

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/COLOCATE ONLY)
 - B. AC/TELCO INTERFACE BOX (PIC)
 - C. ICE BRIDGE (CABLE TRAY WITH COVER) (GROUND BUILD/COLOCATE 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/NETA-22, 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 NEGLIGENCE OF THE PART OF THE CONTRACTOR OR HIS REPRESENTATIVES, OR BY THE ELEMENTS DUE TO NEGLIGENCE OF 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.

STRUCTURAL STEEL NOTES:

1. STRUCTURAL STEEL SHALL CONFORM TO THE LATEST EDITION OF THE AISC "SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS".
2. STRUCTURAL STEEL ROLLED SHAPES, PLATES AND BARS SHALL CONFORM TO THE FOLLOWING ASTM DESIGNATIONS:
 - A. ASTM A-572, GRADE 50 - ALL W SHAPES, UNLESS NOTED OR A592 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
3. 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 B655.
4. 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 GALVALITE COLD GALVANIZING COMPOUND PER ASTM A780 AND MANUFACTURER'S RECOMMENDATIONS.
5. DO NOT DRILL HOLES THROUGH STRUCTURAL STEEL MEMBERS EXCEPT AS SHOWN AND DETAILED ON STRUCTURAL DRAWINGS.
6. 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 CONTRACTORS 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 1/2" BEYOND ALL FIELD WELD SURFACES. AFTER WELD AND WELD INSPECTION IS COMPLETE, REPAIR ALL GROUND AND WELDED SURFACES WITH ZRC GALVALITE COLD GALVANIZING COMPOUND PER ASTM A780 AND MANUFACTURERS RECOMMENDATIONS.
- H. THE CONTRACTOR SHALL PROVIDE ADEQUATE SHORING AND/OR BRACING WHERE REQUIRED DURING CONSTRUCTION UNTIL ALL CONNECTIONS ARE COMPLETE.
- I. ANY FIELD CHANGES OR SUBSTITUTIONS SHALL HAVE PRIOR APPROVAL FROM THE ENGINEER, AND T-MOBILE PROJECT MANAGER IN WRITING

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 OF 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 AND PROVIDE PRINTOUT OF THAT TEST.
 - E. CONTRACTOR SHALL PROVIDE FOUR (4) SETS OF SWEEP TESTS USING AIRRITZU-PACKARD BT 138 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 10/5/03. 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:
 1. ALL EXTERIOR #6 GREED GROUND WIRE "DAISY CHAIN" CONNECTIONS ARE TO BE WEATHER SEALED WITH RFS CONNECTORS/SPLICE WEATHERPROOFING KIT #21213 OR EQUAL.
 2. ALL COAXIAL CABLE GROUNDING KITS ARE TO BE INSTALLED ON STRAIGHT RUNS OF COAXIAL CABLE (NOT WITHIN BENDS)

CONCRETE AND REINFORCING STEEL NOTES:

1. DESIGN AND CONSTRUCTION OF ALL CONCRETE ELEMENTS SHALL CONFORM TO THE LATEST EDITIONS OF ALL APPLICABLE CODES INCLUDING: ACI 301 "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS", ACI 117 "SPECIFICATIONS FOR TOLERANCES FOR CONCRETE CONSTRUCTION AND MATERIALS", AND ACI 318 "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE."
2. MIX DESIGN SHALL BE APPROVED BY T-MOBILE REP PRIOR TO PLACING CONCRETE.
3. CONCRETE SHALL BE NORMAL WEIGHT, 6 % AIR ENTRAINED (+/- 1.5%) WITH A slump RANGE OF 3-6" AND HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 4000 PSI UNLESS OTHERWISE NOTED.
4. THE FOLLOWING MATERIALS SHALL BE USED:

PORTLAND CEMENT:	ASTM C150, TYPE 2
REINFORCEMENT:	ASTM A185, PLAIN STEEL WELDED WIRE FABRIC
REINFORCEMENT BARS:	ASTM A615, GRADE 60, DEFORMED
NORMAL WEIGHT AGGREGATE:	ASTM C33
WATER:	ASTM C 94/C 94M
WELDED WIRE FABRIC:	ASTM A185
ADMIXTURES:	
-WATER-REDUCING AGENT:	ASTM C 454/C 454M, TYPE A
-AIR-ENTRERING AGENT:	ASTM C 250/C 250M
-SUPERPLASTICIZER:	ASTM C494, TYPE F OR TYPE G
-RETARDING:	ASTM C 454/C 454M, TYPE B

5. MINIMUM CONCRETE COVER FOR REINFORCING STEEL SHALL BE NO LESS THAN 3".
6. A 3/4" CHAMFER SHALL BE PROVIDED AT ALL EXPOSED EDGES OF CONCRETE IN ACCORDANCE WITH ACI 301 SECTION 4.2.2.4, UNLESS NOTED OTHERWISE.
7. INSTALLATION OF CONCRETE EXPANSION/WEDGE 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. NO REBAR SHALL BE CUT WITHOUT PRIOR APPROVAL FROM AN ATC ENGINEER WHEN DRILLING HOLES IN CONCRETE.
8. ADMIXTURES SHALL CONFORM TO THE APPROPRIATE ASTM STANDARD AS REFERENCED IN "METHOD 1" OF ACI 301.
9. DO NOT WELD OR TACK WELD REINFORCING STEEL.
10. 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.
11. REINFORCEMENT SHALL BE COLD BENT WHENEVER BENDING IS REQUIRED.
12. DO NOT PLACE CONCRETE IN WATER, ICE, OR ON FROZEN GROUND.
13. FOR COLD-WEATHER (ACI 306) AND HOT-WEATHER (ACI 301M) CONCRETE PLACEMENT, CONFORM TO APPLICABLE ACI CODES AND RECOMMENDATIONS. IN EITHER CASE, MATERIALS CONTAINING CHLORIDE, CALCIUM SALTS, ETC. SHALL NOT BE USED. PROTECT FRESH CONCRETE FROM WEATHER FOR 7 DAYS, MINIMUM.
14. ALL CONCRETE SHALL HAVE A "SMOOTH FORM FINISH."
15. SPLICING OF REINFORCEMENT IS PERMITTED ONLY AT LOCATIONS SHOWN IN THE CONTRACT DRAWINGS OR AS ACCEPTED BY THE ENGINEER, UNLESS OTHERWISE SHOWN OR NOTED REINFORCING STEEL SHALL BE SPLICED TO DEVELOP ITS FULL TENSILE CAPACITY (CLASS A) IN ACCORDANCE WITH ACI 318.
16. DETAILING OF REINFORCING STEEL SHALL CONFORM TO "ACI MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES" (ACI 315).
17. ALL SLAB CONSTRUCTION SHALL BE CAST MONOLITHICALLY WITHOUT HORIZONTAL CONSTRUCTION JOINTS, UNLESS SHOWN IN THE CONTRACT DRAWINGS.
18. LOCATION OF ALL CONSTRUCTION JOINTS ARE SUBJECT TO THE REQUIREMENTS OF THE CONTRACT DOCUMENTS, CONFORMANCE WITH ACI 318, AND ACCEPTANCE OF THE ENGINEER. DRAWINGS SHOWING LOCATION OF DETAILS OF THE PROPOSED CONSTRUCTION JOINTS SHALL BE SUBMITTED WITH REINFORCING STEEL PLACEMENT DRAWINGS.
19. 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 THE SPACING OF THE CROSS WIRE PLUS 2 INCHES, NOR LESS THAN 6".
20. BAR SUPPORTS SHALL BE ALL-GALVANIZED METAL WITH PLASTIC TIPS.
21. ALL REINFORCEMENT SHALL BE SECURELY TIED IN PLACE TO PREVENT DISPLACEMENT BY CONSTRUCTION TRAFFIC OR CONCRETE. TIE WIRE SHALL BE OF SUFFICIENT STRENGTH FOR INTENDED PURPOSE, BUT NOT LESS THAN NO. 18 GAUGE.
22. SLAB ON GROUND: COMPACT STRUCTURAL FILL TO 95% DENSITY AND THEN PLACE 6" GRAVEL BENEATH SLAB.

ELECTRICAL NOTES:

1. ELECTRICAL DESIGN SHALL BE PERFORMED BY ELECTRICAL CONTRACTOR. STRUCTURAL DESIGN SHALL BE PERFORMED BY GENERAL CONTRACTOR. ELECTRICAL CONTRACTOR SHALL ENSURE THAT ALL WORK COMPLIES WITH ALL APPLICABLE LOCAL AND STATE CODES AND NATIONAL ELECTRICAL CODE.
2. ALL SUGGESTED ELECTRICAL ELEMENTS (SUCH AS BREAKER SIZES, WIRE SIZES, CONDUITS SIZES ARE FOR ZONING PURPOSES ONLY. IT IS THE RESPONSIBILITY TO OF THE ELECTRICAL CONTRACTOR TO CONFIRM COMPLIANCE WITH LOCAL ELECTRICAL CODES AND PASS ALL APPLICABLE AND NECESSARY INSPECTIONS. IN SOME EVENTS, IT MAY BE NECESSARY TO PERFORM AN ELECTRICAL LOAD STUDY TO VERIFY THE CAPACITY OF THE EXISTING SERVICE. THIS IS NOT THE RESPONSIBILITY OF CONCORDIA. IT IS THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR.
3. CONTRACTOR SHALL FIELD LOCATE ALL BELOW GRADE GROUND LINES AND UTILITY LINES PRIOR TO CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR RELOCATION OF ALL UTILITIES AND GROUND LINES THAT MAY BECOME DISTURBED OR CONFLICTING IN THE COURSE OF CONSTRUCTION.

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.



Colliers Engineering & Design

www.colliersengineering.com

Doing Business as **MASER**

COLUMBIA

6240 Old Dobbin Lane,
Suite 100
Columbia, MD 21045
Phone: 443.393.6021

COLLIERS ENGINEERING & DESIGN, P.C.
DOING BUSINESS AS MASER CONSULTING

Copyright © 2012 Colliers Engineering & Design. All rights reserved. This drawing and all the information contained herein are the confidential and proprietary information of Colliers Engineering & Design. No part of this drawing may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, or by any information storage and retrieval system, without the prior written permission of Colliers Engineering & Design.

REV.	DESCRIPTION	BY	DATE
1	PRELIM	MLH	11/08/21
2	FOR CONSTRUCTION	AMN	11/22/21
3	FOR CONSTRUCTION	AMN	01/07/22
4			
5			

ATC SITE NUMBER:
413030

ATC SITE NAME:
GORHAM WEST, NH PCS NH

T-MOBILE SITE NAME:
4LA0205A - ATC - SST - GORHAM

SITE ADDRESS:
**100 PINE MOUNTAIN TRAIL
GORHAM, NH 03581**

SEAL:

Eric T. Anderson
Professional Engineer
State of New Hampshire
No. 15323

Digitally signed by Eric Anderson
Date: 2022.01.07 18:27:09-05'00'



DATE DRAWN:	11/08/21
ATC JOB NO:	13714958_D3
CUSTOMER ID:	4LA0205A - ATC - SST - GORHAM
CUSTOMER #:	4LA0205A

GENERAL NOTES

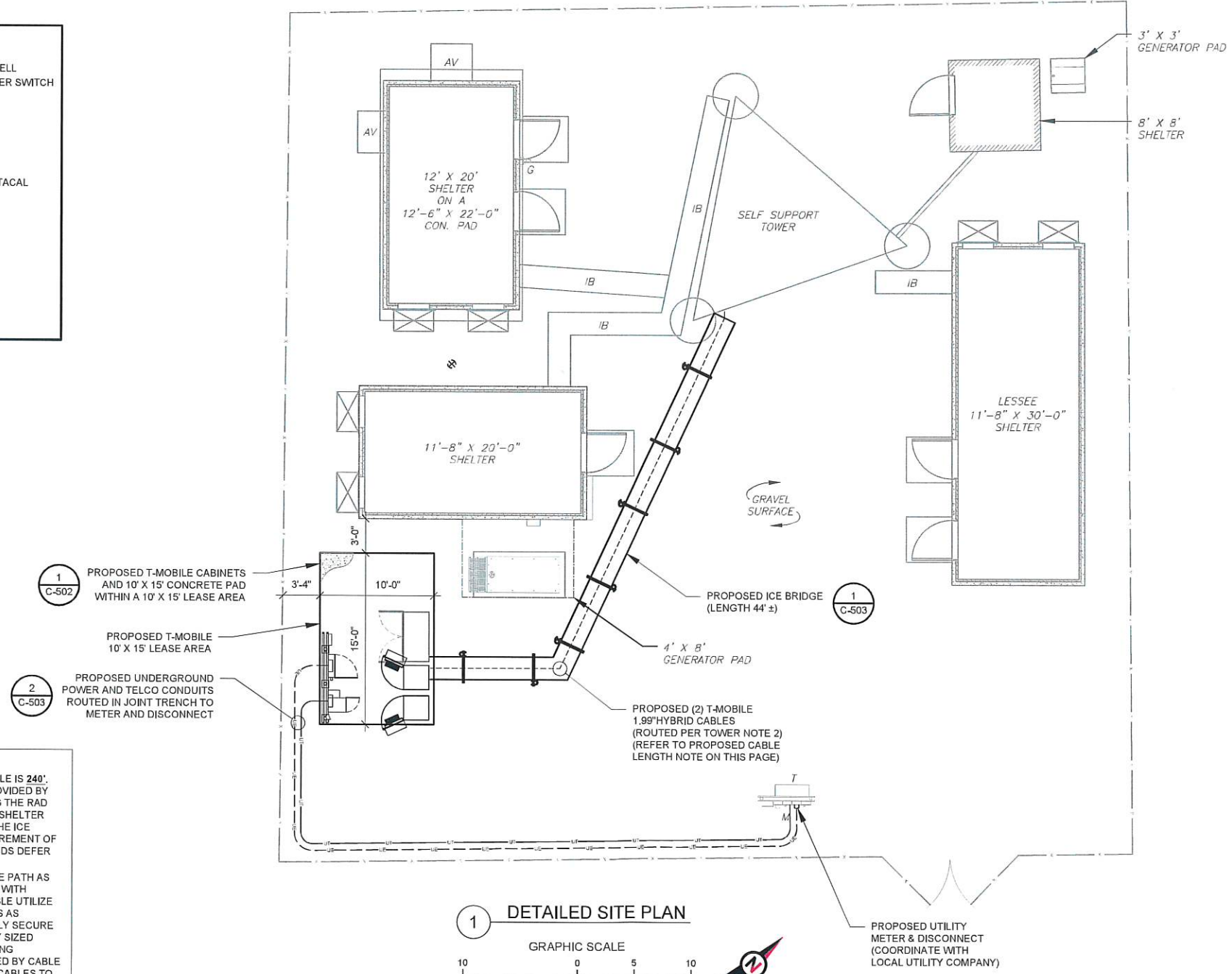
SHEET NUMBER:	REVISION:
G-002	1

Copyright © 2022 ATC IP, LLC. All Rights Reserved.

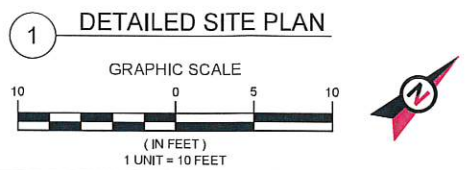
SITE PLAN NOTES:

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. 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.

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
---	CHAINLINK FENCE



- PROPOSED CABLE LENGTH:**
1. ESTIMATED LENGTH OF PROPOSED CABLE IS 240'. 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. WHERE POSSIBLE UTILIZE EXISTING CABLE SUPPORT STRUCTURES AS PROVIDED FOR CARRIER TO ADEQUATELY SECURE CABLES. USING EITHER APPROPRIATELY SIZED STAINLESS STEEL SNAP-INS OR MOUNTING HARDWARE AND BRACKETS AS SPECIFIED BY CABLE MANUFACTURER. OTHERWISE, ATTACH CABLES TO HORIZONTAL OR DIAGONAL TOWER MEMBERS USING PROPOSED STAINLESS STEEL ADAPTERS (DO NOT ATTACH TO TOWER LEG).



Colliers Engineering & Design
 www.colliersengineering.com
 Doing Business as **MASER CONSULTANTS**
 COLUMBIA
 6240 Old Dobbin Lane,
 Suite 100
 Columbia, MD 21045
 Phone: 443.393.6021
 COLLIER ENGINEERING & DESIGN, INC.
 DOING BUSINESS AS MASER CONSULTING

REV.	DESCRIPTION	BY	DATE
△	PRELIM	MLH	11/08/21
△	FOR CONSTRUCTION	AMN	11/22/21
△	FOR CONSTRUCTION	AMN	01/07/22
△			
△			

ATC SITE NUMBER:
413030

ATC SITE NAME:
GORHAM WEST, NH PCS NH

T-MOBILE SITE NAME:
4LA0205A - ATC - SST - GORHAM

SITE ADDRESS:
100 PINE MOUNTAIN TRAIL
GORHAM, NH 03581

SEAL:

ERIC T. ANDERSON
No. 15323

E.T. Anderson

Digitally signed by Eric Anderson
Date: 2022.01.07 18:27:12-0500

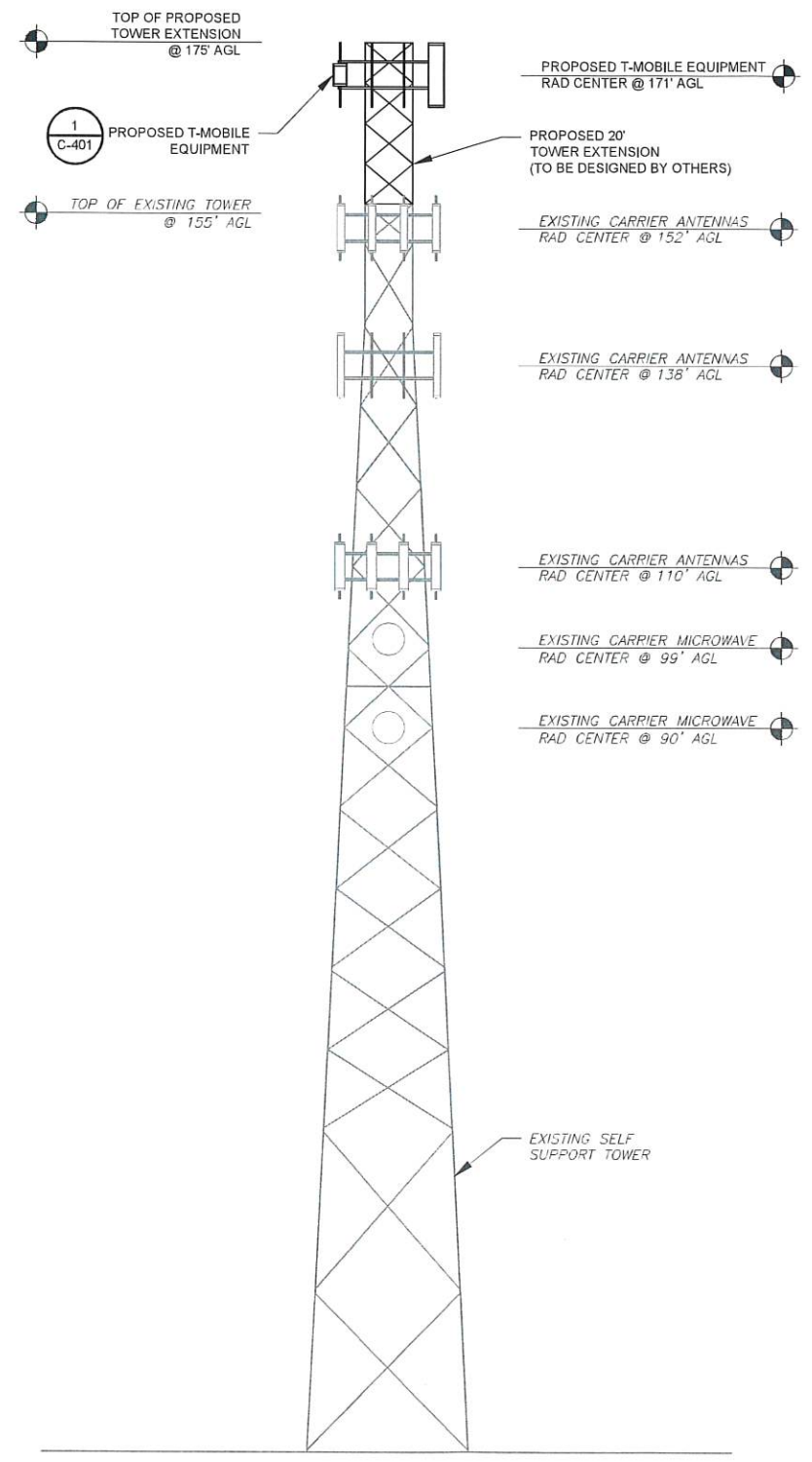


DATE DRAWN:	11/08/21
ATC JOB NO:	13714968_D3
CUSTOMER ID:	4LA0205A - ATC - SST - GORHAM
CUSTOMER #:	4LA0205A

DETAILED SITE PLAN

SHEET NUMBER:	REVISION:
C-101	1

Copyright © 2022 ATC IP LLC, All Rights Reserved.



1 TOWER ELEVATION
SCALE: N.T.S.

PER MOUNT ANALYSIS COMPLETED BY AMERICAN TOWER CORPORATION, DATED 11/01/21, THE PROPOSED MOUNT CAN ADEQUATELY SUPPORT THE PROPOSED LOADING.

COLLIERS ENGINEERING & DESIGN HAS NOT ANALYZED THE TOWER FOR THE PROPOSED EXTENSION AND EQUIPMENT. TOWER EXTENSION TO BE DESIGNED BY OTHERS, PER THE STRUCTURAL ANALYSIS BY TOWER ENGINEERING PROFESSIONALS DATED 11/03/21 THE PROPOSED TOWER EXTENSION SHALL BE DESIGNED IN FUTURE SERVICE

- TOWER NOTE:**
- 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.
 - 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.
 - ROUTE PROPOSED CABLES ALONG SAME PATH AS EXISTING CABLES AND IN ACCORDANCE WITH STRUCTURAL ANALYSIS. WHERE POSSIBLE UTILIZE EXISTING CABLE SUPPORT STRUCTURES AS PROVIDED FOR CARRIER TO ADEQUATELY SECURE CABLES, USING EITHER APPROPRIATELY SIZED STAINLESS STEEL SNAP-INS OR MOUNTING HARDWARE AND BRACKETS AS SPECIFIED BY CABLE MANUFACTURER. OTHERWISE, ATTACH CABLES TO HORIZONTAL OR DIAGONAL TOWER MEMBERS USING PROPOSED STAINLESS STEEL ADAPTERS (DO NOT ATTACH TO TOWER LEG).
 - TOWER ELEVATIONS ARE MEASURED FROM TOP OF BASE PLATE TO MATCH STRUCTURAL ANALYSIS. ELEVATIONS DO NOT REFLECT TRUE ABOVE GROUND LEVEL (A.G.L.)



Colliers Engineering & Design

www.colliersengineering.com
Doing Business as **MASER CONSULTING**

COLUMBIA
6240 Old Dobbin Lane,
Suite 100
Columbia, MD 21045
Phone: 443.393.6021
COLLIERS ENGINEERING & DESIGN, INC.
DOING BUSINESS AS MASER CONSULTING

REV.	DESCRIPTION	BY	DATE
1	PRELIM	MLH	11/08/21
2	FOR CONSTRUCTION	AMN	11/22/21
3	FOR CONSTRUCTION	AMN	01/07/22

ATC SITE NUMBER:
413030

ATC SITE NAME:
GORHAM WEST, NH PCS NH

T-MOBILE SITE NAME:
4LA0205A - ATC - SST - GORHAM

SITE ADDRESS:
100 PINE MOUNTAIN TRAIL
GORHAM, NH 03581

SEAL:

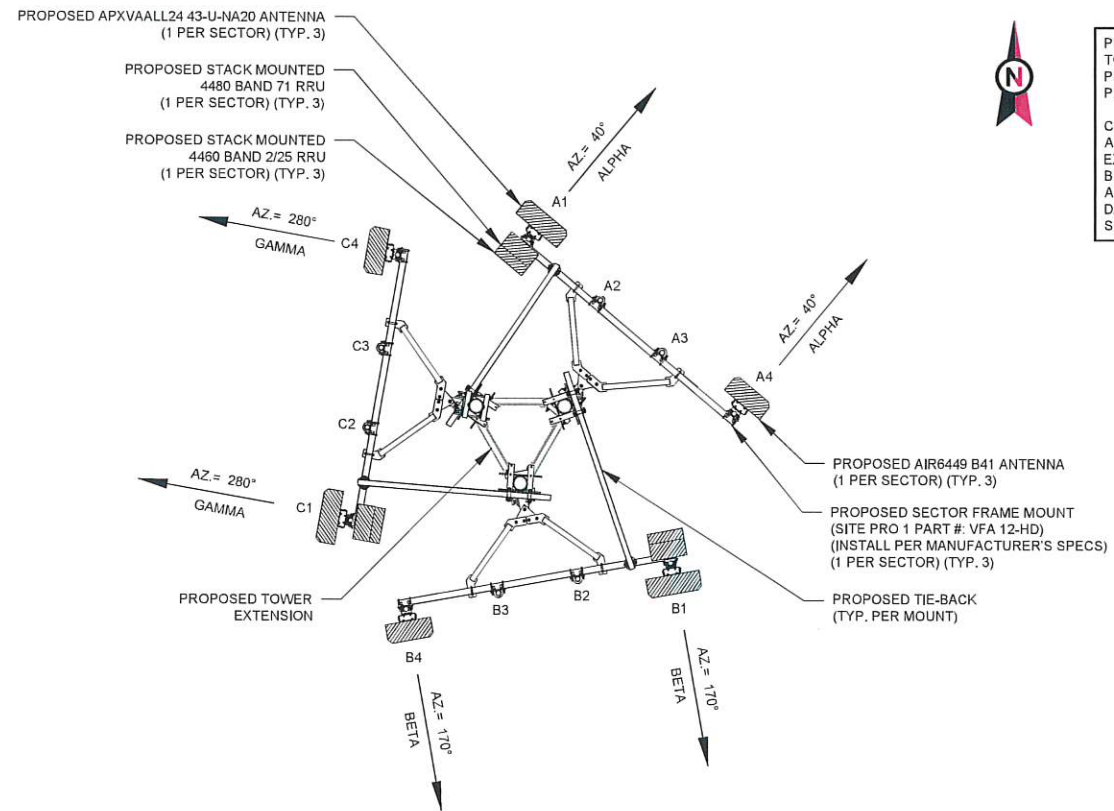


DATE DRAWN:	11/08/21
ATC JOB NO:	13714968_D3
CUSTOMER ID:	4LA0205A - ATC - SST - GORHAM
CUSTOMER #:	4LA0205A

TOWER ELEVATION

SHEET NUMBER:	REVISION:
C-201	1

Copyright © 2022 ATC IP LLC, All Rights Reserved.



PER MOUNT ANALYSIS COMPLETED BY AMERICAN TOWER CORPORATION, DATED 11/01/21. THE PROPOSED MOUNT CAN ADEQUATELY SUPPORT THE PROPOSED LOADING.

COLLIERS ENGINEERING & DESIGN HAS NOT ANALYZED THE TOWER FOR THE PROPOSED EXTENSION AND EQUIPMENT. TOWER EXTENSION TO BE DESIGNED BY OTHERS, PER THE STRUCTURAL ANALYSIS BY TOWER ENGINEERING PROFESSIONALS DATED 11/03/21 THE PROPOSED TOWER EXTENSION SHALL BE DESIGNED IN FUTURE SERVICE

1 FINAL ANTENNA PLAN
SCALE: N.T.S.

FINAL ANTENNA SCHEDULE								
LOCATION			ANTENNA SUMMARY			NON ANTENNA SUMMARY		
SECTOR	RAD	AZ	POS	ANTENNA	BAND	MECH/ELEC D-TILT	ADDITIONAL TOWER MOUNTED EQUIPMENT	DISTRIBUTION BOX / CABLING
ALPHA	171'	40°	A1	APXVAALL24 43-U-NA20	L700/L600/N600/L2100/L1900/G1900	0/5/5/3/3	4480 BAND 71 4460 BAND 2/25	(2) 1.99" HYBRID CABLES W/ PENDANT
			A2	-	-	-	-	
			A3	-	-	-	-	
			A4	AIR6449 B41	L2500/N2500	0/2/2	-	
BETA	171'	170°	B1	APXVAALL24 43-U-NA20	L700/L600/N600/L2100/L1900/G1900	0/2/2/1/1	4480 BAND 71 4460 BAND 2/25	
			B2	-	-	-	-	
			B3	-	-	-	-	
			B4	AIR6449 B41	L2500/N2500	0/1/1	-	
GAMMA	171'	280°	C1	APXVAALL24 43-U-NA20	L700/L600/N600/L2100/L1900/G1900	0/4/4/2/2	4480 BAND 71 4460 BAND 2/25	
			C2	-	-	-	-	
			C3	-	-	-	-	
			C4	AIR6449 B41	L2500/N2500	0/2/2	-	

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.

2 ANTENNA SCHEDULE



Colliers Engineering & Design

www.colliersengineering.com
Doing Business as MASER CONSULTING
COLUMBIA
6240 Old Dobbin Lane,
Suite 100
Columbia, MD 21045
Phone: 443.393.6021
COLLIERS ENGINEERING & DESIGN, INC.
DOING BUSINESS AS MASER CONSULTING

REV.	DESCRIPTION	BY	DATE
1	PRELIM	MLH	11/08/21
2	FOR CONSTRUCTION	AMN	11/22/21
3	FOR CONSTRUCTION	AMN	01/07/22

ATC SITE NUMBER:
413030

ATC SITE NAME:
GORHAM WEST, NH PCS NH

T-MOBILE SITE NAME:
4LA0205A - ATC - SST - GORHAM

SITE ADDRESS:
100 PINE MOUNTAIN TRAIL
GORHAM, NH 03581

SEAL:

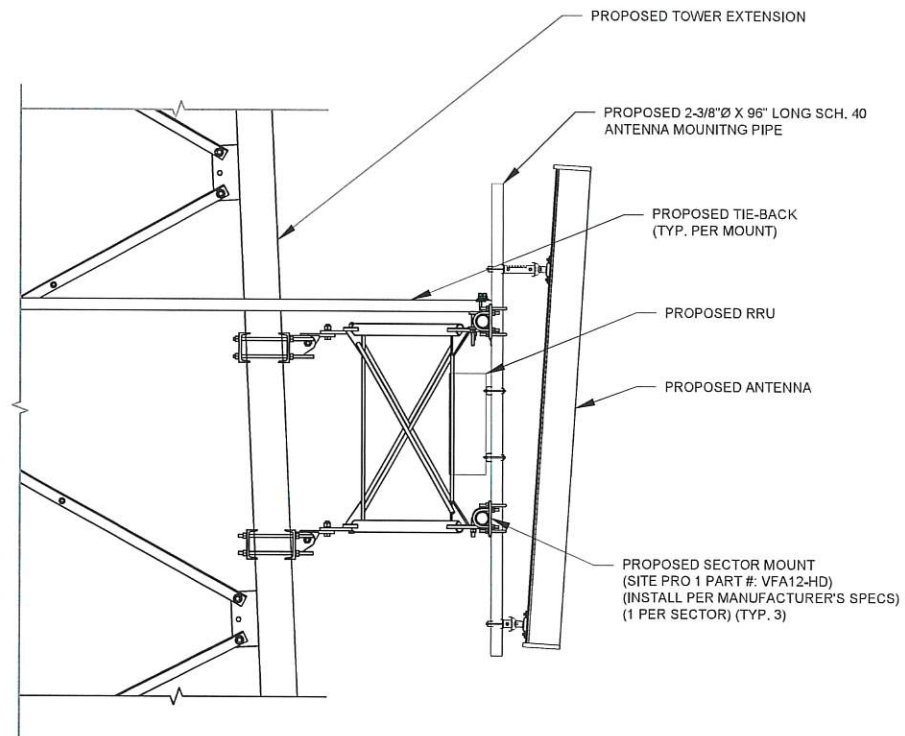


DATE DRAWN:	11/08/21
ATC JOB NO:	13714968_D3
CUSTOMER ID:	4LA0205A - ATC - SST - GORHAM
CUSTOMER #:	4LA0205A

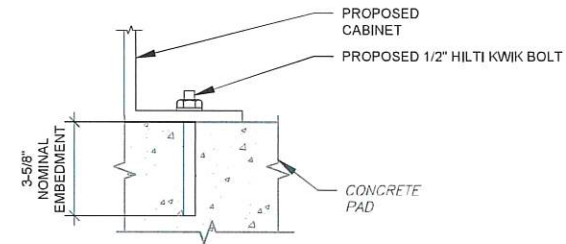
ANTENNA INFORMATION & SCHEDULE

SHEET NUMBER:	REVISION:
C-401	1

Copyright © 2022 ATC IP, LLC. All Rights Reserved.



1 PROPOSED ANTENNA MOUNTING DETAIL (ELEVATION)
SCALE: NOT TO SCALE



NOTE:

INSTALL HILTI KWIK BOLT ANCHORS STRICTLY PER INSTALLATION INSTRUCTIONS INCLUDED WITH PRODUCT OR FOUND ONLINE AT WWW.US.HILTI.COM. PROPER INSTALLATION IS CRITICAL FOR FULL PERFORMANCE.

2 CABINET ATTACHMENT DETAIL
SCALE: NOT TO SCALE



Colliers Engineering & Design

www.colliersengineering.com
Doing Business as MASER CONSULTING
COLUMBIA
6240 Old Dobbin Lane,
Suite 100
Columbia, MD 21045
Phone: 443.393.6021
COLLIERS ENGINEERING & DESIGN, INC.
DOING BUSINESS AS MASER CONSULTING

Copyright © 2022 Colliers Engineering & Design. All rights reserved. This drawing and all other information contained herein are the property of Colliers Engineering & Design, Inc. and its subsidiaries. No part of this drawing may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, or by any information storage and retrieval system, without the prior written permission of Colliers Engineering & Design, Inc.

REV.	DESCRIPTION	BY	DATE
△	PRELIM	MLH	11/08/21
△	FOR CONSTRUCTION	AMN	11/22/21
△	FOR CONSTRUCTION	AMN	01/07/22
△			
△			

ATC SITE NUMBER:
413030

ATC SITE NAME:
GORHAM WEST, NH PCS NH

T-MOBILE SITE NAME:
4LA0205A - ATC - SST - GORHAM

SITE ADDRESS:
100 PINE MOUNTAIN TRAIL
GORHAM, NH 03581

SEAL:

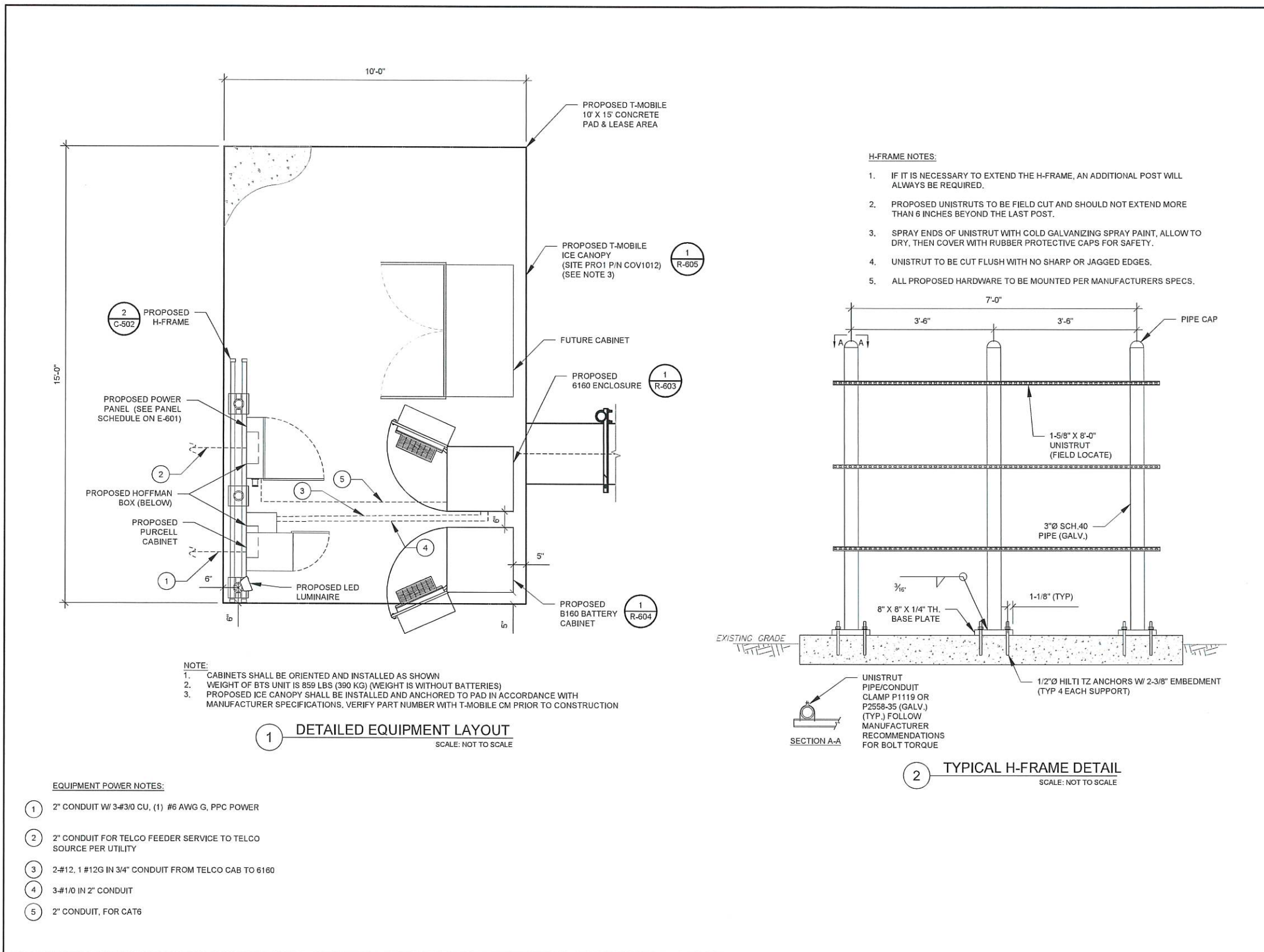


DATE DRAWN:	11/08/21
ATC JOB NO:	13714968_D3
CUSTOMER ID:	4LA0205A - ATC - SST - GORHAM
CUSTOMER #:	4LA0205A

CONSTRUCTION
DETAILS

SHEET NUMBER:	REVISION:
C-501	1

Copyright © 2022 ATC IP, LLC. All Rights Reserved.



Colliers Engineering & Design

www.colliersengineering.com
 Doing Business as MASER CONSULTING
 COLUMBIA
 6240 Old Dobbin Lane,
 Suite 100
 Columbia, MD 21045
 Phone: 443.393.6021
 COLLIER ENGINEERING & DESIGN, P.C.
 DOING BUSINESS AS MASER CONSULTING

REV.	DESCRIPTION	BY	DATE
△	PRELIM	MLH	11/08/21
△	FOR CONSTRUCTION	AMN	11/22/21
△	FOR CONSTRUCTION	AMN	01/07/22
△			
△			

ATC SITE NUMBER:
413030

ATC SITE NAME:
GORHAM WEST, NH PCS NH

T-MOBILE SITE NAME:
4LA0205A - ATC - SST - GORHAM

SITE ADDRESS:
100 PINE MOUNTAIN TRAIL
GORHAM, NH 03581

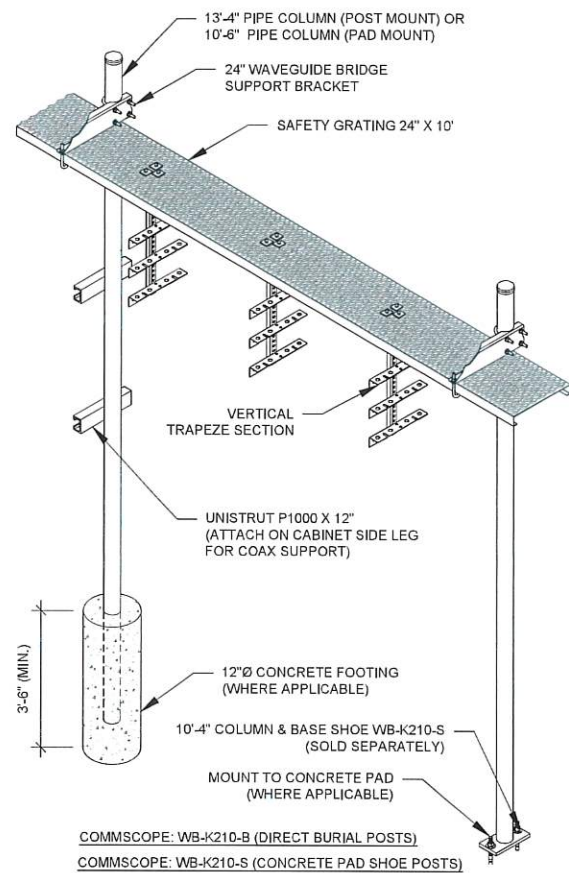


DATE DRAWN:	11/08/21
ATC JOB NO:	13714968_D3
CUSTOMER ID:	4LA0205A - ATC - SST - GORHAM
CUSTOMER #:	4LA0205A

CONSTRUCTION DETAILS

SHEET NUMBER:	REVISION:
C-502	1

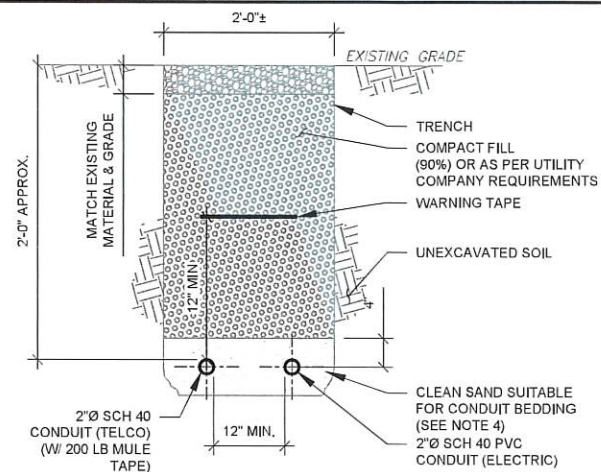
Copyright © 2022 ATC IP LLC, All Rights Reserved.



CONSTRUCTION NOTE:

1. INSTALL ICE BRIDGE TO ALLOW 7 FEET CLEARANCE ABOVE GRADE TO LOWEST APPURTENANCE.
2. INSTALL PER MANUFACTURES SPECIFICATION.

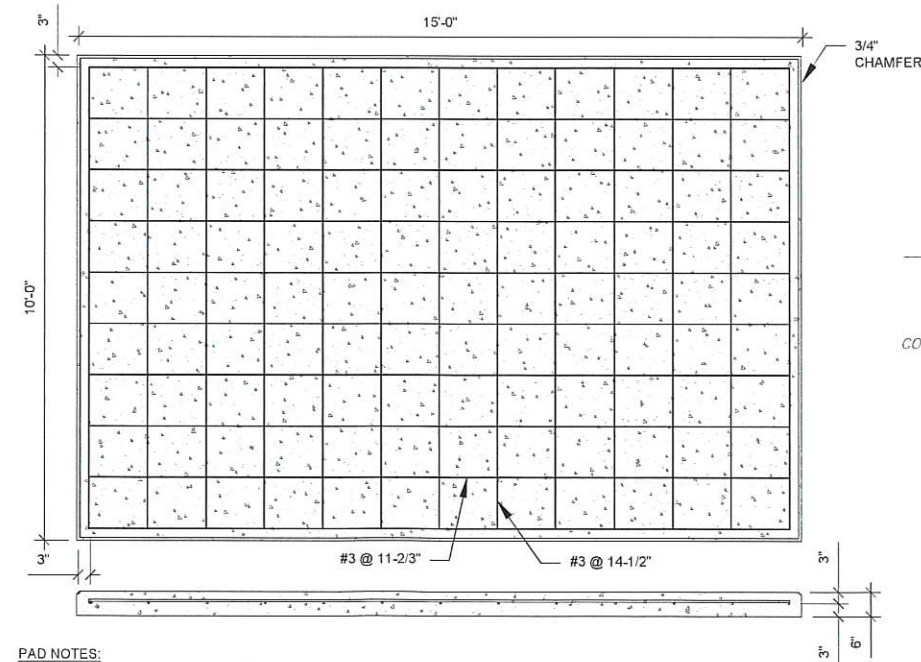
1 WAVEGUIDE BRIDGE KIT
SCALE: NOT TO SCALE



TRENCH NOTES:

1. IF FREE OF ORGANIC OR OTHER DELETERIOUS MATERIAL, EXCAVATED MATERIAL MAY BE USED FOR BACKFILL.
2. IF NOT, PROVIDE CLEAN, COMPACTIBLE MATERIAL. COMPACT IN 8" LIFTS. REMOVE ANY LARGE ROCKS PRIOR TO BACKFILLING. CONTRACTOR TO VERIFY LOCATION OF EXISTING U/G UTILITIES PRIOR TO DIGGING.
3. IF CURRENT AS-BUILT DRAWINGS ARE NOT AVAILABLE CONTRACTOR SHALL HAND DIG U/G TRENCHING.
4. CONCRETE ENCASE CONDUIT WHEN TRENCHING UNDER SITE ACCESS ROAD.

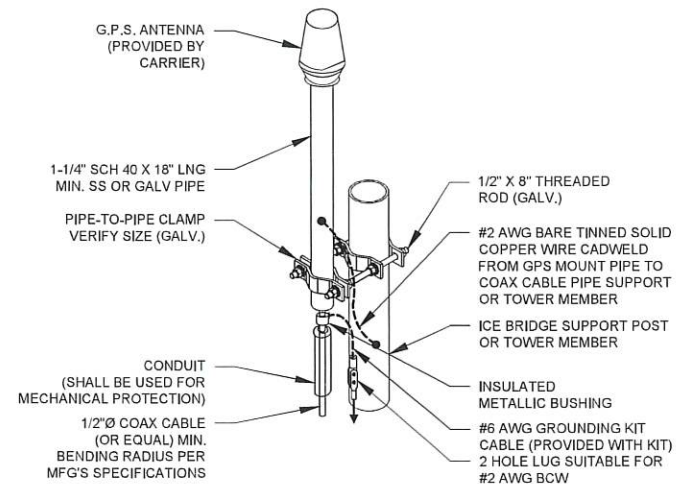
2 TELCO AND POWER CONDUIT JOINT TRENCH
SCALE: N.T.S.



PAD NOTES:

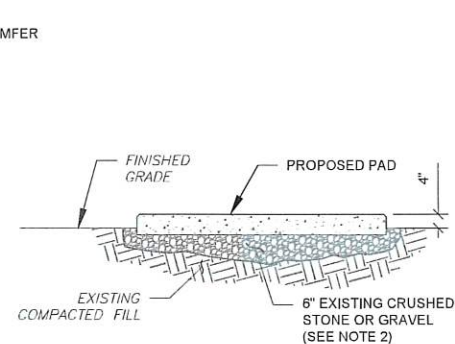
1. PADS SHALL BE PRE-CAST MATCHING THIS DESIGN WHERE ALLOWED BY LOCAL JURISDICTION.
2. REFER TO CONCRETE & REINFORCED STEEL NOTES ON SHEET G-002 & ATC SPEC 033000 FOR CAST-IN-PLACE PADS.

4 REINFORCED PAD LAYOUT
SCALE: NOT TO SCALE



- NOTE:**
1. GPS SHALL BE PLACED WITH CLEAR SIGHT LINE TO THE SOUTHERN SKY.
 2. CONTRACTOR TO SUPPLY COAX FOR GPS UNIT.

3 GPS ANTENNA ATTACHMENT DETAIL
SCALE: NOT TO SCALE



PAD NOTES:

1. SUBGRADE AND FILL SHALL CONSIST OF CLEAN SOIL. DELETRIOUS MATERIAL AND ORGANICS SHALL BE REMOVED.
2. MECHANICALLY COMPACT FOOTPRINT OF PAD PLUS 2' PERIMETER.
3. USE GALVANIZED HILTI EXPANSION ANCHORS OR, APPROVED EQUAL, FOR EQUIPMENT ANCHORAGE.
4. FOR SIZE AND LOCATION OF ANCHORS AND OTHER REQUIREMENT, SEE EQUIPMENT VENDOR DRAWINGS.

5 GRAVEL PREPARATION
SCALE: NOT TO SCALE



Colliers Engineering & Design

www.colliersengineering.com

Doing Business as **MASER CONSULTING**

COLUMBIA
6240 Old Dobbin Lane,
Suite 100
Columbia, MD 21045
Phone: 443.393.6021
COLLIERS ENGINEERING & DESIGN, INC.
DOING BUSINESS AS MASER CONSULTING

Copyright © 2022 Colliers Engineering & Design. All Rights Reserved. This drawing and all other information contained herein is the confidential and proprietary information of Colliers Engineering & Design, Inc. and its affiliates. No part of this drawing may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, or by any information storage and retrieval system, without the prior written permission of Colliers Engineering & Design, Inc.

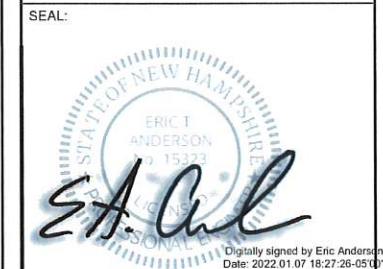
REV.	DESCRIPTION	BY	DATE
A	PRELIM	MLH	11/08/21
B	FOR CONSTRUCTION	AMN	11/22/21
C	FOR CONSTRUCTION	AMN	01/07/22
D			

ATC SITE NUMBER:
413030

ATC SITE NAME:
GORHAM WEST, NH PCS NH

T-MOBILE SITE NAME:
4LA0205A - ATC - SST - GORHAM

SITE ADDRESS:
100 PINE MOUNTAIN TRAIL
GORHAM, NH 03581



DATE DRAWN:	11/08/21
ATC JOB NO:	13714968_D3
CUSTOMER ID:	4LA0205A - ATC - SST - GORHAM
CUSTOMER #:	4LA0205A

CONSTRUCTION DETAILS

SHEET NUMBER:	REVISION:
C-503	1

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 MINIMUM 12" BEND RADIUS. KEEP NUMBER OF BENDS TO A MINIMUM.
 - 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.
2. INSTALL ALL GROUNDING RINGS AND RADIALS WITH CONDUCTIVE CEMENT, SANKOSHA AS DISTRIBUTED BY ELECTRIC MOTION COMPANY, INC., WINSTED, CT 06098, OR AS SPECIFICALLY INDICATED. INSTALL PER MANUFACTURER'S SPECIFICATIONS.
3. GROUND RINGS SHALL BE:
 - A. MINIMUM 30" 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 RADII.
 - D. WITH ALL CONNECTIONS IN CONTACT WITH EARTH, BONDED BY EXOTHERMIC WELDING.
 - E. BONDED TO A SINGLE POINT GROUND (SPG) WITH A SINGLE WIRE AS INDICATED ON DRAWINGS.
4. 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. MINIMUM TWO (2) RODS ON THE TOWER RING OR ONE (1) PER LEG WHICHEVER IS LARGER. MINIMUM FOUR (4) RODS ON EVERY EQUIPMENT BUILDING RING WITH ONE AT EACH CORNER OR AS INDICATED. MINIMUM ONE (1) ROD FOR POWER SERVICE GROUNDING ELECTRODE, AND MINIMUM ONE (1) ROD AT END OF EACH RADIAL.
5. 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.

EQUIPMENT POWER NOTES:

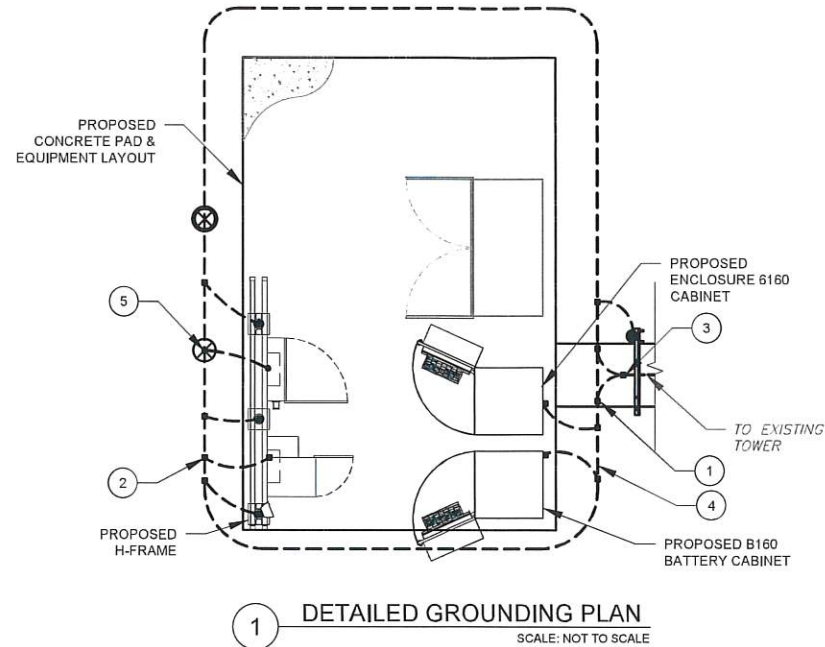
- 1 2" CONDUIT W/ 3-#3/0 CU, (1) #6 AWG G, PPC POWER
- 2 2" CONDUIT W/ MULE TAPE FOR TELCO FEEDER SERVICE TO TELCO SOURCE PER UTILITY
- 3 2-#12, 1 #12G IN 3/4" CONDUIT FROM TELCO CAB TO 6160
- 4 3-#1/0, 1-#6 IN 2" CONDUIT
- 5 2" CONDUIT, FOR CAT6

GROUNDING PLAN LEGEND:

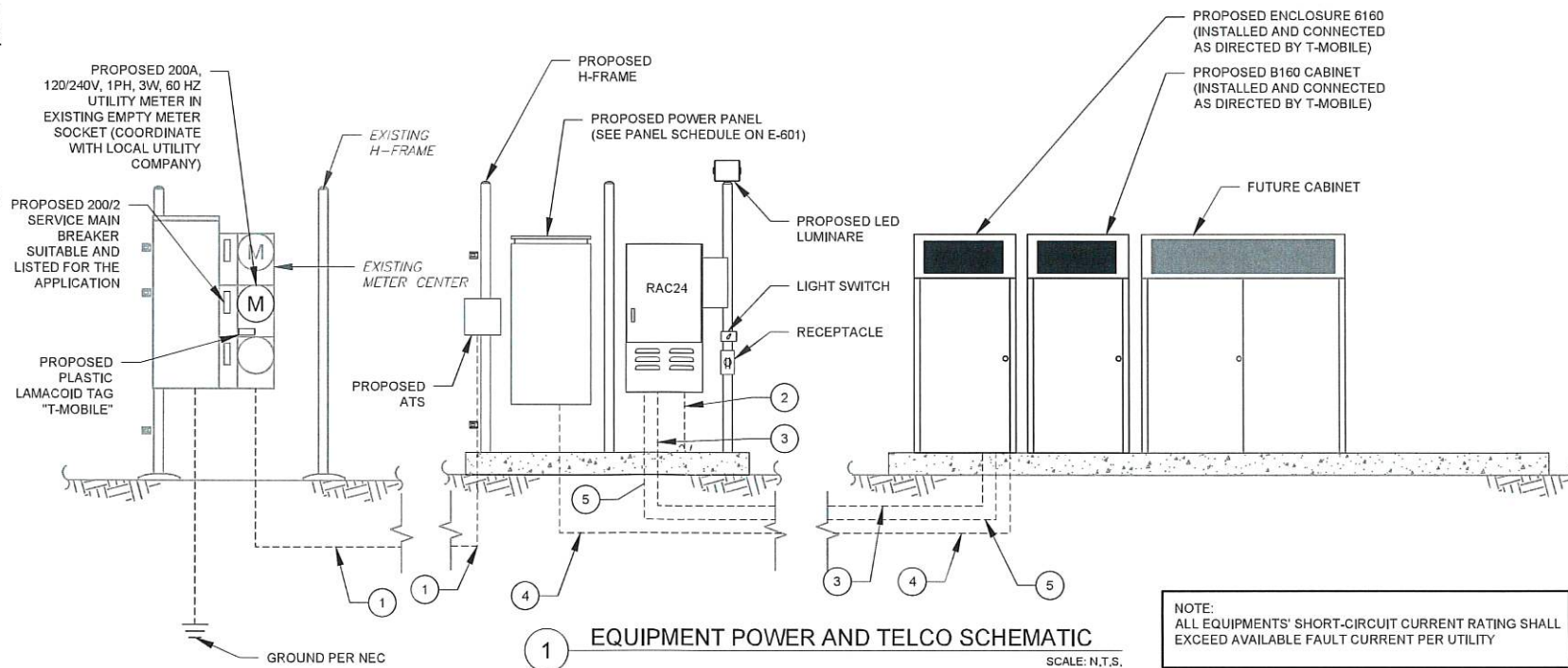
- EXISTING GROUND WIRE
- - - GROUND WIRE
- EXOTHERMIC WELD
- MECHANICAL WELD
- ⊗ COPPER GROUND ROD
- ⊗ TEST WELL

GROUNDING KEYED NOTES:

- 1 BOND TO TOWER GROUND RING
- 2 #2 AWG BOND FROM VERTICAL H-FRAME AND ICE BRIDGE POST TO EXTERNAL GROUND RING (TYP. EVERY POST).
- 3 #2 AWG SBTC BOND FROM TOWER GROUND RING TO EQUIPMENT.
- 4 EQUIPMENT BOND TO GROUND RING (TYP.)
- 5 5/8" X 10 FT GROUND ROD.



1 DETAILED GROUNDING PLAN
SCALE: NOT TO SCALE



1 EQUIPMENT POWER AND TELCO SCHEMATIC
SCALE: N.T.S.

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



Colliers Engineering & Design

www.colliersengineering.com
Doing Business as MASER CONSULTING
COLUMBIA
6240 Old Dobbin Lane, Suite 100
Columbia, MD 21045
Phone: 443.393.6021
COLLIERS ENGINEERING & DESIGN, INC.
DOING BUSINESS AS MASER CONSULTING

REV.	DESCRIPTION	BY	DATE
△	PRELIM	MLH	11/08/21
△	FOR CONSTRUCTION	AMN	11/22/21
△	FOR CONSTRUCTION	AMN	01/07/22
△			
△			

ATC SITE NUMBER:
413030
ATC SITE NAME:
GORHAM WEST, NH PCS NH
T-MOBILE SITE NAME:
4LA0205A - ATC - SST - GORHAM
SITE ADDRESS:
100 PINE MOUNTAIN TRAIL
GORHAM, NH 03581

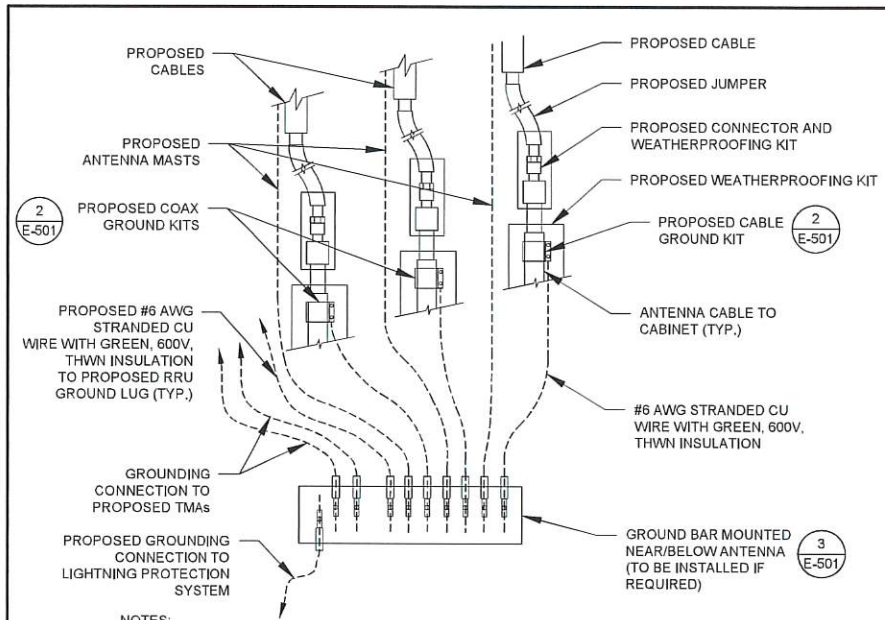
SEAL:
ERIC T. ANDERSON
Professional Engineer
No. 15323
Date: 2022.01.07 18:27:28-05'07'



DATE DRAWN:	11/08/21
ATC JOB NO:	13714968_D3
CUSTOMER ID:	4LA0205A - ATC - SST - GORHAM
CUSTOMER #:	4LA0205A

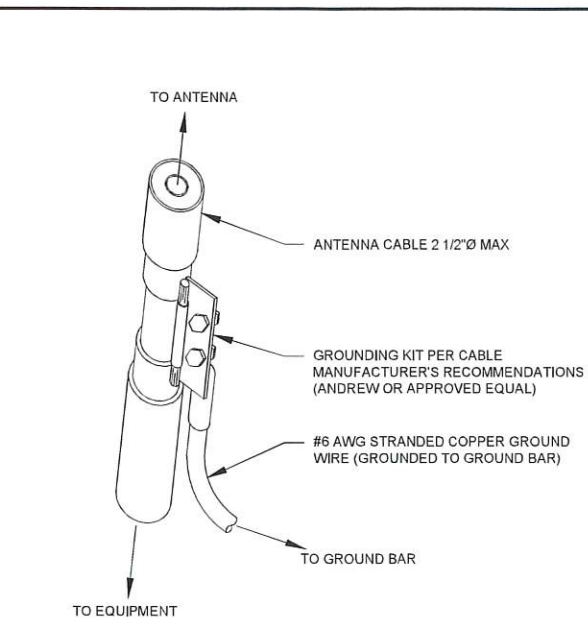
GROUNDING DETAILS & ELECTRICAL SCHEMATIC

SHEET NUMBER:	REVISION:
E-101	1



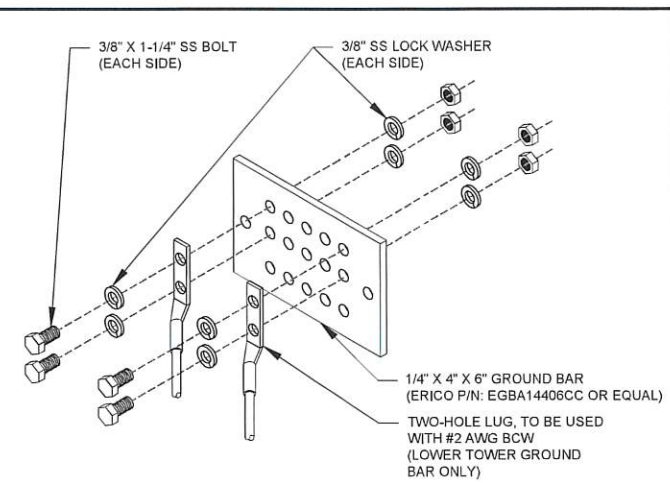
- NOTES:
1. THIS DETAIL IS INTENDED TO SHOW THE GENERAL GROUNDING REQUIREMENTS. SLIGHT ADJUSTMENTS MAY BE REQUIRED BASED ON EXISTING SITE CONDITIONS. THE CONTRACTOR SHALL MAKE FIELD ADJUSTMENTS AS NEEDED AND INFORM THE CONSTRUCTION MANAGER OF ANY CONFLICTS.
 2. SITE GROUNDING SHALL COMPLY WITH T-MOBILE 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.



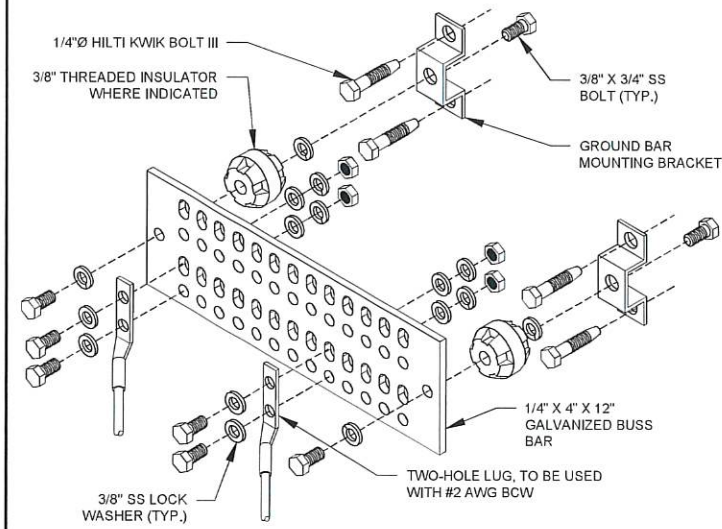
- GROUND KIT NOTES:
1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO GROUND BAR.
 2. CONTRACTOR SHALL PROVIDE WEATHERPROOFING KIT (ANDREW PART NUMBER 221213) AND INSTALL TAPE PER MANUFACTURER'S SPECIFICATIONS.

2 CABLE GROUND KIT CONNECTION DETAIL
 SCALE: N.T.S.



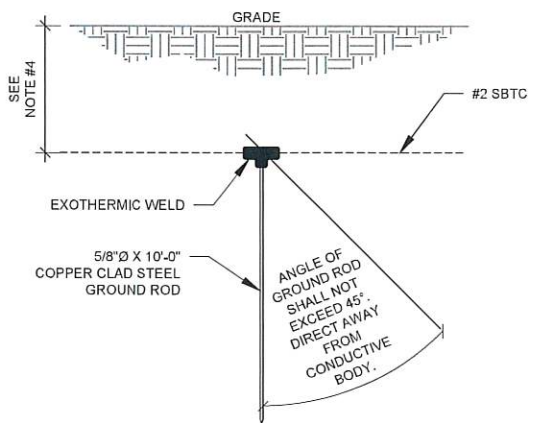
- GROUND BAR NOTES:
1. GROUND BAR KITS COME WITH ALL HARDWARE, NUTS, BOLTS, WASHERS, ETC. EXCEPT THE STRUCTURAL MOUNTING MEMBER(S).
 2. GROUND BAR TO BE BONDED DIRECTLY TO TOWER.

3 TOWER GROUND BAR DETAIL
 SCALE: N.T.S.



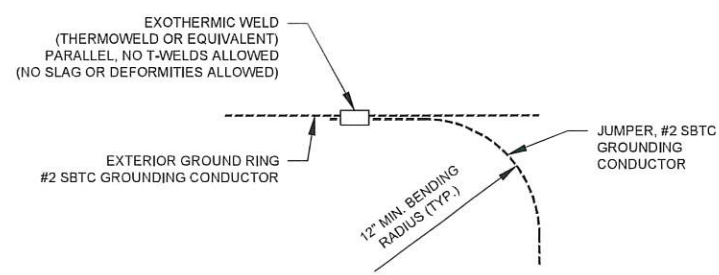
- GROUND BAR NOTES:
1. GROUND KITS COME WITH ALL HARDWARE, NUTS, BOLTS, WASHERS, ETC. EXCEPT THE STRUCTURAL MOUNTING MEMBER(S).
 2. GROUND BAR SHALL BE BOLTED TO STRUCTURAL MEMBER OR ANCHORED TO CONCRETE SLAB W/ HILTI KWIK BOLT III.

4 MAIN GROUND BAR DETAIL
 SCALE: N.T.S.



- NOTES:
1. SEPARATION DIMENSION TO BE VERIFIED WITH LOCAL UTILITY COMPANY REQUIREMENTS.
 2. COORDINATE UTILITY, LOCATE BEFORE DIGGING.
 3. CONDUIT TRENCHING DEPTHS AT 36" OR 6" BELOW FROST LINE, WHICHEVER IS GREATER.
 4. ALL RING AND RADIAL DEPTHS AT 30" OR 6" BELOW FROST LINE, WHICHEVER IS GREATER.

5 GROUND ROD DETAIL
 SCALE: N.T.S.



6 TIE CONNECTION DETAIL
 SCALE: N.T.S.

AMERICAN TOWER

Colliers Engineering & Design

www.colliersengineering.com

Doing Business as **MASER CONSULTING**

COLUMBIA
 6240 Old Dobbin Lane,
 Suite 100
 Columbia, MD 21045
 Phone: 443.393.6021
 COLLIERS ENGINEERING & DESIGN, INC.
 DOING BUSINESS AS MASER CONSULTING

REV.	DESCRIPTION	BY	DATE
△	PRELIM	MLH	11/08/21
△	FOR CONSTRUCTION	AMN	11/22/21
△	FOR CONSTRUCTION	AMN	01/07/22
△			
△			

ATC SITE NUMBER:
413030

ATC SITE NAME:
GORHAM WEST, NH PCS NH

T-MOBILE SITE NAME:
4LA0205A - ATC - SST - GORHAM

SITE ADDRESS:
100 PINE MOUNTAIN TRAIL
GORHAM, NH 03581

SEAL:

Eric T. Anderson
 No. 15323
 PROFESSIONAL ENGINEER

Digitally signed by Eric Anderson
 Date: 2022.01.07 18:27:31-0500

DATE DRAWN:	11/08/21
ATC JOB NO:	13714968_D3
CUSTOMER ID:	4LA0205A - ATC - SST - GORHAM
CUSTOMER #:	4LA0205A

GROUNDING DETAILS

SHEET NUMBER:	REVISION:
E-501	1

Copyright © 2022 ATC IP, LLC. All Rights Reserved.

PANEL DESIGNATION: TMO	TYPE: LIGHTING & APPLIANCE	SYSTEM: 120/240V, 1Ø, 3W, 20 CKT	LOCATION: TMO LEASE EQUIPMENT AREA
	MOUNTING: SURFACE	MAIN BREAKER (MB): 200A	
	ENCLOSURE: NEMA 3R	MAIN BUS RATING: 200A	PANEL NOTES: PROPOSED
		MIN. A.I.C. RATING: N/A	

CONNECTED LOAD (kVA)		BRIEF DESCRIPTION	FEEDER OR BRANCH CIRCUIT						CIRC. NOTES	FEEDER OR BRANCH CIRCUIT						BRIEF DESCRIPTION	CONNECTED LOAD (kVA)				
A	B		BREAKER	CIRCUIT			POLE NO.	CIRC. NOTES		CIRC. NOTES	POLE NO.	CIRCUIT			BREAKER		A	B			
			AMPS	POLES	WIRE	GND	COND.					COND.	GND	WIRE	POLES	AMPS					
7.50	7.50	ENCLOSURE 6160	150	2	3-#1/0	#6	2"	1				2	1/2"	#12	2-#12	1	20	RECEPTACLE	0.18		
								3				4	1/2"	#12	2-#12	1	20	LIGHT		0.50	
0.01	0.01	SURGE	60	2	3-#6	#10	1"	5				6	1/2"	#12	2-#12	1	20	AAV GFCI RECEPTACLE	0.18		
								7				8								0.00	
0.00	0.00							9				10								0.00	
								11				12								0.00	
0.00	0.00							13				14								0.00	
								15				16								0.00	
0.00	0.00							17				18								0.00	
								19				20								0.00	
7.5	7.5																			0.4	0.5
								A	B	TOTAL											
								7.9	8.0	15.9											
								7.9	8.0	15.9											

DERATING FACTOR (80%)
DEMANDLOAD SIZING: 83 AMPS

1 PANEL SCHEDULE



Colliers Engineering & Design

www.colliersengineering.com
 Doing Business as MASER CONSULTANTS
 COLUMBIA
 6240 Old Dobbin Lane,
 Suite 100
 Columbia, MD 21045
 Phone: 443.393.6021
 COLLIER ENGINEERING & DESIGN, INC.
 DOING BUSINESS AS MASER CONSULTING

REV.	DESCRIPTION	BY	DATE
1	PRELIM	MLH	11/08/21
2	FOR CONSTRUCTION	AMN	11/22/21
3	FOR CONSTRUCTION	AMN	01/07/22

ATC SITE NUMBER:
413030

ATC SITE NAME:
GORHAM WEST, NH PCS NH

T-MOBILE SITE NAME:
4LA0205A - ATC - SST - GORHAM

SITE ADDRESS:
100 PINE MOUNTAIN TRAIL
GORHAM, NH 03581

SEAL:

Digitally signed by Eric Anderson
Date: 2022.01.07 18:27:34-0500



DATE DRAWN:	11/08/21
ATC JOB NO:	13714968_D3
CUSTOMER ID:	4LA0205A - ATC - SST - GORHAM
CUSTOMER #:	4LA0205A

PANEL SCHEDULE

SHEET NUMBER:	REVISION:
E-601	1

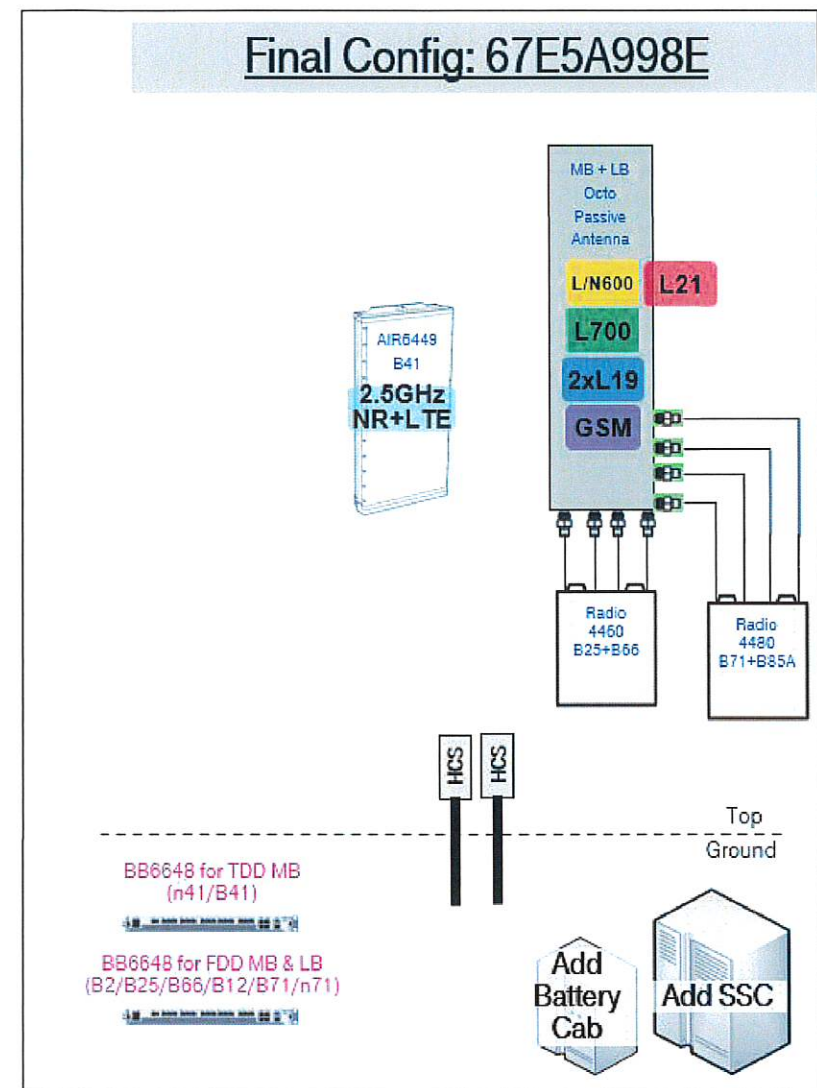
Copyright © 2022 ATC IP, LLC. All Rights Reserved.

Section 5 - RAN Equipment			
Existing RAN Equipment			
----- This section is intentionally blank. -----			
Proposed RAN Equipment			
Template: 67E5A998E 6160			
Enclosure	1	2	3
Enclosure Type	Enclosure 6160	RBS 6601	B160
Baseband	BB 6648 L2500 N2500 BB 6648 L700 L600 N600 L2100 L1900	DUG20 G1900	
Functionality Groups	Cell Site Router (x 2) Ericsson Hybrid Cable System (x 2)		

RAN Scope of Work:

- Use the current Radio 4449(700 and 600) if entitlement is complete or expected to complete before Nov 1st, 2021
- Use Radio 4480(700 and 600) if entitlement complete is forecasted after Nov 1st, 2021 - Future
- Use the current Radio 4424(1900)+4415(AWS) if entitlement is complete or expected to complete before Oct 1st, 2021
- Use Radio 4460(1900 and AWS) if entitlement complete is forecasted after Oct 1st, 2021 - Future

1 CABINET CONFIGURATION
SCALE: NOT TO SCALE

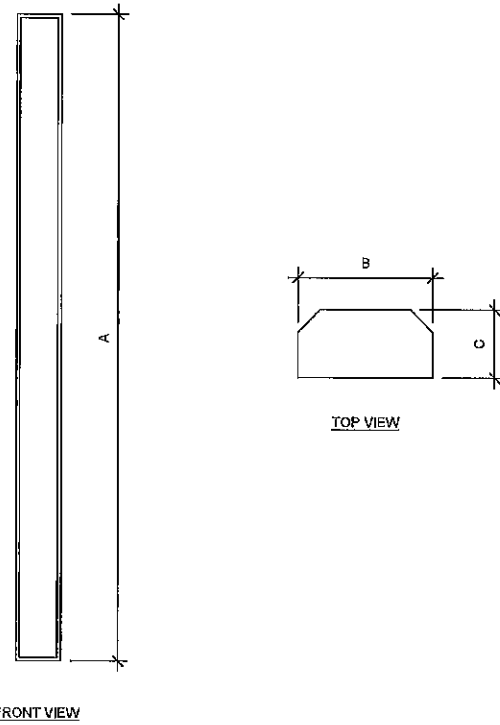


2 ANTENNA CONFIGURATION
SCALE: NOT TO SCALE

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

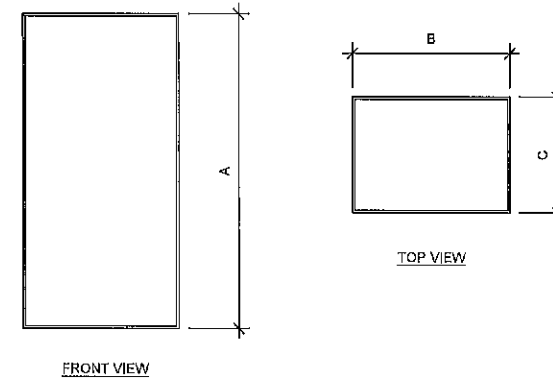
SUPPLEMENTAL

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



1 ANTENNA SPECIFICATIONS
FOR ILLUSTRATIVE PURPOSES ONLY - NOT TO SCALE

ANTENNA SPECIFICATIONS				
ANTENNA MODEL	A	B	C	WEIGHT (LBS)
AIR6449 B41	33.1"	20.6"	8.6"	104.0
APXVAALL24 43-U-NA20	95.9"	24.0"	8.5"	122.8



2 RRU SPECIFICATIONS
FOR ILLUSTRATIVE PURPOSES ONLY - NOT TO SCALE

RRU SPECIFICATIONS				
RRU MODEL	A	B	C	WEIGHT (LBS)
4480 BAND 71	22.0"	15.7"	7.5"	81.0
4460 BAND 2/25	19.6"	15.7"	12.1"	109.0

SUPPLEMENTAL

SHEET NUMBER:
R-602

REVISION:
-



Enclosure 6160 AC

The Enclosure 6160 is a multi-purpose site cabinet designed to support a multitude of equipment such as ERS Baseband, Transport, Li-Ion battery and 3PP vendor equipment. It also provides a highly capable power system and battery back-up - all in a streamlined design and minimized footprint to support cost efficient expansion of mobile broadband.

Being an all-in-one enclosure, the Enclosure 6160 is a very fitting choice for all types of sites where the capacity need is large or room for future expansion is needed. It is ideally used for modernizing existing sites or in greenfield scenarios to match both current and future needs.

With a robust design, IP65 compliance and a sealed Heat Exchanger (HEX) climate system the Enclosure 6160 ensures optimal environmental protection of the active equipment - enabling them for a long-lasting service. The complete system is also integrated and verified for the entire Ericsson Radio System and ensures best-in-class service.

The power system offers 31.5kW of power in total and provides 24kW of -48V DC power for both internal and external consumers.

The equipment space allows 19U of rack space ensuring well enough capacity for existing need and future expansion.

One of the main advantages of the Enclosure 6160 is its default integration with ENM - allowing for advanced remote monitoring and control such a fault management (alarms), inventory management and performance measurements. The cabinet also provides an open O&M interface for integration to 3PP O&M systems.



Preliminary technical specification for Enclosure 6160 AC

CAPACITY

Rack space user equipment	19U (19" rack)
Hardware capabilities	Power and CPRI support for multi-standard remote radios (RRU or AIR) ERS Baseband and Transport units Li-Ion batteries 3PP equipment Additional power feed available as option

MECHANICAL SPECIFICATION

Weight	145 kg (excluding active equipment) 320 lbs (excluding active equipment)
Dimension (H x W x D)	1600 x 650 x 650 mm (incl. Base frame) 63 x 26 x 26 in. (incl. Base frame)
Base frame height	150 mm 6 in.
Mounting position	Ground
Enclosure material	Aluminum
Color	Power paint NCS 2002-B
Door	Front access
Rack type	19" (IEC 60297-3-100)
Locking type	Pad lock or Cylinder
POWER SYSTEM	
Input voltage	3P+N+PE: 346/200-415/240 VAC 2P+N+PE: 208/120-220/127 VAC 1P+N+PE: 200-250 VAC
Input power	<33kW
Output load (-48VDC)	24kW
Total capacity (-48VDC)	31.5kW
AC SPD	Class 2/Type 2
DC SPD	Class 2/Type 2
PSU Slots	9x
Service outlet	Optional
Priority load	8x Circuit Breaker
LLVD 1	6x Circuit Breaker
LLVD 2	6x Circuit Breaker
CB ratings	3A / 5A / 10A / 15A / 20A / 25A / 30A / 40A / 50A / 60A / 80A / 100A
Battery Interface	2x Circuit Breaker
Battery Circuit Breaker rating	125A 2pol (200A)
PSU capacity	3500W

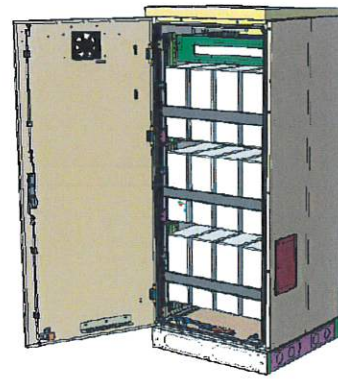
NOTE: THIS SHEET WAS CREATED BY OTHERS AND PROVIDED AT THE REQUEST OF THE CUSTOMER WITHOUT EDIT.

SUPPLEMENTAL

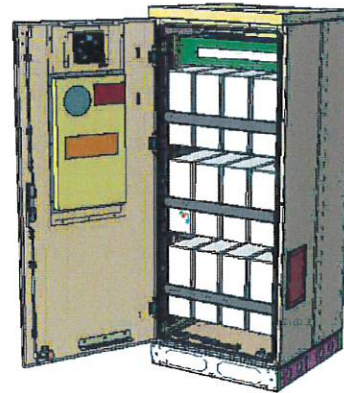
SHEET NUMBER:
R-603

REVISION:
-

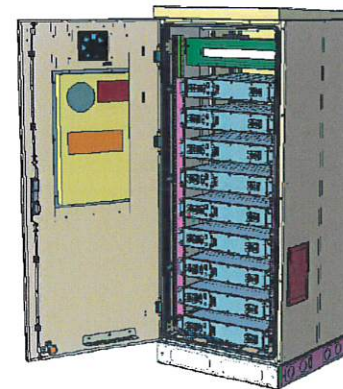
Enclosure B160



Enclosure B160
AirCon + VRLA



Enclosure B160
AirCon + Li-Ion



Enclosure B160
Convection Cooling
+ VRLA

PA1 | 2019-02-03 | Ericsson Confidential | Page 1

Enclosure B160

Capacity

- VRLA 12V: 100Ah / 150Ah / 170Ah / 190Ah / 210Ah
- Li-Ion: 24U 19" / 23"
- Sodium-Nickel: 3x FIAMM

Electrical specification

- DC Output: -48VDC/200A
- Battery breakers: 2x 125/2p
- Alarms: Door open, Climate failure, MCB Connection

Mechanical specification

- Weight: 134kg
- Dimensions: 63 x 26 x 26 in. (incl. Base frame)
- Base frame height: 6 in.
- Material: Galvanized steel (180g/m²)
- Color: Powder paint NCS 2002-B
- Door: Front access
- Locking type: Pad lock / cylinder

Environmental specification

- Ingress protection: VRLA/Sodium IP44
Li-Ion IP55
 - Relative humidity: 15-100%
- ### Climate system
- Air Conditioner
 - Fan type: DC
 - Cooling capacity: 500W @L35/L35
 - Convection cooling
 - Emergency fan

PA1 | 2019-02-03 | Ericsson Confidential | Page 2

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

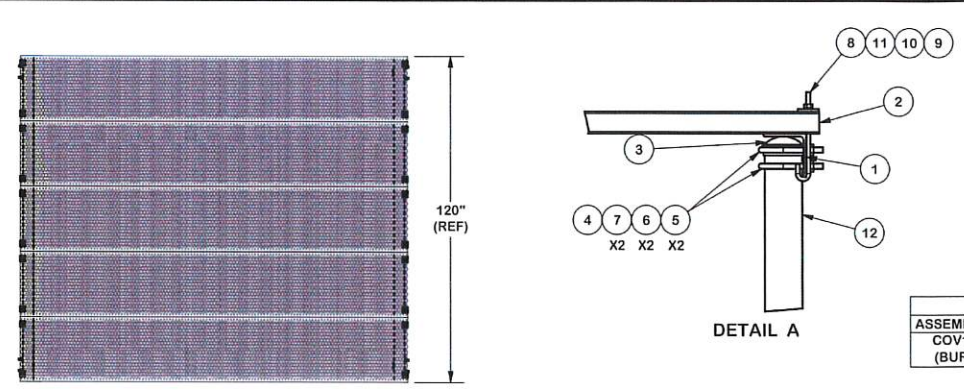
SUPPLEMENTAL

SHEET NUMBER:

R-604

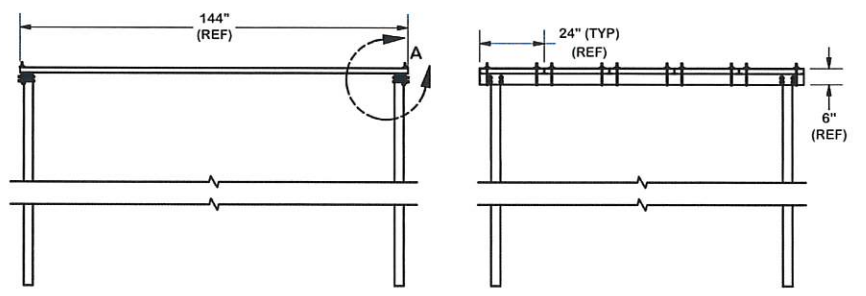
REVISION:

-

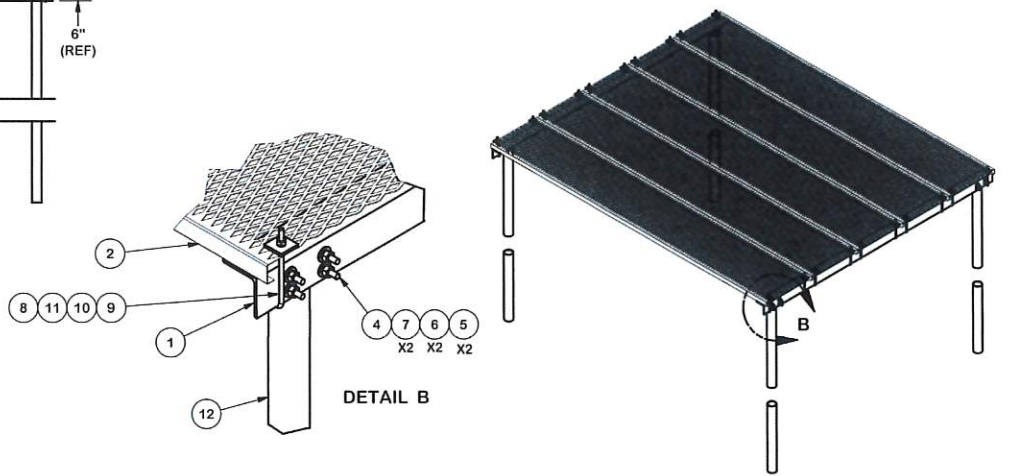


COMMON PARTS LIST						
ITEM	QTY	PART NO.	PART DESCRIPTION	LENGTH	UNIT WT.	NET WT.
1	2	X-COV10	4" X 4" x 1/4" ANGLE (A36)	120 in	66.32	132.64
2	5	GRS24-12	24" X 12' GRIP SPAN BRIDGE CHANNEL		81.68	408.41
3	4	PC312	3-1/2" FENCE POST CAP		0.59	2.34
4	8	X-UB1358	1/2" X 3-5/8" X 5-1/2" X 3" U-BOLT (HDG.)		0.81	6.49
5	16	G12NUT	1/2" HDG HEAVY 2H HEX NUT		0.07	1.14
6	16	G12LW	1/2" HDG LOCKWASHER		0.01	0.22
7	16	G12FW	1/2" HDG USS FLATWASHER		0.03	0.54
8	20	X-JB8	X-JB8		0.33	6.55
9	20	G38NUT	3/8" HDG HEAVY 2H HEX NUT		0.03	0.68
10	20	G38LW	3/8" HDG LOCKWASHER		0.01	0.13
11	20	SQW38	3/8" SQUARE WASHER (GALV.)	2 in	0.27	5.46

VARIABLE PARTS LIST							
ASSEMBLY "A"	ITEM	QTY	PART NO.	PART DESCRIPTION	LENGTH	UNIT WT.	NET WT.
COV1012 (BURIAL)	12	4	P3160	3" SCH 40 PIPE (3.5 O.D. x .216" WALL) A500	160 in	101.25	404.99
TOTAL WEIGHT: 969.64							



VARIABLE PARTS LIST							
ASSEMBLY "A"	ITEM	QTY	PART NO.	PART DESCRIPTION	LENGTH	UNIT WT.	TOTAL WEIGHT
COV1012-B (BASE SHOE)	12	4	X-SP126	BASE SHOE PLATE PIPE COLUMN	126 in	92.98	371.93
		16	SWA585	5/8" X 5" STAINLESS WEDGE ANCHOR		.61	9.70
TOTAL WEIGHT: 946.28							



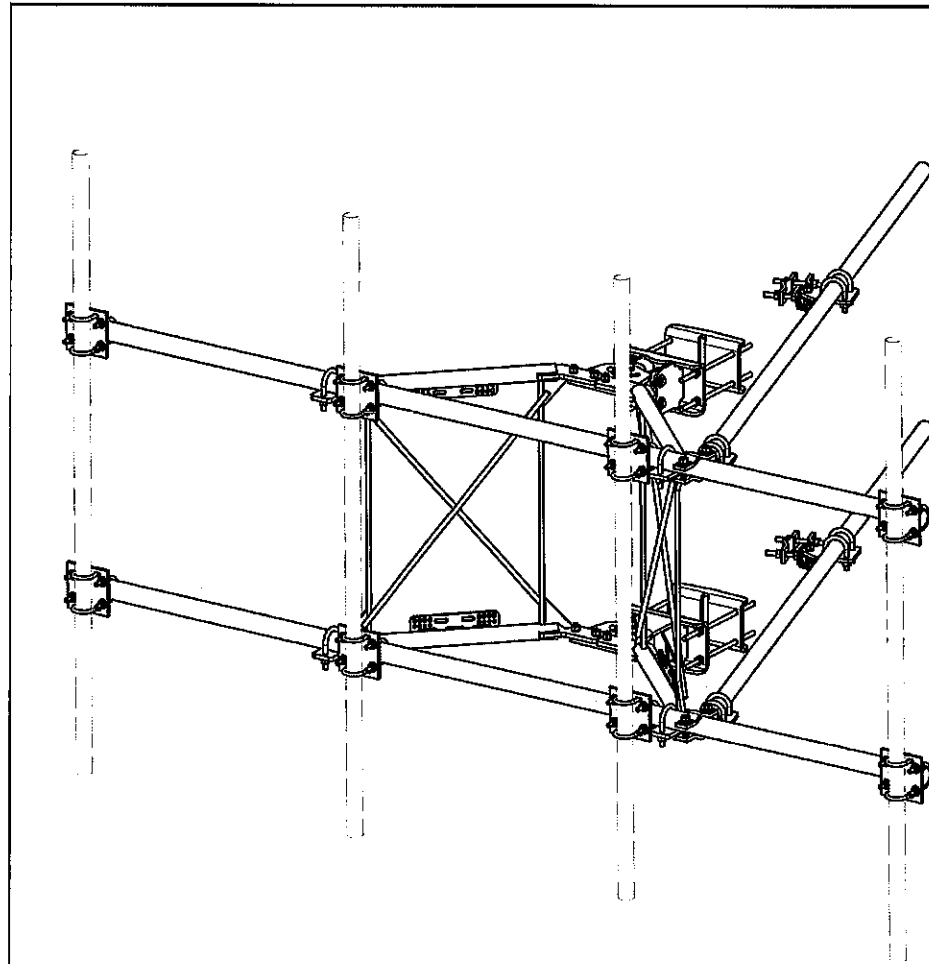
TOLERANCE NOTES TOLERANCES ON DIMENSIONS, UNLESS OTHERWISE NOTED ARE: SAWED, SHEARED AND GAS CUT EDGES ($\pm 0.030"$) DRILLED AND GAS CUT HOLES ($\pm 0.030"$) - NO CONING OF HOLES LASER CUT EDGES AND HOLES ($\pm 0.010"$) - NO CONING OF HOLES BENDS ARE $\pm 1/2$ DEGREE ALL OTHER MACHINING ($\pm 0.030"$) ALL OTHER ASSEMBLY ($\pm 0.060"$)				DESCRIPTION PLATFORM CANOPY 12' X 10' BURIAL OR BASE SHOE		SITE PRO 1 Engineering Support Team: 1-888-753-7446 Locations: New York, NY Atlanta, GA Los Angeles, CA Plymouth, IN Salem, OR Dallas, TX	
A X-COV10 TO QTY 2, ITEM 2 "-12", UPDATED LENGTH & WTS 7/1/13 KC8				CPD NO. 81		DRAWN BY 8/24/2012 KCB	
REV DESCRIPTION OF REVISIONS REVISION HISTORY				CLASS SUB 81 01		ENG. APPROVAL CHECKED BY BMC 7/2/2013	
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.				PART NO. SEE ASSEMBLY "A"		DWG. NO. COV1012	
						1 OF 1 PAGE	

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

SUPPLEMENTAL

SHEET NUMBER:
R-605

REVISION:
-



PARTS LIST						
ITEM	QTY	PART NO.	PART DESCRIPTION	LENGTH	UNIT WT.	NET WT.
1	2	X-VFAW	SUPPORT ARM		71.41	142.81
2	1	X-HDCAMTBW	CLAMP WELDMENT FOR BCAM-HD		33.86	33.86
3	1	X-MHTPHD	MULTI-HOLE TAPER PLATE WELDMENT		36.24	36.24
4	2	X-VFAPL4	VFA-HD PIVOT PLATE	12 in	15.88	31.77
5	2	X-LOBP4	BENT BACKING PLATE	13 in	19.00	38.01
6	1	X-HDCAMSS	ANGLE ADJUSTMENT WELDMENT FOR BCAM-HD		16.39	16.39
7	4	X-SPTB	SLIDING PIPE TIE BACK PLATE	5 1/2 in	5.87	23.49
8	1	X-HDCAMSP	POSITIONING PLATE WELDMENT FOR BCAM-HD		2.58	2.58
9	4	X-TBCA	TIE BACK CLIP ANGLE		2.01	8.02
10	8	SCX2	CROSSOVER PLATE	7 in	4.80	38.37
11	4	MCP	CLAMP HALF 1/2" THICK, 11-5/8" LONG	12 1/16 in	3.59	14.37
12	8	DCP	1/2" THICK, 5-3/4" CENTER TO CENTER CLAMP HALF	8 1/8 in	2.36	18.90
13	2	P2126	2-3/8" X 126" (2" SCH. 40) GALVANIZED PIPE	126 in	40.75	81.50
14	2	P30150	2-7/8" X 150" (2-1/2" SCH. 40) GALVANIZED PIPE	150 in	76.84	153.67
15	4	A34212	3/4" X 2-1/2" UNC HEX BOLT (A325)	2 1/2 in	0.48	1.92
16	4	G34FW	3/4" HDG USS FLATWASHER		0.06	0.24
17	4	G34LW	3/4" HDG LOCKWASHER		0.04	0.17
18	4	G34NUT	3/4" HDG HEAVY 2H HEX NUT		0.21	0.85
19	8	G58R-18	5/8" X 18" THREADED ROD (HDG.)	18 in	0.40	3.19
20	4	G58R-12	5/8" X 12" THREADED ROD (HDG.)		1.06	4.18
21	4	G58R-8	5/8" X 8" THREADED ROD (HDG.)		0.70	2.78
22	4	X-UBS900	5/8" X 3" X 5-1/4" X 2-1/2" U-BOLT (HDG.)		1.15	4.60
23	8	X-UBS258	5/8" X 2-5/8" X 4-1/2" X 2" U-BOLT (HDG.)		1.00	8.00
24	2	G5807	5/8" X 7" HDG HEX BOLT GR5 FULL THREAD	7 in	0.70	1.41
25	1	G5806	5/8" X 6" HDG HEX BOLT GR5 FULL THREAD	6 in	0.62	0.62
26	8	G5804	5/8" X 4" HDG HEX BOLT GR5		0.44	3.55
27	4	G5802	5/8" X 2" HDG HEX BOLT GR5		0.27	1.08
28	8	A582114	5/8" X 2-1/4" HDG A325 HEX BOLT	2 1/4 in	0.31	2.50
29	26	G58FW	5/8" HDG USS FLATWASHER	1 1/8 in	0.07	1.76
30	66	G58LW	5/8" HDG LOCKWASHER		0.03	1.72
31	71	G58NUT	5/8" HDG HEAVY 2H HEX NUT		0.13	9.22
32	32	X-UB1300	1/2" X 3" X 5" X 2" GALV U-BOLT		0.74	23.64
33	16	X-UB1212	1/2" X 2" X 3" X 1-1/4" U-BOLT (HDG.)		0.60	9.56
34	64	G12FW	1/2" HDG USS FLATWASHER	3/32 in	0.03	2.18
35	64	G12LW	1/2" HDG LOCKWASHER	1/8 in	0.01	0.80
36	64	G12NUT	1/2" HDG HEAVY 2H HEX NUT		0.07	4.58
					TOTAL WT. #	798.06

REV	DESCRIPTION OF REVISIONS	CPD	BY	DATE
D	UPDATED BCAM VERSION 1 TO BCAM VERSION 2		CEK	8/29/2018
O	UPDATED PIN LEG CONNECTION TO B-CAM CONNECTION		CEK	12/7/2017
B	CHANGED TIE-BACK BACK CONNECTION		CEK	7/31/2017
A	CHANGED TIE-BACK FRONT CONNECTION		CEK	2/2/2017

TOLERANCE NOTES
 TOLERANCES ON DIMENSIONS, UNLESS OTHERWISE NOTED ARE:
 SAWED, SHEARED AND GAS CUT EDGES ($\pm 0.030"$)
 DRILLED AND GAS CUT HOLES ($\pm 0.030"$) - NO CONING OF HOLES
 LASER CUT EDGES AND HOLES ($\pm 0.010"$) - NO CONING OF HOLES
 BENDS ARE $\pm 1/2$ DEGREE
 ALL OTHER MACHINING ($\pm 0.030"$)
 ALL OTHER ASSEMBLY ($\pm 0.080"$)

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
 12' 6" HEAVY DUTY
 V-FRAME ASSEMBLY
 WITH TWO STIFF ARMS

CPD NO. DRAWN BY
 CEK 1/25/2017

ENG. APPROVAL
 BMC 12/13/2017

SITE PRO 1
 A valmont COMPANY

Locations:
 New York, NY
 Atlanta, GA
 Los Angeles, CA
 Plymouth, IN
 Salem, OR
 Dallas, TX

Engineering Support Teams:
 1-888-763-7446

PART NO. VFA12-HD
 DWG. NO. VFA12-HD

CLASS SUB DRAWING USAGE
 81 02 CUSTOMER

PAGE 1 OF 5

SUPPLEMENTAL

SHEET NUMBER: R-606
 REVISION: -

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



Mount Analysis Report

ATC Site Name : Gorham West, NH PCS NH, NH
ATC Site Number : 413030
Engineering Number : 13714968_C8_01
Mount Elevation : 171 ft
Carrier : T-Mobile
Carrier Site Name : 4LA0205A - ATC - SST - Gorham
Carrier Site Number : 4LA0205A
Site Location : 100 Pine Mountain Trail
 Gorham, NH 03581-4838
 44.3712443 , -71.21361497

County : Coos
Date : November 1, 2021
Max Usage : 59%
Result : Pass

Prepared By:
Kilian Bouedo
Structural Engineer

K Bouedo

Reviewed By:



Authorized by "EOR"
01 Nov 2021 10:34:17 *cosign*

COA: 1571



Eng. Number 13714968_C8_01
November 1, 2021
Page 2

Application Loading

Mount Centerline (ft)	Equipment Centerline (ft)	Qty	Equipment Manufacturer & Model
171.0	171.0	3	Ericsson Air6449 B41
		3	RFS APXVAALL24 43-U-NA20
		3	Ericsson 4480 BAND 71
		3	Ericsson 4460 BAND 2/25

Structure Usages

Structural Component	Controlling Usage	Pass/Fail
Horizontals	59%	Pass
Verticals	54%	Pass
Diagonals	21%	Pass
Tie-Backs	11%	Pass
Mount Pipes	47%	Pass

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 VERIFY THEY HAVE THE MOST RECENT MOUNT ANALYSIS PRIOR TO CONSTRUCTION.

1 MOUNT ANALYSIS

SUPPLEMENTAL

SHEET NUMBER:
R-607

REVISION:
-