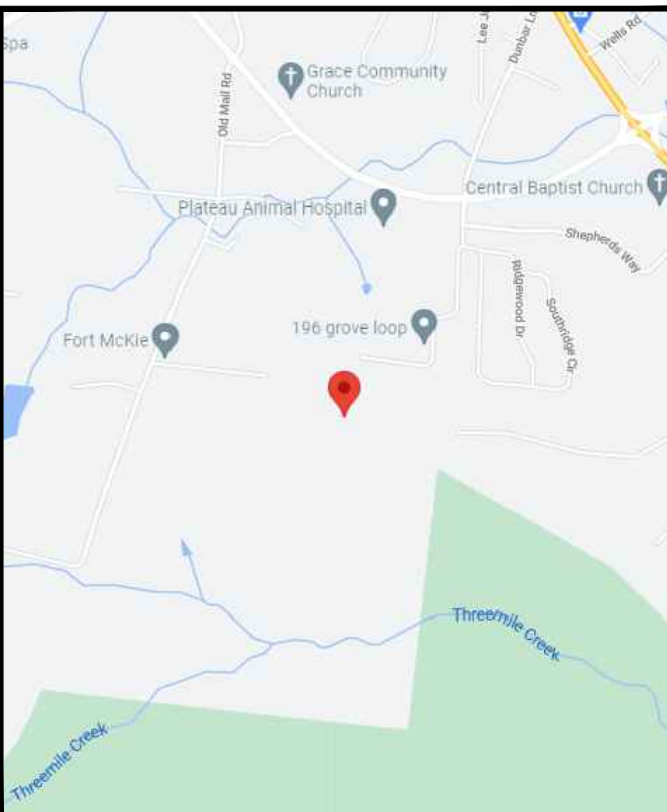


VERIZON SITE NUMBER: 106505
VERIZON SITE NAME: SOUTH CROSSVILLE
SBA SITE ID: TN00324-B-02
SBA SITE NAME: CROSSVILLE DOWNTOWN
PROJECT DESCRIPTION: ANTENNA RELOCATION/ RECONFIGURATION
TOWER TYPE: 275' SELF SUPPORT
SITE ADDRESS: 1011 OLD MAIL RD
 CROSSVILLE, TN 38555
 (CUMBERLAND COUNTY)
JURISDICTION: CITY OF CROSSVILLE
PRESENT OCCUPANCY TYPE: TELECOMMUNICATIONS FACILITY
CURRENT ZONING: UNKNOWN
PARCEL ID / PIN #: 126 034.03

PROJECT INFORMATION

LATITUDE N 35° 55' 36.69" *
LONGITUDE W 85° 01' 22.05" **
GROUND ELEVATION (AMSL) = 1910'± **
 * INFORMATION PROVIDED BY VERIZON
 ** INFORMATION PROVIDED BY GOOGLE EARTH

SITE COORDINATES



LOCATION MAP



8921 Research Drive
Charlotte, NC 28262
(704) 519-9957

SITE #: 106505
SITE NAME: SOUTH CROSSVILLE

1011 OLD MAIL RD
CROSSVILLE, TN 38555

LESSEE:
NAME: VERIZON WIRELESS
ADDRESS: 8921 RESEARCH DRIVE
CITY, STATE, ZIP: CHARLOTTE, NC 28262
CONTACT: SAPNA MOHANAN
PHONE: (704) 510-8684
TOWER OWNER:
NAME: SBA TOWERS LLC
ADDRESS: 8051 CONGRESS AVE
CITY, STATE, ZIP: BOCA RATON, FL 33487
CONTACT: JEFF TAYLOR
PHONE: (304) 638-8776
SITE NAME: CROSSVILLE DOWNTOWN
SITE NUMBER: TN00324-B-02
SURVEYOR:
NAME: N/A
ADDRESS: N/A
CITY, STATE, ZIP: N/A
CONTACT: N/A
PHONE: N/A
CIVIL ENGINEER:
NAME: TOWER ENGINEERING PROFESSIONALS
ADDRESS: 326 TRYON ROAD
CITY, STATE, ZIP: RALEIGH, NC 27603
CONTACT: JOSHUA H. CARDEN, P.E.
PHONE: (919) 661-6351
ELECTRICAL ENGINEER:
NAME: N/A
ADDRESS: N/A
CITY, STATE, ZIP: N/A
CONTACT: N/A
PHONE: N/A

CONTACT INFORMATION

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:
 1. INTERNATIONAL BUILDING CODE (2012 EDITION)
 2. TENNESSEE CODE COUNCIL
 3. ANSI/TIA-222-G-2-2009
 4. NEC 2017 W/ LOCAL AMENDMENTS
 5. LOCAL BUILDING CODE
 6. CITY/COUNTY ORDINANCES

CODE COMPLIANCE

PROPERTY OWNER:
NAME: HEDGE COTH DEBRA LYNN LE
ADDRESS: REM TIMOTHY R HEDGE COTH
CITY, STATE, ZIP: 1213 OLD MAIL RD
CONTACT: CROSSVILLE, TN 38555
PHONE: UNKNOWN
UTILITIES:
POWER COMPANY: UNKNOWN
CONTACT: UNKNOWN
PHONE: UNKNOWN
METER # NEAR SITE: UNKNOWN
TELEPHONE COMPANY: UNKNOWN
CONTACT: UNKNOWN
PHONE: UNKNOWN
PHONE # NEAR SITE: UNKNOWN
PEDESTAL # NEAR SITE: UNKNOWN



By jleonard at 3:42:38 PM, 12/30/2022

8051 CONGRESS AVENUE
BOCA RATON, FL 33487

SBA SITE ID: TN00324-B-02
SBA SITE NAME:
CROSSVILLE DOWNTOWN

APPROVALS

DEPARTMENT	NAME / SIGNATURE	DATE
DEVELOPMENT MANAGER		
PROPERTY/TOWER OWNER		
SITE ACQUISITION MANAGER		
CONSTRUCTION MANAGER		
RF ENGINEER		
OPERATIONS MANAGER		

SHEET	DESCRIPTION	REV
T1	TITLE SHEET	0
N1	PROJECT NOTES	0
C1	TOWER ELEVATION	0
C2A	EXISTING ANTENNA LAYOUT	0
C2B	EXISTING ANTENNA, EQUIPMENT, & CABLE SCHEDULE	0
C3A	PROPOSED ANTENNA LAYOUT	0
C3B	FINAL ANTENNA, EQUIPMENT, & CABLE SCHEDULE	0

INDEX OF SHEETS

PMI ACCESSED AT: <https://pmi.vzwsmart.com>
SMART TOOL VENDOR PROJECT NUMBER: 10178150
VZW LOCATION CODE (PSLC) 106505
 *** PMI AND REQUIREMENTS ALSO EMBEDDED IN MOUNT ANALYSIS REPORT

CONTRACTOR PMI REQUIREMENTS
MOUNT MODIFICATION REQUIRED Y

VZW APPROVED SMART KIT VENDORS

REFER TO MOUNT MODIFICATION DRAWINGS PAGE FOR VZW SMART KIT APPROVED VENDORS

PLANS PREPARED FOR:

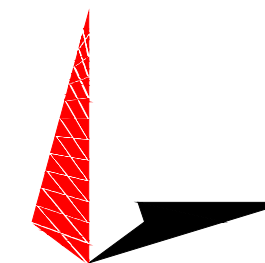


8921 Research Drive
 Charlotte, NC 28262
 (704) 519-9957

PROJECT INFORMATION:

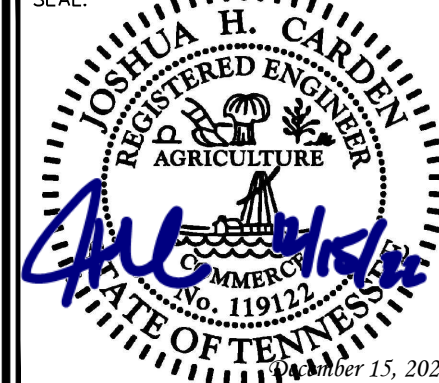
VZW SITE #: 106505
VZW SITE NAME:
SOUTH CROSSVILLE
 1011 OLD MAIL RD
 CROSSVILLE, TN 38555
 (CUMBERLAND COUNTY)

PLANS PREPARED BY:



TOWER ENGINEERING PROFESSIONALS
 326 TRYON ROAD
 RALEIGH, NC 27603-3530
 OFFICE: (919) 661-6351
www.tepgroup.net

SEAL:



REV	DATE	ISSUED FOR:
0	12-15-22	CONSTRUCTION

DRAWN BY: GBP **CHECKED BY:** DJL

SHEET TITLE:

TITLE SHEET

SHEET NUMBER: T-1
REVISION: 0
 TEP#: 53439.794466

PROJECT NOTES:

1. ALL REFERENCES TO THE LESSEE IN THESE DOCUMENTS SHALL BE CONSIDERED VERIZON WIRELESS OR ITS DESIGNATED REPRESENTATIVE.
2. ALL WORK PRESENTED ON THESE DRAWINGS MUST BE COMPLETED BY THE CONTRACTOR UNLESS NOTED OTHERWISE. THE CONTRACTOR MUST HAVE CONSIDERABLE EXPERIENCE IN PERFORMANCE OF WORK SIMILAR TO THAT DESCRIBED HEREIN. BY ACCEPTANCE OF THIS ASSIGNMENT, THE CONTRACTOR IS ATTESTING THAT HE DOES HAVE SUFFICIENT EXPERIENCE AND ABILITY, THAT HE IS KNOWLEDGEABLE OF THE WORK TO BE PERFORMED AND THAT HE IS PROPERLY LICENSED AND PROPERLY REGISTERED TO DO THIS WORK IN THE STATE OF TENNESSEE.
3. WORK SHALL BE COMPLETED IN ACCORDANCE WITH THE 2012 INTERNATIONAL BUILDING CODE.
4. UNLESS SHOWN OR NOTED OTHERWISE ON THE CONTRACT DRAWINGS, OR IN THE SPECIFICATIONS, THE FOLLOWING NOTES SHALL APPLY TO THE MATERIALS LISTED HEREIN, AND TO THE PROCEDURES TO BE USED ON THIS PROJECT.
5. ALL HARDWARE ASSEMBLY MANUFACTURER'S INSTRUCTIONS SHALL BE FOLLOWED EXACTLY AND SHALL SUPERSEDE ANY CONFLICTING NOTES ENCLOSED HEREIN.
6. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO DETERMINE ERECTION PROCEDURE AND SEQUENCE TO ENSURE THE SAFETY OF THE STRUCTURE AND IT'S COMPONENT PARTS DURING ERECTION AND/OR FIELD MODIFICATIONS. THIS INCLUDES, BUT IS NOT LIMITED TO, THE ADDITION OF TEMPORARY BRACING, GUYS OR TIE DOWNS THAT MAY BE NECESSARY. SUCH MATERIAL SHALL BE REMOVED AND SHALL REMAIN THE PROPERTY OF THE CONTRACTOR AFTER THE COMPLETION OF THE PROJECT.
7. ALL DIMENSIONS, ELEVATIONS, AND EXISTING CONDITIONS SHOWN ON THE DRAWINGS SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO BEGINNING ANY MATERIALS ORDERING, FABRICATION OR CONSTRUCTION WORK ON THIS PROJECT. CONTRACTOR SHALL NOT SCALE CONTRACT DRAWINGS IN LIEU OF FIELD VERIFICATIONS. ANY DISCREPANCIES SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE LESSEE AND THE LESSEE'S ENGINEER. THE DISCREPANCIES MUST BE RESOLVED BEFORE THE CONTRACTOR IS TO PROCEED WITH THE WORK. THE CONTRACT DOCUMENTS DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES. OBSERVATION VISITS TO THE SITE BY THE LESSEE AND/OR THE ENGINEER SHALL NOT INCLUDE INSPECTION OF THE PROTECTIVE MEASURES OR THE PROCEDURES.
8. ALL MATERIALS AND EQUIPMENT FURNISHED SHALL BE NEW AND OF GOOD QUALITY, FREE FROM FAULTS AND DEFECTS AND IN CONFORMANCE WITH THE CONTRACT DOCUMENTS. ANY AND ALL SUBSTITUTIONS MUST BE PROPERLY APPROVED AND AUTHORIZED IN WRITING BY THE LESSEE AND ENGINEER PRIOR TO INSTALLATION. THE CONTRACTOR SHALL FURNISH SATISFACTORY EVIDENCE AS TO THE KIND AND QUALITY OF THE MATERIALS AND EQUIPMENT BEING SUBSTITUTED.
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INITIATING, MAINTAINING, AND SUPERVISING ALL SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT THIS PROJECT AND RELATED WORK COMPLIES WITH ALL APPLICABLE LOCAL, STATE, AND FEDERAL SAFETY CODES AND REGULATIONS GOVERNING THIS WORK.
10. ACCESS TO THE PROPOSED WORK SITE MAY BE RESTRICTED. THE CONTRACTOR SHALL COORDINATE INTENDED CONSTRUCTION ACTIVITY, INCLUDING WORK SCHEDULE AND MATERIALS ACCESS, WITH THE RESIDENT LEASING AGENT FOR APPROVAL.
11. ALL PERMITS THAT MUST BE OBTAINED ARE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR WILL BE RESPONSIBLE FOR ABIDING BY ALL CONDITIONS AND REQUIREMENTS OF THE PERMITS.
12. IF APPLICABLE, ALL CONCRETE WORK SHALL COMPLY TO LOCAL CODES AND THE ACI 318-08, "BUILDING REQUIREMENTS FOR STRUCTURAL CONCRETE".
13. 24 HOURS PRIOR TO THE BEGINNING OF ANY CONSTRUCTION, THE CONTRACTOR MUST NOTIFY THE APPLICABLE JURISDICTIONAL (STATE, COUNTY OR CITY) ENGINEER.
14. ALL MATERIALS AND WORKMANSHIP SHALL BE WARRANTED FOR ONE YEAR FROM ACCEPTANCE DATE.
15. ALL TOWER DIMENSIONS SHALL BE VERIFIED WITH THE PLANS (LATEST REVISION) PRIOR TO COMMENCING CONSTRUCTION. NOTIFY THE ENGINEER IMMEDIATELY IF ANY DISCREPANCIES ARE DISCOVERED. THE LESSEE SHALL HAVE A SET OF APPROVED PLANS AVAILABLE AT THE SITE AT ALL TIMES WHILE WORK IS BEING PERFORMED. A DESIGNATED RESPONSIBLE EMPLOYEE SHALL BE AVAILABLE FOR CONTACT BY GOVERNING AGENCY INSPECTORS.
16. ALL TOWER MODIFICATION WORK SHALL BE IN ACCORDANCE WITH TIA-1019-A STANDARD FOR INSTALLATION, ALTERATION AND MAINTENANCE OF ANTENNA SUPPORTING STRUCTURES AND ANTENNAS.

PLANS PREPARED FOR:



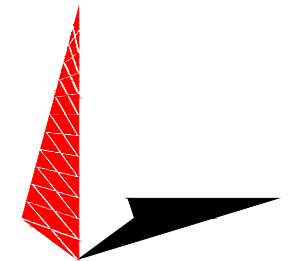
8921 Research Drive
Charlotte, NC 28262
(704) 519-9957

PROJECT INFORMATION:

VZW SITE #: 106505
VZW SITE NAME:
SOUTH CROSSVILLE

1011 OLD MAIL RD
CROSSVILLE, TN 38555
(CUMBERLAND COUNTY)

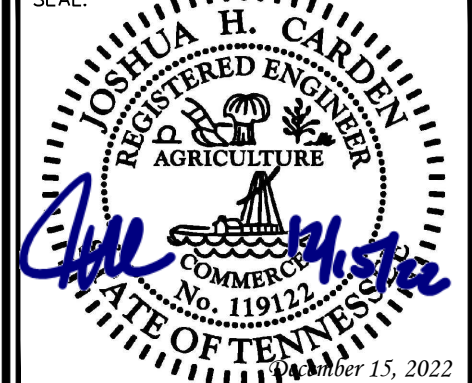
PLANS PREPARED BY:



TOWER ENGINEERING PROFESSIONALS

326 TRYON ROAD
RALEIGH, NC 27603-3530
OFFICE: (919) 661-6351
www.tepgroup.net

SEAL:



O	12-15-22	CONSTRUCTION
REV	DATE	ISSUED FOR:

DRAWN BY: GBP CHECKED BY: DJL

SHEET TITLE:
PROJECT NOTES

SHEET NUMBER: N-1	REVISION: 0
TEP#: 53439.794466	

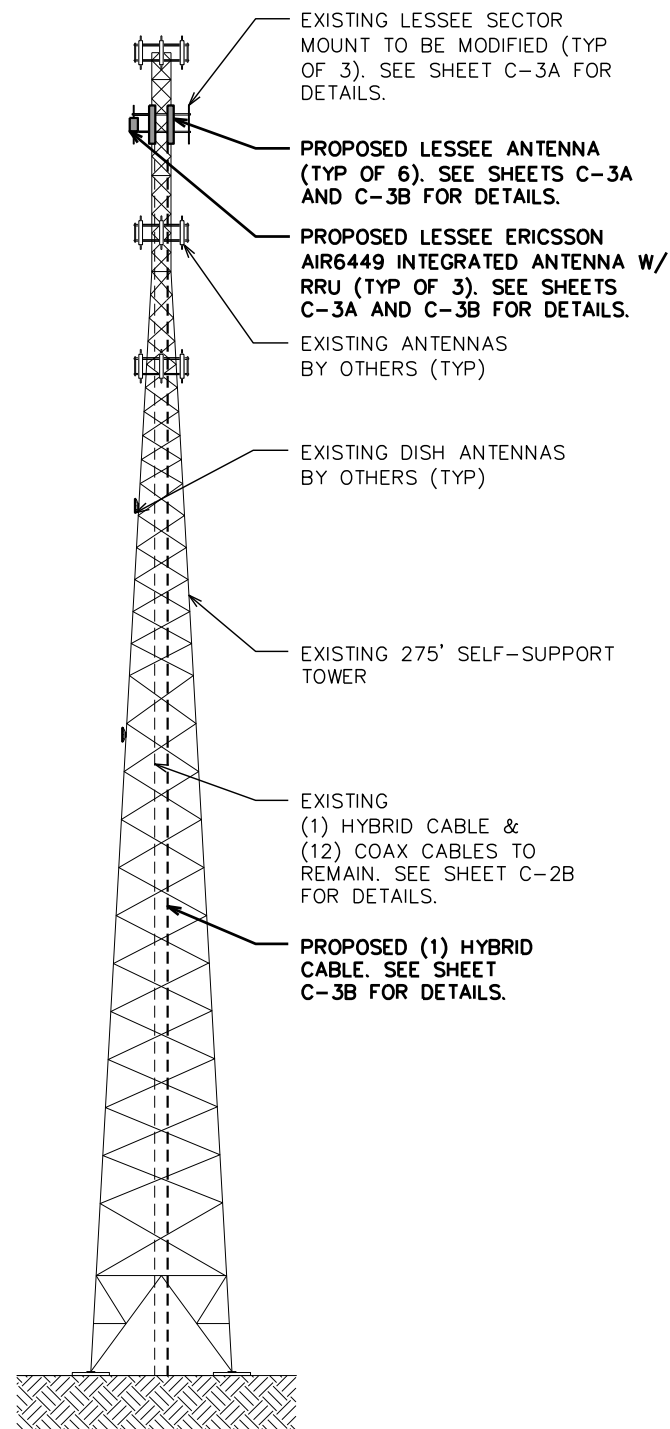
NOTE:

TOWER ELEVATION IS FOR SCHEMATIC PURPOSES ONLY. TEP DID NOT CONFIRM EXISTING SITE CONDITIONS INCLUDING, BUT NOT LIMITED TO, ANTENNA HEIGHTS, ANTENNA AZIMUTHS, AND MOUNT STEEL OR CONFIGURATIONS.

275'-0"±
T/TOWER

260'-0"±
℄/ANTENNA (LESSEE)

0'-0" (REFERENCE)
T/CONCRETE



PLANS PREPARED FOR:



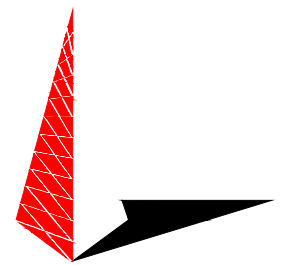
8921 Research Drive
Charlotte, NC 28262
(704) 519-9957

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VZW SITE NAME:
SOUTH CROSSVILLE

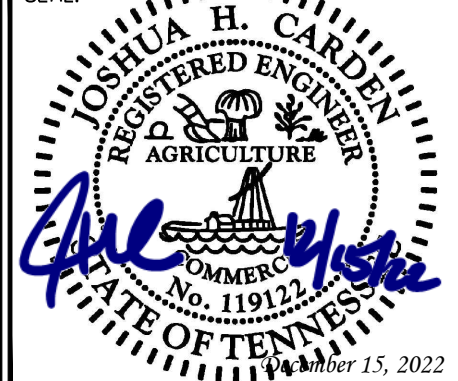
1011 OLD MAIL RD
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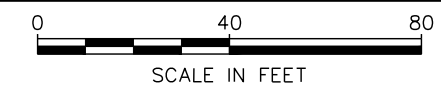
DRAWN BY: GBP CHECKED BY: DJL

SHEET TITLE:
TOWER ELEVATION

SHEET NUMBER: C-1	REVISION: 0
TEP#: 53439.794466	

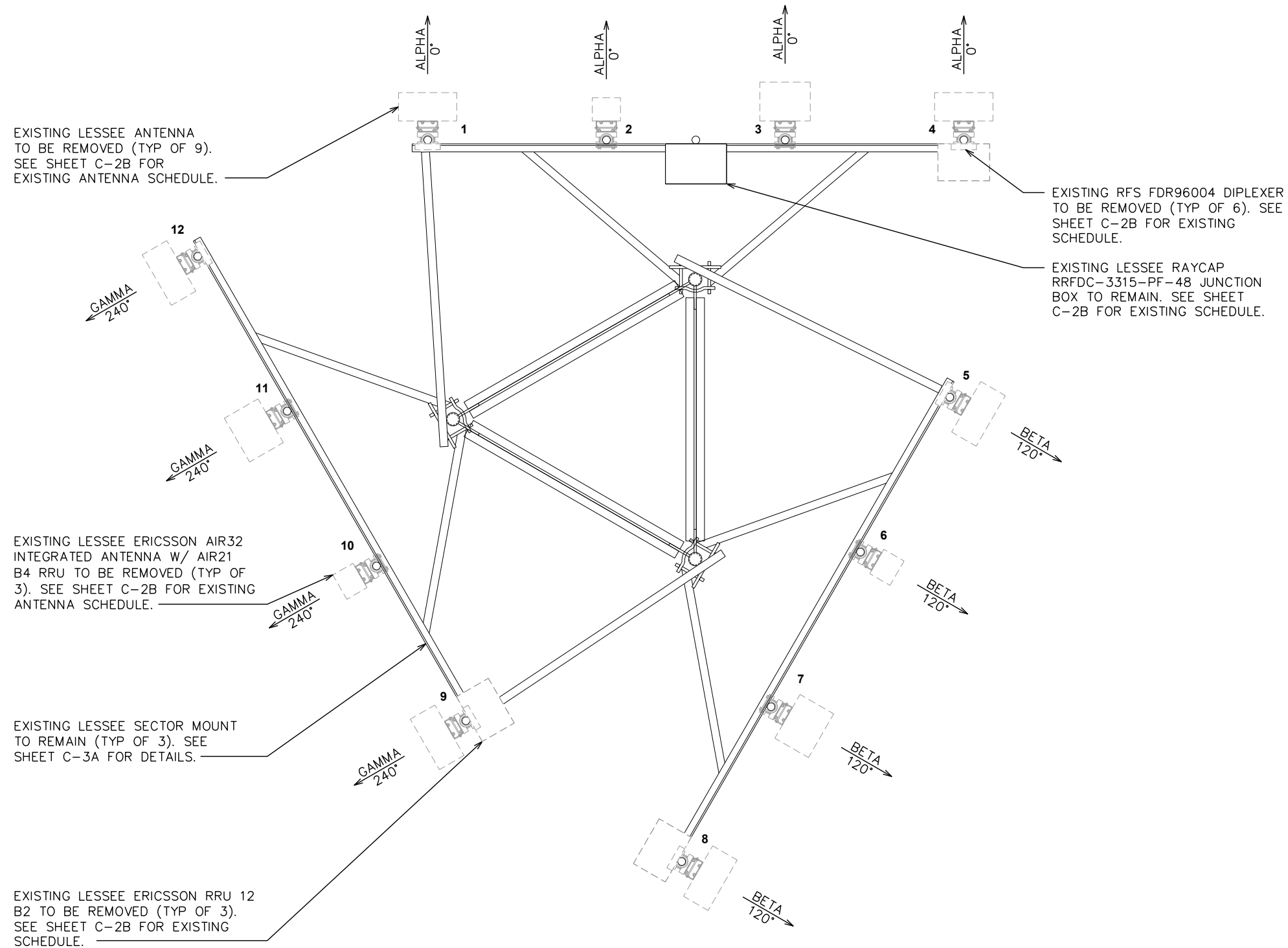
TOWER ELEVATION

SCALE: 1" = 40'



NOTE:

TEP HAS NOT VERIFIED ANY EXISTING ANTENNA CONFIGURATION OR MOUNT CONFIGURATION. CONTRACTOR TO VERIFY MOUNT CONFIGURATION HAS SUFFICIENT SPACE FOR PROPOSED LESSEE EQUIPMENT (I.E. CLEARANCES, MOUNT PIPE OF SUFFICIENT LENGTH, ETC.). TEP DID NOT ANALYZE ANTENNA MOUNT TO DETERMINE ADEQUATE STRUCTURAL CAPACITY FOR ANY LESSEE LOADING.



PLANS PREPARED FOR:



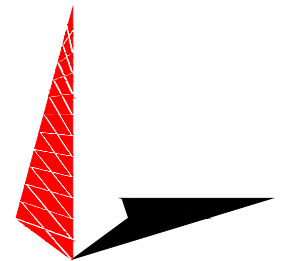
8921 Research Drive
Charlotte, NC 28262
(704) 519-9957

PROJECT INFORMATION:

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VZW SITE NAME:
SOUTH CROSSVILLE

1011 OLD MAIL RD
CROSSVILLE, TN 38555
(CUMBERLAND COUNTY)

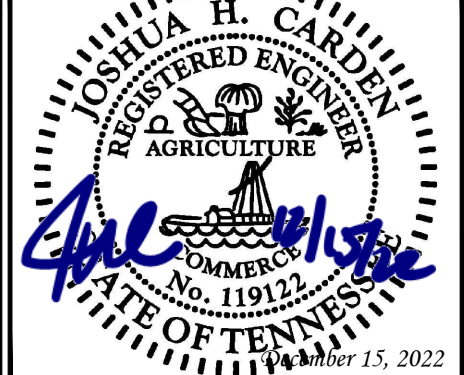
PLANS PREPARED BY:



TOWER ENGINEERING PROFESSIONALS

326 TRYON ROAD
RALEIGH, NC 27603-3530
OFFICE: (919) 661-6351
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SEAL:



0	12-15-22	CONSTRUCTION
REV	DATE	ISSUED FOR:

DRAWN BY: GBP CHECKED BY: DJL

SHEET TITLE:
EXISTING ANTENNA LAYOUT

SHEET NUMBER: **C-2A** REVISION: **0**
TEP#: 53439.794466

EXISTING ANTENNA LAYOUT

SCALE: N.T.S.

PLANS PREPARED FOR:



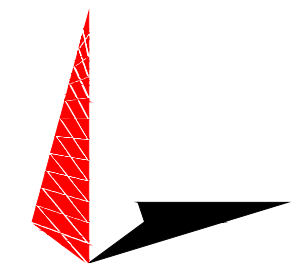
8921 Research Drive
Charlotte, NC 28262
(704) 519-9957

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VZW SITE NAME:
SOUTH CROSSVILLE

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CROSSVILLE, TN 38555
(CUMBERLAND COUNTY)

PLANS PREPARED BY:



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RALEIGH, NC 27603-3530
OFFICE: (919) 661-6351
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SEAL:



EXISTING ANTENNA, EQUIPMENT, AND CABLE SCHEDULE										
POS.	SECTOR	ANTENNA MFR (MODEL #)	MOUNTING HEIGHT	CABLE SIZE	AZIMUTH (TN)	**CABLE LENGTH	DIPLEXERS	RADIO MFR (MODEL #)	TMA	J-BOX (TOWER)
1	ALPHA	*CSS ANTENNA X7C-FRO-860-0	Ⓢ @ 260'-0"±	(12) 1 5/8" ∅ COAX & (1) 1 5/8" ∅ FIBER/HYBRID	0°	310'±	*RFS FD9R6004	-	-	RAYCAP RRFDC-3315-PF-48 (ON ALPHA SECTOR MOUNT)
2	ALPHA	*SWEDCOM SP-X-8515	Ⓢ @ 260'-0"±		0°		-	-	-	
3	ALPHA	*ERICSSON AIR32	Ⓢ @ 260'-0"±		0°		-	*ERICSSON AIR21 B4	-	
4	ALPHA	*CSS ANTENNA X7C-FRO-860-0	Ⓢ @ 260'-0"±		0°		*RFS FD9R6004	*ERICSSON RRU 12 B2	-	
5	BETA	*CSS ANTENNA X7C-FRO-860-0	Ⓢ @ 260'-0"±		120°		*RFS FD9R6004	-	-	
6	BETA	*SWEDCOM SP-X-8515	Ⓢ @ 260'-0"±		120°		-	-	-	
7	BETA	*ERICSSON AIR32	Ⓢ @ 260'-0"±		120°		-	*ERICSSON AIR21 B4	-	
8	BETA	*CSS ANTENNA X7C-FRO-860-0	Ⓢ @ 260'-0"±		120°		*RFS FD9R6004	*ERICSSON RRU 12 B2	-	
9	GAMMA	*CSS ANTENNA X7C-FRO-860-0	Ⓢ @ 260'-0"±		240°		*RFS FD9R6004	-	-	
10	GAMMA	*SWEDCOM SP-X-8515	Ⓢ @ 260'-0"±		240°		-	-	-	
11	GAMMA	*ERICSSON AIR32	Ⓢ @ 260'-0"±		240°		-	*ERICSSON AIR21 B4	-	
12	GAMMA	*CSS ANTENNA X7C-FRO-860-0	Ⓢ @ 260'-0"±		240°		*RFS FD9R6004	*ERICSSON RRU 12 B2	-	

* EXISTING ANTENNA/EQUIPMENT TO BE REMOVED
** CONTRACTOR TO VERIFY CABLE RUN LENGTHS PRIOR TO CONSTRUCTION

REV	DATE	ISSUED FOR:
0	12-15-22	CONSTRUCTION

DRAWN BY: GBP CHECKED BY: DJL

SHEET TITLE:
EXISTING ANTENNA, EQUIPMENT, & CABLE SCHEDULE

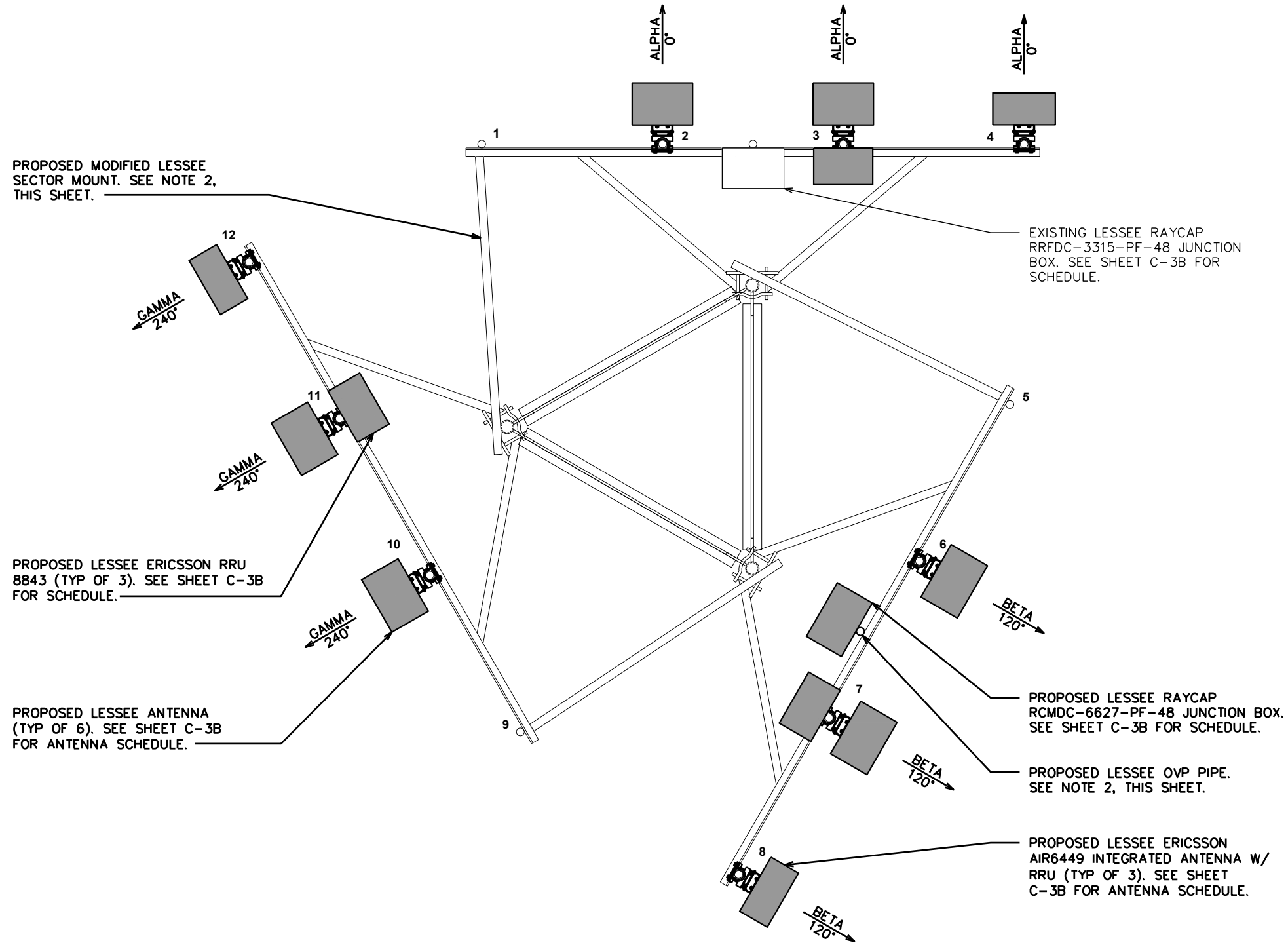
SHEET NUMBER: **C-2B** REVISION: **0**
TEP#: 53439.794466

EXISTING ANTENNA, EQUIPMENT, AND CABLE SCHEDULE

SCALE: N.T.S.

NOTES:

1. CONTRACTOR TO VERIFY PROPOSED LOADING WITH TOWER STRUCTURAL ANALYSIS PRIOR TO CONSTRUCTION.
2. GC TO PERFORM MODIFICATIONS PER POST-MOD MOUNT ANALYSIS AND MODIFICATION DRAWINGS, BOTH ISSUED BY OTHERS.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CLEAN-UP, REMOVAL, AND DISPOSAL OF EXCESS MATERIALS USED AND REMOVED FROM THE STRUCTURE AT THE COMPLETION OF THE PROJECT.



PLANS PREPARED FOR:



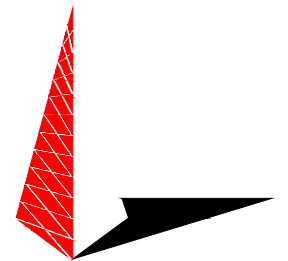
8921 Research Drive
Charlotte, NC 28262
(704) 519-9957

PROJECT INFORMATION:

VZW SITE #: 106505
VZW SITE NAME:
SOUTH CROSSVILLE

1011 OLD MAIL RD
CROSSVILLE, TN 38555
(CUMBERLAND COUNTY)

PLANS PREPARED BY:



TOWER ENGINEERING PROFESSIONALS

326 TRYON ROAD
RALEIGH, NC 27603-3530
OFFICE: (919) 661-6351
www.tepgroup.net

SEAL:



0	12-15-22	CONSTRUCTION
REV	DATE	ISSUED FOR:

DRAWN BY: GBP | CHECKED BY: DJL

SHEET TITLE:

PROPOSED ANTENNA LAYOUT

SHEET NUMBER: | REVISION:

C-3A

0

TEP#: 53439.794466

PROPOSED ANTENNA LAYOUT

SCALE: N.T.S.

PLANS PREPARED FOR:



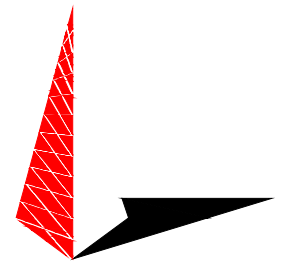
8921 Research Drive
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(704) 519-9957

PROJECT INFORMATION:

VZW SITE #: 106505
VZW SITE NAME:
SOUTH CROSSVILLE

1011 OLD MAIL RD
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PLANS PREPARED BY:



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RALEIGH, NC 27603-3530
OFFICE: (919) 661-6351
www.tepgroup.net

SEAL:



0	12-15-22	CONSTRUCTION
REV	DATE	ISSUED FOR:

DRAWN BY: GBP CHECKED BY: DJL

SHEET TITLE:
**FINAL ANTENNA,
EQUIPMENT, & CABLE
SCHEDULE**

SHEET NUMBER: **C-3B** REVISION: **0**
TEP#: 53439.794466

PROPOSED EQUIPMENT IN BOLD

FINAL ANTENNA, EQUIPMENT, AND CABLE SCHEDULE

POS.	SECTOR	FREQUENCY	USE	ANTENNA MFR (MODEL #)	MOUNTING HEIGHT	CABLE SIZE	AZIMUTH (TN)	***CABLE LENGTH	MECH. D-TILT	ELEC. D-TILT	DIPLEXERS	RADIO MFR (MODEL #)	TMA	J-BOX (TOWER)	
1	ALPHA	-	-	-	-	-	-	-	-	-	-	-	-	-	
2	ALPHA	700/850/1900 AWS/AWS3	LTE	JMA MX06FRO860-02	☉ 260'-0"±	(12) 1 5/8"∅ COAX & *(1) 1 5/8"∅ FIBER/HYBRID & **(1) 1 5/8"∅ FIBER/HYBRID	0°	310'±	****	****	-	-	-	*RAYCAP RRFDC-3315-PF-48 (ON ALPHA SECTOR MOUNT) & **RAYCAP RCMDC-6627-PF-48 (ON BETA SECTOR MOUNT)	
3	ALPHA	700/850/1900 AWS/AWS3	LTE	JMA MX06FRO860-02	☉ 260'-0"±		0°		****	****	-	ERICSSON 8843	-		
4	ALPHA	<6GHz	L-SUB6	ERICSSON AIR6449	☉ 260'-0"±		0°		****	****	-	ERICSSON AIR6449	-		
5	BETA	-	-	-	-		-		-	-	-	-	-		-
6	BETA	700/850/1900 AWS/AWS3	LTE	JMA MX06FRO860-02	☉ 260'-0"±		120°		****	****	-	-	-		-
7	BETA	700/850/1900 AWS/AWS3	LTE	JMA MX06FRO860-02	☉ 260'-0"±		120°		****	****	-	ERICSSON 8843	-		
8	BETA	<6GHz	L-SUB6	ERICSSON AIR6449	☉ 260'-0"±		120°		****	****	-	ERICSSON AIR6449	-		
9	GAMMA	-	-	-	-		-		-	-	-	-	-		-
10	GAMMA	700/850/1900 AWS/AWS3	LTE	JMA MX06FRO860-02	☉ 260'-0"±		240°		****	****	-	-	-		-
11	GAMMA	700/850/1900 AWS/AWS3	LTE	JMA MX06FRO860-02	☉ 260'-0"±		240°		****	****	-	ERICSSON 8843	-		
12	GAMMA	<6GHz	L-SUB6	ERICSSON AIR6449	☉ 260'-0"±		240°		****	****	-	ERICSSON AIR6449	-		

* ALPHA SECTOR - (1) EXISTING 1 5/8"∅ FIBER/HYBRID CABLE TO RUN TO (1) EXISTING RRFDC-3315-PF-48-OVP RAYCAP JUNCTION BOX
 ** BETA SECTOR - (1) PROPOSED 1 5/8"∅ FIBER/HYBRID CABLE TO RUN TO (1) PROPOSED RCMDC-6627-PF-48-OVP RAYCAP JUNCTION BOX
 *** CONTRACTOR TO VERIFY CABLE RUN LENGTHS PRIOR TO CONSTRUCTION
 **** CONTRACTOR TO REFERENCE MOST RECENT RFDS FOR MECHANICAL AND ELECTRICAL D-TILTS

FINAL ANTENNA, EQUIPMENT, AND CABLE SCHEDULE

SCALE: N.T.S.



MOUNT MODIFICATION DRAWINGS EXISTING 12.17' SECTOR FRAME

TOWER OWNER: N/A
TOWER OWNER SITE NUMBER: N/A

CARRIER SITE NAME: SOUTH CROSSVILLE
CARRIER SITE NUMBER: 106505
FUZE ID: 16951589

1011 OLD MAIL ROAD
CROSSVILLE, TN 38555
CUMBERLAND COUNTY

LATITUDE: 35.926858° N
LONGITUDE: 85.022792° W



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0	09/20/22	ISSUED FOR CONSTRUCTION	GDS	JPL



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NASHVILLE
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Suite 420
Brentwood, TN 37027
Phone: 615.686.2575
COLLIERS ENGINEERING & DESIGN, INC.
DOING BUSINESS AS MASER CONSULTING

SHEET TITLE:
TITLE SHEET

SHEET NUMBER:
ST-1

DESIGN CRITERIA
WIND LOADS BASIC WIND SPEED (3 SECOND GUST), V = 104 MPH EXPOSURE CATEGORY C TOPOGRAPHY CONSIDERED NO MEAN BASE ELEVATION (AMSL) = 1910.01'
ICE LOADS ICE WIND SPEED (3 SECOND GUST), V = 30 MPH ICE THICKNESS = 1.50 IN
SEISMIC LOADS SEISMIC DESIGN CATEGORY C SHORT TERM MCER GROUND MOTION, S _s = .324 LONG TERM MCER GROUND MOTION, S _l = .109

PROJECT INFORMATION
APPLICANT/LESSEE COMPANY: VERIZON WIRELESS CLIENT REPRESENTATIVE COMPANY: VERIZON WIRELESS PROJECT MANAGER COMPANY: COLLIERS ENGINEERING & DESIGN CONTACT: STEPHANIE MULHERN PHONE: 856.797.0412 E-MAIL: STEPHANIE.MULHERN@COLLIERSENGINEERING.COM

CONTRACTOR PMI REQUIREMENTS
PMI LOCATION: HTTPS://PMI.VZWSMART.COM SMART TOOL PROJECT #: 10178150 VZW LOCATION CODE (PSLC): 106505 ANALYSIS DATE: 11/11/2022 PMI REQUIREMENTS EMBEDDED WITHIN MOUNT MODIFICATION REPORT

SHEET INDEX
SHEET DESCRIPTION
ST-1 TITLE SHEET
SBOM-1 BILL OF MATERIALS
SGN-1 GENERAL NOTES
SCF-1 CLIMBING FACILITY DETAIL
SS-1 MODIFICATION DETAILS
SS-2 MOUNT PHOTOS
SPECIFICATION SHEETS

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BILL OF MATERIALS

SECTION 1 - VZWSMART KITS

QUANTITY	MANUFACTURER	PART NUMBER	DESCRIPTION	NOTES	UNIT WEIGHT (LBS.)	WEIGHT (LBS.)
12	VZWSMART	VZWSMART-MSK1	CROSSOVER PLATE		14	168
3		VZWSMART-SFK1	TIE BACK ASSEMBLY	CONTRACTOR TO VERIFY THE LENGTH REQUIRED AND TRIM AS NECESSARY IN ACCORDANCE WITH THE 'STRUCTURAL STEEL' NOTES ON SHEET SGN-1.	84	252
3		VZWSMART-SFK3	V-BRACING KIT	CONTRACTOR TO VERIFY THE LENGTH REQUIRED AND TRIM AS NECESSARY IN ACCORDANCE WITH THE 'STRUCTURAL STEEL' NOTES ON SHEET SGN-1.	122	366
3		VZWSMART-P40-278X150	150" LONG, PIPE 2.5 SCH40 (2.875"OD X 0.203" THK)		73	219
1		VZWSMART-P40-238X048	48" LONG, PIPE 2 SCH40 (2.375"OD X 0.154" THK)		15	15

SECTION 2 - OTHER REQUIRED PARTS

QUANTITY	MANUFACTURER	PART NUMBER	DESCRIPTION	NOTES	UNIT WEIGHT (LBS.)	WEIGHT (LBS.)
-	-	-	1/2" DIA. J429 GR-1 U-BOLT	GALVANIZED		

SECTION 3 - REQUIRED SAFETY CLIMB PARTS

QUANTITY	MANUFACTURER	PART NUMBER	DESCRIPTION	NOTES	UNIT WEIGHT (LBS.)	WEIGHT (LBS.)
TOTAL:						1020

NOTES:

- THE MANUFACTURERS LISTED ARE THE APPROVED VENDORS FOR THE VZW MOUNT KITS. EACH MANUFACTURER WILL BE AWARE OF WHICH KITS HAVE BEEN THROUGH THE VZW APPROVAL PROCESS AND THEY ARE IN TURN APPROVED TO SELL. PLEASE NOTE THAT THE MATERIAL UTILIZED ON THE MOUNT MODIFICATIONS WILL BE REVIEWED AS A PART OF THE DESKTOP PMI COMPLETED BY THE SMART TOOL VENDOR. IT WILL BE REQUIRED THAT THE VZW KITS SPECIFIED ARE UTILIZED IN THE MODIFICATIONS.
- ALL MATERIALS REQUIRED FOR THE DESIGNED MODIFICATIONS BUT NOT LISTED IN THIS SHEET ARE ASSUMED TO BE PROVIDED BY THE CONTRACTOR.

VZWSMART KITS - APPROVED VENDORS

COMMSCOPE	
CONTACT	SALVADOR ANGUIANO
PHONE	(817) 304-7492
EMAIL	SALVADOR.ANGUIANO@COMMSCOPE.COM
WEBSITE	WWW.COMMSCOPE.COM
METROSITE FABRICATORS, LLC	
CONTACT	KENT RAMEY
PHONE	(706) 335-7045 (O), (706) 982-9788 (M)
EMAIL	KENT@METROSITELLC.COM
WEBSITE	METROSITEFABRICATORS.COM

PERFECTVISION	
CONTACT	WIRELESS SALES
PHONE	(844) 887-6723
EMAIL	WWW.PERFECT-VISION.COM
WEBSITE	WIRELESSSALES@PERFECT-VISION.COM
SABRE INDUSTRIES, INC.	
CONTACT	ANGIE WELCH
PHONE	(866) 428-6937
EMAIL	AKWELCH@SABREINDUSTRIES.COM
WEBSITE	WWW.SABRESITESOLUTIONS.COM

SITE PRO 1	
CONTACT	PAULA BOSWELL
PHONE	(972) 236-9843
EMAIL	PAULA.BOSWELL@VALMONT.COM
WEBSITE	WWW.SITEPRO1.COM
NEWAVE	
CONTACT	NEWAVE SALES TEAM
PHONE	(971) 239-4762
EMAIL	SALES@NEWAVETC.COM
WEBSITE	WWW.NEWAVETC.COM

BETTER METAL, LLC	
CONTACT	DAVID STANSBERRY
PHONE	(615) 535-0990 (O), (615) 631-2520 (M)
EMAIL	DLS@BETTERMETAL.COM
WEBSITE	WWW.BETTERMETAL.COM



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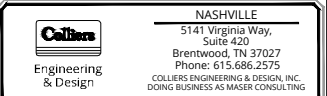
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REV DATE DESCRIPTION	DRAWN BY CHECKED BY

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 REGISTERED PROFESSIONAL ENGINEER
 No. 119561
 STATE OF TENNESSEE
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BILL OF MATERIALS

SHEET NUMBER: SBOM-1

GENERAL NOTES

- THESE MODIFICATIONS HAVE BEEN DESIGNED IN ACCORDANCE WITH THE GOVERNING PROVISIONS OF THE TELECOMMUNICATIONS INDUSTRY STANDARD TIA-222-H. MATERIALS AND SERVICES PROVIDED BY THE CONTRACTOR SHALL CONFORM TO THE ABOVE MENTIONED CODES.
- CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO PREVENT DAMAGE TO EXISTING STRUCTURES. ANY DAMAGE TO EXISTING STRUCTURES AS A RESULT OF THE CONTRACTOR'S WORK OR FROM DAMAGE DUE TO OTHER CAUSES SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE OWNER.
- CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS BEFORE BEGINNING WORK, ORDERING MATERIAL, AND PREPARING OF SHOP DRAWINGS. ANY DISCREPANCIES BETWEEN FIELD CONDITIONS AND THE CONTRACT DOCUMENTS SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE ENGINEER. IF THE CONTRACTOR DISCOVERS ANY EXISTING CONDITIONS THAT ARE NOT REPRESENTED ON THESE DRAWINGS, OR ANY CONDITIONS THAT WOULD INTERFERE WITH THE INSTALLATION OF THE MODIFICATIONS, NOTIFY THE ENGINEER IMMEDIATELY.
- IT IS ASSUMED THAT ANY STRUCTURAL MODIFICATION WORK SPECIFIED ON THESE PLANS WILL BE ACCOMPLISHED BY KNOWLEDGEABLE WORKMEN WITH TOWER CONSTRUCTION EXPERIENCE.
- THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION METHODS, MEANS, TECHNIQUES, SEQUENCES, AND PROCEDURES.
- ALL CONSTRUCTION MEANS AND METHODS, INCLUDING BUT NOT LIMITED TO, ERECTION PLANS, RIGGING PLANS, CLIMBING PLANS, AND RESCUE PLANS SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR RESPONSIBLE FOR THE EXECUTION OF THE WORK CONTAINED HEREIN AND SHALL MEET ANSI/TIA-322 (LATEST EDITION), OSHA, AND GENERAL INDUSTRY STANDARDS. ALL RIGGING PLANS SHALL ADHERE TO ANSI/TIA-322 (LATEST EDITION) INCLUDING THE REQUIRED INVOLVEMENT OF A QUALIFIED ENGINEER FOR CLASS IV CONSTRUCTION.
- THE CONTRACTOR IS SOLELY RESPONSIBLE FOR INITIATING, MAINTAINING, AND SUPERVISING ALL SAFETY PROGRAMS IN ACCORDANCE WITH APPLICABLE SAFETY CODES.
- WORK SHALL ONLY BE PERFORMED DURING CALM DRY DAYS (WINDS LESS THAN 30-MPH). THE STRUCTURE SHOWN ON THE DRAWINGS IS STRUCTURALLY SOUND ONLY IN THE COMPLETED FORM. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE STRENGTH AND STABILITY OF THE STRUCTURE DURING ERECTION. CONTRACTOR SHALL PROVIDE TEMPORARY SUPPORT, SHORING, BRACING AND ANY OTHER STRUCTURAL SYSTEMS AS REQUIRED TO RESIST ALL FORCES THAT MAY OCCUR DURING HANDLING AND ERECTION UNTIL THE STRUCTURE IS FULLY COMPLETED. TEMPORARY SUPPORTS, BRACING AND OTHER STRUCTURAL SYSTEMS REQUIRED DURING CONSTRUCTION SHALL REMAIN THE CONTRACTOR'S PROPERTY AFTER THEIR USE.
- ALL INSTALLATIONS PERFORMED ON THIS STRUCTURE SHALL BE COMPLETED IN ACCORDANCE WITH THE GOVERNING PROVISIONS OF THE STANDARD FOR INSTALLATION, ALTERATION AND MAINTENANCE OF ANTENNA SUPPORTING STRUCTURES AND ANTENNAS, ANSI/TIA-322.
- CONTRACTOR SHALL SECURE SITE BACK TO EXISTING CONDITION UNDER SUPERVISION OF OWNER. ALL FENCE, STONE, GEOFABRIC, GROUNDING, AND SURROUNDING GRADE SHALL BE REPLACED AND REPAIRED AS REQUIRED TO ACHIEVE OWNER APPROVAL. POSITIVE DRAINAGE AWAY FROM TOWER SITE SHALL BE MAINTAINED.
- CONNECTIONS BETWEEN ITEMS SUPPORTED BY THE STRUCTURE AND THE STRUCTURE NOT SPECIFICALLY DETAILED IN THE CONTRACT DOCUMENTS ARE THE RESPONSIBILITY OF THE CONTRACTOR. SUCH CONNECTIONS SHALL BE DESIGNED, COORDINATED AND INSPECTED BY A PROFESSIONAL STRUCTURAL ENGINEER LICENSED IN THE STATE OF THE PROJECT. SUBMIT SIGNED AND SEALED CALCULATIONS DURING SHOP DRAWING REVIEW.
- DO NOT SCALE DRAWINGS.
- DO NOT USE THESE DRAWINGS FOR ANY OTHER SITE.
- ALL MATERIAL UTILIZED FOR THIS PROJECT MUST BE NEW AND FREE OF ANY DEFECTS. ANY MATERIAL SUBSTITUTIONS, INCLUDING BUT NOT LIMITED TO ALTERED SIZE AND/OR STRENGTHS, MUST BE APPROVED BY THE OWNER AND ENGINEER IN WRITING.
- THE MOUNT UNDER NO CIRCUMSTANCES SHOULD BE USED AS A TIE OFF POINT.

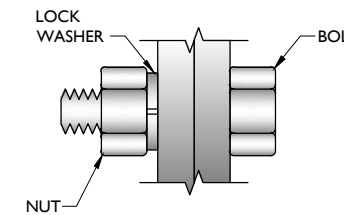
STRUCTURAL STEEL

- DESIGN, DETAILING, FABRICATION AND ERECTION OF STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING PUBLICATIONS EXCEPT AS SPECIFICALLY INDICATED IN THE CONTRACT DOCUMENTS.
 - AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) MANUAL OF STEEL CONSTRUCTION (15TH EDITION)
 - SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS
 - AISC CODE OF STANDARD PRACTICE
- STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING UNLESS OTHERWISE SHOWN:

CHANNELS, ANGLES, PLATES, ETC.	ASTM A36 (GR 36)
STEEL PIPE	ASTM A53 (GR 35)
BOLTS	ASTM A325
NUTS	ASTM A563
LOCK WASHERS	LOCKING STRUCTURAL GRADE
- ALL SUBSTITUTIONS PROPOSED BY THE CONTRACTOR SHALL BE APPROVED IN WRITING BY THE ENGINEER. CONTRACTOR SHALL PROVIDE DOCUMENTATION TO ENGINEER FOR VERIFYING THE SUBSTITUTE IS SUITABLE FOR USE AND MEETS ORIGINAL DESIGN CRITERIA. DIFFERENCES FROM THE ORIGINAL DESIGN, INCLUDING MAINTENANCE, REPAIR AND REPLACEMENT, SHALL BE NOTED. ESTIMATES OF COSTS/CREDITS ASSOCIATED WITH THE SUBSTITUTION (INCLUDING RE-DESIGN COSTS AND COSTS TO SUB-CONTRACTORS) SHALL BE PROVIDED TO THE ENGINEER. CONTRACTOR SHALL PROVIDE ADDITIONAL DOCUMENTATION AND/OR SPECIFICATIONS TO THE ENGINEER AS REQUESTED.
- PROVIDE STRUCTURAL STEEL SHOP DRAWINGS TO ENGINEER FOR APPROVAL PRIOR TO FABRICATION.
 - SUBMIT SHOP DRAWINGS TO
STEPHANIE.MULHERN@COLLIERSENGINEERING.COM
 - PROVIDE MASER CONSULTING PROJECT # AND MASER CONSULTING PROJECT ENGINEER CONTACT IN THE BODY OF THE EMAIL.
- DRILL NO HOLES IN ANY NEW OR EXISTING STRUCTURAL STEEL MEMBERS OTHER THAN THOSE SHOWN ON STRUCTURAL DRAWINGS WITHOUT THE APPROVAL OF THE ENGINEER OF RECORD.
- GALVANIZED ASTM A325 BOLTS SHALL NOT BE REUSED.
- ALL NEW STEEL SHALL BE HOT BE DIPPED GALVANIZED FOR FULL WEATHER PROTECTION. IN ADDITION ALL NEW STEEL SHALL BE PAINTED TO MATCH EXISTING STEEL. CONTRACTOR SHALL OBTAIN WRITTEN PERMISSION TO PROTECT STEEL BY ANY OTHER MEANS.
- ALL BOLT ASSEMBLIES FOR STRUCTURAL MEMBERS REPRESENTED IN THIS DRAWING REQUIRE LOCKING DEVICES TO BE INSTALLED IN ACCORDANCE WITH TIA-222-H SECTION 4.9.2 REQUIREMENTS.
- WHERE CONNECTIONS ARE NOT FULLY DETAILED ON THESE DRAWINGS, FABRICATOR SHALL DESIGN CONNECTIONS TO RESIST LOADS AND FORCES WHERE SHOWN ON DRAWINGS AND AS OUTLINED IN SPECIFICATIONS.
- FOR MEMBERS BEING REPLACED, PROVIDE NEW BOLTS AND MATCH EXISTING SIZE AND GRADE. MAINTAIN AISC REQUIREMENTS FOR MINIMUM BOLT DISTANCE AND SPACING.
- ALL PROPOSED AND/OR REPLACED BOLTS SHALL BE OF SUFFICIENT LENGTH SUCH THAT THE END OF THE BOLT IS AT LEAST FLUSH WITH THE FACE OF THE NUT. IT IS NOT PERMITTED FOR THE BOLT END TO BE BELOW THE FACE OF THE NUT AFTER TIGHTENING IS COMPLETED.
- GALVANIZED ASTM A325 BOLTS SHALL NOT BE REUSED.
- ALL NEW STEEL SHALL BE HOT BE DIPPED GALVANIZED FOR FULL WEATHER PROTECTION. CONTRACTOR SHALL OBTAIN WRITTEN PERMISSION TO PROTECT STEEL BY ANY OTHER MEANS.
- ALL EXISTING PAINTED/GALVANIZED SURFACES DAMAGED DURING REHAB INCLUDING AREAS UNDER STIFFENER PLATES SHALL BE WIRE BRUSHED CLEAN, REPAIRED BY COLD GALVANIZING (ZINGA OR ZINC COTE), AND REPAINTED TO MATCH THE EXISTING FINISH (IF APPLICABLE).
- ALL HOLES IN STEEL MEMBERS SHALL BE SIZED 1/16" LARGER THAN THE BOLT DIAMETER. STANDARD HOLES SHALL BE USED UNLESS NOTED OTHERWISE.

BOLT SCHEDULE (IN.)				
BOLT DIAMETER	STANDARD HOLE	SHORT SLOT	MIN. EDGE DISTANCE	SPACING
1/2	9/16	9/16 x 11/16	7/8	1 1/2
5/8	11/16	11/16 x 7/8	1 1/8	1 7/8
3/4	13/16	13/16 x 1	1 1/4	2 1/4
7/8	15/16	15/16 x 1 1/8	1 1/2	2 5/8
1	1 1/16	1 1/16 x 1 5/16	1 3/4	3

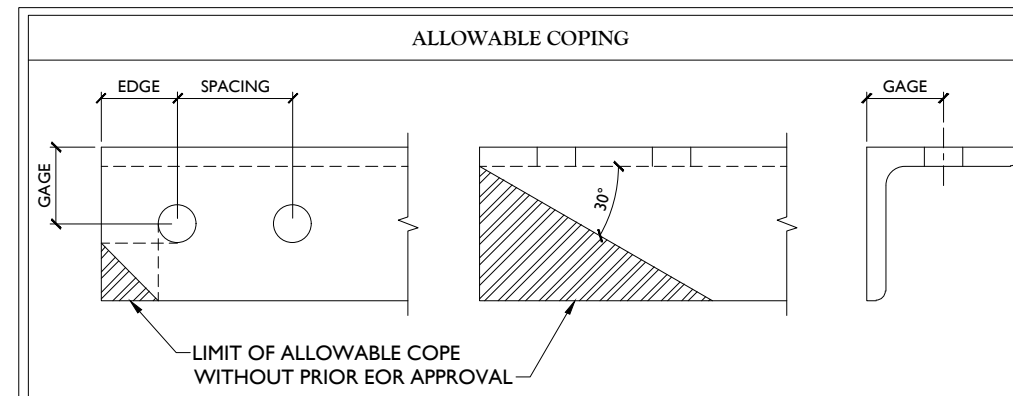
WORKABLE GAGES (IN.)	
LEG	GAGE
4	2 1/2
3 1/2	2
3	1 3/4
2 1/2	1 3/8
2	1 1/8



TYP. BOLT ASSEMBLY

NOTES:

- ALL DIMENSIONS REPRESENTED IN THE ABOVE TABLES ARE AISC MINIMUM REQUIREMENTS. CONTRACTOR SHALL VERIFY EXISTING CONDITIONS IN FIELD AND NOTIFY ENGINEER IF DISTANCES ARE LESS THAN THOSE PROVIDED.
- THE DIMENSIONS PROVIDED ARE MINIMUM REQUIREMENTS. ACTUAL DIMENSIONS OF PROPOSED MEMBERS WITHIN THESE DRAWINGS MAY VARY FROM THE AISC MINIMUM REQUIREMENTS.
- SHORT SLOT HOLES SHALL ONLY BE USED WHEN DEPICTED IN THE DRAWINGS
- MATCH EXISTING GAGES WHEN APPLICABLE, UNLESS MINIMUM EDGE DISTANCES ARE COMPROMISED.



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Justin Peter Linette
Professional Engineer
No. 119561
STATE OF TENNESSEE
Digitally signed by Justin Peter Linette
Date: 2022.11.11 15:05:50-0000
COLLIERS ENGINEERING & DESIGN, INC.
T.N. Firm Reg. #: 9242

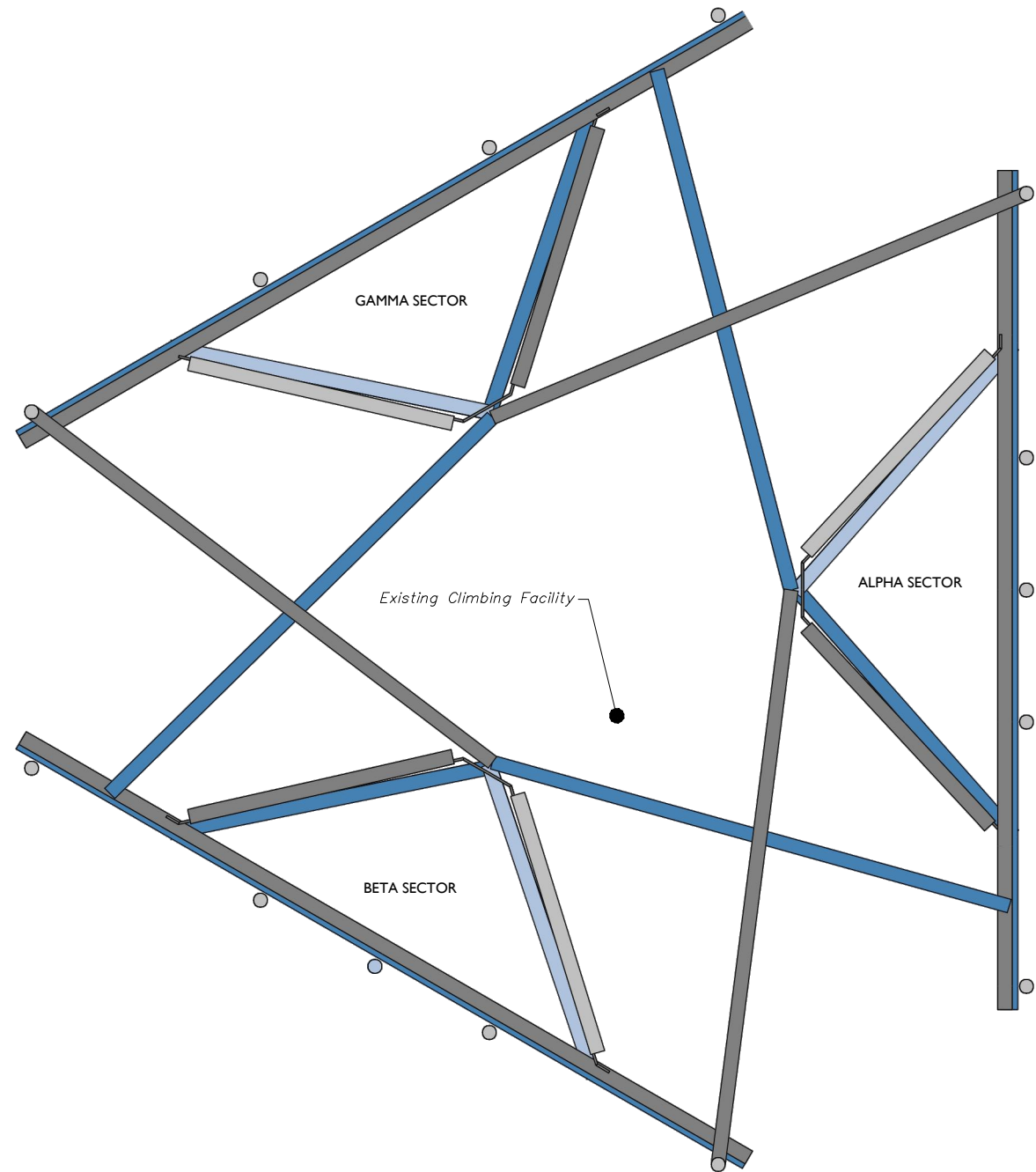
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Phone: 615.686.2575
COLLIERS ENGINEERING & DESIGN, INC.
DOING BUSINESS AS MASER CONSULTING

GENERAL NOTES

SHEET NUMBER: **SGN-I**



1

CLIMBING FACILITY LOCATION

SCALE : N.T.S.

STRUCTURAL NOTES:

1. PER THE MOUNT MAPPING COMPLETED BY LEVEL-UP TOWERS ON 3/4/2021, THE SAFETY CLIMB AND CLIMBING FACILITIES UP TO THE VERIZON MOUNT ELEVATION (260'-0") ARE IN GOOD CONDITION. COLLIERS ENGINEERING & DESIGN DOES NOT WARRANT THIS INFORMATION.
2. INSTALL SHALL NOT CAUSE HARM TO THE STRUCTURE, CLIMBING FACILITY, SAFETY CLIMB, OR ANY SYSTEM INSTALLED ON THE STRUCTURE. TIMELY NOTICE AND DOCUMENTATION SHALL BE PROVIDED BY CONTRACTORS TO THE EOR (OF STRUCTURAL DESIGN) IF AN OBSTRUCTION WAS REQUIRED TO MEET THE RF SYSTEM DESIGN REQUIREMENTS AND PERFORMANCES.



Existing Safety Climb

Existing Climbing Facility

CLIMBING FACILITY PHOTO



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Justin Peter Linette
 No. 119561
 STATE OF TENNESSEE
 REGISTERED PROFESSIONAL ENGINEER

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 106505
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 CROSSVILLE, TN 38555
 CUMBERLAND COUNTY**

LEGEND:

- PROPOSED
- RELOCATED
- EXISTING

MOUNT MODIFICATION SCHEDULE

NO.	ELEVATION	QUANTITY	DESCRIPTION	NOTES
1	260'-0"	3	PROPOSED TIEBACK ASSEMBLY (PART #: VZWSMART-SFK1)	CONNECT OTHER END TO ADJACENT TOWER LEG. PROPOSED TIE-BACK SHALL EXTEND NO MORE THAN 12" BEYOND THE TOWER LEG. CONTRACTOR SHALL TRIM AS REQUIRED AND PROTECT CUT END WITH TWO COATS OF ZINGA OR ZINC KOTE. SEE GENERAL NOTE A.
2		3	PROPOSED V-BRACING KIT (PART #: VZWSMART-SFK3)	CONTRACTOR TO VERIFY THE LENGTH REQUIRED AND TRIM AS NECESSARY IN ACCORDANCE WITH THE 'STRUCTURAL STEEL' NOTES ON SHEET SGN-1. SEE GENERAL NOTE A.
3		3	PROPOSED 150" LONG, PIPE 2.5 SCH40 (PART #: VZWSMART-P40-278X150)	RADIO AND/OR TME POSITIONS SHALL BE ADJUSTED VERTICALLY AS NEEDED IN ORDER TO ACHIEVE INSTALLATION OF HORIZONTAL AS SHOWN. EOR SHALL BE NOTIFIED IF EQUIPMENT NEEDS TO BE RELOCATED TO ANOTHER MOUNT PIPE. CONNECT NEW HORIZONTAL TO ALL EXISTING VERTICAL MOUNT PIPES WITH CROSSOVER PLATES (PART #: VZWSMART-MSK1).
4		1	PROPOSED 48" LONG, PIPE 2 SCH40 (PART #: VZWSMART-P40-238X048)	CONNECT NEW OVP PIPE TO EXISTING FACE HORIZONTALS WITH (1) 1/2" DIA. U-BOLTS AT EACH CONNECTION. CONTRACTOR TO UTILIZE EXISTING BOLT HOLES. BETA SECTOR ONLY

GENERAL NOTES:

- A. THREADED ROD FROM PROPOSED KITS SHALL BE TRIMMED TO EXTEND NO MORE THAN 3" BEYOND THE LOCK NUT. TREAT ALL CUT ENDS WITH (2) COATS OF COLD GALVANIZATION (ZINGA OR ZINC KOTE).
- B. MOUNT MEMBERS NOT SHOWN FOR CLARITY U.N.O.



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SCALE: AS SHOWN		JOB NUMBER: 22776301A	
REV	DATE	DESCRIPTION	CHECKED BY
1	11/1/22	ISSUED FOR CONSTRUCTION	DA JPL
0	09/20/22	ISSUED FOR CONSTRUCTION	GDS JPL

Digitally signed by Justin Peter Linette
 Date: 2022.11.11 15:05:50 -0400
 COLLIERS ENGINEERING & DESIGN, INC.
 T.N. Firm Reg. #: 9242

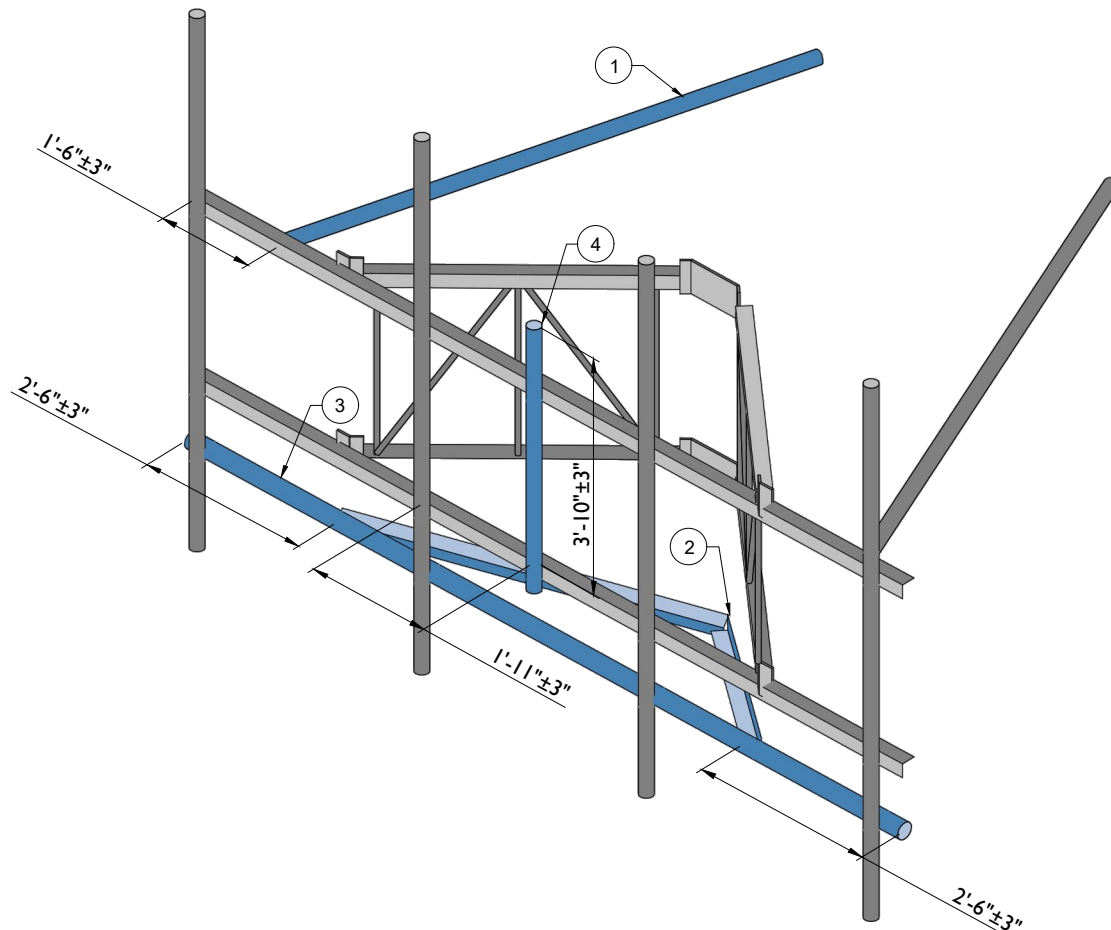
IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF THE RESPONSIBLE LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

SITE NAME:
 SOUTH CROSSVILLE
 106505
 1011 OLD MAIL ROAD
 CROSSVILLE, TN 38555
 CUMBERLAND COUNTY

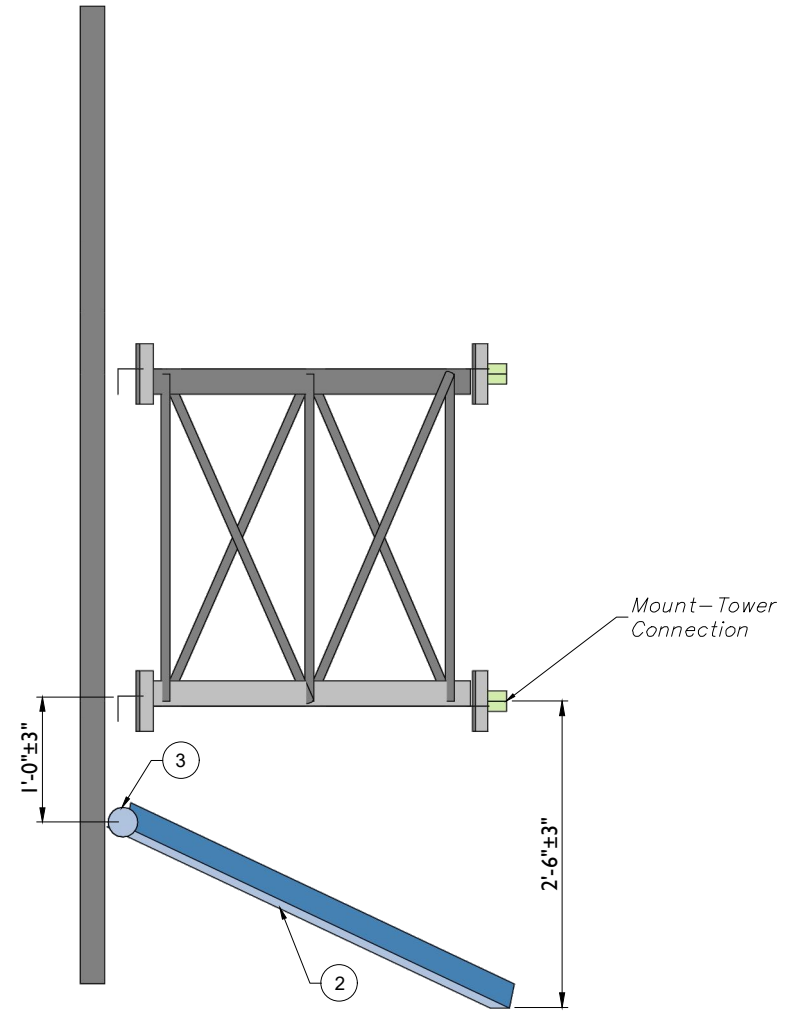
NASHVILLE
 5141 Virginia Way,
 Suite 420
 Brentwood, TN 37027
 Phone: 615.686.2575
 COLLIERS ENGINEERING & DESIGN, INC.
 DOING BUSINESS AS MASER CONSULTING

MODIFICATION DETAILS

SHEET NUMBER: **SS-1**



1 PROPOSED ISOMETRIC VIEW (TYP. ALL SECTORS)
 SCALE: N.T.S.



2 PROPOSED SIDE ELEVATION VIEW (TYP. ALL SECTORS)
 SCALE: N.T.S.



MOUNT PHOTO 1



MOUNT PHOTO 2



MOUNT PHOTO 3



MOUNT PHOTO 4



811 PROTECT YOURSELF
 ALL STATES REQUIRE NOTIFICATION OF EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN ANY STATE
 Know what's below. Call before you dig.
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SCALE: AS SHOWN JOB NUMBER: 22776301A

REV	DATE	DESCRIPTION	DRAWN BY	CHECKED BY
1	11/1/22	ISSUED FOR CONSTRUCTION	DA	JPL
0	09/20/22	ISSUED FOR CONSTRUCTION	GDS	JPL

Justin Peter Linette
 REGISTERED ENGINEER
 No. 119561
 STATE OF TENNESSEE

Digitally signed by Justin Peter Linette
 Date: 2022.11.11 15:05:50 -0400
 COLLIERS ENGINEERING & DESIGN, INC.
 T.N. Firm Reg. #: 9242

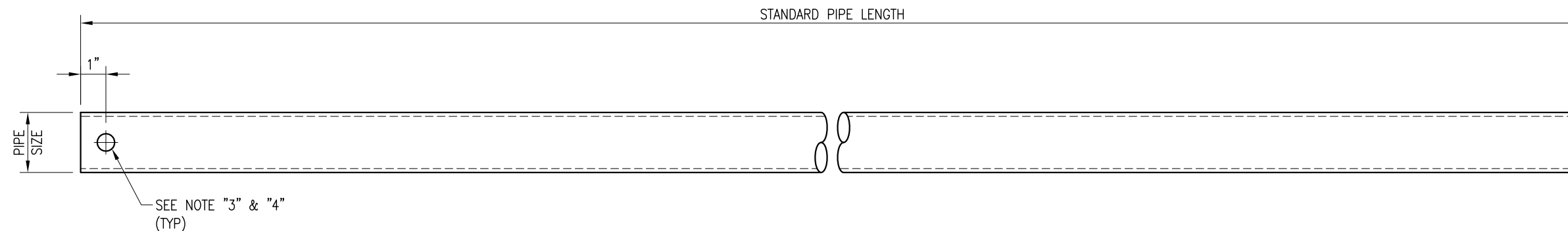
IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF THE RESPONSIBLE LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

SITE NAME:
 SOUTH CROSSVILLE
 106505
 1011 OLD MAIL ROAD
 CROSSVILLE, TN 38555
 CUMBERLAND COUNTY

Colliers Engineering & Design
 NASHVILLE
 5141 Virginia Way,
 Suite 420
 Brentwood, TN 37027
 Phone: 615.686.2575
 COLLIERS ENGINEERING & DESIGN, INC.
 DOING BUSINESS AS MASER CONSULTING

SHEET TITLE:
 MOUNT PHOTOS

SHEET NUMBER:
 SS-2



VZWSMART Standard Pipe		
VZWSMART Number	Size	Length
P40-238X048	PIPE 2 SCH40 (2.375" OD x 0.154" THK)	48"
P40-238X072	PIPE 2 SCH40 (2.375" OD x 0.154" THK)	72"
P40-238X096	PIPE 2 SCH40 (2.375" OD x 0.154" THK)	96"
P40-238X120	PIPE 2 SCH40 (2.375" OD x 0.154" THK)	120"
P40-238X126	PIPE 2 SCH40 (2.375" OD x 0.154" THK)	126"
P40-238X150	PIPE 2 SCH40 (2.375" OD x 0.154" THK)	150"
P40-238X174	PIPE 2 SCH40 (2.375" OD x 0.154" THK)	174"
P40-278X048	PIPE 2.5 SCH40 (2.875" OD x 0.203" THK)	48"
P40-278X072	PIPE 2.5 SCH40 (2.875" OD x 0.203" THK)	72"
P40-278X096	PIPE 2.5 SCH40 (2.875" OD x 0.203" THK)	96"
P40-278X120	PIPE 2.5 SCH40 (2.875" OD x 0.203" THK)	120"
P40-278X126	PIPE 2.5 SCH40 (2.875" OD x 0.203" THK)	126"
P40-278X150	PIPE 2.5 SCH40 (2.875" OD x 0.203" THK)	150"
P40-278X174	PIPE 2.5 SCH40 (2.875" OD x 0.203" THK)	174"
P40-312X048	PIPE 3 SCH40 (3.5" OD x 0.216" THK)	48"
P40-312X072	PIPE 3 SCH40 (3.5" OD x 0.216" THK)	72"
P40-312X126	PIPE 3 SCH40 (3.5" OD x 0.216" THK)	126"
P40-312X150	PIPE 3 SCH40 (3.5" OD x 0.216" THK)	150"
P40-312X174	PIPE 3 SCH40 (3.5" OD x 0.216" THK)	174"

NOTE:
 APPROVED SMART KIT VENDORS ARE ALLOWED TO SUBSTITUTE AT THEIR DISCRETION
 PIPES LISTED ON THIS PAGE FOR CUSTOM LENGTH COMPONENTS OF MATCHING SIZE.
 SUBSTITUTIONS SHALL MEET THE ORIGINAL STRUCTURAL INTENT.

- NOTES:**
1. ALL PIPE GRADE A53-B OR BETTER.
 2. HOT-DIPPED GALVANIZED PER ASTM A123.
 3. ALL HOLES ARE 11/16" DIA. U.N.O
 4. HOLES MAY OR MAY NOT BE PRESENT, DEPEND UPON MANUFACTURE DISCRETION.
 5. ALL FIELD CUT AND DRILLED SURFACES SHALL BE REPAIRED WITH A MINIMUM OF TWO COATS OF ZINGA OR ZINC COTE PER ASTM A780 AND MANUFACTURER'S RECOMMENDATIONS.

FOR REFERENCE
 ONLY

DRAWN BY: BT CHECKED BY: HMA/KW

REV.	DESCRIPTION	BY	DATE
1	FIRST ISSUE	BT	08/04/21

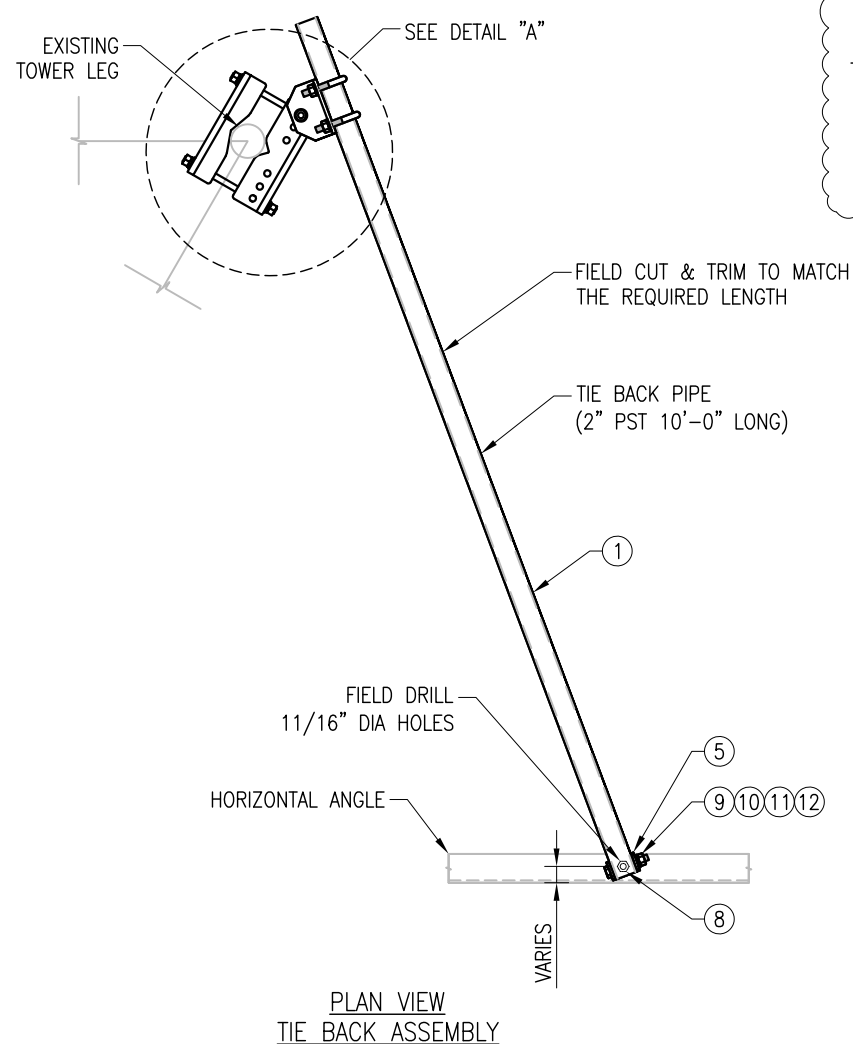
SHEET TITLE:

VZWSMART
 STANDARD PIPE

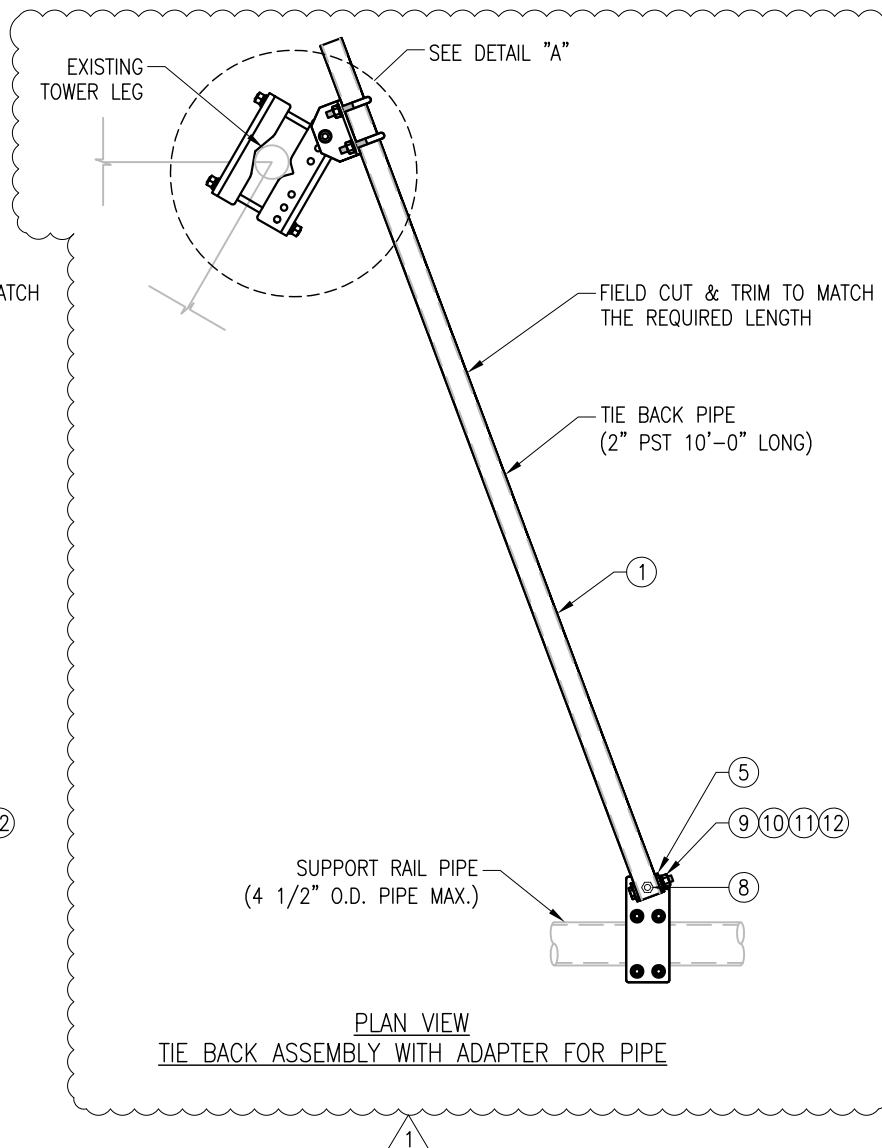
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VZWSMART-PIPE

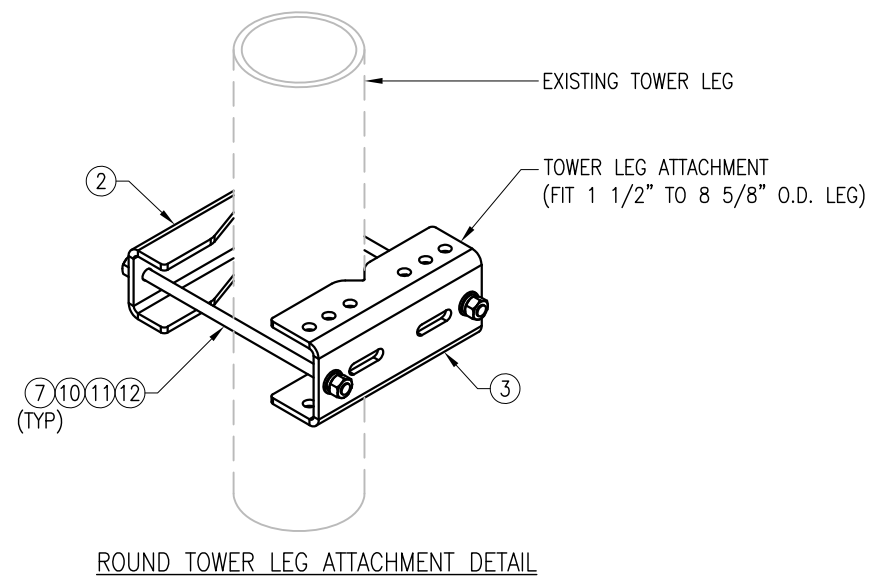
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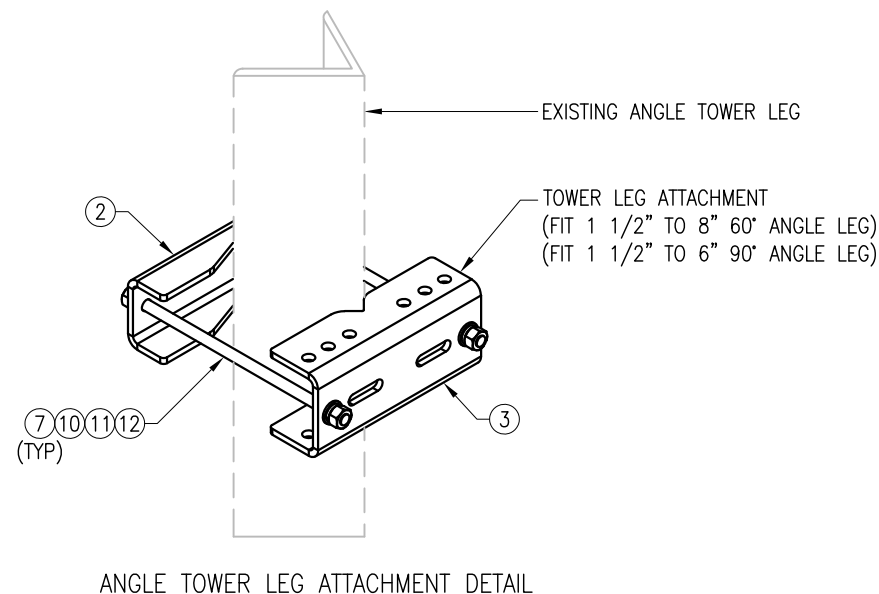
PLAN VIEW
TIE BACK ASSEMBLY



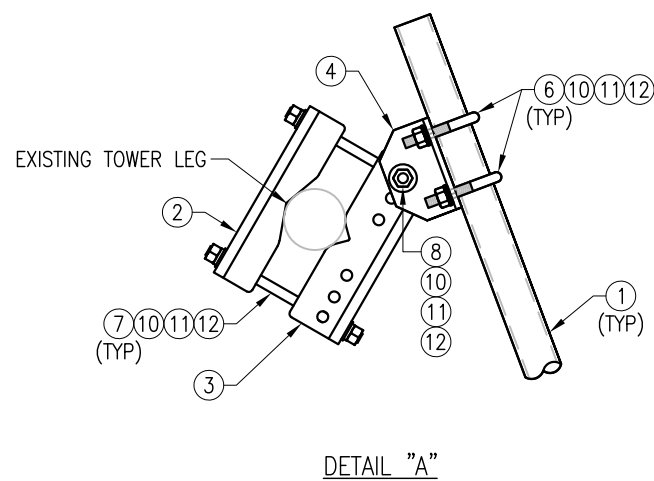
PLAN VIEW
TIE BACK ASSEMBLY WITH ADAPTER FOR PIPE



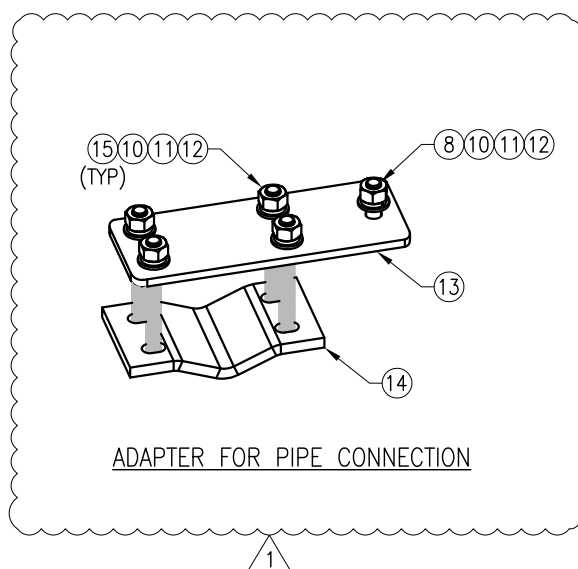
ROUND TOWER LEG ATTACHMENT DETAIL



ANGLE TOWER LEG ATTACHMENT DETAIL



DETAIL "A"



ADAPTER FOR PIPE CONNECTION

VZSMART-SFK1 (TIE BACK ASSEMBLY)						
ITEM NO.	QTY.	PART NO.	DESCRIPTION	SHEET #	WT	
1	1	PST2375-10	2" PST (2.375" O.D. X 0.154" THK) X 10'-0" A53 GR-B 35KSI	SFK1-F1	38	
2	1	BP825-12	PL 3/8" X 8 1/4" X 1'-0" A36 BENT PLATE	SFK1-F2	11	
3	1	BP11125-12	PL 3/8" X 11 1/8" X 1'-0" A36 BENT PLATE	SFK1-F3	14	
4	1	BP6-9375	PL 3/8" X 6" X 9 3/8" A36 BENT PLATE	SFK1-F4	6	
5	1	BP2-875	PL 1/4" X 2" X 8 3/4" A36 BENT PLATE	SFK1-F4	1	
6	2	MS02-625-300-500	RU-BOLT 5/8" X 3" I.W. X 5" I.L. A36 (OR EQUIV.)	RBC-1	2	
7	2	---	THREADED ROD 5/8" DIA. X 1'-6" F1554-36 HDG	---	0	
8	2	---	BOLT 5/8" X 2" A325	---	0	
9	1	---	BOLT 5/8" X 4 1/4" A325	---	0	
10	15	FW-625	5/8" HDG USS FLAT WASHER	---	1	
11	15	LW-625	5/8" HDG LOCK WASHER	---	0	
12	15	NUT-625	5/8" HDG HEX NUT	---	2	
13	1	PL375-4511	PL 3/8" X 4 1/2" X 11" A36	SFK1-F1	4	
14	1	V-CLAMP	PL 1/2" X 4 1/4" X 8 5/8" A36 BEND PLATE	SFK1-F5	5	
15	4	---	BOLT 5/8" X 6" FULL THREAD SAE GR 5	---	0	
					GALVANIZED WT	84

NOTES:
1. HOT-DIPPED GALVANIZED PER ASTM A123.

FOR REFERENCE
ONLY

DRAWN BY: BT CHECKED BY: HMA/KW

REV. DESCRIPTION BY DATE
△ FIRST ISSUE BT 05/08/20

△ 1 REVISED BT 04/10/21

SHEET TITLE:

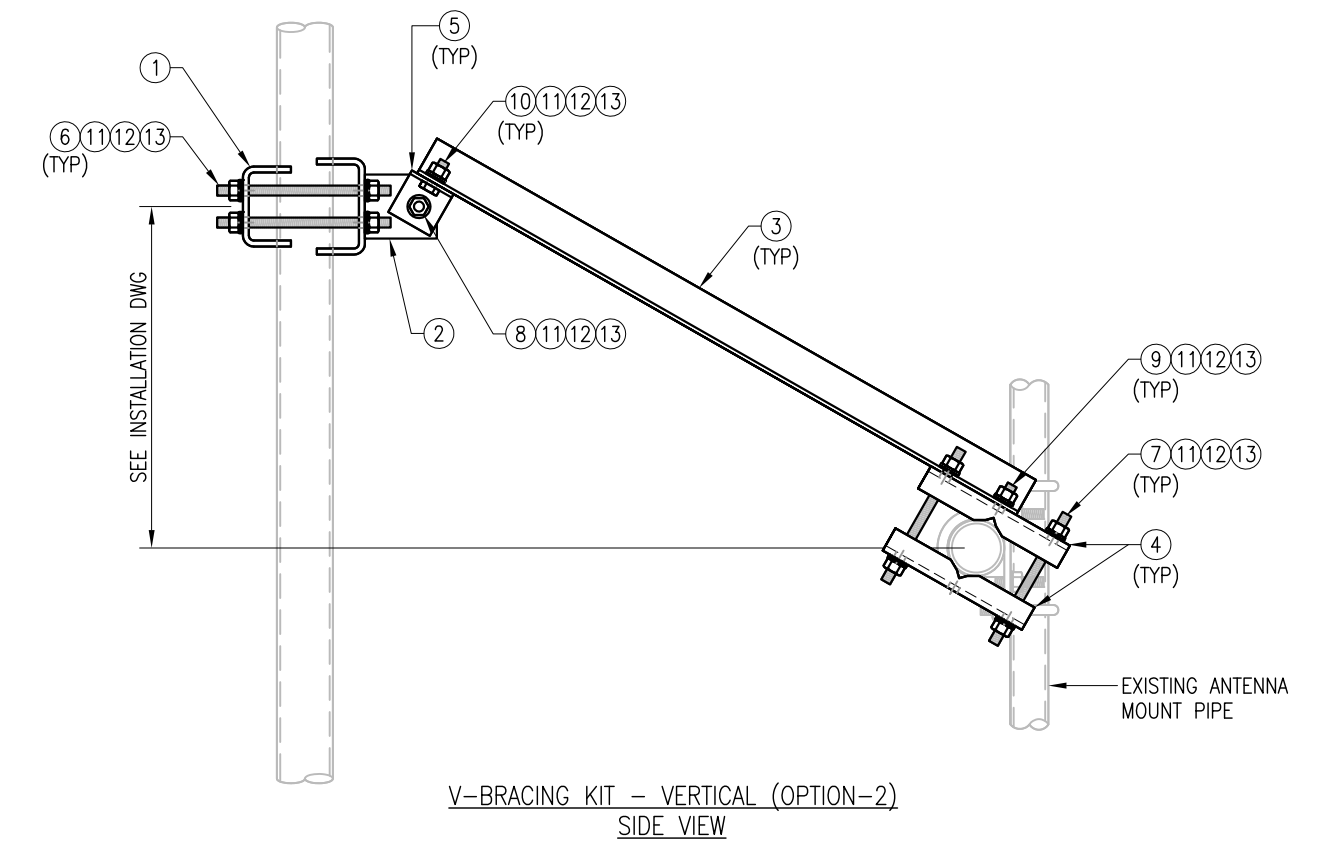
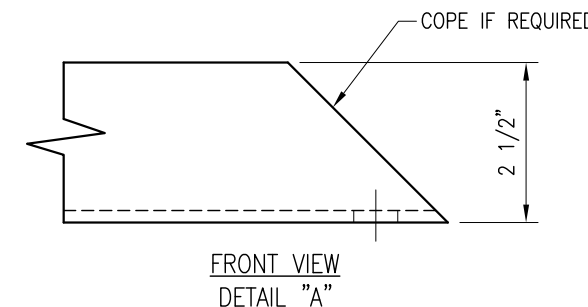
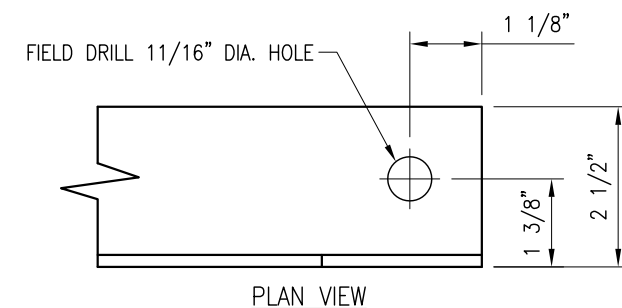
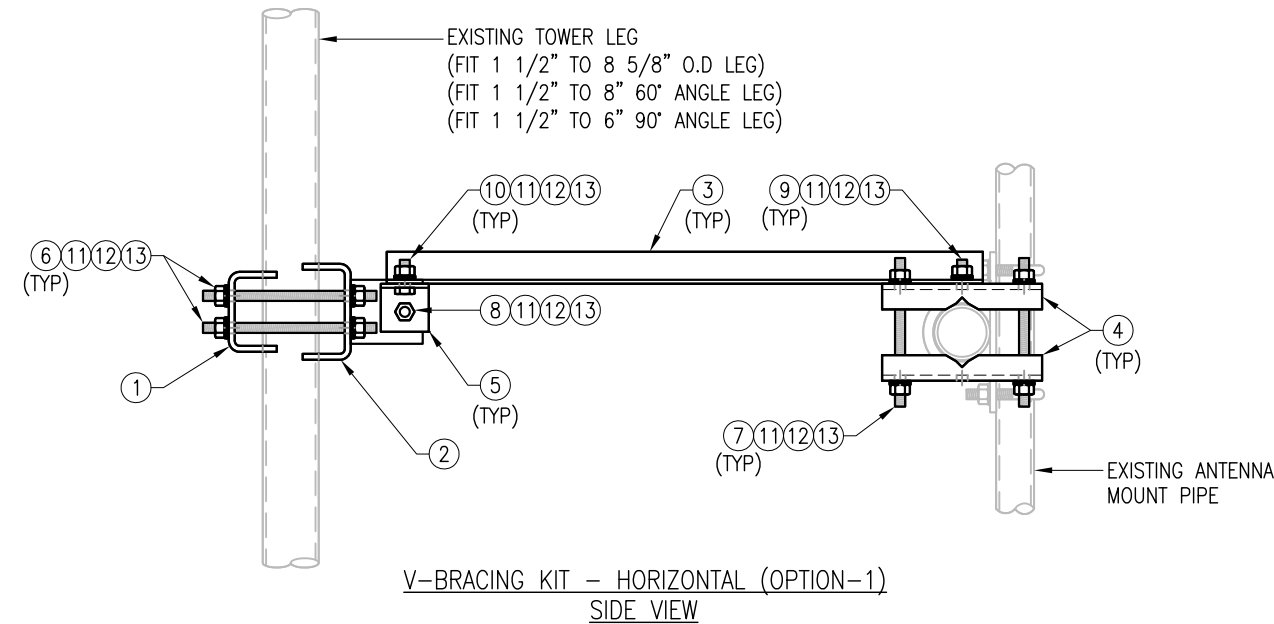
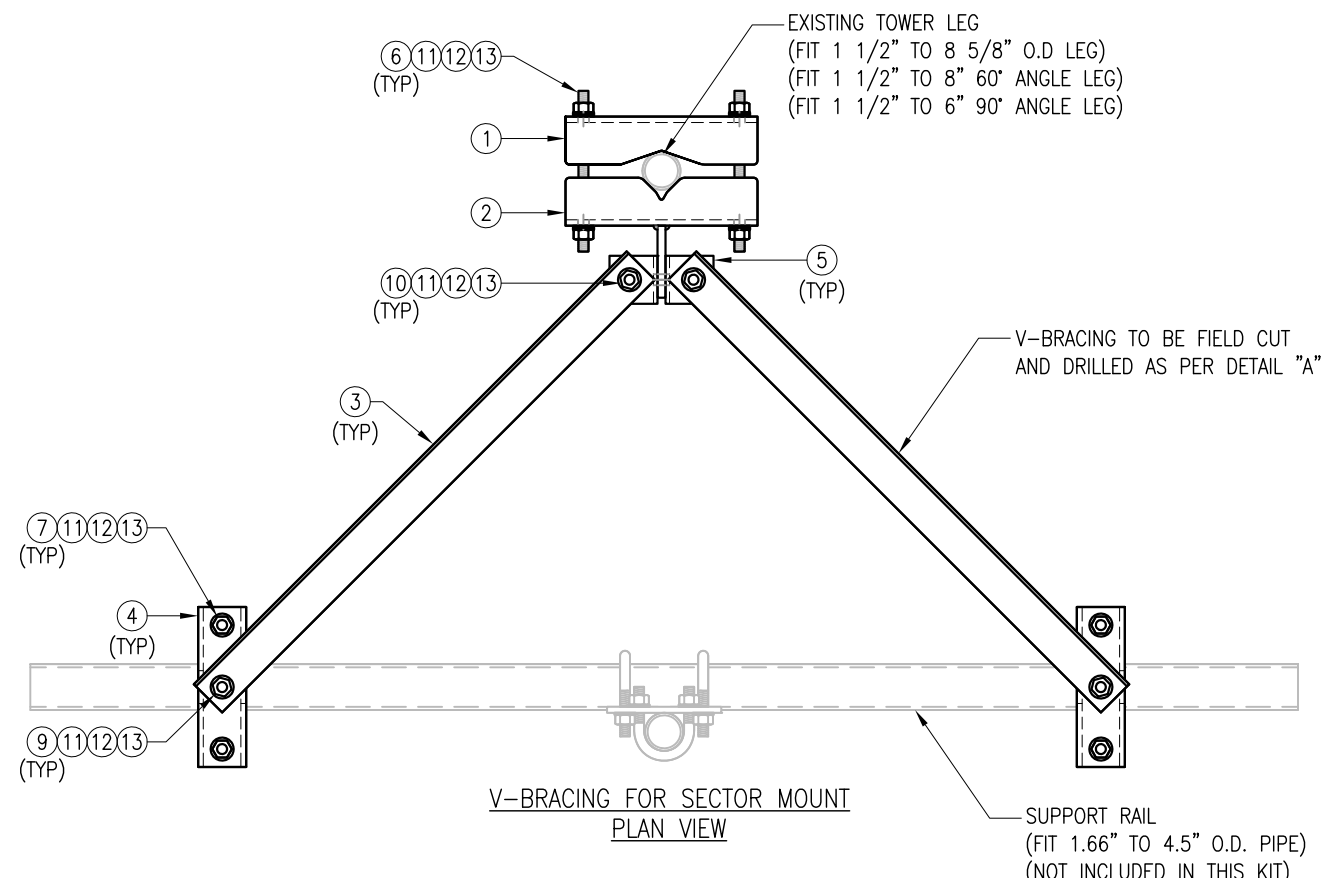
VZSMART-SFK1
TIE BACK ASSEMBLY

SHEET NUMBER:

VZSMART-SFK1

REV #:

1



VZSMART-SFK3 (V-BRACING KIT)					
ITEM NO.	QTY.	PART NO.	DESCRIPTION	SHEET #	WT
1	1	BP9625-12	PL 3/8" X 9 5/8" X 1'-0" A36 BENT PLATE	VBSM-F1	12
2	1	BRKW-VBSM	WELDMENT BRACKET	VBSM-F3	16
3	2	L252525-8	L 2 1/2" X 2 1/2" X 1/4" X 8'-0" A36	VBSM-F5	67
4	4	BP6875-10	PL 3/8" X 6 7/8" X 10" A36 BENT PLATE	VBSM-F2	20
5	2	AL-333	L 3" X 3" X 1/4" X 3" A36	VBSM-F2	3
6	4	---	THREADED ROD 5/8" DIA. X 1'-6" F1554-36 HDG	---	---
7	4	---	THREADED ROD 5/8" DIA. X 10" F1554-36 HDG	---	---
8	1	---	BOLT 5/8" X 2 1/4" A325	---	---
9	2	---	BOLT 5/8" X 2" A325	---	---
10	2	---	BOLT 5/8" X 1 3/4" A325	---	---
11	21	FW-625	5/8" HDG USS FLAT WASHER	---	2
12	21	LW-625	5/8" HDG LOCK WASHER	---	0
13	21	NUT-625	5/8" HDG HEX NUT	---	2
GALVANIZED WT					122

NOTES:
 1. HOT-DIPPED GALVANIZED PER ASTM A123.

FOR REFERENCE ONLY

DRAWN BY: H.R. CHECKED BY: HMA

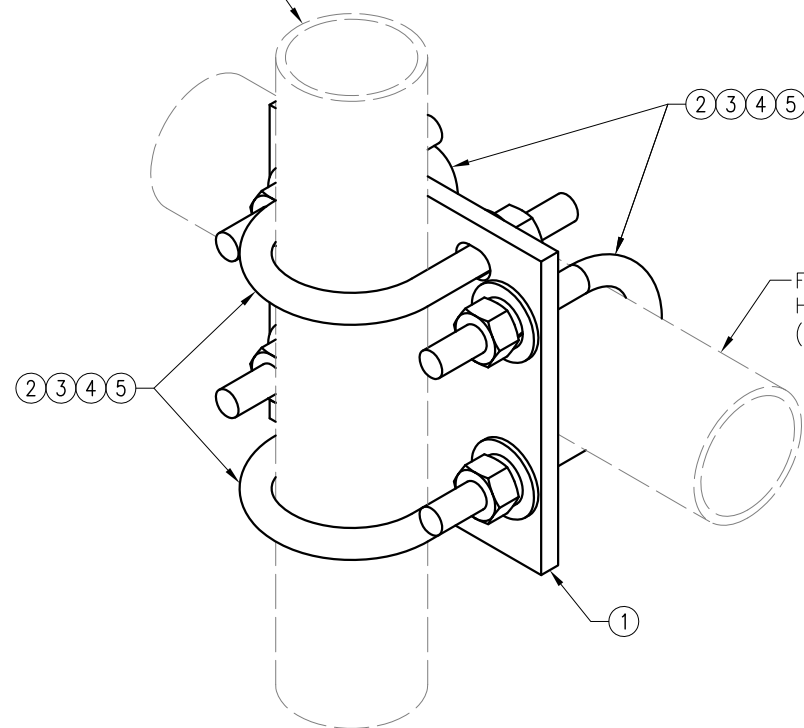
REV.	DESCRIPTION	BY	DATE
1	FIRST ISSUE	H.R.	05/08/20

SHEET TITLE:
 VZSMART-SFK3
 V-BRACING KIT

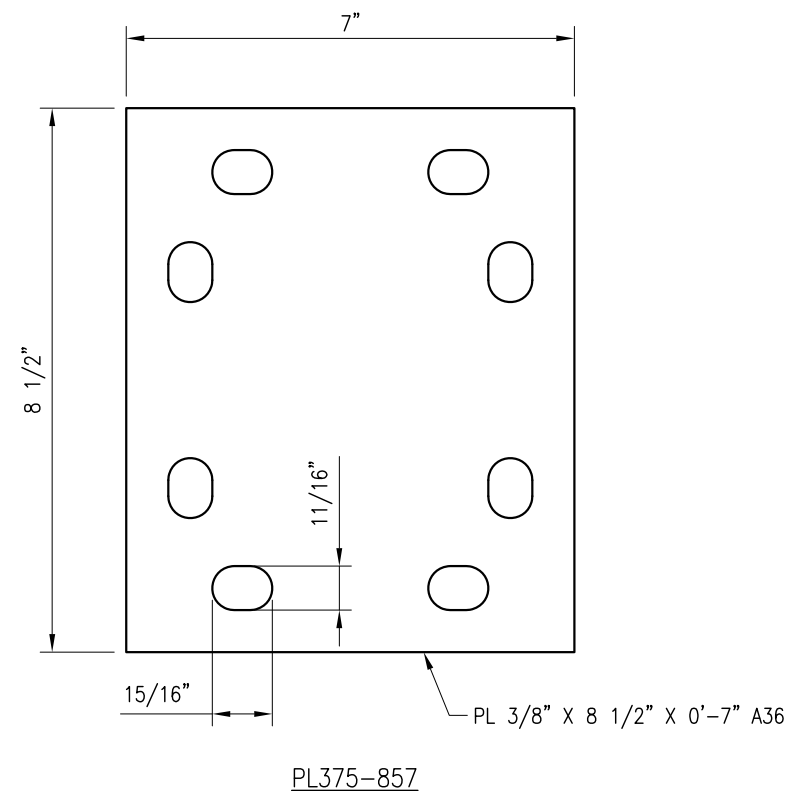
SHEET NUMBER: VZSMART-SFK3
 REV #: 0



FITS 2.375" O.D. AND 2.875" O.D.
 VERTICAL PIPE.
 (NOT INCLUDED IN THIS KIT)



FITS 2.375" O.D. AND 2.875" O.D.
 HORIZONTAL PIPE.
 (NOT INCLUDED IN THIS KIT)



FOR REFERENCE
 ONLY

DRAWN BY: H.R. CHECKED BY: HMA

REV.	DESCRIPTION	BY	DATE
1	FIRST ISSUE	H.R.	05/08/20

SHEET TITLE:

VZSMART-MSK1
 CROSSOVER PLATE

SHEET NUMBER: REV #:

VZSMART-MSK1 0

NOTES:
 1. HOT-DIPPED GALVANIZED PER ASTM A123.

VZSMART-MSK1 (CROSSOVER PLATE)					
ITEM NO.	QTY.	PART NO.	DESCRIPTION	SHEET #	WT
1	1	PL375-857	PL 3/8" X 8 1/2" X 0'-7" A36	MSK1-F1	6
2	4	MS02-625-300-500	RU-BOLT 5/8" X 3" I.W. X 5" I.L. A36 (OR EQUIV.)	RBC-1	5
3	8	FW-625	5/8" HDG USS FLAT WASHER	---	1
4	8	LW-625	5/8" HDG LOCK WASHER	---	0
5	8	NUT-625	5/8" HDG HEX NUT	---	1
GALVANIZED WT					14