

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

RECEIVED

JUL 27 2015

PUBLIC SERVICE
COMMISSION

In the matter of:

THE APPLICATION OF EAST KENTUCKY NETWORK)
LIMITED LIABILITY COMPANY FOR THE ISSUANCE)
OF A CERTIFICATE OF PUBLIC CONVENIENCE AND) CASE No 2015-00231
NECESSITY TO CONSTRUCT A TOWER IN FLOYD)
COUNTY, KENTUCKY).

East Kentucky Network, LLC, d/b/a Appalachian Wireless, was granted authorization to provide cellular service in the KY-9 Cellular Market Area (CMA451) by the Federal Communications Commission (FCC). FCC license is included as Exhibit 1. East Kentucky Network, LLC merger documents were filed with the Commission on February 2, 2001 in Case # 2001-022. East Kentucky Network, LLC is a Kentucky Limited Liability Company that was organized on June 16, 1998. East Kentucky Network, LLC is in good standing with the state of Kentucky.

In an effort to improve service in Floyd County, East Kentucky Network, LLC pursuant to KRS 278.020 Subsection 1 and 807 KAR 5:001 Section 9 is seeking the Commission's approval to construct a 300 foot self-supporting tower on a tract of land located on Buckhorn Road, Beaver, Floyd County, Kentucky (37°24'03.3014"N 82°40'04.8649"W). A map and detailed directions to the site can be found in Exhibit 7.

Exhibit 2 is a list of all Property owners or residents according to the property valuation administrator's record who reside or own property within 500 feet of the proposed tower in accordance with the Public Valuation Administrator. No other properties are contiguous with East Kentucky Network's property.

Pursuant to 807 KAR 5:063 Section 1 (1)(L) and Section 1(1)(n)(1) all affected property owners according to the property valuation administrator's record who reside or own property

within 500 feet of the proposed Tower 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.

Floyd County has no formal local planning unit. In absence of this unit the Floyd County Judge Executive's office was notified by certified mail, return receipt requested of East Kentucky Network Limited Liability Company's proposal and informed of their right to intervene. They were 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 The Floyd County Times, July 24, 2015, edition. Enclosed is a copy of that notice in Exhibit 3. The Floyd County Times is the newspaper with the largest circulation in Floyd 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 Company, Inc. 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 applications are included as Exhibit 6.

No Federal Communications Commission approval is required prior to construction of this facility. Once service is established from this tower we must immediately notify the Federal Communications Commission of its operation. Prior approval is needed only if the proposed

facility increases the size of the cellular geographic service area. This cell site will not expand the cellular geographic service area.

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

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

Two notice signs meeting the requirements prescribed by 807 KAR 5:063, Section 1(2), measuring at least two (2) feet in height and four (4) feet in width and containing all required language in letters of required height, have been posted, one at a visible location on the proposed site and one on the nearest public road. The two signs were posted on July 17, 2015, 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 lease agreement for the site location along with a lot description.

The proposed construction site is on a very rugged mountaintop some feet from the nearest structure.

Due to the steep hillside surrounding the proposed site, the property in close proximity is unsuitable for any type of development. 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 11 contains a vertical sketch of the tower supplied by James W. Caudill, Kentucky registered professional engineer.

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

The foregoing document was prepared by Bethany Bowersock, Staff 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: 7/24/15
Lynn Haney, Regulatory Compliance Director

APPROVED BY: W.A. Gillum DATE: 7/24/15
W.A. Gillum, General Manager

ATTORNEY: Bethany Bowersock DATE: 7/24/15
Hon. Bethany Bowersock, Staff 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

Bethany L. Bowersock, Attorney
Phone: (606) 477-2355, Ext. 1006
Email: bbowersock@ekn.com

Mailing Address:

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

1	FCC License
2	Copies of Cell Site Notices to Land Owners
3	Notification of County Judge Executive and Newspaper Advertisement
4	Universal Soil Bearing Analysis
5	Tower Design
6	FAA and KAZC Applications
7	Driving Directions from County Court House and Map to Suitable Scale
8	Lease for Proposed Site with Legal Description
9	Survey of Site Signed/Sealed by Professional Engineer Registered in State of Kentucky
10	Site Survey Map with Property Owners Identified in Accordance with PVA of County
11	Vertical Profile Sketch of Proposed Tower
12	

ULS License

Cellular License - KNKN880 - East Kentucky Network, LLC d/b/a Appalachian Wireless

Call Sign	KNKN880	Radio Service	CL - Cellular
Status	Active	Auth Type	Regular

Market

Market	CMA451 - Kentucky 9 - Elliott	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

10/23/1996

Control Points

1 U.S. 23, HAROLD, KY

Licensee

FRN	0001786607	Type	Limited Liability Company
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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
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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
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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 II: 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.

LIST OF PROPERTY OWNERS

Elkhorn Coal Co.
544 South Lake Drive
Prestonsburg, KY 41653

Vicki Lynn Bryant
202 Buckhorn Br. Rd.
Beaver, KY 41604



VIA: U.S. CERTIFIED MAIL

PUBLIC NOTICE

July 24, 2015

Elkhorn Coal Co.
544 South Lake Drive
Prestonsburg, KY 41653

RE: Public Notice-Public Service Commission of Kentucky (Case No. 2015-00231)

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 Floyd County. The facility will include a 300-foot self-supporting tower with attached antennas extending upwards, and an equipment shelter located on a tract of land on Buckhorn Road, Beaver, Floyd County, Kentucky. A map showing the location of the proposed new facility is enclosed. This notice is being sent to you because you may own property or reside within a 500' radius of the proposed tower.

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. 2015-00231 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
Regulatory Compliance Director
Enclosure 1



VIA: U.S. CERTIFIED MAIL

PUBLIC NOTICE

July 24, 2015

Vicki Lynn Bryant
202 Buckhorn Br. Road
Beaver, KY 41604

RE: Public Notice-Public Service Commission of Kentucky (Case No. 2015-00231)

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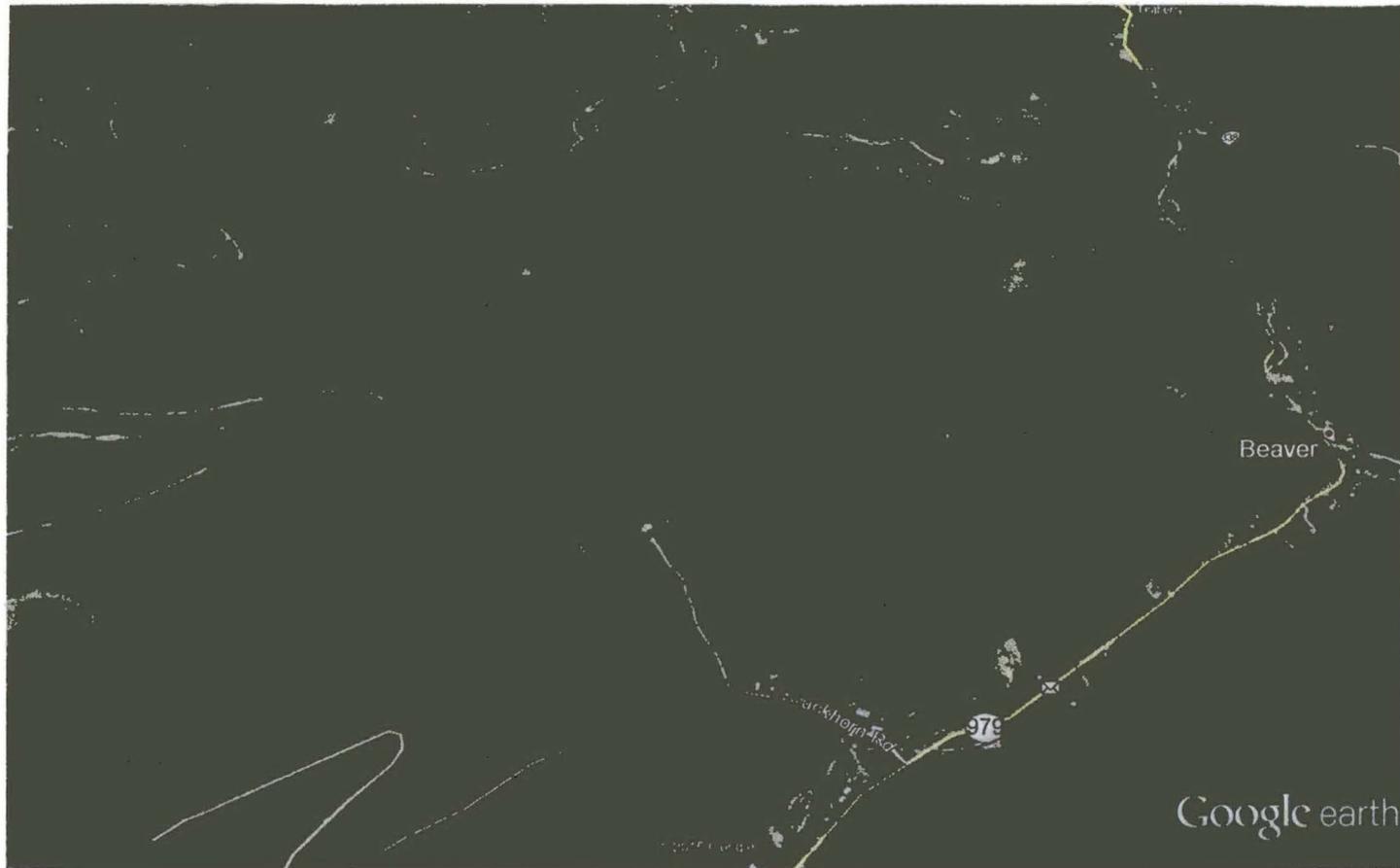
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Sincerely,

Lynn Haney
Regulatory Compliance Director
Enclosure 1

Appalachian Wireless Location Map



Site Name

Mud Creek Site

Location

Buckhorn Rd. Beaver, Ky KY.

GPS Location

N 37 24 03.3014

W 82 40 04.8649

EAST KENTUCKY NETWORK
101 TECHNOLOGY TRAIL
IVEL, KY 41642
PHONE: (606) 874-7550
(606) 874-7551



VIA: U.S. CERTIFIED MAIL

July 24, 2015

Ben Hale, Judge Executive
149 S Central Ave.
Prestonsburg, KY 41653

RE: Public Notice-Public Service Commission of Kentucky (Case No. 2015-00231)

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 Floyd County. The facility will include a 300-foot self-supporting tower with attached antennas extending upwards, and an equipment shelter located on a tract of land on Buckhorn Road, Beaver, Floyd 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 Floyd 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. 2015-00231 in your correspondence.

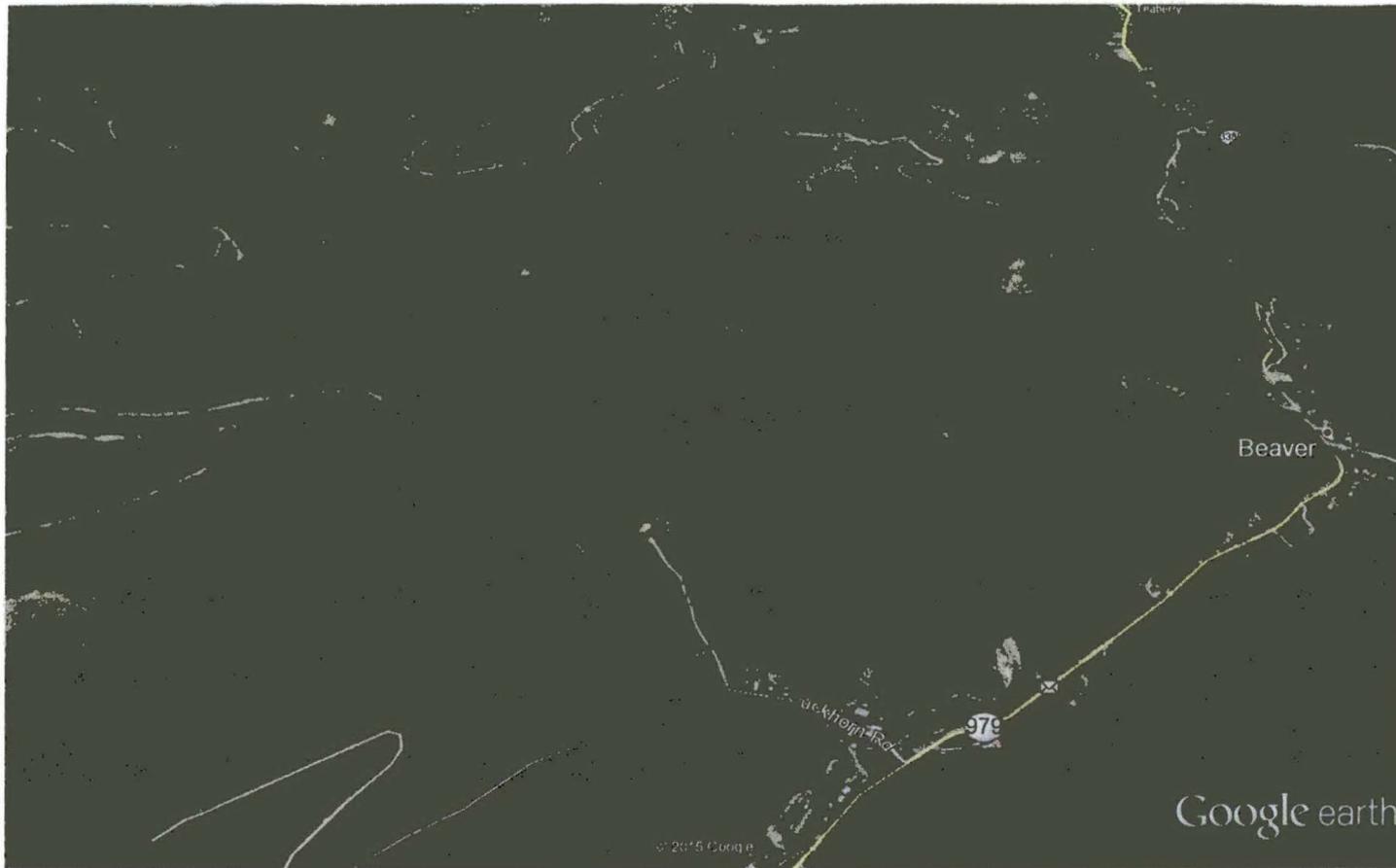
If you have any questions for East Kentucky Network, LLC, please direct them to my attention at the following address: East Kentucky Network, LLC, 101 Technology Trail, Ivel, KY 41642 or call me at 606-477-2355, Ext. 1007.

Sincerely,

A handwritten signature in blue ink that reads "Lynn Haney". The signature is written in a cursive, flowing style.

Lynn Haney
Regulatory Compliance Director
Enclosure

Appalachian Wireless Location Map



Site Name

Mud Creek Site

Location

Buckhorn Rd. Beaver, Ky KY.

GPS Location

N 37 24 03.3014

W 82 40 04.8649

**APPALACHIAN WIRELESS
Geotechnical Investigation on the
Mud Creek Site
Located Signal Knob
Floyd County, Kentucky
ERMC² Project No. 165-000-0003**

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

PREPARED BY:
Richard Dirk Smith PE, PLS
General Manager Appalachian Region
**ENVIRONMENTAL RESOURCES MANAGEMENT
CONSULTING COMPANY**
230 Swartz Drive
Hazard, Kentucky 41701



_____, 20215, June 24, 2015



EXECUTIVE SUMMARY

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I - GENERAL

II - DRILLED PEIR INSTALATIONS

III - ENGINEERED FILL BENEATH STRUCTURES

IV - GUIDELINES FOR EXCAVATIONS AND TRENCHING

V - GENERAL CONCRETE SPECIFICATIONS

APPENDIX A - BORING DATA AND TESTING

APPENDIX B - SITE MAPS BOUNDARY MAPS & EARTHWORK



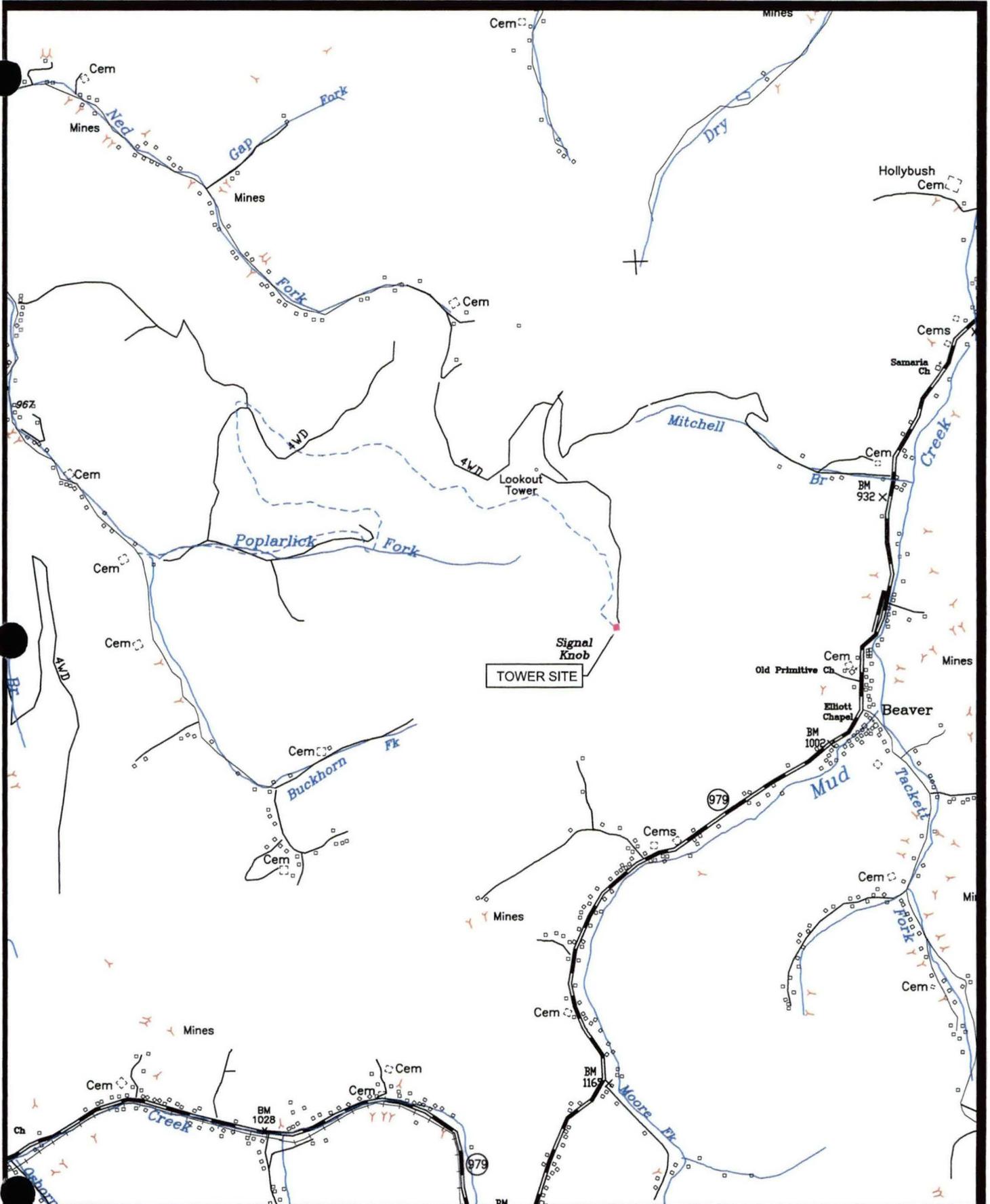
EXECUTIVE SUMMARY

A geotechnical investigation has been performed on the Mud Creek Tower site. Located at Signal Knob off Poplarlick Fork of Frasure Creek in Floyd County, Kentucky. This site is readily accessible. A location map is shown in Figure 1 of this report. Four (4) borings were advanced to depths ranging from 19.3 ft. to 72.0 ft. The following geotechnical considerations were identified:

- Borings utilized for this study encountered mine spoil to a depth of 52 ft. at which point auger refusal was met.
- This area is a reclaimed surface mine. This area has been reclaimed as a grassland area with trees/shrub vegetation spread intermittently.
- The bearing capacities of the mine spoil is estimated at **1500 psf** and the underlying rock is **8 tsf**.
- The 2006 International Building Code seismic site classification for this site is "D".
- Close monitoring of the construction operations discussed herein will be critical in achieving the design subgrade support. We therefore recommend that ERMC² be retained to monitor this portion of the work.

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





Drawn:	Date: 4/31/2015
Job:	Scale: 1"=1000'
Drawing: Figure 1 Location Map	

Appalachian Wireless
 Figure 1
 Location Map
 Mud Creek Tower Site



230 Swartz Drive
 Hazard, KY 41701
 (859) 436-1111
 engineering@ermc2.us

1. INTRODUCTION

Environmental Resources Management Consultant Company (ERMC²) was retained by Mr. Marty Thacker of Appalachian Wireless to prepare a geotechnical engineering report for the proposed tower site located on the Mud Creek property. A site location map is shown in Figure No. 1.

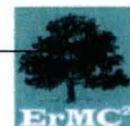
Four (4) borings were advanced to depths ranging from 19.3 ft. to 72.0 ft. Logs of the borings along with a boring location plan are included in Appendix A. The purpose of these services is to provide information and geotechnical engineering recommendations relative to subsurface conditions, earthwork, seismic considerations, groundwater conditions and foundation design.

2.0 PROJECT DESCRIPTION

The proposed communication facility will consist of a self-supporting tower of undetermined height and ancillary support areas. We estimate the construction area to be approximately 28 ft. x 28 ft. Based upon 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 are significantly different than these expected values, ERMC² should be notified to reevaluate the recommendations provided in this report.



3.0 SITE DESCRIPTION & HISTORICAL MINING

3.1 GENERAL INFORMATION

The site location is in relative flat existing surface mined area. The current surface elevation is approximately 2000 ft. in elevation. The mine spoil is estimated to be 52 ft. deep. This is based upon refusal of augering and obtaining a 17 ft. rock core below the point of refusal.

Research on the historical mining was conducted by obtaining previous mine license maps from the "Kentucky Mine Mapping Information System" (KMMIS). Other sources such as interviews with former mine personnel were also used to try to better determine what to extents and which seams were taken.

3.2 SURFACE MINING

The site was contoured an aread mined by Coal-Mac Inc. Based upon mine maps obtained from KMMIS, the Peach Orchard Seams ($\pm 1950'$ elevation) were area mined. The Haddix Seam ($\pm 1830'$ elevation) was area mined with point removal areas. The Haddix seam was not surfaced mined beneath the proposed tower site.

3.3 UNDERGROUND MINING

Underground mining activities have occurred beneath this proposed tower site. The Fireclay Seam ($\pm 1505'$ elevation) was mined by T& M Coal Company using standard room and pillar mining techniques. Based upon the information available, no secondary mining occurred (therefore, the pillars remain). The average coal thickness was 50 inches.

The Elkhorn 3 ½ seam ($\pm 1232'$ elevation) was mined by KRD Coal Company Inc. The nearest mining activity was 40 feet to the west of the proposed towers site. No secondary mining was indicated on the final mine map. The average coal thickness was 46 inches.

The Elkhorn No. 3 seam ($\pm 1083'$ elevation) was mined by B:R Coal Company, Inc. This seam was mined under this proposed tower site. No secondary mining was conducted. No coal sections were found, therefore no coal thickness was reported. The final closure map was submitted October 11, 2000.



4.0 FIELD EXPLORATION

4.1 SITE INFORMATION

The proposed site is located on a previously surface mined area in Floyd County, Kentucky. The proposed site lies within the McDowell Quad and is located near Poplarlick Fork of Frasure Creek. The area is relatively flat due to the previous surface mining activities and is characterized by primarily grassy areas with intermittent trees/shrubs. An estimated pad location was determined and boring locations were placed at the corners of the proposed concrete pad for the tower's support.

4.2 BORING DATA

Four (4) borings were made in the relative positions shown on the Boring Location Map in Appendix A. The boring logs and resulting data are also included in Appendix A. The borings were made with a track mounted boring rig using hollow-stem augers and employing standard penetration resistance methods (ASTM D-1586, which includes 140-pound hammer, 30-inch drop, and two-inch-O.D. split-spoon sampler) at maximum depth intervals of five feet or at major changes in stratum, whichever occurred first. The disturbed split-spoon samples were visually classified, logged, sealed in moisture-proof jars, and taken to the ERMC₂ 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	0-1.5	3.4%
B1	4.5-5	3.3%
B1	9-10.5	10.4%
B1	14-15.5	10.4%
B1	19-20.5	10.8%
B1	24-25.5	5.4%
B1	29-30.5	4.7%
B1	34-35.5	4.9%
B1	39-40.5	4.8%
B2	0-1.5	3.3%
B2	3.5-5	4.9%
B2	8.5-10	3.7%
B2	13.5-15	3.8%
B2	18.5-20	9.0%
B3	0-1.5	4.0%
B3	3.5-5	4.8%
B3	8.5-10	3.4%
B3	13.5-15	9.6%
B3	18.5-20	6.1%
B4	0-1.5	3.9%
B4	3.5-5	6.8%
B4	8.5-10	8.0%
B4	13.5-15	5.5%
B4	18.5-20	9.7%



B4	23.5-25	4.9%
B4	28.5-30	6.6%
B4	33.5-35	3.8%
B4	38.5-40	10.7%

4.3 GROUNDWATER

Groundwater observations were made during the drilling operations (by noting the depth to water on the drilling tools) and in the open boreholes following withdrawal of the drilling augers. No groundwater levels were noted during drilling activities.

4.4 SEISMIC SITE CLASSIFICATION

Based on the encountered soil conditions at the project site, the site classification was determined to be "Site Class D" per the Kentucky Building Code. In addition, a S_{DS} coefficient of 0.214g was calculated, and a S_{D1} coefficient of 0.138 g was also calculated for design based on the aforementioned building code.

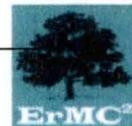
5.0 DISCUSSION AND RECOMMENDATIONS

5.1 GENERAL

The structure will be a self-supporting free standing 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 attempt to overturn and can act in any directions.

5.2 FOUNDATIONS

It is our understanding that the foundations for these structures can be designed to bear on low bearing pressure soils. This report demonstrates the different expected bearing capacities based upon the type of material encountered from the boring logs and sampling taken at the site.



Approximately 52 feet of mine spoil is present at this proposed location. It consists of mixture of shale, sandstones and clay material. Standard penetrations test we conducted on five foot interval on this material. If shallow footings are used the expected depth of excavations will not exceed 20 ft. in depth.

The approximate elevations of the surface of the site are 2000 ft. The first four feet of material consisted primarily of gravel to an elevation of 1996 ft. The standard penetration test we conducted on five foot intervals below this level. The blow counts (N) ranged from 5 to greater than 24 to the depth of 20 feet.

5.3 SUBSIDENCE

Based upon our research there has been considerable historical underground Mining in the Elkhorn Seam and Fireclay Seam. These mines range in a depth from 495 ft. to 920 ft. under the footprint of the site. The reviewed mine records demonstrate no secondary mining. Due the overall depth and that no retreat mining was conducted, subsidence should not be an issue at this site.

There has also been historical surface mining in the Peach Orchard and Haddix Seams. Based upon the available mapping and boring results, the Peach Orchard Seams have been surfaced mine leaving a mine pit floor approximately 50 ft. below the proposed foundation's area. The Haddix Seam was mined in the adjacent areas but not below the foundation's area. No records of augering was found below the tower site in the Haddix Seam. Based upon the information available subsidence should not be an issue for this tower site.

5.4 SHALLOW FOUNDATIONS

Typically we do not recommend shallow foundations on sites consisting of mine spoil. Settlement can and is likely to occur once the final structure's loading is in place. No settlement calculations have been evaluated for this report. If shallow foundations are used it should be noted that the material type and bearing capacity can vary significantly due to the inconsistency of the underlying material. Based upon the laboratory and field testing, visual inspection of the materials and practical



experience we have estimated that the bearing capacity of the soils to be at **1,500 psf.**

If shallow foundations are used we recommend that site be over excavated to a minimum of ten ft. below the footing subgrade and ten ft. outside the footing area. Any large rock and unsuitable material be removed and backfilled with a select backfill or dense grade aggregate. The material is to be placed in 8 inch horizontal lifts, compacted to not less than 95% of the maximum density as determined in accordance with the standard Proctor dry unit weight (ASTM D-968) and within +2% and -2% of the optimum moisture content. This will not eliminate the potential for settlement but should assist in limiting differential settlement under the proposed foundation.

5.5 DEEP FOUNDATIONS

Auger refusal was encountered at approximately 52 feet below the surface. A rock core was taken of soft grey shale with a RQD value of 99. The bearing capacity for this is 8 tsf. We recommend drilled piers. This would minimize the potential settlement issues addressed above. They should be 4000 psi reinforced concrete and a minimum of 24 in. diameter piers socketed into competent rock a minimum of 18 in. deep.

6.0 WARRANTY

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

While the services of ERMC² are a valuable and integral part of the design and construction teams, we do not warrant, guarantee, or insure the quality or completeness of services provided by other members of those teams, the quality, completeness, or satisfactory performance of construction plans and specifications which we have not prepared, nor the ultimate performance of building site materials.



6.1 SUBSURFACE EXPLORATION

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

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

6.2 LABORATORY AND FIELD TESTS

Laboratory and field tests are performed in accordance with specific ASTM standards unless otherwise indicated. All determinations included in a given ASTM standard are not always required and performed. Each test report indicates the measurements and determinations actually 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 on 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



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 Mud Creek Property in Floyd 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 own conclusions regarding specific construction techniques and methods chosen. ERMC² 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

1.0 STANDARDS AND DEFINITIONS

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

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

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

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

1.2 DEFINITIONS

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

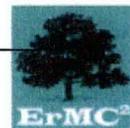
1.2.2 Engineer - In these specifications the word "Engineer" shall mean the Owner designated engineer.

1.2.3 Design Engineer - In these specifications the words "Design Engineer" shall mean 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 - 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 Contractor's survey crew will verify alignment with instruments. If plumbness and alignment are not within tolerance as determined by the Contractor's 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 prior to 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.



III - 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 on the basis of 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.



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 at this time. 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 at all times.

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 at all times during benching and filling of the benches, to insure 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.



IV 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 with regard to 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 (at all times while performing work in the confined space) a separate life line attached to a harness. The line must be attended by someone above while work is being performed. The worker must check for hazardous atmospheric conditions prior to entry.
9. The contractor must ensure that water does not accumulate in open excavations and must inspect the excavation prior to allowing workers to re-enter after heavy rains.
10. Adjacent structures (buildings, walls, etc.) must be supported or secured to prevent worker exposure to unsafe conditions and damage to existing structures.
11. A registered professional engineer must approve operations when a contractor underpins existing structures to ensure worker safety and prevent damage to existing structures.
12. Workers must not be exposed to loose soil and rock or materials in and around excavations. Materials, such as removed soil and rock, must not be stored closer than two feet from the edge of the excavation.
13. Daily inspections of the excavation, the adjacent areas and protective systems must be made by a "competent person" for evidence of possible cave-ins, indications of failure of protective systems, hazardous atmospheres or other hazardous conditions. The "competent person" must stop work



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

14. Workers must not be exposed to fall hazards associated with excavations. Protective walkways or bridges with standard guard rails must be provided.
15. All wells, pits, shafts etc. must be barricaded or covered. After completion of work, all wells, pits, shafts etc. must be backfilled.



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.

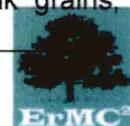
Contractor shall clean all exposed concrete surfaces and obtain approval of Owner for method of cleaning.

3.0 MATERIALS

All materials shall be of the respective quality specified herein, delivered, stored, and handles 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 effect bonding of the cement paste.

2. Coarse Aggregate: Cement concrete shall consist of crushed rock or screened gravel and shall be composed essentially of clean, hard, strong and impermeable particles, resistant to wear and frost and free from deleterious amounts of organic matter, loam, clay, salts, mica, and soft, thin, elongated, laminated or disintegrated stone, and shall be inert to water and cement.
- B. Portland Cement: Portland cement shall conform to ASTM Specification C150. Type I or Type II Portland Cement shall be used provided that they are not intermixed during any one batch. Type II Portland Cement shall not be used unless indicated on the plans.
- C. Water: Water for mixing and curing shall be clean, fresh, and free from deleterious materials.
- D. Metal Reinforcement: Rebar shall be Grade 60 and with deformations conforming to ASTH Specification A305. Welded wire mesh shall conform to W4 x W4 size and be of Grade 60 steel.
- E. Admixtures: Except as herein noted, admixtures shall not be used.
1. Under adverse weather conditions only retarding or accelerating agents containing no chloride may be used.
 2. Air-Entraining Agent shall be used for all concrete will give an entrained air range of not less than 4 percent but no greater than 8 percent in the finished product. Under no circumstances shall the air-entraining be interground with cement.
 3. Approval in writing shall be required from Owner prior to the use of any admixture.

4.0 FORM

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

5.0 INSERTS, ETC.

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



6.0 REINFORCEMENT

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

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

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

7.0 CONCRETE

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

8.0 DEPOSITING CONCRETE

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

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

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



aggregates. Each batch of concrete delivered at the job site shall be accompanied by a time slip issued at the batching plant, bearing the time of charging of the mixer drum with the cement and aggregates.

- C. Transporting of Concrete from Mixer to Place of Final Deposit:
Transportation shall be done as rapidly as practical by means which shall prevent the separation or loss of the ingredients. If chutes are used, they shall be at a slope not flatter than one vertical to two horizontal. Buggies or carts shall be equipped with pneumatic rubber tires or surfaces of runways shall be sufficiently smooth or both so as not to cause separation or segregation of concrete ingredients. Concrete shall not be allowed to drop freely more than 4 feet. Where greater drops are required, canvas "elephant trunks" or galvanized iron chutes equipped with suitable hopper heads shall be employed and a sufficient number placed to insure 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 so as 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 so as to be free from voids, pockets or honeycombing. Particular care shall be taken to provide impermeability.
- E. Vibration Equipment: Vibration equipment shall be of the appropriate type and shall, at all times, be adequate in number of units and power of each unit to properly consolidate all concrete.
- F. Monolithic Pours: Proper delivery of concrete shall be the Contractor's responsibility in order 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.

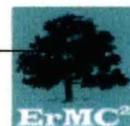
Contractor shall not remove any formwork for a minimum period of 24 hours after a concrete pour without written approval of the Owner.

10.0 CONCRETE FINISHES

Finishes of all exposed concrete shall be free of defects which impair its durability or adversely affect its 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.

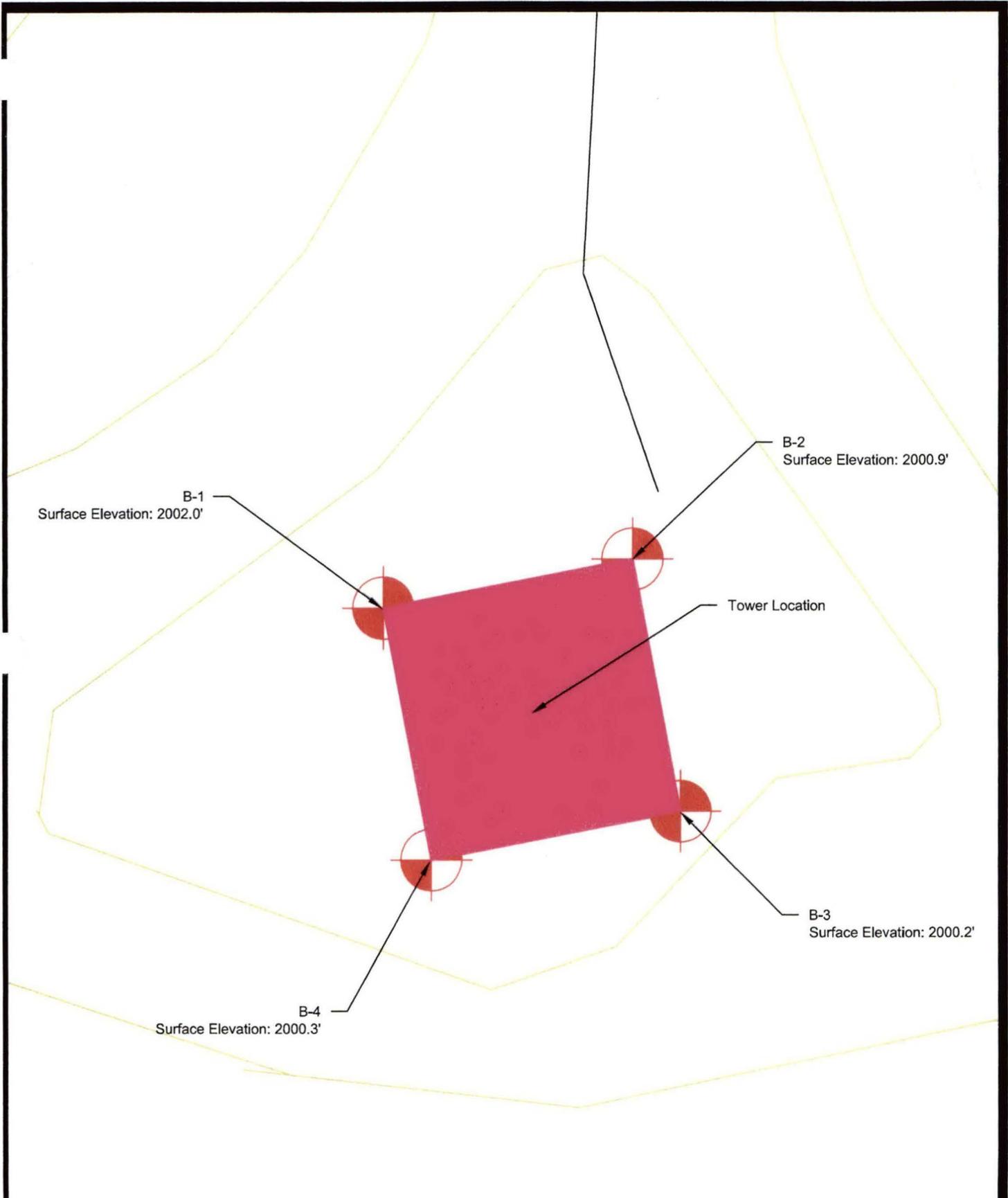
Finished work shall be level and plumb, true to lines, and dimensions. Finished plane surfaces shall be smooth, and as nearly perfect as practical; however deviations from a true plane shall not exceed 1/8 inch when measured from a 6-foot straight edge placed against the surface to any point on the surface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

All exposed surfaces shall have defects corrected, protrusions removed, and holes filled.



APPENDIX A BORING DATA AND TESTING





Drawn:	Date: 6/23/2015
Job: 165-000-0003	Scale: 1"=50'
Drawing: Boring Locations Map	

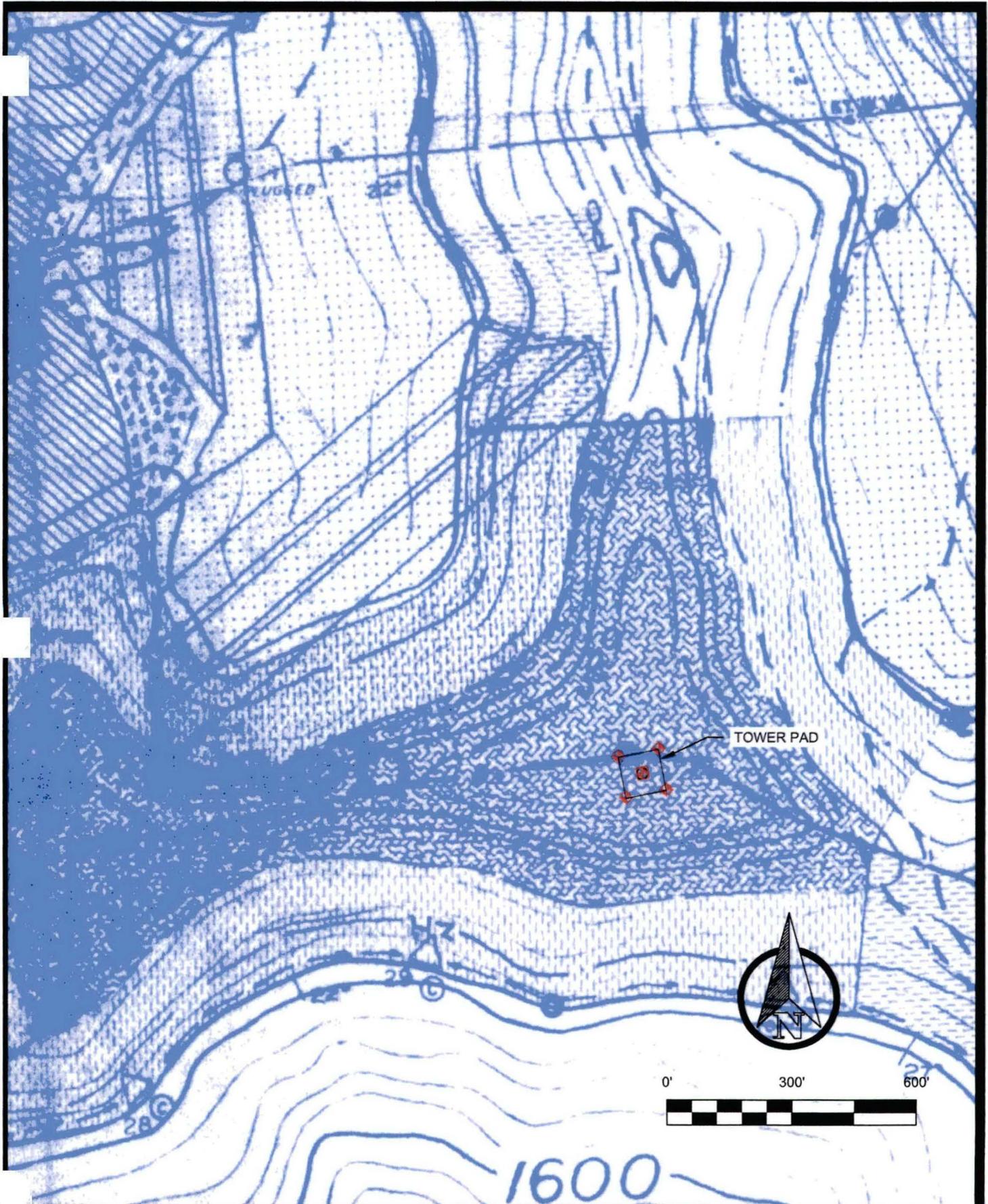
Appalachian Wireless
 Mud Creek Tower Site
 Boring Locations Map



230 Swartz Drive
 Hazard, KY 41701
 (859) 436-1111
 engineering@ermc2.us

APPENDIX B MAPS



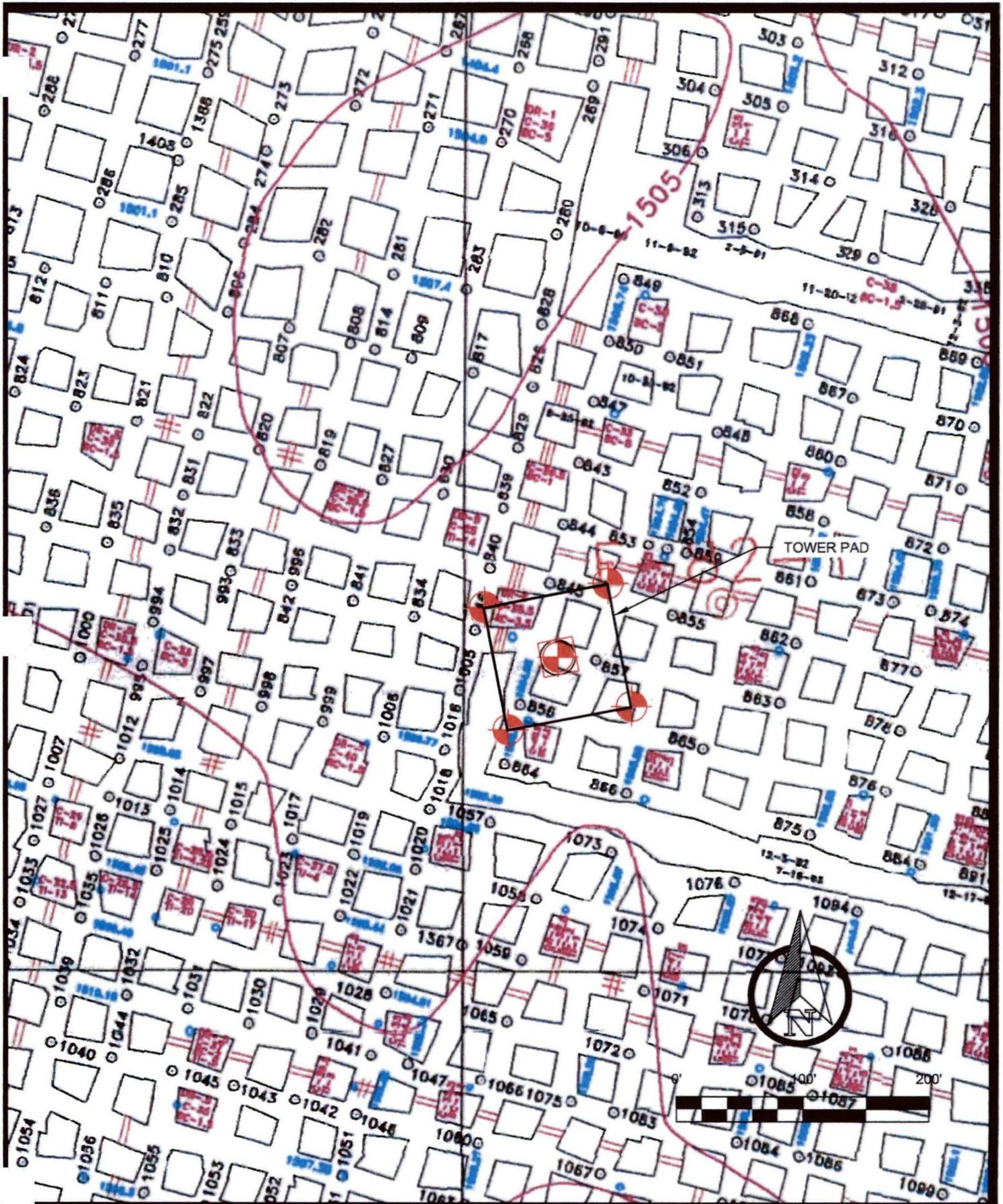


Drawn:	Date: 6/23/15
Job:	Scale: 1"=300'
Drawing: Mud Creek Tower Previous Mining	

Appalachian Wireless
 Previous mining by Coal-Mac INC.
 Seam Mined & Elev.: Lower Peach Orchard ~1950'
 Mud Creek Tower Site



230 Swartz Drive
 Hazard, KY 41701
 (859) 436-1111
 engineering@ermc2.us

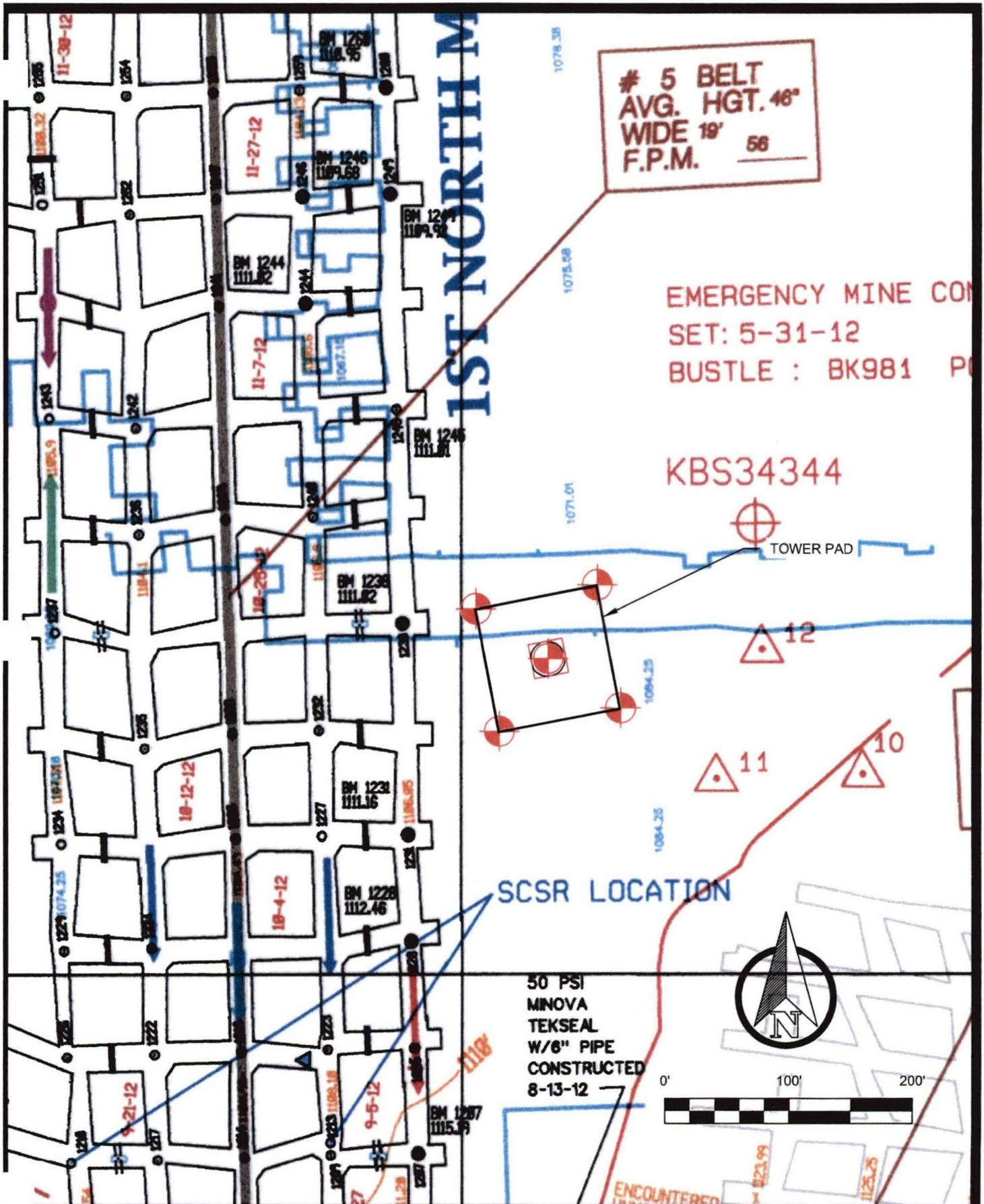


Drawn:	Date: 6/23/15
Job:	Scale: 1"=100'
Drawing: Mud Creek Tower Previous Mining	

Appalachian Wireless
 Previous mining by T&M Coal Company, INC.
 Seam Mined & Elev.: FIRECLAY ~1505'
 Mud Creek Tower Site



230 Swartz Drive
 Hazard, KY 41701
 (859) 436-1111
 engineering@ermc2.us



5 BELT
 AVG. HGT. 46"
 WIDE 19'
 F.P.M. 56

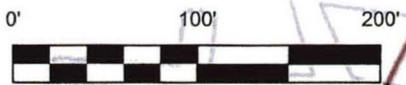
EMERGENCY MINE COM
 SET: 5-31-12
 BUSTLE : BK981 P

KBS34344



SCSR LOCATION

50 PSI
 MINOVA
 TEKSEAL
 W/6" PIPE
 CONSTRUCTED
 8-13-12

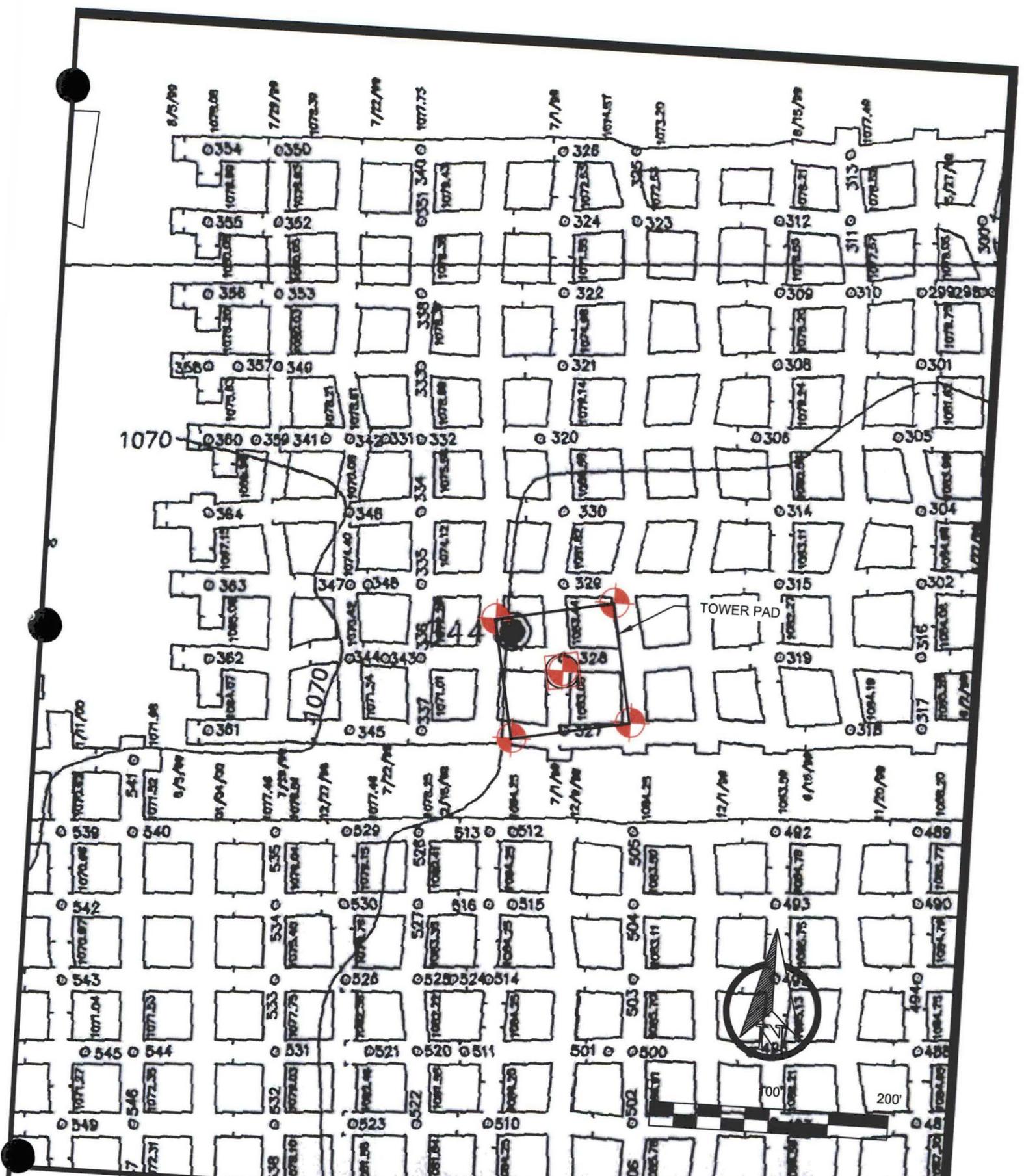


Drawn:	Date: 6/23/15
Job:	Scale: 1"=100'
Drawing: Mud Creek Tower Previous Mining	

Appalachian Wireless
 Previous mining by KRD Coal Company, INC.
 Seam Mined & Elev.: ELKHORN 3.5 ~1232'
 Mud Creek Tower Site



230 Swartz Drive
 Hazard, KY 41701
 (859) 436-1111
 engineering@ermc2.us



Drawn: _____ Date: 6/18/15
 Job: _____ Scale: 1"=100'
 Drawing: _____
 Mud Creek Tower

Appalachian Wireless
 Previous mining by B&R Coal Company, INC.
 Seam Mined & Elev.: ELKHORN 3 ~1083'
 Callahan Tower Site



230 Swartz Drive
 Hazard, KY 41701
 (859) 436-1111
 engineering@ermc2.us



World Tower
COMPANY, INC.

1213 Compressor Drive
P.O. Box 508
Mayfield, KY 42066
270-247-3642
FAX: 270-247-0909
E-mail: worldtower@worldtower.com
Web: www.worldtower.com

**300' MODEL WSST TOWER
FOR: APPALACHIAN WIRELESS
SITE: MUD CREEK
FLOYD COUNTY, KY
DESIGN PACKAGE**



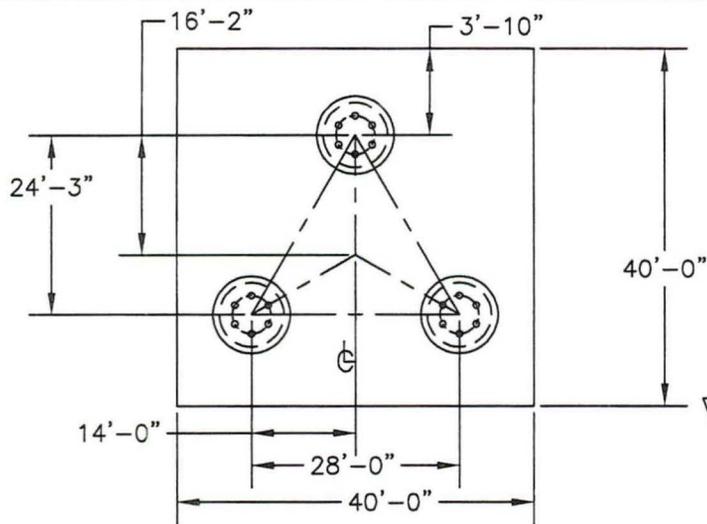
6-25-2015

GENERAL NOTES

1. WELDED CONNECTIONS SHALL CONFORM TO THE LATEST REVISION OF THE AMERICAN WELDING SOCIETY AWS. D 1.1.
2. TOWER AND ALL FABRICATED ACCESSORIES ARE HOT-DIP GALVANIZED.
3. ALL BOLTS SHALL BE GALVANIZED ACCORDING TO THE STANDARD SPECIFICATION FOR ZINC COATING OF IRON AND STEEL HARDWARE ASTM A153.
4. LEG STEEL IS 50 KSI MIN YIELD SOLID ROUND OR PIPE AND BRACING STEEL IS 36 KSI MIN YIELD SOLID ROUND OR STRUCTURAL ANGLE.
5. ALL STRUCTURAL BOLTS ARE ASTM A325.
6. TOWER SHOULD BE INSPECTED IN ACCORDANCE WITH TIA-222-G EVERY 5 YEARS.
7. TOWER INSPECTION SHOULD ONLY BE PERFORMED BY EXPERIENCED QUALIFIED PERSONNEL. FOR ASSISTANCE IN PROPER MAINTENANCE OF YOUR TOWER, CALL WORLD TOWER AT 270-247-3642.

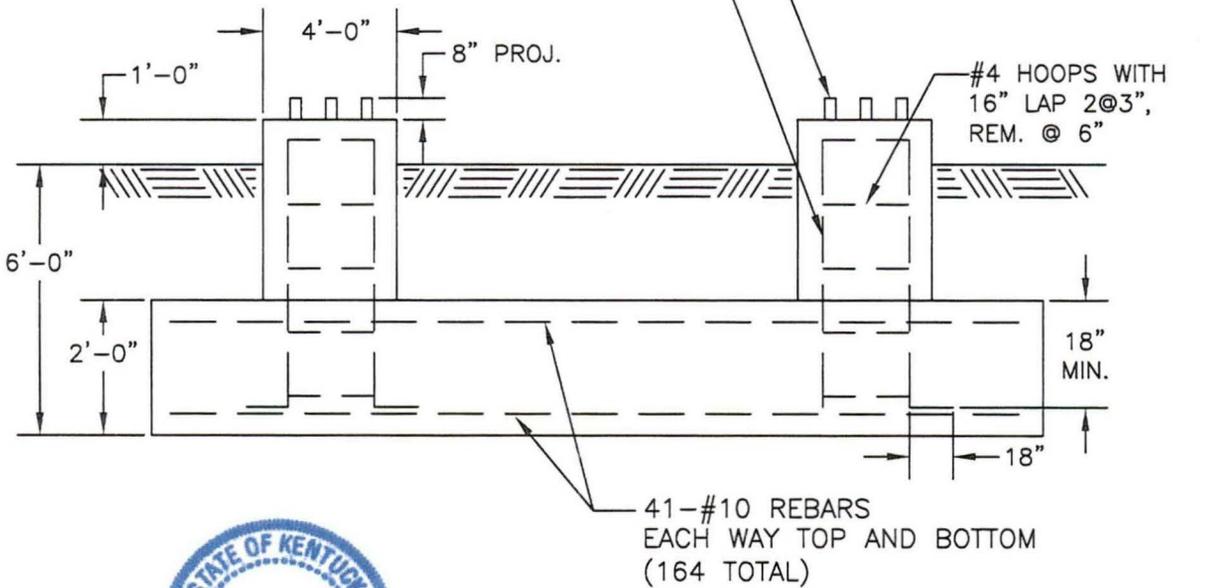


WORLD TOWER			
TITLE: 300' MODEL WSST TOWER FOR: APPALACHIAN WIRELESS SITE: MUD CREEK FLOYD COUNTY, KY			
SCALE	OWN. LKG	CKD.	DATE 6-24-15
FILE	DWG. NO. Q15293N		



125.5 CU. YDS.
CONCRETE REQ'D.

BASE REACTIONS	
OTM:	12263.0 FT. KIPS
COMP.	536.0 KIPS
UPLIFT	452.0 KIPS
SHEAR (3 LEGS)	77.0 KIPS
WT. NO ICE	90.0 KIPS
WT. 3/4" ICE	277.0 KIPS



Kirk R. Hall
6-25-2015

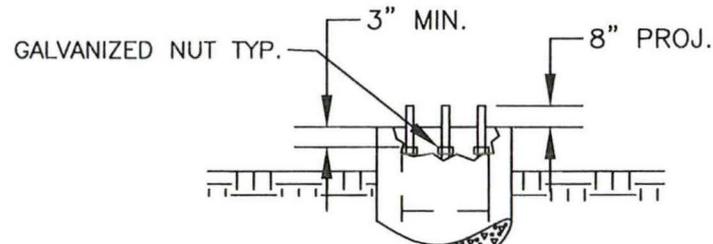
GENERAL NOTES

1. CONCRETE TO HAVE 4000 PSI MIN. COMPRESSIVE STRENGTH AFTER 28 DAYS.
2. ALL REINFORCEMENT STEEL IS DEFORMED AND MEETS THE STRENGTH REQUIREMENTS OF ASTM A615 GRADE 60.
3. EMBEDDED STEEL TO HAVE 3" MIN. CONCRETE COVER.
4. FOUNDATION DESIGN IS BASED ON CUSTOMER SUPPLIED SOIL DATA FROM ERM2. PROJECT NUMBER 165-000-0003 DATED JUNE 24, 2015.

TITLE: FOUNDATION DETAIL
300' WSST TOWER
FOR: APPALACHIAN WIRELESS
SITE: MUD CREEK
FLOYD COUNTY, KY

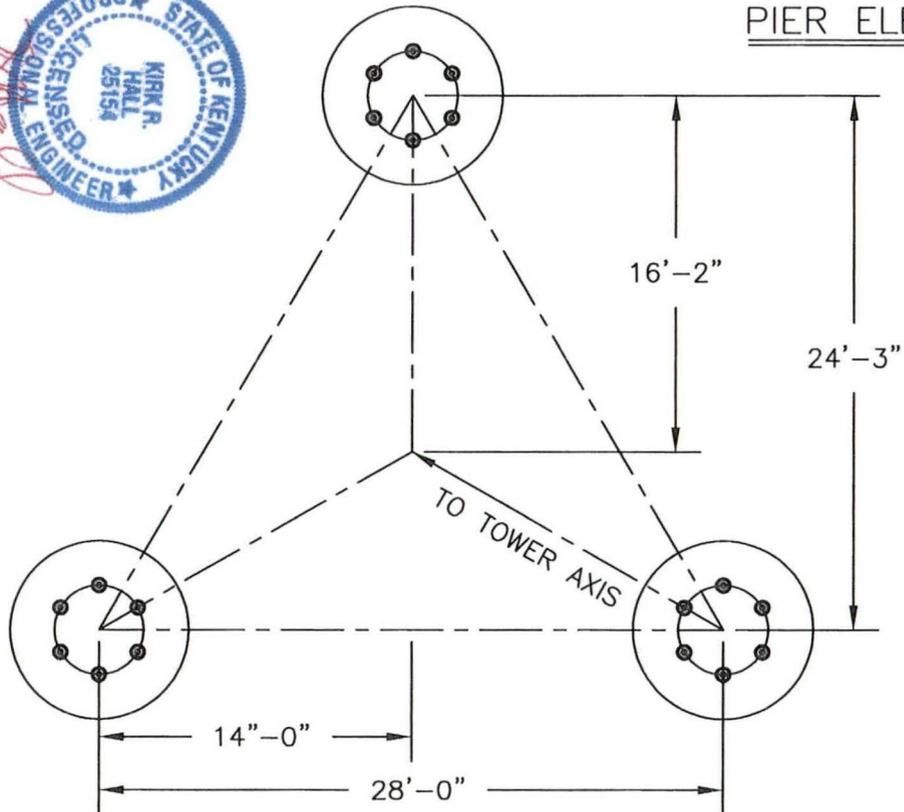
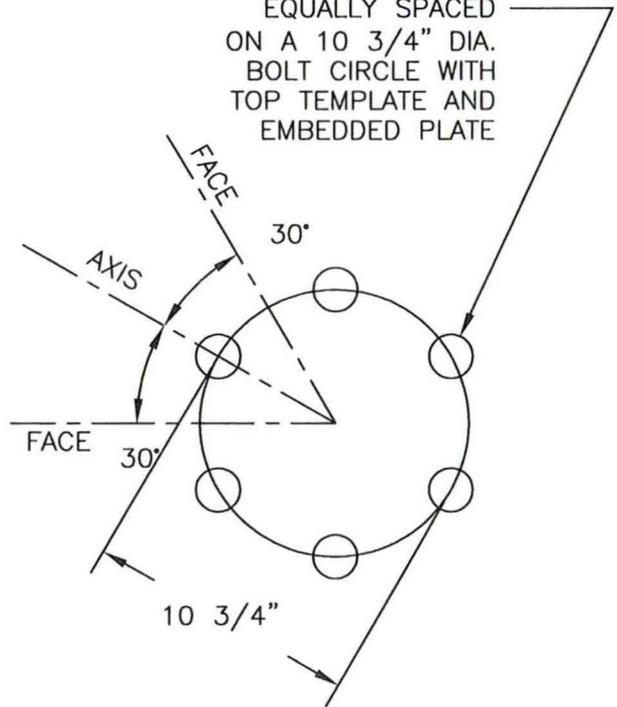
WORLD TOWER

SCALE	NONE	DWN.	LKG	CKD.	DATE	6-25-15
FILE				DWG. NO.	Q15293F	



PIER ELEVATION

ANCHOR BOLTS
 (6) 1 1/2" ϕ X 68"
 (ASTM A354 GR. BC)
 EQUALLY SPACED
 ON A 10 3/4" DIA.
 BOLT CIRCLE WITH
 TOP TEMPLATE AND
 EMBEDDED PLATE



6-25-2015

TITLE:
 300' MODEL WSST TOWER
 FOR: APPALACHIAN WIRELESS
 SITE: MUD CREEK
 FLOYD COUNTY, KY

WORLD TOWER

SCALE	NONE	DWN.	LKG	CKD.	DATE	6-25-15
FILE				DWG. NO.	Q15293AB	



Notice of Proposed Construction or Alteration - Off Airport

Add a new Case Off Airport - Desk Reference Guide V_2015.1.0

Add a New Case Off Airport for Wind Turbines - Met Towers - Desk Reference Guide V_2015.1.0

Project Name: EAST -000333877-15

Sponsor: East Kentucky Network, LLC

Details for Case : Mud Creek (Beaver)

Show Project Summary

Case Status

ASN: 2015-ASO-10673-OE

Date Accepted: 07/15/2015

Status: Accepted

Date Determined:

Letters: None

Documents: 07/15/2015

Public Comments: None

Project C
None

Construction / Alteration Information

Notice Of: Construction

Duration: Permanent

if Temporary : Months: Days:

Work Schedule - Start: 08/15/2015

Work Schedule - End: 08/20/2015

**For temporary cranes-Does the permanent structure require separate notice to the FAA? To find out, use the Notice Criteria Tool. If separate notice is required, please ensure it is filed. If it is not filed, please state the reason in the Description of Proposal.*

State Filing: Filed with State

Structure Summary

Structure Type: Tower

Structure Name: Mud Cre

FDC NOTAM:

NOTAM Number:

FCC Number:

Prior ASN:

Structure Details

Latitude: 37° 24' 3.30" N

Longitude: 82° 40' 4.86" W

Horizontal Datum: NAD83

Site Elevation (SE): 2006 (nearest foot)

Structure Height (AGL): 310 (nearest foot)

Current Height (AGL): (nearest foot)

** For notice of alteration or existing provide the current AGL height of the existing structure.*

Include details in the Description of Proposal

Minimum Operating Height (AGL): (nearest foot)

** For aeronautical study of a crane or construction equipment the maximum height should be listed above as the Structure Height (AGL). Additionally, provide the minimum*

Common Frequency Bands

Low Freq	High Freq
698	806
806	824
824	849
851	866
869	894
896	901
901	902
930	931
931	932
932	932.5
935	940
940	941
1850	1910

operating height to avoid delays if impacts are identified that require negotiation to a reduced height. If the Structure Height and minimum operating height are the same enter the same value in both fields.

1930	1990
2305	2310
2345	2360

Nacelle Height (AGL):
*** For Wind Turbines 500ft AGL or greater**

(nearest foot)

Specific Frequencies

Requested Marking/Lighting:

Dual-red and medium intensity

Other :

Recommended Marking/Lighting:

Current Marking/Lighting:

N/A Proposed Structure

Other :

Nearest City:

Beaver

Nearest State:

Kentucky

Description of Location:

On the Project Summary page upload any certified survey.

Mud Creek, approx. 0.8 mi NW of Beaver (Floyd), KY

Description of Proposal:

A new 300' tower with top-mounted antennas (overall height of 310' AGL)

Previous Back to Search Next
Result



KENTUCKY AIRPORT ZONING COMMISSION

APPLICATION FOR PERMIT TO CONSTRUCT OR ALTER A STRUCTURE

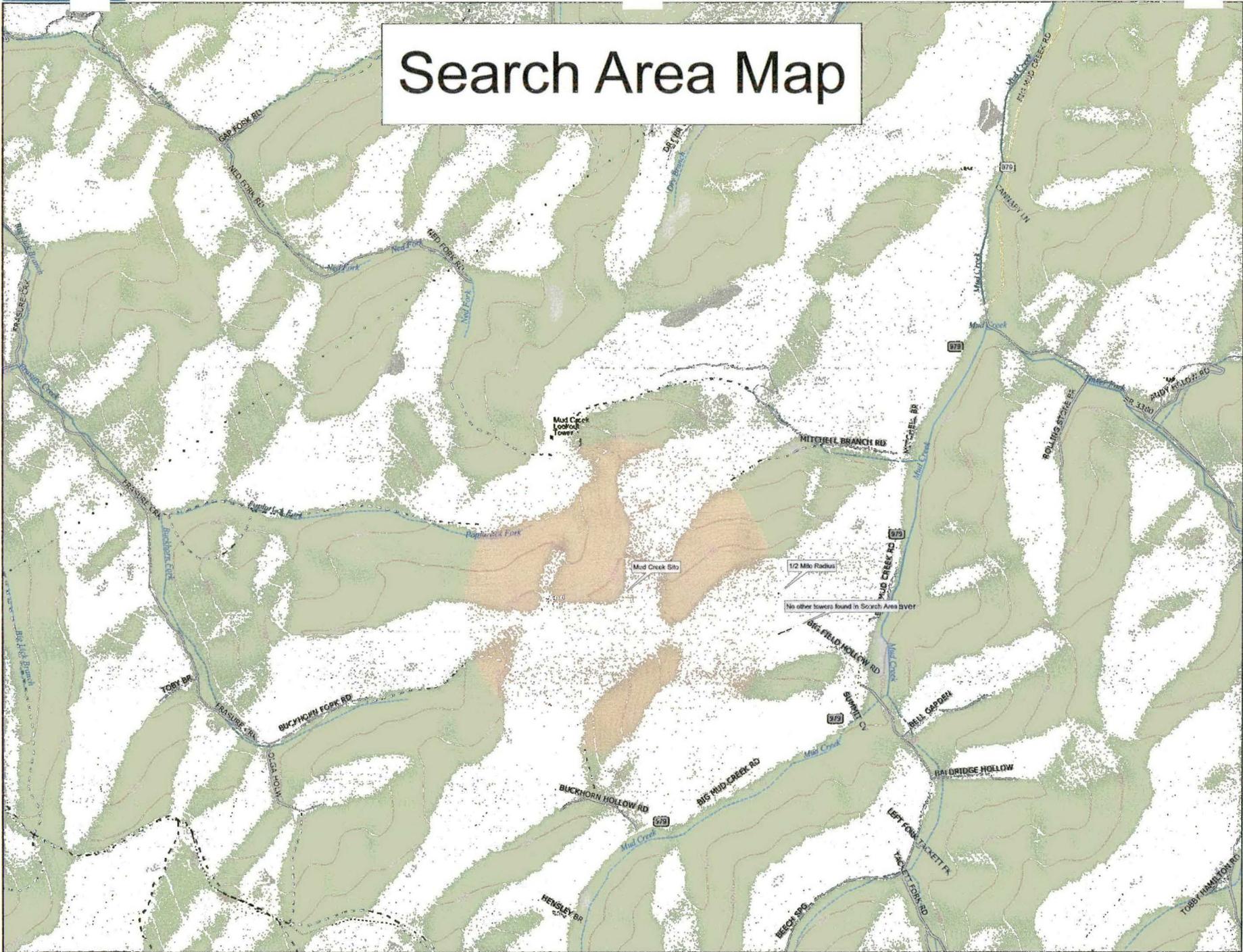
APPLICANT (name) East Kentucky Network, LLC c/o LNGS		PHONE 703-584-8667	FAX 703-584-8692	KY AERONAUTICAL STUDY #	
ADDRESS (street) 8300 Greensboro Dr, #1200		CITY McLean		STATE VA	ZIP 22102
APPLICANT'S REPRESENTATIVE (name) Ali Kuzehkanani		PHONE 703-584-8667	FAX 703-584-8692		
ADDRESS (street) 8300 Greensboro Dr, #1200		CITY McLean		STATE VA	ZIP 22102
APPLICATION FOR <input checked="" type="checkbox"/> New Construction <input type="checkbox"/> Alteration <input type="checkbox"/> Existing				WORK SCHEDULE	
DURATION <input type="checkbox"/> Permanent <input type="checkbox"/> Temporary (months days)				Start 08/15/15 End 08/20/15	
TYPE <input type="checkbox"/> Crane <input type="checkbox"/> Building <input checked="" type="checkbox"/> Antenna Tower <input type="checkbox"/> Power Line <input type="checkbox"/> Water Tank <input type="checkbox"/> Landfill <input type="checkbox"/> Other		MARKING/PAINTING/LIGHTING PREFERRED <input type="checkbox"/> Red Lights & Paint <input type="checkbox"/> White- medium intensity <input type="checkbox"/> White- high intensity <input checked="" type="checkbox"/> Dual- red & medium intensity white <input type="checkbox"/> Dual- red & high intensity white <input type="checkbox"/> Other			
LATITUDE 37°24'03.30"		LONGITUDE 82°40'04.86"		DATUM <input checked="" type="checkbox"/> NAD83 <input type="checkbox"/> NAD27 <input type="checkbox"/> Other	
NEAREST KENTUCKY City Beaver County Floyd		NEAREST KENTUCKY PUBLIC USE OR MILITARY AIRPORT Pike Co-Hatcher Field Airport			
SITE ELEVATION (AMSL, feet) ?006		TOTAL STRUCTURE HEIGHT (AGL, feet) 310		CURRENT (FAA aeronautical study #)	
OVERALL HEIGHT (site elevation plus total structure height, feet) 2316				PREVIOUS (FAA aeronautical study #)	
DISTANCE (from nearest Kentucky public use or Military airport to structure) 12.4 mi				PREVIOUS (KY aeronautical study #)	
DIRECTION (from nearest Kentucky public use or Military airport to structure) SSE					
DESCRIPTION OF LOCATION (Attach USGS 7.5 minute quadrangle map or an airport layout drawing with the precise site marked and any certified survey.) Mud Creek, approx. 0.8 mi NW of Beaver (Floyd), KY					
DESCRIPTION OF PROPOSAL A new 300' tower with top-mounted antennas (overall height of 310' AGL)					
FAA Form 7460-1 (Has the "Notice of Construction or Alteration" been filed with the Federal Aviation Administration?) <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes, when? 07/15/15					
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.)					
PENALTIES (Persons failing to comply with KRS 183.861 to 183.990 and 602 KAR 050 are liable for fines and/or imprisonment as set forth in KRS 183.990(3). Noncompliance with FAA regulations may result in further penalties.)					
NAME Ali Kuzehkanani	TITLE Dir of Engineering	SIGNATURE 		DATE 07/15/15	
COMMISSION ACTION		<input type="checkbox"/> Chairperson, KAZC <input type="checkbox"/> Administrator, KAZC			
<input type="checkbox"/> Approved <input type="checkbox"/> Disapproved	SIGNATURE		DATE		

Driving Directions for Mud Creek

Starting in front of the Floyd County Court House on North Lake Drive go 2.7 miles to the intersection of Highway 80. Turn right on Highway 80W and go 2.4 miles to the intersection of Highway 80 and US 23, turn left and go 11.6 miles. Turn right on Highway 979, go 12.6 miles and turn right on Buckhorn Road. Go 1/10 of a mile and turn right on Vickie's Drive (signs will be posted). After turning right go another 1/10 of a mile and turn left on the gravel road. Proceed on gravel road for 1 mile to the site (signs will be posted).

Prepared By:
Daryl Bartley
Appalachian Wireless
(606) 791-0310

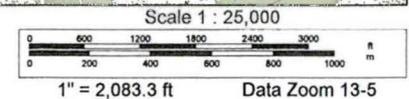
Search Area Map



Data use subject to license.

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www.delorme.com



LEASE AGREEMENT

THIS LEASE AGREEMENT is made and entered into on the 27th day of March, 2014, with a commencement date of April 1, 2014 by and between **Vickie Lynn Hamilton Bryant**, single, of 202 Buckhorn Road, Beaver, KY, 41604, LESSOR, and **East Kentucky Network, LLC, d/b/a Appalachian Wireless**, of 101 Technology Trail, Ivel, Kentucky 41642, LESSEE:

WITNESSETH:

That for and in consideration of the rents and other considerations hereinafter set out and subject to the terms and conditions therefore, Lessor does hereby lease, let and demise unto Lessee, its successors and assigns, to have and to hold for the term hereinafter set out and subject to the Lessee's right to surrender or terminate this Lease and provided hereinafter, the following described premises (Leased Premises), which term shall include all real property, rights and privileges herein granted:

BEING the same property described by metes and bounds in the description attached hereto and made a part hereof as Exhibit A, and as shown on the plat dated 6th day of March, 2014, prepared by Don F. Blackburn, Licensed Professional Land Surveyor of TEE Engineering, and attached hereto and made a part hereof as Exhibit B.

The Lessor grants unto Lessee full and complete right of ingress, egress and regress over roads located upon this property controlled by Lessor to and from the Leased Premises, and the nonexclusive right to use any existing road located on this property. The Lessor grants Lessee permission to construct a new road across Lessor's premises to be used exclusively by the Lessee. Lessor further grants to the Lessee a right of way and easement to construct and maintain and operate telephone and power transmission lines over Lessors remaining property to the Leased Premises for service of the tower and related facilities only, said lines to be located

where feasible along the access road to the Leased Premises, with Lessor having input as to location of said power transmission lines in the event Lessee changes the location of its access road. Lessee shall have the right to trim or remove trees, limbs or underbrush which interferes with its access road or power/telephone lines wherever such road and lines are located or may damage tower if they fall. Lessee shall maintain the existing road with gravel and needed repairs to allow access by Lessee's vehicles.

This Lease is made on the following terms and conditions:

1. **TERM OF LEASE.** The term of this lease shall be for a period of five (5) years from the commencement date of this Lease Agreement with an allowance of an additional six (6) automatic renewals of five (5) year terms unless Lessee gives Lessor written notice at least sixty (60) days prior to expiration of then said Term that Lessee does not wish to renew.

2. **CANCELLATION.** Lessee shall have the right to terminate this Lease and abandon the Premises at any time under its sole discretion, upon six (6) month written notice to Lessor of its intention to do so. In the event that Leased Premises fail the process for approval as an acceptable cellular tower site by the Federal Communications Commission or any tests or requirements as required for such approval (the "FCC Process") or approval by the Public Service Commission (the "PSC"), or any other regulatory approval required, then in its sole discretion Lessee may terminate this Lease Agreement upon thirty (30) days written notice to Lessor of such intention. In the event of termination by Lessee, the Lessor shall have no obligation to refund all or any portion of the Leasehold rental payment that has been paid through the date of termination. Upon termination of this Lease, Lessee shall have one hundred eight (180) days thereafter to remove all structures it has erected upon the Leased Premises, and to reclaim the premises. Payment shall continue until said structures are removed.

3. **RENTAL.** As rental for the Leased Premises, Lessee shall pay Lessor as follows: \$375.00 per month for the first five (5) year term. After the first five (5) year term each additional five (5) year term will have an increase of 5%. Rent payments will be made payable to Ralph Joseph Bryant per request of the Lessor.

4. **USE OF PREMISES.** Lessee shall have the exclusive rights and privileges of the use of the Leased Premises for the purpose of constructing buildings, towers, and other related

facilities, including, but not limited to telephone lines, coaxial lines, power lines and the installation of any and all other equipment deemed necessary by Lessee to receive and transmit any and all electronic signals in the rural service area now or hereafter to be served by the facility. The parties hereto recognize that technology in the communications field is advancing at a rapid rate and that this site may be used for any other purpose now in the development stage or which may later be developed in the communications industry to carry out the objectives of Lessee, that being to transmit and receive signals and communications by wire, fiber optics, radio and satellite. Lessee shall not use the Leased Premises for purposes other than maintenance or use as a site for communications by the use of methods now or hereafter known.

Lessee agrees to maintain the Leased Premises in a neat and orderly manner.

5. **INDEMNITY.** Lessee agrees to indemnify and save harmless the Lessor from any liability by virtue of Lessee's activities upon the Leased Premises or in the exercise of any rights and privileges granted herein, specifically including but not limited to any claim, loss, fine, penalty and costs (including reasonable attorney's fees) arising out of any violation of any environmental laws or regulations. This provision shall survive the termination of the lease. Lessee shall maintain and keep in full force and effect public liability and property damage insurance in an amount of at least One Million Dollars (\$1,000,000.00). Lessor shall not be held liable for personal injury or property damage on the Leased Premises whether or not associated with Lessee.

6. **TAXES.** Lessee shall pay all personal property taxes assessed on or any portion of such taxes attributable to the equipment used by Lessee on the Premises. Lessor shall pay when due all real property taxes and all other fees and assessments attributable to the Premises. Lessee shall reimburse the Lessor as additional compensation for any increase in real estate taxes levied against the Lessor (or its successors or assigns) which are directly attributable to or arise as a result of the improvements constructed by the Lessee, its successors or assigns. Payment will be issued after Lessee receives written proof from Lessor that the increase in real estate taxes levied is due to improvements constructed by the Lessee.

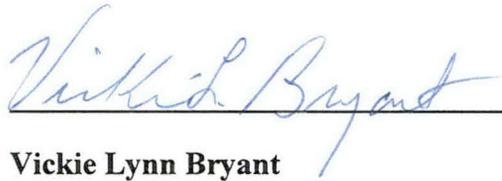
7. **MISCELLANEOUS PROVISIONS.** All notices, demands, or other writings in this Lease Agreement provided to be given, made or sent, or which may be given or made or sent, to

either party hereto to the other, shall be deemed to have been fully given or made or sent when made in writing and deposited in the United States Mail, certified and postage prepaid, to Lessor and Lessee at the addresses stated in the caption of this Lease Agreement. Such addresses may be changed by written notice given by such party as above provided.

8. **SUCCESSORS AND ASSIGNS.** This Lease Agreement shall be binding upon the parties hereto, their heirs, executors, administrators and assigns.

WITNESS OUR HANDS, the day and year aforesaid.

LESSORS:



Vickie Lynn Bryant

STATE OF KENTUCKY

COUNTY OF Floyd

The foregoing Lease Agreement was this 27th day of March, 2014, produced and acknowledged before me by **Vickie Lynn Bryant**, Lessor.



NOTARY PUBLIC

COMMISSION EXPIRES: July 14, 2015

LESSEE:

EAST KENTUCKY NETWORK, LLC

d/b/a APPALACHIAN WIRELESS

BY: W A Gillum

ITS: CEO/General Manager

STATE OF KENTUCKY

COUNTY OF Floyd

The foregoing Lease Agreement was this 17th day of March, 2014, produced and acknowledged before me by **East Kentucky Network, LLC, dba Appalachian Wireless** by W. A. Gillum, its General Manager/CEO, Lessee.

Lynne Haney

NOTARY PUBLIC

COMMISSION EXPIRES: _____

My Commission Expires
July 14, 2015

TEE Engineering Company, Inc.

"Exhibit A"

Phone: 859-263-5350 Fax: 859-263-5345 E-mail: teelex@windstream.net (Lexington)
Phone: 606-478-9024 Fax: 606-478-9019 E-mail: teeeng@mikrotec.com (Stanville)

320 Cutters Hill Court, Lexington, KY 40509
P.O. Box 219, Stanville, KY 41659

Appalachian Wireless
Leased Lot for Tower Location
Signal Knob, Mud Creek

Lessor: Vickie Lynn Bryant
Lessee: Appalachian Wireless
Date: March 6, 2014

Description of Lease Boundary

Beginning at an iron pin (IP #1, set), a corner of the lot, located on Signal Knob, between Frasure's Creek and Mud Creek, on property belonging to Vickie Lynn Bryant (Will Book 0 Page 096) and located S 48° 44' 34" W, 19.82 feet, from a corner of a "The Elk Horn Coal Company, LLC", tract described in Deed Book 277, Page 009; thence, S 10° 53' 31" E, 100 feet, to an iron pin (IP # 2, set); thence, S 79° 06' 29" W, 100 feet, to an iron pin (IP #3, set); thence, N 10° 53' 31" W, 100 feet, to an iron pin (IP #4, set); thence, N 79° 06' 29" E, 100 feet, to the point of beginning, containing 10,000 square feet or 0.23 acres.

Don F. Blackburn

Digitally signed by Don F. Blackburn
DN: cn = Don F. Blackburn, c = US, o = TEE Engineering Co., Inc.
Reason: I am the author of this document
Date: 2014.03.06 16:20:35 -0500

Don F. Blackburn, P.E., P.L.S.
TEE Engineering Company, Inc.

Certification:



I, Don F. Blackburn Digitally signed by Don F. Blackburn
DN: cn = Don F. Blackburn, c = US, o = TEE Engineering Co., Inc.
Reason: I am the author of this document
Date: 2014.03.06 16:20:35 -0500 3436 03-06-2014
(signature) (registration no.) (date)

Hereby certify, in accordance with 201 KAR 18:150., that, to the best of my knowledge, the information provided herein is true and accurate.

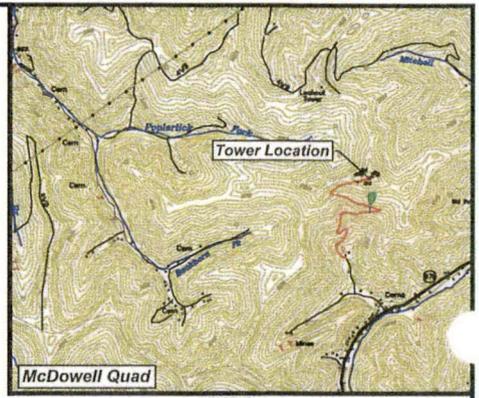


MINING, CIVIL, ELECTRICAL ENGINEERS • GEOLOGIC, HYDROLOGIC CONSULTANTS
LAND SURVEYORS • ANALYTICAL SERVICES



Surveyor's Notes:

- 1) This survey was conducted to establish the boundary location of a lot, as described, and is not intended to change established boundaries of the affected owner or adjoining.
- 2) Accuracy of the surveyed lease boundary meets minimum requirements of ALTA/ACSM, Survey Class "Rural", and minimum requirements of 201 KAR 18:190 Standards of Practice, Class B "Rural".
- 3) Methodology:
Deeds and related information for parcels of the affected owner and adjoining were obtained from various sources and based on previous work done by others, and is considered the best available information. Boundary lines in the immediate vicinity of the lease area were re-established based on the available information. The lease boundary, as designated by the Lessee, was surveyed and corner monuments established, as shown.
- 4) As is customary, we offer no warranty as to the accuracy of documents, maps, analyses, or other information provided by or performed by others. Since such information is necessarily used as background basis for our work, we offer no legal warranty in regard to the presumed accuracy of information provided by others.

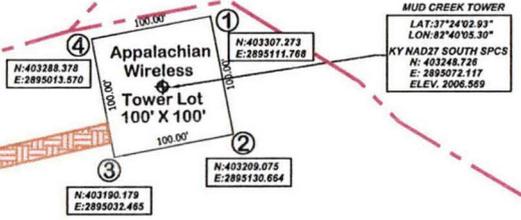


McDowell Quad
Mainly Map
Scale: 1" = 3,000'

Signal Knob

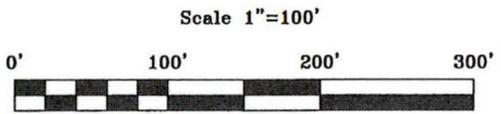
THE
ELK HORN
COAL COMPANY, LLC
-SURFACE
DEED BOOK 284/PAGE 468

THE
ELK HORN
COAL COMPANY, LLC
-SURFACE
DEED BOOK 277/PAGE 009



Access Road

VICKIE LYNN BRYANT
- SURFACE
WILL BOOK 0/PAGE 096



Certification

I hereby certify that this survey is correct, to the best of my knowledge and belief, and complies with the minimum standards and procedures for land boundary surveying practice currently established by the Kentucky State Board of Professional Engineers & Land Surveyors, and represents a current field survey.



Don F. Blackburn 3436 03-06-2014
Signature Registration # Date

"Exhibit B"



101 TECHNOLOGY TRAIL IVEL, KENTUCKY 41642

LEASE LOCATION MAP/PLAT
Lot Boundary for Tower Location
Signal Knob, Mud Creek

Floyd County Date: 3/6/2014



TEE Engineering Company, Inc.

320 CUTTERS HILL COURT, LEXINGTON, KY. 40509 PHONE:(859)263-5350 FAX:(859)263-5345
P.O. BOX 219, STANVILLE, KY. 41659 PHONE:(606)478-9024 FAX:(606)478-9019

LINE	BEARING	DISTANCE
1	N 55°55'31" E	76.12'
2	S 55°30'46" W	101.62'
3	S 48°52'44" W	107.77'
4	S 42°09'20" W	90.24'
5	S 34°06'11" W	98.94'
6	S 12°19'46" W	76.15'
7	S 10°51'00" E	99.98'
8	N 34°00'37" W	76.15'
9	N 55°50'41" W	98.93'
10	N 68°20'47" W	110.30'
11	N 74°41'21" W	103.62'
12	N 77°38'56" W	76.05'

THE ELKHORN COAL COMPANY LLC
DEED BOOK 284 PAGE 468

APPALACHIAN WIRELESS

101 TECHNOLOGY TRAIL
IVEL, KY. 41642

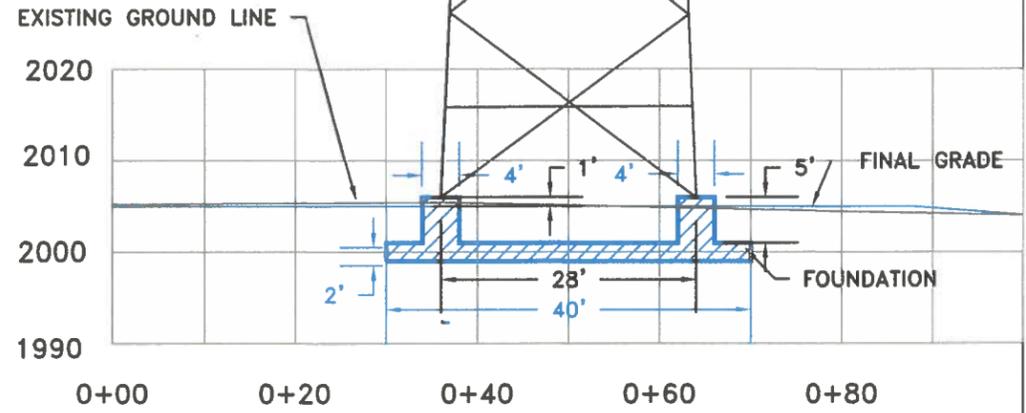
PROPOSED NEW TOWER
SIGNAL KNOB OFF MUD CREEK IN FLOYD COUNTY

N:3684399.30
E:5816363.74
Z:2005.15

PROPOSED TOWER LOCATION
LAT:37°24'03.3014"
LON:82°40'04.8649"

N:3684340.76
E:5816324.05
Z:2006.00'

CROSS SECTION



NOTE: SEE FOUNDATION DRAWINGS FOR DETAILS

- THE PROPOSED TOWER HAS BEEN LOCATED USING DUAL FREQUENCY GPS UNIT PROCESSED BY "OPUS"
- STATE PLANE COORDINATES NAD 83 KY SINGLE ZONE N:3684340.76 E:5816324.05 EL 2006.0' EXISTING GR PLAN- FOUNDATION EL:2006.0'-TOP TOWER EL 2306.0'
- 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.

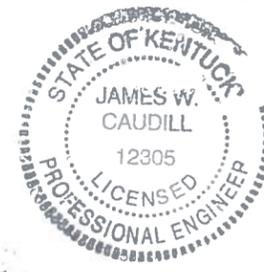
VICKIE LYNN BRYANT
WILL BOOK 0 PAGE 096

VICKIE LYNN BRYANT
WILL BOOK 0 PAGE 096

N:3684301.05
E:5816382.49
Z:2004.06

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

James W. Caudill PE12305 7-7-15
JAMES W. CAUDILL LS# DATE



NAD83 KY SINGLE ZONE

SURVEY STA SET FOUND
IRON PIN WITH CAP (1/8" x .5" REBAR PLASTIC CAP MARKED LS2259)
BOUNDARY LINE
ACCESS ROAD
PARENT TR LINE

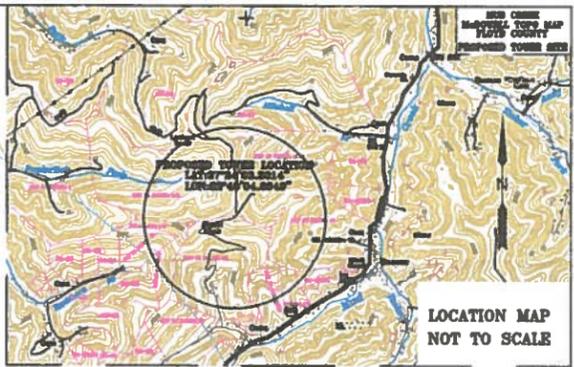


PROPOSED SITE PLAN AND STRUCTURE LOCATION MUDCREEK (SIGNAL KNOB) TOWER APPALACHIAN WIRELESS		
DRAWN JWC	DATE 07/07/15	MUD CREEK TOWER VICKI LYNN BRYANT
APPROVED	DATE	SIGNAL KNOB OFF MUD CREEK IN FLOYD COUNTY
SCALE 1" = 20'	SHEET 2 OF 3	PROJECT NO. MUDCREEK/MC20

McDOWELL TOPO QUADRANGLE

APPALACHIAN WIRELESS

101 TECHNOLOGY TRAIL
IVEL, KY. 41642
PROPOSED TOWER SITE



MAP 84 PARCEL 1.01
ELKHORN COAL CO
544 SOUTH LAKE DR
PRESTONSBURG, KY 41653

PROPOSED TOWER LOCATION
LAT:37°24'03.3014"
LON:82°40'04.8649"

MAP 84 PARCEL 45.01
ELKHORN COAL CO
544 SOUTH LAKE DR
PRESTONSBURG, KY 41653

AFFECTED AREA

Signal Knob

MAP 84 PARCEL 36
VICKI LYNN BRYANT
202 BUCKHORN BR RD
BEAVER, KY 41604

AFFECTED AREA

MAP 84 PARCEL 36
VICKI LYNN BRYANT
202 BUCKHORN BR RD
BEAVER, KY 41604

LEGEND

- POWER LINE
- PROPERTY LINE
- ACCESS ROAD
- CREEK
- CEMETERY
- TOWER



MAP 84 PARCEL 42
NOAH & TENNIE VANCE
14338 RT 979
BEAVER, KY 41604

MAP 84 PARCEL 36
VICKI LYNN BRYANT
202 BUCKHORN BR RD
BEAVER, KY 41604



J W CAUDILL ENGINEERING

9283 HWY 15 STE. C, ISOM, KY 41824

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

James W. Caudill 12305 7-7-15
JAMES W. CAUDILL P.E.# DATE

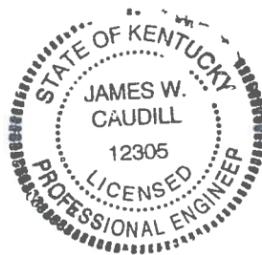
**PROPOSED SITE PLAN AND STRUCTURE LOCATION
MUD CRK (SIGNAL KNOB) TOWER APPALACHIAN WIRELESS**

DRAWN JWC	DATE 07/07/15	MUD CREEK TOWER VICKIE LYNN BRYANT TRACT FLOYD COUNTY OF KY
APPROVED	DATE	
SCALE 1" = 200'	SHEET 1 OF 3	PROJECT NO. MUDCREEK/MC1000

APPALACHIAN WIRELESS
 101 TECHNOLOGY TRAIL
 IVEL, KY. 41642
 PROPOSED NEW TOWER
 SIGNAL KNOB OFF MUD CREEK IN FLOYD COUNTY

300'

PROFILE WITH TOWER



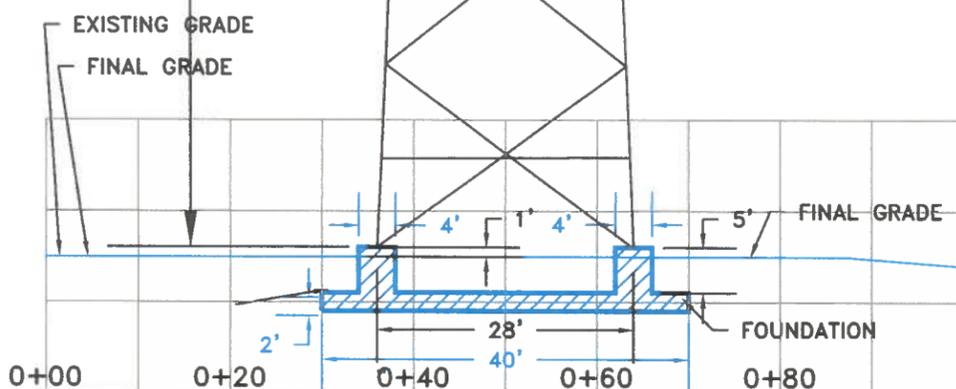
THIS IS A VERTICAL PROFILE SKETCH OF THE TOWER INDICATING THE PROPOSED ANTENNA AND DISH ELEVATIONS. NO DESIGN CRITERIA WAS CONSIDERED IN THE PREPARATION OF THIS DRAWING.

James W. Caudill 12305 7-7-15
 JAMES W. CAUDILL PE #. DATE

NOTE: SEE FOUNDATION DRAWINGS FOR DETAILS

07/07/15

SCALE 1" = 20'



PROPOSED SITE PLAN AND STRUCTURE LOCATION
 MUDCREEK (SIGNAL KNOB) TOWER APPALACHIAN WIRELESS

DRAWN JWC	DATE 07/07/15	MUDCREEK TOWER VICKI LYNN BRYANT SIGNAL KNOB OFF MUD CREEK IN FLOYD COUNTY
APPROVED	DATE	
SCALE 1" = 20'	SHEET 3 OF 3	PROJECT NO. MUDCREEK/MC20