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MAR 15 2018

PUBLIC SERVICE COMMISSION

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 POWELL COUNTY, KENTUCKY.	)))))	CASE NO. 2018-00002

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 Commonwealth of Kentucky.

In an effort to improve service in Powell 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 100 foot monopole tower on a tract of land located near 843 Breckinridge Street, Stanton, Powell County, Kentucky 40380 (37°51'19.1623"N 83°51'39.6659"W). A map and detailed directions to the site can be found in Exhibit 7.

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(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.

Powell County has no formal local planning unit. In absence of this unit, the Powell 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 Powell 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 Clay City Times, March 15, 2018 edition. Enclosed is a copy of that notice in Exhibit 3. The Clay City Times is the newspaper with the largest circulation in Powell 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 World Tower 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.

FAA and Kentucky Airport Zoning Commission Approvals 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 March 13, 2018, 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 Deed for the site location along with a lot description.

The proposed construction site is in a rural community on previously developed property.

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.

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 for 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: 3/14/2018
Lynn Haney, Regulatory Compliance Director

APPROVED BY: W A Gillum DATE: 3/14/2018
W.A. Gillum, General Manager

ATTORNEY: Krystal Branham DATE: 3/14/18
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	08/30/2011	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
ATTN Gerald Robinette, Manager

P:(606)477-2355
F:(606)874-7551

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.

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

John P. Bowen
P.O. Box 174
Stanton, KY 40380

Corrine Hatton
230 Maple Street
Stanton, KY 40380

Timothy and Darla Benningfield
248 Maple Street
Stanton, KY 40380

Paul and Debbie Pelfrey
P.O. Box 837
Stanton, KY 40380

Joanne Crowe
P.O. Box 1033
Stanton, KY 40380

Eunice and Lucy Crowe
179 Church Street
Stanton, KY 40380

Dewey and Juanita Randall
257 Maple Street
Stanton, KY 40380

Dewey Clay and Delta Campbell
825 Breckenridge Street
Stanton, KY 40380

Joyce M. Hearne
P.O. Box 166
Stanton , KY 40380

Melvin Atkinson
290 Maple Street
Stanton, KY 40380

Donald and Edna Bradley
262 Maple Street
Stanton, KY 40380

Michael and Patricia Sparks
835 Breckenridge Street
Stanton, KY 40380

Gary and Serena Bowen
316 Maple Street
Stanton, KY 40380

Appalachian WIRELESS
www.appalachianwireless.com

EAST KENTUCKY NETWORK, LLC
www.ekn.com

VIA: U.S. CERTIFIED MAIL

PUBLIC NOTICE

March 14, 2018

John P. Bowen
P.O. Box 174
Stanton, KY 40380

RE: Public Notice-Public Service Commission of Kentucky (Case No. 2018-00002)

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 Powell County. The facility will include a 100-foot monopole tower with attached antennas extending upwards, and an equipment shelter located on a tract of land near 843 Breckenridge Street. 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. 2018-00002 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

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230 Maple Street
Stanton, KY 40380

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Timothy and Darla Benningfield
248 Maple Street
Stanton, KY 40380

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Joanne Crowe
P.O. Box 1033
Stanton, KY 40380

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Eunice and Lucy Crowe
179 Church Street
Stanton, KY 40380

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257 Maple Street
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825 Breckenridge Street
Stanton, KY 40380

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Joyce M. Hearne
P.O. Box 166
Stanton , KY 40380

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Melvin Atkinson
290 Maple Street
Stanton, KY 40380

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262 Maple Street
Stanton, KY 40380

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Michael and Patricia Sparks
835 Breckenridge Street
Stanton, KY 40380

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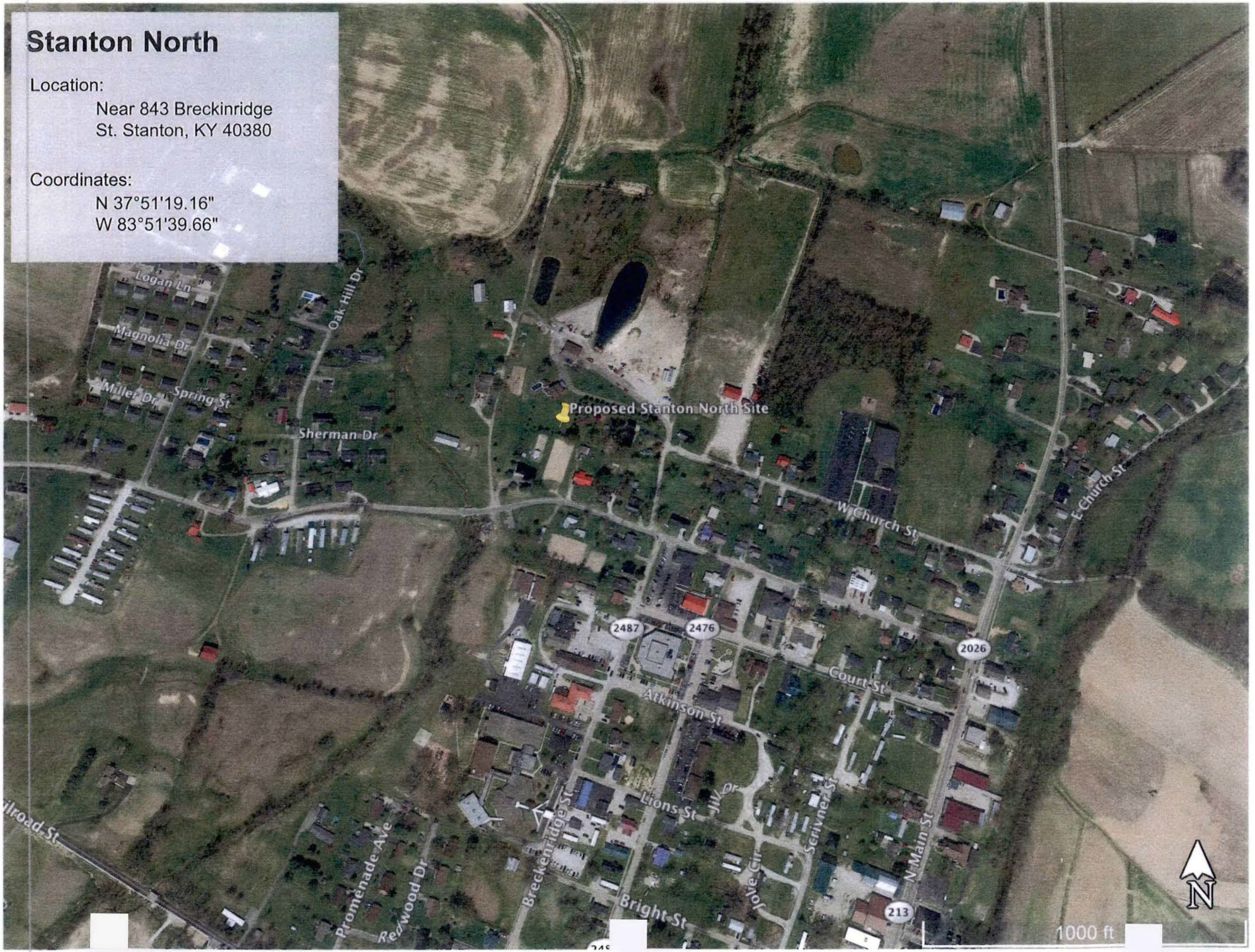
If you have any questions for East Kentucky Network, LLC, please direct them to my attention at the following address: East Kentucky Network, LLC, 101 Technology Trail, Ivel, KY 41642 or call me at 606-477-2355, Ext. 1007.

Sincerely,

Lynn Haney

Lynn Haney, CPA
Regulatory Compliance Director
Enclosure 1


Stanton North
Location:
Near 843 Breckinridge
St. Stanton, KY 40380
Coordinates:
N 37°51'19.16"
W 83°51'39.66"
Logan Ln
Oak Hill Dr
Magnolia Dr
Miller Dr
Spring St
Sherman Dr
Proposed Stanton North Site
W Church St
E Church St
2487
2476
2026
Court St
Atkinson St
Lions St
JHV Dr
Scrivner St
N Main St
Breckenridge St
Promenade Ave
Redwood Dr
Bright St
213
1000 ft
N

Appalachian WIRELESS
www.appalachianwireless.com

EAST KENTUCKY NETWORK, LLC
www.ekn.com

VIA: U.S. CERTIFIED MAIL

March 14, 2018

James D. Anderson, Jr., Judge Executive
P.O. Box 506
Stanton, KY 40380

RE: Public Notice-Public Service Commission of Kentucky (Case No. 2018-00002)

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 Powell County. The facility will include a 100-foot monopole tower with attached antennas extending upwards, and an equipment shelter located on a tract of land located near 843 Breckenridge Street, Stanton, Powell 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 Powell 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.

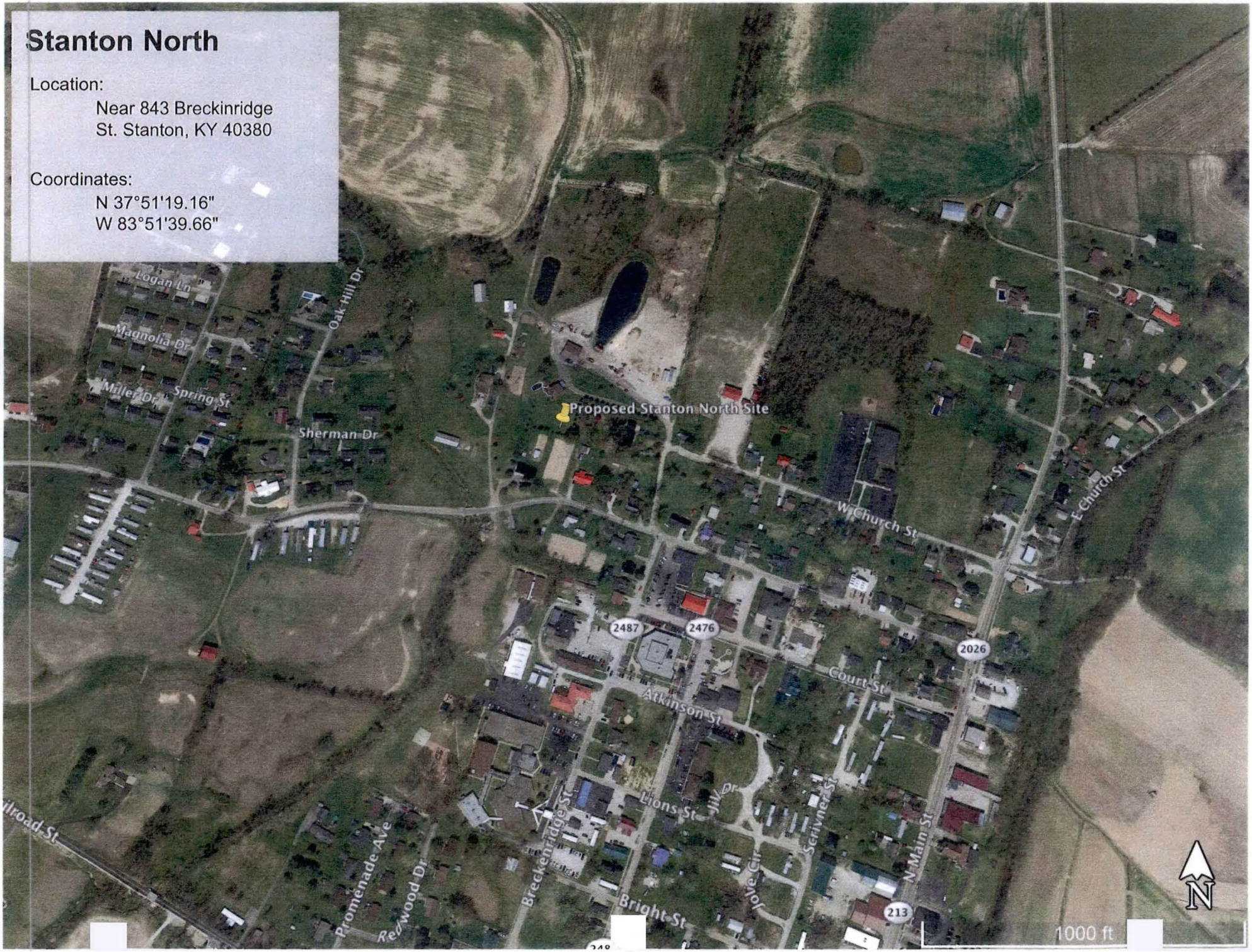
Your comments and request for intervention should be addressed to: Executive Director's Office, Public Service Commission of Kentucky, P.O. Box 615, Frankfort, KY 40602. Please refer to Case No. 2018-00002 in your correspondence.

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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Promenade Ave
Redwood Dr
Bright St
213
1000 ft
N

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

EAST KENTUCKY NETWORK

To:	New Journal Attn: Classifieds	**From:**	Raina Helton Regulatory Compliance Assistant
Email:	cctads@windstream.net	**Date:**	March 8, 2018
Re:	PUBLIC NOTICE ADVERTISEMENT	**Pages:**	1

Please place the following Public Notice Advertisement in the News Journal to be ran on March 15, 2018

PUBLIC NOTICE:

RE: Public Service Commission of Kentucky (CASE NO. 2018-00002)

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 near 843 Breckenridge Street, Stanton, Kentucky. The proposed tower will be a 100 foot monopole 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. 2018-00002.

If you have any questions about the placement of the above mentioned notice, please call me at 606-477-2355, ext. 1005.

Thank you,

Raina Helton
Regulatory Compliance Assistant

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

EAST KENTUCKY ENGINEERING, LLC.

APPALACHIAN WIRELESS
Geotechnical Investigation on the Stanton North Site Powell County, Kentucky EKYENG Project No. 165-000-0056

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

STATE OF KENTUCKY
RICHARD D. SMITH
19215
LICENSED
PROFESSIONAL ENGINEER

February 19th ,2018

EXECUTIVE SUMMARY

A geotechnical investigation was performed on the Stanton North Tower Site, located in Powell County, Kentucky. This site is readily accessible. A location map is shown in Figure 1 of this report. Two (2) borings were advanced to depths of 30.3ft. The following geotechnical considerations were identified:

- Borings utilized for this study encountered sandy soils to a depth of 19.5 ft at which point black shales were encountered.
- The estimated base elevation of tower is 654 ft.
- This site is in an alluvial valley, on a lot in Stanton, Kentucky.
- **The allowable bearing capacities of the black shales beneath the sandy soils is estimated to be 6 TSF.**
- The 2015 International Building Code seismic site classification for this site is "A."
- We are recommending deep foundation to be placed in the shale rock at a maximum elevation 638.5ft which will be a minimum of 18 inches into the black shales unit.
- 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 depend 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. Marty Thacker of Appalachian Wireless to prepare a geotechnical engineering report for the proposed tower site located on the Stanton North Property, in Powell County, Kentucky. A site location map is shown in Figure No. 1.

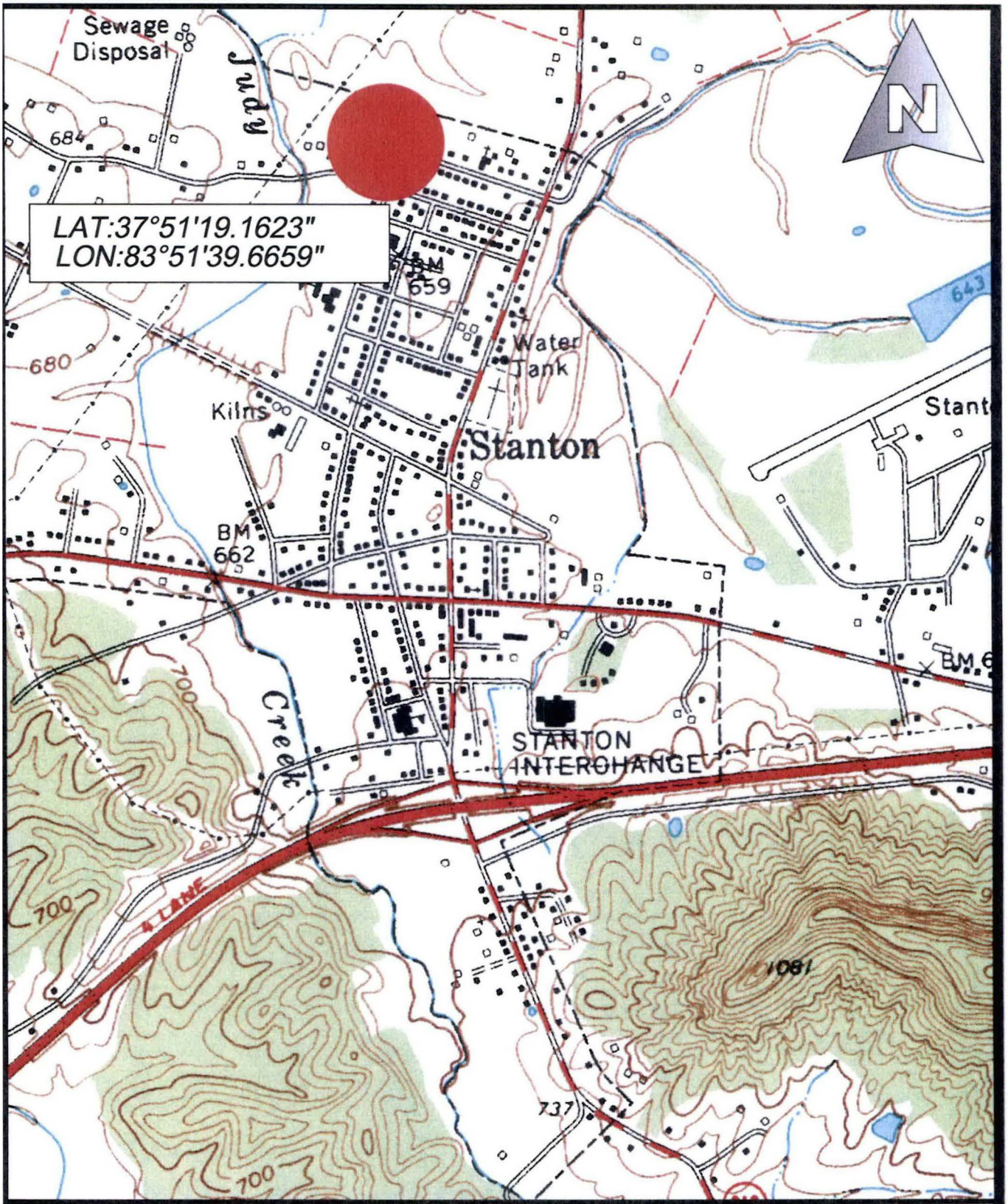
Two (2) borings were advanced to depths of 30.3 ft. Horn and Associates, Inc. provided drilling services to obtain these borings. Logs of the borings along with photographs of the cores are included in Appendix A. The boring locations are shown on the attached site map in Appendix C. The purpose of these 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 monopole tower of undetermined height and ancillary support areas. The proposed foundation will be comprised of a single drilled large diameter pier. Based upon the information provided, we estimate the structural loads will be similar to 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:2/19/2018
Job:165-056	Scale: 1"=1000'

Appalachian Wireless
USGS Quadrangle
Location Map
Stanton North Tower Site
Figure No.1

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

3.0 SITE DESCRIPTION, HISTORICAL MINING & KARST FORMATIONS

3.1 GENERAL INFORMATION

The site location is on valley floor in Stanton in Powell County, Kentucky. The current surface elevation is approximately 654 ft. Research on the historical mining was conducted by obtaining previous mine license maps from the "Kentucky Mine Mapping Information System" (KMMIS). Other sources, photographs, and interviews were also used to assist in the evaluation of historical mining. No historical mining data was found that would adversely impact this site.

The "Kentucky Geological Survey" provides a map depicting "Karst Occurrence in Kentucky" that provides the locations of potential karst development (underground opening in limestones such as sinkholes and fissures.) Stanton lies within an area projected with limited or no potential for karst development.

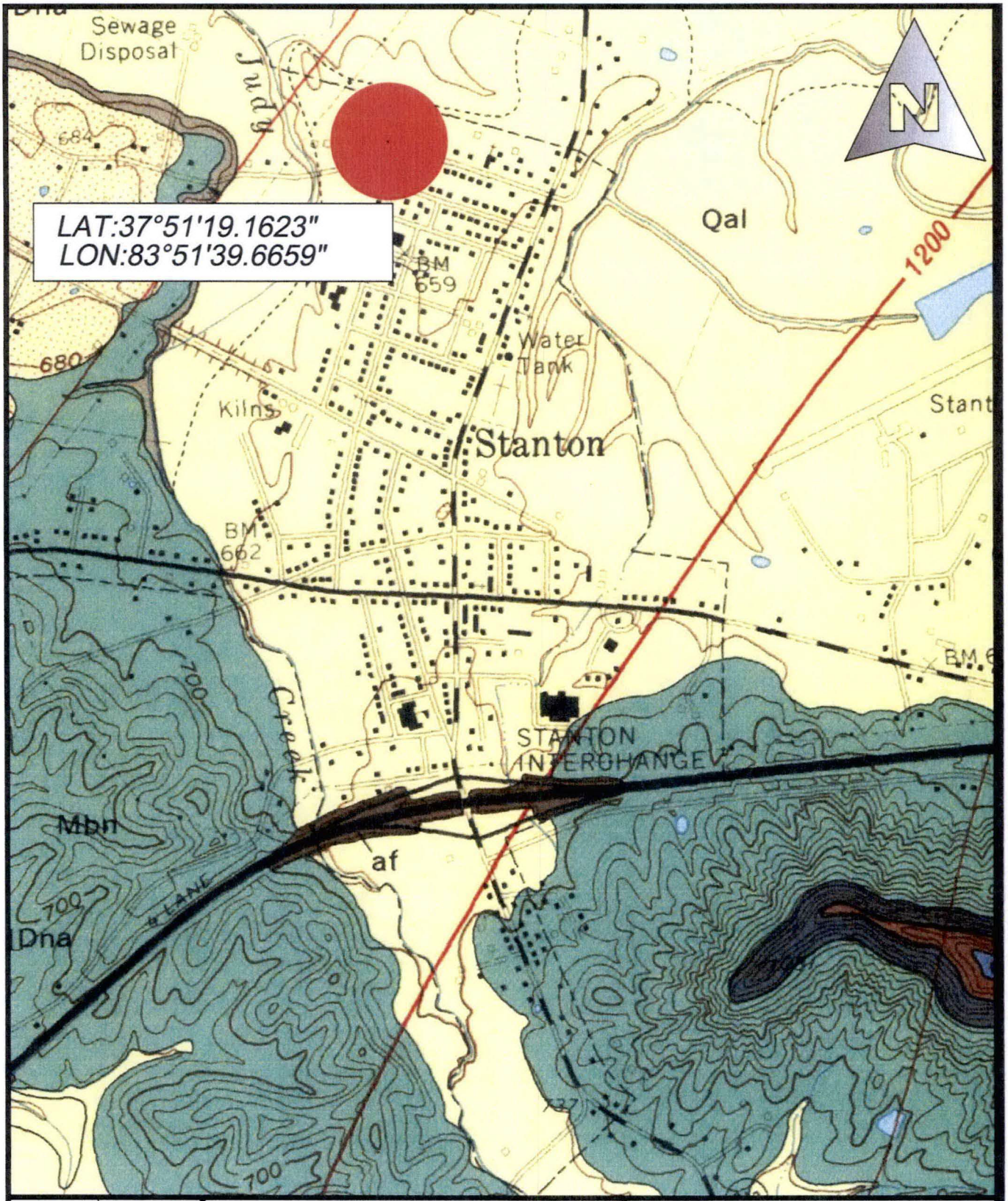
4.0 FIELD EXPLORATION

4.1 SITE INFORMATION

The proposed site is located on a vacant lot in Powell County Kentucky. The site lies within the Stanton Quadrangle and is located on Maple Street. The site is readily accessible by conventional exploratory equipment. An estimated pad location was determined based on the information provided.

4.2 BORING DATA

Two (2) borings were made in the relative positions shown on the Site Map in Appendix C. 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,



Drawn: RDS	Date:2/19/2018
Job:165-056	Scale: 1"=1000'

Appalachian Wireless
Geologic Quadrangle
Location Map
Stanton North Tower Site
Figure No.2

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

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 1.

TABLE 1

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

BORING NO.	DEPTH INCREMENT, (FT.)	NATURAL MOISTURE CONTENT, %
B1	2.5 – 4.5	14.2
B1	45 - 6.5	9.6
B1	7.0 - 9.5	14.8
B1	9.5 -11.0	7.4
B1	12.0 -13.5	15.3
B1	14.5 -16.0	13.3
B1	17-18.5	11.1
B1	19.5 - 20.3	7.9
B2	2.5 - 4.0	16.2
B2	4.4- 6.0	11.3
B2	7.0 - 8.5	11.7
B2	9.5 -11.0	14.8
B2	12.0 -13.5	14.2
B2	14.5 – 16.0	14.0
B2	17.0 – 18.5	13.9
B2	19.5 -20.4	10.1

The position at which the core was taken is indicated on the boring logs and shown on the sitemap in Appendix C. The corresponding blow counts are shown in Table No. 2.

TABLE NO. 2

STANDARD PENETRATIONS

Boring	Run Interval	Blow Counts/ RQD*	Description
B1	2.5 – 4.0	1-3-4	Clays W/Silts
B1	45 - 6.5	3-2-4	Clays W/Silts
B1	7.0 -9.5	3-6-8	Clays W/Silts
B1	9.5 -11.0	5-7-7	Clays W/Silts
B1	12.0 – 13.5	3-4-7	Sand W/ Gravel
B1	14.5 – 16.0	3-4-6	Sand W/ Gravel
B1	17 -18.5	3-3-5	Sand W/ Gravel
B1	19.5 -20.3	21-50/3	Weathered Shale
B1	20.3 – 25.3	16*	Black Shale
B1	25.3 – 27.5	23*	Black Shales
B1	27.5 – 30.3	69*	Black Shales
B2	2.5 – 4.0	0-1-3	Clays W/Silts
B2	4.5 – 6.0	3-2-3	Clays W/Silts
B2	7.0 – 8.5	4-8-9	Clays W/Silts
B2	9.5 -11.0	4-5-6	Sand W/ Gravel
B2	12.0 – 14.5	4-7-7	Sand W/ Gravel
B2	14.5 – 16.0	5-5-6	Sand W/ Gravel
B2	17.0 – 18.5	2-3-4	Sand W/ Gravel
B2	17.0 – 18.5	8-50-4	Weathered Shale
B2	20.4-30.4	50*	Black Shale

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 are not common, especially in higher elevations such as where this tower site is proposed. During boring activities, water levels were found to be approximately 13.5 ft., or at an elevation of approximate 640.5 ft in elevation. Heavy rains had occurred before conducting the borings, and these levels are expected to reduce with time.

4.4 SEISMIC SITE CLASSIFICATION

Based on the encountered soil conditions and expected foundation elevation at the project site, the site classification is determined to be "Site Class "A" per the 2015 Kentucky Building Code. Also, an S_{DS} coefficient of 0.108 g and an S_{D1} coefficient of 0.048 g were calculated for design based on the above building code.

5.0 DISCUSSION AND RECOMMENDATIONS

5.1 GENERAL

The structure will be a self-supporting free-standing monopole 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 DRILLED PIER FOUNDATIONS RECOMMENDATIONS

It is our understanding that the foundation for this structure will be a straight shaft drilled pier. Based on the available data and experience, we recommend the following design parameters.

TABLE NO. 3

Approx. Depth (ft.)	Allowable Skin Friction (psf.)	Allowable End Bearing Pressure (psf.)	Allowable Passive Pressure	Cohesion (psf.)	Internal Angle of Friction (Degrees)
0-19.5 Sands / clays	300	Ignore	Ignore	Ignore	Ignore
19.5 – 20.3 Weathered/Shale	1,000	8,000	1,000	10,000	———
20.3 – 30.3 Black Shale	1,200	12,000	1,200	15,000	———

The 19.5 feet of material overlying the bedrock at this site is predominately fine sands with some clay and gravel content. We are not recommending shallow foundation because the material above the bedrock has very limited strength properties. These materials will provide minimal skin friction with little cohesive properties and are therefore recommended to be ignored in this evaluation.

The presented cohesion has no safety factor. The skin friction and passive resistance have a factor of safety of 2. The allowable end bearing pressure has an approximate safety factor of 3. If the drilled piers are designed using the above design parameters and socketed into solid bedrock, settlements are not anticipated to exceed ¼ inch.

5.3 DEEP FOUNDATIONS RECOMMENDATIONS

The proposed site is located on an alluvial valley floor that has a high concentration of noncohesive sands and care should be taken to ensure the foundation is placed in the underlying shale formation at a maximum elevation of 638.5ft. **The allowable bearing capacity for this shale is six (6) tsf. This will**

socket the end of the drilled pier a minimum of eighteen (18) inches in the un-weathered black shales.

Support structures 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. Also, 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.

5.4 BURIED UTILITIES

Excavations for buried utility pipelines should follow the guidelines outlined 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, expressed 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.

6.1SUBSURFACE 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 Stanton North Property located in Powell 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 document and shall not be used for that purpose. Anyone reviewing this report must interpret and draw their conclusions regarding specific construction techniques and methods were chosen. EKYENG is not responsible for the independent conclusions, opinions or recommendations made by others based on the field exploratory and laboratory test data presented in this report.

SPECIFICATIONS

I – GENERAL

1.0STANDARDS 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.

III 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 guardrails 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 - DRILLED PIER INSTALLATION

1.0 DRILLING PROCEDURE

1.1 Drilled piers will be installed with large caisson drill rigs capable of torque and crowd forces sufficient to install drilled piers at the project site given the in-situ soil conditions.

1.2 The drill rig kelly bar and auger will be carefully and accurately placed over the centerline of the drilled pier. The Contractor is responsible for providing necessary surveying to verify drilled pier location before, during, and after the drilled pier installation.

1.3 The augers are advanced downwards as they are rotated such that drilling of the soil mass is efficiently accomplished. Depending on the subsurface conditions, and the requirements for the given project, a temporary steel casing should be installed at this time to preclude caving of the soil and/or broken rock mass being penetrated.

2.0 CASING INSTALLATION

2.1 The casing will be checked for centerline accuracy and plumbness by the Contractor's survey crew. During casing installation, the Contractors survey crew will verify alignment with instruments. If plumbness and alignment are not within tolerance as determined by the Contractors survey crew, the casing will be extracted and re-aligned as necessary.

2.2 The drill rig will remove soil and bedrock material from within the casing to the drilled pier design tip elevation. A steel casing or "Sonotube" shall be inserted into the borehole to preclude cave-ins and/or instability in the borehole.

2.3 The bearing surface within the drilled pier will be inspected by a registered Professional Engineer before being approved for structural concreting.

3.0 INSTALLATION OF THE REBAR CAGE

3.1 An epoxy coated spiral reinforcing steel cage will be installed while in the drilled pier borehole.

3.2 To assist in assuring that the reinforcing steel cage does not settle during concrete pumping, a mat of reinforcing steel bars will be installed across the bottom of the reinforcing steel cage perpendicular to the vertical axis of the cage. The exact number of bars will be determined and installed by the Structural Engineer. The number of rebar boots used on the bottom of the cage will also be determined by the Structural Engineer.

3.3 The reinforcing steel cage will be lowered into the drilled pier borehole, while drilled pier spacers are placed at intervals as required by the Structural Engineer. The reinforcing steel cage will be checked for alignment by the Contractors survey crew.

3.4 The crane will remain attached to the reinforcing steel cage while the concrete pump outlet pipe is lowered to just above the bottom of the drilled pier. The concrete pump pipe sections will be welded together to assure that do not separate during pumping.

4.0 CONCRETING OF THE DRILLED PIER

4.1 Concrete pumping may commence once the bearing surface has been approved in accordance with Clause 2.3

4.2 A three-inch trash pump will be used to pump slurry and/or water from within the casing and from above the newly pumped concrete.

4.3 The concrete pump outlet pipe will maintain at least ten (10) feet of embedment into the fresh concrete. The concrete level in the casing will be monitored.

4.4 The casing will be completely extracted with the crane and/or vibratory hammer. Caisson clamps on the vibratory hammer (if applicable) will be adjusted to the proper dimension to withdrawal the casing.

4.5 The concrete will be terminated at the top of drilled pier elevation and screeded flat.

4.6 The upper reinforcing steel dowel cage will be lowered into the concrete to the embedment elevation. If necessary, the concrete will be vibrated to assist in placement. Alignment will be verified by the Contractors survey crew and the cage will be sufficiently braced.

V - 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 before 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. The contractor is responsible for providing 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 before 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 more than 4 feet freely. 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 a 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 DATA

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

FIELD BORING LOG

Project Name STANTON (BOWEN)
Federal Project No. ____
State Project No. ____
Drilling/Sampling Method ____
Boring Diameter ____

Hole Number B-1 Total Depth 30.3
Location AS DIRECTED
Surface Elevation N/A
Date Started 2-19-18 Date Completed 2-19
Driller BILL P Weather ____

From To	Soil and Rock Description	Sample/Run Interval	Blow Counts/RQD	Sample/Run No.	Sample Type	% Recovery
0.0 10.1	BR/GR CLAYEY SILT w/ SAND & SAND	2.5-4.0	1-3-4	1	SPT	
10.1 14.5	GR w/BR SAND F-NE GR	4.5-6.0	3-2-4	2		
14.5 19.8	BR/GR SAND MED w/ GRAVELS	7.0-9.5	3-6-8	3		
19.8 20.3	WEA SHALE	9.5-11.0	5-7-7	4		
	REFUSAL 20.3	12.0-13.5	3-4-7	5		WET
20.3 30.3	BLACK SHALE	14.5-16.0	3-4-6	6		
	TERM 20.3	17.0-18.5	3-3-5	7		
		19.5-20.3	21-50/3	8		
		20.3-25.3	0.8 16%	1	NX B	4.9 98%
		25.3-27.5	0.5 23	2		2.2 100 BLACK SHALE
		27.5-30.3	1.9 69	3		2.8 100

Water Level @ Drilling 13.5 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: 800-720-2802 Fax: 859-744-6807

FIELD BORING LOG

Project Name STANTON (BOWEN)
Federal Project No. ____
State Project No. ____
Drilling/Sampling Method ____
Boring Diameter ____

Hole Number B-7 Total Depth 30.4
Location AS DIRECTED
Surface Elevation N/A
Date Started 2-19-13 Date Completed 2-19
Driller Bay B Weather ____

From To	Soil and Rock Description	Sample/Run Interval	Blow Counts/RQD	Sample/Run No.	Sample Type	% Recovery
0.0 9.5	BR/GR CLAYEY SILT W/SAND & GRAVEL	2.5-4.0	0-1-3	1	SPT	
9.5 14.5	BR INTO GRAY SAND FINE	4.5-6.0	3-2-3	2		
14.5 19.8	GR/GR SAND MED W/GRAVELS AND SHALE	7.0-8.5	4-9-9	3		
19.8 20.4	WEA SHALE	9.5-11.0	4-5-6	4		
	RECOVERY 0.4	12.0-13.5	4-7-7	5		WET
20.4 30.4	BLACK SHALE	14.5-16.0	5-5-6	6		
	TERM 30.4	17.0-18.5	2-3-4	7		
		19.5-20.4	3-5-9.4	8		
		20.4-30.4	5.0 ft	1	NX3	99-98%

Water Level @ Drilling 13.0 24 Hr. Water Level ____ 7 Day Water Level ____
Moving/Delay Time ____ Hammer Weight 140 lbs. Hammer Drop 30 in.

BORING 1 - 20.3 ft. to 30.3 ft.

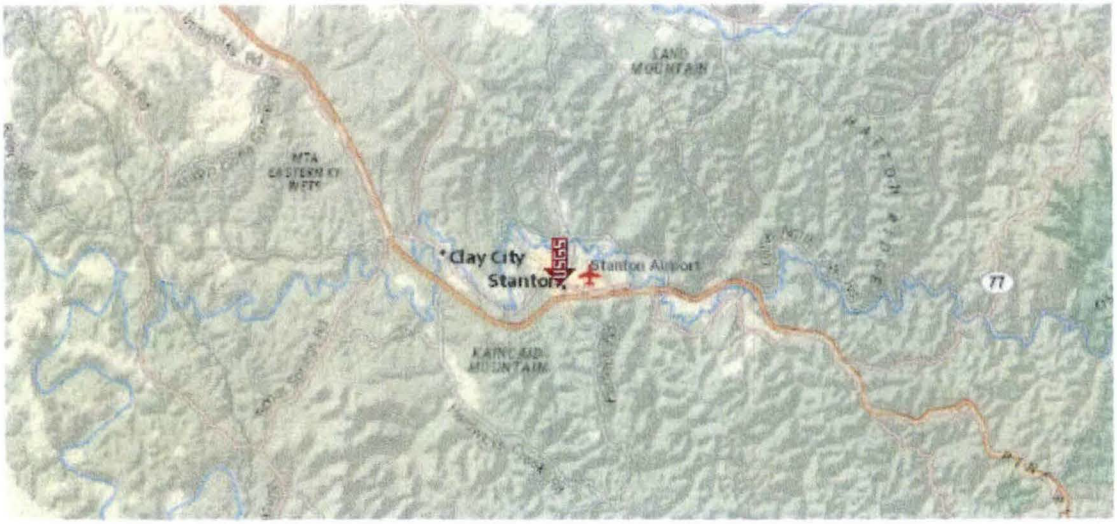
BORING 2 - 20.3 ft. to 30.3 ft.

APPENDIX B SEISMIC

USGS Design Maps Summary Report

User-Specified Input

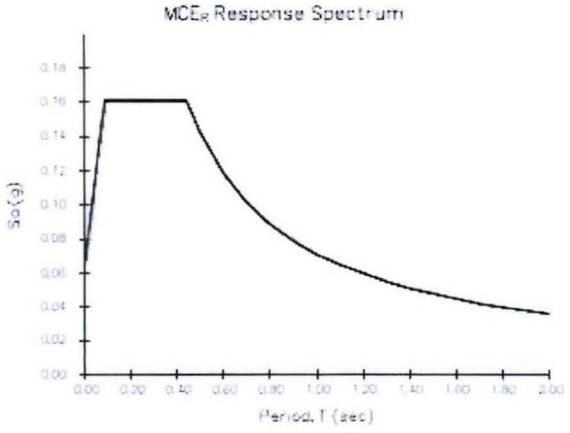
Report Title	Stanton North Fri February 23, 2018 13:16:46 UTC
Building Code Reference Document	2012/2015 International Building Code (which utilizes USGS hazard data available in 2008)
Site Coordinates	37.85532°N, 83.86102°W
Site Soil Classification	Site Class A – "Hard Rock"
Risk Category	IV (e.g. essential facilities)

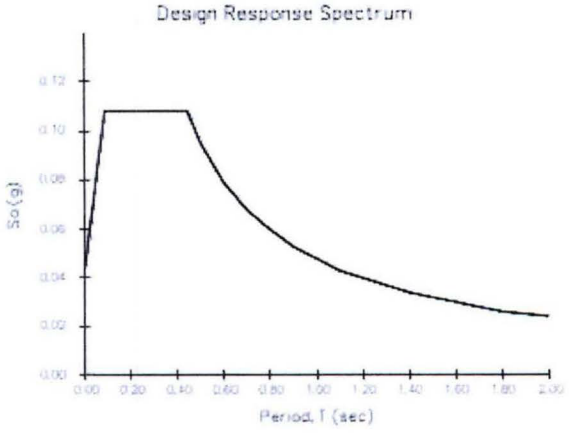


USGS-Provided Output

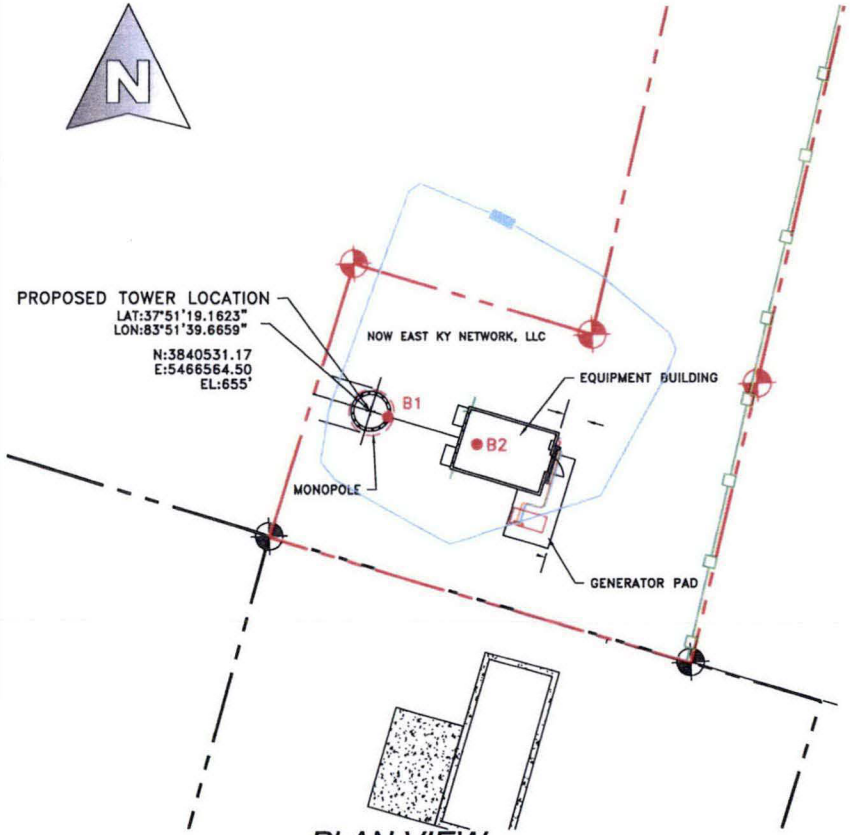
S_S =	0.202 g	S_{MS} =	0.161 g	S_{DS} =	0.108 g
S_1 =	0.089 g	S_{M1} =	0.071 g	S_{D1} =	0.048 g

For information on how the SS and S1 values above have been calculated from probabilistic (risk-targeted) and deterministic ground motions in the direction of maximum horizontal response, please return to the application and select the "2009 NEHRP" building code reference document.



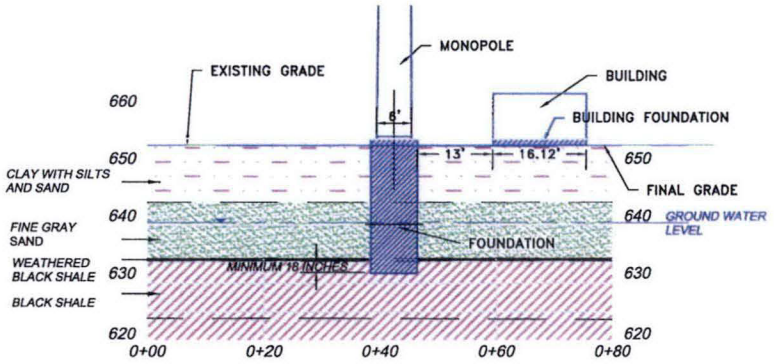


APPENDIX C MAPS



PLAN VIEW
1" = 20'

CROSS SECTION



SECTION
1" = 20'

East Kentucky Engineering, LLC

Hazard Location
230 Swartz
Hazard, KY 41701
(606) 551-1050
Email: rdsekyeng@outlook.com

STATE OF KENTUCKY
RICHARD D. SMITH
20215
LICENSED
PROFESSIONAL ENGINEER

2/19/2018
230 SWARTZ DRIVE
HAZARD, KENTUCKY
41701

0' 20' 40'

Drawn by: RDS	Date: 2/19/2018
Job #: 165-0056	Scale: NOTED
File Location:	

EKY ENG

APPALACHIAN
WIRELESS
STANTON NORTH
POWELL COUNTY KENTUCKY

WORLD TOWER COMPANY, INC.

Fabrication, Installation and Maintenance of
T.V., AM, FM, Meteorological & Wireless Communications Towers

Page 1 of 2		Job Number:	23518-163
Eng: MFP		Customer Ref:	TP-15272
		Date:	3/6/2018
Structure:	100-FT MONOPOLE		
Site:	NORTH STANTON		
Location:	POWELL CO., KY / 37°51'19.16", -83°51'39.67"		
Owner:	WORLD TOWER		
Revision No.:	Revision Date:		

DESIGN

Building Code: 2013 KENTUCKY BUILDING CODE			
Design Standard: ANSI/TIA-222-G-2			
Wind Speed Load Cases: 3-SEC. GUSTED WIND SPEED			
Load Case #1: 90 MPH Design Wind Speed - V_{ASD} (V_{ULT} = 116 MPH)			
Load Case #2: 30 MPH Wind with 0.75" Ice Accumulation			
Load Case #3 60 MPH Service Wind Speed			
Structure Class	Exposure Cat.	Topography Cat.	Crest Height
II	C	1	

EQUIPMENT LIST

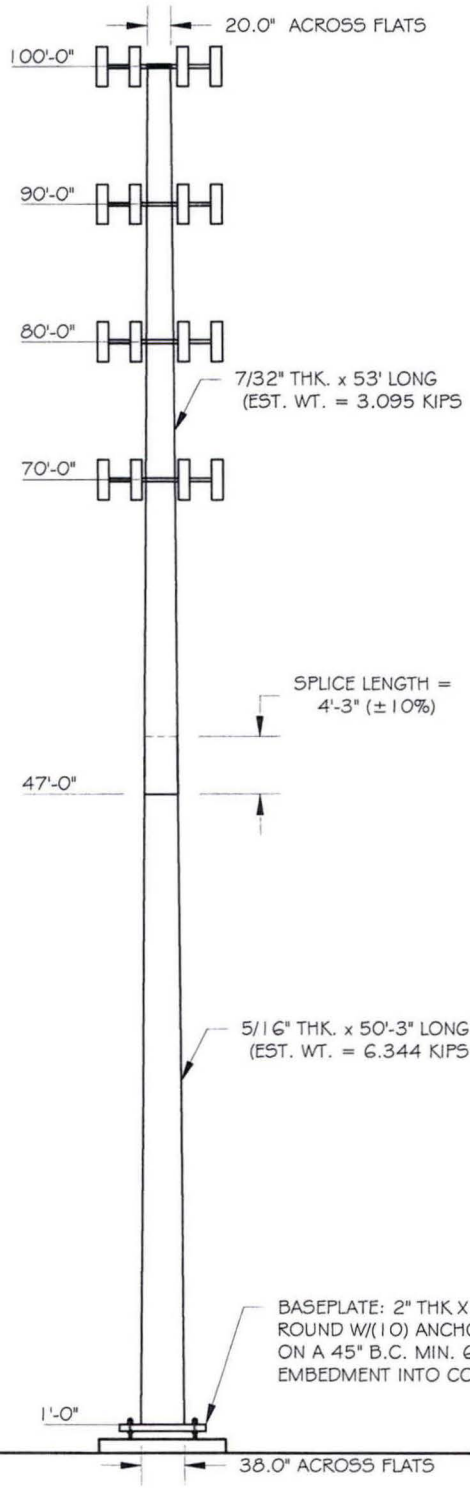
Elev.	Description
100	(12) BXA-70063/6CF + (12) RRU
100	SECTOR MOUNTS
90	(12) BXA-70063/6CF + (12) RRU
90	SECTOR MOUNTS
80	(12) BXA-70063/6CF + (12) RRU
80	SECTOR MOUNTS
70	(12) BXA-70063/6CF + (12) RRU
70	SECTOR MOUNTS

ANTENNA FEED LINES ROUTED ON THE INSIDE OF THE POLE

STRUCTURE PROPERTIES

Cross-Section: 18-Sided	Taper: 0.18624 in/ft
Shaft Steel: ASTM A572 GR 65	Baseplate Steel: ASTM A572 GR 60
Anchor Rods: 2.25 in. A615 GR. 75 X 7'-0" LONG	

Sect.	Length (ft)	Thickness (in)	Splice (ft)	Top Dia. (in)	Bot Dia. (in)
1	53.00	0.2188	4.25	20.00	29.87
2	50.25	0.3125	0.00	28.64	38.00



STATE OF KENTUCKY
MICHAEL F. PLAHOVINSAK
25466
PROFESSIONAL ENGINEER
3.6.2018

MICHAEL F. PLAHOVINSAK, P.E. #25466
Sole Proprietor - Independent Engineer
18301 S.R. 161, Plain City, OH 43064
614-398-6250 / mike@mfpeng.com

BASE REACTIONS FOR FOUNDATION DESIGN

Moment:	1979 ft-kip
Shear:	25 kip
Axial:	31 kip

WORLD TOWER COMPANY, INC.

Fabrication, Installation and Maintenance of TV, AM, FM, Meteorological & Wireless Communications Towers

Page 2 of 2		Job Number:	23518-163
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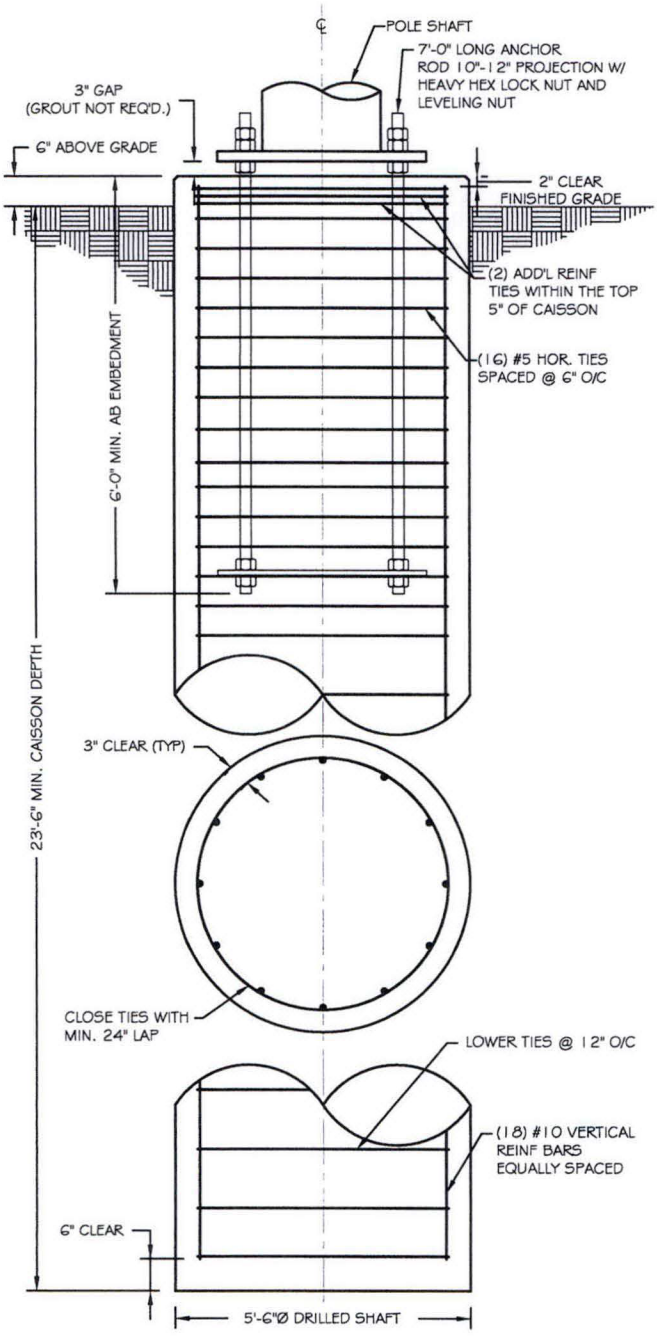
Revision No.:	Revision Date:		



CAISSON FOUNDATION

NOT TO SCALE

FOUNDATION NOTES:

1. ALL FOUNDATION CONCRETE SHALL USE TYPE II CEMENT AND ATTAIN A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI AT 28 DAYS. CONCRETE SHALL HAVE A MAXIMUM WATER/CEMENT RATIO OF 0.46 AND SHALL BE AIR ENTRAINED 6% (±1.5%). ALL CONCRETE CONSTRUCTION SHALL BE IN ACCORDANCE WITH ACI 318, "THE BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE", LATEST EDITION.

2. ALL REINFORCING STEEL SHALL CONFORM TO ASTM A615 VERTICAL BARS SHALL BE GRADE 60, AND TIES OR STIRRUPS SHALL BE A MINIMUM OF GRADE 40. THE PLACEMENT OF ALL REINFORCEMENT SHALL CONFORM TO ACI 315, "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES", LATEST EDITION.

3. CAISSON FOUNDATION INSTALLATION SHALL BE IN ACCORDANCE WITH ACI 336, "STANDARD SPECIFICATIONS FOR THE CONSTRUCTION OF DRILLED PIERS", LATEST EDITION.

4. THE CONTRACTOR SHALL DETERMINE THE MEANS AND METHODS TO SUPPORT THE EXCAVATION DURING CONSTRUCTION. THE CONTRACTOR SHALL READ THE GEOTECHNICAL REPORT AND SHALL CONSULT THE GEOTECHNICAL ENGINEER AS NECESSARY PRIOR TO CONSTRUCTION.

5. FOUNDATION DESIGN IS BASED ON GEOTECHNICAL REPORT BY:
   ENGINEER: EAST KENTUCKY ENGINEERING
   REPORT NO.: 165-000-0056 (DATED 2/19/18)

6. ESTIMATED CONCRETE VOLUME = 21 CUBIC YARDS.

7. THE FOUNDATION HAS BEEN DESIGNED TO RESIST THE FOLLOWING FACTORED LOADS:
   MOMENT: 1979 FT*KIPS
   SHEAR: 25 KIPS
   AXIAL: 31 KIPS

8. GEOTECHNICAL REPORT INDICATES GROUNDWATER MAY BE ENCOUNTERED AT 13'-6" BELOW GRADE.

STATE OF KENTUCKY
MICHAEL F. PLAHOVINSAK
25466
PROFESSIONAL ENGINEER
3.6.2018

MICHAEL F. PLAHOVINSAK, P.E. #25466
Sole Proprietor - Independent Engineer
18301 S.R. 161, Plain City, OH 43064
614-398-6250 / mike@mfpeng.com

Tower Input Data

This tower is designed using the TIA-222-G standard.
The following design criteria apply:

Tower is located in Powell County, Kentucky.
Basic wind speed of 90 mph.
Structure Class II.
Exposure Category C.
Topographic Category 1.
Crest Height 0.00 ft.
Nominal ice thickness of 0.7500 in.
Ice thickness is considered to increase with height.
Ice density of 56 pcf.
A wind speed of 30 mph is used in combination with ice.
Temperature drop of 50 °F.
Deflections calculated using a wind speed of 60 mph.
ANSI/TIA-222-G wind speeds are Vasd winds. Refer to IBC Table 1609.3.1 for Vult wind speed conversions..
A non-linear (P-delta) analysis was used.
Pressures are calculated at each section.
Stress ratio used in pole design is 1.
Local bending stresses due to climbing loads, feedline supports, and appurtenance mounts are not considered.

Tapered Pole Section Geometry

Section	Elevation ft	Section Length ft	Splice Length ft	Number of Sides	Top Diameter in	Bottom Diameter in	Wall Thickness in	Bend Radius in	Pole Grade
L1	100.00-47.00	53.00	4.25	18	20.0000	29.8700	0.2188	0.8750	A572-65 (65 ksi)
L2	47.00-1.00	50.25		18	28.6410	38.0000	0.3125	1.2500	A572-65 (65 ksi)

Tapered Pole Properties

Section	Tip Dia. in	Area in²	I in⁴	r in	C in	I/C in³	J in⁴	It/Q in²	w in	w/t
L1	20.3085	13.7344	678.9748	7.0223	10.1600	66.8282	1358.8429	6.8685	3.1350	14.331
	30.3308	20.5872	2286.7646	10.5262	15.1740	150.7032	4576.5381	10.2956	4.8721	22.273
L2	29.8866	28.0984	2848.8323	10.0566	14.5496	195.8008	5701.4131	14.0519	4.4908	14.371
	38.5862	37.3813	6707.8970	13.3791	19.3040	347.4874	13424.6203	18.6942	6.1380	19.642

Feed Line/Linear Appurtenances - Entered As Area

Description	Face or Leg	Allow Shield	Component Type	Placement ft	Total Number		C_AA_A ft²/ft	Weight plf
1 5/8"	C	No	Inside Pole	100.00 - 1.00	24	No Ice	0.00	0.92
						1/2" Ice	0.00	0.92
						1" Ice	0.00	0.92
1 5/8"	C	No	Inside Pole	90.00 - 1.00	18	No Ice	0.00	0.92
						1/2" Ice	0.00	0.92
						1" Ice	0.00	0.92
1 5/8"	C	No	Inside Pole	80.00 - 1.00	18	No Ice	0.00	0.92
						1/2" Ice	0.00	0.92

Description	Face or Leg	Allow Shield	Component Type	Placement ft	Total Number		C_AA_A ft^2/ft	Weight plf
						1" Ice	0.00	0.92
1 5/8"	C	No	Inside Pole	70.00 - 1.00	18	No Ice	0.00	0.92
						1/2" Ice	0.00	0.92
						1" Ice	0.00	0.92

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft	Vert ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
(4) Antel BXA-70063/6CF w/ mount pipe	A	From Face	3.00 0.00 0.00		0.0000	100.00	No Ice 1/2" Ice 1" Ice	7.75 8.29 8.85	5.18 6.11 6.92	0.04 0.09 0.16
(4) Antel BXA-70063/6CF w/ mount pipe	B	From Face	3.00 0.00 0.00		0.0000	100.00	No Ice 1/2" Ice 1" Ice	7.75 8.29 8.85	5.18 6.11 6.92	0.04 0.09 0.16
(4) Antel BXA-70063/6CF w/ mount pipe	C	From Face	3.00 0.00 0.00		0.0000	100.00	No Ice 1/2" Ice 1" Ice	7.75 8.29 8.85	5.18 6.11 6.92	0.04 0.09 0.16
(12) Ericsson RRUS-11 TIA-G	A	From Face	2.00 0.00 0.00		0.0000	100.00	No Ice 1/2" Ice 1" Ice	2.19 2.47 2.75	0.80 0.99 1.18	0.04 0.06 0.07
Sector Mounts	C	None			0.0000	100.00	No Ice 1/2" Ice 1" Ice	30.00 35.00 40.00	30.00 35.00 40.00	1.80 2.60 3.40
***										
(4) Antel BXA-70063/6CF w/ mount pipe	A	From Face	3.00 0.00 0.00		0.0000	90.00	No Ice 1/2" Ice 1" Ice	7.75 8.29 8.85	5.18 6.11 6.92	0.04 0.09 0.16
(4) Antel BXA-70063/6CF w/ mount pipe	B	From Face	3.00 0.00 0.00		0.0000	90.00	No Ice 1/2" Ice 1" Ice	7.75 8.29 8.85	5.18 6.11 6.92	0.04 0.09 0.16
(4) Antel BXA-70063/6CF w/ mount pipe	C	From Face	3.00 0.00 0.00		0.0000	90.00	No Ice 1/2" Ice 1" Ice	7.75 8.29 8.85	5.18 6.11 6.92	0.04 0.09 0.16
(12) Ericsson RRUS-11 TIA-G	A	From Face	2.00 0.00 0.00		0.0000	90.00	No Ice 1/2" Ice 1" Ice	2.19 2.47 2.75	0.80 0.99 1.18	0.04 0.06 0.07
Sector Mounts	C	None			0.0000	90.00	No Ice 1/2" Ice 1" Ice	30.00 35.00 40.00	30.00 35.00 40.00	1.80 2.60 3.40
***										
(4) Antel BXA-70063/6CF w/ mount pipe	A	From Face	3.00 0.00 0.00		0.0000	80.00	No Ice 1/2" Ice 1" Ice	7.75 8.29 8.85	5.18 6.11 6.92	0.04 0.09 0.16
(4) Antel BXA-70063/6CF w/ mount pipe	B	From Face	3.00 0.00 0.00		0.0000	80.00	No Ice 1/2" Ice 1" Ice	7.75 8.29 8.85	5.18 6.11 6.92	0.04 0.09 0.16
(4) Antel BXA-70063/6CF w/ mount pipe	C	From Face	3.00 0.00 0.00		0.0000	80.00	No Ice 1/2" Ice 1" Ice	7.75 8.29 8.85	5.18 6.11 6.92	0.04 0.09 0.16
(12) Ericsson RRUS-11 TIA-G	A	From Face	2.00 0.00 0.00		0.0000	80.00	No Ice 1/2" Ice 1" Ice	2.19 2.47 2.75	0.80 0.99 1.18	0.04 0.06 0.07
Sector Mounts	C	None			0.0000	80.00	No Ice	30.00	30.00	1.80

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
						1/2" Ice	35.00	35.00	2.60
						1" Ice	40.00	40.00	3.40
***									
(4) Antel BXA-70063/6CF w/ mount pipe	A	From Face	3.00 0.00 0.00	0.0000	70.00	No Ice 1/2" Ice 1" Ice	7.75 8.29 8.85	5.18 6.11 6.92	0.04 0.09 0.16
(4) Antel BXA-70063/6CF w/ mount pipe	B	From Face	3.00 0.00 0.00	0.0000	70.00	No Ice 1/2" Ice 1" Ice	7.75 8.29 8.85	5.18 6.11 6.92	0.04 0.09 0.16
(4) Antel BXA-70063/6CF w/ mount pipe	C	From Face	3.00 0.00 0.00	0.0000	70.00	No Ice 1/2" Ice 1" Ice	7.75 8.29 8.85	5.18 6.11 6.92	0.04 0.09 0.16
(12) Ericsson RRUS-11 TIA-G	A	From Face	2.00 0.00 0.00	0.0000	70.00	No Ice 1/2" Ice 1" Ice	2.19 2.47 2.75	0.80 0.99 1.18	0.04 0.06 0.07
Sector Mounts	C	None		0.0000	70.00	No Ice 1/2" Ice 1" Ice	30.00 35.00 40.00	30.00 35.00 40.00	1.80 2.60 3.40
***									

Load Combinations

Comb. No.	Description
1	Dead Only
2	1.2 Dead+1.6 Wind 0 deg - No Ice
3	0.9 Dead+1.6 Wind 0 deg - No Ice
4	1.2 Dead+1.6 Wind 90 deg - No Ice
5	0.9 Dead+1.6 Wind 90 deg - No Ice
6	1.2 Dead+1.6 Wind 180 deg - No Ice
7	0.9 Dead+1.6 Wind 180 deg - No Ice
8	1.2 Dead+1.0 Ice+1.0 Temp
9	1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp
10	1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp
11	1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp
12	Dead+Wind 0 deg - Service
13	Dead+Wind 90 deg - Service
14	Dead+Wind 180 deg - Service

Maximum Member Forces

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L1	100 - 47	Pole	Max Tension	8	0.00	-0.00	-0.00
			Max. Compression	8	-45.98	14.97	8.64
			Max. Mx	4	-18.33	-765.91	-33.51
			Max. My	2	-18.49	44.48	734.02
			Max. Vy	4	23.13	-765.91	-33.51
			Max. Vx	2	-21.91	44.48	734.02
			Max. Torque	2			3.61
L2	47 - 1	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	8	-60.66	15.91	9.18
			Max. Mx	4	-31.23	-1977.07	-86.15
			Max. My	2	-31.24	97.53	1884.67
			Max. Vy	4	24.79	-1977.07	-86.15
			Max. Vx	2	-23.62	97.53	1884.67
			Max. Torque	2			3.59

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	100 - 47	19.913	13	1.6191	0.0116
L2	51.25 - 1	5.474	13	0.9944	0.0036

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
100.00	(4) Antel BXA-70063/6CF w/ mount pipe	13	19.913	1.6191	0.0116	20609
90.00	(4) Antel BXA-70063/6CF w/ mount pipe	13	16.509	1.5040	0.0098	10304
80.00	(4) Antel BXA-70063/6CF w/ mount pipe	13	13.222	1.3890	0.0079	5152
70.00	(4) Antel BXA-70063/6CF w/ mount pipe	13	10.168	1.2653	0.0062	3434

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	100 - 47	82.131	4	6.7210	0.0470
L2	51.25 - 1	22.446	4	4.0882	0.0144

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
100.00	(4) Antel BXA-70063/6CF w/ mount pipe	4	82.131	6.7210	0.0470	5068
90.00	(4) Antel BXA-70063/6CF w/ mount pipe	4	68.054	6.2454	0.0394	2533
80.00	(4) Antel BXA-70063/6CF w/ mount pipe	4	54.460	5.7529	0.0321	1264
70.00	(4) Antel BXA-70063/6CF w/ mount pipe	4	41.833	5.2263	0.0252	840

Pole Design Data

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
L1	100 - 47 (1)	TP29.87x20x0.2188	53.00	0.00	0.0	20.0377	-18.33	1369.73	0.013
L2	47 - 1 (2)	TP38x28.641x0.3125	50.25	0.00	0.0	37.3813	-31.23	2634.21	0.012

Pole Bending Design Data

Section No.	Elevation ft	Size	M_{ux} kip-ft	ϕM_{nx} kip-ft	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	M_{uy} kip-ft	ϕM_{ny} kip-ft	Ratio $\frac{M_{uy}}{\phi M_{ny}}$
L1	100 - 47 (1)	TP29.87x20x0.2188	766.64	813.10	0.943	0.00	813.10	0.000
L2	47 - 1 (2)	TP38x28.641x0.3125	1978.94	2040.58	0.970	0.00	2040.58	0.000

Pole Shear Design Data

Section No.	Elevation ft	Size	Actual V_u K	ϕV_n K	Ratio $\frac{V_u}{\phi V_n}$	Actual T_u kip-ft	ϕT_n kip-ft	Ratio $\frac{T_u}{\phi T_n}$
L1	100 - 47 (1)	TP29.87x20x0.2188	23.16	684.87	0.034	2.07	1628.18	0.001
L2	47 - 1 (2)	TP38x28.641x0.3125	24.81	1317.11	0.019	2.06	4086.16	0.001

Pole Interaction Design Data

Section No.	Elevation ft	Ratio $\frac{P_u}{\phi P_n}$	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	Ratio $\frac{M_{uy}}{\phi M_{ny}}$	Ratio $\frac{V_u}{\phi V_n}$	Ratio $\frac{T_u}{\phi T_n}$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
L1	100 - 47 (1)	0.013	0.943	0.000	0.034	0.001	0.957 ✔	1.000	4.8.2 ✔
L2	47 - 1 (2)	0.012	0.970	0.000	0.019	0.001	0.982 ✔	1.000	4.8.2 ✔

Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
L1	100 - 47	Pole	TP29.87x20x0.2188	1	-18.33	1369.73	95.7	Pass
L2	47 - 1	Pole	TP38x28.641x0.3125	2	-31.23	2634.21	98.2	Pass
							Summary	
						Pole (L2)	98.2	Pass
						RATING =	**98.2**	**Pass**

Michael F. Plahovinsak, P.E.
18301 State Route 161 W
Plain City, OH 43064
Phone: 614-398-6250
email: mike@mfpeng.com

Job	Page
100-ft monopole - MFP #23518-163	BP-G
Project North Stanton	**Date** 3/6/2018
Client TAPP TP-15272	**Designed by** Mike

Anchor Rod and Base Plate Calculation

ANSI/TIA-222-G-2

Factored Base Reactions:		*Pole Shape:*	*Anchor Rods:*	*Base Plate:*
Moment:	1979 ft-kips	18-Sided	(10) 2.25 in. A615 GR. 75	2 in. x 51 in. Round
Shear:	25 kips	***Pole Dia. (D_f):***	Anchor Rods Evenly Spaced	fy = 60 ksi
Axial:	31 kips	38.00 in	On a 45 in Bolt Circle	

Anchor Rod Calculation According to TIA-222-G section 4.9.9

ϕ = 0.80 TIA 4.9.9
I_{bolts} = 2531.25 in^2 Momet of Inertia
P_u = 211 kips Tension Force
V_u = 3 kips Shear Force
R_{nt} = 325.00 kips Nominal Tensile Strength
η = 0.50 for detail type (d)

The following Interation Equation Shall Be Satisfied:

$$\left(\frac{P_u + \frac{V_u}{\eta}}{\phi R_{nt}} \right) \leq 1.0$$

$$0.831 \leq 1$$

Base Plate Calculation According to TIA-222-G

ϕ = 0.90 TIA 4.7
M_{PL} = 508.7 in-kip Plate Moment
L = 11.9 in Section Length
Z = 11.9 Plastic Section Modulus
M_p = 716.3 in-kip Plastic Moment
ϕM_n = 644.7 in-kip Factored Resistance

Calculated Moment vs Factored Resistance

508.71 in-kip $\leq$ 645 in-kip

Anchor Rods Are Adequate	**83.1%**	☑
Base Plate is Adequate	**78.9%**	☑

Michael F. Plahovinsak, P.E.
18301 State Route 161 W
Plain City, OH 43064
Phone: 614-398-6250
email: mike@mfpeng.com

Job	Page
100-ft monopole - MFP #23518-163	FND
Project	**Date**
North Stanton	3/6/2018
Client	**Designed by**
TAPP TP-15272	Mike

Caisson Calculation

According to ANSI/TIA-222-G-2

1. Foundation overturning resistance calculated with PLS Caisson, for Brom's method for rigid piles. Soil layers modeled after recommendations from the geotechnical report.
2. Cohesion strength for the upper 16.5 ft has been reduced by 50%
3. In lieu of a soil resistance factor fs = 0.75 (TIA-9.4.1) an additional safey fator against soil failure of 1.33 has been applied.
4. Foundation is designed with a minimum safety factor resisting overturning of 2.0
5. Foundation has been designed with factored loads per TIA-222-G.
6. Design water table = 13.5 ft below grade

*** PIER PROPERTIES CONCRETE STRENGTH (ksi) = 4.00 STEEL STRENGTH (ksi) = 60.00

DIAMETER (ft) = 5.500 DISTANCE FROM TOP OF PIER TO GROUND LEVEL (ft) = 0.50

*** SOIL PROPERTIES

LAYER	TYPE	THICKNESS (ft)	DEPTH AT TOP OF LAYER (ft)	DENSITY (pcf)	CU (psf)	KP	PHI (degrees)
1	S	5.50	0.00	110.0		1.000	-0.00
2	S	14.00	5.50	47.6		1.000	-0.00
3	C	1.00	19.50	47.6	6000.0		
4	C	10.00	20.50	47.6	10000.0		

*** DESIGN (FACTORED) LOADS AT TOP OF PIER MOMENT (ft-k) = 1979.0 VERTICAL (k) = 31.0 SHEAR (k) = 25.0
ADDITIONAL SAFETY FACTOR AGAINST SOIL FAILURE = 1.33

*** CALCULATED PIER LENGTH (ft) = 24.000

*** CHECK OF SOILS PROPERTIES AND ULTIMATE RESISTING FORCES ALONG PIER

TYPE	TOP OF LAYER BELOW TOP OF PIER (ft)	THICKNESS (ft)	DENSITY (pcf)	CU (psf)	KP	FORCE (k)	ARM (ft)
S	0.50	5.50	110.0		1.000	27.45	4.17
S	6.00	14.00	47.6		1.000	216.72	13.83
C	20.00	1.00	47.6	6000.0		264.00	20.50
C	21.00	0.96	47.6	10000.0		422.81	21.48
C	21.96	2.04	47.6	10000.0		-897.19	22.98

*** SHEAR AND MOMENTS ALONG PIER

DISTANCE BELOW TOP OF PIER (ft)	WITH THE ADDITIONAL SAFETY FACTOR SHEAR (k)	WITH THE ADDITIONAL SAFETY FACTOR MOMENT (ft-k)	WITHOUT ADDITIONAL SAFETY FACTOR SHEAR (k)	WITHOUT ADDITIONAL SAFETY FACTOR MOMENT (ft-k)
0.00	33.8	3012.2	25.4	2259.1
2.40	30.5	3091.2	22.9	2318.4
4.80	17.0	3150.4	12.8	2362.8
7.20	-6.2	3164.9	-4.6	2373.7
9.60	-34.7	3116.7	-26.0	2337.5
12.00	-67.7	2994.8	-50.8	2246.1
14.40	-105.2	2788.2	-78.9	2091.2
16.80	-147.3	2486.2	-110.4	1864.6
19.20	-193.8	2077.7	-145.4	1558.3
21.60	-738.4	1209.9	-553.8	907.4
24.00	-0.0	0.0	-0.0	0.0

*** TOTAL REINFORCEMENT PCT = 0.58 REINFORCEMENT AREA (in^2) = 19.84
*** USABLE AXIAL CAP. (k) = 31.0 USABLE MOMENT CAP. (ft-k) = 2374.6

For Design:

5.5-ft Diameter caisson x 24-ft long (23.5-ft Embeded with 0.5-ft above grade)
Concrete strength =4000 PSI @ 28 days. Estimated Concrete Volume = 21 CY3.
(18) #10 Vertical Rebar. Steel Cross-Section = 22.86 in2

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

Aeronautical Study No.
2017-ASO-17460-OE

Issued Date: 09/11/2017

Ali Kuzehkanani
East Kentucky Network, LLC
8300 Greensboro Drive, Suite 1200
Tysons, VA 22102

**** 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:	Tower Stanton North
Location:	Stanton, KY
Latitude:	37-51-19.16N NAD 83
Longitude:	83-51-39.66W
Heights:	655 feet site elevation (SE)
	110 feet above ground level (AGL)
	765 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 1.

This determination expires on 03/11/2019 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 does not constitute authority to transmit on the frequency(ies) identified in this study. The proponent is required to obtain a formal frequency transmit license from the Federal Communications Commission (FCC) or National Telecommunications and Information Administration (NTIA), prior to on-air operations of these frequency(ies).

This determination of No Hazard is granted provided the following conditional statement is included in the proponent's construction permit or license to radiate:

Upon receipt of notification from the Federal Communications Commission that harmful interference is being caused by the licencee's (permittee's) transmitter, the licensee (permittee) shall either immediately reduce the power to the point of no interference, cease operation, or take such immediate corrective action as is necessary to eliminate the harmful interference. This condition expires after 1 year of interference-free operation.

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.

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 (202) 267-0105, or j.garver@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2017-ASO-17460-OE.

Signature Control No: 342034207-343452881 (DNE)
Jay Garver
Specialist

Attachment(s)

Frequency Data
Map(s)

cc: FCC

Frequency Data for ASN 2017-ASO-17460-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


Maple St
Breckinridge St
Court St
158
163
141
89a
29a
133
99
137

KENTUCKY AIRPORT ZONING COMMISSION

MATTHEW BEVIN
Governor

421 Buttermilk Pike
Covington, KY 41017
www.transportation.ky.gov
859-341-2700

October 25, 2017

APPROVAL OF APPLICATION

APPLICANT:
East Kentucky Network, LLC.
East Kentucky Network, LLC.
8300 Greensboro Drive|Suite 1200
McLean, VA 22102

SUBJECT: AS-099-150-2017-092

STRUCTURE:	Antenna Tower
LOCATION:	Stanton, KY
COORDINATES:	37° 51' 19.16" N / 83° 51' 39.66" W
HEIGHT:	110' AGL/765'AMSL

The Kentucky Airport Zoning Commission has approved your application for a permit to construct 110'AGL/ 765'AMSL Antenna Tower near Stanton, KY 37° 51' 19.16" N / 83° 51' 39.66" W.

This permit is valid for a period of 18 Month(s) from its date of issuance. If construction is not completed within said 18-Month period, this permit shall lapse and be void, and no work shall be performed without the issuance of a new permit.

A copy of the approved application is enclosed for your files.

Obstruction Marking/Lighting are not required.

John Houlihan
Administrator

MATTHEW BEVIN
Governor

KENTUCKY AIRPORT ZONING COMMISSION
421 Buttermilk Pike
Covington, KY 41017
www.transportation.ky.gov
859-341-2700

CONSTRUCTION/ALTERATION STATUS REPORT

October 25, 2017

AERONAUTICIAL STUDY NUMBER: AS-099-150-2017-092

East Kentucky Network, LLC.
East Kentucky Network, LLC.
8300 Greensboro Drive,Suite 1200
McLean, VA 22102

This concerns the permit which was issued to you by the Kentucky Airport Zoning Commission on October 25, 2017. This permit is valid for a period of 18 Month(s) from its date of issuance. If construction is not completed within the said 18-Month period, this permit shall lapse and be void, and no work shall be performed without the issuance of a new permit. When appropriate, please indicate the status of the project in the place below and return this letter to John Houlihan, Administrator, Kentucky Airport Zoning Commission, 421 Buttermilk Pike, Covington, KY, 41017. 859-341-2700.

STRUCTURE:	Antenna Tower
LOCATION:	Stanton, KY
COORDINATES:	37° 51' 19.16" N / 83° 51' 39.66" W
HEIGHT:	110' AGL /765'AMSL

CONSTRUCTION/ALTERATION STATUS
1. The project ( ) is abandoned. ( ) is not abandoned.

2. Construction status is as follows:
Structure reached its greatest height of _____ ft. AGL
_____ ft. AMSL on _____ (date).

Date construction was completed. _____

Type of obstruction marking/painting. _____

Type of obstruction lighting. _____

As built coordinates. _____

Miscellaneous Information. _____

DATE _____

SIGNATURE/TITLE_____

Kentucky
UNBRIDLED SPIRIT

2017-092

KENTUCKY TRANSPORTATION CABINET

KENTUCKY AIRPORT ZONING COMMISSION

TC 56-50
Rev. 07/2010
Page 2 of 2

APPLICATION FOR PERMIT TO CONSTRUCT OR ALTER A STRUCTURE

APPLICANT (*name*) East Kentucky Network, LLC c/o LLGS	**PHONE** 703-584-8667	**FAX** 703-584-8692	**KY AERONAUTICAL STUDY #** AS-099-I50-2017-092	
ADDRESS (*street*) 8300 Greensboro Dr, #1200	**CITY** Tysons		**STATE** VA	**ZIP** 22102
APPLICANT'S REPRESENTATIVE (*name*) Ali Kuzehkanani	**PHONE** 703-584-8667	**FAX** 703-584-8692		
ADDRESS (*street*) 8300 Greensboro Dr, #1200	**CITY** Tysons		**STATE** VA	**ZIP** 22102
APPLICATION FOR ☒ New Construction ☐ Alteration ☐ Existing **DURATION** ☐ Permanent ☐ Temporary (*months* *days*)			**WORK SCHEDULE** Start 09/25/17 End 09/30/17	
TYPE ☐ Crane ☐ Building ☒ Antenna Tower ☐ Power Line ☐ Water Tank ☐ Landfill ☐ Other	**MARKING/PAINTING/LIGHTING PREFERRED** ☐ Red Lights & Paint ☐ White- medium intensity ☐ White- high intensity ☐ Dual- red & medium intensity white ☐ Dual- red & high intensity white ☒ Other None			
LATITUDE 37°51'19.16"	**LONGITUDE** 83°51'39.66"		**DATUM** ☒ NAD83 ☐ NAD27 ☐ Other	
NEAREST KENTUCKY City Stanton County Powell	**NEAREST KENTUCKY PUBLIC USE OR MILITARY AIRPORT** Stanton Airport			
SITE ELEVATION (AMSL, *feet*) 655	**TOTAL STRUCTURE HEIGHT** (AGL, *feet*) 110		**CURRENT** (*FAA aeronautical study #*) 2017-ASO-17460-OE	
OVERALL HEIGHT (*site elevation plus total structure height, feet*) 765			**PREVIOUS** (*FAA aeronautical study #*)	
DISTANCE (*from nearest Kentucky public use or Military airport to structure*) 0.9 mi			**PREVIOUS** (*KY aeronautical study #*)	
DIRECTION (*from nearest Kentucky public use or Military airport to structure*) NW				

DESCRIPTION OF LOCATION (*Attach USGS 7.5 minute quadrangle map or an airport layout drawing with the precise site marked and any certified survey.*)
500' NW of the intersection of the Maple and Breckenridge Streets, Stanton (Powell), KY

DESCRIPTION OF PROPOSAL
A new 100' tower with top-mounted antennas (overall height of 110' AGL)

FAA Form 7460-1 (*Has the "Notice of Construction or Alteration" been filed with the Federal Aviation Administration?*)
☐ No ☒ Yes, when? 08/25/17

CERTIFICATION (*I hereby certify that all the above entries, made by me, are true, complete, and correct to the best of my knowledge and belief.*)
PENALITIES (*Persons failing to comply with KRS 183.861 to 183.990 and 602 KAR 050 are liable for fines and/or imprisonment as set forth in KRS 183.990(3). Noncompliance with FAA regulations may result in further penalties.*)

NAME	**TITLE**	**SIGNATURE**	**DATE**
Ali Kuzehkanani	Dir of Engineering	Ali Kuzehkanani	08/25/17

COMMISSION ACTION

☐ Chairperson, KAZC
☒ Administrator, KAZC

☒ Approved
☐ Disapproved

SIGNATURE

DATE 10-25-17

Driving Directions for Stanton North

Beginning in the City of Stanton in Powell County at the intersection of Breckenridge Street and Court Street. Turn right onto Breckenridge Street and drive approximately 250' then turn left onto Maple Street. Then turn right back onto Breckenridge Street. Continue approximately 800' (signs will be posted). Just to the left will be our access road marked by survey ribbon. Follow the ribbon for approximately 400' (signs will be posted).

Prepared By:
Daryl Bartley
Cell Site Compliance Agent
East Kentucky Network, LLC
dba Appalachian Wireless
606-791-0310
dbartley@ekn.com c


Stanton North
Location:
Near 843 Breckinridge St.
Stanton, KY 40380
Coordinates:
N 37°51'19.16"
W 83°51'39.66"
Legend
1/2 Mile Radius
Proposed Stanton North Site
Logan Ln
Oak Hill Dr
Miller Dr
Riverview Dr
Maple St
Pamela Dr
Holman Dr
Nolan Ct
W Railroad St
Pinecreek Dr
Stanton Pl
Halls Ln
Cr 1089
Hoys Ln
Willowbend Way
Strange St
Molly B Sr
Promenade Ave
Breckenridge St
Washington St
Lions St
Scrivner St
Bright St
Atkinson St
Court St
W Church St
E Church St
213
2073
2026
2487
2476
2486
N
2000 ft

DEED

THIS DEED OF CONVEYANCE is made and entered into this 21st day of December, 2017, by and between **JOHN P. BOWEN**, single, whose address is 843 Breckenridge Street, Stanton, Kentucky 40380 (hereinafter referred to as "**Grantor**"), and **EAST KENTUCKY NETWORK, LLC D/B/A APPALACHIAN WIRELESS**, a Kentucky limited liability company (hereinafter referred to as "**Grantee**"), whose address is 101 Technology Trail, Ivel, Kentucky 41642, which is also the "in care of" address to which the property tax bill should be sent.

WITNESSETH

That for and in consideration of the sum of Sixty-Five Thousand and 00/100 Dollars ($65,000.00), cash in hand paid, the receipt and sufficiency of which are hereby acknowledged, Grantor does hereby GRANT, SELL, and CONVEY to the Grantee, its successors and assigns, that certain real property on the west of Breckenridge Street in Stanton, Powell County, Kentucky, which is more particularly described in the Lot Description **attached** hereto and made a part herein as **Exhibit A** and depicted on the plat **attached** hereto and made a part herein as **Exhibit B**, prepared by J.W. Caudill, Licensed Professional Land Surveyor (hereinafter referred to as the "Property"), along with an access road easement, which is also described on Exhibit A and depicted on Exhibit B.

Being part of the same property conveyed to Grantor by Lucy Crowe, by Deed dated December 10, 2007, and recorded in the Powell County Clerk's Office in Deed Book 167, Page 620.

TO HAVE AND TO HOLD the same with all appurtenances and privileges thereunto belonging unto the Grantee, its successors and assigns forever, with covenant of GENERAL WARRANTY.

CONSIDERATION CERTIFICATE

The parties to this deed certify that the consideration reflected in this deed is the full consideration paid for the property and understand that falsification of the stated consideration is a class D felony, subject to one to five years imprisonment and fines up to $10,000.00.

IN TESTIMONY WHEREOF, the parties have hereunto subscribed their names as of the date set forth herein.

GRANTOR:

JOHN P. BOWEN

COMMONWEALTH OF KENTUCKY
COUNTY OF Powell:

I, Raina Helton, a Notary Public in and for the County and State aforesaid, do hereby certify that the foregoing Deed and Consideration Certificate was this day produced, acknowledged, subscribed, and sworn to before me in the County and State aforesaid and signed by John P. Bowen, Grantor, this 21st day of December, 2017.

Notary Public

RAINA L. HELTON NOTARY PUBLIC ID NO. 549406 MY COMMISSION EXPIRES 2-6-2020 STATE AT LARGE, KY.

My Commission Expires: Feb 6, 2020

[REMAINDER OF PAGE INTENTIONALLY LEFT BLANK]

GRANTEE:
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:

I, Raina Helton, a Notary Public in and for the County and State aforesaid, do hereby certify that the foregoing Consideration Certificate was this day produced, acknowledged, subscribed, and sworn to before me in the County and State aforesaid and signed by W.A. Gillum, in his capacity as the CEO/General Manager of East Kentucky Network, LLC d/b/a Appalachian Wireless, Grantee, this 21st day of December, 2017.

Raina L. Helton
Notary Public

My Commission Expires: Feb 6, 2020

RAINA L. HELTON
NOTARY PUBLIC
ID NO. 549406
MY COMMISSION EXPIRES
2-6-2020
STATE AT LARGE, KY.

This is to certify that this instrument was prepared by:

Cindy D. McCarty

Cindy D. McCarty, Attorney
101 Technology Trail
Ivel, Kentucky 41642
606-339-1006

LOT DESCRIPTION
Property of
John P. Bowen
843 Breckinridge Street
Stanton, KY 40380
City of Stanton, in Powell County
August 4, 2017

A certain tract of land on the west of Breckenridge Street in Stanton, in Powell County, Kentucky. Being a portion of the property conveyed to John P. Bowen from Lucy Crowe, widow, by deed dated December 10, 2007 and of record in Deed Book 167, page 620, records of the Powell County Court Clerk.

Lot 1B: Beginning on a found iron pin with cap marked LS3088 on the property corner of the Michael & Patricia Sparks (Deed Book 151 Page 429) and John P. Bowen (Deed Book 167, page 620); and East Kentucky Network LLC (Deed Book 190, page 719); thence running with the dividing line between John P. Bowen and East Kentucky Network LLC North 73 deg 16 min 55 sec West, 76.35 feet to a found 6" iron pipe set in ground; thence severing the property of John P. Bowen by running North 16 deg 56 min 36 sec East, 49.92 feet to a set iron pin with cap marked ls2259; thence turning right South 73 deg 25 min 27 sec East, 42.92 feet to a set iron pin with cap marked ls2259; thence turning left and running with a line 30' from Sparks line North 12 deg 50 min 24 sec East, 118.81 feet to a set iron pin with cap marked ls2259 at edge or existing road; thence with the road right of way South 74 deg 01 min 12 sec East, 30.05 feet to a set iron pin with cap marked ls2259 at edge of road; thence South 12 deg 50 min 23 sec West, 29.06 feet to a found iron pin by fence post being the corner of Sparks line; thence running with the line of Michael & Patricia Sparks (Deed Book 151 Page 429) South 12 deg 50 min 23 sec West, 90.05 feet to a set iron pin with cap marked ls2259; South 12 deg 50 min 23 sec West, 50.10 feet to the point of the beginning. Containing a calculated area of 7270 sq ft or 0.167 acres.

Also to be included is a access road right of way from Breckenridge Street & West Church Street to the above described lot 1B. This right of way is 12 feet wide along the existing access road from the Street to the end of Lot 1B. The right of way easement is described as follows;

Beginning on a set iron pin with cap marked ls2259 on northwest corner of Lot 1B; thence leaving the line of lot 1B and severing the property of John P. Bowen, North 12 deg 50 min 23 sec East, 12.00 feet to the north side of the existing access road; thence running with the existing access road South 74 deg 01 min 12 sec East, 292.41 feet; South 55 deg 30 min 31 sec East, 24.37 feet; South 38 deg 17 min 53 sec East, 29.94 feet; South 15 deg 58 min 16 sec East, 29.96 feet; South 05 deg 32 min 36 sec West, 41.01 feet; North 72 deg 52 min 09 sec West, 12.39 feet; North 05 deg 44 min 19 sec East, 36.28 feet; North 15 deg 58 min 16 sec West, 25.27 feet; North 38 deg 17 min 53 sec West, 25.75 feet; North 55 deg 30 min 31 sec West, 20.60 feet; North 74 deg 01 min 12 sec West, 259.99 feet northeast corner of Lot 1B; thence running with the north line of Lot 1B reversed North 74 deg 01' 12 sec West, 30.05 feet to the beginning. Containing a calculated area of 4895.2 sq ft or 0.112 acres.

Unless stated otherwise, any monument referred to herein as "set iron pin with cap" is a set ½" diameter rebar, at least eighteen (18") in length, with a plastic cap stamped "LS-2259". All bearings stated herein are referred to NAD83, KY single zone of the Kentucky state plane system. This survey was performed on August 4, 2017 by James W. Caudill, a Kentucky Licensed Professional Land Surveyor No. 2259.

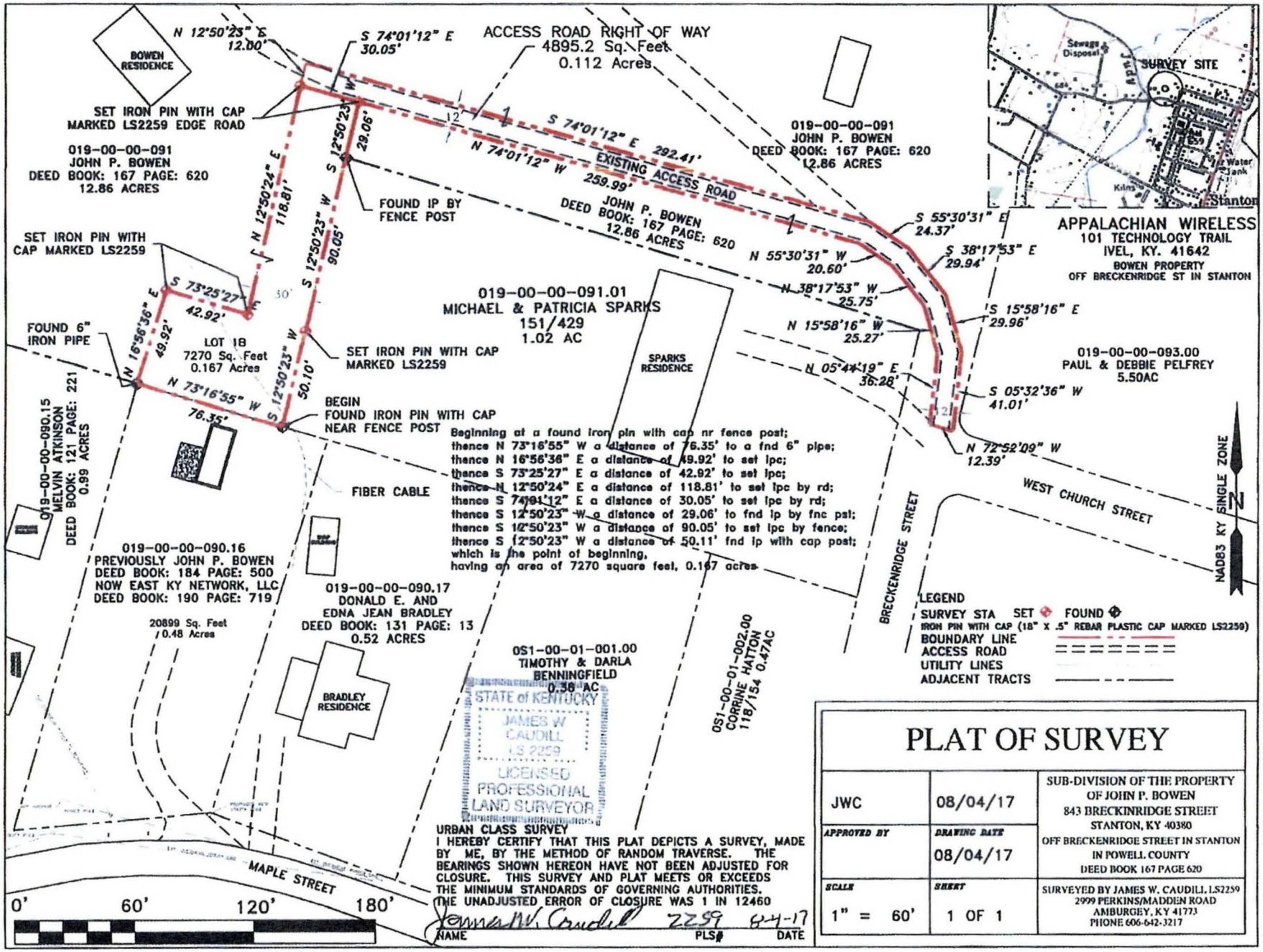
James W. Caudill

James W. Caudill, PLS #2259
8-4-17

STATE of KENTUCKY
JAMES W. CAUDILL
LS 2259
LICENSED PROFESSIONAL LAND SURVEYOR

Exhibit A

Exhibit B


BOWEN RESIDENCE
N 12°50'23" E 12.00'
S 74°01'12" E 30.05'
ACCESS ROAD RIGHT OF WAY
4895.2 Sq. Feet
0.112 Acres
SET IRON PIN WITH CAP MARKED LS2259 EDGE ROAD
019-00-00-091
JOHN P. BOWEN
DEED BOOK: 167 PAGE: 620
12.86 ACRES
S 74°01'12" E 292.41'
N 74°01'12" W 259.99'
EXISTING ACCESS ROAD
S 12°50'23" W 29.06'
N 12°50'24" E 118.81'
S 12°50'23" W 90.05'
FOUND IP BY FENCE POST
JOHN P. BOWEN
DEED BOOK: 167 PAGE: 620
12.86 ACRES
SET IRON PIN WITH CAP MARKED LS2259
S 73°25'27" E 42.92'
N 16°56'36" E 49.92'
FOUND 6" IRON PIPE
LOT 1B
7270 Sq. Feet
0.167 Acres
SET IRON PIN WITH CAP MARKED LS2259
S 12°50'23" W 50.10'
N 73°16'55" W 76.35'
BEGIN
FOUND IRON PIN WITH CAP NEAR FENCE POST
019-00-00-091.01
MICHAEL & PATRICIA SPARKS
151/429
1.02 AC
SPARKS RESIDENCE
FIBER CABLE
019-00-00-090.15
MELVIN ATKINSON
DEED BOOK: 121 PAGE: 221
0.99 ACRES
019-00-00-090.16
PREVIOUSLY JOHN P. BOWEN
DEED BOOK: 184 PAGE: 500
NOW EAST KY NETWORK, LLC
DEED BOOK: 190 PAGE: 719
20899 Sq. Feet
0.48 Acres
019-00-00-090.17
DONALD E. AND
EDNA JEAN BRADLEY
DEED BOOK: 131 PAGE: 13
0.52 ACRES
BRADLEY RESIDENCE
051-00-01-001.00
TIMOTHY & DARLA
BENNINGFIELD
0.38 AC
051-00-01-002.00
CORRINE HATTON
118/154 0.47AC
MAPLE STREET
019-00-00-091
JOHN P. BOWEN
DEED BOOK: 167 PAGE: 620
12.86 ACRES
S 55°30'31" E 24.37'
N 55°30'31" W 20.60'
S 38°17'53" E 29.94'
N 38°17'53" W 25.75'
N 15°58'16" W 25.27'
S 15°58'16" E 29.96'
N 05°44'19" E 36.28'
S 05°32'36" W 41.01'
N 72°52'09" W 12.39'
019-00-00-093.00
PAUL & DEBBIE PELFREY
5.50AC
WEST CHURCH STREET
BRECKENRIDGE STREET
Beginning at a found iron pin with cap nr fence post;
thence N 73°16'55" W a distance of 76.35' to a fnd 6" pipe;
thence N 16°56'36" E a distance of 49.92' to set ipc;
thence S 73°25'27" E a distance of 42.92' to set ipc;
thence N 12°50'24" E a distance of 118.81' to set ipc by rd;
thence S 74°01'12" E a distance of 30.05' to set ipc by rd;
thence S 12°50'23" W a distance of 29.06' to fnd ip by fnc pst;
thence S 12°50'23" W a distance of 90.05' to set ipc by fence;
thence S 12°50'23" W a distance of 50.11' fnd ip with cap post;
which is the point of beginning,
having an area of 7270 square feet, 0.167 acres
SURVEY SITE
Sewage Disposal
Water Tank
Kilns
Stanton
APPALACHIAN WIRELESS
101 TECHNOLOGY TRAIL
IVEL, KY. 41642
BOWEN PROPERTY
OFF BRECKENRIDGE ST IN STANTON
NAD83 KY SINGLE ZONE
LEGEND
SURVEY STA SET FOUND
IRON PIN WITH CAP (18" X .5" REBAR PLASTIC CAP MARKED LS2259)
BOUNDARY LINE
ACCESS ROAD
UTILITY LINES
ADJACENT TRACTS
STATE of KENTUCKY
JAMES W CAUDILL
LS 2259
LICENSED PROFESSIONAL LAND SURVEYOR
URBAN CLASS SURVEY
I HEREBY CERTIFY THAT THIS PLAT DEPICTS A SURVEY, MADE BY ME, BY THE METHOD OF RANDOM TRAVERSE. THE BEARINGS SHOWN HEREON HAVE NOT BEEN ADJUSTED FOR CLOSURE. THIS SURVEY AND PLAT MEETS OR EXCEEDS THE MINIMUM STANDARDS OF GOVERNING AUTHORITIES. THE UNADJUSTED ERROR OF CLOSURE WAS 1 IN 12460
James W. Caudill 2259 8-4-17
NAME PLS# DATE
0' 60' 120' 180'
PLAT OF SURVEY
JWC
08/04/17
APPROVED BY
DRAWING DATE
08/04/17
SCALE
1" = 60'
SHEET
1 OF 1
SUB-DIVISION OF THE PROPERTY OF JOHN P. BOWEN
843 BRECKINRIDGE STREET
STANTON, KY 40380
OFF BRECKENRIDGE STREET IN STANTON
IN POWELL COUNTY
DEED BOOK 167 PAGE 620
SURVEYED BY JAMES W. CAUDILL LS2259
2999 PERKINS/MADDEN ROAD
AMBURGEY, KY 41773
PHONE 606-642-3217

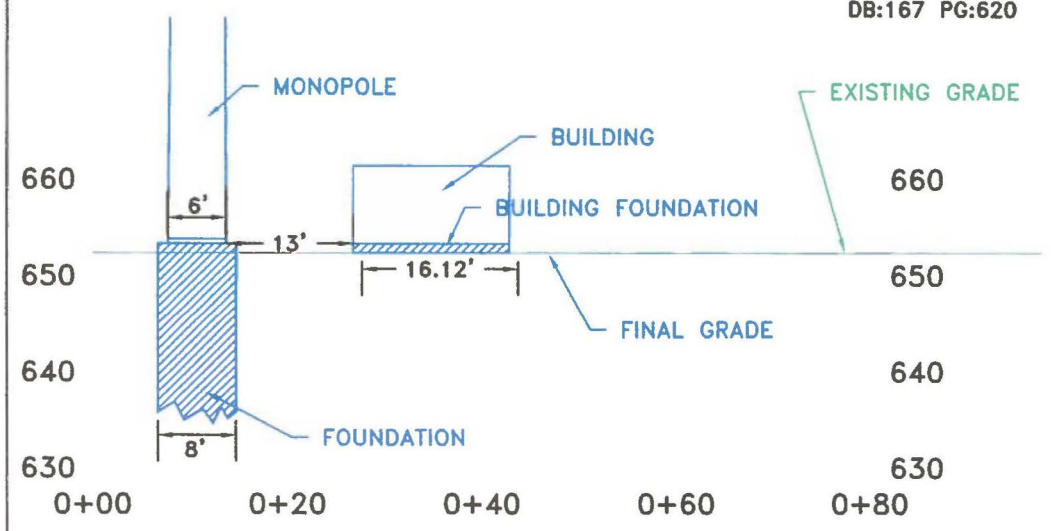
APPALACHIAN WIRELESS
101 TECHNOLOGY TRAIL
IVEL, KY. 41642
PROPOSED TOWER SITE
OFF BRECKENRIDGE STREET IN STANTON
IN POWELL COUNTY, KY.

BOWEN RESIDENCE

ACCESS ROAD R.O.W.
12'

MAP:19 PARCEL:91
JOHN P. BOWEN
P.O. BOX 174
STANTON, KY 40380
DB:167 PG:620

CROSS SECTION



MAP:19 PARCEL:91
JOHN P. BOWEN
P.O. BOX 174
STANTON, KY 40380
DB:167 PG:620

654

PROPOSED TOWER LOCATION
LAT:37°51'19.1623"
LON:83°51'39.6659"

N:3840531.17
E:5466564.50
EL:654'

PROFILE

NOW EAST KY NETWORK, LLC

EQUIPMENT BUILDING
16.12'
4'
11'4.5"
8'
13'
MONOPOLE
CROSS SECTION
8'5.5"
16'2"
8'
GENERATOR PAD

MAP:19 PARCEL:91.01
MICHAEL AND PATRICIA SPARKS
835 BRECKENRIDGE STREET
STANTON, KY 40380
DB:151 PG:429

LINE	BEARING	DISTANCE
L1	N 39°15'23" E	28.16'
L2	N 56°42'32" E	41.03'
L3	N 69°27'13" E	33.67'
L4	N 81°18'13" E	47.49'
L5	N 89°40'24" E	40.68'
L6	N 51°23'07" W	31.71'
L7	N 42°01'40" W	39.10'
L8	N 29°49'59" W	46.04'

MAP:19 PARCEL:90.15
MELVIN ATKINSON
290 MAPLE STREET
STANTON, KY 40380
DB:121 PG:221

MAP:19 PARCEL:90.16
EAST KENTUCKY NETWORK, LLC
101 TECHNOLOGY TRAIL
IVEL, KY 41642
DB:190 PG:719
(PREVIOUSLY JOHN P. BOWEN
DB:184 PG:500)

MAP:19 PARCEL:90.17
DONALD AND EDNA BRADLEY
262 MAPLE STREET
STANTON, KY 40380
DB:131 PG:13

N

0' 20' 40' 60'

SURVEY STA SET FOUND
IRON PIN WITH CAP (18" X .5" REBAR PLASTIC CAP MARKED LS2259)

BOUNDARY LINE
ACCESS ROAD
ADJACENT PROPERTY
FENCE

PRELIMINARY DESIGN
NOTE: FOUNDATION AND TOWER DIMENSIONS ARE ESTIMATED FOR PLANNING PURPOSES. DRAWING WILL BE REVISED WHEN DESIGNS ARE FINALIZED.

- THE PROPOSED TOWER HAS BEEN LOCATED USING DUAL FREQUENCY GPS UNIT PROCESSED BY "OPUS"
- STATE PLANE COORDINATES NAD 83 KY SINGLE ZONE N:3840531.17 E:5466564.50 EL:654' EXISTING GR PLAN– FOUNDATION EL: 655' –TOP TOWER EL: 755'
- PRECISION: HORIZONTAL=0.30' VERTICAL=0.50'
- THIS SURVEY MEETS OBSTACLE ACCURACY CODE 2C.
- PROPERTY LINE INFORMATION TAKEN FROM DEEDS AND VERIFIED IN THE FIELD.

STATE OF KENTUCKY
JAMES W. CAUDILL
12305
LICENSED PROFESSIONAL ENGINEER

I HEREBY CERTIFY THAT THIS DOCUMENT WAS PREPARED BY ME OR UNDER MY DIRECTION.

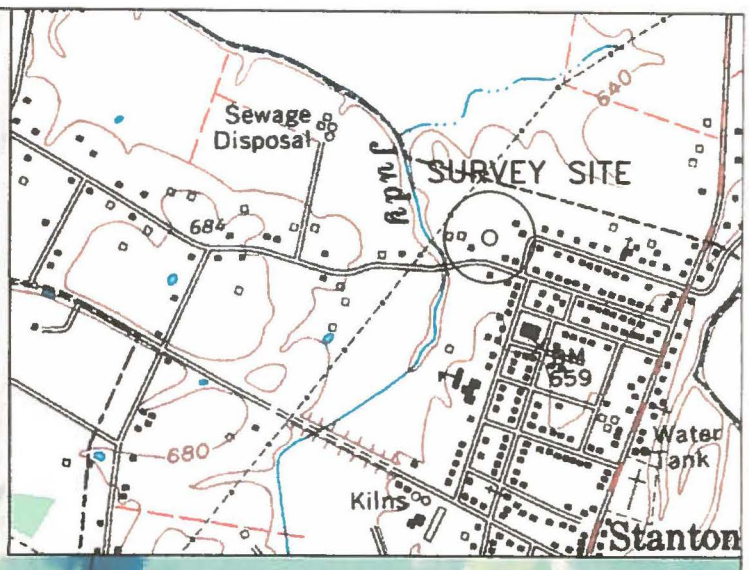
James W. Caudill 12305 1-1-18
JAMES W. CAUDILL PE# DATE

PROPOSED SITE PLAN AND STRUCTURE LOCATION
STANTON TOWER APPALACHIAN WIRELESS

DRAWN JWC	DATE 01/01/2018	DETAIL SITE PLAN JOHN P. BOWEN PROPERTY BRECKENRIDGE STREET IN STANTON IN POWELL COUNTY
APPROVED	DATE	
SCALE 1' = 20'	SHEET 2 OF 3	PROJECT NO. STANTON/STAN2_2C

STANTON 7.5' QUAD. MAP

APPALACHIAN WIRELESS
101 TECHNOLOGY TRAIL
IVEL, KY. 41642
PROPOSED TOWER SITE
OFF BRECKENRIDGE STREET
NEAR STANTON KY



MAP:19 PARCEL:90.14
GARY AND SERENA BOWEN
316 MAPLE STREET
STANTON, KY 40380
DB:75 PG:460

MAP:19 PARCEL:91
JOHN P. BOWEN
P.O. BOX 174
STANTON, KY 40380
DB:167 PG:620

MAP:0S1-00-01 PARCEL:2
CORRINE HATTON
230 MAPLE STREET
STANTON, KY 40380
DB:118 PG:154

MAP:0S1-00-01 PARCEL:1
TIMOTHY AND DARLA BENNINGFIELD
248 MAPLE STREET
STANTON, KY 40380
DB:171 PG:177

MAP:19 PARCEL:93
PAUL AND
DEBBIE PELFREY
PO BOX 837
STANTON, KY 40380
DB:170 PG:14

MAP:0S1-00-03
PARCEL:1
JOANNE CROWE
PO BOX 1033
STANTON, KY 40380
DB:136 PG:603

MAP:19 PARCEL:98
TERRY F. MARTIN
PO BOX 146
STANTON, KY 40380
DB:138 PG:352

PROPOSED TOWER SITE
LAT:37°51'19.1623"
LON:83°51'39.6659"
N:3840531.17
E:5466564.50
EL 654'

OAK HILL DRIVE

MAP:0S1-00-03
PARCEL:2
EUNICE AND
LUCY CROWE
179 CHURCH ST.
STANTON, KY 40380
DB:65 PG:66

MAP:0S1-00-03
PARCEL:3
EUNICE AND
LUCY CROWE
179 CHURCH ST.
STANTON, KY 40380
DB:66 PG:596

MAP:0S1-00-01
PARCEL:X
NO INFORMATION
AVAILABLE FROM
POWELL CO. PVA

MAP:0S1-00-01
PARCEL:4
LINVILLE SPARKS
152 WEST CHURCH ST.
STANTON, KY 40380
DB:180 PG:417

MAP:0S1-00-01
PARCEL:5
LINVILLE SPARKS
152 WEST CHURCH ST.
STANTON, KY 40380
DB:180 PG:612

MAP:19 PARCEL:91.01
MICHAEL AND PATRICIA SPARKS
835 BRECKENRIDGE STREET
STANTON, KY 40380
DB:151 PG:429

MAP:19 PARCEL:90.17
DONALD AND EDNA BRADLEY
262 MAPLE STREET
STANTON, KY 40380
DB:131 PG:13

EAST KY NETWORK, LLC

ACCESS ROAD

MAP:19 PARCEL:90.16
EAST KY NETWORK, LLC
101 TECHNOLOGY TRAIL
IVEL, KY 41642
DB:190 PG:719

200'

MAP:19 PARCEL:90.15
MELVIN ATKINSON
290 MAPLE STREET
STANTON, KY 40380
DB:121 PG:221

MAP:0S1-00-02
PARCEL:001.01
NO INFORMATION
AVAILABLE FROM
POWELL COUNTY PVA

500'

MAPLE STREET

BRECKENRIDGE STREET

WEST CHURCH STREET

MAP:0S1-00-03
PARCEL:4
EUNICE AND LUCY CROWE
179 CHURCH ST.
STANTON, KY 40380
DB:584 PG:153

MAP:20 PARCEL:14
JOYCE M. HEARNE
P.O. BOX 166
STANTON, KY 40380
~~DB:106 PG:93~~
(MOBILE HOME PARK
30 HOOK UPS
OVER 32 ACRES)

MAP:0S1-00-02
PARCEL:1
DEWEY AND
JUANITA RANDALL
257 MAPLE ST.
STANTON, KY 40380
DB:95 PG:600

DISTURBED AREA BOUNDARY

COURT STREET

MAP:0S1-00-02
PARCEL:2
DEWEY CLAY AND
DELTA CAMPBELL
825 BRECKENRIDGE ST.
STANTON, KY 40380
DB:136 PG:441

MAP:0S1-00-02
PARCEL:9
NO INFORMATION
AVAILABLE FROM
POWELL COUNTY PVA

MAP:0S1-00-02
PARCEL:3
DEWEY CLAY AND
DELTA CAMPBELL
825 BRECKENRIDGE ST.
STANTON, KY 40380
DB:160 PG:87

MAP:0S1-00-02
PARCEL:4
ALBERT AND MARCIA RICE
WALLACE RICE
206 RUGBY ROAD
LEXINGTON, KY 40502
DB:77 PG:403

BRECKENRIDGE STREET

LION STREET

0' 200' 400 600'

NAD83 KY SINGLE ZONE N

LEGEND

PROPERTY BOUNDARY
ACCESS ROAD
HIGHWAY
POWERLINE

J W CAUDILL ENGINEERING
9283 HWY 15 STE. C ISOM, KY 41824

ENGINEER'S CERTIFICATE: I HEREBY CERTIFY THAT INFORMATION SHOWN REFLECTS THE INFORMATION OBTAINED AND PROVIDED BY THE POWELL COUNTY PROPERTY VALUATION ADMINISTRATION OFFICE IN STANTON, KY.

James W. Caudill 12305 1-1-18
JAMES W. CAUDILL P.E.# DATE

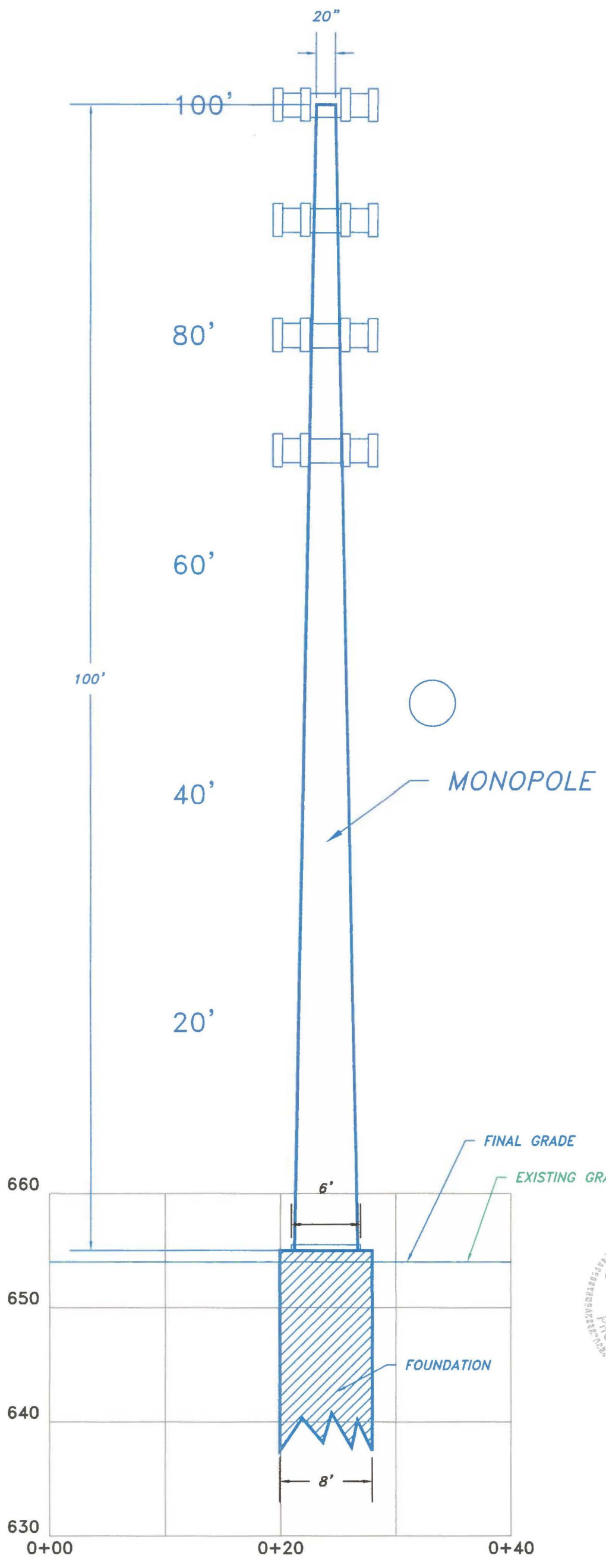
STATE OF KENTUCKY JAMES W CAUDILL 12305 LICENSED PROFESSIONAL ENGINEER

APPALACHIAN WIRELESS

PROPERTY OWNERS FROM PVA MAPS

DRAWN BY	SURVEY DATE	
JWC	01/01/18	DETAIL SITE PLAN JOHN P. BOWEN PROPERTY OFF BRECKENRIDGE STREET NR STANTON IN POWELL COUNTY OF KENTUCKY
APPROVED BY	DRAWING DATE	
	01/01/18	
SCALE	SHEET	
1" = 200'	1 OF 1	STANTON/STANTON2PVA200

APPALACHIAN WIRELESS
101 TECHNOLOGY TRAIL
IVEL, KY. 41642
PROPOSED TOWER SITE
OFF BRECKENRIDGE STREET
NEAR STANTON
IN POWELL COUNTY, KY.



PROFILE WITH TOWER

THIS IS A VERTICAL PROFILE SKETCH OF THE TOWER INDICATING THE PROPOSED ANTENNA AND DISH ELEVATIONS. NO DESIGN CRITERIA WAS CONSIDERED IN THE PREPARATION OF THIS DRAWING.

James W. Caudill 12305 1-1-18
JAMES W. CAUDILL PE #. DATE

NOTE: SEE FOUNDATION DRAWINGS FOR DETAILS

STATE OF KENTUCKY JAMES W. CAUDILL 12305 LICENSED PROFESSIONAL ENGINEER

01/01/2018
SCALE 1" = 10'

0' 10' 20' 30'

N

PROPOSED SITE PLAN AND STRUCTURE LOCATION STANTON TOWER APPALACHIAN WIRELESS		
DRAWN JWC	DATE 01/01/2018	DETAIL SITE PLAN JOHN P. BOWEN PROPERTY BRECKENRIDGE STREET NR STANTON IN POWELL COUNTY, KY
APPROVED	DATE	
SCALE 1" = 10'	SHEET 3 OF 3	PROJECT NO. STANTON/STANTON2PRO10MONO

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