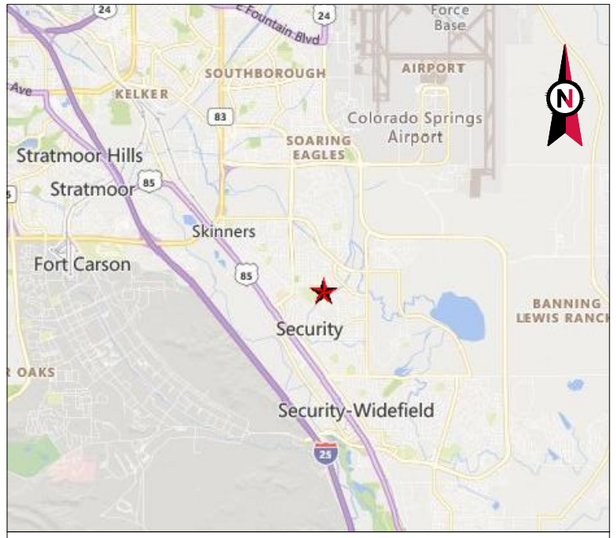

VICINITY MAP

AMERICAN TOWER®

ATC SITE NAME: WIDEFIELD HIGH SCHOOL II
ATC SITE NUMBER: 370609
T-MOBILE SITE NAME: WIDEFIELD-ATC-370609
T-MOBILE SITE NUMBER:DN04166E
SITE ADDRESS: 509 WIDEFIELD DRIVE
COLORADO SPRINGS, CO 80911

LOCATION MAP

T-MOBILE ANCHOR_PHASE 3 & L600_5G POPS ANTENNA AMENDMENT PLAN
56791X_SR CONFIGURATION

COMPLIANCE CODE

ALL WORK SHALL BE PERFORMED AND MATERIALS INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNMENT AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES.

1. 2018 INTERNATIONAL BUILDING CODE (IBC)
2. 2020 NATIONAL ELECTRIC CODE (NEC)
3. LOCAL BUILDING CODE
4. CITY/COUNTY ORDINANCES

UTILITY COMPANIES

POWER COMPANY: COLORADO SPRINGS UTILITIES
PHONE: (719) 448-4800

TELEPHONE COMPANY: CENTURY LINK
PHONE: (866) 915-7181

811
Know what's below.
Call before you dig.

PROJECT SUMMARY

SITE ADDRESS:

509 WIDEFIELD DRIVE

COLORADO SPRINGS, CO 80911

COUNTY: EL PASO

GEOGRAPHIC COORDINATES:

LATITUDE: 38.75483333

LONGITUDE: -104.7305556

GROUND ELEVATION: 5795' AMSL

ZONING INFORMATION:

PARCEL #: 6512300001

PROJECT TEAM

TOWER OWNER:

AMERICAN TOWER
10 PRESIDENTIAL WAY
WOBURN, MA 01801

ENGINEER:

ATC TOWER SERVICES, LLC
3500 REGENCY PKWY STE 100
CARY, NC 27518

PROPERTY OWNER:

WAKEFIELD SCHOOL DISTRICT 3
1820 MAIN ST
COLORADO SPRINGS, CO 80911

APPLICANT:

T-MOBILE

PROJECT DESCRIPTION

THE PROPOSED PROJECT INCLUDES MODIFYING GROUND BASED AND TOWER MOUNTED EQUIPMENT AS INDICATED PER BELOW:

TOWER WORK:

REMOVE (3) ANTENNA(s), (3) RRH(s), (1) COVP(s), AND (1) NSN HIGHCAP HCS 150'(s)

INSTALL (6) ANTENNA(s), (6) RRH(s), (2) PENDANT(s), (2) 150' HCS 2.0 TRUNK-12#6AWG 24 SM FIBER PR(s), AND MOUNT MODIFICATIONS

GROUND WORK:

REMOVE (1) GENERIC CABINET, (1) COVP, AND (1) GENERIC RADIO STACK

INSTALL (1) DELTA HPL3 600A DC CABINET, (2) AMIA, (2) HCS 2.0 TOWER JUNCTION BOX, AND (1) LB3 BATTERY CABINET

PROJECT NOTES

1. THE FACILITY IS UNMANNED.
2. A TECHNICIAN WILL VISIT THE SITE APPROXIMATELY ONCE A MONTH FOR ROUTINE INSPECTION AND MAINTENANCE.
3. THE PROJECT WILL NOT RESULT IN ANY SIGNIFICANT LAND DISTURBANCE OR EFFECT OF STORM WATER DRAINAGE.
4. NO SANITARY SEWER, POTABLE WATER OR TRASH DISPOSAL IS REQUIRED.
5. HANDICAP ACCESS IS NOT REQUIRED.

PROJECT LOCATION DIRECTIONS

FROM COLORADO SPRINGS DOWNTOWN HEAD SOUTH ON I-25, TAKE EXIT 135 AND TURN LEFT ONTO S ACADEMY BLVD FOR .8 MILES, TAKE US 85 RAMP TO FOUNTAIN AND TAKE US 85 SOUTH FOR 1.4 MILES, TURN LEFT ONTO MAIN ST FOR .4 MILES, TURN RIGHT ONTO NORMAN DR. FOR .1 MILES, CONTINUE ONTO WIDEFIELD DR. FOR .3 MILES, TURN LEFT ONTO HACKBERRY DR. FOLLOW THE ROAD TOWARDS THE BACK ENTRANCE OF THE FOOTFIELD FIELD SITE WILL BE ON THE RIGHT.

SHEET INDEX

SHEET NO:	DESCRIPTION:	REV:	DATE:	BY:
G-001	TITLE SHEET	1	11/13/20	BP
G-002	GENERAL NOTES	0	11/09/20	BP
C-101	DETAILED SITE PLAN	0	11/09/20	BP
C-102	DETAILED GROUND PLAN	0	11/09/20	BP
C-201	TOWER ELEVATION	0	11/09/20	BP
C-401	ANTENNA INFORMATION & SCHEDULE	0	11/09/20	BP
C-501	CONSTRUCTION DETAILS	0	11/09/20	BP
E-501	GROUNDING DETAILS	0	11/09/20	BP
R-601	SUPPLEMENTAL			
R-602	EQUIPMENT SPECIFICATIONS			
R-603	EQUIPMENT SPECIFICATIONS			
R-604	SUPPLEMENTAL			
	MOUNT MODIFICATIONS (PAGES 1-14)			

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

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REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	BP	11/09/20
1	ADDRESS AND ZONING	BP	11/13/20

ATC SITE NUMBER:
370609
ATC SITE NAME:
WIDEFIELD HIGH SCHOOL II
T-MOBILE SITE NAME:
WIDEFIELD-ATC-370609
SITE ADDRESS:
509 WIDEFIELD DRIVE
COLORADO SPRINGS, CO 80911

SEAL:

Authorized by "Patrick P. Barry"
13 Nov 2020 04:39:42

DATE DRAWN:	11/09/20
ATC JOB NO:	13323293_G3
CUSTOMER ID:	WIDEFIELD-ATC-370609
CUSTOMER #:	DN04166E

TITLE SHEET

SHEET NUMBER:	REVISION:
G-001	1

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GENERAL CONSTRUCTION NOTES:

1. OWNER FURNISHED MATERIALS, T-MOBILE "THE COMPANY" WILL PROVIDE AND THE CONTRACTOR WILL INSTALL

   A. BTS EQUIPMENT FRAME (PLATFORM) AND ICEBRIDGE SHELTER (GROUND BUILD/CO-LOCATE ONLY)
   B. AC/TELCO INTERFACE BOX (PPC)
   C. ICE BRIDGE (CABLE TRAY WITH COVER) (GROUND BUILD/CO-LOCATE ONLY, GC TO FURNISH AND INSTALL FOR ROOFTOP INSTALLATION)
   D. TOWERS, MONOPOLES
   E. TOWER LIGHTING
   F. GENERATORS & LIQUID PROPANE TANK
   G. ANTENNA STANDARD BRACKETS, FRAMES AND PIPES FOR MOUNTING
   H. ANTENNAS (INSTALLED BY OTHERS)
   I. TRANSMISSION LINE
   J. TRANSMISSION LINE JUMPERS
   K. TRANSMISSION LINE CONNECTORS WITH WEATHERPROOFING KITS
   L. TRANSMISSION LINE GROUND KITS
   M. HANGERS
   N. HOISTING GRIPS
   O. BTS EQUIPMENT

2. THE CONTRACTOR IS RESPONSIBLE TO PROVIDE ALL OTHER MATERIALS FOR THE COMPLETE INSTALLATION OF THE SITE INCLUDING, BUT NOT LIMITED TO, SUCH MATERIALS AS FENCING, STRUCTURAL STEEL SUPPORTING SUB-FRAME FOR PLATFORM, ROOFING LABOR AND MATERIALS, GROUNDING RINGS, GROUNDING WIRES, COPPER-CLAD OR XIT CHEMICAL GROUND ROD(S), BUSS BARS, TRANSFORMERS AND DISCONNECT SWITCHES WHERE APPLICABLE, TEMPORARY ELECTRICAL POWER, CONDUIT, LANDSCAPING COMPOUND STONE, CRANES, CORE DRILLING, SLEEPERS AND RUBBER MATTING, REBAR, CONCRETE CAISSONS, PADS AND/OR AUGER MOUNTS, MISCELLANEOUS FASTENERS, CABLE TRAYS, NON-STANDARD ANTENNA FRAMES AND ALL OTHER MATERIAL AND LABOR REQUIRED TO COMPLETE THE JOB ACCORDING TO THE DRAWINGS AND SPECIFICATIONS. IT IS THE POSITION OF T-MOBILE TO APPLY FOR PERMITTING AND CONTRACTOR RESPONSIBLE FOR PICKUP AND PAYMENT OF REQUIRED PERMITS.

3. ALL WORK SHALL CONFORM TO ALL CURRENT APPLICABLE FEDERAL, STATE, AND LOCAL CODES, INCLUDING ANSI/EIA/TIA-222, AND COMPLY WITH ATC CONSTRUCTION SPECIFICATIONS.

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

5. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL REQUIRED INSPECTIONS.

6. 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.

7. DO NOT CHANGE SIZE OR SPACING OF STRUCTURAL ELEMENTS.

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

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

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

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

12. INCORRECTLY FABRICATED, DAMAGED, OR OTHERWISE MISFITTING OR NONCONFORMING MATERIALS OR CONDITIONS SHALL BE REPORTED TO THE T-MOBILE REP PRIOR TO REMEDIAL OR CORRECTIVE ACTION. ANY SUCH REMEDIAL ACTION SHALL REQUIRE WRITTEN APPROVAL BY THE T-MOBILE REP PRIOR TO PROCEEDING.

13. EACH CONTRACTOR SHALL COOPERATE WITH THE T-MOBILE REP, AND COORDINATE HIS WORK WITH THE WORK OF OTHERS.

14. CONTRACTOR SHALL REPAIR ANY DAMAGE CAUSED BY CONSTRUCTION OF THIS PROJECT TO MATCH EXISTING PRE-CONSTRUCTION CONDITIONS TO THE SATISFACTION OF THE T-MOBILE CONSTRUCTION MANAGER.

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

16. WHERE EXISTING CONDITIONS DO NOT MATCH THOSE SHOWN IN THIS PLAN SET, CONTRACTOR SHALL NOTIFY THE T-MOBILE REP AND ENGINEER OF RECORD IMMEDIATELY.

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

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

19. CONTRACTOR SHALL COORDINATE WORK SCHEDULE WITH AMERICAN TOWER CORPORATION (ATC) AND TAKE PRECAUTIONS TO MINIMIZE IMPACT AND DISRUPTION OF OTHER OCCUPANTS OF THE FACILITY.

20. CONTRACTOR SHALL FURNISH T-MOBILE AND AMERICAN TOWER CORPORATION (ATC) WITH A PDF MARKED UP AS-BUILT SET OF DRAWINGS UPON COMPLETION OF WORK.

21. PRIOR TO SUBMISSION OF BID, CONTRACTOR SHALL COORDINATE WITH T-MOBILE 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.

22. PRIOR TO SUBMISSION OF BID, CONTRACTOR SHALL COORDINATE WITH T-MOBILE REP TO DETERMINE IF ANY PERMITS WILL BE OBTAINED BY CONTRACTOR. ALL REQUIRED PERMITS NOT OBTAINED BY T-MOBILE MUST BE OBTAINED, AND PAID FOR, BY THE CONTRACTOR.

23. CONTRACTOR SHALL INSTALL ALL SITE SIGNAGE IN ACCORDANCE WITH T-MOBILE SPECIFICATIONS AND REQUIREMENTS.

24. CONTRACTOR SHALL SUBMIT ALL SHOP DRAWINGS TO T-MOBILE FOR REVIEW AND APPROVAL PRIOR TO FABRICATION.

25. ALL EQUIPMENT SHALL BE INSTALLED ACCORDING TO MANUFACTURER'S SPECIFICATIONS AND LOCATED ACCORDING TO T-MOBILE SPECIFICATIONS, AND AS SHOWN IN THESE PLANS.

26. 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.

27. CONTRACTOR SHALL NOTIFY T-MOBILE 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.

28. 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.

29. 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 NEGLECT ON THE PART OF THIS CONTRACTOR OR HIS REPRESENTATIVES, OR BY THE ELEMENTS DUE TO NEGLECT ON THE PART OF THIS CONTRACTOR OR HIS REPRESENTATIVES, EITHER TO THE EXISTING WORK, OR TO HIS WORK OR THE WORK OF ANY OTHER CONTRACTOR, SHALL BE REPAIRED AT HIS EXPENSE TO THE OWNER'S SATISFACTION.

30. 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 THE APPROVAL OF THE T-MOBILE REP. ANY WORK FOUND BY THE T-MOBILE REP TO BE OF INFERIOR QUALITY AND/OR WORKMANSHIP SHALL BE REPLACED AND/OR REWORKED AT CONTRACTOR EXPENSE UNTIL APPROVAL IS OBTAINED.

31. IN ORDER TO ESTABLISH STANDARDS OF QUALITY AND PERFORMANCE, ALL TYPES OF MATERIALS LISTED HEREINAFTER BY MANUFACTURER'S NAMES AND/OR MANUFACTURER'S CATALOG NUMBER SHALL BE PROVIDED BY THESE MANUFACTURERS AS SPECIFIED.

32. T-MOBILE FURNISHED EQUIPMENT SHALL BE PICKED-UP AT THE T-MOBILE WAREHOUSE, NO LATER THAN 48HR AFTER BEING NOTIFIED INSURED, STORED, UNCRATE, PROTECTED AND INSTALLED BY THE CONTRACTOR WITH ALL APPURTENANCES REQUIRED TO PLACE THE EQUIPMENT IN OPERATION, READY FOR USE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE EQUIPMENT AFTER PICKING IT UP.

33. T-MOBILE OR HIS ARCHITECT/ENGINEER RESERVES THE RIGHT TO REJECT ANY EQUIPMENT OR MATERIALS WHICH, IN HIS OWN OPINION ARE NOT IN COMPLIANCE WITH THE CONTRACT DOCUMENTS, EITHER BEFORE OR AFTER INSTALLATION AND THE EQUIPMENT SHALL BE REPLACED WITH EQUIPMENT CONFORMING TO THE REQUIREMENTS OF THE CONTRACT DOCUMENTS BY THE CONTRACTOR AT NO COST TO T-MOBILE OR THEIR ARCHITECT/ENGINEER.

SPECIAL CONSTRUCTION ANTENNA INSTALLATION NOTES:

1. WORK INCLUDED:

   A. ANTENNA AND COAXIAL CABLES ARE FURNISHED BY T-MOBILE UNDER A SEPARATE CONTRACT. THE CONTRACTOR SHALL ASSIST ANTENNA INSTALLATION CONTRACTOR IN TERMS OD COORDINATION AND SITE ACCESS. ERECTION SUBCONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF PERSONNEL AND

   B. INSTALL ANTENNA AS INDICATE ON DRAWINGS AND T-MOBILE SPECIFICATIONS.

   C. INSTALL GALVANIZED STEEL ANTENNA MOUNTS AS INDICATED ON DRAWINGS

   D. INSTALL FURNISHED GALVANIZED STEEL OR ALUMINUM WAVEGUIDE.

   E. CONTRACTOR SHALL PROVIDE FOUR (4) SETS OF SWEEP TESTS USING ANRITZU-PACKARD 8713B RF SCALAR NETWORK ANALYZER. SUBMIT FREQUENCY DOMAIN REFLECTOMETER(FDR) TESTS RESULTS TO THE PROJECT MANAGER. SWEEP TESTS SHALL BE AS PER ATTACHED RFS "MINIMUM FIELD TESTING RECOMMENDED FOR ANTENNA AND HELIAX COAXIAL CABLE SYSTEMS" DATED 10/5/93. TESTING SHALL BE PERFORMED BY AN INDEPENDENT TESTING SERVICE AND BE BOUND AND SUBMITTED WITHIN ONE WEEK OF WORK COMPLETION.

   F. INSTALL COAXIAL CABLES AND TERMINATING BETWEEN ANTENNAS AND EQUIPMENT PER MANUFACTURER'S RECOMMENDATIONS. WEATHERPROOF ALL CONNECTIONS BETWEEN THE ANTENNA AND EQUIPMENT PER MANUFACTURER'S REQUIREMENTS. TERMINATE ALL COAXIAL CABLE THREE (3) FEET IN EXCESS OF ENTRY PORT LOCATION UNLESS OTHERWISE STATED.

   G. ANTENNA AND COAXIAL CABLE GROUNDING:

2. ALL EXTERIOR #6 GREED GROUND WIRE "DAISY CHAIN" CONNECTIONS ARE TO BE WEATHER SEALED WITH RFS CONNECTORS/SPLICE WEATHERPROOFING KIT #221213 OR EQUAL.

3. ALL COAXIAL CABLE GROUNDING KITS ARE TO BE INSTALLED ON STRAIGHT RUNS OF COAXIAL CABLE (NOT WITHIN BENDS)

ALL DISCREPANCIES FROM WHAT IS SHOWN ON THESE CONSTRUCTION DRAWINGS SHALL BE COMMUNICATED TO ATC ENGINEERING IMMEDIATELY FOR CORRECTION OR RE-DESIGN. FAILURE TO COMMUNICATE DIRECTLY WITH ATC ENGINEERING OR ANY CHANGES FROM THE DESIGN CONDUCTED WITHOUT PRIOR APPROVAL FROM ATC ENGINEERING SHALL BE THE SOLE RESPONSIBILITY OF THE GENERAL CONTRACTOR.

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

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REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	BP	11/09/20

ATC SITE NUMBER:
370609
ATC SITE NAME:
WIDEFIELD HIGH SCHOOL II
T-MOBILE SITE NAME:
WIDEFIELD-ATC-370609
SITE ADDRESS:
509 WIDEFIELD DRIVE
COLORADO SPRINGS, CO 80911

SEAL:

Authorized by "Patrick P. Barry"
13 Nov 2020 04:39:43

T-Mobile cosign

DATE DRAWN:	11/09/20
ATC JOB NO:	13323293_G3
CUSTOMER ID:	WIDEFIELD-ATC-370609
CUSTOMER #:	DN04166E

GENERAL NOTES

SHEET NUMBER:	REVISION:
G-002	0

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SITE PLAN NOTES:

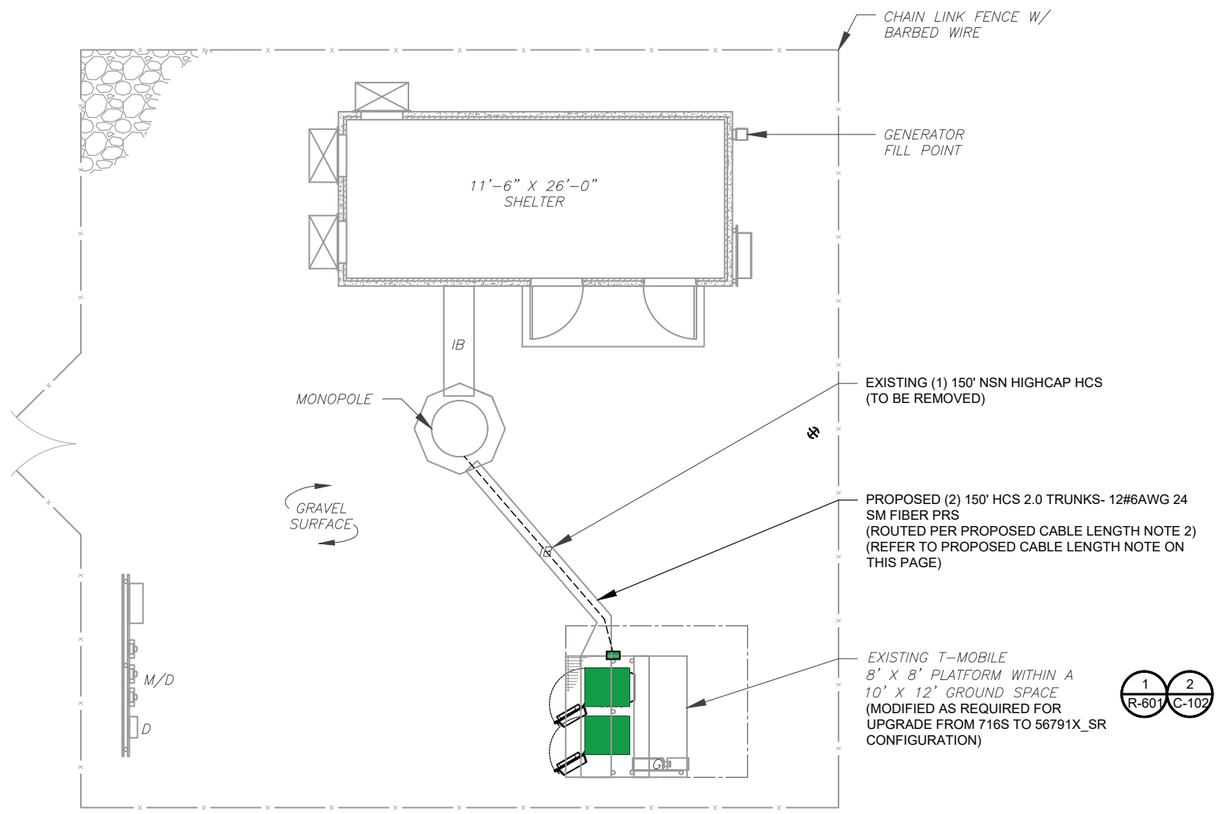
1. THIS SITE PLAN REPRESENTS THE BEST PRESENT KNOWLEDGE AVAILABLE TO THE ENGINEER AT THE TIME OF THIS DESIGN. THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO CONSTRUCTION AND VERIFY ALL EXISTING CONDITIONS RELATED TO THE SCOPE OF WORK FOR THIS PROJECT.

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.

3. NO ELECTRICAL SCOPE IS INCLUDED IN THIS PROJECT.

LEGEND

⊗	GROUNDING TEST WELL
ATS	AUTOMATIC TRANSFER SWITCH
B	BOLLARD
CSC	CELL SITE CABINET
D	DISCONNECT
E	ELECTRICAL
F	FIBER
GEN	GENERATOR
G	GENERATOR RECEPTACAL
HH, V	HAND HOLE, VAULT
IB	ICE BRIDGE
K	KENTROX BOX
LC	LIGHTING CONTROL
M	METER
PB	PULL BOX
PP	POWER POLE
T	TELCO
TRN	TRANSFORMER
—— x ——	CHAINLINK FENCE



PROPOSED CABLE LENGTH:

1. ESTIMATED LENGTH OF PROPOSED CABLE IS **150'**. ESTIMATED LENGTH OF CABLE WAS PROVIDED BY CUSTOMER OR CALCULATED BY ADDING THE RAD CENTER AND THE DISTANCE FROM THE SHELTER ENTRY PLATE TO THE TOWER (ALONG THE ICE BRIDGE) AND A SAFETY FACTOR MEASUREMENT OF 15% (OF THE TWO PREVIOUS VALUES), CDS DEFER TO GREATEST CABLE LENGTH.
2. ROUTE PROPOSED CABLES ALONG SAME PATH AS EXISTING CABLES AND IN ACCORDANCE WITH STRUCTURAL ANALYSIS. IF ADEQUATE SPACE EXISTS, ROUTE CABLES THROUGH ENTRY PORT HOLE, UP INSIDE OF MONOPOLE, AND THROUGH EXIT PORT HOLE. IF ROUTING OUTSIDE THE MONOPOLE, ATTACH CABLES USING STAND-OFF ADAPTERS MOUNTED TO TOWER USING STAINLESS STEEL BANDING. ADEQUATELY SECURE CABLES USING EITHER APPROPRIATELY SIZED STAINLESS STEEL SNAP-INS OR MOUNTING HARDWARE AND BRACKETS AS SPECIFIED BY CABLE MANUFACTURER.

1 DETAILED SITE PLAN

0 10' 20'

SCALE: 1"=10' (11X17)
1"=5' (22X34)

N

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

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REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	BP	11/09/20

ATC SITE NUMBER:
370609
ATC SITE NAME:
WIDEFIELD HIGH SCHOOL II
T-MOBILE SITE NAME:
WIDEFIELD-ATC-370609
SITE ADDRESS:
509 WIDEFIELD DRIVE
COLORADO SPRINGS, CO 80911

SEAL:

COLORADO LICENSED
PATRICK P. BARRY
0049364
PROFESSIONAL ENGINEER

Authorized by "Patrick P. Barry"
13 Nov 2020 04:39:43

T-Mobile cosign

DATE DRAWN:	11/09/20
ATC JOB NO:	13323293_G3
CUSTOMER ID:	WIDEFIELD-ATC-370609
CUSTOMER #:	DN04166E

DETAILED SITE PLAN

SHEET NUMBER: C-101
REVISION: 0

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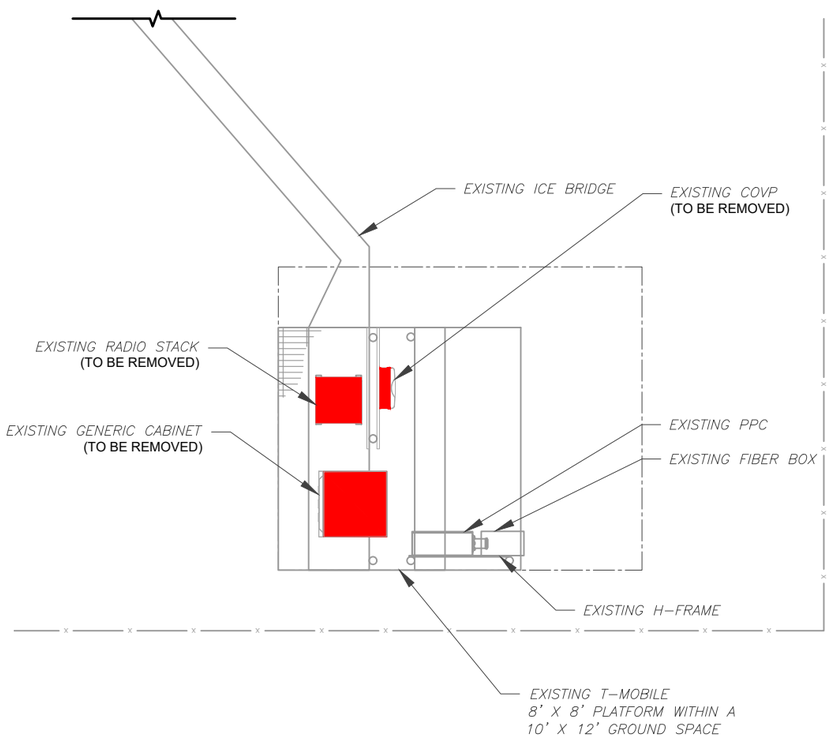
SITE PLAN NOTES:

1. CONTRACTOR TO VERIFY THERE IS NO LIVE AAV FIBER RUNNING THROUGH EXISTING DEAD EQUIPMENT. IF SO, THIS WILL NEED TO BE RERUN THROUGH CONDUIT PRIOR TO REMOVING DEAD 2G (6201 CABS) EQUIPMENT.
2. REMOVE EXISTING 2G CABINETS, AND POWER / TELCO WHIPS ASSOCIATED WITH THE DEAD EQUIPMENT IF APPLICABLE.
3. ALL OPEN PORTS NEED TO BE SEALED / WEATHERPROOFED PROPERLY
4. ALL UNNEEDED / EXCESS EQUIPMENT AND GARBAGE TO BE REMOVED FROM EQUIPMENT AREA. DISPOSE OF MATERIALS PROPERLY OFF SITE.



1 EXISTING GROUND EQUIPMENT LAYOUT

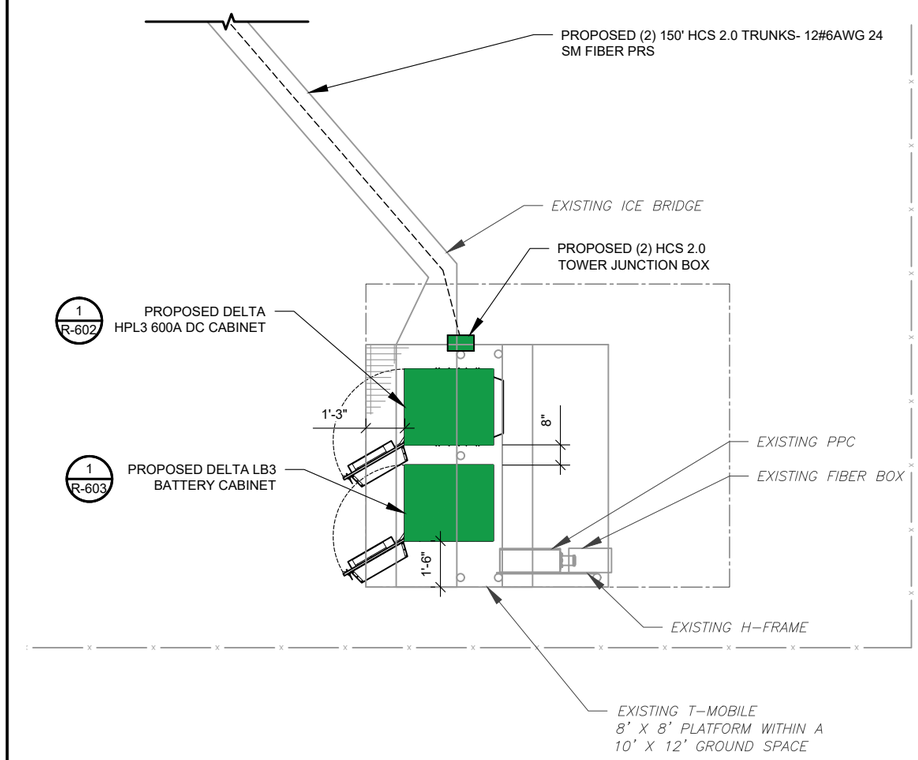
0 5' 10'

SCALE: 1"=5' (11X17)
1"=2.5' (22X34)

LEGEND

EXISTING EQUIPMENT TO BE REMOVED

T-MOBILE CM APPROVAL REQUIRED BEFORE INSTALLING CABINETS



2 PROPOSED GROUND EQUIPMENT LAYOUT

0 5' 10'

SCALE: 1"=5' (11X17)
1"=2.5' (22X34)

LEGEND

PROPOSED EQUIPMENT TO BE INSTALLED

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

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REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	BP	11/09/20

ATC SITE NUMBER:
370609

ATC SITE NAME:
WIDEFIELD HIGH SCHOOL II

T-MOBILE SITE NAME:
WIDEFIELD-ATC-370609

SITE ADDRESS:
509 WIDEFIELD DRIVE
COLORADO SPRINGS, CO 80911

SEAL:

Authorized by "Patrick P. Barry"
13 Nov 2020 04:39:44

DATE DRAWN:	11/09/20
ATC JOB NO:	13323293_G3
CUSTOMER ID:	WIDEFIELD-ATC-370609
CUSTOMER #:	DN04166E

DETAILED GROUND PLAN

SHEET NUMBER:	REVISION:
C-102	0

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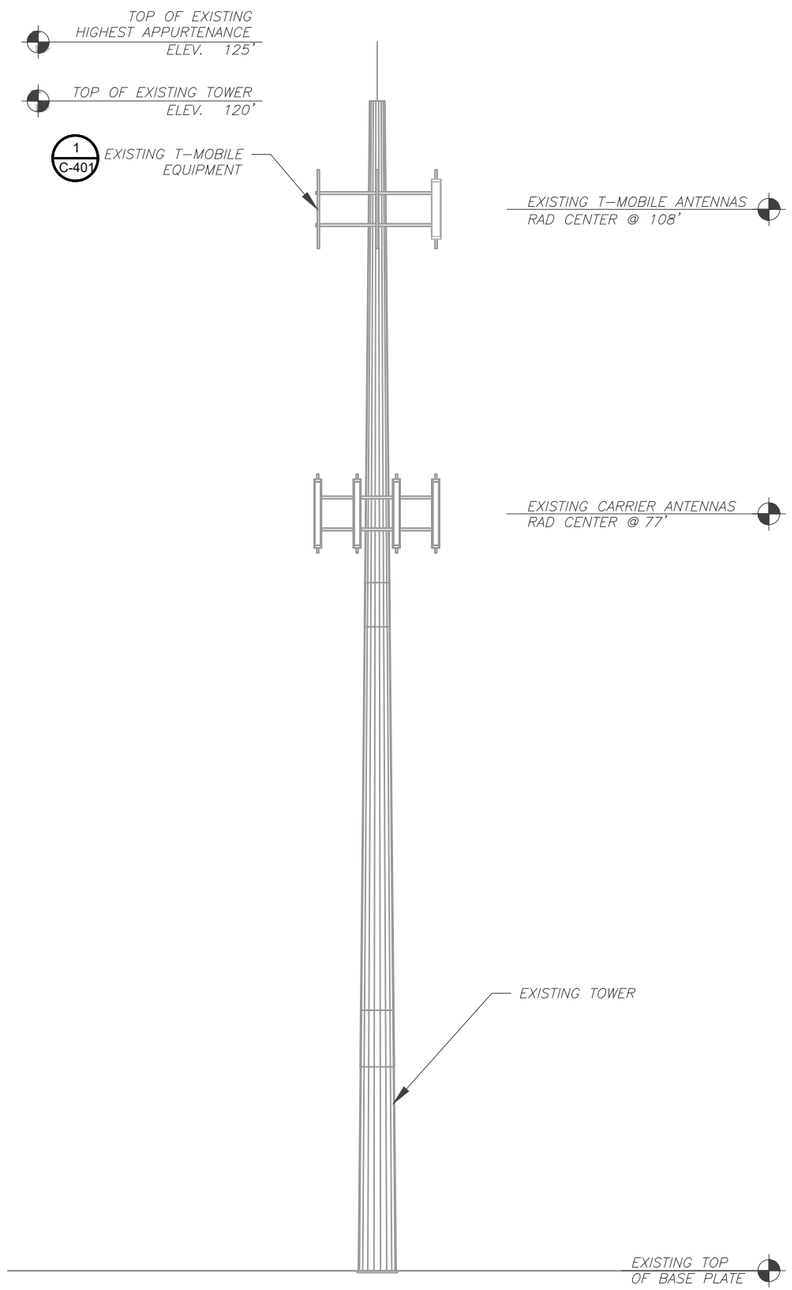
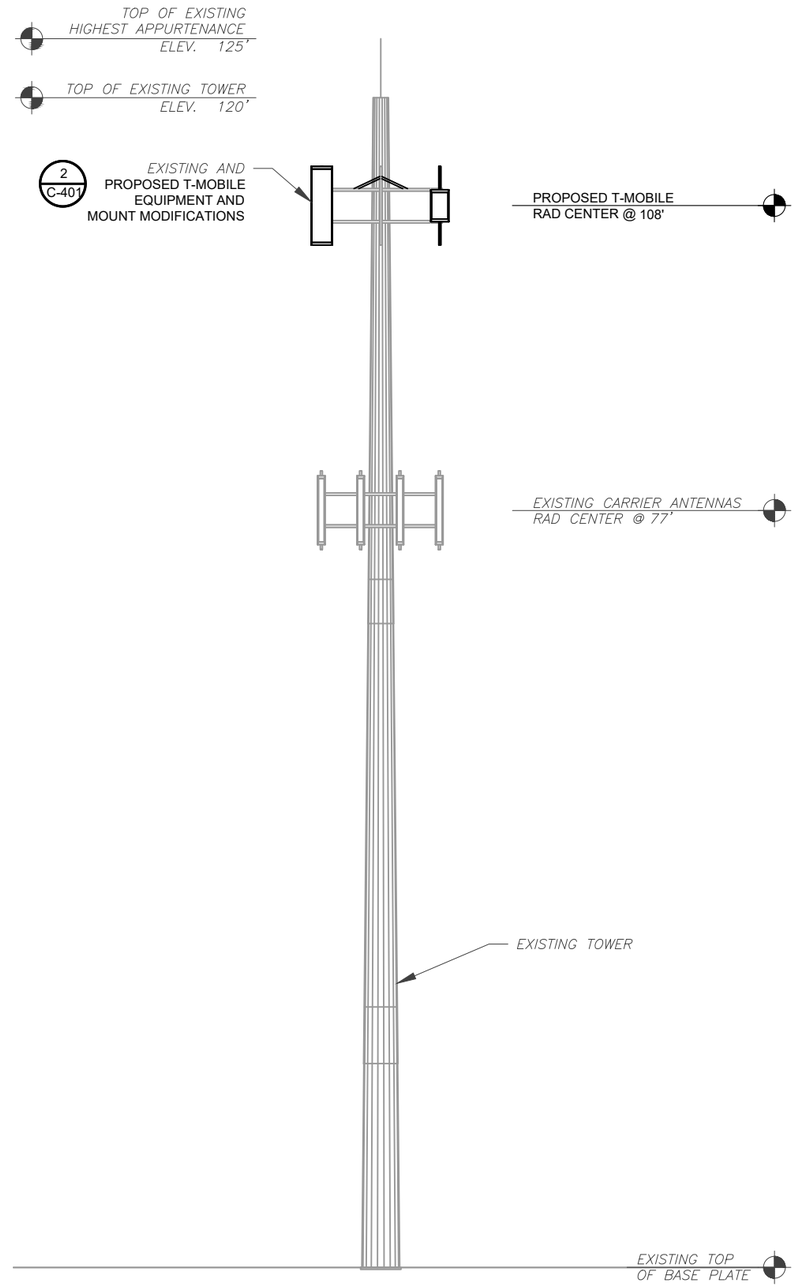


1 EXISTING TOWER ELEVATION

SCALE: N.T.S.



2 PROPOSED TOWER ELEVATION

SCALE: N.T.S.

PER MOUNT ANALYSIS COMPLETED BY MED, DATED 10/07/20, THE EXISTING MOUNT MUST BE MODIFIED TO ADEQUATELY SUPPORT THE PROPOSED LOADING. THE MOUNT MODIFICATION PROPOSED IN THE MOD DRAWINGS, INCLUDED AT THE END OF THIS PLAN SET, MUST BE INSTALLED PRIOR TO THE INSTALLATION OF THE PROPOSED ANTENNAS AND OTHER EQUIPMENT

TOWER NOTE:

1. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONFIRM WITH THE PROJECT MANAGER 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.
2. WHERE APPLICABLE, ALL NEW ANTENNAS, EQUIPMENT, MOUNTS, CABLING, ETC. SHALL BE PAINTED/SOCKED TO MATCH EXISTING EQUIPMENT IN ACCORDANCE WITH FAA, JURISDICTION, AND/OR OTHER LOCAL REQUIREMENTS.
3. ROUTE PROPOSED CABLES ALONG SAME PATH AS EXISTING CABLES AND IN ACCORDANCE WITH STRUCTURAL ANALYSIS. IF ADEQUATE SPACE EXISTS, ROUTE CABLES THROUGH ENTRY PORT HOLE, UP INSIDE OF MONOPOLE, AND THROUGH EXIT PORT HOLE. IF ROUTING OUTSIDE THE MONOPOLE, ATTACH CABLES USING STAND-OFF ADAPTERS MOUNTED TO TOWER USING STAINLESS STEEL BANDING. ADEQUATELY SECURE CABLES USING EITHER APPROPRIATELY SIZED STAINLESS STEEL SNAP-INS OR MOUNTING HARDWARE AND BRACKETS AS SPECIFIED BY CABLE MANUFACTURER.
4. TOWER ELEVATIONS ARE MEASURED FROM TOP OF BASE PLATE TO MATCH STRUCTURAL ANALYSIS. ELEVATIONS DO NOT REFLECT TRUE ABOVE GROUND LEVEL (A.G.L.)

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Authorized by "Patrick P. Barry"
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T-Mobile cosign

DATE DRAWN:	11/09/20
ATC JOB NO:	13323293_G3
CUSTOMER ID:	WIDEFIELD-ATC-370609
CUSTOMER #:	DN04166E

TOWER ELEVATION

SHEET NUMBER:	REVISION:
C-201	0

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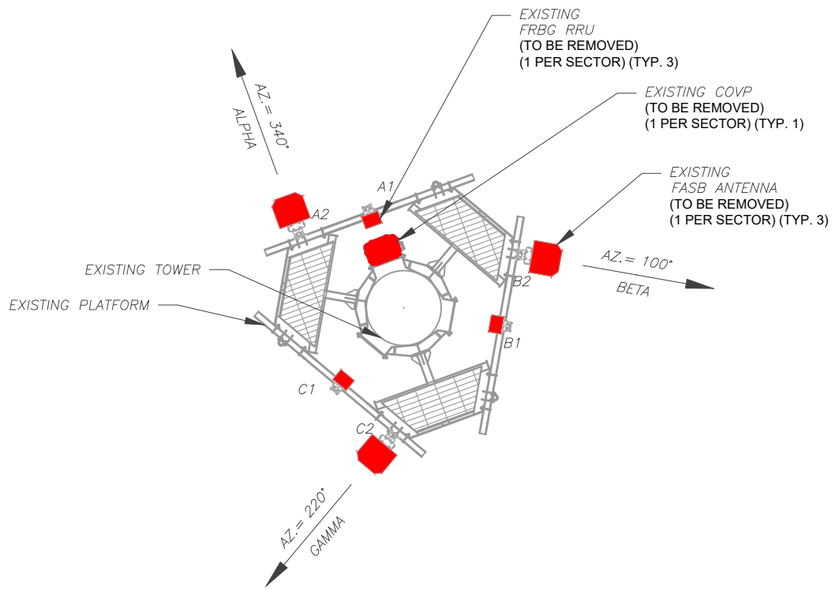
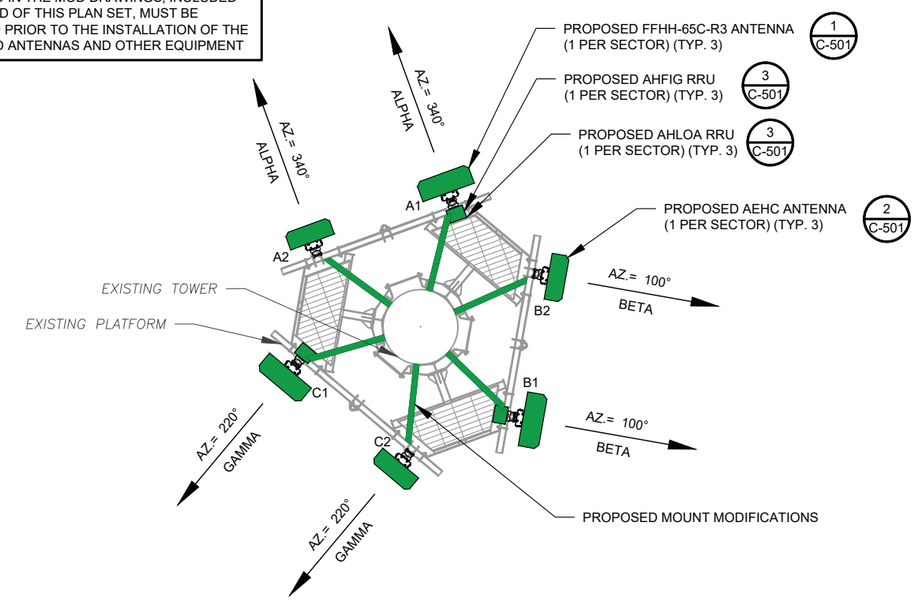


1 EXISTING ANTENNA PLAN

SCALE: N.T.S.

PER MOUNT ANALYSIS COMPLETED BY MED, DATED 10/07/20, THE EXISTING MOUNT MUST BE MODIFIED TO ADEQUATELY SUPPORT THE PROPOSED LOADING. THE MOUNT MODIFICATION PROPOSED IN THE MOD DRAWINGS, INCLUDED AT THE END OF THIS PLAN SET, MUST BE INSTALLED PRIOR TO THE INSTALLATION OF THE PROPOSED ANTENNAS AND OTHER EQUIPMENT



2 FINAL ANTENNA PLAN

SCALE: N.T.S.

EXISTING ANTENNA SCHEDULE

LOCATION			ANTENNA SUMMARY					NON ANTENNA SUMMARY	
SECTOR	RAD	AZ	POS	ANTENNA	BAND	MECH/ELEC D-TILT	STATUS	ADDITIONAL TOWER MOUNTED EQUIPMENT	STATUS
ALPHA	108'	340°	A1	–	–	–	–	FRLB	RMV
			A2	FASB	L700,L1900,U2100, L2100	0°/2°	RMV	–	–
BETA	108'	100°	B1	–	–	–	–	FRLB	RMV
			B2	FASB	L700,L1900,U2100, L2100	0°/2°	RMV	–	–
GAMMA	108'	220°	C1	–	–	–	–	FRLB	RMV
			C2	FASB	L700,L1900,U2100, L2100	0°/2°	RMV	–	–

NOTES

1. CONFIRM WITH T-MOBILE REP FOR APPLICABLE UPDATES/REVISIONS AND MOST RECENT RFDS FOR NSN CONFIGURATION (CONFIG). GC TO CAP ALL UNUSED PORTS.
2. CONFIRM SPACING OF PROPOSED EQUIP DOES NOT CAUSE TOWER CONFLICTS NOR IMPEDE TOWER CLIMBING PEGS.

STATUS ABBREVIATIONS

RMV: TO BE REMOVED
RMN: TO REMAIN
REL: TO BE RELOCATED
ADD: TO BE ADDED

CABLE LENGTHS FOR JUMPERS

JUNCTION BOX TO RRU: 15'
RRU TO ANTENNA: 10'

FINAL ANTENNA SCHEDULE

LOCATION			ANTENNA SUMMARY					NON ANTENNA SUMMARY	
SECTOR	RAD	AZ	POS	ANTENNA	BAND	MECH/ELEC D-TILT	STATUS	ADDITIONAL TOWER MOUNTED EQUIPMENT	STATUS
ALPHA	108'	340°	A1	FFHH-65C-R3	L700,L600,N600,U2100 ,L2100,L1900	0°	ADD	AHFIG AHLOA	ADD ADD
			A2	AEHC	L2500,N2500	0°	ADD	-	-
BETA	108'	100°	B1	FFHH-65C-R3	L700,L600,N600,U2100 ,L2100,L1900	0°	ADD	AHFIG AHLOA	ADD ADD
			B2	AEHC	L2500,N2500	0°	ADD	-	-
GAMMA	108'	220°	C1	FFHH-65C-R3	L700,L600,N600,U2100 ,L2100,L1900	0°	ADD	AHFIG AHLOA	ADD ADD
			C2	AEHC	L2500,N2500	0°	ADD	-	-

EXISTING FIBER DISTRIBUTION/OVP BOX

MODEL NUMBER	STATUS
COVP	RMV
–	–

EXISTING CABLING SUMMARY

COAX	HYBRID	STATUS
–	(1) 150' NSN HIGHCAP HCS	RMV
–	–	–

FINAL FIBER DISTRIBUTION / OVP BOX

MODEL NUMBER	STATUS
(2) HELIAX FIBERFEED 12 RRU PENDANT CONNECT	ADD
-	-

FINAL CABLING SUMMARY

COAX	HYBRID	STATUS
-	(2) 150' HCS 2.0 TRUNK-12#6AWG 24 SM FIBER PR	ADD
-	-	-

3 EQUIPMENT SCHEDULES

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13 Nov 2020 04:39:45

T-Mobile cosign

DATE DRAWN:	11/09/20
ATC JOB NO:	13323293_G3
CUSTOMER ID:	WIDEFIELD-ATC-370609
CUSTOMER #:	DN04166E

ANTENNA INFORMATION & SCHEDULE

SHEET NUMBER:	REVISION:
C-401	0

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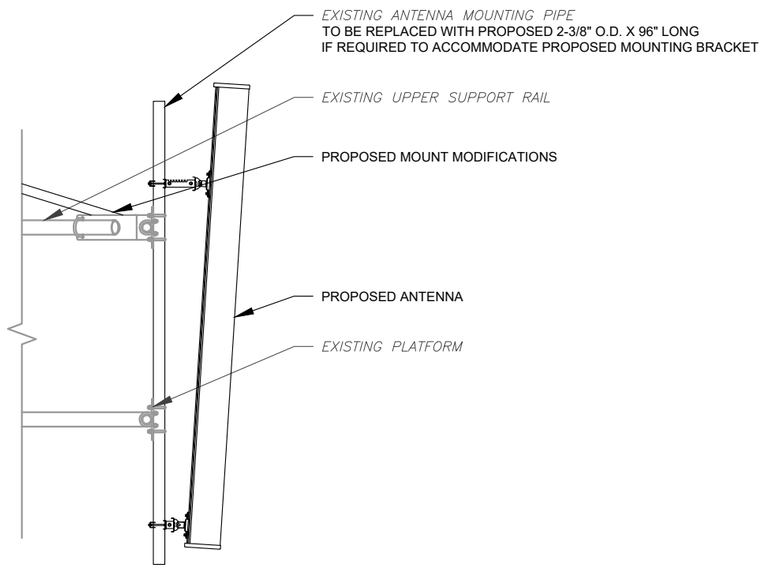
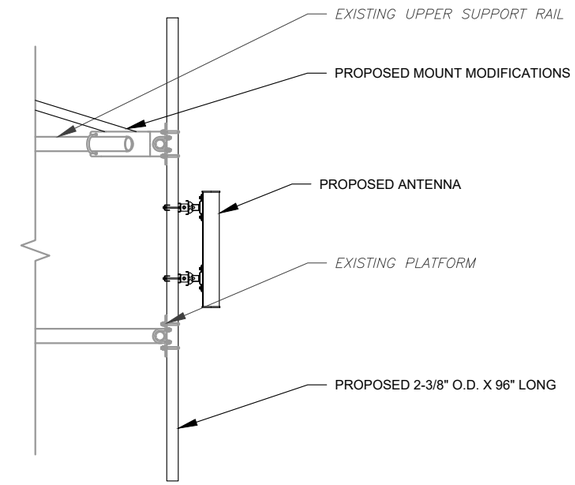


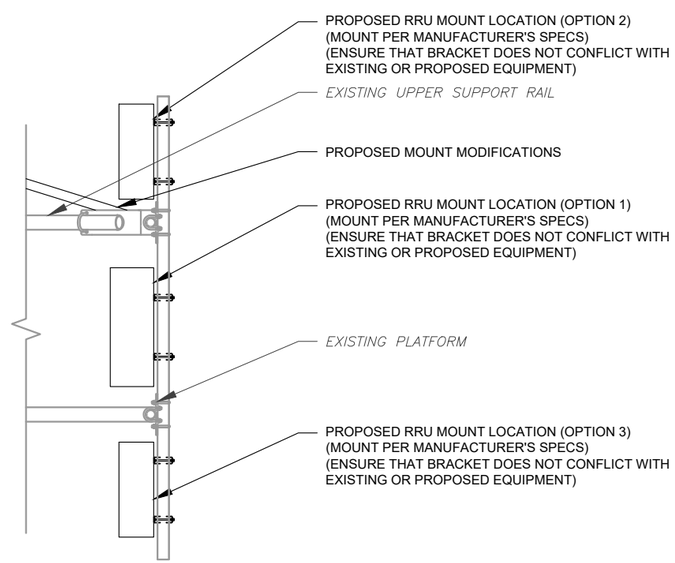
1 PROPOSED ANTENNA MOUNTING DETAIL - TYPICAL

SCALE: N.T.S.



2 PROPOSED 5G ANTENNA MOUNTING DETAIL - TYPICAL

SCALE: N.T.S.



3 PROPOSED RRU MOUNTING DETAIL - TYPICAL

SCALE: N.T.S.

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T-MOBILE SITE NAME:

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SITE ADDRESS:
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COLORADO SPRINGS, CO 80911

SEAL:

Authorized by "Patrick P. Barry"
13 Nov 2020 04:39:45

T-Mobile cosign

DATE DRAWN:	11/09/20
ATC JOB NO:	13323293_G3
CUSTOMER ID:	WIDEFIELD-ATC-370609
CUSTOMER #:	DN04166E

CONSTRUCTION DETAILS

SHEET NUMBER:	REVISION:
C-501	0

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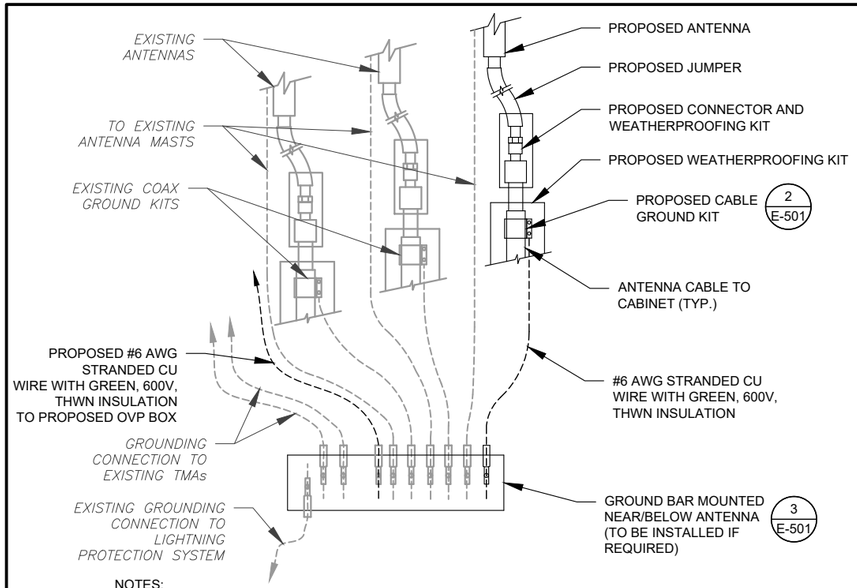
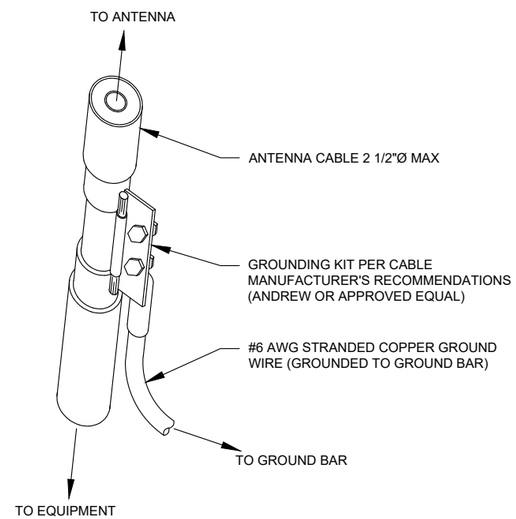


NOTES:

1. THIS DETAIL IS INTENDED TO SHOW THE GENERAL GROUNDING REQUIREMENTS. SLIGHT ADJUSTMENTS MAY BE REQUIRED BASED ON EXISTING SITE CONDITIONS. THE CONTRACTOR SHALL MAKE FIELD ADJUSTMENTS AS NEEDED AND INFORM THE CONSTRUCTION MANAGER OF ANY CONFLICTS.
2. SITE GROUNDING SHALL COMPLY WITH T-MOBILE GROUNDING STANDARDS, LATEST EDITION, AND COMPLY WITH T-MOBILE GROUNDING CHECKLIST, LATEST VERSION. WHEN NATIONAL AND LOCAL GROUNDING CODES ARE MORE STRINGENT THEY SHALL GOVERN.

1 TYPICAL ANTENNA GROUNDING DIAGRAM

SCALE: N.T.S.

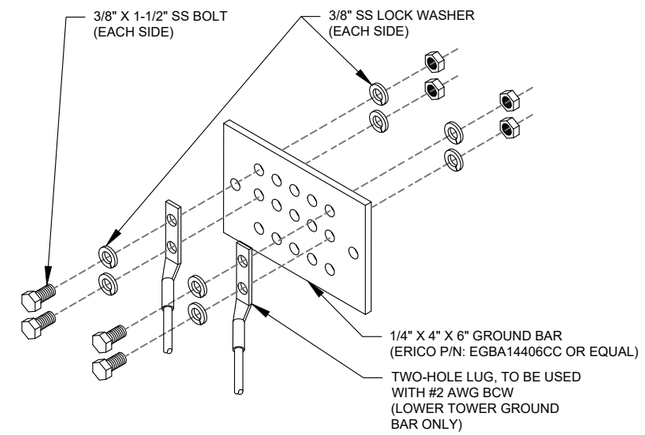


GROUND KIT NOTES:

1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO GROUND BAR.
2. CONTRACTOR SHALL PROVIDE WEATHERPROOFING KIT (ANDREW PART NUMBER 221213) AND INSTALL/TAPE PER MANUFACTURER'S SPECIFICATIONS.

2 CABLE GROUND KIT CONNECTION DETAIL

SCALE: N.T.S.



GROUND BAR NOTES:

1. GROUND BAR KITS COME WITH ALL HARDWARE, NUTS, BOLTS, WASHERS, ETC. EXCEPT THE STRUCTURAL MOUNTING MEMBER(S).
2. GROUND BAR TO BE BONDED DIRECTLY TO TOWER.

3 TOWER GROUND BAR DETAIL

SCALE: N.T.S.

ELECTRICAL NOTES:

1. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE WITH THE T-MOBILE REPRESENTATIVE AND LOCAL UTILITY COMPANY FOR THE INSTALLATION OF CONDUITS, CONDUCTORS, BREAKERS, DISCONNECTS, OR ANY OTHER EQUIPMENT REQUIRED FOR ELECTRICAL SERVICE. ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH LATEST EDITION OF THE STATE AND NATIONAL CODES, ORDINANCES AND REGULATIONS APPLICABLE TO THIS PROJECT.
2. ATC HAS NOT VERIFIED ANY EXISTING T-MOBILE GROUND EQUIPMENT OR ELECTRICAL LOADING. PROPOSED WORK BASED ON INSTALLATION CONFIGURATION PROVIDED BY T-MOBILE. CONTRACTOR TO VERIFY EXISTING T-MOBILE PANEL HAS SUFFICIENT SPACE FOR PROPOSED BREAKER. PROPOSED CABLE AND CONDUIT SHALL BE MINIMUM SIZE PER BELOW:

OCPD SIZE	WIRE SIZE	GROUND SIZE	CONDUIT SIZE
80A/2P	2#3 AWG	#8 AWG	1-1/4"
100/2P	2#2 AWG	#8 AWG	1-1/4"
125A/2P	2#1 AWG	#8 AWG	1-1/2"
150A/2P	2#1/0 AWG	#8 AWG	1-1/2"

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GROUNDING DETAILS

SHEET NUMBER:	REVISION:
E-501	0

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Proposed RAN Equipment

Template: 56791X_SR_U21

Enclosure	1	2	3	4
Enclosure Type	Generic 600A Site Support Cabinet	Tower Top Mount (Nokia)	Ancillary Equipment (Nokia)	Generic Battery Cabinet for 600A SSC
Baseband	ASIA L700 L600 L2100 L1900; ASIB L2500; ASIK N2500; ASIK N600; FSMF U2100			
Baseband Submodule	ABIA L2100 L1900; ABIA L1900; ABIA L700 L600; ABIC (x 3) L2500; ABIL (x 3) N2500; ABIL N600			
Baseband Subrack	AMIA (x 2)			
Hybrid Cable System	Voltage Booster needed if hybrid under 250'; Extra Booster Amplifier needed if hybrid under 250'		150' HCS 2.0 Trunk - 12#6AWG 24 SM FIBER PR (x 2)	
Junction Box			Nokia HCS 2.0 Tower Junction Box (x 2)	
Power subsystem	Rectifier Shelf "Select size"; Breakers "Select size"			Batteries "Select size"
Radio		AHLOA (x 3) L700 L600 N600; AHFIG (x 3) U2100 L2100 L1900		
Transport System	CSR IXRe			

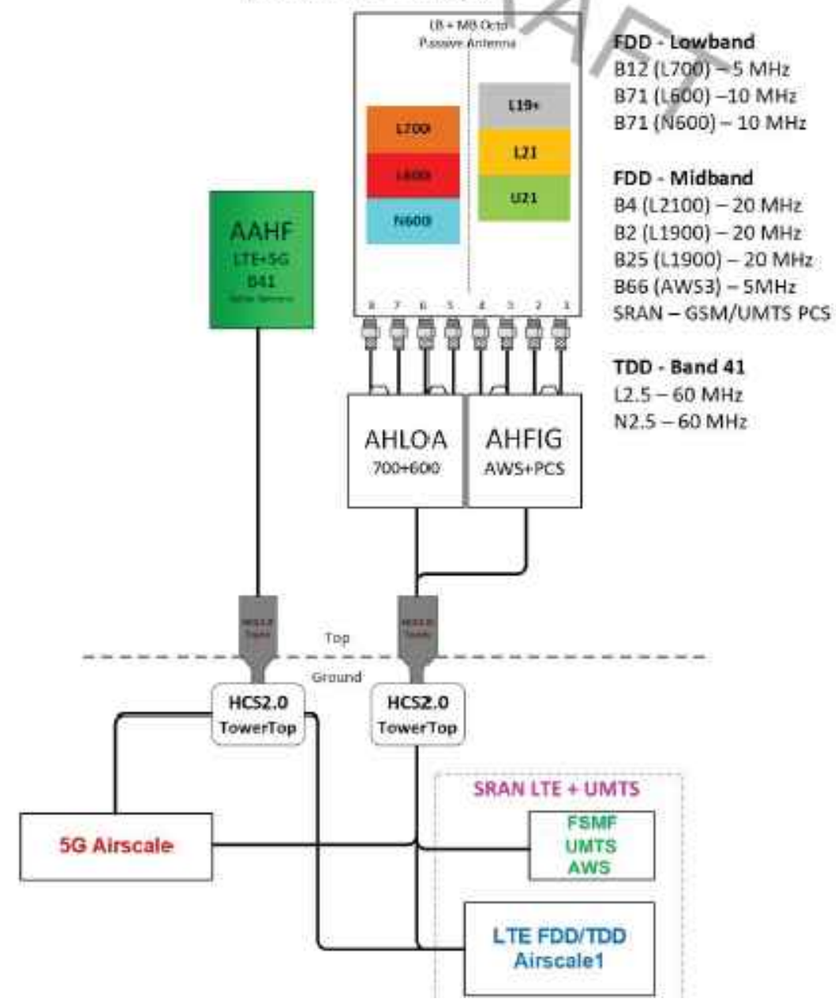
RAN Scope of Work:

1 CABINET CONFIGURATION
SCALE: NOT TO SCALE

Configuration 56791X_SR

* For 5G and LTE Airscale BB dimensioning refer to Fiber Port matrices.
(Alpha, Beta & Gamma)

DRAFT



2 ANTENNA CONFIGURATION
SCALE: NOT TO SCALE

NOTE: THIS SHEET CREATED BY OTHERS AND PROVIDED BY REQUEST OF CUSTOMER WITHOUT EDIT.

SUPPLEMENTAL

SHEET NUMBER:	REVISION:
R-601	0

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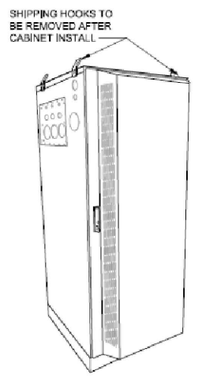
MANUFACTURER:	DELTA
MODEL:	HPL3 SITE SUPPORT CABINET
WEIGHT:	551 LBS (WITHOUT EQUIPMENT)
DIMENSIONS:	30.0"x35.0"x72.0"

NOTE:

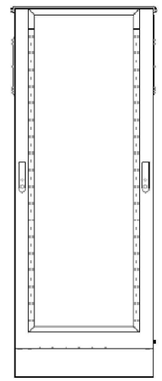
- CORRECT KNOCKOUT TOOL REQUIRED FOR PUNCHING KNOCKOUTS. DO NOT DRILL KNOCKOUTS THROUGH
- CONDUIT MUST BE PROPERLY SECURED TO PREVENT DAMAGE TO CABINETS AND/OR CABLING

RACK ASSIGNMENT

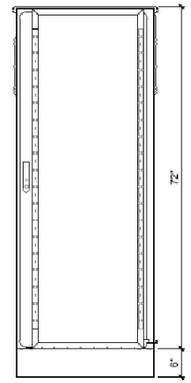
RU SLOT	DESCRIPTION	DESCRIPTION
27		CSR - SAR/SAS
26		
25	AIRSCALE	
24		
23		
22	FIBER MUX	
21	AIRSCALE	
20		
19		
18	FIBER MUX	
17	AIRSCALE	
16		
15		
14	FIBER MUX	
13	AIRSCALE	
12		
11		
10	FIBER MUX	
9	LEGACY BASEBAND	
8		
7		
6	LEGACY BASEBAND	
5		
4		
3	LEGACY BASEBAND	
2		
1		



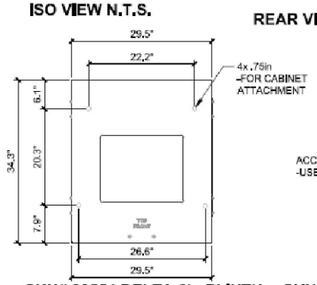
ISO VIEW N.T.S.



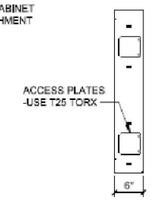
REAR VIEW



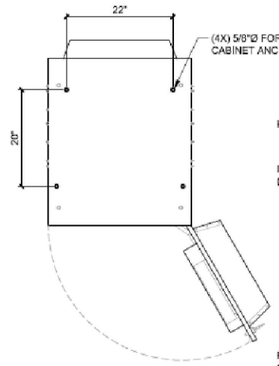
FRONT VIEW

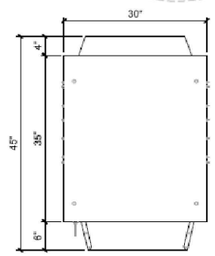


SKU# 33554 DELTA 6in PLINTH PLAN VIEW

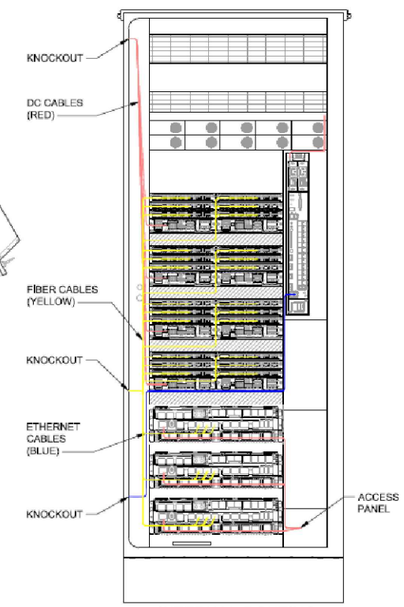


SKU# 33554 DELTA 6IN PLINTH SIDE VIEW

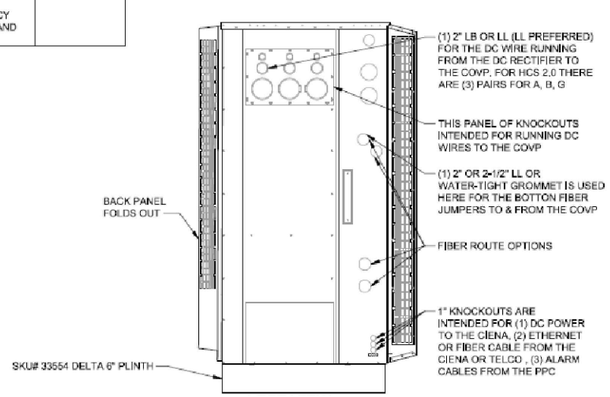




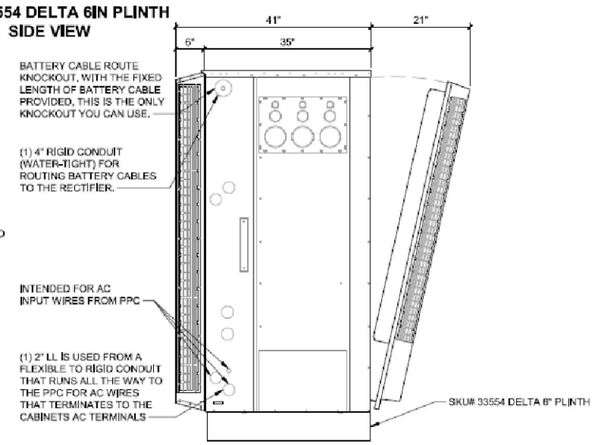
PLAN VIEW



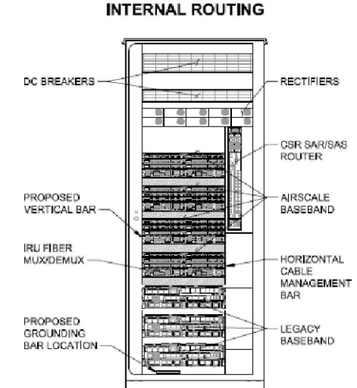
INTERNAL ROUTING



LEFT VIEW



RIGHT VIEW



FRONT VIEW (OPEN)

SKU# 33929 - DELTA HPL3 SITE SUPPORT CABINET **1**

22"x34" SCALE: N.T.S. | 11"x17" SCALE: N.T.S.

NOTE: THIS SHEET WAS CREATED BY OTHERS AND PROVIDED AT THE REQUEST OF THE CUSTOMER WITHOUT EDIT.

EQUIPMENT SPECIFICATIONS

SHEET NUMBER:	REVISION:
R-602	0

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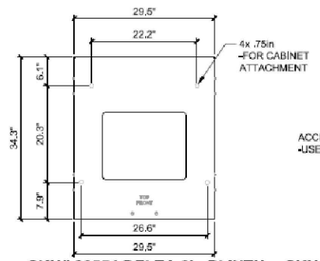
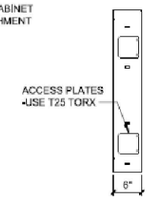
MANUFACTURER:	DELTA
MODEL:	LB3 BATTERY SUPPORT CABINET
WEIGHT:	509 LBS (WITHOUT EQUIPMENT)
DIMENSIONS:	30.0"x35.0"x72.0"

NOTE:

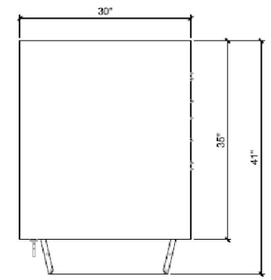
- CORRECT KNOCKOUT TOOL REQUIRED FOR PUNCHING KNOCKOUTS. DO NOT DRILL KNOCKOUTS THROUGH
- CONDUIT MUST BE PROPERLY SECURED TO PREVENT DAMAGE TO CABINETS AND/OR CABLING



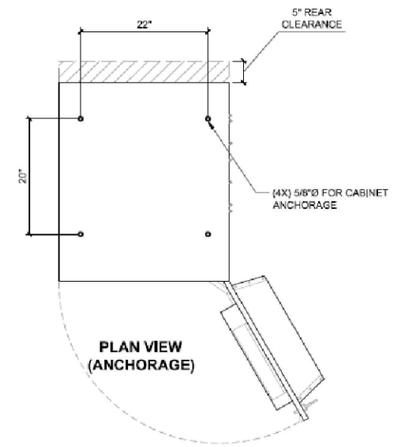
SKU# 33554 DELTA 6in PLINTH
PLAN VIEW



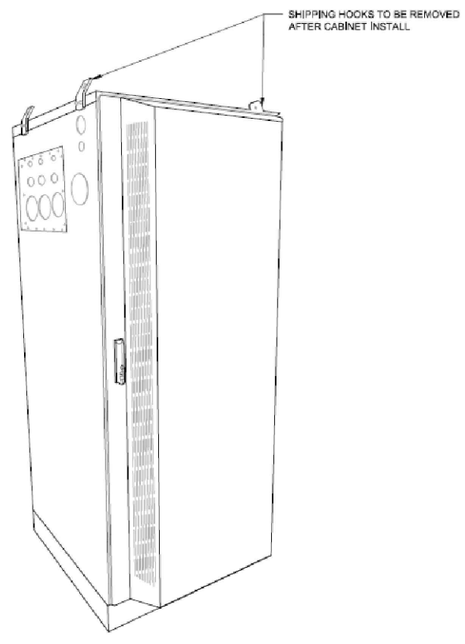
SKU# 33554 DELTA 6IN PLINTH
SIDE VIEW



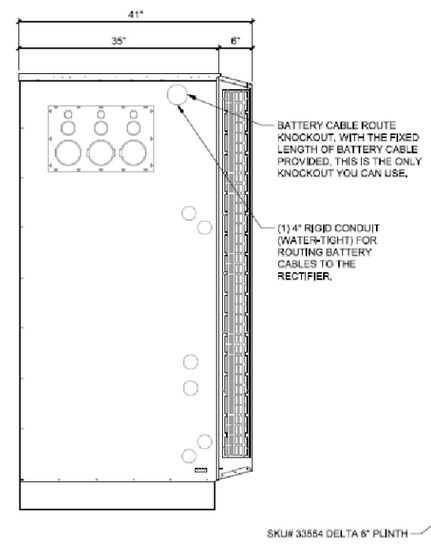
PLAN VIEW



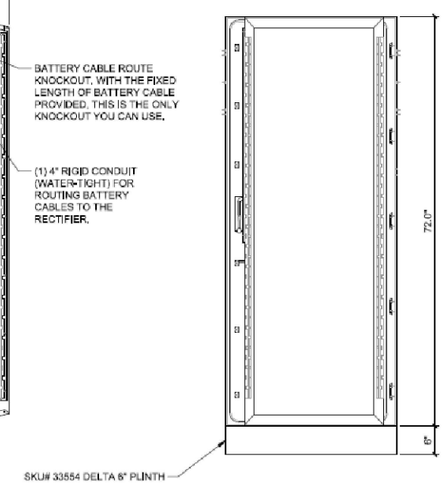
PLAN VIEW
(ANCHORAGE)



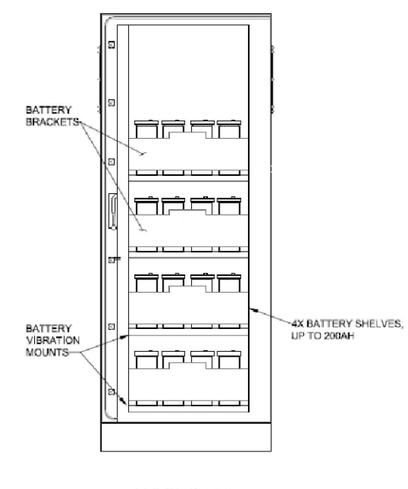
ISO VIEW
N.T.S.



LEFT VIEW



FRONT VIEW



FRONT VIEW
(OPEN)

SKU# 33932 - DELTA LB3 BATTERY SUPPORT CABINET **1**

22"x34" SCALE: N.T.S. | 11"x17" SCALE: N.T.S.

EQUIPMENT
SPECIFICATIONS

SHEET NUMBER:	REVISION:
R-603	0

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AMERICAN TOWER®
CORPORATION

Antenna Mount Analysis Report

ATC Site Name	:	**Widefield High School II, CO**
ATC Site Number	:	**370609**
Engineering Number	:	**13323293_C8_01**
Mount Elevation	:	**105 ft**
Carrier	:	**T-Mobile**
Carrier Site Name	:	**Widefield - ATC 370609**
Carrier Site Number	:	**DN04166E**
Site Location	:	**523 Widefield Drive** **Colorado Springs, CO 80911-0000** **38.75483333, -104.7305556**
County	:	**El Paso**
Date	:	**October 6, 2020**
Max Usage	:	**153%**
Result	:	**Fail**

Prepared By:
Rohith Koduru
Structural Engineer I

Reviewed By:

COLORADO LICENSED
MICHAEL EVAN DEESS
PE.0051453
PROFESSIONAL ENGINEER

Authorized by "EOR"
07 Oct 2020 10:14:03 cosign

Introduction

The purpose of this report is to summarize results of the antenna mount analysis performed for T-Mobile at 105 ft.

Supporting Documents

Specifications Sheet	Site Pro 1 SNP8HR-396, dated November 21, 2014
Radio Frequency Data Sheet	RFDS ID #DN04166E, dated May 11, 2020
Reference Photos	Site photos from 2020

Analysis

This antenna mount was analyzed using American Tower Corporation's Mount Analysis Program and RISA-3D

Basic Wind Speed:	130 mph (3-Second Gust)
Basic Wind Speed w/ Ice:	50 mph (3-Second Gust) w/ 1/4" radial ice concurrent
Codes:	ANSI/TIA-222-H / 2018 IBC
Exposure Category:	C
Risk Category:	II
Topographic Factor Procedure:	Method 2
Feature:	Flat
Crest Height (H):	0 ft
Crest Length (L):	0 ft
Spectral Response:	Ss = 0.185, S1 = 0.059
Site Class:	D - Stiff Soil
Live Loads: *	Lm = 500 lbs

*** Based on experience, it has been determined that the Lv load cases will not control over Lm load cases in platform mount analyses. Therefore, these load cases have been excluded from this analysis.**

Conclusion

Based on the analysis results, the antenna mount does not meet the requirements per the applicable codes listed above. The mount can support the equipment as described in this report after the modifications listed below are completed:

If you have any questions or require additional information, please contact American Tower via email at Engineering@americantower.com. Please include the American Tower site name, site number, and engineering number in the subject line for any questions.

ATC Tower Services, LLC - 3500 Regency Parkway, Suite 100 - Cary, NC 27518 - 919.468.0112 Office - 919.466.5414 Fax - www.americantower.com

1 MOUNT ANALYSIS

NOTE: THIS SHEET WAS CREATED BY OTHERS AND PROVIDED AT THE REQUEST OF THE CUSTOMER WITHOUT EDIT. PLEASE REFERENCE THE MOUNT ANALYSIS REPORT FOR COMPLETE MOUNT ANALYSIS CALCULATIONS AND DETAILS. SUPPLEMENTAL PAGES INCLUDED IN THE CONSTRUCTION DRAWINGS ARE FOR REFERENCE ONLY. GENERAL CONTRACTOR IS TO VERYIFY THEY HAVE THE MOST RECENT MOUNT ANALYSIS PRIOR TO CONTRUCTION.

SUPPLEMENTAL

SHEET NUMBER:	REVISION:
R-604	0

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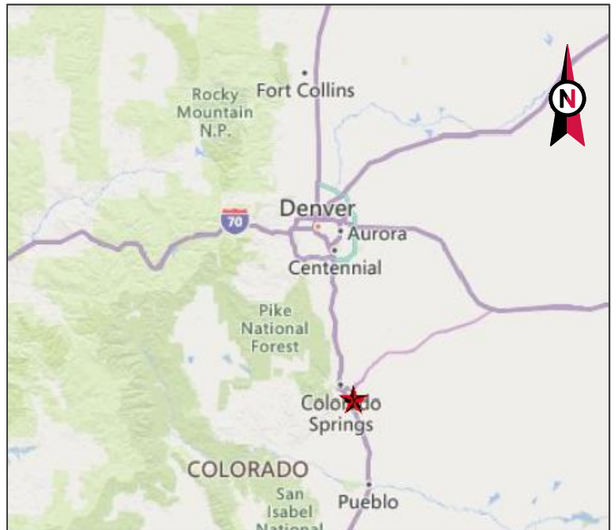

VICINITY MAP

AMERICAN TOWER®

SITE NAME: WIDEFIELD HIGH SCHOOL II
SITE NUMBER: 370609
ATC PROJECT NUMBER: 13323293_C9_03
SITE ADDRESS: 515 WIDEFIELD DRIVE
COLORADO SPRINGS, CO
80911

LOCATION MAP

MOUNT REINFORCEMENT DRAWINGS
PREPARED FOR T-MOBILE

PROJECT TEAM

TOWER OWNER

AMERICAN TOWER
10 PRESIDENTAL WAY
WOBURN, MA 01801

ENGINEERED BY

ATC TOWER SERVICES
3500 REGENCY PARKWAY, SUITE 100
CARY, NC 27518

CARRIER INFORMATION

CARRIER: T-MOBILE
CARRIER SITE NAME: WIDEFIELD - ATC 370609
CARRIER SITE NUMBER: DN04166E

Know what's below.
Call before you dig.

PROJECT DESCRIPTION

THE MODIFICATIONS PRESENTED ON THESE DRAWINGS ARE BASED ON THE RECOMMENDATIONS OUTLINED IN THE MOUNT ANALYSIS COMPLETED UNDER ENGINEERING PROJECT NUMBER 13323293_C8_01 DATED 10/06/20. SATISFACTORY COMPLETION OF THE WORK INDICATED ON THESE DRAWINGS WILL RESULT IN THE MOUNT MEETING THE REQUIREMENTS OF THE SPECIFICATIONS UNDER WHICH THE MOUNT ANALYSIS WAS COMPLETED.

COMPLIANCE CODE

ALL WORK SHALL BE PERFORMED AND MATERIALS INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNMENT AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES.

1. ANSI/TIA/EIA: STRUCTURAL STANDARDS (222-H EDITION)
2. INTERNATIONAL BUILDING CODE (2015 IBC)

PROJECT LOCATION

GEOGRAPHIC COORDINATES

LATITUDE: 38.75483333
LONGITUDE: -104.7305556

SHEET	SHEET TITLE	REV.
G-002	IBC GENERAL NOTES AND MOUNT MODIFICATION INSPECTION	0
S-101	MODIFICATION PROFILE	0
R-601	SUPPLEMENTAL	0
R-602	SUPPLEMENTAL	0
R-603	SUPPLEMENTAL	0
R-604	SUPPLEMENTAL	0
R-605	SUPPLEMENTAL	0
R-606	SUPPLEMENTAL	0
R-607	SUPPLEMENTAL	0
R-608	SUPPLEMENTAL	0
R-609	SUPPLEMENTAL	0
R-610	SUPPLEMENTAL	0
R-611	SUPPLEMENTAL	0

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

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REV.	DESCRIPTION	BY	DATE
0	FIRST ISSUE	AMM	11/02/20

ATC SITE NUMBER:
370609

ATC SITE NAME:
WIDEFIELD HIGH SCHOOL II
COLORADO

SITE ADDRESS:
515 WIDEFIELD DRIVE
COLORADO SPRINGS, CO 80911

COLORADO LICENSED
MICHAEL EVAN DEES
PE.0051453
PROFESSIONAL ENGINEER

Authorized by "Patrick P. Barry"
13 Nov 2020 04:39:47
cosign

DRAWN BY:	AMM
APPROVED BY:	MCC
DATE DRAWN:	11/02/20
ATC JOB NO:	13323293_C9_03

COVER

SHEET NUMBER: G-001
REVISION: 0

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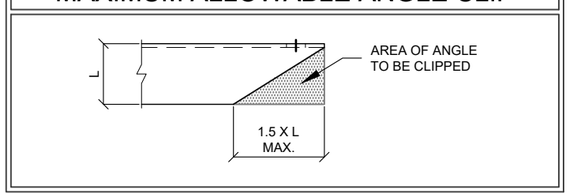
GENERAL

1. ALL WORK TO BE COMPLETED PER APPLICABLE LOCAL, STATE, FEDERAL CODES AND ORDINANCES AND COMPLY WITH ATC CONSTRUCTION SPECIFICATIONS FOR WIRELESS TOWER SITES. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING AND ABIDING BY ALL REQUIRED PERMITS.
2. ALL WORK INDICATED ON THESE DRAWINGS SHALL BE PERFORMED BY QUALIFIED CONTRACTORS EXPERIENCED IN TOWER AND FOUNDATION CONSTRUCTION.
3. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF RECORD IMMEDIATELY OF ANY INSTALLATION INTERFERENCES. ALL NEW WORK SHALL ACCOMMODATE EXISTING CONDITIONS. DETAILS NOT SPECIFICALLY SHOWN ON THE DRAWINGS SHALL FOLLOW SIMILAR DETAILS FOR THIS JOB.
4. ANY SUBSTITUTIONS SHALL CONFORM TO THE REQUIREMENTS OF THESE NOTES AND SPECIFICATIONS, AND SHOULD BE SIMILAR TO THOSE SHOWN. ALL SUBSTITUTIONS SHALL BE SUBMITTED TO THE ENGINEER OF RECORD FOR REVIEW AND APPROVAL PRIOR TO FABRICATION.
5. ANY MANUFACTURED DESIGN ELEMENTS SHALL CONFORM TO THE REQUIREMENTS OF THESE NOTES AND SPECIFICATIONS AND SHOULD BE SIMILAR TO THOSE SHOWN. THESE DESIGN ELEMENTS MUST BE STAMPED BY AN ENGINEER PROFESSIONALLY REGISTERED IN THE STATE OF THE PROJECT, AND SUBMITTED TO THE ENGINEER OF RECORD FOR APPROVAL PRIOR TO FABRICATION.
6. ALL WORK SHALL BE DONE IN ACCORDANCE WITH LOCAL CODES AND OSHA SAFETY REGULATIONS.
7. THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN AND EXECUTION OF ALL MISCELLANEOUS SHORING, BRACING, TEMPORARY SUPPORTS, ETC. NECESSARY, PER ANSI/TIA-322 AND ANSI/ASSE A10.48, TO PROVIDE A COMPLETE AND STABLE STRUCTURE AS SHOWN ON THESE DRAWINGS.
8. CONTRACTOR'S PROPOSED INSTALLATION SHALL NOT INTERFERE, NOR DENY ACCESS TO, ANY EXISTING OPERATIONAL AND SAFETY EQUIPMENT.

STRUCTURAL STEEL

1. ALL DETAILING, FABRICATION AND ERECTION OF STRUCTURAL STEEL SHALL CONFORM TO THE AISC SPECIFICATIONS, LATEST EDITION.
2. ALL EXPOSED STRUCTURAL STEEL MEMBERS SHALL BE HOT-DIPPED GALVANIZED AFTER FABRICATION PER ASTM A123. EXPOSED STEEL HARDWARE AND ANCHOR BOLTS SHALL BE GALVANIZED PER ASTM A153 OR B695.
3. ALL U-BOLTS SHALL BE ASTM A36 OR EQUIVALENT, WITH LOCKING DEVICE, UNLESS NOTED OTHERWISE.
4. FIELD CUT EDGES, EXCEPT DRILLED HOLES, SHALL BE GROUND SMOOTH.
5. ALL FIELD CUT SURFACES, FIELD DRILLED HOLES & GROUND SURFACES WHERE EXISTING PAINT OR GALVANIZATION REMOVAL WAS REQUIRED SHALL BE REPAIRED WITH (2) BRUSHED COATS OF ZRC GALVILITE COLD GALVANIZING COMPOUND PER ASTM A780 AND MANUFACTURERS RECOMMENDATIONS.
6. ALL STRUCTURAL STEEL EMBEDDED IN THE CONCRETE SHALL BE APPLIED WITH (2) BRUSHED COATS OF POLYGUARD CA-14 MASTIC OR EQUIVALENT. REFER TO THE MANUFACTURER SPECIFICATIONS FOR SURFACE PREPARATION AND APPLICATION. APPLICATION OF POLYGUARD 400 WRAP IS NOT ESSENTIAL.
7. CONTRACTOR SHALL PERFORM WORK ON ONLY ONE (1) TOWER FACE AND REPLACE/REINFORCE ONE (1) BOLT/MEMBER AT A TIME.
8. ALL FIELD DRILLED HOLES TO BE USED FOR FIELD BOLTING INSTALLATION SHALL BE STANDARD HOLES, AS DEFINED BY AISC, UNLESS NOTED OTHERWISE.

MAXIMUM ALLOWABLE ANGLE CLIP



PAINT

1. AS REQUIRED, CLEAN AND PAINT PROPOSED STEEL ACCORDING TO FAA ADVISORY CIRCULAR AC 70/7460-1L.

WELDING

1. ALL WELDING TO BE PERFORMED BY AWS CERTIFIED WELDERS AND CONDUCTED IN ACCORDANCE WITH THE LATEST EDITION OF THE AWS WELDING CODE D1.1.
2. ALL WELDS SHALL BE INSPECTED VISUALLY. IF DIRECTED BY ENGINEER OF RECORD, 25% OF WELDS SHALL BE INSPECTED WITH DYE PENETRANT OR MAGNETIC PARTICLE (100% IF REJECTABLE DEFECTS ARE FOUND) TO MEET THE ACCEPTANCE CRITERIA OF AWS D1.1. REPAIR ALL WELDS AS NECESSARY.
3. INSPECTION SHALL BE PERFORMED BY AN AWS CERTIFIED WELD INSPECTOR.
4. ALL ELECTRODES TO BE LOW HYDROGEN, MATCHING FILLER AND/OR BASE METAL, PER AWS D1.1, UNLESS NOTED OTHERWISE.
5. IN CASES WHERE BASE METAL GRADE IS UNKNOWN, ALL WELDING ON LATTICE TOWERS SHALL BE DONE WITH E70XX ELECTRODES; ALL WELDING ON POLE STRUCTURES SHALL BE DONE WITH E80XX ELECTRODES, UNLESS NOTED OTHERWISE.
6. PRIOR TO FIELD WELDING GALVANIZED MATERIAL, CONTRACTOR SHALL GRIND OFF GALVANIZING 1/2" BEYOND ALL FIELD WELD SURFACES. AFTER WELD AND WELD INSPECTION IS COMPLETE, REPAIR ALL GROUND AND WELDED SURFACES WITH ZRC GALVILITE COLD GALVANIZING COMPOUND PER ASTM A780 AND MANUFACTURERS RECOMMENDATIONS.

BOLT TIGHTENING PROCEDURE

1. STRUCTURAL CONNECTIONS TO BE ASSEMBLED AND INSPECTED IN ACCORDANCE WITH RCSC SPECIFICATIONS.
2. FLANGE BOLTS SHALL BE INSTALLED AND TIGHTENED USING DIRECT TENSION INDICATING (DTI) SQUIRTER WASHERS. DTI SQUIRTER WASHERS ARE TO BE INSTALLED AND ORIENTED / TIGHTENED PER MANUFACTURER SPECIFICATIONS TO ACHIEVE DESIRED LEVEL OF BOLT PRE-TENSION.
3. IN LIEU OF USING DTI SQUIRTER WASHERS, FLANGE BOLTS MAY BE TIGHTENED USING AISC / RCSC "TURN-OF-THE-NUT" METHOD, PENDING APPROVAL BY THE ENGINEER OF RECORD (EOR). TIGHTEN FLANGE BOLTS USING THE CHART BELOW:

BOLT LENGTHS UP TO AND INCLUDING FOUR DIAMETERS

1/2"	BOLTS UP TO AND INCLUDING 2.0 INCH LENGTH	+1/3 TURN BEYOND SNUG TIGHT
5/8"	BOLTS UP TO AND INCLUDING 2.5 INCH LENGTH	+1/3 TURN BEYOND SNUG TIGHT
3/4"	BOLTS UP TO AND INCLUDING 3.0 INCH LENGTH	+1/3 TURN BEYOND SNUG TIGHT
7/8"	BOLTS UP TO AND INCLUDING 3.5 INCH LENGTH	+1/3 TURN BEYOND SNUG TIGHT
1"	BOLTS UP TO AND INCLUDING 4.0 INCH LENGTH	+1/3 TURN BEYOND SNUG TIGHT
1-1/8"	BOLTS UP TO AND INCLUDING 4.5 INCH LENGTH	+1/3 TURN BEYOND SNUG TIGHT
1-1/4"	BOLTS UP TO AND INCLUDING 5.0 INCH LENGTH	+1/3 TURN BEYOND SNUG TIGHT
1-3/8"	BOLTS UP TO AND INCLUDING 5.5 INCH LENGTH	+1/3 TURN BEYOND SNUG TIGHT
1-1/2"	BOLTS UP TO AND INCLUDING 6.0 INCH LENGTH	+1/3 TURN BEYOND SNUG TIGHT

BOLT LENGTHS OVER FOUR DIAMETERS BUT NOT EXCEEDING EIGHT DIAMETERS

1/2"	BOLTS 2.25 TO 4.0 INCH LENGTH	+1/2 TURN BEYOND SNUG TIGHT
5/8"	BOLTS 2.75 TO 5.0 INCH LENGTH	+1/2 TURN BEYOND SNUG TIGHT
3/4"	BOLTS 3.25 TO 6.0 INCH LENGTH	+1/2 TURN BEYOND SNUG TIGHT
7/8"	BOLTS 3.75 TO 7.0 INCH LENGTH	+1/2 TURN BEYOND SNUG TIGHT
1"	BOLTS 4.25 TO 8.0 INCH LENGTH	+1/2 TURN BEYOND SNUG TIGHT
1-1/8"	BOLTS 4.75 TO 9.0 INCH LENGTH	+1/2 TURN BEYOND SNUG TIGHT
1-1/4"	BOLTS 5.25 TO 10.0 INCH LENGTH	+1/2 TURN BEYOND SNUG TIGHT
1-3/8"	BOLTS 5.75 TO 11.0 INCH LENGTH	+1/2 TURN BEYOND SNUG TIGHT
1-1/2"	BOLTS 6.25 TO 12.0 INCH LENGTH	+1/2 TURN BEYOND SNUG TIGHT

BOLT TIGHTENING PROCEDURE (CONTINUED)

4. SPLICE BOLTS SUBJECT TO DIRECT TENSION SHALL BE INSTALLED AND TIGHTENED AS PER SECTION 8.2.1 OF THE AISC "SPECIFICATION FOR STRUCTURAL JOINTS USING A325 OR A490 BOLTS", LOCATED IN THE AISC MANUAL OF STEEL CONSTRUCTION. THE INSTALLATION PROCEDURE IS PARAPHRASED AS FOLLOWS:

   FASTENERS SHALL BE INSTALLED IN PROPERLY ALIGNED HOLES AND TIGHTENED BY ONE OF THE METHODS DESCRIBED IN SUBSECTION 8.2.1 THROUGH 8.2.4.

   8.2.1 TURN-OF-NUT PRETENSIONING
   BOLTS SHALL BE INSTALLED IN ALL HOLES OF THE CONNECTION AND BROUGHT TO A SNUG TIGHT CONDITION AS DEFINED IN SECTION 8.1, UNTIL ALL THE BOLTS ARE SIMULTANEOUSLY SNUG TIGHT AND THE CONNECTION IS FULLY COMPACTED. FOLLOWING THIS INITIAL OPERATION ALL BOLTS IN THE CONNECTION SHALL BE TIGHTENED FURTHER BY THE APPLICABLE AMOUNT OF ROTATION SPECIFIED ABOVE. DURING THE TIGHTENING OPERATION THERE SHALL BE NO ROTATION OF THE PART NOT TURNED BY THE WRENCH. TIGHTENING SHALL PROGRESS SYSTEMATICALLY.

5. ALL OTHER BOLTED CONNECTIONS SHALL BE BROUGHT TO A SNUG TIGHT CONDITION AS DEFINED IN SECTION 8.1 OF THE SPECIFICATION.

   ALL BOLT HOLES SHALL BE ALIGNED TO PERMIT INSERTION OF THE BOLTS WITHOUT UNDUE DAMAGE TO THE THREADS. BOLTS SHALL BE PLACED IN ALL HOLES WITH WASHERS POSITIONED AS REQUIRED AND NUTS THREADED TO COMPLETE THE ASSEMBLY. COMPACTING THE JOINT TO THE SNUG-TIGHT CONDITION SHALL PROGRESS SYSTEMATICALLY FROM THE MOST RIGID PART OF THE JOINT. THE SNUG-TIGHTENED CONDITION IS THE TIGHTNESS THAT IS ATTAINED WITH A FEW IMPACTS OF AN IMPACT WRENCH OR THE FULL EFFORT OF AN IRONWORKER USING AN ORDINARY SPUD WRENCH TO BRING THE CONNECTED PLIES INTO FIRM CONTACT.

MODIFICATION INSPECTION NOTES

THE MOUNT MODIFICATION INSPECTION (MMI) PROCEDURE IS INTENDED TO CONFIRM THAT CONSTRUCTION AND INSTALLATION MEETS ENGINEERING DESIGN, ATC PROCEDURES AND ATC STANDARD SPECIFICATIONS FOR WIRELESS TOWER SITES.

TO ENSURE THAT THE REQUIREMENTS OF THE MMI ARE MET, IT IS VITAL THAT THE GENERAL CONTRACTOR SUBMIT ALL REQUIRED PHOTOGRAPHS AND DRAWINGS TO AMERICAN TOWER CORPORATION (ATC).

GENERAL CONTRACTOR

THE GENERAL CONTRACTOR IS REQUIRED TO:

- REVIEW THE REQUIREMENTS OF THE MMI CHECKLIST.
- UNDERSTAND ALL INSPECTION REQUIREMENTS.

THE GENERAL CONTRACTOR SHALL PERFORM AND RECORD THE INSPECTION RESULTS IN ACCORDANCE WITH THE REQUIREMENTS OF THE MMI CHECKLIST.

MOUNT MODIFICATION INSPECTION CHECKLIST

INSPECTION DOCUMENT	DESCRIPTION	INSPECTION TESTING REQUIRED	RESPONSIBILITY
ON-SITE COLD GALVANIZING VERIFICATION	PHOTOGRAPHIC EVIDENCE OF COLD GALVANIZATION TYPE AND APPLICATION IN ALL APPLICABLE LOCATIONS TO BE INCLUDED WITHIN THE MMI REPORT	✔	GC
GC AS-BUILT DRAWINGS WITH CONSTRUCTION RED-LINES	"AS-BUILT" DRAWINGS INDICATING ANY APPROVED CHANGES TO ENGINEERED PLANS TO MMI FOR APPROVAL/REVIEW AND INCLUSION IN MMI REPORT	✔	GC
PHOTOGRAPHS	PHOTOGRAPHIC EVIDENCE OF MOUNT MODIFICATION INSPECTION, ON SITE REMEDIATION, AND ITEMS FAILING INSPECTION & REQUIRING FOLLOW UP TO BE INCLUDED WITHIN THE MMI REPORT. COMPLETE PHOTO LOG IS TO BE SUBMITTED WITHIN MMI REPORT.	✔	GC

TABLE KEY:
MMI - MOUNT MODIFICATION INSPECTION
GC - GENERAL CONTRACTOR
ATC - AMERICAN TOWER CORPORATION

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

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REV.	DESCRIPTION	BY	DATE
0	FIRST ISSUE	AMM	11/02/20

ATC SITE NUMBER:
370609

ATC SITE NAME:
WIDEFIELD HIGH SCHOOL II
COLORADO

SITE ADDRESS:
515 WIDEFIELD DRIVE
COLORADO SPRINGS, CO 80911

Authorized by "Patrick P. Barry"
13 Nov 2020 04:39:47
cosign

DRAWN BY:	AMM
APPROVED BY:	MCC
DATE DRAWN:	11/02/20
ATC JOB NO:	13323293_C9_03

IBC GENERAL NOTES AND MOUNT MODIFICATION INSPECTION

SHEET NUMBER: G-002
REVISION: 0

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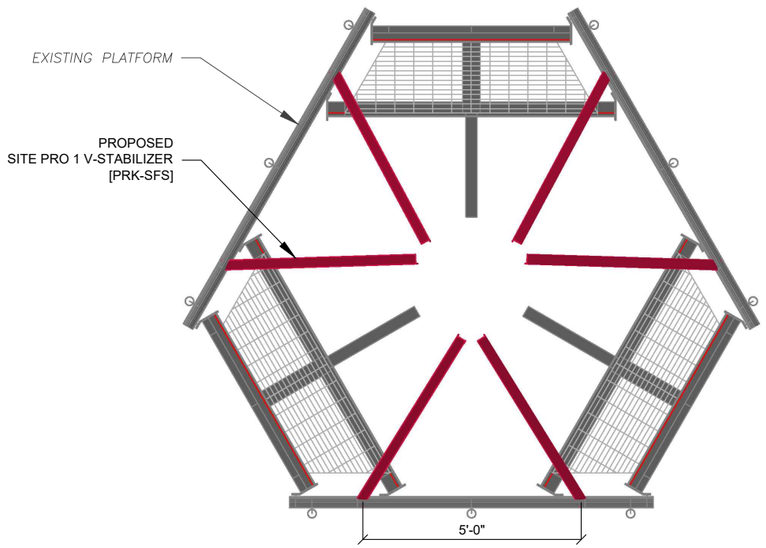
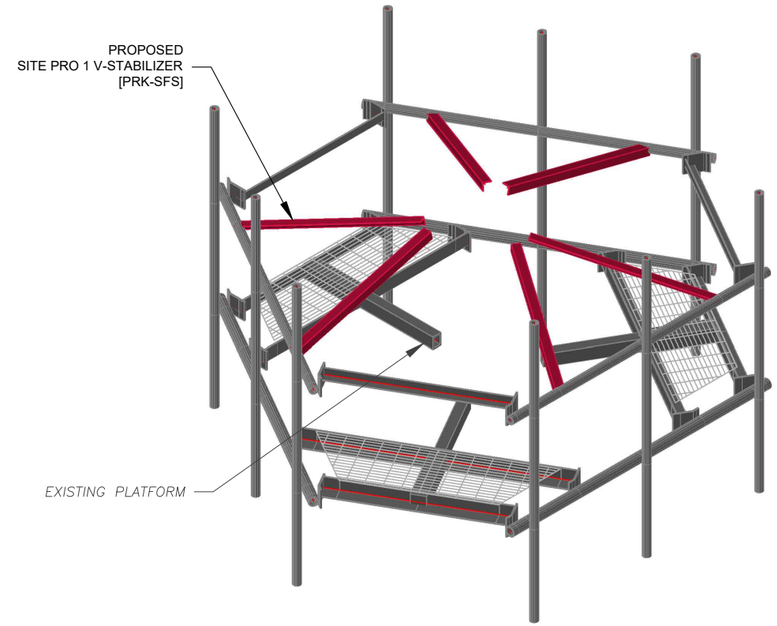
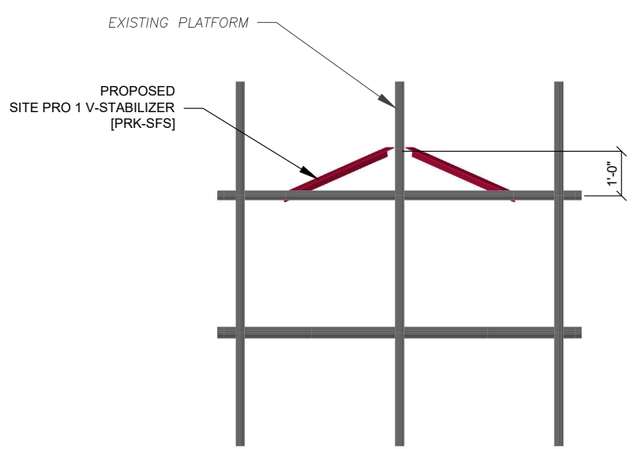


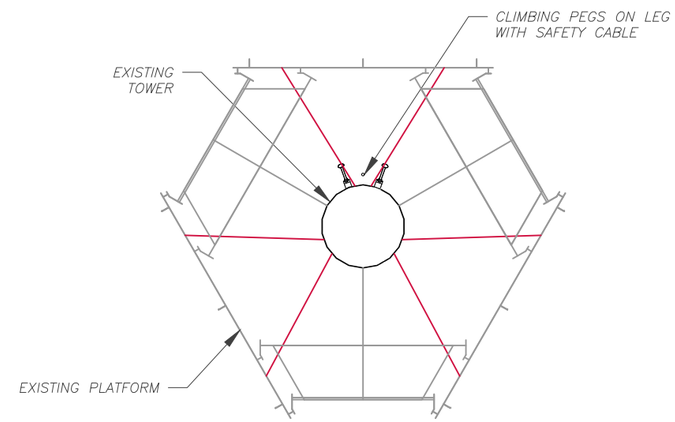
MOUNT MODIFICATION
TOP VIEW



MOUNT MODIFICATION
ISOMETRIC VIEW



MOUNT MODIFICATION
FRONT VIEW



SAFETY CLIMB LOCATION

NOTE:

1. **CONTRACTOR TO INSTALL MOUNT MODIFICATIONS PER THE MANUFACTURERS SPECIFICATION. MODIFICATIONS SHALL NOT OBSTRUCT, INTERFERE, OR BLOCK EXISTING SAFETY CLIMB SYSTEM. IF ANY OF THESE OCCURS DURING INSTALLATION CONTACT THE AMERICAN TOWER PMI INBOX PMI@AMERICANTOWER.COM**
2. **IN THE EVENT A PROPOSED MODIFICATION PART LISTED IN THE DRAWINGS IS NOT AVAILABLE, AN APPROVED EQUIVALENT CAN BE SUBSTITUTED. FOR APPROVAL OF EQUIVALENT PART OR QUESTIONS PLEASE CONTACT AMERICAN TOWER PMI INBOX AT PMI@AMERICANTOWER.COM.**

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

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REV.	DESCRIPTION	BY	DATE
0	FIRST ISSUE	AMM	11/02/20

ATC SITE NUMBER:

370609

ATC SITE NAME:

WIDEFIELD HIGH SCHOOL II

COLORADO

SITE ADDRESS:
515 WIDEFIELD DRIVE
COLORADO SPRINGS, CO 80911

COLORADO LICENSED
MICHAEL EVAN DEESE
PE.0051453
PROFESSIONAL ENGINEER

Authorized by "Patrick P. Barry"
13 Nov 2020 04:39:48
cosign

DRAWN BY:	AMM
APPROVED BY:	MCC
DATE DRAWN:	11/02/20
ATC JOB NO:	13323293_C9_03

MODIFICATION PROFILE

SHEET NUMBER:	REVISION:
S-101	0

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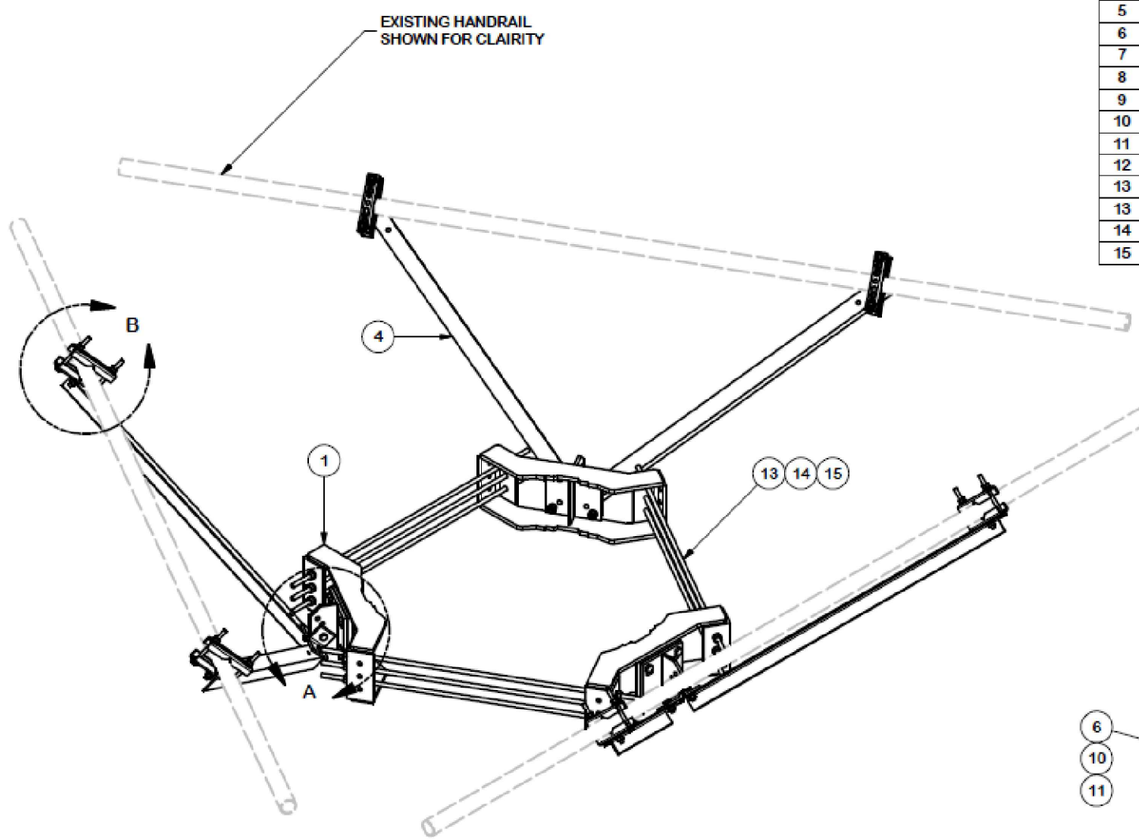
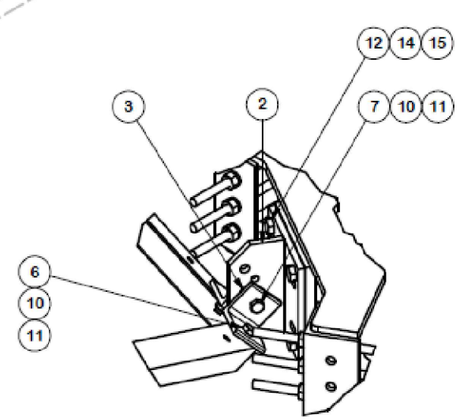
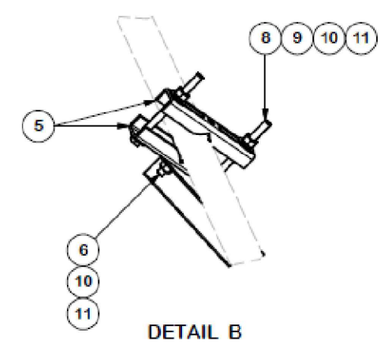
PARTS LIST						
ITEM	QTY	PART NO.	PART DESCRIPTION	LENGTH	UNIT WT.	NET WT.
1	3	X-LWRM	RING MOUNT WELDMENT		68.81	206.42
2	3	X-TBW	T-BRACKET WELDMENT		13.60	40.80
3	6	SHCM-T	CHAIN MOUNT TIGHTENER BRACKET	3 in	1.86	11.15
4	6	X-232697	TRPD-HD DIAGONAL ANGLE - SITE PRO 1	52 1/2 in	14.35	86.08
5	12	X-STU	STIFF ARM CHANNEL BRACKET	8 1/2 in	1.37	16.46
6	12	G12112	1/2" x 1-1/2" HDG HEX BOLT GR5	1/2 in	0.15	1.77
7	3	G12212	1/2" x 2-1/2" HDG HEX BOLT GR5	2 1/2 in	0.20	0.61
8	12	G12065	1/2" x 6-1/2" HDG HEX BOLT GR5 FULL THREAD	6 1/2 in	0.41	4.91
9	24	G12FW	1/2" HDG USS FLATWASHER	3/32 in	0.03	0.82
10	27	G12LW	1/2" HDG LOCKWASHER	1/8 in	0.01	0.38
11	27	G12NUT	1/2" HDG HEAVY 2H HEX NUT		0.07	1.93
12	12	A582114	5/8" x 2-1/4" HDG A325 HEX BOLT	2 1/4 in	0.31	3.75
13	9	G58R-24	5/8" x 24" THREADED ROD (HDG.)	24 in	0.40	3.59
13	9	G58R-48	5/8" x 48" THREADED ROD (HDG.)	48 in	0.40	3.59
14	30	G58LW	5/8" HDG LOCKWASHER		0.03	0.78
15	30	G58NUT	5/8" HDG HEAVY 2H HEX NUT		0.13	3.90
					TOTAL WT. #	587.71





DETAIL A



DETAIL B

TOLERANCE NOTES

TOLERANCES ON DIMENSIONS, UNLESS OTHERWISE NOTED ARE:
SAWED, SHEARED AND GAS CUT EDGES (± 0.030")
DRILLED AND GAS CUT HOLES (± 0.030") - NO CONING OF HOLES
LASER CUT EDGES AND HOLES (± 0.010") - NO CONING OF HOLES
BENDS ARE ± 1/2 DEGREE
ALL OTHER MACHINING (± 0.030")
ALL OTHER ASSEMBLY (± 0.060")

REV	DESCRIPTION OF REVISIONS	CPD	BY	DATE
A	CHANGED MAX. DIA. FOR HANDRAIL CONNECTION	SP1	BC	10/23/2017

REVISION HISTORY

PROPRIETARY NOTE:
THE DATA AND TECHNIQUES CONTAINED IN THIS DRAWING ARE PROPRIETARY INFORMATION OF VALMONT INDUSTRIES AND CONSIDERED A TRADE SECRET. ANY USE OR DISCLOSURE WITHOUT THE CONSENT OF VALMONT INDUSTRIES IS STRICTLY PROHIBITED.

DESCRIPTION: HANDRAIL REINFORCEMENT KIT

SITE PRO 1 — A valmont company
Engineering Support Team: 1-888-753-7446
Locations: New York, NY; Atlanta, GA; Los Angeles, CA; Plymouth, IN; Salem, OR; Dallas, TX

CPD NO.	DRAWN BY	ENG. APPROVAL	PART NO.
SP1	CSL3 2/23/2017	3RD PARTY	PRK-SFS

CLASS	SUB	DRAWING USAGE	CHECKED BY	DWG. NO.
81	02	SHOP	BMC 3/16/2017	PRK-SFS

PAGE 1 OF 3

NOTE: THIS SHEET WAS CREATED BY OTHERS AND PROVIDED AT THE REQUEST OF THE CUSTOMER WITHOUT EDIT. PLEASE REFERENCE THE MOUNT ANALYSIS REPORT FOR COMPLETE MOUNT ANALYSIS CALCULATIONS AND DETAILS. SUPPLEMENTAL PAGES INCLUDED IN THE CONSTRUCTION DRAWINGS ARE FOR REFERENCE ONLY. GENERAL CONTRACTOR IS TO VERYIFY THEY HAVE THE MOST RECENT MOUNT ANALYSIS PRIOR TO CONTRUCTION.

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SUPPLEMENTAL

SHEET NUMBER:	REVISION:
R-601	0

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ATC Engineering Replacement Recommendation

Tower Info	
Tower Number	370609
Tower Name	Widefield High School II
State	Colorado

Additional Info	
Can modifications be Installed?	Yes
What is the post-mod capacity?	92%

Jurisdictional Codes	
Design TIA Code	Unknown
Current TIA Code	ANSI/TIA-222-H
IBC	2015 IBC
Other	-

Project Requirements		
New Mount Face Width	150	in
Number of Sectors	3	

Project Information	
Carrier	T-Mobile
Structure Type	Monopole

Recommended Mount Replacement	Site Pro 1 VFA10-SD-S*

*or approved equivalent

Replacement Cost	$	36,000.00

1:25 PM 10/26/2020

Estimate for Platform w/ Handrails @ 370609 (Widefield High School II) -- 13323293_C9_03

Site Data and Design Parameters	
Asset OTM #	370609
Asset Name	Widefield High School II
State	Colorado
County	El Paso
City	COLORADO SPRINGS
Failing Analysis Eng. #	13323293_C8_01
Mod. Drawing Eng. #	13323293_C9_03

Dates and Designers			
Mount Analysis Date / By	CAD	10/6 / RK	
Design Date / By		10/26/2020 / MCC	
Checked Date / By		/	
Detailer (Prev/Current/Level)		/ / /	
Software		RISA	
Mapping or Cut Sheet Available?		Yes	
Tower Type		Monopole	18-sided
Mount Type		Platform w/ Handrails	

Carriers	
# of RADs	1
Carrier	T-Mobile

Building Codes				
	TIA/IBC:	ANSI/TIA-222-H	/	2015 IBC
	Local:			
Failing Analysis % / Code		153%	/	TIA-H
Post Mod % / Controlling Member		92%	/	Mount Pipes
Usage Limit % / Reason		105%	/	N/A

Any modification design comments or assumptions? **No** *(including notes to the Estimator)*

Full Modification Summary	
Item #	Scope Item
1	Install Site Pro 1 PRK-SFS V Style Stabilizer on All (3) MP sector(s)

As-Is Modification Cost Estimate	$10,000

X:\W-Z\Widefield High School II, CO (370609)\13323293 T-MOBILE\13323293_03_MOUNT_DRW\Mount Modification SOW v1.4.3

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SUPPLEMENTAL

SHEET NUMBER:	REVISION:
R-602	0

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AMERICAN TOWER®
CORPORATION

Antenna Mount Analysis Report

ATC Site Name	:	**Widefield High School II, CO**
ATC Site Number	:	**370609**
Engineering Number	:	**13323293_C9_03**
Mount Elevation	:	**105 ft**
Carrier	:	**T-Mobile**
Carrier Site Name	:	**Widefield - ATC 370609**
Carrier Site Number	:	**DN04166E**
Site Location	:	**523 Widefield Drive** **Colorado Springs, CO 80911-0000** **38.75483333 , -104.7305556**
County	:	**El Paso**
Date	:	**October 26, 2020**
Max Usage	:	**92%**
Result	:	**Contingent Pass**

Prepared By:
Mitchell Chen
Structural Engineer I

Reviewed By:

Table of Contents

Introduction 1
Supporting Documents 1
Analysis 1
Conclusion 1
Antenna Loading 2
Structure Usages 2
Mount Layout 3
Equipment Layout 4
Standard Conditions 7
Calculations ..... Attached

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SUPPLEMENTAL

SHEET NUMBER:	REVISION:
R-603	0

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Introduction

The purpose of this report is to summarize results of the antenna mount analysis performed for T-Mobile at 105 ft.

Supporting Documents

Specifications Sheet	Site Pro 1 SNP8HR-3XX, dated November 21, 2014
Radio Frequency Data Sheet	RFDS ID #DN04166E, dated May 11, 2020
Reference Photos	Site photos from 2020

Analysis

This antenna mount was analyzed using American Tower Corporation's Mount Analysis Program and RISA-3D

Basic Wind Speed:	130 mph (3-Second Gust)
Basic Wind Speed w/ Ice:	50 mph (3-Second Gust) w/ 1/4" radial ice concurrent
Codes:	ANSI/TIA-222-H / 2018 IBC / Larimer County Amendments
Exposure Category:	C
Risk Category:	II
Topographic Factor Procedure:	Method 2
Feature:	Flat
Crest Height (H):	0 ft
Crest Length (L):	0 ft
Spectral Response:	Ss = 0.185, S1 = 0.059
Site Class:	D - Stiff Soil
Live Loads: *	Lm = 500 lbs

*** Based on experience, it has been determined that the Lv load cases will not control over Lm load cases in platform mount analyses. Therefore, these load cases have been excluded from this analysis.**

Conclusion

Based on the analysis results, the antenna mount meets the requirements per the applicable codes listed above provided the modifications listed below are completed:

- Install modifications per ATC drawing #13323293_C9_03.

If you have any questions or require additional information, please contact American Tower via email at Engineering@americantower.com. Please include the American Tower site name, site number, and engineering number in the subject line for any questions.

Application Loading

Mount Centerline (ft)	Antenna Centerline (ft)	Qty	Antenna Model
105.0	108.0	3	Nokia AEHC
		3	Commscope FFHH-65C-R3
		2	Commscope HELIAX FiberFeed 12 RRU Pendant Connect
		3	Nokia AHFIG 70.55 lbs
		3	Nokia AirScale Dual RRH 4T4R B12/71 240W AHLOA

Structure Usages

Structural Component	Controlling Usage	Pass/Fail
Horizontals	34%	Pass
Mount Pipes	92%	Pass
Handrail	52%	Pass
Connection	23%	Pass
Mod-Kit	13%	Pass

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SUPPLEMENTAL

SHEET NUMBER:	REVISION:
R-604	0

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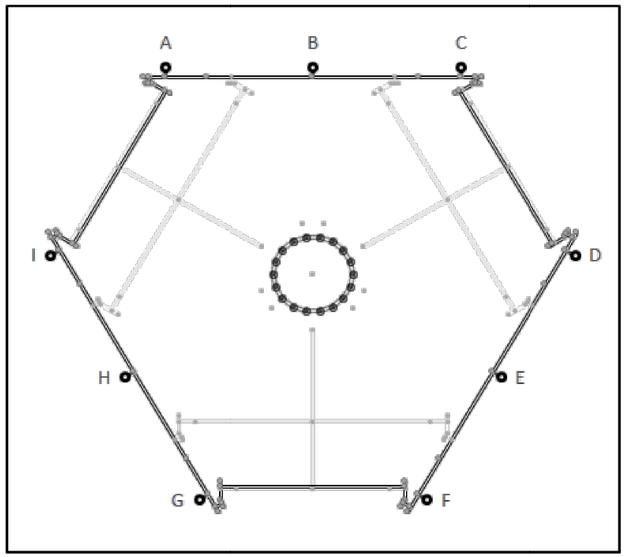
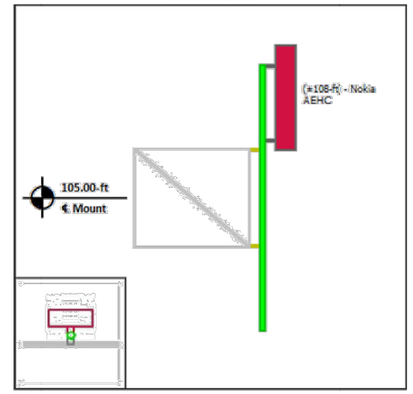
Mount Layout

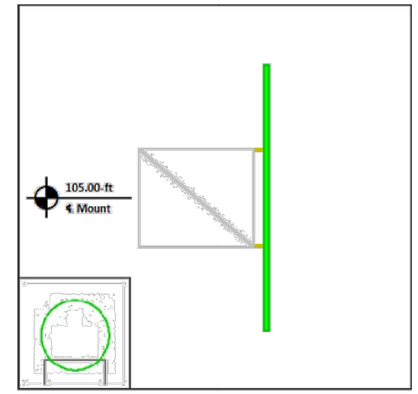


Equipment Layout

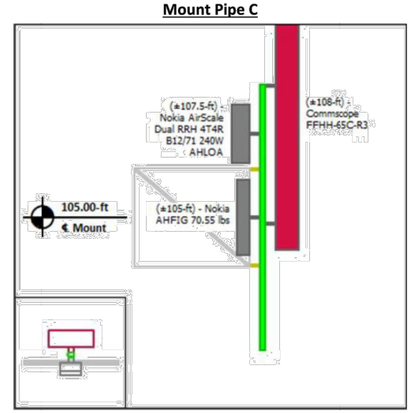
Mount Pipe A



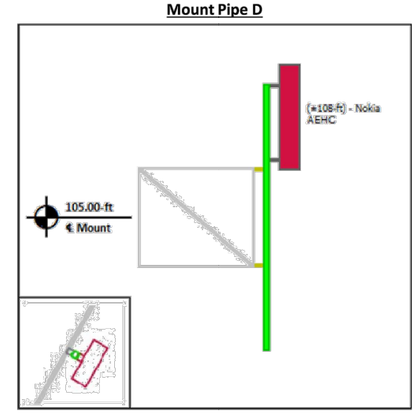
Mount Pipe B



Mount Pipe C



Mount Pipe D



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SUPPLEMENTAL

SHEET NUMBER:	REVISION:
R-605	0

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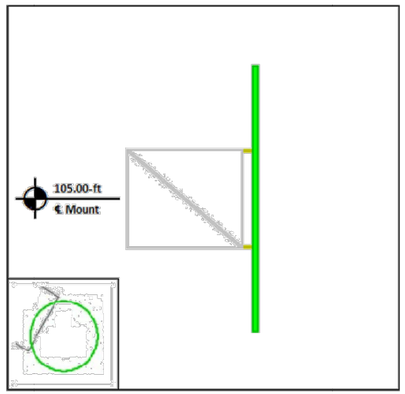
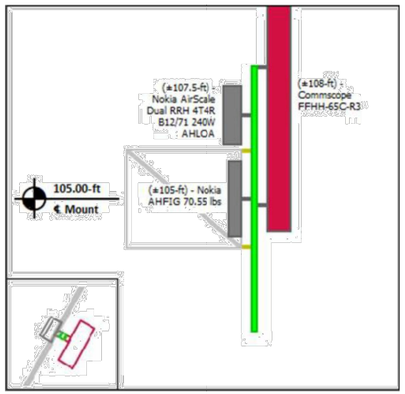
Equipment Layout Cont'd.

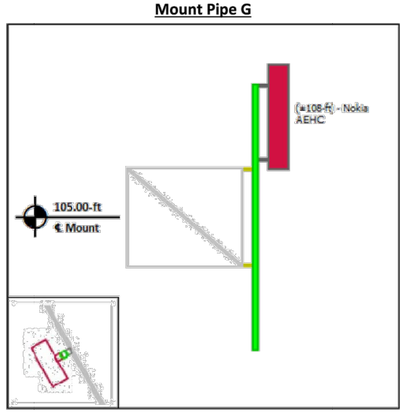
Mount Pipe E



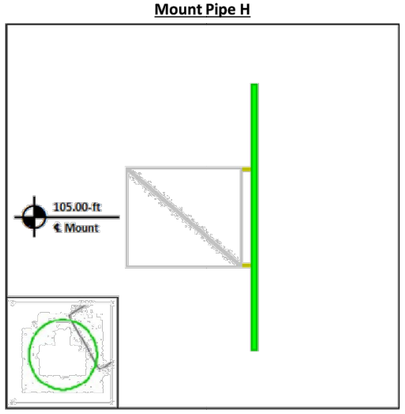
Mount Pipe F



Mount Pipe G

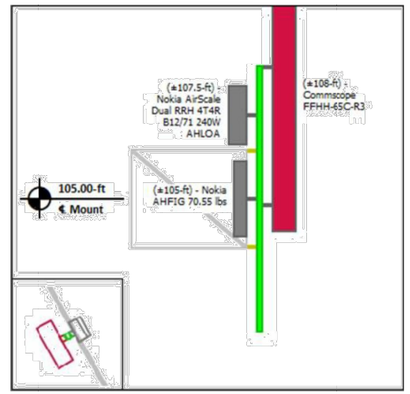


Mount Pipe H



Equipment Layout Cont'd.

Mount Pipe I



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SUPPLEMENTAL

SHEET NUMBER:	REVISION:
R-606	0

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Standard Conditions

All engineering services performed by ATC Tower Services, LLC are prepared on the basis that the information used is current and correct. This information may consist of, but is not limited to the following:

- Information supplied by the client regarding antenna, mounts and feed line loading
- Information from drawings, design and analysis documents, and field notes in the possession of ATC Tower Services, LLC

It is the responsibility of the client to ensure that the information provided to ATC Tower Services, LLC and used in the performance of our engineering services is correct and complete.

American Tower assumes that all structures were constructed in accordance with the drawings and specifications.

All connections are to be verified for condition and tightness by the installation contractor preceding any changes to the appurtenance mounting system and/or equipment attached to it.

Unless explicitly agreed by both the client and ATC Tower Services, LLC, all services will be performed in accordance with the current revision of ANSI/TIA-222.

All services are performed, results obtained, and recommendations made in accordance with generally accepted engineering principles and practices. ATC Tower Services, LLC is not responsible for the conclusions, opinions and recommendations made by others based on the information supplied herein.

Site Number:	*370609*
Project Number:	*13323293_C9_03*
Carrier:	*T-Mobile*
Mount Elevation:	*105 ft*
Date:	10/26/2020

Mount Analysis Force Calculations

Wind & Ice Load Calculations			
Velocity Pressure Coefficient	K_z	1.28	
Topographic Factor	K_{zt}	1.00	
Rooftop Wind Speed-up Factor	K_s	1.00	
Shielding Factor	K_a	0.90	
Ground Elevation Factor	K_e	0.81	
Wind Direction Probability Factor	K_d	0.95	
Basic Wind Speed	V	130	mph
Velocity Pressure	q_z	42.6	psf
Height Escalation Factor	K_{iz}	1.12	
Thickness of Radial Glaze Ice	T_{iz}	0.28	in

Seismic Load Calculations			
Short Period DSRAP	S_{DS}	0.197	
1 Second DSRAP	S_{D1}	0.094	
Importance Factor	I	1.0	
Response Modification Coefficient	R	2.0	
Seismic Response Coefficient	C_S	0.099	
Amplification Factor	A	1.0	
Total Weight	W	2329.8	lbs
Total Shear Force	V_S	229.9	lbs
Horizontal Seismic Load	Eh	229.9	lbs
Vertical Seismic Load	Ev	91.9	lbs

Antenna Calculations (Elevations per Application/RFDS)*

Equipment	Height	Width	Depth	Weight	EPA_N	EPA_T	EPA_{Ni}	EPA_{Ti}
Model #	in	in	in	lbs	sqft	sqft	sqft	sqft
Nokia AEHC	38.2	21.5	8.1	103.6	6.84	1.82	7.13	1.98
Commscope FFHH-65C-R3	96.0	25.2	9.3	125.7	21.14	3.72	21.73	3.97
Commscope HELIAX FiberFeed 12 RRU Pendant Connect	16.9	6.7	4.7	20.0	N/A	N/A	N/A	N/A
Nokia AHFIG 70.55 lbs	27.4	12.1	5.2	70.6	2.76	1.31	2.95	1.48
Nokia AirScale Dual RRH 4T4R B12/71 240W AHLOA	22.0	12.1	7.4	83.8	2.22	1.38	2.38	1.52

**** Equipment with EPA values N/A were not considered in the mount analysis***

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SHEET NUMBER:	REVISION:
R-607	0

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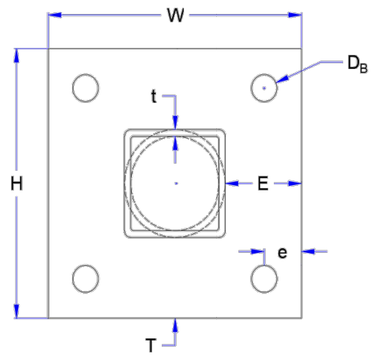
Site Number:	*370609*
Project Number:	*13323293_C9_03*
Carrier:	*T-Mobile*
Mount Elevation:	*105 ft*
Date:	10/26/2020

Mount-to-Tower Connection Analysis

Applied Loads from RISA 3D			
Controlling Load Combination		102	
Node Label		N002	
Force in X	Fx	136.5	lbs
Force in Y	Fy	1353.1	lbs
Force in Z	Fz	-272.5	lbs
Moment about X	Mx	4123.2	lb-ft
Moment about Y	My	-201.6	lb-ft
Moment about Z	Mz	781.0	lb-ft



Bolt Shear and Tensile Capacity			
Bolt Quantity	n	4	
Bolt Diameter	D_B	5/8	in
Bolt Edge Distance	e	1	in
Bolt Grade		A325	
Bolt Fy	Fy_B	92	ksi
Bolt Fu	Fu_B	120	ksi
Applied Shear	Vu	0.48	k
Applied Tension	Tu	4.26	k
Tensile Strength	ϕTn	20.3	k
Interaction Capacity	(Tu+Vu)/ϕTn	23%	Pass

Plate Flexural Capacity			
Plate Height	H	8	in
Plate Width	W	8	in
Plate Thickness	T	3/4	in
Plate Grade		A36	
Plate Fy	Fy_P	36	ksi
Plate Fu	Fu_P	58	ksi
Shear Capacity	ϕVn	40.4	k
Applied Moment	Mu	8.5	k-in
Flexural Strength	ϕMn	58.7	k-in
Flexural Capacity	Mu/ϕMn	14%	Pass

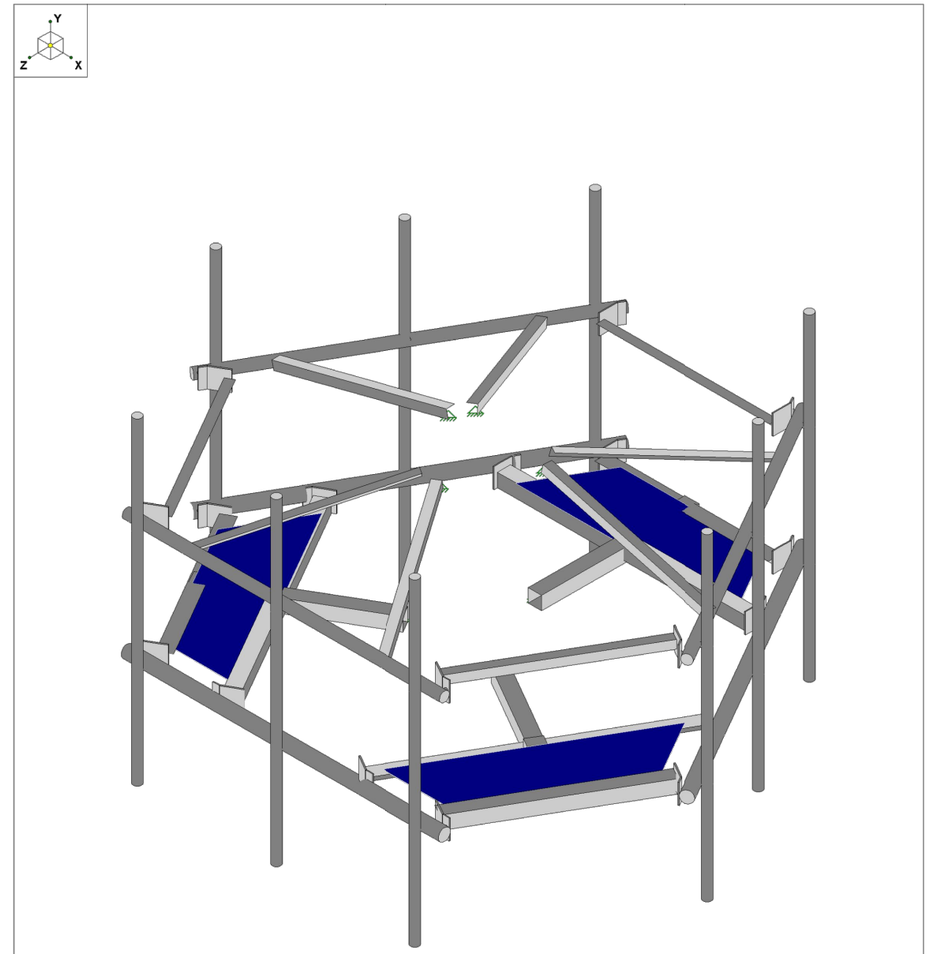
Weld and Base Metal Capacity			
Standoff Type		Tube	
Standoff Member		HSS4x4x4	
Member Edge Distance	E	2	in
Member Width	w	4	in
Member Thickness	t	0.250	in
Member Grade		A53 Gr. B	
Member Fy	Fy_M	35	ksi
Member Fu	Fu_M	60	ksi
Weld Size	a	1/4	in
Weld Length	l	16.0	in
Applied Load	Pu	8.5	k
Weld Strength	ϕRn	44.5	k
Weld Capacity	Pu/ϕRn	19%	Pass

Minimum Base Metal Thickness	0.206	in
Controlling Base Metal Thickness	0.250	in
Base Metal Result	Acceptable	

Prying Action Considerations			
Moment Arm	b	1.00	in
Effective Moment Arm	b'	0.69	in
Tributary Length	p	2.75	in
Effective Edge Distance	a'	1.31	in

Minimum Thickness	t_{min}	0.22	in
No Prying Thickness	t_{np}	0.29	in
Min Bolt Strength Thickness	t_c	0.62	k-in
Prying Action Bolt Tension	T_{up}	0.00	k

v1.1



American Tower Corp.		SK - 1
Mitchell.Chen	370609, Widefield High School II	Oct 26, 2020 at 1:08 PM
13323293_C9_03	3D Rendering (Final Configuration)	R3D. T-MOBILE @ 370609, Widefie...

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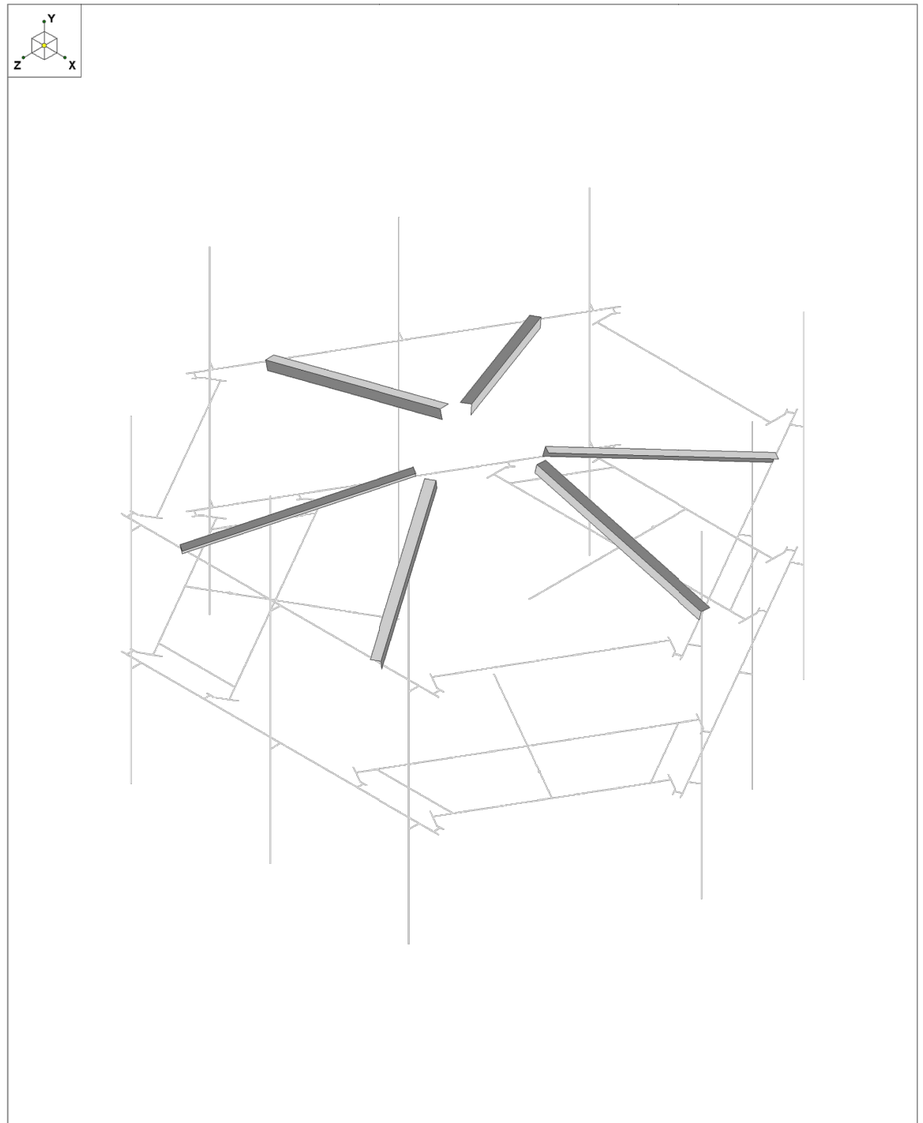

American Tower Corp.		SK - 2
Mitchell.Chen	370609, Widefield High School II	Oct 26, 2020 at 1:08 PM
13323293_C9_03	3D Rendering (Proposed Configuration)	R3D. T-MOBILE @ 370609, Widefie...

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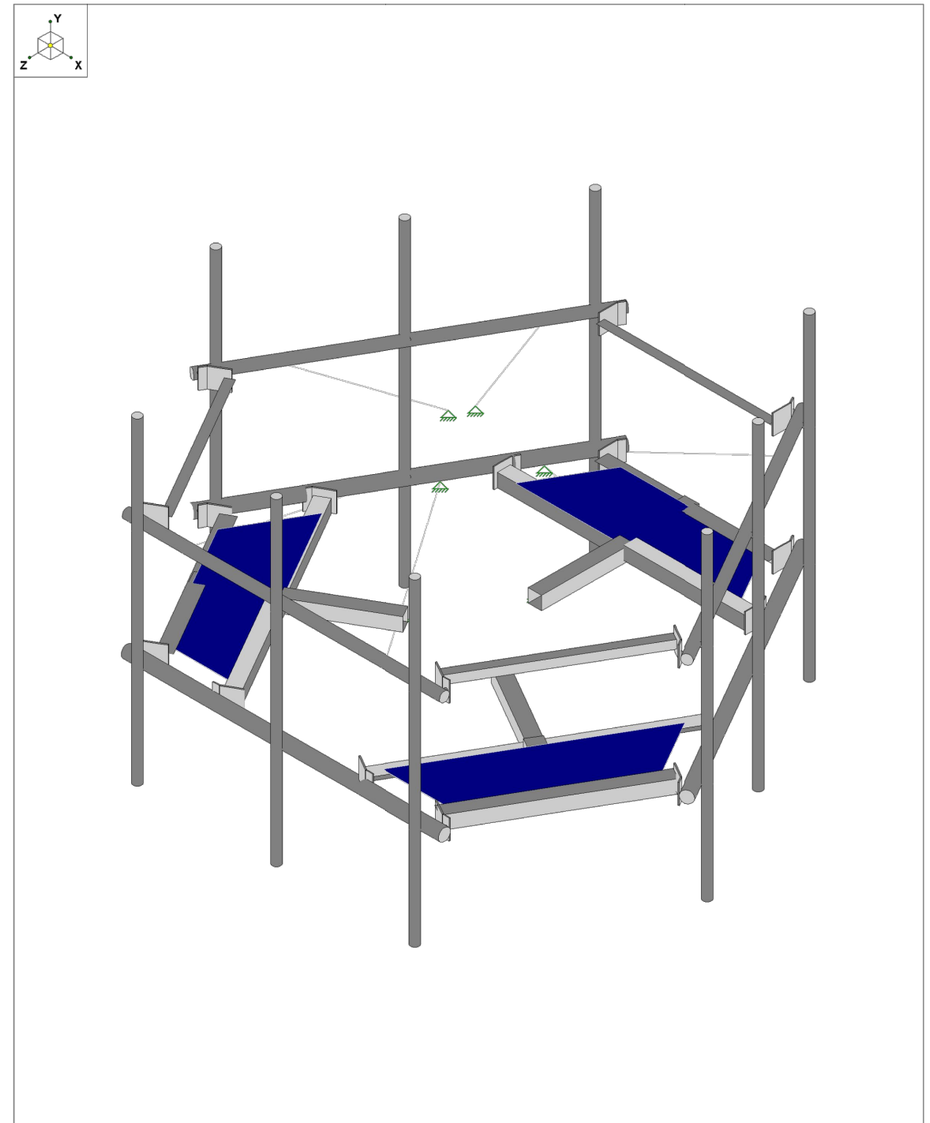

American Tower Corp.		SK - 3
Mitchell.Chen	370609, Widefield High School II	Oct 26, 2020 at 1:08 PM
13323293_C9_03	3D Rendering (Current Configuration)	R3D. T-MOBILE @ 370609, Widefie...

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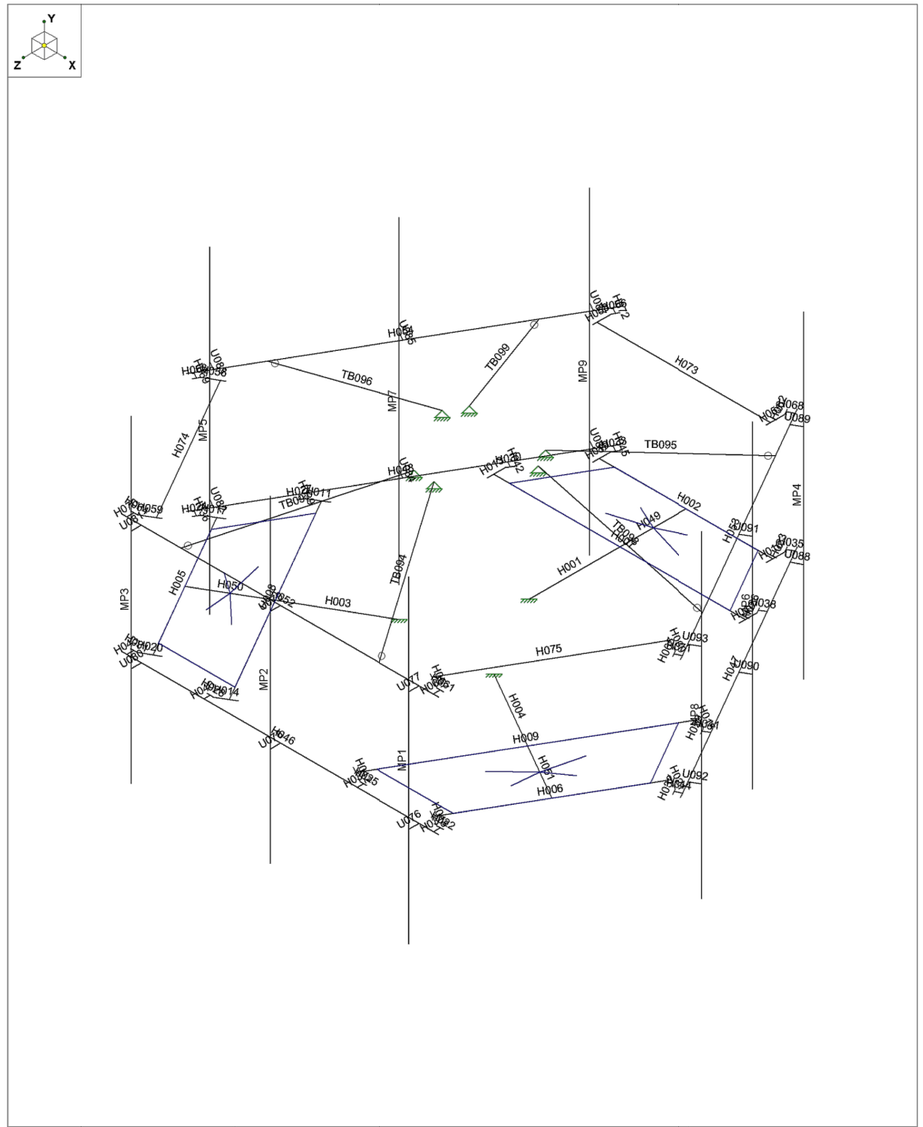

American Tower Corp.	370609, Widefield High School II	SK - 4
Mitchell.Chen		Oct 26, 2020 at 1:09 PM
13323293_C9_03	Member Labels	R3D. T-MOBILE @ 370609, Widefie...

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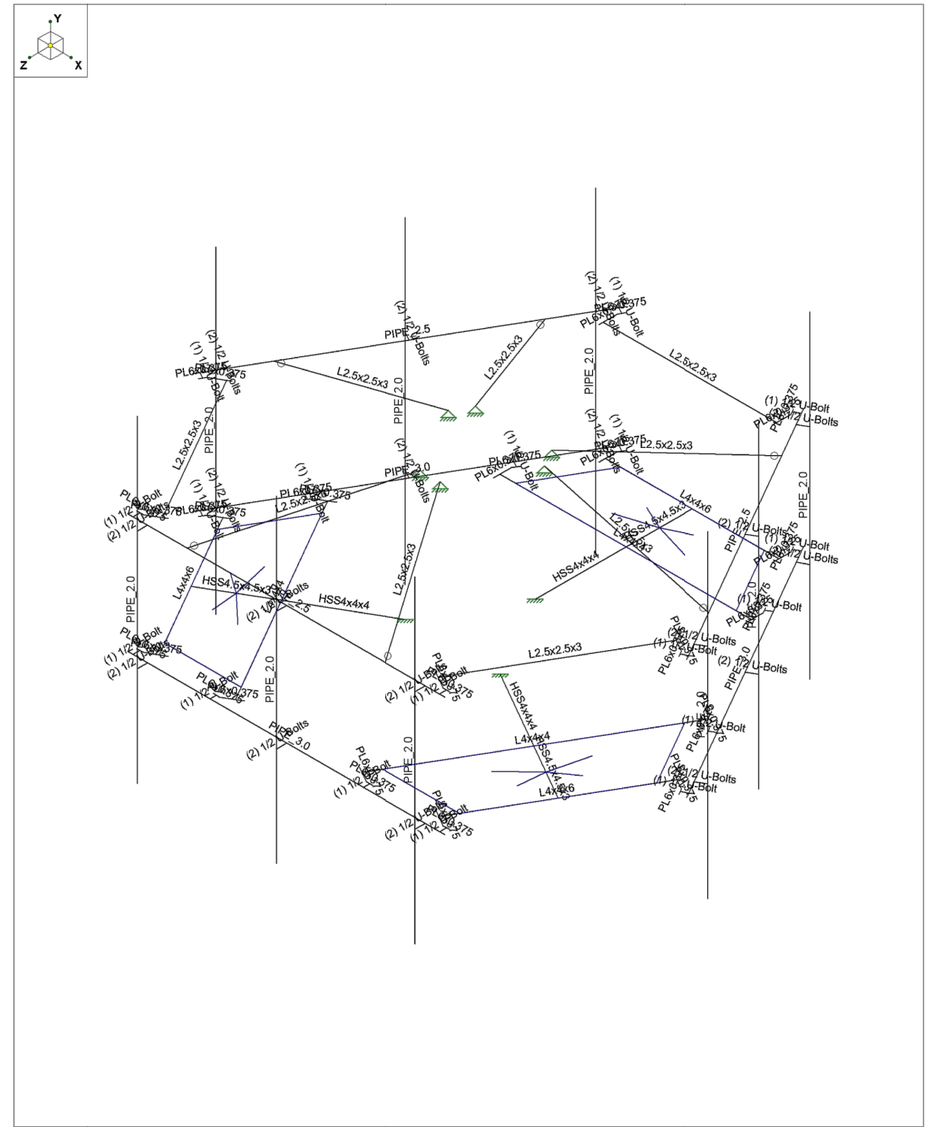

American Tower Corp.	370609, Widefield High School II	SK - 5
Mitchell.Chen		Oct 26, 2020 at 1:09 PM
13323293_C9_03	Member Shapes	R3D. T-MOBILE @ 370609, Widefie...

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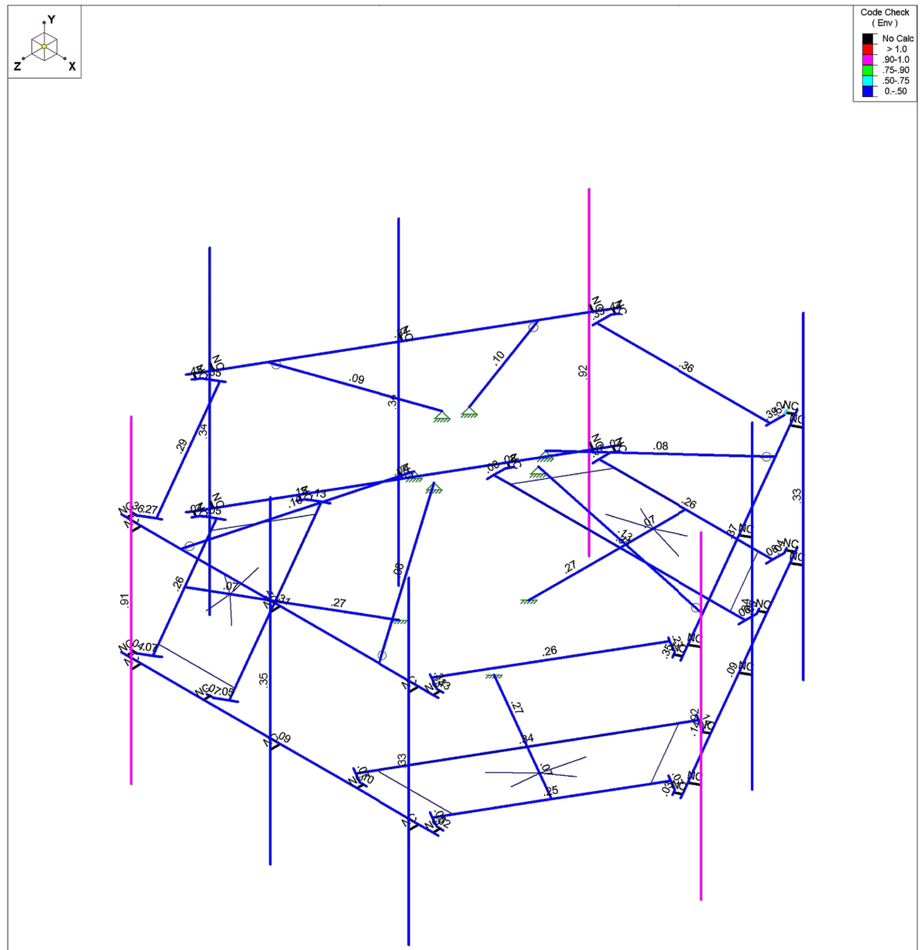

Member Code Checks Displayed (Enveloped)
Results for LC 1, 1.4D

American Tower Corp.		SK - 6
Mitchell.Chen	370609, Widefield High School II	Oct 26, 2020 at 1:09 PM
13323293_C9_03	Unity Bending Checks	R3D. T-MOBILE @ 370609, Widefie...

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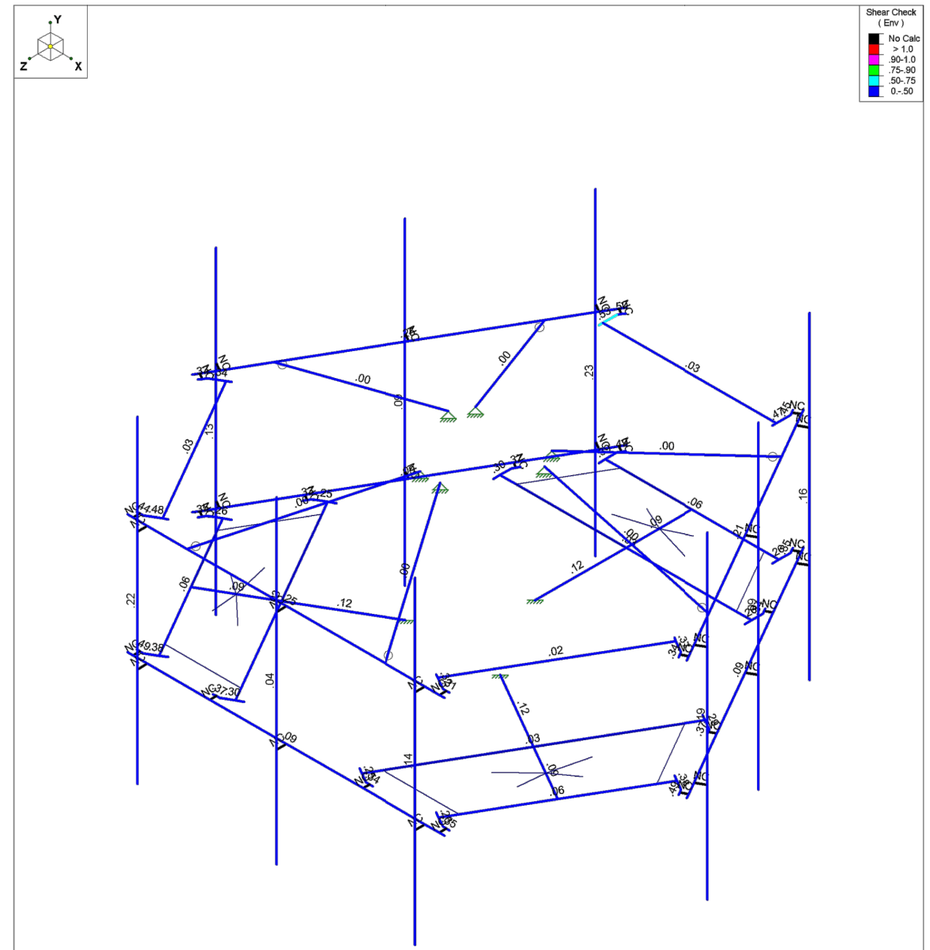

Member Shear Checks Displayed (Enveloped)
Results for LC 1, 1.4D

American Tower Corp.		SK - 7
Mitchell.Chen	370609, Widefield High School II	Oct 26, 2020 at 1:09 PM
13323293_C9_03	Shear Checks	R3D. T-MOBILE @ 370609, Widefie...

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