

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

EAST KENTUCKY
NETWORK



RECEIVED

MAR 17 2017

Public Service
Commission

March 14, 2017

Linda Faulkner, Division Director Filings
Public Service Commission
211 Sower Blvd.
P.O. Box 615
Frankfort, KY 40602-0615

RE: Roxana Cell Site (Case No. 2017-00048)

Dear Ms. Faulkner:

We recently revised the tower design for the Roxana cell site (Case No. 2017-00048). Please find enclosed one (1) original and five (5) copies of the revised tower design to replace the original documents filed as Exhibit 5.

If you have any further questions, feel free to contact me at 606-477-2355, ext. 1007 or via email lhoney@ekn.com.

Sincerely,

Lynn Haney
Regulatory Compliance Director
Enclosures

RECEIVED

MAR 17 2017

Public Service
Commission



World Tower
COMPANY, INC.

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

300' MODEL WSST TOWER
FOR: APPALACHIAN WIRELESS
SITE: ROXANA
LETCHER COUNTY, KY
DESIGN PACKAGE



3-3-2017

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

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.



R1- UPDATED NOTE 5- LKG 3-2-17

WORLD TOWER

TITLE:

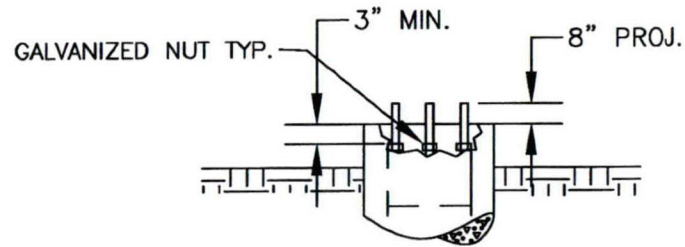
300' MODEL WSST TOWER
FOR: APPALACHIAN WIRELESS
SITE: ROXANA
LETCHER COUNTY, KY

SCALE	DWN.	LKG	CKD.	DATE 1-16-17
FILE	DWG. NO.			Q16781N R1



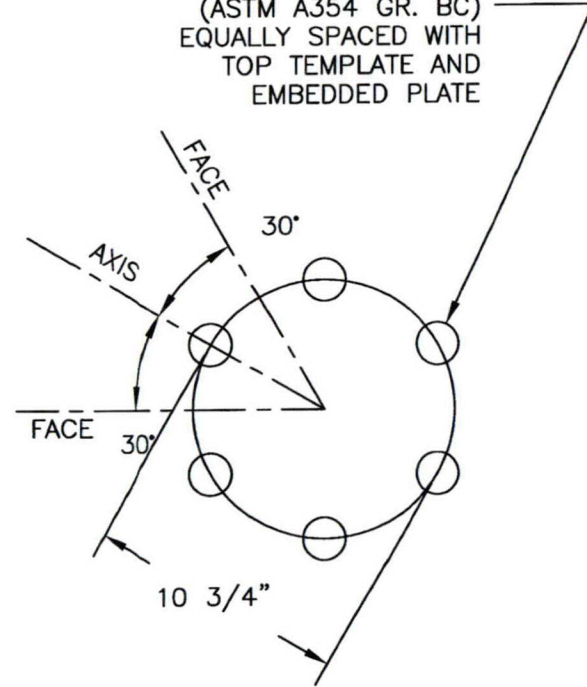
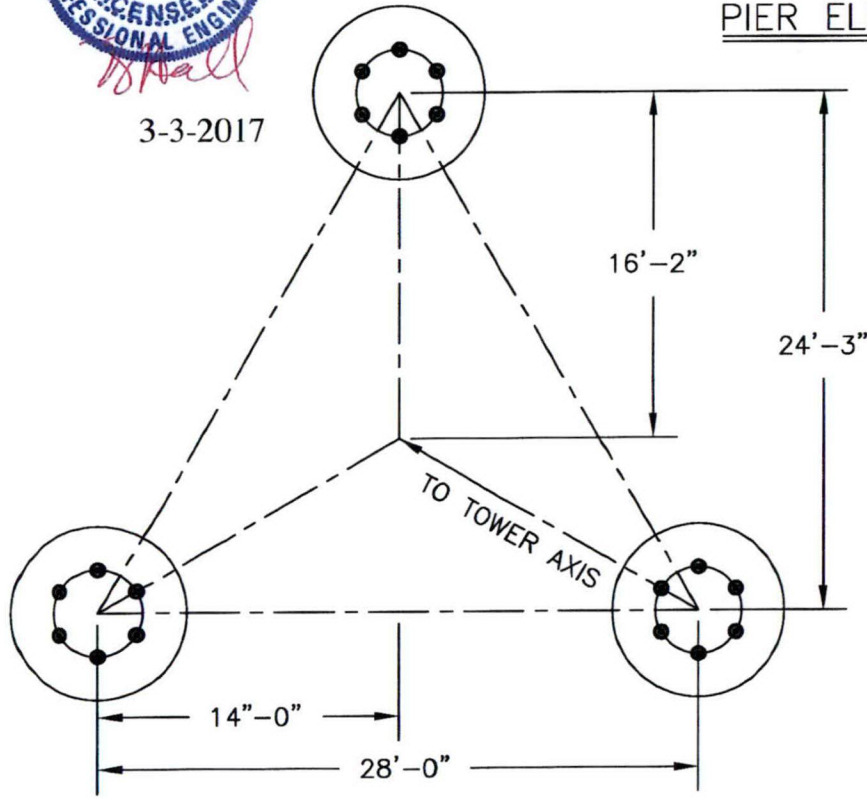
K. Hall

3-3-2017



PIER ELEVATION

ANCHOR BOLTS
 (6) 1 1/2" ϕ X 120"
 (ASTM A354 GR. BC)
 EQUALLY SPACED WITH
 TOP TEMPLATE AND
 EMBEDDED PLATE



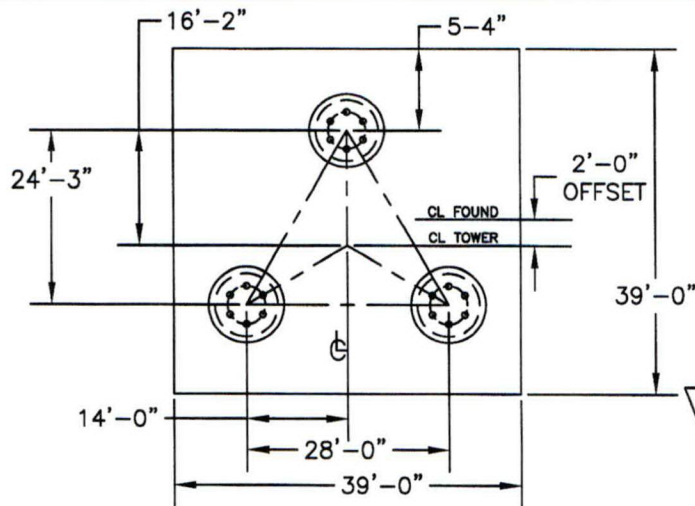
R1- REVISED ANCHOR BOLT LENGTH FOR UPDATED FOUNDATION- LKG 3-2-17

TITLE:

300' MODEL WSST TOWER
 FOR: APPALACHIAN WIRELESS
 SITE: ROXANA
 LETCHER COUNTY, KY

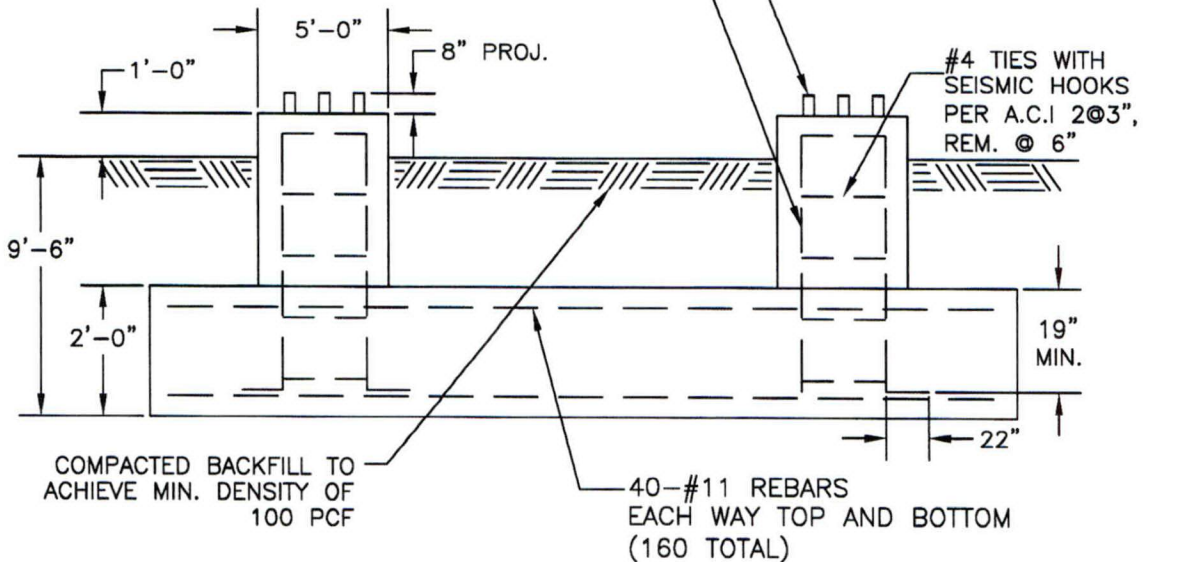
WORLD TOWER

SCALE	NONE	DWN.	LKG	CKD.	DATE	1-16-17
FILE					DWG. NO.	Q16781AB R1



131.3 CU. YDS.
CONCRETE REQ'D.

BASE REACTIONS	
OTM:	16345.0 FT. KIPS
COMP.	712.0 KIPS
UPLIFT	617.0 KIPS
SHEAR (3 LEGS)	97.0 KIPS
WT. NO ICE	116.0 KIPS
WT. 3/4" ICE	357.0 KIPS



GENERAL NOTES

1. CONCRETE TO HAVE 4000 PSI MIN. COMPRESSIVE STRENGTH AFTER 28 DAYS.
2. ALL REINFORCEMENT STEEL IS DEFORMED AND MEETS THE STRENGTH REQUIREMENTS OF ASTM A615 GRADE 60.
3. EMBEDDED STEEL TO HAVE 3" MIN. CONCRETE COVER.
4. FOUNDATION DESIGN IS BASED ON CUSTOMER SUPPLIED SOIL DATA FROM ERM C2. PROJECT NUMBER 165-000-0032 DATED JANUARY 6, 2017.
5. SITE IS TO BE GRADED TO ELEVATION 1916.5 PRIOR TO FOUNDATION EXCAVATION. (REFER TO SUMMIT ENGINEERING GRADING (ROXANA TOWER SITE) DATED FEBRUARY 24, 2014.
6. BASE OF PAD SHALL BEAR ENTIRELY ON SOLID ROCK.



3-3-2017

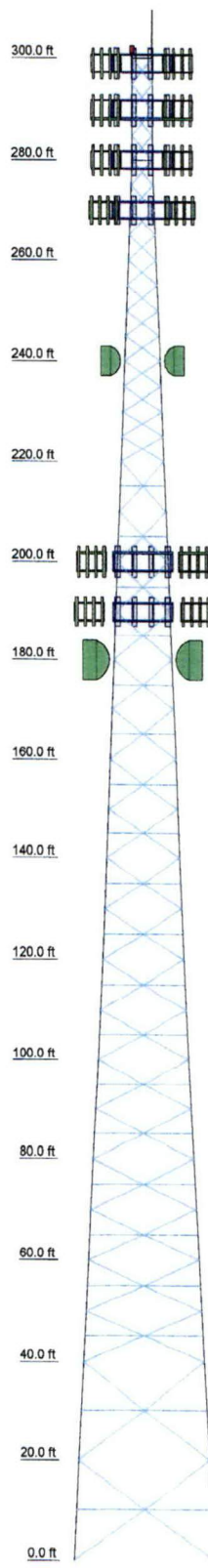
R1-REVISED PER UPDATED SITE INFORMATION-LKG 3-2-17

TITLE: FOUNDATION DETAIL
300' WSST TOWER
FOR: APPALACHIAN WIRELESS
SITE: ROXANA
LETCHER COUNTY, KY

WORLD TOWER

SCALE NONE	DWN. LKG	CKD.	DATE 1-16-17
FILE	DWG. NO. Q16781F R1		

Section	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	T11	T12	T13	T14	T15	67.1
Legs	SR 2	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 1/2	SR 4 1/2	SR 4 3/4	SR 4 3/4	SR 4 3/4	SR 5	67.1
Leg Grade																
Diagonals																
Diagonal Grade																
Top Girts																
Horizontals																
Red. Horizontals																
Red. Diagonals																
Inner Bracing																
Face Width (ft)																
# Panels @ (ft)																
Weight (K)																



DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
5/8" x 10' LROD	300	(4) RRUS 11	270
12" x 24" Beacon	300	(4) RRUS 11	270
(4) BXA-70063-6CF w/ Mount Pipe	299	(4) RRUS 11	270
(4) BXA-70063-6CF w/ Mount Pipe	299	WD13X53 Antenna Mounting Frame	270
(4) BXA-70063-6CF w/ Mount Pipe	299	WD13X53 Antenna Mounting Frame	270
(4) RRUS 11	299	WD13X53 Antenna Mounting Frame	270
(4) RRUS 11	299	Pipe Mount [PM 601-1]	240
(4) RRUS 11	299	Pipe Mount [PM 601-1]	240
WD13X53 Antenna Mounting Frame	299	6 FT DISH	240
WD13X53 Antenna Mounting Frame	299	6 FT DISH	240
WD13X53 Antenna Mounting Frame	299	(4) RRUS 11	200
(4) BXA-70063-6CF w/ Mount Pipe	290	(4) RRUS 11	200
(4) BXA-70063-6CF w/ Mount Pipe	290	WD13X53 Antenna Mounting Frame	200
(4) BXA-70063-6CF w/ Mount Pipe	290	WD13X53 Antenna Mounting Frame	200
(4) RRUS 11	290	WD13X53 Antenna Mounting Frame	200
(4) RRUS 11	290	(4) BXA-70063-6CF w/ Mount Pipe	200
(4) RRUS 11	290	(4) BXA-70063-6CF w/ Mount Pipe	200
WD13X53 Antenna Mounting Frame	290	(4) BXA-70063-6CF w/ Mount Pipe	200
WD13X53 Antenna Mounting Frame	290	(4) RRUS 11	200
WD13X53 Antenna Mounting Frame	290	(4) RRUS 11	190
(4) BXA-70063-6CF w/ Mount Pipe	280	(4) RRUS 11	190
(4) BXA-70063-6CF w/ Mount Pipe	280	WD13X53 Antenna Mounting Frame	190
(4) RRUS 11	280	WD13X53 Antenna Mounting Frame	190
(4) RRUS 11	280	(4) BXA-70063-6CF w/ Mount Pipe	190
(4) RRUS 11	280	(4) BXA-70063-6CF w/ Mount Pipe	190
WD13X53 Antenna Mounting Frame	280	(4) BXA-70063-6CF w/ Mount Pipe	190
WD13X53 Antenna Mounting Frame	280	(4) RRUS 11	190
WD13X53 Antenna Mounting Frame	280	Pipe Mount [PM 601-1]	180
(4) BXA-70063-6CF w/ Mount Pipe	270	Pipe Mount [PM 601-1]	180
(4) BXA-70063-6CF w/ Mount Pipe	270	8 FT DISH	180
(4) BXA-70063-6CF w/ Mount Pipe	270	8 FT DISH	180

MATERIAL STRENGTH

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

TOWER DESIGN NOTES

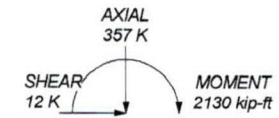
1. Tower is located in Letcher County, Kentucky.
2. Tower designed for Exposure C to the TIA-222-G Standard.
3. Tower designed for a 89.00 mph basic wind in accordance with the TIA-222-G Standard.
4. Tower is also designed for a 30.00 mph basic wind with 0.75 in ice. Ice is considered to increase in thickness with height.
5. Deflections are based upon a 60.00 mph wind.
6. Tower Structure Class II.
7. Topographic Category 1 with Crest Height of 0.00 ft
8. TOWER RATING: 99.6%

ALL REACTIONS ARE FACTORED

MAX. CORNER REACTIONS AT BASE:

DOWN: 712 K
SHEAR: 61 K

UPLIFT: -617 K
SHEAR: 54 K



TORQUE 1 kip-ft
30.00 mph WIND - 0.75 in ICE
AXIAL 116 K



TORQUE 9 kip-ft
REACTIONS - 89.00 mph WIND



3-3-2017

World Tower Company, Inc.		Job: 300' Model WSST / Run T1701-093	
1213 Compressor Drive Mayfield, KY 42066 Phone: (270) 247-3642 FAX: (270) 247-0909		Project: Roxana, KY	
Client: Appalachian Wireless	Drawn by: SJJ	App'd:	
Code: TIA-222-G	Date: 01/09/17	Scale: NTS	
Path: <small>T:\00 World Tower Bldg\000 Appalachian Run\03 Roxana\Tower\T1701-093 019-791 Roxana.dwg</small>	DWG No. E-1		