COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the matter of:

THE APPLICATION OF EAST KENTUCKY NETWORK, LLC FOR THE ISSUANCE OF A CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY TO CONSTRUCT A TOWER IN JACKSON COUNTY, KENTUCKY.	)	CASE NO. 2019-00291

East Kentucky Network, LLC d/b/a Appalachian Wireless was granted authorization to provide cellular service in the KY-10 Cellular Market Area (CMA452) by the Federal Communications Commission (FCC). The FCC license is included as Exhibit 1. East Kentucky Network, LLC merger documents were filed with the Commission on February 2, 2001 in Case No. 2001-022. East Kentucky Network, LLC is a Kentucky Limited Liability Company that was organized on June 16, 1998. East Kentucky Network, LLC is in good standing with the state of Kentucky.

In an effort to improve service in Jackson County, pursuant to KRS 278.020 Subsection 1 and 807 KAR 5:001, East Kentucky Network, LLC is seeking the Commission's approval to construct a 180-foot telecommunications tower on a tract of land located at 1147 Highway 89 North, McKee, Jackson County, Kentucky (37°'26'52.5414"N 83°59'26.6584"W). A map and detailed directions to the site can be found in Exhibit 7.

Construction of the proposed tower is required by public convenience and necessity. Due to increasing demand for telecommunications service, the proposed tower is necessary to provide adequate coverage. The proposed tower will improve service in Jackson County by providing an interconnection between East Kentucky Network, LLC other sites thereby forming a cohesive network.

Exhibit 2 is a list of all property owners according to the Property Valuation Administrator's record who own property within 500 feet of the proposed tower and all property owners that own property contiguous to the property upon which construction is proposed in accordance with the Property Valuation Administrator's record.

Pursuant to 807 KAR 5:063 Section 1(1)(l), Section 1(1)(m) and Section 2, all affected property owners according to the Property Valuation Administrator's record who own property within 500 feet of the proposed Tower or contiguous to the property upon which construction is proposed were notified by certified mail return receipt requested of East Kentucky Network, LLC's proposed construction and informed of their right to intervene. They were given the docket number under which this application is filed. Enclosed in Exhibit 2 is a copy of that notification.

Jackson County has no formal local planning unit. In absence of this unit, the Jackson County Judge Executive's office was notified by certified mail, return receipt requested, of East Kentucky Network, LLC's proposal and informed of their right to intervene. The Jackson County Judge Executive's office was also given the docket number under which this application is filed. Enclosed in Exhibit 3 is a copy of that notification.

Notice of the location of the proposed construction was published in The Jackson County Sun, October 31, 2019, edition. Enclosed is a copy of that notice in Exhibit 3. The Jackson County Sun is the newspaper with the largest circulation in Jackson County.

A geologist was employed to determine soil and rock types and to ascertain the distance to solid bedrock. The geotechnical report is enclosed as Exhibit 4.

A copy of the tower design information is enclosed as Exhibit 5. The proposed tower has been designed by engineers at Rohn Products LLC and will be constructed under their supervision. Their qualifications are evidenced in Exhibit 5 by the seal and signature of the registered professional engineer responsible for this project.

The tower will be erected by S & S Tower Services of St. Albans, West Virginia. S & S Tower Services has vast experience in the erection of communications towers. Their qualifications are described in Exhibit 5.

FAA and Kentucky Airport Zoning Commission applications are included as Exhibit 6.

No Federal Communications Commission approval is required prior to construction of this facility. Once service is established from this tower we must immediately notify the Federal Communications Commission of its operation. Prior approval is needed only if the proposed facility increases the size of the cellular geographic service area. This cell site will not expand the cellular geographic service area.

East Kentucky Network, LLC will finance the subject construction with earned surplus in its General Fund.

Estimated Cost of Construction	$ 350,000.00
Annual Operation Expense of Tower	$ 12,500.00

Two notice signs meeting the requirements prescribed by 807 KAR 5:063, Section 1(2), measuring at least two (2) feet in height and four (4) feet in width and containing all required language in letters of required height, have been posted, one at a visible location on the proposed site and one on the nearest public road. The two signs were posted on October 25, 2019, and will remain posted for at least two weeks after filing of this application as specified.

Enclosed in Exhibit 8 is a copy of East Kentucky Network LLC's Memorandum of Lease for the site location along with a lot description.

The proposed construction site is on a rugged mountaintop some feet from the nearest structure. Prior to construction, the site was wooded.

East Kentucky Network, LLC's operation will not affect the use of nearby land nor its value. No more suitable site exists in the area. A copy of the search area map is enclosed in Exhibit 7.

No other tower capable of supporting East Kentucky Network, LLC's load exists in the general area; therefore, there is no opportunity for co-location of our facilities with anyone else.

Enclosed and filed as Exhibit 9 is a survey of the proposed tower site signed by a Kentucky registered professional engineer.

Exhibit 10 is a map in one (1) inch equals 200 feet scale identifying every structure and every owner of real estate within 500 feet of the proposed tower and all property owners who own contiguous property to the property upon which construction is proposed.

Exhibit 11 contains a vertical sketch of the tower supplied by James W. Caudill, Kentucky registered professional engineer.

Enclosed as Exhibit 12 is a list of utilities, corporations, or persons with whom the tower is likely to compete.

[THE REMAINDER OF THIS PAGE INTENTIONALLY LEFT BLANK.]

WHEREFORE, Applicant, having met the requirements of KRS 278.020(1), 278.650, 278.665 and all applicable rules and regulations of the PSC, respectfully requests that the PSC accept the foregoing Application for filing and grant a Certificate of Public Convenience and Necessity to construct and operate the proposed tower.

The foregoing document was prepared by Krystal Branham, Regulatory Compliance Attorney at East Kentucky Network, LLC d/b/a Appalachian Wireless. All related questions or correspondence concerning this filing should be mailed to East Kentucky Network, LLC d/b/a/ Appalachian Wireless, 101 Technology Trail, Ivel, KY 41642.

SUBMITTED BY: Lynn Haney DATE: 10/30/19
Lynn Haney, Regulatory Compliance Director

APPROVED BY: W A Gillum DATE: 10/30/19
W.A. Gillum, General Manager

ATTORNEY: Krystal Branham DATE: 10/30/19
Hon. Krystal Branham, Attorney

CONTACT INFORMATION:

W.A. Gillum, General Manager
Phone: (606) 477-2355, Ext. 111
Email: wagillum@ekn.com

Lynn Haney, Regulatory Compliance Director
Phone: (606) 477-2355, Ext. 1007
Email: lhaney@ekn.com

Krystal Branham, Attorney
Phone: (606) 477-2355, Ext. 1009
Email: kbranham@ekn.com

Mailing Address:

East Kentucky Network, LLC
d/b/a Appalachian Wireless
101 Technology Trail
Ivel, KY 41642

ULS License

Cellular License - KNKN809 - East Kentucky Network, LLC d/b/a Appalachian Wireless

Call Sign	KNKN809	Radio Service	CL - Cellular
Status	Active	Auth Type	Regular

Market

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

Dates

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

Five Year Buildout Date

10/17/1996

Control Points

1	US Route 23, FLOYD, Harold, KY P: (606)478-2355

Licensee

FRN	0001786607	Type	Limited Liability Company

Licensee

East Kentucky Network, LLC d/b/a Appalachian Wireless
101 Technology Trail
Ivel, KY 41642
P:(606)477-2355

Contact

Lukas, Nace, Gutierrez & Sachs, LLP
Pamela L Gist Esq
8300 Greensboro Drive
McLean, VA 22102
P:(703)584-8665
F:(703)584-8695
E:pgist@fcclaw.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

Ethnicity

Gender

EXHIBIT 2 - LIST OF PROPERTY OWNERS

Statement Pursuant to Section 1 (1) (I) 807 KAR 5:063

Section 1 (1)(I) 1. The following is a list of every property owner who according to property valuation administrator's records, owns property within 500 feet of the proposed tower and each have been: notified by certified mail, return receipt requested, of the proposed construction,

Section 1 (1)(I) 2. Every person listed below who, according to the property valuation administrator's records, owns property within 500 feet of the proposed tower has been: Given the Commission docket number under which the application will be processed: and

Section 1 (1)(I) 3. Every person listed below who, according to property valuation administrator's records owns property within 500 feet of the proposed tower has been: Informed of his right to request intervention.

Section 2. If the construction is proposed for an area outside the incorporated boundaries of a city, the application shall state that public notices required by Section 1(1)(L) have been sent to every person who, according to the property valuation administrator, owns property contiguous to the property upon which the construction is proposed

LIST OF PROPERTY OWNERS

Robert Johnson
1147 Highway 89N
McKee, KY 40447

Teddy Creech
2722 Pilgrims Rest Road
McKee, KY 40447

Daniel Boone National Forest
London Ranger District
761 South Laurel Road
London, KY 40744

James B. Kyle and Jamie Welch
159 Old Country Road
McKee, KY 40447

Phillip and Barbara Jean Johnson
Box 603
McKee, KY 40447

Appalachian WIRELESS
www.appalachianwireless.com

EAST KENTUCKY NETWORK, LLC
www.ekn.com

VIA: U.S. CERTIFIED MAIL

PUBLIC NOTICE

October 29, 2019

Robert Johnson
1147 Highway 89N
McKee, KY 40447

RE: Public Notice-Public Service Commission of Kentucky (Case No. 2019-00291)

East Kentucky Network, LLC d/b/a Appalachian Wireless has applied to the Public Service Commission of Kentucky for a Certificate of Public Convenience and Necessity to construct and operate a new facility to provide cellular telecommunications service in Jackson County. The facility will include a 180-foot self-supporting tower with attached antennas extending upwards, and an equipment shelter located on a tract of land near 1147 Highway 89N, McKee, Jackson County. A map showing the location of the proposed new facility is enclosed. This notice is being sent to you because you may own property within a 500' radius of the proposed tower or own property contiguous to the property upon which construction is proposed.

The Commission invites your comments regarding the proposed construction. You also have the right to intervene in this matter. The Commission must receive your initial communication within 20 days of the date of this letter as shown above.

Your comments and request for intervention should be addressed to: Executive Director's Office, Public Service Commission of Kentucky, P.O. Box 615, Frankfort, KY 40602. Please refer to Case No. 2019-00291 in your correspondence.

If you have any questions for East Kentucky Network, LLC, please direct them to my attention at the following address: East Kentucky Network, LLC, 101 Technology Trail, Ivel, KY 41642 or call me at 606-477-2355, Ext. 1007.

Sincerely,

Lynn Haney

Lynn Haney, CPA
Regulatory Compliance Director
Enclosure 1

Appalachian WIRELESS
www.appalachianwireless.com

EAST KENTUCKY NETWORK, LLC
www.ekn.com

VIA: U.S. CERTIFIED MAIL

PUBLIC NOTICE

October 29, 2019

Teddy Creech
2722 Pilgrims Rest Road
McKee, KY 40447

RE: Public Notice-Public Service Commission of Kentucky (Case No. 2019-00291)

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Sincerely,

Lynn Haney

Lynn Haney, CPA
Regulatory Compliance Director
Enclosure 1

Appalachian WIRELESS
www.appalachianwireless.com

EAST KENTUCKY NETWORK, LLC
www.ekn.com

VIA: U.S. CERTIFIED MAIL

PUBLIC NOTICE

October 29, 2019

Daniel Boone National Forest
London Ranger District
761 South Laurel Road
London, KY 40744

RE: Public Notice-Public Service Commission of Kentucky (Case No. 2019-00291)

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Sincerely,

Lynn Haney

Lynn Haney, CPA
Regulatory Compliance Director
Enclosure 1

Appalachian WIRELESS
www.appalachianwireless.com

EAST KENTUCKY NETWORK, LLC
www.ekn.com

VIA: U.S. CERTIFIED MAIL

PUBLIC NOTICE

October 29, 2019

James B. Kyle and Jamie Welch
159 Old Country Road
McKee, KY 40447

RE: Public Notice-Public Service Commission of Kentucky (Case No. 2019-00291)

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The Commission invites your comments regarding the proposed construction. You also have the right to intervene in this matter. The Commission must receive your initial communication within 20 days of the date of this letter as shown above.

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If you have any questions for East Kentucky Network, LLC, please direct them to my attention at the following address: East Kentucky Network, LLC, 101 Technology Trail, Ivel, KY 41642 or call me at 606-477-2355, Ext. 1007.

Sincerely,

Lynn Haney

Lynn Haney, CPA
Regulatory Compliance Director
Enclosure 1

Appalachian WIRELESS
www.appalachianwireless.com

EAST KENTUCKY NETWORK, LLC
www.ekn.com

VIA: U.S. CERTIFIED MAIL

PUBLIC NOTICE

October 29, 2019

Phillip and Barbara Jean Johnson
Box 603
McKee, KY 40447

RE: Public Notice-Public Service Commission of Kentucky (Case No. 2019-00291)

East Kentucky Network, LLC d/b/a Appalachian Wireless has applied to the Public Service Commission of Kentucky for a Certificate of Public Convenience and Necessity to construct and operate a new facility to provide cellular telecommunications service in Jackson County. The facility will include a 180-foot self-supporting tower with attached antennas extending upwards, and an equipment shelter located on a tract of land near 1147 Highway 89N, McKee, Jackson County. A map showing the location of the proposed new facility is enclosed. This notice is being sent to you because you may own property within a 500' radius of the proposed tower or own property contiguous to the property upon which construction is proposed.

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Your comments and request for intervention should be addressed to: Executive Director's Office, Public Service Commission of Kentucky, P.O. Box 615, Frankfort, KY 40602. Please refer to Case No. 2019-00291 in your correspondence.

If you have any questions for East Kentucky Network, LLC, please direct them to my attention at the following address: East Kentucky Network, LLC, 101 Technology Trail, Ivel, KY 41642 or call me at 606-477-2355, Ext. 1007.

Sincerely,

Lynn Haney

Lynn Haney, CPA
Regulatory Compliance Director
Enclosure 1


Bill's Branch
Location:
1147 Highway 89 North
McKee, KY 40447
Coordinates:
37 26'52.54"N
83 59'26.65"W
Proposed Bill's Branch Tower Site
Cs-1021
Tattlers Hollow Rd
David St
Bills Branch Rd
Airport Access Rd
Google Earth
© 2018 Google
2000 ft
N

dba Appalachian Wireless
101 Technology Trail
Ivel, KY 41642
Phone: 606-477-2355
Fax: 606-791-2225

EAST KENTUCKY NETWORK

To:	The Jackson County Sun Attn: Classifieds	**From:**	Raina Helton Regulatory Compliance Assistant
Email:	Jcsun14@gmail.com	**Date:**	October 28, 2019
Re:	PUBLIC NOTICE ADVERTISEMENT	**Pages:**	1

Please place the following Public Notice Advertisement in The Jackson County Sun to be ran on October 31, 2019.

PUBLIC NOTICE:

RE: Public Service Commission of Kentucky (CASE NO. 2019-00291)

Public Notice is hereby given that East Kentucky Network, LLC, dba Appalachian Wireless has applied to the Kentucky Public Service Commission to construct a cellular telecommunications tower on a tract of land located at 1147 Highway 89 North, Mckee, Jackson County, Kentucky. The proposed tower will be a 180 foot self-supporting tower with attached antennas. If you would like to respond to this notice, please contact the Executive Director, Public Service Commission, 211 Sower Boulevard, PO Box 615, Frankfort, Kentucky 40602. Please refer to Case No. 2019-00291.

If you have any questions about the placement of the above mentioned notice, please call me at 606-477-2375, ext. 1005.

Thank you,

Raina Helton
Regulatory Compliance Assistant

Appalachian WIRELESS
www.appalachianwireless.com

EAST KENTUCKY NETWORK, LLC
www.ekn.com

VIA: U.S. CERTIFIED MAIL

October 30, 2019

Shane Gabbard, Judge Executive
P.O. Box 175
McKee, KY 40447

RE: Public Notice-Public Service Commission of Kentucky (Case No. 2019-00291)

East Kentucky Network, LLC d/b/a Appalachian Wireless has applied to the Public Service Commission of Kentucky for a Certificate of Public Convenience and Necessity to construct and operate a new facility to provide cellular telecommunications service in Jackson County. The facility will include a 180-foot self-supporting tower with attached antennas extending upwards, and an equipment shelter located on a tract of land at 1147 Highway 89N, McKee, Jackson County, Kentucky. A map showing the location of the proposed new facility is enclosed. This notice is being sent to you because you are the County Judge Executive of Jackson County.

The Commission invites your comments regarding the proposed construction. You also have the right to intervene in this matter. The Commission must receive your initial communication within 20 days of the date of this letter as shown above.

Your comments and request for intervention should be addressed to: Executive Director's Office, Public Service Commission of Kentucky, P.O. Box 615, Frankfort, KY 40602. Please refer to Case No. 2019-00291 in your correspondence.

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Sincerely,

Lynn Haney

Lynn Haney
Regulatory Compliance Director
Enclosure


Bill's Branch
Location:
1147 Highway 89 North
McKee, KY 40447
Coordinates:
37 26'52.54"N
83 59'26.65"W
Proposed Bill's Branch Tower Site
CS 1021
Tattlers Hollow Rd
David St
Bills Branch Rd
Airport Access Rd
Google Earth
© 2018 Google
N
2000 ft

230 Swartz Drive • Hazard • Kentucky • 41701
Phone (606) 551-1050

EAST KENTUCKY ENGINEERING, LLC.

APPALACHIAN WIRELESS
Geotechnical Investigation on the Bill's Branch Tower Site Jackson County, Kentucky EKYENG Project No. 165-000-0087

PREPARED FOR:
Appalachian Wireless.
101 Technology Trail
Ivel, Kentucky 41642

PREPARED BY:
Richard Dirk Smith PE, PLS
President
East Kentucky Engineering
230 Swartz Drive
Hazard, Kentucky 41701

_____, 20215, August 29th, 2019

EAST KENTUCKY ENGINEERING, LLC.

EXECUTIVE SUMMARY

A geotechnical investigation has been performed on the Bill's Branch Tower Site, located in Jackson County, Kentucky. This site is readily accessible. A location map is shown in Figure 1 of this report. Four (4) borings were advanced to a maximum depth of 25.0 ft. The following geotechnical considerations were identified:

- Borings utilized for this study encountered soils and sandstone.
- The estimated maximum base elevation of tower mat foundation is 1308.0 ft.
- This site is on a forested ridgeline.
- **The allowable bearing capacities is estimated at 4 tsf on this sandstone unit from 1308.0 ft to 1295.0 ft.**
- The 2018 Kentucky Building Code seismic site classification for this site is "B".
- If during the foundation design it becomes necessary to lower or raise the footer, alternate design recommendations can be provided by EKYENG.
- Close monitoring of the construction operations discussed herein will be critical in achieving the design subgrade support. We, therefore, recommend that EKYENG is retained to monitor this portion of the work.

This executive summary is included to provide a general overview of the project and should not be relied upon except for the purpose it was prepared. Please rely on the complete report for the information on the findings, recommendations, and all other concerns.

1. INTRODUCTION

East Kentucky Engineering (EKYENG) was retained by Mr. Stanton Neece of Appalachian Wireless to prepare a geotechnical engineering report for the proposed tower site located on the Bill's Branch Property, in Jackson County, Kentucky. A site location map is shown in Figure No. 1.

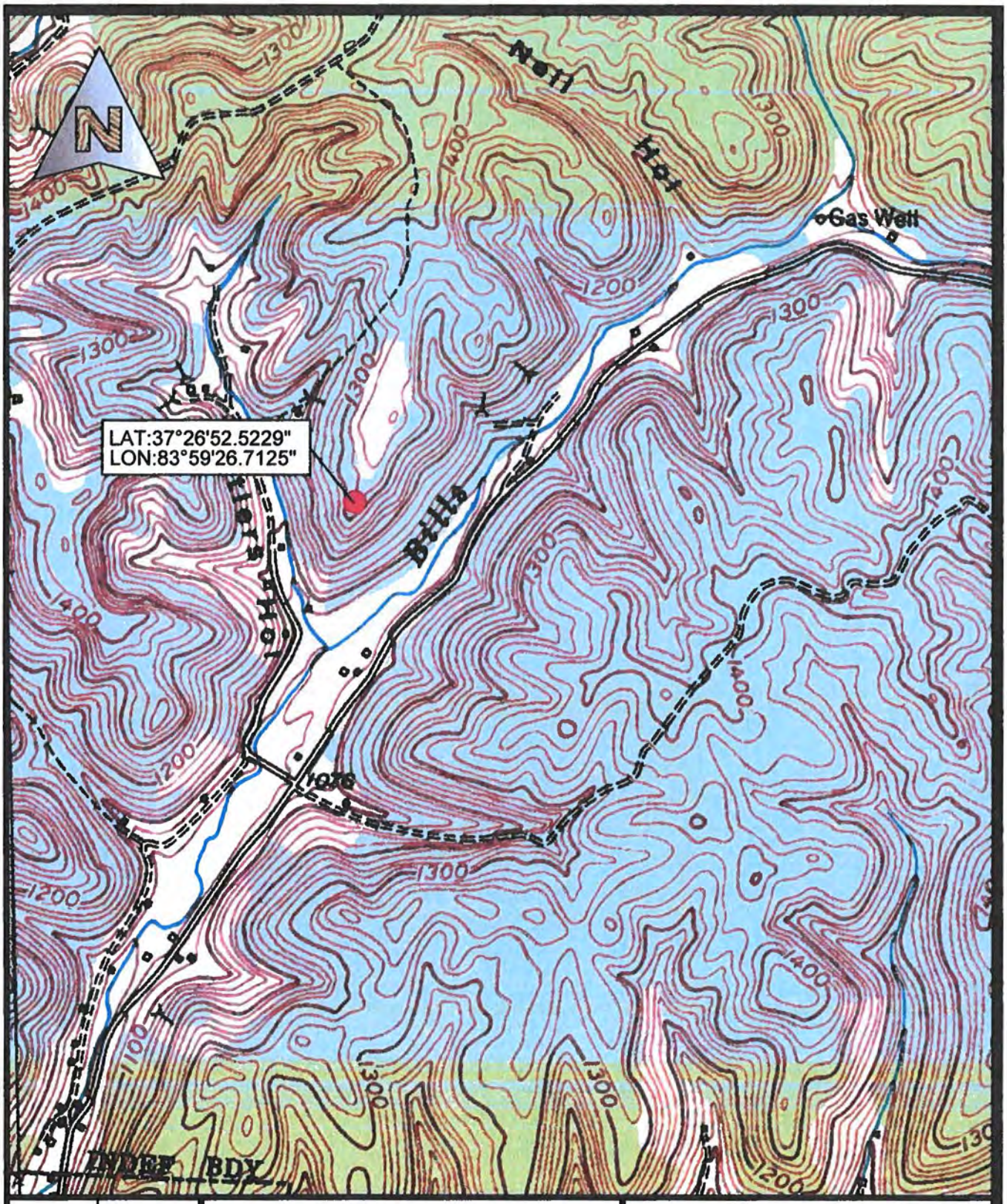
Four (4) borings were advanced to a maximum depth of 25.0 ft. Horn and Associates, Inc. provided drilling services to obtain these borings. Logs of the borings along with a boring location plan are included in Appendix A and Appendix D. The purpose of these services is to provide information and geotechnical engineering recommendations about subsurface conditions, earthwork, seismic considerations, groundwater conditions and foundation design.

2.0 PROJECT DESCRIPTION

The proposed communication facility will consist of a self-supporting tower of undetermined height and ancillary support areas. The footing area is estimated to be 43' 6" ft. X 43' 6" ft. with an estimated base of the tower footer elevation at 1308.0 ft. Based on information provided, we estimate the structural loads will be like the following conditions;

CONDITION	LOAD
Total Shear	40 Kips
Axial Load	50 Kips

We anticipate that overturning will govern the structural design. If the loading is significantly different than these expected values, EKYENG should be notified to re-evaluate the recommendations provided in this report.



Drawn: RDS	Date:8/29/19
Job:165-087	Scale: 1"=1000

APPALACHIAN WIRELESS
EXCERPT FROM USGS QUAD
LOCATION MAP
BILL'S BRANCH
FIGURE NO 1

East Kentucky Engineering, LLC.
230 Swartz Drive
Hazard, KY 41701
(606) 551-1050

3.0 SITE DESCRIPTION & HISTORICAL MINING

3.1 GENERAL INFORMATION

The site location is on a forested ridgeline in Jackson County, Kentucky. The current surface elevation is approximately 1320.0 ft. Research on the historical mining was conducted by obtaining previous mine license maps from the "Kentucky Mine Mapping Information System" (KMMIS).

3.2 SURFACE MINING

No issues from surface mining activities are expected at this site location.

3.3 UNDERGROUND MINING

No underground mines were found within the vicinity of this site. Therefore, no subsidence issues are anticipated.

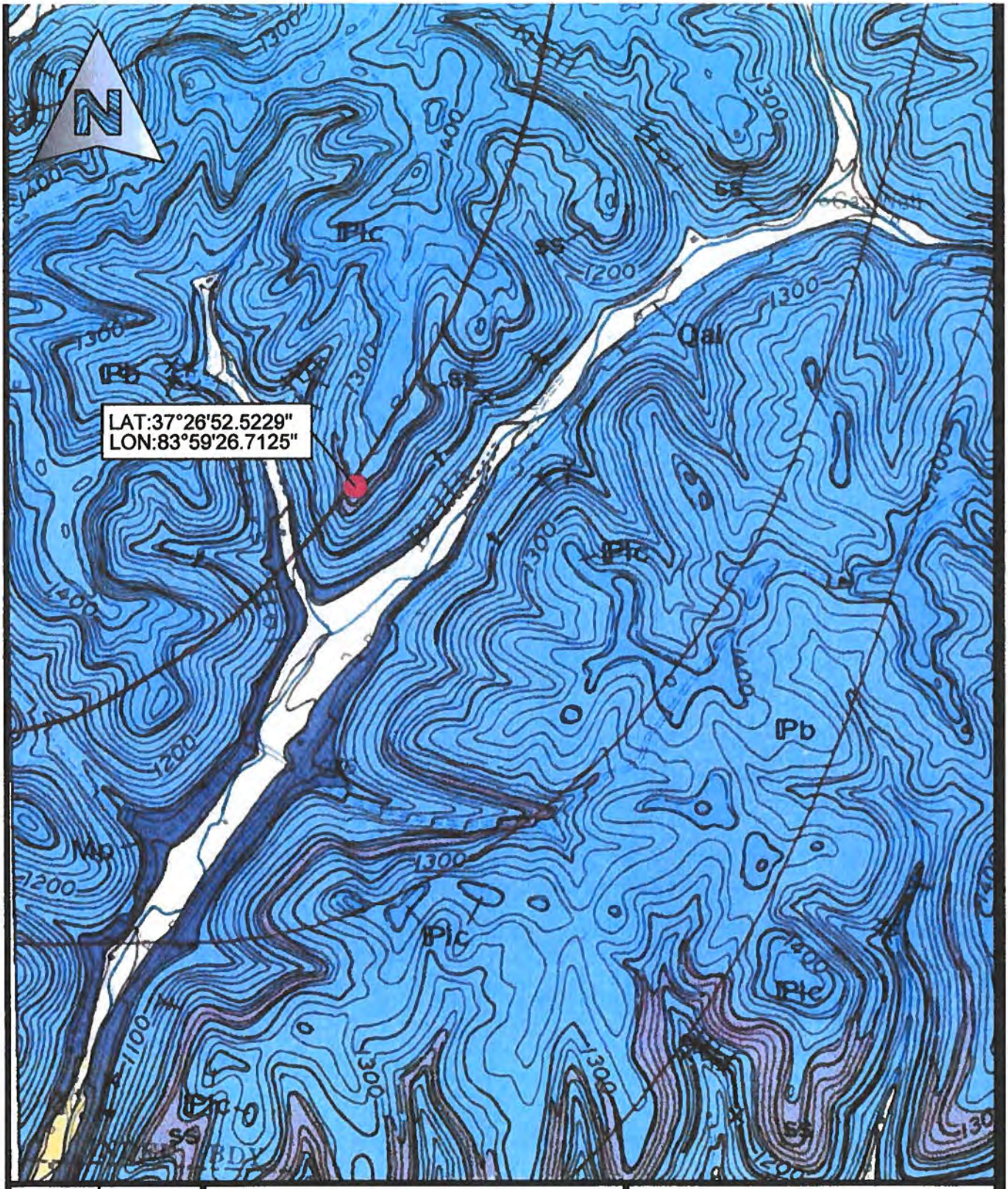
3.4 FLOOD HAZARD

A flood determination was conducted by EKYENG. For this determination, the FEMA Flood Map Service was reviewed for this location. The flood map for the selected area is number **21109C0128C- 210118.** The flood zone for this area is Zone X and is an area of minimal flood hazard. A FIRMette map is included in Appendix C of this report.

4.0 FIELD EXPLORATION

4.1 SITE INFORMATION

The proposed site is located on a forested ridgeline in Jackson County, Kentucky. The site lies within the McKee Quadrangle. The site is readily accessible by conventional exploratory equipment. An estimated pad location was determined based on the information provided. Foundation dimensions were estimated to be a 43' 6" X 43' 6" ft. footer for this report.



Drawn: RDS	Date:8/29/19
Job:165-087	Scale: 1"=1000

APPALACHIAN WIRELESS
EXCERPT FROM GEOLOGIC QUAD
LOCATION MAP
BILL'S BRANCH
FIGURE NO 2

East Kentucky Engineering, LLC.
230 Swartz Drive
Hazard, KY 41701
(606) 551-1050

4.2 BORING DATA

Four (4) borings were made in the relative positions shown on the Site Map in Appendix D. The boring logs and resulting data are included in Appendix A. These borings were made with a track mounted boring rig using hollow-stem augers and employing standard penetration resistance methods (ASTM D-1586, which includes 140-pound hammer, 30-inch drop, and two-inch-O.D. split-spoon sampler) at maximum depth intervals of five feet or at major changes in stratum, whichever occurred first. The disturbed split-spoon samples were visually classified, logged, sealed in moisture-proof jars, and taken to the EKYENG laboratory for study. The depths where these "A"-type split-spoon samples were collected are noted on the boring logs. The results of the natural moisture contents by boring and interval are shown in Table 2.

TABLE 2

RESULTS OF NATURAL MOISTURE CONTENT TESTS (ASTM D-4643)

SAMPLE NO.	DEPTH INCREMENT, (FT.)	NATURAL MOISTURE CONTENT, %
B1 S-1	0.0 – 1.5	11.5%
B1 S-2	2.5 – 2.7	7.9%
B2 S-1	0.0 – 1.5	14.6%
B2 S-2	2.5 - 2.9	7.6%
B3 S-1	0.0 – 1.5	9.0%
B3 S-2	2.5 – 2.9	5.3%
B4 S-1	0.0 – 1.2	11.8%

The position at which the core was taken is indicated on the boring logs and shown on the sitemap in Appendix D. The corresponding blow counts are shown in Table No. 3.

TABLE NO. 3

STANDARD PENETRATIONS

SAMPLE NO.	DEPTH INCREMENT	BLOW COUNT / RQD *	DESCRIPTION
B-1	0.0-1.5	3-12-17	Br. Silt Clay, Weathered SS
B-1	2.5-2.7	50/.2	Brown, White Sandstone
B-1	3.2-8.2	3*	Brown, White Sandstone
B-1	8.2-13.2	0*	Brown, White Sandstone
B-1	13.2-18.2	11*	Brown, White Sandstone
B-1	18.2-23.2	12*	Brown, White Sandstone
B-1	23.2-25.2	0*	Brown, White Sandstone
B-2	0.0-1.5	4-9-9	Brown Sandy Clay
B-2	2.5-2.9	50/.4	SS, Brown/White Weathered
B-2	2.9-7.9	0*	SS, Brown/White Weathered
B-2	7.9-12.9	0*	SS, Brown/White Weathered
B-2	12.9-17.9	0*	SS, Brown/White Weathered
B-2	17.9-22.9	8*	SS, Brown/White Weathered
B-2	22.9-25.0	0*	SS, Brown/White Weathered
B-3	0.0-1.5	4-10-32	Br. Silt Clay,SS, Br., White Wthrd.
B-3	2.5-2.9	50/.4	SS, Brown/White Weathered
B-3	3.5-8.5	3*	SS, Brown/White Weathered
B-3	8.5-13.5	0.*	SS, Brown/White Weathered
B-3	13.5-18.5	16*	SS, Brown/White Weathered
B-3	18.5-23.5	11*	SS, Brown/White Weathered
B-3	23.5-25.5	4*	SS, Brown/White Weathered
B-4	0.0-1.2	2-3-50/2	Brown Silt Clay
B-4	1.3-6.3	8*	SS, Brown/White Weathered

SAMPLE NO.	DEPTH INCREMENT	BLOW COUNT / RQD *	DESCRIPTION
B-4	6.3-11.3	0*	SS, Brown/White Weathered
B-4	11.3-16.3	28*	SS, Brown/White Weathered
B-4	16.3-20.3	19*	SS, Brown/White Weathered
B-4	20.3-25.3	10*	SS, Brown/White Weathered

The borings encountered silty clays and weathered sandstone to a depth of 2.9 ft. The four borings were extended by "NX" size rock core that were taken to confirm the presence of rock at the site and to determine its physical characteristics. The core was made with "NX" size diamond coring equipment. These borings are between 3.5 ft and 25.5 ft in depth. The position at which the core was taken is indicated on the boring logs and shown on the boring location map in Appendix D.

4.3 GROUNDWATER

Groundwater in Eastern Kentucky is characterized by water flowing through a system of internal fractures that lead to an alluvial aquifer near the bottom of valley floors. Large, defined aquifers other than the alluvium is not common, especially in higher elevations such as where this tower site is proposed. Therefore, groundwater should not be a concern in this area. During the site investigation, no groundwater resources were observed.

4.4 SEISMIC SITE CLASSIFICATION

Based on the encountered soil conditions at the project site, the site classification was determined to be "Site Class B" per the 2018 Kentucky Building Code. In addition, an S_{DS} coefficient of 0.132 g was calculated, and an S_{D1} coefficient of 0.062 g was also calculated for design based on the aforementioned building code.

5.0 DISCUSSION AND RECOMMENDATIONS

5.1 GENERAL

The structure will be guyed tower. Due to wind loading, lattice tower foundations can experience both vertical loads and horizontal loads. The vertical loads act in both an upward and downward direction as the tower attempts to overturn and can act in any directions.

5.2 SHALLOW MAT FOUNDATIONS RECOMMENDATIONS

It is expected that shallow foundations will be used at the base of the proposed tower. It should be noted that the material type and bearing capacity can vary significantly due to the inconsistency of the underlying material. Based on the laboratory and field testing, visual inspection of the materials and practical experience we have estimated that the **allowable bearing capacity at this site will be 4 tsf within the sandstone unit from an elevation of 1308.0 ft to 1295.0 ft.**

It is furthermore recommended that the slabs-on-grade be supported on 4 to 6-inch layer of relatively clean granular material such as sand and gravel or crushed stone. This is to help distribute concentrated loads and equalize moisture conditions beneath the slab. Proper drainage must be incorporated into this granular layer to preclude future wet areas in the finished slab-on-grade. However, all topsoil and/or other deleterious materials encountered during site preparation must be removed and replaced with 4000 psi. concrete below the foundation base. Provided that a minimum of 4 inches of granular material is placed below the new slab-on-grade, a modulus of subgrade reaction (k30) of 100 lbs./cu. in. can be used for design of the slabs.

Support structure for this tower can be placed as needed. It is recommended that test pits are examined to ensure that any of these structures are on the competent

materials. If pockets of soft, loose or otherwise unsuitable material are encountered in the footing excavations and it is inconvenient to lower the footings, the proposed footing elevations may be re-established by backfilling after the undesirable material has been removed. The undercut excavation beneath each footing should extend to suitable bearing soils and the dimensions of the excavation base should be determined by imaginary planes extending outward and down on a 1 (vertical) to 1 (horizontal) slope from the base perimeter of the footing. The entire excavation should then be refilled with a well-compacted engineered fill, or lean concrete (Please note that the width of the lean concrete zone should be equal or wider than the width of the overlying footing element). Special care should be exercised to remove any sloughed, loose or soft materials near the base of the excavation slopes. In addition, special care should be taken to "tie-in" the compacted fill with the excavation slopes, with benches as necessary, to ensure that no pockets of loose or soft materials will be left in place along the excavation slopes below the foundation bearing level. All Federal, State, and Local regulations should be strictly adhered to relative to excavation side-slope geometry.

5.3 BURIED UTILITIES

Excavations for buried utility pipelines should follow the guidelines set forth in this report. Depending on the pipeline material, a minimum thickness of at least 0.5 feet of select fine-grained granular bedding material should be used beneath all below-grade pipes, with a minimum cover thickness of at least 3 feet to afford an "arching" effect and reduce stresses on the pipe. The cover thickness may be reduced if the external loading condition on the pipe is relatively light or if the pipe is designed to withstand the external loading condition. It is not recommended that "pea-gravel" or other "open-work" aggregates be used for trench backfill since these materials are nearly impossible to compact and tend to pond water within their interstices.

6.0 WARRANTY

Our professional services have been performed, our findings obtained, and our recommendations prepared in accordance with generally accepted geotechnical engineering principles and practices. No other warranty, express or implied, is made.

While the services of EKYENG are a valuable and integral part of the design and construction teams, we do not warrant, guarantee, or insure the quality or completeness of services provided by other members of those teams, the quality, completeness, or satisfactory performance of construction plans and specifications which we have not prepared, nor the ultimate performance of building site materials.

6.1 SUBSURFACE EXPLORATION

Subsurface exploration is normally accomplished by test borings, although test pits are sometimes employed. The method of determining the boring location and the surface elevation at the boring is noted in the report and is presented on the Boring Location Plan or on the boring log. The location and elevation of the boring should be considered accurate only to the degree inherent with the method used.

The boring log includes sampling information, description of the materials recovered, approximate depth of boundaries between soil and rock strata and groundwater data. The boring log represents conditions specifically at the location and time the boring was made. The boundaries between different soil strata are indicated at specific depths; however, these depths are in fact approximate and are somewhat dependent upon the frequency of sampling (The transition between soil strata is often gradual). Free groundwater level readings are made at the times and under conditions stated on the boring logs (Groundwater levels change with time and season). The borehole does not

always remain open sufficiently long enough for the measured water level to coincide with the groundwater table.

6.2 LABORATORY AND FIELD TESTS

Laboratory and field tests are performed by specific ASTM standards unless otherwise indicated. All determinations included in each ASTM standard are not always required and performed. Each test report indicates the measurements and determinations made.

6.3 ANALYSIS AND RECOMMENDATIONS

The geotechnical report is prepared primarily to aid in the engineering design of site work and structural foundations. Although the information in the report is expected to be sufficient for these purposes, it is not intended to determine the cost of construction or to stand alone as a construction specification.

Our engineering report recommendations are based primarily on data from test borings made at the locations shown in a boring location drawing included. Soil variations may exist between borings, and these variations may not become evident until construction. If significant variations are then noted, the geotechnical engineer should be contacted so that field conditions can be examined and recommendations revised if necessary.

The geotechnical engineering report states our understanding as to the location, dimensions and structural features proposed for the site. Any significant changes in the nature, design, or location of the site improvements MUST be communicated to the geotechnical engineer such that the geotechnical analysis, conclusions, and recommendations can be appropriately adjusted. The geotechnical engineer should be given the opportunity to review all drawings that have been prepared based on their recommendations.

6.4 CONSTRUCTION MONITORING

Construction monitoring is a vital element of complete geotechnical services. The field engineer/inspector is the owner's "representative" observing the work of the contractor, performing tests as required in the specifications, and reporting data developed from such tests and observations. The field engineer or inspector does not direct the contractor's construction means, methods, operations or personnel. The field inspector/engineer does not interfere with the relationship between the owner and the contractor and, except as an observer, does not become a substitute owner on site. The field inspector/engineer is responsible for his own safety but has no responsibility for the safety of other personnel at the site. The field inspector/engineer is an important member of a team whose responsibility is to watch and test the work being done and report to the owner whether that work is being carried out in general conformance with the plans and specifications.

6.5 GENERAL

The scope of our services did not include an environmental assessment for the presence or absence of hazardous or toxic materials in the soil, surface water, groundwater or air, on, within or beyond the site studied. Any statements in the report or on the boring logs regarding odors, staining of soils or other unusual items or conditions observed are strictly for the information of our client.

To evaluate the site for possible environmental liabilities, we recommend an environmental assessment, consisting of a detailed site reconnaissance, a record review, and report of findings. Additional subsurface drilling and samplings, including groundwater sampling, may be required.

This report has been prepared for the exclusive use of Appalachian Wireless, for specific application to the proposed cellular tower located on the Bill's Branch Property located in Jackson County, Kentucky. Specific design and construction recommendations have been provided in the various sections of the report. The report shall, therefore, be used in its entirety. This report is not a bidding

SPECIFICATIONS

I – GENERAL

1.0 STANDARDS AND DEFINITIONS

1.1 STANDARDS - All standards refer to latest edition unless otherwise noted.

1.1.1 ASTM D-698-70 (Method C) "Standard Test Methods for Moisture. Density Relations of Soils and Soil Aggregate Mixtures Using 5.5-lb (2.5 kg.) Rammer and 12-inch (305-mm) Drop".

1.1.2 ASTM D-2922 "Standard Test Method for Density of Soil and Soil Aggregate in Place by Nuclear methods (Shallow Depth)".

1.1.3 ASTM D-1556 "Standard Test Method for Density of Soil in place by the Sand-Cone Method".

1.2 DEFINITIONS

1.2.1 Owner - In these specifications the word "Owner" shall mean Appalachian Wireless.

1.2.2 Engineer - In these specifications the word "Engineer" shall mean the Owner designated engineer.

1.2.3 Design Engineer - In these specifications the words "Design Engineer" shall mean the Owner designated design engineer.

1.2.4 Contractor - In these specifications the word "Contractor" shall mean the firm or corporation undertaking the execution of any work under the terms of these specifications.

1.2.5 Approved - In these specifications the word "approved" shall refer to the approval of the Engineer or his designated representative.

1.2.6 As Directed - In these specifications the words "as directed" shall refer to the directions to the Contractor from the Owner or his designated representative.

2.0 GENERAL CONDITIONS

2.1 The Contractor shall furnish all labor, material and equipment and perform all work and services except those set out and furnished by the Owner, necessary to complete in a satisfactory manner the site preparation, excavation, filling, compaction, grading as shown on the plans and as described therein.

This work shall consist of all mobilization clearing and grading, grubbing, stripping, removal of existing material unless otherwise stated, preparation of the land to be filled, filling of the land, spreading and compaction of the fill, and all subsidiary work necessary to complete the grading of the cut and fill areas to conform with the lines, grades, slopes, and specifications.
This work is to be accomplished under the observation of the Owner or his designated representative.

2.2 Prior to bidding the work, the Contractor shall examine, investigate and inspect the construction site as to the nature and location of the work, and the general and local conditions at the construction site, including, without limitation, the character of surface or subsurface conditions and obstacles to be encountered on and around the construction site; and shall make such additional investigation as he may deem necessary for the planning and proper execution of the work.

If conditions other than those indicated are discovered by the Contractor, the Owner should be notified immediately. The material which the Contractor believes to be a changed condition should not be disturbed so that the owner can investigate the condition.

2.3 The construction shall be performed under the direction of an experienced engineer who is familiar with the design plan.

II - ENGINEERED FILL BENEATH STRUCTURES
CLEARING AND GRADING SPECIFICATIONS

1.0 GENERAL CONDITIONS

The Contractor shall furnish all labor, materials, and equipment, and perform all work and services necessary to complete in a satisfactory manner the site preparation, excavation, filling, compaction and grading as shown on the plans and as described therein.

This work shall consist of all clearing and grading, removal of existing structures unless otherwise stated, preparation of the land to be filled, filling of the land, spreading and compaction of the fill, and all subsidiary work necessary to complete the grading of the cut and fill areas to conform with the lines, grades, slopes, and specifications.

This work is to be accomplished under the constant and continuous supervision of the Owner or his designated representative.

In these specifications, the terms "approved" and "as directed" shall refer to directions to the Contractor from the Owner or his designated representative.

2.0 SUBSURFACE CONDITIONS

Prior to bidding the work, the Contractor shall examine, investigate and inspect the construction site as to the nature and location of the work, and the general and local conditions at the construction site, including without limitation, the character of surface or subsurface conditions and obstacles to be encountered on and around the construction site; and shall make such additional investigation as he may deem necessary for the planning and proper execution of the work. Borings and/or soil investigations shall have been made. Results of these borings and studies will be made available by the Owner to the Contractor upon his request, but the Owner is not responsible for any interpretations or conclusions with respect thereto made by the Contractor based on such information, and the Owner further has no responsibility for the accuracy of the borings and the soil investigations.

If conditions other than those indicated are discovered by the Contractor, the Owner should be notified immediately. The material which the Contractor believes to be a changed condition should not be disturbed so that the Owner can investigate the condition.

3.0 SITE PREPARATION

Within the specified areas, all trees, brush, stumps, logs, tree roots, and structures scheduled for demolition shall be removed and disposed of.

All cut and fill areas shall be properly stripped. Topsoil will be removed to its full depth and stockpiled for use in finish grading. Any rubbish, organic and other objectionable soils, and other deleterious material shall be disposed of off the site,

or as directed by the Owner or his designated representative if on site disposal is provided. In no case shall such objectionable material be allowed in or under the fill unless specifically authorized in writing.
Prior to the addition of fill, the original ground shall be compacted to job specifications as outlined below. Special notice shall be given to the proposed fill area now. If wet spots, spongy conditions, or groundwater seepage is found, corrective measures must be taken before the placement of fill.

4.0 FORMATION OF FILL AREAS

Fills shall be formed of satisfactory materials placed in successive horizontal layers of not more than eight (8) inches in loose depth for the full width of the cross-section. The depth of lift may be increased if the Contractor can demonstrate the ability to compact a larger lift. If compaction is accomplished using hand-tamping equipment, lifts will be limited to 4-inch loose lifts. Engineered fill placed below the structure bearing elevation shall be compacted to at least 95% of the maximum dry unit weight with a moisture content within 2% of the optimum moisture content as determined by the modified Proctor test. The top size of the material placed shall not exceed 4 inches.

All material entering the fill shall be free of organic matter such as leaves, grass, roots, and other objectionable material.

The operations on earth work shall be suspended at any time when satisfactory results cannot be obtained because of rain, freezing weather, or other unsatisfactory conditions. The Contractor shall keep the work areas graded to provide the drainage always.

The fill material shall be of the proper moisture content before compaction efforts are started. Wetting or drying of the material and manipulation to secure a uniform moisture content throughout the layer shall be required. Should the material be too wet to permit proper compaction or rolling, all work thus affected shall be delayed until the material has dried to the required moisture content. The moisture content of the fill material should be no more than two (2) percentage points higher or lower than optimum unless otherwise authorized. Sprinkling shall be done with equipment that will satisfactorily distribute the water over the disced area. Any areas inaccessible to a roller shall be consolidated and compacted by mechanical tampers. The equipment shall be operated in such a manner that hardpan, cemented gravel, clay or other chunky soil material will be broken up into small particles and become incorporated with the other material in the layer.

In the construction of filled areas, starting layers shall be placed in the deepest portion of the fill, and as placement progresses, additional layers shall be constructed in horizontal planes. Original slopes shall be continuously, vertically benched to provide horizontal fill planes. The size of the benches shall be formed so that the base of the bench is horizontal, and the back of the bench is vertical. As many benches as are necessary to bring the site to final grade shall be

constructed. Filling operations shall begin on the lowest bench, with the fill being placed in horizontal eight (8) inch thick loose lifts unless otherwise authorized. The filling shall progress in this manner until the entire first bench has been filled, before any fill is placed on the succeeding benches. Proper drainage shall be maintained always during benching and filling of the benches, to ensure that all water is drained away from the fill area.

Frozen material shall not be placed in the fill nor shall the fill be placed upon frozen material.

The Contractor shall be responsible for the stability of all fills made under the contract, and shall replace any portion, which in the opinion of the Owner or his designated representative, has become displaced due to carelessness or negligence on the part of the Contractor. Fill damaged by inclement weather shall be repaired at the Contractor's expense.

5.0 SLOPE RATIO AND STORM WATER RUN-OFF

Slopes shall not be greater than 2 (horizontal) to 1 (vertical) in both cut and fill, or as illustrated on the construction drawings. Excavations shall be constructed in accordance with all Federal, State and local codes relative to slope geometry.

6.0 GRADING

The Contractor shall furnish, operate, and maintain such equipment as is necessary to construct uniform layers, and control smoothness of grade for maximum compaction and drainage.

7.0 COMPACTING

The compaction equipment shall be approved equipment of such design, weight, and quantity to obtain the required density in accordance with these specifications.

8.0 TESTING AND INSPECTION SERVICES

Testing and inspection services will be provided by the Owner.

GUIDELINES FOR EXCAVATIONS AND TRENCHES

The following represents some general guidelines relative to the design and construction of excavations and trenches. It must be emphasized that these guidelines are not intended to represent a "safety plan," but rather are presented herein to provide general guidance regarding the design characteristics and safety measures for excavations and trenches.

1. Check with the following utilities prior to breaking ground:
   - Sewer
   - Telephone
   - Fuel
   - Electric
   - Water
   - Gas
   - Cable

   When utility companies or owners do not respond to your request within 48 hours, the contractor may only then proceed provided the contractor does so with caution by using detection equipment or other acceptable means to locate utility installations.

   Once the excavation is open, the contractor should protect and support the exposed underground utilities or remove installations to safeguard workers and prevent damage to exposed utilities.

2. Access and egress ramps must be designed by a "competent person" and structural ramps used for equipment must be designed by a "competent person" with qualified knowledge in structural design. In addition:
   - Ramps must be secured to prevent displacement;
   - Ramps used in lieu of steps must have cleats to prevent slipping; and
   - Trenching excavations four feet or greater in depth must have a stairway, ladder, ramps or other safe means to egress with lateral travel no more than 25 feet.

3. Workers must be provided with reflector garments, such as warning orange or red vests, when exposed to vehicular traffic.

4. Contractors must not allow workers to work under or near equipment when there is danger of falling debris, spillage or equipment-related injuries.

5. Mobile equipment, operating adjacent to an open excavation or approaching the edge of an excavation, must have one of the following when the operator's view is obstructed:
   - Warning System
   - Mechanical Signals
   - Barricades
   - Stop Logs
   - Hand Signals

6. The contractor must check the atmosphere for hazardous gases and oxygen deficiencies when excavating four feet or greater around landfills, or when hazardous substances are stored nearby, and when the contractor expects there could be any exposure to the workers.

7. When hazardous atmospheric conditions exist, or when conditions could change, the contractor must make emergency rescue equipment readily available including breathing apparatus, safety harnesses with life lines and a basket stretcher.

8. When workers enter bell-bottom pier holes or other deep and confined excavations, the worker must wear (always while performing work in the confined space) a separate life line attached to a harness. The line must be attended by someone above while work is being performed. The worker must check for hazardous atmospheric conditions prior to entry.

9. The contractor must ensure that water does not accumulate in open excavations and must inspect the excavation prior to allowing workers to re-enter after heavy rains.

10. Adjacent structures (buildings, walls, etc.) must be supported or secured to prevent worker exposure to unsafe conditions and damage to existing structures.

11. A registered professional engineer must approve operations when a contractor underpins existing structures to ensure worker safety and prevent damage to existing structures.

12. Workers must not be exposed to loose soil and rock or materials in and around excavations. Materials, such as removed soil and rock, must not be stored closer than two feet from the edge of the excavation.

13. Daily inspections of the excavation, the adjacent areas and protective systems must be made by a "competent person" for evidence of possible cave-ins, indications of failure of protective systems, hazardous atmospheres or other hazardous conditions. The "competent person" must

stop work immediately and remove workers from the excavation when conditions change and pose a threat to their safety.

14. Workers must not be exposed to fall hazards associated with excavations. Protective walkways or bridges with standard guard rails must be provided.

15. All wells, pits, shafts etc. must be barricaded or covered. After completion of work, all wells, pits, shafts etc. must be backfilled.

IV - GENERAL CONCRETE SPECIFICATIONS

1.0 GENERAL

It is the intent of this specification to secure, for every part of the work, concrete of homogenous structure which, when hardened, will have the required strength and resistance to weathering. To this end, the limiting values of concrete and the requirements hereinafter specified must be met. Standard tests of the cement, aggregates, concrete and reinforcement will be made by the Owner as it sees fit. The Contractor shall furnish the material for all required samples plus such labor as required to obtain samples. The Contractor shall provide to authorized representatives of the Owner, convenient access to all parts of the work of all concreting operations for the purpose of sampling and inspection.

2.0 SCOPE

Contractor shall furnish all materials, labor, services, transportation, tools, equipment, and related items required to complete work indicated on the drawings and/or specified.

Unless otherwise noted or as modified by more stringent requirements specified herein, all plain and reinforced concrete work shall be performed in full compliance with applicable requirements of the Building Code Requirements for Reinforced Concrete ACI 318.
Contractor shall obtain Owner's approval of all subgrades, footing bottoms, forms, and reinforcement just prior to placing concrete.
Contractor shall coordinate the work specified in this section with that specified in other sections so that all anchors, pipes and other embedded items are properly installed before concrete is placed.
Contractor shall clean all exposed concrete surfaces and obtain approval of Owner for method of cleaning

3.0 MATERIALS

All materials shall be of the respective quality specified herein, delivered, stored, and handled as to prevent inclusion of foreign matter and damage by dampness or breakage. Packaged material shall be stored in original container until ready for use. Materials showing evidence of dampness or other damage may be rejected.

A. Fine and Coarse Aggregates: Coarse and fine aggregates shall conform to ASTM Specification C33. The maximum size of aggregate shall not be larger than one-fifth (1/5) of the narrowest dimensions between forms, or larger than three fourths (3/4) of the minimum clear spacing between reinforcement.

1. Fine Aggregate: Sand shall be composed essentially of clean, hard, strong, durable grains free of structurally weak

grains, organic matter, loam, clay, silt, salt, mica or other fine materials that may affect bonding of the cement paste.

2. Coarse Aggregate: Cement concrete shall consist of crushed rock or screened gravel and shall be composed essentially of clean, hard, strong and impermeable particles, resistant to wear and frost and free from deleterious amounts of organic matter, loam, clay, salts, mica, and soft, thin, elongated, laminated or disintegrated stone, and shall be inert to water and cement.

B. Portland Cement: Portland cement shall conform to ASTM Specification C150. Type I or Type II Portland Cement shall be used provided that they are not intermixed during any one batch. Type II Portland Cement shall not be used unless indicated on the plans.

C. Water: Water for mixing and curing shall be clean, fresh, and free from deleterious materials.

D. Metal Reinforcement: Rebar shall be Grade 60 and with deformations conforming to ASTH Specification A305. Welded wire mesh shall conform to W4 x W4 size and be of Grade 60 steel.

E. Admixtures: Except as herein noted, admixtures shall not be used.

1. Under adverse weather conditions only retarding or accelerating agents containing no chloride may be used.

2. Air-Entraining Agent shall be used for all concrete will give an entrained air range of not less than 4 percent but no greater than 8 percent in the finished product. Under no circumstances shall the air-entraining be interground with cement.

3. Approval in writing shall be required from Owner prior to the use of any admixture.

4.0 FORM

Forms shall be constructed with proper shoring and cross-bracing, safeguarding the total structure and specifically lateral stability and sufficiently strong to stand vibrations of concrete and to carry, without appreciable deflection or displacement, all dead and live loads to which they may be subjected.

5.0 INSERTS, ETC.

Anchors, bolts, dowels, conduit, water stops, vent pipes and other similar built-in or concreted-in items shall be properly located, accurately positioned and secured. The Contractor shall cooperate in placing of such items with other contractors who require a fastening device for their work and he shall maintain them in proper location during the progress of his work.

6.0 REINFORCEMENT

Reinforcement at the time concrete is placed shall be free from rust, scale or other coatings that will destroy or reduce the bond.

Reinforcement shall be accurately placed and securely tied at intersections and shall be securely held in position during the placing of concrete by pacers, chairs, or other approved supports.

The reinforcement of foundations, footings and other principal structural members in which the concrete is deposited against the ground shall not have less than three (3) inches of concrete between it and the ground contact surface. If concrete surfaces after removal of the forms are to be exposed to the weather or to be in contact with the ground or rock, reinforcement shall be protected with not less than two (2) inches of concrete,

7.0 CONCRETE

Concrete for the various parts of the work shall be of 4000 pounds per square inch compressive strength with a minimum 28-day cure. Contractor is responsible to provide a mix of not less than 6 bags of cement per yard of concrete and not more than 7 gallons of water per bag of cement, producing a minimum slump of 2-1/2 inches and a maximum slump of 4-1/2 inches. Concrete that exceeds the above range of maximum or minimum slump requirements may be rejected by the Owner. All concrete shall be air-entrained. Contractors are required to furnish the name or names of the company(s) that will be providing the mix. The Owner reserves the right to disapprove any concrete supplier that has been known to supply an undesirable material to the Owner on previous occasions.

8.0 DEPOSITING CONCRETE

4.1. Preparation for Placing Concrete: Before depositing concrete, the Contractor shall:

1. Remove from space to be occupied by concrete all debris, including snow, ice, and water unless otherwise permitted by Owner.
2. Provide diversion, satisfactory to Owner, of any flow of water to an excavation to avoid washing the freshly deposited concrete.
3. Coal the forms prior to placing of reinforcing steel as required in form work.
4. Secure firmly in correct position, all reinforcement and other items to be encased and remove therefrom all coating including ice and frost.

B. Transportation of Concrete from Batch Plant: The concrete shall be delivered to the site of the work and discharge shall be completed within 90 minutes after addition of the cement and water to the aggregates. Each batch of concrete delivered at the job site shall be

accompanied by a time slip issued at the batching plant, bearing the time of charging of the mixer drum with the cement and aggregates.

C. Transporting of Concrete from Mixer to Place of Final Deposit: Transportation shall be done as rapidly as practical by means which shall prevent the separation or loss of the ingredients. If chutes are used, they shall be at a slope not flatter than one vertical to two horizontal. Buggies or carts shall be equipped with pneumatic rubber tires or surfaces of runways shall be sufficiently smooth or both so as not to cause separation or segregation of concrete ingredients. Concrete shall not be allowed to drop freely more than 4 feet. Where greater drops are required, canvas "elephant trunks" or galvanized iron chutes equipped with suitable hopper heads shall be employed and a sufficient number placed to ensure that the concrete may be effectively compacted into horizontal layers not exceeding 12 inches in thickness with minimum lateral movements.

D. Depositing of Concrete: Depositing of concrete shall:

1. Proceed continuously after once starting until reaching the end of a section of construction joint location shown on the drawings, or as approved by the Owner. The operations shall be conducted so that no concrete is deposited on concrete sufficiently hardened to cause formation of seams, and planes of weakness.
2. Be as near as practical to its final position in the forms.
3. Proceed to maintain constantly a top surface which is approximately level.
4. Be placed before initial set has occurred, and in no event after it has contained its water content for more than 90 minutes.
5. Be thoroughly worked and compacted by means of suitable tools to provide impermeability, durability and strength and shall be thoroughly worked around reinforcements and embedded items and into corners of forms and to be free from voids, pockets or honeycombing. Care shall be taken to provide impermeability.

E. Vibration Equipment: Vibration equipment shall be of the appropriate type and shall, always, be adequate in number of units and power of each unit to properly consolidate all concrete.

F. Monolithic Pours: Proper delivery of concrete shall be the Contractor's responsibility to make a mono-lithic pour without delays and changes of cold joints.

9.0 CURING

All concrete work shall be protected from injurious action by the sun, rain, flowing water, frost and other injury and shall be covered with plastic after application of curing compound for three (3) days on pours located above ground.

Contractor shall not remove any formwork for a minimum period of 24 hours after a concrete pour without written approval of the Owner.

10.0 CONCRETE FINISHES

Finishes of all exposed concrete shall be free of defects which impair its durability or adversely affect is appearance. All such surfaces when stripped, shall be uniform in appearance and any surfaces displaying any deviations from adjacent uniform surfaces shall be rejected and subject to removal.

Finished work shall be level and plumb, true to lines, and dimensions. Finished plane surfaces shall be smooth, and as nearly perfect as practical; however, deviations from a true plane shall not exceed 1/8 inch when measured from a 6-foot straight edge placed against the surface to any point on the surface and under the straight edge.

All exposed surfaces shall have deflects corrects, protrusions removed, and holes filled.

APPENDIX A BORING LOGS

HORN AND ASSOCIATES, INC
216 N. Main Street - Winchester, KY 40391
Ph: 800-729-2802 Fax: 859-744-5892

FIELD BORING LOG

Project Name McKee Towers
Federal Project No.
State Project No.
Drilling/Sampling Method HSA, SPT, NX
Boring Diameter 4 1/4

Hole Number B-1 Total Depth 25.2
Location
Surface Elevation
Date Started 8-29-18 Date Completed
Driller R. Carver Weather

From / To	Soil and Rock Description	Sample/Run Interval	Blow Counts/RQD	Sample/Run No.	Sample Type	% Recover
0 / 0.5	Br, Si clay Topsoil ARD 3.2	0 / 1.5	3-12-17	S-1	SPT	
0.5 / 1.2	SS weathered	2.5 / 2.7	50/2	S-2	SPT	
1.2 / 25.2	Br, white SS	3.2 / 8.2	0,3	R-1	NX	3.1
		8.2 / 13.2	0	R-2	|	2.9
		13.2 / 18.2	1.1	R-3	|	3.9
		18.2 / 23.2	1.2	R-4	|	4.5
		23.2 / 25.2	0	R-5	|	1.8

Water Level @ Drilling
24 Hr. Water Level
7 Day Water Level
Moving/Delay Time
Hammer Weight 140 lbs.
Hammer Drop 30 in.

HORN AND ASSOCIATES, INC
216 N. Main Street - Winchester, KY 40391
Ph: 800-729-2802 Fax: 859-744-5892

FIELD BORING LOG

Project Name McKee Towers
Federal Project No.
State Project No.
Drilling/Sampling Method HSA, SPT, NX
Boring Diameter 4 1/4

Hole Number B-2 Total Depth 25.0
Location
Surface Elevation
Date Started 8-29-19 Date Completed 8-29-19
Driller R-Comer Weather

From To	Soil and Rock Description	Sample/Run Interval	Blow Counts/RQD	Sample/Run No.	Sample Type	% Recover
0 1.1	Br, Sa, clay AR@2.9	0 1.5	4-9-9	S-1	SPT	
1.1 25.0	SS, Br/white weathered	2.5 2.9	50/4	S-2	"	
		2.9 7.9	0	R-1	NX	2.7
		7.9 12.9	0	R-2	"	3.2
		12.9 17.9	0	R-3	"	3.3
		17.9 22.9	0.8	R-4	"	4.1
		22.9 25.0	0	R-5	"	2.0

Water Level @ Drilling
24 Hr. Water Level
7 Day Water Level
Moving/Delay Time
Hammer Weight 140 lbs.
Hammer Drop 30 in.

HORN AND ASSOCIATES, INC
216 N. Main Street - Winchester, KY 40391
Ph: 800-729-2802 Fax: 859-744-5892

FIELD BORING LOG

Project Name: McKee Tower	Hole Number: B-3 Total Depth: 25.5
Federal Project No.	Location
State Project No.	Surface Elevation
Drilling/Sampling Method: HSA, SPT, NX	Date Started: 8-29-19 Date Completed: 8-29-19
Boring Diameter: 4 1/4	Driller: R-[illegible] Weather

From To	Soil and Rock Description	Sample/Run Interval	Blow Counts/RQD	Sample/Run No.	Sample Type	% Recovery
0 0.9	Br. Si. clay ARQ 3.5	0 1.5	4-10-32	S-1	SPT	
0.9 25.5	SS, Br./white weathered	2.5 2.9	50/.4	S-2	SPT	
		3.5 8.5	0.3	R-1	NX	3.6
		8.5 13.5	0	R-2		2.7
		13.5 18.5	1.6	R-3		4.1
		18.5 23.5	1.1	R-4		4.8
		23.5 25.5	0.4	R-5		1.9

Water Level @ Drilling ______ 24 Hr. Water Level ______ 7 Day Water Level ______

Moving/Delay Time ______ Hammer Weight 140 lbs. Hammer Drop 30 in.

HORN AND ASSOCIATES, INC
216 N. Main Street - Winchester, KY 40391
Ph: 800-729-2802 Fax: 859-744-6892

FIELD BORING LOG

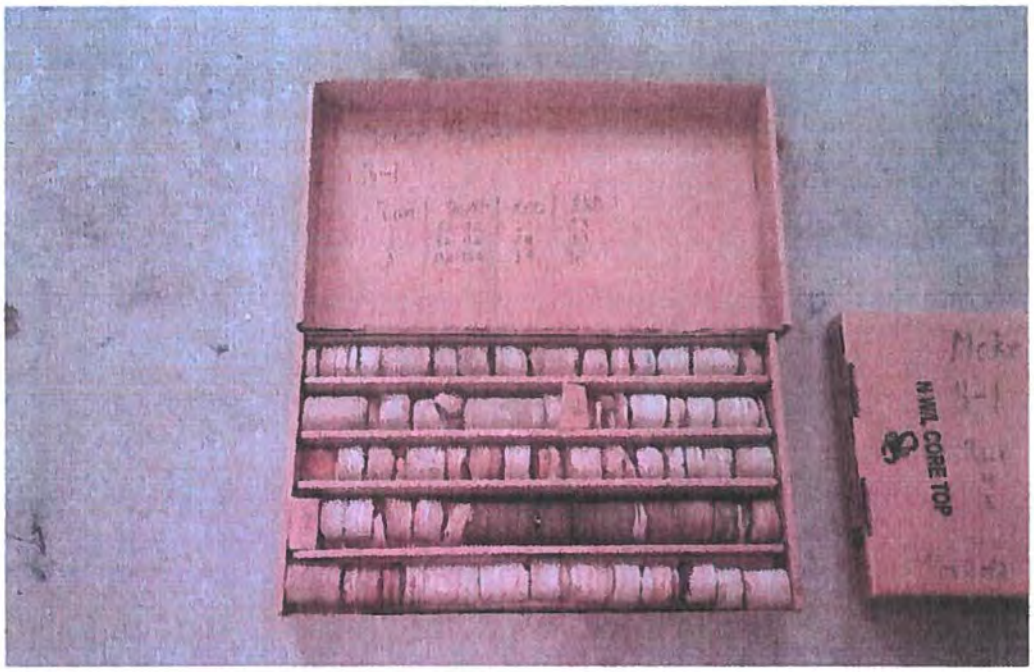
Project Name McKee Towers
Federal Project No.
State Project No.
Drilling/Sampling Method HSA, SPT, NX
Boring Diameter 4 1/4

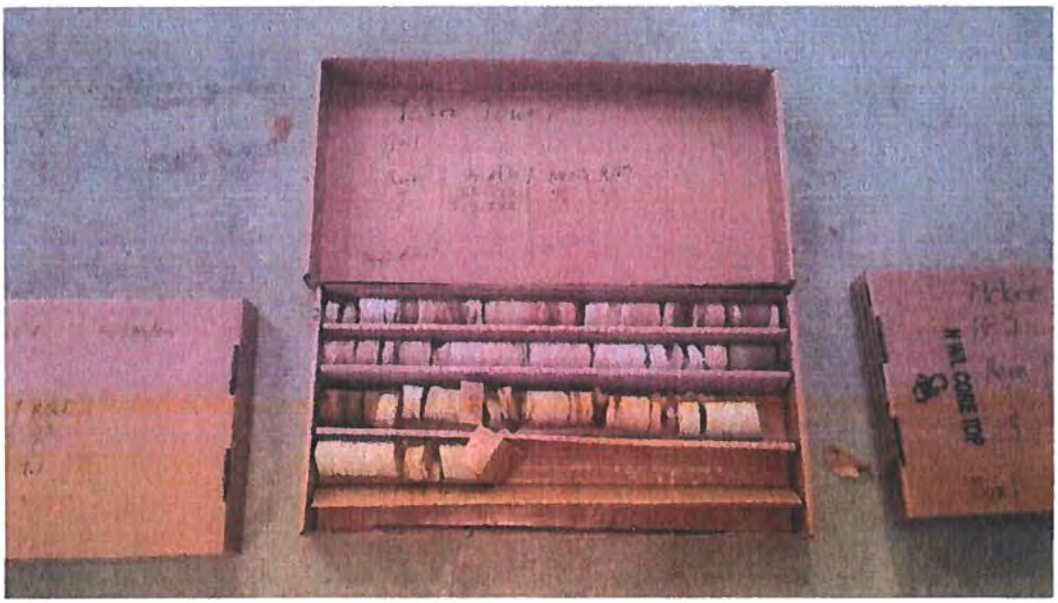
Hole Number B-4 Total Depth 25.3
Location
Surface Elevation
Date Started 8-29-19 Date Completed 8-29-19
Driller R. Lowery Weather

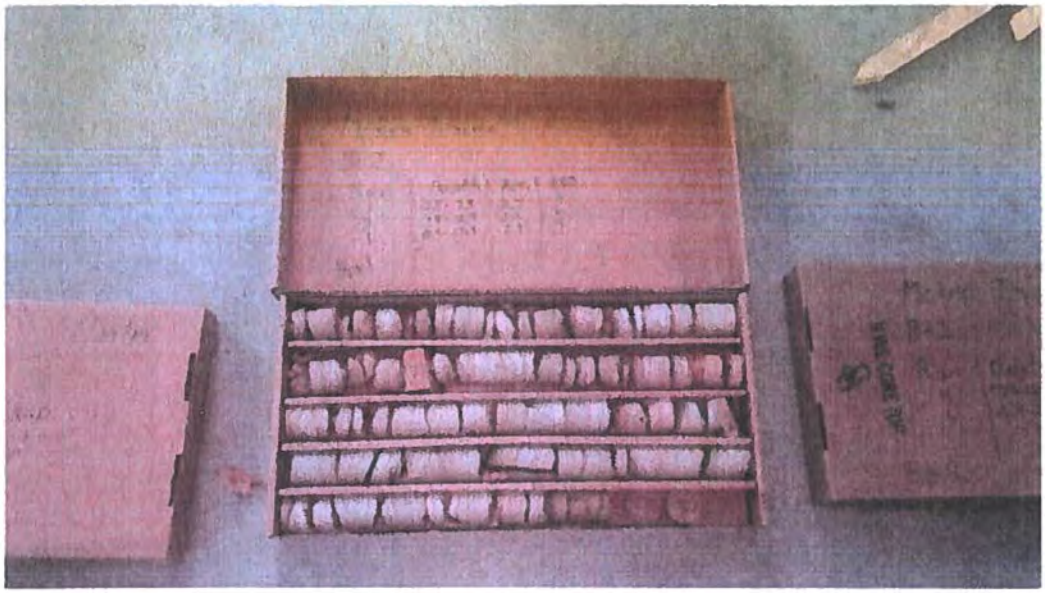
From To	Soil and Rock Description	Sample/Run Interval	Blow Counts/RQD	Sample/Run No.	Sample Type	% Recover
0 1.2	AR@ 1.3 Br, Si Clay	0 1.2	2-3-5	S-1	SPT	
1.2 25.3	SS Br, Lt white weathered	1.3 6.3	0.8	R-1	NX	4.6
		6.3 11.3	0	R-2		2.8
		11.3 16.3	2.8	R-3		4.2
		16.3 20.3	1.9	R-4		4.0
		20.3 25.3	1.0	R-5		4.3

Water Level @ Drilling
24 Hr. Water Level
7 Day Water Level
Moving/Delay Time
Hammer Weight 140 lbs.
Hammer Drop 30 in.

APPENDIX B CORE PHOTOGRAPHS

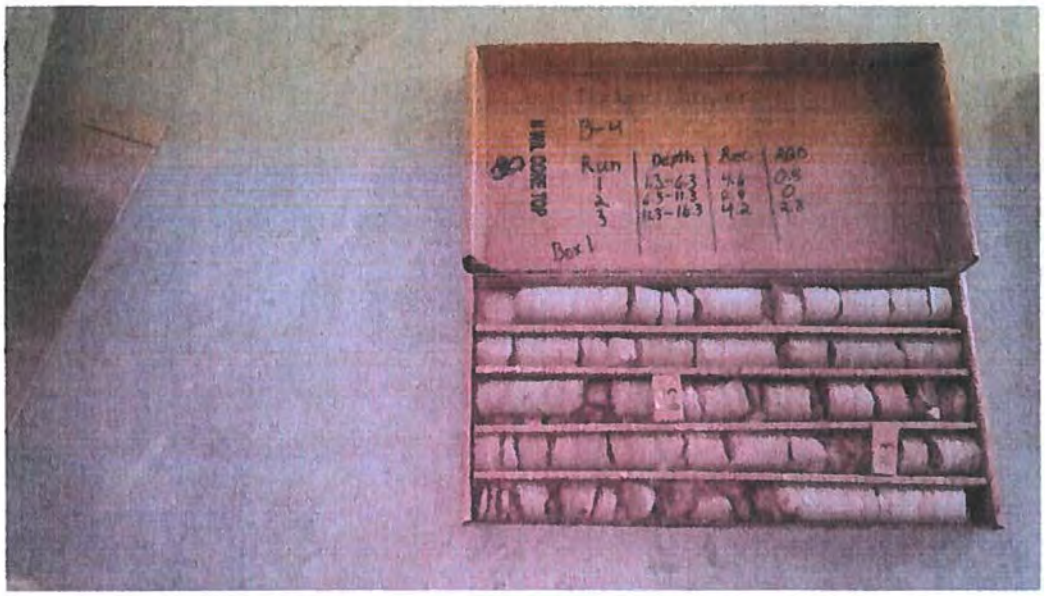


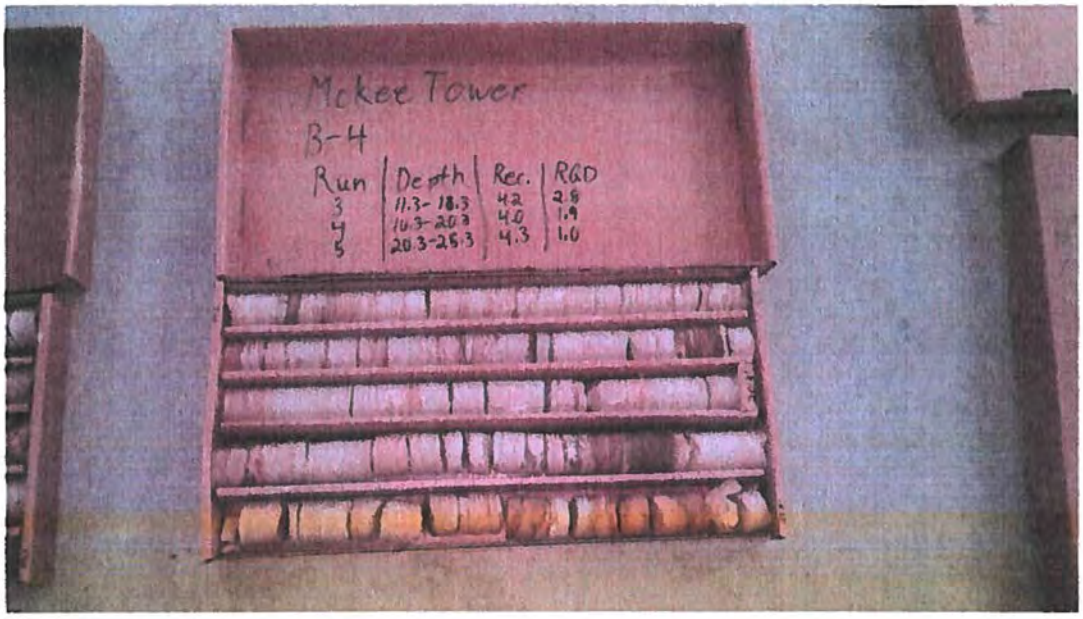





WIRE CORE TOP


CORE TOP


B-4
Run | Depth | Rec. | RQD
1 | 3-6.3 | 4.6 | 0.8
2 | 6.3-11.3 | 0.9 | 0
3 | 11.3-16.3 | 4.2 | 2.8
Box 1

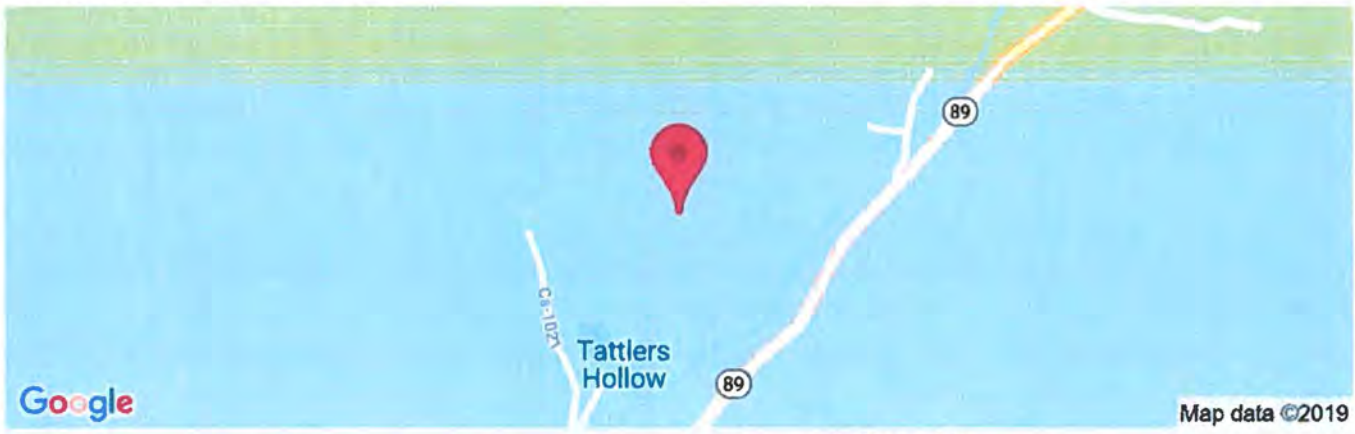

Mckee Tower
B-4
Run | Depth | Rec. | RQD
3 | 11.3-18.3 | 4.2 | 2.6
4 | 18.3-20.3 | 4.0 | 1.9
5 | 20.3-25.3 | 4.3 | 1.6

APPENDIX C SEISMIC DATA

OSHPD

Bills's Branch

Latitude, Longitude: 37.447923, -83.99075

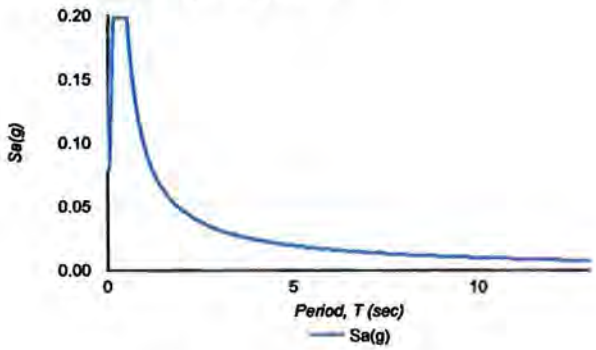


Date	9/15/2019, 1:25:41 PM
Design Code Reference Document	IBC-2015
Risk Category	IV
Site Class	B - Rock

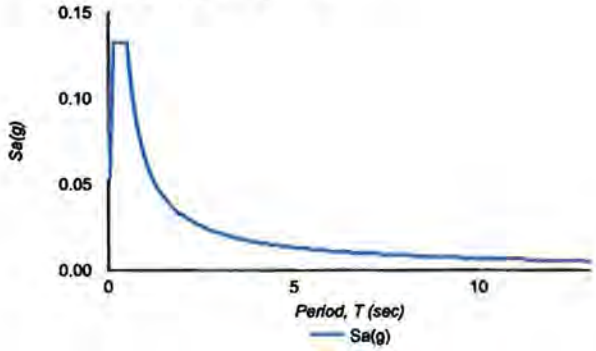
Type	Value	Description
S_S	0.198	MCE_R ground motion. (for 0.2 second period)
S_1	0.093	MCE_R ground motion. (for 1.0s period)
S_{MS}	0.198	Site-modified spectral acceleration value
S_{M1}	0.093	Site-modified spectral acceleration value
S_{DS}	0.132	Numeric seismic design value at 0.2 second SA
S_{D1}	0.062	Numeric seismic design value at 1.0 second SA

Type	Value	Description
SDC	A	Seismic design category
F_a	1	Site amplification factor at 0.2 second
F_v	1	Site amplification factor at 1.0 second
PGA	0.094	MCE_G peak ground acceleration
F_{PGA}	1	Site amplification factor at PGA
PGA_M	0.094	Site modified peak ground acceleration
T_L	12	Long-period transition period in seconds
SsRT	0.198	Probabilistic risk-targeted ground motion. (0.2 second)
SsUH	0.213	Factored uniform-hazard (2% probability of exceedance in 50 years) spectral acceleration
SsD	1.5	Factored deterministic acceleration value. (0.2 second)
S1RT	0.093	Probabilistic risk-targeted ground motion. (1.0 second)
S1UH	0.103	Factored uniform-hazard (2% probability of exceedance in 50 years) spectral acceleration.
S1D	0.6	Factored deterministic acceleration value. (1.0 second)
PGAd	0.6	Factored deterministic acceleration value. (Peak Ground Acceleration)
C_{RS}	0.931	Mapped value of the risk coefficient at short periods
C_{R1}	0.897	Mapped value of the risk coefficient at a period of 1 s

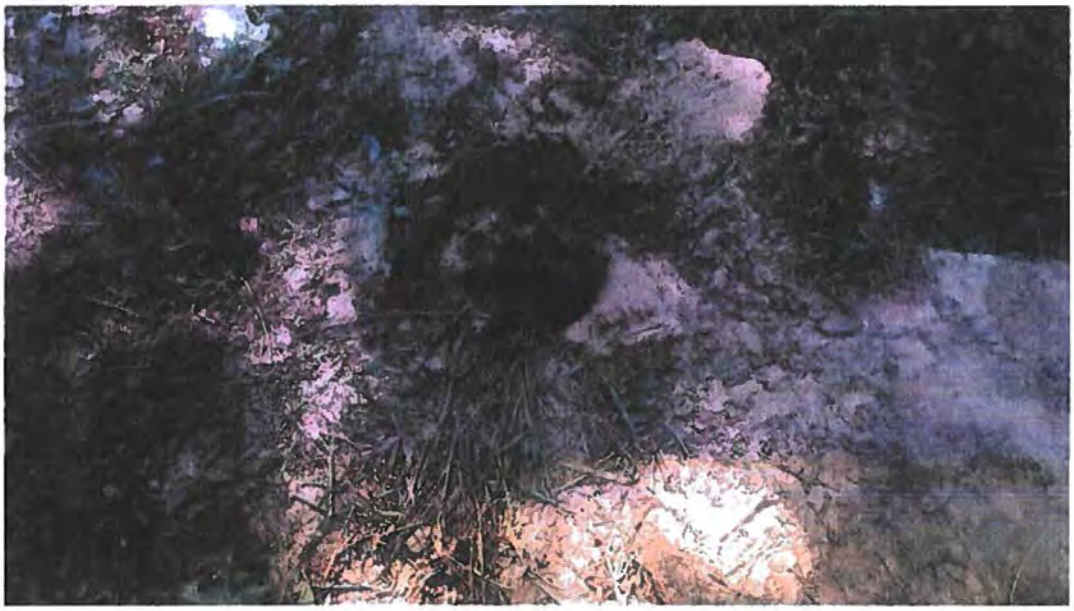
MCER Response Spectrum



Design Response Spectrum



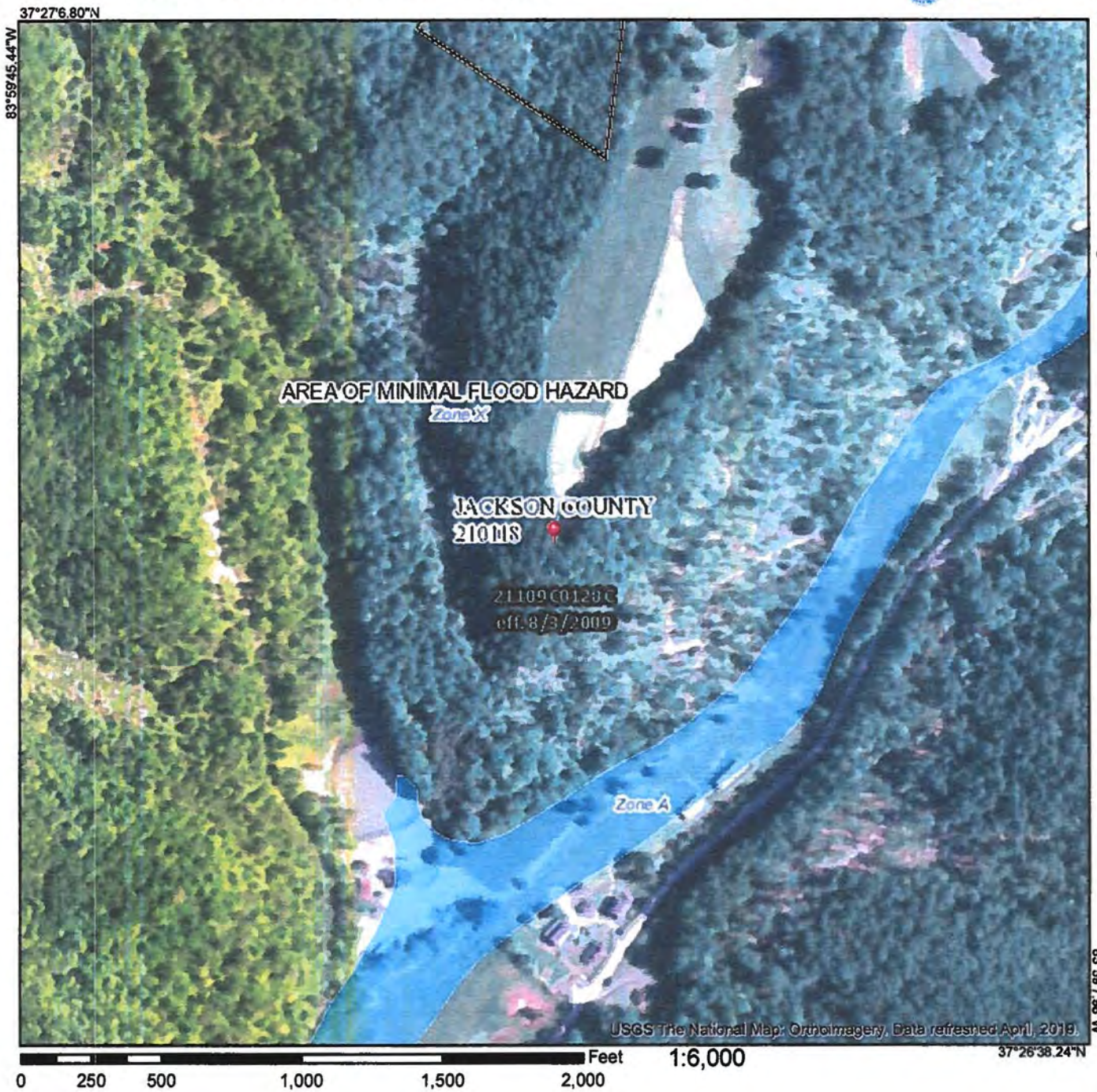
APPENDIX D PHOTOGRAPHS



APPENDIX E
MAPS

National Flood Hazard Layer FIRMette

FEMA



Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- Coastal Transect
- 513 Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

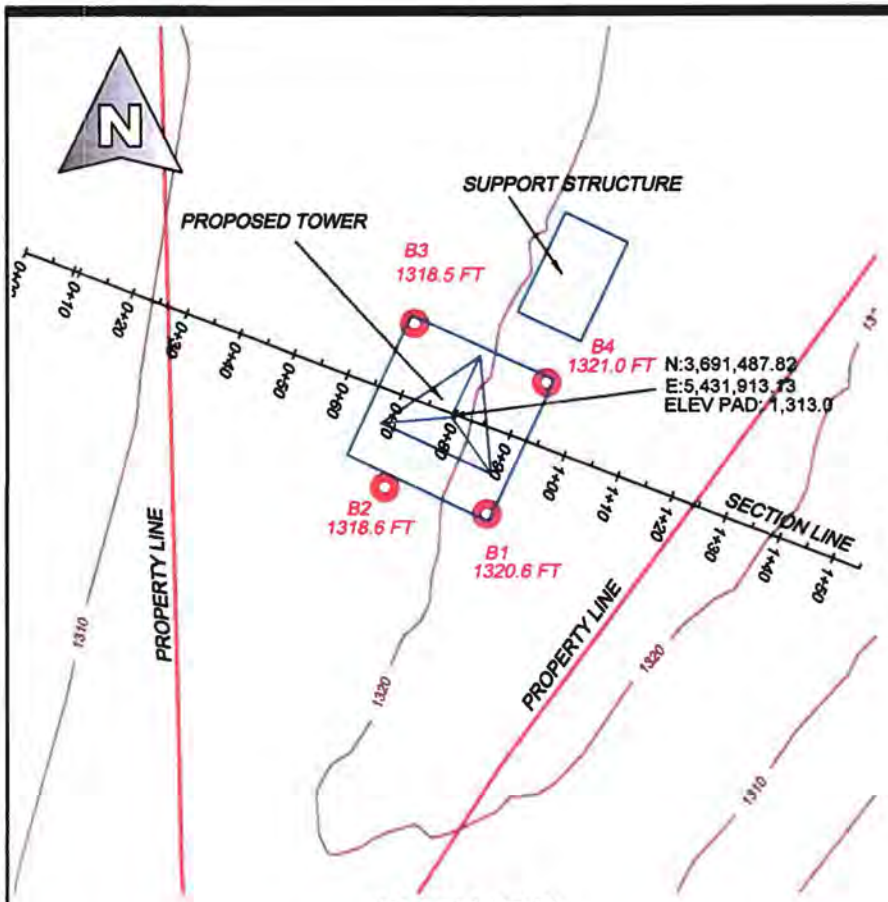
N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

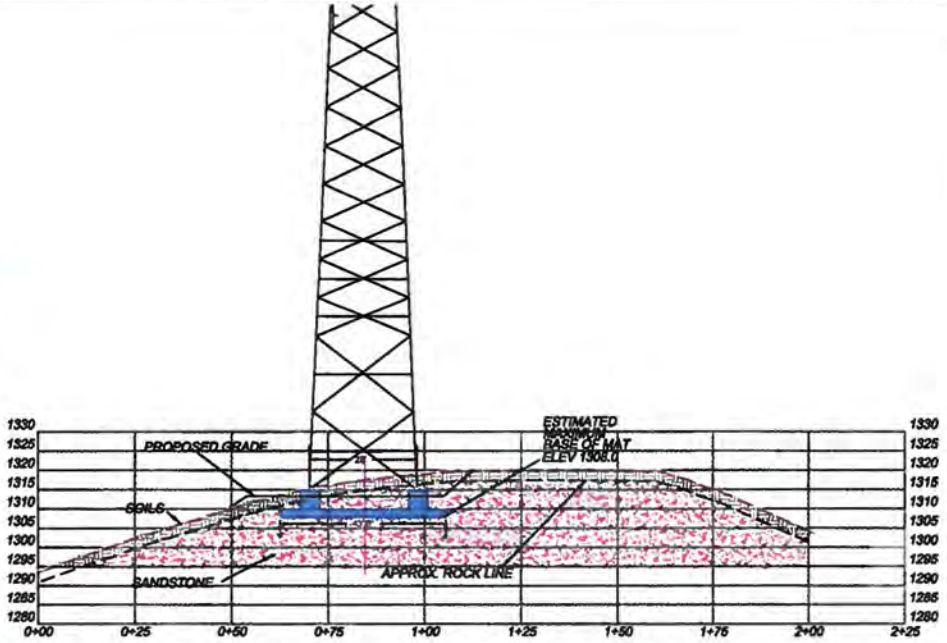
This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 9/15/2019 at 12:10:54 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.



PLAN VIEW
1" = 20'



SECTION
1" = 30'

East Kentucky Engineering, LLC
230 Swartz
Hazard, KY 41701
(606) 551-1050
Email: ekyeng@ekyeng.net

STATE OF KENTUCKY
RICHARD D. SAND
19218
LICENSED
PROFESSIONAL ENGINEER
9/10/2019

0' 30' 60'

Drawn by:RDS	Date: 08/29/2019
Job #:165-0087	Scale:1" = AS NOTED
File Location:	

APPALACHIAN
WIRELESS
BILL'S BRANCH SITE
JACKSON COUNTY, KENTUCKY

1 Fairholm Avenue
Peoria, IL 61603 USA
Phone 309-566-3000
FAX 309-566-3079

October 7, 2019

East Kentucky Network LLC
Attn: Stanton Neece
101 Technology Trail
Ivel, KY. 41642

Reference: 180 FT RT SELF SUPPORT TOWER
BILLS BRANCH, JACKSON COUNTY, KY

File Number: 231852

Copies	Drawing Number	Description
1	231852-01-D1	Design Drawing Sealed for the State of Kentucky
1	231852-01-F1	Foundation

Email Address: sneece@ekn.com

Sincerely,

JD Long

jd

1 Fairholm Avenue
Peoria, IL 61603 USA
Phone: (309)-566-3000
Fax: (309)-566-3079

DATE: OCTOBER 07, 2019

PURCHASER: EAST KENTUCKY NETWORK LLC

PROJECT: 180 FT RT SELF SUPPORT TOWER
BILLS BRANCH, KENTUCKY

FILE NUMBER: 231852

DRAWINGS: 231852-01-D1, 231852-01-F1

I CERTIFY THAT THE REFERENCED DRAWINGS WERE PREPARED UNDER MY SUPERVISION IN ACCORDANCE WITH THE DESIGN AND LOADING CRITERIA SPECIFIED BY THE PURCHASER AND THAT I AM A REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF KENTUCKY.

CERTIFIED BY: _____

DATE: 10/7/19

STATE OF KENTUCKY
HABIB JIRJI AZOURI
20322
LICENSED
PROFESSIONAL ENGINEER

TSTower - v 5.8.5 Tower Analysis Program
(c) 1997-2019 TowerSoft www.TSTower.com

Licensed to: ROHN Products LLC
Peoria, IL

File: W:\Jobs\2019\231852\231852.out
Contract:
Project: 180 FT RT TOWER DESIGN
Date and Time: 10/3/2019 10:35:58 AM

Revision: 0
Site: BILLS BRANCH- KY
Engineer: OH

DESIGN SPECIFICATION

Design Standard: ANSI/TIA-222-G-2005 Add 2
Ultimate Design Wind Speed (No Ice) = 115.0 (mph)
Nominal Design Wind Speed (No Ice) = 89.1 (mph)
Basic Wind Speed (With Ice) = 30.0 (mph)
Design Ice Thickness = 0.75 (in)
Structure Class = II
Exposure Category = B
Topographic Category = 1

Sct.	Length (ft)	Top W. (in)	Bot Width (in)
1	20.00	228.24	252.24
2	20.00	204.24	228.24
3	20.00	180.24	204.24
4	20.00	155.32	180.24
5	20.00	131.32	155.32
6	20.00	106.40	131.32
7	20.00	81.53	106.40
8	20.00	56.99	81.53
9	20.00	56.99	56.99

STATE OF KENTUCKY
HABIB JIRJI AZOURI
20322
LICENSED PROFESSIONAL ENGINEER

10/7/19

180'
20.00
20.00
20.00
20.00
20.00
20.00
20.00
20.00
20.00

(8) 1"DIA. X 70" LG. ASTM F1554 GRADE 105 ANCHOR BOLTS PER TOWER LEG (24) TOTAL

MAXIMUM BASE REACTIONS

Download (Kips)	295.9
Uplift (Kips)	254.9
Shear (Kips)	27.1

O.T.M. 5,095 FT.KIPS

S & S Tower Services
120 Branden Dr.
Mousie, KY 41839

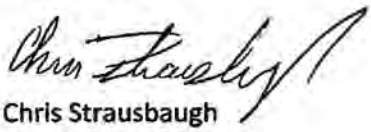
Kentucky Public Service Commission
211 Sower Blvd.
P.O. Box 615
Frankfort, KY 40602-0615

Dear Commissioners:

The Construction Manager for the proposed communications facility will be Dave Strausbaugh. His contact information is (606) 497-6730 or dstrausbaugh010@gmail.com.

Dave has been in the industry completing civil construction and constructing towers since 1991. He has worked for S&S Tower Services since 2015 as Construction Manager overseeing the construction of telecommunications towers and sites.

Thank you,



Chris Strausbaugh
Owner
S&S Tower Services
(606) 497-5798

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2019-ASO-23678-OE

Issued Date: 08/16/2019

Cindy D. McCarty
East Kentucky Network, LLC
101 Technology Trail
Ivel, KY 41642

**** 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 Bill's Branch
Location:	McKee, KY
Latitude:	37-26-52.54N NAD 83
Longitude:	83-59-26.65W
Heights:	1320 feet site elevation (SE)
	190 feet above ground level (AGL)
	1510 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:

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

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

Based on this evaluation, marking and lighting are not necessary for aviation safety. However, if marking/ lighting are accomplished on a voluntary basis, we recommend it be installed in accordance with FAA Advisory circular 70/7460-1 L Change 2.

This determination expires on 02/16/2021 unless:

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

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

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

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

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

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

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

If we can be of further assistance, please contact our office at (718) 553-2611, or angelique.eersteling@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2019-ASO-23678-OE.

Signature Control No: 412598476-414569785 (DNE)
Angelique Eersteling
Technician

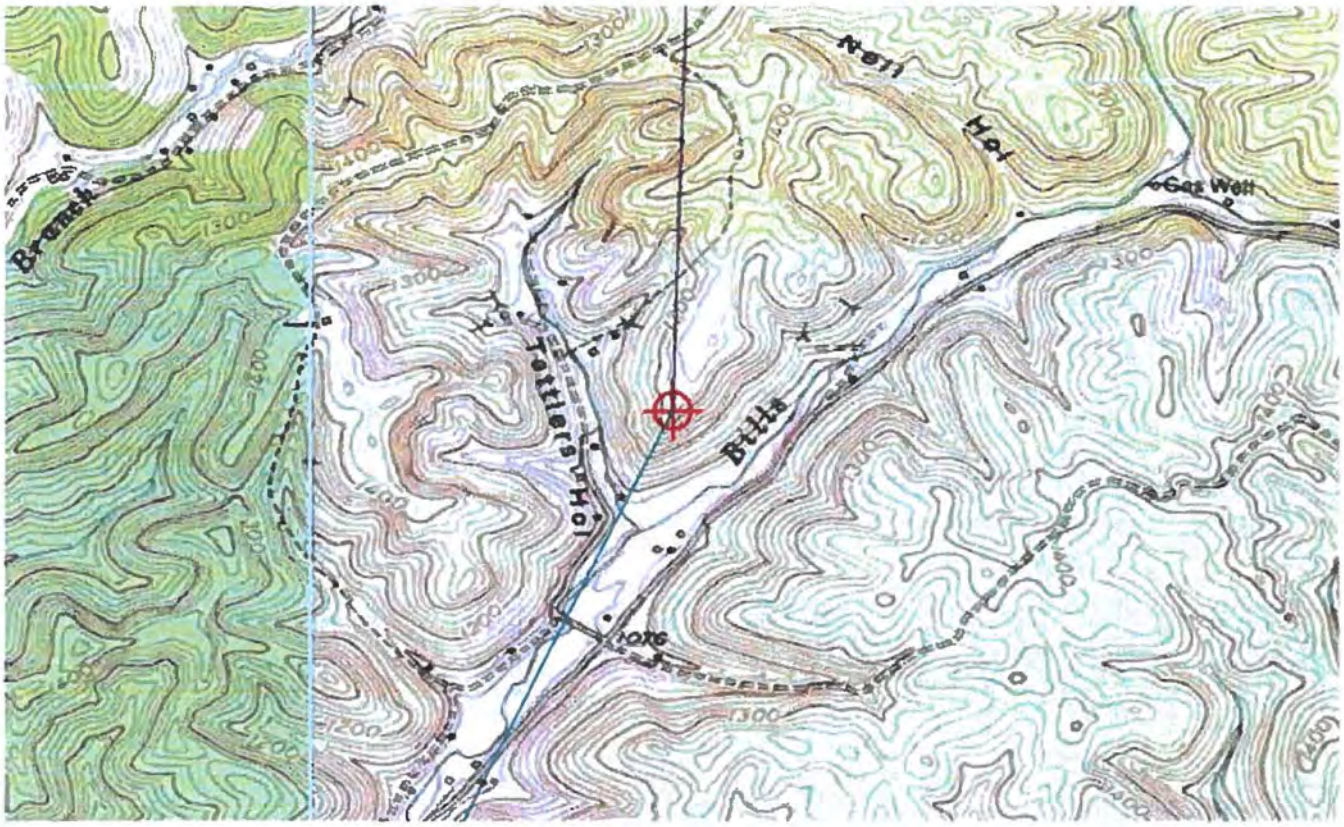
Attachment(s)
Frequency Data
Map(s)

cc: FCC

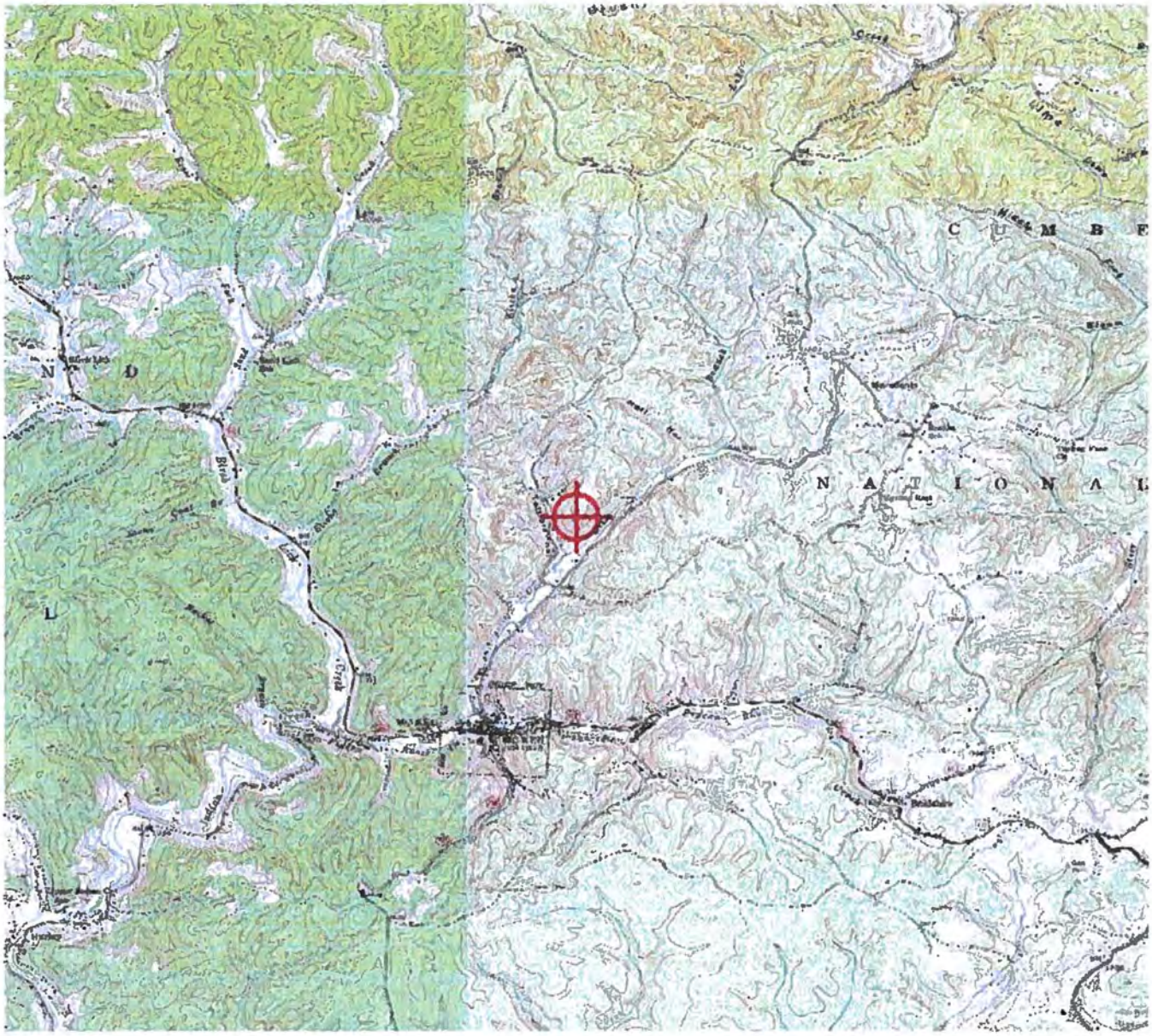
Frequency Data for ASN 2019-ASO-23678-OE

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

Verified Map for ASN 2019-ASO-23678-OE



TOPO Map for ASN 2019-ASO-23678-OE



From: **Cindy McCarty** cmccarty@ekn.com
Subject: Fwd: Application for Construction - Bill's Branch (Jackson County, KY)
Date: October 29, 2019 at 9:17 AM
To: Raina Helton rhelton@ekn.com

Cindy D. McCarty
In-House Counsel
East Kentucky Network, LLC
d/b/a Appalachian Wireless

(606) 339-1006
(606) 339-1363 (fax)
cmccarty@ekn.com

Begin forwarded message:

From: "Houlihan, John F (KYTC)" <John.Houlihan@ky.gov>
Subject: **RE: Application for Construction - Bill's Branch (Jackson County, KY)**
Date: July 30, 2019 at 10:54:42 AM EDT
To: Cindy McCarty <cmccarty@ekn.com>

No permit is required from the KAZC. Thank you.

Kentucky Airport Zoning Commission (KAZC)
John Houlihan, Administrator
Department of Highways, District Six
421 Buttermilk Pike
Covington, KY 41017
Office 859-341-2700, Office 1-800-928-2700, Desk Phone 502-330-3955
KAZC webpage: https://transportation.ky.gov/Aviation/Pages/airportzoning.aspx

From: Cindy McCarty <cmccarty@ekn.com>
Sent: Tuesday, July 30, 2019 10:40 AM
To: Houlihan, John F (KYTC) <John.Houlihan@ky.gov>
Cc: Compliance <compliance@ekn.com>
Subject: Application for Construction - Bill's Branch (Jackson County, KY)

John,
Please find attached the Application for Permit to Construct or Alter a Structure (TC 55-2) relating to the construction of a new 180' structure with top-mounted antennas (overall AGL of 190').

Also attached is the FAA Form 7460-1 (2019-ASO-23678-OE). A copy of the FAA determination will be forwarded upon receipt.
The topo map is included with the FAA Form 7460-1.

Should you need any additional information, please let me know.
Thanks for your assistance.
Cindy

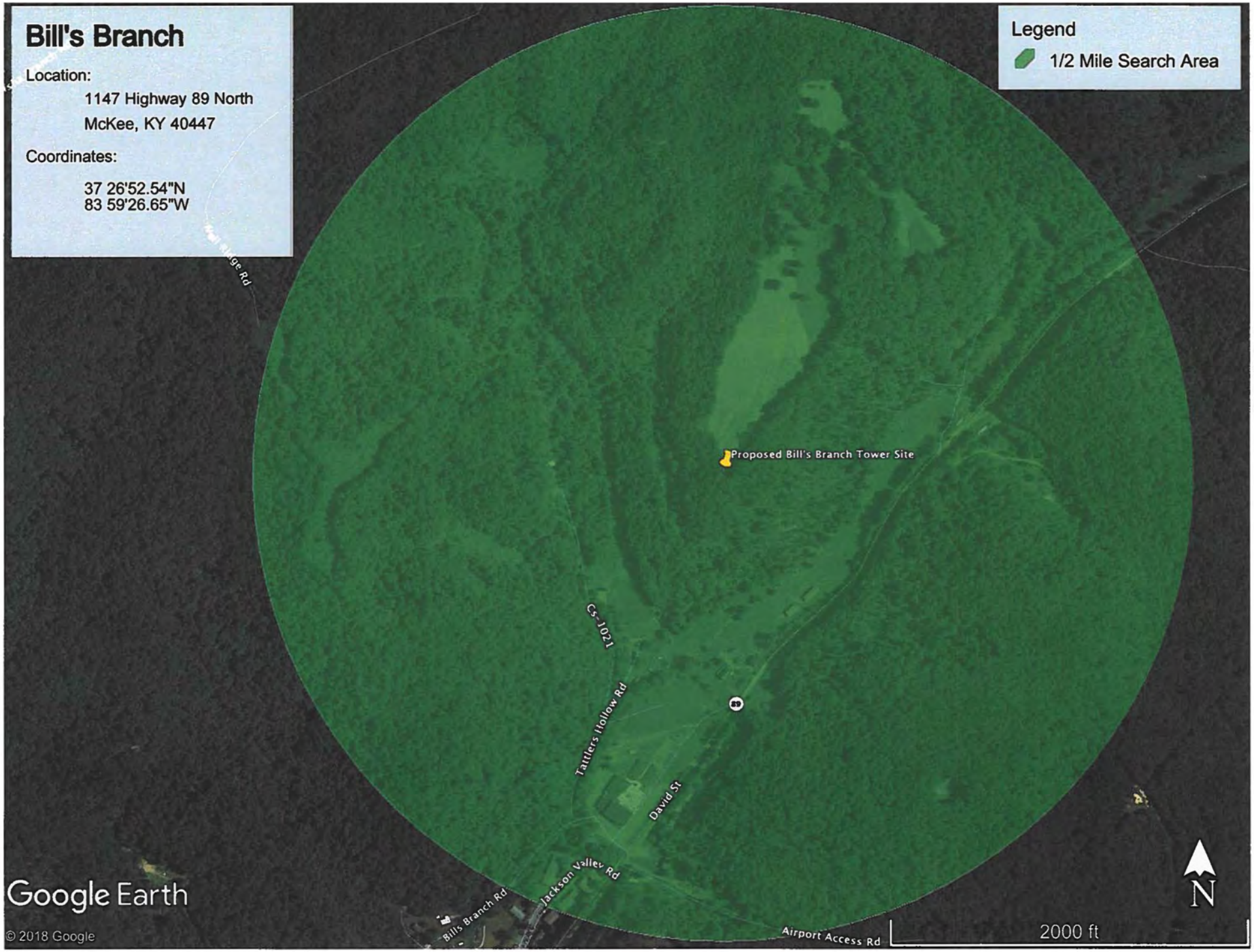
Cindy D. McCarty
In-House Counsel
East Kentucky Network, LLC
d/b/a Appalachian Wireless

(606) 339-1006
(606) 339-1363 (fax)
cmccarty@ekn.com

Bill's Branch Driving Directions

Beginning at the Courthouse in Jackson County, Kentucky, in the city of Mckee on Main Street heading North on Hwy 89. You will travel 1.1 miles and turn left onto a gravel drive (sign will be posted). Proceeding on down the driveway and into the grassy field (foot traffic only). Travel the old logging road to the top of the hill. Turn left and follow the ribbons out to the point. All being approximately 4 tenths of a mile (signs posted).

Written
Daryl Bartley
Appalachian Wireless
(606)-791-0310


Bill's Branch
Location:
1147 Highway 89 North
McKee, KY 40447
Coordinates:
37 26'52.54"N
83 59'26.65"W
Legend
1/2 Mile Search Area
Proposed Bill's Branch Tower Site
CS-1021
Tattlers Hollow Rd
David St
Jackson Valley Rd
Bills Branch Rd
Airport Access Rd
N
2000 ft
Google Earth
© 2018 Google

MEMORANDUM OF LEASE

THIS MEMORANDUM OF LEASE (this "Memordandum") is made and entered into on this 11th day of July, 2019, with a commencement date of July 11, 2019, 2019 (the "**Commencement Date**"), by and between **ROBERT JOHNSON** and **JOETTA JOHNSON**, a married couple with an address of 1147 Highway 89 North, McKee, Kentucky 40447, hereinafter referred to as "**Lessors**", and **EAST KENTUCKY NETWORK, LLC D/B/A APPALACHIAN WIRELESS**, a Kentucky limited liability company, with a mailing address of 101 Technology Trail, Ivel, Kentucky, 41642, hereinafter referred to as "**Lessee.**"

WITNESSETH

1. **Demised Premises**. For good and valuable consideration, Lessors leased to Lessee, and Lessee has leased from Lessors that certain tract of real estate located in Jackson County, Kentucky, and being a portion of the same land conveyed to Lessors by Deed dated March 6, 1973, and recorded in Deed Book 85, Page 347, in the Jackson County Clerk's Office. Said property is more particularly described in the description **attached** hereto and made a part hereof as **Exhibit A** and the plat **attached** hereto and made a part hereof as **Exhibit B**, prepared by Steve Haywood, Licensed Professional Land Surveyor (hereinafter referred to as the "**Premises**"). The Lessor has also granted unto Lessee full and complete rights of ingress, egress and regress to and from the Premises over any property owned or controlled by Lessor or any property upon which Lessor has been granted rights-of-way or an easement to and from the Premises and the non-exclusive right to use any existing road located on property conveyed to Lessors by Deed dated July 5, 1976, of record in Deed Book 93, Page 161 in the Jackson County Clerk's Office and shown on the plat **attached** hereto and made a part herein as **Exhibit C**, prepared by Steve Haywood, a Licensed

Professional Land Surveyor, (the **"Existing Road"**) and other associated rights for installation of utilities, maintenance, and other purposes.

2. Term. The initial term of the Lease is for a period of five (5) years from the Commencement Date set forth above.

3. Renewals. The Lease shall automatically renew for an additional seven (7) renewal terms of five (5) years each, unless Lessee provides sixty (60) days written notice prior to the end of the current term that it does not wish to renew.

4. Binding Effect. All of the terms, conditions, and covenants hereof shall be binding and inure to the benefit of the parties and their respective heirs, representatives, successors, and assigns.

5. Purpose. This Memorandum of Lease is prepared solely for the purpose of recordation, and is not intended to, nor shall it be deemed to, modify any of the terms and conditions set forth in the Lease, nor to construe any of the rights, duties or responsibilities of Lessors and Lessee. In the event of any conflict between the terms and conditions of this Memorandum and the terms and conditions of the Lease, the terms and conditions of the Lease shall supersede and control.

IN WITNESS WHEREOF, Lessors and Lessee have caused their names to be signed hereto, as of the day and year first above written.

[THE REMAINDER OF THIS PAGE INTENTIONALLY LEFT BLANK.]

LESSORS:

Robert Johnson
ROBERT JOHNSON

Joetta Johnson
JOETTA JOHNSON

COMMONWEALTH OF KENTUCKY
COUNTY OF Jackson

The foregoing instrument was acknowledged before me on this 11th day of July, 2019, by Robert Johnson and Joetta Johnson, Lessors.

Raina L. Helton
Notary Public

My Commission Expires 2-16-2020

LESSEE:

EAST KENTUCKY NETWORK, LLC D/B/A APPALACHIAN WIRELESS

W A Gillum
By: W.A. Gillum
Its: CEO/ General Manager

COMMONWEALTH OF KENTUCKY
COUNTY OF Floyd

The foregoing instrument was acknowledged before me on this 12th day of July, 2019, by W.A. Gillum, CEO/General Manager of East Kentucky Network, LLC d/b/a Appalachian Wireless, Lessee.

Raina Helton
Notary Public

RAINA L. HELTON NOTARY PUBLIC ID NO. 549406 MY COMMISSION EXPIRES 2-16-2020 STATE AT LARGE, KY.

My Commission Expires 2-16-2020

This instrument was prepared by:

Krystal Branham

Krystal Branham, Attorney
101 Technology Trail
Ivel, Kentucky 41642
(606) 477-2355

EXHIBIT
A

McKee Tower Site
Lease Description

A certain tract of land located on Bill's Branch of Indian Creek of the Rockcastle River on Kentucky Route 89 North near the City of McKee, Jackson County, Kentucky and more particularly described as follows.

Unless stated otherwise any monument referred to herein as a Re-Bar and Cap is a set ½" steel re-bar eighteen (18") in length with a yellow plastic cap stamped Summit L.S. #2661. All bearings stated herein are referred to Grid North based on NAD83 Kentucky Single Zone State Plane Coordinates.

Beginning at a set Re-Bar and Cap in the fence line on the boundary line between tracts of property owned by Bobby and Joetia Johnson (D.B. 93 P. 161 and D.B. 85 Page 347) and having coordinates of N: 3,691,580.00 E: 5,432,029.59; Thence, with fence line S 33°02'30" W a distance of 58.99' to a set Re-Bar and Cap in fence line; Thence, S 36°22'12" W a distance of 127.74' to a set Re-Bar and Cap in fence line; Thence, S 32°00'28" W a distance of 75.90' to a found six (6) inch wood post at the corner of Philip Ray Johnson (D.B. 150 P. 238); Thence, running with the fence line between Bobby Johnson and Joetia Johnson, his wife, (D.B. 85 P. 347)and Philip Ray Johnson N 74°06'21" W a distance of 9.66' to a set Re-Bar and Cap in fence line; Thence, N 08°15'51" W a distance of 41.26' to a set Re-Bar and Cap in fence line; Thence, N 00°46'52" W a distance of 121.80' to a set Re-Bar and Cap in fence line; Thence, N 01°56'15" W a distance of 38.25' to a set Re-Bar and Cap; Thence, N 11°38'44" W a distance of 42.01' to a set Re-Bar and Cap; Thence, N 20°38'44" W a distance of 20.16' to a set Re-Bar and Cap in fence line; Thence, leaving the line of Philip Ray Johnson and running through the property of Robert (Bobby) Johnson S 75°33'35" E a distance of 187.84' to the point of beginning and containing 0.53 acres more or less.

Also to be included is a right of way for an access road from Kentucky State Route 89 to the above described tract of land partly along an existing road labeled as existing road on the an Exhibit Map titled Showing Proposed Creek Crossing and Access Road to a point north of the above described tract of land and a proposed new section of road labeled proposed road on the exhibit map leading from the existing road to the above described tract of land. Also to be included is a right to install fiber and utility lines in or along said access road and/or such other location to be agreed upon by the parties.

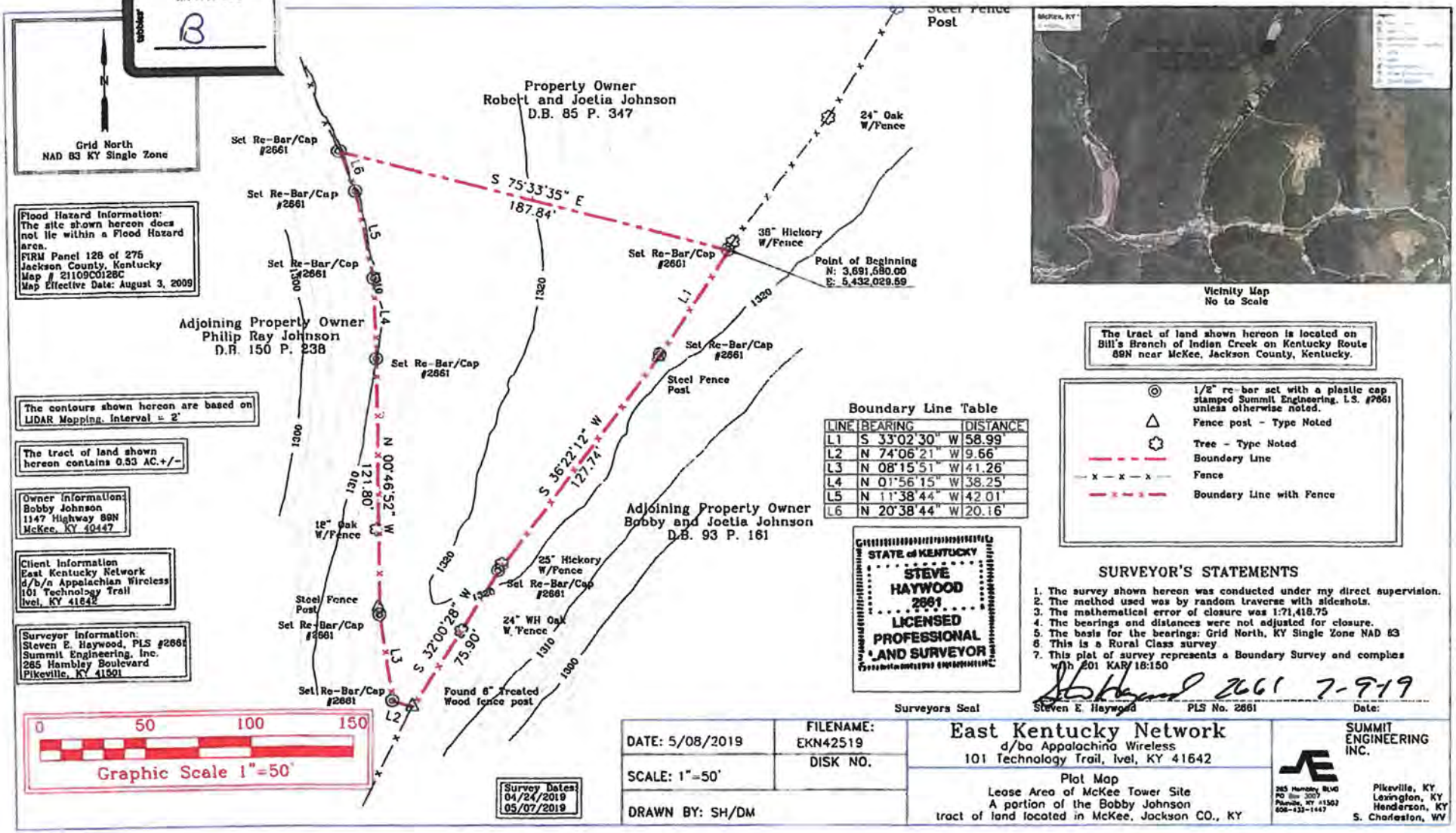
This survey was performed on May 7th 2019 by persons under the direct supervision of Steven E. Haywood, PLS #2661 with Summit Engineering on May 7th, 2019 and being a part of the tract of land conveyed to Bobby Johnson and Joetia Johnson, his wife, by Lola McKinney Cole and Frank Cole, her husband, by deed dated March 6th, 1978 and recorded in Deed Book 85 Page 347 in the records of the Jackson County Court Clerk's office.

Steve Haywood, PLS #2661

STATE of KENTUCKY
STEVE
HAYWOOD
2661
LICENSED
PROFESSIONAL
LAND SURVEYOR

Date: 7/09/2019

EXHIBIT B



Vicinity Map
No to Scale

Flood Hazard Information:
The site shown hereon does not lie within a Flood Hazard area.
FIRM Panel 128 of 275
Jackson County, Kentucky
Map # 21109C0128C
Map Effective Date: August 3, 2009

The contours shown hereon are based on LIDAR Mapping. Interval = 2'

The tract of land shown hereon contains 0.53 AC.+/-

Owner Information:
Bobby Johnson
1147 Highway 89N
McKee, KY 40447

Client Information
East Kentucky Network
d/b/a Appalachian Wireless
101 Technology Trail
Ivel, KY 41642

Surveyor Information:
Steven E. Haywood, PLS #2661
Summit Engineering, Inc.
265 Hambley Boulevard
Pikeville, KY 41501

The tract of land shown hereon is located on Bill's Branch of Indian Creek on Kentucky Route 89N near McKee, Jackson County, Kentucky.

Boundary Line Table

LINE	BEARING	DISTANCE
L1	S 33°02'30" W	58.99'
L2	N 74°06'21" W	9.66'
L3	N 08°15'51" W	41.26'
L4	N 01°56'15" W	38.25'
L5	N 11°38'44" W	42.01'
L6	N 20°38'44" W	20.16'

- 1/2" re-bar set with a plastic cap stamped Summit Engineering, L.S. #2661 unless otherwise noted.
- Fence post - Type Noted
- Tree - Type Noted
- Boundary Line
- Fence
- Boundary Line with Fence

STATE of KENTUCKY
STEVE HAYWOOD
2661
LICENSED PROFESSIONAL LAND SURVEYOR

Surveyors Seal

SURVEYOR'S STATEMENTS

1. The survey shown hereon was conducted under my direct supervision.
2. The method used was by random traverse with sideshots.
3. The mathematical error of closure was 1:71,418.75
4. The bearings and distances were not adjusted for closure.
5. The basis for the bearings: Grid North, KY Single Zone NAD 83
6. This is a Rural Class survey
7. This plat of survey represents a Boundary Survey and complies with 201 KAR 18:150

Steven E. Haywood PLS No. 2661 Date: 7-9-19

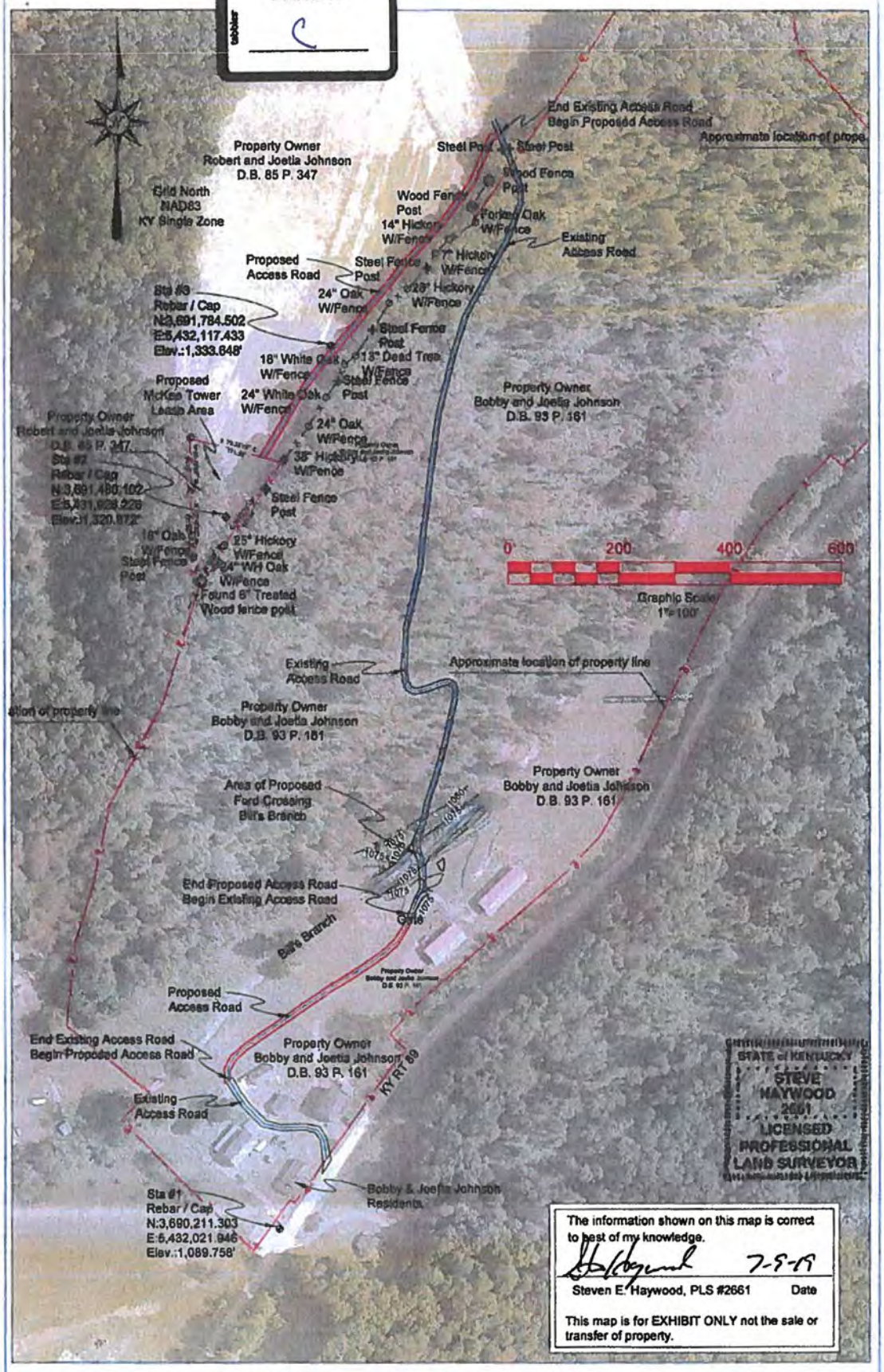
Survey Dates:
04/24/2019
05/07/2019

DATE: 5/08/2019	FILENAME: EKN42519	East Kentucky Network d/ba Appalachian Wireless 101 Technology Trail, Ivel, KY 41642
SCALE: 1"=50'	DISK NO.	Plat Map Lease Area of McKee Tower Site A portion of the Bobby Johnson tract of land located in McKee, Jackson CO., KY
DRAWN BY: SH/DM		SUMMIT ENGINEERING INC. 265 Hambley Blvd PO Box 3057 Pikeville, KY 41502 606-433-1447 Pikeville, KY Lexington, KY Henderson, KY S. Charleston, WV

EXHIBIT

tabbies

C



STATE of KENTUCKY
STEVE HAYWOOD
2661
LICENSED PROFESSIONAL LAND SURVEYOR

The information shown on this map is correct to best of my knowledge.

7-5-19

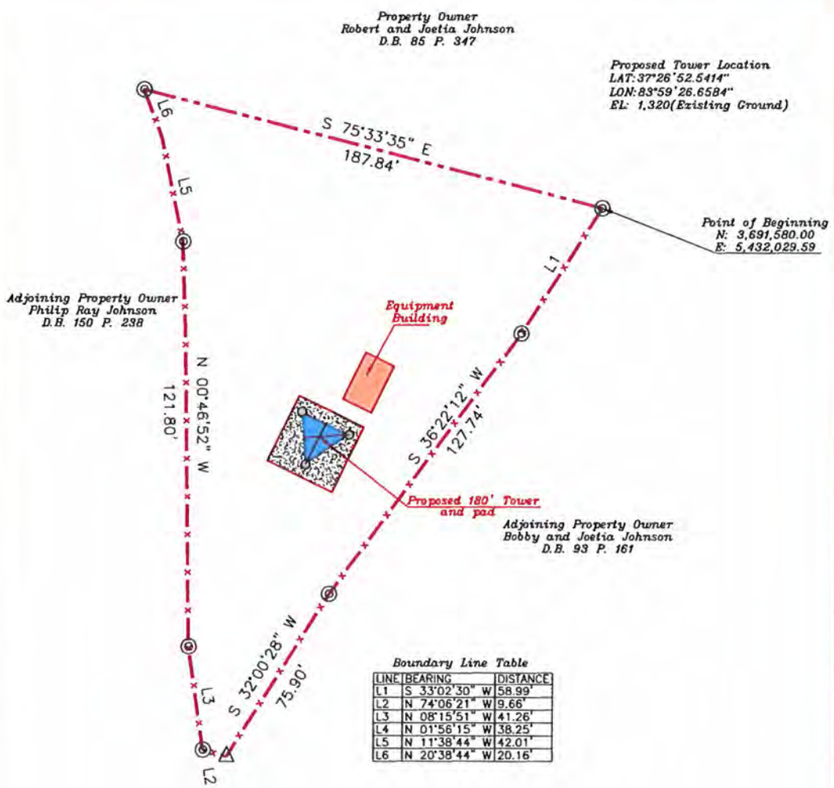
Steven E. Haywood, PLS #2661 Date

This map is for EXHIBIT ONLY not the sale or transfer of property.

DATE: 6/5/2019	FILENAME:	East Kentucky Network d/b/a Appalachian Wireless 101 Technology Trail, Ivel, KY 41642	SUMMIT ENGINEERING INC.
SCALE: 1"=200'	DISK NO.	Exhibit Map Showing Proposed Creek Crossing & Access Road McKee Tower Site	265 Hambley Blvd PO Box 2207 Pikeville, KY 41502 606-432-1447 Pikeville, KY Lexington, KY S. Charleston, WV
DRAWN BY: DLM			

McKee TOWER

SITE SURVEY WITH PROPOSED TOWER & BUILDING LOCATION



Boundary Line Table

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L1	S 33°02'30" W	58.99'
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L4	N 01°56'15" W	38.25'
L5	N 11°38'44" W	42.01'
L6	N 20°38'44" W	20.16'

Legend

- 1/2" re-bar set with a plastic cap Stamped Summit Engineering, L.S. #2661 Unless otherwise noted.
- Monument – Found – Type Noted
- Tree (Type Noted)
- Boundary Line
- Property Line
- Barb Wire Fence
- Concrete
- C — Generator
- Proposed Tower Location

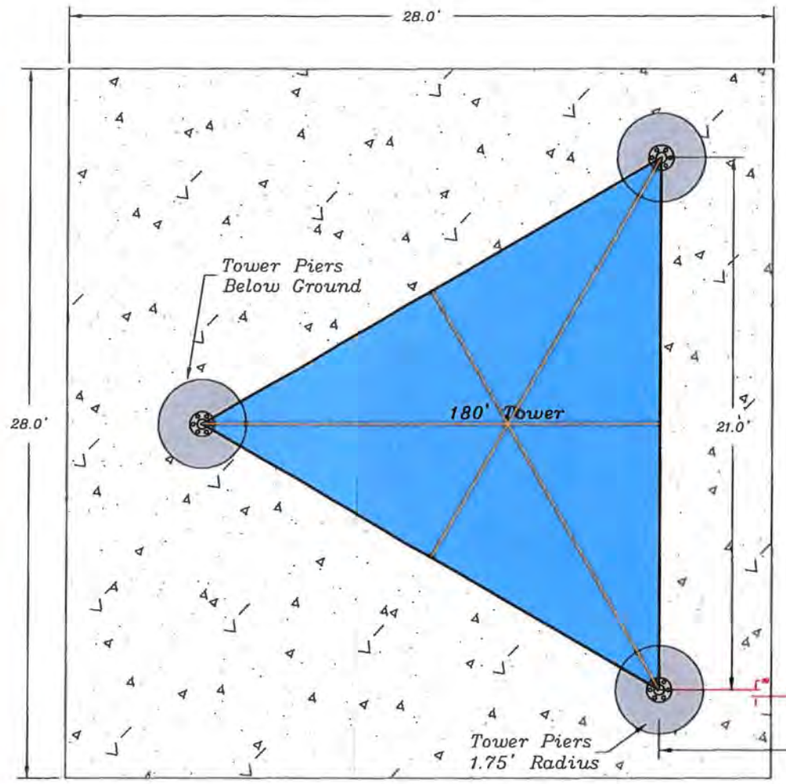
Steven E. Haywood, PLS #2661
265 Hambley Blvd.
Pikeville, KY 41501
606-432-1447

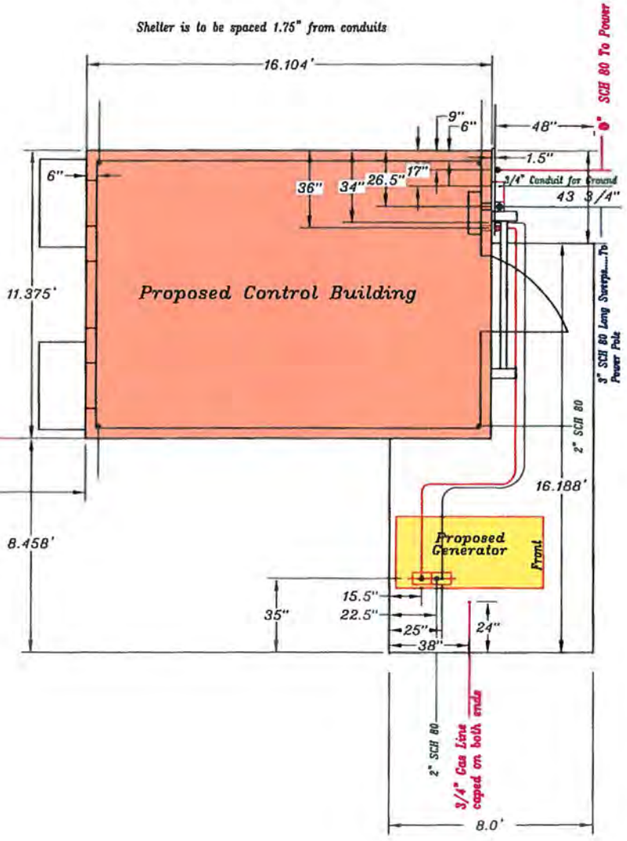
STATE of KENTUCKY
STEVE HAYWOOD
2661
LICENSED PROFESSIONAL LAND SURVEYOR

FAA Certification

In Accordance with FAA Order 8260.19C, Appendix C, I hereby certify that the Obstacle Accuracy Codes for the proposed Tower meets or exceeds accuracy 2C (+50 ft Horizontal and +20 ft Vertical).

Steven E. Haywood, PLS #2661 — Date 8-21-19





0' 6' 12' 18'

SCALE: 1" = 6'

STATE OF KENTUCKY
JONATHAN R. NEWMAN
29118
LICENSED PROFESSIONAL ENGINEER

Jonathan Newman PE# 29118 — Date 8-21-19

EAST KENTUCKY NETWORK
d/b/a Appalachian Wireless
101 Technology Trail, Ivel, KY 41642

McKee Tower
Site Map
Near Bruin in Elliott County, Kentucky

SUMMIT ENGINEERING, INC.
265 HAMBLEY BLVD.
PIKEVILLE, KY. 41501
(606) 432-1447
PIKEVILLE, LEXINGTON, KY & SOUTH CHARLESTON, WV

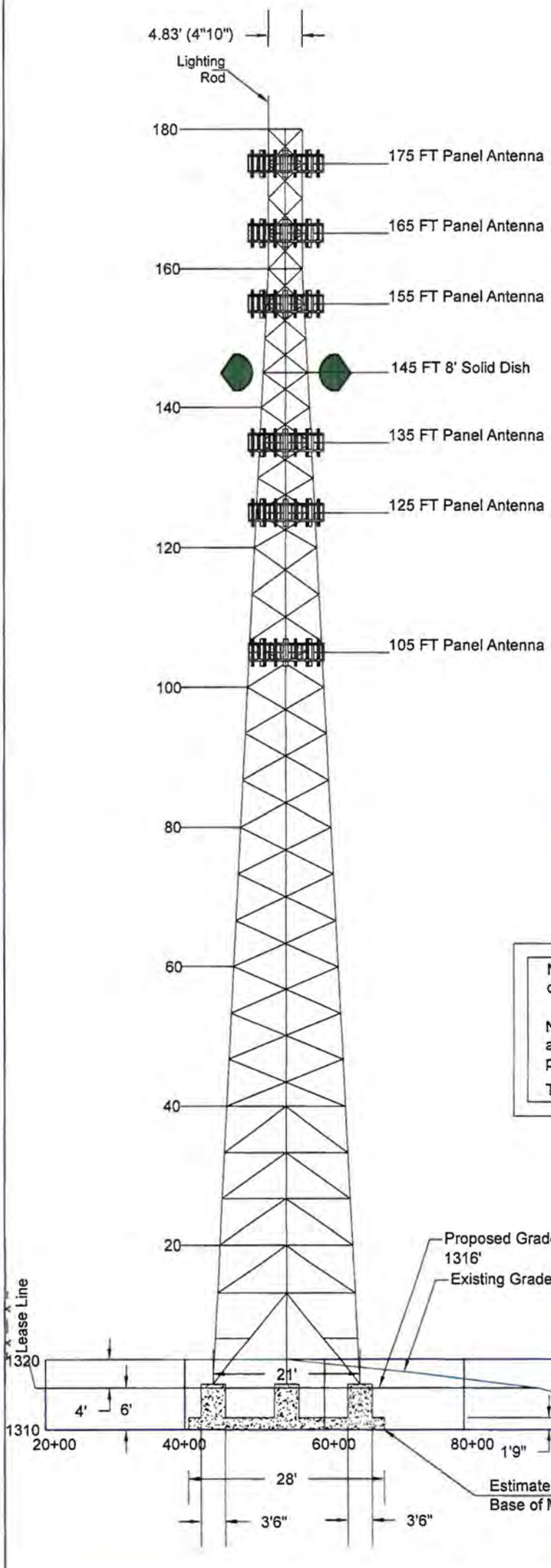
Scale: As Noted	Drawn By: DLM	Chk By: SEH	Apprvd. By: SEH	PER. NO:
Plot Date: 21 AUGUST 2019 – 10:19 AM				ATT:

File Name: Z:\East Ky Network\McKee\Site Plan Map\McKee Site Plan Map.dwg

McKee Tower

VERTICAL PROFILE SKETCH
EAST KENTUCKY NETWORK
d/b/a APPALACHIAN WIRELESS

Vicinity Map
Not to Scale
Google Image



0 20 40 60

Graphic Scale
1" = 20'

Note: Tower Foundation & distance between Tower Legs may change due to design criteria, by others.

Note: This is a vertical sketch of the tower indicating the proposed antenna and dish elevations. No design criteria was considered in the preparations of this drawing.

The information shown hereon is correct to the best of my knowledge

Jonathan Newman, PE #29118
265 Hambley Blvd.
Pikeville, KY 41501
606-432-1447

STATE OF KENTUCKY
JONATHAN R. NEWMAN
29118
LICENSED PROFESSIONAL ENGINEER

Jonathan Newman PE #29118 8-21-19
Date

DATE: 8/21/2019	FILENAME:	East Kentucky Network d/b/a Appalachian Wireless 101 Technology Trail, Ivel, KY 41642	SUMMIT ENGINEERING INC. 265 Hambley BLVD PO Box 3007 Pikeville, KY 41502 606-432-1447 Pikeville, KY Lexington, KY S. Charleston, WV
SCALE: 1"=20'	DISK NO.	Vertical Profile Sketch McKee Tower Jackson County, Kentucky	
DRAWN BY: seh			

Filing

CONTAINS

LARGE OR OVERSIZED

MAP(S)

RECEIVED ON:
(10/31/2019)

Utility ID	Utility Name	Utility Type	Class	City	State
4107900	365 Wireless, LLC	Cellular	D	Atlanta	GA
4109300	Access Point, Inc.	Cellular	D	Cary	NC
4108300	Air Voice Wireless, LLC	Cellular	A	Bloomfield Hill	MI
4110650	Alliant Technologies of KY, L.L.C.	Cellular	C	Morristown	NJ
44451184	Alltel Communications, LLC	Cellular	A	Basking Ridge	NJ
4110850	AltaWorx, LLC	Cellular	C	Fairhope	AL
4107800	American Broadband and Telecommunications Company	Cellular	C	Toledo	OH
4108650	AmeriMex Communications Corp.	Cellular	D	Dunedin	FL
4105100	AmeriVision Communications, Inc. d/b/a Affinity 4	Cellular	D	Virginia Beach	VA
4110700	Andrew David Balholm dba Norcell	Cellular	C	Clayton	WA
4108600	BCN Telecom, Inc.	Cellular	D	Morristown	NJ
4110550	Blue Casa Mobile, LLC	Cellular	D	Santa Barbara	CA
4108750	Blue Jay Wireless, LLC	Cellular	C	Carrollton	TX
4111050	BlueBird Communications, LLC	Cellular	C	New York	NY
4202300	Bluegrass Wireless, LLC	Cellular	A	Elizabethtown	KY
4107600	Boomerang Wireless, LLC	Cellular	B	Hiawatha	IA
4105500	BullsEye Telecom, Inc.	Cellular	D	Southfield	MI
4110050	CampusSims, Inc.	Cellular	D	Boston	MA
4100700	Cellco Partnership dba Verizon Wireless	Cellular	A	Basking Ridge	NJ
4106600	Cintex Wireless, LLC	Cellular	D	Rockville	MD
4111000	ComApp Technologies LLC	Cellular	C	Melrose	MA
4101900	Consumer Cellular, Incorporated	Cellular	A	Portland	OR
4106400	Credo Mobile, Inc.	Cellular	A	San Francisco	CA
4108850	Cricket Wireless, LLC	Cellular	A	San Antonio	TX
4001900	CTC Communications Corp. d/b/a EarthLink Business I	Cellular	D	Grand Rapids	MI
10640	Cumberland Cellular Partnership	Cellular	A	Elizabethtown	KY
4101000	East Kentucky Network, LLC dba Appalachian Wireless	Cellular	A	Ivel	KY
4002300	Easy Telephone Service Company dba Easy Wireless	Cellular	D	Ocala	FL
4109500	Enhanced Communications Group, LLC	Cellular	D	Bartlesville	OK
4110450	Excellus Communications, LLC	Cellular	D	Chattanooga	TN
4105900	Flash Wireless, LLC	Cellular	C	Concord	NC
4104800	France Telecom Corporate Solutions L.L.C.	Cellular	D	Oak Hill	VA
4109350	Global Connection Inc. of America	Cellular	D	Norcross	GA
4102200	Globalstar USA, LLC	Cellular	B	Covington	LA
4109600	Google North America Inc.	Cellular	A	Mountain View	CA
33350363	Granite Telecommunications, LLC	Cellular	D	Quincy	MA
4106000	GreatCall, Inc. d/b/a Jitterbug	Cellular	A	San Diego	CA
10630	GTE Wireless of the Midwest dba Verizon Wireless	Cellular	A	Basking Ridge	NJ
4110600	Horizon River Technologies, LLC	Cellular	C	Atlanta	GA
4103100	I-Wireless, LLC	Cellular	A	Newport	KY
4109800	IM Telecom, LLC d/b/a Infiniti Mobile	Cellular	D	Tulsa	OK
22215360	KDDI America, Inc.	Cellular	D	New York	NY
10872	Kentucky RSA #1 Partnership	Cellular	A	Basking Ridge	NJ
10680	Kentucky RSA #3 Cellular General	Cellular	A	Elizabethtown	KY
10681	Kentucky RSA #4 Cellular General	Cellular	A	Elizabethtown	KY
4109750	Konatel, Inc. dba telecom.mobi	Cellular	D	Johnstown	PA
4110900	Lunar Labs, Inc.	Cellular	C	Detroit	MI
4107300	Lycamobile USA, Inc.	Cellular	D	Newark	NJ
4108800	MetroPCS Michigan, LLC	Cellular	A	Bellevue	WA
4109650	Mitel Cloud Services, Inc.	Cellular	D	Mesa	AZ
4202400	New Cingular Wireless PCS, LLC dba AT&T Mobility, PCS	Cellular	A	San Antonio	TX
10900	New Par dba Verizon Wireless	Cellular	A	Basking Ridge	NJ
4000800	Nextel West Corporation	Cellular	D	Overland Park	KS
4001300	NPCR, Inc. dba Nextel Partners	Cellular	D	Overland Park	KS

4001800	OnStar, LLC	Cellular	A	Detroit	MI
4110750	Onvoy Spectrum, LLC	Cellular	C	Plymouth	MN
4109050	Patriot Mobile LLC	Cellular	D	Southlake	TX
4110250	Plintron Technologies USA LLC	Cellular	D	Bellevue	WA
33351182	PNG Telecommunications, Inc. dba PowerNet Global Communications	Cellular	D	Cincinnati	OH
4202100	Powertel/Memphis, Inc. dba T-Mobile	Cellular	A	Bellevue	WA
4107700	Puretalk Holdings, LLC	Cellular	A	Covington	GA
4106700	Q Link Wireless, LLC	Cellular	A	Dania	FL
4108700	Ready Wireless, LLC	Cellular	B	Hiawatha	IA
4110500	Republic Wireless, Inc.	Cellular	D	Raleigh	NC
4111100	ROK Mobile, Inc.	Cellular	C	Culver City	CA
4106200	Rural Cellular Corporation	Cellular	A	Basking Ridge	NJ
4108550	Sage Telecom Communications, LLC dba TruConnect	Cellular	D	Los Angeles	CA
4109150	SelecTel, Inc. d/b/a SelecTel Wireless	Cellular	D	Freemont	NE
4106300	SI Wireless, LLC	Cellular	A	Carbondale	IL
4110150	Spectrotel, Inc. d/b/a Touch Base Communications	Cellular	D	Neptune	NJ
4200100	Sprint Spectrum, L.P.	Cellular	A	Atlanta	GA
4200500	SprintCom, Inc.	Cellular	A	Atlanta	GA
4109550	Stream Communications, LLC	Cellular	D	Dallas	TX
4110200	T C Telephone LLC d/b/a Horizon Cellular	Cellular	D	Red Bluff	CA
4202200	T-Mobile Central, LLC dba T-Mobile	Cellular	A	Bellevue	WA
4002500	TAG Mobile, LLC	Cellular	D	Carrollton	TX
4109700	Telecom Management, Inc. dba Pioneer Telephone	Cellular	D	South Portland	ME
4107200	Telefonica USA, Inc.	Cellular	D	Miami	FL
4108900	Telrite Corporation dba Life Wireless	Cellular	D	Covington	GA
4108450	Tempo Telecom, LLC	Cellular	D	Kansas City	MO
4109950	The People's Operator USA, LLC	Cellular	D	New York	NY
4109000	Ting, Inc.	Cellular	A	Toronto	ON
4110400	Torch Wireless Corp.	Cellular	D	Jacksonville	FL
4103300	Touchtone Communications, Inc.	Cellular	D	Whippany	NJ
4104200	TracFone Wireless, Inc.	Cellular	D	Miami	FL
4002000	Truphone, Inc.	Cellular	D	Durham	NC
4110300	UVNV, Inc.	Cellular	D	Costa Mesa	CA
4105700	Virgin Mobile USA, L.P.	Cellular	A	Atlanta	GA
4110800	Visible Service LLC	Cellular	C	Lone Tree	CO
4106500	WiMacTel, Inc.	Cellular	D	Palo Alto	CA
4110950	Wing Tel Inc.	Cellular	C	New York	NY
4109900	Wireless Telecom Cooperative, Inc. dba theWirelessFreeway	Cellular	D	Louisville	KY