

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

RECEIVED
NOV 30 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 2015-00344
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 400 foot self-supporting tower on a tract of land located on Willis Road, Prestonsburg, Floyd County, Kentucky (37°38'05.9520"N 82°44'24.3074"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, November 25, 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.

Environmental Resources Consulting Company 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 Allstate Tower, 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 Approval and Kentucky Airport Zoning Commission application is included as Exhibit 6.

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

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

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

Two notice signs meeting the requirements prescribed by 807 KAR 5:063, Section 1(2), measuring at least two (2) feet in height and four (4) feet in width and containing all required language in letters of required height, have been posted, one at a visible location on the proposed site and one on the nearest public road. The two signs were posted on October 29, 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 Deed 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 staff at East Kentucky Network, LLC d/b/a Appalachian Wireless, and reviewed by William S. Kendrick, Attorney at Law. 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: 11/23/15
Lynn Haney, Regulatory Compliance Director

APPROVED BY: W.A. Gillum DATE: 11/25/2015
W.A. Gillum, General Manager

ATTORNEY: William S. Kendrick DATE: 11/25/15
Hon. William S. Kendrick, 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

William S. Kendrick , Attorney
Phone: (606) 263-4943
Email: wkendrick@pennstuart.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 Approval and KAZC Application
7	Driving Directions from County Court House and Map to Suitable Scale
8	Deed 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	

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

Licensee

East Kentucky Network, LLC d/b/a Appalachian Wireless
101 Technology Trail P:(606)477-2355
Ivel, KY 41642 F:(606)874-7551
ATTN Gerald Robinette, Manager

Contact

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

Ownership and Qualifications

Radio Service Mobile
Type
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

David and Patricia Calhoun
396 Willis Branch Rd
Prestonsburg, KY 41653

Randell Calhoun
502 Willis Branch Rd
Prestonsburg, KY 41653

Hope In the Mountains, Inc.
105 Trimble Chapel Square
Prestonsburg, KY 41653

EAST KENTUCKY NETWORK
101 TECHNOLOGY TRAIL
I, KY 41642
ONE: (606) 874-7550
FAX: (606) 874-7551

EAST KENTUCKY
NETWORK



VIA: U.S. CERTIFIED MAIL

PUBLIC NOTICE

November 17, 2015

David and Patricia Calhoun
396 Willis Branch Rd
Prestonsburg, KY 41653

RE: Public Notice-Public Service Commission of Kentucky (Case No. 2015-00344)

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 400-foot self-supporting tower with attached antennas extending upwards, and an equipment shelter located on a tract of land on Willis Branch, Prestonsburg, 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. 2015-00344 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

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

EAST KENTUCKY
NETWORK



VIA: U.S. CERTIFIED MAIL

PUBLIC NOTICE

November 17, 2015

Randell Calhoun
502 Willis Branch Rd.
Prestonsburg, KY 41653

RE: Public Notice-Public Service Commission of Kentucky (Case No. 2015-00344)

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Sincerely,

Lynn Haney
Regulatory Compliance Director
Enclosure 1

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

EAST KENTUCKY
NETWORK



VIA: U.S. CERTIFIED MAIL

PUBLIC NOTICE

November 17, 2015

Hope In the Mountains
105 Trimble Chapel Square
Prestonsburg, KY 41653

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

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

Sincerely,

Lynn Haney
Regulatory Compliance Director
Enclosure 1

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

EAST KENTUCKY
NETWORK



To: The Floyd County Times
Attn: Classifieds

From: Raina Helton
Regulatory Compliance Assistant

Email: jousley@civitasmedia.com

Date: November 17, 2015

Re: PUBLIC NOTICE ADVERTISEMENT

Pages: 1

Please place the following Public Notice Advertisement in The Floyd County Times to be ran on November 25, 2015.

PUBLIC NOTICE:

RE: Public Service Commission of Kentucky (CASE NO. 2015-00344)

Public Notice is hereby given that East Kentucky Network, LLC, dba Appalachian Wireless has applied to the Kentucky Public Service Commission to construct a cellular telecommunications tower on a tract of land located on Willis Branch, Prestonsburg, Floyd County, Kentucky. The proposed tower will be a 400 foot self-supporting tower with attached antennas. If you would like to respond to this notice, please contact the Executive Director, Public Service Commission, 211 Sower Boulevard, PO Box 615, Frankfort, Kentucky 40602. Please refer to Case No. 2015-00344.

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

Thank you,

Raina Helton
Regulatory Compliance Assistant

The message above and the information contained in the documents transmitted are confidential and intended only for the person(s) named above. Dissemination, distribution or copying of this communication by anyone other than the person(s) named above is prohibited. If you have received this communication in error, please notify us immediately by telephone and return the original message to us at the address listed above via regular mail. Thank you.

EAST KENTUCKY NETWORK
101 TECHNOLOGY TRAIL
I, KY 41642
ONE: (606) 874-7550
FAX: (606) 874-7551

EAST KENTUCKY
NETWORK



VIA: U.S. CERTIFIED MAIL

November 17, 2015

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

RE: Public Notice-Public Service Commission of Kentucky (Case No. 2015-00344)

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 400-foot self-supporting tower with attached antennas extending upwards, and an equipment shelter located on a tract of land on Willis Branch, Prestonsburg, 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. 2015-00344 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

Appalachian Wireless Location Map



Site Name

Water Gap

Location

502 Willis Br. Prestonsburg, KY.

GPS Location

N 37 38 05.95

W 82 44 24.30

**APPALACHIAN WIRELESS
Geotechnical Investigation on the
Watergap Site
Floyd County, Kentucky
ERMC² Project No. 165-000-0012**

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, October 25th 2015



EXECUTIVE SUMMARY

- 1.0 INTRODUCTION**
- 2.0 PROJECT DESCRIPTION**
- 3.0 SITE DESCRIPTION**
 - 3.1 GENERAL INFORMATION
- 4.0 FIELD EXPLORATION**
 - 4.1 SITE INFORMATION
 - 4.2 TRENCHING DATA
 - 4.3 GROUNDWATER
 - 4.4 SEISMIC SITE CLASSIFICATION
- 5.0 DISCUSSION AND RECOMMENDATIONS**
 - 5.1 GENERAL
 - 5.2 FOUNDATIONS
 - 5.3 SUBSIDENCE
 - 5.4 SHALLOW FOUNDATION
- 6.0 WARRANTY**
 - 6.1 SUBSURFACE INVESTIGATION
 - 6.2 LABATORY AND FIELD TESTING
 - 6.3 ANALYSIS AND RECOMMENDATIONS
 - 6.4 CONSTRUCTION MONITORING
 - 6.5 GENERAL

SPECIFICATIONS

- I - GENERAL**
- II - ENGINEERED FILL BENEATH STRUCTURES**
- III - GUIDELINES FOR EXCAVATIONS AND TRENCHING**
- IV - GENERAL CONCRETE SPECIFICATIONS**

APPENDIX A – TRENCHING DATA

APPENDIX B – SITE MAPS, BOUNDARY MAPS & EARTHWORK

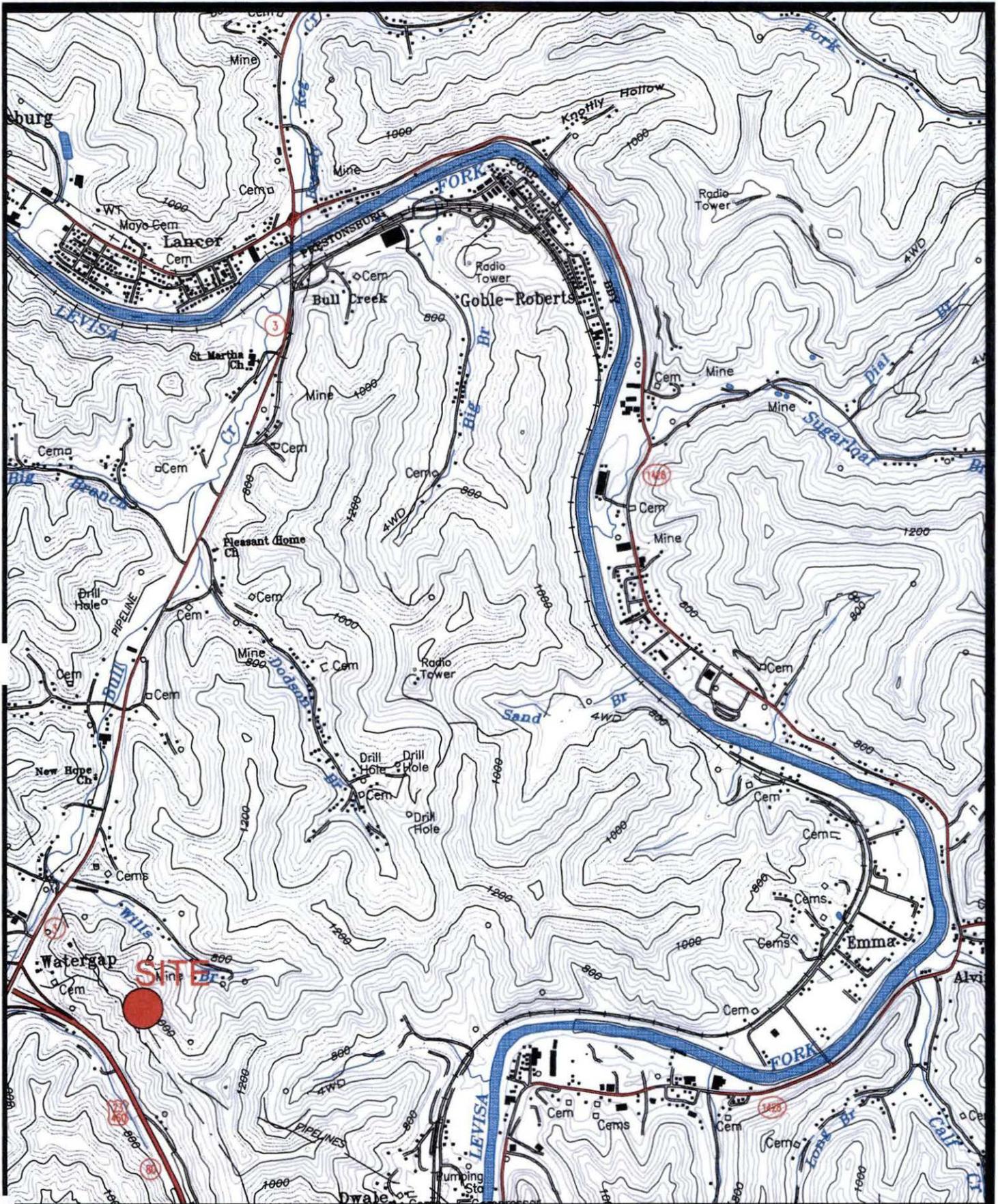


EXECUTIVE SUMMARY

- A geotechnical investigation has been performed on the proposed Watergap Tower site, located at Watergap, near the intersection on U.S. 23 and Ky. Highway 80, in Floyd County Kentucky. This site is not readily accessible and is steep terrain in forested area. A location map is shown in Figure 1 of this report. Trenching was conducted with a small Kubota Excavator on the site. One trench was excavated through the center of the site at the proposed tower pad location. Topsoil and clays were found at varying depths from 6 ft. to 11 ft. Sandy Shale was encountered at a depth of 11 ft. Approximately 3 ft. below the sandy shale a soft shale of 1.5 ft. in thickness was found. Then a thin coal seam was present with a thickness of approximately 0.75 ft. Below the coal seam sub clays were encountered at a thickness of approximately 2.5 ft. Below this sandy shale was present to a measured thickness of 4.5 ft. The trenching ended at the property line. We estimate this sandy shale to have a bearing capacity of approximately four (4) tons per square foot.
- This area is forested. The site has not been previously disturbed.
- Due to the site consisting of shallow clays, only the bearing capacity of the sandy shale is evaluated.
- The 2009 International Building Code seismic site classification for this site is "B".
- 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: 11/5/15
Job:	Scale: 1"=2000'
Drawing: LOCATION MAP	

APPALACHIAN WIRELESS
 USGS QUAD MAP
 FIGURE 1



921 Beasley Street, Suite 145
 Lexington, KY 40509
 (859)381-1000
 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 Watergap. A site location map is shown in Figure No. 1.

A Kubota Excavator was used for trenching at the proposed tower site. 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 foundation area to be shaped 50 ft. x 50 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 near the ridge on an undisturbed forested site. The current surface elevation is approximately 1169 ft. in elevation. Topsoil and underlying soft clays are approximately eleven (11) feet in depth.

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 and historic photographs were also used to try to better determine to what extents and which seams were taken. Our researched revealed historic mining in the area. The Upper Elkhorn 3 seam had been mined in the 1940's at an elevation of approximately 700 ft. This mining is no closer than 550 feet from the proposed location of this tower. These mining works should not influence the foundation of this tower. The Lancer Geologic Quadrangle was evaluated for potential of coal seams being near the proposed base of the proposed tower foundation. The nearest coal seam shown was the Fireclay Bed located at approximately 990ft. in elevation. This is approximately 190 feet in elevation below the expected tower base elevation.

4.0 FIELD EXPLORATION

4.1 SITE INFORMATION

The proposed site is located in a forested area in Floyd County, Kentucky. The proposed site lies within the Lancer 7.5 minute quadrangle and is located northeast of the intersection of Ky. highway 80 and U.S. 23. The site is in mountainous terrain and is currently forestland. An estimated pad location was determined for our evaluation.

4.2 TRENCHING DATA

Trenching was conducted through the center of the proposed tower site. Clays and topsoil were 11 ft. deep. The trenching found approximately 6 ft. to 11 ft. of soft clays. Below that 3 ft. of hard shale was encountered, then a soft shale of 1.5 ft. in thickness. Then a thin coal seam was present with a thickness of approximately 0.75 ft. Below





Drawn:	Date: 11/2/15
Job:	Scale: 1"=2000'
Drawing: GQ SITE MAP	

APPALACHIAN WIRELESS
GEOLOGIC MAP
FIGURE 2



921 Beasley Street, Suite 145
Lexington, KY 40509
(859)381-1000
engineering@ermc2.us

the coal seam sub clays were encountered at a thickness of approximately 2.5 ft. Below this, sandy shale was present to a measured thickness of 4.5 ft. The trenching ended at the property line. Trenching data is included in the attached Maps Section of this report.

4.3 GROUNDWATER

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

4.4 SEISMIC SITE CLASSIFICATION

Based on the encountered soil conditions at the project site, the site classification was determined to be "Site Class B- Hard Rock" per the Kentucky Building Code. In addition, a S_{DS} coefficient of 0.122g was calculated, and a S_{D1} coefficient of 0.055g 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

This report demonstrates the different expected bearing capacities based upon the type of material encountered from the trenching information taken at the site.



The approximate elevation of the surface of the site is 1169 ft. . Topsoil and clays were found at varying depths from 6 ft. to 11 ft. Sandy Shale was encountered at a depth of 11 ft. Approximately 3 ft. below the sandy shale a soft shale of 1.5 ft. in thickness was found. Then a thin coal seam was present with a thickness of approximately 0.75 ft. Below the coal seam sub clays were encountered at a thickness of approximately 2.5 ft. Below this sandy shale was present to a measured thickness of 4.5 ft. The trenching ended at the property line. We estimate this sandy shale to have a bearing capacity of approximately four (4) tons per square foot.

5.3 SUBSIDENCE

The nearest coal seam shown was the Fireclay Bed located at approximately 990ft. in elevation. This is approximately 190 feet in elevation below the expected tower base elevation.

Our researched revealed historic mining in the area. The Upper Elkhorn 3 seam had been mined in the 1940's at an elevation of approximately 700 ft. This mining is no closer than 550 feet from the proposed location of this tower. These mining works should not influence the foundation of this tower. The Lancer Geologic Quadrangle was evaluated for potential of coal seams being near the proposed base of the proposed tower foundation. The geologic quadrangle shows two (2) mine adits driven in the Upper Elkhorn No. 3 coal seam. These adits are shown as advancing in the direction of the tower site. There are no available mine maps showing the extent of mining from these adits. As such, the extraction rate and limits of mining cannot be determined. However, given the difference in elevation between the tower base and the coal seam (+/- 450 feet), it is unlikely that there would be any impact from subsidence.

5.4 SHALLOW FOUNDATIONS

We recommend shallow foundations due to competent sand stone being located at a shallow depth. 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. These inconsistencies should be limited due to thick material on sandstone found during the site investigation. Based upon the laboratory and field



testing, visual inspection of the materials and practical experience we have estimated that the bearing capacity of the rock to be at four (4) tsf.

We recommend that the foundation for this structure be placed on the underlying sandstone bedrock. In order to achieve this we advise to excavate through the clays, shale, coal and underlying sub clays. This will require placing the foundation ten (10) ft. below the proposed elevation of the provided design drawing. Once the footer thickness has been determined we recommend lowering the existing grade of the adjacent areas on the site to provide positive drainage away from the supporting structures.

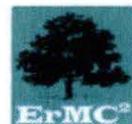
6.0 WARRANTY

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

While the services of 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 trenching includes a description of the materials recovered, approximate depth of boundaries between soil and rock strata and groundwater data. These logs represent conditions specifically at the location and time the observations were made.

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 record review, and report of findings. Additional subsurface drilling and samplings, including groundwater sampling, may be required.

This report has been prepared for the exclusive use of Appalachian Wireless, for specific application to the proposed cellular tower located on the Watergap 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 the Owner designated design engineer.

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

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

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

2.0 GENERAL CONDITIONS

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



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

This work is to be accomplished under the observation of the Owner or his designated representative.

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

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

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



II - ENGINEERED FILL BENEATH STRUCTURES CLEARING AND GRADING SPECIFICATIONS

1.0 GENERAL CONDITIONS

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

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

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

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

2.0 SUBSURFACE CONDITIONS

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



shall such objectionable material be allowed in or under the fill unless specifically authorized in writing.

Prior to the addition of fill, the original ground shall be compacted to job specifications as outlined below. Special notice shall be given to the proposed fill area 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.



III GUIDELINES FOR EXCAVATIONS AND TRENCHES

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



IV- GENERAL CONCRETE SPECIFICATIONS

1.0 GENERAL

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

2.0 SCOPE

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

Unless otherwise noted or as modified by more stringent requirements specified herein, all plain and reinforced concrete work shall be performed in full compliance with applicable requirements of the Building Code Requirements for Reinforced Concrete ACI 318.

Contractor shall obtain Owner's approval of all subgrades, footing bottoms, forms, and reinforcement just prior to placing concrete.

Contractor shall coordinate the work specified in this section with that specified in other sections so that all anchors, pipes and other embedded items are properly installed before concrete is placed.

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

3.0 MATERIALS

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

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

4.0 FORM

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

5.0 INSERTS, ETC.

Anchors, bolts, dowels, conduit, 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,

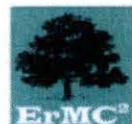
7.0 CONCRETE

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 TRENCHING DATA



APPENDIX B SEISMIC DATA



USGS Design Maps Summary Report

User-Specified Input

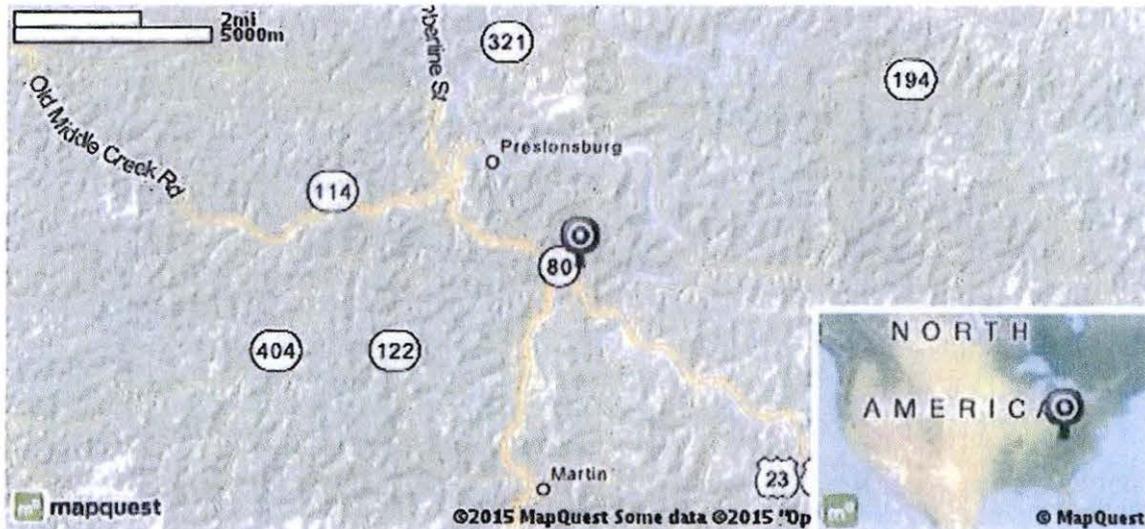
Report Title Watergap Site
Tue November 3, 2015 02:33:10 UTC

Building Code Reference Document 2012 International Building Code
(which utilizes USGS hazard data available in 2008)

Site Coordinates 37.635°N, 82.7401°W

Site Soil Classification Site Class B - "Rock"

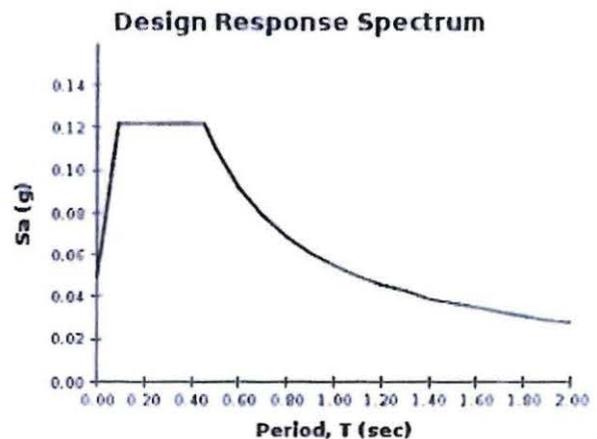
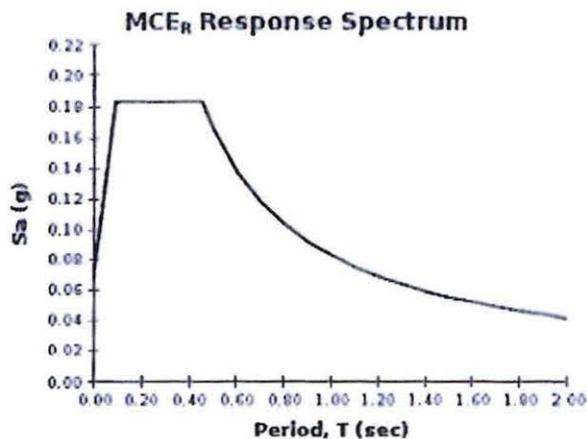
Risk Category IV (e.g. essential facilities)



USGS-Provided Output

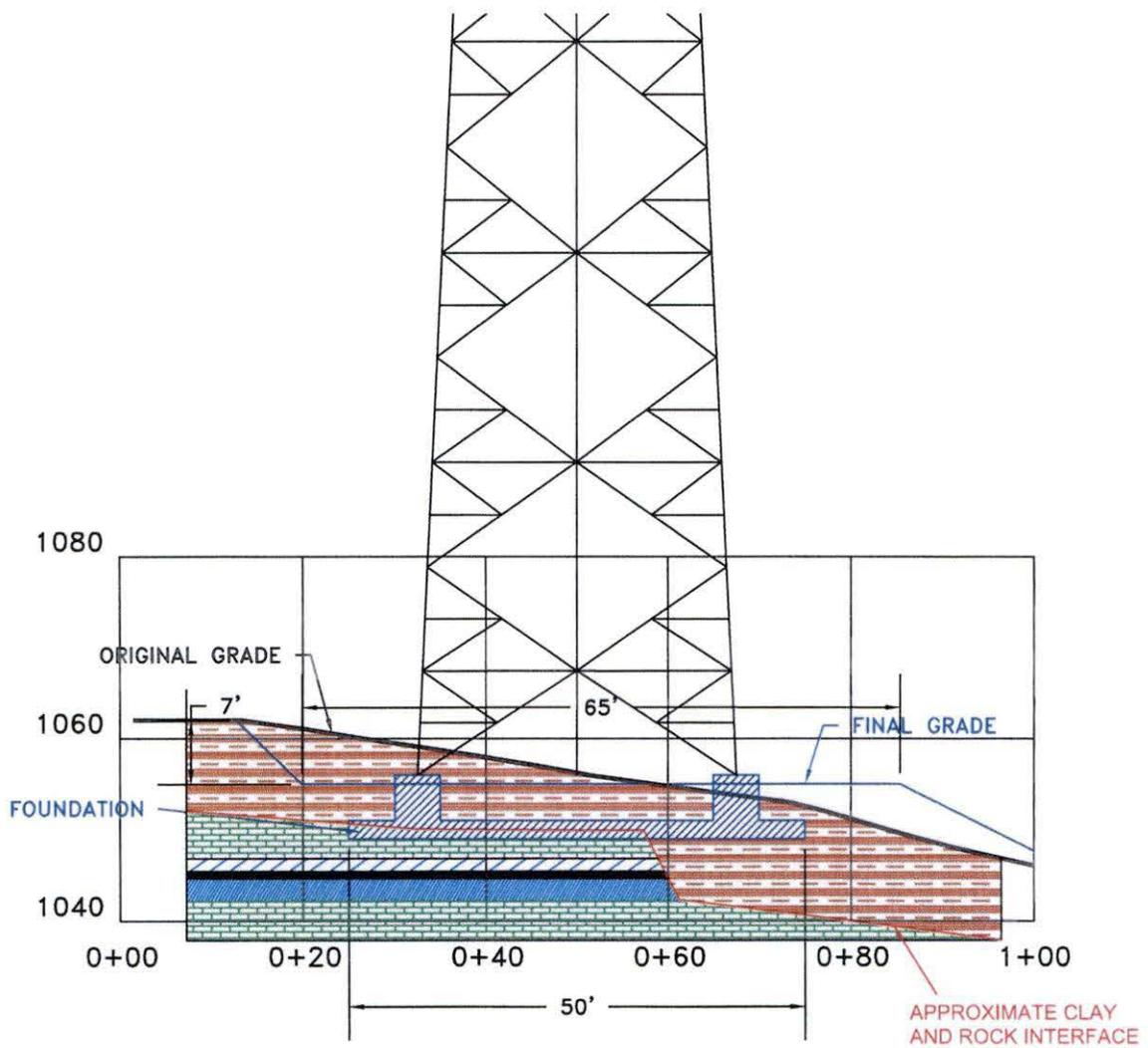
$S_s = 0.183 \text{ g}$	$S_{HS} = 0.183 \text{ g}$	$S_{DS} = 0.122 \text{ g}$
$S_1 = 0.083 \text{ g}$	$S_{H1} = 0.083 \text{ g}$	$S_{D1} = 0.055 \text{ g}$

For information on how the S_s and S_1 values above have been calculated from probabilistic (risk-targeted) and deterministic ground motions in the direction of maximum horizontal response, please return to the application and select the "2009 NEHRP" building code reference document.



APPENDIX C MAPS





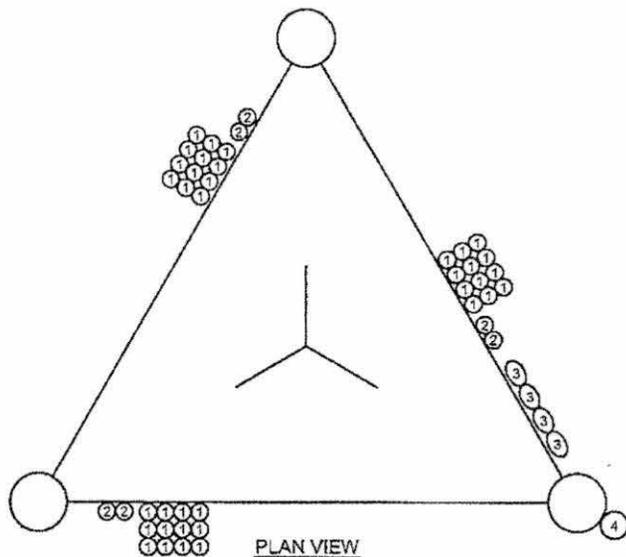
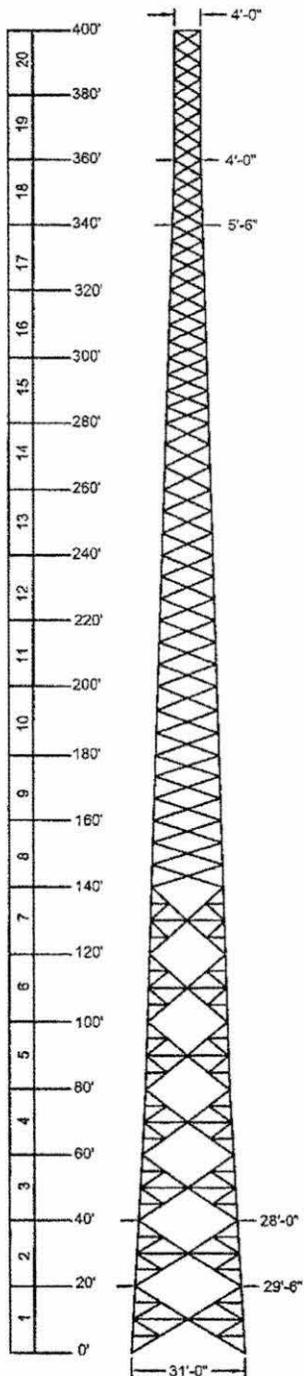
-  CLAY
-  SANDY SHALE
-  SOFT SHALE
-  COAL (MAGOFFIN BED)
-  UNDER CLAYS

Drawn: JWC	Date: 10/08/15
Job: 165-0012	Scale: 1" = 20'
Drawing: Wgsiteplan20	

APPALACHIAN WIRELESS
WATERGAP TOWER
CROSS-SECTION



921 Beasley Street, Suite 145
Lexington, KY 40509
(859)381-1000
engineering@ermc2.us



- PLAN VIEW REF:**
- 1) 1 5/8" HELIAX FEED LINES
 - 2) 7/8" HYBRID FEED LINES
 - 3) EW65 FEED LINES
 - 4) STEP BOLTS

BASE REACTIONS:(FACTORED)

TOTAL SHEAR = 110 KIPS
 AXIAL LOAD = 240 KIPS
 UPLIFT / LEG = 733 KIPS
 COMP. / LEG = 878 KIPS
 O.T. MOMENT = 22189 FT-K

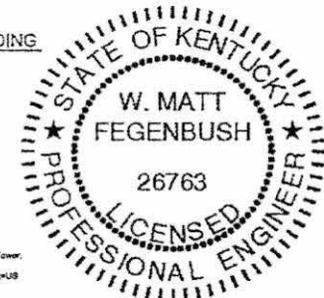
MEMBER INFORMATION

SECTION	ELEVATION	FACE SIZE	LEG DIA.	DIAGONALS	HORIZONTALS	RED. HORIZ/DIAGS.	INNER BRACING	TOP GIRT	# OF BAYS
1	0' - 20'	31'-0"	Ø5 1/2"	2L 3 1/2" x 1/4"	2L 3 1/2" x 1/4"	2L 2" x 3/16"	2L 3" x 3/16"	-	4 - MOD-X
2	20' - 40'	29'-8"	Ø5 1/4"	2L 3" x 1/4"	2L 3" x 3/16"	2L 2" x 3/16"	2L 2 1/2" x 3/16"	-	4 - MOD-X
3	40' - 60'	28'-0"	Ø5 1/4"	2L 3" x 1/4"	2L 3" x 3/16"	2L 2" x 3/16"	2L 2 1/2" x 3/16"	-	4 - MOD-X
4	60' - 80'	26'-6"	Ø5"	2L 3" x 1/4"	2L 3" x 3/16"	2L 2" x 3/16"	2L 2 1/2" x 3/16"	-	4 - MOD-X
5	80' - 100'	25'-0"	Ø5"	2L 3" x 1/4"	2L 3" x 3/16"	2L 2" x 3/16"	2L 2 1/2" x 3/16"	-	4 - MOD-X
6	100' - 120'	23'-6"	Ø4 3/4"	2L 3" x 3/16"	2L 2 1/2" x 3/16"	2L 2" x 3/16"	2L 2" x 3/16"	-	4 - MOD-X
7	120' - 140'	22'-0"	Ø4 1/2"	2L 3" x 3/16"	2L 2 1/2" x 3/16"	2L 2" x 3/16"	2L 2" x 3/16"	-	4 - MOD-X
8	140' - 180'	20'-6"	Ø4 3/4"	L 4" x 1/4"	N/A	-	-	-	3 - X
9	160' - 180'	19'-0"	Ø4 1/2"	L 4" x 1/4"	N/A	-	-	-	3 - X
10	180' - 200'	17'-6"	Ø4 1/2"	L 3 1/2" x 1/4"	N/A	-	-	-	3 - X
11	200' - 220'	16'-0"	Ø4 1/4"	L 3" x 1/4"	N/A	-	-	-	3 - X
12	220' - 240'	14'-6"	Ø4"	L 3" x 1/4"	N/A	-	-	-	3 - X
13	240' - 260'	13'-0"	Ø4"	L 3" x 3/16"	N/A	-	-	-	3 - X
14	260' - 280'	11'-6"	Ø3 3/4"	L 2 1/2" x 3/16"	N/A	-	-	-	3 - X
15	280' - 300'	10'-0"	Ø3 1/4"	L 2" x 3/16"	N/A	-	-	-	4 - X
16	300' - 320'	8'-6"	Ø3 1/4"	L 2" x 1/8"	N/A	-	-	-	4 - X
17	320' - 340'	7'-0"	Ø3"	L 1 3/4" x 1/8"	N/A	-	-	-	4 - X
18	340' - 360'	5'-6"	Ø2 3/4"	L 1 3/4" x 1/8"	N/A	-	-	-	4 - X
19	380' - 380'	4'-0"	Ø2 1/2"	L 2" x 1/8"	N/A	-	-	-	4 - X
20	380' - 400'	4'-0"	Ø1 3/4"	L 1 1/2" x 1/8"	N/A	-	-	L 1 1/2" x 3/16"	4 - X

DESIGNED APPURTENANCE LOADING
 SHOWN ON SHEET "AA"

W. Matt
 Fegenbush

Digitally signed by W. Matt Fegenbush
 DN: cn=W. Matt Fegenbush, o=Allstate Tower,
 email=w.fegenbush@allstatetower.com, c=US
 Date: 2015.11.11 11:53:36 -0900



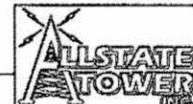
DESIGN NOTES:

- 1) TOWER LEGS ARE CONSTRUCTED OF SOLID ROUND BAR MATERIAL.
- 2) SOLID ROUND 0.75" AND LARGER ASTM A-572 GRADE : 50 KSI MIN.
- 3) SOLID ROUND 0.625" AND SMALLER IS ASTM A-36 GRADE : 36 KSI MIN.
- 4) ALL ANGLE MATERIAL IS ASTM A-529 : 50 KSI MIN.
- 5) ALL BRACE AND FLANGE BOLTS ARE A325-X
- 6) THIS TOWER IS DESIGNED FOR STEP BOLTS UP ONE LEG FOR CLIMBING WITH SAFETY CLIMB DEVICE.
- 7) (10) Ø1 1/2" x 10'-0" LONG (F1554-GR.105) ANCHOR BOLTS PER LEG.
- 8) THIS TOWER IS DESIGNED FOR A 90 M.P.H. WIND SPEED WITH NO ICE AND A 30 M.P.H. WIND SPEED WITH 0.75" IN ICE IN ACCORDANCE WITH THE TIA/EIA-222-G STANDARD.
- 9) DEFLECTIONS BASED ON A 60 M.P.H. WIND.
- 10) TOWER DESIGNED TO EXPOSURE C; STRUCTURE CLASS II; TOPO CAT 1.

APPROX. WEIGHT
 111 KIPS

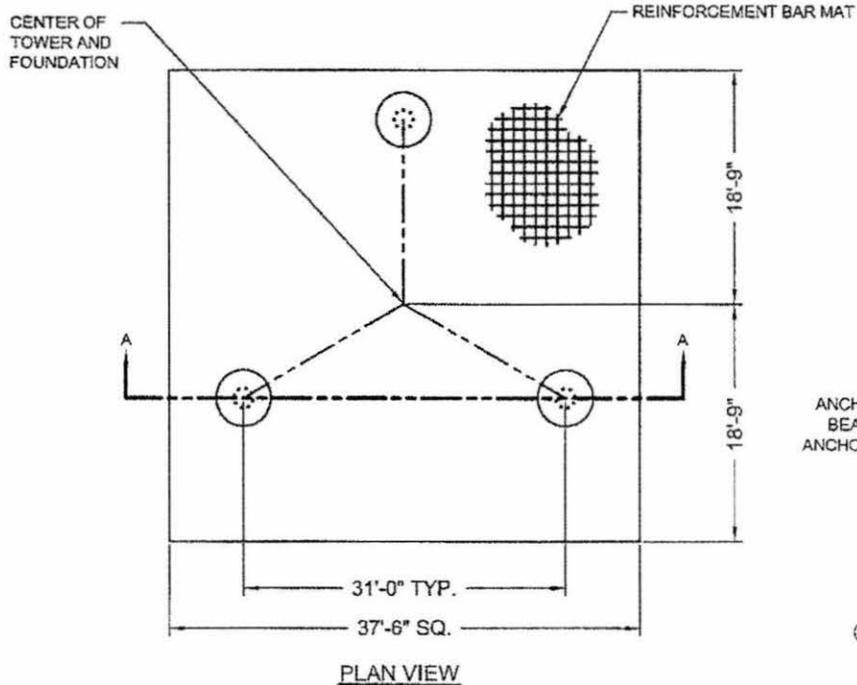
PROPRIETARY STATEMENT: THIS DRAWING IS THE PROPERTY OF ALLSTATE TOWER INC. IT IS NOT TO BE REPRODUCED OR COPIED IN ANYWAY WITHOUT PRIOR WRITTEN CONSENT OF ALLSTATE TOWER INC.

REV #	DESCRIPTION	DATE	BY	UNLESS OTHERWISE NOTED DIMENSIONS ARE IN:
				INCHES
				TOLERANCE BANDS:
				X -3/32"-0 ANGLES +/- 2"
				XX +3/32"-0
				XXX +1/16"-0 HOLES +/- 1/16"-0
SCALE: NTS				DATE: 11/10/2015



ALLSTATE TOWER INC.
 P.O. BOX 35
 HENDERSON, KY 42419
 PHONE: (270) 830-8512
 FAX: (270) 830-8478
 WWW.ALLSTATETOWER.COM

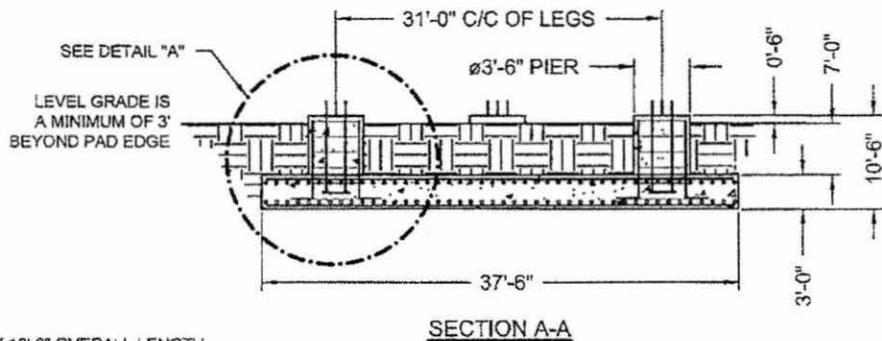
DESCRIPTION:	FILE NAME:	SHEET
TOWER OVERVIEW APPALACHIAN WIRELESS 400' SELF SUPPORT TOWER WATER GAP, FLOYD CO., KY	57391FT - A	A



TOTAL VOLUME OF CONCRETE = 164.3 YD³

FOUNDATION INSTALLATION/DESIGN NOTES:

1. THIS FOUNDATION IS DESIGNED TO MEET ALL STANDARDS SET FORTH BY ACI 318: AMERICAN CONCRETE INSTITUTE, BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE, ANSITIA/EIA 222-G: STRUCTURAL STANDARDS FOR STEEL ANTENNA TOWERS AND ANTENNA SUPPORTING STRUCTURES.
2. THIS FOUNDATION IS DESIGNED UTILIZING THE GEOTECHNICAL REPORT PERFORMED BY ERMCC: DATED 10-25-15; # 165-000-0012. THE FOUNDATION CONTRACTOR SHALL INSTALL THE FOUNDATIONS IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE GEOTECHNICAL REPORT.
3. ALL WORK PERFORMED FROM THESE DRAWINGS SHOULD BE BY QUALIFIED CONTRACTORS EXPERIENCED IN TOWER FOUNDATION CONSTRUCTION.
4. ALL FOOTING EXCAVATIONS SHALL BE MANUALLY CLEANED PRIOR TO PLACING CONCRETE. COMPACT THE EXPOSED SOIL SURFACE AND ANY GRANULAR FILL UNDER THE FOUNDATION TO 90% OF THE MODIFIED PROCTOR DENSITY.
5. ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI AFTER 28 DAYS. COPIES OF THE CONCRETE CYLINDER TEST REPORTS SHALL BE SENT TO THE RESIDENT ENGINEER / INSPECTOR.
6. MINIMUM CONCRETE COVER FOR REINFORCING BARS SHALL BE 3".
7. FIELD BENDING OR WELDING OF REINFORCEMENT BARS IS NOT PERMITTED.
8. PROVIDE CHAMFERS AT ALL EXPOSED CORNERS OF CONCRETE.
9. BACKFILL NEAR AND AROUND THE FOUNDATIONS SHALL BE A WELL GRADED FILL MATERIAL PLACED IN 8" THICK LAYERS THAT HAS BEEN COMPACTED TO 90% OF THE MODIFIED PROCTOR DENSITY PER ASTM D1557.
10. SOME DETAIL HAS BEEN PURPOSELY OMITTED TO CLARIFY ILLUSTRATION.

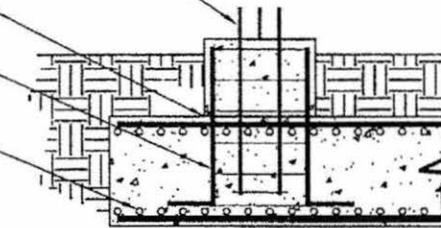


(10) #1 1/2" X 10'-0" OVERALL LENGTH ANCHOR BOLTS (F1554-GR105) W/ 3/4" THK BEARING PLATE AT THE BOTTOM OF THE ANCHOR BOLT CLUSTER (9'-0" MIN. ANCHOR BOLT EMBEDMENT).

USE EPOXY BONDING AGENT WHEN POURED SEPERATELY

(32) #9 VERTICAL BARS w/ 6" HOOK W/ (8) #4 TIES w/ 6" HOOK EQ. SPACED.

(74) #10 HORIZONTAL BARS x 37'-0" LONG SPACED 6" O.C. EACH WAY AT TOP AND BOTTOM OF MAT. (TOTAL=296)



REINFORCEMENT BAR SPlicing:

1. ALL LAP SPICES SHALL CONFORM TO ACI 318 REQUIREMENTS.
2. REFER TO CHART BELOW WHEN REINFORCEMENT BAR SPlicing IS NECESSARY.

REINFORCING BAR SIZE	LAP SPICE LENGTH
3	15"
4	17"
5	21"
6	25"
7	30"
8	36"
9	45"
10	58"
11	71"

W. Matt Fegenbush

Digitally signed by W. Matt Fegenbush
DN: cn=W. Matt Fegenbush, o=Allstate Tower, inc., email=fegenbush@allstatetower.com, ou=US
Date: 2015.11.11 11:59:57 -0500



PROPRIETARY STATEMENT: THIS DRAWING IS THE PROPERTY OF ALLSTATE TOWER INC. IT IS NOT TO BE REPRODUCED OR COPIED IN ANY WAY WITHOUT PRIOR WRITTEN CONSENT OF ALLSTATE TOWER INC.

REV #	DESCRIPTION	DATE	BY	UNLESS OTHERWISE NOTED DIMENSIONS ARE IN:	DESCRIPTION	
				INCHES	PAD & PIER FOUNDATION DESIGN APPALACHIAN WIRELESS WATER GAP, FLOYD CO., KY	
				TOLERANCE BANDS: X +.002 / -0 ANGLES +/- 2" XX +.002 / -0 XXX +.010 / -0 HOLES +.010 / -0		
				DRAWN BY: J. THOMPSON		
SCALE: NTS				DATE: 11/10/2015	FILE NAME: 57391FT - B	SHEET: B



ALLSTATE TOWER INC.
P.O. BOX 25
HENDERSON, KY 42419
PHONE: (270) 633-5152
FAX: (270) 630-6475
WWW.ALLSTATETOWER.COM



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

Aeronautical Study No.
 2015-ASO-16657-OE

Issued Date: 11/09/2015

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

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

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

Structure: Antenna - Top Mount Watergap
 Location: Watergap, KY
 Latitude: 37-38-05.95N NAD 83
 Longitude: 82-44-24.30W
 Heights: 1056 feet site elevation (SE)
 410 feet above ground level (AGL)
 1466 feet above mean sea level (AMSL)

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

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

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

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

This determination expires on 05/09/2017 unless:

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

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

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

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

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

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

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

If we can be of further assistance, please contact our office at (816) 329-2523. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2015-ASO-16657-OE.

Signature Control No: 268533651-271671561

(DNE)

Steve Phillips
Specialist

Attachment(s)
Frequency Data
Map(s)

cc: FCC

Frequency Data for ASN 2015-ASO-16657-OE

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





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 type="checkbox"/> New Construction <input checked="" type="checkbox"/> Alteration <input type="checkbox"/> Existing				WORK SCHEDULE	
DURATION <input type="checkbox"/> Permanent <input type="checkbox"/> Temporary (months days)				Start 11/25/15 End 11/30/15	
TYPE <input type="checkbox"/> Crane <input type="checkbox"/> Building		MARKING/PAINTING/LIGHTING PREFERRED			
<input checked="" type="checkbox"/> Antenna Tower		<input type="checkbox"/> Red Lights & Paint <input type="checkbox"/> White- medium intensity <input type="checkbox"/> White- high intensity			
<input type="checkbox"/> Power Line <input type="checkbox"/> Water Tank		<input checked="" type="checkbox"/> Dual- red & medium intensity white <input type="checkbox"/> Dual- red & high intensity white			
<input type="checkbox"/> Landfill <input type="checkbox"/> Other		<input type="checkbox"/> Other			
LATITUDE 37°38'05.95"		LONGITUDE 82°44'24.30"		DATUM <input checked="" type="checkbox"/> NAD83 <input type="checkbox"/> NAD27	
<input type="checkbox"/> Other					
NEAREST KENTUCKY City Watergap County Floyd			NEAREST KENTUCKY PUBLIC USE OR MILITARY AIRPORT Big Sandy Regional Airport		
SITE ELEVATION (AMSL, feet) 056		TOTAL STRUCTURE HEIGHT (AGL, feet) 410		CURRENT (FAA aeronautical study #)	
OVERALL HEIGHT (site elevation plus total structure height, feet) 1466				PREVIOUS (FAA aeronautical study #)	
DISTANCE (from nearest Kentucky public use or Military airport to structure) 9.8 mi				PREVIOUS (KY aeronautical study #)	
DIRECTION (from nearest Kentucky public use or Military airport to structure) NE					
DESCRIPTION OF LOCATION (Attach USGS 7.5 minute quadrangle map or an airport layout drawing with the precise site marked and any certified survey.) Approx. 0.3 mi east of Watergap (Floyd), KY					
DESCRIPTION OF PROPOSAL An new 400' tower with top-mounted antennas (overall height of 410' 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? 10/14/15					
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 10/14/15	
COMMISSION ACTION		<input type="checkbox"/> Chairperson, KAZC			
		<input type="checkbox"/> Administrator, KAZC			
<input type="checkbox"/> Approved	SIGNATURE			DATE	
<input type="checkbox"/> Disapproved					

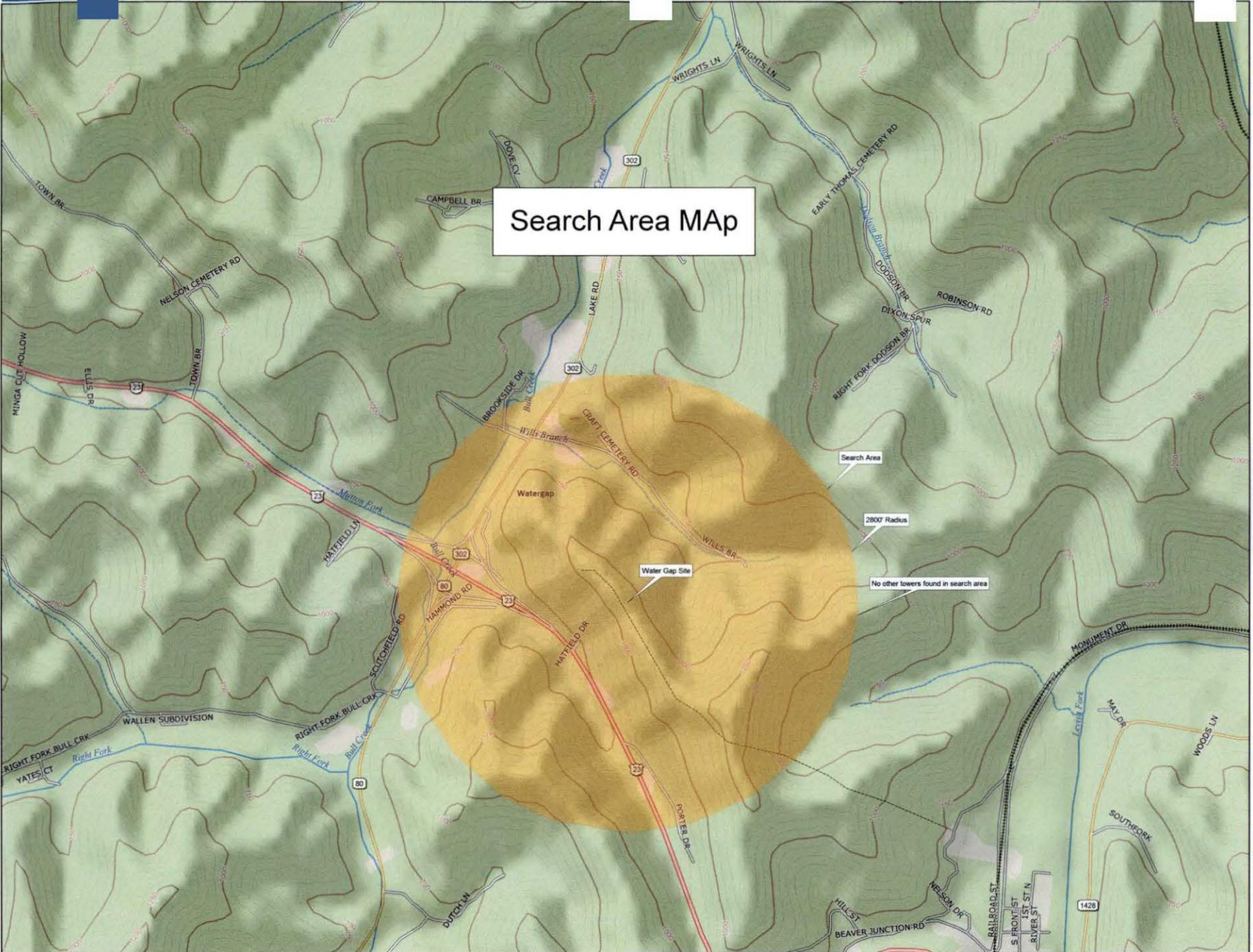
Driving Directions for Watergap Site

Starting in front of the Floyd county courthouse going north on S. Lake Drive (Route 1428) go 2.7 miles turn right on route 302 (80 W Water Gap Rd.) go 2 miles turn left on Willis Branch Road. Go .4 miles, tower access road is on the right (signs will be posted here).

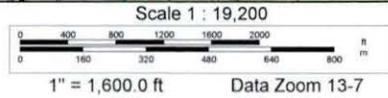
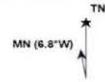
Prepared By:

Daryl Bartley
Appalachian Wireless
606-791-0310

Search Area MAp



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www.delorme.com



GENERAL WARRANTY DEED

Book 615 Page 203

THIS GENERAL WARRANTY DEED entered into this 8th day of June, 2015, between Randell Calhoun and Debra Calhoun, his wife, with a mailing address of 502 Willis Branch, Prestonsburg, KY 41653, GRANTORS, and East Kentucky Network, LLC d/b/a Appalachian Wireless, with a mailing address of 101 Technology Trail, Ivel, KY 41642, GRANTEE.

WITNESSETH:

That said Grantors for and in consideration of the sum of Forty Thousand Dollars (\$40,000.00), the receipt and sufficiency of which is hereby acknowledged, do hereby grant, sell and convey to the Grantee, its successors and assigns, the following described property, to-wit:

BEING a portion of the same property conveyed by that certain Deed of Conveyance dated September 21, 2007, from Doris Ann Calhoun to Randell Calhoun, recorded in Deed Book 539, Page 263 in the Floyd County Clerk's Office. The conveyed tract of land is more particularly described as follows:

Beginning on a set iron pin with cap marked Is2259 at found 36" dead oak on ridge on the line between Randell Calhoun (Deed Book 539, Page 263) and the line of Hope in the Mountains, Inc. (Book 584, Page 566); thence running with the dividing line and the ridge North 29 deg 06 min 28 sec West, 99.89 feet to a set iron pin with cap marked Is2259 on the ridge, North 28 deg 54 min 58 sec West, 50.59 feet to a set iron pin with cap marked Is 2259 on ridge; thence leaving the ridge and dividing line with Hope in the Mountains, Inc. and running down the hill severing the property of Randell Calhoun North 56 deg 17 min 34 sec East, 116.08 feet to a set iron pin with cap marked Is2259 on hillside; thence running around the hill South 09 deg 21 min 47 sec East, 54.73 feet to a set iron pin with cap marked Is2259 on hillside, South 26 deg 50 min 30 sec East, 98.05 feet to a set iron pin with cap marked Is2259 on hillside; thence up the hill South

54 deg 36 min 18 sec West, 94.07 feet to the beginning.
Containing a calculated area of 14,781 sq ft or 0.34 acres.

BEING the same property described by metes and bounds in the description hereto and made a part hereof as Exhibit A and as shown on the plat dated June 23, 2015, prepared by James W. Caudill, Licensed Land Surveyor, and attached hereto and made a part hereof as Exhibit B.

Grantors grant and convey unto Grantee, its successors and assigns, a permanent easement and right of way for a roadway of sufficient width for ingress and egress with men, vehicles, equipment and machinery over and across Grantors retained surface property to the tract or parcel of land granted and conveyed herein to Grantee, its successors and assigns together with the right to reconstruct or use any existing roadways over Grantors retained surface for such purposes.

Grantors grant and convey unto Grantee, its successors or assigns, an easement and right of way to construct and maintain any and all power lines, telephone lines, coaxial lines or any other utilities or related facilities needed and/or necessary for use by Grantee, its successors or assigns, over and across Grantors retained surface property to the tract or parcel of land granted and conveyed herein to Grantee, its successors and assigns.

Grantors further grant and convey unto Grantee, its successors and assigns the right to remove any trees, tree limbs, undergrowth or obstructions upon Grantors retained surface property that might interfere with or damage any towers or structures that Grantee, its successors or assigns, may place upon the above described tract of land, or with the easements and rights of way granted herein.

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

AFFIDAVIT OF VALUE

We, the undersigned, do hereby certify and swear pursuant to KRS Chapter 382, that the full and complete consideration paid for the transfer of the hereinabove described property was Forty Thousand Dollars (\$40,000.00). All property taxes from this date forward shall be sent to East Kentucky Network, LLC d/b/a Appalachian Wireless at the address in the preamble of this Deed.

IN TESTIMONY WHEREOF, the parties have hereunto subscribed their names, this day and year aforesaid.

GRANTORS:

Randell Calhoun
Randell Calhoun

Debra Calhoun
Debra Calhoun

STATE OF Kentucky

COUNTY OF Floyd

The foregoing instrument was acknowledged before me on this 8th day of June, 2015, by Randell Calhoun and Debra Calhoun, Grantors.

Bruce J. Bradley
Notary Public

My Commission Expires Feb 3, 2016

GRANTEE:

EAST KENTUCKY NETWORK, LLC
d/b/a APPALACHIAN WIRELESS

BY: WA Gillum

ITS: CEO/GM

COMMONWEALTH OF KENTUCKY
COUNTY OF Floyd

The foregoing instrument was acknowledged before me on this 8th day of June, 20 15, by W.A. Gillum, CEO/General Manager of East Kentucky Network, LLC, d/b/a Appalachian Wireless.

Rainer D. Bradley
Notary Public

My Commission Expires Feb 3, 2016

This instrument was prepared by:

Bekhaney Bowersock
Bethany L. Bowersock, Attorney at Law
101 Technology Trail
Ivel, KY 41642

Exhibit A

LOT DESCRIPTION
Property of
Randell Calhoun
502 Willis Branch Road
Prestonsburg, KY 41653
Located near Watergap in Floyd County
June 23, 2015

A portion of the property lying near Watergap in Floyd County of Kentucky, in Willis Branch near the the top of ridge. Being a part of the same land conveyed by deed from Doris Ann Calhoun to Randell Calhoun by Deed dated September 21, 2007 and recorded in Deed Book 539 Page 263 of the Floyd county Court Clerk.

Unless stated otherwise, any monument referred to herein as "set iron pin with cap" is a set 1/2" diameter rebar, at least eighteen (18") in length, with a plastic cap stamped "LS-2259". All bearings stated herein are referred to NAD83, KY single zone of the Kentucky state plane system. This survey preformed by James W. Caudill, LS2259, on June 23, 2015.

Lot 1A

Beginning on a set iron pin with cap marked ls2259 at found 36" dead oak on ridge on the line between Randell Calhoun (deed book 539 page 263) and the line of Hope in the Mountains, Inc. (book 584 page 566); thence running with the dividing line and the ridge North 29 deg 06 min 28 sec West, 99.89 feet to a set iron pin with cap marked ls2259 on the ridge, North 28 deg 54 min 58 sec West, 50.59 feet to a set iron pin with cap marked ls2259 on ridge; thence leaving the ridge and dividing line with Hope in the Mountains, inc and running down the hill severing the property of Randell Calhoun North 56 deg 17 min 34 sec East, 116.08 feet to a set iron pin with cap marked ls2259 on hillside; thence running around the hill South 09 deg 21 min 47 sec East, 54.73 feet to a set iron pin with cap marked ls2259 on hillside, South 26 deg 50 min 30 sec East, 98.05 feet to a set iron pin with cap marked ls2259 on hillside; thence up the hill South 54 deg 36 min 18 sec West, 94.07 feet to the beginning. Containing a calculated area of 14781 sq ft or 0.34 acres.

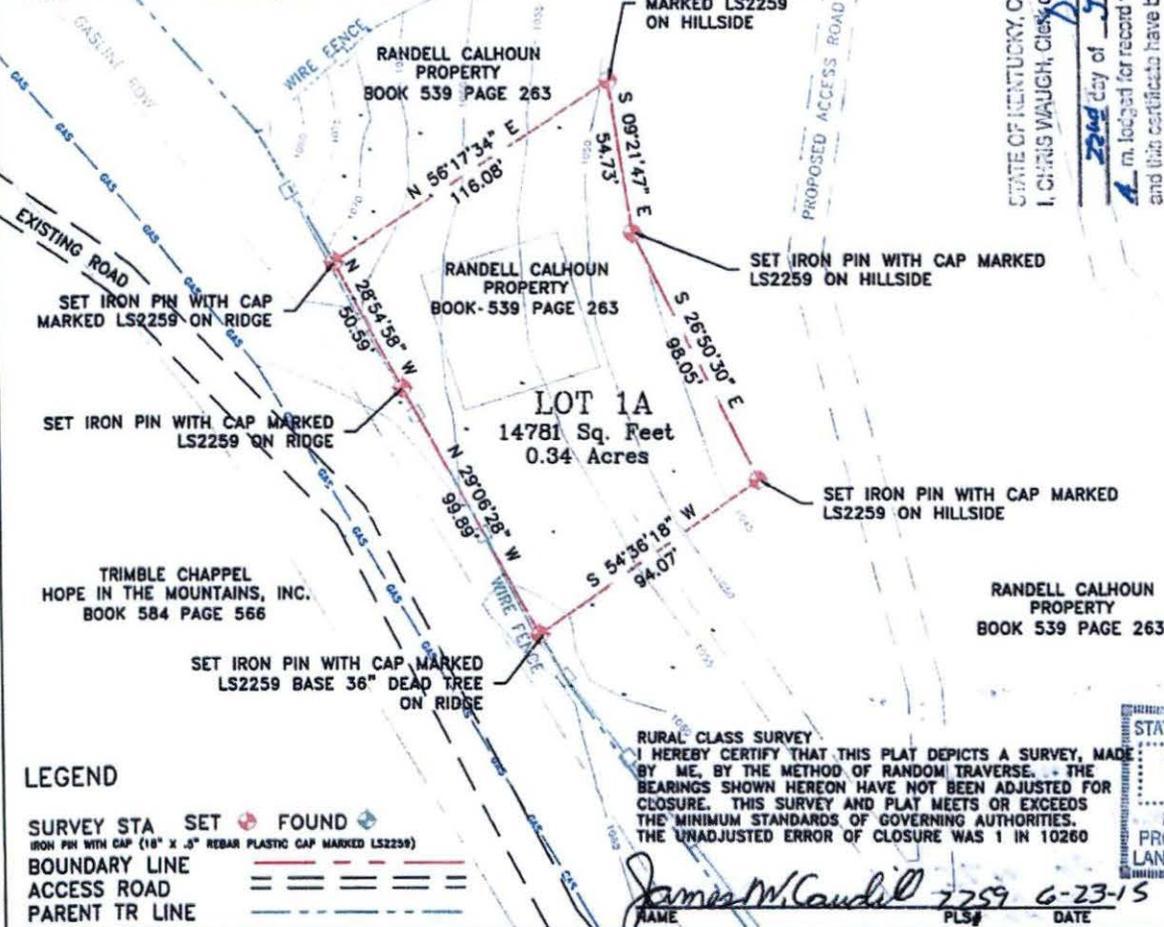
This survey was performed on June 23, 2015 by James W. Caudill, a Kentucky Licensed Professional Land Surveyor No. 2259



James W. Caudill 6-23-15
James W. Caudill, PLS #2259

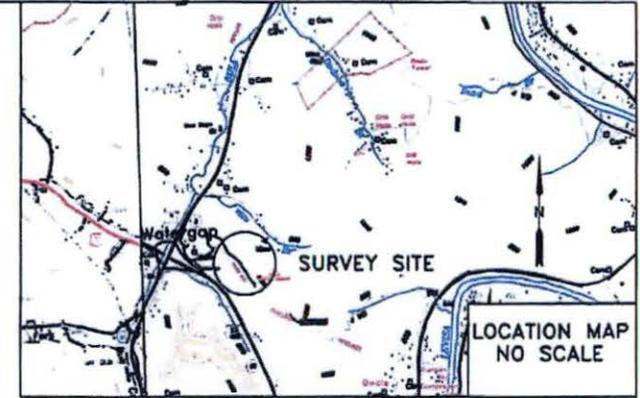
Exhibit B

Beginning of a set ipc in dead tree on ridge;
 thence N 29°06'28" W a distance of 99.89' along ridge to ipc ridge;
 thence N 28°54'58" W a distance of 50.59' to a set ipc 2ft off line on ridge;
 thence N 56°17'34" E a distance of 116.08' down hill to a set ipc hillside;
 thence S 09°21'47" E a distance of 54.73' around hill to a set ipc hillside;
 thence S 26°50'30" E a distance of 98.05' to a set ipc on hillside;
 thence S 54°36'18" W a distance of 94.07' to a ipc dead tree on ridge;
 which is the point of beginning,
 having an area of 14781 square feet, 0.34 acres



No. 01706 pt. 2
same

STATE OF KENTUCKY, COUNTY OF FLOYD, S.S.
 I, CHRIS WAUGH, Clerk of Floyd County Certify that the foregoing was on the
 22nd day of July 2015 at 10:25 a.m.
 I am lodged for record whereupon the same with this foregoing and this certificate have been duly recorded in my office.
 Witness my hand this 22nd day of July 2015
 CHRIS WAUGH, CLERK by *[Signature]* D.C.



APPALACHIAN WIRELESS
 101 TECHNOLOGY TRAIL
 IVEL, KY. 41642
 PROPOSED TOWER SITE
 WATERGAP IN FLOYD CO.



NAD83 KY SINGLE ZONE

LEGEND

- SURVEY STA SET FOUND
- IRON PIN WITH CAP (1/8" X .3" REBAR PLASTIC CAP MARKED LS2259)
- BOUNDARY LINE
- ACCESS ROAD
- PARENT TR LINE

RURAL CLASS SURVEY
 I HEREBY CERTIFY THAT THIS PLAT DEPICTS A SURVEY, MADE BY ME, BY THE METHOD OF RANDOM TRAVERSE. THE BEARINGS SHOWN HEREON HAVE NOT BEEN ADJUSTED FOR CLOSURE. THIS SURVEY AND PLAT MEETS OR EXCEEDS THE MINIMUM STANDARDS OF GOVERNING AUTHORITIES. THE UNADJUSTED ERROR OF CLOSURE WAS 1 IN 10260

James W. Caudill 7759 6-23-15
 NAME PLS# DATE

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

PLAT OF SURVEY		
DRAWN BY JWC	SURVEY DATE 06/23/2015	SUB DIVISION PROPERTY OF RANDELL CALHOUN 502 WILLIS BR RD PRESTONSBURG, KY 41653 NEAR WATERGAP IN FLOYD CO DEED BOOK 539 PAGE 263
CHECKED BY JWC	DRAWING DATE 06/23/2015	
SCALE 1" = 50'	SHEET 1 of 1	<small>SURVEYED BY JAMES W. CAUDILL LS2259 2995 PERKINS/MAGDEN ROAD AMBERLEY, KY 41773 PHONE 606-642-3217</small>

LODGED FOR RECORD

DATE 7-22-15

TIME 10:25 AM

FEE 26.00 to. netax

Chris Waugh
Clerk of Floyd County

Total 66.00

BY Myra Henry D

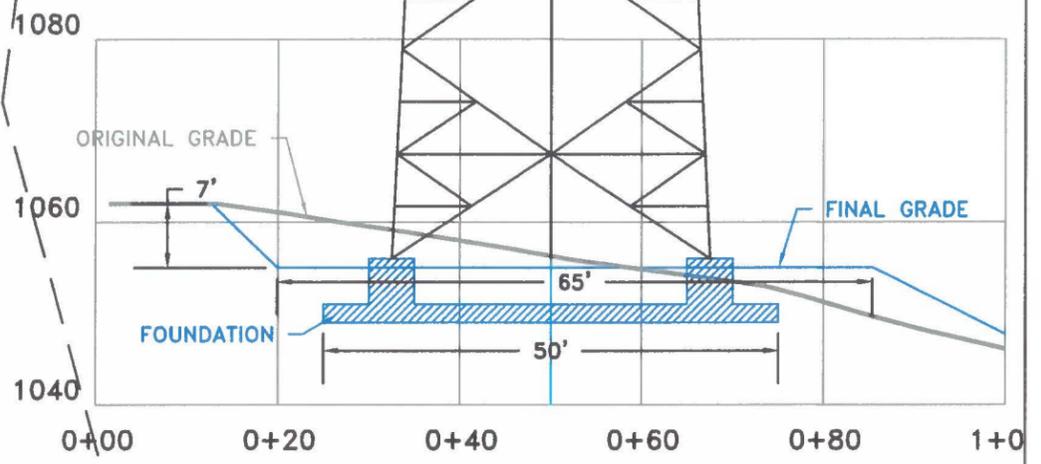
East Ky Network

LINE	BEARING	DISTANCE
L1	N 81°05'58" E	73.29'
L2	S 69°45'34" E	99.03'
L3	S 67°22'33" E	96.45'
L4	S 60°53'26" E	87.72'
L5	S 53°30'24" E	88.70'
L6	S 50°37'54" E	97.54'
L7	S 40°49'25" E	72.38'
L8	S 29°02'36" E	150.48'
L9	N 18°31'52" W	80.99'
L10	N 06°50'58" W	110.63'
L11	N 01°56'02" E	69.73'
L12	N 09°55'31" E	70.79'
L13	N 18°05'03" E	79.22'
L14	S 71°06'56" E	28.33'

APPALACHIAN WIRELESS
 101 TECHNOLOGY TRAIL
 IVEL, KY. 41642
 PROPOSED TOWER
 NEAR WATERGAP IN FLOYD COUNTY

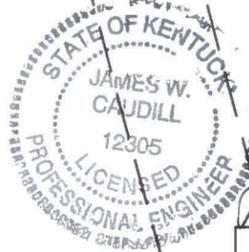
PROPOSED TOWER LOCATION
 LAT:37°38'05.9520"
 LON:82°44'24.3074"
 N:3768838.94
 E:5792653.16
 Z:1056.00

CROSS SECTION



-THE PROPOSED TOWER HAS BEEN LOCATED USING DUAL FREQUENCY GPS UNIT PROCESSED BY "OPUS"
 -STATE PLANE COORDINATES NAD 83 KY SINGLE ZONE N:3768838.94 E:5792653.16 EL 1056.0' EXISTING GRD PLAN- FOUNDATION EL1056.0'-TOP TOWER EL 1456.0'
 -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.

HEREBY CERTIFY THAT THIS DOCUMENT WAS PREPARED BY ME OR UNDER MY DIRECTION.
James W. Caudill 12305 11-2-15
 JAMES W. CAUDILL PE# DATE



RANDELL CALHOUN
 PROPERTY
 BOOK 539 PAGE 263

RANDELL CALHOUN
 PROPERTY
 BOOK 539 PAGE 263

LOT 1A
 14781 Sq. Feet
 0.34 Acres

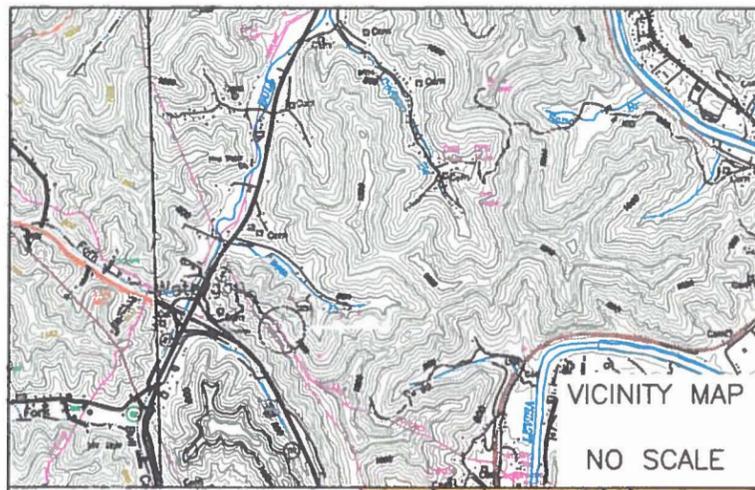
TRIMBLE CHAPPEL
 HOPE IN THE MOUNTAINS, INC.
 BOOK 584 PAGE 566

SURVEY STA SET **FOUND**
 IRON PIN WITH CAP (18" X .5" REBAR PLASTIC CAP MARKED LS2259)
BOUNDARY LINE
ACCESS ROAD
PARENT TR LINE

N:3768729.10
 E:5792666.36
 Z:1061.75



PROPOSED SITE PLAN AND STRUCTURE LOCATION WATERGAP TOWER APPALACHIAN WIRELESS		
DRAWN JWC	DATE 11/02/15	WATERGAP TOWER RANDEL CALHOUN
APPROVED	DATE	WILLIS BRANCH OF BULL CREEK NEAR WATERGAP IN FLOYD COUNTY
SCALE 1" = 20'	SHEET 2 OF 3	PROJECT NO. WATERGAP/WGSITEPLAN20



MAP: 61
PARCEL: 30

MAP: 61
PARCEL: 30.01

DAVID AND
PATRICIA CALHOUN
396 WILLIS BRANCH RD.
PRESTONSBURG, KY 41653
DEED BOOK: 483 PAGE: 33
MAP: 61 PARCEL: 30.02

HOPE IN THE MOUNTAINS, INC.
105 TRIMBLE CHAPEL SQUARE
PRESTONSBURG, KY 41653
DEED BOOK: 584 PAGE: 566
MAP: 46 PARCEL: 86.01

MJ PENNINGTON LAND CORPORATION
P.O. BOX 957
PRESTONSBURG, KY 41653
DEED BOOK: 564 PAGE: 92
MAP: 61 PARCEL: 48

RANDELL CALHOUN
502 WILLIS BRANCH ROAD
PRESTONSBURG, KY 41653
DEED BOOK: 539 PAGE: 263
MAP: 61 PARCEL: 82

HOPE IN THE MOUNTAINS, INC.
105 TRIMBLE CHAPEL SQUARE
PRESTONSBURG, KY 41653
DEED BOOK: 584 PAGE: 566
MAP: 46 PARCEL: 83

LAT: 37°38'05.9537"
LON: 82°44'24.3228"
N: 3768838.94
E: 5792653.16
Z: 1055.00

MAP: 46
PARCEL: 79

US RT 23

Mine

800

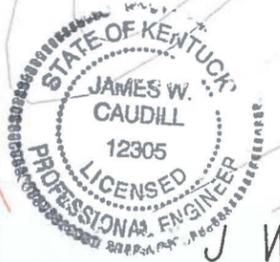
10000

AFFECTED AREA

PROPOSED TOWER SITE

PROPOSED ACCESS ROAD

PROPOSED ACCESS ROAD 15% SLP
2700' LONG



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 11-2-15
JAMES W. CAUDILL P.E.# DATE

LEGEND

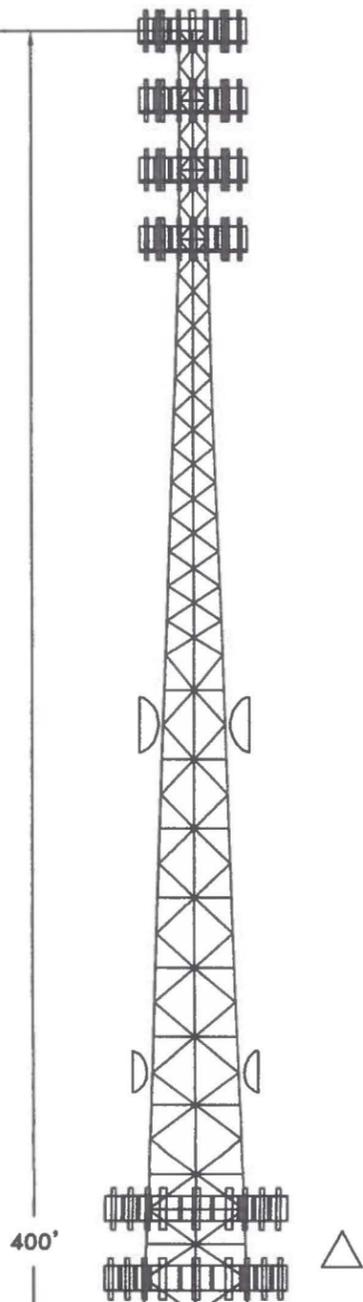
- POWER LINE
- PROPERTY LINE
- ACCESS ROAD
- CREEK
- CEMETERY
- TOWER

PROPOSED SITE PLAN AND STRUCTURE LOCATION WILLIS BRANCH - WATERGAP TOWER APPALACHIAN WIRELESS		
DRAWN JWC	DATE 11/02/15	WATERGAP TOWER SITE OFF WILLIS BRANCH RD. RANDELL CALHOUN TR NEAR WATERGAP IN FLOYD CO.
APPROVED	DATE	
SCALE 1"=200'	SHEET 1 OF 1	PROJECT NO. WATERGAP/WBPVA

APPALACHIAN WIRELESS

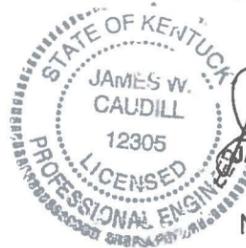
101 TECHNOLOGY TRAIL
IVEL, KY. 41642

PROPOSED TOWER SITE
WATERGAP IN FLOYD COUNTY



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.

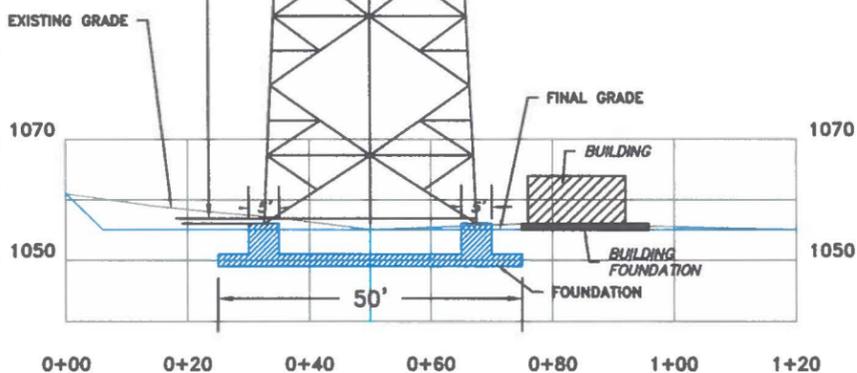


James W. Caudill 12305 11-2-15
 JAMES W. CAUDILL PE #. DATE

NOTE: SEE FOUNDATION DRAWINGS FOR DETAILS

11/02/15

SCALE 1" = 30'



PROPOSED SITE PLAN AND STRUCTURE LOCATION WATERGAP TOWER APPALACHIAN WIRELESS

DRAWN JWC	DATE 11/02/15	WATERGAP TOWER RANDEL CALHOUN WILLIS BRANCH OF BULL CREEK IN FLOYD COUNTY
APPROVED	DATE	
SCALE 1" = 30'	SHEET 3 OF 3	PROJECT NO. WATERGAP/WGPROFILE30