

LTE 2C CONSTRUCTION DRAWINGS



AT&T SITE ID: **KN6173** TOWER OWNER ID: **TN00324-B** FA LOCATION: **10082962**

SITE ADDRESS:
**1011 OLD MAIL ROAD
CROSSVILLE, TN 38555-4945
(CUMBERLAND COUNTY)**

SITE SUMMARY	
SITE TYPE:	CO-LOCATION
TYPE OF OCCUPANCY:	TELECOMMUNICATIONS
TOWER TYPE:	SELF SUPPORT
TOWER LATITUDE:	35° 55' 36.660" N (35.927)
TOWER LONGITUDE:	85° 1' 22.050" W (-85.023)
ZONING JURISDICTION:	CITY OF CROSSVILLE, TN
COUNTY:	CUMBERLAND
PARCEL NUMBER:	126 034.03
POWER COMPANY:	VOLUNTEER ENERGY (423) 476-6571
TELEPHONE COMPANY:	AT&T (866) 620-6000

PROJECT DIRECTORY	
TOWER OWNER:	SBA 8051 CONGRESS AVE BOCA RATON, FL 33487 PHONE: (800) 487-7483
APPLICANT:	AT&T MOBILITY CORP. 2002 PISGAH CHURCH ROAD, SUITE 300 GREENSBORO, NC 27455 PHONE: (800) 638-2822
SITE DESIGNER:	FDH INFRASTRUCTURE SERVICES 6521 MERIDIEN DRIVE RALEIGH, NC 27616 CONTACT: DAMARIS SQUIRES PHONE: (919) 755-1012

**UNDERGROUND
SERVICE ALERT**

811

48 HOURS BEFORE YOU DIG

VICINITY MAP

LOCAL MAP

DIRECTIONS TO THE SITE
FROM GREENSBORO, NC:
START OUT GOING SOUTHWEST ON PISGAH CHURCH RD TOWARD LAWDALE DR. TURN SLIGHT RIGHT ONTO BATTLEGROUND AVE/US-220 N. MERGE ONTO I-840 W VIA THE RAMP ON THE LEFT TOWARD I-73 N/WINSTON-SALEM. I-840 W BECOMES FUTURE I 840/I-73 S. MERGE ONTO I-40 W/US-421 N VIA EXIT 1 TOWARD WINSTON-SALEM. KEEP LEFT TO TAKE I-40 W TOWARD STATESVILLE/WINSTON-SALEM (CROSSING INTO TENNESSEE). TAKE THE TN-101/PEAVINE RD EXIT, EXIT 322, TOWARD CROSSVILLE. TURN LEFT ONTO PEAVINE RD/TN-101. STAY STRAIGHT TO GO ONTO TN-392. TURN LEFT ONTO COUNTRY OAKS DR. TURN LEFT ONTO OLD MAIL RD. SITE IS ON THE LEFT.

CODE COMPLIANCE	
ALL WORK AND MATERIALS SHALL BE PERFORMED AND INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNING AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THE LATEST EDITIONS OF THE FOLLOWING:	
<ul style="list-style-type: none"> • 2012 INTERNATIONAL BUILDING CODE • 2012 INTERNATIONAL FIRE CODE • 2012 INTERNATIONAL PLUMBING CODE • 2012 INTERNATIONAL EXISTING BUILDING CODE • 2012 INTERNATIONAL FUEL GAS CODE • 2012 INTERNATIONAL MECHANICAL CODE • 2012 INTERNATIONAL PROPERTY MAINTENANCE CODE 	<ul style="list-style-type: none"> • 2012 INTERNATIONAL ENERGY CONSERVATION CODE • ANSI/TIA-222-G • LOCAL BUILDING CODE • CITY/COUNTY ORDINANCES • FAA COMPLIANCE • FCC COMPLIANCE

PROJECT DESCRIPTION
<ul style="list-style-type: none"> • REMOVE (6) ANTENNAS • INSTALL (3) ANTENNAS • REMOVE (6) TMAs • INSTALL (3) RRU's

SHEET INDEX			
SHEET NO.	DESCRIPTION	REV. NO.	REVISION DATE
T-1	TITLE SHEET	2	08/15/19
G-1	NOTES	2	08/15/19
C-1	EQUIPMENT LAYOUT PLANS	2	08/15/19
C-2	TOWER ELEVATION & ANTENNA LAYOUT PLANS	2	08/15/19
C-3	LEASED/EXISTING RF EQUIPMENT SCHEDULES	2	08/15/19
C-4	FINAL RF EQUIPMENT SCHEDULES	2	08/15/19
E-1	SINGLE LINE DIAGRAM	2	08/15/19
E-2	RISER DIAGRAM	2	08/15/19

GENERAL NOTES

THE FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION, THEREFORE HANDICAP ACCESS IS NOT REQUIRED. A TECHNICIAN WILL VISIT THE SITE AS REQUIRED FOR ROUTINE MAINTENANCE. THE PROJECT WILL NOT RESULT IN ANY SIGNIFICANT DISTURBANCE OR EFFECT ON DRAINAGE; NO SANITARY SEWER SERVICE, POTABLE WATER, OR TRASH DISPOSAL IS REQUIRED AND NO COMMERCIAL SIGNAGE IS PROPOSED.

8051 CONGRESS AVE
BOCA RATON, FL 33487
(800) 487-7483

FDH INFRASTRUCTURE SERVICES, LLC
6521 MERIDIEN DRIVE RALEIGH, NC 27616
PHONE: 919-755-1012 FAX: 919-755-1031

CARY J. WEBB, P.E.
TENNESSEE LICENSE NO. 121514

DRAWN BY: FM
CHECKED BY: DRS
APPV'D: CJW

SUBMITTALS			
DATE	DESCRIPTION	REV	ISSUED BY
08/08/19	CONSTRUCTION	0	DRS
08/14/19	CONSTRUCTION	1	DRS
08/15/19	CONSTRUCTION	2	DRS

THE INFORMATION CONTAINED IN THIS SET OF DOCUMENTS IS PROPRIETARY BY NATURE. REPRODUCTION OR CAUSING TO BE REPRODUCED THE WHOLE OR ANY PART OF THESE DRAWINGS WITHOUT THE PERMISSION OF FDH INFRASTRUCTURE SERVICES IS PROHIBITED.

AT&T SITE ID:
KN6173

SITE ADDRESS:
**1011 OLD MAIL ROAD
CROSSVILLE, TN 38555-4945**

FA LOCATION:
10082962

TOWER OWNER ID:
TN00324-B

SHEET TITLE:
TITLE SHEET

SHEET NUMBER:
T-1

GENERAL NOTES:

1. EVERY EFFORT HAS BEEN MADE IN THE CONSTRUCTION DOCUMENTS TO PROVIDE A COMPLETE SCOPE OF WORK. MINOR DISCREPANCIES IN THE DRAWINGS AND/OR SPECIFICATIONS SHALL NOT EXCUSE CONTRACTORS FROM COMPLETING THE PROJECT AND IMPROVEMENTS IN ACCORDANCE WITH THE INTENT OF THESE DOCUMENTS.
2. BIDDING REQUIREMENTS
 - a. PRIOR TO THE SUBMISSION OF BIDS, VISIT THE JOB SITE TO BECOME FAMILIAR WITH ALL CONDITIONS AFFECTING THE PROPOSED PROJECT. VISIT THE SITE WITH THE CONSTRUCTION DOCUMENTS TO VERIFY FIELD DIMENSIONS AND CONDITIONS TO CONFIRM THAT THE PROJECT WILL BE ACCOMPLISHED AS SHOWN.
 - b. PROVIDE NOTIFICATION TO OWNER'S REPRESENTATIVE IN WRITING OF ANY CONFLICTS, ERRORS, OR OMISSIONS PRIOR TO SUBMISSION OF PRICE PROPOSAL. IN THE EVENT OF DISCREPANCIES, PRICE THE MORE COSTLY OR EXTENSIVE WORK, UNLESS DIRECTED OTHERWISE.
 - c. WHEN TOWER IS OWNED BY A THIRD PARTY, CONTACT TOWER OWNER REPRESENTATIVE FOR PARTICIPATION IN BID WALK.
 - d. WHERE ANCHORING TO A CONCRETE ROOF SLAB, CONFIRM (PRIOR TO SUBMITTING BID) THE PRESENCE OF POST TENSION TENDONS. INCLUDE PROVISIONS FOR X-RAY PROCEDURES TO LOCATE THE TENDONS PRIOR TO CONSTRUCTION.
3. DRAWINGS ARE NOT TO BE SCALED. WRITTEN DIMENSIONS TAKE PRECEDENCE. CONSTRUCTION DOCUMENTS ARE INTENDED FOR DIAGRAMMATIC PURPOSES ONLY, UNO.
4. FURNISH ALL MATERIALS, EQUIPMENT, LABOR, AND ANY REQUIREMENTS NECESSARY TO COMPLETE PROJECT AS DESCRIBED IN THE CONSTRUCTION DOCUMENTS.
5. SUPERVISE AND DIRECT THE PROJECT DESCRIBED IN THE CONSTRUCTION DOCUMENTS. PROVIDE ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.
6. ALL WORK PERFORMED ON THE PROJECT AND MATERIALS INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. GIVE ALL NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY, MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS, AND LOCAL AND STATE JURISDICTIONAL CODES APPLICABLE TO THE WORK.
7. CONSTRUCTION COORDINATION REQUIREMENTS
 - a. NOTIFY OWNER'S REPRESENTATIVE OF ANY DISCREPANCIES PRIOR TO START OF WORK.
 - b. OBTAIN ALL PERMITS. SCHEDULE AND COORDINATE ALL INSPECTIONS.
 - c. PROVIDE, AT THE PROJECT SITE, A FULL, CURRENT SET OF CONSTRUCTION DOCUMENTS FOR USE BY ALL PERSONNEL INVOLVED WITH THE PROJECT.
 - d. RECEIVE WRITTEN AUTHORIZATION TO PROCEED WITH CONSTRUCTION PRIOR TO STARTING WORK ON ANY ITEM NOT CLEARLY DEFINED BY THE CONSTRUCTION DOCUMENTS.
 - e. PERFORM WORK DURING OWNER'S PREFERRED HOURS TO AVOID DISTURBING NORMAL BUSINESS.
 - f. PROVIDE FALL PROTECTION IN ACCORDANCE WITH FEDERAL, STATE, LOCAL, AND OWNER REQUIREMENTS.
 - g. IF FAA LIGHTING AND MARKING IS PRESENT ON SITE AND IS POWERED BY ELECTRICAL SERVICE THAT IS TO BE INTERRUPTED, MAINTAIN THE NECESSARY LIGHTS DURING CONSTRUCTION AND NOTIFY THE PROPER AUTHORITIES IN THE EVENT OF A DISRUPTION.
 - h. PROVIDE A PORTABLE FIRE EXTINGUISHER WITH A RATING OF NOT LESS THAN 2-A OR 2-A10BC WITHIN 75 FEET TRAVEL DISTANCE TO ALL PORTIONS OF PROJECT AREA DURING CONSTRUCTION.
 - i. STRUCTURAL COMPONENTS OF ADJACENT FACILITIES SHALL NOT BE ALTERED BY THIS CONSTRUCTION PROJECT, UNO. ENSURE THAT EXCAVATION DOES NOT AFFECT ADJACENT STRUCTURES.
 - j. SEAL ALL PENETRATIONS THROUGH FIRE-RATED AREAS WITH U.L. LISTED OR FIRE MARSHALL-APPROVED MATERIALS, IF APPLICABLE.
 - k. BURIED UTILITIES MAY EXIST IN THE AREA AND UTILITY INFORMATION SHOWN MAY NOT BE COMPLETE. CONTACT THE UTILITY LOCATE SERVICE A MINIMUM OF 48 HOURS PRIOR TO CONSTRUCTION.
 - l. COORDINATE ALL POWER INSTALLATION WITH POWER COMPANY AS REQUIRED. REPORT POWER INSTALLATION COORDINATION SOLUTION(S) TO OWNER'S REPRESENTATIVE.
 - m. PROTECT EXISTING IMPROVEMENTS, EASEMENTS, PAVING, CURBING, ETC. DURING CONSTRUCTION. UPON COMPLETION OF WORK, REPAIR ANY DAMAGE THAT MAY HAVE OCCURRED DUE TO CONSTRUCTION ON OR ABOUT THE PROPERTY.
 - n. KEEP GENERAL WORK AREA CLEAN AND HAZARD FREE DURING CONSTRUCTION AND DISPOSE OF ALL DIRT, DEBRIS, AND RUBBISH. REMOVE EQUIPMENT NOT SPECIFIED AS REMAINING ON THE PROPERTY OR PREMISES. SITE SHALL BE LEFT IN CLEAN CONDITION AND FREE FROM PAINT SPOTS, DUST, OR SMUDGES OF ANY NATURE.
 - o. MAINTAIN THE INTEGRITY OF THE BUILDING ENVELOPE AND CONSTRUCT BARRIERS IN THE AREA OF WORK TO PREVENT DAMAGE FROM WEATHER AS WELL AS FROM CONSTRUCTION DUST AND DEBRIS.
8. INSTALL ALL EQUIPMENT AND MATERIALS ACCORDING TO MANUFACTURER'S SPECIFICATIONS, UNO, OR WHERE LOCAL CODES OR ORDINANCES DIRECT OTHERWISE.

9. ANY SUBSTITUTIONS OF MATERIALS AND/OR EQUIPMENT, MUST BE APPROVED BY OWNER'S REPRESENTATIVE.
10. DOCUMENT ALL CHANGES MADE IN THE FIELD BY MARKING UP THE APPROVED CONSTRUCTION DRAWINGS AND SUBMITTING THE REDLINED SET TO OWNER'S REPRESENTATIVE UPON COMPLETION. DOCUMENT ALL WORK PERFORMED WITH PHOTOGRAPHS TO BE SUBMITTED WITH REDLINED CONSTRUCTION DRAWINGS.
11. PROVIDE SUPPORTS FOR CABLES TO THE ELEVATION OF ALL INITIAL AND FUTURE ANTENNAS IN ACCORDANCE WITH ALL MANUFACTURER'S REQUIREMENTS.
12. A STRUCTURAL ANALYSIS AND A MOUNT ANALYSIS (IF REQUIRED) TO DETERMINE THE STRUCTURAL CAPACITY TO SUPPORT THIS PROPOSED EQUIPMENT WAS PERFORMED OUTSIDE THE SCOPE OF THIS PROJECT.
13. CONFIRM THAT THE REQUIREMENTS OF THE STRUCTURAL ANALYSIS, MOUNT ANALYSIS AND ANY ASSOCIATED MODIFICATIONS HAVE BEEN FOLLOWED AND COMPLETED AS REQUIRED TO SUPPORT THE EQUIPMENT ASSOCIATED WITH THIS PROJECT.

SPECIAL INSPECTIONS:

1. WHEN REQUIRED, PROVIDE SPECIAL INSPECTIONS PERFORMED BY AN INDEPENDENT INSPECTOR, APPROVED BY OWNER'S REPRESENTATIVE AND THE LOCAL JURISDICTION.
2. THE SPECIAL INSPECTOR SHALL PROVIDE A COPY OF THE REPORT TO THE OWNER'S REPRESENTATIVE, STRUCTURAL ENGINEER, CONTRACTOR, AND BUILDING OFFICIAL.

ABBREVIATIONS

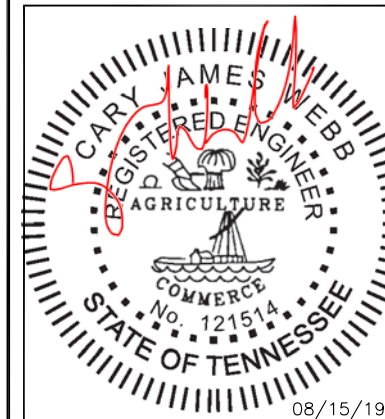
A/C	AIR CONDITIONING	LBS	POUNDS
AFF	ABOVE FINISHED FLOOR	LTE	LONG TERM EVOLUTION
AGL	ABOVE GROUND LEVEL,	MAX	MAXIMUM
	ABOVE GRADE LEVEL	MECH	MECHANICAL
AWS	ADVANCED WIRELESS SERVICE	MTL	METAL
BBU	BATTERY BACKUP UNIT	MFR	MANUFACTURE
BLDG	BUILDING	MGR	MANAGER
BLK	BLOCKING	MIN	MINIMUM
CLG	CEILING	MISC	MISCELLANEOUS
CLR	CLEAR	NA	NOT APPLICABLE
CONC	CONCRETE	NIC	NOT IN CONTRACT
CONT	CONTINUOUS	NO	NUMBER
D	DEPTH	NTS	NOT TO SCALE
DBL	DOUBLE	OC	ON CENTER
DEG	DEGREE	OD	OUTSIDE DIAMETER
Ø, DIA	DIAMETER	PCS	PERSONAL COMMUNICATION SERVICE
DIAG	DIAGONAL		
DN	DOWN	PDU	POWER DISTRIBUTION UNIT
DET	DETAIL	PROJ	PROJECT
DWG	DRAWING	PROP	PROPERTY
E	EXISTING	PT	PRESSURE TREATED
EA	EACH	PVC	POLYVINYL CHLORIDE
ELEV, EL	ELEVATION	REQ	REQUIRED
ELEC	ELECTRICAL	RF	RADIO FREQUENCY
EQ	EQUAL	RM	ROOM
EQUIP	EQUIPMENT	RO	ROUGH OPENING
EXT	EXTERIOR	RRH	REMOTE RADIO HEAD
FIF	FIBER INTERFACE FRAME,	SHT	SHEET
	FACILITY INTERFACE FRAME	SIM	SIMILAR
FIN	FINISH	SPEC	SPECIFICATION
FLUOR	FLUORESCENT	SF	SQUARE FOOT
FLR	FLOOR	SS	STAINLESS STEEL
FT	FOOT, FEET	STL	STEEL
GA	GAUGE	SUSP	SUSPENDED
GALV	GALVANIZED	TMA	TOWER MOUNTED AMPLIFIER
GC	GENERAL CONTRACTOR	TND	TINNED
GRND	GROUND	TYP	TYPICAL
GSM	GLOBAL SYSTEM MOBILE	UMTS	UNIVERSAL MOBILE
GYP	GYP SUM BOARD		TELECOMMUNICATION SERVICE
HORZ	HORIZONTAL	UNO	UNLESS NOTED OTHERWISE
HR	HOUR	VERT	VERTICAL
HT	HEIGHT	W/	WITH
ID	INSIDE DIAMETER	W/O	WITHOUT
IN	INCH, INCHES	WCS	WIRELESS COMMUNICATION SERVICE
INSUL	INSULATION		
INT	INTERIOR	WP	WATER PROOF
L	LENGTH		

PROJECT NOTES

1. THE FOLLOWING INFORMATION HAS BEEN PROVIDED BY SBA FOR THIS PROJECT AND HAS NOT BEEN FIELD VERIFIED AS PART OF THIS PROJECT.
 - a. SITE LAYOUT INFORMATION AND ORIENTATION
 - b. EXISTING TOWER, MOUNT AND EQUIPMENT ELEVATIONS
 - c. DESIGN PACKAGE BASED ON THE APPLICATION #: 116032, v2
2. A STRUCTURAL ANALYSIS TO DETERMINE THE TOWER CAPACITY TO SUPPORT THIS PROPOSED EQUIPMENT WAS PERFORMED FOR SBA OUTSIDE THE SCOPE OF THIS PROJECT.
3. A MOUNT ANALYSIS TO DETERMINE THE MOUNT CAPACITY TO SUPPORT THIS PROPOSED EQUIPMENT WAS PERFORMED FOR SBA OUTSIDE THE SCOPE OF THIS PROJECT.
 - a. MOUNT ANALYSIS BY: MASTEC NETWORK SOLUTIONS
 - b. DATED: 05/24/19
 - c. RESULTS: SUFFICIENT
4. CONFIRM THAT THE REQUIREMENTS OF THE STRUCTURAL ANALYSIS, MOUNT ANALYSIS AND ANY ASSOCIATED MODIFICATIONS HAVE BEEN FOLLOWED AND COMPLETED AS REQUIRED TO SUPPORT THE EQUIPMENT ASSOCIATED WITH THIS PROJECT.



8051 CONGRESS AVE
BOCA RATON, FL 33487
(800) 487-7483



CARY J. WEBB, P.E.
TENNESSEE LICENSE NO. 121514

DRAWN BY: FM
CHECKED BY: DRS
APPV'D: CJW

SUBMITTALS			
DATE	DESCRIPTION	REV	ISSUED BY
08/08/19	CONSTRUCTION	0	DRS
08/14/19	CONSTRUCTION	1	DRS
08/15/19	CONSTRUCTION	2	DRS

THE INFORMATION CONTAINED IN THIS SET OF DOCUMENTS IS PROPRIETARY BY NATURE. REPRODUCTION OR CAUSING TO BE REPRODUCED THE WHOLE OR ANY PART OF THESE DRAWINGS WITHOUT THE PERMISSION OF FDH INFRASTRUCTURE SERVICES IS PROHIBITED.

AT&T SITE ID:
KN6173

SITE ADDRESS:
**1011 OLD MAIL ROAD
CROSSVILLE, TN 38555-4945**

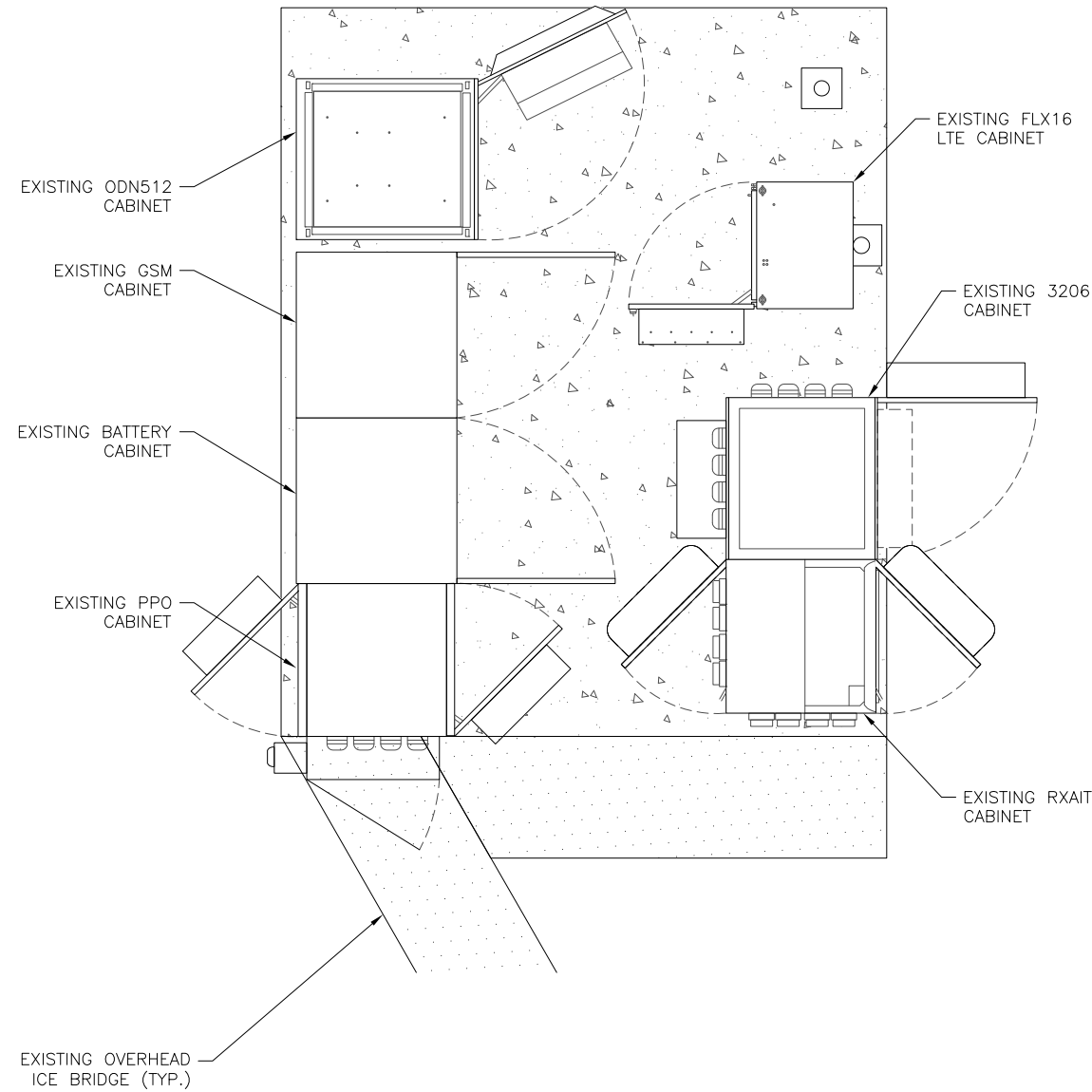
FA LOCATION:
10082962

TOWER OWNER ID:
TN00324-B

SHEET TITLE:
NOTES

SHEET NUMBER:
G-1

- SCOPING NOTES:**
- ADD (3) 30 AMP BREAKERS



EXISTING EQUIPMENT LAYOUT

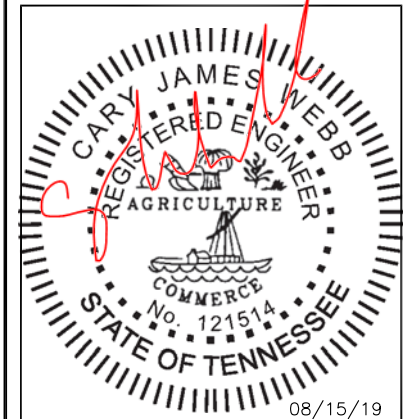
11"x17" SCALE: 1"=3'
24"x36" SCALE: 1"=1.5'



8051 CONGRESS AVE
BOCA RATON, FL 33487
(800) 487-7483



FDH INFRASTRUCTURE SERVICES, LLC
6521 MERIDIAN DRIVE RALEIGH, NC 27616
PHONE: 919-755-1012 FAX: 919-755-1031



CARY J. WEBB, P.E.
TENNESSEE LICENSE NO. 121514

DRAWN BY: FM
CHECKED BY: DRS
APPV'D: CJW

SUBMITTALS

DATE	DESCRIPTION	REV	ISSUED BY
08/08/19	CONSTRUCTION	0	DRS
08/14/19	CONSTRUCTION	1	DRS
08/15/19	CONSTRUCTION	2	DRS

THE INFORMATION CONTAINED IN THIS SET OF DOCUMENTS IS PROPRIETARY BY NATURE. REPRODUCTION OR CAUSING TO BE REPRODUCED THE WHOLE OR ANY PART OF THESE DRAWINGS WITHOUT THE PERMISSION OF FDH INFRASTRUCTURE SERVICES IS PROHIBITED.

AT&T SITE ID:
KN6173

SITE ADDRESS:
1011 OLD MAIL ROAD
CROSSVILLE, TN 38555-4945

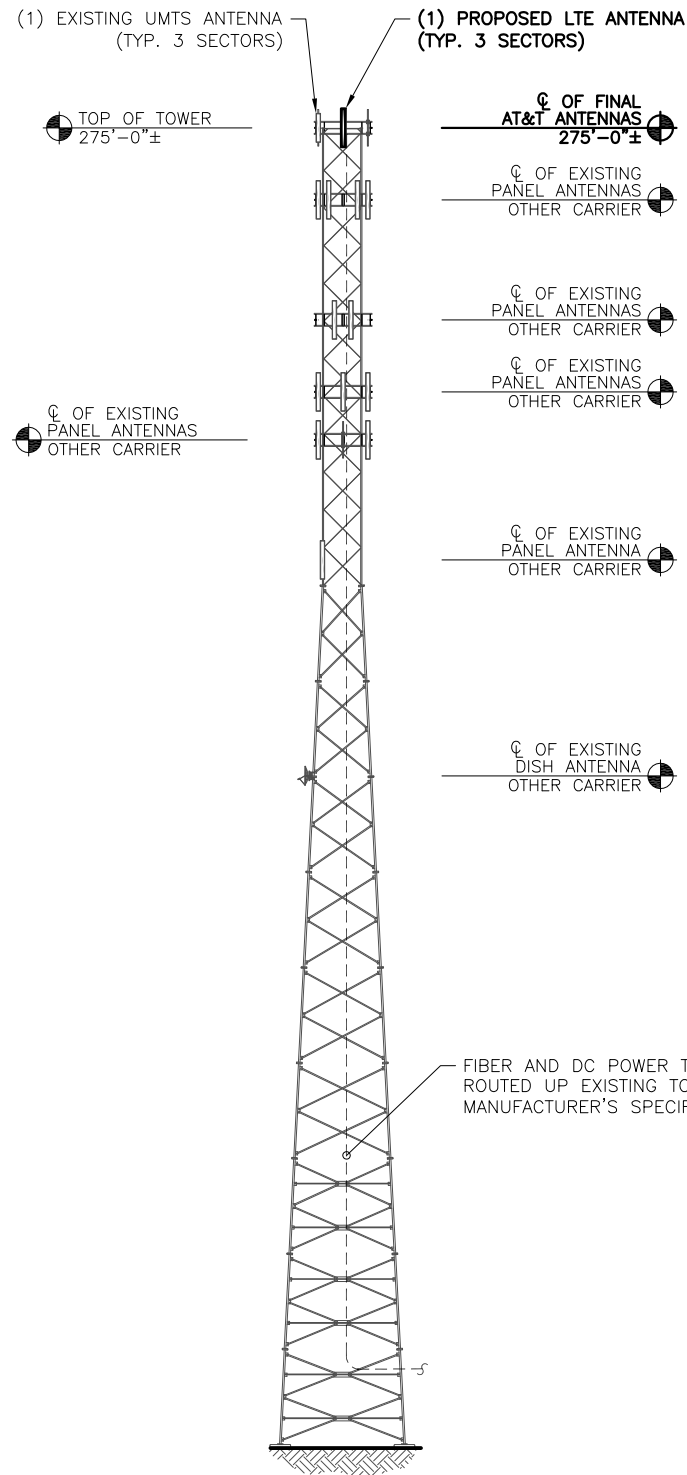
FA LOCATION:
10082962

TOWER OWNER ID:
TN00324-B

SHEET TITLE:
EQUIPMENT
LAYOUT PLANS

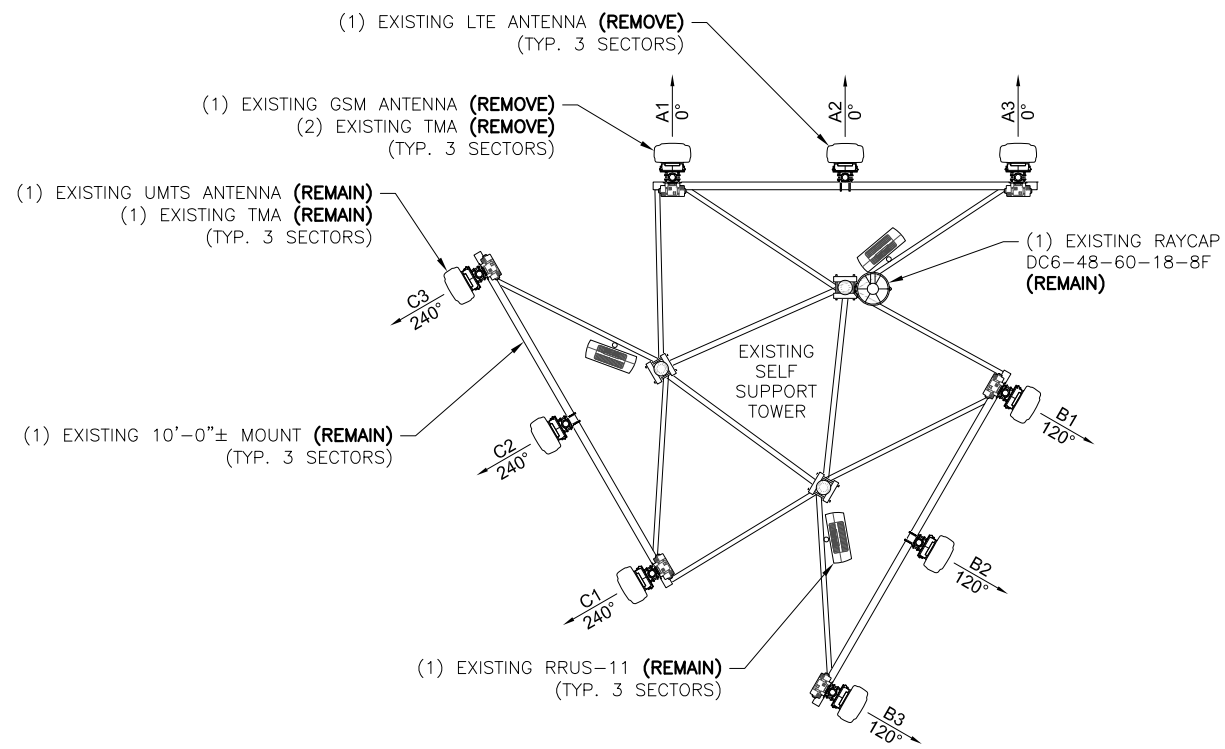
SHEET NUMBER:

C-1



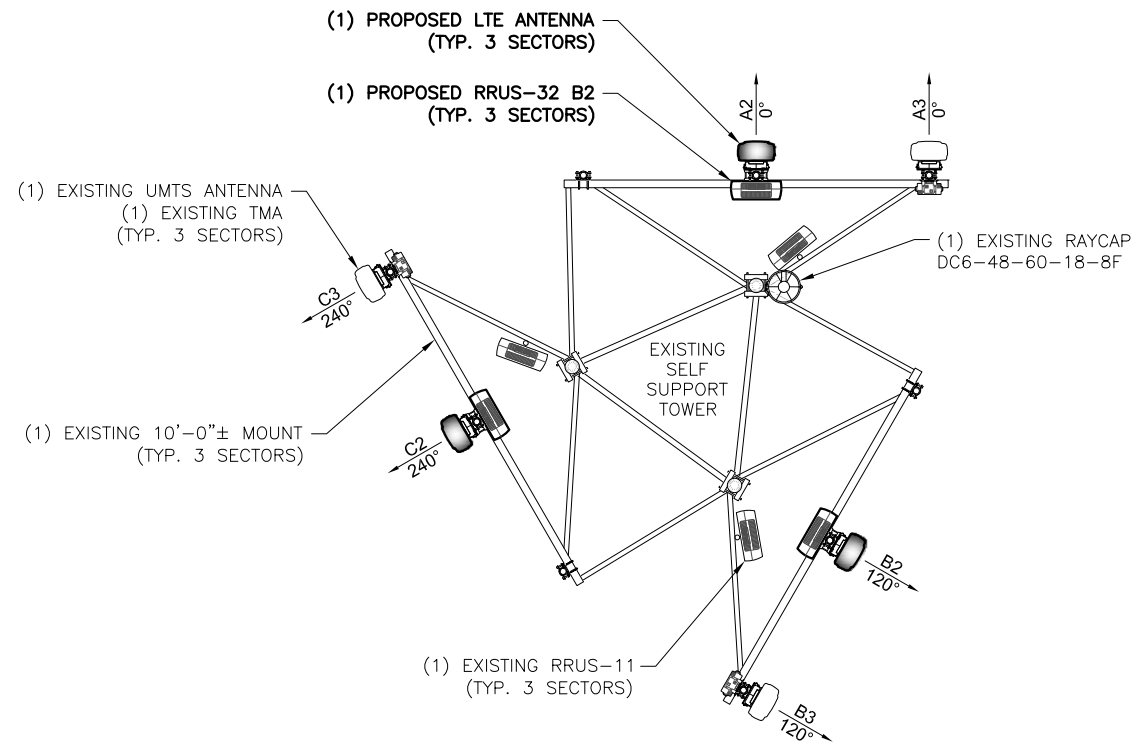
TOWER ELEVATION

11"x17" VERTICAL SCALE: 1"=40'
24"x36" VERTICAL SCALE: 1"=20'



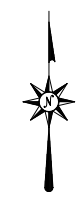
EXISTING ANTENNA LAYOUT

11"x17" SCALE: 1"=5'
24"x36" SCALE: 1"=2.5'



FINAL ANTENNA LAYOUT

11"x17" SCALE: 1"=5'
24"x36" SCALE: 1"=2.5'



INSTALL RRUS ON (3) SINGLE RRU MOUNTING BRACKETS SUPPLIED BY AT&T

CONTRACTOR TO VERIFY EXISTING MOUNT AND EQUIPMENT SIZE, SPACING AND ORIENTATION PRIOR TO INSTALLATION

OPERATING FREQUENCIES:

ANDREW UMWD-09016-R2DH
UMTS 1900 FREQUENCY:
TX: 1950-1965 / RX: 1870-1885 MHz

COMMSCOPE SBNHH-1D65C
LTE 700 FREQUENCY:
TX: 734-746 / RX: 704-716 MHz
LTE 1900 FREQUENCY:
TX: 1940-1945 / RX: 1860-1865 MHz

SBA

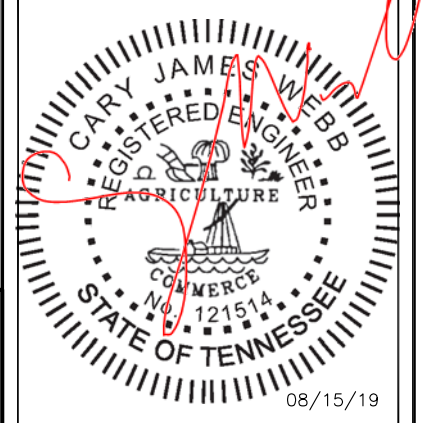
8051 CONGRESS AVE
BOCA RATON, FL 33487
(800) 487-7483



FDH INFRASTRUCTURE SERVICES

ENGINEERING INNOVATION

FDH INFRASTRUCTURE SERVICES, LLC
6521 MERIDIAN DRIVE RALEIGH, NC 27616
PHONE: 919-755-1012 FAX: 919-755-1031



CARY J. WEBB, P.E.
TENNESSEE LICENSE NO. 121514

DRAWN BY: FM
CHECKED BY: DRS
APPV'D: CJW

SUBMITTALS			
DATE	DESCRIPTION	REV	ISSUED BY
08/08/19	CONSTRUCTION	0	DRS
08/14/19	CONSTRUCTION	1	DRS
08/15/19	CONSTRUCTION	2	DRS

THE INFORMATION CONTAINED IN THIS SET OF DOCUMENTS IS PROPRIETARY BY NATURE. REPRODUCTION OR CAUSING TO BE REPRODUCED THE WHOLE OR ANY PART OF THESE DRAWINGS WITHOUT THE PERMISSION OF FDH INFRASTRUCTURE SERVICES IS PROHIBITED.

AT&T SITE ID:
KN6173

SITE ADDRESS:
1011 OLD MAIL ROAD
CROSSVILLE, TN 38555-4945

FA LOCATION:
10082962

TOWER OWNER ID:
TN00324-B

SHEET TITLE:
TOWER ELEVATION &
ANTENNA LAYOUT PLANS

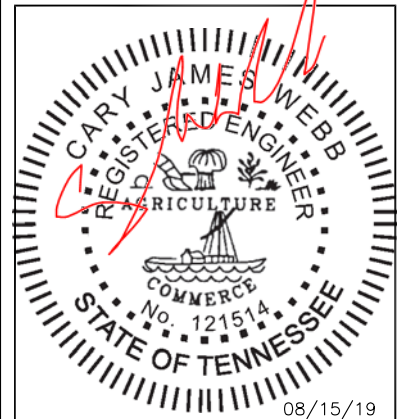
SHEET NUMBER:
C-2



8051 CONGRESS AVE
BOCA RATON, FL 33487
(800) 487-7483



FDH INFRASTRUCTURE SERVICES, LLC
6521 MERIDIAN DRIVE RALEIGH, NC 27616
PHONE: 919-755-1012 FAX: 919-755-1031



CARY J. WEBB, P.E.
TENNESSEE LICENSE NO. 121514

DRAWN BY: FM
CHECKED BY: DRS
APPV'D: CJW

SUBMITTALS

DATE	DESCRIPTION	REV	ISSUED BY
08/08/19	CONSTRUCTION	0	DRS
08/14/19	CONSTRUCTION	1	DRS
08/15/19	CONSTRUCTION	2	DRS

THE INFORMATION CONTAINED IN THIS SET OF DOCUMENTS IS PROPRIETARY BY NATURE. REPRODUCTION OR CAUSING TO BE REPRODUCED THE WHOLE OR ANY PART OF THESE DRAWINGS WITHOUT THE PERMISSION OF FDH INFRASTRUCTURE SERVICES IS PROHIBITED.

AT&T SITE ID:
KN6173

SITE ADDRESS:
1011 OLD MAIL ROAD
CROSSVILLE, TN 38555-4945

FA LOCATION:
10082962

TOWER OWNER ID:
TN00324-B

SHEET TITLE:
LEASED/EXISTING
RF EQUIPMENT SCHEDULES

SHEET NUMBER:

C-3

LEASED/EXISTING ANTENNA & CABLE SCHEDULE (ALL EQUIPMENT MOUNTED ON TOWER)

SECTOR	MARK	BAND	ANTENNA MAKE/MODEL	ANTENNA HEIGHT	ANTENNA AZIMUTH	TMA QTY./TYPE	RADIO QTY./TYPE	SURGE PROTECTION QTY./TYPE	CABLE QTY./TYPE
ALPHA	A1	GSM 1900	ANDREW UMWD-09016-R2DH	275'	0°	(2) E15Z01P05	-	-	(2) 1-5/8" COAX
	A2	LTE 700	ANDREW SBNH-1D6565C	275'	0°	-	(1) RRUS-11	(1) DC6-48-60-18-8F	(1) FIBER (2) DC POWER (1) 3/8" RET
	A3	UMTS 1900	ANDREW UMWD-09016-R2DH	275'	0°	(1) LGP18601	-	-	(1) 1-5/8" COAX
BETA	B1	GSM 1900	ANDREW UMWD-09016-R2DH	275'	120°	(2) E15Z01P05	-	-	(2) 1-5/8" COAX
	B2	LTE 700	ANDREW SBNH-1D6565C	275'	120°	-	(1) RRUS-11	-	-
	B3	UMTS 1900	ANDREW UMWD-09016-R2DH	275'	120°	(1) LGP18601	-	-	(1) 1-5/8" COAX
GAMMA	C1	GSM 1900	ANDREW UMWD-09016-R2DH	275'	240°	(2) E15Z01P05	-	-	(2) 1-5/8" COAX
	C2	LTE 700	ANDREW SBNH-1D6565C	275'	240°	-	(1) RRUS-11	-	-
	C3	UMTS 1900	ANDREW UMWD-09016-R2DH	275'	240°	(1) LGP18601	-	-	(1) 1-5/8" COAX

(6) 1-5/8" COAX
TO BE REMOVED

RESERVED ANTENNA & CABLE SCHEDULE

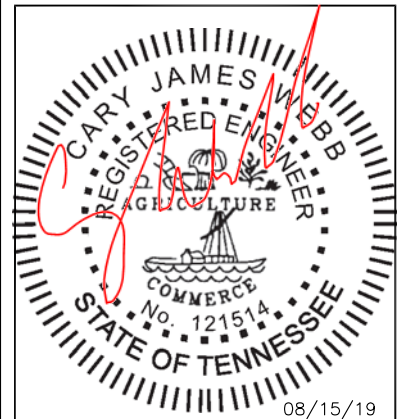
ANTENNA	TMA	RRU/SPD	CABLE
-	-	(3) RRUS-11	-



8051 CONGRESS AVE
BOCA RATON, FL 33487
(800) 487-7483



FDH INFRASTRUCTURE SERVICES, LLC
6521 MERIDIAN DRIVE RALEIGH, NC 27616
PHONE: 919-755-1012 FAX: 919-755-1031



CARY J. WEBB, P.E.
TENNESSEE LICENSE NO. 121514

DRAWN BY: FM
CHECKED BY: DRS
APPV'D: CJW

SUBMITTALS

DATE	DESCRIPTION	REV	ISSUED BY
08/08/19	CONSTRUCTION	0	DRS
08/14/19	CONSTRUCTION	1	DRS
08/15/19	CONSTRUCTION	2	DRS

THE INFORMATION CONTAINED IN THIS SET OF DOCUMENTS IS PROPRIETARY BY NATURE. REPRODUCTION OR CAUSING TO BE REPRODUCED THE WHOLE OR ANY PART OF THESE DRAWINGS WITHOUT THE PERMISSION OF FDH INFRASTRUCTURE SERVICES IS PROHIBITED.

AT&T SITE ID:
KN6173

SITE ADDRESS:
1011 OLD MAIL ROAD
CROSSVILLE, TN 38555-4945

FA LOCATION:
10082962

TOWER OWNER ID:
TN00324-B

SHEET TITLE:
FINAL RF EQUIPMENT
SCHEDULES

SHEET NUMBER:

C-4

(P) = PROPOSED									
FINAL ANTENNA & CABLE SCHEDULE (ALL EQUIPMENT MOUNTED ON TOWER)									
SECTOR	MARK	BAND	ANTENNA MAKE/MODEL	ANTENNA HEIGHT	ANTENNA AZIMUTH	TMA QTY./TYPE	RADIO QTY./TYPE	SURGE PROTECTION QTY./TYPE	CABLE QTY./TYPE
ALPHA	A1	-	-	-	-	-	-	-	-
	A2	LTE 700/1900	COMMSCOPE SBNHH-1D65C (P)	275'	0°	-	(1) RRUS-11 (1) RRUS-32 B2 (P)	(1) DC6-48-60-18-8F	(1) FIBER (2) DC POWER (1) 3/8" RET
	A3	UMTS 1900	ANDREW UMWD-09016-R2DH	275'	0°	(1) LGP18601	-	-	(1) 1-5/8" COAX
BETA	B1	-	-	-	-	-	-	-	-
	B2	LTE 700/1900	COMMSCOPE SBNHH-1D65C (P)	275'	120°	-	(1) RRUS-11 (1) RRUS-32 B2 (P)	-	-
	B3	UMTS 1900	ANDREW UMWD-09016-R2DH	275'	120°	(1) LGP18601	-	-	(1) 1-5/8" COAX
GAMMA	C1	-	-	-	-	-	-	-	-
	C2	LTE 700/1900	COMMSCOPE SBNHH-1D65C (P)	275'	240°	-	(1) RRUS-11 (1) RRUS-32 B2 (P)	-	-
	C3	UMTS 1900	ANDREW UMWD-09016-R2DH	275'	240°	(1) LGP18601	-	-	(1) 1-5/8" COAX

OPERATING FREQUENCIES:

ANDREW UMWD-09016-R2DH
UMTS 1900 FREQUENCY:
TX: 1950-1965 / RX: 1870-1885 MHz

COMMSCOPE SBNHH-1D65C
LTE 700 FREQUENCY:
TX: 734-746 / RX: 704-716 MHz
LTE 1900 FREQUENCY:
TX: 1940-1945 / RX: 1860-1865 MHz

ANTENNA NOTES:

- THIS ANTENNA ORIENTATION PLAN IS A SCHEMATIC. THE CONTRACTOR SHALL VERIFY TOWER ORIENTATION AND FIELD COORDINATE REQUIRED ADJUSTMENTS TO ACHIEVE THE DESIRED ANTENNA AZIMUTHS.
- ANTENNA CENTERLINE HEIGHT REFERENCED FROM GROUND AT BASE OF TOWER, ASSUMING HEIGHT OF 0'-0" AT SAID REFERENCE POINT.
- ALL ANTENNAS, CABLES AND MOUNTS SHALL BE INSTALLED IN ACCORDANCE WITH THE TOWER ENGINEER'S RECOMMENDATIONS IN A MANNER CONSISTENT WITH THE STRUCTURAL ANALYSIS REPORT.
- ALL ANTENNA BRACKETS PER ANTENNA MANUFACTURER, OR EQUAL CONTRACTOR TO COORDINATE REQUIRED MECHANICAL DOWNTILT WITH AT&T.
- ALL ANTENNA INFORMATION TO BE CONFIRMED WITH AT&T RF DESIGN PRIOR TO INSTALLATION

RESERVED ANTENNA & CABLE SCHEDULE

ANTENNA	TMA	RRU/SPD	CABLE
-	-	-	(1) DC POWER

GENERAL NOTES:

- CONTRACTOR SHALL COORDINATE INCOMING SERVICES WITH LOCAL UTILITIES PRIOR TO TRENCHING.
- ALL CONDUCTORS SHALL BE COPPER, 75 DEGREES C RATED, AND CONDUCTOR INSULATION SHALL BE THWN OR THHN.
- ALL TERMINATIONS SHALL BE LISTED AND IDENTIFIED FOR USE WITH 75°C RATED CONDUCTORS OPERATING AT 75°C.
- GROUND FAULT PROTECTION REQUIRED FOR UTILITY RECEPTACLES.
- SERVICE NEUTRAL SHALL BE GROUNDED AT ONE LOCATION ONLY.
- WHITE/NEUTRAL, GREEN/GROUND SHALL BE MAINTAINED THROUGHOUT THE SITE ELECTRICAL SYSTEM (TAPE WILL NOT BE ACCEPTABLE).
- EQUIPMENT LOCATED OUTSIDE OR EXPOSED TO MOISTURE SHALL BE NEMA 3R RATED.
- CONTRACTOR SHALL USE SCHEDULE 80 PVC CONDUIT THROUGHOUT, UNLESS OTHERWISE NOTED.
- ALL NEWLY INSTALLED EQUIPMENT SHALL BE RATED AT 10K AIC MINIMUM. HIGHER RATINGS SHALL BE REQUIRED WHERE AVAILABLE FAULT CURRENT EXCEEDS THIS VALUE. EXACT FAULT CURRENT AVAILABLE SHALL BE COORDINATED WITH LOCAL UTILITY BASED ON EXACT CONDITIONS (TRANSFORMER SIZE, PERCENT IMPEDANCE, LENGTH OF CONDUCTORS, ETC.).
- ELECTRICAL CONTRACTOR TO VERIFY ADDITIONAL/PROPOSED LOADING DOES NOT EXCEED SYSTEM CAPACITY. PLEASE NOTIFY FDH INFRASTRUCTURE SERVICES WITH ANY DISCREPANCIES.

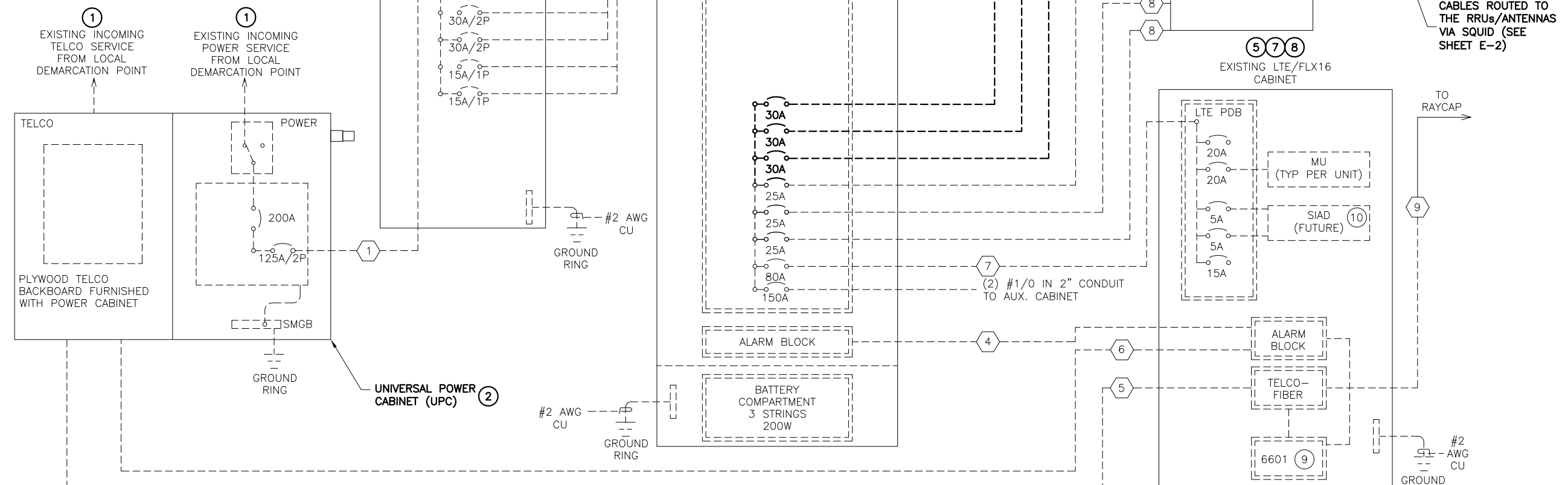
NOTES BY SYMBOL:

- EXISTING UTILITIES AND EQUIPMENT IN PLACE SHOULD BE USED TO FEED NEW CABINETS INDICATED.
- UNIVERSAL POWER CABINET (UPC) IS SERVICE ENTRANCE RATED, MEETING UL 67 AND UL 50. ALL ITEMS SHOWN WITHIN CABINET ARE PROVIDED WITH THE CABINET AND ARE SHOWN FOR REFERENCE ONLY UNLESS NOTED OTHERWISE. PROVIDE THE CONNECTIONS INDICATED. OBTAIN POWER CABINET DRAWINGS FOR ADDITIONAL INFORMATION.
- THE CONTRACTOR SHALL FURNISH AND INSTALL A 125A/2 POLE BREAKER WITHIN THE EXISTING UPC TO FEED THE PROPOSED DISTRIBUTION PANEL "SUBPANEL". TYPE AND AIC RATING OF BREAKER SHALL MATCH EXISTING (SQ D QO). WHERE NO SPACE IS AVAILABLE, CONSOLIDATE RECEPTACLE CIRCUITS AND PROVIDE MINI-TWIN BREAKER TO CREATE SPACE. (IF REQUIRED)
- PROVIDE AND INSTALL 24VDC TO -48VDC CONVERTERS WITH DISTRIBUTION BOARD WITHIN EXISTING AUX II CABINET.
- CONTRACTOR SHALL PROVIDE ALL AC CIRCUIT BREAKERS REQUIRED TO FEED AT&T EQUIPMENT. DC CIRCUIT BREAKERS SHALL BE PROVIDED BY AT&T. CONTRACTOR SHALL LABEL ALL CIRCUIT BREAKERS WITH RESPECT TO WHAT THEY FEED.
- POWER PLANT CABINET IS MANUFACTURED BY EMERSON AND CSA/UL RATED. ALL ITEMS SHOWN WITHIN CABINET ARE PROVIDED WITH THE CABINET AND ARE SHOWN FOR REFERENCE ONLY UNLESS NOTED OTHERWISE. PROVIDE THE CONNECTIONS INDICATED. OBTAIN POWER CABINET DRAWINGS FOR ADDITIONAL INFORMATION.
- THE CONTRACTOR SHALL REFER TO THE FLX16 LTE CABINET AND EQUIPMENT INSTALLATION MANUALS, SPECIFICATIONS, AND AT&T LTE CONSTRUCTION GUIDELINES FOR ADDITIONAL INFORMATION NOT NECESSARILY INCLUDED WITHIN THESE DRAWINGS.
- THE CONTRACTOR SHALL REFER TO EQUIPMENT DRAWINGS AND SPECIFICATIONS FOR CONTROL AND ALARM WIRING. INTERIOR ALARMS ARE PRE-WIRED.
- WHERE REQUIRED, PROVIDE -48VDC POWER, ALARM, AND FIBER CONNECTIONS TO THE 6601 AS INDICATED. COORDINATE WITH AT&T CONSTRUCTION MANAGER.
- SIAD'S SHALL BE FED FROM THE CABINET THEY ARE LOCATED WITHIN (UPC OR LTE)

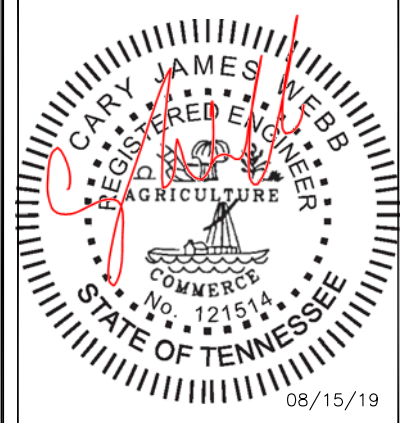
CABLE AND CONDUIT SCHEDULE

MARK	CONDUIT		CABLE			REMARKS
	QUANT.	SIZE	QUANT.	SIZE	GROUND SIZE	
1	1	2"	3	#1	#6	AC POWER FROM UPC TO SUBPANEL (ASSUMED SIZE)
2	1	1 1/2"	6	#8	#8	AC POWER FROM SUBPANEL TO POWER PLANT (POWER FOR RECTIFIERS) (QUANTITY OF CONDUCTORS INDICATED IS PER BREAKER)
3	1	1"	3	#12	#12	AC POWER FROM SUBPANEL TO ANCILLIARY EQUIPMENT IN POWER PLANT
4	1	2"	BELDIN CABLES			ALARM CONTROL FROM POWER PLANT TO FLX16
5	1	2"	FIBER 18-PAIR (FB-L988-A0213-XXX)			FIBER FROM UPC TO FLX16, SWEEPING BENDS
6	1	2"	BELDIN CABLES			ALARM CONTROL FROM UPC TO FLX16
7	1	2"	1	#2	#2	DC POWER FROM POWER PLANT TO LTE PDB
8	1	2"	6	#8	#8	DC POWER FROM POWER PLANT TO DC6 SURGE SUPPRESSOR
9	1	2"	1	FIBER 18-PAIR		FIBER FROM FLX16 TO RRUs, SWEEPING BENDS
10	1	2"	2	3PR DC #8 AWG		DC POWER FROM DC6 SURGE SUPPRESSOR TO RRUs

SCOPING NOTES:
 • ADD (3) 30 AMP BREAKERS



SINGLE LINE DIAGRAM
 N.T.S.



CARY J. WEBB, P.E.
 TENNESSEE LICENSE NO. 121514
 DRAWN BY: FM
 CHECKED BY: DRS
 APPV'D: CJW

SUBMITTALS			
DATE	DESCRIPTION	REV	ISSUED BY
08/08/19	CONSTRUCTION	0	DRS
08/14/19	CONSTRUCTION	1	DRS
08/15/19	CONSTRUCTION	2	DRS

THE INFORMATION CONTAINED IN THIS SET OF DOCUMENTS IS PROPRIETARY BY NATURE. REPRODUCTION OR CAUSING TO BE REPRODUCED THE WHOLE OR ANY PART OF THESE DRAWINGS WITHOUT THE PERMISSION OF FDH INFRASTRUCTURE SERVICES IS PROHIBITED.

AT&T SITE ID:
KN6173

SITE ADDRESS:
**1011 OLD MAIL ROAD
 CROSSVILLE, TN 38555-4945**

FA LOCATION:
10082962

TOWER OWNER ID:
TN00324-B

SHEET TITLE:
SINGLE LINE DIAGRAM

SHEET NUMBER:
E-1

