President of Operations.

Before joining Terra Consulting Group in 1995, he worked in the field of environmental engineering with Dames & Moore. At Dames & Moore, he was performing environmental Phase I, Phase II reports and field investigations. He was involved with the environmental remediation of soil and groundwater due to leaking underground storage tanks, landfills, and contaminated industrial waste.

At Terra Consulting Group, Mr. Zimmermann has planned and designed various aspects of residential, commercial and industrial developments. He has been involved with feasibility studies, roadway design, site planning and layout, stormwater management and detention system design, storm sewer design, sanitary sewer design and watermain design.

In addition to traditional land development engineering, Mr. Zimmermann has been involved with over 4,000 wireless and broadcast telecommunication projects. He provides the necessary infrastructure design to zone and permit the telecommunications projects.

Mr. Zimmermann received his Bachelor Degree in Science in 1993 and Master's Degree in 1995 from the University of Illinois Urbana-Champaign. He has been affiliated with the American Society of Civil Engineers for 20 years. He is a registered Professional Engineer in Illinois, Michigan and Wisconsin with a license pending reciprocity review in Pennsylvania.



**John J. Zimmermann, P.E. – President, Terra Consulting Group, Ltd.**

John J. Zimmermann has a 25-year career in the practice of land development engineering and civil infrastructure design. He founded Terra Consulting Group, Ltd. in 1994. Over his career Mr. Zimmermann has been involved with various aspects of land development on numerous engineering projects for the Illinois Department of Transportation, Communications & Utility companies, Municipalities, Park Districts, and the Development community. Mr. Zimmermann specializes in site planning and stormwater management applications as they relate to site development, transportation works and utility extensions.

Mr. Zimmermann is a 1987 graduate of Marquette University graduating with a Bachelor of Science degree. He is a registered Professional Engineer in 26 states.

Mr. Zimmermann has been affiliated with the American Society of Civil Engineers (ASCE) for over 30 years. He has served as President of the Illinois Section of ASCE and past chair of the Urban Planning and Development Group.



**Mike Stevens, Telecommunications Project Manager based in Cleveland Ohio, joined Terra Consulting Group in 2009. Mike has a 35 years experience in the Telephony, Wireless & Wireline telecommunications industry. Mike brings Terra valuable experience in facility construction and operation during his tenure at GTE, GTE Moblinet, Alltel and T-Mobile. Mike's primary responsibility is to manage Terra's operations in Ohio, Western Pennsylvania and Northern Kentucky. Mike will also be involved in site design and layout, sub-consultant operations, and permitting for Terra's telecommunication clients.**



**GRAVES & GRAVES CONSTRUCTION COMPANY, INC.**

*General Contractors*

POST OFFICE BOX 370 / PARSONS, TENNESSEE 38363

TELEPHONE (731)847-6391

November 6, 2013

RE:

Dear Commissioners:

The General Contractor for the proposed new communications facility will be Graves and Graves Construction Company INC. Graves and Graves contact information is 1267 West Main Street; Parsons, TN 38363, Contact persons would be either Jon Graves or Kent Hamm and they can both be reached at (731)-847-6391. Graves and Graves Construction Company has been involved with construction of communication sites for over 30 years and a listing of recent job experience is attached.

Thank you,



Jon Graves President

**Graves and Graves Construction Co., INC****Construction Experience List**

Name of Project	Owner's Name	Contract Amount	Completion Date
<b>Mt. Jackson VA</b>	Verizon Business	526,008.00	10/19/2011
<b>Carson, MS</b>	Crown Castle	190,795.00	06/30/2011
<b>Gismonda, AR</b>	Verizon Wireless	192,917.00	12/07/2011
<b>Danzler</b>	American Tower	202,185.00	07/09/2012
<b>Lafayette Springs</b>	American Tower	204,536.00	06/29/2012
<b>Kimberlin Heights</b>	American Tower	206,110.00	09/27/2012
<b>Amity AR</b>	Verizon Wireless	192,034.00	08/08/2013
<b>Fisher Rd Paducah Ky</b>	American Tower	154,260.00	09/17/2013
<b>Newman KY</b>	American Tower	137,512.00	08/14/2013
<b>East Tallassee</b>	American Tower	145,791.00	05/23/2013

# RAPHAEL I. MOHAMED, MBA, PE, PEng

6921 Palaver Lane  
Cary, NC 27519

(919) 244-5207 (Mobile)

raphael.mohamed@americantower.com

---

## Profile Summary

Proven telecommunications manager with strong engineering and analytical skills. Certified Professional Engineer who applies top-tier graduate business school education to achieve goals for high-growth organizations. Yellow belt Six Sigma dedicated to continuous learning. Seeking a telecommunications strategic implementation position that will leverage my formal engineering and management education and my extensive wireless industry experience in an S&P 500 company.

Holds American, Canadian and EU passports. Fluent in English and French. Conversational Spanish and Portuguese.

---

## Selected Accomplishments

- Led high-performing engineering team that produced over 17,000 engineering deliverables and achieved departmental revenue of \$30M+, operating profit margins in excess of 80%, and industry-leading cycle times for multi-year periods.
- Recruited and hired 15 engineers in 2 year period.
- Recipient of numerous individual and team recognition rewards including the All American, Hire Good People & Empower Them, Engineering Services Employee of the Quarter, Engineer of the Quarter, and Structural Engineering Team and Individual Awards.
- Created a guy anchor inspection business plan that mitigated tower portfolio risk and contributed to having no engineering-related tower collapses in over 12 years.
- Promoted 4 times in 12 years earning increased responsibility with each transition.
- Committee Sub-Chair for TIA-222-H: Plans, Assembly Tolerances, Marking, Maintenance and Condition Assessment

---

## Professional Experience

### AMERICAN TOWER CORPORATION (S&P 500 Company), Cary, NC

#### Engineering Manager, US Tower Division

2005-Present

- Managed up to 27 structural /electrical engineers responsible for the safety and integrity of a US-based portfolio of ± 24,000 telecommunications towers.
- Attested to quality of engineering work by stamping engineering documents (PE letters, structural analyses, modification designs, jurisdictional letters, A&E drawings).
- Developed new relationships and maintained existing relationships with internal customers, major wireless providers (AT&T, Verizon, T-Mobile, Sprint/Nextel), construction field offices, engineering consultants and governmental municipal agencies.
- Led training initiatives and engineering process recommendations for international offices including Brazil, South Africa, Uganda, Ghana, India and Mexico. Assisted with structural analysis and modification designs for African and Latin American markets.
- Served as company subject matter expert at jurisdictional zoning meetings and industry conferences.

#### Senior Design Engineer

2004-2005

#### Senior Project Engineer

2002-2004

#### Project Engineer

2001-2002

#### Project Administrator

2000-2001

### MORRISON HERSHFIELD ENGINEERING CONSULTING, Atlanta, GA

#### Project Consultant, Telecommunications Division

2000-2001

- Served as an internal consultant for SpectraSite Communications that brought in over \$3M of revenue.

**MORRISON HERSHFIELD ENGINEERING CONSULTING, Toronto, ON, Canada**

**Project Engineer, Structural Subdivision of Transportation Department**

**1998-2000**

- Awarded new design proposals for over \$15M in construction contracts through prepared proposals to government agencies.
- Prevented budget overages and avoided delay in scheduling for completion of \$2M bridge rehabilitation project through on-site supervision of construction.
- Conducted structural site condition surveys including AutoCAD drawings of required remediation.

**HUANG & ASSOCIATES GEOTECHNICAL CONSULTING, Markham, ON, Canada**

**Geotechnical Engineer**

**1997**

- Provided general quality control on residential & commercial sites involving concrete/soils testing.
- Surveyed borehole locations.
- Conducted laboratory testing of soils (e.g. proctor/grading/moisture).

**BRISBIN BROOK BEYNON ARCHITECTS, Toronto, ON, Canada**

**Co-op Student**

**1993**

- Produced AutoCAD drawings for architects.
- Created computer-animated walkthroughs of models using 3D Studio.

---

**Education**

**DUKE UNIVERSITY, The Fuqua School of Business, Durham, NC**

Master of Business Administration. 2008. GPA: 3.83/4.00.

Relevant courses include Strategy, Managerial Effectiveness, Leadership, Managerial Accounting, and Operations.

**UNIVERSITY OF TORONTO, Ontario, Canada**

Bachelor of Applied Science, Civil Engineering. 1998. Honors.

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**Certification**

**PROFESSIONAL ENGINEER DESIGNATION:** Active Licensure in 44 States and 1 Canadian Province

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**Professional Development**

**Six Sigma Process Excellence Program:** Yellow Belt

**Leadership Courses:** Harvard Mentor Management Program, Center for Creative Leadership, MIT Managing Technical Professionals, American Management Association, Duke Managerial Effectiveness & Leadership and Development

**Professional Engineering Development Hours:** 15+ Hours Completed Annually

**Professional Society Memberships:** TIA/EIA Committee, National Council of Examiner for Engineers and Surveyors, American and Canadian Society of Civil Engineers, American Society of Civil Engineers, National Society of Professional Engineers, North Carolina Structural Engineers Association, International Association of Spatial Structures, American Management Association



January 10, 2014

American Tower Corp.

Attn: Mr. Ron Rohr

SUBJECT: Valmont File #237100 Model V-29.0 x 255' Self Supporting Tower  
Site: #281378 Pea Ridge, KY

Thank you for your inquiry concerning tower design codes and practices as they relate to your requested tower designs.

Valmont Structures has been designing and building guyed and self-supporting towers and monopoles since the early 1950's. During this time, we have sold thousands of towers ranging in height from as little as 50' high to in excess of 1400'. These towers were individually engineered to accommodate the loading requirements imparted by the design wind speed, ice considerations, antenna loading, and other factors dictated by the national code requirements existing at the time the tower was built.

The present National Tower code, the TIA-222-G, represents the latest refinement of specific minimum requirements for tower engineers and manufacturers to follow to help assure that the tower structure and its foundation are designed to meet the most realistic conditions for local weather while assuring that the tower is designed to stringent factors of safety.

The TIA-222-G code incorporates an escalating wind factor based on tower height. If 90 MPH 3 second gust is the basic design wind speed at the 10 meter height, then per the specification, this speed is then increased in stages up the tower. "Meeting the code" implies that the design will have all of the code requirements for safety factors intact at the wind speed specified. Thus, the ultimate survival speed would be considerably higher.

While failure is extremely rare in any kind of tower, it is especially so for self supported towers and monopoles. In fact, only if a tower or monopole were subjected to a direct hit from a tornado or the severest of hurricanes would failure be predicted, and then usually only if hit by flying debris.

We are aware of only a very few documented instances of a self supporting tower or monopole failure. Self supporting towers and monopoles can be designed such that the most common mode of failure is in the upper middle region of the tower, with the upper portion of the tower remaining connected and "bending and bowing over" against the base of the tower or pole. The fact that the wind is normally greater on the upper portion of the structure contributes to the likelihood of this type of failure.



Communications Division, Valmont Industries, Inc.

1545 Pidco Drive Plymouth, Indiana 46563-4005 USA

574-936-4221 Fax 574-936-6796 [www.valmont.com](http://www.valmont.com)



This particular Tower has a theoretical failure at the tower midpoint or above. The predicted mode of wind induced failure would be a buckling of the tower legs above the tower midpoint with the top sections of the tower folding over on to the intact base sections. This would then affect a "zero fall zone" at ground level.

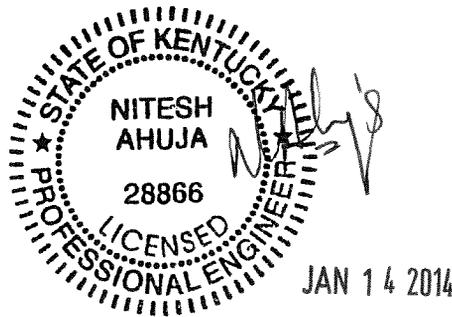
As Senior Project Engineer of the company and a registered P.E. in 20 states, I oversee all engineering and application of our towers. I am a graduate engineer from Auburn University and work in collaboration with other registered professional engineers on our staff.

Valmont Structures is an AISC approved shop. All Valmont Structures welders are AWS and CWB qualified. Mathematical and physical tests are performed routinely on tower sections and designs as required. Our total design, engineer and build process has been quality audited by our customers including public utilities, telephone companies, government agencies, and of course AISC.

We trust the above and the attached will be helpful to you. If you should need anything else, please let us know at your convenience.

Sincerely,

Nitesh Ahuja, P.E.  
Senior Project Engineer  
Ext. #5257





## FOUNDATION NOTES

- 1 THE ON-SITE GEOTECHNICAL ENGINEER SHALL CONFIRM THAT THE INSITU SOIL STRENGTHS MEET OR EXCEED THOSE PARAMETERS GIVEN IN THE SOIL REPORT.
- 2 A SUMP PUMP OR OTHER DEWATERING SYSTEM MAY BE REQUIRED TO LOWER THE WATER TABLE TO FACILITATE THE INSTALLATION OF THE FOUNDATION.
- 3 ANY SOFT OR UNSTABLE SUBGRADE SOILS DETECTED DURING THE EXCAVATION SHOULD BE REMOVED AND REPLACED WITH COMPACTED FILL.
- 4 DIFFICULTIES DURING EXCAVATION MAY ARISE DUE TO THE PRESENCE OF BOULDERS, COBBLES, AND/OR SHALLOW BEDROCK. THE BOULDERS, COBBLES, AND/OR ROCK MUST BE REMOVED FROM THE EXCAVATION OR DRILLED THROUGH.
- 5 A CONCRETE MAT MAY BE USED TO LEVEL THE BEARING SURFACE. THE CONCRETE IN THE LEVELING MAT IS TO HAVE A MINIMUM COMPRESSIVE STRENGTH OF 2000 PSI AT 28 DAYS AND CAN NOT EXCEED 12" IN THICKNESS.

UNIT BASE FOUNDATION (Load Case 2)

ATC  
Pea Ridge, KY

V- 29.0 255  
A- 237100

v 2.1

Reactions	stress ratio	100.0%	mark up:	0.0%
Shear, S:	106.00 kips	x 1 =	106.00 kips	
Moment, M:	14755.00 ft-kips	x 1 =	14755.00 ft-kips	
Compression / leg, C:	617.00 kips	x 1 =	617.00 kips	
Uplift / leg, U:	546.00 kips	x 1 =	546.00 kips	
Tower weight, W <sub>t</sub> :	89.00 kips	=	89.00 kips	

Soil per: Fstan, Dated 03/12/14, Project# 13-8782

Ultimate bearing: 7.000 ksf  
Ultimate Pp: 0.110 kcf

Load Case 2 = 0.9\*D + 1.0\*Dg + 1.6\*Wo

Physical Parameters:

Concrete volume:	$V = T * W^2 + 3 * (d^2 / 4 * \pi) * (D + E - T)$	V =	106.4	cy
Concrete weight:	$W_c = V * \delta$	W <sub>c</sub> =	430.8	kips
Soil weight:	$W_s = (D - T) * (W^2 - 3 * (d^2 / 4 * \pi)) * \gamma$	W <sub>s</sub> =	712.0	kips
Total weight:	$P = W_c + W_s + W_t$	P =	1231.78	kips

Passive Pressure:

Pp coefficient:	$K_p = \text{TAN}(45 + \phi / 2)^2$	K <sub>p</sub> =	1.000	
	$P_{pn} = K_p * \gamma * N + 2 * C_o * \sqrt{(K_p)}$	P <sub>pn</sub> =	0.770	ksf
	$P_{pk} = K_p * \gamma * (D - T) + 2 * C_o * \sqrt{(K_p)}$	P <sub>pk</sub> =	0.550	ksf
	$P_{pb} = K_p * \gamma * D + 2 * C_o * \sqrt{(K_p)}$	P <sub>pb</sub> =	0.770	ksf
	$P_{ptop} = \text{IF}(N < (D - T), P_{pt}, P_{pn})$	P <sub>ptop</sub> =	0.8	ksf
	$P_{p'} = (P_{ptop} + P_{pb}) / 2$	P <sub>p'</sub> =	0.770	ksf
Shear area:	$T_{pp} = 0$	T <sub>pp</sub> =	0.0	ft
	$A_{pp} = T_{pp} * W$	A <sub>pp</sub> =	0.00	ft <sup>2</sup>
Shear Capacity:	$S_{\text{actual}} = (P_{p'} * A_{pp} + \mu * P) * \phi_r$	S <sub>actual</sub> =	277.150	kips
$\phi_r = 0.75$				

Check	S <sub>actual</sub> = 277.15 kips	>=	S = 106.00 kips	OK
-------	-----------------------------------	----	-----------------	----

Overturning Moment Resistance at Toe:

Wt of soil wedges:	$W_{sw} = D * (D * \text{TAN}(\phi)) / 2 * W * \gamma$	W <sub>sw</sub> =	0.0	kips
Dist. from leg to edge:	$O = (W - 0.866 * w) / 2$	O =	5.693	ft
Additional offset of Wt:	$O_a = (2 / 3 * 0.666 * w + O) - W / 2$	O <sub>a</sub> =	4.186	ft
Resisting moments:	$M_{rwt} = P * W / 2 - W_t * O_a$	M <sub>rwt</sub> =	22107.46	ft-kips
	$M_{rp} = P_{p'} * A_{pp} * (D - N) / 3$	M <sub>rp</sub> =	0.00	ft-kips
	$M_{rsw} = W_{sw} * (W + D * \text{TAN}(\phi) / 3)$	M <sub>rsw</sub> =	0.00	ft-kips
Total resisting:	$M_{rt} = (M_{rwt} + M_{rp} + M_{rsw}) * \phi_r$	M <sub>rt</sub> =	16580.59	ft-kips
$\phi_r = 0.75$				
Total overturning:	$M_o = M + S * (D + E)$	M <sub>o</sub> =	15550.00	ft-kips

Check	M <sub>rt</sub> = 16580.59 ft-kips	>=	M <sub>o</sub> = 15550.00 ft-kips	OK
-------	------------------------------------	----	-----------------------------------	----

Bearing Resistance due to Pressure Distribution:

Area of mat:	area = W <sup>2</sup>	area =	1332.3	ft <sup>2</sup>
Section modulus:	SM = W <sup>3</sup> / 6	SM =	8104.5	ft <sup>3</sup>
Factored total weight:	P' = Wt + 0.9 * (Wc + Ws)	P' =	1117.5	klp
Pressure exerted:	$P_{\text{pos}} = P' / \text{area} + M_o / \text{SM}$	P <sub>pos</sub> =	2.757	ksf
	$P_{\text{neg}} = P' / \text{area} - M_o / \text{SM}$	P <sub>neg</sub> =	-1.080	ksf

Note: The stress resultant is NOT within the kern. Bearing area has been adjusted below.

Load eccentricity:	$e_c = M_o / P'$	e <sub>c</sub> =	13.91	ft
	$P_{\text{adj}} = 2 * P' / (3 * W * (W / 2 - e_c))$	P <sub>adj</sub> =	4.7	ksf
Adj. applied pressure:	$q_a = \text{IF}(P_{\text{neg}} >= 0, P_{\text{pos}}, P_{\text{adj}})$	q <sub>a</sub> =	4.708	ksf
$\phi_r = 0.75$				

Check	q <sub>a</sub> = 4.708 ksf	<=	B <sub>c</sub> * $\phi_r$ = 5.250 ksf	OK
-------	----------------------------	----	---------------------------------------	----

Concrete Shear Strength:

One way beam action at d<sub>1</sub> from tower

Effective depth:	$d_c = T - cc - db\_p / 2$	d <sub>c</sub> =	20.500	in
Factored Intensity:	q <sub>a</sub> = C / area	q <sub>a</sub> =	0.463	ksf
Required shear:	$V_{n1} = q_s * (O - dl / 2 - dc) * W / \phi_s$	V <sub>n1</sub> =	44.73	kips
$\phi_s = 0.75$ [ACI 9.3.2.3]				
Available shear:	$V_{c1} = 2 * \sqrt{F'c} * W * dc$	V <sub>c1</sub> =	1135.76	kips
[ACI 12.2.4]				

Check	V <sub>c1</sub> = 1135.76 kips	>=	V <sub>n1</sub> = 44.73 kips	OK
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Two way beam action at  $d_1 / 2$  from tower

Perimeter:	$P_o = (d_i + d_c) * \pi$	$P_o = 17.93$	ft
Required shear: $\phi_s = 0.75$ [ACI 9.3.2.3]	$V_{n2} = q_s / \phi_s * (\text{area} - (d_i + d_c)^2 * \pi / 4)$	$V_{n2} = 806.86$	kips
Available shear: [ACI 12.2.2]	$V_{c2} = 4 * \sqrt{F'c} * P_o * d_c$	$V_{c2} = 1116.05$	kips

Check	$V_{c2} = 1116.05$	kips	$\geq$	$V_{n2} = 806.86$	kips	OK
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**Column Compression Capacity:**

Compression reaction: $\phi_c = 0.65$ [ACI 9.3.2.2]	$P_c = \phi_c * 0.8 * F'c * (d_i^2 / 4 * \pi)$	$P_c = 3763.9$	kips
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Check	$P_c = 3763.88$	kips	$\geq$	$C = 617.00$	kips	OK
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**Pier Reinforcement:**

Cross-sectional area:	$A_g = d_i^2 * \pi / 4$	$A_g = 1809.56$	in <sup>2</sup>
Min. area of steel (pier): [ACI 10.9.1] & [ACI 10.8.4]	$A_{st,c} = A_g * 0.005$	$A_{st,c} = 9.05$	in <sup>2</sup>
Cage circle:	$d_o = d_i - 2 * c_c$	$d_o = 42.00$	in
Rebar:	$s_c = 9$	$d_{b,c} = 1.128$	in
	$m_c = 20$	$A_{b,c} = 1$	in <sup>2</sup>
	$A_{s,c} = A_{b,c} * m_c$	$A_{s,c} = 20.00$	in <sup>2</sup>

Check	$A_{s,c} = 20.00$	in <sup>2</sup>	$\geq$	$A_{st,c} = 9.05$	in <sup>2</sup>	OK
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Actual moment:	$M_{max} = (D - T + E) * S / 2$	$M_{max} = 291.50$	ft-kips
Pier moment capacity:	$M_{allow}$ per Maxmomnt.xls (see attached)	$M_{allow} = 420.13$	ft-kips

Check	$M_{allow} = 420.13$	ft-kips	$\geq$	$M_{max} = 291.50$	ft-kips	OK
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Bar separation:	$B_{s,c} = (d_o * \pi) / (m_c - d_{b,c})$	$B_{s,c} = 5.47$	in
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Check	10.87	$\geq$	$B_{s,c} = 5.47$	in	$\geq$	4.5"	OK
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**Vertical Rebar Development Length:**

Reinforcement location: [ACI 12.2.4]	$\psi_{l,c} =$ if the space under the rebar > 12 in, use 1.3, else use 1.0	$\psi_{l,c} = 1.3$	
Epoxy coating: [ACI 12.2.4]	$\psi_{e,c} =$ if epoxy-coated bars are not used, use 1.0; but if epoxy-coated bars are used, then if $B_s < 6 * d_b$ or $cc < 3 * d_b$ , use 1.5, else 1.2	$\psi_{e,c} = 1.0$	
Max term: [ACI 12.2.4]	$\psi_t \psi_{e,c} =$ the product of $\psi_t$ & $\psi_{e,c}$ , need not be taken larger than 1.7	$\psi_t \psi_{e,c} = 1.3$	
Reinforcement size: [ACI 12.2.4]	$\psi_{s,c} =$ if the bar size is 6 or less, then use 0.8, else use 1.0	$\psi_{s,c} = 1$	
Light weight concrete: [ACI 12.2.4]	$\lambda_c =$ if lightweight concrete is used, 1.3, else use 1.0	$\lambda_c = 1.0$	
Spacing/cover: [ACI 12.2.4]	$c_c =$ the smaller of: half the bar spacing or the concrete edge distance	$c_c = 3.56$	in
Transverse bars: [ACI 12.2.3]	$k_{tr,c} = 0$ in (per simplification)	$k_{tr,c} = 0$	in
Max term: [ACI 12.2.3]	$c_c' = \text{MIN}(2.5, (c_c + k_{tr,c}) / d_{b,c})$	$c_c' = 2.500$	
Excess reinforcement: [ACI 12.2.5]	$R_c = M_{max} / M_{allow}$	$R_c = 0.69$	
Development (tensile): [ACI 12.2.2]	$L_{dt,c} = (3 / 40) * (F_y / \sqrt{F'c}) * (\psi_t \psi_{e,c} * \psi_{s,c} * \lambda_c * R_c / c_c) * d_{b,c}$	$L_{dt,c} = 28.96$	in
Minimum length: [ACI 12.2.1]	$L_{d,min} = 12$ inches	$L_{d,min} = 12.0$	in
Development length:	$L_{dt,c} = \text{MAX}(L_{d,min}, L_{dt,c})$	$L_{dt,c} = 28.96$	in
Development (comp.): [ACI 12.3.2]	$L_{dc,c} = 0.02 * d_{b,c} * F_y * R_c / \sqrt{F'c}$	$L_{dc,c} = 14.85$	in
	$L_{dc,c} = 0.0003 * d_{b,c} * F_y * R_c$	$L_{dc,c} = 14.09$	in
Development length:	$L_{dc,c} = \text{MAX}(8, L_{dc,c}, L_{dc,c})$	$L_{dc,c} = 14.85$	in
Length available in pier:	$L_{vc} = D - T + E - cc$	$L_{vc} = 63.0$	in

Check	$L_{vc} = 63.0$	in	$\geq$	$L_{dt,c} = 29.0$	in	OK
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Check	$L_{vc} = 63.0$	in	$\geq$	$L_{dc,c} = 14.8$	in	OK
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Length available in pad:  $L_{vp} = T - cc$

Check	$L_{vp} = 21.0$	in	$\geq$	$L_{vp} = 21.0$	in	HOOKS
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Check	$L_{vp} = 21.0$	in	$\geq$	$L_{dc,c} = 14.8$	in	OK
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**Vertical Rebar Hook Ending:**

Bar size & clear cover: [ACI 12.5.3]	$\alpha_h$ if the bar size $\leq 11$ and $slc \geq 2.5"$ , use 0.7, else use 1.0	$\psi_{Lh} = 0.7$
Epoxy coating: [ACI 12.5.2]	$\beta_h$ if epoxy-coated bars are used, use 1.2, else use 1.0	$\psi_{eh} = 1.0$
Light weight concrete: [ACI 12.5.2]	$\lambda_h$ if lightweight concrete is used, 1.3, else use 1.0	$\lambda_h = 1.0$
Development (hook): [ACI 12.5.2]	$L_{dh}' = 0.02 * \psi_{Lh} * \psi_{eh} * \lambda_h * F_y / \sqrt{F'c} * db_c$	$L_{dh}' = 15.0$ in
Minimum length: [ACI 12.5.1]	$L_{dh\_min}$ the larger of: 8 * db or 6 in	$L_{dh\_min} = 9.0$ in
Development length:	$L_{dh} = \text{MAX}(L_{dh\_min}, L_{dh}')$	$L_{dh} = 15.0$ in
	<b>Check</b> $L_{vp} = 21.0$ in $\geq$ $L_{dh} = 15.0$ in <b>OK</b>	
Hook tail length:	$L_{h\_tail} = 12 * db$ beyond the bend radius	$L_{h\_tail} = 19.2$ in
Length available in pad:	$L_{h\_pad} = (W - w' - d) / 2$	$L_{h\_pad} = 21$ in
	<b>Check</b> $L_{h\_pad} = 21.0$ in $\geq$ $L_{h\_tail} = 19.2$ in <b>OK</b>	

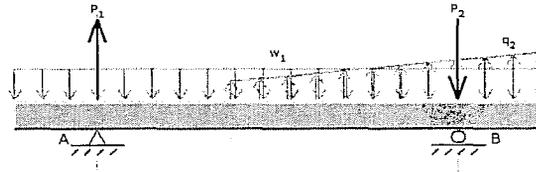
**Pier Ties:**

Minimum size: [ACI 7.10.5.1]	$s_{t\_min} = \text{IF}(s_c \leq 10, 3, 4)$	$s_{t\_min} = 3$
z factor:	$z = 0.5$ if the seismic zone is less than 2, else 1.0	$z = 0.5$
Tie parameters:	$s_t = 4$ $m_t = 13$	$d_{b,t} = 0.5$ in $A_{b,t} = 0.2$ in <sup>2</sup>
Allowable tie spacing:		
per vertical rebar [ACI 7.10.5.2] & [ACI 21.3.3.2]	$B_{s\_t\_max1} = 8 / z * db_c$	$B_{s\_t\_max1} = 18.048$ in
per tie size [ACI 7.10.5.2] & [ACI 21.3.3.2]	$B_{s\_t\_max2} = 24 / z * db_t$	$B_{s\_t\_max2} = 24$ in
per pier diameter [ACI 7.10.5.2] & [ACI 21.3.3.2]	$B_{s\_t\_max3} = di / (4 * z^2)$	$B_{s\_t\_max3} = 48$ in
per seismic zone [ACI 7.10.5.2] & [ACI 21.3.3.2]	$B_{s\_t\_max4} = 12"$ in active seismic zones, else 18"	$B_{s\_t\_max4} = 18$ in
	$B_{s\_t\_max} = \text{MIN}(B_{s\_t\_max1}, B_{s\_t\_max2}, B_{s\_t\_max3}, B_{s\_t\_max4})$	$B_{s\_t\_max} = 6$ in
	$m_{t\_min} = (D - T + E) / B_{s\_t\_max} + 2$	$m_{t\_min} = 13.0$
	<b>Check</b> $m_t = 13.0$ $\geq$ $m_{t\_min} = 13.0$ <b>OK</b>	

**Anchor Steel:**

A/S parameters:	$P_{as} = 123653$ $d_{as} = 1$ in	$L_{as} = 72$ in $E_{as} = 63.50$ in
Development available:	$L_{das}$ per Anchor Bolts (see attached)	$L_{das} = 49.00$ in
Required development:	$L_{das\_min}$ per Anchor Bolts (see attached)	$L_{das\_min} = 28.96$ in
	<b>Check</b> $L_{das} = 49.00$ in $\geq$ $L_{das\_min} = 28.96$ in <b>OK</b>	
To bottom rebar grid:	$E_{as\_max} = D + E - cc - 2 * db_p$	$E_{as\_max} = 85$ in
	<b>Check</b> $E_{as} = 63.50$ in $\leq$ $E_{as\_max} = 85.00$ in <b>OK</b>	
To top rebar grid:	rebar @ = $D + E - T + cc$	rebar @ = 69.00 in
	<b>Check</b> 69 + 6 in $\geq$ $E_{as} = 63.50$ in or $\leq$ 69 in <b>OK</b>	
Min. cage dia:	$d_{o\_min}$ per ancsteel.xls (see attached)	$d_{o\_min} = 32.28$ in
	<b>Check</b> $d_o = 42.00$ in $\geq$ $d_{o\_min} = 32.28$ in <b>OK</b>	

**Pad Reactions:**



**MDSolids Geometry Input (Option 1)**

Total Beam Length:	$B_{L2\_1} = W$	$B_{L2\_1} =$	36.5	ft
Location of Left Support:	$S_{L2\_1} = 0$	$S_{L2\_1} =$	5.693	ft
Location of Right Support:	$S_{R2\_1} = W - 0$	$S_{R2\_1} =$	30.81	ft

**MDSolids Geometry Input (Option 2)**

Total Beam Length:	$B_{L2\_2} = W$	$B_{L2\_2} =$	36.5	ft
Location of Left Support:	$S_{L2\_2} = (W - w) / 2$	$S_{L2\_2} =$	3.75	ft
Location of Right Support:	$S_{R2\_2} = S_{L1\_2} + w$	$S_{R2\_2} =$	32.75	ft

**MDSolids Load Input (Option 1 & Option 2)**

Uplift:	$P_{2\_1} = U$	$P_{2\_1} =$	546.0	kips
Compression:	$P_{2\_2} = C$	$P_{2\_2} =$	617.00	kips
Weight of Overburden: (Distributed)	$W_{2\_1} = 0.9 * (W_c + W_s) / W$	$W_{2\_1} =$	28.18	kif
		<i>Applied over the beam starting at 0' and ending at W=36.5ft.</i>		
Distributed Soil Pressure: (Linearly Increasing)	$q_{2\_2L} = 0$	$q_{2\_2L} =$	0.00	kif
	$q_{2\_2R} = q_a * W$	$q_{2\_2R} =$	171.86	kif
		<i>This linearly increasing load is applied from e=13.91ft to W=36.5ft</i>		

**MDSolids Design Result**

Option 1:	$M_{max2\_1} = M_{max2\_1}$ (Max. Moment calculated from MDSolids for Option 1)	$M_{max2\_1} =$	2095.00	ft*kips
Option 2:	$M_{max2\_2} = M_{max2\_2}$ (Max. Moment calculated from MDSolids for Option 2)	$M_{max2\_2} =$	1531.00	ft*kips
Max moment:	$M_{maxp} = \text{Max}(M_{max2\_1}, M_{max2\_2})$	$M_{maxp} =$	2095.00	ft*kips
Required moment: $\phi t = 0.9$ [ACI 9.3.2.1]	$M_n = M_{maxp} / \phi t$	$M_n =$	2327.78	ft*kips

**Pad Reinforcement:**

	$\beta = \text{IF}(F'c \leq 4000, 0.85, \text{IF}(F'c >= 8000, 0.65, 0.85 - (F'c - 4000) * 0.05))$	$\beta = 0.85$	
Effective width:	$W_e = w' * 0.866 + d_i$	$W_e = 29.114$ ft	
	$A_{st\_p}' = Mn / (0.9 * F_y * dc)$	$A_{st\_p}' = 25.233$ in <sup>2</sup>	
	$a_p = A_{st\_p}' * F_y / (\beta * F'c * W_e)$	$a_p = 1.27$ in	
Required steel:	$A_{st\_p\_st} = Mn / (F_y * (dc - a_p / 2)) * (W / W_e)$	$A_{st\_p\_st} = 29.385$ in <sup>2</sup>	
Shrinkage:	$\rho_{sh} = \text{IF}(F_y >= 60000, 0.0018, 0.002)$	$\rho_{sh} = 0.0018$	
	$A_{st\_p\_sh} = \rho_{sh} * W * T / 2$	$A_{st\_p\_sh} = 9.481$ in <sup>2</sup>	
	$A_{st\_p} = \text{MAX}(A_{st\_p\_st}, A_{st\_p\_sh})$	$A_{st\_p} = 29.385$ in <sup>2</sup>	
Rebar:	$s_p = 8$ Equally spaced, top and bottom, both directions.	$d_{b\_p} = 1$ in	
	$m_p = 38$	$A_{b\_p} = 0.79$ in <sup>2</sup>	
	$A_{s\_p} = A_{b\_p} * m_p$	$A_{s\_p} = 30.02$ in <sup>2</sup>	
	<b>Check</b> $A_{s\_p} = 30.02$ in <sup>2</sup> $\geq$ $A_{st\_p} = 29.38$ in <sup>2</sup>		<b>OK</b>
Bar separation:	$B_{s\_p} = (W - 2 * cc - db_p) / (m_p - 1) - db_p$	$B_{s\_p} = 10.65$ in	
	<b>Check</b> $11 \geq B_{s\_p} = 10.65$ in $\geq 4.5^*$		<b>OK</b>

**Pad Development Length:**

Reinforcement location: [ACI 12.2.4]	$\psi_{L\_p} =$ if the space under the rebar > 12 in, use 1.3, else use 1.0	$\psi_{L\_p} = 1.3$	
Epoxy coating: [ACI 12.2.4]	$\psi_{e\_p} =$ if epoxy-coated bars are not used, use 1.0; but if epoxy-coated bars are used, then if $B_s < 6 * db$ or $cc < 3 * db$ , use 1.5, else 1.2	$\psi_{e\_p} = 1.0$	
Max term: [ACI 12.2.4]	$\psi_i \psi_{e\_p} =$ the product of $\psi_i$ & $\psi_{e\_p}$ , need not be taken larger than 1.7	$\psi_i \psi_{e\_p} = 1.3$	
Reinforcement size: [ACI 12.2.4]	$\psi_{s\_p} =$ if the bar size is 6 or less, then use 0.8, else use 1.0	$\psi_{s\_p} = 1$	
Light weight concrete: [ACI 12.2.4]	$\lambda_p =$ if lightweight concrete is used, 1.3, else use 1.0	$\lambda_p = 1.0$	
Spacing/cover: [ACI 12.2.4]	$c_p =$ the smaller of: half the bar spacing or the concrete edge distance	$c_p = 3.50$ in	
Transverse bars: [ACI 12.2.3]	$k_{tr\_p} = 0$ in (per simplification)	$k_{tr\_p} = 0$ in	
Max term: [ACI 12.2.3]	$c_p' = \text{MIN}(2.5, (c_p + k_{tr\_p}) / db_p)$	$c_p' = 2.500$	
Excess reinforcement: [ACI 12.2.5]	$R_p = A_{st\_p} / A_{s\_p}$	$R_p = 0.98$	
Development (lansile): [ACI 12.2.2]	$L_d = (3 / 40) * (F_y / \sqrt{F'c}) * \psi_t \psi_{e\_p} * \psi_{s\_p} * \lambda_p * R_p * db_p / c_p'$	$L_d' = 36.2$ in	
Minimum length: [ACI 12.2.1]	$L_{d\_min} = 12$ inches	$L_{d\_min} = 12.0$ in	
Development length:	$L_{dp} = \text{MAX}(L_{d\_min}, L_{dp}')$	$L_{dp} = 36.2$ in	
Length available in pad:	$L_{pad} = (W / 2 - w' / 2) - cc$	$L_{pad} = 42.0$ in	
	<b>Check</b> $L_{pad} = 42.00$ in $\geq$ $L_{dp} = 36.22$ in		<b>OK</b>

**THIS SPREADSHEET IS SET UP FOR A MAXIMUM OF 56 BARS.  
MAXIMUM FACTORED MOMENT OF A CIRCULAR SECTION**

<b>Loading</b> (negative for compression)
Axial load = 546.00 kips

<b>Foundation</b>
<i>Concrete</i>
Pier diameter = 4.00 ft
Pier area = 1809.6 in <sup>2</sup>
<i>Reinforcement</i>
Clear cover = 3.00 in
Cage diameter = 3.41 ft
Bar size = 9
Bar diameter = 1.128 in
Bar area = 0.999 in <sup>2</sup>
Number of bars = 20

<b>Material Strengths</b>
Concrete compressive strength = 4000 psi
Reinforcement yield strength = 60000 psi
Modulus of elasticity = 29000 ksi
Reinforcement yield strain = 0.00207
Limiting compressive strain = 0.003

(per ACI 10.3.5 - OK)

<b>Seismic</b>
Seismic Zone = 1
Are hooks required? no

7/1/2013

**Minimum Area of Steel**

Required area of steel = 9.05 in<sup>2</sup>  
 Actual area of steel = 19.99 in<sup>2</sup> OK  
 Bar spacing = 5.47 in

**Axial Loading**

Load factor = 1.00  
 Reduction factor = 0.65575 (per ACI 9.3.1 & 2)  
 Factored axial load = 832.64 kips

**Neutral Axis**

Distance from extreme edge to neutral axis = 4.07 in  
 Equivalent compression zone factor = 0.85 (per ACI 10.2.7.3)  
 Distance from extreme edge to  
 Equivalent compression zone factor = 3.46 in  
 Distance from centroid to neutral axis = 19.93 in

**Compression Zone**

Area of steel in compression zone = 0.00 in<sup>2</sup>  
 Angle from centroid of pier to intersection of  
 equivalent compression zone and edge of pier = 31.13 deg  
 Area of concrete in compression = 58.03 in<sup>2</sup>  
 Force in concrete =  $0.85 * f_c * Acc$  = 197.31 kips (per ACI 10.3.6.2)  
 Total reinforcement forces = -1029.95 kips  
 Factored axial load = 832.64 kips  
 Force in concrete = -197.31 kips  
  
 Sum of the forces in concrete = 0.00 kips OK

**Maximum Moment**

First moment of the concrete area in compression about the centroid = 1273.00 in<sup>3</sup>  
 Distance between centroid of concrete in compression and centroid of pier = 21.94 in  
 Moment of concrete in compression = 4328.20 in-kips  
 Total reinforcement moment = 3360.06 in-kips  
 Nominal moment strength of column = 7688.26 in-kips  
 Factored moment strength of column = 5041.55 in-kips 420.13 ft-kips

Maximum allowable moment of the pier = 420.13 ft-kips
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Individual Bars

Bar #	Angle from first bar (deg)	Distance to centroid (in)	Distance to neutral axis (in)	Distance to equivalent comp. zone (in)	Strain	Area of steel in compression (in <sup>2</sup> )	Axial force (kips)	Moment (in-kips)
1	0.00	0.00	-19.93	-20.54	-0.01471	0.00	-59.96	0.00
2	18.00	6.32	-13.62	-14.23	-0.01005	0.00	-59.96	-378.65
3	36.00	12.01	-7.92	-8.53	-0.00585	0.00	-59.96	-720.23
4	54.00	16.53	-3.40	-4.01	-0.00251	0.00	-59.96	-991.32
5	72.00	19.44	-0.50	-1.11	-0.00037	0.00	-10.68	-207.50
6	90.00	20.44	0.50	-0.11	0.00037	0.00	10.72	218.99
7	108.00	19.44	-0.50	-1.11	-0.00037	0.00	-10.68	-207.50
8	126.00	16.53	-3.40	-4.01	-0.00251	0.00	-59.96	-991.32
9	144.00	12.01	-7.92	-8.53	-0.00585	0.00	-59.96	-720.23
10	162.00	6.32	-13.62	-14.23	-0.01005	0.00	-59.96	-378.65
11	180.00	0.00	-19.93	-20.54	-0.01471	0.00	-59.96	0.00
12	198.00	-6.32	-26.25	-26.86	-0.01937	0.00	-59.96	378.65
13	216.00	-12.01	-31.95	-32.56	-0.02358	0.00	-59.96	720.23
14	234.00	-16.53	-36.47	-37.08	-0.02691	0.00	-59.96	991.32
15	252.00	-19.44	-39.37	-39.98	-0.02906	0.00	-59.96	1165.36
16	270.00	-20.44	-40.37	-40.98	-0.02979	0.00	-59.96	1225.34
17	288.00	-19.44	-39.37	-39.98	-0.02906	0.00	-59.96	1165.36
18	306.00	-16.53	-36.47	-37.08	-0.02691	0.00	-59.96	991.32
19	324.00	-12.01	-31.95	-32.56	-0.02358	0.00	-59.96	720.23
20	342.00	-6.32	-26.25	-26.86	-0.01937	0.00	-59.96	378.65

**DEVELOPMENT LENGTH CHECK OF PIER REINFORCEMENT**

Foundation:	Pier diameter = 4.0 ft	Cover between side of pier and cage = 3.00 in.
	Cage diameter = 3.5 ft	Cover between top of pier and cage = 3.00 in.
	Rebar size = 8	Compressive strength of concrete = 4000 psi
	Number of bars = 38	Rebar yield strength = 60000 psi
	Clear spacing = 10.65 in.	
	Are there hooks? n	
	Check Compression? n	
Anchor Steel:	Part number: 123653	Actual Bending Moment = 291.50 ft-kips
	Embedment length = 63.5 in.	Allowable Bending Moment = 420.13 ft-kips
	Bolt Diameter = 1"	Excess Reinforcement Ratio = 0.694
Anchor Plate:	Part number: 227216	
	Plate width = 19 in.	
Required development length (compression) =	999.00 in.	
Required development length (tension) =	41.73 in.	
Required development length (tension) =	28.96 in.	(reduced)
Available development length =	49.000 in.	

**OK**

The length available in the pier for the development of the vertical reinforcement exceeds the required length (ACI 318-02, section 12.2).

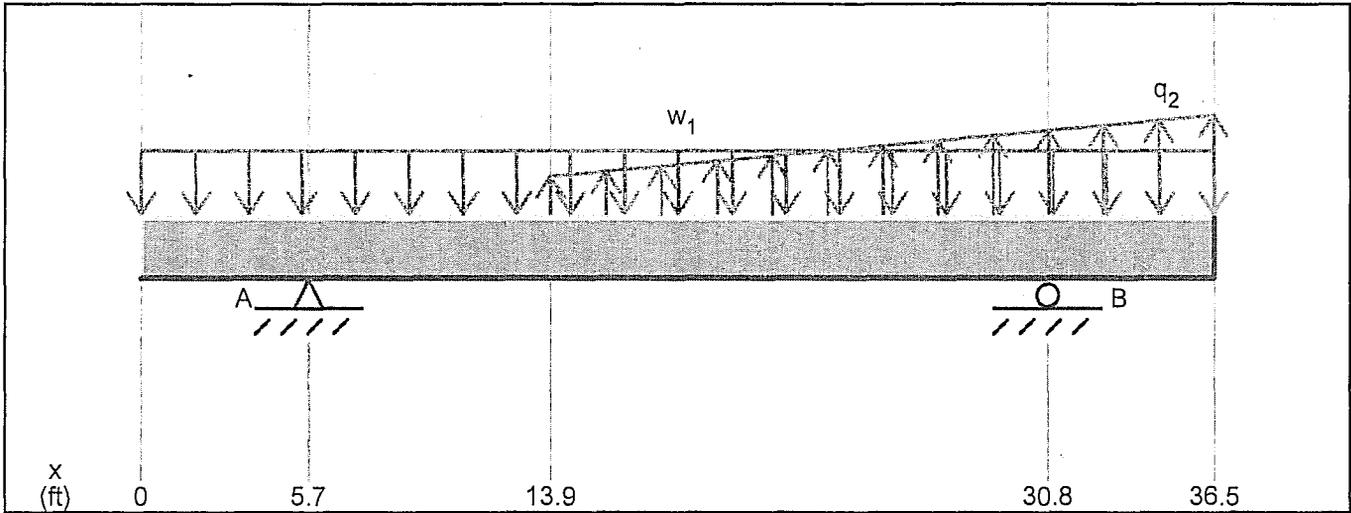
**CHECK EMBEDMENT PLATE CLEARANCE IN THE PIER**

Foundation:	Pier diameter = 4.0 ft	Cover between side of pier and cage = 3.00 in.
	Cage diameter = 3.5 ft	Minimum cover between A/S and cage = 3.00 in.
Anchor Steel:	Part number: 123653	Angle of anchor steel in foundation = 3.3 degrees
	Embedment length = 63.5 in.	
Anchor Plate:	Part number: 227216	
	Largest plate width = 19.00 in.	
	Bolt Diameter = 1 in.	
	Minimum cage diameter = 32.28 in.	
	Actual cage diameter = 42 in.	

**OK**

The available space exceeds the minimum cage diameter required for anchor steel installed in the pier at an angle.

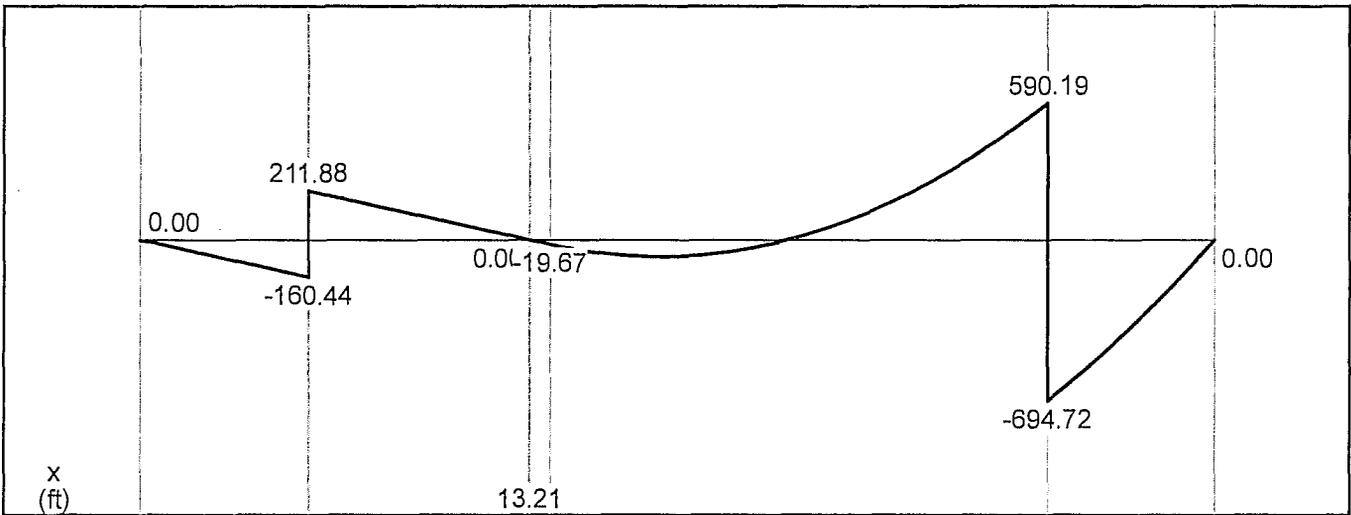
LC2- Option 1



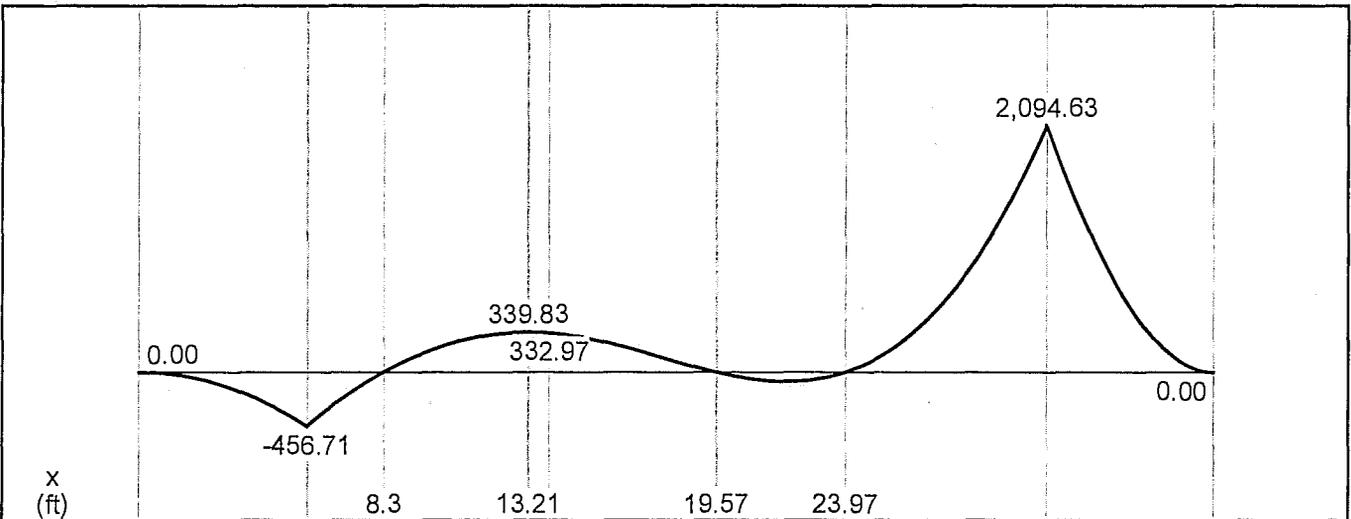
Load Diagram

$w_1 = 28.18$  kip/ft (down)  
 $q_2 = 0.0$  to  $171.86$  kip/ft (up)

$A_y = 372.32$  kip (up)  
 $B_y = 1,284.91$  kip (down)

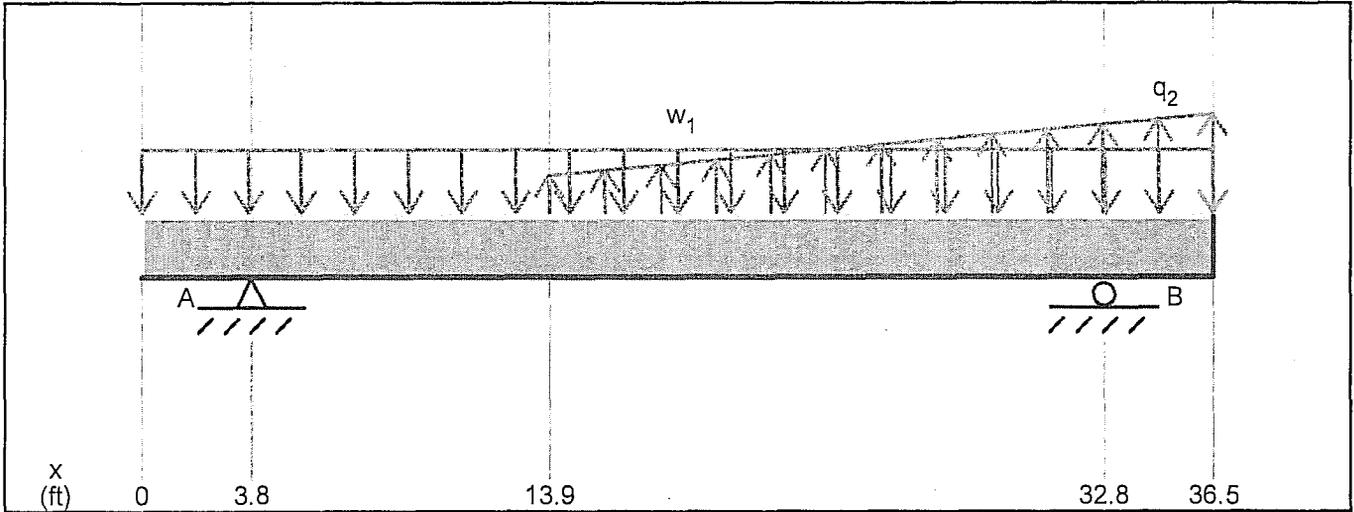


Shear Diagram (kip)



Moment Diagram (kip-ft)

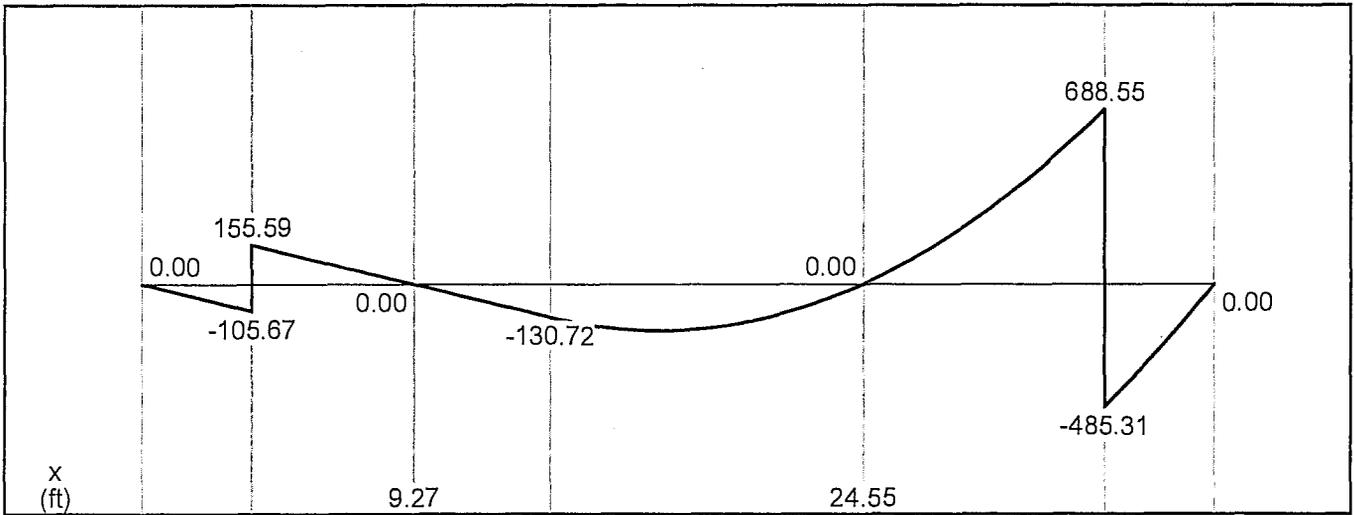
LC2- Option 2



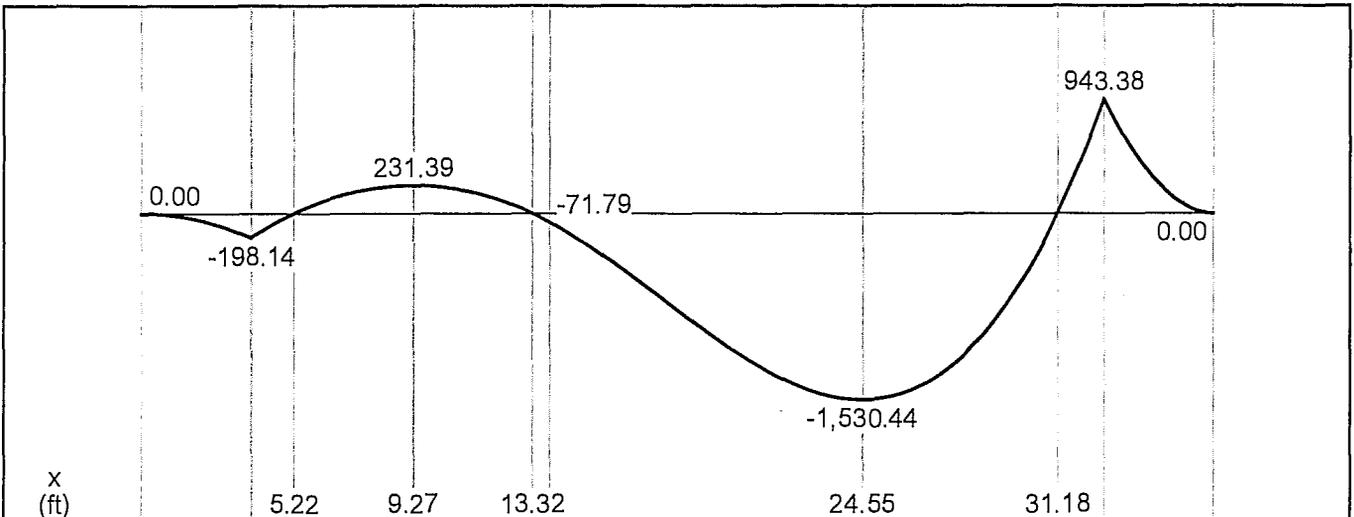
Load Diagram

$w_1 = 28.18$  kip/ft (down)  
 $q_2 = 0.0$  to  $171.86$  kip/ft (up)

$A_y = 261.27$  kip (up)  
 $B_y = 1,173.85$  kip (down)



Shear Diagram (kip)



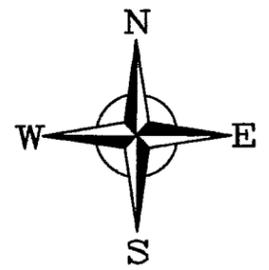
Moment Diagram (kip-ft)



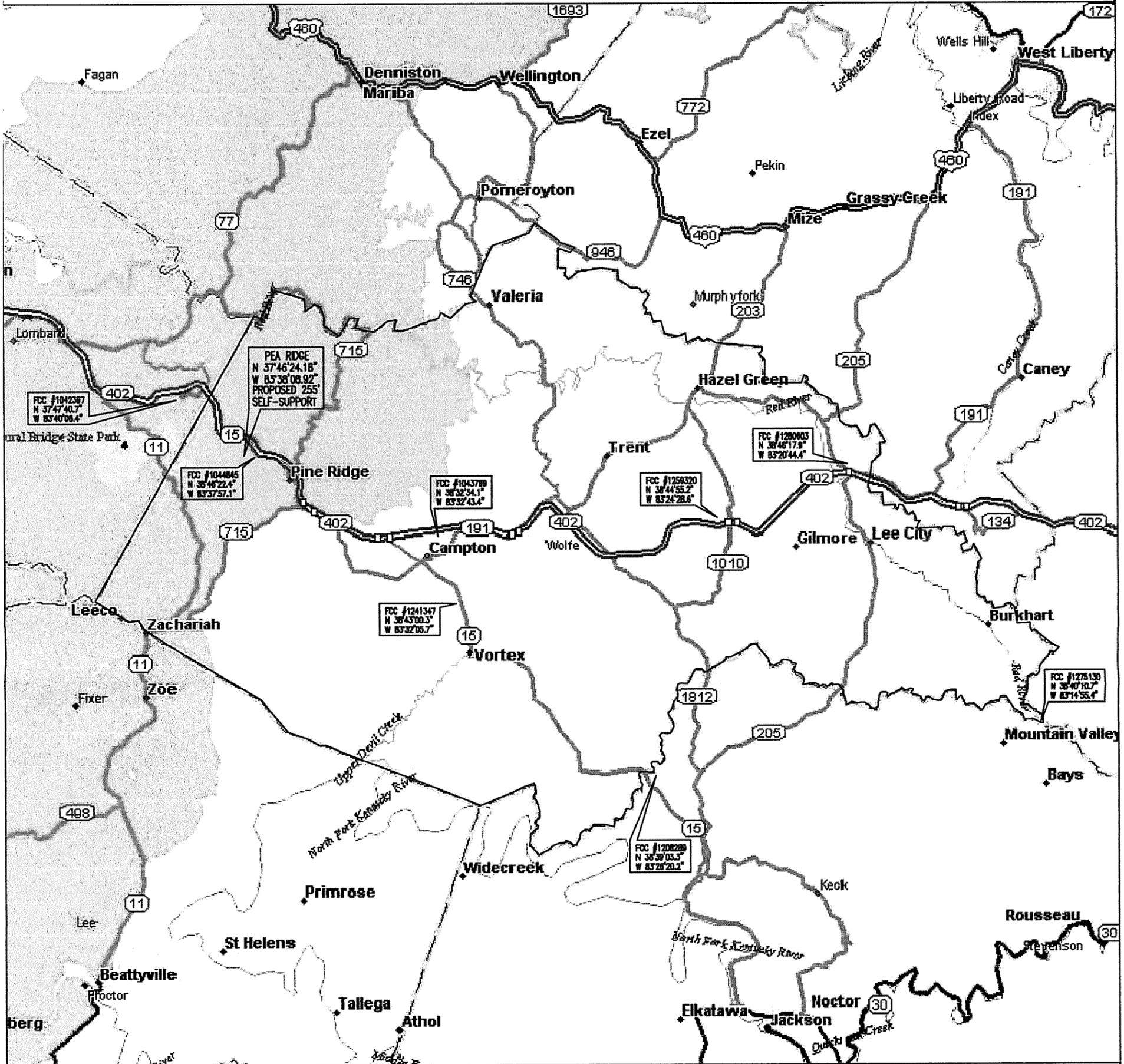
**EXHIBIT D**  
**COMPETING UTILITIES, CORPORATIONS, OR PERSONS LIST**  
**AND MAP OF LIKE FACILITIES IN VICINITY**

# WOLFE COUNTY, KENTUCKY

AT&T SITE NAME: PEA RIDGE  
TOWER LOCATION EXHIBIT



TOWERS DEPICTED ARE ALL KNOWN CONSTRUCTED TOWER SITES REGISTERED WITH THE FEDERAL COMMUNICATIONS COMMISSION IN WOLFE COUNTY, KENTUCKY

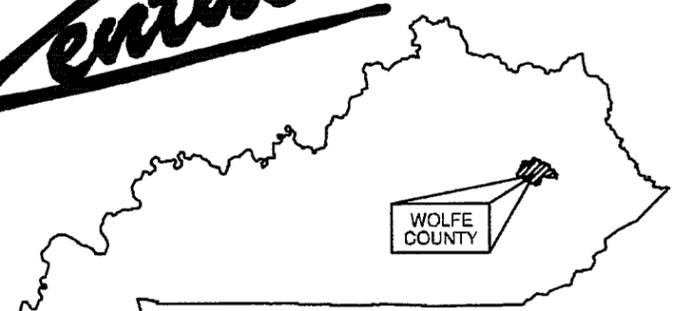


7.5 MINUTE U.S.G.S. QUADRANGLE MAP (NOT TO SCALE)

SEPTEMBER, 05 2013  
FSTAN PROJECT NO. 13-8701

Registration #	Status	File #	Owner Name
1043799	Constructed	A0796341	New Cingular Wireless PCS, LLC
1044845	Constructed	A0549941	KENTUCKY, COMMONWEALTH OF DBA - KENTUCKY EMERGENCY WARNING SYSTEM KEWS
1241347	Constructed	A0656422	East Kentucky Network, LLC d/b/a Appalachian Wireless
1259320	Constructed	A0656445	East Kentucky Network, LLC d/b/a Appalachian Wireless
1275130	Constructed	A0840051	American Towers, LLC.
1280603	Constructed	A0737491	East Kentucky Network, LLC d/b/a Appalachian Wireless
1042397	Constructed	A0656386	East Kentucky Network, LLC d/b/a Appalachian Wireless
1208289	Constructed	A0656404	East Kentucky Network, LLC d/b/a Appalachian Wireless

*Kentucky*



**FStan**

F.S. Land Company  
T. Alan Neal Company  
Land Surveyors and Consulting Engineers

P.O. Box 17546 2313/2315 Crittenden Drive, Louisville, KY. 40217  
Phone (502) 636-5866 (502) 636-5111 Fax (502) 636-5263

## License Search

**Search Results**

## Specified Search

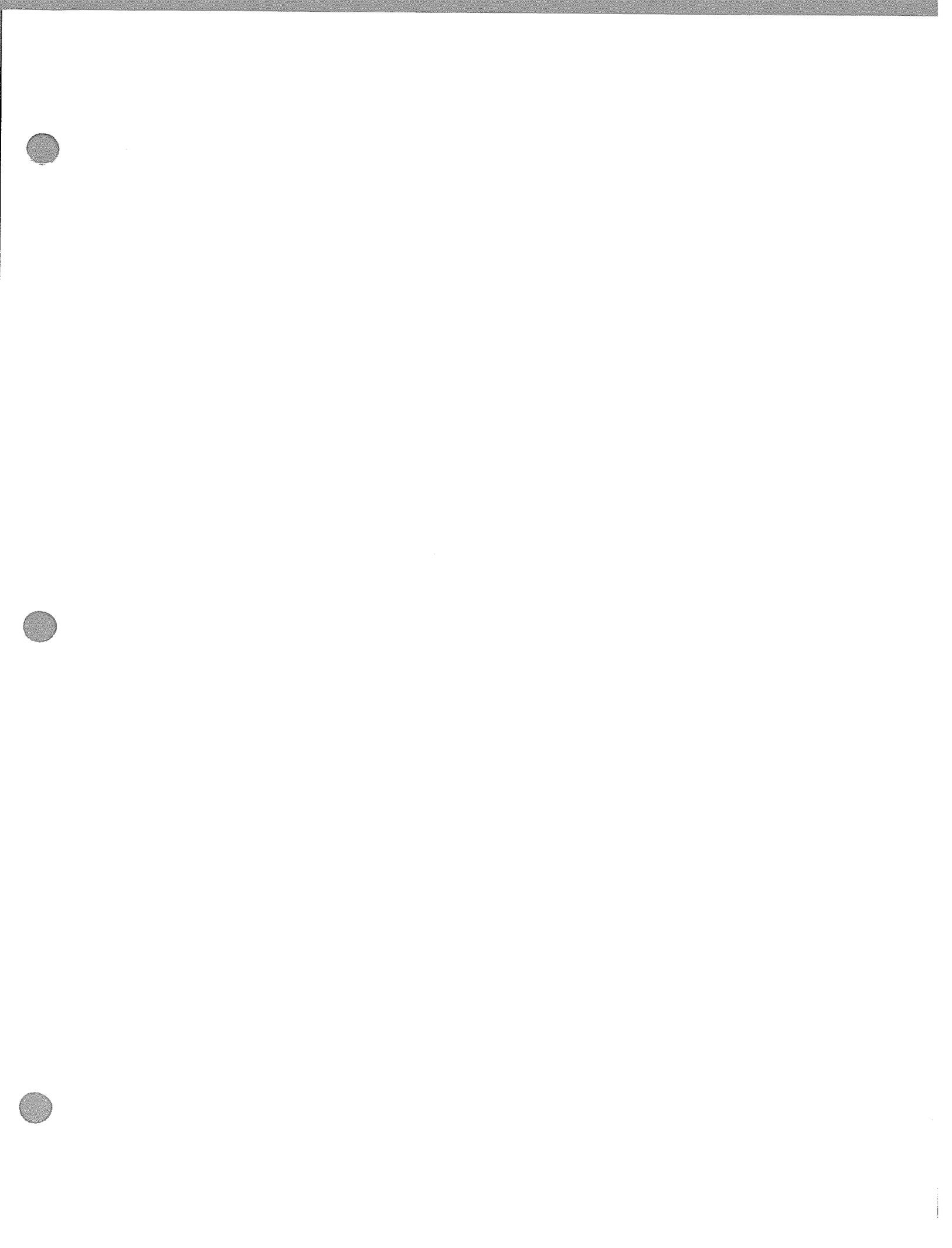
State = **Kentucky**  
 County = **WOLFE**  
 Radio Service = **AW, CL, CW, WU**  
 Status = **Active**

Matches 1- 34 (of 34 )

**PA** = Pending Application(s)  
**TP** = Termination Pending  
**L** = Lease

	Call Sign/Lease ID	Name	FRN	Radio Service	Status	Expiration Date
1	<b>PA</b> KNKN809	East Kentucky Network, LLC d/b/a Appalachian Wireless	0001786607	CL	Active	10/01/2021
2	KNKN841	NEW CINGULAR WIRELESS PCS, LLC	0003291192	CL	Active	10/01/2021
3	KNLF252	WIRELESSCO, L.P.	0002316545	CW	Active	06/23/2015
4	<b>PA</b> KNLH256	Cellco Partnership	0003290673	CW	Active	04/28/2017
5	<b>PA</b> KNLH398	Powertel Memphis Licenses, Inc.	0001832807	CW	Active	04/28/2017
6	<b>PA</b> KNLH399	Powertel Memphis Licenses, Inc.	0001832807	CW	Active	04/28/2017
7	L000008141	GTE Mobilnet of Florence, Alabama Incorporated	0001573518	WU	Active	06/13/2019
8	L000008142	Topeka Cellular Telephone Company, Inc.	0005068713	WU	Active	06/13/2019
9	<b>PA</b> L000008150	Tuscaloosa Cellular Partnership	0001573104	WU	Active	06/13/2019
10	L000008155	Kentucky RSA No. 1 Partnership	0001836709	WU	Active	06/13/2019
11	L000008156	Missouri RSA 2 Limited Partnership	0019468784	WU	Active	06/13/2019
12	L000008157	Missouri RSA 4 Limited Partnership	0019468800	WU	Active	06/13/2019
13	L000008169	St. Joseph CellTelCo	0005005541	WU	Active	06/13/2019
14	L000008489	Illinois RSA 6 and 7 Limited Partnership	0002842334	WU	Active	06/13/2019
15	L000008492	Alltel Central Arkansas Cellular Limited Partnership	0001722008	WU	Active	06/13/2019
16	L000008494	Alltel Communications Wireless, Inc.	0020532149	WU	Active	06/13/2019
17	L000008506	Arkansas RSA #2 (Searcy County) Cellular Limited Partnership	0004989638	WU	Active	06/13/2019
18	L000008543	Missouri RSA #15 Limited Partnership	0002533610	AW	Active	06/13/2019
19	L000008544	Missouri RSA #15 Limited Partnership	0002533610	WU	Active	06/13/2019
20	L000008574	Northwest Arkansas RSA Limited Partnership	0001837178	WU	Active	06/13/2019
21	L000008622	Southern Indiana RSA Limited Partnership	0001837269	AW	Active	06/13/2019
22	L000008624	Southern Indiana RSA Limited Partnership	0001837269	WU	Active	06/13/2019
23	L000010763	East Kentucky Network, LLC d/b/a Appalachian Wireless	0001786607	WU	Active	06/13/2019
24	WPOI255	NEW CINGULAR WIRELESS PCS, LLC	0003291192	CW	Active	06/23/2015
25	<b>PA</b> WQCS428	Cellco Partnership	0003290673	CW	Active	05/13/2015
26	<b>PA</b> WQCX683	T-Mobile License LLC	0001565449	CW	Active	06/20/2015
27	WQDI527	Cricket License Company, LLC	0018402123	CW	Active	09/06/2015
28	<b>PA</b> WQGA718 <b>L</b>	Cellco Partnership	0003290673	AW	Active	11/29/2021
29	WQGA823	New Cingular Wireless PCS, LLC	0003291192	AW	Active	11/29/2021
30	<b>PA</b> WQGA940	Cellco Partnership	0003290673	AW	Active	11/29/2021
31	<b>PA</b> WQGB377 <b>L</b>	T-Mobile License LLC	0001565449	AW	Active	11/29/2021
32	WQGD755	Cricket License Company, LLC	0018402123	AW	Active	12/18/2021
33	<b>PA</b> WQJQ692 <b>L</b>	Cellco Partnership	0003290673	WU	Active	06/13/2019
34	<b>PA</b> WQSL582	T-Mobile License LLC	0001565449	AW	Active	04/30/2022

Call Sign/Lease ID	Name	FRN	Radio Service	Status	Expiration Date
--------------------	------	-----	---------------	--------	-----------------



**EXHIBIT E**  
**CO-LOCATION REPORT**

4/3/14

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

RE: Alternate Site Analysis Report  
Uniform Application for a Communications Facility  
Applicant: AT&T Mobility  
Site Location: 395 Miller Ridge Road, Pine Ridge, KY 41360  
Site Name: Pea Ridge

Dear Commissioners:

This report is provided to explain the site development process used by the Applicant to identify the site selected for the new wireless communications facility proposed in the accompanying Application.

### **AT&T Mobility Site Development Process**

**Step 1: Problem Identification.** AT&T Mobility radio frequency engineers first identified a growing coverage and/or capacity gap in an area of Wolfe County near Campton, Kentucky.

**Step 2: Search Ring.** To help guide the site development team's task of identifying a suitable location for a new wireless communications facility site, AT&T Mobility's radio frequency engineers identified the geographic area where the antenna site must be located in order to close the gap and issued a map (called a Search Ring) that identified the general area in which a new site must be located. In this instance, the search ring has a radius of 0.8 mile from the search ring center coordinates (37.786865 N, -83.635926 W). A copy of the Search Ring for this site is attached as Exhibit A. The area contains a mix of federally-owned forest parcels and rural residential parcels located the near Bert Combs Mountain Parkway.

**Step 3: Co-location Review.** The site development team first reviewed the area within the Search Ring for a suitable tall structure for co-location. In this case, there is one existing FCC-registered structure within the search ring, an approximately 262-foot tall guyed tower owned by the Commonwealth of Kentucky (ASR# 1044845) located at (37.772988 N, -83.632652). However, this tower is loaded with existing equipment and will not structurally support the addition of AT&T Mobility's proposed equipment. Also, the property owner is not willing to lease additional ground space near the structure for an equipment shelter.

**Step 4: Review of the Area's Zoning Classification.** Once the site development team determined that there are no available existing tall structures which are technically feasible and suitable for co-location, the team next reviewed local zoning requirements to identify parcels located within the search area that might be suitable from a land use perspective

to host an antenna site. In this case, the selected site is located in an unincorporated portion of Wolfe County, and there is no applicable zoning district.

**Step 5: Preliminary Inspection and Assessment of Suitable Parcels.** After determining that zoning regulations do not apply to parcels within the search area, the site development team visited the parcels and performed a preliminary inspection. The purpose of the preliminary inspection is: (1) to confirm the availability of sufficient land space for the proposed facility; (2) to identify a specific location for the facility on the parcel; (3) to identify any recognized environmental conditions that would disqualify the parcel from consideration; (4) to identify any construction issues that would disqualify the candidate; and, (5) to assess the potential impact of the facility on neighboring properties.

**Step 6: Candidate Evaluation and Selection.** After the preliminary site assessments were performed, the site development team evaluated potential locations based on the availability of ground space, topography, applicable environmental conditions, construction feasibility and the potential impact of the facility on neighboring properties. The owners of parcel 012-00-00-023.00 were interested in leasing ground space, and a site location on these parcels was confirmed to satisfy AT&T's radio frequency service objectives by AT&T's radio frequency engineer.

**Step 7: Leasing and Due Diligence.** Once a suitable candidate was selected, lease negotiations were commenced and site due diligence steps were performed, as described below.

Leasehold Due Diligence:

- A Title Report was obtained and reviewed to ensure that there are no limitations on the landowner's capacity to lease and to address any title issues.
- A site survey was obtained to identify the location of parcel features, boundaries, easements and other encumbrances revealed by the title search.

Engineering Due Diligence:

- Utility access identified.
- Grounding plan designed.
- Geotechnical soil analysis performed to determine foundation requirements.
- Foundations designed to meet the Kentucky Building Code lateral and subjacent support requirements.
- Site plan developed.

Environmental Due Diligence:

A Phase I Environmental Site Assessment ("ESA") investigation was performed to establish the pre-existing types and amounts of contamination at a site, and to establish that the leaseholder is innocent of liability for the costs of performing environmental cleanup work that might arise from pollution or contamination of the site caused by a third party.

In addition to performing a Phase 1 ESA, the site was also evaluated for potential impacts under the National Environmental Policy Act (NEPA), submitted to the State Historic Preservation Office for review of potential impacts to historic structures or districts, and submitted to the registered Tribal Historic Preservation Office so that registered Native American nations had the opportunity to review potential impacts on native religious, ceremonial, or cultural resources.

#### Federal Regulatory Approvals

- Federal Aviation Administration (“FAA”) compliance.
- Federal Communication Commission (“FCC”) compliance.

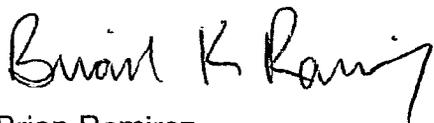
In this case, the selected site candidate satisfied the above criteria.

**Step 8: Application.** Once a lease is obtained and all site due diligence is completed, AT&T Mobility prepared and filed the accompanying uniform application to construct, maintain and operate a communications facility.

#### Conclusion

Applicant’s site identification and selection process aims to identify the least intrusive of all the technically feasible parcels in a service need area. In this case, the property meets the radio frequency site design objective and provides appropriate separation from other properties in the area.

Sincerely,

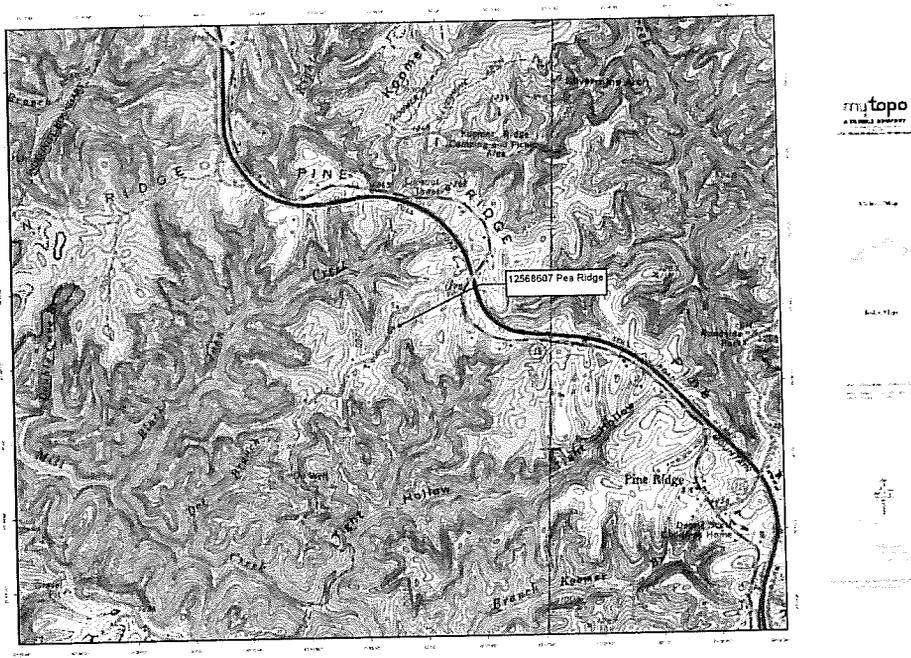


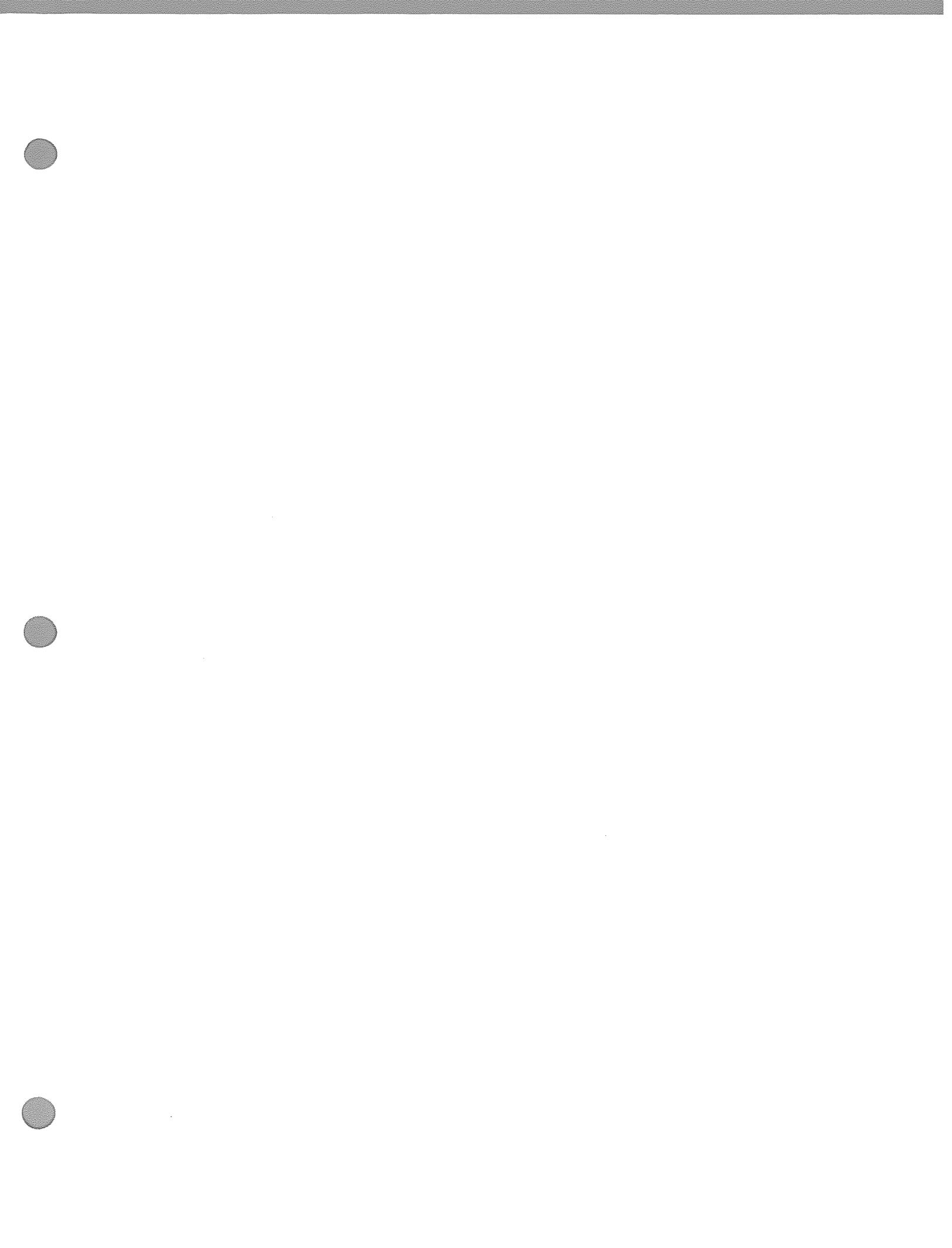
Brian Ramirez  
Site Acquisition Agent  
PBM Wireless Services  
13714 Smokey Ridge Overlook  
Carmel, Indiana 46033  
(317) 225-6075



# EXHIBIT B

## Topographical Map





**EXHIBIT F**  
**FAA**



Mail Processing Center  
 Federal Aviation Administration  
 Southwest Regional Office  
 Obstruction Evaluation Group  
 2601 Meacham Boulevard  
 Fort Worth, TX 76193

Aeronautical Study No.  
 2013-ASO-11700-OE

Issued Date: 01/14/2014

Regulatory Compliance FAA FCC  
 American Tower, LLC  
 10 Presidentail Way  
 Woburn, MA 01801

**\*\* DETERMINATION OF NO HAZARD TO AIR NAVIGATION \*\***

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure: Antenna Tower 281378 - Pea Ridge KY  
 Location: Pine Ridge, KY  
 Latitude: 37-46-24.18N NAD 83  
 Longitude: 83-38-08.92W  
 Heights: 1280 feet site elevation (SE)  
 265 feet above ground level (AGL)  
 1545 feet above mean sea level (AMSL)

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

As a condition to this Determination, the structure is marked/lighted in accordance with FAA Advisory circular 70/7460-1 K Change 2, Obstruction Marking and Lighting, a med-dual system - Chapters 4,8(M-Dual),&12.

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

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

This determination expires on 07/14/2015 unless:

- (a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
- (b) extended, revised, or terminated by the issuing office.
- (c) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

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

This determination is based, in part, on the foregoing description which includes specific coordinates , heights, frequency(ies) and power . Any changes in coordinates , heights, and frequencies or use of greater power will void this determination. Any future construction or alteration , including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA.

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

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

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

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

If we can be of further assistance, please contact our office at (847) 294-8084. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2013-ASO-11700-OE.

**Signature Control No: 204127795-205405949**

( DNE )

Carole Bernacchi  
Technician

Attachment(s)  
Frequency Data

cc: FCC

**Frequency Data for ASN 2013-ASO-11700-OE**

<b>LOW FREQUENCY</b>	<b>HIGH FREQUENCY</b>	<b>FREQUENCY UNIT</b>	<b>ERP</b>	<b>ERP UNIT</b>
698	806	MHz	1000	W
806	824	MHz	500	W
824	849	MHz	500	W
851	866	MHz	500	W
869	894	MHz	500	W
896	901	MHz	500	W
901	902	MHz	7	W
930	931	MHz	3500	W
931	932	MHz	3500	W
932	932.5	MHz	17	dBW
935	940	MHz	1000	W
940	941	MHz	3500	W
1850	1910	MHz	1640	W
1930	1990	MHz	1640	W
2305	2310	MHz	2000	W
2345	2360	MHz	2000	W



**EXHIBIT G**  
**KENTUCKY AIRPORT ZONING COMMISSION**



KENTUCKY AIRPORT ZONING COMMISSION

APPLICATION FOR PERMIT TO CONSTRUCT OR ALTER A STRUCTURE

<b>APPLICANT (name)</b> American Towers, Inc		<b>PHONE</b> (781) 926-7126	<b>FAX</b>	<b>KY AERONAUTICAL STUDY #</b>	
<b>ADDRESS (street)</b> 10 Presidential Way		<b>CITY</b> Woburn		<b>STATE</b> MA	<b>ZIP</b> 01801
<b>APPLICANT'S REPRESENTATIVE (name)</b>		<b>PHONE</b>	<b>FAX</b>		
<b>ADDRESS (street)</b>		<b>CITY</b>		<b>STATE</b>	<b>ZIP</b>
<b>APPLICATION FOR</b> <input checked="" type="checkbox"/> New Construction <input type="checkbox"/> Alteration <input type="checkbox"/> Existing				<b>WORK SCHEDULE</b>	
<b>DURATION</b> <input type="checkbox"/> Permanent <input type="checkbox"/> Temporary (months days )				Start End	
<b>TYPE</b> <input type="checkbox"/> Crane <input type="checkbox"/> Building <input checked="" type="checkbox"/> Antenna Tower <input type="checkbox"/> Power Line <input type="checkbox"/> Water Tank <input type="checkbox"/> Landfill <input type="checkbox"/> Other		<b>MARKING/ PAINTING/ LIGHTING PREFERRED</b> <input type="checkbox"/> Red Lights & Paint <input type="checkbox"/> White- medium intensity <input type="checkbox"/> White- high intensity <input checked="" type="checkbox"/> Dual- red & medium intensity white <input type="checkbox"/> Dual- red & high intensity white <input type="checkbox"/> Other			
<b>LATITUDE</b> 37°46'24.18"		<b>LONGITUDE</b> 83°38'8.92"		<b>DATUM</b> <input checked="" type="checkbox"/> NAD83 <input type="checkbox"/> NAD27 <input type="checkbox"/> Other	
<b>NEAREST KENTUCKY</b> City PINE RIDGE County WOLFE		<b>NEAREST KENTUCKY PUBLIC USE OR MILITARY AIRPORT</b>			
<b>SITE ELEVATION (AMSL, feet)</b> 1280		<b>TOTAL STRUCTURE HEIGHT (AGL, feet)</b> 265		<b>CURRENT (FAA aeronautical study #)</b> 2013-ASO-11700-OE	
<b>OVERALL HEIGHT (site elevation plus total structure height, feet)</b> 1545				<b>PREVIOUS (FAA aeronautical study #)</b>	
<b>DISTANCE (from nearest Kentucky public use or Military airport to structure)</b>				<b>PREVIOUS (KY aeronautical study #)</b>	
<b>DIRECTION (from nearest Kentucky public use or Military airport to structure)</b>					
<b>DESCRIPTION OF LOCATION (Attach USGS 7.5 minute quadrangle map or an airport layout drawing with the precise site marked and any certified survey.)</b> Please see map					
<b>DESCRIPTION OF PROPOSAL</b> Proposed tower					
<b>FAA Form 7460-1 (Has the "Notice of Construction or Alteration" been filed with the Federal Aviation Administration?)</b> <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes, when? 12/19/2013					
<b>CERTIFICATION (I hereby certify that all the above entries, made by me, are true, complete, and correct to the best of my knowledge and belief.)</b>					
<b>PENALTIES (Persons failing to comply with KRS 183.861 to 183.990 and 602 KAR 050 are liable for fines and/or imprisonment as set forth in KRS 183.990(3). Noncompliance with FAA regulations may result in further penalties.)</b>					
<b>NAME</b> Katie Miller	<b>TITLE</b> Compliance	<b>SIGNATURE</b> Katie Miller		<b>DATE</b> 01/13/2014	
<b>COMMISSION ACTION</b>					
<input type="checkbox"/> Chairperson, KAZC <input type="checkbox"/> Administrator, KAZC					
<input type="checkbox"/> Approved	<b>SIGNATURE</b>		<b>DATE</b>		
<input type="checkbox"/> Disapproved					



## APPLICATION FOR PERMIT TO CONSTRUCT OR ALTER A STRUCTURE

### JURISDICTION

602 KAR 50:030

Section 1. The commission has zoning jurisdiction over that airspace over and around the public use and military airports within the Commonwealth which lies above the imaginary surface that extends outward and upward at one (1) of the following slopes:

- (1) 100 to one (1) for a horizontal distance of 20,000 feet from the nearest point of the nearest runway of each public use airport and military airport with at least one (1) runway 3,200 feet or more in length; or
- (2) fifty (50) to one (1) for a horizontal distance of 10,000 feet from the nearest point of the nearest runway of each public use and military airport with its longest runway less than 3,200 feet in length.

Section 2. The commission has zoning jurisdiction over the use of land and structures within public use airports within the state.

Section 3. The commission has jurisdiction from the ground upward within the limits of the primary and approach surfaces of each public use airport and military airport as depicted on airport zoning maps approved by the Kentucky Airport Zoning Commission.

Section 4. The Commission has jurisdiction over the airspace of the Commonwealth that exceeds 200 feet in height above the ground.

Section 5. The owner or person who has control over a structure which penetrates or will penetrate the airspace over which the Commission has Jurisdiction shall apply for a permit from the Commission in accordance with 602 KAR 50:090.

### INSTRUCTIONS

1. "Alteration" means to increase or decrease the height of a structure or change the obstruction marking and lighting.
2. "Applicant" means the person who will own or have control over the completed structure.
3. "Certification by Applicant" shall be made by the individual who will own or control the completed structure; or a partner in a partnership; or the president or authorized officer of a corporation company, or association; or the authorized official of a body politic; or the legally designated representative of a trustee, receiver, or assignee.
4. Prepare the application and forward to the administrator, Kentucky Airport Zoning Commission, Department of Aviation, 90 Airport Rd., Building 400, Frankfort, KY 40601. For questions, telephone 502-564-4480.
5. The statutes applicable to the Kentucky Airport Commission are KRS 183.861 to 183.990 and the administrative regulations are 602 KAR Chapter 50.
6. When applicable, attaché the following appendices to the application:

Appendix A. A 7.5 minute quadrangle topographical map prepared by the U.S Geological Survey and the Kentucky Geological Survey with the exact location of the structure which is the subject of the application indicated thereon. (*The 7.5 minute quadrangle map may be obtained from the Kentucky Geological Survey, Department of Mines and Minerals, Lexington, KY 40506.*)

Appendix B. For structures on or very near to property of a public use airport, a copy of the airport layout drawing (ALP) with the exact location of the structure which is the subject of this application indicated thereon. (*The ALP may be obtained from the Chairperson of the local airport board or the Department of Aviation.*)

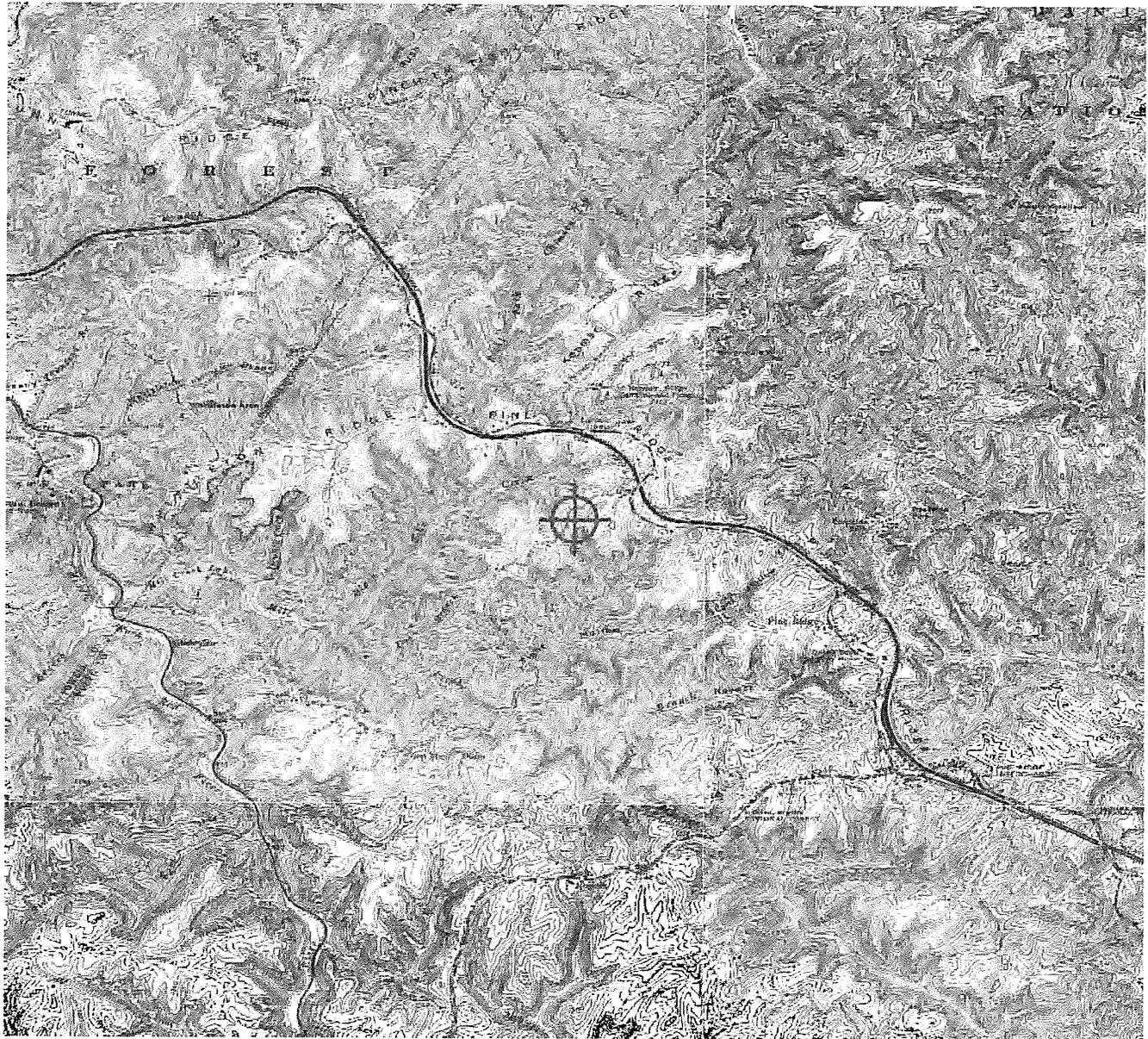
Appendix C. Copies of Federal Aviation Administration Applications (*FFA Form 7460-1*) or any orders issued by the manager, Air Traffic Division, FAA regional office.

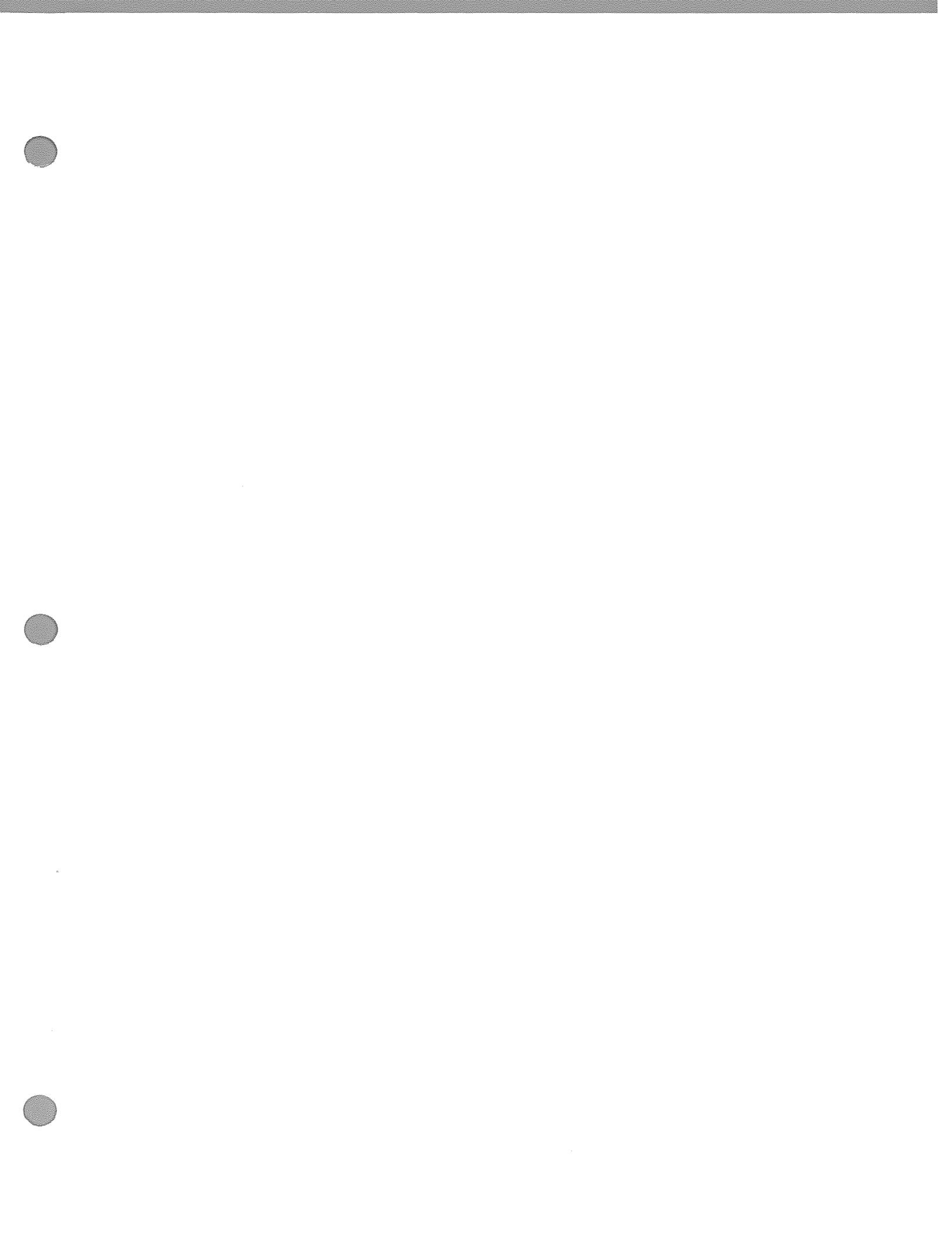
Appendix D. If the applicant has indicated in item number 7 of the application that the structure will not be marked or lighted in accordance with the regulations of the Commission, the applicant shall attach a written request for a determination by the commission that the marking and lighting are not necessary. The applicant shall specifically state the reasons that the absence of marking and lighting will not impair the safety of air navigation.

Appendix E. The overall height in feet of the overhead transmission line or static wire above ground level or mean water level with span length 1,000 feet and over shall be depicted on a blueprint profile map.

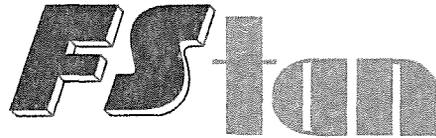
### PENALTIES

1. Persons failing to comply with the Airport Zoning Commission statutes and regulations are liable for a fine or imprisonment as set forth in KRS 183.990(3).
2. Applicants are cautioned: Noncompliance with Federal Aviation Administration Regulations may provide for further penalties.





**EXHIBIT H  
GEOTECHNICAL REPORT**



**Land Surveyors & Consulting Engineers**

***GEOTECHNICAL ENGINEERING STUDY***

Proposed Pea Ridge Tower  
N37° 46' 24.18" W83° 38' 08.92"  
395 Miller Ridge Road,  
Pine Ridge, Wolfe County, Kentucky  
Project No. 13-8782; AT&T NSB No. 143436; ATC No. 281378

**FStan Land Surveyors &  
Consulting Engineers  
933 South 3<sup>rd</sup> Street  
Louisville, KY 40203  
Phone: (502) 636-5111  
Fax: (502) 636-5263**

**Prepared For:**

**Ms. Vicki Hollis  
American Tower Corporation  
10 Presidential Way  
Woburn, MA 01801**

**Date: March 12, 2014**



Land Surveyors and Consulting Engineers  
Formerly F.S. Land & T. Alan Neal Companies

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March 12, 2014

Ms. Vicki Hollis  
American Tower Corporation  
10 Presidential Way  
Woburn, MA 01801

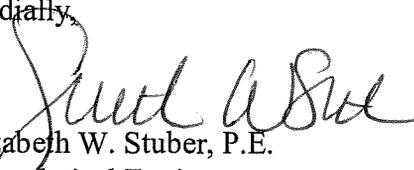
Re: Geotechnical Engineering Study  
Proposed 255-foot Self-support Tower with 10 foot Lighting Arrestor  
American Tower Corporation Site Name: Pea Ridge  
N37° 46' 24.18" W83° 38' 08.92"  
395 Miller Ridge Road, Pine Ridge, Wolfe County, Kentucky  
FStan Project No. 13-8782; AT&T NSB No. 143436; ATC No. 281378

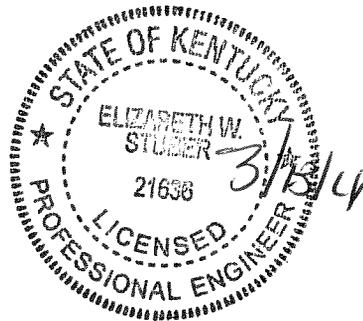
Dear Ms. Hollis:

Transmitted herewith is our geotechnical engineering report for the referenced project. This report contains our findings, an engineering interpretation of these findings with respect to the available project characteristics, and recommendations to aid design and construction of the tower foundations.

We appreciate the opportunity to be of service to you on this project. If you have any questions regarding this report, please contact our office.

Cordially,

  
Elizabeth W. Stuber, P.E.  
Geotechnical Engineer  
Kentucky License No.: 21636



Copies submitted: (3) Ms. Vicki Hollis

## LETTER OF TRANSMITTAL

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### APPENDIX

BORING LOCATION PLAN  
GEOTECHNICAL BORING LOG  
SOIL SAMPLE CLASSIFICATION

**GEOTECHNICAL ENGINEERING INVESTIGATION**  
**Proposed 255-foot Self-support Tower with 10 foot Lighting Arrestor**  
American Tower Corporation Site Name: Pea Ridge  
N37° 46' 24.18" W83° 38' 08.92"  
395 Miller Ridge Road, Pine Ridge, Wolfe County, Kentucky  
FStan Project No. 13-8782; AT&T NSB No. 143436; ATC No. 281378

**1. PURPOSE AND SCOPE**

The purpose of this study was to determine the general subsurface conditions at the site of the proposed tower by drilling three soil test borings and to evaluate this data with respect to foundation concept and design for the proposed tower. Also included is an evaluation of the site with respect to potential construction problems and recommendations dealing with quality control during construction.

**2. PROJECT CHARACTERISTICS**

American Tower Corporation is proposing to construct a 255 feet tall self-support communications tower with a 10 foot lighting arrestor on property owned by Ronnie Halsey located at N37° 46' 24.18" /W83° 38' 08.92", 395 Miller Ridge Road, Pine Ridge, Wolfe County, Kentucky. The proposed lease area will be 42 feet x 70 feet with an access road from the site southwest to Miller Ridge Road. The site is located on a steep slope of about 25 percent and is currently undeveloped east of a residence. Both surface and underground mining are common in far eastern Kentucky. A limited investigation of the area using information provided on the Kentucky Geological Survey website did not indicate that either type of mining has taken place on the Halsey property. The topographical site relief within the lease area is about 10 feet. The elevation of the site is approximately 1280 feet msl. Surface water runoff is directed by the topography toward the east. A detailed evaluation of long-term slope stability was beyond the scope of this study. The proposed tower location is shown on the Boring Location Plan in the Appendix.

Preliminary information provided us indicates that this project will consist of constructing a self-support communications tower 255 feet tall with a 10 foot lightning arrestor. We have assumed the following structural information:

- Compression = 450 kips
- Uplift (each leg) = 300 kips
- Total shear = 45 kips

The development will also include a small equipment shelter near the base of the tower. The wall and floor loads for the shelter are assumed to be less than 4 kip/ln.ft. and 200 lbs/sq.ft., respectively.

### **3. SUBSURFACE CONDITIONS**

The subsurface conditions were explored by drilling three test borings at the base of the proposed tower that was staked in the field by the project surveyor. The Geotechnical Soil Test Boring Logs, which are included in the Appendix, describes the materials and conditions encountered. A sheet defining the terms and symbols used on the boring log is also included in the Appendix. The general subsurface conditions disclosed by the test borings are discussed in the following paragraphs.

About 6 inches of topsoil were encountered at the existing ground surface. Below the topsoil, the borings encountered clay (CH) of high plasticity. Between 6 and 8.5 feet, the borings encountered highly weathered clay shale. The SPT N-values in the clay ranged from 5 to 18 blows per foot indicating a soft to very stiff consistency. Borings 2 and 3 were terminated in the clay shale at the scheduled depth of 15 feet. Boring 1 encountered weathered, black shale at about 18.5 feet to auger refusal at about 30 feet. Auger refusal is defined as the depth at which the boring can no longer be advanced using the current drilling method.

The refusal material was cored from 30 to 40 feet below the ground surface in Boring 1. Shale that was moderately hard, moderately weathered, thin bedded and bluish gray to gray was encountered. The recovery of the rock core was 85 percent and the RQD value was 50 percent. These values generally represent fair to good quality rock from a foundation support viewpoint.

According to the USGS 7.5 minute topographic map of the Slade Quadrangle of Kentucky, the site is underlain by the upper member of the Breathitt Formation. This formation is about 80 percent shale and siltstone with sandstone and coal.

Observations made at the completion of soil drilling operations indicated the borings to be dry. It must be noted, however, that short-term water readings in test borings are not necessarily a reliable indication of the actual groundwater level. Furthermore, it must be emphasized that the groundwater level is not stationary, but will fluctuate seasonally.

Based on the limited subsurface conditions encountered at the site and using Table 1615.1.1 of the 2002 Kentucky Building Code, the site class is considered "B". Seismic design requirements for telecommunication towers are given in section 1622 of the code. A detailed seismic study was beyond the scope of this report.

#### **4. FOUNDATION DESIGN RECOMMENDATIONS**

The following design recommendations are based on the previously described project information, the subsurface conditions encountered in our borings, the results of our laboratory testing, empirical correlations for the soil types encountered, our analyses, and our experience. If there is any change in the project criteria or structure location, you should retain us to review our recommendations so that we can determine if any modifications are required. The findings of such a review can then be presented in a supplemental report or addendum.

We recommend FStan be retained to review the near-final project plans and specifications, pertaining to the geotechnical aspects of the project, prior to bidding and construction. We recommend this review to check that our assumptions and evaluations are appropriate based on the current project information provided to us, and to check that our foundation and earthwork recommendations were properly interpreted and implemented.

#### 4.1 Tower

Our findings indicate that the proposed self-support tower can be supported on drilled piers or on a common mat foundation.

##### 4.1.1. Drilled Piers

Drilled piers that bear in the highly weathered clay shale below a depth of about 8 feet can be designed for a net allowable end bearing pressure of 15,000 pounds per square foot (psf). This can be increased to 30,000 psf for piers bearing in the shale bedrock below about 30 feet. The following table summarizes the recommended values for use in analyzing lateral and frictional resistance for the various strata encountered at the test boring. It is important to note that these values are estimated based on the standard penetration test results and soil types, and were not directly measured. The values provided for undrained shear strength and total unit weight are ultimate values and appropriate factors of safety should be used in conjunction with these values. If the piers will bear deeper than about 40 feet, a deeper boring should be drilled to determine the nature of the deeper material.

Depth Below Ground Surface, feet	Undrained Shear Strength, psf	Angle of Internal Friction, Ø, degrees	Total Unit Weight, pcf	Allowable Passive Soil Pressure, psf/one foot of depth	Allowable Side Friction, psf
0 – 5	1,000	0	120	750 + 40D	200
5 - 8	2,500	0	120	1,750 + 40(D-5)	400
8 – 30	7,500	0	135	5,000 + 45(D-8)	1500
30 - 40	15,000	0	135	10,000 + 45(D-30)	3000

Note: D = Depth below ground surface (in feet) to point at which the passive pressure is calculated.

It is important that the drilled piers be installed by an experienced, competent drilled pier contractor who will be responsible for properly installing the piers in accordance with industry standards and generally accepted methods, without causing deterioration of the subgrade. The recommendations

contained herein relate only to the soil-pier interaction and do not account for the structural design of the piers.

#### **4.1.2. Mat Foundation**

As an alternative, the tower could be supported on a common mat foundation bearing at a depth of at least 4 feet in the clay. A net allowable bearing pressure of up to 3,500 pounds per square foot may be used. These values may be increased by 30 percent for the maximum edge pressure under transient loads. A friction value of 0.30 may be used between the concrete and the underlying clay soil. The passive pressures given for the drilled pier foundation may be used to resist lateral forces.

It is important that the mat be designed with an adequate factor of safety with regard to overturning under the maximum design wind load.

#### **4.2. Equipment Building**

The equipment building may be supported on shallow spread footings bearing in the clay soil and designed for a net allowable soil pressure of 2,000 pounds per square foot. The footings should be at least ten inches wide. If the footings bear on soil they should bear at a depth of at least 36 inches to minimize the effects of frost action. All existing topsoil or soft natural soil should be removed beneath footings.

The floor slab for the new equipment building may be subgrade supported on a properly prepared subgrade. The slab should be designed and adequately reinforced to resist the loads proposed. The exposed subgrade should be carefully inspected by probing and testing as needed. Any organic material still in place, frozen or excessively soft soil and other undesirable materials should be removed.

Once the subgrade has been properly prepared and evaluated, fill may be placed to attain the desired final grade. Any non-organic, naturally occurring, non-expansive soils can be used for structural fill, including those encountered on this site, pending evaluation by the geotechnical engineer.

All engineered fill should be compacted to a dry density of at least 98 percent of the standard Proctor maximum dry density (ASTM D698). The compaction should be accomplished by placing the fill in about eight inch loose lifts and mechanically compacting each lift to at least the specified density. Field tests should be performed on each lift as necessary to insure that adequate compaction is being achieved.

#### **4.3. Drainage and Groundwater Considerations**

Good site drainage must be provided. Surface run-off water should be drained away from the shelter building and not allowed to pond. It is recommended that all foundation concrete be placed the same day the excavation is made.

At the time of this investigation, groundwater was not encountered. Therefore, no special provisions regarding groundwater control are considered necessary for the proposed structures.

### **5. GENERAL CONSTRUCTION PROCEDURES AND RECOMMENDATIONS**

It is possible that variations in subsurface conditions will be encountered during construction. Although only minor variations that can be readily evaluated and adjusted for during construction are anticipated, it is recommended the geotechnical engineer or a qualified representative be retained to perform continuous inspection and review during construction of the soils-related phases of the work. This will permit correlation between the test boring data and the actual soil conditions encountered during construction.

#### **5.1 Drilled Piers**

The following recommendations are recommended for drilled pier construction:

- Clean the foundation bearing area so it is nearly level or suitably benched and is free of ponded water or loose material.

- Make provisions for ground water removal from the drilled shaft excavation. While the borings were dry prior to rock coring and significant seepage is not anticipated, the drilled pier contractor should have pumps on hand to remove water in the event seepage into the drilled pier is encountered.
- Specify concrete slumps ranging from 4 to 7 inches for the drilled shaft construction. These slumps are recommended to fill irregularities along the sides and bottom of the drilled hole, displace water as it is placed, and permit placement of reinforcing cages into the fluid concrete.
- Retain the geotechnical engineer to observe foundation excavations after the bottom of the hole is leveled, cleaned of any mud or extraneous material, and dewatered.
- Install a temporary protective steel casing to prevent sidewall collapse, prevent excessive mud and water intrusion, and to allow workers to safely enter, clean and inspect the drilled shaft.
- Clean the socket "face" prior to concrete placements. Cleaning will require hand cleaning or washing if a mud smear forms on the face of the rock. The geotechnical engineer should approve the rock socket surface prior to concrete placement.
- The protective steel casing may be extracted as the concrete is placed provided a sufficient head of concrete is maintained inside the steel casing to prevent soil or water intrusion into the newly placed concrete.
- Direct the concrete placement into the drilled hole through a centering chute to reduce side flow or segregation.

## **5.2 Fill Compaction**

All engineered fill placed adjacent to and above the tower foundation should be compacted to a dry density of at least 95 percent of the standard Proctor maximum dry density (ASTM D-698). This minimum compaction requirement should be increased to 98 percent for any fill placed below the tower foundation bearing elevation. Any fill placed beneath the tower foundation should be limited to well-graded sand and gravel or crushed stone. The compaction should be

accomplished by placing the fill in about 8 inch (or less) loose lifts and mechanically compacting each lift to at least the specified minimum dry density. Field density tests should be performed on each lift as necessary to insure that adequate moisture conditioning and compaction is being achieved.

Compaction by flooding is not considered acceptable. This method will generally not achieve the desired compaction and the large quantities of water will tend to soften the foundation soils.

### **5.3 Construction Dewatering**

There is a slight risk that groundwater may be encountered during drilled pier excavation. It is anticipated that any such seepage can be handled by conventional dewatering methods such as pumping from sumps. Dewatering of drilled pier excavations that extend below the groundwater level may be more difficult since pumping directly from the excavations could cause a deterioration of the bottom of the excavation. If the pier excavations are not dewatered, concrete should be placed by the tremie method.

## **6 FIELD INVESTIGATION**

Three soil test borings were drilled based on the tower center location established in the field by the project surveyor. Split-spoon samples were obtained by the Standard Penetration Test (SPT) procedure (ASTM D1586) in the test boring. Borings 2 and 3 were terminated at the scheduled depth of 15 feet. Boring 1 encountered auger refusal at about 30 feet below the existing ground surface. A sample of the refusal material was cored in Boring 1 from 30 to 40 feet below the ground surface. The split-spoon samples were inspected and visually classified by a geotechnical engineer. Representative portions of the soil samples were sealed in glass jars and returned to our laboratory.

The boring logs are included in the Appendix along with a sheet defining the terms and symbols used on the logs and an explanation of the Standard Penetration Test (SPT) procedure. The logs present visual descriptions of the soil strata encountered, Unified System soil classifications, groundwater observations, sampling information, laboratory test results, and other pertinent field data and observations.

## **7 WARRANTY AND LIMITATIONS OF STUDY**

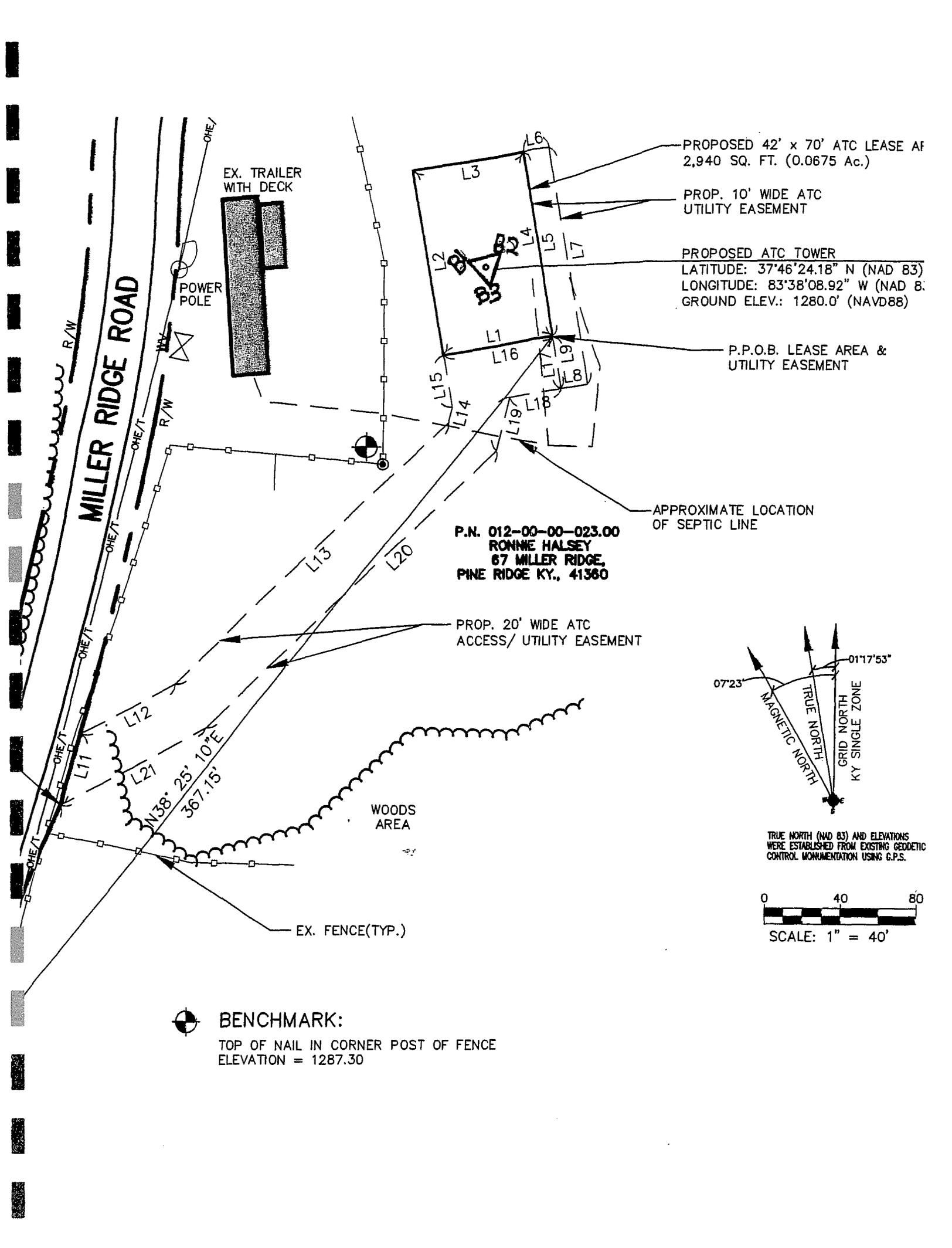
Our professional services have been performed, our findings obtained, and our recommendations prepared in accordance with generally accepted geotechnical engineering principles and practices. This warranty is in lieu of all other warranties, either express or implied. FStan is not responsible for the independent conclusions, opinions or recommendations made by others based on the field exploration and laboratory test data presented in this report.

A geotechnical study is inherently limited since the engineering recommendations are developed from information obtained from test borings, which depict subsurface conditions only at the specific locations, times and depths shown on the log. Soil conditions at other locations may differ from those encountered in the test borings, and the passage of time may cause the soil conditions to change from those described in this report.

The nature and extent of variation and change in the subsurface conditions at the site may not become evident until the course of construction. Construction monitoring by the geotechnical engineer or a representative is therefore considered necessary to verify the subsurface conditions and to check that the soils connected construction phases are properly completed. If significant variations or changes are in evidence, it may then be necessary to reevaluate the recommendations of this report. Furthermore, if the project characteristics are altered significantly from those discussed in this report, if the project information contained in this report is incorrect, or if additional information becomes available, a review must be made by this office to determine if any modification in the recommendations will be required.

**APPENDIX**

BORING LOCATION PLAN  
GEOTECHNICAL BORING LOG  
SOIL SAMPLE CLASSIFICATION





F.S. Tan Land Consulting Engineers  
 P.O. Box 17546  
 Louisville, KY 40217  
 502-636-5111  
 502-636-5263

# Geotechnical Boring Log

Boring No: **B-1**

Client: American Tower Corporation	Project Number: 13-8781
Project: Proposed Pea Ridge Tower	Drilling Firm: Hoosier Drilling
Location: N37° 46' 24.18" /W83° 38' 08.92"	Project Manager: Beth Stuber
Date Started: 3/8/2014	Total Depth of Boring: 40 ft
Date Completed: 3/8/2014	NA on rods
Boring Method: HSA-Manual Hammer	DRY at completion
Surface Elevation: NA	NA NA hours after completion

Layer Depth ft	Legend	Material Description	Depth Scale ft	Sample Data					Remarks
				No.	Type	Blows	Rec. %	PP tsf	
0.0		CLAY (CH) - medium stiff, moist, tan-light brown							About 6 inches of topsoil was encountered at the existing ground surface.
		- stiff		1	SS	4-4-5	67		
			5	2	SS	4-5-10	78		
6.0		CLAY SHALE - highly weathered, tan-gray-brown-black		3	SS	10-9-9	67		
			10	4	SS	10-20-33	67		
			15	5	SS	22-50	44		
18.5		SHALE - weathered, black		6	SS	50-50	44		
			25	7	SS	50	28		
30.0		SHALE - moderately hard, moderately weathered, blue gray to gray		8	SS	50	0		
			35	9	RC		85	RQD = 50 percent	
40.0		Bottom of Boring at 40 ft	40						

GEO TECHNICAL BORING LOG 13-8781.GPJ FSTAN.GDT 3/13/14



F.S. Tan Land Consulting Engineers  
 P.O. Box 17546  
 Louisville, KY 40217  
 502-636-5111  
 502-636-5263

# Geotechnical Boring Log

Boring No: **B-2**

Client: American Tower Corporation	Project Number: 13-8781
Project: Proposed Pea Ridge Tower	Drilling Firm: Hoosier Drilling
Location: N37° 46' 24.18" /W83° 38' 08.92"	Project Manager: Beth Stuber
Date Started: 3/8/2014	Total Depth of Boring: 15 ft
Date Completed: 3/8/2014	NA on rods
Boring Method: HSA-Manual Hammer	DRY at completion
Surface Elevation: NA	NA NA hours after completion

Layer Depth ft	Legend	Material Description	Depth Scale ft	Sample Data					Remarks
				No.	Type	Blows	Rec. %	PP tsf	
6.0		CLAY (CH) - soft, moist, tan-light brown  - very stiff		1	SS	3-2-3	67		About 6 inches of topsoil was encountered at the existing ground surface.
				2	SS	7-8-10	78		
				3	SS	6-6-10	67		
				4	SS	8-20-22	56		
				5	SS	50	28		
15.0		Bottom of Boring at 15 ft							

GEOTECHNICAL BORING LOG 13-8781.GPJ FSTAN.GDT 3/13/14



F.S. Tan Land Consulting Engineers  
 P.O. Box 17546  
 Louisville, KY 40217  
 502-636-5111  
 502-636-5263

# Geotechnical Boring Log

Boring No: **B-3**

Client: American Tower Corporation	Project Number: 13-8781
Project: Proposed Pea Ridge Tower	Drilling Firm: Hoosier Drilling
Location: N37° 46' 24.18" /W83° 38' 08.92"	Project Manager: Beth Stuber
Date Started: 3/8/2014	Total Depth of Boring: 15 ft
Date Completed: 3/8/2014	NA on rods
Boring Method: HSA-Manual Hammer	DRY at completion
Surface Elevation: NA	NA NA hours after completion

Layer Depth ft	Legend	Material Description	Depth Scale ft	Sample Data					Remarks
				No.	Type	Blows	Rec. %	PP tsf	
		CLAY (CH) - medium stiff, very moist, tan-light brown							About 6 inches of topsoil was encountered at the existing ground surface.
		- stiff	1	SS	3-3-3	78			
			2	SS	6-7-7	67			
			3	SS	9-7-8	56			
			4	SS	11-9-9	67			
8.5		CLAY SHALE - highly weathered, tan-gray-brown-black	10						
15.0		Bottom of Boring at 15 ft	15	5	SS	50	22		

GEOTECHNICAL BORING LOG 13-8781.GPJ FSTAN.GDT 3/13/14

# SOIL CLASSIFICATION CHART

MAJOR DIVISIONS			SYMBOLS		TYPICAL DESCRIPTIONS
			GRAPH	LETTER	
<b>COARSE GRAINED SOILS</b>  MORE THAN 50% OF MATERIAL IS LARGER THAN NO. 200 SIEVE SIZE	<b>GRAVEL AND GRAVELLY SOILS</b>  MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	CLEAN GRAVELS  (LITTLE OR NO FINES)		<b>GW</b>	WELL-GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES
		GRAVELS WITH FINES  (APPRECIABLE AMOUNT OF FINES)		<b>GP</b>	POORLY-GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES
		GRAVELS WITH FINES  (APPRECIABLE AMOUNT OF FINES)		<b>GM</b>	SILTY GRAVELS, GRAVEL - SAND - SILT MIXTURES
		GRAVELS WITH FINES  (APPRECIABLE AMOUNT OF FINES)		<b>GC</b>	CLAYEY GRAVELS, GRAVEL - SAND - CLAY MIXTURES
	<b>SAND AND SANDY SOILS</b>  MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	CLEAN SANDS  (LITTLE OR NO FINES)		<b>SW</b>	WELL-GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
		SANDS WITH FINES  (LITTLE OR NO FINES)		<b>SP</b>	POORLY-GRADED SANDS, GRAVELLY SAND, LITTLE OR NO FINES
SANDS WITH FINES  (APPRECIABLE AMOUNT OF FINES)			<b>SM</b>	SILTY SANDS, SAND - SILT MIXTURES	
SANDS WITH FINES  (APPRECIABLE AMOUNT OF FINES)		<b>SC</b>	CLAYEY SANDS, SAND - CLAY MIXTURES		
<b>FINE GRAINED SOILS</b>  MORE THAN 50% OF MATERIAL IS SMALLER THAN NO. 200 SIEVE SIZE	<b>SILTS AND CLAYS</b>  LIQUID LIMIT LESS THAN 50		<b>ML</b>	INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS OR CLAYEY SILTS WITH SLIGHT PLASTICITY	
			<b>CL</b>	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS	
			<b>OL</b>	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY	
	<b>SILTS AND CLAYS</b>  LIQUID LIMIT GREATER THAN 50		<b>MH</b>	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SAND OR SILTY SOILS	
			<b>CH</b>	INORGANIC CLAYS OF HIGH PLASTICITY	
			<b>OH</b>	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS	
<b>HIGHLY ORGANIC SOILS</b>				<b>PT</b>	PEAT, HUMUS, SWAMP SOILS WITH HIGH ORGANIC CONTENTS

NOTE: DUAL SYMBOLS ARE USED TO INDICATE BORDERLINE SOIL CLASSIFICATIONS



**EXHIBIT I**  
**DIRECTIONS TO WCF SITE**

## Driving Directions to Proposed Tower Site:

1. Beginning at the Wolfe County Circuit Court Clerk's Office, located at 133 Main Street, Campton, Kentucky, head west towards Johnson Street.
2. Make a slight left onto Johnson Street and travel approximately 285 feet.
3. Make a slight right onto Drake Street and travel approximately 0.1 miles.
4. Continue onto KY-15 N for an additional 6.9 miles.
5. Turn left onto Miller Ridge. After 0.4 miles, the site will be on your left.
6. site coordinates are
  - a. 37 deg 46 min 24.18 sec N
  - b. 83 deg 38 min 08.92 sec W



Prepared by:  
Aaron Roof  
Pike Legal Group PLLC  
1578 Highway 44 East, Suite 6  
PO Box 369  
Shepherdsville, KY 40165-0369  
Telephone: 502-955-4400 or 800-516-4293



**EXHIBIT J**  
**COPY OF REAL ESTATE AGREEMENT**

**LEASE AGREEMENT**

THIS LEASE AGREEMENT ("*Agreement*") is made effective as of the date of the latter signature hereof (the "*Execution Date*") and is by and between Landlord and American Tower.

**RECITALS**

- A. WHEREAS, Landlord is the owner of that certain parcel of land (the "*Property*") located in the County of Wolfe, State of Kentucky, as more particularly described on Exhibit A;
- B. WHEREAS, Landlord desires to grant to American Tower an option to lease from Landlord a portion of the Property (the "*Compound*"), together with easements for ingress and egress and the installation and maintenance of utilities (the "*Easement*" and together with the Compound, the "*Site*") both being approximately located as shown on Exhibit B; and

NOW, THEREFORE, in consideration of the mutual covenants and agreements herein contained, and other good and valuable consideration, the receipt, adequacy and sufficiency of all of which are hereby acknowledged, the parties hereto hereby agree as follows:

1. **Business and Defined Terms.** For the purposes of this Agreement, the following capitalized terms have the meanings set forth in this paragraph 1.

(a) ***American Tower:*** American Towers LLC, a Delaware limited liability company d/b/a Delaware American Towers, LLC

(b) ***Notice Address of American Tower:*** American Towers LLC  
c/o American Tower Corporation  
10 Presidential Way  
Woburn, MA 01801  
Attn: Land Management

***with a copy to:*** American Towers LLC  
c/o American Tower Corporation  
116 Huntington Ave.  
Boston, MA 02116  
Attn: Law Department

(c) ***Landlord:*** Ronnie Halsey and Elaine Halsey, his wife, with rights of survivorship

(d) ***Notice Address of Landlord:*** 258 Halsey Lane  
Pine Ridge, KY 41360

(e) ***Initial Option Period:*** One (1) year

(f) ***Renewal Option Period(s):*** One (1) period of One (1) year each.

(g) ***Option Period:*** The Initial Option Period and any Renewal Option Period(s)

(h) ***Option Consideration (Initial Option Period):*** ██████████

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(j) **Commencement Date:** The date specified in the written notice by American Tower to Landlord exercising the Option constitutes the Commencement Date of the Term.

(k) **Initial Term:** Five years, commencing on the Commencement Date and continuing until midnight of the day immediately prior to the fifth anniversary of the Commencement Date.

(l) **Renewal Terms:** Each of the Five (5) successive periods of five (5) years each, with the first Renewal Term commencing upon the expiration of the Initial Term and each subsequent Renewal Term commencing upon the expiration of the immediately preceding Renewal Term.

(m) **Term:** The Initial Term with any and all Renewal Terms

(n) **Rent:** The yearly amount of [REDACTED]

(o) **Increase Amount:** Rent will increase at the commencement of each Renewal Term by an amount equal to [REDACTED] of Rent for the previous five year period.

(p) **Increase Date:** The first date of each Renewal Term.

## 2. Option to Lease.

(a) **Grant of Option.** Landlord hereby gives and grants to American Tower and its assigns, an exclusive and irrevocable option to lease the Site during the Initial Option Period (the "**Option**").

(b) **Extension of Option.** The Initial Option Period will automatically be extended for each Renewal Option Period unless American Tower provides Landlord written notice of its intent not to extend the Option.

(c) **Consideration for Option.** Option Consideration is due and payable in full within 30 days of the Execution Date and American Tower will pay Landlord any Option Extension Consideration within 30 days of the commencement of any Renewal Option Period.

### (d) Option Period Inspections and Investigations.

(i) During the Option Period, Landlord will provide American Tower with any keys or access codes necessary for access to the Property.

(ii) During the Option Period, American Tower and its officers, agents, employees and independent contractors may enter upon the Property to perform or cause to be performed test borings of the soil, environmental audits, engineering studies and to conduct a metes and bounds survey of the Site and/or the Property (the "**Survey**"), provided that American Tower will not unreasonably interfere with Landlord's use of the Property in conducting these activities. At American Tower's discretion, the legal description of the Site as shown on the Survey may replace Exhibit B of this Agreement and be added as Exhibit B of the Memorandum of Lease.

(iii) American Tower may not begin any construction activities on the Site during the Option Period other than those activities described in, or related to, this paragraph 2(d).

(e) **Exercise of Option.** American Tower may, in its sole discretion, exercise the Option by delivery of written notice to Landlord at any time during the Option Period. If American Tower exercises the Option then Landlord will lease the Site to American Tower subject to the terms and conditions of this Agreement. If American Tower does not exercise the Option, this Agreement will terminate.

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(f) Removal of Existing Leach Bed System. Landlord shall during the Option period remove the existing leach bed system located in the proposed Compound area to another location on the Property as more particularly described in the Exhibit B attached herewith (the "Relocation of Leach Bed System"). Landlord must complete such Relocation of Leach Bed System within 60 days upon receiving the written request from American Tower. American Tower shall pay Landlord a total amount of [REDACTED] to complete such Relocation of Leach Bed System and shall make the payment within 15 business days after notifying Landlord to commence the Relocation of Leach Bed System. The Relocation of Leach Bed System shall comply with any applicable laws, regulations, and rules and be completed in good and workmanlike manner in accordance with the generally accepted standard in the industry. If the Landlord fails to complete the Relocation of Leach Bed System within the required time period, American Tower shall have the right to complete such relocation and to deduct its cost incurred from this relocation from future installments of Rent.

3. Term.

(a) Initial Term. The Initial Term is as provided in paragraph 1(k).

(b) Renewal Terms. American Tower will have the right to extend this Agreement for each of the Renewal Terms. Each Renewal Term will be on the same terms and conditions provided in this Agreement except that Rent will escalate as provided in paragraph 4(b). This Agreement will automatically be renewed for each successive Renewal Term unless American Tower notifies Landlord in writing of American Tower's intention not to renew the Agreement at any time prior to the expiration of the Initial Term or the Renewal Term which is then in effect.

4. Consideration.

(a) American Tower will pay its first installment of Rent within thirty (30) days of the Commencement Date. Rent will be prorated for any partial months, including, the month in which the Commencement Date occurs.

(b) On the Increase Date, the Rent will increase by the Increase Amount.

(c) In the event American Tower makes an overpayment of Rent or any other fees or charges to Landlord during the Term of this Agreement, American Tower may, but will not be required, to treat any such overpayment amount as prepaid Rent and apply such amount as a credit against future Rent due to Landlord. If this Agreement is early terminated, American Tower shall have the right to abate the prorated prepaid Rent for the remainder lease term.

(d) American Tower will not be required to remit the payment of Rent to more than two recipients at any given time.

5. Use.

(a) American Tower will be permitted to use the Site for the purpose of constructing, maintaining, removing, replacing, securing and operating a communications facility, including, but not limited to, the construction or installation and maintenance of a telecommunications tower (the "Tower"), structural tower base(s), communications equipment, one or more buildings or equipment cabinets, radio transmitting and receiving antennas, personal property and related improvements and facilities on the Compound (collectively, the "Tower Facilities"), to facilitate the use of the Site as a site for the transmission and receipt of communication signals including, but not limited to, voice, data and internet

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transmissions and for any other uses which are incidental to the transmission and receipt of communication signals (the "*Intended Use*").

(b) American Tower, at its sole discretion, will have the right, without prior notice or the consent of Landlord, to license or sublease all or a portion of the Site or the Tower Facilities to other parties (each, a "*Collocator*" and collectively, the "*Collimators*"). The Collimators will be entitled to modify the Tower Facilities and to erect additional improvements on the Compound including but not limited to antennas, dishes, cabling, additional buildings or shelters ancillary to the Intended Use. The Collimators will be entitled to all rights of ingress and egress to the Site and the right to install utilities on the Site that American Tower has under this Agreement.

## 6. Tower Facilities.

(a) American Tower will have the right, at American Tower's sole cost and expense, to erect the Tower Facilities which will be the exclusive property of American Tower throughout the Term as well as upon the expiration or termination of this Agreement. Landlord grants American Tower a non-exclusive easement in, over, across and through the Property and other real property owned by Landlord contiguous to the Site as may be reasonably required for construction, installation, maintenance, and operation of the Tower Facilities including: (i) access to the Site for construction machinery and equipment, (ii) storage of construction materials and equipment during construction of the Tower Facilities, and (iii) use of a staging area for construction, installation and removal of equipment. Notwithstanding the foregoing, American Tower shall, at its sole cost, repair the damages caused by American Tower during its performing of any actions stated in this Section 6 (b).

(b) American Tower may, at its sole expense, use any and all appropriate means of restricting access to the Compound or the Tower Facilities, including, without limitation, construction of a fence and may install and maintain identifying signs or other signs required by any governmental authority on or about the Site, including any access road to the Site.

(c) American Tower will maintain the Compound, including the Tower Facilities, in a reasonable condition throughout the Term. American Tower is not responsible for reasonable wear and tear or damage from casualty and condemnation. Landlord grants American Tower the right to clear all trees, undergrowth, or other obstructions and to trim, cut, and keep trimmed all tree limbs which may interfere with or fall upon the Tower Facilities or the Site.

(d) American Tower will remove all of the above-ground portions of the Tower Facilities within 180 days following the expiration or termination of this Agreement.

## 7. Utilities.

(a) American Tower will have the right to install underground utilities, at American Tower's expense, and to improve present utilities on the Property and the Site. American Tower will have the right to permanently place utilities on (or under) the Site to service the Compound and the Tower Facilities.

(b) If utilities necessary to serve the equipment of American Tower or the equipment of any Collocator cannot be located within the Site, Landlord agrees to allow the installation of utilities on the Property or other real property owned by Landlord without requiring additional compensation from American Tower or any Collocator. Landlord will, upon American Tower's request, execute a separate recordable written easement or lease to the utility company providing such service evidencing this right.

- (c) American Tower and the Collocators each may install backup generator(s).

8. Access

(a) In the event that the Site loses access to a public right of way during the Term, Landlord and American Tower will amend this Agreement, at no imposed cost to either party, to provide access to a public way by: (i) amending the location of the Easement; or (ii) granting an additional easement to American Tower.

(b) To the extent damage (including wear and tear caused by normal usage) to the Easement or any other route contemplated hereunder intended to provide American Tower with access to the Site and the Tower Facilities is caused by Landlord or Landlord's tenants, licensees, invitees or agents, Landlord will repair the damage at its own expense.

(c) Landlord will maintain access to the Compound from a public way in a free and open condition so that no interference is caused to American Tower by Landlord or lessees, licensees, invitees or agents of Landlord. In the event that American Tower's or any Collocator's access to the Compound is impeded or denied by Landlord or Landlord's lessees, licensees, invitees or agents, without waiving any other rights that it may have at law or in equity, American Tower may at its sole discretion deduct from Rent due under this Agreement an amount equal to [REDACTED] per day for each day that such access is impeded or denied.

9. Representations and Warranties of Landlord. Landlord represents and warrants to American Tower and American Tower's successors and assigns:

(a) Landlord has the full right, power, and authority to execute this Agreement;

(b) There are no pending or threatened administrative actions, including bankruptcy or insolvency proceedings under state or federal law, suits, claims or causes of action against Landlord or which may otherwise affect the Property;

(c) The Property is not presently subject to an option, lease or other contract which may adversely affect Landlord's ability to fulfill its obligations under this Agreement, and the execution of this Agreement by Landlord will not cause a breach or an event of default of any other agreement to which Landlord is a party. Landlord agrees that it will not grant an option or enter into any contract or agreement which will have any adverse effect on the Intended Use or American Tower's rights under this Agreement;

(d) No licenses, rights of use, covenants, restrictions, easements, servitudes, subdivision rules or regulations, or any other encumbrances relating to the Property prohibit or will interfere with the Intended Use;

(e) Landlord has good and marketable fee simple title to the Site, the Property and any other property across which Landlord may grant an easement to American Tower or any Collocator, free and clear of all liens and encumbrances. Landlord covenants that American Tower will have the quiet enjoyment of the Compound during the term of this Agreement. If Landlord fails to keep the Site free and clear of any liens and encumbrances, American Tower will have the right, but not the obligation, to satisfy any such lien or encumbrance and to deduct the full amount paid by American Tower on Landlord's behalf from future installments of Rent;

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(f) American Tower will at all times during this Agreement enjoy ingress, egress, and access from the Site 24 hours a day, 7 days a week, to an open and improved public road which is adequate to service the Site and the Tower Facilities; and

(g) These representations and warranties of Landlord survive the termination or expiration of this Agreement.

10. **Interference.** Landlord will not use, nor will Landlord permit its tenants, licensees, invitees or agents to use any portion of the Property in any way which interferes with the Intended Use, including, but not limited to, any use on the Property or surrounding property that causes electronic or physical obstruction or degradation of the communications signals from the Tower Facilities ("**Interference**"). Interference will be deemed a material breach of this Agreement by Landlord and Landlord will have the responsibility to terminate Interference immediately upon written notice from American Tower. Notwithstanding anything in this Agreement to the contrary, if the Interference does not cease or is not rectified as soon as possible, but in no event longer than 24 hours after American Tower's written notice to Landlord, Landlord acknowledges that continuing Interference will cause irreparable injury to American Tower, and American Tower will have the right, in addition to any other rights that it may have at law or in equity, to bring action to enjoin the Interference.

11. **Termination.** This Agreement may be terminated, without any penalty or further liability upon written notice as follows:

(a) By either party upon a default of any covenant or term of this Agreement by the other party which is not cured within 60 days of receipt of written notice of default (without, however, limiting any other rights available to the parties in law or equity); provided, that if the defaulting party commences efforts to cure the default within such period and diligently pursues such cure, the non-defaulting party may not terminate this Agreement as a result of that default.

(b) Upon 30 days' written notice by American Tower to Landlord if American Tower is unable to obtain, maintain, renew or reinstate any agreement, easement, permit, certificates, license, variance, zoning approval, or any other approval which may be required from any federal, state or local authority necessary to the construction and operation of the Tower Facilities or to the Intended Use (collectively, the "**Approvals**"); or

(c) Upon 30 days' written notice from American Tower to Landlord if the Site is or becomes unsuitable, in American Tower's sole, but reasonable judgment for use as a wireless communications facility by American Tower or by American Tower's licensee(s) or sublessee(s).

(d) In the event of termination by American Tower or Landlord pursuant to this provision, American Tower shall be relieved of all further liability hereunder.

12. **Taxes.**

(a) American Tower will pay any personal property taxes assessed on or attributable to the Tower Facilities. American Tower will reimburse Landlord for any increase to Landlord's real property taxes that are directly attributable to American Tower's Site and/or Tower Facilities upon receipt of the following: (1) a copy of Landlord's tax bill; (2) proof of payment; and (3) written documentation from the assessor of the amount attributable to American Tower. American Tower shall have no obligation to reimburse Landlord for any taxes paid by Landlord unless Landlord requests reimbursement within 12 months of the date said taxes were originally due. Additionally, as a condition precedent to Landlord

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having the right to receive reimbursement, Landlord shall, within 3 days of receipt of any notice from the taxing authority of any assessment or reassessment, provide American Tower with a copy of said notice. American Tower shall have the right to appeal any assessment or reassessment relating to the Site or Tower Facilities and Landlord shall either (i) designate American Tower as its attorney-in-fact as required to effect standing with the taxing authority, or (ii) join American Tower in its appeal.

(b) Landlord will pay when due all real property taxes and all other fees and assessments attributable to the Property, Compound and Easement. If Landlord fails to pay when due any taxes affecting the Property or the Site, American Tower will have the right, but not the obligation, to pay such taxes and either: (i) deduct the full amount of the taxes paid by American Tower on Landlord's behalf from future installments of Rent, or (ii) collect such taxes by any lawful means.

### 13. Environmental Compliance.

(a) Landlord represents and warrants that:

(i) No Hazardous Materials have been used, generated, stored or disposed of, on, under or about the Property in violation of any applicable law, regulation or administrative order (collectively, "*Environmental Laws*") by either Landlord or to Landlord's knowledge, any third party; and

(ii) To Landlord's knowledge, no third party been permitted to use, generate, store or dispose of any Hazardous Materials on, under, about or within the Property in violation of any Environmental Laws.

(b) Landlord will not, and will not permit any third party to use, generate, store or dispose of any Hazardous Materials on, under, about or within the Property in violation of any Environmental Laws.

(c) American Tower agrees that it will not use, generate, store or dispose of any Hazardous Material on, under, about or within the Site in violation of any applicable laws, regulations or administrative orders.

(d) The term "*Hazardous Materials*" means any: contaminants, oils, asbestos, PCBs, hazardous substances or wastes as defined by federal, state or local environmental laws, regulations or administrative orders or other materials the removal of which is required or the maintenance of which is prohibited or regulated by any federal, state or local government authority having jurisdiction over the Property.

### 14. Indemnification.

(a) General.

(i) Landlord, its heirs, grantees, successors, and assigns will exonerate, hold harmless, indemnify, and defend American Tower from any claims, obligations, liabilities, costs, demands, damages, expenses, suits or causes of action, including costs and reasonable attorney's fees, which may arise out of: (A) any injury to or death of any person; (B) any damage to property, if such injury, death or damage arises out of or is attributable to or results from the acts or omissions of Landlord, or Landlord's principals, employees, invitees, agents or independent contractors; or (C) any breach of any representation or warranty made by Landlord in this Agreement.

(ii) American Tower, its grantees, successors, and assigns will exonerate, hold harmless, indemnify, and defend Landlord from any claims, obligations, liabilities, costs, demands, damages, expenses, suits or causes of action, including costs and reasonable attorney's fees, which may arise out of: (A) any injury to or death of any person; (B) any damage to property, if such injury, death or damage arises out of or is attributable to or results from the negligent acts or omissions of American Tower, or American Tower's employees, agents or independent contractors; or (C) any breach of any representation or warranty made by American Tower in this Agreement.

(b) Environmental Matters.

(i) Landlord, its heirs, grantees, successors, and assigns will indemnify, defend, reimburse and hold harmless American Tower from and against any and all damages arising from the presence of Hazardous Materials upon, about or beneath the Property or migrating to or from the Property or arising in any manner whatsoever out of the violation of any Environmental Laws, which conditions exist or existed prior to or at the time of the execution of this Agreement or which may occur at any time in the future through no fault of American Tower. Notwithstanding the obligation of Landlord to indemnify American Tower pursuant to this Agreement, Landlord will, upon demand of American Tower, and at Landlord's sole cost and expense, promptly take all actions to remediate the Property which are required by any federal, state or local governmental agency or political subdivision or which are reasonably necessary to mitigate environmental damages or to allow full economic use of the Site, which remediation is necessitated from the presence upon, about or beneath the Property of a Hazardous Material. Such actions include but not be limited to the investigation of the environmental condition of the Property, the preparation of any feasibility studies, reports or remedial plans, and the performance of any cleanup, remediation, containment, operation, maintenance, monitoring or actions necessary to restore the Property to the condition existing prior to the introduction of such Hazardous Material upon, about or beneath the Property notwithstanding any lesser standard of remediation allowable under applicable law or governmental policies.

(ii) American Tower, its grantees, successors, and assigns will indemnify, defend, reimburse and hold harmless Landlord from and against environmental damages caused by the presence of Hazardous Materials on the Compound in violation of any Environmental Laws and arising solely as the result of American Tower's activities after the execution of this Agreement.

**15. Right of First Refusal; Sale of Property.**

(a) During the Term, prior to selling the Site or any portion of or interest in the Property or the Site, including but not limited to a leasehold interest or easement, or otherwise transfer Landlord's interest in Rent, and prior to assigning the Rent or any portion of Rent to a third party, Landlord shall notify American Tower in writing of the sale price and terms offered by a third party (the "Offer"), together with a copy of the Offer. American Tower will have the right of first refusal to purchase the real property interest or Rent or portion of Rent being sold by Landlord to such third party on the same financial terms of the Offer. American Tower will exercise its right of first refusal within 30 days of receipt of Landlord's notice and if American Tower does not provide notice within 30 days, American Tower will be deemed to have not exercised its right of first refusal. If American Tower does not exercise its right of first refusal, section 15(b) of this Agreement will control the terms of the sale.

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

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Agreement, including Landlord's obligation to cooperate with American Tower as provided hereunder, which obligation Landlord would no longer have the legal right or ability to perform following the sale without requiring compensation from American Tower or any Collocator to be paid to such purchaser.

**16. Assignment.**

(a) Any sublease, license or assignment of this Agreement that is entered into by Landlord or American Tower is subject to the provisions of this Agreement.

(b) Landlord may assign this Agreement in its entirety to any third party in conjunction with a sale of the Property in accordance with Paragraph 15 of this Agreement. Landlord will not otherwise assign less than Landlord's full interest in this Agreement without the prior written consent of American Tower.

(c) American Tower may assign this Agreement without prior notice to or the consent of Landlord. Upon assignment, American Tower shall be relieved of all liabilities and obligations hereunder and Landlord shall look solely to the assignee for performance under this Agreement and all obligations hereunder.

(d) American Tower may mortgage or grant a security interest in this Agreement and the Tower Facilities, and may assign this Agreement and the Tower Facilities to any such mortgagees or holders of security interests including their successors and assigns (collectively, "*Secured Parties*"). If requested by American Tower, Landlord will execute such consent to such financing as may reasonably be required by Secured Parties. In addition, if requested by American Tower, Landlord agrees to notify American Tower and American Tower's Secured Parties simultaneously of any default by American Tower and to give Secured Parties the same right to cure any default as American Tower. If a termination, disaffirmance or rejection of the Agreement by American Tower pursuant to any laws (including any bankruptcy or insolvency laws) occurs, or if Landlord will terminate this Agreement for any reason, Landlord will give to Secured Parties prompt notice thereof and Secured Parties will have the right to enter upon the Compound during a 30-day period commencing upon Secured Parties' receipt of such notice for the purpose of removing any Tower Facilities. Landlord acknowledges that Secured Parties are third-party beneficiaries of this Agreement.

**17. Condemnation.** If a condemning authority takes all of the Site, or a portion sufficient in American Tower's sole judgment, to render the Site unsuitable for the Intended Use, this Agreement will terminate as of the date the title vests in the condemning authority. Landlord and American Tower will share in the condemnation proceeds in proportion to the values of their respective interests in the Site (which for American Tower includes, where applicable, the value of the Tower Facilities, moving expenses, prepaid rent and business dislocation expenses). If a condemning authority takes less than the entire Site such that the Site remains suitable for American Tower's Intended Use, the Rent payable under this Agreement will be reduced automatically by such percentage as the area so condemned bears to the Site as of the date the title vests in the condemning authority. A sale of all or part of the Site to a purchaser with the power of eminent domain in the face of the exercise of eminent domain power will be treated as a taking by condemnation for the purposes of this paragraph.

**18. Insurance.** American Tower will purchase and maintain in full force and effect throughout the Option Period and the Term such general liability and property damage policies as American Tower may deem necessary. Said policy of general liability insurance will at a minimum provide a combined single limit of \$1,000,000.

**19. Waiver of Damages.**

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(a) In the event that American Tower does not exercise its Option: (i) Landlord's sole compensation and damages will be fixed and liquidated to the sums paid by American Tower to Landlord as consideration for the Option; and (ii) Landlord expressly waives any other remedies it may have for a breach of this Agreement including specific performance and damages for breach of contract.

(b) Neither Landlord nor American Tower will be responsible or liable to the other party for any loss or damage arising from any claim to the extent attributable to any acts of omissions of other licensees or tower users occupying the Tower Facilities or vandalism or for any structural or power failures or destruction or damage to the Tower Facilities except to the extent caused by the negligence or willful misconduct of such party.

(c) EXCEPT AS SPECIFICALLY PROVIDED IN THIS AGREEMENT, IN NO EVENT WILL LANDLORD OR AMERICAN TOWER BE LIABLE TO THE OTHER FOR, AND AMERICAN TOWER AND LANDLORD EACH HEREBY WAIVE THE RIGHT TO RECOVER INCIDENTAL, CONSEQUENTIAL (INCLUDING, BUT NOT LIMITED TO, LOST PROFITS, LOSS OF USE OR LOSS OF BUSINESS OPPORTUNITY), PUNITIVE, EXEMPLARY AND SIMILAR DAMAGES.

20. **Confidentiality.** Landlord will not disclose to any third party the Rent payable by American Tower under this Agreement and will treat such information as confidential, except that Landlord may disclose such information to prospective buyers, prospective or existing lenders, Landlord's affiliates and attorneys, or as may be required by law or as may be necessary for the enforcement of Landlord's rights under the Agreement.

21. **Subordination Agreements.**

(a) If the Site is encumbered by a mortgage or deed of trust, within 30 days of receipt of a written request from American Tower, Landlord agrees to execute and obtain the execution by its lender of a non-disturbance and attornment agreement in the form provided by American Tower, to the effect that American Tower and American Tower's sublessees and licensees will not be disturbed in their occupancy and use of the Site by any foreclosure or to provide information regarding the mortgage to American Tower.

(b) Should a subordination, non-disturbance and attornment agreement be requested by Landlord or a lender working with Landlord on a loan to be secured by the Property and entered into subsequent to the Execution Date, American Tower will use good faith efforts to provide Landlord or Landlord's lender with American Tower's form subordination, non-disturbance and attornment agreement executed by American Tower within 30 days of such request.

22. **Notices.** All notices or demands by or from American Tower to Landlord, or Landlord to American Tower, required under this Agreement will be in writing and sent (United States mail postage pre-paid, certified with return receipt requested or by reputable national overnight carrier service, transmit prepaid) to the other party at the addresses set forth in paragraph 1 of this Agreement or to such other addresses as the parties may, from time to time, designate consistent with this paragraph 22, with such new notice address being effective 30 days after receipt by the other party. Notices will be deemed to have been given upon either receipt or rejection.

23. **Further Acts.**

(a) Within 15 days after receipt of a written request from American Tower, Landlord will execute any document necessary or useful to protect American Tower's rights under this Agreement or to

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facilitate the Intended Use including documents related to title, zoning and other Approvals, and will otherwise cooperate with American Tower in its exercise of its rights under this Agreement.

(b) American Tower will be entitled to liquidated damages for the revenue lost by American Tower as a result of any delay caused by Landlord's unwillingness to execute a document or to take any other action deemed necessary by American Tower to protect American Tower's leasehold rights or to facilitate the Intended Use. As the actual amount of such lost revenue is difficult to determine, the parties agree that American Tower may deduct the amount of [REDACTED] per day from future installments of Rent for any delay to American Tower caused by Landlord's failure or unwillingness to act, such amount being an estimate of American Tower's lost revenue. American Tower's right to collect such liquidated damages will in no way affect American Tower's right to pursue any and all other legal and equitable rights and remedies permitted under applicable laws.

24. **Memorandum of Lease.** Simultaneously with the execution of this Agreement, the parties will enter into the Memorandum of Lease attached to this Agreement as Exhibit C which American Tower may record in the public records of the county of the Property. Landlord acknowledges and agrees that after Landlord signs the Memorandum of Lease but before American Tower records it, American Tower may add both: (a) a reference to the recording granting Landlord its interest in the Property; and (b) a legal description of the Site as Exhibit B. Landlord agrees to execute and return to American Tower a recordable Amended Memorandum of Lease in form supplied by American Tower if: (i) the information included in the Memorandum of Lease changes, or (ii) if it becomes clear that such information is incorrect or incomplete or if this Agreement is amended.

25. **Miscellaneous.**

(a) This Agreement runs with the Property and is binding upon and will inure to the benefit of the parties, their respective heirs, successors, personal representatives and assigns.

(b) American Tower may at American Tower's sole cost and expense procure an abstract of title or a commitment to issue a policy of title insurance (collectively "Title") on the Property.

(c) Landlord hereby waives any and all lien rights it may have, statutory or otherwise, in and to the Tower Facilities or any portion thereof, regardless of whether or not same is deemed real or personal property under applicable laws.

(d) The substantially prevailing party in any litigation arising hereunder is entitled to its reasonable attorney's fees and court costs, including appeals, if any.

(e) Each party agrees to furnish to the other, within 30 days after request, such estoppel information as the other may reasonably request.

(f) This Agreement constitutes the entire agreement and understanding of Landlord and American Tower with respect to the subject matter of this Agreement, and supersedes all offers, negotiations and other agreements. There are no representations or understandings of any kind not stated in this Agreement. Any amendments to this Agreement must be in writing and executed and delivered by Landlord and American Tower.

(g) If either Landlord or American Tower is represented by a real estate broker in this transaction, that party is fully responsible for any fees due such broker and will hold the other party harmless from any claims for commission by such broker.

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(h) The Agreement will be construed in accordance with the laws of the state in which the Site is situated.

(i) If any term of the Agreement is found to be void or invalid, the remainder of this Agreement will continue in full force and effect.

(j) American Tower may obtain title insurance on its interest in the Site, and Landlord will cooperate by executing any documentation required by the title insurance company.

(k) This Agreement may be executed in two or more counterparts, all of which are considered one and the same agreement and become effective when one or more counterparts have been signed by each of the parties, it being understood that all parties need not sign the same counterpart.

(l) Landlord will not, during the Option Period or the Term, enter into any other lease, license, or other agreement for the same or similar purpose as the Intended Use, on or adjacent to the Property.

(m) Failure or delay on the part of either party to exercise any right, power or privilege hereunder will not operate as a waiver thereof and waiver of breach of any provision hereof under any circumstances will not constitute a waiver of any subsequent breach.

(n) The parties agree that irreparable damage would occur if any of the provisions of this Agreement were not performed in accordance with their specified terms or were otherwise breached. Therefore, the parties agree the parties will be entitled to an injunction(s) in any court in the state in which the Site is located to prevent breaches of the provisions of this Agreement and to enforce specifically the terms and provisions of the Agreement, this being in addition to any other remedy to which the parties are entitled at law or in equity.

(o) Each party executing this Agreement acknowledges that it has full power and authority to do so and that the person executing on its behalf has the authority to bind the party.

(p) The parties agree that a scanned or electronically reproduced copy or image of this Agreement will be deemed an original and may be introduced or submitted in any action or proceeding as competent evidence of the execution, terms and existence hereof notwithstanding the failure or inability to produce or tender an original, executed counterpart of this Agreement and without the requirement that the unavailability of such original, executed counterpart of this Agreement first be proven.

[SIGNATURES APPEAR ON NEXT PAGE]

Site Name: Pea Ridge, KY  
Site Number: 281378

IN WITNESS WHEREOF, Landlord and American Tower have each executed this Agreement as of the respective dates written below.

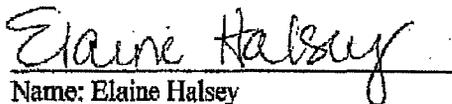
LANDLORD:

Ronnie Halsey and Elaine Halsey, his wife,  
with rights of survivorship



Name: Ronnie Halsey

Date: 11-14-2013



Name: Elaine Halsey

Date: 11-14-2013

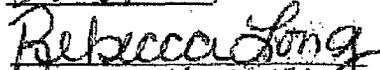
**Acknowledgement**

STATE OF KENTUCKY  
COUNTY OF WOLFE

I, a Notary Public of the County and State aforesaid, certify that Ronnie Halsey and Elaine Halsey came before me this day and acknowledged the execution of the foregoing instrument.

Witness my hand and official stamp or seal, this 14<sup>th</sup> day of Nov., 2013.

[Affix Notary Seal]

  
Notary Public 4633910  
My commission expires:

3-26-16



Site Name: Pea Ridge, KY  
Site Number: 281378

The following exhibits are attached to this Agreement and incorporated into this Agreement:

Exhibit A	Description or Depiction of Property
Exhibit B	Description or Depiction of Site
Exhibit C	Memorandum of Lease

Site Name: Pea Ridge, KY  
Site Number: 281378

## EXHIBIT A

### DESCRIPTION OR DEPICTION OF PROPERTY

The Property is described and/or depicted as follows:

THAT CERTAIN TRACT OR PARCEL OF LAND LYING AND BEING IN WOLFE COUNTY, KENTUCKY,  
BEING MORE PARTICULARLY BOUNDED AND DESCRIBED AS FOLLOWS:

BEGINNING AT A SET STONE AT A FENCE AND THE MILLER RIDGE ROAD; THENCE WITH THE  
FENCE AN EAST COURSE 210 FEET TO A SET STONE AT THE CORNER OF THE FENCE; THENCE  
WITH THE FENCE A SOUTH COURSE 250 FEET TO A SET STONE AT THE CORNER OF THE  
FENCE; THENCE WITH THE FENCE A WEST COURSE 185 FEET TO A SET STONE AT THE MILLER  
RIDGE ROAD; THENCE WITH THE MILLER RIDGE ROAD A NORTH COURSE 210 FEET TO THE  
FENCE AND SET STONE THE PLACE OF BEGINNING.

TAX I.D. NUMBER: 012-00-00-023.00

Site Name: Pea Ridge, KY  
Site Number: 281378

## EXHIBIT B

### DESCRIPTION OR DEPICTION OF SITE

Locations are approximate. American Tower may, at its option, replace this exhibit with a copy of the survey of the Site.

#### Proposed Compound area:

Situated in Wolfe County, State of Kentucky and known as being a part of Wolfe County Parcel Number: 012-00-00-023.00 as conveyed to Ronnie Halsey by Deed Book 120 Page 607 and more recorded deed documents, further bound and described as follows:

Commencing at the Southwest corner of said lands conveyed to Halsey, the same being a point in the Eastern Right-of-Way line of Miller Ridge Road, and the Northwest corner of lands conveyed to Lorena Spencer, etal by deed dated August 4, 1997 as recorded in Deed Book 100, Page 154 of Wolfe County Clerk Records;

Thence leaving said Right-of-Way line, bearing North  $38^{\circ}25'10''$  East, a distance of 367.15 feet to an iron pin set and being the **TRUE PLACE OF BEGINNING** of the Lease Area herein described;

Thence, bearing South  $80^{\circ}15'19''$  West, a distance of 42.00 feet to an iron pin set;

Thence at a right angle, bearing North  $09^{\circ}44'41''$  West, a distance of 70.00 feet to an iron pin set;

Thence at a right angle, bearing North  $80^{\circ}15'19''$  East, a distance of 42.00 feet to an iron pin set;

Thence at a right angle, bearing South  $09^{\circ}44'41''$  East, a distance of 70.00 feet to the **TRUE PLACE OF BEGINNING**, containing 0.0675 acres of land, more or less but subject to all legal highways and all covenants and agreements of record.

Bearings are based on Grid North of KY Single Zone NAD 83 and are used herein to indicate angles only.

This legal description was prepared based on a survey under the supervision of Andrew G. Planet, P.L.S. #3912 by Rolling & Hecavar, Inc. in October 2013.

Site Name: Pea Ridge, KY  
Site Number: 281378

## EXHIBIT B Continued

### Proposed Access Easement:

Legal Description for a 20-foot Access/Utility Easement  
Project No. 150R-47  
October 18, 2013

Situated in Wolfe County, State of Kentucky and known as being a part of Wolfe County Parcel Number: 012-00-00-02300 as conveyed to Rennie Halsey by Deed Book 120 Page 607 and more recorded deed documents, further bound and described as follows:

Commencing at the Southwest corner of said lands conveyed to Halsey, the same being a point in the Eastern Right-of-Way line of Miller Ridge Road, and the Northwest corner of lands conveyed to Leratta Spencer, et al by deed dated August 6, 1997 as recorded in Deed Book 100, Page 154 of Wolfe County Clerk Records;

Thence along said Right-of-Way line, bearing North 22°20'37" East, a distance of 121.55 feet to a point thence and being the TRUE PLACE OF BEGINNING of the Access/Utility Easement herein described;

Thence continuing along said Right-of-Way line, bearing North 19°20'01" East, a distance of 27.45 feet to a point thence;

Thence, bearing North 62°06'34" East, a distance of 39.41 feet to a point;

Thence, bearing North 45°48'33" East, a distance of 140.14 feet to a point;

Thence, bearing North 13°17'13" East, a distance of 5.98 feet to a point;

Thence, bearing North 09°44'41" West, a distance of 20.00 feet to an iron pin set at the Southwestern corner of a proposed American Tower Corporation Lease Area;

Thence at a right angle and along the Southern line of said Lease Area, bearing North 80°15'19" East, a distance of 42.00 feet to an iron pin set at the Southeastern corner thereof;

Thence leaving said Lease Area line at a right angle, bearing South 09°44'41" East, a distance of 20.00 feet to a point;

Thence at a right angle, bearing South 80°15'19" West, a distance of 20.27 feet to a point;

Thence, bearing South 13°17'13" West, a distance of 20.31 feet to a point;

Thence, bearing South 45°48'33" West, a distance of 143.84 feet to a point;

Thence, bearing South 62°06'34" West, a distance of 61.07 feet to the TRUE PLACE OF BEGINNING, containing 0.147 acres of land, intending to be a 20-foot wide strip of land, more or less but subject to all legal highways and all covenants and agreements of record;

Bearings are based on Grid North of KY Single Zone NAD 83 and are used herein to indicate angles only.

This legal description was prepared based on a survey under the supervision of Andrew S. Placet, P.L.S. #3992 by Rolling & Hoover, Inc. in October 2013.

Site Name: Poa Ridge, KY  
Site Number: 281378

### EXHIBIT B Continued

#### Proposed Utility Easement:

Situated in Wolfe County, State of Kentucky and known as being a part of Wolfe County Parcel Number: 011-00-00-023.00 as conveyed to Ronnie Halsey by Deed Book 120 Page 607 and more recorded deed documents, further bound and described as follows:

Commencing at the Southwest corner of said lands conveyed to Halsey, the same being a point in the Eastern Right-of-Way line of Miller Ridge Road, and the Northwest corner of lands conveyed to Lovetta Spencer, etal by deed dated August 4, 1997 as recorded in Deed Book 100, Page 154 of Wolfe County Court Records:

Thence leaving said Right-of-Way line, bearing North 58°25'10" East, a distance of 367.15 feet to an iron pin set at the Southeastern corner of a proposed American Tower Corporation Lease Area and being the **TRUE PLACE OF BEGINNING** of the Utility Easement herein described;

Thence along the Eastern line of said Lease Area, bearing North 09°44'41" West, a distance of 70.00 feet to an iron pin set at the Northeastern corner thereof;

Thence leaving said Lease Area line at a right angle, bearing North 80°15'19" East, a distance of 10.00 feet to a point;

Thence at a right angle, bearing South 09°44'41" East, a distance of 90.00 feet to a point;

Thence at a right angle, bearing South 80°15'19" West, a distance of 10.00 feet to a point;

Thence at a right angle, bearing North 09°44'41" West, a distance of 20.00 feet to the **TRUE PLACE OF BEGINNING**, containing 0.0207 acres of land, intending to be a 10-foot wide strip of land, more or less but subject to all legal highways and all covenants and agreements of record.

Bearings are based on Grid North of KY Single Zone NAD 83 and are used herein to indicate angles only.

Site Name: Pea Ridge, KY  
Site Number: 281378

**EXHIBIT C**

**MEMORANDUM OF LEASE**

[see following pages]



**EXHIBIT K  
NOTIFICATION LISTING**

## Pea Ridge Landowner Notice Listing

Ronnie Halsey  
67 Miller Ridge  
Pine Ridge, KY 41360

Faye Brewer  
57 Meadowbrook Drive  
Stanton, KY 40380

Donna Exman  
P.O. Box 431  
Medway, OH 45341

Ernest & Opal Pennington  
6395 Old KY., 15  
Pine Ridge, KY 41360

Ernie Tyra  
8050 Old KY., 15  
Pine Ridge, KY 41360

USDA US Forestry Division  
100 Vaught Road  
Winchester, KY 40391

Loretta Spencer, Et Al  
c/o Dephia Graham  
P.O. Box 455  
Winchester, KY 40392

Danny Phillips  
270 Miller Ridge Road  
Pine Ridge, KY 41360

Michael Prater  
1019 Silverleaf Lane  
Liberty, Missouri 64068

John & April Abner  
540 Old KY 15  
Campton, KY 41301

Diannia Haney  
68 Miller Ridge Road  
Pine Ridge, KY 41360



**EXHIBIT L**  
**COPY OF PROPERTY OWNER NOTIFICATION**



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

**Notice of Proposed Construction of  
Wireless Communications Facility  
Site Name: Pea Ridge**

Dear Landowner:

New Cingular Wireless PCS, LLC, a Delaware limited liability company, d/b/a AT&T Mobility and American Towers LLC, a Delaware limited liability company d/b/a Delaware American Towers have filed an application with the Kentucky Public Service Commission ("PSC") to construct a new wireless communications facility on a site located at 395 Miller Ridge Road, Pine Ridge, KY 41360 (37° 46' 24.18" North latitude, 83° 38' 08.92" West longitude). The proposed facility will include a 255-foot tall antenna tower, plus a 10-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 Wolfe 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 2014-00108 in any correspondence sent in connection with this matter.

We have attached a map showing the site location for the proposed tower. AT&T Mobility's radio frequency engineers assisted in selecting the proposed site for the facility, and they have determined it is the proper location and elevation needed to provide quality service to wireless customers in the area. Please feel free to contact us toll free at (800) 516-4293 if you have any comments or questions about this proposal.

Sincerely,  
David A. Pike  
Attorney for AT&T Mobility

enclosure

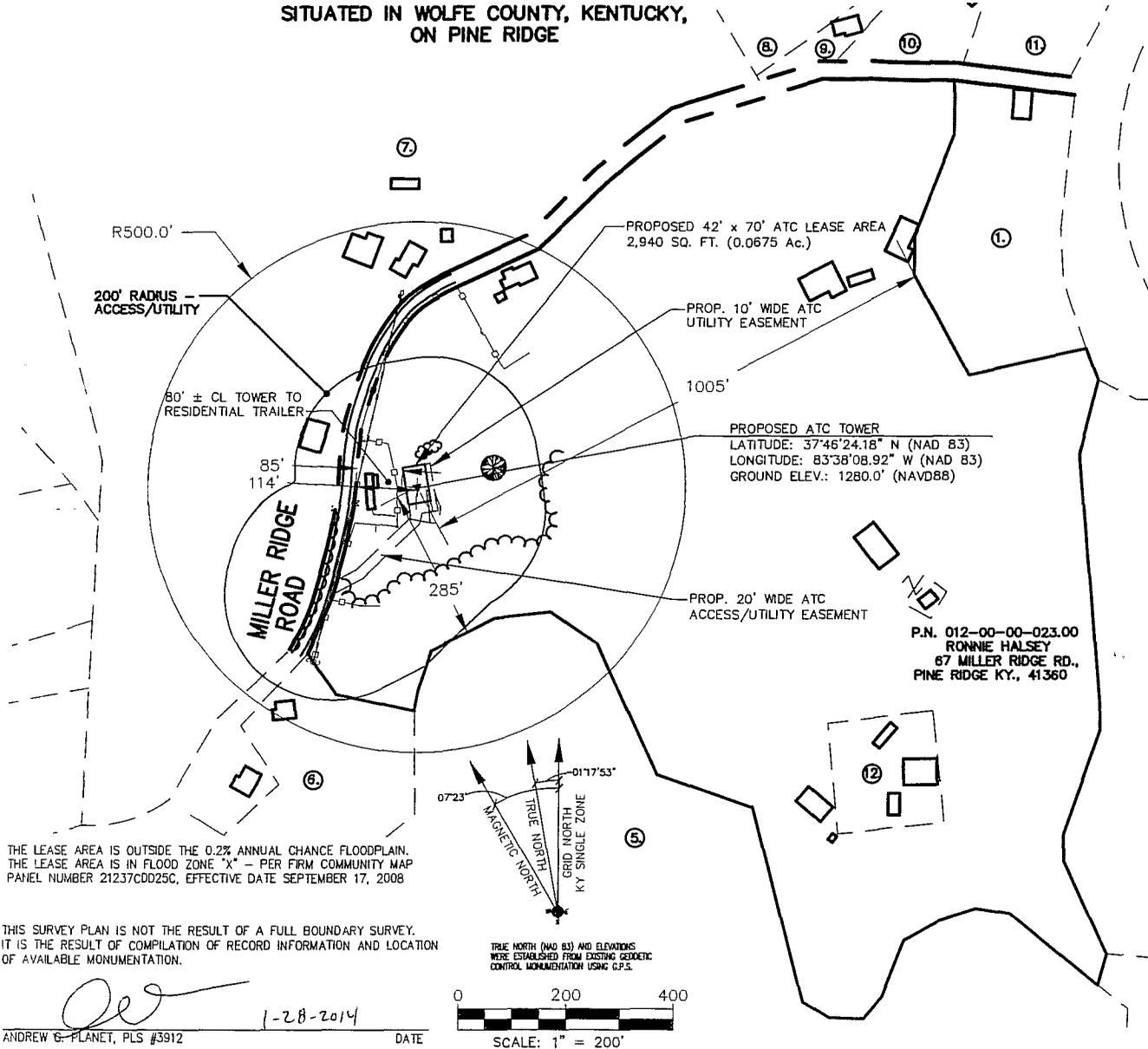
## Driving Directions to Proposed Tower Site:

1. Beginning at the Wolfe County Circuit Court Clerk's Office, located at 133 Main Street, Campton, Kentucky, head west towards Johnson Street.
2. Make a slight left onto Johnson Street and travel approximately 285 feet.
3. Make a slight right onto Drake Street and travel approximately 0.1 miles.
4. Continue onto KY-15 N for an additional 6.9 miles.
5. Turn left onto Miller Ridge. After 0.4 miles, the site will be on your left.
6. site coordinates are
  - a. 37 deg 46 min 24.18 sec N
  - b. 83 deg 38 min 08.92 sec W



Prepared by:  
Aaron Roof  
Pike Legal Group PLLC  
1578 Highway 44 East, Suite 6  
PO Box 369  
Shepherdsville, KY 40165-0369  
Telephone: 502-955-4400 or 800-516-4293

SITUATED IN WOLFE COUNTY, KENTUCKY,  
ON PINE RIDGE



THE LEASE AREA IS OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN.  
THE LEASE AREA IS IN FLOOD ZONE "X" - PER FIRM COMMUNITY MAP  
PANEL NUMBER 21237CD025C, EFFECTIVE DATE SEPTEMBER 17, 2008

THIS SURVEY PLAN IS NOT THE RESULT OF A FULL BOUNDARY SURVEY.  
IT IS THE RESULT OF COMPILATION OF RECORD INFORMATION AND LOCATION  
OF AVAILABLE MONUMENTATION.

*Andrew G. Planet*  
ANDREW G. PLANET, PLS #3912  
1-28-2014  
DATE

ADJOINING LAND OWNERS LISTED ARE ACCORDING TO THE  
RECORDS OF THE PROPERTY VALUATION ADMINISTRATOR  
AS FOUND AT THE WOLFE COUNTY PVA OFFICE. THIS  
INFORMATION WAS COMPILED ON 01-22-2014.

**OWNERSHIP INFORMATION**

- P.N. 012-00-00-022.00  
FAYE BREWER  
57 MEADOWBROOK DR.,  
STANTON, KY., 40380
- P.N. 012-00-00-043.00  
DONNA EXMAN  
P.O. BOX 431,  
MEDWAY, OHIO, 45341
- P.N. 012-00-00-044.00  
ERNEST & OPAL PENNINGTON  
6395 OLD KY., 15  
PINE RIDGE, KY., 41360
- P.N. 012-00-00-045.00  
ERNE TYRA  
8050 OLD KY., 15  
PINE RIDGE, KY., 41360
- P.N. 020-00-00-012.00  
USDA US FORESTRY DIVISION  
100 VAUGHT ROAD  
WINCHESTER, KY., 40391
- P.N. 012-00-00-028.00  
LORETTA SPENCER, ETAL  
C/O DEPHIA GRAHAM  
P.O. BOX 455,  
WINCHESTER, KY., 40392
- P.N. 012-00-00-025.00  
DANNY PHILLIPS  
270 MILLER RIDGE RD.  
PINE RIDGE, KY., 41360
- P.N. 012-00-00-026.02  
MICHAEL PRATER  
1019 SILVERLEAF LANE  
LIBERTY, MISSOURI, 64068
- P.N. 012-00-00-026.01  
JOHN & APRIL ABNER  
540 OLD KY 15  
CAMPTON, KY., 41301
- P.N. 012-00-00-026.01  
JOHN & APRIL ABNER  
540 OLD KY 15  
CAMPTON, KY., 41301
- P.N. 012-00-00-021.00  
DIANNIA HANEY  
68 MILLER RIDGE ROAD  
PINE RIDGE, KY., 41360
- P.N. 012-00-00-024.00  
RONNIE HALSEY  
67 MILLER RIDGE RD.  
PINE RIDGE, KY., 41360



REVISIONS	DATE	BY	DESCRIPTION
1	01-24-14	ADP	FINAL SURVEY
2	01-24-14	ADP	REVISE FLOODPLAIN/UPDATE OWNERSHIP
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			

AT&T SITE # 143436  
ATC SITE # 281378

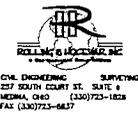
PEA RIDGE

395 MILLER RIDGE ROAD  
PINE RIDGE,  
KENTUCKY 41360

DRAWN BY: PFE  
CHECKED BY: ADP  
DATE: 10/18/2013  
PROJECT #: 1008-471

SHEET TITLE  
OVERALL  
SITE

SHEET NUMBER  
S3





**EXHIBIT M**  
**COPY OF COUNTY JUDGE/EXECUTIVE NOTICE**



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

**VIA CERTIFIED MAIL**

Hon. Dennis Brooks  
Wolfe County Judge Executive  
10 Court Street  
P.O. Box 429  
Campton, KY 41301

RE: Notice of Proposal to Construct Wireless Communications Facility  
Kentucky Public Service Commission Docket No. 2014-00108  
Site Name: Pea Ridge

Dear Judge Brooks:

New Cingular Wireless PCS, LLC, a Delaware limited liability company, d/b/a AT&T Mobility and American Towers LLC, a Delaware limited liability company d/b/a Delaware American Towers have filed an application with the Kentucky Public Service Commission ("PSC") to construct a new wireless communications facility on a site located at 395 Miller Ridge Road, Pine Ridge, Kentucky 41360 (37° 46' 24.18" North latitude, 83° 38' 08.92" West longitude). The proposed facility will include a 255-foot tall antenna tower, plus a 10-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 2014-00108 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 AT&T Mobility  
enclosures

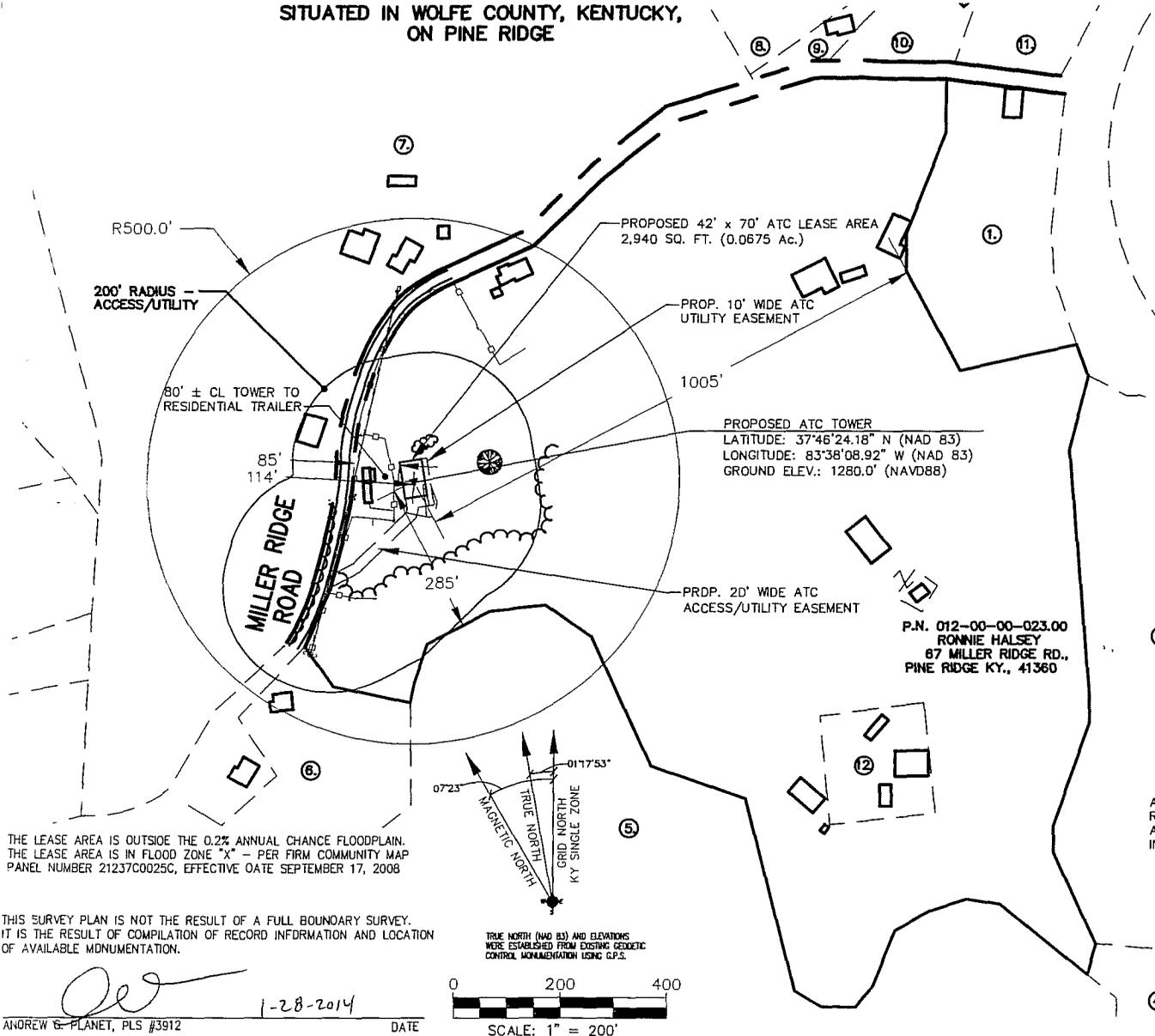
## Driving Directions to Proposed Tower Site:

1. Beginning at the Wolfe County Circuit Court Clerk's Office, located at 133 Main Street, Campton, Kentucky, head west towards Johnson Street.
2. Make a slight left onto Johnson Street and travel approximately 285 feet.
3. Make a slight right onto Drake Street and travel approximately 0.1 miles.
4. Continue onto KY-15 N for an additional 6.9 miles.
5. Turn left onto Miller Ridge. After 0.4 miles, the site will be on your left.
6. site coordinates are
  - a. 37 deg 46 min 24.18 sec N
  - b. 83 deg 38 min 08.92 sec W



Prepared by:  
Aaron Roof  
Pike Legal Group PLLC  
1578 Highway 44 East, Suite 6  
PO Box 369  
Shepherdsville, KY 40165-0369  
Telephone: 502-955-4400 or 800-516-4293

SITUATED IN WOLFE COUNTY, KENTUCKY,  
ON PINE RIDGE



**OWNERSHIP INFORMATION**

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57 MEADOWBROOK DR.,  
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ERNEST & OPAL PENNINGTON  
6395 OLD KY., 15  
PINE RIDGE, KY., 41360
4. P.N. 012-00-00-045.00  
ERNE TYRA  
8050 OLD KY., 15  
PINE RIDGE, KY., 41360
5. P.N. 020-00-00-012.00  
USDA US FORESTRY DIVISION  
100 VAUGHT ROAD  
WINCHESTER, KY., 40391
6. P.N. 012-00-00-028.00  
LORETTA SPENCER, ETAL  
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P.O. BOX 455,  
WINCHESTER, KY., 40392
7. P.N. 012-00-00-025.00  
DANNY PHILLIPS  
270 MILLER RIDGE RD.  
PINE RIDGE, KY., 41360
8. P.N. 012-00-00-026.02  
MICHAEL PRATER  
1019 SILVERLEAF LANE  
LIBERTY, MISSOURI, 64068
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JOHN & APRIL ABNER  
540 OLD KY 15  
CAMPTON, KY., 41301
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CAMPTON, KY., 41301
11. P.N. 012-00-00-021.00  
DIANNA HANEY  
68 MILLER RIDGE ROAD  
PINE RIDGE, KY., 41360
12. P.N. 012-00-00-024.00  
RONNIE HALSEY  
67 MILLER RIDGE RD.  
PINE RIDGE, KY., 41360

ADJOINING LAND OWNERS LISTED ARE ACCORDING TO THE RECORDS OF THE PROPERTY VALUATION ADMINISTRATOR AS FOUND AT THE WOLFE COUNTY PVA OFFICE. THIS INFORMATION WAS COMPILED ON 01-22-2014.

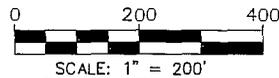
THE LEASE AREA IS OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN. THE LEASE AREA IS IN FLOOD ZONE "X" - PER FIRM COMMUNITY MAP PANEL NUMBER 21237C0025C, EFFECTIVE DATE SEPTEMBER 17, 2008

THIS SURVEY PLAN IS NOT THE RESULT OF A FULL BOUNDARY SURVEY. IT IS THE RESULT OF COMPILATION OF RECORD INFORMATION AND LOCATION OF AVAILABLE MONUMENTATION.

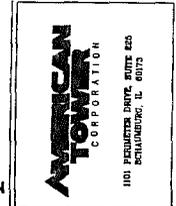
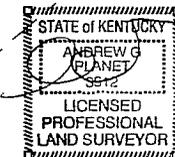
ANDREW G. PLANET, PLS #3912

1-28-2014

DATE



TRUE NORTH (NAD 83) AND ELEVATIONS WERE ESTABLISHED FROM EXISTING GEODETIC CONTROL MONUMENTATION USING GPS.



REVISIONS	DATE	BY
1	12-18-13	ASP
2	01-23-14	ASP
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		

AT&T SITE # 143436  
ATC SITE # 281378

PEA RIDGE

395 MILLER RIDGE ROAD  
PINE RIDGE,  
KENTUCKY 41360

DRAWN BY:	PHL
CHECKED BY:	ASP
DATE:	10/16/2013
PROJECT #:	1008-171

SHEET TITLE	OVERALL SITE
SHEET NUMBER	S3



**EXHIBIT N**  
**COPY OF POSTED NOTICES**

VIA TELEFAX: 606-668-6001

The Wolfe County News  
Attn: J.B. Stamper  
P.O. Box 129  
Campton, KY 41301

RE: Legal Notice Advertisement  
Site Name: Pea Ridge

Dear Mr. Stamper:

Please publish the following legal notice advertisement in the next edition of *the Wolfe County News*:

**NOTICE**

**New Cingular Wireless PCS, LLC, a Delaware limited liability company, d/b/a AT&T Mobility and American Towers LLC, a Delaware limited liability company d/b/a Delaware American Towers have filed an application with the Kentucky Public Service Commission ("PSC") to construct a new wireless communications facility on a site located at 395 Miller Ridge Road, Pine Ridge, KY 41360 (37°46'24.18" North latitude, 83°38'08.92" 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 2014-00108 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

**SITE NAME: PEA RIDGE**  
**NOTICE SIGNS**

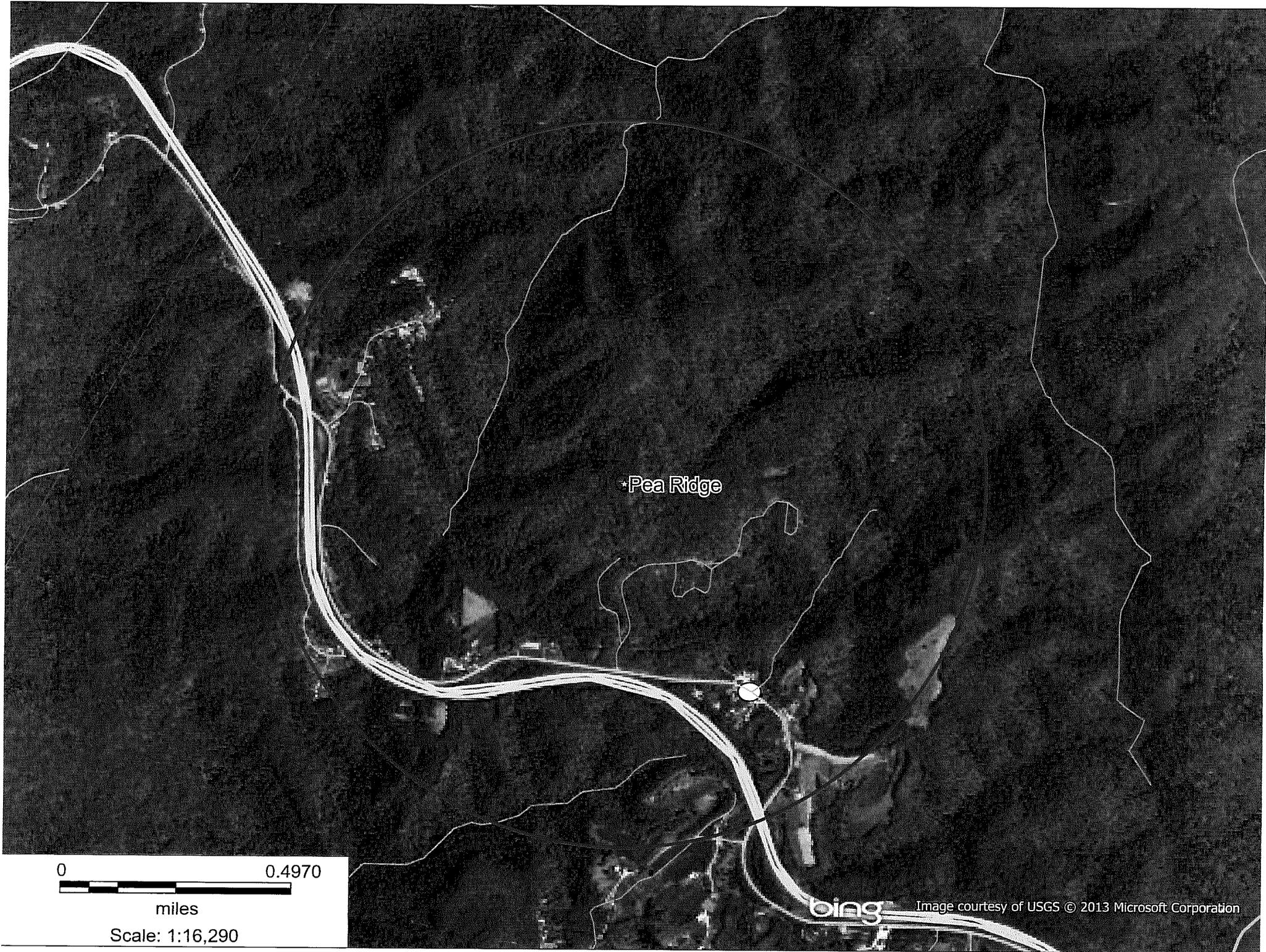
The signs are at least (2) feet by four (4) feet in size, of durable material, with the text printed in black letters at least one (1) inch in height against a white background, except for the word "**tower**," which is at least four (4) inches in height.

New Cingular Wireless PCS, LLC 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 (800) 516-4293, or the Executive Director, Public Service Commission, 211 Sower Boulevard, PO Box 615, Frankfort, Kentucky 40602. Please refer to docket number Case No. 2014-00108 in your correspondence.

New Cingular Wireless PCS, LLC 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 (800) 516-4293, or the Executive Director, Public Service Commission, 211 Sower Boulevard, PO Box 615, Frankfort, Kentucky 40602. Please refer to docket number Case No. 2014-00108 in your correspondence.



**EXHIBIT O**  
**COPY OF RADIO FREQUENCY DESIGN SEARCH AREA**



+Pea Ridge

0 0.4970

miles

Scale: 1:16,290

bing

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