

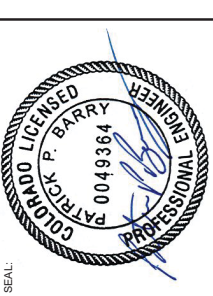
THESE DRAWINGS AND/OR THE ACCOMPANYING SPECIFICATIONS OR INSTRUMENTS OF SERVICE ARE THE PROPERTY OF AMERICAN TOWER SERVICES, LLC. NO PART OF THESE DRAWINGS OR INSTRUMENTS OF SERVICE SHALL BE REPRODUCED, COPIED, OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, WITHOUT THE WRITTEN PERMISSION OF AMERICAN TOWER SERVICES, LLC. ANY UNAUTHORIZED REPRODUCTION OR TRANSMISSION OF THESE DRAWINGS OR INSTRUMENTS OF SERVICE SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO AMERICAN TOWER SERVICES, LLC. THE USER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES AND AUTHORITIES. THE USER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY INSURANCE COVERAGE. THE USER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PROFESSIONAL ENGINEERING REVIEW AND APPROVAL. THE USER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PROFESSIONAL ENGINEERING REVIEW AND APPROVAL. THE USER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PROFESSIONAL ENGINEERING REVIEW AND APPROVAL.

REV.	DESCRIPTION	BY	DATE
1	FOR CONSTRUCTION	LB	02/24/20
2			
3			
4			
5			

ATC SITE NUMBER:
88791

ATC SITE NAME:
BLACK FOREST CO

SITE ADDRESS:
14775 BLACK FOREST RD
COLORADO SPRINGS, CO 80908



Authorized by "EOR"
Mar 17 2020 5:00 PM
cosign

DRAWN BY:	LR
APPROVED BY:	KRF
DATE DRAWN:	02/24/20
ATC JOB NO:	0A475431

GENERAL NOTES

SHEET NUMBER:	G-002
REVISION:	0

REINFORCING STEEL SHALL BE SPLICED TO DEVELOP ITS FULL TENSILE CAPACITY (CLASS A) IN ACCORDANCE WITH ACI 318.

REINFORCING BAR DEVELOPMENT LENGTHS, AS COMPUTED IN ACCORDANCE WITH ACI 318, FORM THE BASIS FOR BAR EMBEDMENT LENGTHS AND BAR SPLICED LENGTHS SHOWN IN THE DRAWINGS. APPLY APPROPRIATE MODIFICATION FACTORS FOR TOP STEEL, BAR SPACING, COVER AND THE LIKE. REINFORCING STEEL SHALL CONFORM TO ACI MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES (ACI 318).

ALL SLAB CONSTRUCTION SHALL BE CAST MONOLITHICALLY WITHOUT HORIZONTAL CONSTRUCTION JOINTS, UNLESS SHOWN IN THE CONTRACT DRAWINGS.

LOCATION OF ALL CONSTRUCTION JOINTS ARE SUBJECT TO THE REQUIREMENTS OF THE CONTRACT DOCUMENTS, CONFORMANCE WITH ACI 318, AND ACCEPTANCE OF THE ENGINEER. CONSTRUCTION JOINTS SHALL BE SUBMITTED WITH REINFORCING STEEL PLACEMENT DRAWINGS.

SPLICES OF WWF, AT ALL SPLICED EDGES, SHALL BE SUCH THAT THE OVERLAP MEASURED BETWEEN OUTERMOST CROSS WIRES OF EACH FABRIC SHEET IS NOT LESS THAN 6". OF THE CROSS WIRE PLUS 2 INCHES, NOR LESS THAN 6".

BAR SUPPORTS SHALL BE ALL-GALVANIZED METAL WITH PLASTIC TIPS.

ALL REINFORCEMENT SHALL BE SECURELY TIED IN PLACE TO PREVENT DISPLACEMENT BY CONSTRUCTION TRAFFIC OR VIBRATION. TIES SHALL BE OF SUFFICIENT STRENGTH FOR INTENDED PURPOSE, BUT NOT LESS THAN NO. 18 GAUGE.

SLAB ON GROUND:

- A. COMPACT STRUCTURAL FILL TO 95% DENSITY AND THEN PLACE 6" GRAVEL BENEATH SLAB.
- B. PROVIDE VAPOR BARRIER BENEATH SLAB ON GROUND.

STRUCTURAL STEEL NOTES:

STRUCTURAL STEEL SHALL CONFORM TO THE LATEST EDITION OF THE AISC "SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS."

STRUCTURAL STEEL ROLLED SHAPES, PLATES AND BARS SHALL CONFORM TO THE FOLLOWING ASTM SPECIFICATIONS:

- A. ASTM A-572, GRADE 50 - ALL W SHAPES, UNLESS NOTED OR A992 OTHERWISE
- B. ASTM A-36 - ALL OTHER ROLLED SHAPES, PLATES AND BARS UNLESS NOTED OTHERWISE
- C. ASTM A-500, GRADE B - HSS SECTION (SQUARE, RECTANGULAR, AND ROUND)
- D. ASTM A-325, TYPE SC OR N - ALL BOLTS FOR CONNECTING STRUCTURAL MEMBERS
- E. ASTM F-1554 07 - ALL ANCHOR BOLTS, UNLESS NOTED OTHERWISE

ALL EXPOSED STRUCTURAL STEEL MEMBERS SHALL BE HOT-DIPPED GALVANIZED AFTER FABRICATION. UNLESS OTHERWISE NOTED, GALVANIZED STEEL SHALL BE GALVANIZED PER ASTM A153 OR B665.

ALL FIELD CUT SURFACES FIELD DRILLED HOLES AND GROUND SURFACES WHERE EXISTING PAINT OR GALVANIZATION REMOVAL WAS REQUIRED SHALL BE REPAIRED WITH (2) BRUSHED COATS OF ZRC GALVULITE COLD GALVANIZING COMPOUND PER ASTM A780 AND MANUFACTURER'S RECOMMENDATIONS.

DO NOT DRILL HOLES THROUGH STRUCTURAL STEEL MEMBERS EXCEPT AS SHOWN AND DETAILED ON STRUCTURAL DRAWINGS.

CONNECTIONS:

- A. ALL WELDING TO BE PERFORMED BY AWS CERTIFIED WELDERS AND CONDUCTED IN ACCORDANCE WITH THE LATEST EDITION OF THE AWS WELDING CODE D1.1.
- B. ALL WELDS SHALL BE INSPECTED VISUALLY. 25% OF WELDS SHALL BE INSPECTED WITH DYE PENETRANT OR MAGNETIC PARTICLE TO MEET THE ACCEPTANCE CRITERIA OF AWS D1.1. REPAIR ALL WELDS AS NECESSARY.
- C. INSPECTION SHALL BE PERFORMED BY AN AWS CERTIFIED WELD INSPECTOR.
- D. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE BURNING/WELDING PERMITS AS REQUIRED BY LOCAL GOVERNING AUTHORITY AND IF REQUIRED SHALL HAVE FIRE DEPARTMENT DETAIL FOR ANY WELDING ACTIVITY.
- E. ALL ELECTRODES TO BE LOW HYDROGEN, MATCHING FILLER METAL, PER AWS D1.1, UNLESS NOTED OTHERWISE.
- F. MINIMUM WELD SIZE TO BE 0.1875 INCH FILLET WELDS, UNLESS NOTED OTHERWISE.
- G. PRIOR TO FIELD WELDING GALVANIZING MATERIAL, CONTRACTOR SHALL GRIND OFF GALVANIZING % BEYOND ALL FIELD WELD SURFACES. AFTER WELD AND WELD INSPECTION IS COMPLETE, REPAIR ALL GROUND AND WELDED SURFACES WITH ZRC GALVULITE COLD GALVANIZING COMPOUND PER ASTM A780 AND MANUFACTURERS RECOMMENDATIONS.

THE CONTRACTOR SHALL PROTECT AT HIS OWN EXPENSE, ALL EXISTING FACILITIES AND SUCH OF HIS NEW WORK LIABLE TO INJURY DURING THE CONSTRUCTION PERIOD. ANY DAMAGE CAUSED BY NEGLIGENCE TO THE PART OF THIS CONTRACTOR OR HIS REPRESENTATIVES, OR BY THE ELEMENTS DUE TO NEGLIGENCE ON THE PART OF THIS CONTRACTOR OR HIS REPRESENTATIVES, SHALL BE REPAIRED AT HIS EXPENSE TO THE OWNER'S SATISFACTION.

ALL WORK SHALL BE INSTALLED IN A FIRST CLASS, NEAT AND WORKMANLIKE MANNER BY MECHANICS SKILLED IN THE TRADE INVOLVED. THE QUALITY OF WORKMANSHIP SHALL BE SUBJECT TO INSPECTION AND APPROVAL BY THE ENGINEER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES AND AUTHORITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY INSURANCE COVERAGE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PROFESSIONAL ENGINEERING REVIEW AND APPROVAL. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PROFESSIONAL ENGINEERING REVIEW AND APPROVAL. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PROFESSIONAL ENGINEERING REVIEW AND APPROVAL.

IN ORDER TO ESTABLISH STANDARDS OF QUALITY AND PERFORMANCE, ALL TYPES OF MATERIALS AND METHODS OF CONSTRUCTION SHALL BE PROVIDED BY THESE MANUFACTURERS AS SPECIFIED. CATALOG NUMBER SHALL BE PROVIDED BY THESE MANUFACTURERS AS SPECIFIED.

CONCRETE AND REINFORCING STEEL NOTES:

DESIGN AND CONSTRUCTION OF ALL CONCRETE ELEMENTS SHALL CONFORM TO THE LATEST EDITIONS OF ALL APPLICABLE CODES INCLUDING ACI 301 "SPECIFICATIONS FOR STRUCTURAL CONCRETE", ACI 308 "GUIDE TO CONCRETE TESTING AND MATERIALS", AND ACI 318 "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE."

MIX DESIGN SHALL BE APPROVED BY U.S. ELECTRIC & COMMUNICATIONS, LLC WIRELESS REP PRIOR TO PLACING CONCRETE.

CONCRETE SHALL BE NORMAL WEIGHT, 6% AIR ENTRAINED +/- 1.5% WITH A SLUMP RANGE OF 4 TO 6 INCHES. CONCRETE SHALL HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 4000 PSI UNLESS OTHERWISE NOTED.

THE FOLLOWING MATERIALS SHALL BE USED:

- PORTLAND CEMENT: ASTM C 150, TYPE 2
- REINFORCING CEMENT: ASTM A 185, PLAIN STEEL WELDED WIRE FABRIC
- REINFORCING BARS: ASTM A615, GRADE 60, DEFORMED
- NORMAL WEIGHT AGGREGATE: ASTM C33
- WATER: ASTM C 94/C 94M
- ADMIXTURES:
 - WATER-REDUCING AGENT: ASTM C 494/C 494M, TYPE A
 - AIR-ENTERING AGENT: ASTM C 260/C 260M
 - SUPERPLASTICIZER: ASTM C494, TYPE F OR TYPE G
 - RETARDER: ASTM C 494/C 494M, TYPE B

MINIMUM CONCRETE COVER FOR REINFORCING STEEL SHALL BE NO LESS THAN 3".

A 3/4" CHAMFER SHALL BE PROVIDED AT ALL EXPOSED EDGES OF CONCRETE IN ACCORDANCE WITH ACI 301 SECTION 4.2.4, UNLESS NOTED OTHERWISE.

INSTALLATION OF CONCRETE EXPANSION/SHRINKAGE ANCHOR SHALL BE PER MANUFACTURER'S WRITTEN RECOMMENDED PROCEDURE. THE ANCHOR BOLT, DOWEL, OR ROD SHALL CONFORM TO MANUFACTURER'S RECOMMENDATION FOR EMBEDMENT DEPTH OR AS SHOWN ON THE DRAWINGS. THE ANCHOR SHALL BE INSTALLED IN ACCORDANCE WITH U.S. ELECTRIC & COMMUNICATIONS, LLC WIRELESS REP APPROVAL WHEN DRILLING HOLES IN CONCRETE.

ADMIXTURES SHALL CONFORM TO THE APPROPRIATE ASTM STANDARD AS REFERENCED IN "METHOD 1" OF ACI 301.

DO NOT WELD OR TACK WELD REINFORCING STEEL.

ALL DOWELS, ANCHOR BOLTS, EMBEDDED STEEL, ELECTRICAL CONDUITS, PIPE SLEEVES, GROUNDS AND ALL OTHER EMBEDDED ITEMS AND FORMED DETAILS SHALL BE IN PLACE BEFORE START OF CONCRETE PLACEMENT.

REINFORCEMENT SHALL BE COLD BENT WHENEVER BENDING IS REQUIRED.

DO NOT PLACE CONCRETE IN WATER, ICE, OR ON FROZEN GROUND.

DO NOT ALLOW REINFORCEMENT, CONCRETE OR SUBBASE TO FREEZE DURING CONCRETE CURING AND SETTING PERIOD, OR FOR A MINIMUM OF 3 DAYS AFTER PLACEMENT.

FOR COLD-WEATHER (ACI 308) AND HOT-WEATHER (ACI 301) CONCRETE PLACEMENT, CONFORM TO MANUFACTURER'S RECOMMENDATIONS. IN EITHER CASE, MATERIALS CONTAINING CHLORIDE, CALCIUM SALTS, ETC. SHALL NOT BE USED. PROTECT FRESH CONCRETE FROM WEATHER FOR 7 DAYS, MINIMUM.

ALL CONCRETE SHALL HAVE A "SMOOTH FORM FINISH."

UNLESS OTHERWISE NOTED:

- A. ALL REINFORCING STEEL SHALL BE DEFORMED BARS CONFORMING TO ASTM A615A 615MA-996, GRADE 60.
- B. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A185.

SPLICING OF REINFORCEMENT IS PERMITTED ONLY AT LOCATIONS SHOWN IN THE CONTRACT DRAWINGS OR AS ACCEPTED BY THE ENGINEER, UNLESS OTHERWISE SHOWN OR NOTED.

GENERAL CONSTRUCTION NOTES:

ALL WORK SHALL CONFORM TO AND COMPLY WITH ALL APPLICABLE FEDERAL, STATE, AND LOCAL CODES, INCLUDING ANSII/A22.2, AND ALL CITY AND COUNTY CONSTRUCTION SPECIFICATIONS.

CONTRACTOR SHALL CONTACT LOCAL 811 FOR IDENTIFICATION OF UNDERGROUND UTILITIES PRIOR TO START OF CONSTRUCTION.

CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL REQUIRED INSPECTIONS.

ALL DIMENSIONS TO, OF, AND ON EXISTING BUILDINGS, DRAINAGE STRUCTURES, AND SITE IMPROVEMENTS SHALL BE VERIFIED IN FIELD BY CONTRACTOR WITH ALL DISCREPANCIES REPORTED TO THE ENGINEER.

DO NOT CHANGE SIZE OR SPACING OF STRUCTURAL ELEMENTS.

DETAILS SHOWN ARE TYPICAL; SIMILAR DETAILS APPLY TO SIMILAR CONDITIONS UNLESS OTHERWISE NOTED.

THESE DRAWINGS DO NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY WHICH SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

STABILITY ARE BRACED STRUCTURES UNTIL ALL STRUCTURAL ELEMENTS NEEDED FOR STABILITY ARE INSTALLED. THESE ELEMENTS ARE AS FOLLOWS: LATERAL BRACING, ANCHOR BOLTS, ETC.

CONTRACTOR SHALL DETERMINE EXACT LOCATION OF EXISTING UTILITIES, GROUNDS DRAINS, DRAIN PIPES, VENTS, ETC. BEFORE COMMENCING WORK.

INCORRECTLY FABRICATED, DAMAGED, OR OTHERWISE MISFITTING OR NONCONFORMING MATERIALS SHALL BE REMOVED IMMEDIATELY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES AND AUTHORITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY INSURANCE COVERAGE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PROFESSIONAL ENGINEERING REVIEW AND APPROVAL. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PROFESSIONAL ENGINEERING REVIEW AND APPROVAL.

WIRELESS REP SHALL REQUIRE WRITTEN APPROVAL BY THE U.S. ELECTRIC & COMMUNICATIONS, LLC WIRELESS REP PRIOR TO PROCEEDING.

EACH CONTRACTOR SHALL COOPERATE WITH THE U.S. ELECTRIC & COMMUNICATIONS, LLC WIRELESS REP, AND COORDINATE HIS WORK WITH THE WORK OF OTHERS.

CONTRACTOR SHALL REPAIR ANY DAMAGE CAUSED BY CONSTRUCTION OF THIS PROJECT TO MATCH EXISTING PRE-CONSTRUCTION CONDITIONS TO THE SATISFACTION OF THE U.S. ELECTRIC & COMMUNICATIONS, LLC WIRELESS CONSTRUCTION MANAGER.

ALL CABLE/CONDUIT ENTRY/EXIT PORTS SHALL BE WEATHERPROOFED DURING INSTALLATION USING A SILICONE SEALANT.

WHERE EXISTING CONDITIONS DO NOT MATCH THOSE SHOWN IN THIS PLAN SET, CONTRACTOR SHALL NOTIFY THE U.S. ELECTRIC & COMMUNICATIONS, LLC WIRELESS REP IMMEDIATELY.

CONTRACTOR SHALL ENSURE ALL SUBCONTRACTORS ARE PROVIDED WITH A COMPLETE AND CURRENT SET OF DRAWINGS AND SPECIFICATIONS FOR THIS PROJECT.

CONTRACTOR SHALL REMOVE ALL RUBBISH AND DEBRIS FROM THE SITE AT THE END OF EACH DAY.

CONTRACTOR SHALL COORDINATE WORK SCHEDULE WITH LANDLORD AND TAKE PRECAUTIONS TO MINIMIZE IMPACT AND DISRUPTION OF OTHER OCCUPANTS OF THE FACILITY.

CONTRACTOR SHALL FURNISH U.S. ELECTRIC & COMMUNICATIONS, LLC WIRELESS WITH A PDF MARKED UP AS BUILT SET OF DRAWINGS UPON COMPLETION OF WORK.

PRIOR TO SUBMISSION OF BID, CONTRACTOR SHALL COORDINATE WITH U.S. ELECTRIC & COMMUNICATIONS, LLC WIRELESS REP TO DETERMINE WHAT, IF ANY, ITEMS WILL BE PROVIDED. ALL ITEMS NOT PROVIDED SHALL BE PROVIDED AND INSTALLED BY THE CONTRACTOR. CONTRACTOR WILL INSTALL ALL ITEMS PROVIDED.

PRIOR TO SUBMISSION OF BID, CONTRACTOR SHALL COORDINATE WITH U.S. ELECTRIC & COMMUNICATIONS, LLC WIRELESS REP TO DETERMINE IF ANY PERMITS WILL BE OBTAINED BY CONTRACTOR. ALL REQUIRED PERMITS NOT OBTAINED BY U.S. ELECTRIC & COMMUNICATIONS, LLC WIRELESS MUST BE OBTAINED, AND PAID FOR, BY THE CONTRACTOR.

CONTRACTOR SHALL INSTALL ALL SITE SIGNAGE IN ACCORDANCE WITH U.S. ELECTRIC & COMMUNICATIONS, LLC WIRELESS SPECIFICATIONS AND REQUIREMENTS.

CONTRACTOR SHALL SUBMIT ALL SHOP DRAWINGS TO U.S. ELECTRIC & COMMUNICATIONS, LLC WIRELESS FOR REVIEW AND APPROVAL PRIOR TO FABRICATION.

ALL EQUIPMENT SHALL BE INSTALLED ACCORDING TO MANUFACTURER'S SPECIFICATIONS AND LOCATED ACCORDING TO U.S. ELECTRIC & COMMUNICATIONS, LLC WIRELESS SPECIFICATIONS, AND AS SHOWN IN THE SE PLANS.

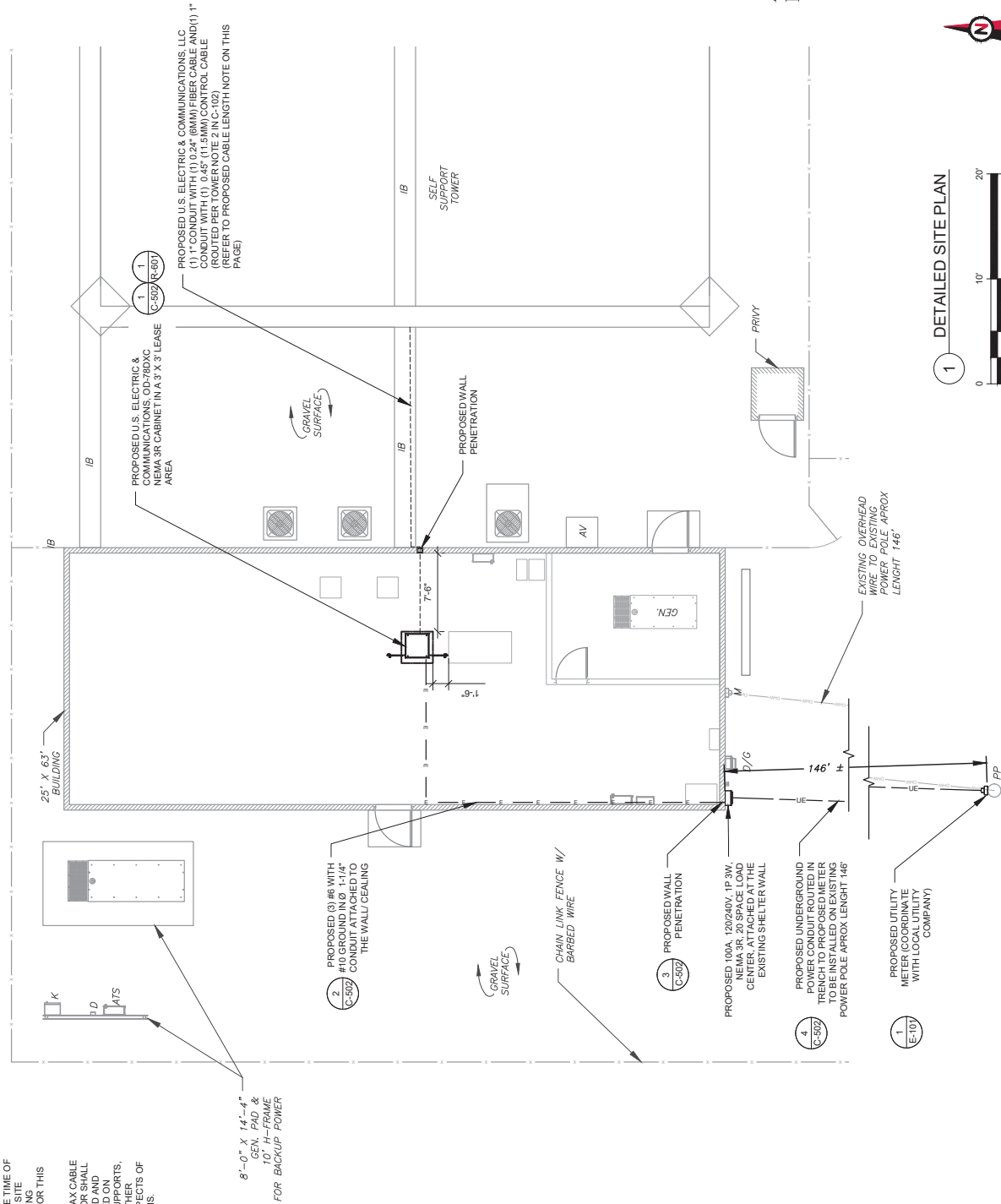
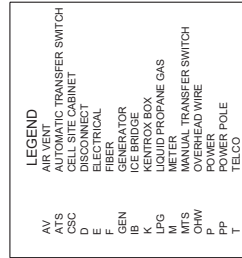
THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE PROJECT DESCRIBED HEREIN. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL THE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.

CONTRACTOR SHALL NOTIFY U.S. ELECTRIC & COMMUNICATIONS, LLC WIRELESS REP A MINIMUM OF 48 HOURS IN ADVANCE OF POURING CONCRETE OR BACKFILLING ANY UNDERGROUND UTILITIES, FOUNDATIONS OR SEALING ANY WALL, FLOOR OR ROOF PENETRATIONS FOR ENGINEERING REVIEW AND APPROVAL.

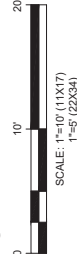
CONTRACTOR SHALL BE RESPONSIBLE FOR SITE SAFETY INCLUDING COMPLIANCE WITH ALL APPLICABLE OSHA STANDARDS AND RECOMMENDATIONS AND SHALL PROVIDE ALL NECESSARY SAFETY DEVICES INCLUDING PPE AND PPM AND CONSTRUCTION DEVICES SUCH AS WELDING AND FIRE PREVENTION, TEMPORARY SHORING, SCAFFOLDING, TRENCH BOXES/SLOPING, BARRIERS, ETC.

1. THIS SITE PLAN REPRESENTS THE BEST PRESENT KNOWLEDGE AVAILABLE TO THE ENGINEER AT THE TIME OF THIS DESIGN. THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO CONSTRUCTION AND VERIFY ALL EXISTING CONDITIONS RELATED TO THE SCOPE OF WORK FOR THIS PROJECT.

2. ICE BRIDGE, CABLE LADDER, COAX PORT, AND COAX CABLE ARE SHOWN FOR REFERENCE ONLY. CONTRACTOR SHALL CONFIRM THE EXACT LOCATION OF ALL PROPOSED AND EXISTING EQUIPMENT AND STRUCTURES DEPICTED ON THIS PLAN, BEFORE UTILIZING EXISTING CABLE SUPPORTS, COAX PORTS, INSTALLING NEW PORTS OR ANY OTHER EQUIPMENT. CONTRACTOR SHALL VERIFY ALL ASPECTS OF THE COMPONENTS MEET THE ATC SPECIFICATIONS.



DETAILED SITE PLAN



PROPOSED CABLE LENGTH

[illegible]

AMERICAN TOWER

ATC TOWER SERVICES, LLC

3500 REGENCY PARKWAY

SUITE 100

CARY, NC 27516

PHONE: (919) 468-0112

THESE DRAWINGS AND/OR THE ACCOMPANYING SPECIFICATION AS INSTRUMENTS OF SERVICE ARE THE PROPERTY OF AMERICAN TOWER SERVICES, LLC. NO PART OF THIS DRAWING OR SPECIFICATION SHALL BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE WRITTEN PERMISSION OF AMERICAN TOWER SERVICES, LLC. THE SPECIFIED CARRIER IS STRICTLY PROHIBITED. TITLE TO THE TOWER SHALL REMAIN WITH AMERICAN TOWER SERVICES, LLC. AMERICAN TOWER SERVICES, LLC AND THE PROJECT ENGINEER SHALL BE PROVIDING ON-SITE CONSTRUCTION REVIEW OF THIS PROJECT. CONTRACTOR(S) MUST VERIFY ALL DIMENSIONS AND LOCATIONS OF ALL STRUCTURAL MEMBERS AND CONNECTIONS. THIS DRAWING IS SUPERSEDED BY THE LATEST VERSION ON FILE WITH AMERICAN TOWER.

REV.	DESCRIPTION	BY	DATE
A	FOR CONSTRUCTION	LB	02/24/20

ATC SITE NUMBER:
88791

ATC SITE NAME:
BLACK FOREST CO

SITE ADDRESS:
14775 BLACK FOREST RD
COLORADO SPRINGS, CO 80908

SEAL:

COLORADO LICENSED
PATRICK P. BARRY
0049364
PROFESSIONAL ENGINEER

Authorized by "EOR"

Mar 17 2020 5:00 PM

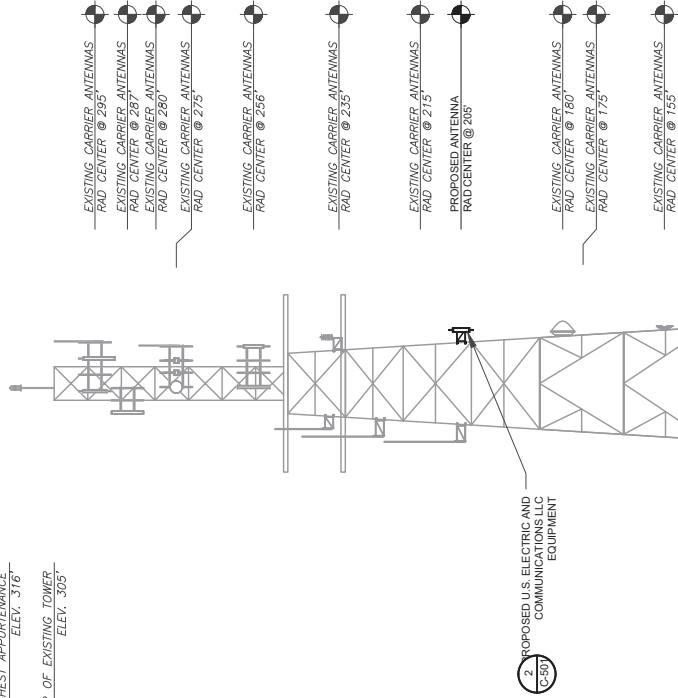
DRAWN BY:	LR
APPROVED BY:	KRF
DATE DRAWN:	02/24/20
ATC JOB NO:	0A4754331

TOWER ELEVATION

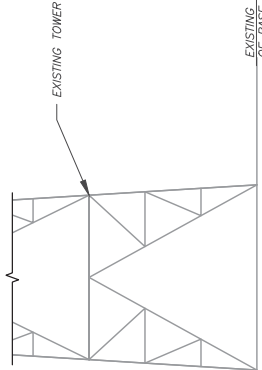
SHEET NUMBER:	C-102
REVISION:	0

TOP OF EXISTING
HIGHEST APPURTENANCE
ELEV. 316

TOP OF EXISTING TOWER
ELEV. 305



- TOWER NOTE:
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONFIRM WITH THE AMERICAN TOWER ENGINEERING DEPARTMENT THAT THEY HAVE THE MOST RECENT VERSION OF THE STRUCTURAL ANALYSIS BEFORE COMMENCING WORK. EXISTING AND PROPOSED TOWER APPURTENANCES, MOUNTS, AND ANTENNAS ARE SHOWN BASED ON THE STRUCTURAL ANALYSIS. THE CONTRACTOR SHALL VERIFY THE EXISTING AS EXISTING CABLES AND IN ACCORDANCE WITH STRUCTURAL ANALYSIS, WHERE POSSIBLE, UTILIZE EXISTING CABLE SUPPORT STRUCTURES AS PROVIDED FOR CARRIER TO ADEQUATELY SUPPORT CABLES. THE CONTRACTOR SHALL PROVIDE APPROPRIATELY SIZED STAINLESS STEEL SNAP-RINGS OR MOUNTING HARDWARE AND BRACKETS AS SPECIFIED BY CABLE MANUFACTURER. OTHERWISE, ATTACH CABLES TO HORIZONTAL OR DIAGONAL TOWER MEMBERS USING APPROPRIATELY SIZED STAINLESS STEEL DO NOT ATTACH TO TOWER LEG.
 - ATC DID NOT CONFIRM EXISTING SITE CONDITIONS INCLUDING, BUT NOT LIMITED TO, ANTENNA HEIGHTS, ANTENNA AZIMUTHS AND TOWER ELEVATIONS. THE CONTRACTOR SHALL VERIFY TOWER ELEVATIONS ARE MEASURED FROM TOP OF BASE PLATE TO MATCH STRUCTURAL ANALYSIS. ELEVATIONS DO NOT REFLECT TRUE ABOVE GROUND LEVEL (A.G.L.).



EXISTING TOP
OF BASE PLATE

1 TOWER ELEVATION
SCALE: NOT TO SCALE



THESE DRAWINGS AND/OR THE ACCOMPANYING SPECIFICATION OR INSTRUMENTS OR SERVICE ARE THE EXCLUSIVE PROPERTY OF AMERICAN TOWER. THEIR USE AND PUBLICATION SHALL BE RESTRICTED TO THE ORIGINAL SITE VISITATION PURPOSES ONLY. NO PART OF THESE DRAWINGS OR SPECIFICATION SHALL BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE WRITTEN PERMISSION OF AMERICAN TOWER. NO OTHER THAN THAT WHICH IS STRICTLY PROHIBITED, TITLE TO THE SPECIFIED CARRIER IS RELINQUISHED. THESE DOCUMENTS SHALL REMAIN THE PROPERTY OF AMERICAN TOWER. IF THE PROJECT OR THE PROJECT AREA IS NOT THE PROPERTY OF AMERICAN TOWER, THE PROJECT OWNER WILL BE PROVIDING ON-SITE CONSTRUCTION REVIEW OF THIS PROJECT. CONTRACTORS MUST VERIFY ALL DIMENSIONS AND ADVISE AMERICAN TOWER OF ANY DISCREPANCIES, ANY PRIOR TO THE COMMENCEMENT OF CONSTRUCTION, AND BY THE LATEST VERSION ON FILE WITH AMERICAN TOWER.

REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	LR	02/24/20

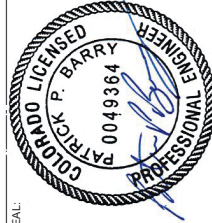
ATC SITE NUMBER: 88791

ATC SITE NAME:

BLACK FOREST CO

SITE ADDRESS:
14775 BLACK FOREST RD
COLORADO SPRINGS, CO 80908

SEAL:



Authorized by "EOR"

Authorized by: LOR
Mar 17 2020 5:00 PM

DRAWN BY:	LR
APPROVED BY:	KRF
DATE DRAWN:	02/24/20
ATC JOB NO:	OAA754331

ANTENNA INFORMATION & SCHEDULE

SHEET NUMBER: C-501
REVISION: 0



NOTES:

1. ALL PROPOSED EQUIPMENT INCLUDING ANTENNAS, COAX, ETC. SHALL BE MOUNTED IN ACCORDANCE WITH THE TOWER STRUCTURAL ANALYSIS ON FILE WITH THE ATC CM.
2. SPACING OF PROPOSED EQUIPMENT SHALL BE CONFIRMED FOR TOWER CONFLICTS AND PROPOSED MOUNTS SHALL NOT IMPDE TOWER CLIMBING PGFS.



SCALE: NOT TO SCALE

PROPOSED ANTENNA MOUNTING DETAIL (ELEVATION)

SCALE: NOT TO SCALE

FINAL ANTENNA/ COAX SCHEDULE								
SECTOR	ANT.	PANEL MODEL #	RAD CENTER	AZIMUTH (TN)	MECH. D-TILT	ELEC. D-TILT	ADDITIONAL TOWER MOUNTED EQUIPMENT	ANTENNA CABLE DESCRIPTION
ALPHA	A1	AP-5AC-90-HD	205°-0"	0°	-	-	(3) LTU ROCKET EP-S16	0.24" (6MM) & FIBER CABLE 0.45" (11.5MM)
BETA	B1	AP-5AC-90-HD	205°-0"	90°	-	-	(3) LTU ROCKET	0.24" (6MM) & FIBER CABLE 0.45" (11.5MM)
GAMMA	C1	AP-5AC-90-HD	205°-0"	180°	-	-	(3) LTU ROCKET	0.24" (6MM) & FIBER CABLE 0.45" (11.5MM)
DELTA	D1	AP-5AC-90-HD	205°-0"	270°	-	-	(3) LTU ROCKET	0.24" (6MM) & FIBER CABLE 0.45" (11.5MM)
1. BASED ON APPROVED ATC APPLICATION 00A754331, DATED 01/23/2020. CONFIRM WITH U.S. ELECTRIC & COMMUNICATIONS, LLC REF FOR APPLICABLE TOWER MOUNTED SWITCH. 12 CAT5E PLUG INTO SWITCH FROM THE 12 RP-5AC-GEN2 RADIOS. SINGLE MODE FIBER CABLE IN CONDUIT TO GROUND SPACE. 1. DC POWER CABLE IN CONDUIT TO GROUND SPACE.								

ANTENNA SCHEDULE

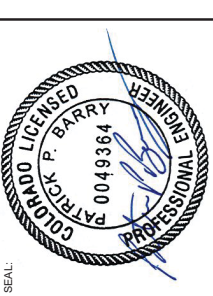
THESE DRAWINGS AND/OR THE ACCOMPANYING SPECIFICATIONS AS INSTRUMENTS OF SERVICE ARE THE PROPERTY OF AMERICAN TOWER SERVICES, LLC. NO PART OF THIS DRAWING OR SPECIFICATION SHALL BE REPRODUCED, COPIED, OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE WRITTEN PERMISSION OF AMERICAN TOWER SERVICES, LLC. THE SPECIFIED CARRIER IS STRICTLY PROHIBITED. TITLE TO THE PROJECT AND ALL RIGHTS THEREIN SHALL REMAIN WITH AMERICAN TOWER SERVICES, LLC. NO CONTRACTOR SHALL BE PROVIDING ON-SITE CONSTRUCTION REVIEW OF THIS PROJECT. CONTRACTORS MUST VERIFY ALL DIMENSIONS AND LOCATIONS OF ALL UTILITIES PRIOR TO ANY CONSTRUCTION. THE ISSUANCE OF THIS DRAWING IS SUPERSEDED BY THE LATEST VERSION ON FILE WITH AMERICAN TOWER.

REV.	DESCRIPTION	BY	DATE
1	FOR CONSTRUCTION	LR	02/24/20
2	METER LOCATION MOD.	LR	03/10/20
3			
4			

ATC SITE NUMBER:
88791

ATC SITE NAME:
BLACK FOREST CO

SITE ADDRESS:
 14775 BLACK FOREST RD
 COLORADO SPRINGS, CO 80908

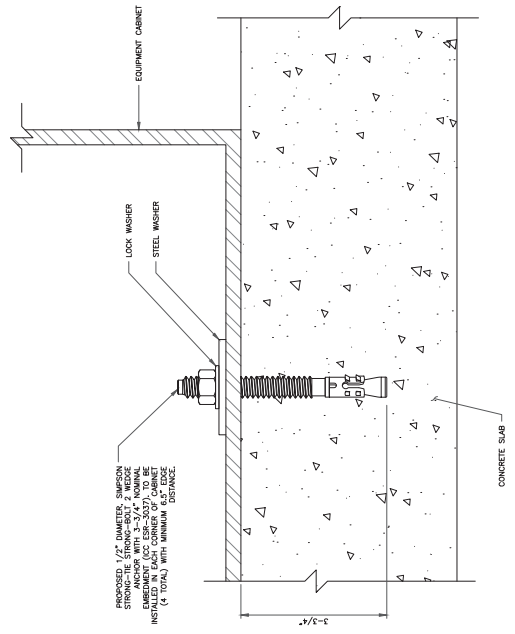


Authorized by "EOR"
 Mar 17 2020 5:01 PM
 cosign

DRAWN BY:	LR
APPROVED BY:	KRF
DATE DRAWN:	02/24/20
ATC JOB NO.:	004754331

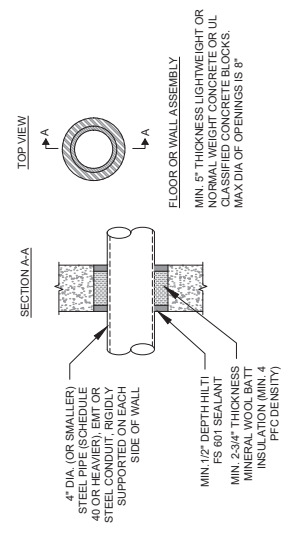
**CONSTRUCTION
 DETAILS**

SHEET NUMBER:	C-502
REVISION:	1

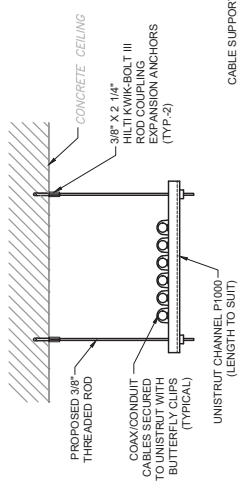


1 CABINET ANCHORAGE DETAIL
 SCALE: NOT TO SCALE

U.L. SYSTEM NO. WL-1020
 METAL PIPE/CONDUIT THROUGH CONCRETE CONC OR CMU WALL
 FRATING = 2 HR
 TRATING = 0 HR



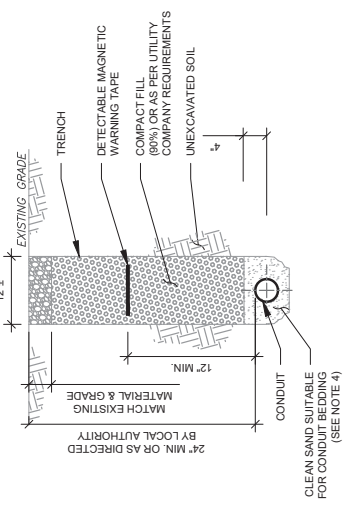
3 CONCRETE/CMU PENETRATION DETAILS
 SCALE: NOT TO SCALE



CABLE SUPPORT NOTES:

1. MAXIMUM DISTANCE BETWEEN SUPPORTS - 48\" O.C.
2. CABLE SUPPORTS SHALL TAKE PATH OF LEAST RESISTANCE ALONG BASEMENT ROOF TO CLEAR ALL EXISTING HUNG UTILITIES AND CONDUITS.
3. CABLE SUPPORTS MAY BE STACKED AS SHOWN IF REQUIRED AND APPROVED BY THE CONSTRUCTION MANAGER.
4. CABLE SUPPORTS SHALL BE HUNG SUCH THAT THEY ARE AS HIGH ABOVE THE FLOOR AS POSSIBLE AND TO THE APPROVAL OF THE CONSTRUCTION MANAGER.
5. INSTALL EXPANSION BOLTS PER MANUFACTURERS RECOMMENDATIONS.

2 CABLE CONDUIT SUPPORT
 SCALE: NOT TO SCALE



TRENCH NOTES:

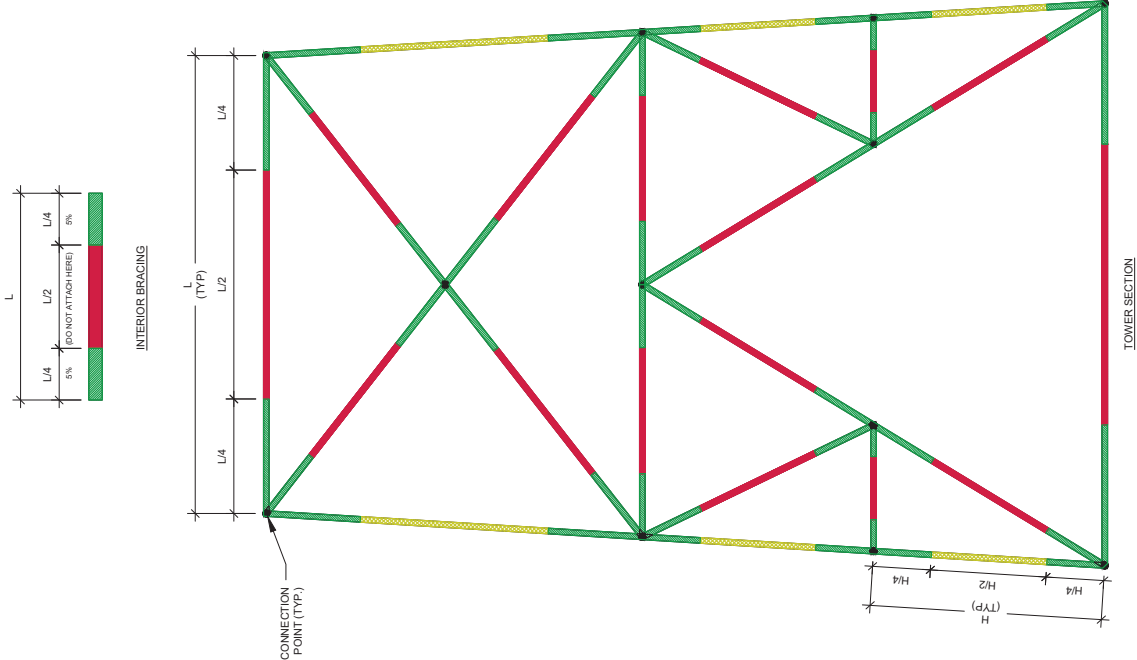
1. IF FREE OF ORGANIC OR OTHER DELETERIOUS MATERIAL EXCAVATED MATERIAL MAY BE USED FOR BACKFILL. IF NOT, PROVIDE CLEAN, COMPACTIBLE MATERIAL.
2. CONDUIT MUST BE UNDER A MECHANICAL PLATE TAMPER, MIN 3 PASSES. REMOVE ANY LARGE ROCKS PRIOR TO BACKFILLING. CONTRACTOR TO VERIFY LOCATION OF EXISTING U/G UTILITIES PRIOR TO DIGGING. SEE ATC CONSTRUCTION SPECIFICATION 312000 SECTION 3.15.
3. IF CURRENT AS-BUILT DRAWINGS ARE NOT AVAILABLE CONTRACTOR SHALL HAND DIG U/G TRENCHING.
4. CONFIRM SPACING AND DEPTH WITH NEG OR LOCAL CODE REQUIREMENTS

4 CONDUIT TRENCH DETAIL
 SCALE: N.T.S.

STIFF ARM LOCATION NOTES:

- TIE BACK SHALL BE CONNECTED PER THE TIE BACK ANGLE RANGE DETAIL PROVIDED IN THE MOUNT MANUFACTURER DRAWINGS. IF THE REQUIRED AZIMUTHS DEVIATE FROM THE MANUFACTURER RANGES, WE PROVIDE A SITE SPECIFIC ANALYSIS THAT CONSIDERS THESE EFFECTS ON BOTH THE TOWER AND THE MOUNT.
- ACCEPTABLE STIFF ARM TO TOWER MEMBER ATTACHMENT LOCATIONS:
 - A) INTERIOR BRACING MEMBERS:
 - WITHIN 25% OF EITHER END OF THE MEMBER'S LENGTH AND ALLOWABLE FORCE WITHIN THE CAPACITY OF THE MEMBER TO WHICH IT IS BEING ATTACHED.
 - B) TOWER MEMBERS:
 - WITHIN 25% OF EITHER END OF THE MEMBER'S LENGTH AND ALLOWABLE FORCE WITHIN THE CAPACITY OF THE LEG.
- OR-
- IF ATTACHMENT IS NOT WITHIN 25% OF EITHER END OF THE MEMBER'S LENGTH THEN THE ALLOWABLE FORCE WITHIN THE TIE BACKS LINE OF ACTION SHALL BE REDUCED TO LESS THAN OR EQUAL TO 1.5% OF THE COMPRESSIVE CAPACITY OF THE LEG.

- ACCEPTABLE ATTACHMENT REGION & FORCE $\leq 5\%$ OF THE COMPRESSIVE CAPACITY
- ACCEPTABLE ATTACHMENT REGION & FORCE $\leq 1.5\%$ OF THE COMPRESSIVE CAPACITY
- DO NOT ATTACH HERE



1 STIFF ARM LOCATIONS

SCALE NOT TO SCALE

AMERICAN TOWER
ATC TOWER SERVICES, LLC
3500 REGENCY PARKWAY
SUITE 100
CARY, NC 27518
PHONE: (919) 468-0112

THESE DRAWINGS AND/OR THE ACCOMPANYING SPECIFICATION AS INSTRUMENTS OF SERVICE ARE THE PROPERTY OF AMERICAN TOWER SERVICES, LLC. NO PART OF THESE DRAWINGS OR SPECIFICATION SHALL BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE WRITTEN PERMISSION OF AMERICAN TOWER SERVICES, LLC. THE SPECIFIED CARRIER IS STRICTLY PROHIBITED. TITLE TO THE PROJECT AND ALL RIGHTS THEREIN SHALL REMAIN THE PROPERTY OF AMERICAN TOWER SERVICES, LLC. AMERICAN TOWER SERVICES, LLC AND ITS SUBSIDIARIES SHALL BE PROVIDING ON-SITE CONSTRUCTION REVIEW OF THIS PROJECT. PROJECT CONTRACTORS MUST VERIFY ALL DIMENSIONS AND LOCATIONS OF ALL STRUCTURAL ELEMENTS AND EQUIPMENT BEFORE ANY CONSTRUCTION BEGINS. THE ISSUANCE OF THIS DRAWING IS SUPERSEDED BY THE LATEST VERSION ON FILE WITH AMERICAN TOWER.

REV.	DESCRIPTION	BY	DATE
A	FOR CONSTRUCTION	LR	02/24/20
A	METER LOCATION MOD.	LR	03/10/20
A			
A			
A			

ATC SITE NUMBER:
88791
ATC SITE NAME:
BLACK FOREST CO

SITE ADDRESS:
14775 BLACK FOREST RD
COLORADO SPRINGS, CO 80908



Authorized by "EOR"
Mar 17 2020 5:01 PM
cosign

DRAWN BY:	LR
APPROVED BY:	KRF
DATE DRAWN:	02/24/20
ATC JOB NO:	0AA754331

CONSTRUCTION
DETAILS

SHEET NUMBER:	C-503
REVISION:	1

THESE DRAWINGS AND/OR THE ACCOMPANYING SPECIFICATION AS INSTRUMENTS OF SERVICE ARE THE PROPERTY OF AMERICAN TOWER SERVICES, LLC. NO PART OF THIS DRAWING OR SPECIFICATION SHALL BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE WRITTEN PERMISSION OF AMERICAN TOWER SERVICES, LLC. THE SPECIFIED CARRIER IS STRICTLY PROHIBITED. TITLE TO THE PROJECT AND ALL RIGHTS THEREIN SHALL REMAIN THE PROPERTY OF AMERICAN TOWER SERVICES, LLC. PROJECT CONTRACTORS MUST VERIFY ALL DIMENSIONS AND CONDITIONS OF THE SITE PRIOR TO CONSTRUCTION. THE ISSUANCE OF THIS DRAWING IS SUPERSEDED BY THE LATEST VERSION ON FILE WITH AMERICAN TOWER.

REV.	DESCRIPTION	BY	DATE
A	FOR CONSTRUCTION	LR	02/24/20
A	METER LOCATION MOD.	LR	03/10/20
A	REMOVE DISCONNECT	LR	03/17/20
A			
A			

ATC SITE NUMBER:
88791
ATC SITE NAME:
BLACK FOREST CO

SITE ADDRESS:
14775 BLACK FOREST RD
COLORADO SPRINGS, CO 80908



Authorized by "EOR"
Mar 17 2020 5:01 PM
cosign

DRAWN BY:	LR
APPROVED BY:	KRF
DATE DRAWN:	02/24/20
ATC JOB NO:	0AA754331

GROUNDING PLAN AND ONE LINE DIAGRAM

SHEET NUMBER:	E-101
REVISION:	2

GROUNDING NOTES:
1. ALL EQUIPMENT ENCLOSURES, DEVICES AND CONDUITS SHALL BE GROUNDED TO CONFORM WITH THE LATEST REQUIREMENTS OF THE NEC BY THE INSTALLATION OF A SEPARATE, GREEN, INSULATED GROUND CONDUCTOR FOR ALL FEEDER AND BRANCH CIRCUITS. GROUND CONDUCTORS SHALL BE OF THE SIZE INDICATED ON THE DRAWINGS. GROUND CONDUCTORS SHALL BE CONTINUOUS IN LENGTH AND SHALL BE BONDED TO EACH ENCLOSURE THEY PASS THROUGH. CONDUIT SHALL NOT BE USED AS A GROUNDING CONDUCTOR.

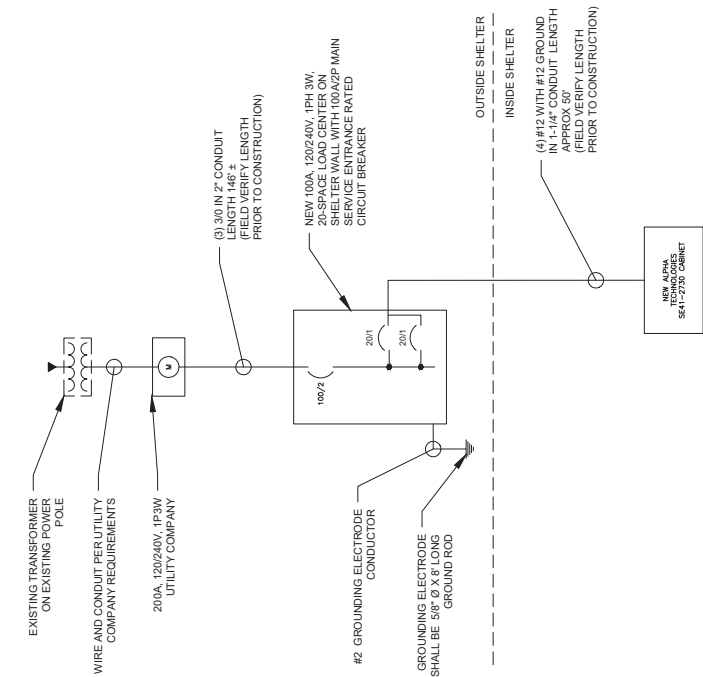
2. GROUNDING CONDUCTORS SHALL:
A. BE #2 AWG SOLID BARE TINNED COPPER (SBTC) FOR ALL GROUNDING SYSTEM WIRE UNLESS OTHERWISE NOTED, OR OTHERWISE REQUIRED BY CODE.
B. BE INSTALLED IN A RIGID CONDUIT.
C. AVOID LONG BONDING CONNECTION RUNS. MAKE DIRECT AS POSSIBLE.
D. NOT HAVE ANY U-SHAPED RUNS.
E. BE IN NON-METALLIC CONDUIT ONLY, IF IN CONDUIT.
F. BE PLACED THROUGH NON-METALLIC SLEEVES IN FLOORS, WALLS, CEILINGS, ETC.
G. PROTECTED IN NON-METALLIC CONDUIT WHERE EXPOSED ABOVE GRADE.

3. SPECIFICALLY INDICATED. INSTALL PER MANUFACTURER'S SPECIFICATIONS.

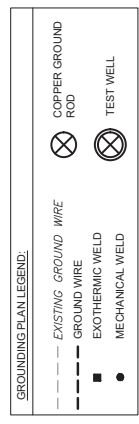
4. GROUND RINGS SHALL BE:
A. MINIMUM 3/8" BELOW GRADE, OR BELOW FROST LINE WHICHEVER IS DEEPER.
B. MINIMUM 2" FROM FOUNDATIONS, FOOTINGS, OTHER GROUNDING SYSTEMS AND ALL CONDUCTIVE OBJECTS.
C. WITH MINIMUM 12" BEND RADIUS.
D. WITH ALL CONNECTIONS IN CONTACT WITH EARTH, BONDED BY EXOTHERMIC WELDING.
E. EXPOSED TO ALL WEATHER. MOUNT GROUND (GFC) WITH A SINGLE WIRE AS INDICATED ON DRAWINGS.

5. GROUND RODS SHALL BE:
A. MINIMUM 5/8" DIAMETER.
B. MINIMUM 10' LONG.
C. COPPER-CLAD GALVANIZED STEEL OR STAINLESS STEEL.
D. PLACED IN UNDISTURBED SOIL AND BELOW THE FROST LINE.
E. INSTALLED WITH MINIMUM SEPARATION DISTANCE OF TWICE THE DEPTH OF THE ROD(S), OR AS INDICATED ON DRAWINGS.
F. EACH CORNER OR AS INDICATED, MINIMUM ONE (1) ROD FOR POWER SERVICE GROUNDING ELECTRODE, AND MINIMUM ONE (1) ROD AT END OF EACH RADIAL.

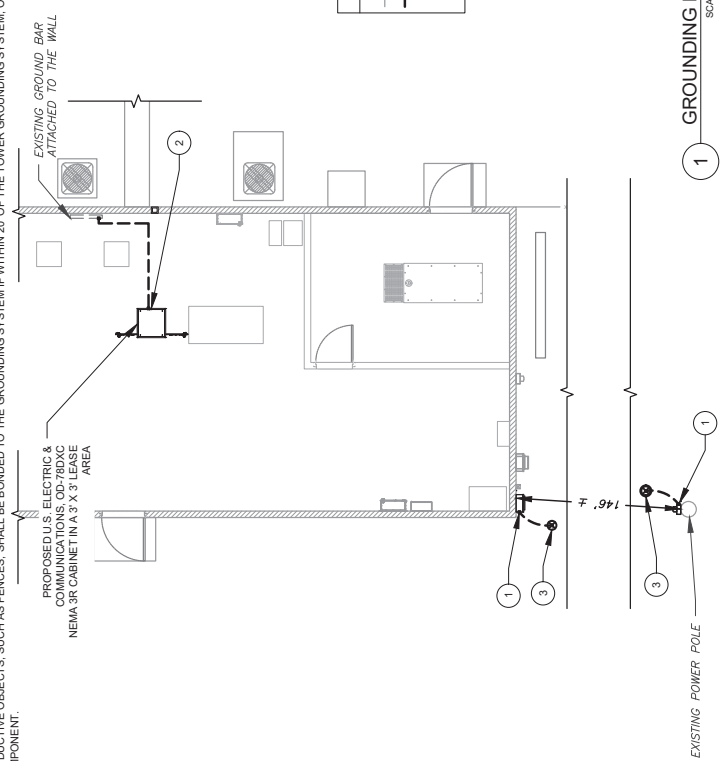
6. CONDUCTIVE OBJECTS, SUCH AS FENCES, SHALL BE BONDED TO THE GROUNDING SYSTEM IF WITHIN 20' OF THE TOWER GROUNDING SYSTEM, OR 5' OF ANY OTHER GROUNDED COMPONENT.



2 ONE LINE DIAGRAM
SCALE: NOT TO SCALE



- GROUNDING KEYED NOTES:
- 1 #2 AWG FROM METER/PANEL TO PROPOSED GROUND ROD
 - 2 EQUIPMENT BOND TO EXISTING GROUND BAR
 - 3 5/800" X 10 FT GROUND ROD.



1 GROUNDING PLAN
SCALE: NOT TO SCALE

NOTE:
ALL EQUIPMENT'S SHORT-CIRCUIT CURRENT RATING SHALL EXCEED AVAILABLE FAULT CURRENT PER UTILITY

SUPPLEMENTAL

SHEET NUMBER: R-601	REVISION: 0
-------------------------------	-----------------------

