

BRIGGS LAW OFFICE, PSC

10200 Forest Green Boulevard | Suite 112 | Louisville, Kentucky 40223
[884] 331-3402 main | [502] 468-3751 mobile | todd@briggslawoffice.net

TODD R. BRIGGS
also admitted in Colorado

August 21, 2019

RECEIVED

AUG 26 2019

PUBLIC SERVICE
COMMISSION

Via FedEx Overnight Delivery

Gwen R. Pinson
Executive Director
Kentucky Public Service Commission
211 Sower Boulevard
Frankfort, KY 40602

**RE: Application to Install 15' Extension to Existing Monopole Tower
Case Number: 2019-00261**

Dear Ms. Pinson,

On behalf of my client, Vertical Bridge AM, LLC, I hereby submit an original and five (5) copies of an Application for Certificate of Public Convenience and Necessity to install a 15' extension to an existing monopole tower that was issued a CPCN under Case Number 2009-00092. The application is submitted in accordance with 807 KAR 5:063 Section 3(1)(b).

Please contact me if you require any further documentation or have any questions concerning this application.

Sincerely,



Todd R. Briggs

Enclosures

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

RECEIVED

AUG 26 2019

**PUBLIC SERVICE
COMMISSION**

In the Matter of:

APPLICATION OF VERTICAL BRIDGE AM, LLC)
FOR ISSUANCE OF A CERTIFICATE OF PUBLIC)
CONVENIENCE AND NECESSITY TO INSTALL) **CASE: 2019-00261**
A 15' EXTENSION TO EXISTING MONOPOLE TOWER)
8249 TOMPKINSVILLE ROAD, SUMMER SHADE)
METCALFE COUNTY, KENTUCKY, 42166)

SITE NAME: US-KY-5061 / SUMMER SHADE EXTENSION

**APPLICATION FOR CERTIFICATE
OF PUBLIC CONVENIENCE AND NECESSITY
TO INSTALL A 15' EXTENSION TO EXISTING WIRELESS
COMMUNICATIONS FACILITY**

Vertical Bridge AM, LLC, a Delaware limited liability company ("Applicant"), by counsel, pursuant to (i) KRS §§ 278.020, 278.040, 278.665 and the rules and regulations applicable thereto, and (ii) the Telecommunications Act of 1996, respectfully submits this Application requesting the issuance of a Certificate of Public Convenience and Necessity ("CPCN") from the Kentucky Public Service Commission ("PSC") to install a 15' extension to the monopole tower as part of the Wireless Communications Facility ("WCF") that received a CPCN under Case #2019-00092.

807 KAR 5:063 Section 3(1)(b) requires the CPCN for any utility that plans to augment an existing structure that is outside the jurisdiction of a planning commission and that will result in new lighting requirements for the structure on which lighting is not currently required. The Federal Aviation Administration determined that the additional height of the tower will require the structure to be marked/lighted in accordance with FAA Advisory circular 70/7460-1 L Change 2,

Obstruction Marking and Lighting, a med-dual system - Chapters 4,8 (MDual), & 12 as indicated in **Exhibit G**.

New Cingular Wireless PCS, LLC ("AT&T") plans to install their equipment within the proposed 15' extension envelope in order to better serve their customers with wireless communication services. In support of this Application, Applicant respectfully provides and states the following:

1. The complete name and address of the Applicant is: Vertical Bridge AM, LLC, a Delaware limited liability company, 750 Park of Commerce Drive, Suite 200, Boca Raton, FL 33487.

2. Copies of the Applicant's Certificate of Authority filed with the Kentucky Secretary of State and Delaware Certificate of Formation are attached as **Exhibit A**.

3. Applicant's extension to the monopole antenna tower in Metcalfe County, Kentucky, is in an area which is outside the jurisdiction of a planning commission and Applicant submits the Application to the PSC for a CPCN pursuant to KRS §§ 278.020(1), 278.040, 278.650, and 278.665, and other statutory authority.

4. The public convenience and necessity require the installation of the proposed extension. The extension will allow AT&T to bring or improve their services to an area currently not served or not adequately served by AT&T, enhancing coverage and/or capacity and thereby increasing the public's access to wireless communication services. A statement from AT&T's Principal-Network Planning Engineer outlining said need is attached as **Exhibit M**. The extension to the WCF is an integral link in AT&T's network design that must be in place to provide adequate coverage to the service area.

5. To address the above-described service needs, Applicant proposes to install a 15' extension to the monopole tower located at 8249 Tompkinsville Road, Summer Shade, Kentucky (36° 52' 43.74" North Latitude, 85° 39' 53.06" West Longitude (NAD 83)), in an area entirely within Metcalfe County. The property in which the WCF is located is currently owned by Applicant, pursuant to Deed of record in Deed Book 164, Page 58 in the Office of the Metcalfe County Clerk. A copy of said Deed is attached as **Exhibit I**. Along with the 15' extension, an approximate 9' tall lightning arrestor will be attached to the top of the extended tower for a total height not to exceed 219 feet. A detailed site development plan and survey, signed and sealed by a professional land surveyor registered in Kentucky is attached as **Exhibit B**.

6. A detailed description of the manner in which the extension will be constructed is included in the site plan and a vertical tower profile signed and sealed by a professional engineer registered in Kentucky is attached as **Exhibit C**. Foundation design plans and a description of the standards according to which the tower, with the extension, was designed which have been signed and sealed by a professional engineer registered in Kentucky are attached as **Exhibit D**.

7. A geotechnical engineering report was performed at the WCF site by Environmental Corporation of America of Alpharetta, Georgia, dated February 5, 2019 and is attached as **Exhibit E**. The name and address of the geotechnical engineering firm and the professional engineer registered in Kentucky who prepared the report are included as part of **Exhibit E**.

8. A list of public utilities, corporations, and/or persons with whom the proposed WCF with extension is likely to compete is attached as **Exhibit F**.

9. The Federal Aviation Administration's Determination of No Hazard to Aviation with the condition that the structure be marked/lighted is attached as

Exhibit G. The Kentucky Airport Zoning Commission permit with the condition that Medium Dual Obstruction Lighting is required in accordance with 602 KAR 50:100 is also attached as **Exhibit G.**

10. AT&T operates on frequencies licensed by the Federal Communications Commission ("FCC") pursuant to applicable federal requirements. Copies of the license(s) are attached as **Exhibit H.** The WCF extension has been designed, and will be built and operated in accordance with all applicable FCC and FAA regulations as indicated in the statement from AT&T's Principal-Network Planning Engineer included as **Exhibit M.** Appropriate FCC required signage will be posted on the site.

11. Based on the review of Federal Emergency Management Agency Flood Insurance Rate Map, the licensed, professional land surveyor has noted in **Exhibit B** that the Flood Insurance Rate Map (FIRM) No. 21169C00175C dated May 3, 2010, indicates that the WCF is not located within any flood hazard area.

12. Personnel directly responsible for the design and construction of the proposed extension are well qualified and experienced. The Construction Manager for the WCF is Andy Smith and his credentials are included in **Exhibit D.**

13. Clear directions to the WCF site from the county seat are attached as **Exhibit I,** including the name and telephone number of the preparer.

14. Applicant has notified, by certified mail, return receipt requested, every person of the proposed construction who, according to the records of the Metcalfe County Property Valuation Administrator, owns property which is within 500 feet of the proposed tower or is contiguous to the site property as shown on scaled drawing attached as **Exhibit J.** Applicant included in said notices the docket number under which the Application will be processed and informed each

person of his or her right to request intervention. A list of the property owners who received notices along with the notices are attached as **Exhibit J**. The drawing found in **Exhibit J** also depicts every structure and easement within 500' of the proposed tower and/or 200' within the access road including the intersection with the public right of way.

15. Applicant has notified the Metcalfe County Judge Executive by certified mail, return receipt requested, of the proposed construction. The notice included the docket number under which the Application will be processed and informed the Metcalfe County Judge Executive of his right to request intervention. A copy of the notice is attached as **Exhibit K**.

16. Pursuant to 807 KAR 5:063, Applicant affirms that two notice signs measuring at least two feet by four feet in size with all required language in letters of required height have been posted in a visible location on the proposed site and on the nearest road. A copy of the posted text found on the signs is attached as **Exhibit L**. Such signs shall remain posted for at least two weeks after filing the Application. Notice of the proposed construction has been posted in a newspaper of general circulation in the county in which the construction is proposed (*The Edmonton Herald News*)

17. The site of the proposed WCF is located in a commercial/mixed use, highway area near Summer Shade, Kentucky. The WCF is the primary use of the property.


18. Applicant and AT&T have considered the likely effects of the proposed construction on nearby land uses and values and concluded that there is no more suitable location reasonably available from which adequate service to the area can be provided.

19. Correspondence and communication regarding this Application should be directed to:

Todd R. Briggs
Briggs Law Office, PSC
10200 Forest Green Blvd
Suite 112
Louisville, KY 40223
(844) 331-3402
todd@briggslawoffice.net

WHEREFORE, Applicant respectfully requests that the PSC accept the foregoing application for filing and enter an order granting a Certificate of Public Convenience and Necessity to Applicant for the extension of the monopole tower and providing for such other relief as is necessary and appropriate.

Respectfully submitted,



Todd R. Briggs
Briggs Law Office, PSC
10200 Forest Green Blvd
Suite 112
Louisville, KY 40223
Telephone (844) 331-3402
Counsel for Applicant

LIST OF EXHIBITS

Exhibit A	Certificate of Formation Certificate of Authority
Exhibit B	Site Development Plan and Survey
Exhibit C	Vertical Tower Profile
Exhibit D	Structural and Foundation Design Report Construction Manager Statement
Exhibit E	Geotechnical Engineering Report
Exhibit F	Competing Utilities List
Exhibit G	FAA Determination of No Hazard KAZC Permit
Exhibit H	FCC Documentation
Exhibit I	Directions to Site and Copy of Deed
Exhibit J	Notification Listing Abutter's Map Copy of Property Owner Notices
Exhibit K	Copy of County Judge Executive Notice
Exhibit L	Copy of Posted Notices
Exhibit M	AT&T's Principal-Network Planning Engineer Statement

Exhibit A

Delaware

PAGE 1

The First State


I, JEFFREY W. BULLOCK, SECRETARY OF STATE OF THE STATE OF DELAWARE, DO HEREBY CERTIFY THE ATTACHED IS A TRUE AND CORRECT COPY OF THE CERTIFICATE OF FORMATION OF "VERTICAL BRIDGE AM, LLC", FILED IN THIS OFFICE ON THE EIGHTH DAY OF MAY, A.D. 2014, AT 11:36 O'CLOCK A.M.

5530122 8100

140588235

You may verify this certificate online
at corp.delaware.gov/authver.shtml




Jeffrey W. Bullock, Secretary of State
AUTHENTICATION: 1358224

DATE: 05-09-14

**STATE of DELAWARE
LIMITED LIABILITY COMPANY
CERTIFICATE of FORMATION**

First: The name of the limited liability company is

VERTICAL BRIDGE AM, LLC

Second: The address of its registered office in the State of Delaware is

615 S. DuPont Highway in the City of Dover

Zip code 19901. The name of its Registered agent at such address is

National Corporate Research, Ltd.

Third: (Use this paragraph only if the company is to have a specific effective date of dissolution: "The latest date on which the limited liability company is to dissolve is _____.")

Fourth: (Insert any other matters the members determine to include herein.)

In Witness Whereof, the undersigned have executed this Certificate of Formation this

8th day of May, 2014.

By: 
Authorized Person (s)

Name: Alex Gellman

1051722.06

amcray
ADDAllison Lundergan Grimes
Kentucky Secretary of State
Received and Filed:
3/13/2019 2:38 PM
Fee Receipt: \$90.00COMMONWEALTH OF KENTUCKY
ALISON LUNDERGAN GRIMES, SECRETARY OF STATE

Division of Business Filings Business Filings PO Box 718 Frankfort, KY 40602 (502) 664-3490 www.sos.ky.gov	Certificate of Authority (Foreign Business Entity)	FBE
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Pursuant to the provisions of KRS 14A and KRS 271B, 273, 274, 275, 362 and 386 the undersigned hereby applies for authority to transact business in Kentucky on behalf of the entity named below and, for that purpose, submits the following statements:

- 1 The entity is a: ☐ profit corporation (KRS 271B) ☐ nonprofit corporation (KRS 273) ☐ professional service corporation (KRS 274)
☐ business trust (KRS 386) ☐ limited liability company (KRS 275) ☐ professional limited liability company (KRS 275)
☐ limited partnership (KRS 382) ☐ ltd cooperative assn. (KRS) ☐ statutory trust
☐ non-profit lc (KRS 275) ☐ cooperative assn. (KRS)
- 2 The name of the entity is Vertical Bridge AM, LLC
 (The name must be identical to the name on record with the Secretary of State.)
- 3 The name of the entity to be used in Kentucky is (if applicable): Vertical Bridge AM, LLC
 (Only provide if "real name" is unavailable for use; otherwise, leave blank.)
- 4 The state or country under whose law the entity is organized is Delaware
- 5 The date of organization is May 1, 2014 and the period of duration is perpetual
 (If left blank, the period of duration is considered perpetual.)
- 6 The mailing address of the entity's principal office is
750 Park of Commerce Drive, Suite 200 Boca Raton FL 33487
 Street Address City State Zip Code
7. The street address of the entity's registered office in Kentucky is
828 Lane Allen Road, Suite 210 Lexington KY 40504
 Street Address (No P.O. Box Numbers) City State Zip Code
- and the name of the registered agent at that office is COGENCY GLOBAL INC.
8. The names and business addresses of the entity's representatives (secretary, officers and directors, managers, trustees or general partners)
- | Name | Street or P.O. Box | City | State | Zip Code |
|------------------|------------------------------------|------------|-------|----------|
| Alex Gellman | 750 Park of Commerce Dr., Ste. 200 | Boca Raton | FL | 33487 |
| Daniel Marinberg | 750 Park of Commerce Dr., Ste. 200 | Boca Raton | FL | 33487 |
| Michael Romaniw | 750 Park of Commerce Dr., Ste. 200 | Boca Raton | FL | 33487 |
- 9 If a professional service corporation, all the individual shareholders, not less than one half (1/2) of the directors, and all of the officers other than the secretary and treasurer are licensed in one or more states or territories of the United States or District of Columbia to render a professional service described in the statement of purposes of the corporation.
10. I certify that, as of the date of filing this application, the above-named entity validly exists under the laws of the jurisdiction of its formation.
- 11 If a limited partnership, it elects to be a limited liability limited partnership. Check the box if applicable ☐
12. If a limited liability company, check box if manager-managed.
13. This application will be effective upon filing, unless a delayed effective date and/or time is provided.
 The effective date or the delayed effective date cannot be prior to the date the application is filed. The date and/or time is _____

Please indicate the Kentucky county in which your business operates: County: <u>Metcalf County</u>	
To complete the following, please shade the box completely.	
Please indicate the size of your business: <input type="checkbox"/> Small (fewer than 50 employees) <input checked="" type="checkbox"/> Large (50 or more employees)	Please indicate whether any of the following make up more than fifty percent (50%) of your business ownership: <input type="checkbox"/> Women-Owned <input type="checkbox"/> Veteran Owned <input type="checkbox"/> Minority Owned
Please indicate which of the following best describes your business:	
<input type="checkbox"/> Agriculture <input type="checkbox"/> Wholesale Trade <input type="checkbox"/> Public Administration <input type="checkbox"/> Other	<input checked="" type="checkbox"/> Mining <input type="checkbox"/> Retail Trade <input type="checkbox"/> Transportation, Communications, Electric, Gas, Sanitary Services <input checked="" type="checkbox"/> Services <input checked="" type="checkbox"/> Manufacturing <input type="checkbox"/> Construction <input type="checkbox"/> Finance, Insurance, Real Estate

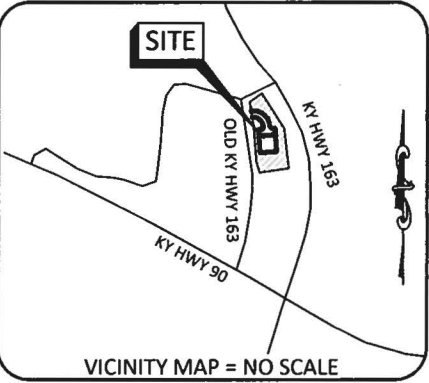
Signature of Authorized Representative Daniel Marinberg, SVP and Gen. Counsel March 12, 2019
 Printed Name & Title Date

I, COGENCY GLOBAL INC., consent to serve as the registered agent on behalf of the business entity.

Signature of Registered Agent Merritt Walker Asst. Secretary 3-13-2019
 Printed Name Title Date

(05/17)

Exhibit B



0° 03' 08"
BASED ON KENTUCKY STATE
PLANE SINGLE ZONE AND
DETERMINED BY GPS OBSERVATIONS
COMPLETED ON NOVEMBER 8, 2018.

GENERAL NOTES

NO SEARCH OF PUBLIC RECORDS HAS BEEN COMPLETED BY POD GROUP TO DETERMINE ANY DEFECTS AND/OR AMBIGUITIES IN THE TITLE OF THE SUBJECT PROPERTY.

THIS SURVEY IS FOR THE TOWER COMPOUND AND THE ACCESS & UTILITY EASEMENT ONLY, AND ONLY A PARTIAL BOUNDARY SURVEY OF THE PARENT TRACT HAS BEEN PERFORMED. THERE WERE NO VISIBLE ENCROACHMENTS AFFECTING THE TOWER COMPOUND OR ANY OF THE EASEMENTS, AT THE TIME THE SURVEY WAS COMPLETED.

30' ACCESS AND UTILITY EASEMENT AND THE 15' UTILITY EASEMENT ARE CONTIGUOUS WITH OLD KY HIGHWAY 163, WHICH IS A VARIABLE WIDTH PUBLIC RIGHT OF WAY.

TOWER COMPOUND, THE 30' ACCESS AND UTILITY EASEMENT AND THE 15' UTILITY EASEMENT LAY ENTIRELY WITHIN THE PARENT PARCEL AS DESCRIBED IN DEED BOOK 128, PAGE 771 AND BEING TRACT 2 OF PLAT BOOK A, PAGE 1710.

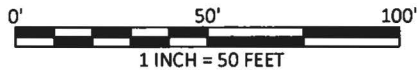
UNDERGROUND UTILITIES SHOWN HEREON ARE BASED ON OBSERVED ABOVE GROUND EVIDENCE AND UTILITY MARKINGS. UNDERGROUND UTILITIES ARE APPROXIMATE AND THE EXACT LOCATION OF UNDERGROUND FEATURES CANNOT BE ACCURATELY, COMPLETELY AND RELIABLY DEPICTED. NEITHER THE SURVEYOR NOR HIS REPRESENTATIVES HAVE VERIFIED OR OBSERVED THE ACTUAL INSTALLATION OF ALL UTILITIES.

A PORTION OF THIS SURVEY WAS CONDUCTED BY METHOD OF RANDOM TRAVERSE WITH SIDE SHOTS. UNADJUSTED CLOSURE EQUALS 0.04', FOR A PRECISION OF 1:24,232 AND HAS NOT BEEN ADJUSTED.

THIS PROPERTY IS SUBJECT TO ANY RECORDED EASEMENTS AND/OR RIGHTS OF WAY SHOWN HEREON OR NOT.

THIS PLAT IS NOT INTENDED FOR LAND TRANSFER.

THE PARENT PARCEL, THE TOWER COMPOUND, THE 30' ACCESS & UTILITY EASEMENT AND THE 15' UTILITY EASEMENT SHOWN HEREON ARE NOT LOCATED IN A 100-YEAR FLOOD PLAIN (ZONE X) PER FLOOD HAZARD BOUNDARY MAP, COMMUNITY-PANEL NUMBER 21169C0175C, DATED MAY 3, 2010.



CERTIFICATE OF ACCURACY (SURVEYOR'S CERTIFICATE)

I HEREBY CERTIFY TO: VERTICAL BRIDGE REIT, LLC A DELAWARE LIMITED LIABILITY COMPANY, ITS SUBSIDIARIES, AND THEIR RESPECTIVE SUCCESSORS AND/OR ASSIGNS; TORONTO DOMINION (TEXAS LLC, AS ADMINISTRATIVE AGENT, FOR ITSELF AND ON BEHALF OF THE LENDERS PARTIES FROM TIME TO THAT CERTAIN SECOND AMENDED AND RESTATED LOAN AGREEMENT DATED JUNE 17, 2016 WITH VERTICAL BRIDGE HOLDCO, LLC, AS BORROWER, AND VERTICAL BRIDGE HOLDCO PARENT, LLC, AS PARENT, AS MAY BE AMENDED, RESTATED, MODIFIED OR RENEWED, THEIR SUCCESSORS AND ASSIGNS AS THEIR INTERESTS MAY APPEAR; AND FIDELITY NATIONAL TITLE INSURANCE COMPANY.

I, MARK E. PATTERSON, HEREBY CERTIFY THAT I AM A LICENSED PROFESSIONAL LAND SURVEYOR LICENSED IN COMPLIANCE WITH THE LAWS OF THE COMMONWEALTH OF KENTUCKY. I FURTHER CERTIFY THAT THIS PLAT AND THE SURVEY ON THE GROUND WERE PERFORMED BY PERSONS UNDER MY DIRECT SUPERVISION, AND THAT THE DIRECTIONAL AND LINEAR MEASUREMENTS BEING WITNESSED BY MONUMENTS SHOWN HEREON ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE. THE "RURAL" SURVEY, AND THE PLAT ON WHICH IT IS BASED, MEETS ALL SPECIFICATIONS AS STATED IN KAR 201 18:150.

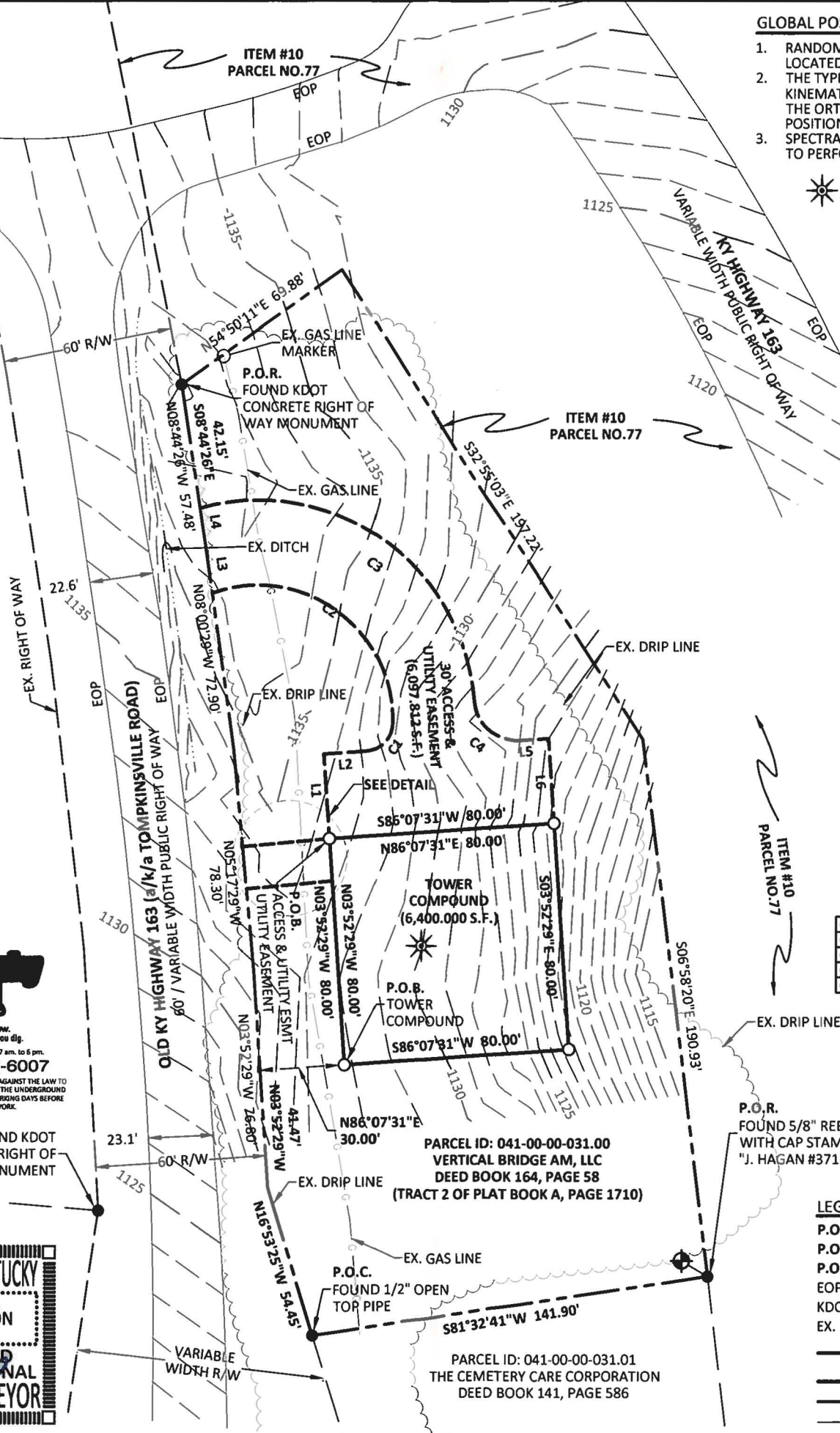
MARK E. PATTERSON, PLS #3136

8/16/2019

DATE



Monuments Established.
Call before you dig.
Call Monday thru Friday - 7 am. to 6 pm.
1-800-752-6007
PER KENTUCKY STATE LAW, IT IS AGAINST THE LAW TO
EXCAVATE WITHOUT NOTIFYING THE UNDERGROUND
LOCATION SERVICE TWO (2) WORKING DAYS BEFORE
COMMENCING WORK.



GLOBAL POSITIONING SYSTEMS NOTE

1. RANDOM CONTROL POINTS AND A PORTION OF THE TOPOGRAPHY WAS LOCATED USING GPS.
2. THE TYPE OF GPS UTILIZED WAS NETWORK ADJUSTED REAL TIME KINEMATIC (KDOT VRS NETWORK), NAD 83 KENTUCKY SINGLE ZONE WITH THE ORTHOMETRIC HEIGHT COMPUTED USING GEOID12A. RELATIVE POSITIONAL ACCURACY VARIED FROM 0.04' TO 0.06' HORIZONTALLY.
3. SPECTRA PRECISION EPOCH 50 DUAL FREQUENCY RECEIVERS WERE USED TO PERFORM THE SURVEY.



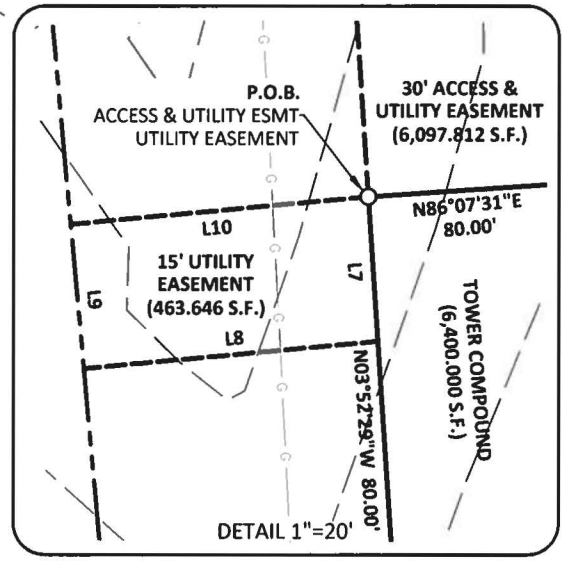
FAA COORDINATE POINT

NAD 83
LATITUDE: 36°52'43.74"
LONGITUDE: 85°39'53.06"
NAVD 88
ELEVATION: 1130± AMSL
NORTHING: 3,479,471.4338
EASTING: 4,946,190.0181



TEMPORARY BENCHMARK

NORTHING: 3,479,354.858
EASTING: 4,946,291.838
ELEVATION: 1,126.99'
LOCATION: A FOUND 5/8"
REBAR WITH CAP STAMPED "J.
HAGAN #3712" S31°35'E 94.0'±
FROM THE SOUTHEAST CORNER
OF THE TOWER COMPOUND.



CURVE	ARC LENGTH	RADIUS	CHORD BEARING	CHORD LENGTH
C1	17.38'	10.00'	N36°19'19"E	15.28'
C2	85.32'	60.00'	N54°13'03"W	78.31'
C3	137.34'	90.00'	S52°22'45"E	124.40'
C4	14.87'	10.00'	S51°16'04"E	13.54'

LINE	BEARING	DISTANCE
L1	N03°52'29"W	30.00'
L2	N86°07'31"E	14.30'
L3	N08°00'29"W	14.71'
L4	N08°44'26"W	15.33'
L5	N86°07'31"E	15.35'
L6	S03°52'29"E	30.00'
L7	S03°52'29"E	15.00'
L8	S84°42'31"W	30.72'
L9	N05°17'29"W	15.00'
L10	N84°42'31"E	31.10'

LEGEND

- P.O.C. POINT OF COMMENCEMENT
- P.O.R. POINT OF REFERENCE
- P.O.B. POINT OF BEGINNING
- EOP EDGE OF PAVEMENT
- KDOT KENTUCKY DEPARTMENT OF TRANSPORTATION
- EX. EXISTING
- SET 1/2" REBAR 18" LONG
CAPPED "PATTERSON PLS 3136"
- FOUND MONUMENT AS NOTED
- PROPERTY LINE
- ADJACENT PROPERTY LINE

PREPARED BY:



PREPARED FOR:

REV.	DATE	DESCRIPTION
0	2.11.19	ISSUED AS FINAL
1	2.22.19	CLIENT COMMENTS
2	3.4.19	TOWER COMPOUND
3	3.6.19	CLIENT COMMENTS
4	8.15.19	TITLE HOLDER

SITE INFORMATION:
SUMMER SHADE
OLD KY HIGHWAY 163
a.k.a. OLD TOMPKINSVILLE ROAD
SUMMER SHADE, KY 42166
METCALFE COUNTY

TAX PARCEL NUMBER:
041-00-00-031.00

PROPERTY OWNER:
VERTICAL BRIDGE AM, LLC
750 PARK OF COMMERCE DRIVE
SUITE 200
BOCA RATON, FL 33487

SOURCE OF TITLE:
DEED BOOK 164, PAGE 58

SITE NUMBER:
US-KY-5061

POD NUMBER: 18-28719

DRAWN BY: TMD
CHECKED BY: MEP
SURVEY DATE: 11.8.18
PLAT DATE: 11.12.18

SHEET TITLE:
SITE SURVEY
THIS DOES NOT REPRESENT A
BOUNDARY SURVEY OF THE
PARENT PARCEL

SHEET NUMBER: (3 pages)

B-1

TOWER COMPOUND

THE FOLLOWING IS A DESCRIPTION OF THE TOWER COMPOUND, BEING A PART OF THE PARENT PARCEL CONVEYED TO VERTICAL BRIDGE AM, LLC AS RECORDED IN DEED BOOK 164, PAGE 58, PARCEL ID: 041-00-00-031.00, RECORDS OF METCALFE COUNTY, KENTUCKY CLERKS OFFICE, AND BEING TRACT 2 OF PLAT BOOK A, PAGE 1710 WHICH IS MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEARING DATUM USED HEREIN IS BASED UPON KENTUCKY STATE PLANE COORDINATE SYSTEM, SINGLE ZONE, NAD 83, FROM A REAL TIME KINEMATIC GLOBAL POSITIONING SYSTEM OBSERVATION USING THE KENTUCKY TRANSPORTATION CABINET REAL TIME GPS NETWORK COMPLETED ON NOVEMBER 8, 2018.

COMMENCING AT A FOUND 1/2" OPEN TOP PIPE AT THE SOUTHWEST CORNER OF THE PARCEL CONVEYED TO VERTICAL BRIDGE AM, LLC AS RECORDED IN DEED BOOK 164, PAGE 58, PARCEL ID: 041-00-00-031.00, AND BEING TRACT 2 OF PLAT BOOK A, PAGE 1710, SAID COMMENCEMENT POINT ALSO BEING A COMMON CORNER TO THE PARCEL CONVEYED TO THE CEMETERY CARE CORPORATION AS RECORDED IN DEED BOOK 141, PAGE 586 AND BEING THE EAST RIGHT OF WAY LINE OF OLD KENTUCKY HIGHWAY 163 (a/k/a TOMPKINSVILLE ROAD), FOR REFERENCE, SAID COMMENCEMENT POINT IS S81°32'41"W 141.90' FROM A FOUND 5/8" REBAR WITH CAP STAMPED "J. HAGAN #3712" AT THE SOUTHEAST CORNER OF THE AFOREMENTIONED VERTICAL BRIDGE AM, LLC AS RECORDED IN DEED BOOK 164, PAGE 58 PARCEL AND BEING IN THE WEST RIGHT OF WAY LINE OF KENTUCKY HIGHWAY 163; THENCE ALONG THE WEST BOUNDARY LINE OF VERTICAL BRIDGE AM, LLC AND THE EAST RIGHT OF WAY LINE OF OLD KENTUCKY HIGHWAY 163 (a/k/a TOMPKINSVILLE ROAD), N16°53'25"W 54.45'; THENCE CONTINUING, N03°52'29"W 41.47'; THENCE LEAVING SAID COMMON LINE, TRAVERSING ACROSS THE LAND OF VERTICAL BRIDGE AM, LLC, N86°07'31"E 30.00' TO A SET 1/2" REBAR 18" LONG CAPPED "PATTERSON PLS 3136", HEREAFTER REFERRED TO AS A "SET IPC", IN THE SOUTHWEST CORNER OF THE TOWER COMPOUND AND BEING THE TRUE POINT OF BEGINNING; THENCE N03°52'29"W 80.00' TO A SET IPC; THENCE N86°07'31"E 80.00' TO A SET IPC; THENCE S03°52'29"E 80.00' TO A SET IPC; THENCE S86°07'31"W 80.00' TO THE POINT OF BEGINNING CONTAINING 6,400.000 SQUARE FEET AS PER SURVEY BY MARK E. PATTERSON, PLS #3136 DATED NOVEMBER 8, 2018.

30' ACCESS AND UTILITY EASEMENT

THE FOLLOWING IS A DESCRIPTION OF THE 30' ACCESS & UTILITY EASEMENT, BEING A PART OF THE PARENT PARCEL CONVEYED TO VERTICAL BRIDGE AM, LLC AS RECORDED IN DEED BOOK 164, PAGE 58, PARCEL ID: 041-00-00-031.00, RECORDS OF METCALFE COUNTY, KENTUCKY CLERKS OFFICE, AND BEING TRACT 2 OF PLAT BOOK A, PAGE 1710 WHICH IS MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEARING DATUM USED HEREIN IS BASED UPON KENTUCKY STATE PLANE COORDINATE SYSTEM, SINGLE ZONE, NAD 83, FROM A REAL TIME KINEMATIC GLOBAL POSITIONING SYSTEM OBSERVATION USING THE KENTUCKY TRANSPORTATION CABINET REAL TIME GPS NETWORK COMPLETED ON NOVEMBER 8, 2018.

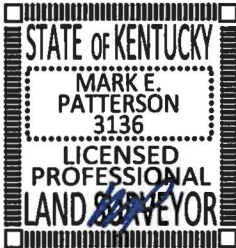
COMMENCING AT A FOUND 1/2" OPEN TOP PIPE AT THE SOUTHWEST CORNER OF THE PARCEL CONVEYED TO VERTICAL BRIDGE AM, LLC AS RECORDED IN DEED BOOK 164, PAGE 58, PARCEL ID: 041-00-00-031.00, AND BEING TRACT 2 OF PLAT BOOK A, PAGE 1710, SAID COMMENCEMENT POINT ALSO BEING A COMMON CORNER TO THE PARCEL CONVEYED TO THE CEMETERY CARE CORPORATION AS RECORDED IN DEED BOOK 141, PAGE 586 AND BEING THE EAST RIGHT OF WAY LINE OF OLD KENTUCKY HIGHWAY 163 (a/k/a TOMPKINSVILLE ROAD), FOR REFERENCE, SAID COMMENCEMENT POINT IS S81°32'41"W 141.90' FROM A FOUND 5/8" REBAR WITH CAP STAMPED "J. HAGAN #3712" AT THE SOUTHEAST CORNER OF THE AFOREMENTIONED VERTICAL BRIDGE AM, LLC AS RECORDED IN DEED BOOK 164, PAGE 58 PARCEL AND BEING IN THE WEST RIGHT OF WAY LINE OF KENTUCKY HIGHWAY 163; THENCE ALONG THE WEST BOUNDARY LINE OF VERTICAL BRIDGE AM, LLC AND THE EAST RIGHT OF WAY LINE OF OLD KENTUCKY HIGHWAY 163 (a/k/a TOMPKINSVILLE ROAD), N16°53'25"W 54.45'; THENCE CONTINUING, N03°52'29"W 41.47'; THENCE LEAVING SAID COMMON LINE, TRAVERSING ACROSS THE LAND OF VERTICAL BRIDGE AM, LLC, N86°07'31"E 30.00' TO A SET 1/2" REBAR 18" LONG CAPPED "PATTERSON PLS 3136", HEREAFTER REFERRED TO AS A "SET IPC", IN THE SOUTHWEST CORNER OF THE TOWER COMPOUND; THENCE ALONG THE WEST LINE OF SAID TOWER COMPOUND, N03°52'29"W 80.00' TO A SET IPC AND BEING THE TRUE POINT OF BEGINNING; THENCE LEAVING SAID TOWER COMPOUND, N03°52'29"W 30.00'; THENCE N86°07'31"E 14.30'; THENCE 17.38' WITH THE ARC OF A CURVE TO THE LEFT HAVING A RADIUS OF 10.00', N36°19'19"E 15.28'; THENCE 85.32' WITH THE ARC OF A COMPOUND CURVE TO THE LEFT HAVING A RADIUS OF 60.00', N54°13'03"W 78.31' TO THE WEST BOUNDARY LINE OF VERTICAL BRIDGE AM, LLC AND THE EAST RIGHT OF WAY LINE OF OLD KENTUCKY HIGHWAY 163 (a/k/a TOMPKINSVILLE ROAD) AFOREMENTIONED; THENCE ALONG SAID COMMON LINE, N08°00'29"W 14.71'; THENCE N08°44'26"W 15.33'; THENCE LEAVING SAID COMMON LINE, TRAVERSING ACROSS THE LAND OF VERTICAL BRIDGE AM, LLC 137.34' WITH THE ARC OF A NON-TANGENT CURVE TO THE RIGHT HAVING A RADIUS OF 90.00', S52°22'45"E 124.40'; THENCE 14.87' WITH THE ARC OF A REVERSE CURVE TO THE LEFT HAVING A RADIUS OF 10.00', S51°16'04"E 13.54'; THENCE N86°07'31"E 15.35'; THENCE S03°52'29"E 30.00' TO A SET IPC AT THE NORTHEAST CORNER OF THE TOWER COMPOUND; THENCE ALONG THE NORTH LINE OF THE TOWER COMPOUND, S86°07'31"E 80.00' THE POINT OF BEGINNING CONTAINING 6,097.812 SQUARE FEET AS PER SURVEY BY MARK E. PATTERSON, PLS #3136 DATED NOVEMBER 8, 2018.

15' UTILITY EASEMENT

THE FOLLOWING IS A DESCRIPTION OF THE 15' UTILITY EASEMENT, BEING A PART OF THE PARENT PARCEL CONVEYED TO VERTICAL BRIDGE AM, LLC AS RECORDED IN DEED BOOK 164, PAGE 58, PARCEL ID: 041-00-00-031.00, RECORDS OF METCALFE COUNTY, KENTUCKY CLERKS OFFICE, AND BEING TRACT 2 OF PLAT BOOK A, PAGE 1710 WHICH IS MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEARING DATUM USED HEREIN IS BASED UPON KENTUCKY STATE PLANE COORDINATE SYSTEM, SINGLE ZONE, NAD 83, FROM A REAL TIME KINEMATIC GLOBAL POSITIONING SYSTEM OBSERVATION USING THE KENTUCKY TRANSPORTATION CABINET REAL TIME GPS NETWORK COMPLETED ON NOVEMBER 8, 2018.

COMMENCING AT A FOUND 1/2" OPEN TOP PIPE AT THE SOUTHWEST CORNER OF THE PARCEL CONVEYED TO VERTICAL BRIDGE AM, LLC AS RECORDED IN DEED BOOK 164, PAGE 58, PARCEL ID: 041-00-00-031.00, AND BEING TRACT 2 OF PLAT BOOK A, PAGE 1710, SAID COMMENCEMENT POINT ALSO BEING A COMMON CORNER TO THE PARCEL CONVEYED TO THE CEMETERY CARE CORPORATION AS RECORDED IN DEED BOOK 141, PAGE 586 AND BEING THE EAST RIGHT OF WAY LINE OF OLD KENTUCKY HIGHWAY 163 (a/k/a TOMPKINSVILLE ROAD), FOR REFERENCE, SAID COMMENCEMENT POINT IS S81°32'41"W 141.90' FROM A FOUND 5/8" REBAR WITH CAP STAMPED "J. HAGAN #3712" AT THE SOUTHEAST CORNER OF THE AFOREMENTIONED VERTICAL BRIDGE AM, LLC AS RECORDED IN DEED BOOK 164, PAGE 58 PARCEL AND BEING IN THE WEST RIGHT OF WAY LINE OF KENTUCKY HIGHWAY 163; THENCE ALONG THE WEST BOUNDARY LINE OF VERTICAL BRIDGE AM, LLC AND THE EAST RIGHT OF WAY LINE OF OLD KENTUCKY HIGHWAY 163 (a/k/a TOMPKINSVILLE ROAD), N16°53'25"W 54.45'; THENCE CONTINUING, N03°52'29"W 41.47'; THENCE LEAVING SAID COMMON LINE, TRAVERSING ACROSS THE LAND OF VERTICAL BRIDGE AM, LLC, N86°07'31"E 30.00' TO A SET 1/2" REBAR 18" LONG CAPPED "PATTERSON PLS 3136", HEREAFTER REFERRED TO AS A "SET IPC", IN THE SOUTHWEST CORNER OF THE TOWER COMPOUND; THENCE ALONG THE WEST LINE OF SAID TOWER COMPOUND, N03°52'29"W 80.00' TO A SET IPC AND BEING THE TRUE POINT OF BEGINNING; THENCE ALONG SAID TOWER COMPOUND, S03°52'29"E 15.00'; THENCE LEAVING SAID TOWER COMPOUND, S84°42'31"W 30.72' TO THE EAST RIGHT OF WAY LINE OF OLD KENTUCKY HIGHWAY 163 (A/K/A TOMPKINSVILLE ROAD); THENCE ALONG SAID COMMON LINE, N05°17'29"W 15.00'; THENCE LEAVING SAID COMMON LINE, TRAVERSING ACROSS THE LAND OF VERTICAL BRIDGE AM, LLC, N84°42'31"E 31.10' THE POINT OF BEGINNING CONTAINING 463.646 SQUARE FEET AS PER SURVEY BY MARK E. PATTERSON, PLS #3136 DATED NOVEMBER 8, 2018.



CERTIFICATE OF ACCURACY (SURVEYOR'S CERTIFICATE)

I HEREBY CERTIFY TO: VERTICAL BRIDGE REIT, LLC A DELAWARE LIMITED LIABILITY COMPANY, ITS SUBSIDIARIES, AND THEIR RESPECTIVE SUCCESSORS AND/OR ASSIGNS; TORONTO DOMINION (TEXAS LLC, AS ADMINISTRATIVE AGENT, FOR ITSELF AND ON BEHALF OF THE LENDERS PARTIES FROM TIME TO THAT CERTAIN SECOND AMENDED AND RESTATED LOAN AGREEMENT DATED JUNE 17, 2016 WITH VERTICAL BRIDGE HOLDCO, LLC, AS BORROWER, AND VERTICAL BRIDGE HOLDCO PARENT, LLC, AS PARENT, AS MAY BE AMENDED, RESTATED, MODIFIED OR RENEWED, THEIR SUCCESSORS AND ASSIGNS AS THEIR INTERESTS MAY APPEAR; AND FIDELITY NATIONAL TITLE INSURANCE COMPANY.

I, MARK E. PATTERSON, HEREBY CERTIFY THAT I AM A LICENSED PROFESSIONAL LAND SURVEYOR LICENSED IN COMPLIANCE WITH THE LAWS OF THE COMMONWEALTH OF KENTUCKY. I FURTHER CERTIFY THAT THIS PLAT AND THE SURVEY ON THE GROUND WERE PERFORMED BY PERSONS UNDER MY DIRECT SUPERVISION, AND THAT THE DIRECTIONAL AND LINEAR MEASUREMENTS BEING WITNESSED BY MONUMENTS SHOWN HEREON ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE. THE "RURAL" SURVEY, AND THE PLAT ON WHICH IT IS BASED, MEETS ALL SPECIFICATIONS AS STATED IN KAR 201 18:150.

Mark E. Patterson
MARK E. PATTERSON, PLS #3136

8/16/2019

DATE

PREPARED BY:



PREPARED FOR:

SURVEY

REV.	DATE	DESCRIPTION
0	2.11.19	ISSUED AS FINAL
1	2.22.19	CLIENT COMMENTS
2	3.4.19	TOWER COMPOUND
3	3.6.19	CLIENT COMMENTS
4	8.15.19	TITLE HOLDER

SITE INFORMATION:
SUMMER SHADE
OLD KY HIGHWAY 163
a.k.a. OLD TOMPKINSVILLE ROAD
SUMMER SHADE, KY 42166
METCALFE COUNTY

TAX PARCEL NUMBER:
041-00-00-031.00

PROPERTY OWNER:
VERTICAL BRIDGE AM, LLC
750 PARK OF COMMERCE DRIVE
SUITE 200
BOCA RATON, FL 33487

SOURCE OF TITLE:
DEED BOOK 164, PAGE 58

SITE NUMBER:
US-KY-5061

POD NUMBER: 18-28719
DRAWN BY: TMD
CHECKED BY: MEP
SURVEY DATE: 11.8.18
PLAT DATE: 11.12.18

SHEET TITLE:
SITE SURVEY
THIS DOES NOT REPRESENT A
BOUNDARY SURVEY OF THE
PARENT PARCEL

SHEET NUMBER: (3 pages)

B-1.1

BOUNDARY SURVEY AS SHOWN HEREON IS PER PLAT OF RECORD IN PLAT BOOK A, PAGE 1710 RECORDED IN THE METCALFE COUNTY CLERKS OFFICE AND DOES NOT REPRESENT A BOUNDARY SURVEY BY POWER OF DESIGN GROUP, LLC. POWER OF DESIGN GROUP, LLC DOES NOT WARRANT OR GUARANTEE THE CORRECTNESS OF SAID SURVEY.

VERTICAL BRIDGE FEE PURCHASE PARCEL
TRACT 1

A CERTAIN TRACT OF LAND LOCATED IN SUMMER SHADE, METCALFE COUNTY, KENTUCKY AND BEING A PORTION OF THE SAME PROPERTY TAMMY REECE, ACQUIRED IN DEED BOOK 128 PAGE 771 AND MORE PARTICULARLY DESCRIBED AS FOLLOWS:

UNLESS STATED OTHERWISE, ANY MONUMENT REFERRED TO HEREIN AS AN IRON PIN SET IS A SET 5/8" IN. REBAR, 18" IN LENGTH WITH A PLASTIC CAP STAMPED "J. HAGAN #3712". ALL BEARINGS STATED HEREIN ARE BASED ON G.P.S. OBSERVATIONS DATED 10/10/2018.

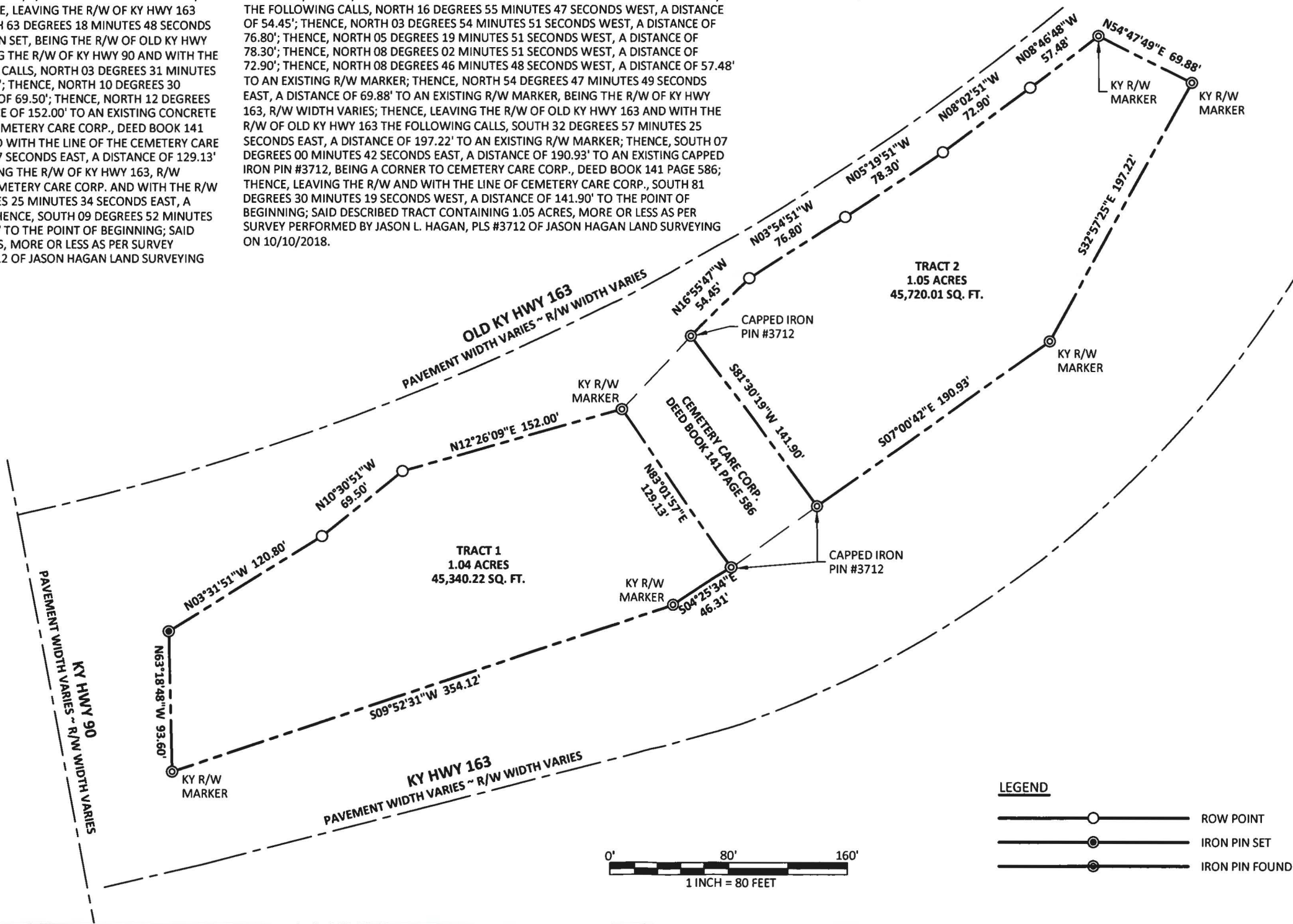
BEGINNING AT A R/W MARKER, SAID MARKER BEING 65' WEST OF THE CENTERLINE, BEING THE R/W INTERSECTION OF KY HWY 163, R/W WIDTH VARIES AND THE R/W OF KY HWY 90, R/W WIDTH VARIES; THENCE, LEAVING THE R/W OF KY HWY 163 AND WITH THE R/W OF KY HWY 90, NORTH 63 DEGREES 18 MINUTES 48 SECONDS WEST, A DISTANCE OF 93.60' TO A IRON PIN SET, BEING THE R/W OF OLD KY HWY 163, R/W WIDTH VARIES; THENCE, LEAVING THE R/W OF KY HWY 90 AND WITH THE R/W OF OLD KY HWY 163 THE FOLLOWING CALLS, NORTH 03 DEGREES 31 MINUTES 51 SECONDS WEST, A DISTANCE OF 120.80'; THENCE, NORTH 10 DEGREES 30 MINUTES 51 SECONDS WEST, A DISTANCE OF 69.50'; THENCE, NORTH 12 DEGREES 26 MINUTES 09 SECONDS EAST, A DISTANCE OF 152.00' TO AN EXISTING CONCRETE R/W MARKER, BEING A CORNER TO THE CEMETERY CARE CORP., DEED BOOK 141 PAGE 586; THENCE, LEAVING THE R/W AND WITH THE LINE OF THE CEMETERY CARE CORP., NORTH 83 DEGREES 01 MINUTES 57 SECONDS EAST, A DISTANCE OF 129.13' TO A CAPPED IRON PIN #3712 FOUND, BEING THE R/W OF KY HWY 163, R/W VARIES; THENCE, LEAVING THE LINE OF CEMETERY CARE CORP. AND WITH THE R/W THE FOLLOWING CALLS, SOUTH 04 DEGREES 25 MINUTES 34 SECONDS EAST, A DISTANCE OF 46.31' TO A R/W MARKER; THENCE, SOUTH 09 DEGREES 52 MINUTES 31 SECONDS WEST, A DISTANCE OF 354.12' TO THE POINT OF BEGINNING; SAID DESCRIBED TRACT CONTAINING 1.04 ACRES, MORE OR LESS AS PER SURVEY PERFORMED BY JASON L. HAGAN, PLS #3712 OF JASON HAGAN LAND SURVEYING ON 10/10/2018.

TRACT 2

A CERTAIN TRACT OF LAND LOCATED IN SUMMER SHADE, METCALFE COUNTY, KENTUCKY AND BEING A PORTION OF THE SAME PROPERTY TAMMY REECE, ACQUIRED IN DEED BOOK 128 PAGE 771 AND MORE PARTICULARLY DESCRIBED AS FOLLOWS:

UNLESS STATED OTHERWISE, ANY MONUMENT REFERRED TO HEREIN AS AN IRON PIN SET IS A SET 5/8" IN. REBAR, 18" IN LENGTH WITH A PLASTIC CAP STAMPED "J. HAGAN #3712". ALL BEARINGS STATED HEREIN ARE BASED ON G.P.S. OBSERVATIONS DATED 10/10/2018.

BEGINNING AT A CAPPED IRON PIN #3712, BEING A CORNER TO CEMETERY CARE CORP., DEED BOOK 141 PAGE 586 AND BEING THE R/W OF OLD KY HWY 163, R/W WIDTH VARIES AND BEING APPROXIMATELY 370' NORTH OF THE INTERSECTION OF OLD KY HWY 163 AND KY HWY 90; THENCE, LEAVING THE LINE OF THE CEMETERY CARE CORP. AND WITH THE R/W THE FOLLOWING CALLS, NORTH 16 DEGREES 55 MINUTES 47 SECONDS WEST, A DISTANCE OF 54.45'; THENCE, NORTH 03 DEGREES 54 MINUTES 51 SECONDS WEST, A DISTANCE OF 76.80'; THENCE, NORTH 05 DEGREES 19 MINUTES 51 SECONDS WEST, A DISTANCE OF 78.30'; THENCE, NORTH 08 DEGREES 02 MINUTES 51 SECONDS WEST, A DISTANCE OF 72.90'; THENCE, NORTH 08 DEGREES 46 MINUTES 48 SECONDS WEST, A DISTANCE OF 57.48' TO AN EXISTING R/W MARKER; THENCE, NORTH 54 DEGREES 47 MINUTES 49 SECONDS EAST, A DISTANCE OF 69.88' TO AN EXISTING R/W MARKER, BEING THE R/W OF KY HWY 163, R/W WIDTH VARIES; THENCE, LEAVING THE R/W OF OLD KY HWY 163 AND WITH THE R/W OF OLD KY HWY 163 THE FOLLOWING CALLS, SOUTH 32 DEGREES 57 MINUTES 25 SECONDS EAST, A DISTANCE OF 197.22' TO AN EXISTING R/W MARKER; THENCE, SOUTH 07 DEGREES 00 MINUTES 42 SECONDS EAST, A DISTANCE OF 190.93' TO AN EXISTING CAPPED IRON PIN #3712, BEING A CORNER TO CEMETERY CARE CORP., DEED BOOK 141 PAGE 586; THENCE, LEAVING THE R/W AND WITH THE LINE OF CEMETERY CARE CORP., SOUTH 81 DEGREES 30 MINUTES 19 SECONDS WEST, A DISTANCE OF 141.90' TO THE POINT OF BEGINNING; SAID DESCRIBED TRACT CONTAINING 1.05 ACRES, MORE OR LESS AS PER SURVEY PERFORMED BY JASON L. HAGAN, PLS #3712 OF JASON HAGAN LAND SURVEYING ON 10/10/2018.



PREPARED BY:
POD
POWER OF DESIGN
11490 BLUEGRASS PARKWAY
LOUISVILLE, KY 40299
502-437-5252

verticalbridge
750 PARK OF COMMERCE DRIVE
BOCA RATON, FLORIDA 33487
(561) 948-6367

EXHIBIT		
REV.	DATE	DESCRIPTION
0	2.11.19	ISSUED AS FINAL
1	2.22.19	CLIENT COMMENTS
2	3.4.19	TOWER COMPOUND
3	3.6.19	CLIENT COMMENTS
4	8.15.19	TITLE HOLDER

SITE INFORMATION:
SUMMER SHADE
OLD KY HIGHWAY 163
a.k.a. OLD TOMPKINSVILLE ROAD
SUMMER SHADE, KY 42166
METCALFE COUNTY

TAX PARCEL NUMBER:
041-00-00-031.00

PROPERTY OWNER:
VERTICAL BRIDGE AM, LLC
750 PARK OF COMMERCE DRIVE
SUITE 200
BOCA RATON, FL 33487

SOURCE OF TITLE:
DEED BOOK 164, PAGE 58

SITE NUMBER:
US-KY-5061

POD NUMBER: 18-28719
DRAWN BY: TMD
CHECKED BY: MEP
SURVEY DATE: 11.8.18
PLAT DATE: 11.12.18

SHEET TITLE:
EXHIBIT

SHEET NUMBER: (3 pages)
B-1.2

NOTES:

THE CONTRACTOR MUST PROVIDE CLOSE-OUT DOCUMENTS AT THE FINAL INSPECTION WALK BEFORE PAYMENTS WILL BE MADE.

GENERAL REQUIREMENTS:

1. THE CONTRACTOR SHALL GIVE ALL NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY, MUNICIPAL AND UTILITY COMPANY. SPECIFICATIONS AND LOCAL AND STATE JURISDICTIONAL CODES BEARING ON THE PERFORMANCE OF THE WORK. THE WORK PERFORMED ON THE PROJECT AND THE MATERIALS INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS AND ORDINANCES.
2. THE ARCHITECT/ENGINEER HAVE MADE EVERY EFFORT TO SET FORTH IN THE CONSTRUCTION AND CONTRACT DOCUMENTS, THE COMPLETE SCOPE OF WORK. THE CONTRACTOR BIDDING THE JOB IS NEVERTHELESS CAUTIONED THAT MINOR OMISSIONS OR ERRORS IN THE DRAWINGS AND/OR SPECIFICATIONS SHALL NOT EXCUSE SAID CONTRACTOR FROM COMPLETING THE PROJECT AND IMPROVEMENTS IN ACCORDANCE WITH THE INTENT OF THESE DOCUMENTS.
3. THE CONTRACTOR OR BIDDER SHALL BEAR THE RESPONSIBILITY OF NOTIFYING (IN WRITING) VERTICAL BRIDGE'S REPRESENTATIVE OF ANY CONFLICTS, ERRORS OR OMISSIONS PRIOR TO THE SUBMISSION OF CONTRACTOR'S PROPOSAL OR PERFORMANCE OF WORK.
4. THE SCOPE OF WORK SHALL INCLUDE FURNISHING ALL MATERIALS, EQUIPMENT, LABOR AND ALL OTHER MATERIALS AND LABOR DEEMED NECESSARY TO COMPLETE THE WORK/PROJECT AS DESCRIBED HEREIN.
5. THE CONTRACTOR SHALL VISIT THE JOB SITE PRIOR TO THE SUBMISSION OF BIDS OR PERFORMING WORK AND FAMILIARIZE HIMSELF WITH THE FIELD CONDITIONS AND TO VERIFY THAT THE PROJECT CAN BE CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT.
6. THE CONTRACTOR SHALL OBTAIN AUTHORIZATION TO PROCEED WITH CONSTRUCTION PRIOR TO STARTING WORK ON ANY ITEM NOT CLEARLY DEFINED BY THE CONSTRUCTION DRAWINGS/CONTRACT.
7. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS ACCORDING TO THE MANUFACTURER'S/VENDOR'S SPECIFICATIONS UNLESS OTHERWISE NOTED OR WHERE LOCAL CODES OR ORDINANCES TAKE PRECEDENCE.
8. THE CONTRACTOR SHALL MAINTAIN A FULL SET OF CONSTRUCTION DOCUMENTS AT THE SITE, UPDATED WITH THE LATEST REVISIONS AND ADDENDUMS OR CLARIFICATIONS AVAILABLE FOR THE USE BY ALL PERSONNEL INVOLVED WITH THE PROJECT.
9. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE PROJECT DESCRIBED HEREIN. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES, AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTIONS WHICH MAY BE REQUIRED FOR THE WORK BY THE ARCHITECT/ENGINEER, THE STATE, COUNTY OR LOCAL GOVERNMENT AUTHORITY.
11. THE CONTRACTOR SHALL MAKE NECESSARY PROVISIONS TO PROTECT EXISTING IMPROVEMENTS, EASEMENTS, PAVING, CURBING, ETC., DURING SHALL REPAIR ANY DAMAGE THAT MAY HAVE OCCURRED DUE TO CONSTRUCTION ON OR ABOUT THE PROPERTY.
12. THE CONTRACTOR SHALL KEEP THE GENERAL WORK AREA CLEAN AND HAZARD FREE DURING CONSTRUCTION AND DISPOSE OF ALL DIRT, DEBRIS/RUBBISH AND REMOVE EQUIPMENT NOT SPECIFIED AS REMAINING ON THE PROPERTY.
13. THE CONTRACTOR SHALL COMPLY WITH ALL PERTINENT SECTIONS OF THE APPLICABLE BUILDING CODES AND ALL OSHA REQUIREMENTS AS THEY APPLY TO THIS PROJECT.
14. THE CONTRACTOR SHALL NOTIFY VERTICAL BRIDGE'S REPRESENTATIVE WHERE A CONFLICT OCCURS ON ANY OF THE CONTRACT DOCUMENTS. THE CONTRACTOR IS NOT TO ORDER MATERIAL OR CONSTRUCT ANY PORTION OF THE WORK THAT IS IN CONFLICT UNTIL THAT CONFLICT IS RESOLVED BY VERTICAL BRIDGE'S REPRESENTATIVE.
15. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS.
16. THE CONTRACTOR SHALL NOTIFY THE RF ENGINEER FOR ANTENNA AZIMUTH VERIFICATION (DURING ANTENNA INSTALLATION) PRIOR TO COORDINATING SITE SWEEPING.
17. THE CONTRACTOR SHALL SUBMIT, AT THE END OF THE PROJECT, A COMPLETE SET OF AS-BUILT DRAWINGS TO VERTICAL BRIDGE'S PROJECT MANAGER.

SITE WORK AND DRAINAGE

EARTHWORK, EXCAVATION AND GRADING

PART 1 GENERAL

- 1.01 WORK INCLUDED: REFER TO SURVEY AND SITE PLAN FOR WORK INCLUDED.
- 1.02 RELATED WORK

A. CONSTRUCTION OF EQUIPMENT FOUNDATIONS

B. INSTALLATION OF ANTENNA SYSTEM

C. SITE PREPARATION
- 1.03 DESCRIPTIONS

A. ACCESS ROAD, TURNAROUND AREAS AND SITES ARE CONSTRUCTED TO PROVIDE A WELL DRAINED, EASILY MAINTAINED, EVEN SURFACE FOR MATERIAL AND EQUIPMENT DELIVERIES AND MAINTENANCE PERSONNEL ACCESS.
- 1.04 QUALITY ASSURANCE

A. APPLY SOIL STERILIZER IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATION (USE AS NEEDED)

B. VEGETATION LANDSCAPING, IF INCLUDED WITHIN THE CONTRACT WILL BE PLACED AND MAINTAINED AS RECOMMENDED BY NURSERY INDUSTRY STANDARDS.
- 1.05 SEQUENCING

A. CONTRACTOR IS RESPONSIBLE FOR LAYOUT AND CONSTRUCTION STAKING.

B. GRUB THE COMPLETE ROAD AND SITE AREA PRIOR TO FOUNDATION CONSTRUCTION OR PLACEMENT OF BACK FILL OR SUB-BASE MATERIAL.

C. CONSTRUCT TEMPORARY CONSTRUCTION ZONE ALONG ACCESS DRIVE.

D. THE SITE AREA WILL BE BROUGHT TO SUB-BASE COURSE ELEVATION AND THE ACCESS ROAD TO BASE COURSE ELEVATION PRIOR TO FORMING FOUNDATIONS.

E. APPLY SILT STERILIZER PRIOR TO PLACING BASE MATERIALS.

F. IF REQUIRED, GRADE, SEED, FERTILIZE AND MULCH DISTURBED AREAS IMMEDIATELY AFTER BRINGING THE SITE AND ACCESS ROAD TO BASE ELEVATION. WATER TO ENSURE GROWTH.

G. REMOVE EXCESS GRAVEL FROM TEMPORARY CONSTRUCTION ZONE.

H. AFTER APPLICATIONS OF FINAL SURFACES, APPLY SOIL STERILIZER TO THE STONE SURFACES.
- 1.06 SUBMITTALS

A. BEFORE CONSTRUCTION

1. IF LANDSCAPING IS APPLICABLE TO THE CONTRACT, SUBMIT TWO COPIES OF THE LANDSCAPING PLAN UNDER NURSERY LETTERHEAD. IF A LANDSCAPE ALLOWANCE IS INCLUDED IN THE CONTRACT, PROVIDE AN ITEMIZED LISTING OF PROPOSED COSTS UNDER NURSERY LETTERHEAD (REFER TO SITE PLAN FOR LANDSCAPING REQUIREMENT).

2. SUBMIT FOR APPROVAL, 1/2 CUBIC FOOT OF THE PROPOSED SURFACE COURSE MATERIAL.

3. LANDSCAPING WARRANTY STATEMENT, IF REQUIRED.

PART 2 PRODUCTS

- 2.01 MATERIALS

A. ROAD AND SITE MATERIALS: FILL MATERIAL SHALL BE ACCEPTABLE, SELECT FILL AND SHALL BE IN ACCORDANCE WITH LOCAL DEPARTMENT OF HIGHWAY AND PUBLIC TRANSPORTATION STANDARD SPECIFICATIONS.

B. SOIL STERILIZER SHALL BE EPA REGISTERED OF LIQUID COMPOSITION AND OF PRE-EMERGENCE DESIGN.

C. SOIL STABILIZER FABRIC SHALL BE MIRAFI OR EQUAL - 500% AT ACCESS ROAD AND SOAK AT COMPOUND.

D. GRAVEL FILL: WELL GRADED, HARD, DURABLE, NATURAL SAND AND GRAVEL, FREE FROM ICE AND SNOW, ROOTS, SOD RUBBISH, AND OTHER DELETERIOUS OR ORGANIC MATTER. MATERIAL SHALL CONFORM TO THE FOLLOWING GRADATION REQUIREMENTS:

U.S. SIEVE NO.	PASSING BY WEIGHT
4"	100
1/2"	50-85
#4	40-75
#10	30-60
#40	10-30
#100	5-20
#200	0-5

GRAVEL FILL TO BE PLACED IN LIFTS OF 9" MAXIMUM THICKNESS AND COMPACTED TO 95% STANDARD PROCTOR DENSITY.

2.02 EQUIPMENT

A. COMPACTION SHALL BE ACCOMPLISHED BY MECHANICAL MEANS. LARGER AREAS SHALL BE COMPACTED BY SHEEP'S FOOT, VIBRATORY OR RUBBER TIED ROLLERS WEIGHING AT LEAST 5 TONS. SMALLER AREAS SHALL BE COMPACTED BY POWER-DRIVER, HAND-HELD TAMPER.

B. PRIOR TO OTHER EXCAVATION AND CONSTRUCTION EFFORTS, GRUB ORGANIC MATERIAL TO A MINIMUM OF 6" BELOW ORIGINAL GROUND LEVEL.

C. UNLESS OTHERWISE INSTRUCTED BY VERTICAL BRIDGE, REMOVE TREES, BRUSH AND DEBRIS FROM THE PROPERTY TO AN AUTHORIZED DISPOSAL LOCATION.

D. PRIOR TO PLACEMENT OF FILL OR BASE MATERIALS, ROLL THE SOIL.

E. WHERE UNSTABLE CONDITIONS ARE ENCOUNTERED, LINE THE RUBBED AREAS WITH STABILIZER MAT PRIOR TO PLACEMENT OF FILL OR BASE MATERIAL.

PART 3 EXECUTION

- 3.30 INSTALLATION

A. THE SITE AND TURNAROUND SHALL BE AT THE SUB-BASE COURSE ELEVATION PRIOR TO FORMING FOUNDATIONS. GRADE OR FILL THE SITE AND ACCESS ROAD AS REQUIRED TO PRODUCE EVEN DISTRIBUTION OF SPOILS RESULTING FROM FOUNDATION EXCAVATIONS. THE RESULTING GRADE SHALL CORRESPOND WITH SAID SUB-BASE COURSE. ELEVATIONS ARE TO BE CALCULATED FROM FINISHED GRADES OR SLOPES INDICATED.

B. CLEAR EXCESS SPOILS, IF ANY, FROM JOB SITE AND DO NOT SPREAD BEYOND THE LIMITS OF VERTICAL BRIDGE'S LEASE PROPERTY UNLESS AUTHORIZED BY PROJECT MANAGER.

C. THE ACCESS ROAD SHALL BE BROUGHT TO BASE COURSE ELEVATION PRIOR TO FOUNDATION CONSTRUCTION.

- D. DO NOT CREATE DEPRESSIONS WHERE WATER MAY POND.
- E. THE CONTRACT INCLUDES ALL NECESSARY GRADING, BANKING, DITCHING AND COMPLETE SURFACE COURSE FOR ACCESS ROAD. ALL ROADS OR ROUTES UTILIZED FOR ACCESS TO PUBLIC THOROUGHFARE ARE INCLUDED SCOPE OF WORK UNLESS OTHERWISE INDICATED.
- F. WHEN IMPROVING AN EXISTING ACCESS ROAD, GRADE THE EXISTING ROAD TO REMOVE ANY ORGANIC MATTER AND THEN SMOOTH SURFACE BEFORE PLACING FILL OR STONE.
- G. PLACE FILL OR STONE IN 3" MAXIMUM LIFTS AND COMPACT BEFORE PLACING NEXT LIFT.
- H. THE FINISH GRADE, INCLUDING TOP SURFACE COURSE SHALL EXTEND A MINIMUM OF 12" BEYOND THE SITE FENCE AND SHALL COVER THE AREA AS INDICATED.
- I. RIPRAP SHALL BE APPLIED TO THE SIDE SLOPES OF ALL FENCED AREAS, PARKING AREAS AND TO ALL OTHER SLOPES GREATER THAN 2:1.
- J. RIPRAP SHALL BE APPLIED TO THE SIDES OF DITCHES OR DRAINAGE SWALES AS INDICATED ON PLANS.
- K. RIPRAP ENTIRE DITCH FOR 6'-0" IN ALL DIRECTIONS AT CULVERT OPENINGS.
- L. SEED, FERTILIZER AND STRAW COVER SHALL BE APPLIED TO ALL OTHER DISTURBED AREAS AND DITCHES, DRAINAGE SWALES, NOT OTHERWISE RIPRAPPED.
- M. UNDER NO CIRCUMSTANCES SHALL DITCHES, SWALES OR CULVERTS BE PLACED SO THEY DIRECT WATER TOWARDS OR PERMIT STANDING WATER IMMEDIATELY ADJACENT TO SITE. IF OWNER DESIGNS OR IF DESIGN ELEVATIONS CONFLICT WITH THIS GUIDANCE, ADVISE THE OWNER IMMEDIATELY.
- N. IF A DITCH LIES WITH SLOPES GREATER THAN TEN PERCENT, MOUNT DIVERSIONARY HEADWALLS IN THE DITCH FOR 6'-0" ABOVE THE CULVERT ENTRANCE.
- O. SEED AND FERTILIZER SHALL BE APPLIED TO SURFACE CONDITIONS WHICH WILL ENCOURAGE ROOTING. RAKE AREAS TO BE SEED TO EVEN THE SURFACE AND TO LOOSEN THE SOIL.
- P. SOW SEEDS IN TWO DIRECTIONS IN TWICE THE QUANTITY RECOMMENDED BY THE SEED PRODUCER.
- Q. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE GROWTH OF SEEDED AND LANDSCAPED AREAS BY WATERING TO THE POINT OF RELEASE FROM THE CONTRACT. CONTINUE TO REWORK BARE AREAS UNTIL COMPLETE COVERAGE IS OBTAINED.

- 3.04 FIELD QUALITY CONTROL

A. COMPACTION SHALL BE 90% STANDARD PROCTOR DENSITY IN ACCORDANCE WITH ASTM D-1557 FOR SITE WORK AND 95% STANDARD PROCTOR DENSITY UNDER SLAB AREAS. AREAS OF SETTLEMENT WILL BE EXCAVATED AND REFILLED AT CONTRACTOR'S EXPENSE.

- 3.05 PROTECTION

A. PROTECT SEEDDED AREAS FROM EROSION BY SPREADING STRAW TO A UNIFORM LOOSE DEPTH OF 1"-2". STAKE AND TIE DOWN AS REQUIRED. USE OF EROSION CONTROL MESH OR MULCH NET SHALL BE AN ACCEPTABLE ALTERNATIVE.

B. ALL TREES PLACED IN CONJUNCTION WITH A LANDSCAPE CONTRACT SHALL BE WRAPPED/TIED WITH HOSE PROTECTED WIRE AND SECURED TO STAKES EXTENDING 2'-0" INTO THE GROUND ON FOUR SIDES OF THE TREE.

C. ALL EXPOSED AREAS SHALL BE PROTECTED AGAINST WASHOUTS AND SOIL EROSION. STRAW BALES SHALL BE PLACED AT THE INLET APPROACH TO ALL NEW OR EXISTING CULVERTS.

EROSION AND SEDIMENT CONTROL NOTES:

1. UNLESS OTHERWISE INDICATED, ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES WILL BE CONSTRUCTED AND MAINTAINED ACCORDING TO MINIMUM STANDARDS AND SPECIFICATIONS OF METRO NASHVILLE. STORMWATER MANAGEMENT MANUAL, (LATEST EDITION).
2. ALL EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE PLACED PRIOR TO OR AS THE FIRST STEP OF CLEARING. ADD MEASURES AS NECESSARY AS DISTURBANCES INCREASE AS PART OF THE PHASED CONSTRUCTION.
3. A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN, ALONG WITH THE APPROVED NOTICE OF INTENT AND STORMWATER POLLUTION PREVENTION PLAN SHALL BE MAINTAINED ON THE SITE AT ALL TIMES.
4. PRIOR TO COMMENCING LAND DISTURBING ACTIVITIES IN AREAS OTHER THAN INDICATED ON THESE PLANS (INCLUDING BUT NOT LIMITED TO, OFF-SITE BORROW OR WASTE AREAS), THE CONTRACTOR SHALL SUBMIT A SUPPLEMENTARY EROSION CONTROL PLAN TO THE OWNER FOR REVIEW AND APPROVAL BY THE PLAN APPROVING AUTHORITY.
5. THE CONTRACTOR IS RESPONSIBLE FOR INSTALLATION OF ANY ADDITIONAL EROSION CONTROL MEASURES NECESSARY TO PREVENT EROSION AND SEDIMENTATION AS DETERMINED BY THE PLAN APPROVING AUTHORITY.
6. ALL DISTURBED AREAS ARE TO DRAIN TO APPROVED SEDIMENT CONTROL MEASURES FINAL STABILIZATION IS ACHIEVED.
7. DURING DEWATERING OPERATIONS, WATER WILL BE PUMPED INTO AN APPROVED FILTERING DEVICE.
8. CONSTRUCTION SHALL BE SEQUENCED TO MINIMIZE EXPOSURE TIME OF CLEARED SURFACE AREA. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IN PLACE AND FUNCTIONAL PRIOR TO EARTH MOVING OPERATIONS. ALL CONTROL MEASURES SHALL BE CHECKED AND REPAIRED AS NECESSARY, AND AT MAXIMUM 14 CALENDAR DAYS IN DRY PERIODS AND WITHIN 24 HOURS AFTER ANY RAINFALL EXCEEDING 0.5 INCH WITHIN A 24 HOUR PERIOD.
9. THE CONTRACTOR SHALL DESIGNATE IN WRITING THE NAME AND PHONE NUMBER OF THE INDIVIDUAL RESPONSIBLE FOR EROSION AND SEDIMENT CONTROLS.
10. PRE-CONSTRUCTION VEGETATIVE GROUND COVER SHALL NOT BE REMOVED MORE THAN 20 CALENDAR DAYS PRIOR TO GRADING. ALL GRADED AREAS EXPECTED TO REMAIN UNFINISHED FOR MORE THAN 30 CALENDAR DAYS SHALL BE COVERED WITH TEMPORARY GRASS, SOD, STRAW, MULCH OR FABRIC MATS. PERMANENT SOIL STABILIZATION SHALL BE INSTALLED WITHIN 15 CALENDAR DAYS OF FINAL GRADING.
11. THE CONTRACTOR SHALL MAINTAIN RECORDS OF EROSION CONTROL INSPECTIONS AND REPAIRS FOR A MINIMUM OF 3 YEARS AFTER CONSTRUCTION COMPLETION.
12. MULCHING SHALL CONSIST OF LOOSE HAY OR STRAW APPLIED AT THE RATE OF 2 TONS/ACRE.
13. THE CONTRACTOR SHALL REMOVE SEDIMENT FROM TRAPS, SILT FENCES, SEDIMENT PONDS, ETC. AS NECESSARY AND WHEN CAPACITY HAS BEEN REDUCED BY 50%.
14. STOCKPILES SHALL BE STABILIZED AND PROTECTED FROM EROSION.

PREPARED BY:



PREPARED FOR:



PREPARED FOR:



EN PERMIT: 3594

CONSTRUCTION DRAWINGS

REV	DATE	DESCRIPTION
A	8.9.19	ISSUED FOR REVIEW
0	8.16.19	ISSUED AS FINAL

SITE INFORMATION:
SUMMER SHADE

8249 TOMPKINSVILLE ROAD
SUMMER SHADE, KY 42166

METCALFE COUNTY

SITE NUMBER:
US-KY-5061

POD NUMBER: 19-44512
DRAWN BY: KDP
CHECKED BY: MEP
DATE: 8-9-19

SHEET TITLE:

GENERAL NOTES & SPECIFICATIONS

SHEET NUMBER:

GN-1



CONSTRUCTION DRAWINGS

[illegible]

SITE INFORMATION:
SUMMER SHADE

8249 TOMPKINSVILLE ROAD
SUMMER SHADE, KY 42166

METCALFE COUNTY

SITE NUMBER:
US-KY-5061

POD NUMBER:	19-44512
DRAWN BY:	KDP
CHECKED BY:	MEP
DATE:	8-9-19

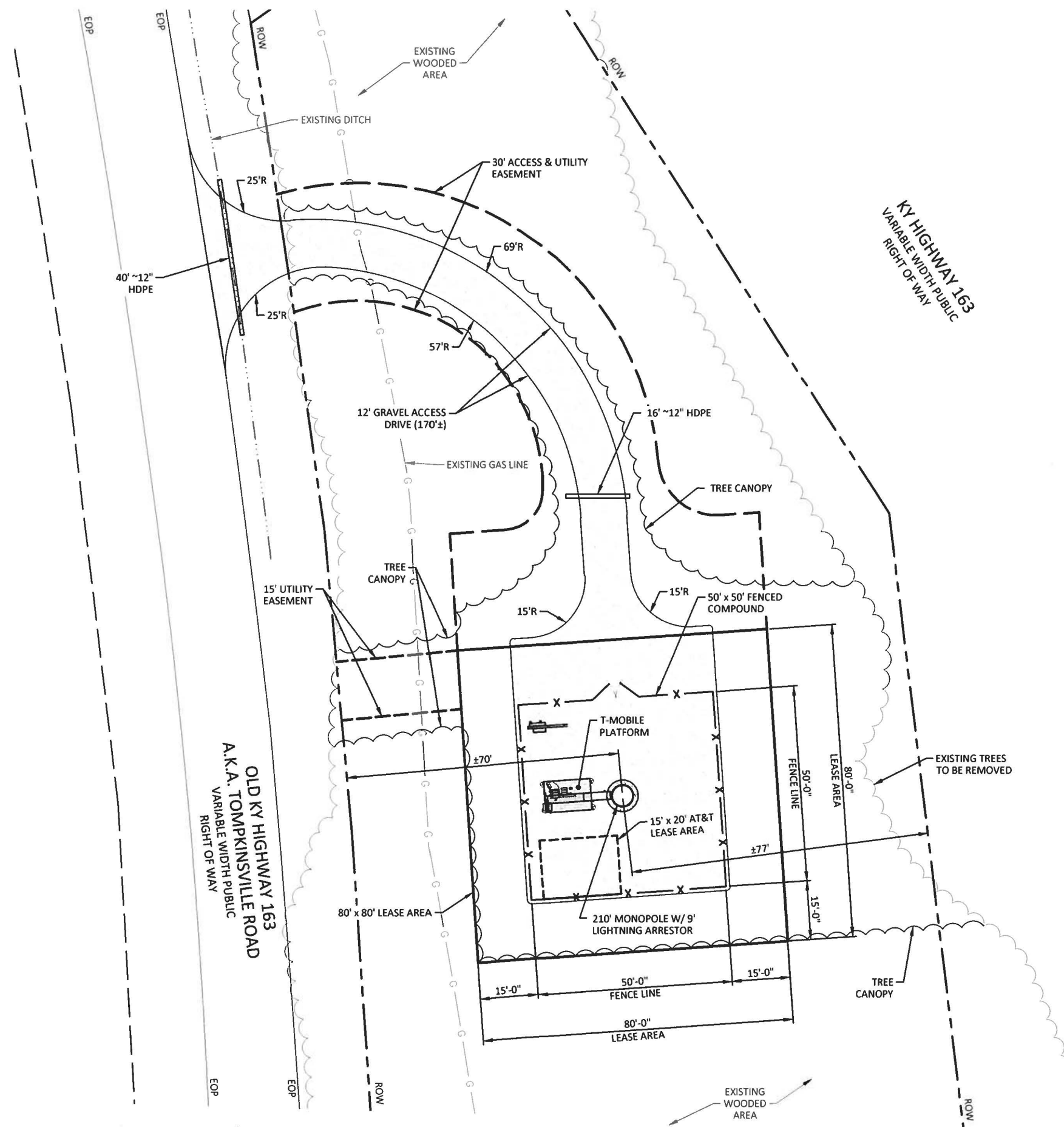
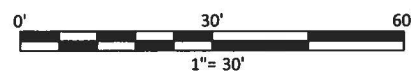
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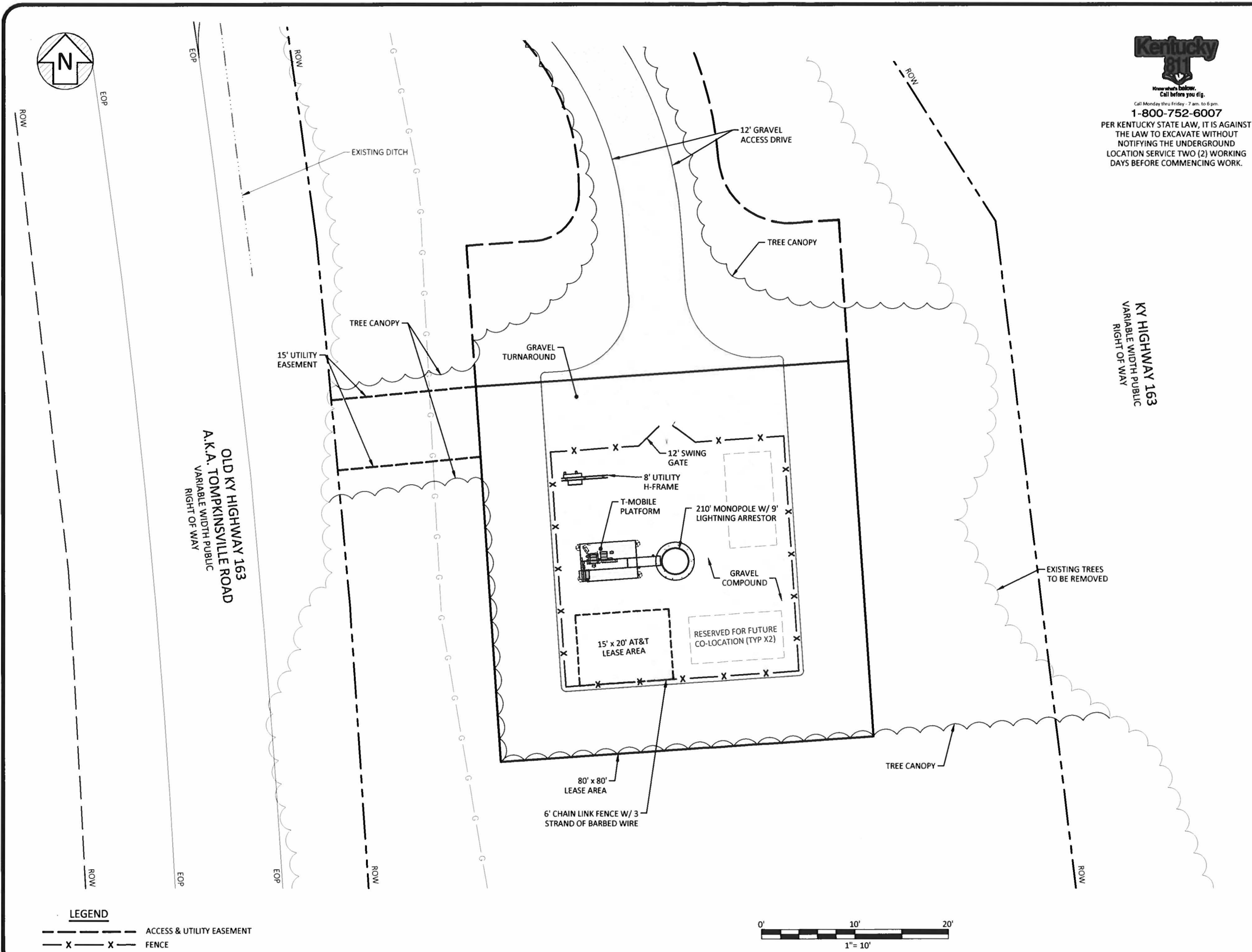
OVERALL SITE LAYOUT

SHEET NUMBER:
C-1



----- Dashed ----- EXISTING BOUNDARY
 ----- Cross-ticks ----- ACCESS & UTILITY EASEMENT
 ----- X ----- FENCE LINE
 ----- OHE ----- EXISTING OVERHEAD ELECTRIC
 ----- G ----- EXISTING GAS LINE





1-800-752-6007
PER KENTUCKY STATE LAW, IT IS AGAINST THE LAW TO EXCAVATE WITHOUT NOTIFYING THE UNDERGROUND LOCATION SERVICE TWO (2) WORKING DAYS BEFORE COMMENCING WORK.

KY HIGHWAY 163
VARIABLE WIDTH PUBLIC
RIGHT OF WAY

PREPARED BY:
POD
POWER OF DESIGN
11490 BLUEGRASS PARKWAY
LOUISVILLE, KY 40299
502-437-5252

PREPARED FOR:
verticalbridge

PREPARED FOR:
at&t

STATE OF KENTUCKY
MARK E. PATTERSON
19,908
LICENSED PROFESSIONAL ENGINEER
2019

EN PERMIT: 3594

CONSTRUCTION
DRAWINGS

REV	DATE	DESCRIPTION
A	8.9.19	ISSUED FOR REVIEW
0	8.16.19	ISSUED AS FINAL

SITE INFORMATION:
SUMMER SHADE

8249 TOMPKINSVILLE ROAD
SUMMER SHADE, KY 42166

METCALFE COUNTY

SITE NUMBER:
US-KY-5061

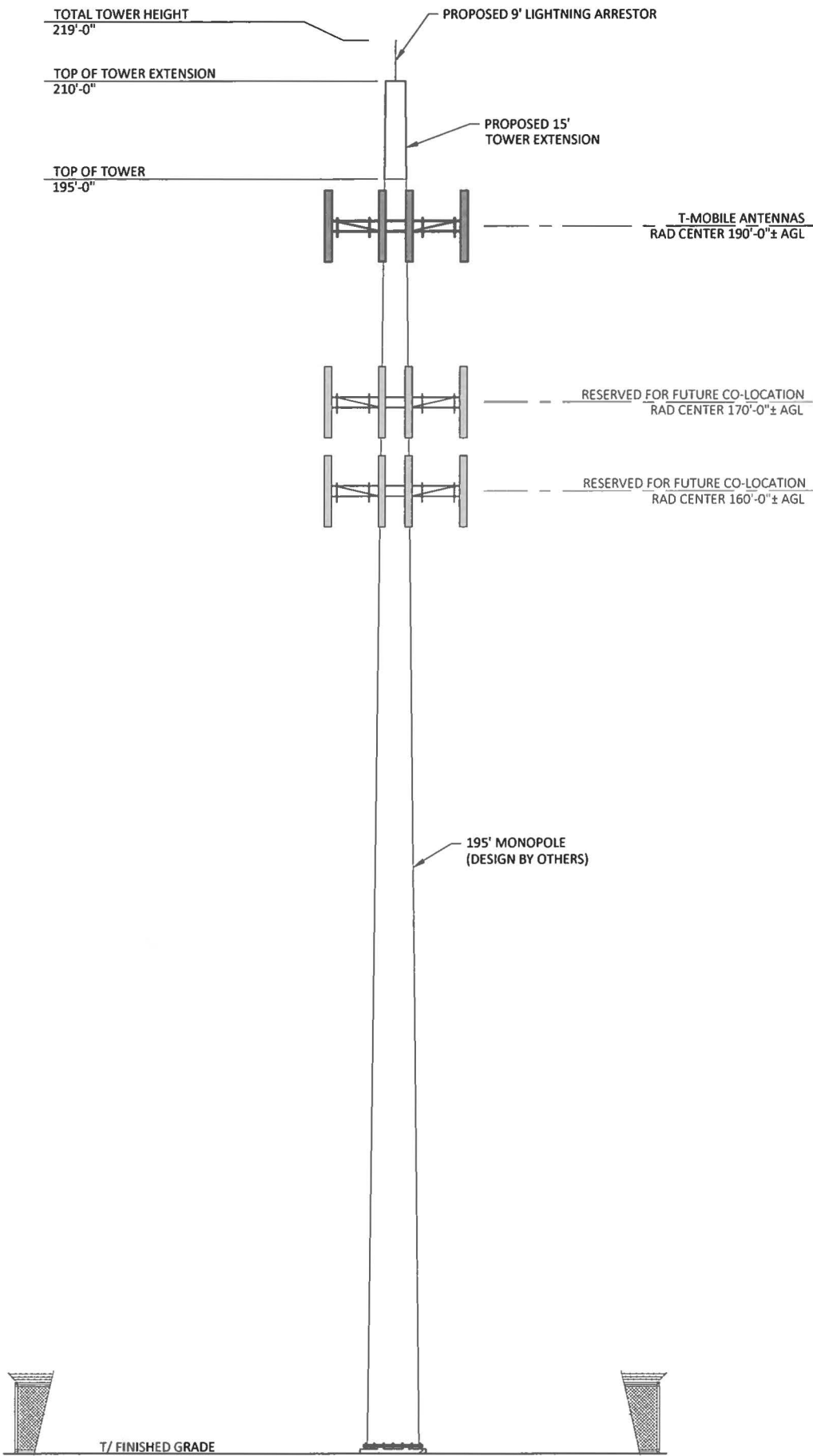
POD NUMBER: 19-44512
DRAWN BY: KDP
CHECKED BY: MEP
DATE: 8-9-19

SHEET TITLE:

**ENLARGED
COMPOUND
LAYOUT**

SHEET NUMBER:
C-2

Exhibit C



TOWER NOTES:

1. THE TOWER, FOUNDATION, ANTENNA MOUNTS, AND ANTENNAS WERE DESIGNED BY OTHERS.
2. THE TOWER ELEVATION SHOWN IS FOR REFERENCE ONLY.
3. CONTRACTOR TO FIELD VERIFY ANTENNA MOUNT CONFIGURATION WITH T-MOBILE. ALL ANTENNAS AND MOUNTING HARDWARE SHALL CONFORM TO DESIGN REQUIREMENTS PER INTERNATIONAL BUILDING CODE (LATEST EDITION) AND EIA/TIA-222-G STRUCTURAL STANDARDS FOR STEEL ANTENNA TOWERS AND ANTENNA SUPPORTING STRUCTURES, BASIC WIND SPEED AS LISTED IN TOWER DRAWINGS.
4. SEE TOWER MANUFACTURER'S DRAWINGS FOR TOWER AND FOUNDATION DETAILS & SPECIFICATIONS.
5. MANUFACTURER'S DRAWINGS SUPERCEDE A&E DRAWINGS.
6. SEE RFDS AND PLUMBING DIAGRAMS PROVIDED BY T-MOBILE FOR ANTENNA, CABLING, AND EQUIPMENT INFORMATION.

GENERAL NOTES:

1. ALL WORK PRESENTED ON THESE DRAWINGS MUST BE COMPLETED BY THE CONTRACTOR UNLESS NOTED OTHERWISE. THE CONTRACTOR MUST HAVE CONSIDERABLE EXPERIENCE IN PERFORMANCE OF WORK SIMILAR TO THAT DESCRIBED HEREIN. BY ACCEPTANCE OF THIS ASSIGNMENT: THE CONTRACTOR IS ATTESTING THAT HE DOES HAVE SUFFICIENT EXPERIENCE AND ABILITY, THAT HE IS KNOWLEDGEABLE OF THE WORK TO BE PERFORMED AND THAT HE IS PROPERLY LICENSED AND PROPERLY REGISTERED TO DO THIS WORK IN THE STATE AND/OR COUNTY IN WHICH IT IS TO BE PERFORMED.
2. ALL MATERIALS AND EQUIPMENT FURNISHED SHALL BE NEW AND OF GOOD QUALITY, FREE FROM FAULTS AND DEFECTS AND IN CONFORMANCE WITH THE CONTRACT DOCUMENTS. ANY AND ALL SUBSTITUTIONS MUST BE PROPERLY APPROVED AND AUTHORIZED IN WRITING BY THE OWNER AND ENGINEER PRIOR TO INSTALLATION. THE CONTRACTOR SHALL FURNISH SATISFACTORY EVIDENCE AS TO THE KIND AND QUALITY OF THE MATERIALS AND EQUIPMENT BEING SUBSTITUTED.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INITIATING, MAINTAINING, AND SUPERVISING ALL SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK. THE CONTRACTOR IS RESPONSIBLE FOR INSURING THAT THIS PROJECT AND RELATED WORK COMPLIES WITH ALL APPLICABLE LOCAL, STATE, AND FEDERAL SAFETY CODES AND REGULATIONS GOVERNING THIS WORK.
4. ALL DIMENSIONS SHALL BE VERIFIED WITH THE PLANS (LATEST REVISION) PRIOR TO COMMENCING CONSTRUCTION. NOTIFY THE OWNER IMMEDIATELY IF DISCREPANCIES ARE DISCOVERED.
5. ALL MATERIALS AND WORKMANSHIP SHALL BE WARRANTED FOR ONE (1) YEAR FROM THE DATE OF ACCEPTANCE.

PREPARED BY:

POD
POWER OF DESIGN
11490 BLUEGRASS PARKWAY
LOUISVILLE, KY 40299
502-437-5252

PREPARED FOR:

verticalbridge

PREPARED FOR:

at&t

STATE OF KENTUCKY

MARK E. PATTERSON
19,900
LICENSED
PROFESSIONAL ENGINEER

EN PERMIT: 3594

CONSTRUCTION
DRAWINGS

REV	DATE	DESCRIPTION
A	8.9.19	ISSUED FOR REVIEW
0	8.16.19	ISSUED AS FINAL

SITE INFORMATION:
SUMMER SHADE

8249 TOMPKINSVILLE ROAD
SUMMER SHADE, KY 42166

METCALFE COUNTY

SITE NUMBER:
US-KY-5061

POD NUMBER: 19-44512
DRAWN BY: KDP
CHECKED BY: MEP
DATE: 8-9-19

SHEET TITLE:
TOWER ELEVATION
& ANTENNA
LAYOUT

SHEET NUMBER:
C-3

Exhibit D



July 29, 2019

RE: **US-KY-5061 Summer Shade**
Proposed Cell Tower Extension
36° 52' 43.74" N, 85° 39' 53.06" W
Metcalfe County, KY

Dear Commissioners:

The Project / Construction Manager for the proposed extension to the monopole tower will be **Andy Smith**. His contact information is:

Andy Smith
Construction Manager
Vertical Bridge Development, LLC
M: 843-412-9109
ASmith@verticalbridge.com

Mr. Smith has been in the industry completing civil construction and tower construction management for NSB projects (New Site Build) since 2004. Mr. Smith has been employed with Vertical Bridge Development since 2015.

Thank you,

Andy Smith

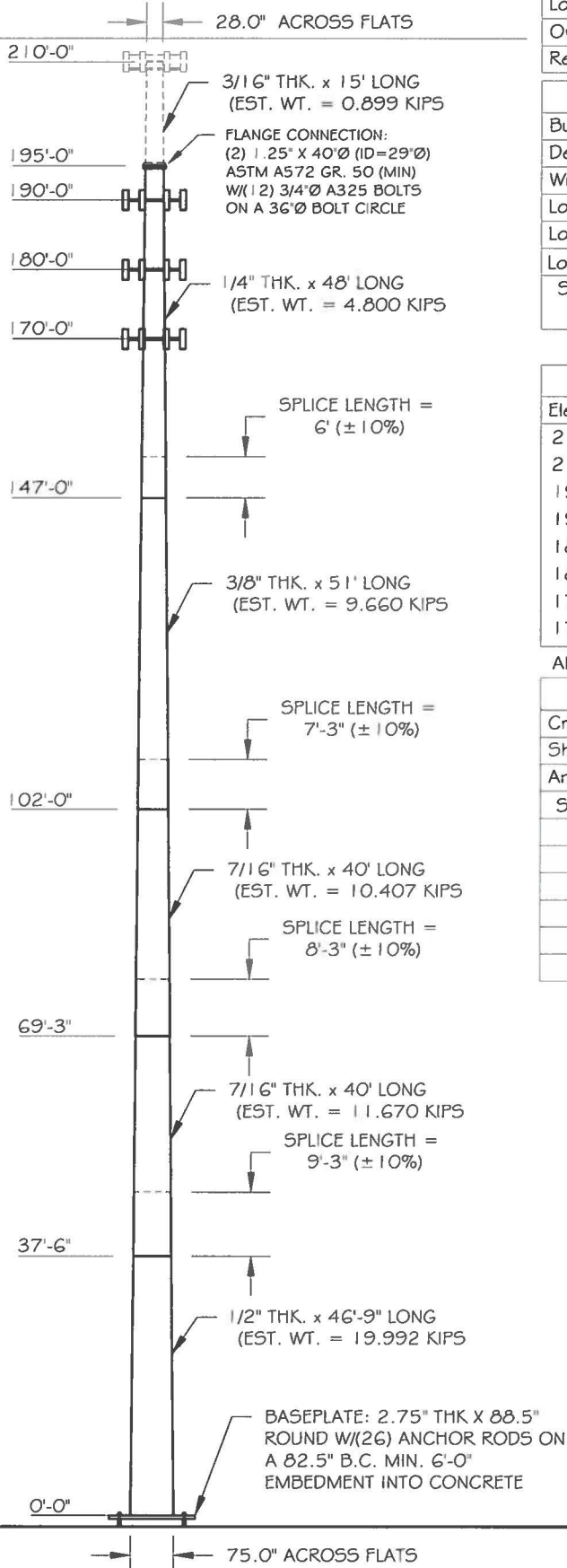
Andy Smith, Construction Manager – TN/KY Market
Vertical Bridge Development, LLC



TAPP

2427 Kelly Lane
Houston, Texas 77066
281-444-8277

QUALITY STEEL POLES. DELIVERED.



Page 1 of 2	Job Number: 23519-066
Eng: MFP	Customer Ref: TP-17396
	Date: 2/25/2019
Structure: 195-FT POLE (FUT. 210-FT)	
Site: US-KY-5061 SUMMER SHADE	
Location: METCALFE CO., KY / 36°52'43.74", -85°39'53.06"	
Owner: VERTICAL BRIDGE	
Revision No.: Revision Date:	

DESIGN

Building Code: 2013 KENTUCKY BUILDING CODE			
Design Standard: ANSI/TIA-222-G			
Wind Speed Load Cases: ASCE-7-05 WIND SPEED			
Load Case #1: 90 MPH Design Wind Speed - V_{ASD} ($V_{ULT} = 116$ MPH)			
Load Case #2: 30 MPH Wind with 0.75" Ice Accumulation			
Load Case #3: 60 MPH Service Wind Speed			
Structure Class	Exposure Cat.	Topography Cat.	Crest Height
II	C	I	

STRUCTURE MEETS THE MINIMUM REQUIREMENTS OF TIA-222-H

EQUIPMENT LIST

Elev.	Description
210	(12) ANTENNAS + MOUNTING (EPA 30,000 IN2)
210	GENERIC ANTENNA MOUNT
190	(12) ANTENNAS + MOUNTING (EPA 30,000 IN2)
190	GENERIC ANTENNA MOUNT
180	(12) ANTENNAS + MOUNTING (EPA 30,000 IN2)
180	GENERIC ANTENNA MOUNT
170	(12) ANTENNAS + MOUNTING (EPA 30,000 IN2)
170	GENERIC ANTENNA MOUNT

ANTENNA FEED LINES ROUTED ON THE INSIDE OF THE POLE

STRUCTURE PROPERTIES

Cross-Section: 18-Sided			Taper: 0.23810 in/ft		
Shaft Steel: ASTM A572 GR 65			Baseplate Steel: ASTM A572 GR 50		
Anchor Rods: 2.25 in. A615 GR. 75 X 7'-0" LONG					
Sect.	Length (ft)	Thickness (in)	Splice (ft)	Top Dia. (in)	Bot Dia. (in)
1	15.00	0.1875	0.00	28.00	31.57
2	48.00	0.2500	6.00	31.57	43.00
3	51.00	0.3750	7.25	41.07	53.21
4	40.00	0.4375	8.25	50.74	60.26
5	40.00	0.4375	9.25	57.42	66.95
6	46.75	0.5000	0.00	63.87	75.00



BASE REACTIONS FOR FOUNDATION DESIGN

Moment: 10667 ft-kip
Shear: 66 kip
Axial: 95 kip

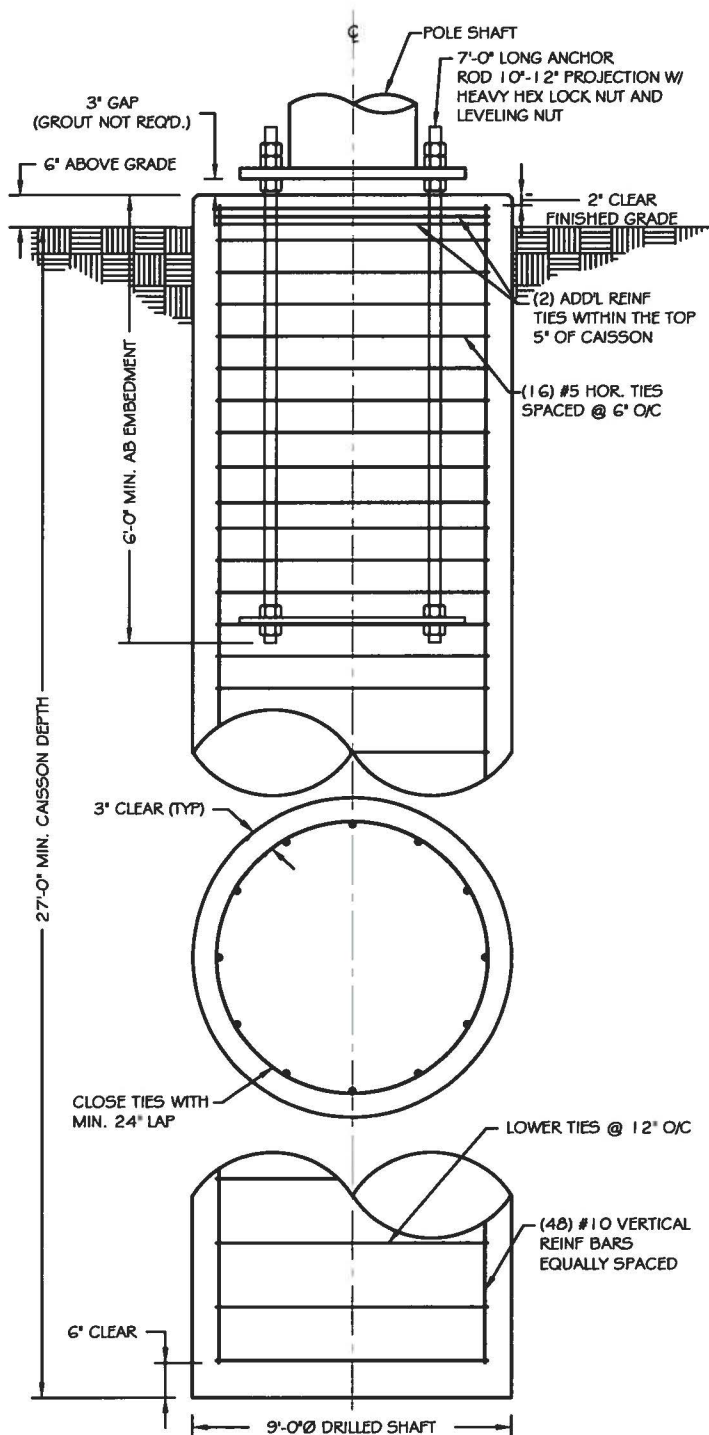


QUALITY STEEL POLES. DELIVERED.

Page 2 of 2	Job Number:	23519-066
Eng: MFP	Customer Ref:	TP-17396
	Date:	2/25/2019
Structure:	195-FT POLE (FUT. 210-FT)	
Site:	US-KY-5061 SUMMER SHADE	
Location:	METCALFE CO., KY / 36°52'43.74", -85°39'53.06"	
Owner:	VERTICAL BRIDGE	
Revision No.:	Revision Date:	

FOUNDATION NOTES:

1. ALL FOUNDATION CONCRETE SHALL USE TYPE II CEMENT AND ATTAIN A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI AT 28 DAYS. CONCRETE SHALL HAVE A MAXIMUM WATER/CEMENT RATIO OF 0.46 AND SHALL BE AIR ENTRAINED 6% ($\pm 1.5\%$). ALL CONCRETE CONSTRUCTION SHALL BE IN ACCORDANCE WITH ACI 318, "THE BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE", LATEST EDITION.
2. ALL REINFORCING STEEL SHALL CONFORM TO ASTM A615 VERTICAL BARS SHALL BE GRADE 60, AND TIES OR STIRRUPS SHALL BE A MINIMUM OF GRADE 40. THE PLACEMENT OF ALL REINFORCEMENT SHALL CONFORM TO ACI 315, "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES", LATEST EDITION.
3. CAISSON FOUNDATION INSTALLATION SHALL BE IN ACCORDANCE WITH ACI 336, "STANDARD SPECIFICATIONS FOR THE CONSTRUCTION OF DRILLED PIERS", LATEST EDITION.
4. THE CONTRACTOR SHALL DETERMINE THE MEANS AND METHODS TO SUPPORT THE EXCAVATION DURING CONSTRUCTION. THE CONTRACTOR SHALL READ THE GEOTECHNICAL REPORT AND SHALL CONSULT THE GEOTECHNICAL ENGINEER AS NECESSARY PRIOR TO CONSTRUCTION.
5. FOUNDATION DESIGN IS BASED ON GEOTECHNICAL REPORT BY:
- | | |
|-------------|--------------------------------------|
| ENGINEER: | ENVIRONMENTAL CORPORATION OF AMERICA |
| REPORT NO.: | VO432 (DATED 2/5/19) |
6. ESTIMATED CONCRETE VOLUME = 65 CUBIC YARDS.
7. THE FOUNDATION HAS BEEN DESIGNED TO RESIST THE FOLLOWING FACTORED LOADS:
- | | |
|---------|----------------|
| MOMENT: | 10667 FT* KIPS |
| SHEAR: | 66 KIPS |
| AXIAL: | 95 KIPS |



CAISSON FOUNDATION

NOT TO SCALE



tnxTower Michael F. Plahovinsak, PE 18301 State Route 161 Plain City, OH 4364 Phone: 614-398-6250 FAX: mike@mfpeng.com	Job	195-ft Pole (Fut. 210-ft) - MFP #23519-066 r1	Page	1 of 7
	Project	US-KY-5061 Summer Shade	Date	15:51:08 02/25/19
	Client	TP-17396	Designed by	JC

Tower Input Data

The tower is a monopole.

This tower is designed using the TIA-222-G standard.

The following design criteria apply:

Tower is located in Metcalfe County, Kentucky.

Basic wind speed of 90 mph.

Structure Class II.

Exposure Category C.

Topographic Category 1.

Crest Height 0.00 ft.

Nominal ice thickness of 0.7500 in.

Ice thickness is considered to increase with height.

Ice density of 56 pcf.

A wind speed of 30 mph is used in combination with ice.

Temperature drop of 50 °F.

Deflections calculated using a wind speed of 60 mph.

A non-linear (P-delta) analysis was used.

Pressures are calculated at each section.

Stress ratio used in pole design is 1.

Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

Tapered Pole Section Geometry

Section	Elevation ft	Section Length ft	Splice Length ft	Number of Sides	Top Diameter in	Bottom Diameter in	Wall Thickness in	Bend Radius in	Pole Grade
L1	210.00-195.00	15.00	0.00	18	28.0000	31.5700	0.1875	0.7500	A572-65 (65 ksi)
L2	195.00-147.00	48.00	6.00	18	31.5700	43.0000	0.2500	1.0000	A572-65 (65 ksi)
L3	147.00-102.00	51.00	7.25	18	41.0712	53.2100	0.3750	1.5000	A572-65 (65 ksi)
L4	102.00-69.25	40.00	8.25	18	50.7344	60.2600	0.4375	1.7500	A572-65 (65 ksi)
L5	69.25-37.50	40.00	9.25	18	57.4203	66.9500	0.4375	1.7500	A572-65 (65 ksi)
L6	37.50-0.00	46.75		18	63.8713	75.0000	0.5000	2.0000	A572-65 (65 ksi)

Tapered Pole Properties

Section	Tip Dia. in	Area in ²	I in ⁴	r in	C in	I/C in ³	J in ⁴	I/Q in ²	w in	w/t
L1	28.4030	16.5519	1617.5799	9.8734	14.2240	113.7219	3237.2882	8.2775	4.5980	24.523
	32.0281	18.6765	2323.8509	11.1408	16.0376	144.9005	4650.7596	9.3400	5.2263	27.874
L2	32.0185	24.8524	3079.9924	11.1186	16.0376	192.0487	6164.0375	12.4286	5.1163	20.465
	43.6248	33.9221	7832.3618	15.1763	21.8440	358.5590	15675.0295	16.9643	7.1280	28.512
L3	43.0971	48.4387	10135.3516	14.4472	20.8642	485.7773	20284.0395	24.2240	6.5685	17.516
	53.9730	62.8869	22178.9395	18.7564	27.0307	820.5099	44387.0626	31.4494	8.7050	23.213
L4	53.2027	69.8435	22322.6579	17.8554	25.7731	866.1233	44674.6886	34.9284	8.1593	18.65
	61.1221	83.0710	37559.1803	21.2370	30.6121	1226.9398	75167.7819	41.5434	9.8358	22.482
L5	60.2345	79.1278	32460.4692	20.2289	29.1695	1112.8209	64963.6507	39.5714	9.3360	21.339
	67.9153	92.3609	51621.6932	23.6119	34.0106	1517.8119	103311.311	46.1892	11.0132	25.173

tnxTower Michael F. Plahovinsak, PE 18301 State Route 161 Plain City, OH 4364 Phone: 614-398-6250 FAX: mike@mfpeng.com	Job	195-ft Pole (Fut. 210-ft) - MFP #23519-066 r1	Page	2 of 7
	Project	US-KY-5061 Summer Shade	Date	15:51:08 02/25/19
	Client	TP-17396	Designed by	JC

Section	Tip Dia. in	Area in ²	I in ⁴	r in	C in	I/C in ³	J in ⁴	It/Q in ²	w in	w/t
L6	67.0154	100.5702	51026.0027	22.4968	32.4466	1572.6146	102119.1467	50.2947	10.3613	20.723
	76.0799	118.2315	82905.4718	26.4475	38.1000	2175.9966	165920.0328	59.1270	12.3200	24.64

Tower Elevation	Gusset Area (per face)	Gusset Thickness	Gusset Grade	Adjust. Factor A _f	Adjust. Factor A _r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontals in	Double Angle Stitch Bolt Spacing Redundants in
ft	ft ²	in							
L1 210.00-195.00				1	1	1			
L2 195.00-147.00				1	1	1			
L3 147.00-102.00				1	1	1			
L4 102.00-69.25				1	1	1			
L5 69.25-37.50				1	1	1			
L6 37.50-0.00				1	1	1			

Feed Line/Linear Appurtenances - Entered As Area

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Total Number		C _A A _A ft ² /ft	Weight plf
1 5/8"	C	No	Yes	Inside Pole	210.00 - 0.00	18	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	0.92 0.92 0.92
1 5/8"	C	No	Yes	Inside Pole	190.00 - 0.00	18	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	0.92 0.92 0.92
1 5/8"	C	No	Yes	Inside Pole	180.00 - 0.00	18	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	0.92 0.92 0.92
1 5/8"	C	No	Yes	Inside Pole	170.00 - 0.00	18	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	0.92 0.92 0.92

Feed Line/Linear Appurtenances Section Areas

Tower Section	Tower Elevation ft	Face	A _R ft ²	A _F ft ²	C _A A _A In Face ft ²	C _A A _A Out Face ft ²	Weight K
L1	210.00-195.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.25
L2	195.00-147.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	2.43
L3	147.00-102.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	2.97
L4	102.00-69.25	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	2.16
L5	69.25-37.50	A	0.000	0.000	0.000	0.000	0.00

tnxTower Michael F. Plahovinsak, PE 18301 State Route 161 Plain City, OH 4364 Phone: 614-398-6250 FAX: mike@mfpeng.com	Job	195-ft Pole (Fut. 210-ft) - MFP #23519-066 r1	Page	3 of 7
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Tower Section	Tower Elevation ft	Face	A_R ft ²	A_F ft ²	$C_A A_A$ In Face ft ²	$C_A A_A$ Out Face ft ²	Weight K
L6	37.50-0.00	B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	2.10
		A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	2.48

Feed Line/Linear Appurtenances Section Areas - With Ice

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft ²	A_F ft ²	$C_A A_A$ In Face ft ²	$C_A A_A$ Out Face ft ²	Weight K
L1	210.00-195.00	A	1.798	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.25
L2	195.00-147.00	A	1.767	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	2.43
L3	147.00-102.00	A	1.712	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	2.97
L4	102.00-69.25	A	1.650	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	2.16
L5	69.25-37.50	A	1.574	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	2.10
L6	37.50-0.00	A	1.419	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	2.48

Discrete Tower Loads

<i>Description</i>	<i>Face or Leg</i>	<i>Offset Type</i>	<i>Offsets: Horz Lateral Vert ft ft ft</i>	<i>Azimuth Adjustment °</i>	<i>Placement ft</i>		<i>C_{AA} Front ft²</i>	<i>C_{AA} Side ft²</i>	<i>Weight K</i>
Antennas + Mount (30,000 in2)	C	None		0.0000	210.00	No Ice	208.33	208.33	3.00
						1/2" Ice	250.00	250.00	3.50
						1" Ice	291.67	291.67	4.00
Antennas + Mount (30,000 in2)	C	None		0.0000	190.00	No Ice	208.33	208.33	3.00
						1/2" Ice	250.00	250.00	3.50
						1" Ice	291.67	291.67	4.00
Antennas + Mount (30,000 in2)	C	None		0.0000	180.00	No Ice	208.33	208.33	3.00
						1/2" Ice	250.00	250.00	3.50
						1" Ice	291.67	291.67	4.00
Antennas + Mount (30,000 in2)	C	None		0.0000	170.00	No Ice	208.33	208.33	3.00
						1/2" Ice	250.00	250.00	3.50
						1" Ice	291.67	291.67	4.00

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Load Combinations

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

Maximum Member Forces

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L1	210 - 195	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	8	-7.83	0.00	0.00
			Max. Mx	4	-3.19	-177.03	0.00
			Max. My	2	-3.19	0.00	177.03
			Max. Vy	4	12.53	-177.03	0.00
			Max. Vx	2	-12.53	0.00	177.03
L2	195 - 147	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	8	-35.03	0.00	0.00
			Max. Mx	4	-17.65	-1674.70	0.00
			Max. My	2	-17.65	0.00	1674.70
			Max. Vy	4	49.49	-1674.70	0.00
			Max. Vx	2	-49.49	0.00	1674.70
L3	147 - 102	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	8	-54.06	0.00	0.00
			Max. Mx	4	-33.07	-3961.91	0.00
			Max. My	2	-33.07	0.00	3961.91
			Max. Vy	4	54.98	-3961.91	0.00
			Max. Vx	2	-54.98	0.00	3961.91
L4	102 - 69.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	8	-72.65	0.00	0.00
			Max. Mx	4	-48.28	-5773.94	0.00
			Max. My	2	-48.28	0.00	5773.94
			Max. Vy	4	58.99	-5773.94	0.00
			Max. Vx	2	-58.99	0.00	5773.94
L5	69.25 - 37.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	8	-93.25	0.00	0.00
			Max. Mx	4	-65.23	-7645.00	0.00
			Max. My	2	-65.23	0.00	7645.00
			Max. Vy	4	62.45	-7645.00	0.00
			Max. Vx	2	-62.45	0.00	7645.00
L6	37.5 - 0	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	8	-128.33	0.00	0.00
			Max. Mx	4	-95.02	-10667.23	0.00
			Max. My	2	-95.02	0.00	10667.23
			Max. Vy	4	66.36	-10667.23	0.00
			Max. Vx	2	-66.36	0.00	10667.23

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Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	210 - 195	47.833	13	2.1071	0.0000
L2	195 - 147	41.264	13	2.0625	0.0000
L3	153 - 102	24.613	13	1.6284	0.0000
L4	109.25 - 69.25	12.032	13	1.0770	0.0000
L5	77.5 - 37.5	5.924	13	0.7297	0.0000
L6	46.75 - 0	2.141	13	0.4118	0.0000

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
210.00	Antennas + Mount (30,000 in2)	13	47.833	2.1071	0.0000	32265
190.00	Antennas + Mount (30,000 in2)	13	39.117	2.0333	0.0000	9043
180.00	Antennas + Mount (30,000 in2)	13	34.928	1.9505	0.0000	6860
170.00	Antennas + Mount (30,000 in2)	13	30.914	1.8428	0.0000	5526

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	210 - 195	192.849	2	8.5053	0.0000
L2	195 - 147	166.422	2	8.3257	0.0000
L3	153 - 102	99.379	2	6.5780	0.0000
L4	109.25 - 69.25	48.619	2	4.3534	0.0000
L5	77.5 - 37.5	23.946	2	2.9499	0.0000
L6	46.75 - 0	8.655	2	1.6649	0.0000

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
210.00	Antennas + Mount (30,000 in2)	2	192.849	8.5053	0.0000	8368
190.00	Antennas + Mount (30,000 in2)	2	157.783	8.2083	0.0000	2337
180.00	Antennas + Mount (30,000 in2)	2	140.924	7.8751	0.0000	1765
170.00	Antennas + Mount (30,000 in2)	2	124.764	7.4415	0.0000	1416

Pole Design Data

Section No.	Elevation ft	Size	L ft	L _u ft	KL/r	A in ²	P _u K	φP _n K	Ratio P _u / φP _n
L1	210 - 195 (1)	TP31.57x28x0.1875	15.00	0.00	0.0	18.6765	-3.19	1153.36	0.003
L2	195 - 147 (2)	TP43x31.57x0.25	48.00	0.00	0.0	32.7884	-17.65	2037.60	0.009
L3	147 - 102 (3)	TP53.21x41.0713x0.375	51.00	0.00	0.0	60.8330	-33.07	4108.98	0.008
L4	102 - 69.25 (4)	TP60.26x50.7344x0.4375	40.00	0.00	0.0	80.3428	-48.28	5487.33	0.009
L5	69.25 - 37.5 (5)	TP66.95x57.4203x0.4375	40.00	0.00	0.0	89.3008	-65.23	5853.84	0.011

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Section No.	Elevation	Size	L	L _u	KL/r	A	P _u	φP _n	Ratio
	ft		ft	ft		in ²	K	K	$\frac{P_u}{\phi P_n}$
L6	37.5 - 0 (6)	TP75x63.8713x0.5	46.75	0.00	0.0	118.231 0	-95.02	7706.06	0.012

Pole Bending Design Data

Section No.	Elevation	Size	M _{ux}	φM _{ux}	Ratio	M _{uy}	φM _{uy}	Ratio
	ft		kip-ft	kip-ft	$\frac{M_{ux}}{\phi M_{nx}}$	kip-ft	kip-ft	$\frac{M_{uy}}{\phi M_{ny}}$
L1	210 - 195 (1)	TP31.57x28x0.1875	177.03	745.69	0.237	0.00	745.69	0.000
L2	195 - 147 (2)	TP43x31.57x0.25	1674.70	1734.46	0.966	0.00	1734.46	0.000
L3	147 - 102 (3)	TP53.21x41.0713x0.375	3961.91	4320.68	0.917	0.00	4320.68	0.000
L4	102 - 69.25 (4)	TP60.26x50.7344x0.4375	5773.93	6530.47	0.884	0.00	6530.47	0.000
L5	69.25 - 37.5 (5)	TP66.95x57.4203x0.4375	7645.00	7749.23	0.987	0.00	7749.23	0.000
L6	37.5 - 0 (6)	TP75x63.8713x0.5	10667.25	11818.92	0.903	0.00	11818.92	0.000

Pole Shear Design Data

Section No.	Elevation	Size	Actual V _u	φV _n	Ratio	Actual T _u	φT _n	Ratio
	ft		K	K	$\frac{V_u}{\phi V_n}$	kip-ft	kip-ft	$\frac{T_u}{\phi T_n}$
L1	210 - 195 (1)	TP31.57x28x0.1875	12.53	576.68	0.022	0.00	1494.56	0.000
L2	195 - 147 (2)	TP43x31.57x0.25	49.49	1018.80	0.049	0.00	3476.34	0.000
L3	147 - 102 (3)	TP53.21x41.0713x0.375	54.98	2054.49	0.027	0.00	8661.50	0.000
L4	102 - 69.25 (4)	TP60.26x50.7344x0.4375	58.99	2743.67	0.022	0.00	13091.83	0.000
L5	69.25 - 37.5 (5)	TP66.95x57.4203x0.4375	62.45	2926.92	0.021	0.00	15533.33	0.000
L6	37.5 - 0 (6)	TP75x63.8713x0.5	66.36	3853.03	0.017	0.00	23690.67	0.000

Pole Interaction Design Data

Section No.	Elevation	Ratio P _u	Ratio M _{ux}	Ratio M _{uy}	Ratio V _u	Ratio T _u	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
	ft	$\frac{\phi P_n}{P_u}$	$\frac{\phi M_{ux}}{M_{ux}}$	$\frac{\phi M_{uy}}{M_{uy}}$	$\frac{\phi V_n}{V_u}$	$\frac{\phi T_n}{T_u}$			
L1	210 - 195 (1)	0.003	0.237	0.000	0.022	0.000	0.241	1.000	4.8.2 ✓
L2	195 - 147 (2)	0.009	0.966	0.000	0.049	0.000	0.977	1.000	4.8.2 ✓
L3	147 - 102 (3)	0.008	0.917	0.000	0.027	0.000	0.926	1.000	4.8.2 ✓
L4	102 - 69.25 (4)	0.009	0.884	0.000	0.022	0.000	0.893	1.000	4.8.2 ✓
L5	69.25 - 37.5 (5)	0.011	0.987	0.000	0.021	0.000	0.998	1.000	4.8.2 ✓
L6	37.5 - 0 (6)	0.012	0.903	0.000	0.017	0.000	0.915	1.000	4.8.2 ✓

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Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
L1	210 - 195	Pole	TP31.57x28x0.1875	1	-3.19	1153.36	24.1	Pass
L2	195 - 147	Pole	TP43x31.57x0.25	2	-17.65	2037.60	97.7	Pass
L3	147 - 102	Pole	TP53.21x41.0713x0.375	3	-33.07	4108.98	92.6	Pass
L4	102 - 69.25	Pole	TP60.26x50.7344x0.4375	4	-48.28	5487.33	89.3	Pass
L5	69.25 - 37.5	Pole	TP66.95x57.4203x0.4375	5	-65.23	5853.84	99.8	Pass
L6	37.5 - 0	Pole	TP75x63.8713x0.5	6	-95.02	7706.06	91.5	Pass
							Summary	
							Pole (L5)	99.8 Pass
							RATING =	99.8 Pass

Michael F. Plahovinsak, P.E. 18301 State Route 161 W Plain City, OH 43064 Phone: 614-398-6250 email: mike@mfpeng.com	Job 210-ft monopole - MFP #23519-066	Page BP-G
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	Client TAPP TP-17396	Designed by Mike

Anchor Rod and Base Plate Calculation

ANSI/TIA-222-G

Factored Base Reactions:

Moment: 10667 ft-kips
Shear: 66 kips
Axial: 95 kips

Pole Shape:

18-Sided
Pole Dia. (D_f):
75.00 in

Anchor Rods:

(26) 2.25 in. A615 GR. 75
Anchor Rods Evenly Spaced
On a 82.5 in Bolt Circle

Base Plate:

2.75 in. x 88.5 in. Round
 $f_y = 50$ ksi

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

$\phi = 0.80$ TIA 4.9.9
 $I_{bolts} = 22120.31 \text{ in}^2$ Moment of Inertia
 $P_u = 239$ kips Tension Force
 $V_u = 3$ kips Shear Force
 $R_{nt} = 325.00$ kips Nominal Tensile Strength
 $\eta = 0.50$ for detail type (d)

The following Interaction Equation Shall Be Satisfied:

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

$$0.938 \leq 1$$

Base Plate Calculation According to TIA-222-G

$\phi = 0.90$ TIA 4.7
 $M_{PL} = 636.2$ in-kip Plate Moment
 $L = 9.1$ in Section Length
 $Z = 17.1$ Plastic Section Modulus
 $M_p = 856.7$ in-kip Plastic Moment
 $\phi M_n = 771.0$ in-kip Factored Resistance

Calculated Moment vs Factored Resistance

$$636.18 \text{ in-kip} \leq 771 \text{ in-kip}$$

Anchor Rods Are Adequate	93.8%	<input checked="" type="checkbox"/>
Base Plate is Adequate	82.5%	<input checked="" type="checkbox"/>

Michael F. Plahovinsak, P.E. 18301 State Route 161 W Plain City, OH 43064 Phone: 614-398-6250 email: mike@mfpeng.com	Job	210-ft monopole - MFP #23519-066	Page	FND
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	Client	TAPP TP-17396	Designed by	Mike

Caisson Calculation

According to ANSI/TIA-222-G

- Foundation overturning resistance calculated with PLS Caisson, for Brom's method for rigid piles. Soil layers modeled after recommendations from the geotechnical report.
- Cohesion strength for the upper 27 ft has been reduced by 50%
- In lieu of a soil resistance factor $f_s = 0.75$ (TIA-9.4.1) an additional safety factor against soil failure of 1.33 has been applied.
- Foundation is designed with a minimum safety factor resisting overturning of 2.0
- Foundation has been designed with factored loads per TIA-222-G.
- Geotechnical report indicates groundwater was not encountered within the depth of the foundation.

*** PIER PROPERTIES		CONCRETE STRENGTH (ksi) = 4.00				STEEL STRENGTH (ksi) = 60.00			
		DIAMETER (ft) = 9.000		DISTANCE FROM TOP OF PIER TO GROUND LEVEL (ft) = 0.50					
*** SOIL PROPERTIES		LAYER	TYPE	THICKNESS (ft)	DEPTH AT TOP OF LAYER (ft)	DENSITY (pcf)	CU (psf)	KP	PHI (degrees)
		1	S	3.50	0.00	100.0		1.000	-0.00
		2	C	5.00	3.50	115.0	1250.0		
		3	C	15.00	8.50	120.0	1500.0		
		4	C	3.50	23.50	125.0	2500.0		
		5	C	20.00	27.00	125.0	5000.0		
*** DESIGN (FACTORED) LOADS AT TOP OF PIER		MOMENT (ft-k) = 10667.0				VERTICAL (k) = 95.0		SHEAR (k) = 66.0	
		ADDITIONAL SAFETY FACTOR AGAINST SOIL FAILURE = 1.33							
*** CALCULATED PIER LENGTH (ft) = 27.500									
*** CHECK OF SOILS PROPERTIES AND ULTIMATE RESISTING FORCES ALONG PIER									
TYPE	TOP OF LAYER BELOW TOP OF PIER (ft)	THICKNESS (ft)	DENSITY (pcf)	CU (psf)	KP	FORCE (k)	ARM (ft)		
S	0.50	3.50	100.0		1.000	16.54	2.83		
C	4.00	5.00	115.0	1250.0		450.00	6.50		
C	9.00	8.67	120.0	1500.0		935.88	13.33		
C	17.67	6.33	120.0	1500.0		-684.12	20.83		
C	24.00	3.50	125.0	2500.0		-630.00	25.75		
C	27.50	0.00	125.0	5000.0		-0.00	27.50		
*** SHEAR AND MOMENTS ALONG PIER									
		WITH THE ADDITIONAL SAFETY FACTOR				WITHOUT ADDITIONAL SAFETY FACTOR			
DISTANCE BELOW TOP OF PIER (ft)		SHEAR (k)		MOMENT (ft-k)		SHEAR (k)		MOMENT (ft-k)	
0.00		88.3		15025.0		66.2		11268.8	
2.75		81.5		15262.6		61.1		11447.0	
5.50		-63.2		15365.2		-47.4		11523.9	
8.25		-310.7		14851.0		-233.1		11138.3	
11.00		-594.2		13620.1		-445.7		10215.1	
13.75		-891.2		11577.6		-668.4		8683.2	
16.50		-1188.2		8718.3		-891.2		6538.7	
19.25		-1143.0		5313.4		-857.3		3985.0	
22.00		-846.0		2578.5		-634.5		1933.9	
24.75		-495.0		680.6		-371.3		510.5	
27.50		-0.0		-0.0		-0.0		-0.0	
*** TOTAL REINFORCEMENT PCT = 0.64		REINFORCEMENT AREA (in^2) = 58.63							
*** USABLE AXIAL CAP. (k) = 95.0		USABLE MOMENT CAP. (ft-k) = 11678.8							

For Design:

9-ft Diameter caisson x 27.5-ft long (27-ft Embedded with 0.5-ft above grade)
Concrete strength = 4000 PSI @ 28 days. Estimated Concrete Volume = 65 CY3.
(48) #10 Vertical Rebar. Steel Cross-Section = 60.96 in²

Exhibit E

The Lotis Engineering Group, P.C.

6465 Transit Road, Suite 23
East Amherst, New York 14051
716.741.1748

February 5, 2019

Vertical Bridge Development, LLC
Mr. Dave Smith
750 Park of Commerce Drive, Suite 200
Boca Raton, Florida 33487

**RE: Geotechnical Investigation Summary Letter
 Summer Shade US-KY-5061
 4806 Summer Shade Road
 Summer Shade, Metcalfe County, Kentucky**

Dear Mr. Smith:

Future plans by the Vertical Bridge Development, LLC, include the development of the target property with a 199' monopole tower which is extendable to 219' within a 6,400 square foot lease area. The project will also include a 30-foot wide access and utility easement.

Lotis, on behalf of the Vertical Bridge Development, LLC, hired Environmental Corporation of America (ECA), to conduct a Geotechnical Investigation at the target property. ECA completed the field work on January 24, 2019, which included one soil test boring drilled to a depth of 50' below the ground surface. Standard penetration tests (SPTs) were conducted to obtain soil samples and SPT N-values. The soil samples were visually classified in accordance with ASTM D-2488 and a boring log was prepared. The soil conditions were evaluated by a registered professional engineer.

Groundwater was not encountered at the time of drilling.

ECA summarized that the "soils encountered consisted of very stiff sandy Clay with trace amounts of rock fragments to an approximate depth of 3.5 feet, underlain by very stiff to very hard silty Clay with trace amounts of sand and rock fragments to the explored depth of 50 feet."

ECA recommended using either a shallow foundation system or a deep foundation system for the support of the proposed tower.

This document is only a brief summary of the information presented in ECA's report and Lotis recommends that the entire report be reviewed by the reader.

Please feel free to reach out to Lotis with any questions regarding the geotechnical investigation.



David N. Robinson, P.E.

President/CEO

Geotechnical Investigation Report



ENVIRONMENTAL CORPORATION OF AMERICA

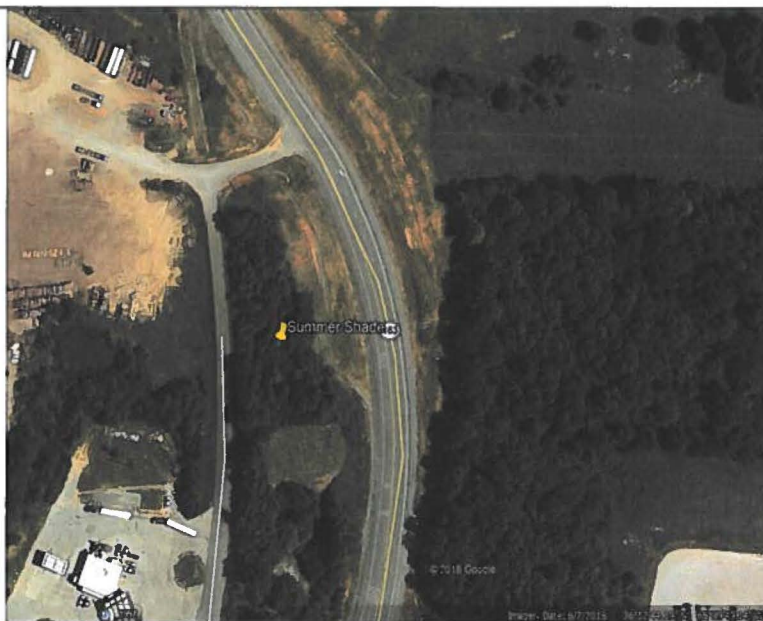
ENVIRONMENTAL | GEOTECHNICAL | WETLANDS | ECOLOGY | CULTURAL RESOURCES

Geotechnical Investigation

Summer Shade (US-KY-5061)

**4806 Summer Shade Road
Summer Shade, Metcalfe County,
Kentucky**

ECA Project No. V0432



SUBMITTED TO:

The Lotis Engineering Group, P.C.
6465 Transit Road, Suite 23
East Amherst, NY 14051

PREPARED BY:

Environmental Corporation of America
1375 Union Hill Industrial Court, Suite A
Alpharetta, GA 30004



ENVIRONMENTAL CORPORATION OF AMERICA

ENVIRONMENTAL | GEOTECHNICAL | WETLANDS | ECOLOGY | CULTURAL RESOURCES

February 5, 2019

The Lotis Engineering Group, P.C.
6465 Transit Road, Suite 23
East Amherst, NY 14051

Attention: Ms. Kelly Reidy

**Subject: Geotechnical Investigation Report
Summer Shade (US-KY-5061)
4806 Summer Shade Road
Summer Shade, Metcalfe County, Kentucky
ECA Project No. V0432**

Dear Ms. Reidy:

Environmental Corporation of America (ECA) is pleased to submit this report of our geotechnical investigation for the proposed project. Our services were provided as authorized by The Lotis Engineering Group via a purchase order dated January 11, 2019.

This report presents a review of the information provided to us, a description of the site and subsurface conditions, and our recommendations. The appendices contain a Site Location Map, a Boring Location Plan, a Boring Log, and Laboratory Testing Results.

Purpose and Scope of Work

The purpose of this investigation was to obtain specific subsurface data at the site and to provide geotechnical-related parameters for the design and construction for the foundations for a monopole tower.

Our scope of work included the following:

- One (1) soil test boring was drilled to a depth of 50 feet below the ground surface (bgs). Figure 1 shows the Site Location Map. Figure 2 shows the Boring Location Plan. Standard penetration tests (SPTs) were conducted to obtain soil samples and SPT N-values, in accordance with ASTM D-1586.
- The depth to groundwater, if any, was measured in the boring after drilling was completed.

- The soil samples were visually classified in accordance with ASTM D-2488 and a boring log was prepared. The soil conditions were evaluated by a registered professional engineer and this geotechnical report was prepared with our recommendations.

Natural moisture content measurements were conducted on selected soil samples in accordance with ASTM D-2216. We have recommended design parameters and settlements based on the SPT N-values, an examination of the soil samples, and our experience with similar soil conditions and structures. Laboratory testing results are shown in Appendix C.

Project Information

We were provided with a project site by The Lotis Engineering Group. The proposed tower would be located at 4806 Summer Shade Road near Summer Shade (Old KY Hwy 163), Metcalfe County, Kentucky. In general, the proposed tower compound would be located within a relatively flat terrain with surface elevation near 1,130 feet Above Mean Sea Level (A.M.SL.) within the proposed 6,400 (80-foot by 80-foot) square foot lease area. The ground surface within the proposed lease area is mostly wooded.

We understand that plans include constructing a 199-foot tall monopole tower, approximately as shown on Figure 2 in Appendix A. We assume that the equipment building/cabinet will be a pre-fabricated structure supported on a perimeter grade beam, spread footing or turndown slab. The project also includes the construction of a 30-foot wide ingress/egress and utility easement.

Field Drilling Work

The fieldwork was conducted on January 24, 2019. Information obtained from the boring was used to help us evaluate the subsurface conditions and to assist in formulating our recommendations. The site was staked at the time of our site visit.

Local Geology and Subsurface Soil Conditions (Boring B-1)

The geology of the site is best described by the Geological Map of State of Kentucky, Kentucky Geological Survey, and the U.S. Geological Survey, as being within Renfro and Muldraugh Members of Borden Formation and Fort Payne Formation, undivided, with Limestone, dolostone, and shale. The subsurface conditions were explored with one soil test boring, drilled approximately as shown on Figure 2.

In general, from ground surface and extending to the depth full depth drilled of 50 feet below ground surface (bgs), soils encountered consisted of very stiff sandy Clay with trace amounts of rock fragments to an approximate depth of 3.5 feet, underlain by very stiff to very hard silty Clay with trace amounts of sand and rock fragments to the explored depth of 50 feet. The soils were classified as CL soil type based on the Unified Soil Classification System (USCS).

The N-values are shown on the attached boring log and initially ranged from 16 to over 50 blows per foot (bpf). Natural moisture content (WC_N) measurements were conducted on selected soil samples and ranged from 20.1% to 28.9%.

Unconfined compressive strength (q_u) measurements of 3.5 to 4.5 tons per square foot (tsf) were reported using the pocket penetrometer test between 3.5 and 50 feet.

Groundwater Level Conditions

A groundwater level was not encountered at the time of drilling (ATD). It should be noted that groundwater level observations made within mostly cohesive soils during drilling could be misleading. It should be anticipated that the groundwater level will fluctuate due to seasonal climatic changes during the year. To determine actual groundwater level measurements, groundwater levels should be measured using observation wells installed for prolonged periods.

Foundation Construction Recommendations

Tower Foundations

The subsurface conditions are suitable for the support of the proposed tower using either a shallow foundation system or a deep foundation system.

Shallow Foundation System

The proposed tower may be supported using either a pad and pier or a mat foundation, the soils are capable of a maximum net allowable soil bearing pressure (q_{ALL}) of 4,000 pounds per square foot (psf) at a minimum depth of foundation (D_f) of 6.0 feet below finish grade elevation. Total and differential settlement should be less than 1-inch and ½-inch, respectively. The proposed shallow foundation should be founded within the existing very stiff silty clay soil (CL).

A safety factor (SF) of 3, a wet soil unit weight (γ_{wet}) of 115 pounds per cubic foot (pcf), and a minimum width (B) of foundation of 20 feet should be considered for soil bearing computations.

Deep Foundation System

Based on our review of the subsurface soil conditions encountered in the boring, we offer the following average soil parameters for the design of the new tower.

Depth (feet)	Unit Weight γ_{wet} (pcf)	Friction Angle ϕ (deg)	Soil Cohesion S_u (psf)	K_p	Allowable Skin Friction f_s (psf)	Allowable Bearing Pressure q_{ALL} (psf)	Soil Modulus K_H (pci)
0-3.5	110	0	2,000	1.00	500	3,500	240
3.5-8.5	115	0	2,500	1.00	530	4,500	310
8.5-23.5	120	0	3,000	1.00	580	5,000	345
23.5-50	125	0	5,000	1.00	600	9,000	625
A safety factor of 2 is used for allowable skin friction (f_s). A safety factor of 5 is used for allowable soil bearing pressure (q_{ALL}). *Below the groundwater level designer should consider the buoyant unit weight (γ_b) = $\gamma_{wet} - \gamma_{water}$. For K_A calculation project designer, should consider $K_A = 1/K_p$.							

The proposed drilled shaft should be design using a combination of soil friction and point bearing forces. Total drilled shaft foundation settlement should be limited to 0.50-inch or approximately 0.60% of the drilled shaft diameter (D). Final shaft diameter (D) and embedment length (L) will depend upon final tower loading conditions. For these foundations ECA recommends a minimum concrete strength (f'_c) of 4,000 psi.

As an alternative and based on the existing soil conditions, project designer may consider using multiple drilled piers under a mat foundation. Drilled pier diameter may range from 24 to 36 inches. The following table presents the relationship between the ultimate drilled pier compression load capacity, pile diameter (Diam.), and embedment length (L).

Embedment Length (L) (feet)	Ultimate Drilled Pier Compression Load Capacity Analysis (Kips)		
	Drilled Pier Diameter (Diam.) (inches)		
	24-inches	30-inches	36-inches
40	460	620	795
45	495	665	850
50	510	685	875
Note: A safety factor should be applied to the provided ultimate load.			

Building Foundations

The proposed equipment building can be supported on a perimeter grade beam, spread footing or turndown slab foundation. For the design of the building foundation the soils are capable of a maximum net allowable soil bearing pressure (q_{ALL}) of 2,000 psf. A minimum depth of foundation (D_f) of 1.5 feet below final grades should be considered. Total and differential settlements should be less than 1/2-inch and 1/4-inch, respectively.

For the design of floor concrete slabs, the designer may consider a modulus of subgrade reaction (K_s) of 200 pounds per cubic inch (pci). Bearing pad should be prepared and compacted prior to placing any concrete. Contractors should verify the Fill Placement section of this report.

Soil Site Class

Based on our site evaluation and the information provided by the International Building Code (2009), to perform a dynamic analysis the clients design engineer should consider that the soils at the site fall under **Very stiff Soil Profile and Site Class D**.

Foundation Excavations

A groundwater level was not encountered within the depths drilled. Therefore, prospective contractor *would not need to consider* excavation dewatering.

A very hard silty clay soil with trace amounts of rock fragments was encountered at a depth of 23.5 feet, with an SPT N-value of 50 bpf or larger. Based on current soil conditions drilled shaft construction should be accomplished using specialized equipment.

To avoid softening of the shallow soils exposed at the foundation bearing level, excavations should not be left open for extended periods prior to placing reinforcing steel and concrete. If rain or freezing weather is expected, excavations should not be completed. Leaving the excavations at least 1-foot above final grade should protect the bearing soils from deterioration.

If the excavation must remain open overnight or if rainfall becomes imminent while the bearing soils are exposed, we recommend that a 2 to 4-inch thick "mud-mat" of "lean" (2,000 psi) concrete be placed on the bearing soils before the placement of reinforcing steel. If the bearing soils are softened by surface water intrusion or exposure, the softened soils must be removed from the foundation excavation bottom immediately prior to placement of concrete.

Fill Placement

If required, borrow materials for fill, **unless otherwise specified**, should consist of essentially granular material (GM, GP, GM, GC, SW, SP or SM Unified Soil Classification System); A-2-6 or better, AASHTO Classification, as approved by the **Project Geotechnical Engineer**. **In situ soils should not be used as backfill.** These should be free from vegetation and should not

contain rocks greater than 6 inches in size. The recommended backfill material should have a plasticity index (PI) equal to or less than 15 ($PI \leq 15$) and a liquid limit less than ($LL < 40$). The recommended backfill should be free from vegetation and should not contain rocks greater than 6 inches in size.

The amount of fill required for this project depends on the planned final grades, but we expect it to be minimal. Any fill or backfill required to attain finished grade should be placed in layers not exceeding 8 to 10-inch thick lifts and compacted to not less than 95% of the Modified Proctor Maximum dry density, as determined by method (ASTM D-1557). The soil moisture content should be close to the optimum moisture content. All required fill should meet the specified compaction criteria.

Field density tests should be conducted at routine intervals as the fill is being placed to verify that adequate compaction is achieved. Prior to placing any new fill, any soft or loose near surface soils should be removed and the area Proof-Rolled with a heavy vehicle or a heavy compaction vibratory roller to confirm that any unsuitable soil conditions have been discovered.

ECA does not know the capability of the surficial soil to support pavements. However, we suggest that the upper soils be replaced by granular fill in areas of heavy traffic to improve the subgrade support capabilities and moisture sensitivity.

Stability of Excavations

Proposed project excavation depths for foundation construction must not exceed those specified by either local, state or federal safety regulations. At a minimum, excavation safety standards created by OSHA (Occupational and Safety Health Administration) and the OSHA 29 CFR Part 1926 regulation should be enforced. **Project excavations should be sloped as necessary, but in general not steeper than 1.5 to 1 (Horizontal to Vertical) to prevent any possible slope failure.**

Basis for Recommendations

The subsurface conditions encountered at the boring location is shown on the Boring Log in Appendix B. The Boring Log represents our interpretation of the subsurface conditions based on the field logs and visual examination of field samples by an engineer. The lines designating the interface between various strata on the Boring Log represents the approximate interface locations. In addition, the transition between strata may be gradual. The water level shown on the Boring Log, if any, represents the condition only at the time of our exploration.

The recommendations contained herein are based in part on project information provided to us and only apply to the specific project and site discussed in this report. If the project information section in this report contains incorrect information or if additional information is available, please let us know so that we may review the validity of our recommendations.

Ms. Kelly Reidy
Page 7

Regardless of the thoroughness of a geotechnical investigation, there is always a possibility that conditions between borings will be different from those at specific boring locations and that conditions will not be as anticipated by the designers or contractors. In addition, the construction process may itself alter soil conditions. Therefore, experienced geotechnical personnel should observe and document the construction procedures used and the conditions encountered. Unanticipated conditions and inadequate procedures should be reported to the design team along with timely recommendations to solve the problems created. ECA is best qualified to provide this service based on our familiarity with the project, the subsurface conditions, and the intent of the recommendations and design.

We wish to remind you that we will store the soil samples for 30 days. The samples will then be discarded unless you request otherwise.

We will be happy to discuss our recommendations with you and look forward to providing the additional studies or services necessary to complete this project. We appreciate the opportunity to be of service. Please call us with any questions at (770) 667-2040.

Sincerely,
Environmental Corporation of America



Athulya Balakrishnan, E.I.T.
Project Engineer



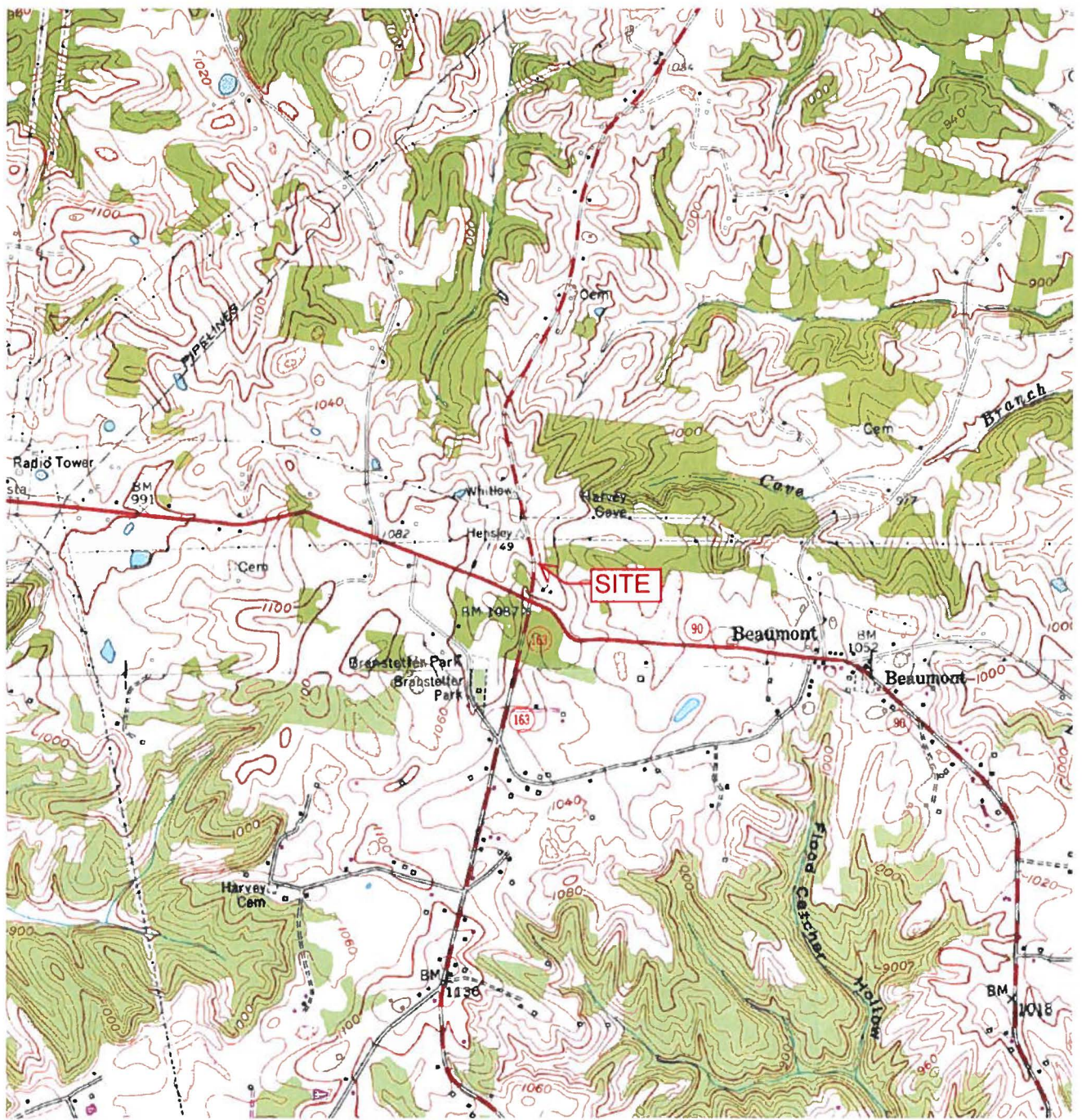
Héctor A. Acosta, M.S.C.E., P.E.
Principal Geotechnical Engineer
State of Kentucky Reg. No. 31144

Appendix A Figures
Appendix B Boring Log
Appendix C Laboratory Testing Results



APPENDIX A

Figures



2000 0 2000 ft



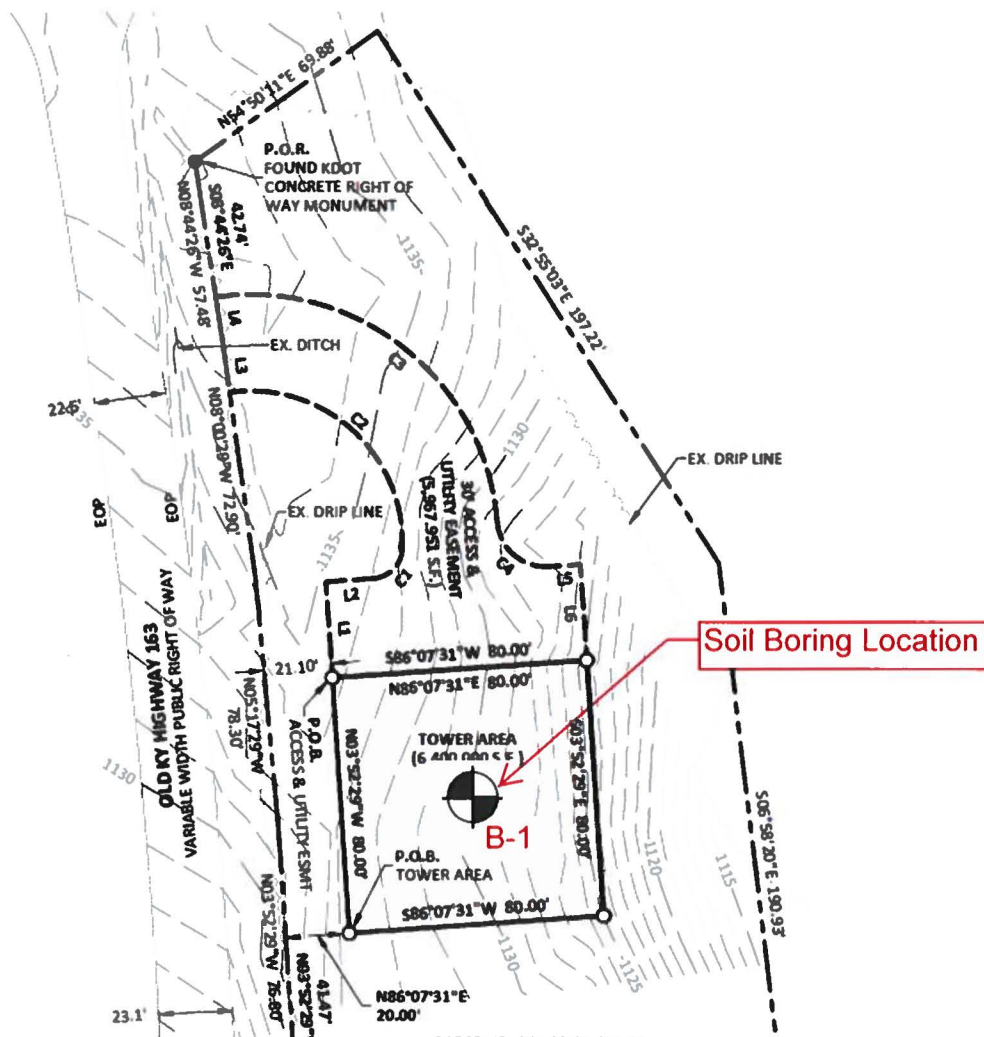
Source: USGS Topographic Map, Summer Shade, KY (1974) and Sulphur Lick, KY (1953, photorevised 1982).



Summer Shade (US-KY-5061)
4806 Summer Shade Road
Summer Shade, Metcalfe County, Kentucky
Figure 1: Site Location Map



ECA Project No. V0432



Legend: Soil Boring Location

Source: Project site survey provided by The Lotis Engineering Group.



Summer Shade (US-KY-5061)
4806 Summer Shade Road
Summer Shade, Metcalfe County, Kentucky
Figure 2: Boring Location Plan



ECA Project No. V0432

APPENDIX B

Boring Log

Project: Summer Shade Project Location: Summer Shade, KY Project Number: V0432	Environmental Corp of America 1375 Union Hill Industrial Ct. Suite-A Alpharetta, GA 30004 (770) 667-2040	Log of Boring B-1 Sheet 1 of 1
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Date(s) Drilled 1/24/2019	Logged By A. Balakrishnan	Checked By H. Acosta
Drilling Method HSA	Drill Bit Size/Type 2.25 inches	Total Depth of Borehole 50 feet bgs
Drill Rig Type B-47	Drilling Contractor South Drilling	Approximate Surface Elevation 1,130 feet A.M.S.L.
Groundwater Level and Date Measured Not Encountered	Sampling Method(s) SPT	Hammer Data 140 Lbs Hammer
Borehole Backfill Cuttings	Location Summer Shade, Metcalfe County, Kentucky	

Depth (feet)	Sample Number	Sample Type	Sampling Resistance, blows/ft	SPT N-Values	Rec (%) / RQD (%)	MATERIAL DESCRIPTION	Material Type	USCS Symbol	Water Content (%)	qu (tsf)	qu (tsf)- Spring Tester	LL (%)	PI (%)
0	1		6-8-8	16		Yellowish brown/red, very stiff sandy Clay, trace rock fragments, damp	CL		-	-			
5	2		8-10-10	20		Red/yellowish brown, very stiff silty Clay, trace sand, trace rock fragments, damp	CL		20.1	3.5			
	3		8-12-14	26		Same as above, very stiff, trace rock fragments, damp	CL		23.6	3.5			
10	4		10-14-18	32		Dark red/grey, hard silty Clay, trace rock fragments, damp	CL		26.0	4.5			
15	5		12-16-20	36		Same as above, hard, damp	CL		20.5	4.5			
20	6		15-19-23	42		Same as above, hard, damp	CL		24.6	4.5			
25	7		20-28-50/2"	50/2"		Same as above, very hard, damp	CL		-	4.5			
30	8		22-50/2"	50/2"		Same as above, very hard, damp	CL		25.9	4.5			
35	9		19-28-30	58		Same as above, very hard, damp	CL		-	4.5			
40	10		23-25-28	53		Same as above, very hard, damp	CL		28.9	4.5			
45	11		28-50/1"	50/1"		Same as above, very hard, damp	CL		-	4.5			
50	12		30-50/2"	50/2"		Same as above, very hard, damp	CL		28.8	4.5			
						End of Boring at 50 feet.							

F:\PROJECT\2019proj\V0425 - V0449\Boring B1 - Summer Shade_V0432 bgs\ECA Temp.tpl



ENVIRONMENTAL CORPORATION OF AMERICA

Project: **Summer Shade**
Project Location: **Summer Shade, KY**
Project Number: **V0432**

Environmental Corp of America
1375 Union Hill Industrial Ct. Suite-A
Alpharetta, GA 30004
(770) 667-2040

Key to Log of Boring
Sheet 1 of 1

Depth (feet)	Sample Number	Sample Type	Sampling Resistance, blows/ft	SPT N-Values	Rec (%) / RQD (%)	MATERIAL DESCRIPTION	Material Type	USCS Symbol	Water Content (%)	qu (tsf)	qu (tsf)- Spring Tester	LL (%)	PI (%)
1	2	3	4	5	6	7	8	9	10	11	12	13	14

COLUMN DESCRIPTIONS

- | | |
|---|---|
| 1 Depth (feet): Depth in feet below the ground surface. | 9 USCS Symbol: Graphic depiction of the subsurface material encountered. |
| 2 Sample Number: Sample identification number. | 10 Water Content (%): Water content of the soil sample, expressed as percentage of dry weight of sample. |
| 3 Sample Type: Type of soil sample collected at the depth interval shown. | 11 qu (tsf): Unconfined compression test |
| 4 Sampling Resistance, blows/ft: Number of blows to advance driven sampler one foot (or distance shown) beyond seating interval using the hammer identified on the boring log. | 12 qu (tsf)- Spring Tester: Unconfined Compression test value from a spring tester |
| 5 SPT N-Values: SPT N-values | 13 LL (%): Liquid Limit, expressed as a water content. |
| 6 Rec (%) / RQD (%): Core Recovery (%) and RQD (%) | 14 PI (%): Plasticity Index, expressed as a water content. |
| 7 MATERIAL DESCRIPTION: Description of material encountered. May include consistency, moisture, color, and other descriptive text. | |
| 8 Material Type: Type of material encountered. | |

FIELD AND LABORATORY TEST ABBREVIATIONS

CHEM: Chemical tests to assess corrosivity
COMP: Compaction test
CONS: One-dimensional consolidation test
LL: Liquid Limit, percent

PI: Plasticity Index, percent
SA: Sieve analysis (percent passing No. 200 Sieve)
UC: Unconfined compressive strength test, Qu, in ksf
WA: Wash sieve (percent passing No. 200 Sieve)

MATERIAL GRAPHIC SYMBOLS



Lean CLAY, CLAY w/SAND, SANDY CLAY (CL)

TYPICAL SAMPLER GRAPHIC SYMBOLS



Auger sampler
Bulk Sample
3-inch-OD California w/ brass rings
CME Sampler

Grab Sample
HQ Rock Core
2.5-inch-OD Modified California w/ brass liners
NQ Rock Core



Pitcher Sample
2-inch-OD unlined split spoon (SPT)
Shelby Tube (Thin-walled, fixed head)

OTHER GRAPHIC SYMBOLS

- Water level (at time of drilling, ATD)
Water level (after waiting)
Minor change in material properties within a stratum
Inferred/gradational contact between strata
Queried contact between strata

GENERAL NOTES

- 1: Soil classifications are based on the Unified Soil Classification System. Descriptions and stratum lines are interpretive, and actual lithologic changes may be gradual. Field descriptions may have been modified to reflect results of lab tests.
2: Descriptions on these logs apply only at the specific boring locations and at the time the borings were advanced. They are not warranted to be representative of subsurface conditions at other locations or times.

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ENVIRONMENTAL CORPORATION OF AMERICA

APPENDIX C

Laboratory Testing Results

APPENDIX C
Laboratory Testing Results
Environmental Corporation of America (ECA)

Site Name: Summer Shade (US-KY-5061)

ECA Project No. V0432

Sample No.	Sample Depth (feet)	Moisture Content (%) ASTM D-2216	Soil Classification ASTM D-2488
2	3.5-6	20.1	CL
3	6-8	23.6	CL
4	8-10	26.0	CL
5	13.5-15	20.5	CL
6	18.5-20	24.6	CL
8	28.5-30	25.9	CL
10	38.5-40	28.9	CL
12	48.5-50	28.8	CL

Exhibit F

KY Public Service Commission

Master Utility Search

- Search for the utility of interest by using any single or combination of criteria.
- Enter Partial names to return the closest match for Utility Name and Address/City/Contact entries.

Utility ID	Utility Name	Address/City/Contact	Utility Type	Status
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	Active <input type="text"/>
<input type="button" value="Search"/>				

	Utility ID	Utility Name	Utility Type	Class	City	State
View	4111300	2600Hz, Inc. dba ZSWITCH	Cellular	D	San Francisco	CA
View	4107900	365 Wireless, LLC	Cellular	D	Atlanta	GA
View	4108300	Air Voice Wireless, LLC	Cellular	B	Bloomfield Hill	MI
View	4110650	Alliant Technologies of KY, L.L.C.	Cellular	D	Morristown	NJ
View	44451184	Alltel Corporation d/b/a Verizon Wireless	Cellular	A	Lisle	IL
View	4110850	AltaWorx, LLC	Cellular	D	Fairhope	AL
View	4107800	American Broadband and Telecommunications Company	Cellular	D	Toledo	OH
View	4108650	AmeriMex Communications Corp.	Cellular	D	Dunedin	FL
View	4105100	AmeriVision Communications, Inc. d/b/a Affinity 4	Cellular	D	Virginia Beach	VA
View	4110700	Andrew David Balholm dba Norcell	Cellular	D	Clayton	WA
View	4108600	BCN Telecom, Inc.	Cellular	D	Morristown	NJ
View	4110550	Blue Casa Mobile, LLC	Cellular	D	Santa Barbara	CA
View	4111050	BlueBird Communications, LLC	Cellular	C	New York	NY
View	4202300	Bluegrass Wireless, LLC	Cellular	A	Elizabethtown	KY
View	4107600	Boomerang Wireless, LLC	Cellular	B	Hiawatha	IA
View	4105500	BullsEye Telecom, Inc.	Cellular	D	Southfield	MI
View	4100700	Cellco Partnership dba Verizon	Cellular	A	Basking	NJ

		Wireless			Ridge	
View	4106600	Cintex Wireless, LLC	Cellular	D	Rockville	MD
View	4111150	Comcast OTR1, LLC	Cellular	D	Philadelphia	PA
View	4101900	Consumer Cellular, Incorporated	Cellular	A	Portland	OR
View	4106400	Credo Mobile, Inc.	Cellular	A	San Francisco	CA
View	4108850	Cricket Wireless, LLC	Cellular	D	San Antonio	TX
View	4111500	CSC Wireless, LLC d/b/a Altice Wireless	Cellular	C	Long Island City	NY
View	10640	Cumberland Cellular Partnership	Cellular	A	Elizabethtown	KY
View	4111200	Dynalink Communications, Inc.	Cellular	C	Brooklyn	NY
View	4101000	East Kentucky Network, LLC dba Appalachian Wireless	Cellular	A	Ivel	KY
View	4002300	Easy Telephone Service Company dba Easy Wireless	Cellular	D	Ocala	FL
View	4109500	Enhanced Communications Group, LLC	Cellular	D	Bartlesville	OK
View	4110450	Excellus Communications, LLC	Cellular	D	Chattanooga	TN
View	4105900	Flash Wireless, LLC	Cellular	C	Concord	NC
View	4104800	France Telecom Corporate Solutions L.L.C.	Cellular	D	Oak Hill	VA
View	4109350	Global Connection Inc. of America	Cellular	D	Norcross	GA
View	4102200	Globalstar USA, LLC	Cellular	B	Covington	LA
View	4109600	Google North America Inc.	Cellular	A	Mountain View	CA
View	33350363	Granite Telecommunications, LLC	Cellular	D	Quincy	MA
View	4106000	GreatCall, Inc. d/b/a Jitterbug	Cellular	A	San Diego	CA
View	10630	GTE Wireless of the Midwest dba Verizon Wireless	Cellular	A	Basking Ridge	NJ
View	4103100	i-Wireless, LLC	Cellular	B	Newport	KY
View	4109800	IM Telecom, LLC d/b/a Infiniti Mobile	Cellular	D	Tulsa	OK
View	22215360	KDDI America, Inc.	Cellular	D	New York	NY
View	10872	Kentucky RSA #1 Partnership	Cellular	A	Basking Ridge	NJ
View	10680	Kentucky RSA #3 Cellular General	Cellular	A	Elizabethtown	KY
View	10681	Kentucky RSA #4 Cellular General	Cellular	A	Elizabethtown	KY
View	4109750	Konatel, Inc. dba telecom.mobi	Cellular	D	Johnstown	PA
View	4111250	Liberty Mobile Wireless, LLC	Cellular	D	Sunny Isles Beach	
View	4111400	Locus Telecommunications, LLC	Cellular	C	Fort Lee	NJ
View	4110900	Lunar Labs, Inc.	Cellular	D	Detroit	MI
View	4107300	Lycamobile USA, Inc.	Cellular	D	Newark	NJ
View	4108800	MetroPCS Michigan, LLC	Cellular	A	Bellevue	WA
	4109650	Mitel Cloud Services, Inc.	Cellular	D	Mesa	AZ

View						
View	4202400	New Cingular Wireless PCS, LLC dba AT&T Mobility, PCS	Cellular	A	San Antonio	TX
View	10900	New Par dba Verizon Wireless	Cellular	A	Basking Ridge	NJ
View	4000800	Nextel West Corporation	Cellular	D	Overland Park	KS
View	4001300	NPCR, Inc. dba Nextel Partners	Cellular	D	Overland Park	KS
View	4001800	OnStar, LLC	Cellular	A	Detroit	MI
View	4110750	Onvoy Spectrum, LLC	Cellular	D	Chicago	IL
View	4109050	Patriot Mobile LLC	Cellular	D	Irving	TX
View	4110250	Plintron Technologies USA LLC	Cellular	D	Bellevue	WA
View	33351182	PNG Telecommunications, Inc. dba PowerNet Global Communications	Cellular	D	Cincinnati	OH
View	4202100	Powertel/Memphis, Inc. dba T- Mobile	Cellular	A	Bellevue	WA
View	4107700	Puretalk Holdings, LLC	Cellular	A	Covington	GA
View	4111350	Q LINK MOBILE LLC	Cellular	D	Dania Beach	FL
View	4106700	Q Link Wireless, LLC	Cellular	B	Dania	FL
View	4108700	Ready Wireless, LLC	Cellular	C	Hiawatha	IA
View	4110500	Republic Wireless, Inc.	Cellular	D	Raleigh	NC
View	4111100	ROK Mobile, Inc.	Cellular	C	Culver City	CA
View	4106200	Rural Cellular Corporation	Cellular	A	Basking Ridge	NJ
View	4108550	Sage Telecom Communications, LLC dba TruConnect	Cellular	D	Los Angeles	CA
View	4109150	SelecTel, Inc. d/b/a SelecTel Wireless	Cellular	D	Freemont	NE
View	4106300	SI Wireless, LLC	Cellular	A	Carbondale	IL
View	4110150	Spectrotel, Inc. d/b/a Touch Base Communications	Cellular	D	Neptune	NJ
View	4111450	Spectrum Mobile, LLC	Cellular	C	St. Louis	MO
View	4200100	Sprint Spectrum, L.P.	Cellular	A	Atlanta	GA
View	4200500	SprintCom, Inc.	Cellular	A	Atlanta	GA
View	4109550	Stream Communications, LLC	Cellular	D	Dallas	TX
View	4110200	T C Telephone LLC d/b/a Horizon Cellular	Cellular	D	Red Bluff	CA
View	4202200	T-Mobile Central, LLC dba T- Mobile	Cellular	A	Bellevue	WA
View	4002500	TAG Mobile, LLC	Cellular	D	Carrollton	TX
View	4109700	Telecom Management, Inc. dba Pioneer Telephone	Cellular	D	South Portland	ME
View	4107200	Telefonica USA, Inc.	Cellular	D	Miami	FL
View	4108900	Telrite Corporation	Cellular	D	Covington	GA
View	4108450	Tempo Telecom, LLC	Cellular	D	Atlanta	GA
View	4109000	Ting, Inc.	Cellular	A	Toronto	ON

View	4110400	Torch Wireless Corp.	Cellular	D	Jacksonville	FL
View	4103300	Touchtone Communications, Inc.	Cellular	D	Whippany	NJ
View	4104200	TracFone Wireless, Inc.	Cellular	D	Miami	FL
View	4002000	Truphone, Inc.	Cellular	D	Durham	NC
View	4110300	UVNV, Inc. d/b/a Mint Mobile	Cellular	D	Costa Mesa	CA
View	4105700	Virgin Mobile USA, L.P.	Cellular	A	Atlanta	GA
View	4110800	Visible Service LLC	Cellular	D	Lone Tree	CO
View	4106500	WiMacTel, Inc.	Cellular	D	Palo Alto	CA
View	4110950	Wing Tel Inc.	Cellular	D	New York	NY

Exhibit G



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

Aeronautical Study No.
2019-ASO-5612-OE

Issued Date: 03/05/2019

Richard Hickey
Vertical Bridge Development, LLC
750 Park of Commerce Drive
Suite 200
Boca Raton, FL 33487

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

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

Structure:	Antenna Tower US-KY-5061 Summer Shade
Location:	Summer Shade, KY
Latitude:	36-52-43.74N NAD 83
Longitude:	85-39-53.06W
Heights:	1130 feet site elevation (SE) 219 feet above ground level (AGL) 1349 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 to be marked/lighted in accordance with FAA Advisory circular 70/7460-1 L Change 2, Obstruction Marking and Lighting, a med-dual system - Chapters 4,8(M-Dual),&12.

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.

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 09/05/2020 unless:

- (a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
- (b) extended, revised, or terminated by the issuing office.

- (c) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

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

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

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

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

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

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

If we can be of further assistance, please contact our office at (718) 553-2611, or angelique.eersteling@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2019-ASO-5612-OE.

Signature Control No: 397279871-398827341

Angelique Eersteling
Technician

(DNE)

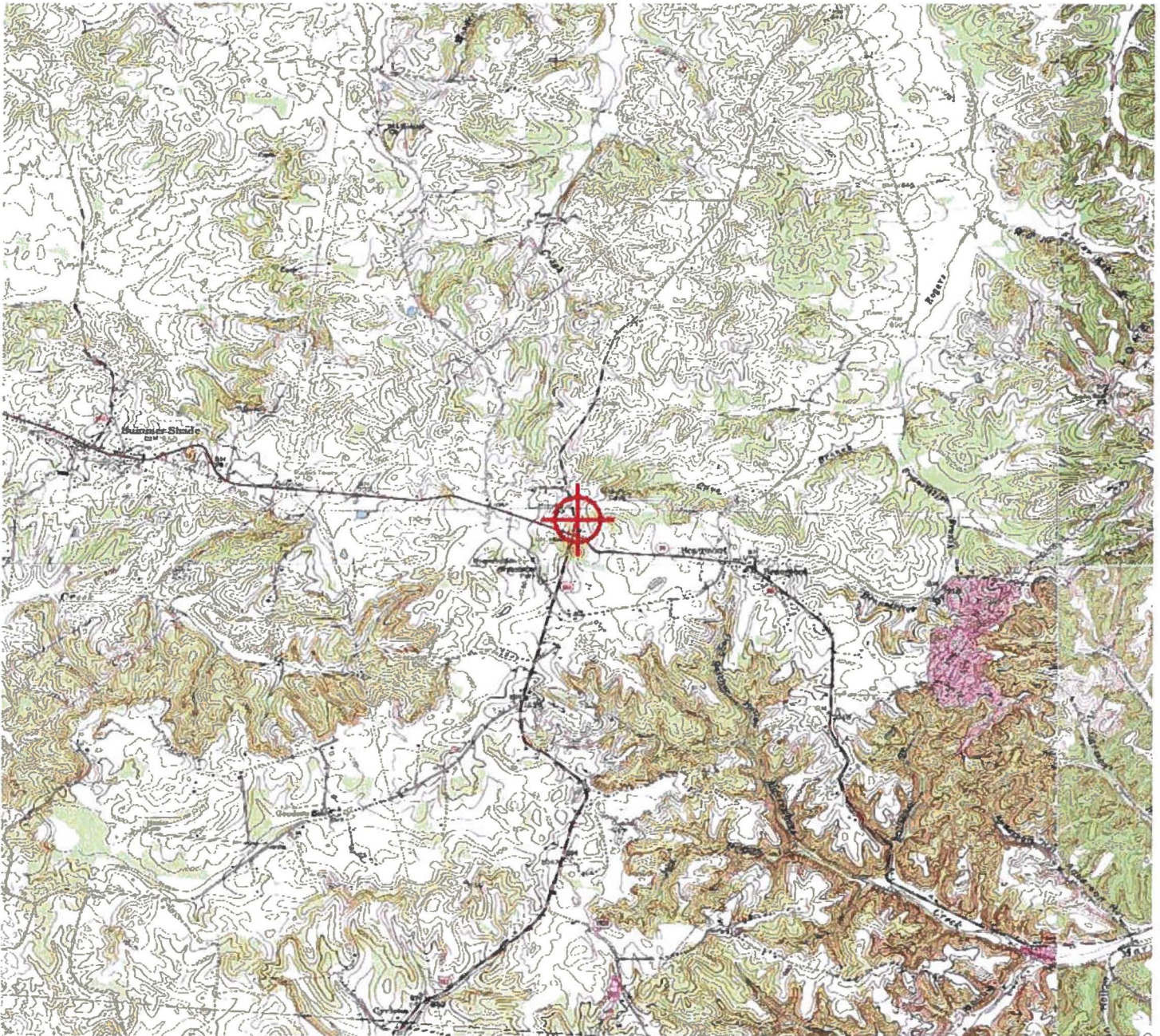
Attachment(s)
Frequency Data
Map(s)

cc: FCC

Frequency Data for ASN 2019-ASO-5612-OE

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

TOPO Map for ASN 2019-ASO-5612-OE





KENTUCKY AIRPORT ZONING COMMISSION

MATTHEW BEVIN
Governor

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

July 26, 2019

APPROVAL OF APPLICATION

APPLICANT:

Vertical Bridge Development LLC
Vertical Bridge Development LLC
750 Park of Commerce Dr
Boca Raton, FL 33487

SUBJECT: AS-085-TZV-2019-046

STRUCTURE: Antenna Tower
LOCATION: Summer Shade, KY
COORDINATES: 36° 52' 43.74" N / 85° 39' 53.06" W
HEIGHT: 219' AGL/1349' AMSL

The Kentucky Airport Zoning Commission has approved your application for a permit to construct 219' AGL/ 1349' AMSL Antenna Tower near Summer Shade, KY 36° 52' 43.74" N / 85° 39' 53.06" W.

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

Medium Dual Obstruction Lighting is required in accordance with 602 KAR 50:100.

A handwritten signature in cursive script that reads "John Houlihan".

John Houlihan
Administrator



An Equal Opportunity Employer M/F/D

Exhibit H

REFERENCE COPY

This is not an official FCC license. It is a record of public information contained in the FCC's licensing database on the date that this reference copy was generated. In cases where FCC rules require the presentation, posting, or display of an FCC license, this document may not be used in place of an official FCC license.



Federal Communications Commission
Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: NEW CINGULAR WIRELESS PCS, LLC

ATTN: CECIL J MATHEW
 NEW CINGULAR WIRELESS PCS, LLC
 208 S AKARD ST., RM 1015
 DALLAS, TX 75202

Call Sign KNLG909	File Number
Radio Service CW - PCS Broadband	

FCC Registration Number (FRN): 0003291192

Grant Date 07-25-2017	Effective Date 08-31-2018	Expiration Date 08-21-2027	Print Date
Market Number BTA052	Channel Block F	Sub-Market Designator 0	
Market Name Bowling Green-Glasgow, KY			
1st Build-out Date 08-21-2002	2nd Build-out Date	3rd Build-out Date	4th Build-out Date

Waivers/Conditions:

This authorization is subject to the condition that, in the event that systems using the same frequencies as granted herein are authorized in an adjacent foreign territory (Canada/United States), future coordination of any base station transmitters within 72 km (45 miles) of the United States/Canada border shall be required to eliminate any harmful interference to operations in the adjacent foreign territory and to ensure continuance of equal access to the frequencies by both countries.

This authorization is conditioned upon the full and timely payment of all monies due pursuant to Sections 1.2110 and 24.716 of the Commission's Rules and the terms of the Commission's installment plan as set forth in the Note and Security Agreement executed by the licensee. Failure to comply with this condition will result in the automatic cancellation of this authorization.

Conditions:

Pursuant to §309(h) of the Communications Act of 1934, as amended, 47 U.S.C. §309(h), this license is subject to the following conditions: This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies designated in the license beyond the term thereof nor in any other manner than authorized herein. Neither the license nor the right granted thereunder shall be assigned or otherwise transferred in violation of the Communications Act of 1934, as amended. See 47 U.S.C. § 310(d). This license is subject in terms to the right of use or control conferred by §706 of the Communications Act of 1934, as amended. See 47 U.S.C. §606.

This license may not authorize operation throughout the entire geographic area or spectrum identified on the hardcopy version. To view the specific geographic area and spectrum authorized by this license, refer to the Spectrum and Market Area information under the Market Tab of the license record in the Universal Licensing System (ULS). To view the license record, go to the ULS homepage at <http://wireless.fcc.gov/uls/index.htm?job=home> and select "License Search". Follow the instructions on how to search for license information.

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**Federal Communications Commission****Wireless Telecommunications Bureau****RADIO STATION AUTHORIZATION**

LICENSEE: NEW CINGULAR WIRELESS PCS, LLC

ATTN: CECIL J MATHEW
NEW CINGULAR WIRELESS PCS, LLC
208 S AKARD ST., RM 1015
DALLAS, TX 75202

Call Sign	File Number
KNLG909	
Radio Service CW - PCS Broadband	

FCC Registration Number (FRN): 0003291192

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Federal Communications Commission

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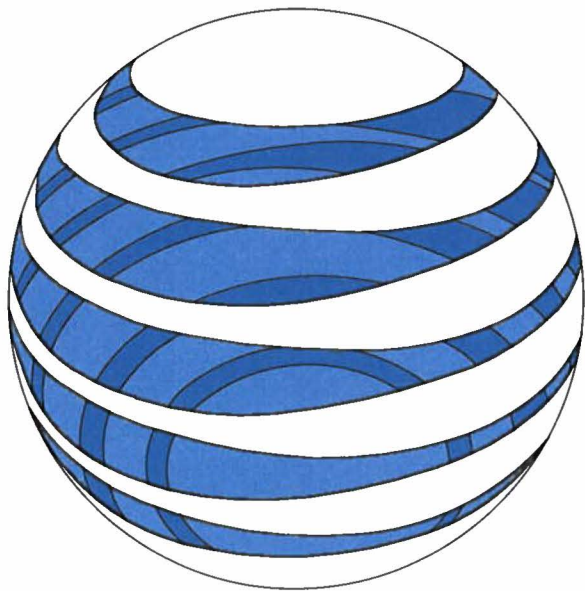
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Exhibit I



at&t

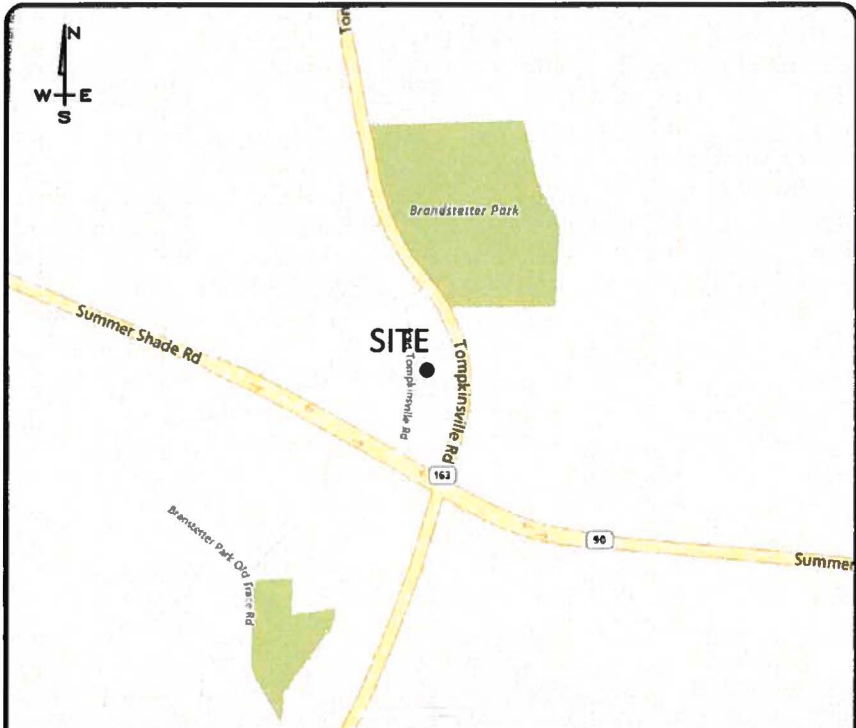
SITE NAME:

SUMMER SHADE

SITE NUMBER:

US-KY-5061

PROPOSED 15' TOWER EXTENTION ON AN 195' MONOPOLE
WITH A 9' LIGHTNING ARRESTOR



VICINITY MAP

SCALE: NONE

DRIVE DIRECTIONS

STARTING AT THE METCALFE COUNTY CLERK, 201 NORTH MAIN STREET, EDMONTON, KY 42129;
HEAD SOUTH ON N MAIN ST TOWARD EAST ST 430 FEET
CONTINUE STRAIGHT ONTO S MAIN ST 0.9 MILES
CONTINUE ONTO STATE HWY 163/TOMPKINSVILLE RD 7.4 MILES
TURN RIGHT ONTO KY-90 W 256 FEET
TURN RIGHT ONTO TOMPKINSVILLE RD 0.1 MILES
ARRIVE AT SITE ENTRANCE ON THE RIGHT

SCOPE OF WORK:

CONSTRUCTION DRAWINGS FOR:
CONSTRUCTION OF A NEW EXTENSION ON AN EXISTING MONOPOLE.
SITE WORK: NEW TOWER EXTENSION

PROJECT INFORMATION

COUNTY: METCALFE
SITE ADDRESS: 8249 TOMPKINSVILLE ROAD
SUMMER SHADE, KY 42166
APPLICANT: NEW CINGULAR WIRELESS PCS,
LLC, A DELAWARE LIMITED
LIABILITY COMPANY, D/B/A AT&T
MOBILITY MEIDINGER TOWER
462 S. 4TH STREET, SUITE 2400
LOUISVILLE, KY 40202
LATITUDE: 36° 52' 43.74"N
LONGITUDE: 85° 39' 53.06"W
EMERGENCY: CALL 911
E911 ADDRESS NOT VERIFIED



Know what's below.
Call before you dig.
Call Monday thru Friday - 7 am. to 6 pm.
1-800-752-6007
PER KENTUCKY STATE LAW, IT IS AGAINST
THE LAW TO EXCAVATE WITHOUT
NOTIFYING THE UNDERGROUND
LOCATION SERVICE TWO (2) WORKING
DAYS BEFORE COMMENCING WORK.

SHEET INDEX

T-1	TITLE SHEET & PROJECT INFORMATION
SURVEY: B-1 TO B-1.2 B-2	SITE SURVEY 500' RADIUS & ABUTTERS MAP
GENERAL: GN-1	GENERAL NOTES & SPECIFICATIONS
CIVIL: C-1 C-2 C-3 C-4	OVERALL SITE LAYOUT ENLARGED COMPOUND LAYOUT TOWER ELEVATION FENCE DETAILS

PREPARED BY:

POWER OF DESIGN
11490 BLUEGRASS PARKWAY
LOUISVILLE, KY 40299
502-437-5252

PREPARED FOR:

PREPARED FOR:

EN PERMIT: 3594

CONSTRUCTION
DRAWINGS

REV	DATE	DESCRIPTION
A	8.9.19	ISSUED FOR REVIEW
0	8.16.19	ISSUED AS FINAL

SITE INFORMATION:
SUMMER SHADE

8249 TOMPKINSVILLE ROAD
SUMMER SHADE, KY 42166

METCALFE COUNTY

SITE NUMBER:
US-KY-5061

POD NUMBER: 19-44512
DRAWN BY: KDP
CHECKED BY: MEP
DATE: 8-9-19

SHEET TITLE:

TITLE SHEET
& PROJECT
INFORMATION

SHEET NUMBER:
T-1

BUILDING CODES AND STANDARDS

CONTRACTOR'S WORK SHALL COMPLY WITH ALL
APPLICABLE NATIONAL, STATE AND LOCAL CODES AS
ADOPTED BY THE LOCAL AUTHORITY HAVING JURISDICTION
FOR THE LOCATION.

- CONTRACTOR'S WORK SHALL COMPLY WITH THE
LATEST EDITION OF THE FOLLOWING STANDARDS:
- AMERICAN CONCRETE INSTITUTE 318
- AMERICAN INSTITUTE OF STEEL CONSTRUCTION
MANUAL OF STEEL CONSTRUCTION
- TELECOMMUNICATIONS INDUSTRY ASSOCIATION
TIA-222
- STRUCTURAL STANDARDS FOR STEEL ANTENNA
TOWER AND SUPPORTING STRUCTURES TIA-601
- COMMERCIAL BUILDING GROUNDING AND BONDING
REQUIREMENTS FOR TELECOMMUNICATIONS
- INSTITUTE FOR ELECTRICAL AND ELECTRONICS
ENGINEERS IEEE-81, IEEE 1100, IEEE C62.41
- ANSI T1.311, FOR TELECOM - DC POWER SYSTEMS -
TELECOM, ENVIRONMENTAL PROTECTION
- 2018 KBC
- 2014 NEC

FOR ANY CONFLICTS BETWEEN SECTIONS OF LISTED CODES
AND STANDARDS, THE MOST RESTRICTIVE REQUIREMENT
SHALL GOVERN.

Send Property Tax Bill To:
Ryan, LLC
Attn: Vertical Bridge Property Tax Mail
2800 Post Oak Blvd., Suite 3700
Houston, TX 77056-6170

BOOK 164
PAGE 58

DEED

THIS DEED OF CONVEYANCE made and entered into this 16 day of July,
2019, by and between TAMMY REECE, SINGLE, whose address is 892 Mt. Moriah Rd., Summer
Shade, Kentucky 42166, the GRANTOR, and VERTICAL BRIDGE AM, LLC, a Delaware
limited liability company, the GRANTEE, whose address is 750 Park of Commerce Drive, Suite
200, Boca Raton, FL 33487.

WITNESSETH:

For a valuable consideration, being the sum of FORTY FOUR THOUSAND NINE
HUNDRED DOLLARS AND NO CENTS (\$44,900.00) paid to the GRANTOR by the
GRANTEE, the receipt of which is hereby acknowledged, the GRANTOR hereby conveys, with
covenant of General Warranty, unto the GRANTEE, in fee simple, the following described real
property located in Metcalfe County, Kentucky:

Tract 1

A certain tract of land located in Summer Shade, Metcalfe County, Kentucky and being a portion
of the same property Tammy Reece, acquired in deed book 128 page 771 and more particularly
described as follows:

Unless stated otherwise, any monument referred to herein as an iron pin set is a set 5/8" in. rebar,
18" in length with a plastic cap stamped "J. Hagan #3712". All bearings stated herein are based on
G.P.S. observations dated 10/10/2018.

Beginning at a r/w marker, said marker being 65' west of the centerline, being the r/w intersection
of Ky Hwy 163, r/w width varies and the r/w of Ky Hwy 90, r/w width varies;

DEED TAX \$ 45.00
RECORDING FEE \$ 23.00

Thence, leaving the r/w of Ky Hwy 163 and with the r/w of Ky Hwy 90, North 63 Degrees 18 Minutes 48 Seconds West, a distance of 93.60' to a iron pin set, being the r/w of old Ky Hwy 163, r/w width varies;

Thence, leaving the r/w of Ky Hwy 90 and with the r/w of Old Ky Hwy 163 the following calls, North 03 Degrees 31 Minutes 51 Seconds West, a distance of 120.80';

Thence, North 10 Degrees 30 Minutes 51 Seconds West, a distance of 69.50';

Thence, North 12 Degrees 26 Minutes 09 Seconds East, a distance of 152.00' to an existing concrete r/w marker, being a corner to the Cemetery Care Corp., deed book 141 page 586;

Thence, leaving the r/w and with the line of the Cemetery Care Corp., North 83 Degrees 01 Minutes 57 Seconds East, a distance of 129.13' to a capped iron pin #3712 found, being the r/w of Ky Hwy 163, r/w varies;

Thence, leaving the line of Cemetery Care Corp. and with the r/w the following calls, South 04 Degrees 25 Minutes 34 Seconds East, a distance of 46.31' to a r/w marker;

Thence, South 09 Degrees 52 Minutes 31 Seconds West, a distance of 354.12' to the POINT OF BEGINNING; said described tract containing 1.04 Acres, more or less as per survey performed by Jason L. Hagan, PLS #3712 of Jason Hagan Land Surveying on 10/10/2018.

Tract 2

A certain tract of land located in Summer Shade, Metcalfe County, Kentucky and being a portion of the same property Tammy Reece, acquired in deed book 128 page 771 and more particularly described as follows:

Unless stated otherwise, any monument referred to herein as an iron pin set is a set 5/8" in. rebar, 18" in length with a plastic cap stamped "J. Hagan #3712". All bearings stated herein are based on G.P.S. observations dated 10/10/2018.

Beginning at a capped iron pin #3712, being a corner to Cemetery Care Corp., deed book 141 page 586 and being the r/w of Old Ky Hwy 163, r/w width varies and being approximately 370' north of the intersection of Old Ky Hwy 163 and Ky Hwy 90;

Thence, leaving the line of the Cemetery Care Corp. and with the r/w the following calls, North 16 Degrees 55 Minutes 47 Seconds West, a distance of 54.45';

Thence, North 03 Degrees 54 Minutes 51 Seconds West, a distance of 76.80';

Thence, North 05 Degrees 19 Minutes 51 Seconds West, a distance of 78.30';

Thence, North 08 Degrees 02 Minutes 51 Seconds West, a distance of 72.90';

Thence, North 08 Degrees 46 Minutes 48 Seconds West, a distance of 57.48' to an existing r/w marker;

Thence, North 54 Degrees 47 Minutes 49 Seconds East, a distance of 69.88' to an existing r/w marker, being the r/w of Ky Hwy 163, r/w width varies;

Thence, leaving the r/w of Old Ky Hwy 163 and with the r/w of Old Ky Hwy 163 the following calls, South 32 Degrees 57 Minutes 25 Seconds East, a distance of 197.22' to an existing r/w marker;

Thence, South 07 Degrees 00 Minutes 42 Seconds East, a distance of 190.93' to an existing capped iron pin #3712, being a corner to Cemetery Care Corp., deed book 141 page 586;

Thence, leaving the r/w and with the line of Cemetery Care Corp., South 81 Degrees 30 Minutes 19 Seconds West, a distance of 141.90' to the POINT OF BEGINNING; said described tract containing 1.05 Acres, more or less as per survey performed by Jason L. Hagan, PLS #3712 of Jason Hagan Land Surveying on 10/10/2018.

Being a portion of the same land that Tammy Reece acquired in Deed Book 128, Page 771, et. seq., records Metcalfe County Clerk.

GRANTOR further covenants that she is lawfully seized of the estate hereby conveyed and that it is free of all liens and encumbrances except state, county, and school taxes assessed and payable through the tax year 2019 and all taxes thereafter; the 2019 ad valorem taxes shall be prorated as of the date of the deed.

Provided, however, the above described real property is conveyed subject to all valid and existing conditions, restrictions, covenants, easements and reservations as may be found in the record chain of title.

The parties hereto state that the consideration reflected in this deed is the full consideration paid for the property. The GRANTEE joins this deed for the sole purpose of certifying the consideration pursuant to KRS 382.135.

IN TESTIMONY WHEREOF, the GRANTOR has hereunto set her hand on this date

which is first above written.

GRANTOR:


TAMMY REECE

GRANTEE:

VERTICAL BRIDGE AM, LLC


DANIEL MARINBERG, SENIOR VICE PRESIDENT AND GENERAL COUNSEL

STATE OF KENTUCKY

COUNTY OF MONROE

The foregoing Deed and Consideration Certificate was acknowledged and sworn to before me this 16 day of July, 2019, by Tammy Reece, single, Grantor.


NOTARY PUBLIC

My Commission Expires: 11-13-2020

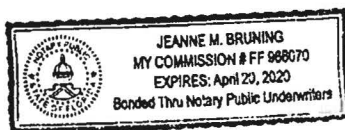
STATE OF FLORIDA

COUNTY OF PALM BEACH

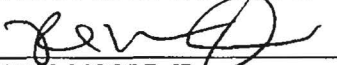
The foregoing Consideration Certificate was acknowledged and sworn to before me this 11 day of July, 2019, by Daniel Marinberg, serving in his capacity as Senior Vice President and General Counsel of Vertical Bridge AM, LLC, Grantee.


NOTARY PUBLIC

My Commission Expires: 4/20/20



THIS INSTRUMENT PREPARED
WITHOUT TITLE OPINION BY:



REED N. MOORE, JR.
Attorney At Law
109 Second Street
P. O. Box 235
Tompkinsville, KY 42167

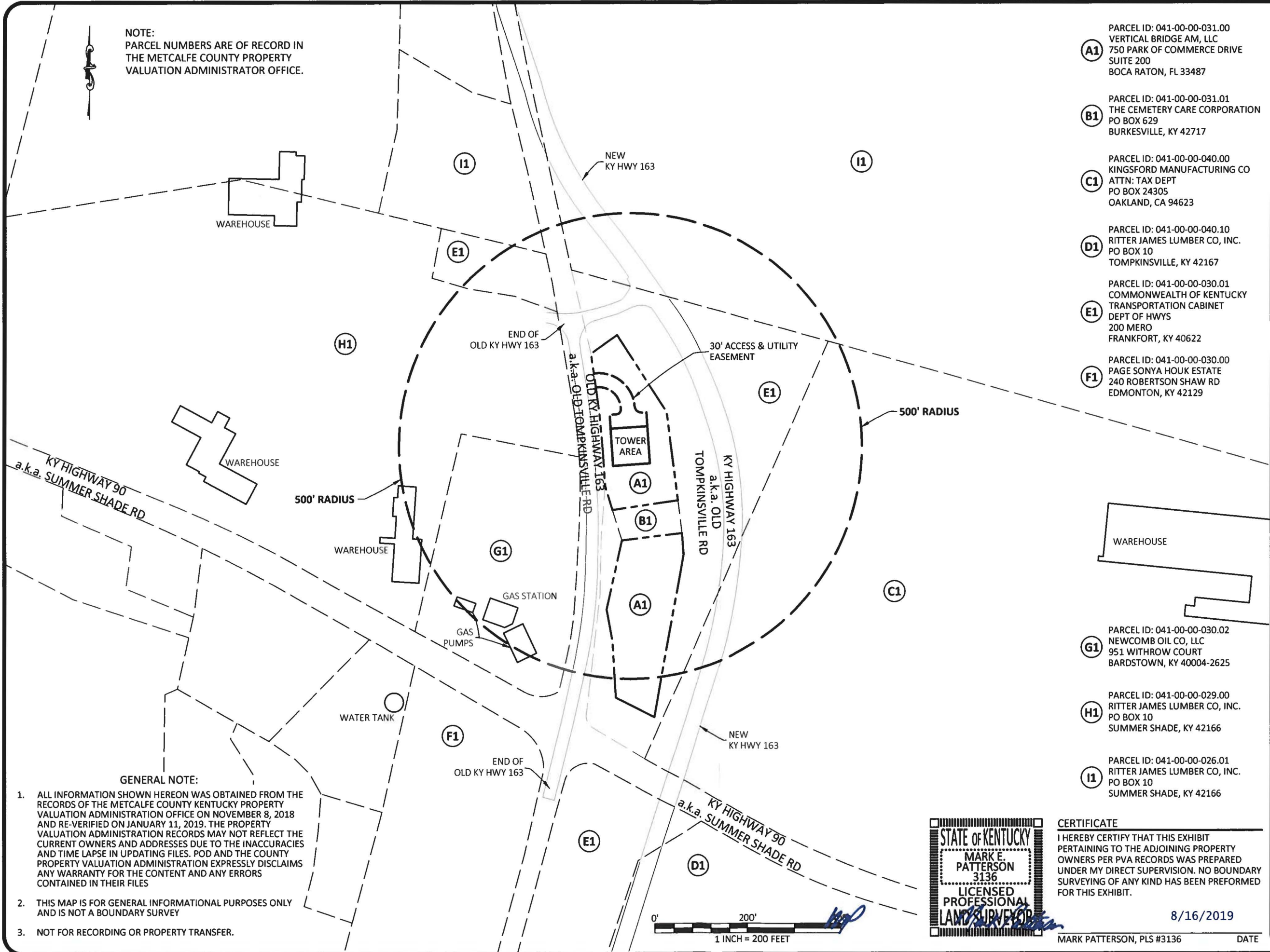
\\deeds\vertical-bridge deed

5

FILED 7/18/19
TIME 10:00 AM PM
CAROL ENGLAND, METCALFE COUNTY CLERK
BY: Cliff D.C.

Exhibit J

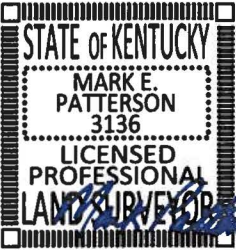
NOTE:
PARCEL NUMBERS ARE OF RECORD IN
THE METCALFE COUNTY PROPERTY
VALUATION ADMINISTRATOR OFFICE.



- GENERAL NOTE:
1. ALL INFORMATION SHOWN HEREON WAS OBTAINED FROM THE RECORDS OF THE METCALFE COUNTY KENTUCKY PROPERTY VALUATION ADMINISTRATION OFFICE ON NOVEMBER 8, 2018 AND RE-VERIFIED ON JANUARY 11, 2019. THE PROPERTY VALUATION ADMINISTRATION RECORDS MAY NOT REFLECT THE CURRENT OWNERS AND ADDRESSES DUE TO THE INACCURACIES AND TIME LAPSE IN UPDATING FILES. POD AND THE COUNTY PROPERTY VALUATION ADMINISTRATION EXPRESSLY DISCLAIMS ANY WARRANTY FOR THE CONTENT AND ANY ERRORS CONTAINED IN THEIR FILES
 2. THIS MAP IS FOR GENERAL INFORMATIONAL PURPOSES ONLY AND IS NOT A BOUNDARY SURVEY
 3. NOT FOR RECORDING OR PROPERTY TRANSFER.

- PARCEL ID: 041-00-00-031.00
VERTICAL BRIDGE AM, LLC
750 PARK OF COMMERCE DRIVE
SUITE 200
BOCA RATON, FL 33487
- PARCEL ID: 041-00-00-031.01
THE CEMETERY CARE CORPORATION
PO BOX 629
BURKESVILLE, KY 42717
- PARCEL ID: 041-00-00-040.00
KINGSFORD MANUFACTURING CO
ATTN: TAX DEPT
PO BOX 24305
OAKLAND, CA 94623
- PARCEL ID: 041-00-00-040.10
RITTER JAMES LUMBER CO, INC.
PO BOX 10
TOMPKINSVILLE, KY 42167
- PARCEL ID: 041-00-00-030.01
COMMONWEALTH OF KENTUCKY
TRANSPORTATION CABINET
DEPT OF HWYS
200 MERO
FRANKFORT, KY 40622
- PARCEL ID: 041-00-00-030.00
PAGE SONYA HOUK ESTATE
240 ROBERTSON SHAW RD
EDMONTON, KY 42129

- PARCEL ID: 041-00-00-030.02
NEWCOMB OIL CO, LLC
951 WITHROW COURT
BARDSTOWN, KY 40004-2625
- PARCEL ID: 041-00-00-029.00
RITTER JAMES LUMBER CO, INC.
PO BOX 10
SUMMER SHADE, KY 42166
- PARCEL ID: 041-00-00-026.01
RITTER JAMES LUMBER CO, INC.
PO BOX 10
SUMMER SHADE, KY 42166



CERTIFICATE
I HEREBY CERTIFY THAT THIS EXHIBIT
PERTAINING TO THE ADJOINING PROPERTY
OWNERS PER PVA RECORDS WAS PREPARED
UNDER MY DIRECT SUPERVISION. NO BOUNDARY
SURVEYING OF ANY KIND HAS BEEN PERFORMED
FOR THIS EXHIBIT.

8/16/2019
MARK PATTERSON, PLS #3136 DATE



EXHIBIT		
REV.	DATE	DESCRIPTION
A	1.11.19	ISSUED FOR REVIEW
0	3.13.19	ISSUED AS FINAL
1	8.15.19	TITLE HOLDER

SITE INFORMATION:
SUMMER SHADE
OLD KY HIGHWAY 163
a.k.a. OLD TOMPKINSVILLE ROAD
SUMMER SHADE, KY 42166
METCALFE COUNTY

TAX PARCEL NUMBER:
041-00-00-031.00

PROPERTY OWNER:
VERTICAL BRIDGE AM, LLC
750 PARK OF COMMERCE DRIVE
SUITE 200
BOCA RATON, FL 33487

SOURCE OF TITLE:
DEED BOOK 164, PAGE 58

SITE NUMBER:
US-KY-5061

POD NUMBER: 18-28724
DRAWN BY: DAP
CHECKED BY: MEP
SURVEY DATE: 11.8.18
PLAT DATE: 1.11.19

SHEET TITLE:
**500' RADIUS AND
ABUTTERS MAP**

SHEET NUMBER: (1 pages)
B-2

BRIGGS LAW OFFICE, PSC

10200 Forest Green Boulevard | Suite 112 | Louisville, Kentucky 40223
[884] 331-3402 main | [502] 468-3751 mobile | todd@briggslawoffice.net

TODD R. BRIGGS
also admitted in Colorado

Notice of Proposed Construction Wireless Communications Facility

Via Certified Mail - Return Receipt Requested

The Cemetery Care Corporation
P.O. Box 629
Burkesville, KY 42717

Dear Landowner:

Vertical Bridge AM, LLC ("Applicant") is applying to the Kentucky Public Service Commission (the "Commission") for a Certificate of Public Convenience and Necessity to add a 15' extension to the 199' monopole tower located at 8249 Tompkinsville Road, Summer Shade, KY 41266. The tower extension will be utilized by New Cingular Wireless, PCS, LLC (AT&T). A map showing the location is attached.

This notice is being sent to you because the Metcalfe County Property Valuation Administrator's records indicate that you own property that is within a 500' radius of the proposed tower site OR is contiguous to the property on which the tower is to be constructed.

The Commission invites your comments regarding the proposed construction and wants you to be aware of your right to intervene in the Commission's proceedings on this application. Your comments and request for intervention should be addressed to: Kentucky Public Service Commission, Executive Director, 211 Sower Boulevard, P.O. Box 615, Frankfort, Kentucky 40602. Please refer to case number 2019-00261 in any correspondence.

Sincerely,



Todd R. Briggs
Counsel for Applicant

Enclosure

BRIGGS LAW OFFICE, PSC

10200 Forest Green Boulevard | Suite 112 | Louisville, Kentucky 40223
[884] 331-3402 main | [502] 468-3751 mobile | todd@briggslawoffice.net

TODD R. BRIGGS
also admitted in Colorado

Notice of Proposed Construction Wireless Communications Facility

Via Certified Mail - Return Receipt Requested

Kingsford Manufacturing Co
P.O. Box 24305
Oakland, CA 94623

Dear Landowner:

Vertical Bridge AM, LLC ("Applicant") is applying to the Kentucky Public Service Commission (the "Commission") for a Certificate of Public Convenience and Necessity to add a 15' extension to the 199' monopole tower located at 8249 Tompkinsville Road, Summer Shade, KY 41266. The tower extension will be utilized by New Cingular Wireless, PCS, LLC (AT&T). A map showing the location is attached.

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Sincerely,



Todd R. Briggs
Counsel for Applicant

Enclosure

BRIGGS LAW OFFICE, PSC

10200 Forest Green Boulevard | Suite 112 | Louisville, Kentucky 40223
[884] 331-3402 main | [502] 468-3751 mobile | todd@briggslawoffice.net

TODD R. BRIGGS
also admitted in Colorado

Notice of Proposed Construction Wireless Communications Facility

Via Certified Mail - Return Receipt Requested

James Ritter Lumber Co., Inc.
P.O. Box 10
Tompkinsville, KY 42167

Dear Landowner:

Vertical Bridge AM, LLC ("Applicant") is applying to the Kentucky Public Service Commission (the "Commission") for a Certificate of Public Convenience and Necessity to add a 15' extension to the 199' monopole tower located at 8249 Tompkinsville Road, Summer Shade, KY 41266. The tower extension will be utilized by New Cingular Wireless, PCS, LLC (AT&T). A map showing the location is attached.

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Sincerely,



Todd R. Briggs
Counsel for Applicant

Enclosure

BRIGGS LAW OFFICE, PSC

10200 Forest Green Boulevard | Suite 112 | Louisville, Kentucky 40223
[884] 331-3402 main | [502] 468-3751 mobile | todd@briggslawoffice.net

TODD R. BRIGGS
also admitted in Colorado

Notice of Proposed Construction Wireless Communications Facility

Via Certified Mail - Return Receipt Requested

**Commonwealth of Kentucky Dept. of Highways
200 Mero
Frankfort, KY 40622**

Dear Landowner:

Vertical Bridge AM, LLC ("Applicant") is applying to the Kentucky Public Service Commission (the "Commission") for a Certificate of Public Convenience and Necessity to add a 15' extension to the 199' monopole tower located at 8249 Tompkinsville Road, Summer Shade, KY 41266. The tower extension will be utilized by New Cingular Wireless, PCS, LLC (AT&T). A map showing the location is attached.

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The Commission invites your comments regarding the proposed construction and wants you to be aware of your right to intervene in the Commission's proceedings on this application. Your comments and request for intervention should be addressed to: Kentucky Public Service Commission, Executive Director, 211 Sower Boulevard, P.O. Box 615, Frankfort, Kentucky 40602. Please refer to case number 2019-00261 in any correspondence.

Sincerely,



Todd R. Briggs
Counsel for Applicant

Enclosure

BRIGGS LAW OFFICE, PSC

10200 Forest Green Boulevard | Suite 112 | Louisville, Kentucky 40223
[884] 331-3402 main | [502] 468-3751 mobile | todd@briggslawoffice.net

TODD R. BRIGGS
also admitted in Colorado

Notice of Proposed Construction Wireless Communications Facility

Via Certified Mail - Return Receipt Requested

**Sonya Page Houk Estate
240 Robertson Shaw Rd.
Edmonton, KY 42129**

Dear Landowner:

Vertical Bridge AM, LLC ("Applicant") is applying to the Kentucky Public Service Commission (the "Commission") for a Certificate of Public Convenience and Necessity to add a 15' extension to the 199' monopole tower located at 8249 Tompkinsville Road, Summer Shade, KY 41266. The tower extension will be utilized by New Cingular Wireless, PCS, LLC (AT&T). A map showing the location is attached.

This notice is being sent to you because the Metcalfe County Property Valuation Administrator's records indicate that you own property that is within a 500' radius of the proposed tower site OR is contiguous to the property on which the tower is to be constructed.

The Commission invites your comments regarding the proposed construction and wants you to be aware of your right to intervene in the Commission's proceedings on this application. Your comments and request for intervention should be addressed to: Kentucky Public Service Commission, Executive Director, 211 Sower Boulevard, P.O. Box 615, Frankfort, Kentucky 40602. Please refer to case number 2019-00261 in any correspondence.

Sincerely,



Todd R. Briggs
Counsel for Applicant

Enclosure

BRIGGS LAW OFFICE, PSC

10200 Forest Green Boulevard | Suite 112 | Louisville, Kentucky 40223
[884] 331-3402 main | [502] 468-3751 mobile | todd@briggslawoffice.net

TODD R. BRIGGS
also admitted in Colorado

Notice of Proposed Construction Wireless Communications Facility

Via Certified Mail - Return Receipt Requested

**Newcomb Oil Co. LLC
951 Withrow Court
Bardstown, KY 40004-2625**

Dear Landowner:

Vertical Bridge AM, LLC ("Applicant") is applying to the Kentucky Public Service Commission (the "Commission") for a Certificate of Public Convenience and Necessity to add a 15' extension to the 199' monopole tower located at 8249 Tompkinsville Road, Summer Shade, KY 41266. The tower extension will be utilized by New Cingular Wireless, PCS, LLC (AT&T). A map showing the location is attached.

This notice is being sent to you because the Metcalfe County Property Valuation Administrator's records indicate that you own property that is within a 500' radius of the proposed tower site OR is contiguous to the property on which the tower is to be constructed.

The Commission invites your comments regarding the proposed construction and wants you to be aware of your right to intervene in the Commission's proceedings on this application. Your comments and request for intervention should be addressed to: Kentucky Public Service Commission, Executive Director, 211 Sower Boulevard, P.O. Box 615, Frankfort, Kentucky 40602. Please refer to case number 2019-00261 in any correspondence.

Sincerely,



Todd R. Briggs
Counsel for Applicant

Enclosure

Exhibit K

BRIGGS LAW OFFICE, PSC

10200 Forest Green Boulevard | Suite 112 | Louisville, Kentucky 40223
[884] 331-3402 main | [502] 468-3751 mobile | todd@briggslawoffice.net

TODD R. BRIGGS
also admitted in Colorado

Via USPS Certified Mail - Return Receipt Requested

Honorable Harold Stilts
Metcalfe County Judge Executive
P.O. Box 149
Edmonton, KY 42129

RE: Notice of Proposal - Kentucky Public Service Commission--Case No. 2019-00261

Dear Judge Stilts:

Vertical Bridge AM, LLC ("Applicant") is applying to the Kentucky Public Service Commission (the "Commission") for a Certificate of Public Convenience and Necessity to add a 15' extension to the 199' monopole tower located at 8249 Tompkinsville Road, Summer Shade, KY 41266. The tower extension will be utilized by New Cingular Wireless, PCS, LLC (AT&T). A map showing the location is attached.

You have a right to submit comments regarding the proposed construction to the Commission or to request intervention in the Commission's proceedings on this application.

Your comments and request for intervention should be addressed to: Kentucky Public Service Commission, Executive Director, 211 Sower Boulevard, P.O. Box 615, Frankfort, Kentucky 40602. Please refer to case number 2019-00261 in any correspondence.

Sincerely,



Todd R. Briggs
Counsel for Applicant

Enclosure

Exhibit L

PUBLIC NOTICE

Vertical Bridge AM, LLC & New
Cingular Wireless PCS, LLC
proposes to construct
a telecommunications

TOWER

near this site. If you have
any questions please contact:

Briggs Law Office, PSC
10200 Forest Green Blvd. or
Suite 112
Louisville, KY 40223
(844) 331-3402

Executive Director
Public Service Commission
211 Sower Boulevard
P.O. Box 615
Frankfort, KY 40602

Please refer to Commission's
Case #2019-00261
in your correspondence.

PUBLIC NOTICE

Vertical Bridge AM, LLC & New
Cingular Wireless PCS, LLC
proposes to construct
a telecommunications

TOWER

on this site. If you have
any questions please contact:

Briggs Law Office, PSC
10200 Forest Green Blvd. or
Suite 112
Louisville, KY 40223
(844) 331-3402

Executive Director
Public Service Commission
211 Sower Boulevard
P.O. Box 615
Frankfort, KY 40602

Please refer to Commission's
Case #2019-00261
in your correspondence.

Exhibit M



Michael Salvo
Principal – Network Planning Engineer

AT&T Mobility
534 Armory Place
Louisville, KY 40203

T: 502-302-7199
M: 502-553-0007
Mike.Salvo@att.com

August 15, 2019

Kentucky Public Service Commission
211 Sower Blvd
Frankfort, KY 40601
(502)561-3940

RE: Special Permit Application for New Telecommunications Tower Site Name: Summer Shade
Site Address: 8249 Tompkinsville Road, Summer Shade KY 42166; 210' C/L (15' Extension Request)

To Whom It May Concern,

I am writing this letter in support of AT&T's Zoning application for a wireless communication facility to be located in Metcalf County, Kentucky. AT&T Mobility is a licensed wireless provider/operator and is proposing the construction of this facility to remedy coverage and/or capacity concerns within our current coverage footprint and licensed area.

As a licensed wireless operator, AT&T is required to operate according to FCC regulations at all times. AT&T will not create radio interference that will harm other licensed or unlicensed operators and/or users. If radio interference is suspected or exists, AT&T will work with any party that is experiencing radio interference as a result of our installation and operation of this facility to troubleshoot, resolve, and mitigate the interference.

This tower facility will conform to applicable FCC standards for radio frequency emissions. The non-ionizing electromagnetic radiation emitted from this facility will not result in a level of exposure, in normal accessible areas, which exceeds the lowest applicable exposure standards established by any regulatory agency of the Federal Government or by the American National Standards Institute.

AT&T will also comply with all FAA regulatory requirements that are designated for each wireless communications facility and will make sure that all signage and lighting is installed and operated according to those requirements. If aviation tower lighting is deployed on any AT&T wireless communications facility, it will be monitored electronically 24/7/365 to ensure correct operation and compliance.

Sincerely,

Mike Salvo
Principal-Network Planning Engineer
AT&T Mobility