

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

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PUBLIC SERVICE
COMMISSION

In the Matter of:

**APPLICATION OF CUMBERLAND CELLULAR
PARTNERSHIP FOR ISSUANCE OF
A CERTIFICATE OF PUBLIC CONVENIENCE
AND NECESSITY TO CONSTRUCT A CELL SITE
(HENDRICK'S CREEK) IN RURAL SERVICE AREA #5
(CUMBERLAND) OF THE COMMONWEALTH
OF KENTUCKY**

CASE NO. 2017-00135

**APPLICATION FOR A CERTIFICATE
OF PUBLIC CONVENIENCE AND NECESSITY (HENDRICK'S CREEK)**

Cumberland Cellular Partnership ("Cumberland Cellular"), through counsel, pursuant to KRS 278.020 and 278.040, hereby submits this application for a certificate of public convenience and necessity to construct a cell site to be known as the Hendrick's Creek cell site in and for rural service area ("RSA") #5 of the Commonwealth of Kentucky, namely the counties of Barren, Monroe, Metcalfe, Adair, Cumberland, Russell, Clinton, Wayne, McCreary and Hart, Kentucky.

1. As required by 807 KAR 5:001 § 14 and 807 KAR 5:063, Cumberland Cellular states that it is a Kentucky limited liability partnership whose full name and post office address are: Cumberland Cellular Partnership, 2902 Ring Road, Elizabethtown, Kentucky, 42701. An email address for Cumberland Cellular Partnership is dougu@bluegrasscellular.com. A copy of the Certificate of Assumed Name as a General Partnership for Cumberland Cellular Partnership was previously filed in Kentucky PSC Case No. 2014-00026 (Application of Cumberland Cellular Partnership for issuance of a certificate of public convenience and necessity to construct a cell site (Albany Capacity 1) in rural service area #5 (Clinton) of the Commonwealth of Kentucky). This is the only document on file with the Kentucky Secretary of State that identifies all owners of Cumberland Cellular Partnership.

2. Pursuant to 807 KAR 5:063 § 1(1)(b), a copy of the applicant's applications to and approvals from the Federal Aviation Administration and the Kentucky Airport Zoning Commission are Exhibit "A."

3. Pursuant to 807 KAR 5:063 § 1(1)(d), applicant is attaching as Exhibit "B" a geotechnical investigation report, signed and sealed by a professional engineer registered in Kentucky, that includes boring logs, foundation design recommendations, and a finding as to the susceptibility of the area surrounding the proposed site to flood hazard.

4. Pursuant to 807 KAR 5:063 § 1(1)(e), clear directions from the county seat to the proposed site, including highway numbers and street names, if applicable, with the telephone number of the person who prepared the directions are Exhibit "C".

5. Pursuant to 807 KAR 5:063 § 1(1)(f), a copy of the lease for the property on which the tower is proposed to be located, is Exhibit "D".

6. Pursuant to 807 KAR 5:063 § 1(1)(g), experienced personnel will manage and operate the Hendrick's Creek cell site. The President of Bluegrass Cellular Inc., Mr. Ron Smith, is ultimately responsible for all construction and operations of the cellular system of Cumberland Cellular, of which system the Hendrick's Creek cell site will be a part. Bluegrass Cellular Inc. provides management services to Cumberland Cellular under a management contract, just as it does with three (3) other wireless carriers in the Commonwealth. And, Bluegrass Cellular Inc. has been providing these management services to these other wireless carriers for over 20 years. This extensive management experience with Bluegrass Cellular demonstrates that Bluegrass Cellular Inc.'s management and technical ability to supervise the operations of a wireless carrier.

7. Pursuant to 807 KAR 5:063 § 1(1)(g), World Tower Company, Inc. is responsible for the design specifications of the proposed tower (identified in Exhibit "B").

8. Pursuant to 807 KAR 5:063 § 1(1)(h), a site development plan and survey, signed and sealed by a professional engineer registered in Kentucky, that shows the proposed location

of the tower and all easements and existing structures within 500 feet of the proposed site on the property on which the tower will be located, and all easements and existing structures within 200 feet of the access drive, including the intersection with the public street system, is Exhibit “B”.

9. Pursuant to 807 KAR 5:063 §1(1)(i), a vertical profile sketch of the tower, signed and sealed by a professional engineer registered in Kentucky, indicating the height of the tower and the placement of all antennas is Exhibit “B”.

10. Pursuant to 807 KAR 5:063 §1(1)(j), the tower and foundation design plans and a description of the standard according to which the tower was designed, signed and sealed by a professional engineer registered in Kentucky, is Exhibit “B”.

11. Pursuant to 807 KAR 5:063 § 1(1)(k), a map, drawn to a scale no less than one (1) inch equals 200 feet, that identifies every structure and every owner of real estate within 500 feet of the proposed tower, is Exhibit “E”.

12. Pursuant to 807 KAR 5:063 § 1(1)(l), applicant’s legal counsel hereby affirms that every person who owns property within 500 feet of the proposed tower has been: (i) notified by certified mail, return receipt requested, of the proposed construction; (ii) given the commission docket number under which the application will be processed; and (iii) informed of his or her right to request intervention.

13. Pursuant to 807 KAR 5:063 §1(1)(m), a list of the property owners who received the notice together with copies of the certified letters sent to listed property owners, is Exhibit “F”.

14. Pursuant to 807 KAR 5:063 § 1(1)(n), applicant’s legal counsel hereby affirms that the Office of the Cumberland County Judge Executive has been: (i) notified by certified mail, return receipt requested, of the proposed construction; (ii) given the commission docket number under which the application will be processed; and (iii) informed of its right to request intervention.

15. Pursuant to 807 KAR 5:063 § 1(1)(o), a copy of the notice sent to the Cumberland County Judge Executive is Exhibit “G”.

16. Pursuant to 807 KAR 5:063 § 1(1)(p), applicant’s legal counsel hereby affirms that (i) two written notices meeting subsection two (2) of this section have been posted, one in a visible location on the proposed site and one on the nearest public road; and (ii) the notices shall remain posted for at least two weeks after the application has been filed.

17. Pursuant to 807 KAR 5:063 § 1(2)(a), applicant’s legal counsel affirms that:

(a) A written notice, of durable material at least two (2) feet by four (4) feet in size, stating that ***“Cumberland Cellular Partnership proposes to construct a telecommunications tower on this site. If you have questions, please contact Cumberland Cellular Partnership, 2902 Ring Road, Elizabethtown, Kentucky, 42701 or the Executive Director, Public Service Commission, 211 Sower Boulevard, PO Box 615, Frankfort, Kentucky 40602. Please refer to Case No. 2015-00314 in your correspondence”*** has been posted and shall remain in a visible location on the proposed site until final disposition of the application; and

(b) A written notice, of durable material at least two (2) feet by four (4) feet in size, stating that ***“Cumberland Cellular Partnership proposes to construct a telecommunications tower near this site. If you have questions, please contact Cumberland Cellular Partnership, 2902 Ring Road, Elizabethtown, Kentucky, 42701 or the Executive Director, Public Service Commission, 211 Sower Boulevard, PO Box 615, Frankfort, Kentucky 40602. Please refer to Case No. 2015-00314 in your correspondence”*** has been posted on the public road nearest the site.

A copy of each sign is attached as Exhibit “H”.

18. Pursuant to 807 KAR 5:063 § 1(1)(q), Applicant affirms that notice of the location of the proposed construction has been published in a newspaper of general circulation in Cumberland County. A copy of the affidavit of publication and tears as proof of publication are attached as Exhibit “I.”

19. Pursuant to 807 KAR 5:063 § 1(1)(r), the cell site, which has been selected, is in a relatively undeveloped area in Burkesville, Kentucky. It’s current use is agricultural.

20. Pursuant to 807 KAR 5:063 § 1(1)(s), Cumberland Cellular has considered the likely effects of the installation on nearby land uses and values and has concluded that there is no

more suitable location reasonably available from which adequate service to the area can be provided, and that there is no reasonably available opportunity to co-locate. Cumberland Cellular has attempted to co-locate on towers designed to host multiple wireless service providers' facilities or existing structures, such as a telecommunications tower, or another suitable structure capable of supporting the utility's facilities.

21. Pursuant to 807 KAR 5:063 § 1(1)(t), a map of the area in which the tower is proposed to be located, that is drawn to scale and that clearly depicts the search area in which a site should, pursuant to radio frequency requirements, be located is Exhibit "J".

22. Pursuant to 807 KAR 5:001 § 15(b)(2)(d) and KRS 100.987(2)(a), a grid map, that is drawn to scale, that shows the location of all existing cellular antenna towers and that indicates the general position of proposed construction sites for new cellular antenna towers is Exhibit "K".

23. Pursuant to 807 KAR 5:063 § 2 and KRS 278.665(2), applicant's legal counsel hereby affirms that every person who, according to the records of the property valuation administrator, owns property contiguous to the property where the proposed cellular antenna tower will be located has been: (i) notified by certified mail, return receipt requested, of the proposed construction; (ii) given the commission docket number under which the application will be processed; and (iii) informed of his or her right to request intervention.

24. No reasonably available telecommunications tower, or other suitable structure capable of supporting the cellular facilities of Cumberland Cellular and which would provide adequate service to the area exists.

25. Correspondence and communication with regard to this application should be addressed to:

John E. Selent
Felix H. Sharpe
DINSMORE & SHOHL LLP
101 South Fifth Street
Suite 2500
Louisville, Kentucky 40202
(502) 540-2300
john.selent@dinsmore.com
felix.sharpe@dinsmore.com

WHEREFORE, Cumberland Cellular Partnership requests the Commission to enter an order:

1. Granting a certificate of public convenience and necessity to construct the Hendrick's Creek cell site; and
2. Granting all other relief as appropriate.

Respectfully submitted,



John E. Selent
Felix H. Sharpe
DINSMORE & SHOHL LLP
101 South Fifth Street
Suite 2500
Louisville, Kentucky 40202
(502) 540-2300
john.selent@dinsmore.com
felix.sharpe@dinsmore.com



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

Aeronautical Study No.
2017-ASO-5361-OE

Issued Date: 04/18/2017

Scott McCloud
Bluegrass Cellular, Inc.
2902 Ring Road
Elizabethtown, KY 42701

**** 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 Hendricks Creek
Location:	Burkesville, KY
Latitude:	36-38-15.98N NAD 83
Longitude:	85-21-46.45W
Heights:	984 feet site elevation (SE) 255 feet above ground level (AGL) 1239 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 1, 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 10/18/2018 unless:

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

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

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

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

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

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

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. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2017-ASO-5361-OE.

Signature Control No: 324877150-328711254
Angelique Eersteling
Technician

(DNE)

Attachment(s)
Frequency Data

cc: FCC

Frequency Data for ASN 2017-ASO-5361-OE

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



KENTUCKY AIRPORT ZONING COMMISSION

MATTHEW BEVIN
Governor

200 Mero Street 4th Floor
Frankfort, KY 40622
www.transportation.ky.gov
502-782-4044

April 20, 2017

APPROVAL OF APPLICATION

APPLICANT:
BLUEGRASS CELLULAR
BLUEGRASS CELLULAR
2902 Ring Road
Elizabethtown, KY 42702

SUBJECT: AS-029-TZV-2017-022

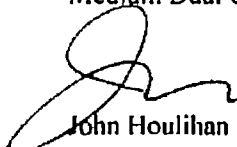
STRUCTURE: Antenna Tower
LOCATION: Burkesville, KY
COORDINATES: 36° 38' 15.98" N / 85° 21' 46.45" W
HEIGHT: 255' AGL/1239' AMSL

The Kentucky Airport Zoning Commission has approved your application for a permit to construct 255' AGL/ 1239' AMSL Antenna Tower near Burkesville, KY 36° 38' 15.98" N / 85° 21' 46.45" W.

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

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

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


John Houlihan
Administrator



An Equal Opportunity Employer M/F/D



KENTUCKY AIRPORT ZONING COMMISSION

MATTHEW BEVIN
Governor

200 Mero Street 4th Floor
Frankfort, KY 40622
www.transportation.ky.gov
502-782-4044

CONSTRUCTION/ALTERATION STATUS REPORT

April 20, 2017

AERONAUTICAL STUDY NUMBER: AS-029-TZV -2017-022

BLUEGRASS CELLULAR
BLUEGRASS CELLULAR
2902 Ring Road
Elizabethtown, KY 42702

This concerns the permit which was issued to you by the Kentucky Airport Zoning Commission on April 20, 2017. This permit is valid for a period of 18 Month(s) from its date of issuance. If construction is not completed within the said 18-Month period, this permit shall lapse and be void, and no work shall be performed without the issuance of a new permit. When appropriate, please indicate the status of the project in the place below and return this letter to John Houlihan, Administrator, Kentucky Airport Zoning Commission, 200 Mero Street 4th Floor Office of Audits, Frankfort, KY, 40622. 502-782-4044.

STRUCTURE: Antenna Tower
LOCATION: Burkesville, KY
COORDINATES: 36° 38' 15.98" N / 85° 21' 46.45" W
HEIGHT: 255' AGL /1239' AMSL

CONSTRUCTION/ALTERATION STATUS

1. The project () is abandoned. () is not abandoned.

2. Construction status is as follows:

Structure reached its greatest height of _____ ft. AGL
_____ ft. AMSL on _____ (date).

Date construction was completed. _____

Type of obstruction marking/painting. _____

Type of obstruction lighting. _____

As built coordinates. _____

Miscellaneous Information. _____

DATE _____

SIGNATURE/TITLE _____



An Equal Opportunity Employer M/F/D

20.7-022



KENTUCKY TRANSPORTATION CABINET
KENTUCKY AIRPORT ZONING COMMISSION

TC 55-2
Rev. 06/2016
Page 2 of 2

APPLICATION FOR PERMIT TO CONSTRUCT OR ALTER A STRUCTURE

APPLICANT (name) Scott McCloud		PHONE 270-769-0339	FAX 270-737-0580	KY AERONAUTICAL STUDY # AS-029-TZV-2017-022	
ADDRESS (street) 2902 Ring Road		CITY Elizabethtown		STATE KY	ZIP 42702
APPLICANT'S REPRESENTATIVE (name) Leila Rezanavaz		PHONE 703-584-8668	FAX 703-584-8694		
ADDRESS (street) 8300 Greensboro Dr. Suite 1200		CITY McLean		STATE VA	ZIP 22102
APPLICATION FOR <input checked="" type="checkbox"/> New Construction <input type="checkbox"/> Alteration <input type="checkbox"/> Existing DURATION <input checked="" type="checkbox"/> Permanent <input type="checkbox"/> Temporary (months days)				WORK SCHEDULE Start 05/10/17 End 05/15/17	
TYPE <input type="checkbox"/> Crane <input type="checkbox"/> Building <input checked="" type="checkbox"/> Antenna Tower <input type="checkbox"/> Power Line <input type="checkbox"/> Water Tank <input type="checkbox"/> Landfill <input type="checkbox"/> Other		MARKING/PAINTING/LIGHTING PREFERRED <input type="checkbox"/> Red Lights & Paint <input type="checkbox"/> White- medium intensity <input type="checkbox"/> White- high intensity <input checked="" type="checkbox"/> Dual- red & medium intensity white <input type="checkbox"/> Dual- red & high intensity white <input type="checkbox"/> Other			
LATITUDE 36°38'15.98"		LONGITUDE 85°21'46.45"		DATUM <input checked="" type="checkbox"/> NAD83 <input type="checkbox"/> NAD27 <input type="checkbox"/> Other	
NEAREST KENTUCKY City Burkesville County Cumberland ✓		NEAREST KENTUCKY PUBLIC USE OR MILITARY AIRPORT Tompkinsville-Monroe County Airport (TZV)			
SITE ELEVATION (AMSL, feet) 984		TOTAL STRUCTURE HEIGHT (AGL, feet) 255		CURRENT (FAA aeronautical study #)	
OVERALL HEIGHT (site elevation plus total structure height, feet) 1239				PREVIOUS (FAA aeronautical study #)	
DISTANCE (from nearest Kentucky public use or Military airport to structure) 17.2 Miles				PREVIOUS (KY aeronautical study #)	
DIRECTION (from nearest Kentucky public use or Military airport to structure) ESE					
DESCRIPTION OF LOCATION (Attach USGS 7.5 minute quadrangle map or an airport layout drawing with the precise site marked and any certified survey.) Site is located at: 1407 Cherry Tree Road, Burkesville, KY 42717					
DESCRIPTION OF PROPOSAL Proposed self-supporting tower with top-mounted antennas for overall height of 255' AGL.					
FAA Form 7460-1 (Has the "Notice of Construction or Alteration" been filed with the Federal Aviation Administration?) <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes, when? 03/09/2017					
CERTIFICATION (I hereby certify that all the above entries, made by me, are true, complete, and correct to the best of my knowledge and belief.) PENALTIES (Persons failing to comply with KRS 183.861 to 183.990 and 602 KAR 050 are liable for fines and/or imprisonment as set forth in KRS 183.990(3). Noncompliance with FAA regulations may result in further penalties.)					
NAME Leila Rezanavaz	TITLE Sr. Consulting Engr	SIGNATURE <i>Leila Rezanavaz</i>		DATE 03/09/2017	
COMMISSION ACTION <input checked="" type="checkbox"/> Approved <input type="checkbox"/> Disapproved		<input type="checkbox"/> Chairperson, KAZC <input checked="" type="checkbox"/> Administrator, KAZC SIGNATURE <i>[Signature]</i> DATE 4-20-17			



KENTUCKY AIRPORT ZONING COMMISSION

MATTHEW BEVIN
Governor

200 Mero Street 4th Floor
Frankfort, KY 40622
www.transportation.ky.gov
502-782-4044

April 20, 2017

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BLUEGRASS CELLULAR
BLUEGRASS CELLULAR
2902 Ring Road
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SUBJECT: AS-029-TZV-2017-022

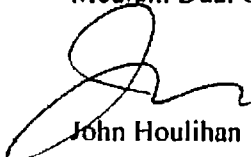
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This permit is valid for a period of 18 Month(s) from its date of issuance. If construction is not completed within said 18-Month period, this permit shall lapse and be void, and no work shall be performed without the issuance of a new permit.

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

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



John Houlihan
Administrator



An Equal Opportunity Employer M/F/D



KENTUCKY AIRPORT ZONING COMMISSION

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502-782-4044

CONSTRUCTION/ALTERATION STATUS REPORT

April 20, 2017

AERONAUTICAL STUDY NUMBER: AS-029-TZV-2017-022

BLUEGRASS CELLULAR
BLUEGRASS CELLULAR
2902 Ring Road
Elizabethtown, KY 42702

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CONSTRUCTION/ALTERATION STATUS

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_____ ft. AMSL on _____ (date).

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Type of obstruction lighting. _____

As built coordinates. _____

Miscellaneous Information. _____

DATE

SIGNATURE/TITLE



An Equal Opportunity Employer M/F/D

20.7-022



KENTUCKY TRANSPORTATION CABINET
KENTUCKY AIRPORT ZONING COMMISSION

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Rev. 06/2016
Page 2 of 2

APPLICATION FOR PERMIT TO CONSTRUCT OR ALTER A STRUCTURE

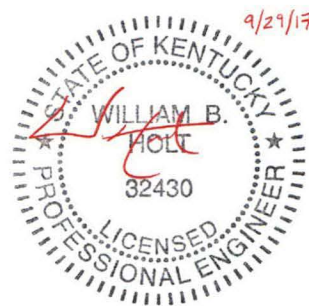
APPLICANT (name) Scott McCloud		PHONE 270-769-0339	FAX 270-737-0580	KY AERONAUTICAL STUDY # 45-029-TZV-2017-022	
ADDRESS (street) 2902 Ring Road		CITY Elizabethtown		STATE KY	ZIP 42702
APPLICANT'S REPRESENTATIVE (name) Leila Rezanavaz		PHONE 703-584-8668	FAX 703-584-8694		
ADDRESS (street) 8300 Greensboro Dr. Suite 1200		CITY McLean		STATE VA	ZIP 22102
APPLICATION FOR <input checked="" type="checkbox"/> New Construction <input type="checkbox"/> Alteration <input type="checkbox"/> Existing DURATION <input checked="" type="checkbox"/> Permanent <input type="checkbox"/> Temporary (months days)				WORK SCHEDULE Start 05/10/17 End 05/15/17	
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NEAREST KENTUCKY City Burkesville County Cumberland ✓		NEAREST KENTUCKY PUBLIC USE OR MILITARY AIRPORT Tompkinsville-Monroe County Airport (TZV)			
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NAME Leila Rezanavaz	TITLE Sr. Consulting Engr	SIGNATURE <i>Leila Rezanavaz</i>		DATE 03/09/2017	
COMMISSION ACTION <input checked="" type="checkbox"/> Approved <input type="checkbox"/> Disapproved SIGNATURE <i>[Signature]</i> DATE 4-20-17 <input type="checkbox"/> Chairperson, KAZC <input checked="" type="checkbox"/> Administrator, KAZC					



World Tower
COMPANY, INC.

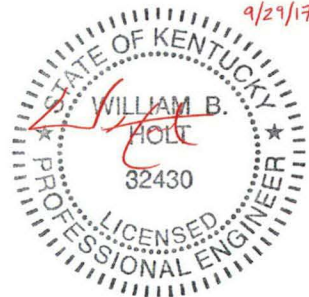
1213 Compressor Drive
P.O. Box 508
Mayfield, KY 42066
270-247-3642
FAX: 270-247-0909
E-mail: worldtower@worldtower.com
Web: www.worldtower.com

240' MODEL WSST TOWER
FOR: BLUEGRASS CELLULAR
SITE: HENDRICKS CREEK
CUMBERLAND COUNTY, KY
DESIGN PACKAGE



GENERAL NOTES

1. WELDED CONNECTIONS SHALL CONFORM TO THE LATEST REVISION OF THE AMERICAN WELDING SOCIETY AWS. D 1.1.
2. TOWER AND ALL FABRICATED ACCESSORIES ARE HOT-DIP GALVANIZED.
3. ALL BOLTS SHALL BE GALVANIZED ACCORDING TO THE STANDARD SPECIFICATION FOR ZINC COATING OF IRON AND STEEL HARDWARE ASTM A153.
4. LEG STEEL IS 50 KSI MIN YIELD SOLID ROUND OR PIPE AND BRACING STEEL IS 36 KSI MIN YIELD SOLID ROUND OR STRUCTURAL ANGLE.
5. ALL STRUCTURAL BOLTS ARE ASTM A325X, THREADS EXCLUDED FROM SHEAR PLANE.
6. TOWER SHOULD BE INSPECTED IN ACCORDANCE WITH TIA-222-G EVERY 5 YEARS.
7. TOWER INSPECTION SHOULD ONLY BE PERFORMED BY EXPERIENCED QUALIFIED PERSONNEL. FOR ASSISTANCE IN PROPER MAINTENANCE OF YOUR TOWER, CALL WORLD TOWER AT 270-247-3642.

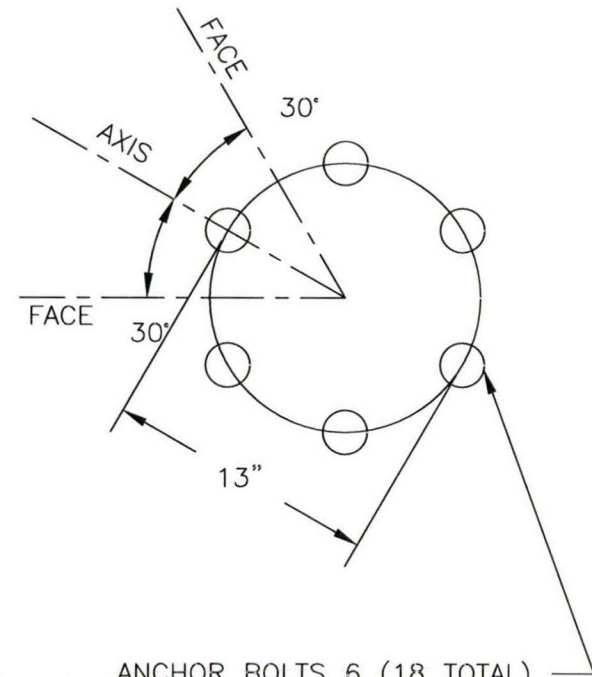
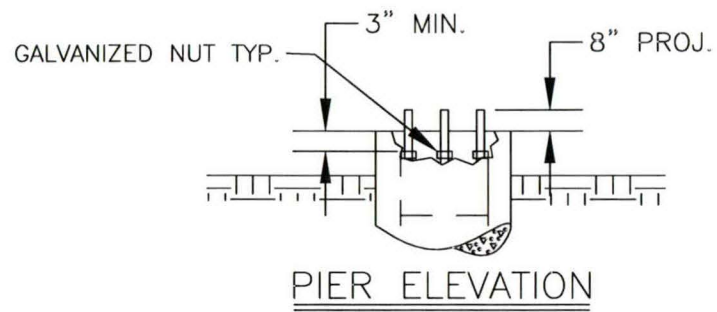


WORLD TOWER

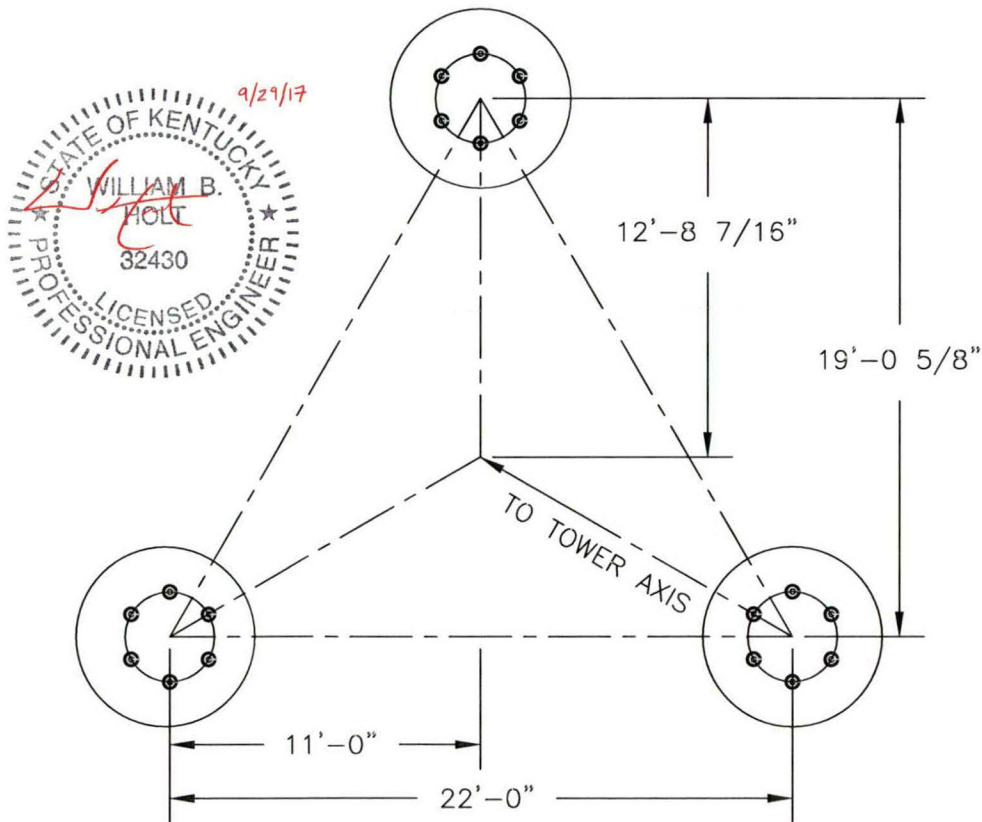
TITLE:

240' MODEL WSST TOWER
FOR: BLUEGRASS CELLULAR
SITE: HENDRICKS
CUMBERLAND COUNTY, KY

SCALE	DWN.	LKG	CKD.	DATE 9-28-17
			DWG. NO.	Q17576N



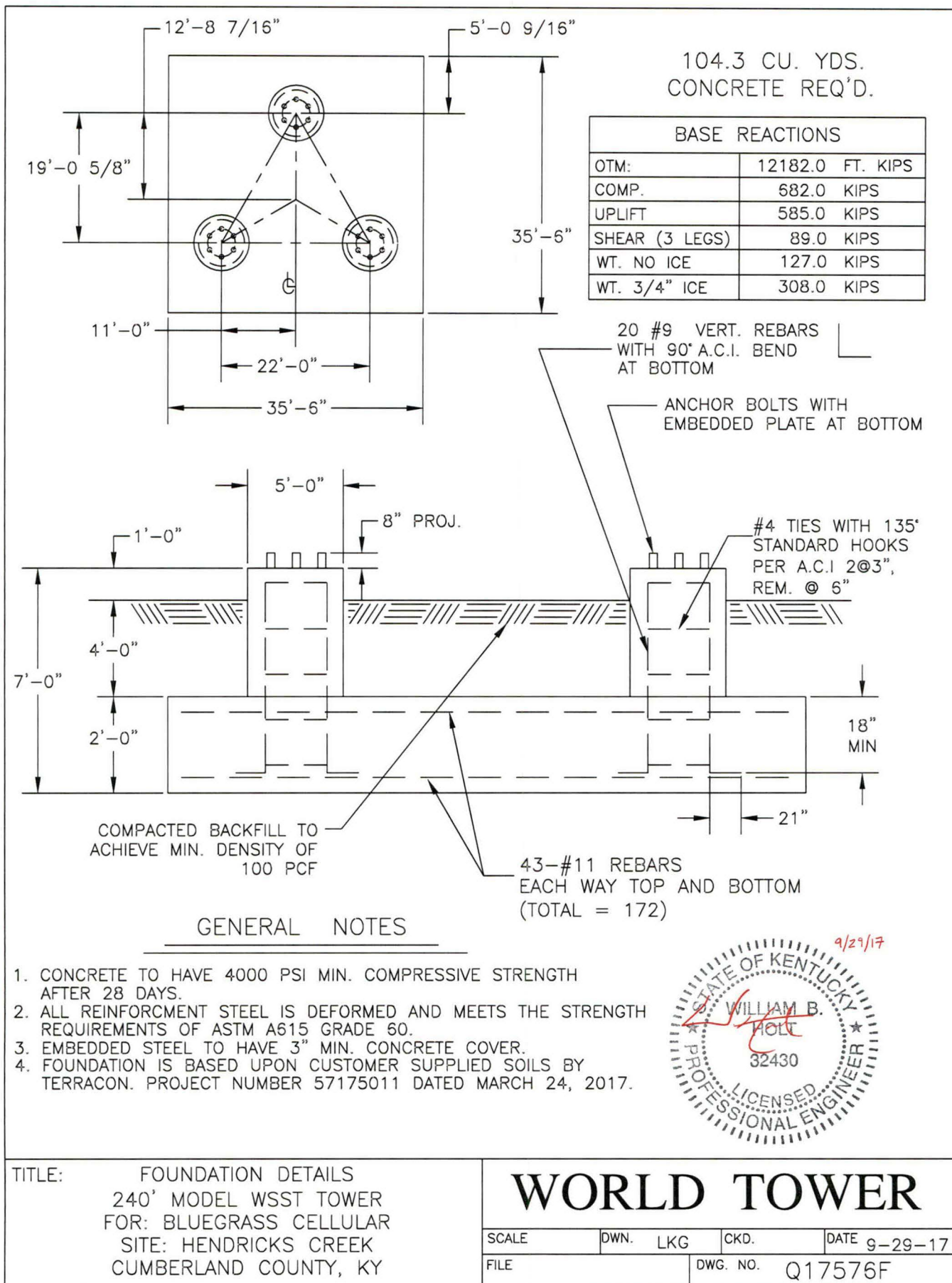
ANCHOR BOLTS 6 (18 TOTAL)
1 1/2"Ø X 78" ASTM A354 GR. BC
EQUALLY SPACED WITH TOP TEMPLATE
AND EMBEDDED PLATE

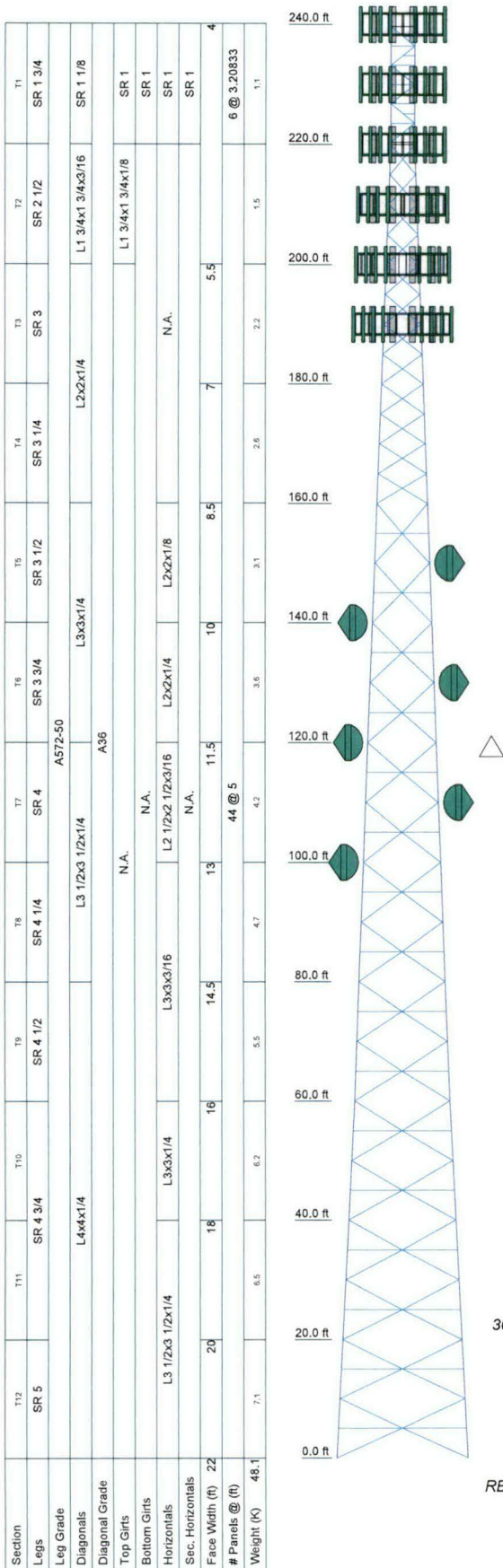


WORLD TOWER

TITLE:
ANCHOR BOLT LAYOUT
240' MODEL WSST TOWER
FOR: BLUEGRASS CELLULAR
SITE: HENDRICKS CREEK
CUMBERLAND COUNTY, KY

SCALE	NONE	DWN.	LKG	CKD.	DATE	9-29-17
FILE					DWG. NO.	Q17576AB





DESIGNED APPURTENANCE LOADING

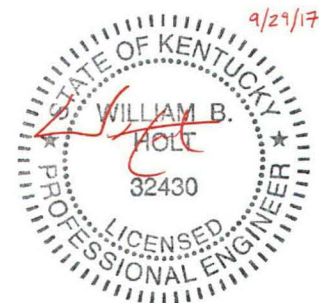
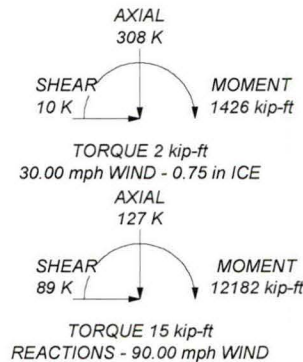
TYPE	ELEVATION	TYPE	ELEVATION
Air21 Panel w/ mt pipe	240	(3) LNX-8514DS w/ mt pipe	210
Air21 Panel w/ mt pipe	240	(3) LNX-8514DS w/ mt pipe	210
Air21 Panel w/ mt pipe	240	(3) LNX-8514DS w/ mt pipe	210
(3) LNX-8514DS w/ mt pipe	240	WD13X53 Antenna Mounting Frame (w/ .75)*	210
(3) LNX-8514DS w/ mt pipe	240	WD13X53 Antenna Mounting Frame (w/ .75)*	210
(3) LNX-8514DS w/ mt pipe	240	WD13X53 Antenna Mounting Frame (w/ .75)*	210
WD13X53 Antenna Mounting Frame (w/ .75)*	240	Air21 Panel w/ mt pipe	200
WD13X53 Antenna Mounting Frame (w/ .75)*	240	Air21 Panel w/ mt pipe	200
Air21 Panel w/ mt pipe	230	(3) LNX-8514DS w/ mt pipe	200
Air21 Panel w/ mt pipe	230	(3) LNX-8514DS w/ mt pipe	200
Air21 Panel w/ mt pipe	230	(3) LNX-8514DS w/ mt pipe	200
(3) LNX-8514DS w/ mt pipe	230	WD13X53 Antenna Mounting Frame (w/ .75)*	200
(3) LNX-8514DS w/ mt pipe	230	WD13X53 Antenna Mounting Frame (w/ .75)*	200
(3) LNX-8514DS w/ mt pipe	230	WD13X53 Antenna Mounting Frame (w/ .75)*	200
WD13X53 Antenna Mounting Frame (w/ .75)*	230	Air21 Panel w/ mt pipe	190
WD13X53 Antenna Mounting Frame (w/ .75)*	230	Air21 Panel w/ mt pipe	190
Air21 Panel w/ mt pipe	220	(3) LNX-8514DS w/ mt pipe	190
Air21 Panel w/ mt pipe	220	(3) LNX-8514DS w/ mt pipe	190
Air21 Panel w/ mt pipe	220	(3) LNX-8514DS w/ mt pipe	190
(3) LNX-8514DS w/ mt pipe	220	WD13X53 Antenna Mounting Frame (w/ .75)*	190
(3) LNX-8514DS w/ mt pipe	220	WD13X53 Antenna Mounting Frame (w/ .75)*	190
(3) LNX-8514DS w/ mt pipe	220	WD13X53 Antenna Mounting Frame (w/ .75)*	190
WD13X53 Antenna Mounting Frame (w/ .75)*	220	6 FT DISH	150
WD13X53 Antenna Mounting Frame (w/ .75)*	220	6 FT DISH	140
Air21 Panel w/ mt pipe	210	6 FT DISH	130
Air21 Panel w/ mt pipe	210	6 FT DISH	120
Air21 Panel w/ mt pipe	210	6 FT DISH	110
Air21 Panel w/ mt pipe	210	6 FT DISH	100

MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A572-50	50 ksi	65 ksi	A36	36 ksi	58 ksi

TOWER DESIGN NOTES

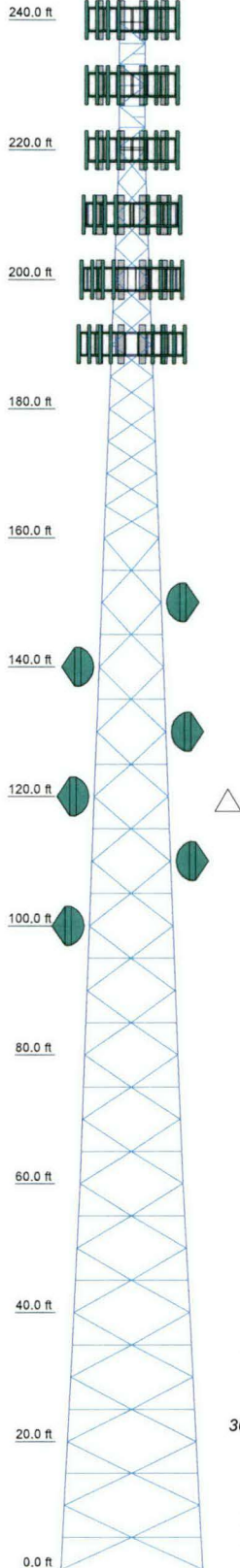
1. Tower designed for Exposure C to the TIA-222-G Standard.
 2. Tower designed for a 90.00 mph basic wind in accordance with the TIA-222-G Standard.
 3. Tower is also designed for a 30.00 mph basic wind with 0.75 in ice. Ice is considered to increase in thickness with height.
 4. Deflections are based upon a 60.00 mph wind.
 5. Tower Structure Class II.
 6. Topographic Category 1 with Crest Height of 0.00 ft
 7. fall radius less than half tower height per custome spec
 8. TOWER RATING: 99.8%
- ALL REACTION ARE FACTORE
MAX. CORNER DOWN: 682
SHEAR: 57
UPLIFT: -58
SHEAR: 50 K



World Tower Company
1213 Compressor Drive
Mayfield, KY
Phone: (270) 247-3642
FAX:

Job: 240' WSS - Job Q17576	Project: Hendricks Creek, KY
Client: Bluegrass Cellular	Drawn by: WBH
Code: TIA-222-G	Date: 09/27/17
Path: G:\World Tower\KY\Q17576 Hendricks Creek\Analysis\Q17576.eri	Scale: NTS
	Dwg No. E-1

Section	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	T11	T12	
Legs	SR 1 3/4	SR 2 1/2	SR 3	SR 3 1/4	SR 3 1/2	SR 3 3/4	SR 4	SR 4 1/4	SR 4 1/2	SR 4 3/4	SR 5		
Leg Grade													
Diagonals	SR 1 1/8	L1 3/4x1 3/4x3/16	L2x2x1/4	L3x3x1/4	L3 1/2x3 1/2x1/4	L4x4x1/4							
Diagonal Grade													
Top Girts	SR 1	L1 3/4x1 3/4x1/8	N.A.										
Bottom Girts	SR 1												
Horizontals	SR 1												
Sec. Horizontals	SR 1												
Face Width (ft)	22												
# Panels @ (ft)	4												
Weight (K)	6 @ 3.20833												



DESIGNED APPURTENANCE LOADING

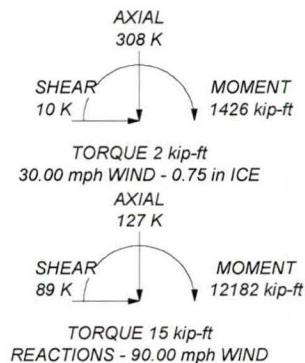
TYPE	ELEVATION	TYPE	ELEVATION
Air21 Panel w/ mt pipe	240	(3) LNX-8514DS w/ mt pipe	210
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Air21 Panel w/ mt pipe	240	(3) LNX-8514DS w/ mt pipe	210
(3) LNX-8514DS w/ mt pipe	240	WD13X53 Antenna Mounting Frame (w/ .75)*	210
(3) LNX-8514DS w/ mt pipe	240	WD13X53 Antenna Mounting Frame (w/ .75)*	210
(3) LNX-8514DS w/ mt pipe	240	WD13X53 Antenna Mounting Frame (w/ .75)*	210
WD13X53 Antenna Mounting Frame (w/ .75)*	240	Air21 Panel w/ mt pipe	200
WD13X53 Antenna Mounting Frame (w/ .75)*	240	Air21 Panel w/ mt pipe	200
Air21 Panel w/ mt pipe	230	(3) LNX-8514DS w/ mt pipe	200
Air21 Panel w/ mt pipe	230	(3) LNX-8514DS w/ mt pipe	200
Air21 Panel w/ mt pipe	230	(3) LNX-8514DS w/ mt pipe	200
(3) LNX-8514DS w/ mt pipe	230	WD13X53 Antenna Mounting Frame (w/ .75)*	200
(3) LNX-8514DS w/ mt pipe	230	WD13X53 Antenna Mounting Frame (w/ .75)*	200
(3) LNX-8514DS w/ mt pipe	230	WD13X53 Antenna Mounting Frame (w/ .75)*	200
WD13X53 Antenna Mounting Frame (w/ .75)*	230	Air21 Panel w/ mt pipe	190
WD13X53 Antenna Mounting Frame (w/ .75)*	230	Air21 Panel w/ mt pipe	190
Air21 Panel w/ mt pipe	220	(3) LNX-8514DS w/ mt pipe	190
Air21 Panel w/ mt pipe	220	(3) LNX-8514DS w/ mt pipe	190
Air21 Panel w/ mt pipe	220	(3) LNX-8514DS w/ mt pipe	190
(3) LNX-8514DS w/ mt pipe	220	WD13X53 Antenna Mounting Frame (w/ .75)*	190
(3) LNX-8514DS w/ mt pipe	220	WD13X53 Antenna Mounting Frame (w/ .75)*	190
(3) LNX-8514DS w/ mt pipe	220	WD13X53 Antenna Mounting Frame (w/ .75)*	190
WD13X53 Antenna Mounting Frame (w/ .75)*	220	6 FT DISH	150
WD13X53 Antenna Mounting Frame (w/ .75)*	220	6 FT DISH	140
Air21 Panel w/ mt pipe	210	6 FT DISH	130
Air21 Panel w/ mt pipe	210	6 FT DISH	120
Air21 Panel w/ mt pipe	210	6 FT DISH	110
		6 FT DISH	100

MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A572-50	50 ksi	65 ksi	A36	36 ksi	58 ksi

TOWER DESIGN NOTES

1. Tower designed for Exposure C to the TIA-222-G Standard.
 2. Tower designed for a 90.00 mph basic wind in accordance with the TIA-222-G Standard.
 3. Tower is also designed for a 30.00 mph basic wind with 0.75 in ice. Ice is considered to increase in thickness with height.
 4. Deflections are based upon a 60.00 mph wind.
 5. Tower Structure Class II.
 6. Topographic Category 1 with Crest Height of 0.00 ft
 7. fall radius less than half tower height per custome spec
 8. TOWER RATING: 99.8%
- UPLIFT: -58.5 K
SHEAR: 50 K



World Tower Company
1213 Compressor Drive
Mayfield, KY
Phone: (270) 247-3642
FAX:

Job: 240' WSS - Job Q17576		
Project: Hendricks Creek, KY		
Client: Bluegrass Cellular	Drawn by: WBH	App'd:
Code: TIA-222-G	Date: 09/27/17	Scale: NTS
Path: G:\World Tower\KY\Q17576 Hendricks Creek\Analysis\Q17576.en		Dwg No. E-1

tnxTower World Tower Company 1213 Compressor Drive Mayfield, KY Phone: (270) 247-3642 FAX:	Job 240' WSST - Job Q17576	Page 1 of 25
	Project Hendricks Creek, KY	Date 11:45:42 09/27/17
	Client Bluegrass Cellular	Designed by WBH

Tower Input Data

The main tower is a 3x free standing tower with an overall height of 240.00 ft above the ground line.

The base of the tower is set at an elevation of 0.00 ft above the ground line.

The face width of the tower is 4.00 ft at the top and 22.00 ft at the base.

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

The following design criteria apply:

Basic wind speed of 90.00 mph.

Structure Class II.

Exposure Category C.

Topographic Category 1.

Crest Height 0.00 ft.

Nominal ice thickness of 0.75 in.

Ice thickness is considered to increase with height.

Ice density of 56 pcf.

A wind speed of 30.00 mph is used in combination with ice.

Temperature drop of 30 °F.

Deflections calculated using a wind speed of 60.00 mph.

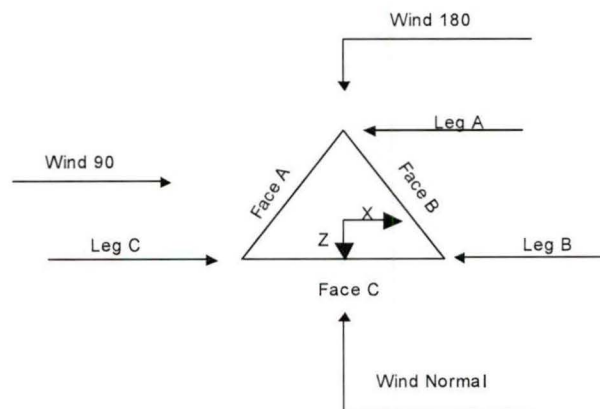
fall radius less than half tower height per custome spec.

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

Pressures are calculated at each section.

Stress ratio used in tower member design is 1.

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



Triangular Tower

tnxTower World Tower Company 1213 Compressor Drive Mayfield, KY Phone: (270) 247-3642 FAX:	Job	240' WSST - Job Q17576	Page	2 of 25
	Project	Hendricks Creek, KY	Date	11:45:42 09/27/17
	Client	Bluegrass Cellular	Designed by	WBH

Tower Section Geometry

Tower Section	Tower Elevation	Assembly Database	Description	Section Width	Number of Sections	Section Length
	ft			ft		ft
T1	240.00-220.00			4.00	1	20.00
T2	220.00-200.00			4.00	1	20.00
T3	200.00-180.00			5.50	1	20.00
T4	180.00-160.00			7.00	1	20.00
T5	160.00-140.00			8.50	1	20.00
T6	140.00-120.00			10.00	1	20.00
T7	120.00-100.00			11.50	1	20.00
T8	100.00-80.00			13.00	1	20.00
T9	80.00-60.00			14.50	1	20.00
T10	60.00-40.00			16.00	1	20.00
T11	40.00-20.00			18.00	1	20.00
T12	20.00-0.00			20.00	1	20.00

Tower Section Geometry (cont'd)

Tower Section	Tower Elevation	Diagonal Spacing	Bracing Type	Has K Brace End Panels	Has Horizontals	Top Girt Offset	Bottom Girt Offset
	ft	ft				in	in
T1	240.00-220.00	3.21	K Brace Left	No	Yes+Steps	4.50	4.50
T2	220.00-200.00	5.00	X Brace	No	No	0.00	0.00
T3	200.00-180.00	5.00	X Brace	No	No	0.00	0.00
T4	180.00-160.00	5.00	X Brace	No	No	0.00	0.00
T5	160.00-140.00	5.00	Double K	No	Yes	0.00	0.00
T6	140.00-120.00	5.00	Double K	No	Yes	0.00	0.00
T7	120.00-100.00	5.00	Double K	No	Yes	0.00	0.00
T8	100.00-80.00	5.00	Double K	No	Yes	0.00	0.00
T9	80.00-60.00	5.00	Double K	No	Yes	0.00	0.00
T10	60.00-40.00	5.00	Double K	No	Yes	0.00	0.00
T11	40.00-20.00	5.00	Double K	No	Yes	0.00	0.00
T12	20.00-0.00	5.00	Double K	No	Yes	0.00	0.00

Tower Section Geometry (cont'd)

Tower Elevation	Leg Type	Leg Size	Leg Grade	Diagonal Type	Diagonal Size	Diagonal Grade
ft						
T1 240.00-220.00	Solid Round	1 3/4	A572-50 (50 ksi)	Solid Round	1 1/8	A36 (36 ksi)
T2 220.00-200.00	Solid Round	2 1/2	A572-50 (50 ksi)	Equal Angle	L1 3/4x1 3/4x3/16	A36 (36 ksi)
T3 200.00-180.00	Solid Round	3	A572-50 (50 ksi)	Equal Angle	L2x2x1/4	A36 (36 ksi)
T4 180.00-160.00	Solid Round	3 1/4	A572-50 (50 ksi)	Equal Angle	L2x2x1/4	A36 (36 ksi)
T5 160.00-140.00	Solid Round	3 1/2	A572-50 (50 ksi)	Equal Angle	L3x3x1/4	A36 (36 ksi)
T6 140.00-120.00	Solid Round	3 3/4	A572-50 (50 ksi)	Equal Angle	L3x3x1/4	A36 (36 ksi)

<i>tnxTower</i> World Tower Company 1213 Compressor Drive Mayfield, KY Phone: (270) 247-3642 FAX:	Job	240' WSST - Job Q17576	Page	3 of 25
	Project	Hendricks Creek, KY	Date	11:45:42 09/27/17
	Client	Bluegrass Cellular	Designed by	WBH

<i>Tower Elevation ft</i>	<i>Leg Type</i>	<i>Leg Size</i>	<i>Leg Grade</i>	<i>Diagonal Type</i>	<i>Diagonal Size</i>	<i>Diagonal Grade</i>
T7 120.00-100.00	Solid Round	4	(50 ksi) A572-50	Equal Angle	L3 1/2x3 1/2x1/4	(36 ksi) A36
T8 100.00-80.00	Solid Round	4 1/4	(50 ksi) A572-50	Equal Angle	L3 1/2x3 1/2x1/4	(36 ksi) A36
T9 80.00-60.00	Solid Round	4 1/2	(50 ksi) A572-50	Equal Angle	L4x4x1/4	(36 ksi) A36
T10 60.00-40.00	Solid Round	4 3/4	(50 ksi) A572-50	Equal Angle	L4x4x1/4	(36 ksi) A36
T11 40.00-20.00	Solid Round	4 3/4	(50 ksi) A572-50	Equal Angle	L4x4x1/4	(36 ksi) A36
T12 20.00-0.00	Solid Round	5	(50 ksi) A572-50	Equal Angle	L4x4x1/4	(36 ksi) A36

Tower Section Geometry (cont'd)

<i>Tower Elevation ft</i>	<i>Top Girt Type</i>	<i>Top Girt Size</i>	<i>Top Girt Grade</i>	<i>Bottom Girt Type</i>	<i>Bottom Girt Size</i>	<i>Bottom Girt Grade</i>
T1 240.00-220.00	Solid Round	1	A36 (36 ksi)	Solid Round	1	A36 (36 ksi)
T2 220.00-200.00	Equal Angle	L1 3/4x1 3/4x1/8	A36 (36 ksi)	Equal Angle		A36 (36 ksi)

Tower Section Geometry (cont'd)

<i>Tower Elevation ft</i>	<i>No. of Mid Girts</i>	<i>Mid Girt Type</i>	<i>Mid Girt Size</i>	<i>Mid Girt Grade</i>	<i>Horizontal Type</i>	<i>Horizontal Size</i>	<i>Horizontal Grade</i>
T1 240.00-220.00	None	Single Angle		A36 (36 ksi)	Solid Round	1	A36 (36 ksi)
T5 160.00-140.00	None	Single Angle		A36 (36 ksi)	Equal Angle	L2x2x1/8	A36 (36 ksi)
T6 140.00-120.00	None	Single Angle		A36 (36 ksi)	Equal Angle	L2x2x1/4	A36 (36 ksi)
T7 120.00-100.00	None	Single Angle		A36 (36 ksi)	Equal Angle	L2 1/2x2 1/2x3/16	A36 (36 ksi)
T8 100.00-80.00	None	Single Angle		A36 (36 ksi)	Equal Angle	L3x3x3/16	A36 (36 ksi)
T9 80.00-60.00	None	Single Angle		A36 (36 ksi)	Equal Angle	L3x3x3/16	A36 (36 ksi)
T10 60.00-40.00	None	Double Angle		A36 (36 ksi)	Equal Angle	L3x3x1/4	A36 (36 ksi)
T11 40.00-20.00	None	Double Angle		A36 (36 ksi)	Equal Angle	L3 1/2x3 1/2x1/4	A36 (36 ksi)
T12 20.00-0.00	None	Double Angle		A36 (36 ksi)	Equal Angle	L3 1/2x3 1/2x1/4	A36 (36 ksi)

tnxTower World Tower Company 1213 Compressor Drive Mayfield, KY Phone: (270) 247-3642 FAX:	Job	240' WSST - Job Q17576	Page	4 of 25
	Project	Hendricks Creek, KY	Date	11:45:42 09/27/17
	Client	Bluegrass Cellular	Designed by	WBH

Tower Section Geometry (cont'd)

Tower Elevation	Secondary Horizontal Type	Secondary Horizontal Size	Secondary Horizontal Grade	Inner Bracing Type	Inner Bracing Size	Inner Bracing Grade
<i>ft</i>						
T1 240.00-220.00	Solid Round	1	A36 (36 ksi)	Solid Round		A36 (36 ksi)

Tower Section Geometry (cont'd)

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	Double Angle Stitch Bolt Spacing Horizontals	Double Angle Stitch Bolt Spacing Redundants
<i>ft</i>	<i>ft²</i>	<i>in</i>					<i>in</i>	<i>in</i>	<i>in</i>
T1 240.00-220.00	0.00	0.00	A36 (36 ksi)	1	1	1.05	0.00	0.00	36.00
T2 220.00-200.00	0.50	0.25	A36 (36 ksi)	1	1	1.06	0.00	0.00	36.00
T3 200.00-180.00	0.50	0.25	A36 (36 ksi)	1	1	1.06	0.00	0.00	36.00
T4 180.00-160.00	0.50	0.38	A36 (36 ksi)	1	1	1.06	0.00	0.00	36.00
T5 160.00-140.00	0.50	0.38	A36 (36 ksi)	1	1	1.07	0.00	0.00	36.00
T6 140.00-120.00	0.50	0.38	A36 (36 ksi)	1	1	1.07	0.00	0.00	36.00
T7 120.00-100.00	0.50	0.38	A36 (36 ksi)	1	1	1.07	0.00	0.00	36.00
T8 100.00-80.00	0.50	0.38	A36 (36 ksi)	1	1	1.07	0.00	0.00	36.00
T9 80.00-60.00	0.50	0.38	A36 (36 ksi)	1	1	1.08	0.00	0.00	36.00
T10 60.00-40.00	0.50	0.38	A36 (36 ksi)	1	1	1.08	0.00	0.00	36.00
T11 40.00-20.00	0.50	0.38	A36 (36 ksi)	1	1	1.08	0.00	0.00	36.00
T12 20.00-0.00	0.50	0.38	A36 (36 ksi)	1	1	1.08	0.00	0.00	36.00

Tower Section Geometry (cont'd)

Tower Elevation	Calc K Single Angles	Calc K Solid Rounds	K Factors ¹							
			Legs	X Brace Diags	K Brace Diags	Single Diags	Girts	Horiz.	Sec. Horiz.	Inner Brace
				X Y	X Y	X Y	X Y	X Y	X Y	X Y
T1 240.00-220.00	No	Yes	1	1	1	1	1	1	1	1
T2 220.00-200.00	Yes	No	1	1	1	1	1	1	1	1

tnxTower World Tower Company 1213 Compressor Drive Mayfield, KY Phone: (270) 247-3642 FAX:	Job	240' WSST - Job Q17576	Page	6 of 25
	Project	Hendricks Creek, KY	Date	11:45:42 09/27/17
	Client	Bluegrass Cellular	Designed by	WBH

Tower Section Geometry (cont'd)

Tower Elevation ft	Leg Connection Type	Leg		Diagonal		Top Girt		Bottom Girt		Mid Girt		Long Horizontal		Short Horizontal	
		Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.
T1 240.00-220.00	Flange	0.75 A325N	4	0.00 A325X	0	0.00 A325X	0	0.00 A325N	0	0.63 A325N	0	0.00 A325X	0	0.00 A325N	0
T2 220.00-200.00	Flange	1.00 A325N	4	0.50 A325X	1	0.50 A325X	1	0.00 A325N	0	0.63 A325N	0	0.00 A325X	0	0.00 A325N	0
T3 200.00-180.00	Flange	1.00 A325N	4	0.63 A325X	1	0.00 A325X	0	0.00 A325N	0	0.63 A325N	0	0.00 A325X	0	0.00 A325N	0
T4 180.00-160.00	Flange	1.00 A325N	6	0.63 A325X	1	0.00 A325X	0	0.00 A325N	0	0.63 A325N	0	0.00 A325X	0	0.00 A325N	0
T5 160.00-140.00	Flange	1.00 A325N	6	0.63 A325X	1	0.00 A325X	0	0.00 A325N	0	0.63 A325N	0	0.63 A325X	1	0.00 A325N	0
T6 140.00-120.00	Flange	1.25 A325N>1"	6	0.63 A325X	1	0.00 A325X	0	0.00 A325N	0	0.63 A325N	0	0.63 A325X	1	0.00 A325N	0
T7 120.00-100.00	Flange	1.25 A325N>1"	6	0.75 A325X	1	0.00 A325X	0	0.00 A325N	0	0.63 A325N	0	0.75 A325X	1	0.00 A325N	0
T8 100.00-80.00	Flange	1.25 A325N>1"	6	0.75 A325X	1	0.00 A325X	0	0.00 A325N	0	0.63 A325N	0	0.75 A325X	1	0.00 A325N	0
T9 80.00-60.00	Flange	1.50 A325N>1"	6	0.75 A325X	1	0.00 A325X	0	0.00 A325N	0	0.63 A325N	0	0.75 A325X	1	0.00 A325N	0
T10 60.00-40.00	Flange	1.50 A325N>1"	6	0.75 A325X	1	0.00 A325X	0	0.00 A325N	0	0.63 A325N	0	0.75 A325X	1	0.00 A325N	0
T11 40.00-20.00	Flange	1.50 A325N>1"	6	0.75 A325X	1	0.00 A325X	0	0.00 A325N	0	0.63 A325N	0	0.75 A325X	1	0.00 A325N	0
T12 20.00-0.00	Flange	1.50 A354-BC	6	0.75 A325X	1	0.00 A325X	0	0.00 A325N	0	0.63 A325N	0	0.75 A325X	1	0.00 A325N	0

Feed Line/Linear Appurtenances - Entered As Round Or Flat

Description	Face or Leg	Allow Shield	Component Type	Placement ft	Total Number	Number Per Row	Clear Spacing in	Width or Diameter in	Perimeter in	Weight plf
Safety Line 3/8	C	No	Ar (CaAa)	240.00 - 5.00	1	1	0.38	0.38		0.22
1 5/8	A	No	Ar (CaAa)	5.00 - 240.00	18	6	0.52	1.98		1.04
1 5/8	B	No	Ar (CaAa)	5.00 - 230.00	18	6	0.52	1.98		1.04
1 5/8	C	No	Ar (CaAa)	5.00 - 220.00	18	6	0.52	1.98		1.04
1 5/8	A	No	Ar (CaAa)	5.00 - 210.00	18	6	0.52	1.98		1.04
1 5/8	B	No	Ar (CaAa)	5.00 - 200.00	18	6	0.52	1.98		1.04
1 5/8	C	No	Ar (CaAa)	5.00 - 190.00	18	6	0.52	1.98		1.04
W/G LADDER RAIL*	A	No	Af (CaAa)	5.00 - 240.00	2	2	48.00	0.25		3.00
W/G LADDER RAIL*	B	No	Af (CaAa)	5.00 - 230.00	2	2	48.00	0.25		3.00
W/G LADDER RAIL*	C	No	Af (CaAa)	5.00 - 220.00	2	2	48.00	0.25		3.00
Fiber Bundle	A	No	Ar (CaAa)	5.00 - 240.00	1	1	0.00	0.75		1.00
Fiber Bundle	B	No	Ar (CaAa)	5.00 - 230.00	1	1	0.00	0.75		1.00
Fiber Bundle	C	No	Ar (CaAa)	5.00 - 220.00	1	1	0.00	0.75		1.00
Fiber Bundle	A	No	Ar (CaAa)	5.00 - 210.00	1	1	0.00	0.75		1.00
Fiber Bundle	B	No	Ar (CaAa)	5.00 - 200.00	1	1	0.00	0.75		1.00
Fiber Bundle	C	No	Ar (CaAa)	5.00 - 190.00	1	1	0.00	0.75		1.00
EW52	C	No	Ar (CaAa)	5.00 - 150.00	1	1	0.00	1.74		0.59
EW52	C	No	Ar (CaAa)	5.00 - 140.00	1	1	0.00	1.74		0.59

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Description	Face or Leg	Allow Shield	Component Type	Placement ft	Total Number	Number Per Row	Clear Spacing in	Width or Diameter in	Perimeter in	Weight plf
EW52	C	No	Ar (CaAa)	5.00 - 130.00	1	1	0.00	1.74		0.59
EW52	C	No	Ar (CaAa)	5.00 - 120.00	1	1	0.00	1.74		0.59
EW52	C	No	Ar (CaAa)	5.00 - 110.00	1	1	0.00	1.74		0.59
EW52	C	No	Ar (CaAa)	5.00 - 100.00	1	1	0.00	1.74		0.59

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
T1	240.00-220.00	A	0.000	0.000	74.447	0.000	0.51
		B	0.000	0.000	37.223	0.000	0.26
		C	0.000	0.000	0.750	0.000	0.00
T2	220.00-200.00	A	0.000	0.000	110.837	0.000	0.71
		B	0.000	0.000	74.447	0.000	0.51
		C	0.000	0.000	75.197	0.000	0.52
T3	200.00-180.00	A	0.000	0.000	147.227	0.000	0.91
		B	0.000	0.000	147.227	0.000	0.91
		C	0.000	0.000	111.587	0.000	0.72
T4	180.00-160.00	A	0.000	0.000	147.227	0.000	0.91
		B	0.000	0.000	147.227	0.000	0.91
		C	0.000	0.000	147.977	0.000	0.91
T5	160.00-140.00	A	0.000	0.000	147.227	0.000	0.91
		B	0.000	0.000	147.227	0.000	0.91
		C	0.000	0.000	149.719	0.000	0.92
T6	140.00-120.00	A	0.000	0.000	147.227	0.000	0.91
		B	0.000	0.000	147.227	0.000	0.91
		C	0.000	0.000	156.690	0.000	0.94
T7	120.00-100.00	A	0.000	0.000	147.227	0.000	0.91
		B	0.000	0.000	147.227	0.000	0.91
		C	0.000	0.000	163.660	0.000	0.97
T8	100.00-80.00	A	0.000	0.000	147.227	0.000	0.91
		B	0.000	0.000	147.227	0.000	0.91
		C	0.000	0.000	168.887	0.000	0.98
T9	80.00-60.00	A	0.000	0.000	147.227	0.000	0.91
		B	0.000	0.000	147.227	0.000	0.91
		C	0.000	0.000	168.887	0.000	0.98
T10	60.00-40.00	A	0.000	0.000	147.227	0.000	0.91
		B	0.000	0.000	147.227	0.000	0.91
		C	0.000	0.000	168.887	0.000	0.98
T11	40.00-20.00	A	0.000	0.000	147.227	0.000	0.91
		B	0.000	0.000	147.227	0.000	0.91
		C	0.000	0.000	168.887	0.000	0.98
T12	20.00-0.00	A	0.000	0.000	110.420	0.000	0.68
		B	0.000	0.000	110.420	0.000	0.68
		C	0.000	0.000	126.666	0.000	0.74

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
T1	240.00-220.00	A	1.821	0.000	0.000	77.541	0.000	1.97
		B		0.000	0.000	38.770	0.000	0.98
		C		0.000	0.000	8.036	0.000	0.10

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<i>Tower Section</i>	<i>Tower Elevation ft</i>	<i>Face or Leg</i>	<i>Ice Thickness in</i>	<i>A_R ft²</i>	<i>A_F ft²</i>	<i>C_AA_A In Face ft²</i>	<i>C_AA_A Out Face ft²</i>	<i>Weight K</i>
T2	220.00-200.00	A	1.805	0.000	0.000	107.792	0.000	2.71
		B		0.000	0.000	77.230	0.000	1.95
		C		0.000	0.000	85.200	0.000	2.05
T3	200.00-180.00	A	1.787	0.000	0.000	137.820	0.000	3.44
		B		0.000	0.000	137.820	0.000	3.44
		C		0.000	0.000	115.254	0.000	2.79
T4	180.00-160.00	A	1.767	0.000	0.000	137.234	0.000	3.42
		B		0.000	0.000	137.234	0.000	3.42
		C		0.000	0.000	145.052	0.000	3.51
T5	160.00-140.00	A	1.745	0.000	0.000	136.581	0.000	3.39
		B		0.000	0.000	136.581	0.000	3.39
		C		0.000	0.000	149.545	0.000	3.56
T6	140.00-120.00	A	1.720	0.000	0.000	135.845	0.000	3.36
		B		0.000	0.000	135.845	0.000	3.36
		C		0.000	0.000	169.394	0.000	3.84
T7	120.00-100.00	A	1.692	0.000	0.000	135.000	0.000	3.32
		B		0.000	0.000	135.000	0.000	3.32
		C		0.000	0.000	188.655	0.000	4.10
T8	100.00-80.00	A	1.658	0.000	0.000	134.003	0.000	3.28
		B		0.000	0.000	134.003	0.000	3.28
		C		0.000	0.000	202.096	0.000	4.26
T9	80.00-60.00	A	1.617	0.000	0.000	132.782	0.000	3.22
		B		0.000	0.000	132.782	0.000	3.22
		C		0.000	0.000	199.723	0.000	4.18
T10	60.00-40.00	A	1.564	0.000	0.000	131.195	0.000	3.16
		B		0.000	0.000	131.195	0.000	3.16
		C		0.000	0.000	196.638	0.000	4.07
T11	40.00-20.00	A	1.486	0.000	0.000	128.887	0.000	3.06
		B		0.000	0.000	128.887	0.000	3.06
		C		0.000	0.000	192.149	0.000	3.91
T12	20.00-0.00	A	1.331	0.000	0.000	93.230	0.000	2.16
		B		0.000	0.000	93.230	0.000	2.16
		C		0.000	0.000	137.430	0.000	2.71

Feed Line Center of Pressure

<i>Section</i>	<i>Elevation</i>	<i>CP_X</i>	<i>CP_Z</i>	<i>CP_X</i>	<i>CP_Z</i>
	<i>ft</i>	<i>in</i>	<i>in</i>	<i>Ice in</i>	<i>Ice in</i>
T1	240.00-220.00	-1.00	-1.70	-0.71	-1.07
T2	220.00-200.00	-0.55	-0.30	-0.30	-0.07
T3	200.00-180.00	0.00	-0.45	0.00	-0.19
T4	180.00-160.00	0.00	0.02	0.00	0.11
T5	160.00-140.00	0.00	0.07	0.00	0.23
T6	140.00-120.00	0.00	0.31	0.00	0.65
T7	120.00-100.00	0.00	0.58	0.00	1.11
T8	100.00-80.00	0.00	0.82	0.00	1.52
T9	80.00-60.00	0.00	0.89	0.00	1.65
T10	60.00-40.00	0.00	0.98	0.00	1.79
T11	40.00-20.00	0.00	1.07	0.00	1.93
T12	20.00-0.00	0.00	1.07	0.00	1.87

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Shielding Factor Ka

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
T1	1	Safety Line 3/8	220.00 - 240.00	0.6000	0.5483
T1	2	1 5/8	220.00 - 240.00	0.6000	0.5483
T1	3	1 5/8	220.00 - 230.00	0.6000	0.5483
T1	8	W/G LADDER RAIL*	220.00 - 240.00	0.6000	0.5483
T1	9	W/G LADDER RAIL*	220.00 - 230.00	0.6000	0.5483
T1	11	Fiber Bundle	220.00 - 240.00	0.6000	0.5483
T1	12	Fiber Bundle	220.00 - 230.00	0.6000	0.5483
T2	1	Safety Line 3/8	200.00 - 220.00	0.6000	0.5564
T2	2	1 5/8	200.00 - 220.00	0.6000	0.5564
T2	3	1 5/8	200.00 - 220.00	0.6000	0.5564
T2	4	1 5/8	200.00 - 220.00	0.6000	0.5564
T2	5	1 5/8	200.00 - 210.00	0.6000	0.5564
T2	8	W/G LADDER RAIL*	200.00 - 220.00	0.6000	0.5564
T2	9	W/G LADDER RAIL*	200.00 - 220.00	0.6000	0.5564
T2	10	W/G LADDER RAIL*	200.00 - 220.00	0.6000	0.5564
T2	11	Fiber Bundle	200.00 - 220.00	0.6000	0.5564
T2	12	Fiber Bundle	200.00 - 220.00	0.6000	0.5564
T2	13	Fiber Bundle	200.00 - 220.00	0.6000	0.5564
T2	14	Fiber Bundle	200.00 - 210.00	0.6000	0.5564
T3	1	Safety Line 3/8	180.00 - 200.00	0.6000	0.6000
T3	2	1 5/8	180.00 - 200.00	0.6000	0.6000
T3	3	1 5/8	180.00 - 200.00	0.6000	0.6000
T3	4	1 5/8	180.00 - 200.00	0.6000	0.6000
T3	5	1 5/8	180.00 - 200.00	0.6000	0.6000
T3	6	1 5/8	180.00 - 200.00	0.6000	0.6000
T3	7	1 5/8	180.00 - 190.00	0.6000	0.6000
T3	8	W/G LADDER RAIL*	180.00 - 200.00	0.6000	0.6000
T3	9	W/G LADDER RAIL*	180.00 - 200.00	0.6000	0.6000
T3	10	W/G LADDER RAIL*	180.00 - 200.00	0.6000	0.6000
T3	11	Fiber Bundle	180.00 -	0.6000	0.6000

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<i>Tower Section</i>	<i>Feed Line Record No.</i>	<i>Description</i>	<i>Feed Line Segment Elev.</i>	<i>K_a No Ice</i>	<i>K_a Ice</i>
T3	12	Fiber Bundle	200.00 180.00 -	0.6000	0.6000
T3	13	Fiber Bundle	200.00 180.00 -	0.6000	0.6000
T3	14	Fiber Bundle	200.00 180.00 -	0.6000	0.6000
T3	15	Fiber Bundle	200.00 180.00 -	0.6000	0.6000
T3	16	Fiber Bundle	200.00 180.00 -	0.6000	0.6000
T4	1	Safety Line 3/8	190.00 160.00 -	0.6000	0.6000
T4	2	1 5/8	180.00 160.00 -	0.6000	0.6000
T4	3	1 5/8	180.00 160.00 -	0.6000	0.6000
T4	4	1 5/8	180.00 160.00 -	0.6000	0.6000
T4	5	1 5/8	180.00 160.00 -	0.6000	0.6000
T4	6	1 5/8	180.00 160.00 -	0.6000	0.6000
T4	7	1 5/8	180.00 160.00 -	0.6000	0.6000
T4	8	W/G LADDER RAIL*	180.00 160.00 -	0.6000	0.6000
T4	9	W/G LADDER RAIL*	180.00 160.00 -	0.6000	0.6000
T4	10	W/G LADDER RAIL*	180.00 160.00 -	0.6000	0.6000
T4	11	Fiber Bundle	180.00 160.00 -	0.6000	0.6000
T4	12	Fiber Bundle	180.00 160.00 -	0.6000	0.6000
T4	13	Fiber Bundle	180.00 160.00 -	0.6000	0.6000
T4	14	Fiber Bundle	180.00 160.00 -	0.6000	0.6000
T4	15	Fiber Bundle	180.00 160.00 -	0.6000	0.6000
T4	16	Fiber Bundle	180.00 160.00 -	0.6000	0.6000
T5	1	Safety Line 3/8	180.00 140.00 -	0.6000	0.6000
T5	2	1 5/8	160.00 140.00 -	0.6000	0.6000
T5	3	1 5/8	160.00 140.00 -	0.6000	0.6000
T5	4	1 5/8	160.00 140.00 -	0.6000	0.6000
T5	5	1 5/8	160.00 140.00 -	0.6000	0.6000
T5	6	1 5/8	160.00 140.00 -	0.6000	0.6000
T5	7	1 5/8	160.00 140.00 -	0.6000	0.6000
T5	8	W/G LADDER RAIL*	160.00 140.00 -	0.6000	0.6000
T5	9	W/G LADDER RAIL*	160.00 140.00 -	0.6000	0.6000
T5	10	W/G LADDER RAIL*	160.00 140.00 -	0.6000	0.6000

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<i>Tower Section</i>	<i>Feed Line Record No.</i>	<i>Description</i>	<i>Feed Line Segment Elev.</i>	<i>K_a No Ice</i>	<i>K_a Ice</i>
			160.00		
T5	11	Fiber Bundle	140.00 -	0.6000	0.6000
			160.00		
T5	12	Fiber Bundle	140.00 -	0.6000	0.6000
			160.00		
T5	13	Fiber Bundle	140.00 -	0.6000	0.6000
			160.00		
T5	14	Fiber Bundle	140.00 -	0.6000	0.6000
			160.00		
T5	15	Fiber Bundle	140.00 -	0.6000	0.6000
			160.00		
T5	16	Fiber Bundle	140.00 -	0.6000	0.6000
			160.00		
T5	17	EW52	140.00 -	0.6000	0.6000
			150.00		
T6	1	Safety Line 3/8	120.00 -	0.6000	0.6000
			140.00		
T6	2	1 5/8	120.00 -	0.6000	0.6000
			140.00		
T6	3	1 5/8	120.00 -	0.6000	0.6000
			140.00		
T6	4	1 5/8	120.00 -	0.6000	0.6000
			140.00		
T6	5	1 5/8	120.00 -	0.6000	0.6000
			140.00		
T6	6	1 5/8	120.00 -	0.6000	0.6000
			140.00		
T6	7	1 5/8	120.00 -	0.6000	0.6000
			140.00		
T6	8	W/G LADDER RAIL*	120.00 -	0.6000	0.6000
			140.00		
T6	9	W/G LADDER RAIL*	120.00 -	0.6000	0.6000
			140.00		
T6	10	W/G LADDER RAIL*	120.00 -	0.6000	0.6000
			140.00		
T6	11	Fiber Bundle	120.00 -	0.6000	0.6000
			140.00		
T6	12	Fiber Bundle	120.00 -	0.6000	0.6000
			140.00		
T6	13	Fiber Bundle	120.00 -	0.6000	0.6000
			140.00		
T6	14	Fiber Bundle	120.00 -	0.6000	0.6000
			140.00		
T6	15	Fiber Bundle	120.00 -	0.6000	0.6000
			140.00		
T6	16	Fiber Bundle	120.00 -	0.6000	0.6000
			140.00		
T6	17	EW52	120.00 -	0.6000	0.6000
			140.00		
T6	18	EW52	120.00 -	0.6000	0.6000
			140.00		
T6	19	EW52	120.00 -	0.6000	0.6000
			130.00		
T7	1	Safety Line 3/8	100.00 -	0.6000	0.6000
			120.00		
T7	2	1 5/8	100.00 -	0.6000	0.6000
			120.00		
T7	3	1 5/8	100.00 -	0.6000	0.6000
			120.00		
T7	4	1 5/8	100.00 -	0.6000	0.6000
			120.00		
T7	5	1 5/8	100.00 -	0.6000	0.6000

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	Client	Bluegrass Cellular	Designed by	WBH

<i>Tower Section</i>	<i>Feed Line Record No.</i>	<i>Description</i>	<i>Feed Line Segment Elev.</i>	<i>K_a No Ice</i>	<i>K_a Ice</i>
T7	6	1 5/8	120.00 - 100.00	0.6000	0.6000
T7	7	1 5/8	120.00 - 100.00	0.6000	0.6000
T7	8	W/G LADDER RAIL*	120.00 - 100.00	0.6000	0.6000
T7	9	W/G LADDER RAIL*	120.00 - 100.00	0.6000	0.6000
T7	10	W/G LADDER RAIL*	120.00 - 100.00	0.6000	0.6000
T7	11	Fiber Bundle	120.00 - 100.00	0.6000	0.6000
T7	12	Fiber Bundle	120.00 - 100.00	0.6000	0.6000
T7	13	Fiber Bundle	120.00 - 100.00	0.6000	0.6000
T7	14	Fiber Bundle	120.00 - 100.00	0.6000	0.6000
T7	15	Fiber Bundle	120.00 - 100.00	0.6000	0.6000
T7	16	Fiber Bundle	120.00 - 100.00	0.6000	0.6000
T7	17	EW52	120.00 - 100.00	0.6000	0.6000
T7	18	EW52	120.00 - 100.00	0.6000	0.6000
T7	19	EW52	120.00 - 100.00	0.6000	0.6000
T7	20	EW52	120.00 - 100.00	0.6000	0.6000
T7	21	EW52	120.00 - 110.00	0.6000	0.6000
T8	1	Safety Line 3/8	80.00 - 100.00	0.6000	0.6000
T8	2	1 5/8	80.00 - 100.00	0.6000	0.6000
T8	3	1 5/8	80.00 - 100.00	0.6000	0.6000
T8	4	1 5/8	80.00 - 100.00	0.6000	0.6000
T8	5	1 5/8	80.00 - 100.00	0.6000	0.6000
T8	6	1 5/8	80.00 - 100.00	0.6000	0.6000
T8	7	1 5/8	80.00 - 100.00	0.6000	0.6000
T8	8	W/G LADDER RAIL*	80.00 - 100.00	0.6000	0.6000
T8	9	W/G LADDER RAIL*	80.00 - 100.00	0.6000	0.6000
T8	10	W/G LADDER RAIL*	80.00 - 100.00	0.6000	0.6000
T8	11	Fiber Bundle	80.00 - 100.00	0.6000	0.6000
T8	12	Fiber Bundle	80.00 - 100.00	0.6000	0.6000
T8	13	Fiber Bundle	80.00 - 100.00	0.6000	0.6000
T8	14	Fiber Bundle	80.00 - 100.00	0.6000	0.6000
T8	15	Fiber Bundle	80.00 - 100.00	0.6000	0.6000
T8	16	Fiber Bundle	80.00 - 100.00	0.6000	0.6000
T8	17	EW52	80.00 - 100.00	0.6000	0.6000
T8	18	EW52	80.00 - 100.00	0.6000	0.6000
T8	19	EW52	80.00 - 100.00	0.6000	0.6000
T8	20	EW52	80.00 - 100.00	0.6000	0.6000
T8	21	EW52	80.00 - 100.00	0.6000	0.6000
T8	22	EW52	80.00 - 100.00	0.6000	0.6000
T9	1	Safety Line 3/8	60.00 - 80.00	0.6000	0.6000
T9	2	1 5/8	60.00 - 80.00	0.6000	0.6000
T9	3	1 5/8	60.00 - 80.00	0.6000	0.6000
T9	4	1 5/8	60.00 - 80.00	0.6000	0.6000
T9	5	1 5/8	60.00 - 80.00	0.6000	0.6000
T9	6	1 5/8	60.00 - 80.00	0.6000	0.6000
T9	7	1 5/8	60.00 - 80.00	0.6000	0.6000

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	Client	Bluegrass Cellular	Designed by	WBH

<i>Tower Section</i>	<i>Feed Line Record No.</i>	<i>Description</i>	<i>Feed Line Segment Elev.</i>	<i>K_a No Ice</i>	<i>K_a Ice</i>
T9	8	W/G LADDER RAIL*	60.00 - 80.00	0.6000	0.6000
T9	9	W/G LADDER RAIL*	60.00 - 80.00	0.6000	0.6000
T9	10	W/G LADDER RAIL*	60.00 - 80.00	0.6000	0.6000
T9	11	Fiber Bundle	60.00 - 80.00	0.6000	0.6000
T9	12	Fiber Bundle	60.00 - 80.00	0.6000	0.6000
T9	13	Fiber Bundle	60.00 - 80.00	0.6000	0.6000
T9	14	Fiber Bundle	60.00 - 80.00	0.6000	0.6000
T9	15	Fiber Bundle	60.00 - 80.00	0.6000	0.6000
T9	16	Fiber Bundle	60.00 - 80.00	0.6000	0.6000
T9	17	EW52	60.00 - 80.00	0.6000	0.6000
T9	18	EW52	60.00 - 80.00	0.6000	0.6000
T9	19	EW52	60.00 - 80.00	0.6000	0.6000
T9	20	EW52	60.00 - 80.00	0.6000	0.6000
T9	21	EW52	60.00 - 80.00	0.6000	0.6000
T9	22	EW52	60.00 - 80.00	0.6000	0.6000
T10	1	Safety Line 3/8	40.00 - 60.00	0.6000	0.6000
T10	2	1 5/8	40.00 - 60.00	0.6000	0.6000
T10	3	1 5/8	40.00 - 60.00	0.6000	0.6000
T10	4	1 5/8	40.00 - 60.00	0.6000	0.6000
T10	5	1 5/8	40.00 - 60.00	0.6000	0.6000
T10	6	1 5/8	40.00 - 60.00	0.6000	0.6000
T10	7	1 5/8	40.00 - 60.00	0.6000	0.6000
T10	8	W/G LADDER RAIL*	40.00 - 60.00	0.6000	0.6000
T10	9	W/G LADDER RAIL*	40.00 - 60.00	0.6000	0.6000
T10	10	W/G LADDER RAIL*	40.00 - 60.00	0.6000	0.6000
T10	11	Fiber Bundle	40.00 - 60.00	0.6000	0.6000
T10	12	Fiber Bundle	40.00 - 60.00	0.6000	0.6000
T10	13	Fiber Bundle	40.00 - 60.00	0.6000	0.6000
T10	14	Fiber Bundle	40.00 - 60.00	0.6000	0.6000
T10	15	Fiber Bundle	40.00 - 60.00	0.6000	0.6000
T10	16	Fiber Bundle	40.00 - 60.00	0.6000	0.6000
T10	17	EW52	40.00 - 60.00	0.6000	0.6000
T10	18	EW52	40.00 - 60.00	0.6000	0.6000
T10	19	EW52	40.00 - 60.00	0.6000	0.6000
T10	20	EW52	40.00 - 60.00	0.6000	0.6000
T10	21	EW52	40.00 - 60.00	0.6000	0.6000
T10	22	EW52	40.00 - 60.00	0.6000	0.6000
T11	1	Safety Line 3/8	20.00 - 40.00	0.6000	0.6000
T11	2	1 5/8	20.00 - 40.00	0.6000	0.6000
T11	3	1 5/8	20.00 - 40.00	0.6000	0.6000
T11	4	1 5/8	20.00 - 40.00	0.6000	0.6000
T11	5	1 5/8	20.00 - 40.00	0.6000	0.6000
T11	6	1 5/8	20.00 - 40.00	0.6000	0.6000
T11	7	1 5/8	20.00 - 40.00	0.6000	0.6000
T11	8	W/G LADDER RAIL*	20.00 - 40.00	0.6000	0.6000
T11	9	W/G LADDER RAIL*	20.00 - 40.00	0.6000	0.6000
T11	10	W/G LADDER RAIL*	20.00 - 40.00	0.6000	0.6000
T11	11	Fiber Bundle	20.00 - 40.00	0.6000	0.6000
T11	12	Fiber Bundle	20.00 - 40.00	0.6000	0.6000
T11	13	Fiber Bundle	20.00 - 40.00	0.6000	0.6000
T11	14	Fiber Bundle	20.00 - 40.00	0.6000	0.6000
T11	15	Fiber Bundle	20.00 - 40.00	0.6000	0.6000
T11	16	Fiber Bundle	20.00 - 40.00	0.6000	0.6000
T11	17	EW52	20.00 - 40.00	0.6000	0.6000
T11	18	EW52	20.00 - 40.00	0.6000	0.6000
T11	19	EW52	20.00 - 40.00	0.6000	0.6000
T11	20	EW52	20.00 - 40.00	0.6000	0.6000
T11	21	EW52	20.00 - 40.00	0.6000	0.6000
T11	22	EW52	20.00 - 40.00	0.6000	0.6000
T12	1	Safety Line 3/8	5.00 - 20.00	0.6000	0.6000
T12	2	1 5/8	5.00 - 20.00	0.6000	0.6000
T12	3	1 5/8	5.00 - 20.00	0.6000	0.6000

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Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
T12	4	1 5/8	5.00 - 20.00	0.6000	0.6000
T12	5	1 5/8	5.00 - 20.00	0.6000	0.6000
T12	6	1 5/8	5.00 - 20.00	0.6000	0.6000
T12	7	1 5/8	5.00 - 20.00	0.6000	0.6000
T12	8	W/G LADDER RAIL*	5.00 - 20.00	0.6000	0.6000
T12	9	W/G LADDER RAIL*	5.00 - 20.00	0.6000	0.6000
T12	10	W/G LADDER RAIL*	5.00 - 20.00	0.6000	0.6000
T12	11	Fiber Bundle	5.00 - 20.00	0.6000	0.6000
T12	12	Fiber Bundle	5.00 - 20.00	0.6000	0.6000
T12	13	Fiber Bundle	5.00 - 20.00	0.6000	0.6000
T12	14	Fiber Bundle	5.00 - 20.00	0.6000	0.6000
T12	15	Fiber Bundle	5.00 - 20.00	0.6000	0.6000
T12	16	Fiber Bundle	5.00 - 20.00	0.6000	0.6000
T12	17	EW52	5.00 - 20.00	0.6000	0.6000
T12	18	EW52	5.00 - 20.00	0.6000	0.6000
T12	19	EW52	5.00 - 20.00	0.6000	0.6000
T12	20	EW52	5.00 - 20.00	0.6000	0.6000
T12	21	EW52	5.00 - 20.00	0.6000	0.6000
T12	22	EW52	5.00 - 20.00	0.6000	0.6000

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horiz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C _{AA} Front ft ²	C _{AA} Side ft ²	Weight K
Air21 Panel w/ mt pipe	A	From Leg	3.00 0 0	0.000	240.00	No Ice 1/2" Ice 1" Ice	6.61 7.08 7.55	5.54 6.27 7.01	0.10 0.16 0.22
Air21 Panel w/ mt pipe	B	From Leg	3.00 0 0	0.000	240.00	No Ice 1/2" Ice 1" Ice	6.61 7.08 7.55	5.54 6.27 7.01	0.10 0.16 0.22
Air21 Panel w/ mt pipe	C	From Leg	3.00 0 0	0.000	240.00	No Ice 1/2" Ice 1" Ice	6.61 7.08 7.55	5.54 6.27 7.01	0.10 0.16 0.22
(3) LNX-8514DS w/ mt pipe	A	From Leg	3.00 0 0	0.000	240.00	No Ice 1/2" Ice 1" Ice	11.45 12.06 12.69	9.36 10.68 11.71	0.08 0.16 0.25
(3) LNX-8514DS w/ mt pipe	B	From Leg	3.00 0 0	0.000	240.00	No Ice 1/2" Ice 1" Ice	11.45 12.06 12.69	9.36 10.68 11.71	0.08 0.16 0.25
(3) LNX-8514DS w/ mt pipe	C	From Leg	3.00 0 0	0.000	240.00	No Ice 1/2" Ice 1" Ice	11.45 12.06 12.69	9.36 10.68 11.71	0.08 0.16 0.25
WD13X53 Antenna Mounting Frame (w/ .75)*	C	From Leg	1.50 0 0	0.000	240.00	No Ice 1/2" Ice 1" Ice	7.20 10.42 13.56	3.88 5.70 7.51	1.18 1.60 2.11
WD13X53 Antenna Mounting Frame (w/ .75)*	B	From Leg	1.50 0 0	0.000	240.00	No Ice 1/2" Ice 1" Ice	7.20 10.42 13.56	3.88 5.70 7.51	1.18 1.60 2.11
WD13X53 Antenna Mounting Frame (w/ .75)*	A	From Leg	1.50 0 0	0.000	240.00	No Ice 1/2" Ice	7.20 10.42	3.88 5.70	1.18 1.60

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	Client	Bluegrass Cellular	Designed by	WBH

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft	C _{AA} Front ft ²	C _{AA} Side ft ²	Weight K
Air21 Panel w/ mt pipe	A	From Leg	0 3.00 0	0.000	230.00	1" Ice 13.56 No Ice 6.61	7.51 5.54	2.11 0.10
Air21 Panel w/ mt pipe	B	From Leg	0 3.00 0	0.000	230.00	1/2" Ice 7.08 1" Ice 7.55	6.27 7.01	0.16 0.22
Air21 Panel w/ mt pipe	C	From Leg	0 3.00 0	0.000	230.00	No Ice 6.61 1/2" Ice 7.08	5.54 6.27	0.10 0.16
(3) LNX-8514DS w/ mt pipe	A	From Leg	0 3.00 0	0.000	230.00	1" Ice 7.55 No Ice 6.61	7.01 5.54	0.22 0.10
(3) LNX-8514DS w/ mt pipe	B	From Leg	0 3.00 0	0.000	230.00	1/2" Ice 7.08 1" Ice 7.55	6.27 7.01	0.16 0.22
(3) LNX-8514DS w/ mt pipe	C	From Leg	0 3.00 0	0.000	230.00	No Ice 6.61 1/2" Ice 7.08	5.54 6.27	0.10 0.16
WD13X53 Antenna Mounting Frame (w/ .75)*	C	From Leg	0 1.50 0	0.000	230.00	1" Ice 7.55 No Ice 6.61	7.01 5.54	0.22 0.10
WD13X53 Antenna Mounting Frame (w/ .75)*	B	From Leg	0 1.50 0	0.000	230.00	1/2" Ice 7.08 1" Ice 7.55	6.27 7.01	0.16 0.22
WD13X53 Antenna Mounting Frame (w/ .75)*	A	From Leg	0 1.50 0	0.000	230.00	No Ice 6.61 1/2" Ice 7.08	5.54 6.27	0.10 0.16
Air21 Panel w/ mt pipe	A	From Leg	0 3.00 0	0.000	220.00	1" Ice 7.55 No Ice 6.61	7.01 5.54	0.22 0.10
Air21 Panel w/ mt pipe	B	From Leg	0 3.00 0	0.000	220.00	1/2" Ice 7.08 1" Ice 7.55	6.27 7.01	0.16 0.22
Air21 Panel w/ mt pipe	C	From Leg	0 3.00 0	0.000	220.00	No Ice 6.61 1/2" Ice 7.08	5.54 6.27	0.10 0.16
(3) LNX-8514DS w/ mt pipe	A	From Leg	0 3.00 0	0.000	220.00	1" Ice 7.55 No Ice 6.61	7.01 5.54	0.22 0.10
(3) LNX-8514DS w/ mt pipe	B	From Leg	0 3.00 0	0.000	220.00	1/2" Ice 7.08 1" Ice 7.55	6.27 7.01	0.16 0.22
(3) LNX-8514DS w/ mt pipe	C	From Leg	0 3.00 0	0.000	220.00	No Ice 6.61 1/2" Ice 7.08	5.54 6.27	0.10 0.16
WD13X53 Antenna Mounting Frame (w/ .75)*	C	From Leg	0 1.50 0	0.000	220.00	1" Ice 7.55 No Ice 6.61	7.01 5.54	0.22 0.10
WD13X53 Antenna Mounting Frame (w/ .75)*	B	From Leg	0 1.50 0	0.000	220.00	1/2" Ice 7.08 1" Ice 7.55	6.27 7.01	0.16 0.22
WD13X53 Antenna Mounting Frame (w/ .75)*	A	From Leg	0 1.50 0	0.000	220.00	No Ice 6.61 1/2" Ice 7.08	5.54 6.27	0.10 0.16
Air21 Panel w/ mt pipe	A	From Leg	0 3.00 0	0.000	210.00	1" Ice 7.55 No Ice 6.61	7.01 5.54	0.22 0.10
			0			1/2" Ice 7.08	6.27	0.16

<i>tnxTower</i> World Tower Company 1213 Compressor Drive Mayfield, KY Phone: (270) 247-3642 FAX:	Job	240' WSST - Job Q17576	Page	16 of 25
	Project	Hendricks Creek, KY	Date	11:45:42 09/27/17
	Client	Bluegrass Cellular	Designed by	WBH

<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>
Air21 Panel w/ mt pipe	B	From Leg	0 3.00 0	0.000	210.00	1" Ice 7.55 No Ice 6.61	7.01 5.54	0.22 0.10
Air21 Panel w/ mt pipe	C	From Leg	0 3.00 0	0.000	210.00	1/2" Ice 7.08 1" Ice 7.55 No Ice 6.61	6.27 7.01 5.54	0.16 0.22 0.10
(3) LNX-8514DS w/ mt pipe	A	From Leg	0 3.00 0	0.000	210.00	1/2" Ice 7.08 1" Ice 7.55 No Ice 11.45	6.27 7.01 9.36	0.16 0.22 0.08
(3) LNX-8514DS w/ mt pipe	B	From Leg	0 3.00 0	0.000	210.00	1/2" Ice 7.08 1" Ice 7.55 No Ice 11.45	6.27 7.01 9.36	0.16 0.22 0.08
(3) LNX-8514DS w/ mt pipe	C	From Leg	0 3.00 0	0.000	210.00	1/2" Ice 7.08 1" Ice 7.55 No Ice 11.45	6.27 7.01 9.36	0.16 0.22 0.08
WD13X53 Antenna Mounting Frame (w/ .75)*	C	From Leg	0 1.50 0	0.000	210.00	1/2" Ice 12.06 1" Ice 12.69 No Ice 7.20	10.68 11.71 3.88	0.16 0.25 1.18
WD13X53 Antenna Mounting Frame (w/ .75)*	B	From Leg	0 1.50 0	0.000	210.00	1/2" Ice 12.06 1" Ice 12.69 No Ice 7.20	10.68 11.71 3.88	0.16 0.25 1.18
WD13X53 Antenna Mounting Frame (w/ .75)*	A	From Leg	0 1.50 0	0.000	210.00	1/2" Ice 12.06 1" Ice 12.69 No Ice 7.20	10.68 11.71 3.88	0.16 0.25 1.18
Air21 Panel w/ mt pipe	A	From Leg	0 3.00 0	0.000	200.00	1/2" Ice 7.08 1" Ice 7.55 No Ice 6.61	6.27 7.01 5.54	0.16 0.22 0.10
Air21 Panel w/ mt pipe	B	From Leg	0 3.00 0	0.000	200.00	1/2" Ice 7.08 1" Ice 7.55 No Ice 6.61	6.27 7.01 5.54	0.16 0.22 0.10
Air21 Panel w/ mt pipe	C	From Leg	0 3.00 0	0.000	200.00	1/2" Ice 7.08 1" Ice 7.55 No Ice 6.61	6.27 7.01 5.54	0.16 0.22 0.10
(3) LNX-8514DS w/ mt pipe	A	From Leg	0 3.00 0	0.000	200.00	1/2" Ice 7.08 1" Ice 7.55 No Ice 11.45	6.27 7.01 9.36	0.16 0.22 0.08
(3) LNX-8514DS w/ mt pipe	B	From Leg	0 3.00 0	0.000	200.00	1/2" Ice 7.08 1" Ice 7.55 No Ice 11.45	6.27 7.01 9.36	0.16 0.22 0.08
(3) LNX-8514DS w/ mt pipe	C	From Leg	0 3.00 0	0.000	200.00	1/2" Ice 7.08 1" Ice 7.55 No Ice 11.45	6.27 7.01 9.36	0.16 0.22 0.08
WD13X53 Antenna Mounting Frame (w/ .75)*	C	From Leg	0 1.50 0	0.000	200.00	1/2" Ice 12.06 1" Ice 12.69 No Ice 7.20	10.68 11.71 3.88	0.16 0.25 1.18
WD13X53 Antenna Mounting Frame (w/ .75)*	B	From Leg	0 1.50 0	0.000	200.00	1/2" Ice 12.06 1" Ice 12.69 No Ice 7.20	10.68 11.71 3.88	0.16 0.25 1.18
WD13X53 Antenna Mounting Frame (w/ .75)*	A	From Leg	0 1.50 0	0.000	200.00	1/2" Ice 12.06 1" Ice 12.69 No Ice 7.20	10.68 11.71 3.88	0.16 0.25 1.18
Air21 Panel w/ mt pipe	A	From Leg	0 3.00 0	0.000	190.00	1/2" Ice 7.08 1" Ice 7.55 No Ice 6.61	6.27 7.01 5.54	0.16 0.22 0.10
Air21 Panel w/ mt pipe	B	From Leg	0 3.00 0	0.000	190.00	1/2" Ice 7.08 1" Ice 7.55 No Ice 6.61	6.27 7.01 5.54	0.16 0.22 0.10

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	Client	Bluegrass Cellular	Designed by	WBH

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C _{AA} Front ft ²	C _{AA} Side ft ²	Weight K
Air21 Panel w/ mt pipe	C	From Leg	0 3.00 0	0.000	190.00	1" Ice No Ice 1/2" Ice	7.55 6.61 7.08	7.01 5.54 6.27	0.22 0.10 0.16
(3) LNX-8514DS w/ mt pipe	A	From Leg	0 3.00 0	0.000	190.00	1" Ice No Ice 1/2" Ice	7.55 11.45 12.06	7.01 9.36 10.68	0.22 0.08 0.16
(3) LNX-8514DS w/ mt pipe	B	From Leg	0 3.00 0	0.000	190.00	1" Ice No Ice 1/2" Ice	12.69 11.45 12.06	11.71 9.36 10.68	0.25 0.08 0.16
(3) LNX-8514DS w/ mt pipe	C	From Leg	0 3.00 0	0.000	190.00	1" Ice No Ice 1/2" Ice	12.69 11.45 12.06	11.71 9.36 10.68	0.25 0.08 0.16
WD13X53 Antenna Mounting Frame (w/ .75)*	C	From Leg	0 1.50 0	0.000	190.00	1" Ice No Ice 1/2" Ice	12.69 7.20 10.42	11.71 3.88 5.70	0.25 1.18 1.60
WD13X53 Antenna Mounting Frame (w/ .75)*	B	From Leg	0 1.50 0	0.000	190.00	1" Ice No Ice 1/2" Ice	13.56 7.20 10.42	7.51 3.88 5.70	2.11 1.18 1.60
WD13X53 Antenna Mounting Frame (w/ .75)*	A	From Leg	0 1.50 0	0.000	190.00	1" Ice No Ice 1/2" Ice	13.56 7.20 10.42	7.51 3.88 5.70	2.11 1.18 1.60
			0			1" Ice	13.56	7.51	2.11

Dishes

Description	Face or Leg	Dish Type	Offset Type	Offsets: Horz Lateral Vert ft	Azimuth Adjustment °	3 dB Beam Width °	Elevation ft	Outside Diameter ft		Aperture Area ft ²	Weight K
6 FT DISH	B	Paraboloid w/Radome	From Leg	1.00 0 0	0.000		150.00	6.00	No Ice 1/2" Ice 1" Ice	28.27 29.05 29.83	0.14 0.29 0.44
6 FT DISH	C	Paraboloid w/Radome	From Leg	1.00 0 0	0.000		140.00	6.00	No Ice 1/2" Ice 1" Ice	28.27 29.05 29.83	0.14 0.29 0.44
6 FT DISH	B	Paraboloid w/Radome	From Leg	1.00 0 0	0.000		130.00	6.00	No Ice 1/2" Ice 1" Ice	28.27 29.05 29.83	0.14 0.29 0.44
6 FT DISH	C	Paraboloid w/Radome	From Leg	1.00 0 0	0.000		120.00	6.00	No Ice 1/2" Ice 1" Ice	28.27 29.05 29.83	0.14 0.29 0.44
6 FT DISH	B	Paraboloid w/Radome	From Leg	1.00 0 0	0.000		110.00	6.00	No Ice 1/2" Ice 1" Ice	28.27 29.05 29.83	0.14 0.29 0.44
6 FT DISH	C	Paraboloid w/Radome	From Leg	1.00 0 0	0.000		100.00	6.00	No Ice 1/2" Ice 1" Ice	28.27 29.05 29.83	0.14 0.29 0.44

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Bolt Design Data

Section No.	Elevation ft	Component Type	Bolt Grade	Bolt Size in	Number Of Bolts	Maximum Load per Bolt K	Allowable Load K	Ratio Load Allowable	Allowable Ratio	Criteria
T1	240	Leg	A325N	0.75	4	8.69	29.82	0.291 ✓	1	Bolt Tension
T2	220	Leg	A325N	1.00	4	21.16	53.01	0.399 ✓	1	Bolt Tension
		Diagonal	A325X	0.50	1	6.83	7.12	0.960 ✓	1	Member Block Shear
		Top Girt	A325X	0.50	1	1.62	4.74	0.342 ✓	1	Member Block Shear
T3	200	Leg	A325N	1.00	4	37.99	53.01	0.717 ✓	1	Bolt Tension
		Diagonal	A325X	0.63	1	9.09	10.44	0.870 ✓	1	Gusset Bearing
T4	180	Leg	A325N	1.00	6	36.18	53.01	0.682 ✓	1	Bolt Tension
		Diagonal	A325X	0.63	1	8.84	11.86	0.745 ✓	1	Member Block Shear
T5	160	Leg	A325N	1.00	6	44.48	53.01	0.839 ✓	1	Bolt Tension
		Diagonal	A325X	0.63	1	11.94	14.79	0.807 ✓	1	Member Bearing
		Horizontal	A325X	0.63	1	5.79	5.93	0.977 ✓	1	Member Block Shear
T6	140	Leg	A325N>1'	1.25	6	53.59	72.48	0.739 ✓	1	Bolt Tension
		Diagonal	A325X	0.63	1	13.02	15.19	0.857 ✓	1	Bolt Shear
		Horizontal	A325X	0.63	1	6.63	11.86	0.559 ✓	1	Member Block Shear
T7	120	Leg	A325N>1'	1.25	6	62.45	72.48	0.862 ✓	1	Bolt Tension
		Diagonal	A325X	0.75	1	13.62	17.84	0.764 ✓	1	Member Bearing
		Horizontal	A325X	0.75	1	7.40	10.16	0.728 ✓	1	Member Block Shear
T8	100	Leg	A325N>1'	1.25	6	71.17	72.48	0.982 ✓	1	Bolt Tension
		Diagonal	A325X	0.75	1	14.27	17.84	0.800 ✓	1	Member Bearing
		Horizontal	A325X	0.75	1	8.43	13.38	0.630 ✓	1	Member Bearing
T9	80	Leg	A325N>1'	1.50	6	79.53	104.37	0.762 ✓	1	Bolt Tension
		Diagonal	A325X	0.75	1	14.73	17.84	0.826 ✓	1	Member Bearing
		Horizontal	A325X	0.75	1	9.45	13.38	0.706 ✓	1	Member Bearing
T10	60	Leg	A325N>1'	1.50	6	85.85	104.37	0.823 ✓	1	Bolt Tension
		Diagonal	A325X	0.75	1	11.11	17.84	0.623 ✓	1	Member Bearing
		Horizontal	A325X	0.75	1	10.27	17.84	0.576 ✓	1	Member Bearing
T11	40	Leg	A325N>1'	1.50	6	91.16	104.37	0.873 ✓	1	Bolt Tension
		Diagonal	A325X	0.75	1	11.63	17.84	0.652 ✓	1	Member Bearing
		Horizontal	A325X	0.75	1	10.98	17.84	0.615 ✓	1	Member Bearing
T12	20	Leg	A354-BC	1.50	6	96.28	124.25	0.775 ✓	1	Bolt Tension
		Diagonal	A325X	0.75	1	11.82	17.84	0.663 ✓	1	Member Bearing
		Horizontal	A325X	0.75	1	11.67	17.84	0.654 ✓	1	Member Bearing

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Compression Checks

Leg Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u K	φP _n K	Ratio $\frac{P_u}{\phi P_n}$
T1	240 - 220	1 3/4	20.00	3.21	88.0 K=1.00	2.41	-42.69	61.44	0.695 ¹ ✓
T2	220 - 200	2 1/2	20.02	5.00	96.1 K=1.00	4.91	-101.53	112.46	0.903 ¹ ✓
T3	200 - 180	3	20.02	5.00	80.1 K=1.00	7.07	-179.66	199.04	0.903 ¹ ✓
T4	180 - 160	3 1/4	20.02	5.00	73.9 K=1.00	8.30	-249.93	250.37	0.998 ¹ ✓
T5	160 - 140	3 1/2	20.02	5.00	68.6 K=1.00	9.62	-304.88	306.80	0.994 ¹ ✓
T6	140 - 120	3 3/4	20.02	5.00	64.1 K=1.00	11.04	-365.96	368.18	0.994 ¹ ✓
T7	120 - 100	4	20.02	5.00	60.1 K=1.00	12.57	-426.41	434.40	0.982 ¹ ✓
T8	100 - 80	4 1/4	20.02	5.00	56.5 K=1.00	14.19	-486.41	505.39	0.962 ¹ ✓
T9	80 - 60	4 1/2	20.02	5.00	53.4 K=1.00	15.90	-545.00	581.08	0.938 ¹ ✓
T10	60 - 40	4 3/4	20.03	5.01	50.6 K=1.00	17.72	-592.19	661.23	0.896 ¹ ✓
T11	40 - 20	4 3/4	20.03	5.01	50.6 K=1.00	17.72	-632.93	661.23	0.957 ¹ ✓
T12	20 - 0	5	20.03	5.01	48.1 K=1.00	19.64	-672.68	746.17	0.902 ¹ ✓

¹ P_u / φP_n controls

Diagonal Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u K	φP _n K	Ratio $\frac{P_u}{\phi P_n}$
T1	240 - 220	1 1/8	5.13	4.94	147.6 K=0.70	0.99	-8.58	10.31	0.832 ¹ ✓
T2	220 - 200	L1 3/4x1 3/4x3/16	7.30	3.51	122.6 K=1.00	0.62	-6.74	9.12	0.738 ¹ ✓
T3	200 - 180	L2x2x1/4	8.45	4.04	124.0 K=1.00	0.94	-9.18	13.52	0.679 ¹ ✓
T4	180 - 160	L2x2x1/4	9.70	4.66	142.9 K=1.00	0.94	-8.84	10.38	0.852 ¹ ✓
T5	160 - 140	L3x3x1/4	7.07	6.57	133.3	1.44	-12.11	18.32	0.661 ¹ ✓

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Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u K	φP _n K	Ratio $\frac{P_u}{\phi P_n}$
T6	140 - 120	L3x3x1/4	7.62	7.12	K=1.00 144.4	1.44	-13.02	15.61	0.834 ¹ ✓
T7	120 - 100	L3 1/2x3 1/2x1/4	8.20	7.66	K=1.00 132.4	1.69	-14.14	21.76	0.650 ¹ ✓
T8	100 - 80	L3 1/2x3 1/2x1/4	8.81	8.26	K=1.00 142.8	1.69	-14.94	18.72	0.798 ¹ ✓
T9	80 - 60	L4x4x1/4	9.43	8.88	K=1.00 134.0	1.94	-15.56	24.35	0.639 ¹ ✓
T10	60 - 40	L4x4x1/4	10.30	9.74	K=1.00 147.0	1.94	-11.55	20.29	0.569 ¹ ✓
T11	40 - 20	L4x4x1/4	11.18	10.63	K=1.00 160.4	1.94	-12.24	17.03	0.719 ¹ ✓
T12	20 - 0	L4x4x1/4	12.08	11.52	K=1.00 173.9	1.94	-12.64	14.49	0.872 ¹ ✓

¹ P_u / φP_n controls

Horizontal Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u K	φP _n K	Ratio $\frac{P_u}{\phi P_n}$
T1	240 - 220	1	4.00	3.85	K=0.70 129.5	0.79	-1.57	10.52	0.149 ¹ ✓
T5	160 - 140	L2x2x1/8	9.63	4.52	K=1.00 136.5	0.48	-5.79	5.88	0.986 ¹ ✓
T6	140 - 120	L2x2x1/4	11.13	5.26	K=1.00 161.4	0.94	-6.63	8.13	0.815 ¹ ✓
T7	120 - 100	L2 1/2x2 1/2x3/16	12.63	5.98	K=1.00 144.9	0.90	-7.40	9.70	0.763 ¹ ✓
T8	100 - 80	L3x3x3/16	14.13	6.72	K=1.00 135.3	1.09	-8.43	13.45	0.627 ¹ ✓
T9	80 - 60	L3x3x3/16	15.63	7.46	K=1.00 150.2	1.09	-9.45	10.92	0.865 ¹ ✓
T10	60 - 40	L3x3x1/4	17.50	8.39	K=1.00 170.0	1.44	-10.27	11.26	0.912 ¹ ✓
T11	40 - 20	L3 1/2x3 1/2x1/4	19.50	9.39	K=1.00 162.3	1.69	-10.98	14.50	0.757 ¹ ✓
T12	20 - 0	L3 1/2x3 1/2x1/4	21.50	10.38	K=1.00 179.4	1.69	-11.67	11.86	0.983 ¹ ✓

¹ P_u / φP_n controls

Secondary Horizontal Design Data (Compression)

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Section No.	Elevation ft	Size	L ft	L _u ft	KI/r	A in ²	P _u K	φP _n K	Ratio $\frac{P_u}{\phi P_n}$
T1	240 - 220	1	2.00	1.93	83.8 K=0.91	0.79	-0.00	17.58	0.000 ¹ ✓

¹ P_u / φP_n controls

Top Girt Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L _u ft	KI/r	A in ²	P _u K	φP _n K	Ratio $\frac{P_u}{\phi P_n}$
T1	240 - 220	1	4.00	3.85	129.5 K=0.70	0.79	-1.78	10.52	0.169 ¹ ✓
T2	220 - 200	L1 3/4x1 3/4x1/8	4.00	3.60	124.7 K=1.00	0.42	-1.88	6.03	0.312 ¹ ✓

¹ P_u / φP_n controls

Bottom Girt Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L _u ft	KI/r	A in ²	P _u K	φP _n K	Ratio $\frac{P_u}{\phi P_n}$
T1	240 - 220	1	4.00	3.85	129.5 K=0.70	0.79	-2.78	10.52	0.264 ¹ ✓

¹ P_u / φP_n controls

Tension Checks

Leg Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L _u ft	KI/r	A in ²	P _u K	φP _n K	Ratio $\frac{P_u}{\phi P_n}$
T1	240 - 220	1 3/4	20.00	3.21	88.0	2.41	34.75	108.24	0.321 ¹ ✓
T2	220 - 200	2 1/2	20.02	5.00	96.1	4.91	84.66	220.89	0.383 ¹ ✓
T3	200 - 180	3	20.02	5.00	80.1	7.07	151.96	318.09	0.478 ¹ ✓
T4	180 - 160	3 1/4	20.02	5.00	73.9	8.30	217.07	373.31	0.581 ¹ ✓

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Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u K	φP _n K	Ratio $\frac{P_u}{\phi P_n}$
T5	160 - 140	3 1/2	20.02	5.00	68.6	9.62	267.11	432.95	0.617 ¹
T6	140 - 120	3 3/4	20.02	5.00	64.1	11.04	321.79	497.01	0.647 ¹
T7	120 - 100	4	20.02	5.00	60.1	12.57	374.99	565.49	0.663 ¹
T8	100 - 80	4 1/4	20.02	5.00	56.5	14.19	427.35	638.38	0.669 ¹
T9	80 - 60	4 1/2	20.02	5.00	53.4	15.90	477.57	715.69	0.667 ¹
T10	60 - 40	4 3/4	20.03	5.01	50.6	17.72	515.54	797.42	0.647 ¹
T11	40 - 20	4 3/4	20.03	5.01	50.6	17.72	547.39	797.42	0.686 ¹
T12	20 - 0	5	20.03	5.01	48.1	19.64	578.15	883.57	0.654 ¹

¹ P_u / φP_n controls

Diagonal Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u K	φP _n K	Ratio $\frac{P_u}{\phi P_n}$
T1	240 - 220	1 1/8	5.13	4.94	210.8	0.99	8.58	32.21	0.266 ¹
T2	220 - 200	L1 3/4x1 3/4x3/16	7.03	3.38	114.5	0.38	6.83	16.44	0.415 ¹
T3	200 - 180	L2x2x1/4	8.15	3.89	117.1	0.56	9.09	24.49	0.371 ¹
T4	180 - 160	L2x2x1/4	9.70	4.66	139.8	0.56	8.84	24.49	0.361 ¹
T5	160 - 140	L3x3x1/4	6.81	6.31	85.2	0.94	11.94	40.86	0.292 ¹
T6	140 - 120	L3x3x1/4	7.34	6.84	92.1	0.94	12.62	40.86	0.309 ¹
T7	120 - 100	L3 1/2x3 1/2x1/4	8.20	7.66	88.0	1.10	13.62	48.00	0.284 ¹
T8	100 - 80	L3 1/2x3 1/2x1/4	8.81	8.26	94.6	1.10	14.27	48.00	0.297 ¹
T9	80 - 60	L4x4x1/4	9.43	8.88	88.4	1.29	14.73	56.16	0.262 ¹
T10	60 - 40	L4x4x1/4	10.30	9.74	96.7	1.29	11.11	56.16	0.198 ¹
T11	40 - 20	L4x4x1/4	11.18	10.63	105.2	1.29	11.63	56.16	0.207 ¹
T12	20 - 0	L4x4x1/4	11.63	11.07	109.5	1.29	11.82	56.16	0.210 ¹

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¹ $P_u / \phi P_n$ controls

Horizontal Design Data (Tension)

Section No.	Elevation	Size	L	L _u	Kl/r	A	P _u	ϕP_n	Ratio $\frac{P_u}{\phi P_n}$
	ft		ft	ft		in ²	K	K	
T1	240 - 220	1	4.00	3.85	185.0	0.79	1.60	25.45	0.063 ¹
T5	160 - 140	L2x2x1/8	9.63	4.52	134.1	0.29	5.79	12.74	0.454 ¹
T6	140 - 120	L2x2x1/4	11.13	5.26	159.8	0.56	6.63	24.49	0.271 ¹
T7	120 - 100	L2 1/2x2 1/2x3/16	12.63	5.98	142.2	0.55	7.40	24.08	0.307 ¹
T8	100 - 80	L3x3x3/16	14.13	6.72	132.0	0.69	8.43	30.21	0.279 ¹
T9	80 - 60	L3x3x3/16	15.63	7.46	146.2	0.69	9.45	30.21	0.313 ¹
T10	60 - 40	L3x3x1/4	17.50	8.39	165.5	0.92	10.27	39.84	0.258 ¹
T11	40 - 20	L3 1/2x3 1/2x1/4	19.50	9.39	157.7	1.10	10.98	48.00	0.229 ¹
T12	20 - 0	L3 1/2x3 1/2x1/4	21.50	10.38	174.1	1.10	11.67	48.00	0.243 ¹

¹ $P_u / \phi P_n$ controls

Secondary Horizontal Design Data (Tension)

Section No.	Elevation	Size	L	L _u	Kl/r	A	P _u	ϕP_n	Ratio $\frac{P_u}{\phi P_n}$
	ft		ft	ft		in ²	K	K	
T1	240 - 220	1	2.00	1.93	92.5	0.79	0.00	25.45	0.000 ¹

¹ $P_u / \phi P_n$ controls

Top Girt Design Data (Tension)

Section No.	Elevation	Size	L	L _u	Kl/r	A	P _u	ϕP_n	Ratio $\frac{P_u}{\phi P_n}$
	ft		ft	ft		in ²	K	K	
T1	240 - 220	1	4.00	3.85	185.0	0.79	1.78	25.45	0.070 ¹
T2	220 - 200	L1 3/4x1 3/4x1/8	4.00	3.60	84.8	0.26	1.62	11.21	0.145 ¹

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Section No.	Elevation ft	Size	L ft	L _u ft	KI/r	A in ²	P _u K	φP _n K	Ratio $\frac{P_u}{\phi P_n}$
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¹ P_u / φP_n controls

Bottom Girt Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L _u ft	KI/r	A in ²	P _u K	φP _n K	Ratio $\frac{P_u}{\phi P_n}$
T1	240 - 220	1	4.00	3.85	185.0	0.79	2.92	25.45	0.115 ¹

¹ P_u / φP_n controls

Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	φP _{allow} K	% Capacity	Pass Fail
T1	240 - 220	Leg	1 3/4	3	-42.69	61.44	69.5	Pass
T2	220 - 200	Leg	2 1/2	51	-101.53	112.46	90.3	Pass
T3	200 - 180	Leg	3	81	-179.66	199.04	90.3	Pass
T4	180 - 160	Leg	3 1/4	108	-249.93	250.37	99.8	Pass
T5	160 - 140	Leg	3 1/2	135	-304.88	306.80	99.4	Pass
T6	140 - 120	Leg	3 3/4	167	-365.96	368.18	99.4	Pass
T7	120 - 100	Leg	4	200	-426.41	434.40	98.2	Pass
T8	100 - 80	Leg	4 1/4	232	-486.41	505.39	96.2	Pass
							98.2 (b)	
T9	80 - 60	Leg	4 1/2	265	-545.00	581.08	93.8	Pass
T10	60 - 40	Leg	4 3/4	298	-592.19	661.23	89.6	Pass
T11	40 - 20	Leg	4 3/4	332	-632.93	661.23	95.7	Pass
T12	20 - 0	Leg	5	365	-672.68	746.17	90.2	Pass
T1	240 - 220	Diagonal	1 1/8	12	-8.58	10.31	83.2	Pass
T2	220 - 200	Diagonal	L1 3/4x1 3/4x3/16	59	-6.74	9.12	73.8	Pass
							96.0 (b)	
T3	200 - 180	Diagonal	L2x2x1/4	86	-9.18	13.52	67.9	Pass
							87.0 (b)	
T4	180 - 160	Diagonal	L2x2x1/4	112	-8.84	10.38	85.2	Pass
T5	160 - 140	Diagonal	L3x3x1/4	141	-12.11	18.32	66.1	Pass
							80.7 (b)	
T6	140 - 120	Diagonal	L3x3x1/4	170	-13.02	15.61	83.4	Pass
							85.7 (b)	
T7	120 - 100	Diagonal	L3 1/2x3 1/2x1/4	203	-14.14	21.76	65.0	Pass
							76.4 (b)	
T8	100 - 80	Diagonal	L3 1/2x3 1/2x1/4	237	-14.94	18.72	79.8	Pass
							80.0 (b)	
T9	80 - 60	Diagonal	L4x4x1/4	270	-15.56	24.35	63.9	Pass
							82.6 (b)	
T10	60 - 40	Diagonal	L4x4x1/4	303	-11.55	20.29	56.9	Pass
							62.3 (b)	
T11	40 - 20	Diagonal	L4x4x1/4	336	-12.24	17.03	71.9	Pass
T12	20 - 0	Diagonal	L4x4x1/4	369	-12.64	14.49	87.2	Pass
T1	240 - 220	Horizontal	1	30	-1.57	10.52	14.9	Pass

tnxTower World Tower Company 1213 Compressor Drive Mayfield, KY Phone: (270) 247-3642 FAX:	Job	240' WSST - Job Q17576	Page	25 of 25
	Project	Hendricks Creek, KY	Date	11:45:42 09/27/17
	Client	Bluegrass Cellular	Designed by	WBH

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
T5	160 - 140	Horizontal	L2x2x1/8	139	-5.79	5.88	98.6	Pass
T6	140 - 120	Horizontal	L2x2x1/4	169	-6.63	8.13	81.5	Pass
T7	120 - 100	Horizontal	L2 1/2x2 1/2x3/16	202	-7.40	9.70	76.3	Pass
T8	100 - 80	Horizontal	L3x3x3/16	241	-8.43	13.45	62.7	Pass
							63.0 (b)	
T9	80 - 60	Horizontal	L3x3x3/16	268	-9.45	10.92	86.5	Pass
T10	60 - 40	Horizontal	L3x3x1/4	301	-10.27	11.26	91.2	Pass
T11	40 - 20	Horizontal	L3 1/2x3 1/2x1/4	334	-10.98	14.50	75.7	Pass
T12	20 - 0	Horizontal	L3 1/2x3 1/2x1/4	367	-11.67	11.86	98.3	Pass
T1	240 - 220	Secondary Horizontal	1	20	-0.00	17.58	0.1	Pass
T1	240 - 220	Top Girt	1	5	-1.78	10.52	16.9	Pass
T2	220 - 200	Top Girt	L1 3/4x1 3/4x1/8	52	-1.88	6.03	31.2	Pass
							34.2 (b)	
T1	240 - 220	Bottom Girt	1	9	-2.78	10.52	26.4	Pass
							Summary	
						Leg (T4)	99.8	Pass
						Diagonal (T2)	96.0	Pass
						Horizontal (T5)	98.6	Pass
						Secondary Horizontal (T1)	0.1	Pass
						Top Girt (T2)	34.2	Pass
						Bottom Girt (T1)	26.4	Pass
						Bolt Checks	98.2	Pass
						RATING =	99.8	Pass



GeoReport

Hendricks Creek Tower

Terracon Project No. 57175011

Prepared for:

Bluegrass Cellular Partnership

Elizabethtown, KY

March 24, 2017

terracon.com

The Terracon logo, featuring the word "Terracon" in a bold, white, sans-serif font, set against a dark red background.

Environmental



Facilities



Geotechnical



Materials

March 24, 2017

Bluegrass Cellular, Inc.
2902 Ring Road
Elizabethtown, KY 42702



Attn: Mr. Tim Ash
P: [270] 765 6361

Regarding: Geotechnical Engineering Report
Proposed 240-foot Self Support Telecommunications Tower
Site Name: Hendricks Creek Tower
Burksville, Kentucky
Terracon Project No.: 57175011

Dear Mr. Ash:

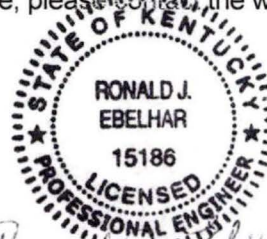
Terracon Consultants, Inc. (Terracon) has completed the geotechnical subsurface exploration, field testing, laboratory testing, and engineering evaluation for the Hendricks Creek tower project. It is our understanding that a 240-foot, self-support tower is planned for this site. The purpose of this report is to provide geotechnical parameters for the subsurface materials for foundation design and earthwork considerations. This study was performed in general accordance with Terracon's Master Service Agreement dated March 7, 2001 and Cumberland Cellular Partnership Purchase Order PO-3652 dated January 5, 2017.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning this report, or if we may be of further service, please contact the writer.

Sincerely,
Terracon Consultants, Inc.

A handwritten signature in black ink, appearing to read "Ryan C. Ortiz".

Ryan C. Ortiz, E.I.T.
Staff Engineer



A handwritten signature in black ink, appearing to read "Ronald J. Ebelhar".

Ronald J. Ebelhar, P.E., D.G.E.
Senior Principal



Terracon Consultants, Inc. 13050 Eastgate Park Way Louisville, Kentucky 40223
P [502] 456-1256 F [502] 456-1278 terracon.com

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PROJECT DESCRIPTION

Our initial understanding of the project was provided in our Stage 1 submittal in **Project Understanding**. During the period of collaboration that has transpired since the project was initiated, our understanding of the project conditions have been modified to reflect the following.

ITEM	DESCRIPTION
Proposed construction	A 240-foot-tall self-support tower and an equipment structure are planned within the 70- by 70-foot compound. The equipment shelter location and dimensions are not available at the time of this report.
240-foot Self-Support Tower: Maximum loads (to be confirmed)	Vertical: 600 kips (to be confirmed) Shear: 100 kips (to be confirmed) Uplift: 500 kips (to be confirmed) These anticipated loads are based on experience with similar projects. Loads should be confirmed by the project structural engineer. If loading conditions vary from those stated above, Terracon should review the recommendations in this report and confirm they are applicable.
240-foot Self-Support tower: Maximum allowable settlement (to be confirmed)	1-inch (to be confirmed)
Equipment building: Maximum loads (to be confirmed)	Column: 34 kips (to be confirmed) Wall: 1.5 kips/ft (to be confirmed) These anticipated loads that are shown are based on experience with similar projects. Loads should be confirmed by the project structural engineer. If loading conditions vary from those stated above, Terracon should review the recommendations in this report and confirm they are applicable.
Equipment building: Maximum allowable settlement (to be confirmed)	Total: 1-inch (to be confirmed) Differential: $\frac{3}{4}$ inch over 40 feet (to be confirmed)
Grading (to be confirmed)	Based on review of the Lease Boundary Survey dated March 6, 2017, the site generally slopes upward from southwest to northeast from an approximate elevation of 980 to 989 feet within the compound area. Based on review of the lease boundary survey, the tower center elevation is 984.1 feet. We anticipate minimal cuts and fills (i.e. <5 ft) will be required. Terracon should be retained to review the topographic plan and grading plan upon availability relative to the recommendations contained in this report.

SITE CONDITIONS

The following description of site conditions has been prepared based on our site reconnaissance during field exploration and review of publically available maps.

ITEM	DESCRIPTION
Location	<p>The proposed new cell tower and compound, referred to as Hendricks Creek Telecommunications Tower, is to be located at the address of 1407 Cherry Tree Road in Burkesville, Kentucky. The lease area is located on a logging haul road about 500 feet south of Cherry Creek Road.</p> <p>Approximate Latitude/Longitude: 36.637772°, -85.362903°</p> <p>Please see the Site Location Plan (Exhibit A-1)</p>
Existing improvements	<p>The proposed lease area is an undeveloped area.</p>
Current ground cover	<p>A haul road for a logging operation leads to the lease area. The lease area contains a wooded area with some fallen or cut trees. The lease area contains grass-, shrub-, and soil-covered areas.</p>
Existing topography	<p>Based on review of the Lease Boundary Survey dated March 6, 2017, the site generally slopes upward from southwest to northeast from an approximate elevation of 980 to 989 feet within the 70- by 70-foot compound area. Based on review of the lease boundary survey, the tower center elevation is 984.1 feet.</p>

EXPLORATION AND TESTING PROCEDURES

Field Exploration

A geotechnical engineering study has been completed for the proposed Hendricks Telecommunications Tower to be constructed near the intersection of 1407 Cherry Tree Road of Burkesville, Kentucky. A boring was advanced at one location to a depth to about 29 feet below existing grade. Individual boring logs and **Exploration Plan (Exhibit A-2)** are included in the appendix.

The locations of the borings were established by the project surveyor. Elevations, included in our boring logs, were provided by the project surveyor.

The boring was advanced by an all-terrain style drilling rig using hollow stem augers to advance the borings. Soil samples were obtained by the split-barrel sampling procedures. In the split-barrel sampling procedure, a standard, 2-inch O.D., split-barrel sampling spoon is driven into the boring with a 140-pound automatic SPT (Standard Penetration Test hammer falling 30 inches, in general accordance with ASTM D 1586). We record the number of blows required to advance the sampling spoon the last 12 inches of an 18-inch sampling interval as the standard penetration resistance value, N. This value is used to estimate the in-situ relative density of cohesionless soils and consistency of cohesive soils.

At auger refusal, we obtained a rock core using a double-walled, diamond-faced, NX core barrel. The cores obtained were placed in a core box, sealed and returned to our laboratory for observation, classification and compression testing.

A field log of each boring was prepared by the field engineer during the field exploration. These logs included visual classifications of the materials encountered during drilling as well as the field interpretation of the subsurface conditions between samples. The final boring logs include modifications based on observations and tests of the samples in the laboratory. Information provided on the test boring logs include soil descriptions, consistency evaluations, boring depths, sampling intervals, and groundwater conditions. The borings were backfilled with cuttings prior to the drill crew leaving the site.

Descriptive classifications of the soils indicated on the boring logs are in accordance with the enclosed General Notes and Unified Soil Classification System. A brief description of each is attached hereto.

Laboratory Testing

The project engineer has reviewed the field data and assigned various laboratory tests to better understand the index, strength, and engineering properties of the various soil strata as necessary for this project. The laboratory testing program included examination of soil samples for texture and plasticity, to help describe and classify the soil samples in accordance with the Unified Soil Classification System.

The laboratory testing program included the following analyses:

- ASTM D2216-10 Standard Test Methods for Laboratory Determination of Water (Moisture) Content of Soil and Rock by Mass
- ASTM D4318-10e1 Standard Test Methods for Liquid Limit, Plastic Limit, and Plasticity Index of Soils
- ASTM D2166/D2166M-13 Standard Test Method for Unconfined Compressive Strength of Cohesive Soil
- ASTM D7012 Standard Test Methods for Compressive Strength and Elastic Moduli of Intact Rock Core Specimens under Varying States of Stress and Temperatures

SUBSURFACE CONDITIONS

Site Geology

Formation ¹	Description
St. Louis Limestone ²	<p>Primary Lithology: Limestone and siltstone</p> <p>Limestone, very dark to medium-gray, very fine- to medium-grained, commonly cherty, argillaceous and silty; interbedded and gradational with calcareous siltstone.</p> <p>Siltstone predominates in lower part of unit, limestone in upper part. Unit contains abundant fossils, including bryozoans, brachiopods, echinoids, and corals.</p> <p>Note: The St. Louis Limestone Formation is designated as having very high karst potential.³</p>
Salem and Warsaw Limestone ²	<p>Primary Lithology: Limestone and sandstone</p> <p>Limestone, light-olive to medium- and dark-gray, medium- to coarse-grained, argillaceous, arenaceous, and silty, thick-bedded, to thinly cross-laminated. Interbedded and gradational with light-olive-gray to medium-gray silty limestone, sandy limestone, and calcareous siltstone. Chert is locally abundant as beds and pods, and small quartz geodes are common.</p> <p>Note: The Salem and Warsaw Limestone Formation is designated as having low karst potential, however Terracon project experience indicates that in localized areas, the Warsaw formation may exhibit karst features as well. ³</p>

1. Geologic descriptions based on published information from the Kentucky Geological Survey, University of Kentucky, www.uky.edu/KGS, retrieved March 21, 2017.
2. Based on the Geologic Map of the Frogue Quadrangle, Cumberland County, Kentucky, published by the Kentucky Geological Survey (GQ-675).
3. Please see the Karst Potential Plan (Exhibit A-1B).

The St. Louis Limestone formation is highly susceptible to dissolution along joints and bedding planes in the rock mass. This results in voids and solution channels developing within the rock strata creating a highly irregular bedrock surface. The weathering of the bedrock and subsequent collapse or erosion of the overburden into these openings results in what is referred to as karst topography. Any construction in karst topography is accompanied by some degree of risk for future internal soil erosion and ground subsidence that could affect the stability of structures situated above the karst features. Our review of the Karst Potential Map (<http://kgs.uky.edu>) a large sinkhole within an approximate 1-mile radius of the property, which can be observed in the Karst Potential Plan (Exhibit A-1B). The risks associated with karst geology are common for the project vicinity and are not unique to this site. The boring advanced at the tower location included 15 feet of rock core starting at 14 feet below existing grade. A clay layer and clay-stained joints were encountered in the recovered rock sample at about 18.5 feet.

Typical Subsurface Profile

Based on the results of the subsurface exploration, subsurface conditions on the project site can be generalized as follows:

Stratum	Approximate Depth to Bottom of Stratum (feet)	Material Encountered	Consistency/Hardness
Surface ¹	0.7	Topsoil	N/A
1	3	Lean Clay ²	Stiff ³
2	12	Fat Clay ⁴	Very stiff ⁵
3	13.5	Silt ⁶	N/A
4	Undetermined	Limestone with karst features ⁷	Recovery range: 90 to 100% RQD range: 78 to 95%

1. Topsoil was encountered at Boring B-1.
2. Lean clay was encountered at Boring B-1. Atterberg limit tests on the undisturbed sample at Boring B-1A obtained from 1 to 3 feet resulted in liquid limit (LL) of 42 percent and plastic limit (PL) of 18 percent. Moisture contents on representative samples ranged from 24 to 28 percent.
3. Native lean clay exhibited a stiff consistency based on a SPT N-value of 11, hand penetrometer value of 5000 psf, and an unconfined compressive strength of about 2700 psf.
4. Fat clay was encountered at Boring B-1. Atterberg limit tests on a fat clay sample observed in the rock core sample resulted in liquid limit (LL) results ranging from 62 to 57 percent and plastic limit (PL) results ranging from 24 to 26 percent. Moisture content tests on representative samples ranged from 23 to 29 percent.
5. Fat clay exhibited a very stiff consistency based on a SPT N-values ranging from 15 to 18 and hand penetrometer values ranging from 6000 to 8000+ psf.
6. Silt was encountered at Boring B-1 just above bedrock. Atterberg limit tests on the split spoon sample at Boring B-1 obtained at about 13.5 feet resulted in liquid limit (LL) of 30 percent and plastic limit (PL) of 25 percent. Moisture contents on a representative sample was 17 percent.
7. Limestone was encountered at the test boring location at a depth of about 13.5 feet below existing grade. Boring B-1 was advanced into this stratum, starting at the auger refusal depth at about 14 feet below ground surface, by rock sampling techniques extending to about 29 feet below existing ground surface. The test boring was terminated in this stratum. A clay layer and clay stained joints were observed in the recovered rock sample. Unconfined compressive strength testing on representative samples resulted in strengths ranging from approximately 11,800 to 18,770 psi at Boring B-1.

Auger refusal was encountered at a depth of approximately 14 feet below existing grade and the boring was extended using rock coring techniques to a depth of about 29 feet below existing grade. Auger refusal is defined as the depth below the ground surface at which a test boring can no longer be advanced with the soil drilling technique being used. In an area of limestone bedrock, auger

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refusal can result on slabs of unweathered limestone suspended in the residual soil matrix ("floaters"), on rock "pinnacles" rising above the surrounding bedrock surface, in widened joints that may extend well below the surrounding bedrock surface, or on the upper surface of continuous bedrock. Several of these possible auger refusal conditions are illustrated in the adjacent figure.

The St. Louis Limestone bedrock formation is known for producing several obstructions that can cause the augers to refuse above sound bedrock. These obstructions can range from floaters to rock pinnacles as illustrated in examples A, B, C, and D in the figure. Depth to competent bedrock in areas of karst geology can vary greatly over short distances. The possibility of varying depths to bedrock should be considered when developing the design and construction plans for this project. Rock core operations were performed to better explore the refusal materials.

The boring was advanced into bedrock, where a clay layer and clay stained joints were encountered. Sample recovery ranged from 90 to 100 percent. The quality of the core obtained is considered to be good to excellent with the RQD values ranging from 78 to 95 percent.

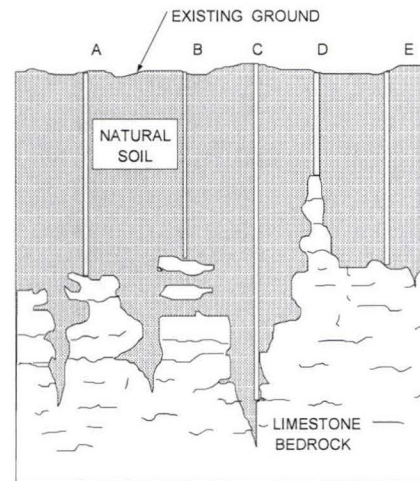
Specific conditions encountered at the boring location are indicated on the attached boring log. Stratification boundaries on the boring log represent the approximate location of changes in soil types; in-situ, the transition between materials may be gradual. Further details of the boring can be found on the boring log in the Appendix of this report. Photographs of the rock core samples can be observed in the Rock Core Photography Log (Exhibit A-5).

Specific conditions encountered at the boring location are indicated on the attached boring log. Stratification boundaries on the boring logs represent the approximate location of changes in soil types; in-situ, the transition between materials may be gradual. Further details of the boring can be found on the appended logs.

Groundwater

The boreholes were observed while drilling for the presence and level of groundwater. No groundwater was observed in the remaining borings for the short duration that the borehole was open. Due to the low permeability of the soils encountered in the borings, a relatively long period of time may be necessary for a groundwater level to develop and stabilize in a borehole in these materials. Long-term observations in piezometers or observation wells sealed from the influence of surface water are often required to define groundwater levels in materials of this type.

AUGER REFUSAL ILLUSTRATION



THIS FIGURE IS FOR ILLUSTRATIVE PURPOSES ONLY AND DOES NOT NECESSARILY DEPICT THE SPECIFIC BEDROCK CONDITIONS AT THIS SITE

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Groundwater level fluctuations occur due to seasonal variations in the amount of rainfall, runoff and other factors not evident at the time the borings were performed. Therefore, groundwater levels during construction or at other times in the life of the structure may be higher or lower than the levels indicated on the boring logs. The possibility of groundwater level fluctuations should be considered when developing the design and construction plans for the project.

SITE CLASSIFICATION FOR SEISMIC DESIGN

Design of buildings and other structures subject to earthquake ground motions requires classification of the upper 100 feet of the site profile in accordance with Chapter 20 of ASCE 7. The Site Class types are listed below and are basically defined by an average value of either shear wave velocity, standard penetration resistance, or undrained shear strength.

- A. Hard Rock
- B. Rock
- C. Very dense soil and soft rock
- D. Stiff soil
- E. Soft clay soil
- F. Soils vulnerable to potential failure or collapse under seismic loading

Based on the results of our site characterization program, we conclude that Site Class C is appropriate for the subject site. Note that the scope of services did not include site profile determination to a depth of 100 feet. Explorations for this project extended to a maximum depth of 29 feet, where the borings were terminated. The Site Class C designation is based on an assumption that limestone bedrock continue to a depth of 100+ feet.

GEOTECHNICAL OVERVIEW

The following sections describe pertinent geotechnical considerations identified by the exploration and laboratory testing. Site preparation recommendations, including subgrade improvement, fill placement, and excavations are provided in the **Site Preparation** section.

Karst Features

Karst features, including a clay layer and clay-stained joints in bedrock, were encountered at the boring located at the tower center. The approximate 6-inch-thick clay layer was encountered at a depth of about 18.5 feet below existing grade. Should shallow foundations be selected for structural support, the client should be prepared to accept the risk for of construction in karst topography with known buried karst features. Should a drilled pier be selected for structural support, we recommend that the drilled pier be tipped at a minimum depth of about 22 feet below existing grade in competent limestone bedrock. To mobilize the strength parameters recommended in the **Foundations** section of our report, the pier should be embedded a minimum of 3 feet into competent limestone bedrock. Competent limestone bedrock was encountered at a depth of 19 feet.

High Plasticity Clay

High plasticity fat clays (CH) were encountered at Boring B-1 at a depth of about 3 feet below existing grade. Atterberg tests on a representative samples resulted in a liquid limits (LL) of 62 to 67 percent and plastic limits (PL) of about 24 to 26 percent. High plasticity clays may be encountered at bearing elevations for any shallow foundations or floor slabs on this project.

High-plasticity soils are potentially expansive and could adversely affect lightly-loaded structures, such as foundations and floor slabs. The presence of fat clay should be anticipated at nearly all foundation and floor slab bearing elevations. Where high plasticity soils are encountered within the foundation excavations, the excavations should be over-excavated to provide a minimum 1.5 foot thick layer of low volume change material. Low volume change material used for backfilling overexcavations should meet the requirements of the **Material Types** section of this report. The low volume change layer will reduce risk but not eliminate the risk of the high plasticity clays adversely affecting lightly loaded structures. To eliminate this risk, deep foundations (i.e. drilled piers) would be considered for foundation support. Additional recommendations concerning foundation over-excavation are provided in the **Foundations** section.

Foundation Support

Site grading, structural loading and foundation plans are unknown at this time. Anticipated loads are based on experience with similar projects. Loads should be confirmed by the project structural engineer. If loading conditions vary from those stated above, Terracon should be retained to review the recommendations in this report.

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Should shallow foundations be selected for tower foundation support, the tower mat foundation can be dimensioned for a net allowable soil bearing pressure of 2,500 psf, bearing at or below frost depth of 24 inches below surrounding grade. Design parameters for deep foundations have also been provided. The equipment shelter foundation can be dimensioned for a net allowable soil bearing pressure of 2,500 psf for isolated spread footings and 2,000 for continuous wall footings.

If shallow foundations are selected, the tower or equipment structure can be supported by shallow bearing on undisturbed, at least **stiff** natural cohesive soils or new lean clay engineered fill or lean concrete placed directly on at least stiff native soils. However, inspection of the bearing conditions should be performed by a geotechnical engineer or representative to identify any potential karst conditions. Any undercut and replacement of unsuitable soils should be replaced with new engineered fill meeting the requirements of the Material Types in the **Site Preparation** section of this report. Additional recommendations for design and construction of foundations are presented in the following sections.

SITE PREPARATION

The following presents recommendations for site preparation, excavation, and fill placement. Special considerations will be needed where site grading may expose unstable soils. Our recommendations presented for design and construction of earth supported elements (i.e. foundations, slabs, etc.) are contingent upon following the recommendations outlined in this section. Due to the high-plasticity clays encountered in our borings, earthwork activities on the project should be observed and evaluated by Terracon.

Vegetation, existing pavements, and otherwise unsuitable materials should be stripped from the site prior to grading operations. Topsoil or other loose, soft or otherwise unsuitable material should be removed from the entire construction area and any sources of on-site borrow material should be stockpiled outside of the construction area.

Following rough grading, and prior to placement of foundations, the subgrade should be evaluated by proofrolling where possible to aid in locating unstable subgrade soils. Any soft, loose, or otherwise unsuitable areas identified during the proofroll will require undercutting or improvement. Where proofrolling is not possible, the subgrade should be evaluated by observation and probing to aid in locating unsuitable or unstable areas. The appropriate method and amount of stabilization, if required, should be determined at the time of construction based on observations by the geotechnical engineer.

It should be noted that the on-site clayey soils may be susceptible to disturbance from construction activity, particularly if the soil has high natural moisture and is wetted by surface water or seepage. Therefore, care should be taken during the site grading operation to provide adequate site drainage and minimize disturbance of the bearing soils.

Material Types

All imported material or on-site material proposed for reuse should be tested to verify conformance with the material property and placement recommendations in this section.

Engineered fill should meet the following material property requirements:

Fill Type ¹	USCS Classification	Acceptable Location for Placement
Lean clay ²	CL (LL<50% & PI>15)	All locations and elevations
Fat clay ²	CH (LL>50%)	Not recommended for use as structural fill

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Fill Type ¹	USCS Classification	Acceptable Location for Placement
Well graded granular and silty gravel	GM-GW GM	All locations and elevations
Low Volume Change Material	CL or GM-GW, GM ³ and (LL<40% & 5<PI<15)	All locations and elevations

1. Controlled, compacted fill should consist of approved materials that are free of organic matter and debris. Frozen material should not be used, and fill should not be placed on a frozen subgrade. A sample of each material type should be submitted to the geotechnical engineer for evaluation.
2. Delineation of fat clays and lean clays should be performed in the field by a qualified geotechnical engineer or their representative, and could require additional laboratory testing. Fat clays was observed in our boring.
3. Similar to KYTC DGA or crushed stone base limestone, limestone screenings, or granular material such as sand, gravel or crushed stone containing not more than 14% non-plastic fines.

Compaction Requirements

Engineered fill should meet the following compaction requirements:

ITEM	DESCRIPTION
Fill Lift Thickness	8-inches or less loose thickness for heavy, self-propelled compaction equipment. 4- to 6-inches loose thickness for hand-guided equipment (i.e. jumping jack or plate compactor)
Compaction Requirements ¹ (Structural Areas)	At least 98% of the materials Standard Proctor maximum dry density (ASTM D 698)
Compaction Requirements (Landscape Areas)	At least 95% of Standard Proctor maximum dry density (provided long-term plans do not include a structure in these areas)
Moisture Content - Cohesive Soils	Within the range of 1% below to 2% above the optimum moisture content (OMC) as determined by the Standard Proctor test at the time of placement and compaction
Moisture Content - Granular Material ²	Within workable moisture levels / $\pm 2\%$ of OMC

1. Engineered fill should be tested for moisture content and compaction during placement. Should the results of the in-place density tests indicate the specified moisture or compaction limits have not been met, the area represented by the test should be reworked and retested as required until the specified moisture and compaction requirements are achieved.
2. Specifically, moisture levels should be maintained low enough to allow for satisfactory compaction to be achieved without the cohesionless fill material pumping when proofrolled.

Utility Trench Backfill

All trench excavations should be made with sufficient working space to permit construction including backfill placement and compaction. If utility trenches are backfilled with relatively clean granular material, they should be capped with at least 18 inches of cohesive soil to reduce the infiltration and conveyance of surface water through the trench backfill. Backfill placed in utility trenches below pavements should consist of well graded granular materials.

Utility trenches are a common source of water infiltration and migration. All utility trenches that penetrate beneath the foundation should be effectively sealed to restrict water intrusion and flow through the trenches that could migrate below the foundation with a clay plug. The plug material should consist of clay compacted at a water content at or above the soils optimum water content. The clay fill should be placed to completely surround the utility line and be compacted in accordance with recommendations in this report.

Grading and Drainage

Effective site drainage is important both during construction and during the life of the foundations. Adequate drainage will be necessary to control and divert stormwater runoff away from the site. Final surrounding grades should be sloped away from the foundations to prevent ponding of water.

Excess materials generated during site grading, including soils unsuitable for use as engineered fill (i.e. high-plasticity material, topsoil, etc.), and may be placed as fill in non-structural landscape areas and in the construction of landscape berms. To the extent possible, these materials should be placed in accordance with the **Compaction Requirements**.

Earthwork Construction Considerations

Although the exposed subgrade may be relatively stable upon initial exposure, unstable subgrade conditions could develop during general construction operations, particularly if the soils are wetted and/or subjected to repetitive construction traffic. It is recommended that construction activities be performed during drier weather, if possible. Some subgrade instability should be anticipated if construction is planned during wet weather that may require undercutting and/or stabilization. The use of light construction equipment would aid in reducing subgrade disturbance. Should unstable subgrade conditions develop, stabilization measures will need to be implemented.

Upon completion of filling and grading, care should be taken to maintain the subgrade moisture content prior to construction. Construction traffic over the completed subgrade should be avoided to the extent practical. The site should also be graded to prevent ponding of surface water on the prepared subgrades or in excavations. If the subgrade should become frozen, desiccated, saturated,

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or disturbed, the affected material should be removed or these materials should be scarified, moisture conditioned, and recompacted prior to foundation construction.

At a minimum, all temporary excavations should be sloped or braced as required by OSHA guidelines to provide stability and safe working conditions, and to protect the integrity of adjacent structures. Temporary excavations will probably be required during grading operations and utility trenches. The grading contractor, by his contract, is usually responsible for designing and constructing stable, temporary excavations and should shore, slope or bench the sides of the excavations as required, to maintain stability of both the excavation sides and bottom. All excavations should comply with applicable local, state and federal safety regulations, including the current Occupational Safety and Health Administration (OSHA) Excavation and Trench Safety Standards.

Construction site safety is the sole responsibility of the contractor who controls the means, methods and sequencing of construction operations. Under no circumstances shall the information provided herein be interpreted to mean that Terracon is assuming any responsibility for construction site safety or the contractor's activities.

The geotechnical engineer should be retained during the construction phase of the project to observe earthwork and to perform necessary tests and observations during subgrade preparation; proof-rolling; placement and compaction of controlled compacted fills; backfilling of excavations into the completed subgrade, and just prior to construction.

FOUNDATIONS

Mat Foundation Design Parameters

Parameter	Mat
Maximum net allowable bearing pressure on existing soils ¹	2,500 psf
Minimum foundation plan dimensions	24 inches
Required bearing stratum ²	Engineered fill or lean concrete extending to at least stiff clay
Ultimate coefficient of sliding friction	0.30
Ultimate passive pressure ³	350 psf (below 3 feet)
Minimum embedment below finished grade for frost protection ⁴	24 inches (42 inches if bearing on fat clay)
Est. total settlement from structural loads ⁵	< 1.5 inch

1. The maximum net allowable bearing pressure is the pressure in excess of the minimum surrounding overburden pressure at the footing base elevation. An appropriate factor of safety has been applied. These recommendations are applicable from 2 to 6 feet, approximately.
2. Unsuitable or soft soils should be undercut, and the footings should be deepened to bear on the competent bearing stratum or could bear on lean concrete extending from the foundation base to competent bearing stratum.
3. The sides of the excavation for the spread footing foundation must be nearly vertical and the concrete should be placed neat against these vertical faces for the passive earth pressure value to be valid. If the loaded side is sloped or benched, and then backfilled, the allowable passive pressure will be significantly reduced. Passive resistance in the upper 3 feet of the subsurface profile should be neglected.
4. For perimeter footing and footings beneath unheated areas. Also to reduce the effects of seasonal moisture variations in the subgrade soils. Any footings bearing on fat clay at minimum depths should be deepened to extend at least 42 inches below finished exterior grade (18 inches below the foundation bearing elevation) for additional protection against seasonal shrink/swell.
5. The foundation settlement will depend upon embedment depth of the footings, the quality of the earthwork operations, and conformance with soil improvement methods recommended in this report. The estimated settlements are based on recommended allowable bearing pressures, long-term settlement will depend on the quality and uniformity of the engineered fill placement.

Design/Analysis Parameters for Deep Foundations

Based on the results of the test boring data and laboratory testing, we have developed the following drilled pier design parameters:

Approximate Depth (feet) ¹	Allowable Skin Friction (psf)	Allowable End Bearing Capacity (psf)	Undrained Shear Strength, c (psf)	Unit Weight (pcf)	Strain ϵ_{50}	Lateral Subgrade Modulus, k (pci)	Model
0 – 3 ²	Ignore	Ignore	Ignore	Ignore	Ignore	Ignore	Ignore
Lean clay, fat clay, and silt 3 - 14	400	--	1,350	120	0.008	110	Stiff Clay w/o water
Limestone with a clay seam 14 - 19	3000	--	10,000	120	0.008	110	Stiff Clay w/o water
Competent Limestone Bedrock 19 - 29	10,000	100,000	500,000	150	$k_{rm}=0.00005$	3000	Strong Rock (RQD=78)

The above indicated cohesion, friction angle, lateral subgrade modulus and strain values have no factors of safety, and the allowable skin friction bearing capacity and the passive resistances have a factor of safety of at least 2. The cohesion, internal friction angle, lateral subgrade modulus and strain values given in the above table are based on our boring, published values and our past experience with similar soil and rock types. These values should, therefore, be considered approximate. To mobilize the higher rock strength parameters, the pier should be socketed at least 3 feet into the bearing stratum. The allowable end bearing pressure provided in the table has an approximate factor of safety of at least 3. If the drilled pier is designed using the above parameters and bear within the siltstone bedrock, settlement is anticipated to be about ½ inch or less.

Deep Foundation Construction Considerations

Difficult drilling conditions may be encountered due to chert layers typically found in the St. Louis Limestone formation. The contractor should be prepared to penetrate bedrock with chert and competent limestone. Due to the karst features encountered at our boring location, the bottom of

Geotechnical Engineering Report

Hendricks Creek Tower ■ Burkesville, Kentucky

March 24, 2017 ■ Terracon Project 57175011



the excavation should be inspected carefully by a qualified geotechnical engineer or representative for voids, clay layers, or any otherwise unsuitable bearing conditions due to karst topography.

Drilled piers should be designed with a minimum shaft diameter of 30 inches to facilitate clean out and inspection of the bedrock surface from the ground. The pier should be mobilized 3 feet below the top of competent bedrock depth of 19 feet. If groundwater seepage is encountered, water should be removed from each pier hole prior to concrete placement. Care should be taken so that the sides and bottom of the excavations are not disturbed during construction. The contractor should have temporary casing available onsite during construction of the drilled pier to control seepage and/or caving soil, if encountered.

Based on compressive strength and rock quality data, we expect that advancement of piers to minimum embedment in rock could be achieved by a rock auger equipped with self-rotating cutter bits or by rock coring. However, advancement method may vary between contractors depending on experience and their evaluation of penetration rates for the site conditions.

The bottom of the shaft should be free of loose soil or debris prior to reinforcing steel and concrete placement. It is recommended that the specifications state that reinforcing steel and pier concrete be placed the same day as the shaft is drilled. No completed shaft excavation should be allowed to remain open overnight. It is suitable, however, for the contractor to excavate a portion of the drilled shaft and then complete the shaft excavation the next day.

If pier concrete cannot be placed in dry conditions, a tremie should be used for concrete placement. Free-fall concrete placement in piers will only be acceptable if provisions are taken to avoid striking the concrete on the sides of the hole or reinforcing steel. The use of a bottom-dump hopper or tremie discharging near the bottom of the hole where concrete segregation will be minimized, is recommended. Due to potential sloughing and raveling, foundation concrete quantities may exceed calculated geometric volumes.

Adequate performance of the drilled shaft foundations will be highly dependent on the contractors installation techniques used to construct the foundation elements. At a minimum, the following inspection criteria should be incorporated as a requirement for construction of the drilled piers.

Bearing conditions of the drilled pier foundations should be evaluated by a qualified geotechnical engineer at the time of construction to confirm suitable end bearing on competent bedrock and to provide recommendations if unsuitable bearing materials are encountered. Entry of personnel into the drilled pier foundations is not required and is strongly discouraged for this project. The evaluation of the piers should include the following:

- Contractor should advance a test hole with an air track drill through the bedrock bearing surface to a depth of at least two times the pier diameter to check for discontinuities in the bedrock that may require additional rock removal.

- The number of test holes at each pier location would be determined by the geotechnical engineer's representative based on the field test results.
- Significant discontinuous rock layers may require additional rock removal as directed by the engineer's representative.
- Prior to installation of the reinforcing steel cage, the base of each pier should be sounded to check for voids or clay seams in the underlying bedrock. This could be done by dropping the drill rig Kelly bar onto the exposed bedrock surface at selected locations.
- Visual evaluation of the exposed bearing surface should be performed by the engineer's representative to confirm that the base is free from loose material, soil, water or other unsuitable materials. Visual inspection to determine the suitability of the shaft bottom using either a flashlight or reflected light with a mirror may be conducted from the ground surface.

Equipment Building Foundation Design Parameters

Parameter	Column	Wall
Maximum net allowable bearing pressure on existing soils ¹	2,500 psf	2,000 psf
Minimum foundation plan dimensions	24 inches	18 inches
Required bearing stratum ²	Engineered fill or lean concrete extending to at least stiff clay	
Ultimate coefficient of sliding friction	0.30	
Ultimate passive pressure ³	350 psf (below 3 feet)	
Minimum embedment below finished grade for frost protection ⁴	24 inches (42 inches if bearing on fat clay)	
Est. total settlement from structural loads ⁵	< 1 inch	
Estimated differential settlement ⁵	< 3/4 inch	

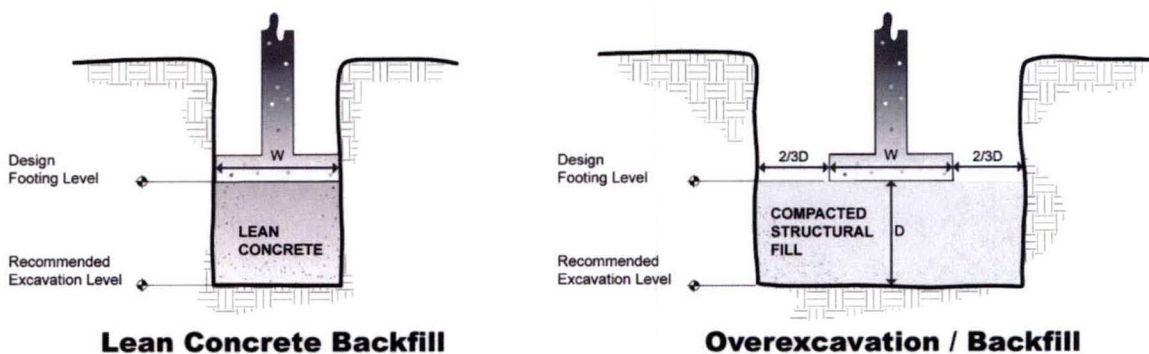
1. The maximum net allowable bearing pressure is the pressure in excess of the minimum surrounding overburden pressure at the footing base elevation. An appropriate factor of safety has been applied.
2. Unsuitable or soft soils should be undercut, and the footings should be deepened to bear on the competent bearing stratum or could bear on lean concrete extending from the foundation base to competent bearing stratum.
3. The sides of the excavation for the spread footing foundation must be nearly vertical and the concrete should be placed neat against these vertical faces for the passive earth pressure value to be valid. If the loaded side is sloped or benched, and then backfilled, the allowable passive pressure will be significantly reduced. Passive resistance in the upper 3 feet of the subsurface profile should be neglected.

4. For perimeter footing and footings beneath unheated areas. Also to reduce the effects of seasonal moisture variations in the subgrade soils. Any footings bearing on fat clay at minimum depths should be deepened to extend at least 42 inches below finished exterior grade (18 inches below the foundation bearing elevation) for additional protection against seasonal shrink/swell.
5. The foundation settlement will depend upon embedment depth of the footings, the quality of the earthwork operations, and conformance with soil improvement methods recommended in this report. The estimated settlements are based on recommended allowable bearing pressures, long-term settlement will depend on the quality and uniformity of the engineered fill placement.

Construction Considerations for Shallow Foundations

The base of all foundation excavations should be free of water and loose soil prior to placing concrete. Concrete should be placed soon after excavating to reduce bearing soil disturbance. Should the soils at bearing level become excessively dry, disturbed or saturated, or frozen, the affected soil should be removed prior to placing concrete. Place a lean concrete mud-mat over the bearing soils if the excavations must remain open over night or for an extended period of time. It is recommended that the geotechnical engineer be retained to observe and test the soil foundation bearing materials.

If unsuitable bearing soils are encountered in footing excavations, the excavations should be extended deeper to suitable soils and the footings could bear directly on these soils at the lower level or on lean concrete backfill (minimum of 500 psi) placed in the excavations. The footings could also bear on properly compacted lean clay backfill extending down to the suitable soils. Overexcavation for compacted lean clay backfill placement below footings should extend laterally beyond all edges of the footings at least 8 inches per foot of overexcavation depth below footing base elevation. The overexcavation should then be backfilled up to the footing base elevation with engineered fill as described in the **Compaction Requirements** section placed in lifts of 8 inches or less in loose thickness and compacted to at least 98 percent of the material's maximum dry density as defined by the Standard Proctor (ASTM D 698). The overexcavation and backfill procedure is illustrated in the following figures for lean concrete or lean clay structural fill.



NOTE: Excavations in sketches shown vertical for convenience. Excavations should be sloped as necessary for safety.

FLOOR SLABS

Design Parameters

Item	Description
Floor slab support	Lean natural clay soils or engineered fill extending stiff native soils ¹
Modulus of subgrade reaction	100 pounds per square inch per in (psi/in) for point loading conditions
Aggregate base course/capillary break ²	Minimum 4 inches of free draining granular material
Vapor Barrier	Project Specific ³
Structural considerations	Floor slabs should be structurally independent of building ⁴

1. In-situ high plasticity clays encountered in our borings are not suitable for floor slab support. These should be undercut and replaced with 1.5 feet of low volume change material.
2. The floor slab design should include a capillary break, comprised of free-draining, compacted, granular material, at least 4 inches thick. Free-draining granular material should have less than 5 percent fines (material passing the #200 sieve).
3. The use of a vapor retarder should be considered beneath concrete slabs on grade that will be covered with wood, tile, carpet or other moisture sensitive or impervious coverings, or when the slab will support equipment sensitive to moisture. When conditions warrant the use of a vapor retarder, the slab designer should refer to ACI 302 and/or ACI 360 for procedures and cautions regarding the use and placement of a vapor retarder.
4. Floor slabs should be structurally independent of any building footings or walls to reduce the possibility of floor slab cracking caused by differential movements between the slab and foundation. Where floor slabs are tied to perimeter walls or turn-down slabs to meet structural or other construction objectives, our experience indicates that any differential movement between the walls and slabs will likely be observed in adjacent slab expansion joints or floor slab cracks that occur beyond the length of the structural dowels. The structural engineer should account for this potential differential settlement through use of sufficient control joints, appropriate reinforcing or other means.

Floor Slab Construction Considerations

Prior to construction of grade supported slabs, varying levels of remediation may be required to reestablish stable subgrades within slab areas due to construction traffic, rainfall, disturbance, desiccation, etc. As a minimum, the following measures are recommended.

- Confirm that interior trench backfill placed beneath slabs is compacted in accordance with recommendations outlined in the **Site Preparation** section of this report.

- All floor slab subgrade areas should be moisture conditioned and properly compacted to the recommendations in this report immediately prior to placement of the stone base and concrete.

Floor Slab Subgrade Preparation

To reduce the swell potential to a relatively small amount, less than about 1 inch, at least the upper 1.5 feet of subgrade soils below the floor slab (excluding any granular leveling course) should be Low Volume Change (LVC) material. High plasticity soils encountered in our borings at the floor slab bearing elevation should be undercut and replaced with 1.5 feet of Low Volume Change Material (LVC). Terracon should evaluate the material within 1.5 feet of the floor slab subgrade just prior to placement of any additional fill.

On most project sites, the site grading is generally accomplished early in the construction phase. However as construction proceeds, the subgrade may be disturbed due to utility excavations, construction traffic, desiccation, rainfall, etc. As a result, the floor slab subgrade may not be suitable for placement of aggregate base and concrete and corrective action will be required. Additional protection, stabilization measures may be necessary and requires specific field evaluation. We recommend floor subgrades be maintained in a relatively moist condition until floor slabs are constructed. If the subgrade should become desiccated prior to construction of floor slabs, the affected material should be removed or the materials scarified, moistened, and recompacted. Upon completion of grading operations in the building areas, care should be taken to maintain the recommended subgrade moisture content and density prior to construction of the equipment building floor slabs.

We recommend the area underlying the floor slab be rough graded and then thoroughly proofrolled with a loaded tandem-axle dump truck prior to final grading and placement of aggregate base. Particular attention should be paid to high traffic areas that were rutted and disturbed earlier and to areas where backfilled trenches are located. Areas where unsuitable conditions are located should be repaired by removing and replacing the affected material with properly compacted fill. All floor slab subgrade areas should be moisture conditioned and properly compacted to the recommendations in this report immediately prior to placement of the aggregate base and concrete.

GENERAL COMMENTS

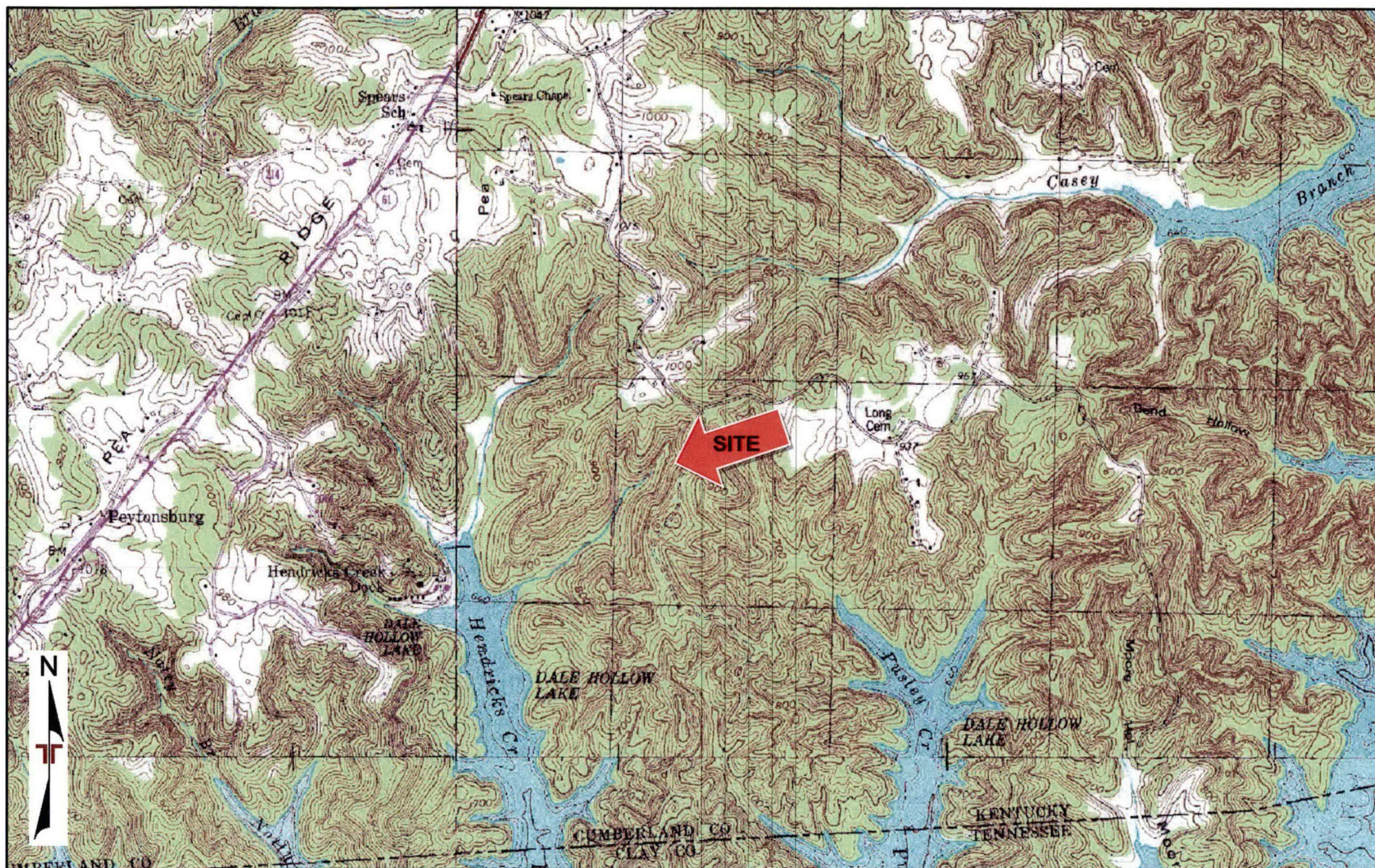
Our work is conducted with the understanding of the project as described, and will incorporate collaboration with the design team prior to completing our services. Terracon has requested verification of all stated assumptions. Revision of our understanding to reflect actual conditions important to our work will be based on these verifications and will be reflected in the final report. The design team should collaborate with Terracon to confirm these assumptions. The design team should also collaborate with Terracon to prepare the final design plans and specifications. This facilitates the incorporation of our opinions related to implementation of our geotechnical recommendations.

Our analysis and opinions are based upon our understanding of the geotechnical conditions in the area, the data obtained from the site exploration performed and from our understanding of the project. Variations will occur between exploration point locations, across the site, or due to the modifying effects of construction or weather. The nature and extent of such variations may not become evident until during or after construction. So, Terracon should be retained to provide observation and testing services during grading, excavation, foundation construction and other earth-related construction phases of the project. If variations appear, we can provide further evaluation and supplemental recommendations. If variations are noted in the absence of our observation and testing services on-site, we should be immediately notified so that we can provide evaluation and supplemental recommendations.

Our scope of services does not include either specifically or by implication any environmental or biological (e.g., mold, fungi, bacteria) assessment of the site or identification or prevention of pollutants, hazardous materials or conditions. If the owner is concerned about the potential for such contamination or pollution, other studies should be undertaken.

Our services and any correspondence are intended for the exclusive use of our client for specific application to the project discussed and are accomplished in accordance with generally accepted geotechnical engineering practices. No warranties, either express or implied, are intended or made.

Site characteristics as provided are for design purposes and not to estimate excavation cost. Any use of our report in that regard is done at the sole risk of the excavating cost estimator as there may be variations on the site that are not apparent in the data that could significantly impact excavation cost. Any parties charged with estimating excavation costs should seek their own site characterization for that specific purposes to obtain the specific level of detail necessary for costing. Site safety, and cost estimating including, excavation support, and dewatering requirements/design are the responsibility of others. In the event that changes in the nature, design, or location of the project are planned, our conclusions and recommendations shall not be considered valid unless we review the changes and either verify or modify our conclusions in writing.



TOPOGRAPHIC MAP IMAGE COURTESY OF THE U.S. GEOLOGICAL SURVEY
 QUADRANGLES INCLUDE: BLACKS FERRY, KY (1/1/1982), FROGUE, KY (1/1/1981), DALE HOLLOW DAM, TN (1/1/1979) and DALE HOLLOW RESERVOIR SE, TN (1/1/1968).
 DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

Project Manager:	RCO	Project No.	57175011
Drawn by:	RCO	Scale:	1"=2,000'
Checked by:	RJE	File Name:	Plans
Approved by:	RJE	Date:	3/21/2017

Terracon
 13050 Eastgate Park Way Ste 101
 Louisville, KY 40223-3915

SITE LOCATION PLAN
Hendricks Creek Tower 1407 Cherry Tree Ridge Burkesville, Kentucky

Exhibit
A-1A

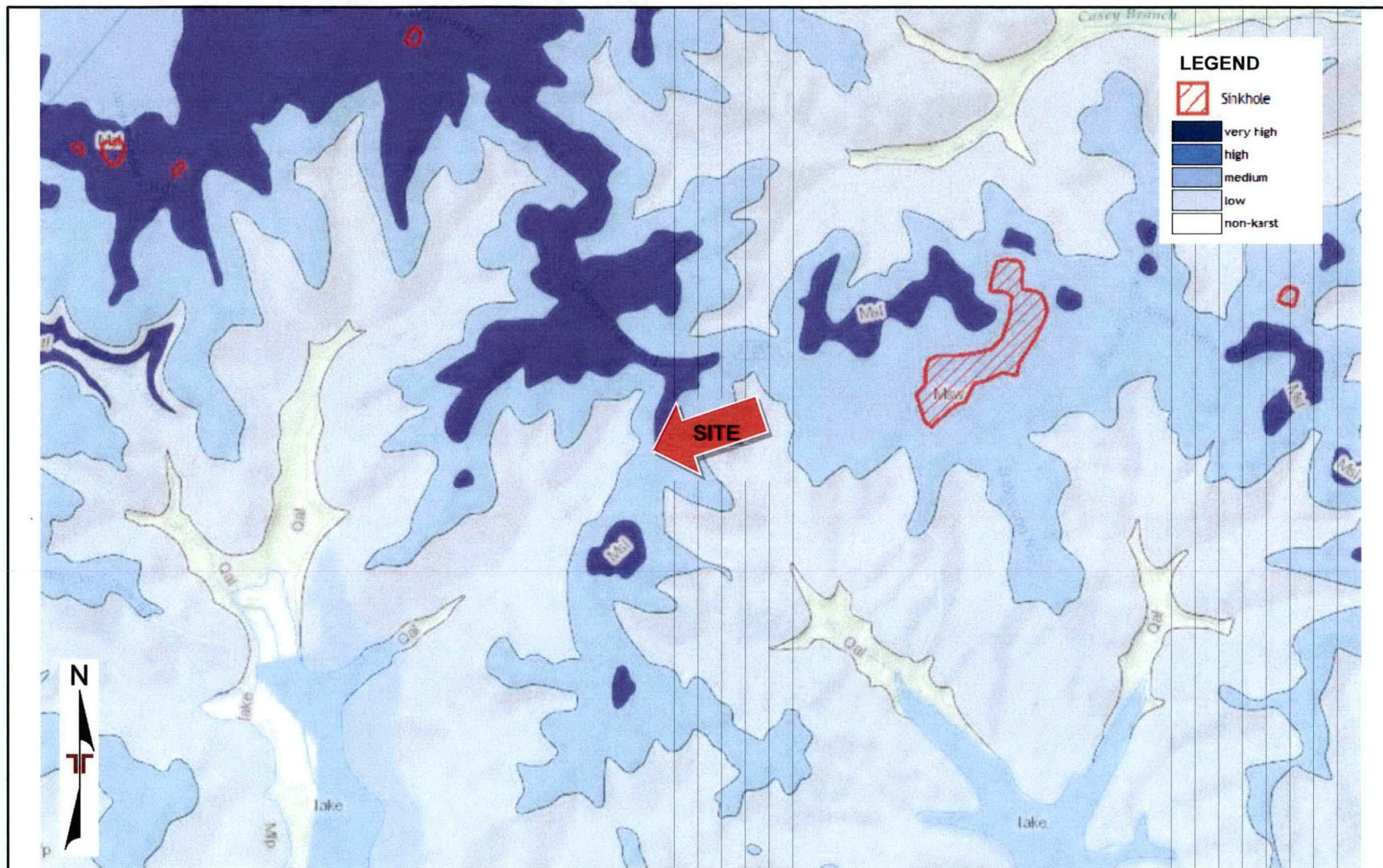


DIAGRAM IS FOR GENERAL LOCATION ONLY,
AND IS NOT INTENDED FOR CONSTRUCTION
PURPOSES

Project Manager: RCO
Drawn by: RCO
Checked by: RJE
Approved by: RJE

Project No. 57175011
Scale: NTS
File Name: Plans
Date: 3/21/2017

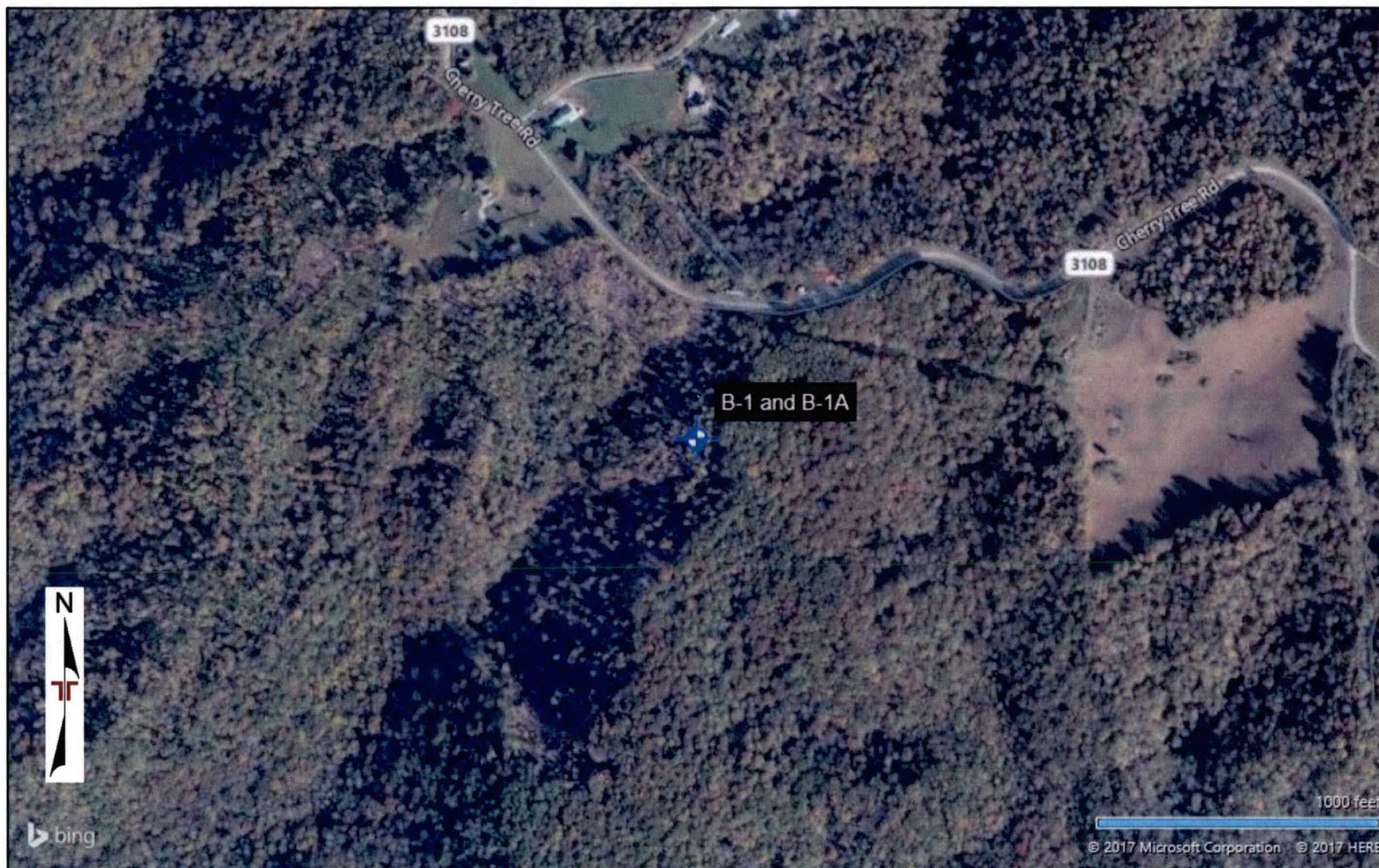
Terracon
13050 Eastgate Park Way Ste 101
Louisville, KY 40223-3915

KARST POTENTIAL PLAN

Hendricks Creek Tower
1407 Cherry Tree Ridge
Burkesville, Kentucky

Exhibit

A-1B



AERIAL PHOTOGRAPHY PROVIDED BY
MICROSOFT BING MAPS

DIAGRAM IS FOR GENERAL LOCATION ONLY,
AND IS NOT INTENDED FOR CONSTRUCTION
PURPOSES

Project Manager: RCO
Drawn by: RCO
Checked by: RJE
Approved by: RJE

Project No. 57175011
Scale: AS SHOWN
File Name: Plans
Date: 3/21/2017

Terracon

13050 Eastgate Park Way Ste 101
Louisville, KY 40223-3915

EXPLORATION PLAN

Hendricks Creek Tower
1407 Cherry Tree Ridge
Burkesville, Kentucky

Exhibit

A-2

BORING LOG NO. B-1

Page 1 of 1

PROJECT: Hendricks Creek Tower

CLIENT: Bluegrass Cellular, Inc.
Elizabethtown, Kentucky

SITE: 1407 Cherry Tree Rd
Burkesville, Kentucky

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GEO SMART LOG-NO WELL 57175011 HENDRICKS CREEK BORING LOGS.GPJ TERRACON2015.GDT 3/24/17

GRAPHIC LOG	LOCATION See Exhibit A-2 Latitude: 36.637772° Longitude: -85.362903° Surface Elev.: 984.1 (Ft.)	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	FIELD TEST RESULTS	ROCK CORE UNIAxIAL STRENGTH (psi)	ROCK CORE UNIT WEIGHT (pcf)	LABORATORY TORVANE/HP (psi)	UNCONFINED COMPRESSIVE STRENGTH (psi)	WATER CONTENT (%)	ATTERBERG LIMITS LL-PL-PI
	DEPTH ELEVATION (Ft.)										
0.7	TOPSOIL 983.5										
	LEAN CLAY (CL) , with silt, reddish-brown with yellowish-brown, stiff, trace roots			X	3-5-6 N=11			5000 (HP)		28	
3.0	FAT CLAY (CH) , light reddish-brown with yellowish-brown, very stiff to hard - very stiff	981									
	- trace weathered limestone, trace root fragments extending to 8 ft			X	6-7-8 N=15			8000+ (HP)		26	62-24-38
	- with black oxidation nodules, hard			X	6-8-10 N=18			8000+ (HP)		29	67-26-41
				X	6-15-13 N=28			6000 (HP)		23	
12.0	SILT (ML) , dark brown 972										
13.5		970.5									
14.0	WEATHERED LIMESTONE 970				50/2"					17	30-25-5
	SHALEY LIMESTONE , dark gray, fine-grained, unweathered - shale joints at 15 and 15.2 ft				RQD = 78%	11800	159.2				
17.5	LIMESTONE , light gray, medium-grained, unweathered - clay stained from about 18 to 19 ft - clay layer from about 18.3 to 18.8 ft 966.5				RQD = 95%	18770	162.7				
	- clay stained joint at 27.2 and 27.5 ft				RQD = 95%	12330	159.3				
29.0	Boring Terminated at 29 Feet 955										

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
3 1/4" Hollow Stem Auger

See Exhibit A-3 for description of field procedures.
See Appendix B for description of laboratory procedures and additional data (if any).

Notes:

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

See Appendix C for explanation of symbols and abbreviations.

WATER LEVEL OBSERVATIONS

No free water observed

Terracon
13050 Eastgate Park Way Ste 101
Louisville, KY

Boring Started: 2/23/2017

Boring Completed: 2/23/2017

Drill Rig: CME 550

Driller: S. Anderson

Project No.: 57175011

Exhibit: A-3


BORING LOG NO. B-1A

Page 1 of 1

PROJECT: Hendricks Creek Tower

CLIENT: Bluegrass Cellular, Inc.
Elizabethtown, Kentucky

SITE: 1407 Cherry Tree Rd
Burkesville, Kentucky

GRAPHIC LOG	LOCATION See Exhibit A-2		DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	FIELD TEST RESULTS	ROCK CORE UNIAxIAL STRENGTH (psi)	ROCK CORE UNIT WEIGHT (pcf)	LABORATORY TORVANE/HP (psf)	UNCONFINED COMPRESSIVE STRENGTH (psf)	WATER CONTENT (%)	ATTERBERG LIMITS
	Latitude: 36.637772° Longitude: -85.362903°											LL-PL-PI
DEPTH		ELEVATION (Ft.)										
	0.7	TOPSOIL	983.5									
		LEAN CLAY (CL), with silt, reddish-brown with yellowish-brown, stiff, trace roots								2847	24	42-18-24
	3.0		981									
Boring Terminated at 3 Feet												

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
3 1/4" Hollow Stem Auger

See Exhibit A-3 for description of field procedures.
See Appendix B for description of laboratory procedures and additional data (if any).
See Appendix C for explanation of symbols and abbreviations.

Notes:

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

WATER LEVEL OBSERVATIONS

No free water observed

Terracon
13050 Eastgate Park Way Ste 101
Louisville, KY

Boring Started: 2/23/2017

Boring Completed: 2/23/2017

Drill Rig: CME 550

Driller: S. Anderson

Project No.: 57175011

Exhibit: A-4

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GEO SMART LOG-NO WELL 57175011 HENDRICKS CREEK BORING LOGS.GPJ TERRACON2015.GDT 3/24/17

Rock Core Photograph Log

Hendricks Creek Tower ■ Burkesville, Kentucky

March 21, 2017 ■ Terracon Project 57175011

Terracon



PHOTO #1 – Rock Core sample at B-1 from 14 to 24 feet below existing grade



PHOTO #2 – Rock Core sample at B-1 from 24 to 29 feet below existing grade

Summary of Laboratory Results

Sheet 1 of 1

BORING ID	Depth	USCS Classification and Soil Description	Compressive Strength (psf)	Liquid Limit	Plastic Limit	Plasticity Index	% <#200 Sieve	% Gravel	% Sand	% Silt	% Clay	Water Content (%)	Dry Density (pcf)
B-1	1 - 2.5											28.3	
B-1	3.5 - 5			62	24	38						26.2	
B-1	6 - 7.5			67	26	41						29.3	
B-1	8.5 - 10											23.0	
B-1	13.5 - 13.7			30	25	5						17.1	
B-1	14 - 19												
B-1	19 - 24												
B-1	24 - 29												
B-1A	1 - 3		2847	42	18	24						23.9	100.7

LABORATORY TESTS ARE NOT VALID IF SEPARATED FROM ORIGINAL REPORT. OLD-LAB SUMMARY: USCS 57175011 HENDRICKS CREEK BORING LOGS.GPJ TERRACON2015.GDT 3/24/17

PROJECT: Hendricks Creek Tower

SITE: 1407 Cherry Tree Rd
Burkesville, Kentucky

Terracon
13050 Eastgate Park Way Ste 101
Louisville, KY

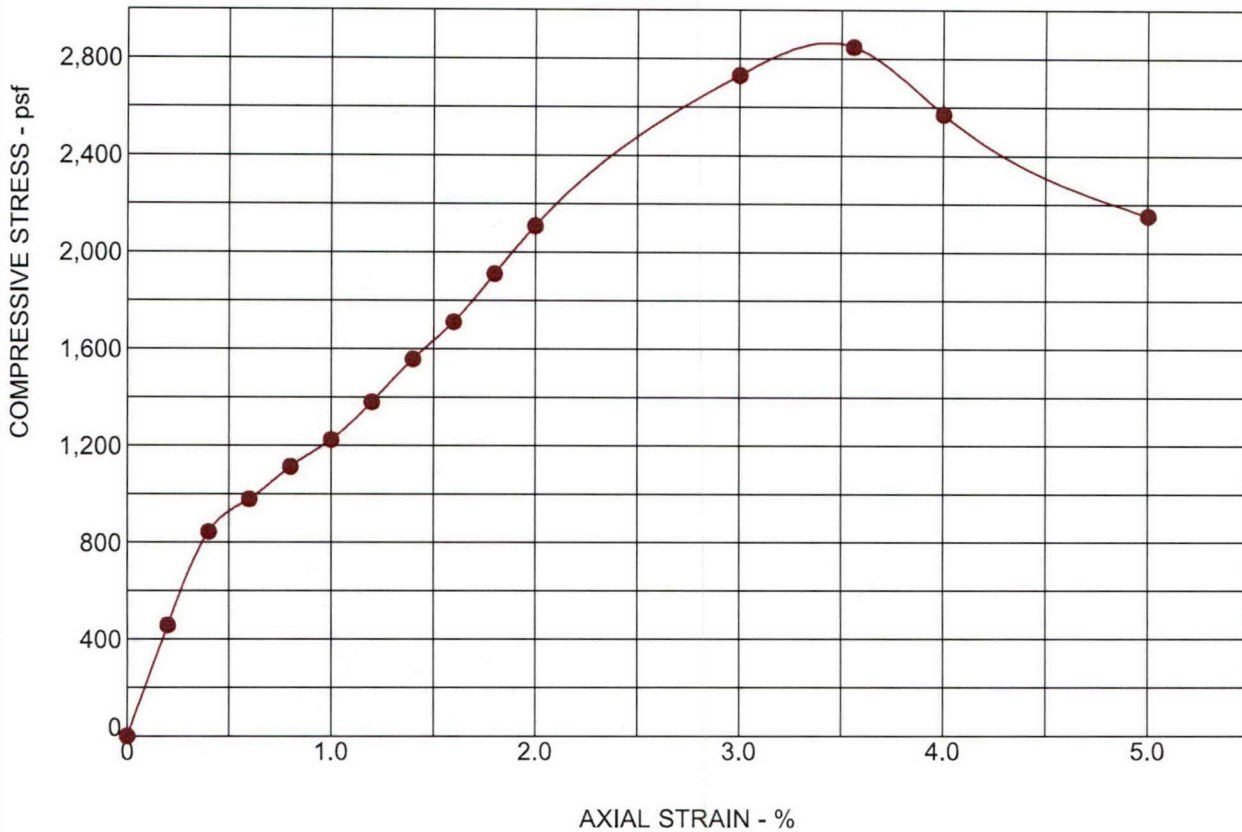
PROJECT NUMBER: 57175011

CLIENT: Bluegrass Cellular, Inc.
Elizabethtown, Kentucky

EXHIBIT: B-1

UNCONFINED COMPRESSION TEST

ASTM D2166



SPECIMEN FAILURE PHOTOGRAPH



SPECIMEN TEST DATA

Moisture Content:	%	24
Dry Density:	pcf	101
Diameter:	in.	2.83
Height:	in.	5.62
Height / Diameter Ratio:		1.98
Calculated Saturation:	%	
Calculated Void Ratio:		
Assumed Specific Gravity:		
Failure Strain:	%	3.56
Unconfined Compressive Strength	(psf)	2847
Undrained Shear Strength:	(psf)	1423
Strain Rate:	in/min	0.1124
Remarks:		

SAMPLE TYPE: Shelby Tube

SAMPLE LOCATION: B-1A @ 1 - 3 feet

SAMPLE DESCRIPTION:

LL

PL

PI

Percent < #200 Sieve

PROJECT: Hendricks Creek Tower

SITE: 1407 Cherry Tree Rd
Burkesville, Kentucky

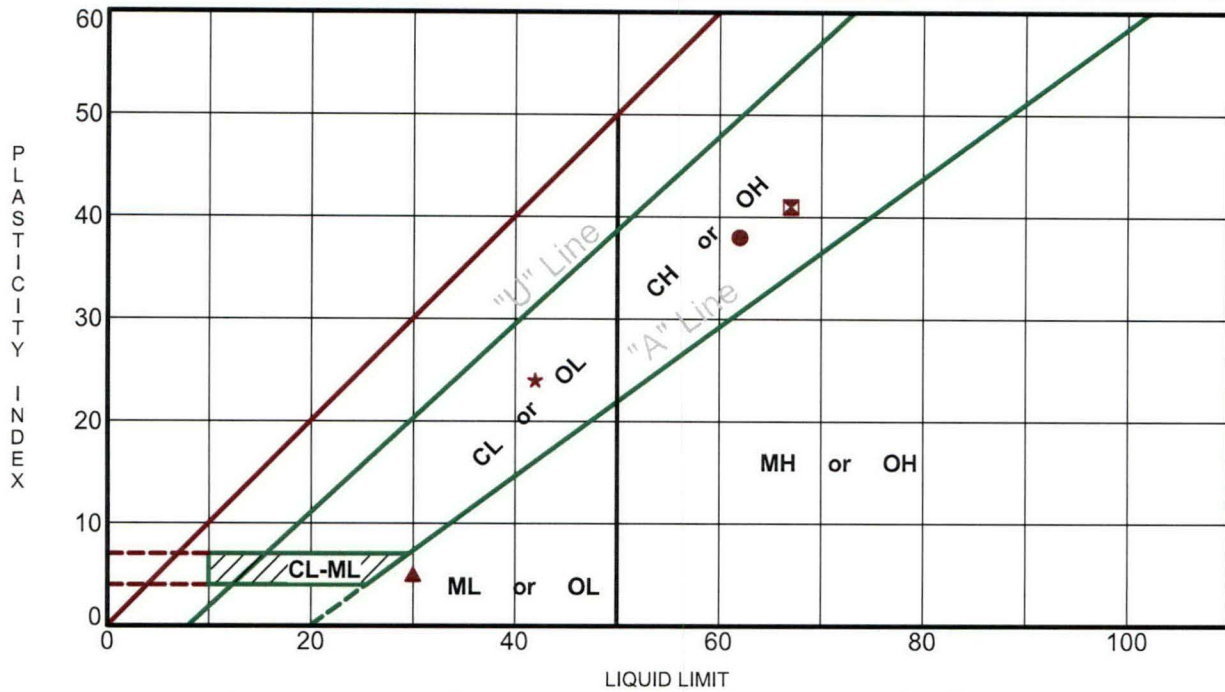
Terracon
13050 Eastgate Park Way Ste 101
Louisville, KY

PROJECT NUMBER: 57175011

CLIENT: Bluegrass Cellular, Inc.
Elizabethtown, Kentucky

EXHIBIT: B-2

ASTM D4318

[illegible]

PROJECT: Hendricks Creek Tower

SITE: 1407 Cherry Tree Rd
Burkesville, Kentucky

Terracon
13050 Eastgate Park Way Ste 101
Louisville, KY

PROJECT NUMBER: 57175011

CLIENT: Bluegrass Cellular, Inc.
Elizabethtown, Kentucky

EXHIBIT: B-3

LABORATORY TESTS ARE NOT VALID IF SEPARATED FROM ORIGINAL REPORT. ATTERBERG LIMITS 57175011 HENDRICKS CREEK BORING LOGS.GPJ TERRACON2015.GDT 3/24/17

GENERAL NOTES

DRILLING & SAMPLING SYMBOLS:

SS: Split Spoon - 1-3/8" I.D., 2" O.D., unless otherwise noted
 ST: Thin-Walled Tube - 2" O.D., 3" O.D., unless otherwise noted
 RS: Ring Sampler - 2.42" I.D., 3" O.D., unless otherwise noted
 DB: Diamond Bit Coring - 4", N, B
 BS: Bulk Sample or Auger Sample

HS: Hollow Stem Auger
 PA: Power Auger (Solid Stem)
 HA: Hand Auger
 RB: Rock Bit
 WB: Wash Boring or Mud Rotary

The number of blows required to advance a standard 2-inch O.D. split-spoon sampler (SS) the last 12 inches of the total 18-inch penetration with a 140-pound hammer falling 30 inches is considered the "Standard Penetration" or "N-value".

WATER LEVEL MEASUREMENT SYMBOLS:

WL: Water Level
 WCI: Wet Cave in
 DCI: Dry Cave in
 WS: While Sampling
 WD: While Drilling
 AB: After Boring
 BCR: Before Casing Removal
 ACR: After Casing Removal
 N/E: Not Encountered

Water levels indicated on the boring logs are the levels measured in the borings at the times indicated. Groundwater levels at other times and other locations across the site could vary. In pervious soils, the indicated levels may reflect the location of groundwater. In low permeability soils, the accurate determination of groundwater levels may not be possible with only short-term observations.

DESCRIPTIVE SOIL CLASSIFICATION: Soil classification is based on the Unified Soil Classification System. Coarse Grained Soils have more than 50% of their dry weight retained on a #200 sieve; their principal descriptors are: boulders, cobbles, gravel or sand. Fine Grained Soils have less than 50% of their dry weight retained on a #200 sieve; they are principally described as clays if they are plastic, and silts if they are slightly plastic or non-plastic. Major constituents may be added as modifiers and minor constituents may be added according to the relative proportions based on grain size. In addition to gradation, coarse-grained soils are defined on the basis of their in-place relative density and fine-grained soils on the basis of their consistency.

CONSISTENCY OF FINE-GRAINED SOILS

<u>Unconfined</u> <u>Compressive</u> <u>Strength, Qu, psf</u>	<u>Standard Penetration</u> <u>or N-value (SS)</u> <u>Blows/Ft.</u>	<u>Consistency</u>
< 500	>2	Very Soft
500 – 1,000	2 - 3	Soft
1,000 – 2,000	4 - 6	Medium Stiff
2,000 – 4,000	7 - 12	Stiff
4,000 – 8,000	13 - 26	Very Stiff
8,000+	> 26	Hard

RELATIVE PROPORTIONS OF SAND AND GRAVEL

<u>Descriptive Term(s)</u> <u>of other constituents</u>	<u>Percent of</u> <u>Dry Weight</u>
Trace	< 15
With	15 – 29
Modifier	≥ 30

RELATIVE PROPORTIONS OF FINES

<u>Descriptive Term(s)</u> <u>of other constituents</u>	<u>Percent of</u> <u>Dry Weight</u>
Trace	< 5
With	5 – 12
Modifier	> 12

RELATIVE DENSITY OF COARSE-GRAINED SOILS

<u>Standard Penetration</u> <u>or N-value (SS)</u> <u>Blows/Ft.</u>	<u>Relative Density</u>
0 – 3	Very Loose
4 – 9	Loose
10 – 29	Medium Dense
30 – 50	Dense
> 50	Very Dense

GRAIN SIZE TERMINOLOGY

<u>Major Component</u> <u>of Sample</u>	<u>Particle Size</u>
Boulders	Over 12 in. (300mm)
Cobbles	12 in. to 3 in. (300mm to 75mm)
Gravel	3 in. to #4 sieve (75mm to 4.75mm)
Sand	#4 to #200 sieve (4.75 to 0.075mm)
Silt or Clay	Passing #200 Sieve (0.075mm)

PLASTICITY DESCRIPTION

<u>Term</u>	<u>Plasticity</u> <u>Index</u>
Non-plastic	0
Low	1-10
Medium	11-30
High	> 30

UNIFIED SOIL CLASSIFICATION SYSTEM

Criteria for Assigning Group Symbols and Group Names Using Laboratory Tests ^A					Soil Classification	
					Group Symbol	Group Name ^B
Coarse Grained Soils: More than 50% retained on No. 200 sieve	Gravels: More than 50% of coarse fraction retained on No. 4 sieve	Clean Gravels: Less than 5% fines ^C	$Cu \geq 4$ and $1 \leq Cc \leq 3$ ^E	GW	Well-graded gravel ^F	
			$Cu < 4$ and/or $1 > Cc > 3$ ^E	GP	Poorly graded gravel ^F	
		Gravels with Fines: More than 12% fines ^C	Fines classify as ML or MH	GM	Silty gravel ^{F,G,H}	
			Fines classify as CL or CH	GC	Clayey gravel ^{F,G,H}	
	Sands: 50% or more of coarse fraction passes No. 4 sieve	Clean Sands: Less than 5% fines ^D	$Cu \geq 6$ and $1 \leq Cc \leq 3$ ^E	SW	Well-graded sand ^I	
			$Cu < 6$ and/or $1 > Cc > 3$ ^E	SP	Poorly graded sand ^I	
		Sands with Fines: More than 12% fines ^D	Fines classify as ML or MH	SM	Silty sand ^{G,H,I}	
			Fines Classify as CL or CH	SC	Clayey sand ^{G,H,I}	
Fine-Grained Soils: 50% or more passes the No. 200 sieve	Silts and Clays: Liquid limit less than 50	Inorganic:	$PI > 7$ and plots on or above "A" line ^J	CL	Lean clay ^{K,L,M}	
			$PI < 4$ or plots below "A" line ^J	ML	Silt ^{K,L,M}	
		Organic:	Liquid limit - oven dried	< 0.75	OL	Organic clay ^{K,L,M,N}
			Liquid limit - not dried			Organic silt ^{K,L,M,O}
	Silts and Clays: Liquid limit 50 or more	Inorganic:	PI plots on or above "A" line	CH	Fat clay ^{K,L,M}	
			PI plots below "A" line	MH	Elastic Silt ^{K,L,M}	
		Organic:	Liquid limit - oven dried	< 0.75	OH	Organic clay ^{K,L,M,P}
			Liquid limit - not dried			Organic silt ^{K,L,M,Q}
Highly organic soils:	Primarily organic matter, dark in color, and organic odor				PT	Peat

^A Based on the material passing the 3-in. (75-mm) sieve

^B If field sample contained cobbles or boulders, or both, add "with cobbles or boulders, or both" to group name.

^C Gravels with 5 to 12% fines require dual symbols: GW-GM well-graded gravel with silt, GW-GC well-graded gravel with clay, GP-GM poorly graded gravel with silt, GP-GC poorly graded gravel with clay.

^D Sands with 5 to 12% fines require dual symbols: SW-SM well-graded sand with silt, SW-SC well-graded sand with clay, SP-SM poorly graded sand with silt, SP-SC poorly graded sand with clay

^E $Cu = D_{60}/D_{10}$ $Cc = \frac{(D_{30})^2}{D_{10} \times D_{60}}$

^F If soil contains $\geq 15\%$ sand, add "with sand" to group name.

^G If fines classify as CL-ML, use dual symbol GC-GM, or SC-SM.

^H If fines are organic, add "with organic fines" to group name.

^I If soil contains $\geq 15\%$ gravel, add "with gravel" to group name.

^J If Atterberg limits plot in shaded area, soil is a CL-ML, silty clay.

^K If soil contains 15 to 29% plus No. 200, add "with sand" or "with gravel," whichever is predominant.

^L If soil contains $\geq 30\%$ plus No. 200 predominantly sand, add "sandy" to group name.

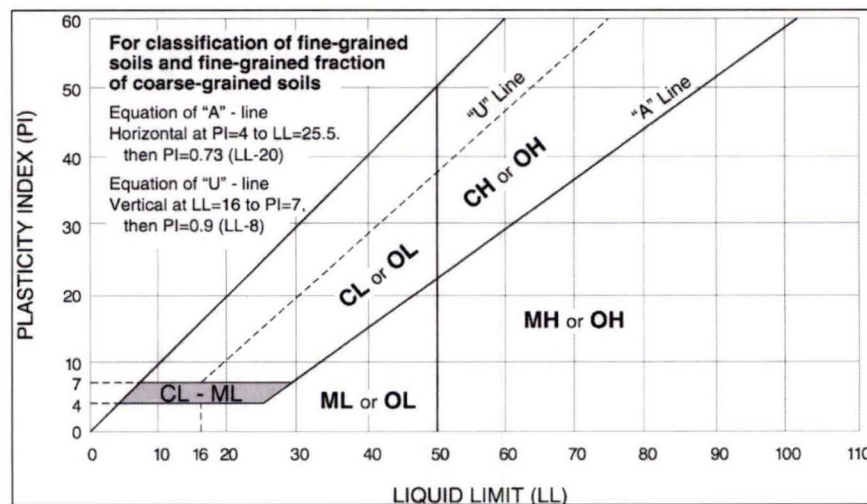
^M If soil contains $\geq 30\%$ plus No. 200, predominantly gravel, add "gravelly" to group name.

^N $PI \geq 4$ and plots on or above "A" line.

^O $PI < 4$ or plots below "A" line.

^P PI plots on or above "A" line.

^Q PI plots below "A" line.



GENERAL NOTES

Description of Rock Properties

WEATHERING

Fresh	Rock fresh, crystals bright, few joints may show slight staining. Rock rings under hammer if crystalline.
Very slight	Rock generally fresh, joints stained, some joints may show thin clay coatings, crystals in broken face show bright. Rock rings under hammer if crystalline.
Slight	Rock generally fresh, joints stained, and discoloration extends into rock up to 1 in. Joints may contain clay. In granitoid rocks some occasional feldspar crystals are dull and discolored. Crystalline rocks ring under hammer.
Moderate	Significant portions of rock show discoloration and weathering effects. In granitoid rocks, most feldspars are dull and discolored; some show dayey. Rock has dull sound under hammer and shows significant loss of strength as compared with fresh rock.
Moderately severe	All rock except quartz discolored or stained. In granitoid rocks, all feldspars dull and discolored and majority show kaolinization. Rock shows severe loss of strength and can be excavated with geologist's pick.
Severe	All rock except quartz discolored or stained. Rock "fabric" clear and evident, but reduced in strength to strong soil. In granitoid rocks, all feldspars kaolinized to some extent. Some fragments of strong rock usually left.
Very severe	All rock except quartz discolored or stained. Rock "fabric" discernible, but mass effectively reduced to "soil" with only fragments of strong rock remaining.
Complete	Rock reduced to "soil". Rock "fabric" not discernible or discernible only in small, scattered locations. Quartz may be present as dikes or stringers.

HARDNESS (for engineering description of rock – not to be confused with Moh's scale for minerals)

Very hard	Cannot be scratched with knife or sharp pick. Breaking of hand specimens requires several hard blows of geologist's pick.
Hard	Can be scratched with knife or pick only with difficulty. Hard blow of hammer required to detach hand specimen.
Moderately hard	Can be scratched with knife or pick. Gouges or grooves to ¼ in. deep can be excavated by hard blow of point of a geologist's pick. Hand specimens can be detached by moderate blow.
Medium	Can be grooved or gouged 1/16 in. deep by firm pressure on knife or pick point. Can be excavated in small chips to pieces about 1-in. maximum size by hard blows of the point of a geologist's pick.
Soft	Can be gouged or grooved readily with knife or pick point. Can be excavated in chips to pieces several inches in size by moderate blows of a pick point. Small thin pieces can be broken by finger pressure.
Very soft	Can be carved with knife. Can be excavated readily with point of pick. Pieces 1-in. or more in thickness can be broken with finger pressure. Can be scratched readily by fingernail.

Joint, Bedding and Foliation Spacing in Rock^a

Spacing		Joints	Bedding/Foliation
Less than 2 in.		Very close	Very thin
2 in. – 1 ft.		Close	Thin
1 ft. – 3 ft.		Moderately close	Medium
3 ft. – 10 ft.		Wide	Thick
More than 10 ft.		Very wide	Very thick

Rock Quality Designator (RQD) ^b		Joint Openness Descriptors	
RQD, as a percentage	Diagnostic description	Openness	Descriptor
Exceeding 90	Excellent	No Visible Separation	Tight
90 – 75	Good	Less than 1/32 in.	Slightly Open
75 – 50	Fair	1/32 to 1/8 in.	Moderately Open
50 – 25	Poor	1/8 to 3/8 in.	Open
Less than 25	Very poor	3/8 in. to 0.1 ft.	Moderately Wide
		Greater than 0.1 ft.	Wide

a. Spacing refers to the distance normal to the planes, of the described feature, which are parallel to each other or nearly so.

b. RQD (given as a percentage) = length of core in pieces 4 in. and longer/length of run.

References: American Society of Civil Engineers. Manuals and Reports on Engineering Practice - No. 56. Subsurface Investigation for Design and Construction of Foundations of Buildings. New York: American Society of Civil Engineers, 1976.

U.S. Department of the Interior, Bureau of Reclamation, Engineering Geology Field Manual.



BLUEGRASS CELLULAR
PROJECT SUPERVISOR:

DATE: _____

CITY REPRESENTATIVE:

TITLE: _____

DATE: _____

PROPERTY OWNER/OWNERS:

DATE: _____

TOWER OWNER/OWNERS:

DATE: _____

911 ADDRESS: 1407 CHERRY TREE RD.
BURKESVILLE, KY. 42717

TOWER LATITUDE & LONGITUDE

N36* 38' 15.33" W85* 21' 45.64"

SHEET NO.	DESCRIPTION	REVISION
-----------	-------------	----------

[illegible]

VICINITY MAP
NOT TO SCALE

DIRECTIONS TO SITE

FROM ELIZABETHTOWN, KENTUCKY; TRAVEL SOUTH ON I-65 TO EXIT 43 AND THE CUMBERLAND PARKWAY; TRAVEL EAST ON THE CUMBERLAND PARKWAY TO EXIT 44 AND KENTUCKY HIGHWAY 90 AT A T-INTERSECTION; TRAVEL SOUTH ON KENTUCKY HIGHWAY 90 TO THE CUMBERLAND COUNTY COURTHOUSE IN BURKESVILLE; CONTINUE THROUGH BURKESVILLE ON KENTUCKY HIGHWAYS 90 AND 61 FOR 0.6 MILES TO THE SOUTH INTERSECTION OF KENTUCKY HIGHWAYS 90 AND 61; TURN RIGHT ONTO KENTUCKY HIGHWAY 61 AND TRAVEL SOUTH FOR 9.2 MILES TO SPEARS CHAPEL ROAD (KENTUCKY HIGHWAY 3108); TURN LEFT ONTO SPEARS CHAPEL ROAD AND TRAVEL SOUTHERLY FOR 0.1 MILES TO CHERRY TREE ROAD (KENTUCKY HIGHWAY 3108); TURN LEFT ONTO CHERRY TREE ROAD AND TRAVEL SOUTHEAST FOR 1.3 MILES TO A DIRT LANE ON THE RIGHT OR SOUTH SIDE OF THE ROAD; TURN RIGHT ONTO THE LANE AND TRAVEL SOUTH FOR 500 FEET TO THE TOWER SITE IN A WOODED AREA ON A RIDGE.

PROPERTY OWNER: FRANK A.B. BRENDL JR.
(270)433-7172

TOWER OWNER: BLUEGRASS CELLULAR

POWER COMPANY: TRI COUNTY ELECTRIC
1-270-864-3871

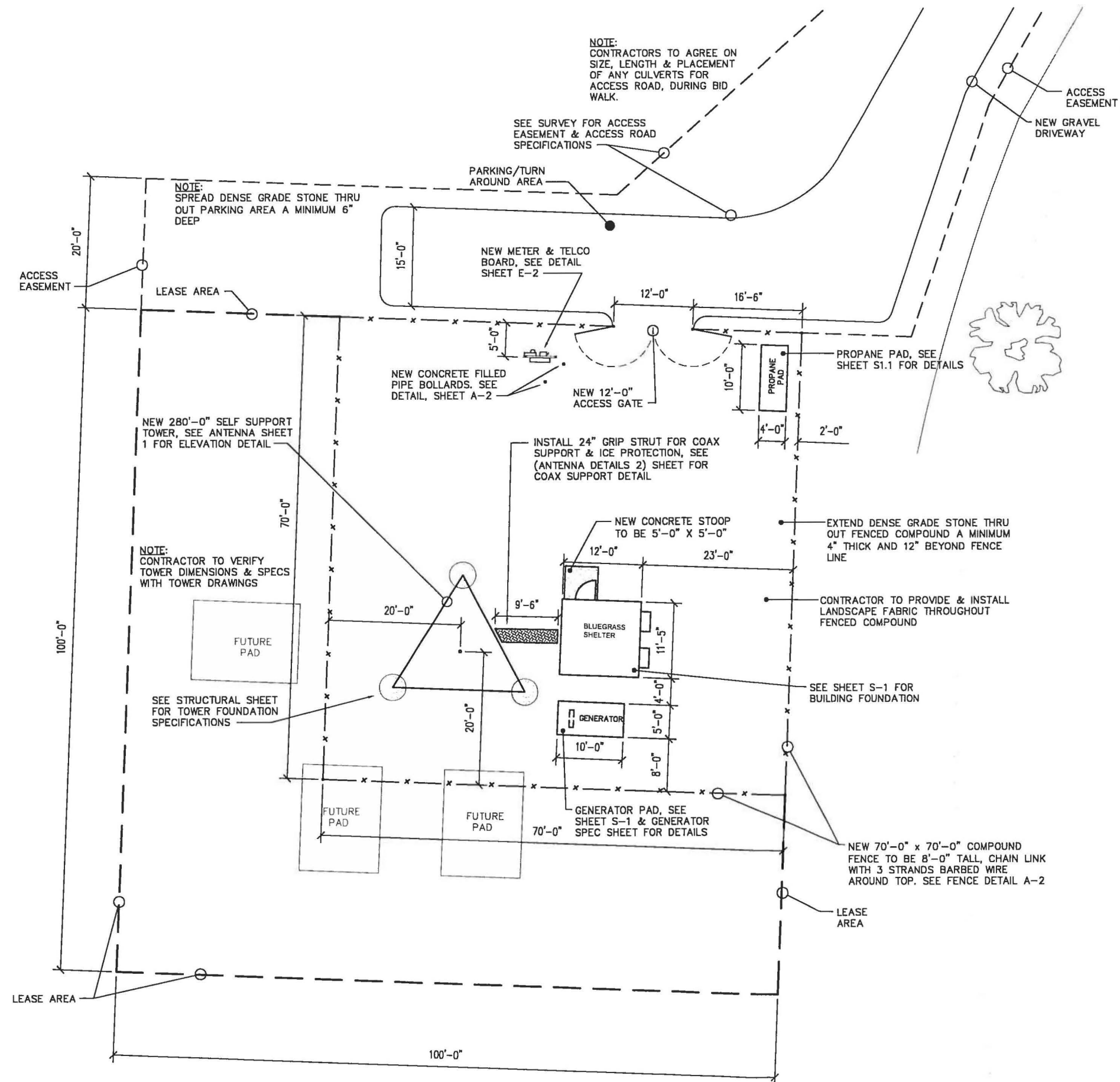
TELEPHONE COMPANY: DUO COUNTY
(855) 575-7625

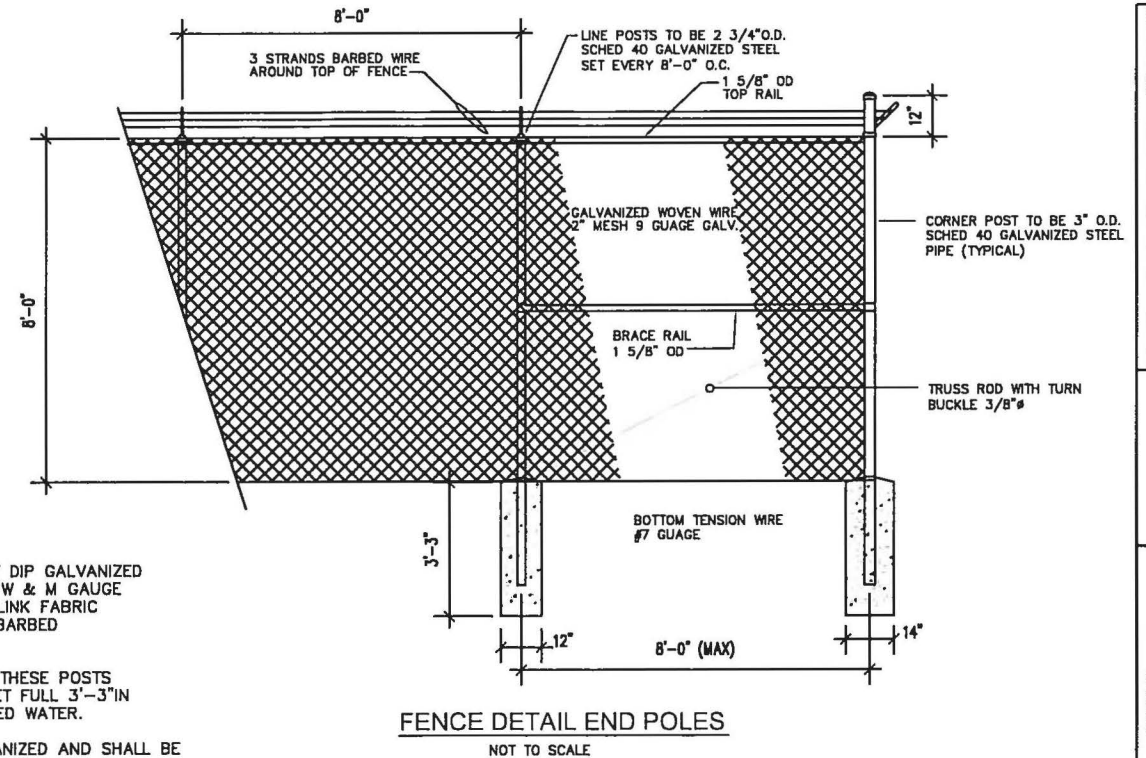
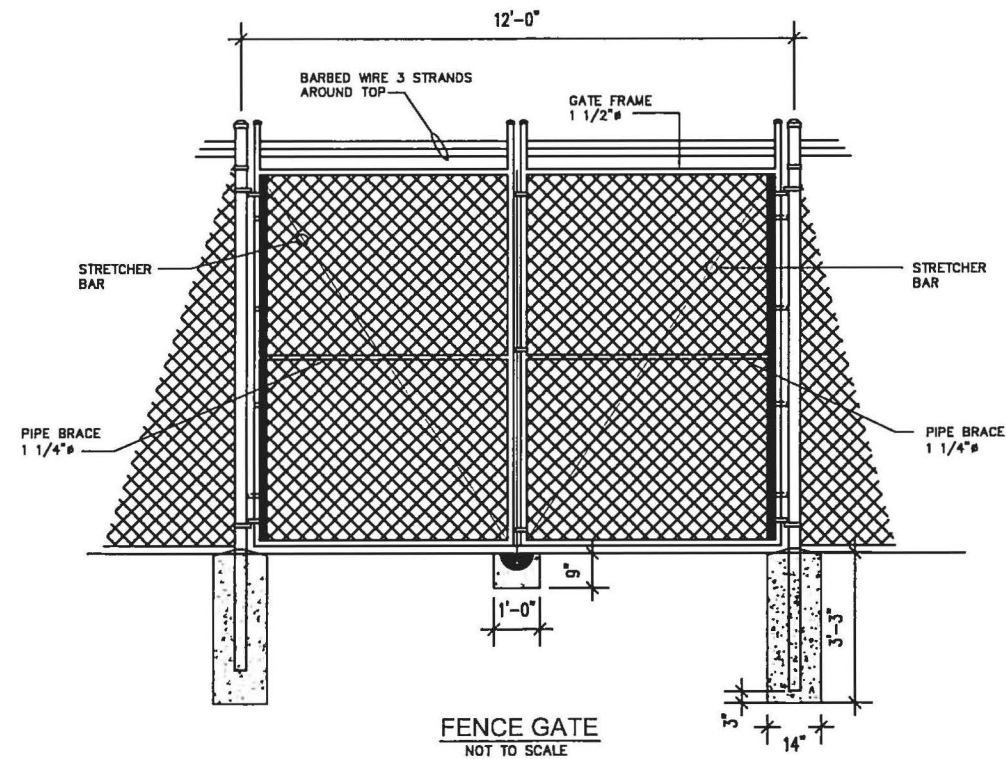
BLUEGRASS PROJECT MANAGER: BILL BURKS (270)734-1028

BLUEGRASS PROJECT SUPERVISOR: MASON McDOWELL (270)734-1002



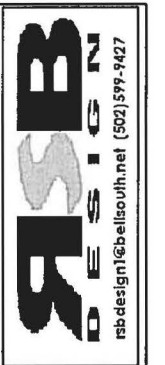
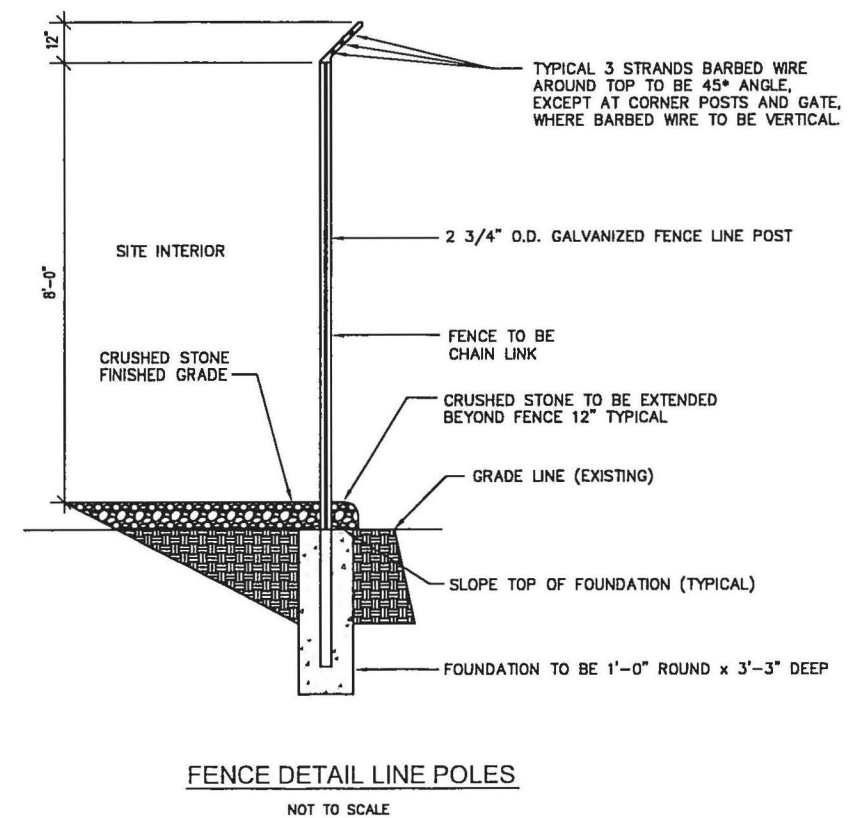
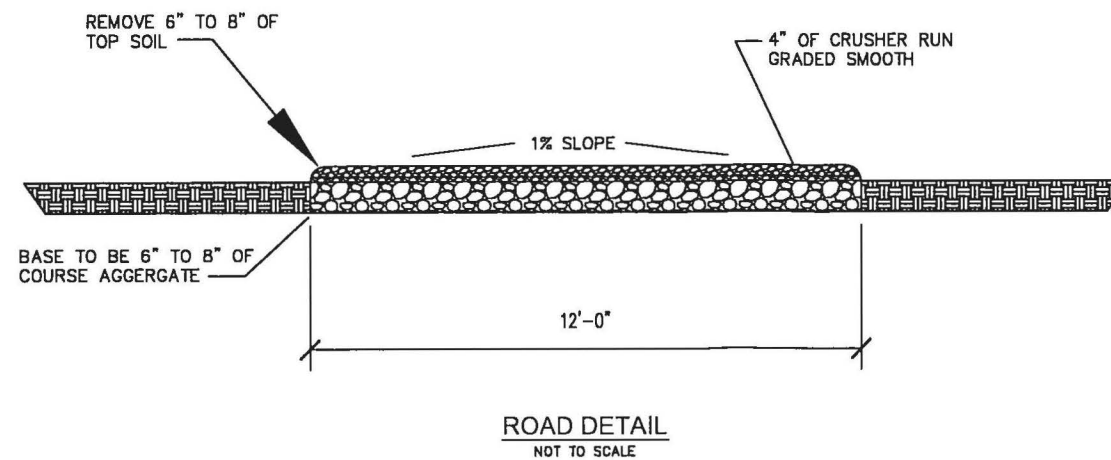
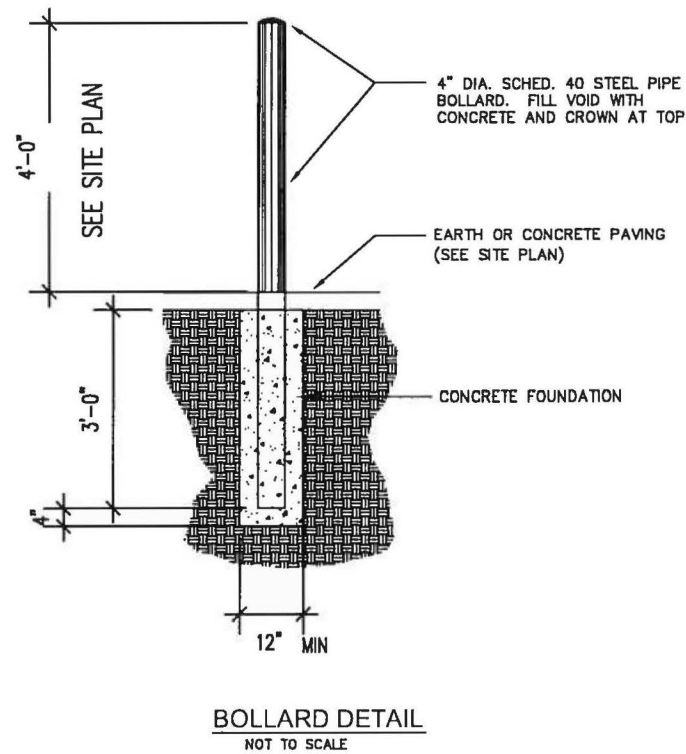
ROBIN BECKER
(502)599-9427
OFFICE





CHAIN LINK FENCING NOTES:

- FABRIC:** THE FABRIC SHALL BE COMPOSED OF INDIVIDUAL HOT DIP GALVANIZED WIRE PICKETS HELICALLY WOUND AND INTERWOVEN FROM NO.9 W & M GAUGE COPPER BEARING STEEL WIRE TO FORM A CONTINUOUS CHAIN LINK FABRIC HAVING A 2" MESH. TOP EDGES SHALL HAVE A TWISTED AND BARBED
- POSTS:** SHALL BE 2 3/4" O.D. SS 40 PIPE HOT GALVANIZED. THESE POSTS SHALL BE SPACED APPROXIMATELY 8'-0" ON CENTERS AND SET FULL 3'-3" IN BELL - SHAPED CONCRETE FOOTING, CROWNED AT TOP TO SHED WATER.
- TOP RAIL:** SHALL BE 1 5/8" O.C. STANDARD PIPE HOT GALVANIZED AND SHALL BE FURNISHED IN RANDOM LENGTHS AVERAGING NOT LESS THAN 20".
- FABRIC TIES:** FOR ATTACHING FABRIC TO LINE POST, TOP RAIL OR TOP WIRE, SHALL BE ALUMINUM STRIP OF WIRE OF APPROVED GAUGE AND DESIGN. USED ON TOP OF RAIL EVERY 24" AND ONE POST EVERY 12".
- EXTENSION ARMS:** CAST STEEL GALVANIZED TO ACCOMMODATE 3 STRANDS OF BARB WIRE, SINGLE ARM SLOPED TO 45°, AND VERTICAL ON TOP OF SWING GATES.
- BARBED WIRE (STEEL):** ASTM A121 GALVANIZED STEEL, 12 GAUGE THICK WIRE, 3 STRANDS 4 POINTS AT 3" O.C.
- SWING GATE POSTS:** SHALL BE 3" O.C. STANDARD HOT GALVANIZED, WEIGHING 5.79 LBS. PER FOOT.
- GATES: (a) SWING GATES:** 2" O.C. STANDARD PIPE WITH INTERNAL BRACING OF 1 5/8" O.D. STANDARD PIPE; WELDED AT ALL JOINTS TO PROVIDE RIGID WATERTIGHT CONSTRUCTION. FABRIC SAME AS FENCE.
- FENCE TO BE 100% ERECTED WITHIN TEN(10) DAYS OF COMPLETION OF CONSTRUCTION, IF TIME FRAME CANNOT BE MET, PLEASE NOTIFY PROJECT SUPERVISOR.
- FENCE STOPS TO BE PLACED ON INSIDE OF COMPOUND PER ACCESS GATE SPECIFICATIONS.



DRAWN BY: R. BECKER		NO.		DATE		REVISION	
ISSUE DATE: 3-15-17							
SCALE: LISTED							
SHEET NUMBER		BLUEGRASS CELLULAR, INC. STANDARD CELLULAR SITE HENDRICKS CREEK 1407 CHERRY TREE RD. BURKESVILLE, KY. 42717					

A-2

BLUEGRASS CELLULAR GENERAL NOTES & ANTENNA SPECS

ALL LINES AND ANTENNAS TO BE PROPERLY MOUNTED TO TOWER OR STRUCTURE PER BLUEGRASS CELLULAR SPECIFICATIONS.

ALL GROUND BARS TO BE INSTALLED AND CAD WELDED TO GROUND FIELD (WHERE REQUIRED)

ALL LINES TO BE GROUNDED AT THE TOP AND BASE OF STRUCTURE OR TOWER.

ALL LINES TO BE GROUNDED AT ENTRANCE OF SHELTER BEFORE WAVE GUIDE PORTS. (EXTERIOR OF BUILDING)

LINES ARE TO BE SECURED TO ICE BRIDGE

WAVE-GUIDE BOOTS ARE TO BE INSTALLED ON ALL LINES (BOTH INSIDE AND OUTSIDE)

ALL COAX CONNECTIONS ARE TO BE WEATHER PROOFED.

INVENTORY OF ALL MATERIAL IS TO BE DONE PRIOR TO INSTALLATION BY CONTRACTOR. (LIST WILL BE PROVIDED)

ALL TRASH AND REFUGE IS TO BE PROPERLY DISPOSED OF.

CONTRACTOR TO EXTEND HARDLINES INTO BUILDING 12" & INSTALL POLYPHASERS AND GROUNDING, PER INSTRUCTION OF PROJECT SUPERVISOR.

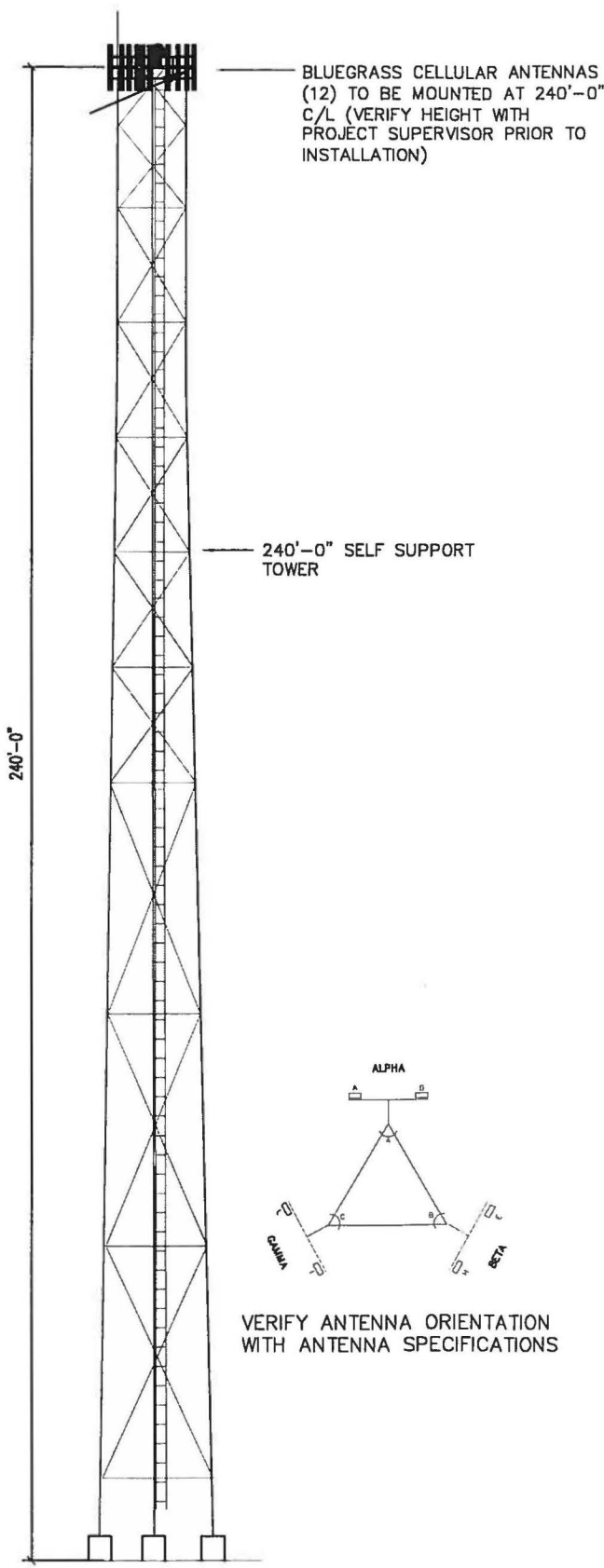
GENERAL CONTRACTOR TO MOUNT ANTENNA MOUNTS AT TOP OF STRUCTURE OR TOWER BY BLUEGRASS CELLULAR SPECIFICATIONS.

ICE BRIDGE TO BE SUPPLIED AND INSTALLED BY GENERAL CONTRACTOR. (Additional Ice Bridge if needed)

TRAPEZE KIT TO BE SUPPLIED AND INSTALLED BY GENERAL CONTRACTOR.

CONTRACTOR TO INSTALL GPS BRACKET & ANTENNAS COMPLETE.

CONTRACTOR TO INSTALL LIGHTING SYSTEM PER FAA ADVISORY 70/7460-1K CHANGE 2, OBSTRUCTION MARKING AND LIGHTING, A MED-DUAL SYSTEM - CHAPTERS 4,8(M-DUAL), & 12



SELF SUPPORT TOWER ELEVATION (TYPICAL)

TOWER HEIGHT & TYPE

240'-0" SELF SUPPORT TOWER

ANTENNA SPECS

	TYPE	SIZE L x W x D	NUMBER	AZIMUTH	MOUNTING HEIGHT
ANTENNA (CDMA)	COMMScope LNK-8514DS-VTM		9	0*, 120*, 240*	240'-0" C/L <small>VERIFY WITH CONSTRUCTION SUPERVISOR</small>
ANTENNA (LTE)	Air21 PANELS		3	0*, 120*, 240*	240'-0" C/L
	RRUS 11 B13		3 EA.	1 EA. PER SECTOR	

ANTENNA MOUNTING HARDWARE SPECS

	TYPE	SIZE	NUMBER
MOUNT (PRIMARY)	WD 13X53 MOUNTING FRAME		3
MOUNT (SECONDARY)			

ANTENNA TRANSMISSION LINES SPECS

	TYPE	SIZE	NUMBER
TRANSMISSION LINE (PRIMARY)	(7) #8AWG	(1) 5/8"	1
TRANSMISSION LINE (PRIMARY)	CDMA COAX	1 5/8"	6
TRANSMISSION LINE (SECONDARY)	(24) Fiber	(1) 3/8"	1

DISH SPECS

	MICROWAVE/DONOR	SIZE	NUMBER	AZIMUTH	MOUNTING HEIGHT
DISH #1					

DISH TRANSMISSION LINES

	TYPE	SIZE	NUMBER
TRANSMISSION LINE #1			
TRANSMISSION LINE #2			

ANTENNA SYNOPSIS

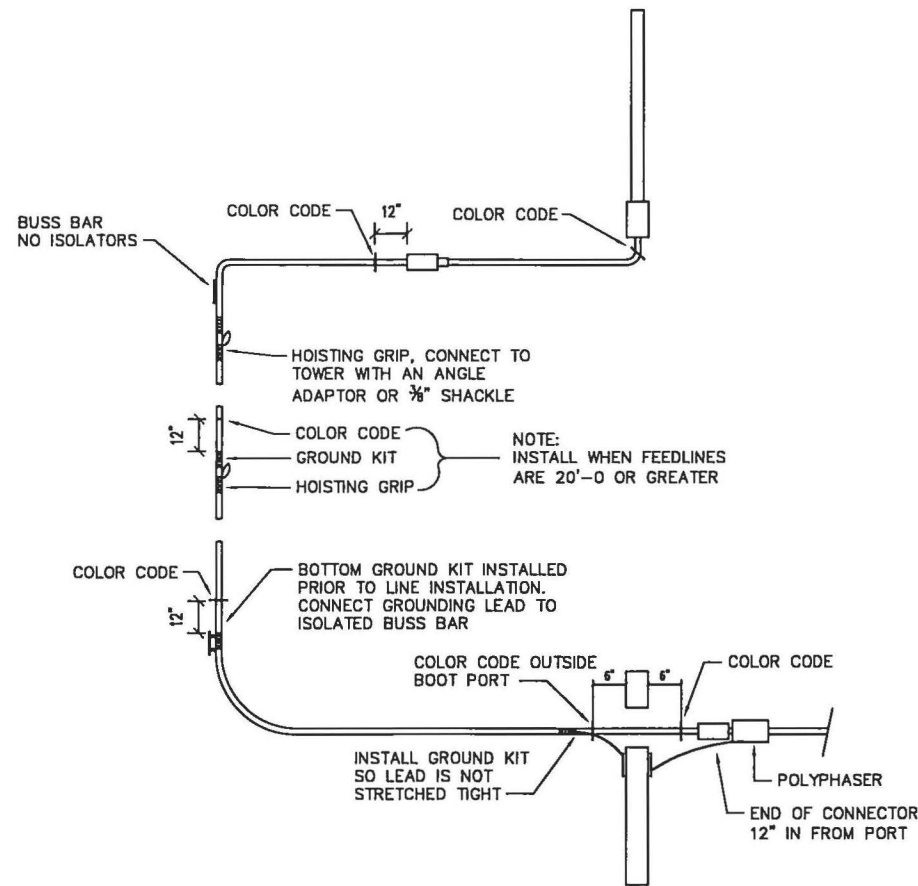
* ANTENNAS TO HAVE A 2*E
* ANTENNAS TO HAVE A 0* Mech.

BLUEGRASS CELLULAR, INC.
STANDARD CELLULAR SITE
HENDRICKS CREEK
1407 CHERRY TREE RD. BURKESVILLE, KY. 42717

DRAWN BY: R. BECKER
ISSUE DATE: 3-15-17
SCALE: LISTED

REVISION
NO. DATE
1
2
3
4

SHEET NUMBER
ANTENNA DETAILS
1



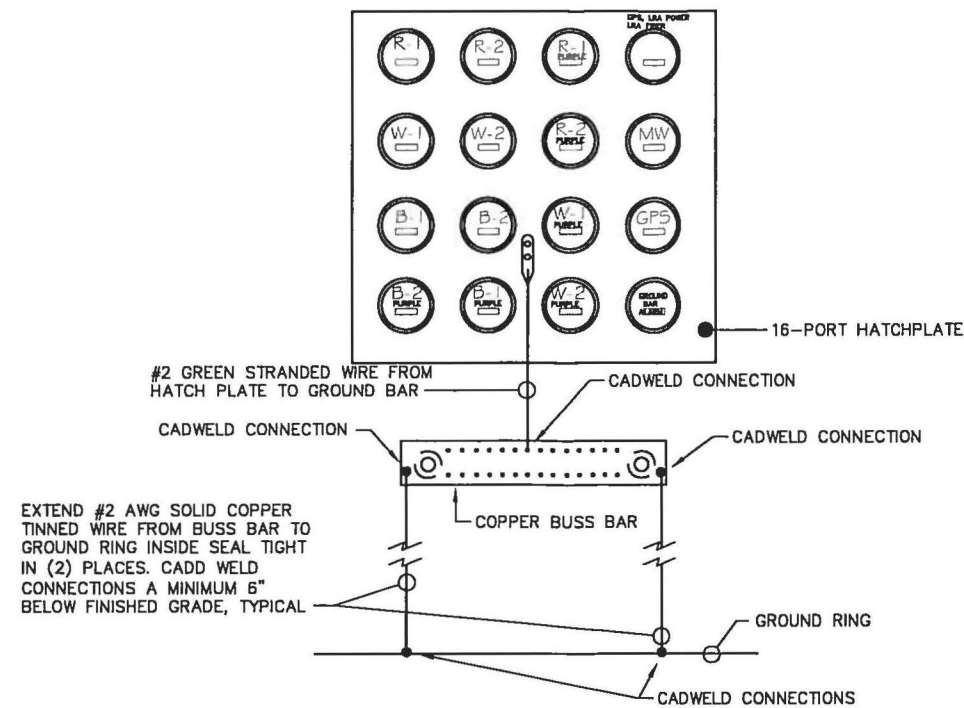
COLOR CODING DETAIL
NO SCALE

COLOR CODE DETAILS:

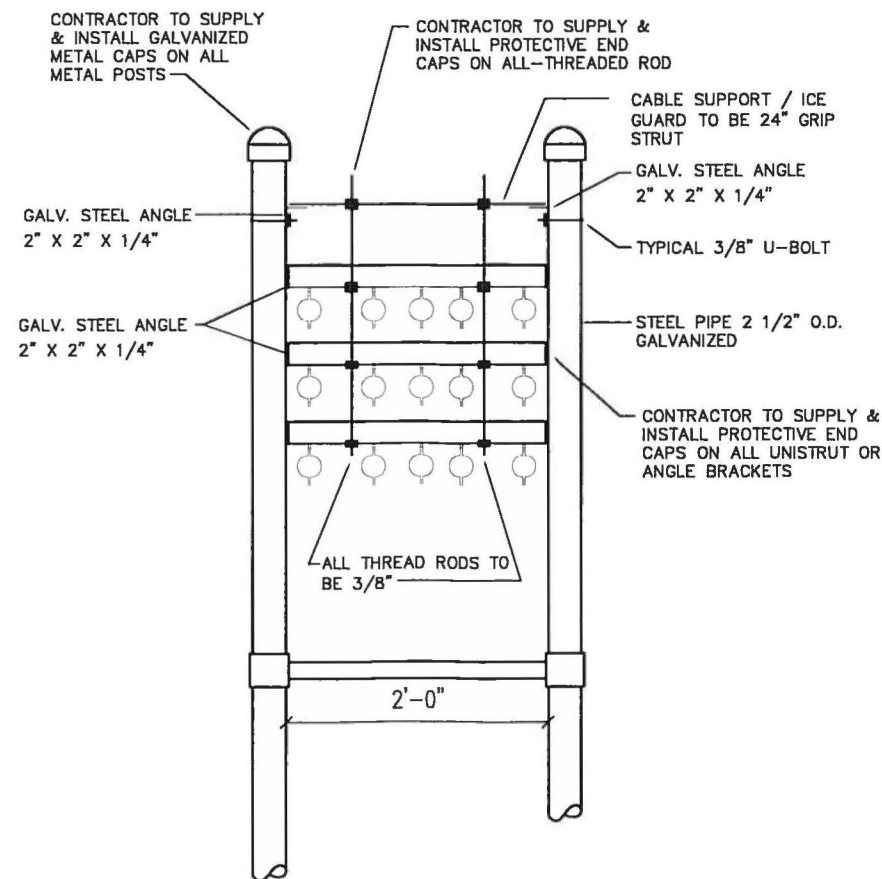
CDMA—NO COLOR OTHER THAN THE SECTOR DESIGNATORS
BCI LTE—ALWAYS 1 PURPLE BAND AFTER RED, WHITE OR BLUE SECTOR DESIGNATOR COLORS.
LRA LTE—ALWAYS HAS 1 ORANGE BAND AFTER RED, WHITE OR BLUE SECTOR DESIGNATOR COLORS.
AWS—ALWAYS HAS 2 ORANGE BANDS AFTER RED, WHITE OR BLUE SECTOR DESIGNATOR COLORS. AWS POWER AND FIBER TRUNK CABLES JUST HAVE 2 ORANGE BANDS WITH NO SECTOR DESIGNATOR COLORS SINCE ALL 3 SECTORS ARE IN TRUNK.

THE SECTOR DESIGNATOR COLORS ARE:

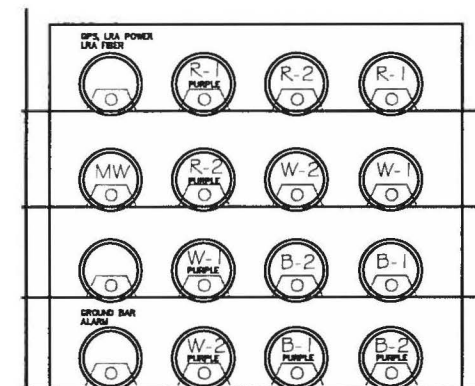
ALPHA 1—1 RED BAND
ALPHA 2—2 RED BANDS
DELTA 1—3 RED BANDS
DELTA 2—4 RED BANDS
BETA 1—1 WHITE BAND
BETA 2 —2 WHITE BANDS
EPSILON1 —3 WHITE BANDS
EPSILON 2—4 WHITE BANDS
GAMMA 1— 1 BLUE BAND
GAMMA 2— 2 BLUE BANDS
ZETA 1 — 3 BLUE BANDS
ZETA 2 — 4 BLUE BANDS
BCI LTE (PURPLE BAND)
1 RED 1 PURPLE (ALPHA 1 BCI LTE)
2 RED 1 PURPLE (ALPHA 2 BCI LTE)
1 WHITE 1 PURPLE (BETA 1 BCI LTE)
2 WHITE 1 PURPLE (BETA 2 BCI LTE)
1 BLUE 1 PURPLE (GAMMA 1 BCI LTE)
2 BLUE 1 PURPLE (GAMMA 2 BCI LTE)



BOOT PORT GROUNDING DETAIL
NO SCALE



ICE BRIDGE / COAX SUPPORT DETAIL
NO SCALE



**COAX ENTRY DETAIL POWER SIDE
(VIEW FROM INSIDE SHELTER)**
NO SCALE

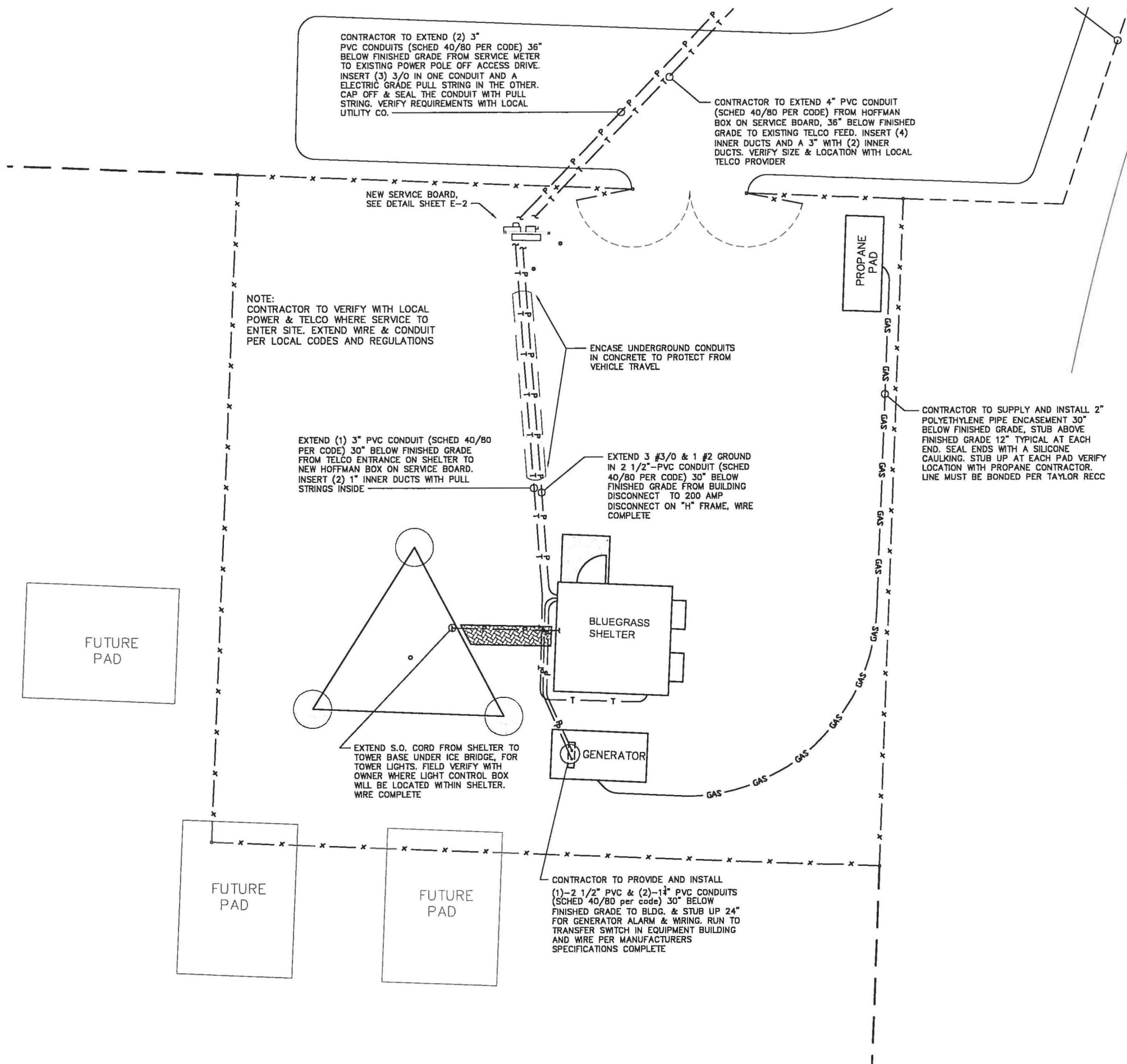
BLUEGRASS CELLULAR, INC.
STANDARD CELLULAR SITE
HENDRICKS CREEK
1407 CHERRY TREE RD. BURKESVILLE, KY. 42717

REVISION

NO.	DATE

DRAWN BY: R. BECKER
ISSUE DATE: 3-15-17
SCALE: LISTED

SHEET NUMBER
ANTENNA DETAILS
2



GENERAL ELECTRICAL NOTES:

- 1) CONTRACTOR RESPONSIBLE FOR MAKING ALL ARRANGEMENTS WITH THE LOCAL UTILITIES FOR SERVICE AND FEE PAYMENTS REQUIRED TO OBTAIN SERVICE.
- 2) CONTRACTOR RESPONSIBLE FOR MAKING ALL ARRANGEMENTS WITH THE LOCAL TELEPHONE COMPANY FOR SERVICE AND FEE PAYMENTS REQUIRED TO OBTAIN SERVICE.
- 3) GROUND RING TO BE CONTAINED WITH IN THE COMPOUNDS FENCED AREA.
- 4) FENCE TO BE GROUNDED FROM GROUND RING TO ALL CORNER POST & GATES. SPACE FENCE GROUNDING APPROXIMATELY 20'-0" O/C. (CAD WELD ALL CONNECTIONS)
- 5) ALL GROUND RING CONNECTIONS TO BE AS CLOSE AS POSSIBLE, SHARP BENDS WILL NOT BE PERMITTED AS WELL AS "T" CONNECTIONS. ALL CONNECTIONS TO HAVE A SWEEPING RADIUS OF 8" MINIMUM. GROUNDING CONFIGURATION TO BE IN PARALLEL.
- 6) CONTACT POINTS FOR GROUNDING TO BE CLEANED OF ANY RUST, PAINT, DIRT, ETC. TO CREATE A GOOD BOND FOR CONDUCTOR. AREA THAT HAS BEEN CLEANED TO BE RESEALED TO PREVENT RUSTING.
- 7) PROPERLY GROUND ANY EXPOSED METAL THAT MAY EXIST ON EXTERIOR OF EQUIPMENT SHELTER OR CABINET.
- 8) WHERE GROUND CONDUCTORS REQUIRE MECHANICAL BONDING, STAINLESS STEEL CONNECTORS ARE REQUIRED AT EACH CONNECTING POINT USING LOCK WASHERS.
- 9) CONTRACTOR RESPONSIBLE FOR SEEING THAT UTILITY PERSONNEL MAKE FINAL CONNECTIONS, MAKING SURE THE TOWER ALARM IS CONNECTED AND WORKING. A TELEPHONE NUMBER FOR THE ALARM MUST BE SUPPLIED.
- 10) CONTRACTOR RESPONSIBLE FOR MEG TESTING THE SITE AND SUPPLYING OWNER WITH FINAL READINGS IN OWNERS SPECIFICATIONS.
- 11) IF CONDUIT RUNS BURIED LESS THAN REQUIRED DEPTHS, CONTACT BLUEGRASS CELLULAR FOR FURTHER INSTRUCTIONS

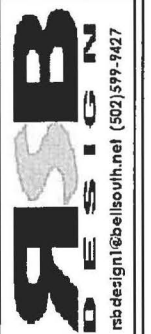
NOTE:
CONTRACTOR TO PROVIDE WARNING TAPE IN TRENCHES FOR ALL POWER AND TELCO RUNS UNDER GROUND. TAPE TO BE INSTALLED 1'-0" ABOVE CONDUIT RUNS. (TAKE PICTURES)

SYMBOLS LEGEND

- P — POWER
- G — GAS
- T — TELEPHONE
- X — FENCE
- SWITCH (DISCONNECT)
- ⊞ METER PACK

SITE PLAN- ELECTRICAL

SCALE: 3/32" = 1'-0"



BLUEGRASS CELLULAR, INC.
STANDARD CELLULAR SITE
HENDRICKS CREEK
1407 CHERRY TREE RD. BURKESVILLE, KY. 42717

DRAWN BY: R. BECKER	ISSUE DATE: 3-15-17	SCALE: LISTED
SHEET NUMBER E-1		

ELEVATION VIEW

DUCT ELL

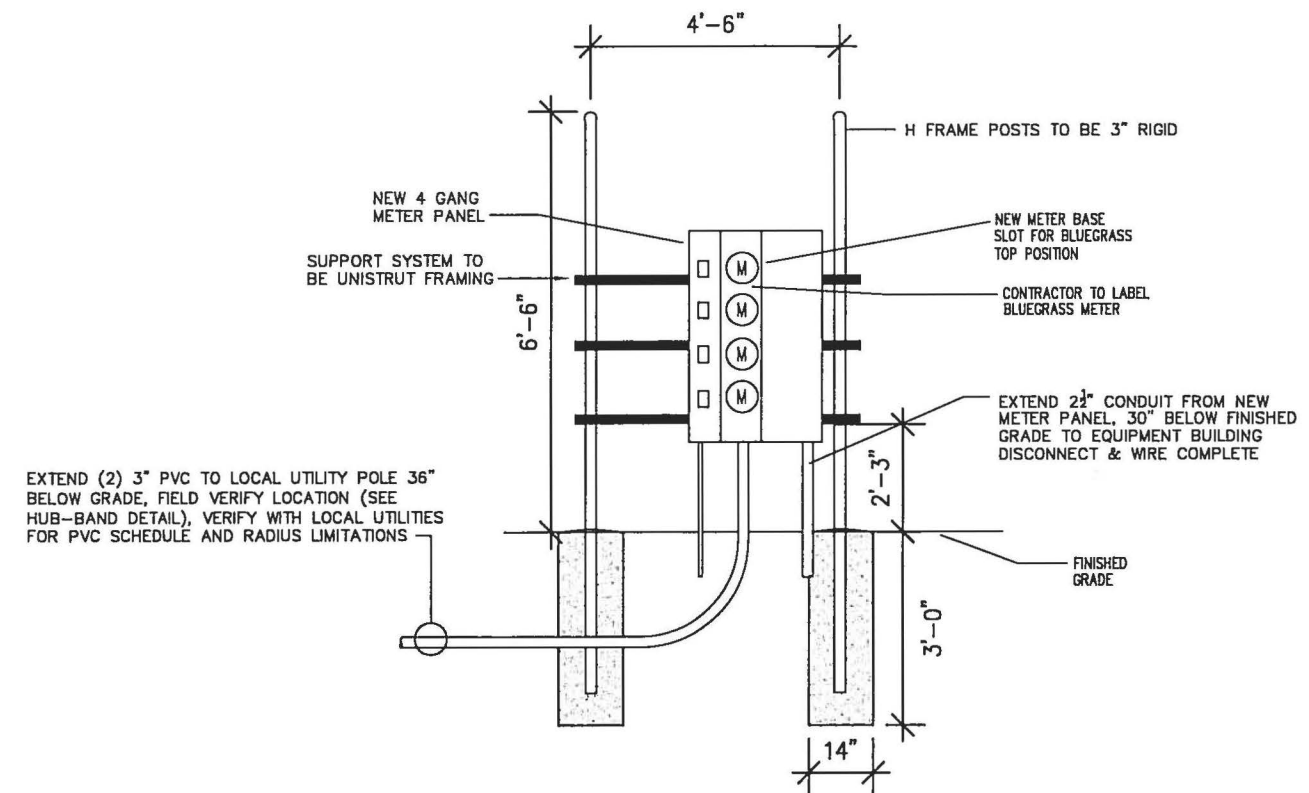
PVC SCHEDULE 80

18'

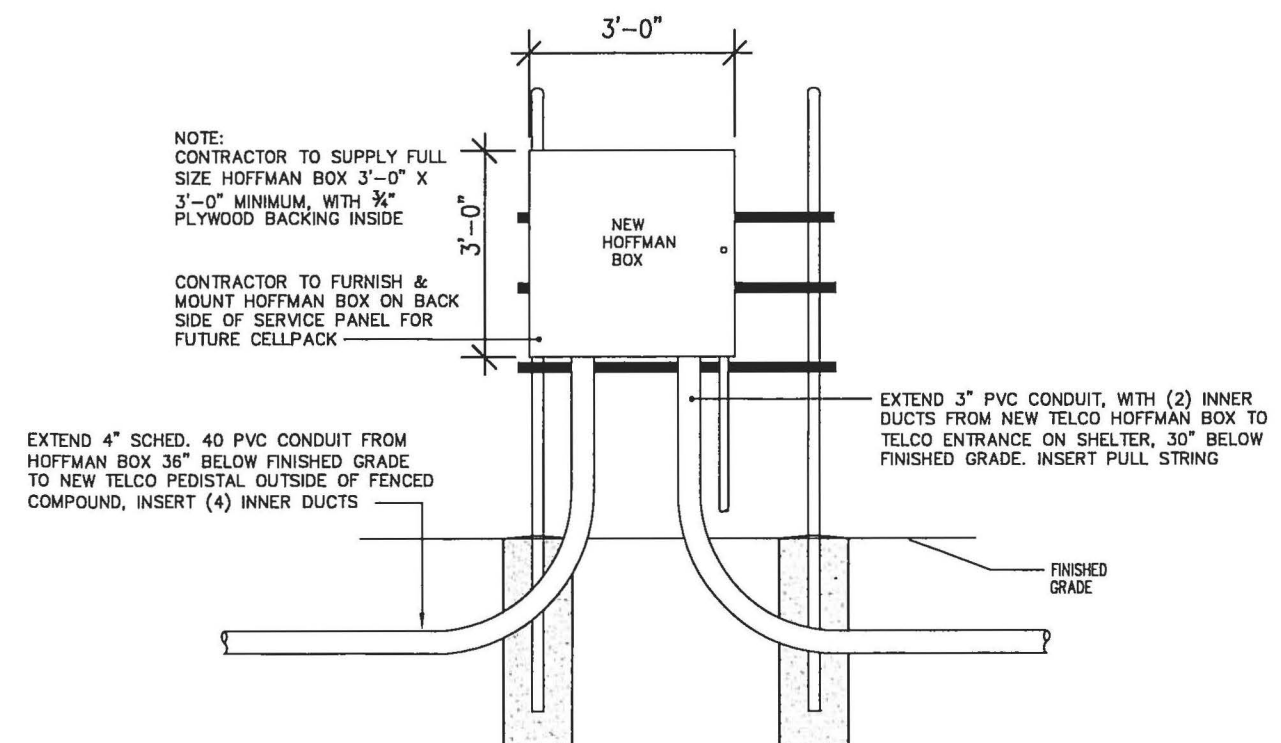
3'-0" NTS

This diagram shows the elevation view of a duct ell installation. A vertical duct ell, labeled 'DUCT ELL', is shown with a height of 18 feet. It is connected to a horizontal duct, labeled 'PVC SCHEDULE 80', which has a depth of 3 feet 0 inches, noted as 'NTS' (Not To Scale). The duct ell is shown with a cross-section of a tree trunk, indicating it is a tree trunk. The duct ell is shown with a cross-section of a tree trunk, indicating it is a tree trunk.

NO SCALE

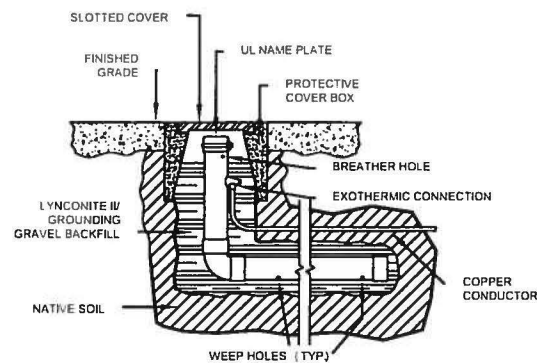


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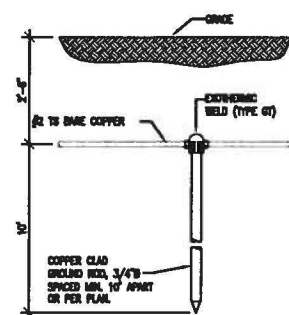
NO SCALE

E-2 SHEET NUMBER	DRAWN BY: R. BECKER	BLUEGRASS CELLULAR, INC. STANDARD CELLULAR SITE HENDRICKS CREEK 1407 CHERRY TREE RD. BURKESVILLE, KY. 42717	NO.	DATE	REVISION
	ISSUE DATE: 3-15-17				
	SCALE: LISTED				



L-SHAPE MODEL
LYNCOLE XIT GROUNDING
(800) 962-2610

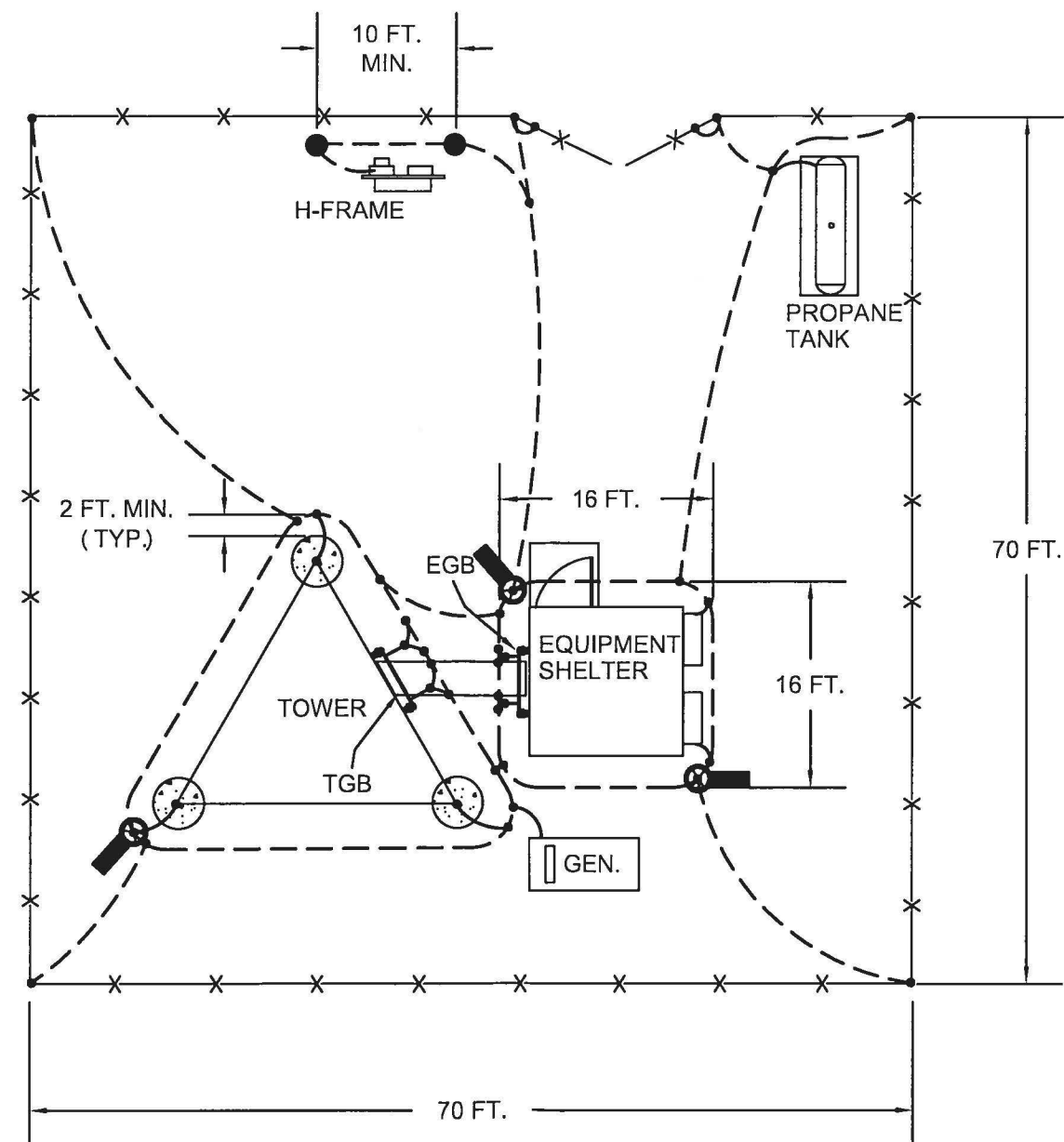
DETAIL 1



DETAIL 2

NOTES:

- X— CHAIN LINK FENCE
- - - - - BARE #2 TINNED SOLID COPPER CONDUCTOR
BURIED 30 IN. BELOW GRADE OR 6 IN. BELOW FROST LINE
- BARE #2 TINNED SOLID COPPER CONDUCTOR IN NON-METALLIC FLEXIBLE CONDUIT
- ALL BENDS IN GROUND CONDUCTORS TO BE MADE
WITH 12 IN. RADIUS OR LARGER
- ⊗ K2L-10CS-24 (SEE DETAIL 1)
- 3/4 IN. X 10 FT. COPPER CLAD GROUND ROD (SEE DETAIL 2)
- GROUND BAR



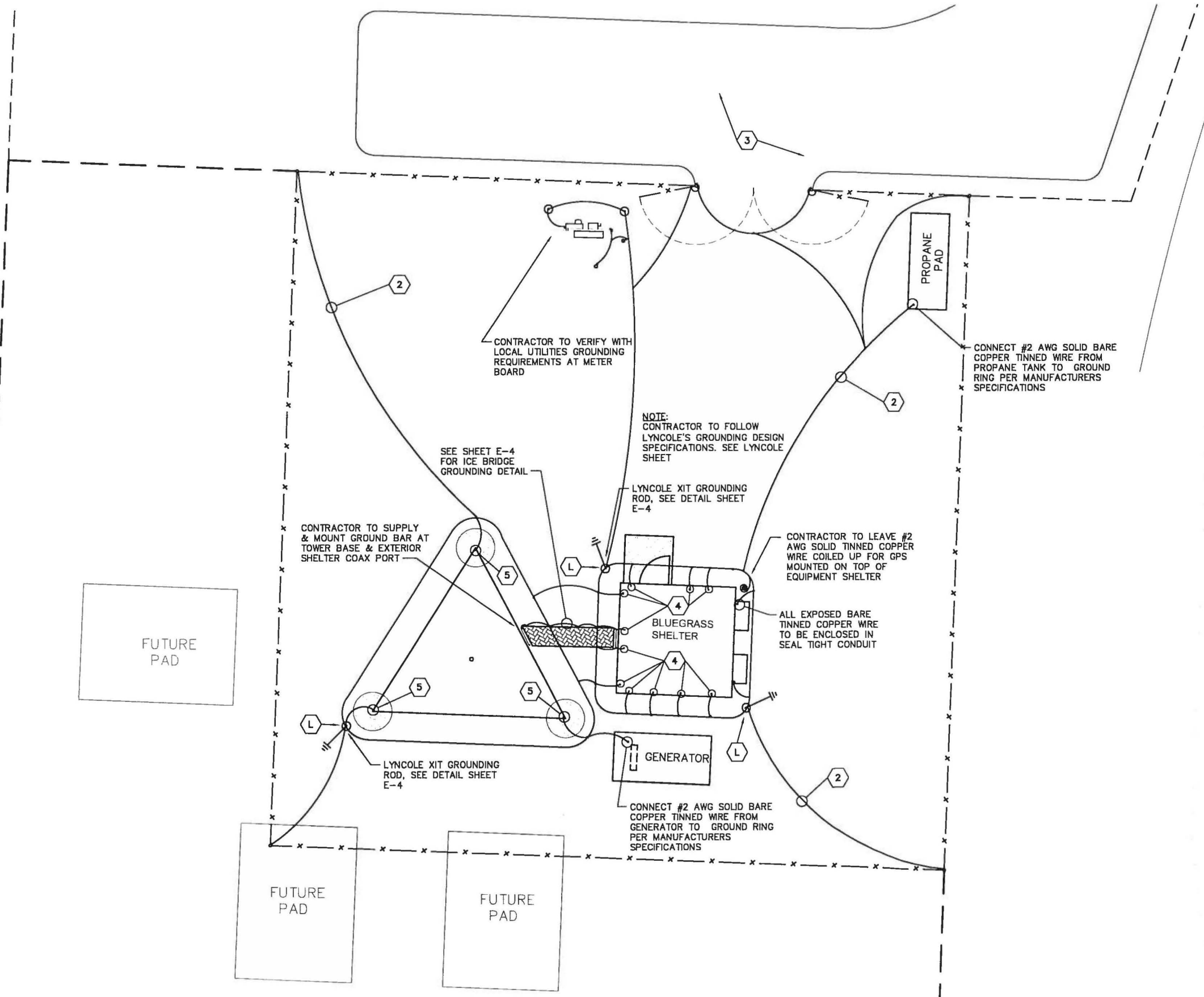
LYNCOLE

TECHNICAL SERVICES

3547 VOYAGER STREET, SUITE 204
TORRANCE, CA. 90503
(800)962-2610 FAX (310)214-1114
ENGINEERING@LYNCOLE.COM

SOIL DATA PROVIDED BY
TERRACON

CLIENT / END USER BLUEGRASS CELLULAR			
DRAWING 1	PROJECT NAME HENDRICKS CREEK		
TITLE GROUNDING OPTION			
LOCATION: CITY, STATE BURKESVILLE, KY		CALCULATED RESISTANCE < 5 OHMS	
DRAWN BY BBD	APPROVED BY	DATE 04/07/2017	
REFERENCE NUMBER N/A		SCALE NONE	LTS NUMBER 171156



- GENERAL ELECTRICAL NOTES:**
- 1) CONTRACTOR RESPONSIBLE FOR MAKING ALL ARRANGEMENTS WITH THE LOCAL UTILITIES FOR SERVICE AND FEE PAYMENTS REQUIRED TO OBTAIN SERVICE.
 - 2) CONTRACTOR RESPONSIBLE FOR MAKING ALL ARRANGEMENTS WITH THE LOCAL TELEPHONE COMPANY FOR SERVICE AND FEE PAYMENTS REQUIRED TO OBTAIN SERVICE.
 - 3) GROUND RING TO BE CONTAINED WITH IN THE COMPOUNDS FENCED AREA.
 - 4) FENCE TO BE GROUNDED FROM GROUND RING TO ALL CORNER POST & GATES. SPACE FENCE GROUNDING APPROXIMATELY 20'-0" O/C. (CAD WELD ALL CONNECTIONS)
 - 5) ALL GROUND RING CONNECTIONS TO BE AS CLOSE AS POSSIBLE, SHARP BENDS WILL NOT BE PERMITTED AS WELL AS "T" CONNECTIONS. ALL CONNECTIONS TO HAVE A SWEEPING RADIUS OF 8" MINIMUM. GROUNDING CONFIGURATION TO BE IN PARALLEL.
 - 6) CONTACT POINTS FOR GROUNDING TO BE CLEANED OF ANY RUST, PAINT, DIRT, ETC. TO CREATE A GOOD BOND FOR CONDUCTOR. AREA THAT HAS BEEN CLEANED TO BE RESEALED TO PREVENT RUSTING.
 - 7) PROPERLY GROUND ANY EXPOSED METAL THAT MAY EXIST ON EXTERIOR OF EQUIPMENT SHELTER OR CABINET.
 - 8) WHERE GROUND CONDUCTORS REQUIRE MECHANICAL BONDING, STAINLESS STEEL CONNECTORS ARE REQUIRED AT EACH CONNECTING POINT USING LOCK WASHERS.
 - 9) CONTRACTOR RESPONSIBLE FOR SEEING THAT UTILITY PERSONNEL MAKE FINAL CONNECTIONS, MAKING SURE THE TOWER ALARM IS CONNECTED AND WORKING. A TELEPHONE NUMBER FOR THE ALARM MUST BE SUPPLIED.
 - 10) CONTRACTOR RESPONSIBLE FOR MEG TESTING THE SITE AND SUPPLYING OWNER WITH FINAL READINGS IN OWNERS SPECIFICATIONS.
- NOTE:**
CONTRACTOR TO PROVIDE WARNING TAPE IN ALL POWER & TELCO TRENCHES, 12" ABOVE CONDUIT RUNS, BUT BELOW FINISHED GRADE.
- NOTE:**
CONTRACTOR TO FOLLOW LYNCOLES GROUNDING SPECIFICATIONS WHEN USING THEIR XIT GROUNDING RODS. SEE DETAIL SHEET E-4.

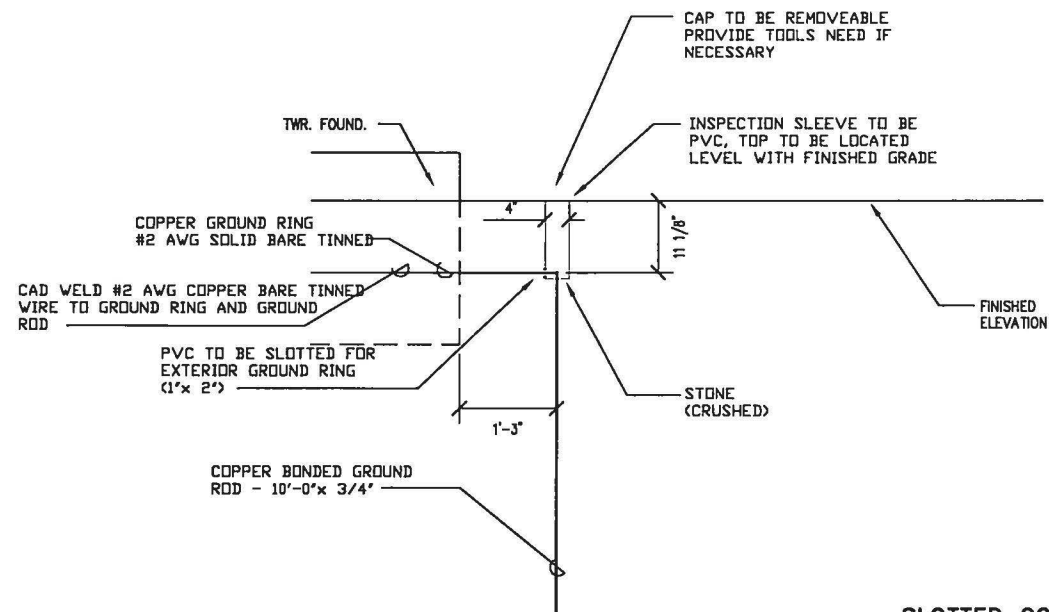
- KEYNOTES:**
- ① LYNCOLE XIT GROUNDING ROD TO BE INSTALLED WHERE SHOWN AND TO MANUFACTURERS SPECIFICATIONS. (SEE LYNCOLE SPECIFICATIONS)
 - ① GROUNDING RODS 10'-0" LONG x 3/4" COPPER BONDED GROUND RODS
 - ② INSTALL AND PROVIDE SOLID BARE TINNED COPPER WIRE #2 AWG, GROUND RING BELOW GRADE 30". USE #2 AWG SOLID BARE TINNED COPPER GROUND "TAP" CONNECTING CONDUCTORS. (CONNECTIONS FOR ALL TAP CONDUCTORS TO BE PARALLEL AND "CAD WELD" CONNECTIONS)
 - ③ FLEXIBLE GROUNDING STRAP TO BE USED TO PROVIDE A COMMON BOND BETWEEN GATE AND CHAIN LINK FENCE, #2 AWG SOLID COPPER BARE TINNED CONDUCTOR FROM GROUND RING TO FENCE USING CAD WELD CONNECTIONS. GROUND TAP TO BE PROVIDED ON EACH 4 SIDES TO GROUND RING AS DESCRIBED ABOVE.
 - ④ BONDED GROUND TO BE PROVIDED TO GROUND RING FOR EACH OF THE FOLLOWING: BUILDING STEEL, HATCH PLATE, EMERGENCY RECEPTACLE, WAVE GUIDE STRUCTURE, FRAME WORK, BUILDING DISCONNECT.
 - ⑤ FOR TOWER FRAME GROUNDING, REMOVE GALVANIZED COATING COMPLETELY AT SPOT TO "CAD WELD" TO AND CLEAN. #2 AWG SOLID BARE TINNED COPPER CONDUCTOR TO BE CAD WELDED APPROXIMATELY 1'-0" ABOVE FOUNDATION OR AT FLANGE IF PROVIDED BY TOWER MANUFACTURER. EXTEND CONDUCTOR TO GROUND RING. RIGHT ANGLES NOT ACCEPTED ALL BENDS TO BE SWEEPING.

SITE PLAN-GROUNDING

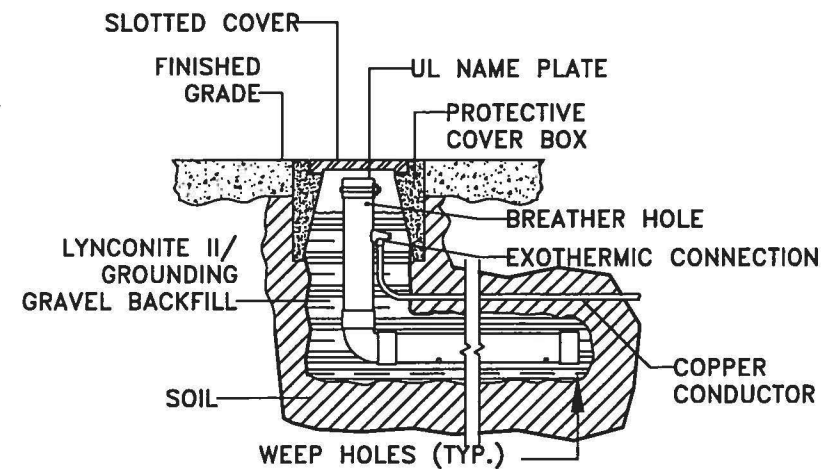
SCALE: 3/32" = 1'-0"

BLUEGRASS CELLULAR, INC.
STANDARD CELLULAR SITE
HENDRICKS CREEK
1407 CHERRY TREE RD. BURKESVILLE, KY. 42717

DRAWN BY: R. BECKER	ISSUE DATE: 3-15-17	SCALE: LISTED
SHEET NUMBER		
E-3		

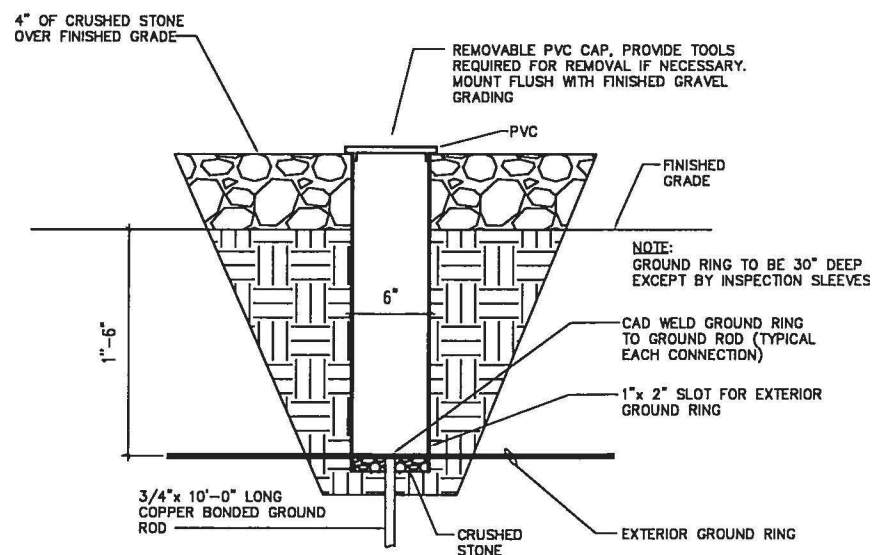


GROUND ROD DETAIL
NO SCALE

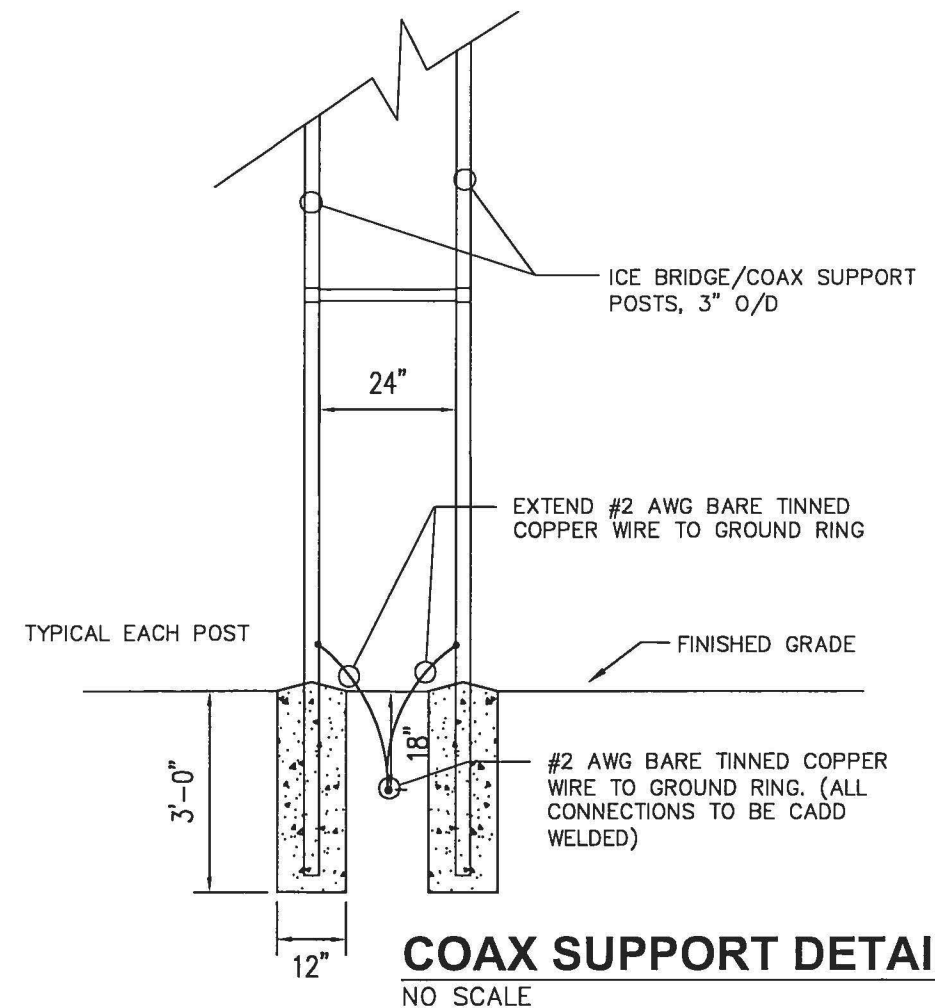


L-SHAPE MODEL
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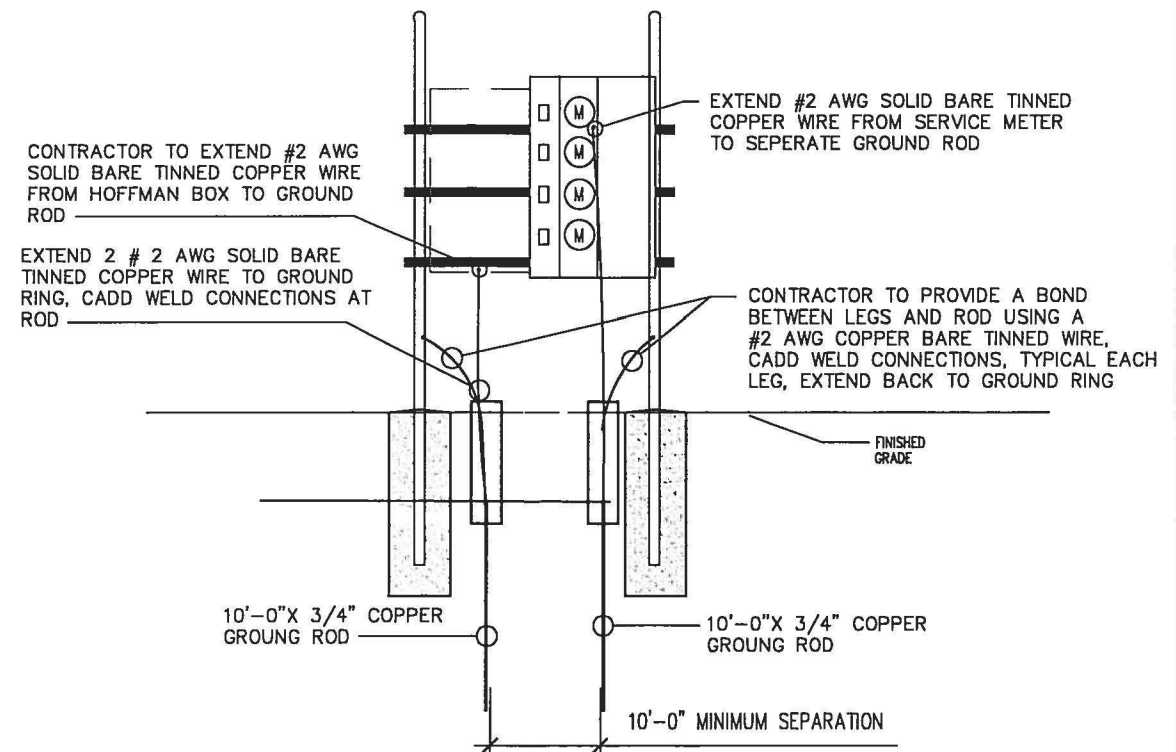
LYNCOLE XIT ROD DETAIL
NO SCALE



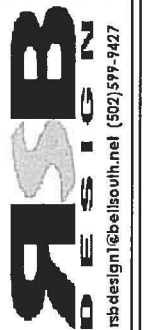
GROUND SLEEVE DETAIL
NO SCALE



COAX SUPPORT DETAIL
NO SCALE

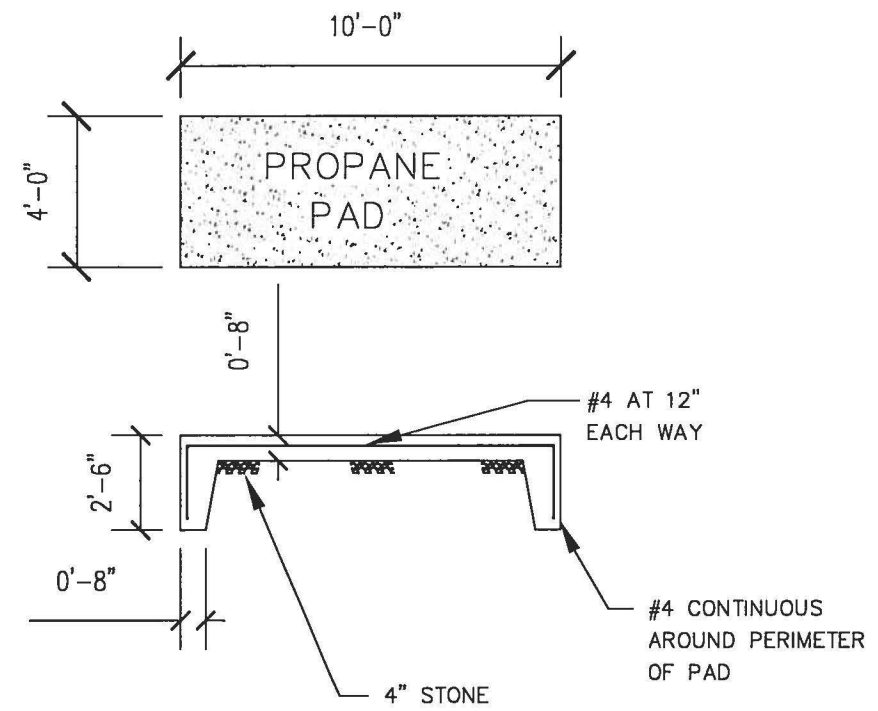


SERVICE BOARD DETAIL
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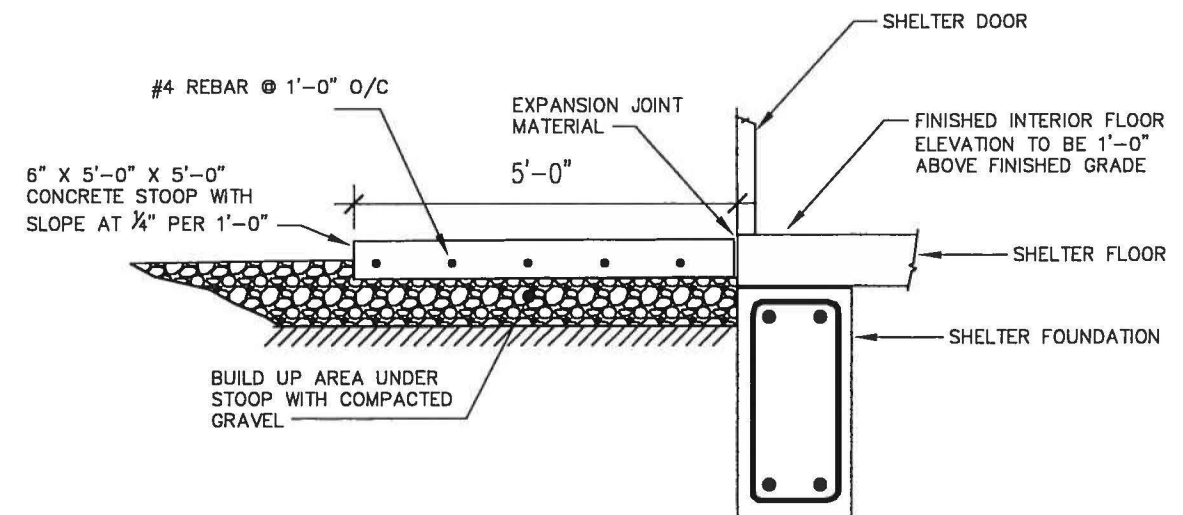


BLUEGRASS CELLULAR, INC.
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DRAWN BY: R. BECKER	ISSUE DATE: 3-15-17	SCALE: LISTED
SHEET NUMBER E-4		



FOUNDATION DETAIL
NO SCALE

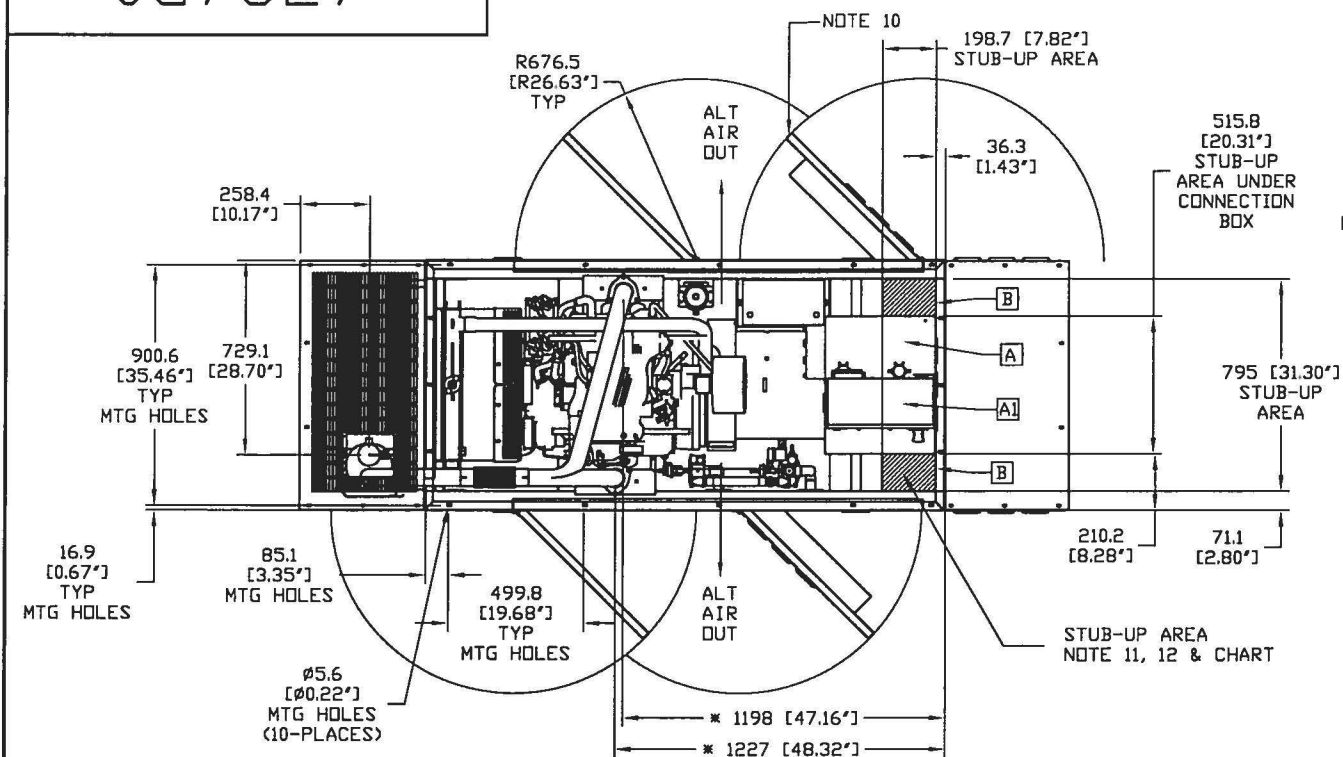


CONCRETE STOOP DETAIL

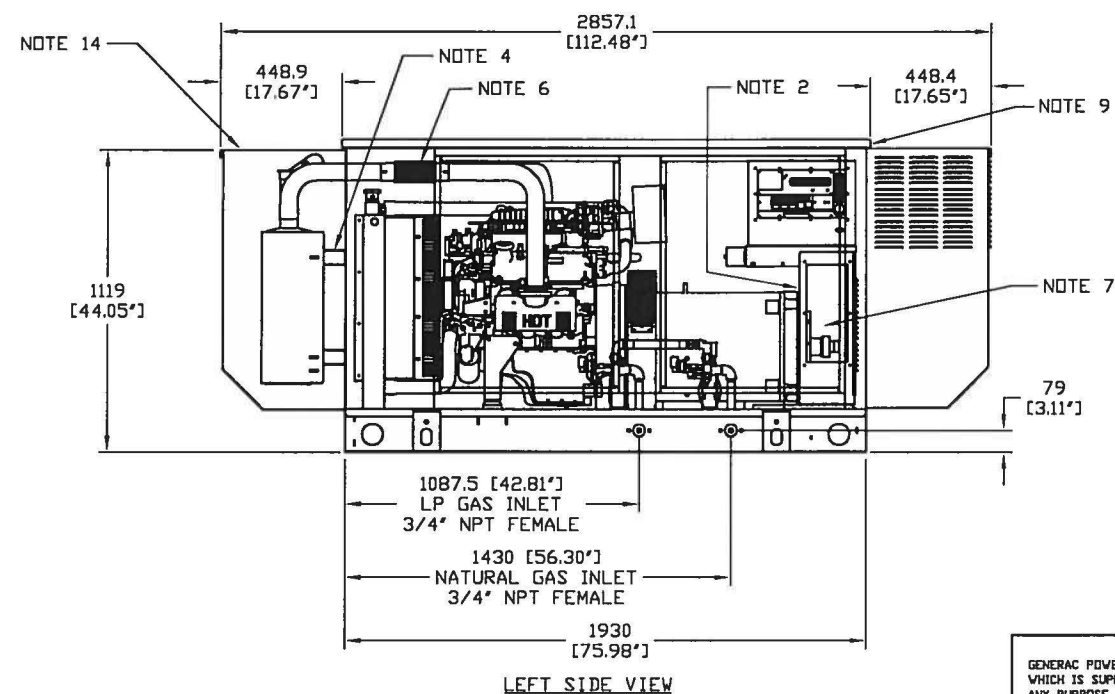
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DRAWN BY: R. BECKER ISSUE DATE: 3-15-17 SCALE: LISTED	SHEET NUMBER <div style="text-align: center; font-size: 2em;">S-1</div>		BLUEGRASS CELLULAR, INC. STANDARD CELLULAR SITE HENDRICKS CREEK 1407 CHERRY TREE RD. BURKESVILLE, KY. 42717		NO.	DATE	REVISION

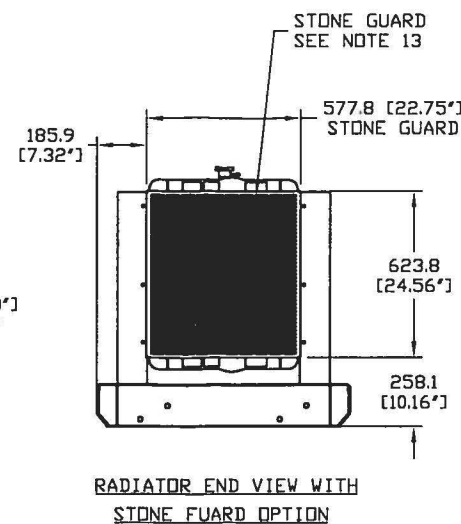
067627



TOP OR PLAN VIEW



APPLICABLE TO 4, 5L G3 35, 40 & 45KW



RADIATOR END VIEW WITH
STONE GUARD OPTION

RECOMMENDED FUEL/ELECTRICAL STUB-UPS
(SEE TOP VIEW)

DESCRIPTION	INSIDE BASE
AC LOAD LEAD CONDUIT (RIGHT) (LEFT)	A A ¹
ADDITIONAL STUB UP AREA FOR 120VAC GFCI OUTLET, (STANDARD BLOCK HEATER, BATTERY CHARGER, AND OTHER 120 VAC OPTIONS).	B

NOTE:

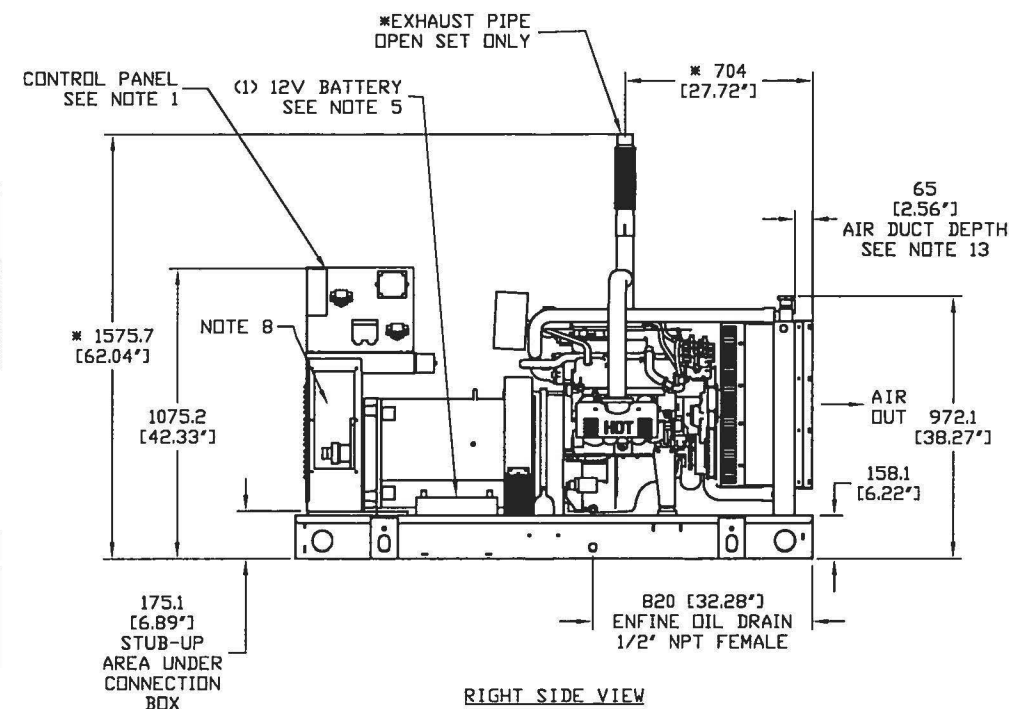
FUEL SYSTEM SET UP WITH OUTSIDE STUB-UPS
(SEE RIGHT SIDE VIEW).

WEIGHT DATA

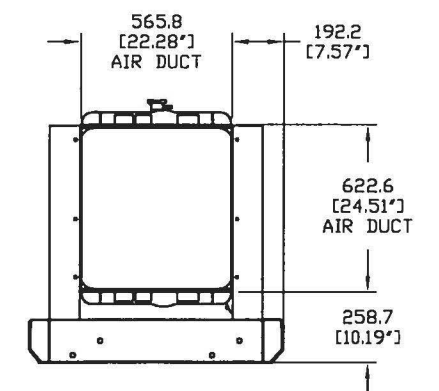
UNIT: ??? kg [??? lbs.]

STEEL ENCLOSURE: ??? kg [??? lbs]

UNITS: mm [INCHES]



RIGHT SIDE VIEW



RADIATOR END VIEW WITH
AIR DUCT ADAPTER OPTION

ENGINE SERVICE CONNECTIONS

INLET L/P GAS = 3/4" NPT COUPLING
INLET NATURAL GAS = 3/4" NPT COUPLING
OIL DRAIN = 1/2" NPT COUPLING
EXHAUST OUTLET - EXHAUST MANIFOLDS AS SHOWN
ON OPEN SET, 3" OD MUFFLER
OUTLET WITH ENCLOSURE

NOTES:

1. CONTROL PANEL MAY BE ROTATED 180° IN EITHER DIRECTION.
2. STANDARD 20A GFCI DUPLEX OUTLET - 120VAC REQUIRED.
3. CONNECTION POINTS FOR CONTROL WIRES PROVIDED IN AC CONNECTION PANEL.
4. EXHAUST MUFFLER SUPPORT BRACKETS SUPPLIED WITH OPTIONAL ENCLOSURE.
5. 12 VOLT NEGATIVE GROUND SYSTEM.
6. 2.5' I. D. FLEX EXHAUST, STANDARD WITH ENCLOSURE UNITS, OPTIONAL WITHOUT.
7. MAIN LINE CIRCUIT BREAKER (MLCB) AND AC LOAD LEAD CONNECTION.
8. REMOVABLE BLANK PANEL FOR OPTIONAL 2nd MAIN LINE CIRCUIT BREAKER.
9. OPTIONAL ENCLOSURE.
10. DOORS MUST BE ABLE TO OPEN 90 DEG. TO BE REMOVED.
11. STUB-UPS:
 1. STANDARD BASE TANK REQUIRES ALL STUB-UPS TO BE OUTSIDE OR IN THE REAR TANK STUB-UP AREA.
 2. A OR A' IS THE STUB UP AREA UNDER THE MLCB, DEPENDING ON CIRCUIT BREAKER LOCATION. AREA B IS STUB UP AVAILABLE FOR UNITS WITH A BASE TANK.
 3. STONE GUARD AND AIR DUCT ADAPTER STANDARD WITH OPEN SET ONLY.
 4. SEE DRAWING OC3850 FOR DUCT REMOVAL. REMOVAL OF FRONT DUCT WILL PROVIDE ACCESS TO MUFFLER FOR SERVICING.
- *NOTE: DIMENSIONS TO THE CENTER OF EXHAUST FLANGE SHOULD BE USED AS A REFERENCE WHEN EXHAUST SYSTEM IS NOT ORDERED. APPLIES TO OPEN SET ONLY.

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SG 35, 40, 45 KW (UPSIZED 100 KW)

4.2L DIRECT DRIVE

ACOUSTIC ENCLOSURE

ISSUE DATE: 11/13/07

**GENERAC POWER
SYSTEMS**
Waukesha
P.O. BOX 8
WAUKESHA, WIS. 53187

FILE NAME	0G7627-A.DWG	SIZE B
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SCALE	NTS	FIRST USE	4,2L G3
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DWG NO.	REV
---------	-----

OG7627 | A

INSTALLATION DRAWING

GENERAL NOTES:

1) THE CONTRACTOR IS RESPONSIBLE FOR EQUIPMENT PICK UP DELIVERY TO SITE, ERECTION OF TOWER, AND CRANE SET, ALL COSTS INCURRED.

2) THE CONTRACTOR IS RESPONSIBLE FOR VISITING THE SITE PRIOR TO BIDDING AND REVIEWING EXISTING STRUCTURES OR UTILITIES THAT MIGHT BE LOCATED ON OR AROUND THE COMPOUND THAT COULD INTERFERE.

3) THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING LOCAL AUTHORITIES NECESSARY FOR INSPECTIONS IF REQUIRED, PLEASE PROVIDE AMPLE NOTICE.

4) THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING PERSONS RESPONSIBLE FOR ANY MATERIALS TESTING, PLEASE PROVIDE AMPLE NOTICE.

5) THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING THE OWNER WITH FINAL TEST RESULTS ON ALL MATERIALS TESTING. IF ANY PROBLEMS ARE FOUND PRIOR TO FINAL RESULTS PLEASE NOTIFY A&E OR OWNER IMMEDIATELY.

6) THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE TO ADJOINING PROPERTY, AND REPAIRING OR REPLACING WHAT IS NECESSARY TO OWNERS APPROVAL.

7) THE CONTRACTOR IS TO VERIFY DIMENSIONS ON SITE PRIOR TO CONSTRUCTION STARTING, ANY PROBLEMS OR CHANGE FOUND CONTACT A&E OR OWNER TO VERIFY.

8) THE CONTRACTOR IS RESPONSIBLE FOR ANY TEMPORARY LIGHTING ON THE TOWER AND CONTACTING PROPER AUTHORITIES IF ANY LIGHTING PROBLEMS OCCUR, ALL FINAL LIGHTING TO BE MOUNTED ON TOWER DURING CONSTRUCTION, NOTIFY OWNER WHEN TOWER HAS REACHED FINAL HEIGHT.

9) THE CONTRACTOR IS RESPONSIBLE FOR ALL ON SITE WORK MEANS AND METHODS.

10) CONTRACTOR, ANY CONTRACTOR EMPLOYEES OR REPRESENTATIVES, OR SUB-CONTRACTOR, ANY SUB-CONTRACTOR EMPLOYEES OR REPRESENTATIVES, WILL CONFORM TO ALL LAWS AND REGULATIONS APPLICABLE TO THE WORK BEING PERFORMED, INCLUDING BUT NOT LIMITED TO, ALL OCCUPATIONAL SAFETY AND HEALTH ACT ("OSHA") STATUTES AND REGULATIONS AS WELL AS ALL OTHER FEDERAL, STATE AND/OR LOCAL LAWS OR REGULATIONS APPLICABLE TO THE WORK BEING PERFORMED BY CONTRACTOR.

11) THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ALL SITE DRAINAGE, AND PROVIDING SILT AND EROSION CONTROL NECESSARY TO MAINTAIN ANY RUN OFF.

12) THE CONTRACTOR IS RESPONSIBLE FOR ALL SEED AND STRAW WORK NECESSARY TO REPAIR DAMAGED AREAS.

13) CONTRACTOR TO GRADE SMOOTH OR REPAIR ANY POT HOLES OR DITCHING ON PROPERTY OR ROAD THAT HAS OCCURRED DURING CONSTRUCTION AT CONTRACTORS EXPENSE.

14) CONTRACTOR'S RESPONSIBILITIES REGARDING BUILD OUT ON FIBREBOND EQUIPMENT SHELTERS TO INCLUDE:

- * INSTALLING THE DOOR CANOPY
- * INSTALLING EXTERIOR LIGHT ON WALL DETERMINED BY PROJECT SUPERVISOR AND PHOTOCCELL REQUIREMENTS
- * INSTALLING INTRUDER ALARMS
- * CHECK OPERATIONS OF DOOR AND DOOR HARDWARE
- * ADJUST WEATHERSTRIPPING ON DOORS AS NEEDED
- * INSPECT ROOF FOR DAMAGE AND POSSIBLE LEAKS
- * INSPECT INTERIOR FINISH FOR IMPERFECTIONS AND REPAIR AS NEEDED
- * CHECK OPERATION OF LIGHTS AND ELECTRICAL OUTLETS
- * CHECK OPERATION OF INTAKE AND EXHAUST LOUVERS AND ADJUST AS NEEDED
- * CHECK OPERATION OF ENVIRONMENTAL CONTROLS AND HVAC UNITS
- * INSTALL AND PAINT SHELTER TIE-DOWNS TO MATCH

15) INSTALL CONCRETE PADS FOR BUILDING, PROPANE TANK, GENERATOR PAD.

16) INSTALL ELECTRIC AND GROUND FIELD FOR COMPOUND.

17) GC WILL BE RESPONSIBLE FOR ALL CRANE OPERATIONS IN ORDER TO SET FIBREBOND BUILDING. COORDINATE BUILDING DELIVERY DATE THROUGH BLUEGRASS CELLULAR.

18) GC WILL BE RESPONSIBLE FOR OFF LOADING AND STACKING OF TOWER WHEN APPLICABLE.

19) GC WILL BE RESPONSIBLE FOR MOUNTING ALL LINES AND ANTENNAS.

20) GC WILL BE RESPONSIBLE FOR SUPPLYING AND INSTALLING ICE BRIDGE.

21) GC WILL BE RESPONSIBLE FOR SCHEDULING PROPANE TANK DELIVERY AND HOOK-UP. PREFERRED SUPPLIERS ARE EMPIRE & AMERIGAS

22) GC WILL BE RESPONSIBLE FOR COORDINATING THE CLEANING OF THE INSIDE OF THE BUILDING WITH THE PROJECT SUPERVISOR AFTER THE SITE HAS BEEN TURNED OVER TO THE OPERATIONS DEPARTMENT AND ALL TURN-UP PROCEDURES HAVE BEEN COMPLETED. THIS WILL INCLUDE SUPPLYING A 30 GALLON TRASHCAN, 30 GALLON TRASH BAGS, BROOM, DUST PAN AND DOORMAT FOR BUILDING.

23) GC TO VERIFY ALL BLUEGRASS CELLULAR EQUIPMENT DIMENSIONS & SPECIFICATIONS WITH MANUFACTURER'S DRAWINGS, (FIBREBOND, GENERAC, EASTPOINTE ETC.) PRIOR TO CONSTRUCTION. ADDRESS ANY ISSUES WITH PROJECT SUPERVISOR BEFORE WORK BEGINS.

24) ALL WAREHOUSE MATERIAL (LINES, ANTENNAS, MOUNTING HARDWARE, GENERATOR, TOWER FOUNDATION KIT, ETC.) WILL NEED TO BE PICKED UP BY GC.

25) GC WILL BE RESPONSIBLE FOR SCHEDULING GENERATOR START-UP WITH CONTACT SCOTT ANDERSON (EVAPAR) 502-267-6315

26) T1 CONDUIT WILL NEED TO BE PLACED FROM POLE TO BUILDING. (IF A MICROWAVE DISH IS USED, THE T1 CONDUIT WILL STILL BE INSTALLED FOR FUTURE USE.)

27) GC WILL BE RESPONSIBLE FOR INSTALLATION OF ALL FENCING.

28) ALL TRASH AND DEBRIS TO BE REMOVED BY GC

29) GC WILL BE RESPONSIBLE FOR APPLYING FOR ELECTRICAL SERVICE AND PAYING NECESSARY FEES REQUIRED.

30) GC WILL BE RESPONSIBLE FOR SUPPLYING & INSTALLING PROTECTIVE END CAPS ON ANY EXPOSED THREADED ROD OR UNISTRUT USED ON SITE. VERIFY TYPE WITH PROJECT SUPERVISOR PRIOR TO INSTALLATION.

31) GC WILL BE RESPONSIBLE FOR HAVING A CERTIFIED ELECTRICIAN HOOK UP THE BATTERIES (IMMEDIATELY) AFTER POWER HAS BEEN TURNED UP AT THE SITE, PREVENTING THE DELAY OF ANY WORK FOR OPERATIONS. THE GENERAL CONTRACTOR MUST NOTIFY THE PROJECT SUPERVISOR IMMEDIATELY AT THIS TIME SO HE CAN COORDINATE A CELL TECH TO BE ONSITE WHEN THIS OCCURS.

32) GC WILL BE RESPONSIBLE FOR RUNNING (CAT5) FROM THE GENERATOR ALARM PANEL MOUNTED ON THE SIDE OF THE TRANSFER SWITCH (BY THE CONTRACTOR), THROUGH THE TRANSFER SWITCH AND UP TO THE EXISTING CONDUIT BESIDE THE A/C POWER FAIL RELAY. THE (CAT5) WILL BE PULLED THROUGH EXISTING CONDUIT AROUND THE SHELTER AND EXTENDED TO THE ALARM BLOCK. THERE SHOULD BE A MINIMUM 3'-0" OF (CAT5) LEFT HANGING ON EACH END FOR THE CELL TECH TO HOOK UP THE GENERATOR ALARMS.

33) GC MUST SUBMIT A COPY OF THE BUILDING PERMIT AND CONSTRUCTION SCHEDULE TO THE PROJECT SUPERVISOR PRIOR TO RECEIVING (NTP) TO BEGIN CONSTRUCTION (NO EXCEPTIONS).

34) GC MUST DISPLAY FCC TOWER REGISTRATION NUMBER AND EMERGENCY PHONE NUMBERS ON 3'-0 X 4'-0" MINIMUM WOODEN BACKBOARD SOMEWHERE ON SITE LOCATION PRIOR TO BREAKING GROUND.

GRADING & EXCAVATING NOTES:

1) ANY DAMAGE TO EXISTING UTILITIES, STRUCTURES, ROADS AND PARKING AREAS TO BE REPAIRED OR REPLACED TO OWNERS SATISFACTION.

2) PREPARATION FOR FILL: REMOVAL OF ALL DEBRIS, WET AND UNSATISFACTORY SOIL MATERIALS, TOPSOIL, VEGETATION, AND HARMFUL MATERIALS FROM SURFACE OF GROUND PRIOR TO PLOWING, STRIPPING, PLACING FILLS OR BREAKING UP OF SLOPED SURFACES GREATER THAN 1 VERTICAL TO 4 HORIZONTAL SO MATERIAL FOR FILL WILL BOND TO EXISTING SURFACE. WHEN AREA TO RECEIVE FILL HAS A DENSITY LESS THAN REQUIRED, BREAK UP GROUND SURFACE TO DEPTH REQUIRED, AERATE, MOISTURE - CONDITION, OR PULVERIZE SOIL AND RECOMPACT TO REQUIRED DENSITY.

3) BACK FILLING:
- EXCAVATED AREA SHALL BE CLEARED FROM STONES OR CLODS OVER 2 1/2" MAXIMUM DIAMETER
- SHALL BE PLACED IN LAYERS OF 6" AND COMPACTED TO A 95% STANDARD PROCTOR, USE A 90% PROCTOR IN GRASSED / LANDSCAPED AREAS WHERE REQUIRED.
- SHALL BE APPROVED MATERIALS CONSISTING OF SANDY CLAY, GRAVEL AND SAND, SOFT SHALE, EARTH OR LOAM. CONSULT WITH OWNER PRIOR TO FILL BEING ADDED.

4) ALL MATERIAL FOR FILL TO BE APPROVED BY OWNER AND ALL COMPACTING TEST TO BE COMPLETED TO SPEC'S ALL COMPACTING RESULTS TO BE TURNED OVER TO OWNER.

5) AFTER COMPLETION OF BELOW GRADE EXCAVATING, AREA TO BE CLEANED AND CLEARED OF ANY UNSUITABLE MATERIALS, SUCH AS TRASH, DEBRIS, VEGETATION AND SO FORTH.

6) ANY EXCAVATING IN WHICH CONCRETE IS TO BE PLACED SHALL BE SUBSTANTIALLY HORIZONTAL ON UNDISTURBED AND UNFROZEN SOIL AND BE FREE OF ANY LOOSE MATERIAL AND EXCESS GROUND WATER.

7) IF SOUND SOIL IS NOT REACHED AT DESIGNATED EXCAVATION DEPTH, THE POOR SOIL IS TO BE EXCAVATED TO ITS FULL DEPTH AND EITHER REPLACED WITH MECHANICALLY COMPACTED GRANULAR MATERIAL OR THE EXCAVATION TO BE FILLED WITH THE SAME QUALITY CONCRETE SPECIFIED FOR THE FOUNDATION. PLEASE NOTIFY THE PROJECT SUPERVISOR AND THEY WILL HAVE A 3RD PARTY ENGINEERING FIRM CONTACT YOU WITH RECOMMENDATIONS.

8) MECHANICALLY COMPACTED GRANULAR MATERIAL OR CONCRETE OF THE SAME QUALITY SPECIFIED FOR THE FOUNDATIONS TO BE USED IF EXCAVATION EXCEEDED THE OVERALL REQUIRED DEPTH. FOR STABILIZATION OF THE BOTTOM OF THE EXCAVATION, CRUSHED STONE MAY BE USED. STONE, IF USED, SHALL NOT BE USED AS COMPILING CONCRETE THICKNESS. PLEASE NOTIFY THE PROJECT SUPERVISOR AND THEY WILL HAVE A 3RD PARTY ENGINEERING FIRM CONTACT YOU WITH RECOMMENDATIONS.

9) EXCAVATION TO COMPOUND TO INCLUDE WEED CONTROL MAT.

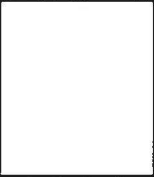
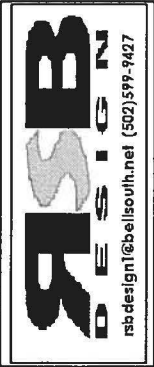
10) SITE TO HAVE PROPER DRAINAGE & EROSION CONTROL (CROWNED FORMATION)

11) GC WILL BE RESPONSIBLE FOR REPAIR OF ALL AREAS DISTURBED DURING CONSTRUCTION. (EXCAVATING ISSUES)

"CALL BEFORE YOU DIG"
THE CONTRACTOR'S ATTENTION IS DIRECTED TO THE UTILITY PROTECTION CENTER, PHONE 811 IN KENTUCKY , WHICH WAS ESTABLISHED TO PROVIDE ACCURATE LOCATIONS OF UNDERGROUND UTILITIES. THE CONTRACTOR SHALL NOTIFY THE UTILITY PROTECTION CENTER 48 HOURS IN ADVANCE OF ANY CONSTRUCTION ON THIS PROJECT. ALL NEW SERVICE AND GROUNDING TRENCHES PROVIDE A WARNING TAPE @ 12 INCHES BELOW GRADE.

SYMBOLS LEGEND

- KEYNOTE
- INSP. SLEEVE / GRND ROD
- INSPECTION SLEEVE
- CAD WELD CONNECTION
- TRANSFORMER
- LIGHTNING SUPPRESSOR
- SWTCH (DISCONNECT)
- METER PACK
- POWER
- GAS LINE
- WATER LINE
- SANITARY SEWER
- TELEPHONE
- STORM SEWER DRAIN
- FENCE



NO.	DATE	REVISION

BLUEGRASS CELLULAR, INC.
STANDARD CELLULAR SITE
HENDRICKS CREEK
1407 CHERRY TREE RD. BURKESVILLE, KY. 42717

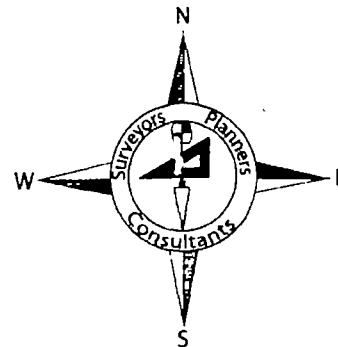
DRAWN BY: R. BECKER	ISSUE DATE: 3-15-17	SCALE: LISTED
------------------------	------------------------	------------------

SHEET NUMBER
General Notes

Landmark Surveying Co., Inc.

Darren L. Helms, P.L.S., PRESIDENT

Dennis N. Helms, P.L.S., VICE PRESIDENT



15 N.E. 3rd Street
Washington, Indiana 47501
Phone: 812-257-0950
Fax: 812-257-0953
Email: landmark97@sbcglobal.net

Directions to the Site

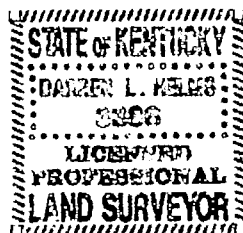
From the County Seat of Cumberland County, Kentucky

Hendricks Creek Site

From the Cumberland County Courthouse in downtown Burkesville, Kentucky: travel south on Kentucky Highways 90 and 61 for 0.6 miles to the south intersection of Kentucky Highways 90 and 61; turn right onto Kentucky Highway 61 and travel south for 9.2 miles to Spears Chapel Road (Kentucky Highway 3108); turn left onto Spears Chapel Road and travel southerly for 0.1 miles to Cherry Tree Road (Kentucky Highway 3108); turn left onto Cherry Tree Road and travel southeast for 1.3 miles to a dirt lane on the right or south side of the road; turn right onto the lane and travel south for 500 feet to the tower site in a wooded area on a ridge. The address of the site is 1407 Cherry Tree Road, Burkesville, Kentucky 42717.

Darren L. Helms
Darren L. Helms, P.L.S. 3386

MARCH 6, 2017
Date



Site Name: Hendricks Creek

OPTION TO LEASE AND LEASE AGREEMENT

I.

OPTION TO LEASE REAL PROPERTY

THIS OPTION TO LEASE REAL PROPERTY (the "Option Agreement") is made and entered into this 14 day of DECEMBER 2016 by and between Frank A.B. Brendel, Jr. & Patricia H. Brendel, whose address is 945 Hendricks Creek Rd., Burkesville, KY 42717 (the "Optionor(s)"), by and through their attorney in fact Patricia "Patty" Brendel, and Cumberland Cellular Partnership (a Kentucky general Partnership) with principal office and place of business at 2902 Ring Road, Elizabethtown, KY 42701 (the "Optionee").

WITNESSETH:

WHEREAS, the Optionor(s) is the owner of certain real property located in Cumberland County, Kentucky as more particularly described on Exhibit A attached hereto and incorporated herein by reference (the "Property"); and

WHEREAS, the Optionor(s) wishes to grant to the Optionee, and the Optionee wishes to obtain from the Optionor(s), an option to lease a portion of the Property upon the terms and conditions set forth herein;

NOW, THEREFORE, in consideration of the foregoing premises and for other good and valuable consideration, the mutuality, receipt and sufficiency of which are hereby acknowledged, the parties hereto do agree as follows.

1. In consideration of the payment of **One Thousand Eight Hundred Dollars and Zero Cents (\$1,800.00)** paid by the Optionee to the Optionor(s) (the "Option

Site Name: Hendricks Creek

Consideration”), the receipt of which is hereby acknowledged by the Optionor(s), the Optionor(s) hereby grants to the Optionee an exclusive and irrevocable option to lease a portion of the Property upon the terms and conditions hereinafter set forth (the “Option”) for a period of eighteen (18) months, commencing on the date of full execution (the “Option Period”), as set forth in Paragraph 5 thereof.

2. The parties hereto anticipate that the portion of the Property which is the subject of this Option will comprise approximately a **One Hundred Foot by One Hundred Foot** area, together with a right of way across the Property for the purposes of ingress and egress throughout the term of the lease. The Optionee shall obtain an accurate survey of the portion of the Property to be leased by it by a registered land surveyor licensed in the Commonwealth of Kentucky at the sole expense of the Optionee. A copy of the survey shall be provided to the Optionor(s). The description of the portion of the Property to be leased by the Optionee, including the right of way, shall be determined by the surveyor and shall hereafter be referred to as the “Leased Premises.” The Optionee shall obtain said survey within a reasonable time following the date of the Option Agreement.
3. During the term of the Option, the Optionee may enter onto the Property at its own risk to obtain soil samples and to bore soil for the purposes of determining the suitability of the Leased Premises for a communications tower.
4. Upon the Optionee’s proper exercise of the Option in accordance with Paragraph 5 hereof, the Optionor(s) shall be deemed to have immediately executed, acknowledged and delivered to the Optionee the Lease Agreement contained in Section II hereof. The description of the Leased Premises shall be that determined by the registered land surveyor in accordance with Paragraph 2 hereof.

Site Name: Hendricks Creek

5. If the Optionee elects to exercise the Option in accordance with the terms hereof, notice of such election shall be deemed sufficient if personally delivered or sent by registered or certified mail, return receipt requested, to the address of the Optionor(s) set forth in Paragraph 14 hereof.
6. The Optionor(s) agrees not to sell, lease or offer for sale or lease the Leased Premises, or any portion thereof, during the term of this Option or any renewal or extension of the Option.
7. In the event the Optionee fails to exercise the Option as set forth herein (unless such failure is due to the discovery of a defect in the Leased Premises or other matter unsatisfactory to the Optionee), the Optionor(s) shall have the right to retain the Option Consideration.
8. The Optionee may assign this Option with written consent of the Optionor(s), which consent shall not be unreasonably withheld, and upon any assignment such assignee shall have all the rights, remedies and obligations as if it were the original Optionee hereunder. From and after any such assignment, the term "Optionee" shall refer to such assignee.
9. Each party hereto shall bear any and all of its own expenses in connection with the negotiation, execution or settlement of this Option.
10. Risk of loss with respect to the Property during the term of this Option and during the term of the lease shall be upon the Optionor(s). If, during the term of the Option, any portion of the Leased Premises shall be acquired by public authority under the right or threat of eminent domain, the Optionee may, at its sole option, either (i) exercise the Option, and in such event, all sums received from the public authority by the Optionor(s) by reason of the taking of a portion of the Leased

Site Name: Hendricks Creek

5. If the Optionee elects to exercise the Option in accordance with the terms hereof, notice of such election shall be deemed sufficient if personally delivered or sent by registered or certified mail, return receipt requested, to the address of the Optionor(s) set forth in Paragraph 14 hereof.
6. The Optionor(s) agrees not to sell, lease or offer for sale or lease the Leased Premises, or any portion thereof, during the term of this Option or any renewal or extension of the Option.
7. In the event the Optionee fails to exercise the Option as set forth herein (unless such failure is due to the discovery of a defect in the Leased Premises or other matter unsatisfactory to the Optionee), the Optionor(s) shall have the right to retain the Option Consideration.
8. The Optionee may assign this Option with written consent of the Optionor(s), which consent shall not be unreasonably withheld, and upon any assignment such assignee shall have all the rights, remedies and obligations as if it were the original Optionee hereunder. From and after any such assignment, the term "Optionee" shall refer to such assignee.
9. Each party hereto shall bear any and all of its own expenses in connection with the negotiation, execution or settlement of this Option.
10. Risk of loss with respect to the Property during the term of this Option and during the term of the lease shall be upon the Optionor(s). If, during the term of the Option, any portion of the Leased Premises shall be acquired by public authority under the right or threat of eminent domain, the Optionee may, at its sole option, either (i) exercise the Option, and in such event, all sums received from the public authority by the Optionor(s) by reason of the taking of a portion of the Leased

Site Name: Hendricks Creek

Premises shall reduce the rent due under the lease, or (ii) terminate this Option and thereupon the Optionor(s) shall be obligated to return to the Optionee the full amount of the Option Consideration previously paid to the Optionor(s) in "good and collected funds."

11. The parties hereto represent to each other that neither has engaged any broker to represent their interests in connection with the transactions contemplated hereby, and each agrees to indemnify the other against any and all claims made by any brokers engaged or purported to be engaged by the other for brokerage commissions or fees in connection with the transactions contemplated hereby.
12. The Optionor(s) represents, warrants and covenants to the Optionee that the Optionor(s) has not caused or permitted, and shall not cause or permit, and to the best of Optionor(s)' knowledge no other person has caused or permitted any hazardous material (as defined by any applicable federal, state or local law, rule or regulation) to be brought upon, placed, held, located or disposed of at the Leased Premises. In the event any such contamination occurs for which the Optionee becomes legally liable, the Optionor(s) shall indemnify the Optionee against all claims, damages, judgments, penalties and costs and expenses, including reasonable attorneys' fees, which Optionee may incur.
13. This Option Agreement and the rights and obligations of the parties hereto shall be construed in accordance with the laws of the Commonwealth of Kentucky.
14. For the purposes of giving notice as permitted or required herein, the address of the Optionor(s) shall be: 945 Hendricks Creek Rd., Burkesville, KY 42717; the Optionee's address shall be: P.O. Box 5012, Elizabethtown, KY 42702-5012. Any inquiry by the Optionor to the Optionee regarding the terms and conditions of the Option Agreement or Lease Agreement, or otherwise related to the Option

Site Name: Hendricks Creek

Agreement or Lease Agreement, shall be made in writing and submitted to the attention of the Optionee's Lease Administrator at the above address.

15. The Optionee shall have the right, in its sole discretion, to record this Option in the Office of the Clerk of the County Court of Cumberland County, Kentucky.

II.

LEASE AGREEMENT

16. In the event the Optionee elects to exercise the Option to lease the Leased Premises, the terms of the Lease Agreement ("Lease Agreement" or "Lease") shall become immediately effective upon such exercise and shall be as follows.
 - a. The term of the Lease shall commence on the date that the Optionor(s) receives proper notice that the Optionee has exercised the Option, pursuant to Paragraph 5 therein. The initial term shall expire **five (5) year(s)** from the commencement date of the Lease Agreement and shall include **six (6) additional five (5)-year terms** per the Lease Agreement. Optionee may, by providing written notice at least sixty (60) days prior to the expiration of the original or any renewal Lease term, elect to unilaterally terminate this Lease at the end of any original or renewal Lease term. Such notice must be personally delivered or sent via registered or certified mail, return receipt requested, to the address of the Optionor(s) set forth in Paragraph 14 hereof. The Lease amount shall be adjusted at the end of each term by an increase of 12%.
 - b. The Optionee shall pay to the Optionor(s) rent for the Leased Premises in the sum of Four Thousand Eight Hundred Dollars and Zero Cents (\$4,800.00) yearly, to be paid in advance. All rent payments shall be

Site Name: Hendricks Creek

personally delivered or mailed to the Optionor(s) at the address set forth in Paragraph 14 hereof. Any check payment of the rent due under the Lease shall be payable to the order of the Optionor(s).

- c. The Optionee shall be entitled to use and occupy the Leased Premises for the purpose of erecting, maintaining and operating a communications tower ("Tower") and communications facilities ("Facilities") thereon and for all such other uses as Optionee may, in its sole discretion, deem necessary in connection therewith.
- d. The Optionor(s) hereby grants Optionee easements on, under and across the Property for ingress, egress, utilities and access (including access for the purposes described in Paragraph 2) to the Leased Premises adequate to install and maintain utilities, including, but not limited to, the installation of power and telephone service cable, and to service the Leased Premises and the Tower and Facilities at all times during the Initial Term of the Lease and any Renewal Term ("Easement"). The Easements provided hereunder shall have the same term as this Lease.
- e. In the event the Property is encumbered by a mortgage or deed of trust, Optionor(s) agrees, upon request of Optionee, to obtain and furnish to Optionee a non-disturbance and attornment agreement for each such mortgage or deed of trust.
- f. The Optionor(s) shall be responsible for the payment of all real estate taxes which shall be assessed against the Property during the term of the lease. The Optionee shall pay all charges for heat, water, gas, electricity, sewer use charges and any other utility used or consumed on the Leased Premises. The Optionee shall, at its own cost and expense, maintain and keep in full force and effect during the term of the lease public liability

Site Name: Hendricks Creek

insurance with coverage in the amount of at least one million dollars (\$1,000,000.00) per person for bodily injury, disease, or death and shall maintain property insurance on any property of the Optionee located on the Leased Premises.

- g. The Optionee may assign the lease. The Optionee may sublet all or part of the space on the tower or ground space. In the event that the Optionee sublets all or part of the space on the tower or ground space, the Optionee shall pay the Optionor(s) a total of 10% of the annual gross rent collected from sublessor(s) ("Revenue Share"), which amount shall be paid together with, and in addition to, the annual Rent described in Paragraph 16(b) above.
- h. The Optionor(s) covenants that upon the Optionee's payment of the rent agreed upon herein as well as Optionee's observing and performing all of the covenants and conditions contained in the Lease, the Optionee may peacefully and quietly enjoy the Leased Premises subject to the terms and conditions set forth in the Lease.
- i. The Optionee agrees to maintain an access road in a passable manner for the term of the lease.
- j. Optionee's Payment of Taxes, Fees and Assessments. Optionee shall pay directly to the applicable federal, state or local governmental unit or agency ("Governmental Entity") or to Optionor(s) if Optionor(s) is invoiced by such Governmental Entity, all taxes, fees, assessments or other charges assessed by any Governmental Entity directly against Optionee's equipment and/or Optionee's use of the Facilities. Optionee shall also pay to Optionor(s) Optionee's Pro Rata Share of all taxes, fees, assessments or charges including, but not limited to, personal property

Site Name: Hendricks Creek

taxes attributable to Optionee's equipment and antenna(s), municipal franchise fees, use fees, municipal application fees, installation fees and increases thereof. "Pro Rata Share" shall mean the fraction of decimal equivalent of dividing one (1) by the total number of then existing users occupying a tower on the last day of the applicable calendar year.

17. This Option and Lease Agreement contains the entire agreement between the parties hereto and no modification or amendment shall be binding upon any party unless made in writing and signed by each of the parties hereto.
18. Upon the termination or other end of this Lease Agreement, Optionee shall have the right to remove any and all of its property (real or personal) from the Leased Premises regardless of whether or not such property may be considered a fixture thereto.
19. Upon abandonment of the property, Optionee shall have thirty (30) days to dismantle and remove the Tower and any/all equipment located on Optionor's property.
20. Before any interest in the Optionor(s)' interest in the Property or Lease, or any part thereof, whether separately or in connection with other property owned by the Optionor(s), is sold, assigned or transferred in any manner whatsoever (with or without consideration), the Optionee shall have a right of first refusal to acquire whatever interest in the Property or Lease that the Optionor(s) proposes to transfer (the "Proposed Transfer"), on the terms and conditions set forth in this Section 20 (the "Right of First Refusal").
 - a. Optionor(s) shall deliver to the Optionee a written notice (the "Notice") stating (i) the name of the proposed purchaser or

transferee and the material terms and conditions of the Proposed Transfer, together with a complete copy of any written offer made to the Optionor(s) to acquire any interest in the Property ("Offer").

- b. At any time within thirty (30) days after receipt of the Notice, the Optionee may, by giving written notice to the Optionor(s) ("Optionee's Notice"), elect to exercise its Right of First Refusal and acquire the interest in the Property or Lease proposed to be transferred pursuant to the Proposed Transfer at the purchase price and on the same terms and conditions as are contained in the Offer. If the Offer includes consideration other than cash, the cash equivalent value of the non-cash consideration shall be determined by the Optionee in good faith. In the event, Optionee exercises its right to acquire the interest in the Property or Lease, the Optionor(s) shall convey, assign and/or transfer said interest to Optionee free and clear of all liens and encumbrances whatsoever (other than this Lease, which Lease shall remain in effect). All taxes, rents and other assessments applicable to the transferred interest, if any, shall be prorated to the date of closing. The Closing shall occur within thirty (30) days from the date of Optionee's Notice.
- c. If the Optionee declines to exercise its Right of First Refusal to acquire the interest in the Property or Lease proposed to be transferred, the Optionor(s) may sell or transfer same in accordance with the terms of the Offer subject, however, to this Lease and the Optionee's rights thereunder.

EXECUTION OF AGREEMENT(S)

IN WITNESS WHEREOF, the parties hereto have set their hands and affixed their respective seals.

Frank A.B. Brendel Jr.

Sign: Frank A.B. Brendel, Jr.

Date: 12 December '16

("Optionor")

By: Patricia "Patty" Brendel
Attorney in Fact

Cumberland Cellular Partnership

Sign: [Signature]

Date: 12/14/16

("Optionee")

By: Scott W. McCloud
Authorized Representative

Patricia H. Brendel

Sign: Patricia H. Brendel

Date: 12 December '16

("Optionor")

By: Patricia "Patty" Brendel
Attorney in Fact

STATE OF Kentucky
COUNTY OF Cumberland

The foregoing instrument was acknowledged before me this 12 day of December, 2016, by **Patricia "Patty" Brendel**, as attorney in fact for Frank A.B. Brendel Jr. and Patricia H. Brendel, to be her free act and deed.

Kimberly Johnson
NOTARY PUBLIC STATE AT LARGE

My commission expires: 1/7/2020

COMMONWEALTH OF KENTUCKY
COUNTY OF HARDIN

The foregoing instrument was acknowledged before me this 14 day of December, 2016, by, **Scott W. McCloud**, as Authorized Representative on behalf of **Cumberland Cellular Partnership**, to be his free act and deed.

Scott W. McCloud
NOTARY PUBLIC STATE AT LARGE

My commission expires: 1-21-17

This instrument prepared by:

John R. Rhorer, Jr.

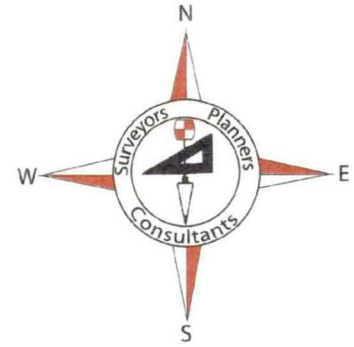
John R. Rhorer, Jr.
DINSMORE & SHOHL LLP
250 West Main Street, Suite 1400
Lexington, KY 40507
(859) 425-1000

10850981v3

Landmark Surveying Co., Inc.

Darren L. Helms, P.L.S., PRESIDENT

Dennis N. Helms, P.L.S., VICE PRESIDENT



15 N.E. 3rd Street
Washington, Indiana 47501

Phone: 812-257-0950

Fax: 812-257-0953

Email: landmark97@sbcglobal.net

Lease Boundary and Easement Descriptions

Landowner: Frank A. B. Brendel, Jr., et al.

Date: March 6, 2017

Client: Bluegrass Cellular, Inc.

Project No.: 17-01-0103

Client's Address: 2902 Ring Road, Elizabethtown, Kentucky 42701

Site Name: Hendricks Creek

This is to certify that I have this day written a lease boundary description and easement description at the request of Mr. Tim Ash of Bluegrass Cellular. The descriptions should read as follows:


A tract of land that is located 1,300 feet southeast of the intersection of Cherry Tree Road (Kentucky Highway 3108) and Dewey Young Road in the Peytonsburg Community of Cumberland County, Kentucky; said tract being described as follows:

COMMENCING AT a 5/8-inch rebar set flush with a survey cap inscribed "D.L. Helms PLS 3386" (referred to as a rebar set in the remainder of this description) on the south right of way of Cherry Tree Road (Kentucky Highway 3108), being 25 feet from the centerline of said road, at the northeast corner of the 128.4-acre tract described in deed to Frank A. B. Brendel on September 21, 1953 in Deed Book 62, page 78 in the office of the County Clerk of Cumberland County, Kentucky; said corner has a Latitude of 36°38'20.47" North and a Longitude of 85°21'45.36" West; thence along the east boundary of said 128.4-acre tract, which is the center of an existing dirt lane, the following seven (7) courses: (1) South 33 degrees 15 minutes 07 seconds East 91.21 feet to a rebar set flush; (2) South 24 degrees 41 minutes 51 seconds East 46.99 feet to a rebar set flush; (3) South 18 degrees 20 minutes 00 seconds East 42.29 feet to a rebar set flush; (4) South 10 degrees 23 minutes 06 seconds East 33.91 feet to a rebar set flush; (5) South 13 degrees 43 minutes 56 seconds West 23.27 feet to a rebar set flush; (6) South 29 degrees 32 minutes 54 seconds West 180.90 feet to a rebar set flush and (7) South 18 degrees 29 minutes 47 seconds West 37.30 feet to a rebar set flush; thence, leaving said east boundary, North 87 degrees 48 minutes 42 seconds West 16.80 feet to a rebar set flush at the **POINT OF BEGINNING** of this description: thence South 02 degrees 11 minutes 18 seconds West 100.00 feet to a rebar set flush; thence North 87 degrees 48 minutes 42 second West 100.00 feet to a rebar set flush; thence North 02 degrees 11 minutes 18 seconds East 100.00 feet to a rebar set flush; thence South 87 degrees 48 minutes 42 second East 100.00 feet to the point of beginning and containing 0.230 acres (10,000 square feet), more or less.

TOGETHER WITH an access and utility easement from the above-described 0.230-acre lease tract to Cherry Tree Road (Kentucky Highway 3108); said easement being described as follows: **BEGINNING AT** a 5/8-inch rebar set flush with a survey cap inscribed "D.L. Helms PLS 3386" (referred to as a rebar set in the remainder of this description) at the northeast corner of the above-described 0.230-acre lease tract; thence North 87 degrees 48 minutes 42 seconds West 100.00 feet to a rebar set flush at the northwest corner of the above-described 0.230-acre lease tract; thence North 02 degrees 11 minutes 18 seconds East 20.00 feet; thence South 87 degrees 48 minutes 42 seconds East 71.28 feet; thence North 48 degrees 02 minutes 35 seconds East 70.82 feet; thence North 29 degrees 32 minutes 54 seconds East 150.73 feet; thence North 13 degrees 43 minutes 56 seconds East 16.22 feet; thence North 10 degrees 23 minutes 06 seconds West 28.25 feet; thence North 18 degrees 20 minutes 00 seconds West 39.79 feet; thence North 24 degrees 41 minutes 51 seconds West 44.38 feet; thence North 33 degrees 15 minutes 07 seconds West 105.77 feet to the south right of way of Cherry Tree Road, being 25 feet from the centerline; thence, along said south right of way, South 84 degrees 30 minutes 05 seconds East 25.64 feet to a rebar set flush at the northeast corner of said 128.4-acre tract; thence along the east boundary of said 128.4-acre tract, which is the center of an existing dirt lane, the following seven (7) courses: (1) South 33 degrees 15 minutes 07 seconds East 91.21 feet to a rebar set flush; (2) South 24 degrees 41 minutes 51 seconds East 46.99 feet to a rebar set flush; (3) South 18 degrees 20 minutes 00 seconds East 42.29 feet to a rebar set flush; (4) South 10 degrees 23 minutes 06 seconds East 33.91 feet to a rebar set flush; (5) South 13 degrees 43 minutes 56 seconds West 23.27 feet to a rebar set flush; (6) South 29 degrees 32 minutes 54 seconds West 180.90 feet to a rebar set flush and (7) South 18 degrees 29 minutes 47 seconds West 37.30 feet to a rebar set flush; thence, leaving said east boundary, North 87 degrees 48 minutes 42 seconds West 16.80 feet to the point of beginning.

The bearing system of these descriptions is based upon the Kentucky State Plane Coordinate System, South Zone, NAD 83 (2011), as determined by G.P.S. observations made on February 17, 2017 using the Kentucky Transportation Cabinet's KYCORS NAD83 2011 Network. This bearing system is grid north.

These descriptions are based upon a survey completed by Landmark Surveying Co., Inc. and certified by Darren L. Helms, P.L.S. 3386, on March 6, 2017.


Darren L. Helms, P.L.S. 3386



SITE: HENDRICKS CREEK

Lease Boundary and Topographic Survey

Cumberland County, Kentucky

Basis of Bearings

THE BEARING SYSTEM OF THIS SURVEY IS BASED UPON THE KENTUCKY STATE PLANE COORDINATE SYSTEM, SOUTH ZONE, NAD 83 (2011) AS DETERMINED BY G.P.S. OBSERVATIONS MADE ON FEBRUARY 17, 2017 USING THE KENTUCKY TRANSPORTATION CABINET'S KYCORS NAD83 2011 NETWORK. THIS BEARING SYSTEM IS GRID NORTH.

Tower Location Information

DESIGNATION: HENDRICKS CREEK
SITE ID#: NONE
HORIZONTAL DATUM: NAD 83 (2011)
LATITUDE: 36°38'59" NORTH
LONGITUDE: 85°21'46.45" WEST
VERTICAL DATUM: NAVD 88
GROUND ELEVATION: 984.1 FEET (299.95 M)
STATE PLANE COORDINATES
NORTHING: 1,751,491.48 FEET
(533,855.67 M)
EASTING: 1,753,997.80 FEET
(534,619.599 M)

Landowner Information

LANDOWNER: FRANK A. B. BRENDOL, JR., ET AL.
ADDRESS: 945 HENDRICKS CREEK ROAD
BURKESVILLE, KY 42717
CONTACT PERSON: PAT BRENDOL
PHONE: 270-433-7172 OR 270-459-1139
PVA MAP NO. 060-00-00-053.00

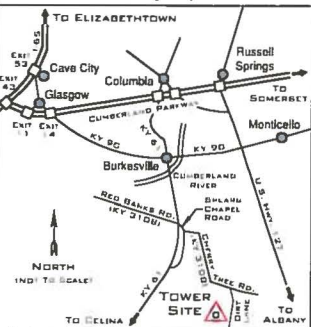
Project Bench Mark

NORTHING: 1,751,535 FEET (533,869 M)
EASTING: 1,754,083 FEET (534,646 M)
ELEVATION: 987.98 FEET (301.137 M)
DESCRIPTION: A 1/2" SQUARE IRON SPIKE, SET 12" ABOVE GRADE, IN THE SOUTHEAST SIDE OF AN 8" TREE. THE BENCHMARK LIES 96' NORTHEAST OF THE CENTER OF THE TOWER.

Flood Plain Statement

ACCORDING TO THE FLOOD INSURANCE RATE MAP FOR CUMBERLAND COUNTY, KENTUCKY, MAP NO. 21057002-000, DATED SEPTEMBER 19, 2012, THE SUBJECT SITE LIES WITHIN OTHER AREAS - "ZONE X", WHICH IS DEFINED AS "AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOOD".

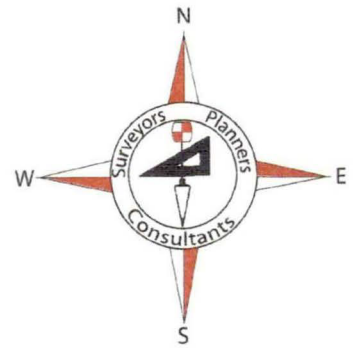
Vicinity Map



Landmark Surveying Co., Inc.

Darren L. Helms, P.L.S., PRESIDENT

Dennis N. Helms, P.L.S., VICE PRESIDENT



15 N.E. 3rd Street
Washington, Indiana 47501

Phone: 812-257-0950

Fax: 812-257-0953

Email: landmark97@sbcglobal.net

Landowner and Adjacent Landowner List

Hendricks Creek Site

Hendricks Creek Resort
945 Hendricks Creek Road
Burkesville, KY 42717

Brendel Corp.
945 Hendricks Creek Road
Burkesville, KY 42717

Barrett Oil and Gas Co., Inc.
3413 KY Hwy. 1351
Albany, KY 42602

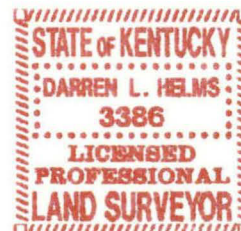
Frank Brendel, Jr.
945 Hendricks Creek Road
Burkesville, KY 42717

Kathleen J. Saylor Estate
112 Dewey Young Road
Burkesville, KY 42717

Lawrence Scott Estate
1496 Cherry Tree Road
Burkesville, KY 42717

Darren L. Helms
Darren L. Helms, P.L.S. 3386

MARCH 6, 2017
Date



March 20, 2017

Lawrence Scott Estate
1496 Cherry Tree Road
Burkesville, Kentucky 42717

Public Notice

Cumberland Cellular Partnership is a Kentucky general partnership that markets its services as Bluegrass Cellular. Bluegrass Cellular has been serving Central Kentucky with wireless communications services for over 20 years.

Cumberland Cellular Partnership is applying to the Public Service Commission of the Commonwealth of Kentucky (the "Commission") for a Certificate of Public Convenience and Necessity to construct and operate a new cellular facility to provide cellular telephone service. This facility will include a 240 foot tower and an equipment shelter to be located at 1407 Cherry Tree Road, Burkesville, Cumberland County, Kentucky, 42717. A map showing the location is attached.

The Commission invites your comments regarding this proposed construction. Also, the Commission wants you to be aware of your right to intervene in this matter. Your comments and request for intervention should be addressed to:

**Executive Director's Office
Public Service Commission of Kentucky
P.O. Box 615
Frankfort, Kentucky, 40602.**

Please refer to Case Number 2017-00135 in your correspondence.

Bluegrass Cellular welcomes the opportunity to serve and provide wireless service in your community! (For more information, please check us out online at www.myblueworks.com)

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Lawrence Scott Estate
1496 Cherry Tree Rd
Burkesville, KY 42717



9590 9403 0728 5196 2003 60

2. Article Number (Transfer from service label)

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X

☐ Agent☐ Addressee

B. Received by (Printed Name)

C. Date of Delivery

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type

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| <input type="checkbox"/> Insured Mail | |
| <input type="checkbox"/> Insured Mail Restricted Delivery (over \$500) | |

March 20, 2017

Hendricks Creek Resort
945 Hendricks Creek Road
Burkesville, Kentucky 42717

Public Notice

Cumberland Cellular Partnership is a Kentucky general partnership that markets its services as Bluegrass Cellular. Bluegrass Cellular has been serving Central Kentucky with wireless communications services for over 20 years.

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Please refer to Case Number 2017-00135 in your correspondence.

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SENDER: COMPLETE THIS SECTION

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- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Hendricks Creek Resnt
945 Hendricks Creek Rd
Burkesville, KY 42717



9590 9403 0728 5196 2003 77

2. Article Number (Transfer from service label)

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X

☐ Agent☐ Addressee

B. Received by (Printed Name)

C. Date of Delivery

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type

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| <input type="checkbox"/> Collect on Delivery Restricted Delivery | <input type="checkbox"/> Signature Confirmation Restricted Delivery |
| <input type="checkbox"/> Insured Mail | |
| <input type="checkbox"/> Insured Mail Restricted Delivery (over \$500) | |

PS Form 3811, April 2015 PSN 7530-02-000-9053

Domestic Return Receipt

March 20, 2017

Brendel Corporation
945 Hendricks Creek Road
Burkesville, Kentucky 42717

Public Notice

Cumberland Cellular Partnership is a Kentucky general partnership that markets its services as Bluegrass Cellular. Bluegrass Cellular has been serving Central Kentucky with wireless communications services for over 20 years.

Cumberland Cellular Partnership is applying to the Public Service Commission of the Commonwealth of Kentucky (the "Commission") for a Certificate of Public Convenience and Necessity to construct and operate a new cellular facility to provide cellular telephone service. This facility will include a 240 foot tower and an equipment shelter to be located at 1407 Cherry Tree Road, Burkesville, Cumberland County, Kentucky, 42717. A map showing the location is attached.

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**Executive Director's Office
Public Service Commission of Kentucky
P.O. Box 615
Frankfort, Kentucky, 40602.**

Please refer to Case Number 2017-00135 in your correspondence.

Bluegrass Cellular welcomes the opportunity to serve and provide wireless service in your community! (For more information, please check us out online at www.myblueworks.com)

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Brendel Corporation
945 Hendricks Creek Rd.
Burkesville, KY 42717



9590 9403 0728 5196 2003 84

2. Article Number (Transfer from service label)

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X

☐ Agent☐ Addressee

B. Received by (Printed Name)

C. Date of Delivery

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type

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| <input type="checkbox"/> Certified Mail Restricted Delivery | <input checked="" type="checkbox"/> Return Receipt for Merchandise |
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| <input type="checkbox"/> Insured Mail Restricted Delivery (over \$500) | |

PS Form 3811, April 2015 PSN 7530-02-000-9053

Domestic Return Receipt

March 20, 2017

Barrett Oil and Gas Co., Inc.
3413 Kentucky Highway 1351
Albany, Kentucky 42602

Public Notice

Cumberland Cellular Partnership is a Kentucky general partnership that markets its services as Bluegrass Cellular. Bluegrass Cellular has been serving Central Kentucky with wireless communications services for over 20 years.

Cumberland Cellular Partnership is applying to the Public Service Commission of the Commonwealth of Kentucky (the "Commission") for a Certificate of Public Convenience and Necessity to construct and operate a new cellular facility to provide cellular telephone service. This facility will include a 240 foot tower and an equipment shelter to be located at 1407 Cherry Tree Road, Burkesville, Cumberland County, Kentucky, 42717. A map showing the location is attached.

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Public Service Commission of Kentucky
P.O. Box 615
Frankfort, Kentucky, 40602.**

Please refer to Case Number 2017-00135 in your correspondence.

Bluegrass Cellular welcomes the opportunity to serve and provide wireless service in your community! (For more information, please check us out online at www.myblueworks.com)

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Barrett Oil & Gas Co., Inc.
3413 KY Hwy 1351
Albany, KY 42602



9590 9403 0728 5196 2003 91

2. Article Number (Transfer from service label)

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X

☐ Agent☐ Addressee

B. Received by (Printed Name)

C. Date of Delivery

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type

☐ Adult Signature☐ Adult Signature Restricted Delivery☒ Certified Mail®☐ Certified Mail Restricted Delivery☐ Collect on Delivery☐ Collect on Delivery Restricted Delivery☐ Insured Mail☐ Insured Mail Restricted Delivery
(over \$500)☐ Priority Mail Express®☐ Registered Mail™☐ Registered Mail Restricted
Delivery☒ Return Receipt for
Merchandise☐ Signature Confirmation™☐ Signature Confirmation
Restricted Delivery

April 26, 2017

Frank Brendel, Jr.
945 Hendricks Creek Road
Burkesville, Kentucky 42717

Public Notice

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Public Service Commission of Kentucky
P.O. Box 615
Frankfort, Kentucky, 40602.**

Please refer to Case Number 2017-00135 in your correspondence.

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- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Frank Brendel, Jr.
945 Hendricks creek Rd.
Burkesville, KY 42717



9590 9403 0728 5196 2011 76

2. Article Number (Transfer from service label)

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X

☐ Agent☐ Addressee

B. Received by (Printed Name)

C. Date of Delivery

- D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type

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| <input type="checkbox"/> Collect on Delivery | <input type="checkbox"/> Signature Confirmation™ |
| <input type="checkbox"/> Collect on Delivery Restricted Delivery | <input type="checkbox"/> Signature Confirmation Restricted Delivery |
| <input type="checkbox"/> Insured Mail | |
| <input type="checkbox"/> Insured Mail Restricted Delivery (over \$500) | |

March 20, 2017

Kathleen J. Saylor Estate
112 Dewey Young Road
Burkesville, Kentucky 42717

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Public Service Commission of Kentucky
P.O. Box 615
Frankfort, Kentucky, 40602.**

Please refer to Case Number 2017-00135 in your correspondence.

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1. Article Addressed to:

Kathleen J. Saylor Estate
112 Dewey Young Rd
Burkesville, KY 42717



9590 9403 0728 5196 2011 52

2. Article Number (Transfer from service label)

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X

☐ Agent☐ Addressee

B. Received by (Printed Name)

C. Date of Delivery

- D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type

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| <input type="checkbox"/> Collect on Delivery Restricted Delivery | <input type="checkbox"/> Signature Confirmation Restricted Delivery |
| <input type="checkbox"/> Insured Mail | |
| <input type="checkbox"/> Insured Mail Restricted Delivery (over \$500) | |

Kerry W. Ingle
502-540-2354 (Direct Dial)
kerry.ingle@dinsmore.com

March 21, 2017

Via Certified Mail

Honorable John A. Phelps, Jr.
Cumberland County Judge Executive
112 Courthouse Square
Burkesville, KY 42717

Re: Application of Cumberland Cellular Partnership d/b/a Bluegrass Cellular for a Certificate of Public Convenience and Necessity to construct a new cellular facility to be located at 1407 Cherry Tree Road, Burkesville, Cumberland County, Kentucky, 42717, before the Public Service Commission of the Commonwealth of Kentucky, Case No. 2017-00135

Judge Phelps:

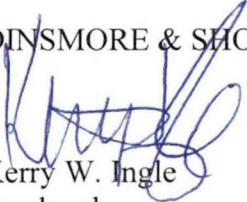
Cumberland Cellular Partnership is applying to the Public Service Commission of Kentucky (the Commission") for a Certificate of Public Convenience and Necessity to construct and operate a new cellular facility to provide cellular telephone service. This facility will include a 240 foot tower and an equipment shelter to be located at 1407 Cherry Tree Road, Burkesville, Cumberland County, Kentucky, 42717. A map showing the location of the proposed new facility is enclosed.

The Commission invites your comments regarding the proposed construction. You also have the right to intervene in this matter.

Your comments and request for intervention should be addressed to: Executive Director's Office, Public Service Commission, P.O. Box 615, Frankfort, Kentucky 40602. Please refer to Case No. 2017-00135 in your correspondence.

Very Truly Yours,

DINSMORE & SHOHL LLP



Kerry W. Ingle
Paralegal

Enclosure

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Hon. John A. Phelps, Jr.
Cumberland Co. Judge Exec.
112 Courthouse Square
Burkesville, KY 42717



9590 9403 0728 5196 2005 13

2. Article Number (Transfer from service label)

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X

- ☐ Agent
☐ Addressee

B. Received by (Printed Name)

C. Date of Delivery

D. Is delivery address different from item 1? ☐ Yes
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| <input type="checkbox"/> Collect on Delivery Restricted Delivery | <input type="checkbox"/> Signature Confirmation Restricted Delivery |
| <input type="checkbox"/> Insured Mail | |
| <input type="checkbox"/> Insured Mail Restricted Delivery (over \$500) | |

PS Form 3811, April 2015 PSN 7530-02-000-9053

Domestic Return Receipt

PUBLIC NOTICE

Cumberland Cellular Partnership
proposes to
construct a cellular
communications

TOWER

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

Cumberland Cellular
Partnership
P.O. Box 5012
2902 Ring Road
Elizabethtown, KY 42701

or

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

Please refer to P.S.C.

Case #2017-00135
in your correspondence.

PUBLIC NOTICE

Continued Forest Planting
project to
protect a prime
habitat

TOWER

on this site, if you have any
questions please contact:
Name: [illegible]
Phone: [illegible]
Email: [illegible]

Please refer to P.S.S.
Case #2017-00135
for more information





Cumberland County News

P.O. Box 307 • Burkesville, KY 42717-0307 • (270) 864-3891

AFFIDAVIT OF PUBLICATION

State of Kentucky -- County of Cumberland -- City of Burkesville

I, Cyndi Pritchett, hereby certify that I am editor
of the *Cumberland County News*, that said newspaper has the largest bona fide circulation which
is published in the City of Burkesville, Kentucky, County of Cumberland, and that said newspa-
per is the newspaper published in said county.

I certify that the attached clipping was published in said newspaper on the 22nd day of
March, 2017. + 29th

Description of Ad: Legal Notice

Page Number: 22nd - pg 11
29th - pg 11

Cyndi Pritchett
Representative

Sworn and subscribed before me this 29th day of March, 2017.

My commission expires: 7/22/19

Lisa H. Cerni
Notary Public

(Seal of Notary)

LEGAL NOTICE

Legal Notice Amended Notice

Cumberland Cellular Partnership is applying to the Public Service Commission of Kentucky for a Certificate of Public Convenience and Necessity to construct and operate a new facility to provide cellular radio telecommunications service in rural service area #5 of the Commonwealth of Kentucky (Hendricks Creek Cell Site). The facility is a 240 tower and an equipment shelter to be located at 1407 Cherry Tree Road, Burkesville, Cumberland County, Kentucky, 42717. Your comments and requests for intervention should be addressed to: Executive Director's Office, Public Service Commission, Post Office Box 615, 211 Sower Boulevard, Frankfort, Kentucky 40602. Please refer to Case No. 2017-00135 in your correspondence.

3/22-3/29chg

Legal Notice

TO THE UNKNOWN DEFENDANT who is believed to be a sole proprietor or individual residing in or near Burkesville, Ky. who provided electrical work at 429 Dutch Creek Rd, Burkesville, Ky., be advised that you are a named party in pending litigation: Nationwide Agribusiness Insurance Company vs. Brandon Thompson, et al, styled: 2017-CI-00012 in Cumberland Circuit Court. A copy of the Complaint can be obtained from Cumberland Circuit Court by phoning (270) 864-2611 and referencing the above case number. This is a time sensitive matter. You only have a short period of time to assert any defense to the claims, to enter a cross-claim or counterclaim, or otherwise object to the allegations referenced in the Complaint. This is an alleged negligence action related to the electrical work performed at the above residence.

Law Office

Patricia Ann Thomas
P. O. Box 37 Burkesville, KY
42717-0037
(270) 864-3401

Court Appointed Warning
Order Attorney
3/29-4/5chg

Legal Notice

Pursuant to KRS 395.600, notice is hereby given that Weltha King, Executrix of the estate of Jesse J. King, deceased, has filed in the District Court of Cumberland County, a final settlement of her accounting as Executrix, and said

same to the undersigned properly verified as required by law within six months of the date of said appointment. Likewise, any person indebted to the estate should make payment to the undersigned.

Nathan Taylor, Executor
Hon. Harlan E. Judd, Jr.
PO Box 415
Burkesville, KY 42717
3/29-4/5chg

Legal Notice

Pursuant to KRS 395.600, notice is hereby given that Jeffrey Ryan Norris, Administrator of the estate of Elizabeth Gaye Norris, deceased, has filed in the District Court of Cumberland County, a final settlement of his accounting as Administrator, and said settlement has been docketed for examination and hearing on the 12th day of April, 2017, at 9 a.m., Cumberland Circuit Courtroom, Burkesville, Kentucky. Any exceptions to said settlement must be filed prior to that date.

Tracy Daniels, Clerk
Cumberland County
Circuit Court
3/29-4/5chg

PUBLIC NOTICE

Public Notice

You are hereby notified that the Cumberland County Fiscal Court will conduct a hearing on April 11, 2017 at the hour of 4 p.m., at the Cumberland County Courthouse, Public Square, Burkesville, Kentucky, to consider establishing the following road to the county road maintenance: Cole Road: "Beginning at the right of way of Crocus Creek Road at mile point 7 at the property lines of Billy Cole and Spencer Cole, thence running in a Northwesterly direction approximately 250' or 0.047 of a mile, running through the properties of Billy Cole and Spencer Cole. Said Cole Road will have a 30 foot right of way for county maintenance and will include a 50' bus turn around." All interested parties are encouraged to attend.

3/29-4/5chg

BIDS WANTED

Bids Wanted

The City of Burkesville Water Department will be accepting sealed bids on a 1999 Chevy Truck, 4.3 L Automatic, 2 Wheel Drive, White in

Burkesville is an equal opportunity and does not discriminate against race, color, creed, national origin or handicap status. Applications can be picked up at City Hall 214 Upper River Street. Applications can be picked up at City Hall Please send resume with applications to City of Burkesville, P.O. Box 250, Burkesville, KY 42717. Applications must be received later than 12th of April, 2017, 4:00 p.m.

3/29-4/5chg

YARD SALE

Yard Sale: Saturday, April 1 a.m. until 2 p.m., 5 miles out North 61 (Linda Rowe). Different merchandise, women and men's jeans, bathing suits and more. Cancel in case of rain.

3/29

CUMBER

See t Visit



LEGAL NOTICE

Legal Notice Amended Notice

Cumberland Cellular Partnership is applying to the Public Service Commission of Kentucky for a Certificate of Public Convenience and Necessity to construct and operate a new facility to provide cellular radio telecommunications service in rural service area #5 of the Commonwealth of Kentucky (Hendricks Creek Cell Site). The facility is a 240 tower and an equipment shelter to be located at 1407 Cherry Tree Road, Burkesville, Cumberland County, Kentucky, 42717. Your comments and requests for intervention should be addressed to: Executive Director's Office, Public Service Commission, Post Office Box 615, 211 Sower Boulevard, Frankfort, Kentucky 40602. Please refer to Case No. 2017-00135 in your correspondence.

3/22-3/29chg

Legal Notice

Notice is hereby given that the undersigned, Micaela Riemer, has, by consideration of the District Court of Cumberland County, been qualified and appointed as Executrix of the Last Will and Testament of Mike Irby, deceased. Any person having claims of any kind against said estate should present the same to the undersigned, and filed with the Court, properly verified as required by law, within six (6) months from the date of said appointment. Likewise, any person indebted to the estate should make payment to the undersigned.

**Micaela Riemer, Executrix
Estate of Mike Irby, deceased
c/o Capps Law Office, PSC
110 East Smith Street
PO Box 779
Burkesville, Kentucky 42717
270-864-3306
3/15-3/22chg**

Legal Notice

Pursuant to KRS 395.600, notice is hereby given that Evelyn Craft and Raven Craft, Co-Administrators of the estate of Roy Craft, deceased, have filed in the District Court of Cumberland County, a final settlement of their accounting as Co-Administrators, and said settlement has been docketed for examination and hearing on the 29th day of March, 2017 at 9 a.m., Cumberland Circuit courtroom, Burkesville, Kentucky. Any exceptions to said settlement must be filed prior to that date.

Tracy Daniels, Clerk

Hours: 8:00 a.m. to 4:30 p.m.
3/22chg

Public Notice

Pursuant to Section 324, Title III of the Federal Superfund Amendments and Reauthorization Act (SARA) of 1986 (PL 99-499), the following information is provided in compliance with the Community Right-to-Know requirements of the SARA Law, and the open meetings and open records provisions of Kentucky Revised Statutes. Members of the public may contact the Cumberland County Emergency Planning Committee, 200 Upper River Street, Burkesville, Kentucky 42717, or by calling 270-864-3494. The Cumberland County Emergency Planning Committee conducts meetings at the 911 Building, Burkesville, Kentucky, or at other locations, in accordance with the Kentucky Open Meetings Law. Members of the Public may request to be notified of regular or special meetings as provided in KRS 61.820 and KRS 61.825. Records of the Planning Committee, including the county emergency response plan, material safety data sheets, and inventory forms, or any follow-up emergency notices as may subsequently be issued, are open for inspection, and members of the public who wish to review these records may do so 8 a.m. - 4 p.m., Central Time, Monday through Friday, as required by the Kentucky Open Records Law. The local 24-hour telephone number for purposes of emergency notification, as required by SARA, is 911.

3/22chg

Public Notice Notice of Noncompliance

Pursuant to KRS 65A.040, the Kentucky Department for Local Government hereby gives public notice that Cumberland County Tourism and Convention Commission is in violation of Kentucky law for failure to comply with the reporting requirements of KRS 65A.020. The point of contact for Cumberland County Tourism and Convention Commission is Jay Cary who may be reached at 270-864-5890 and/or 132 Driftwood Drive, Burkesville, KY 42717. Additional Board Member information is currently unavailable. The Auditor of Public Accounts has been notified. Any state funding for this entity will be withheld until further notice. For further information, please go to the Public Portal on DLG's website, which can be found at the following web address: <https://kydlgweb.ky.gov/Entities/specDistSearch.cfm>. The Department for Local Government encourages this entity to comply with the law.

3/22chg

IN MEM

In Memory of our Brother
Willis on his birthday
Mother, Mayme
left us on Ma

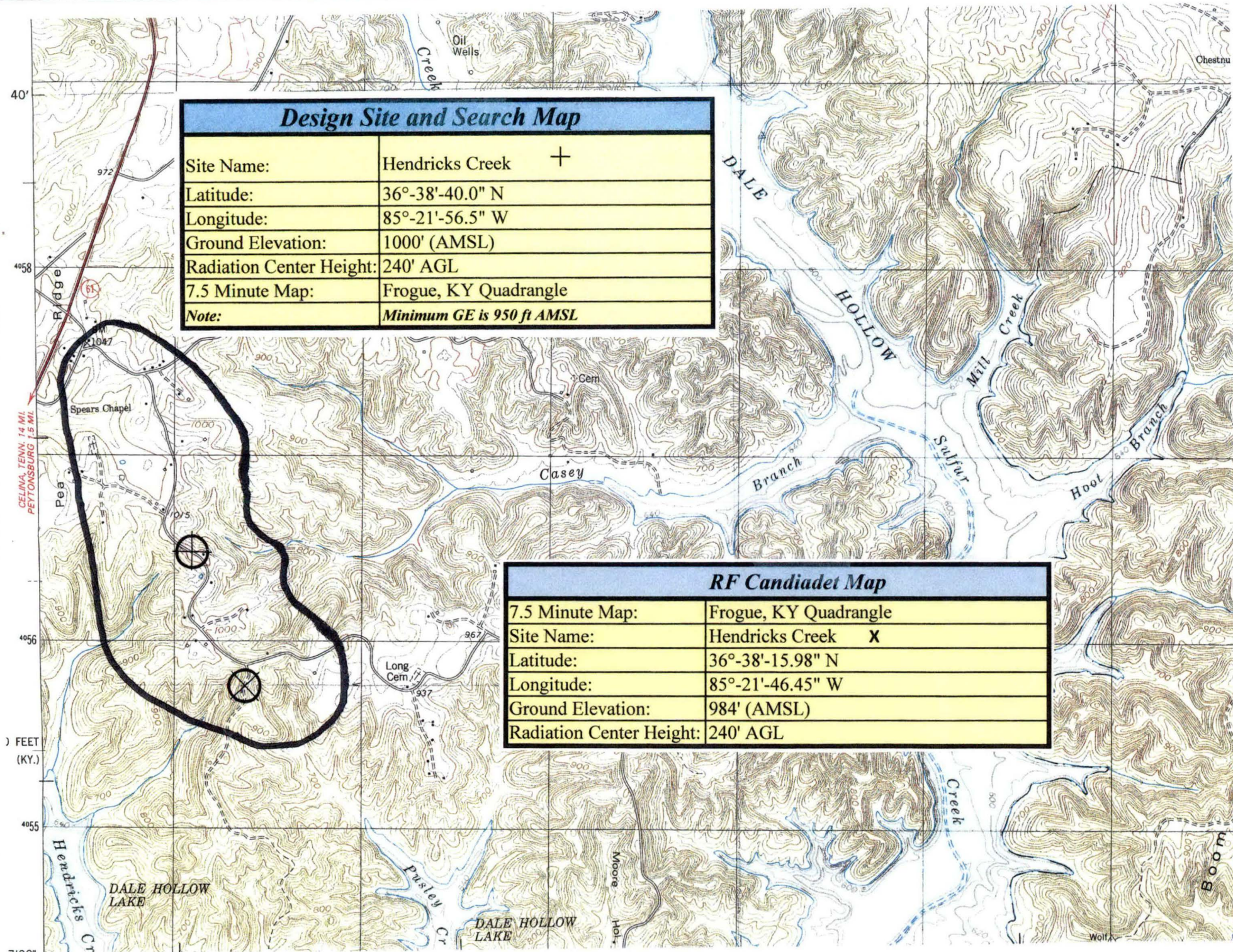
Your special memory still lives
day reminds us of you both
to go on with our lives as you
us to. You both are dearly loved
Heaven's gain. We love and

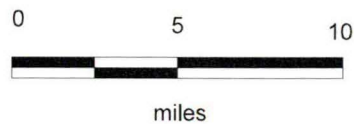
Discover New Events

When it comes to learning
the newspaper gives you
big picture by bringing
favorite school subjects
life! See what's at the
museum. Discover what
scientists are looking
under the microscope.
Learn what the president
Congress are doing.
what's happening in
neighborhood and on
other side of the globe
inside your daily newspaper
and on the Web at
www.burkesville.com

Subscribe











+

$36^{\circ}-56'-00''$ N
 $85^{\circ}-33'-00''$ W

-  Cumberland County Boundary
-  Constructed Towers Registered with the FCC
-  Proposed Hendricks Creek Site
-  Tick Marks

Prepared By: LLGS Engineering March 15, 2017

**Hendricks Creek
Site Location**

+

$36^{\circ}-40'-00''$ N
 $85^{\circ}-12'-00''$ W

**Information on Towers Registered with the FCC
in Cumberland County and 1/2 Mile Area Outside of the County Boundary**

FCC ASR No.	North Latitude	West Longitude	City, State	Tower Owner
1040490	36-47-11	85-23-2	Burkesville, KY	BLUEGRASS CELLULAR, INC.
1042229	36-47-19	85-23-0	Burkesville, KY	Global Tower, LLC
1044802	36-47-26	85-14-28	Burkesville, KY	KY EMERGENCY WARNING SYSTEM KEWS
1046918	36-47-26	85-22-47	Burkesville, KY	WKYR INC
1046919	36-46-47	85-22-0	Burkesville, KY	WKYR INC
1257755	36-45-53.9	85-18-31.2	Burkesville, KY	Cumberland Cellular Partnership
1258928	36-46-35.6	85-14-42.7	Burkesville, KY	Shared Sites Acquisition LLC
1263396	36-49-54	85-30-26.8	Marrowbone, KY	SBA Towers II LLC