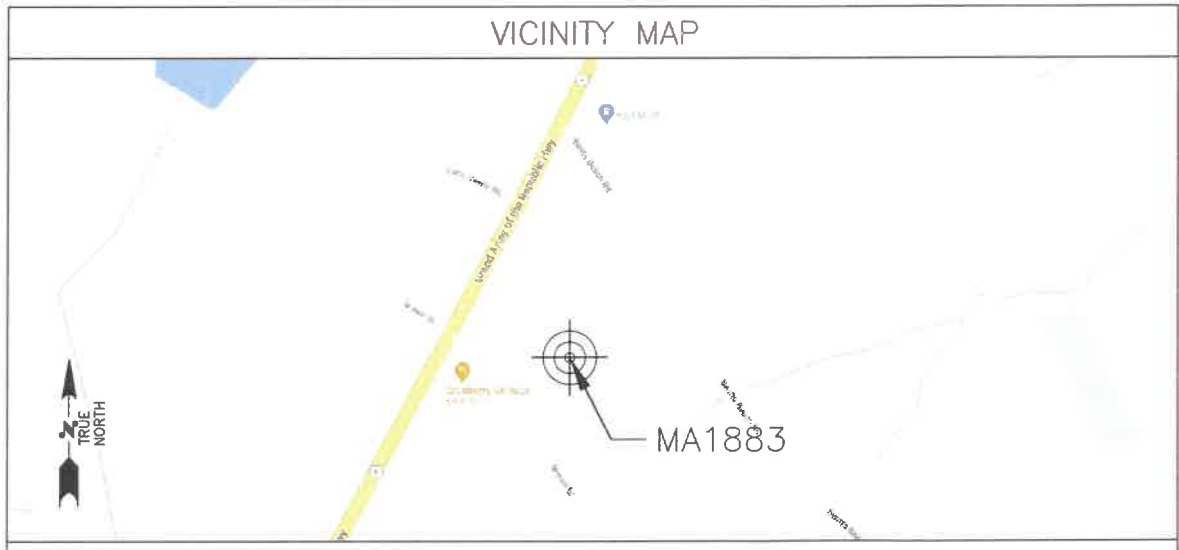




**SITE NAME: WAREHAM BROWN ST**  
**SEARCH RING #: MA1883S**  
**FA #: 15283436**  
**USID: 317182**  
**PACE # MRCTB064669**  
**SITE ADDRESS: 25 BROWN STREET**  
**WAREHAM, MA 02571**  
**STRUCTURE TYPE: SELF SUPPORT TOWER**



**DRIVING DIRECTIONS**

FROM 7150 STANDARD DRIVE, HANOVER, MD 21076:  
 START OUT GOING WEST ON COCKSCUTT RD/MA-30 TOWARD BURN ST. THEN 0.23 MILES TAKE THE 1ST RIGHT ONTO BURN ST. THEN 0.28 MILES MAKE A U-TURN ONTO BURN ST. IF YOU ARE ON LEGGOTT NICOLL CONNECTOR RD AND REACH LEGGOTT NICOLL RD YOU'VE GONE A LITTLE TOO FAR. THEN 0.10 MILES TURN LEFT ONTO COCKSCUTT RD/MA-30. IF YOU ARE ON BURN STREET EXIT AND REACH SHOPPERS WORLD OR YOU'VE GONE ABOUT 0.5 MILES TOO FAR. THEN 0.04 MILES MERGE ONTO I-90 E TOWARD BOSTON/I-90 (PORTERS TOLL). THEN 6.70 MILES MERGE ONTO I-90 E/MA-128 S VIA EXIT 123 TOWARD SOUTH SHORE/CAPE COD. THEN 13.09 MILES MERGE ONTO I-93 I-93E-1. IF YOU EXIT ON THE LEFT TOWARD SCOTCH. THEN 3.18 MILES MERGE ONTO MA-24 E VIA EXIT 4 TOWARD FALL RIVER/PROCTOR. THEN 16.24 MILES MERGE ONTO I-495 S VIA EXIT 25A TOWARD CAPE COD. THEN 19.71 MILES MERGE ONTO I-195 W VIA EXIT 1 TOWARD NEW BEDFORD/WAREHAM. THEN 0.51 MILES TAKE THE 2ND-28 S EXIT EXIT 28 TOWARD WAREHAM. THEN 0.23 MILES TURN LEFT ONTO CHANDLER HWY/MA-26. THEN 0.04 MILES TURN SLIGHT RIGHT ONTO TRENCH RD. TRENCH RD IS 0.3 MILES PAST ROSEBROOK WAY. THEN 0.15 MILES TURN SLIGHT LEFT ONTO BURN ST. THEN 0.23 MILES TURN RIGHT ONTO GIBBS AVE. GIBBS AVE IS JUST PAST STONEY HILL CR. IF YOU REACH FLM RT YOU'VE GONE A LITTLE TOO FAR. THEN 0.54 MILES TURN RIGHT ONTO MARION FRASE-8 W. THEN 0.51 MILES TURN LEFT ONTO BROWN ST (PORTERS UNPAVED). IF YOU REACH CHANDLER RT YOU'VE GONE ABOUT 0.1 MILES TOO FAR. THEN 0.23 MILES 28 BROWN ST, WAREHAM, MA 02571-1823. 28 BROWN ST IS ON THE LEFT. IF YOU REACH OLD BROWER DAM RD YOU'VE GONE ABOUT 0.1 MILES TOO FAR TO YOUR DESTINATION.

**BUILDING CODES**

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

- 2015 INTERNATIONAL BUILDING CODE
- 2017 NATIONAL ELECTRICAL CODE WITH LOCAL AMENDMENTS

FOR ANY CONFLICTS BETWEEN SECTIONS OF LISTED CODES AND STANDARDS REGARDING MATERIAL, METHODS OF CONSTRUCTION, OR OTHER REQUIREMENTS, THE MOST RESTRICTIVE REQUIREMENT SHALL GOVERN. WHERE THERE IS CONFLICT BETWEEN A GENERAL REQUIREMENT AND A SPECIFIC REQUIREMENT, THE SPECIFIC REQUIREMENT SHALL GOVERN.

- FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION
- ADA ACCESS REQUIREMENTS ARE NOT REQUIRED
- THIS FACILITY DOES NOT REQUIRE POTABLE WATER AND WILL NOT PRODUCE ANY SEWAGE

**GENERAL NOTES**

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

**DO NOT SCALE DRAWINGS**

CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE ARCHITECT/ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.

PROJECT TEAM	
<b>CLIENT REPRESENTATIVE:</b>	SMARTLINKGROUP 85 RANGEWAY ROAD - BLDG 3, SUITE 102 NORTH BILLERICA, MA 01862 KEVIN GAUVREAU KEVIN.GAUVREAU@SMARTLINKGROUP.COM
<b>CONTACT:</b>	
<b>ARCHITECT &amp; ENGINEER:</b>	TRYLON TSF 1825 W. WALNUT HILL LANE, SUITE 120 IRVING, TX 75038
<b>CONTACT:</b>	MIKE MOORE MIKE.MOORE@TRYLON.COM 1-855-669-5421
<b>RF ENGINEER:</b>	AT&T 84 DEERFIELD LN, MERIDEN, CT 06450
<b>CONTACT:</b>	JOHN BENEDETTO RAS161@ATT.COM
<b>PROJECT MANAGER:</b>	SMARTLINKGROUP 85 RANGEWAY ROAD - BLDG 3, SUITE 102 NORTH BILLERICA, MA 01862
<b>CONTACT:</b>	DAVID WALSH DAVID.WALSH@SMARTLINKGROUP.COM (860) 993-5191
<b>CONSTRUCTION MANAGER:</b>	SMARTLINKGROUP 85 RANGEWAY ROAD - BLDG 3, SUITE 102 NORTH BILLERICA, MA 01862
<b>CONTACT:</b>	KEVIN GAUVREAU KEVIN.GAUVREAU@SMARTLINKGROUP.COM (978) 886-7149

PROJECT INFORMATION	
<b>SITE NAME:</b>	WAREHAM BROWN ST
<b>USID:</b>	317182
<b>FA#:</b>	15283436
<b>SITE ADDRESS:</b>	25 BROWN STREET WAREHAM, MA 02571
<b>PARCEL NUMBER (APN):</b>	56_1000_A
<b>PROPERTY OWNER:</b>	UMANO MICHAEL J TRUSTEE 40 LONE ST MARSHFIELD MA 02050
<b>STRUCTURE TYPE:</b>	150'-0" SELF SUPPORT TOWER
<b>SITE TYPE:</b>	SELF SUPPORT TOWER
<b>LATITUDE (NAD 83):</b>	41.753250° / 41°45'11.7"N
<b>LONGITUDE (NAD 83):</b>	-70.732500° / 70°43'57.0"W
<b>GROUND ELEVATION:</b>	±16'-0" (AMSL)
<b>COUNTY:</b>	PLYMOUTH
<b>ZONING JURISDICTION:</b>	TOWN OF WAREHAM
<b>CURRENT ZONING:</b>	AGRICULTURAL
<b>AT&amp;T LEASE AREA:</b>	240 SQ. FT.
<b>APPLICANT:</b>	AT&T MOBILITY 7150 STANDARD DRIVE HANOVER, MD 21076
<b>TOWER OWNER:</b>	UNKNOWN
<b>TOWER OWNER SIDE ID:</b>	UNKNOWN

**811** TO OBTAIN LOCATION OF PARTICIPANTS UNDERGROUND FACILITIES BEFORE YOU DIG IN MASSACHUSETTS, CALL DIG SAFE SYSTEM, INC. TOLL FREE: 1-888-344-7233 OR www.digsafe.com

MASSACHUSETTS STATUTE REQUIRES MIN OF 2 WORKING DAYS NOTICE BEFORE YOU DIG.

Know what's below. Call before you dig.

RFDS DATA	
RFDS ID: 5000317	DATED: 2/8/2022
REVISION: FINAL	VERSION: 2.00
UPDATED BY: ra9161	
DATE/TIME UPDATED: 6/1/2022 / 1:42:16 PM	

PROJECT DESCRIPTION	
<b>TOWER SCOPE OF WORK:</b>	
<ul style="list-style-type: none"> <li>INSTALL (3) NEW ANTENNA MOUNTS</li> <li>INSTALL (6) NEW ANTENNAS, (2) PER SECTOR</li> <li>INSTALL (3) FUTURE RRH'S, (1) PER SECTOR</li> <li>INSTALL (9) NEW RRH'S, (3) PER SECTOR</li> <li>INSTALL (1) NEW DC9-48-60-24-8C-EV SQUID</li> <li>INSTALL (3) NEW DC TRUNKS</li> <li>INSTALL (1) NEW 18 PAIR FIBER TRUNK</li> <li>INSTALL NEW 10' EXTENSION (REFER TO STRUCTURAL ANALYSIS BY TEP DATED 4/7/2022)</li> </ul>	
<b>GROUND SCOPE OF WORK:</b>	
<ul style="list-style-type: none"> <li>INSTALL NEW 8'-0"x8'-0" WALK-IN-CABINET (CWIC)</li> <li>INSTALL NEW 20KW DIESEL GENERAC GENERATOR</li> <li>INSTALL NEW 32'-0" ICE BRIDGE</li> <li>INSTALL (1) 12'-0"x12'-0" CONCRETE PAD FOR CWIC</li> <li>INSTALL (1) 4'-0"x6'-0" CONCRETE PAD FOR GENERATOR</li> </ul>	

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**AT&T**  
84 DEERFIELD LN  
MERIDEN, CT 06450

**smartlink**  
85 RANGEWAY ROAD  
BLDG 3, SUITE 102  
NORTH BILLERICA, MA 01862

**Trylon**  
1825 W. WALNUT HILL LANE, SUITE 120  
IRVING, TEXAS 75038  
1-855-669-5421

DRAWING SCALES ARE INTENDED FOR 11"x17" SIZE PRINTED MEDIA ONLY.

SUBMITTALS			
REV	DATE	DESCRIPTION	BY
A	11/03/22	90% CD	JSR
B	11/09/22	90% CD	DIN
C	11/30/22	90% CD	DIN
D	01/31/23	100% CD	DIN
1	02/21/23	ADDING FALL ZONE	JSR
2	04/20/23	REDLINES PER CLIENT	JSR
3	05/05/23	REDLINES PER CLIENT	JSR
4	06/19/23	10' EXTENSION	JSR



**SITE INFORMATION**

**WAREHAM BROWN ST**  
MA1883  
FA#: 15283436  
USID: 317182

25 BROWN STREET  
WAREHAM, MA 02571

**SHEET DESCRIPTION**

TITLE SHEET

SHEET NO.  
T-1



## GENERAL NOTES

### GENERAL CONSTRUCTION

1. FOR THE PURPOSE OF CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY:
  - 1.1. CONTRACTOR - T.B.D
  - 1.2. SUB-CONTRACTOR - GENERAL CONTRACTOR (CONSTRUCTION)
  - 1.3. OWNER - AT&T MOBILITY
  - 1.4. OEM - ORIGINAL EQUIPMENT MANUFACTURER
2. ALL SITE WORK SHALL BE AS INDICATED ON THE DRAWINGS AND PROJECT SPECIFICATIONS.
3. GENERAL CONTRACTOR SHALL VISIT THE SITE AND SHALL FAMILIARIZE HIMSELF WITH ALL CONDITIONS AFFECTING THE PROPOSED WORK AND SHALL MAKE PROVISIONS. GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR FAMILIARIZING HIMSELF WITH ALL CONTRACT DOCUMENTS, FIELD CONDITIONS, DIMENSIONS, AND CONFIRMING THAT THE WORK MAY BE ACCOMPLISHED AS SHOWN PRIOR TO PROCEEDING WITH CONSTRUCTION. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO THE COMMENCEMENT OF WORK.
4. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. SUBCONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK.
5. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.
6. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
7. THE PLANS ARE NOT TO BE SCALED. THESE PLANS ARE INTENDED TO BE A DIAGRAMMATIC OUTLINE ONLY UNLESS OTHERWISE NOTED. DIMENSIONS SHOWN ARE TO FINISH SURFACES UNLESS OTHERWISE NOTED. SPACING BETWEEN EQUIPMENT IS THE MINIMUM REQUIRED CLEARANCE. THEREFORE, IT IS CRITICAL TO FIELD VERIFY DIMENSIONS, SHOULD THERE BE ANY QUESTIONS REGARDING THE CONTRACT DOCUMENTS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING A CLARIFICATION FROM THE ENGINEER PRIOR TO PROCEEDING WITH THE WORK. DETAILS ARE INTENDED TO SHOW DESIGN INTENT. MODIFICATIONS MAY BE REQUIRED TO SUIT JOB DIMENSIONS OR CONDITIONS AND SUCH MODIFICATIONS SHALL BE INCLUDED AS PART OF WORK AND PREPARED BY THE ENGINEER PRIOR TO PROCEEDING WITH WORK.
8. THE SUBCONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
9. IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION FOR APPROVAL BY THE ENGINEER PRIOR TO PROCEEDING.
10. GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE SAFETY OF WORK AREA, ADJACENT AREAS AND BUILDING OCCUPANTS THAT ARE LIKELY TO BE AFFECTED BY THE WORK UNDER THIS CONTRACT. WORK SHALL CONFORM TO ALL OSHA REQUIREMENTS AND THE LOCAL JURISDICTION.
11. GENERAL CONTRACTOR SHALL COORDINATE WORK AND SCHEDULE WORK ACTIVITIES WITH OTHER DISCIPLINES.
12. ERECTION SHALL BE DONE IN A WORKMAN-LIKE MANNER BY COMPETENT EXPERIENCED WORKMAN IN ACCORDANCE WITH APPLICABLE CODES AND THE BEST ACCEPTED PRACTICE. ALL MEMBERS SHALL BE LAID PLUMB AND TRUE AS INDICATED ON THE DRAWINGS.
13. SEAL PENETRATIONS THROUGH FIRE RATED AREAS WITH UL LISTED MATERIALS APPROVED BY LOCAL JURISDICTION. SUBCONTRACTOR SHALL KEEP AREA CLEAN, HAZARD FREE, AND DISPOSE OF ALL DEBRIS.
14. WORK PREVIOUSLY COMPLETED IS REPRESENTED BY LIGHT SHADED LINES AND NOTES. THE SCOPE OF WORK FOR THIS PROJECT IS REPRESENTED BY DARK SHADED LINES AND NOTES. SUBCONTRACTOR SHALL NOTIFY THE GENERAL CONTRACTOR OF ANY EXISTING CONDITIONS THAT DEVIATE FROM THE DRAWINGS PRIOR TO BEGINNING CONSTRUCTION.
15. CONTRACTOR SHALL PROVIDE WRITTEN NOTICE TO THE CONSTRUCTION MANAGER 48 HOURS PRIOR TO COMMENCEMENT OF WORK.
16. THE CONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE OWNER.
17. THE CONTRACTOR SHALL CONTACT UTILITY LOCATING SERVICES PRIOR TO THE START OF CONSTRUCTION.
18. GENERAL CONTRACTOR SHALL COORDINATE AND MAINTAIN ACCESS FOR ALL TRADES AND SUBCONTRACTORS TO THE SITE AND/OR BUILDING.
19. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR SECURITY OF THE SITE FOR THE DURATION OF CONSTRUCTION UNTIL JOB COMPLETION.
20. THE GENERAL CONTRACTOR SHALL MAINTAIN IN GOOD CONDITION ONE COMPLETE SET OF PLANS WITH ALL REVISIONS, ADDENDA, AND CHANGE ORDERS ON THE PREMISES AT ALL TIMES.
21. THE GENERAL CONTRACTOR AND SUBCONTRACTOR SHALL PROVIDE PORTABLE FIRE EXTINGUISHERS WITH A RATING OF NOT LESS THAN 2A TO 2A:10B:C AND SHALL BE WITHIN 25 FEET OF TRAVEL DISTANCE TO ALL PORTIONS OF WHERE THE WORK IS BEING COMPLETED DURING CONSTRUCTION.
22. ALL EXISTING ACTIVE SEWER, WATER, GAS, ELECTRIC, AND OTHER UTILITIES SHALL BE PROTECTED AT ALL TIMES, AND WHERE REQUIRED FOR THE PROPER EXECUTION OF THE WORK, SHALL BE RELOCATED AS DIRECTED BY THE ENGINEER. EXTREME CAUTION SHOULD BE USED BY THE SUBCONTRACTOR WHEN EXCAVATING OR DRILLING PIERS AROUND OR NEAR UTILITIES. SUBCONTRACTOR SHALL PROVIDE SAFETY TRAINING FOR THE WORKING CREW. THIS SHALL INCLUDE BUT NOT BE LIMITED TO: A) FALL PROTECTION, B) CONFINED SPACE, C) ELECTRICAL SAFETY, AND D) TRENCHING & EXCAVATION.
23. ALL EXISTING INACTIVE SEWER, WATER, GAS, ELECTRIC, AND OTHER UTILITIES, WHICH INTERFERE WITH THE EXECUTION OF THE WORK, SHALL BE REMOVED, CAPPED, PLUGGED OR OTHERWISE DISCONNECTED AT POINTS WHICH WILL NOT INTERFERE WITH THE EXECUTION OF THE WORK, AS DIRECTED BY THE RESPONSIBLE ENGINEER, AND SUBJECT TO THE APPROVAL OF THE OWNER AND/OR LOCAL UTILITIES.
24. THE AREAS OF THE OWNER'S PROPERTY DISTURBED BY THE WORK AND NOT COVERED BY THE TOWER, EQUIPMENT OR DRIVEWAY, SHALL BE GRADED TO A UNIFORM SLOPE, AND STABILIZED TO PREVENT EROSION.
25. CONTRACTOR SHALL MINIMIZE DISTURBANCE TO THE EXISTING SITE DURING CONSTRUCTION. EROSION CONTROL MEASURES, IF REQUIRED DURING CONSTRUCTION, SHALL BE IN CONFORMANCE WITH THE FEDERAL AND LOCAL JURISDICTION FOR EROSION AND SEDIMENT CONTROL.
26. NO FILL OR EMBANKMENT MATERIAL SHALL BE PLACED ON FROZEN GROUNDING. FROZEN MATERIALS, SNOW OR ICE SHALL NOT BE PLACED IN ANY FILL OR EMBANKMENT.

27. THE SUBGRADE SHALL BE BROUGHT TO A SMOOTH UNIFORM GRADE AND COMPACTED TO 95 PERCENT STANDARD PROCTOR DENSITY UNDER PAVEMENT AND STRUCTURES AND 80 PERCENT STANDARD PROCTOR DENSITY IN OPEN SPACE. ALL TRENCHES IN PUBLIC RIGHT OF WAY SHALL BE BACKFILLED WITH FLOWABLE FILL OR OTHER MATERIAL PRE-APPROVED BY THE LOCAL JURISDICTION.
28. ALL NECESSARY RUBBISH, STUMPS, DEBRIS, STICKS, STONES, AND OTHER REFUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF IN A LAWFUL MANNER.
29. ALL BROCHURES, OPERATING AND MAINTENANCE MANUALS, CATALOGS, SHOP DRAWINGS, AND OTHER DOCUMENTS SHALL BE TURNED OVER TO THE GENERAL CONTRACTOR AT COMPLETION OF CONSTRUCTION AND PRIOR TO PAYMENT.
30. CONTRACTOR SHALL SUBMIT A COMPLETE SET OF AS-BUILT REDLINES TO THE GENERAL CONTRACTOR UPON COMPLETION OF PROJECT AND PRIOR TO FINAL PAYMENT.
31. CONTRACTOR SHALL LEAVE PREMISES IN A CLEAN CONDITION.
32. THE PROPOSED FACILITY WILL BE UNMANNED AND DOES NOT REQUIRE POTABLE WATER OR SEWER SERVICE, AND IS NOT FOR HUMAN HABITAT (NO HANDICAP ACCESS REQUIRED).
33. OCCUPANCY IS LIMITED TO PERIODIC MAINTENANCE AND INSPECTION, APPROXIMATELY 2 TIMES PER MONTH, BY AT&T TECHNICIANS.
34. NO OUTDOOR STORAGE OR SOLID WASTE CONTAINERS ARE PROPOSED.
35. ALL MATERIAL SHALL BE FURNISHED AND WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE LATEST REVISION OF AT&T GROUNDING STANDARD "GROUNDING AND BONDING REQUIREMENTS FOR NETWORK FACILITIES (ATT-TP-76416) AND "TECHNICAL SPECIFICATION FOR CONSTRUCTION OF GSM/GPRS WIRELESS SITES" (ATT-TP-76300). IN CASE OF A CONFLICT BETWEEN THE CONSTRUCTION SPECIFICATION AND THE DRAWINGS, THE DRAWINGS SHALL GOVERN.
36. CONTRACTORS SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTIONS REQUIRED FOR CONSTRUCTION. IF CONTRACTOR CANNOT OBTAIN A PERMIT, THEY MUST NOTIFY THE GENERAL CONTRACTOR IMMEDIATELY.
37. CONTRACTOR SHALL REMOVE ALL TRASH AND DEBRIS FROM THE SITE ON A DAILY BASIS.
38. INFORMATION SHOWN ON THESE DRAWINGS WAS OBTAINED FROM SITE VISITS AND/OR DRAWINGS PROVIDED BY THE SITE OWNER. CONTRACTORS SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.
39. NO WHITE STROBIC LIGHTS ARE PERMITTED. LIGHTING IF REQUIRED, WILL MEET FAA STANDARDS AND REQUIREMENTS.
40. ALL COAXIAL CABLE INSTALLATIONS TO FOLLOW MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS.

### ANTENNA MOUNTING

41. DESIGN AND CONSTRUCTION OF ANTENNA SUPPORTS SHALL CONFORM TO CURRENT ANSI/TIA-222 OR APPLICABLE LOCAL CODES.
42. ALL STEEL MATERIALS SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A123 "ZINC (HOT-DIP GALVANIZED) COATINGS ON IRON AND STEEL PRODUCTS", UNLESS NOTED OTHERWISE.
43. ALL BOLTS, ANCHORS AND MISCELLANEOUS HARDWARE SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 "ZINC-COATING (HOT-DIP) ON IRON AND STEEL HARDWARE", UNLESS NOTED OTHERWISE.
44. DAMAGED GALVANIZED SURFACES SHALL BE REPAIRED BY COLD GALVANIZING IN ACCORDANCE WITH ASTM A780.
45. ALL ANTENNA MOUNTS SHALL BE INSTALLED WITH LOCK WASHERS AND/OR DOUBLE NUTS, AND SHALL BE TORQUED TO MANUFACTURER'S RECOMMENDATIONS.
46. CONTRACTOR SHALL INSTALL ANTENNA PER MANUFACTURER'S RECOMMENDATION FOR INSTALLATION AND GROUNDING.
47. ALL UNUSED PORTS ON ANY ANTENNAS SHALL BE TERMINATED WITH A 50-OHM LOAD TO ENSURE ANTENNAS PERFORM AS DESIGNED.
48. PRIOR TO SETTING ANTENNA AZIMUTHS AND DOWNTILTS, ANTENNA CONTRACTOR SHALL CHECK THE ANTENNA MOUNT FOR TIGHTNESS AND ENSURE THAT THEY ARE PLUMB. ANTENNA AZIMUTHS SHALL BE SET FROM TRUE NORTH AND BE ORIENTED WITHIN  $\pm 3^\circ$  AS DEFINED BY THE RFDS. ANTENNA DOWNTILTS SHALL BE WITHIN  $\pm 0.5^\circ$  AS DEFINED BY THE RFDS. REFER TO ND-00246.
49. JUMPERS FROM THE TOWER MOUNTED AMPLIFIERS MUST TERMINATE TO OPPOSITE POLARIZATIONS IN EACH SECTOR.
50. CONTRACTOR SHALL RECORD THE SERIAL NUMBER, SECTOR, AND POSITION OF EACH ACTUATOR INSTALLED AT THE ANTENNAS AND PROVIDE THE INFORMATION TO AT&T.
51. ANTENNAS SHALL HAVE A 3'-0" MINIMUM CENTER-TO-CENTER HORIZONTAL SEPARATION.

### TORQUE REQUIREMENTS

52. ALL RF CONNECTIONS SHALL BE TIGHTENED BY A TORQUE WRENCH.
53. A TORQUE MARK FORMING A CONTINUOUS STRAIGHT LINE IS TO BE MADE IN THE FOLLOWING APPLICATIONS:
  - A. RF CONNECTIONS - MARK BOTH SIDES OF THE CONNECTOR
  - B. GROUNDING AND ANTENNA HARDWARE - MARK ON THE NUT SIDE OF THE BOLT, STARTING FROM

THE THREADS TO THE SOLID SURFACE. SOLID SURFACE EXAMPLES INCLUDE A GROUND BAR OR ANTENNA BRACKET METAL.

54. ALL BM ANTENNA HARDWARE SHALL BE TIGHTENED TO 9 LB-FT (12 NM).
55. ALL 12M ANTENNA HARDWARE SHALL BE TIGHTENED TO 43 LB-FT (58 NM).
56. ALL GROUNDING HARDWARE SHALL BE TIGHTENED UNTIL THE LOCK WASHER COLLAPSES AND THE GROUNDING HARDWARE IS NO LONGER LOOSE.
57. ALL DIN TYPE CONNECTIONS SHALL BE TIGHTENED TO 18-22 LB-FT (24.4 - 29.8 NM).
58. ALL N TYPE CONNECTIONS SHALL BE TIGHTENED TO 15-20 LB-IN (1.7 - 2.3 NM).

### FIBER & POWER CABLE MOUNTING

59. THE FIBER OPTIC TRUNK CABLES SHALL BE INSTALLED IN CONDUITS, CHANNEL CABLE TRAYS, OR CABLE TRAY. WHEN INSTALLING FIBER OPTIC TRUNK CABLES INTO A CABLE TRAY SYSTEM, THEY SHALL BE INSTALLED INTO AN INTER DUCT AND A PARTITION BARRIER SHALL BE INSTALLED BETWEEN THE 600 VOLT CABLES AND THE INTER DUCT IN ORDER TO SEGREGATE CABLE TYPES. OPTIC FIBER TRUNK CABLES SHALL HAVE APPROVED CABLE RESTRAINTS EVERY (60) SIXTY FEET AND SHALL BE SECURELY FASTENED TO THE CABLE TRAY SYSTEM. NFPA 70 (NEC) ARTICLE 770 RULES SHALL APPLY.
60. TYPE TC-ER CABLES SHALL BE INSTALLED INTO CONDUITS OR CABLE TRAYS, AND SHALL BE SECURED AT INTERVALS NOT EXCEEDING (6) FEET. WHERE TYPE TC-ER CABLES ARE NOT SUBJECT TO PHYSICAL DAMAGE, CABLES SHALL BE PERMITTED TO MAKE A TRANSITION BETWEEN CONDUITS OR CABLE TRAYS THAT ARE SERVICING UTILIZATION EQUIPMENT OR DEVICES. A TRANSITION DISTANCE EXCEEDING (6) FEET REQUIRES CONTINUOUS SUPPORTING. NFPA 70 (NEC) ARTICLES 336 AND 392 RULES SHALL APPLY.
61. WHEN INSTALLING OPTIC FIBER TRUNK CABLES OR TYPE TC-ER CABLES INTO CONDUITS, NFPA 70 (NEC) ARTICLE 300 RULES SHALL APPLY.

### COAXIAL CABLE NOTES

62. TYPES AND SIZES OF THE ANTENNA CABLES ARE BASED ON ESTIMATED LENGTHS. PRIOR TO ORDERING CABLE, CONTRACTOR SHALL VERIFY ACTUAL LENGTH BASED ON CONSTRUCTION LAYOUT AND NOTIFY THE PROJECT MANAGER IF ACTUAL LENGTHS EXCEED ESTIMATED LENGTHS.
63. CONTRACTOR SHALL VERIFY THAT THE DOWNTILT OF EACH ANTENNA IS WITHIN  $\pm 0.5$  DEGREES OF SPECIFICATION WITH AN OCI APPROVED DIGITAL LEVEL.
64. CONTRACTOR SHALL CONFIRM COAX COLOR CODING PRIOR TO CONSTRUCTION. REFER TO "ANTENNA SYSTEM LABELING STANDARD" ND-00027 LATEST VERSION.
65. ALL JUMPERS TO THE ANTENNAS FROM THE MAIN TRANSMISSION LINE SHALL BE 1/2" DIA. LDF AND SHALL NOT EXCEED 6'-0".
66. ALL COAXIAL CABLE SHALL BE SECURED TO THE DESIGNED SUPPORT STRUCTURE, IN AN APPROVED MANNER, NOT TO EXCEED 4'-0" OC.
67. COAXIAL CABLE SHALL BE SECURED TO THE DESIGNATED SUPPORT STRUCTURE(S) PER MANUFACTURER'S SPECIFICATIONS.
68. CONTRACTOR SHALL FOLLOW ALL MANUFACTURER'S RECOMMENDATIONS REGARDING BOTH THE INSTALLATION AND GROUNDING OF ALL COAXIAL CABLES, CONNECTORS, ANTENNAS, AND ALL OTHER EQUIPMENT.
69. CONTRACTOR SHALL WEATHERPROOF ALL ANTENNA CONNECTORS WITH SELF AMALGAMATING TAPE. WEATHERPROOFING SHALL BE COMPLETED IN STRICT ACCORDANCE WITH AT&T STANDARDS.

### GENERAL CABLE AND EQUIPMENT NOTES

70. CONTRACTOR SHALL BE RESPONSIBLE TO VERIFY ANTENNA, TMAS, DIPLEXERS, COAX CONFIGURATION, MAKES, AND MODELS PRIOR TO INSTALLATION.
71. ALL CONNECTIONS FOR HANGERS, SUPPORTS, BRACING, ETC. SHALL BE INSTALLED PER TOWER MANUFACTURER'S RECOMMENDATIONS.
72. CONTRACTOR SHALL REFERENCE THE TOWER STRUCTURAL ANALYSIS/DESIGN DRAWINGS FOR DIRECTIONS ON CABLE DISTRIBUTION/ROUTING.
73. AFTER INSTALLATION AND FINAL CONNECTIONS ARE MADE, ALL OUTDOOR RF CONNECTORS/CONNECTIONS SHALL BE WEATHERPROOFED, EXCEPT THE RET CONNECTORS, USING BUTYL TAPE OR OTHER APPROVED WEATHERPROOFING METHODS PER AT&T SPECIFICATIONS. BUTYL TAPE SHALL HAVE A MINIMUM OF ONE-HALF TAPE WIDTH OVERLAP ON EACH TURN AND EACH LAYER SHALL BE WRAPPED THREE TIMES. WEATHERPROOFING SHALL BE SMOOTH WITHOUT BUCKLING. BUTYL BLEEDING IS NOT ALLOWED. SELF BONDING TAPE AND PLASTIC ENCLOSURES ARE PERMITTED PER ATT-002-290-041, SECTION 7.
74. IF REQUIRED TO PAINT ANTENNAS AND/OR COAX:
  - A. TEMPERATURE SHALL BE ABOVE 50 DEGREES FAHRENHEIT.
  - B. PAINT COLOR MUST BE APPROVED BY BUILDING OWNER/LANDLORD.
  - C. FOR REGULATED TOWERS, FAA/FCC APPROVED PAINT IS REQUIRED.
  - D. DO NOT PAINT OVER COLOR CODING OR ON EQUIPMENT MODEL NUMBERS.
75. ALL CABLES SHALL BE GROUNDING WITH COAXIAL CABLE GROUND KITS. FOLLOW THE MANUFACTURER'S RECOMMENDATIONS:
  - A. GROUNDING AT THE ANTENNA LEVEL.
  - B. GROUNDING AT THE MID LEVEL, TOWERS WHICH ARE OVER 200'-0", ADDITIONAL CABLE GROUNDING REQUIRED.
  - C. GROUNDING AT BASE OF TOWER PRIOR TO TURNING HORIZONTAL.
  - D. GROUNDING OUTSIDE THE EQUIPMENT SHELTER AT ENTRY PORT.
  - E. GROUNDING INSIDE THE EQUIPMENT SHELTER AT THE ENTRY PORT.
76. ANTENNA CONTRACTOR SHALL FURNISH AND INSTALL A 10'-0" T-BOOM SECTOR ANTENNA MOUNT INCLUDING ALL HARDWARE, IF APPLICABLE.



84 DEERFIELD LN  
MERIDEN, CT 06450



85 RANGWAY ROAD  
BLDG 3, SUITE 102  
NORTH BILLERICA, MA 01862



1825 W. WALNUT HILL LANE, SUITE 120  
IRVING, TEXAS 75038  
1-855-669-5421

DRAWING SCALES ARE INTENDED FOR 11"x17" SIZE  
PRINTED MEDIA ONLY.

### SUBMITTALS

REV	DATE	DESCRIPTION	BY
A	11/03/22	90% CD	JSR
B	11/08/22	90% CD	DIN
C	11/30/22	90% CD	DIN
0	01/31/23	100% CD	DIN
1	02/21/23	ADDING FALL ZONE	JSR
2	04/20/23	REDLINES PER CLIENT	JSR
3	05/05/23	REDLINES PER CLIENT	JSR
4	08/19/23	10' EXTENSION	JSR



### SITE INFORMATION

WAREHAM BROWN ST

MA1883

FA#: 15283436

USID: 317182

25 BROWN STREET  
WAREHAM, MA 02571

### SHEET DESCRIPTION

GENERAL NOTES

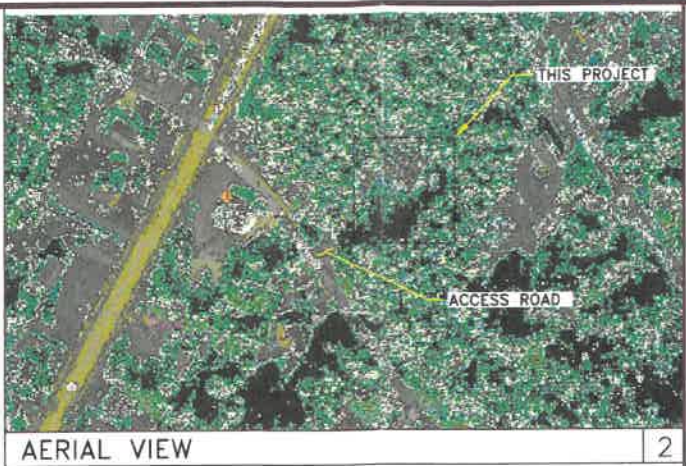
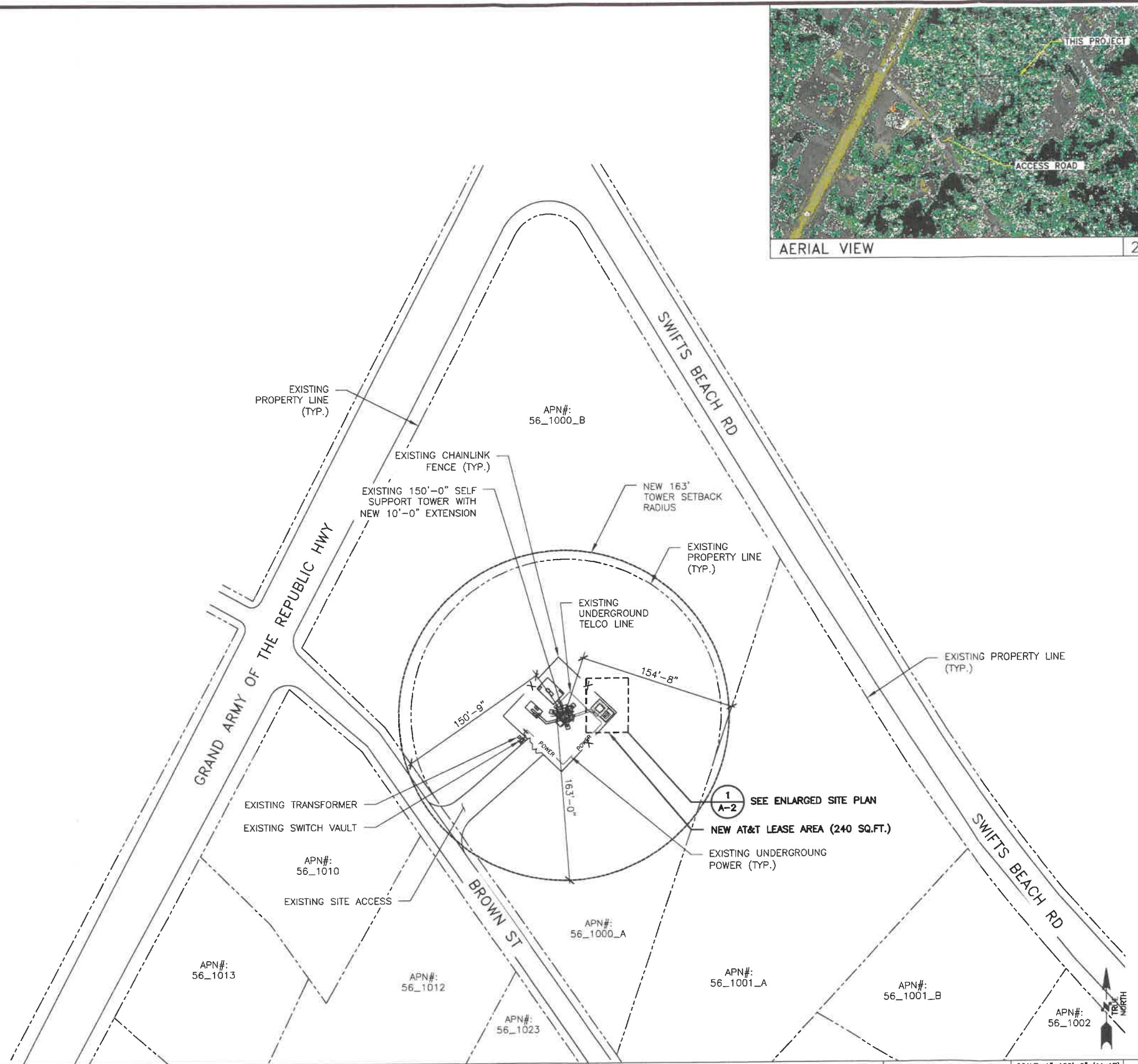
SHEET NO.

T-2



LEGEND	
TREE	
ACCESS ROAD	
EXISTING BUILDING	
CHAIN LINK FENCE	
WOOD FENCE	
TREE/BUSH LINE	
PROPERTY LINE	
LEASE AREA LINE	
UTILITY POLE	
OVERHEAD WIRE	

- GENERAL NOTES:**
1. THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE CODES ORDINANCES, LAWS AND REGULATIONS OF ALL MUNICIPALITIES, UTILITIES COMPANY OR OTHER PUBLIC AUTHORITIES.
  2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTIONS THAT MAY BE REQUIRED BY ANY FEDERAL, STATE, COUNTY OR MUNICIPAL AUTHORITIES.
  3. THE CONTRACTOR SHALL NOTIFY THE AT&T CONSTRUCTION MANAGER IN WRITING, OF ANY CONFLICT, ERRORS OR OMISSION PRIOR TO THE SUBMISSION OF BIDS OR PERFORMANCE OF WORK. MINOR OMISSIONS OR ERRORS IN THE BID DOCUMENTS SHALL NOT RELIEVE THE CONTRACTOR FROM RESPONSIBILITY FOR THE OVERALL INTENT OF THESE DRAWINGS.
  4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ALL EXISTING SITE IMPROVEMENTS PRIOR TO COMMENCING CONSTRUCTION. THE CONTRACTOR SHALL REPAIR ANY DAMAGE CAUSED AS A RESULT OF CONSTRUCTION OF THIS FACILITY.
  5. THE SCOPE OF THE WORK FOR THIS PROJECT SHALL INCLUDE PROVIDING ALL MATERIALS, EQUIPMENT AND LABOR REQUIRED TO COMPLETE THIS PROJECT. ALL EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
  6. THE CONTRACTOR SHALL VISIT THE PROJECT SITE PRIOR TO SUBMITTING A BID TO VERIFY THAT THE PROJECT CAN BE CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
  7. CONTRACTOR SHALL MAKE A UTILITY "ONE CALL" TO LOCATE ALL UTILITIES AND NOTIFY UNDERGROUND FACILITIES PROTECTIVE ORGANIZATION AT (800) 424-5555 PRIOR TO EXCAVATION AT SITE.
  8. ANY UNDERGROUND UTILITIES OR STRUCTURES THAT EXIST BENEATH THE PROJECT AREA, CONTRACTOR MUST LOCATE IT AND CONTACT THE APPLICANT & THE OWNER'S REPRESENTATIVE.
  9. NO SIGNIFICANT NOISE, SMOKE, DUST, OR ODOR WILL RESULT FROM THIS FACILITY.
  10. POWER TO THE FACILITY WILL BE MONITORED BY A SEPARATE METER.
  11. THERE ARE NO COMMERCIAL SIGNS PROPOSED FOR THIS INSTALLATION.
  12. NO FILL OR EMBANKMENT MATERIAL SHALL BE PLACED IN ANY FILL OR EMBANKMENT.
  13. ALL EXISTING ACTIVE SEWER, WATER, GAS, ELECTRIC, AND OTHER UTILITIES WHERE ENCOUNTERED IN THE WORK, SHALL BE PROTECTED AT ALL TIMES, AND WHERE DIRECTED BY UTILITY OWNER. EXTREME CAUTION SHOULD BE USED BY THE CONTRACTOR WHEN EXCAVATING OR PIER DRILLING AROUND OR NEAR UTILITIES.
  14. THE AREAS DISTURBED DUE TO CONSTRUCTION ACTIVITY SHALL BE GRADED AND RESTORED PER CODE/LANDLORD REQUIREMENTS.
  15. CONTRACTOR SHALL MINIMIZE DISTURBANCE TO EXISTING SITE DURING CONSTRUCTION, EROSION CONTROL MEASURES SHALL BE IN CONFORMANCE WITH THE LOCAL GUIDELINES FOR EROSION AND SEDIMENT CONTROL, AND COORDINATED WITH THE MUNICIPALITY.
  16. UTILITY WARNING TAPE SHALL BE PLACED ABOVE ALL NEW CONDUITS AT MAX 18" DEPTH BELOW GRADE.



84 DEERFIELD LN  
MERIDEN, CT 06450

85 RANGEWAY ROAD  
BLDG 3, SUITE 102  
NORTH BILLERICA, MA 01862

1825 W. WALNUT HILL LANE, SUITE 120  
IRVING, TEXAS 75038  
1-855-669-5421

DRAWING SCALES ARE INTENDED FOR 11"x17" SIZE PRINTED MEDIA ONLY.

SUBMITTALS			
REV	DATE	DESCRIPTION	BY
A	11/03/22	90% CD	JSR
B	11/09/22	90% CD	DIN
C	11/30/22	90% CD	DIN
0	01/31/23	100% CD	DIN
1	02/21/23	ADDING FALL ZONE	JSR
2	04/20/23	REDLINES PER CLIENT	JSR
3	05/05/23	REDLINES PER CLIENT	JSR
4	06/19/23	10' EXTENSION	JSR



**SITE INFORMATION**

WAREHAM BROWN ST  
MA1883  
FA#: 15283436  
USID: 317182  
25 BROWN STREET  
WAREHAM, MA 02571

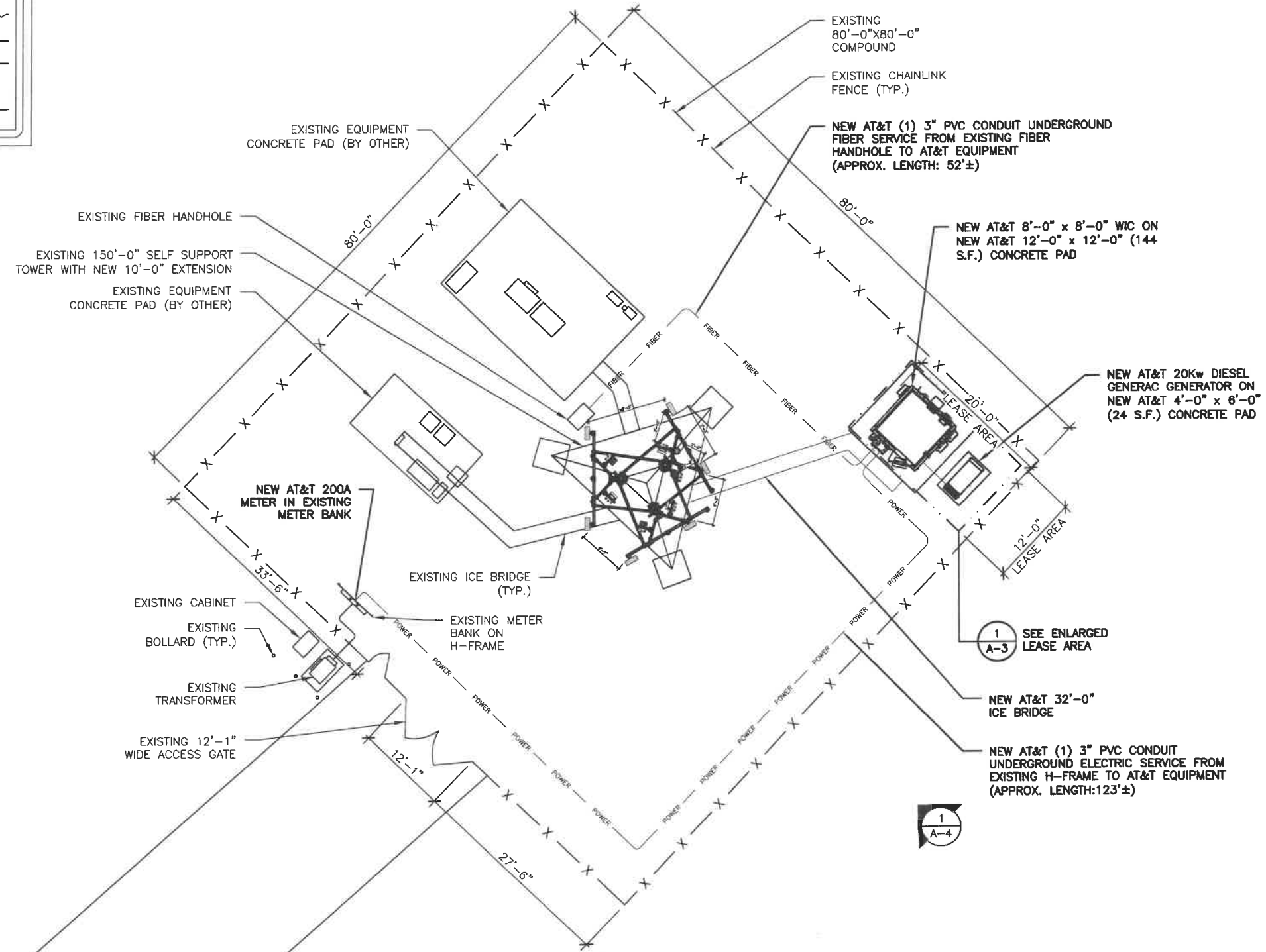
**SHEET DESCRIPTION**

OVERALL SITE PLAN

**SHEET NO.**

A-1

LEGEND	
TREE	
ACCESS ROAD	
EXISTING BUILDING	
CHAIN LINK FENCE	
WOOD FENCE	
TREE/BUSH LINE	
PROPERTY LINE	
LEASE AREA LINE	
UTILITY POLE	
OVERHEAD WIRE	



84 DEERFIELD LN  
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SHEET DESCRIPTION

ENLARGED SITE PLAN

SHEET NO.

A-2







DRAWING SCALES ARE INTENDED FOR 11"x17" SIZE PRINTED MEDIA ONLY.

SUBMITTALS

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C	11/30/22	90% CD	DIN
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2	04/20/23	REDLINES PER CLIENT	JSR
3	05/05/23	REDLINES PER CLIENT	JSR
4	08/19/23	10' EXTENSION	JSR



SITE INFORMATION

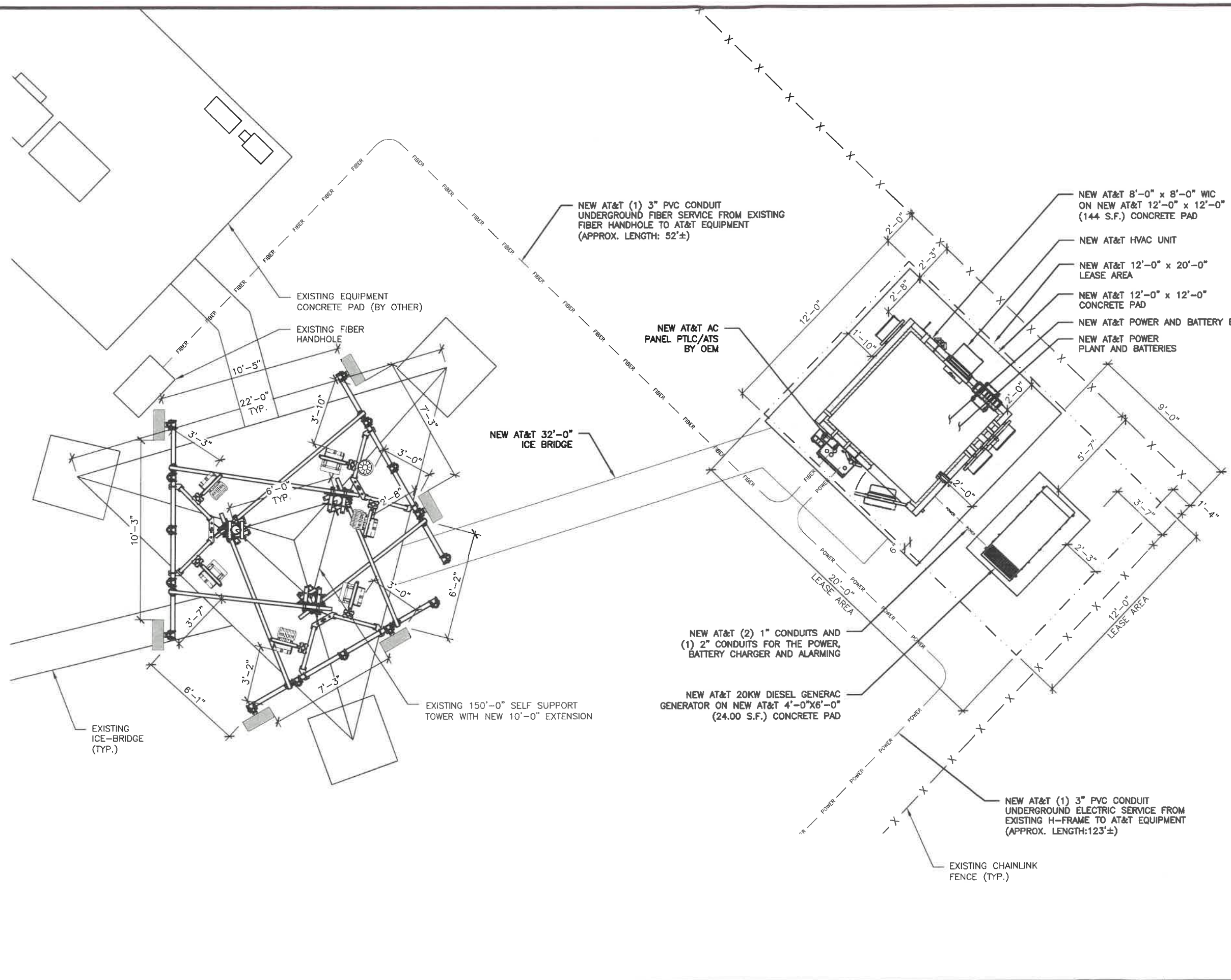
WAREHAM BROWN ST  
 MA1883  
 FA#: 15283436  
 USID: 317182  
 25 BROWN STREET  
 WAREHAM, MA 02571

SHEET DESCRIPTION

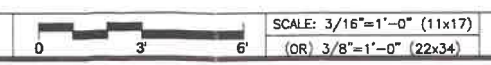
EQUIPMENT AREA

SHEET NO.

A-3



PROPOSED EQUIPMENT AREA

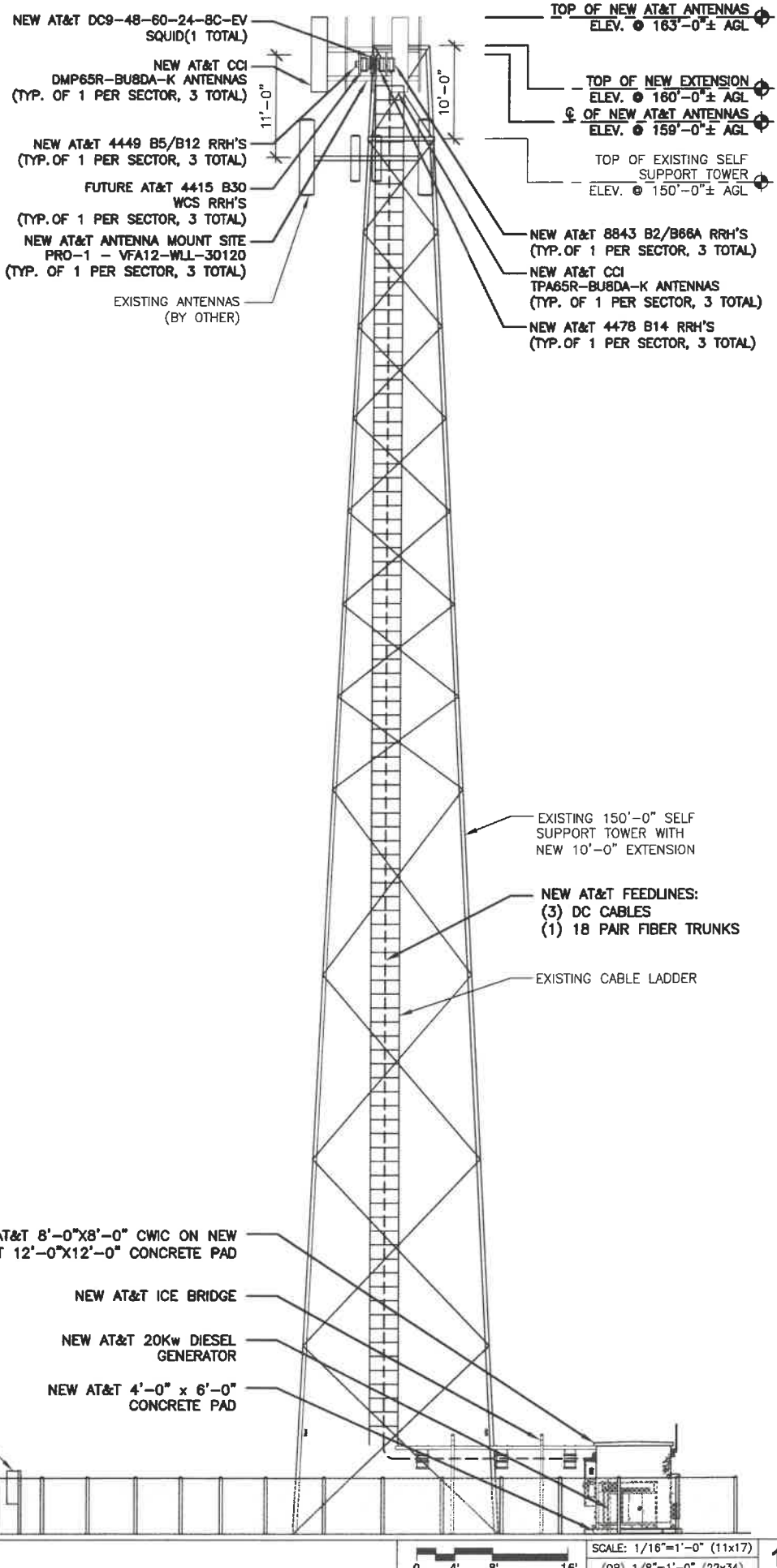


**NOTES:**

1. THESE DRAWINGS SHALL NOT BE RELIED UPON AS AN INDICATION THAT THE TOWER STRUCTURE, ITS COMPONENTS, AND ITS FOUNDATION HAVE ADEQUATE STRUCTURAL CAPACITY TO SUPPORT ALL EXISTING AND NEW ANTENNAS, MOUNTS, EQUIPMENT, AND COAXIAL CABLES. TRYLON HAS NOT PERFORMED A STRUCTURAL ANALYSIS ON THE TOWER, FOUNDATION, ANTENNA MOUNT, AND ALL ITS COMPONENTS. IT IS THE RESPONSIBILITY OF THE OWNER TO HAVE A STRUCTURAL ANALYSIS PERFORMED IN ACCORDANCE WITH ALL APPLICABLE CODES AND STANDARDS PRIOR TO THE INSTALLATION OF ANY NEW EQUIPMENT, COAXIAL CABLES, ANTENNAS, OR APPURTENANCES ON THE TOWER. THIS STRUCTURAL ANALYSIS SHALL BE SIGNED AND SEALED BY A PROFESSIONAL STRUCTURAL ENGINEER REGISTERED IN MA.
2. INSTALLATION SHALL BE CONDUCTED BY FIELD CREWS EXPERIENCED IN THE ASSEMBLY AND ERECTION OF RADIO ANTENNAS, TRANSMISSION LINES, AND SUPPORT STRUCTURES. ANTENNA WORK TO BE INSTALLED PER THE REQUIREMENTS OF THE TOWER MANUFACTURER'S SPECIFICATION.
3. ANTENNA AND MOUNT DESIGN MUST COMPLY WITH ANSI/TIA-222-G AND ALL LOCAL CODES.
4. CONTRACTOR TO PROVIDE THE PROPER COAX JUMPER SUPPORT ATTACHMENTS TO THE TOWER AND ANTENNA MOUNT.
5. CONTRACTOR TO GET THE LATEST AT&T RFDS PRIOR TO COMMENCEMENT OF CONSTRUCTION.
6. CONTRACTOR SHOULD REFER TO FINAL RFDS FOR ALL RF DETAILS.
7. THE CONTRACTOR MUST FIELD VERIFY ALL MEASUREMENTS AND FIELD CONDITIONS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.

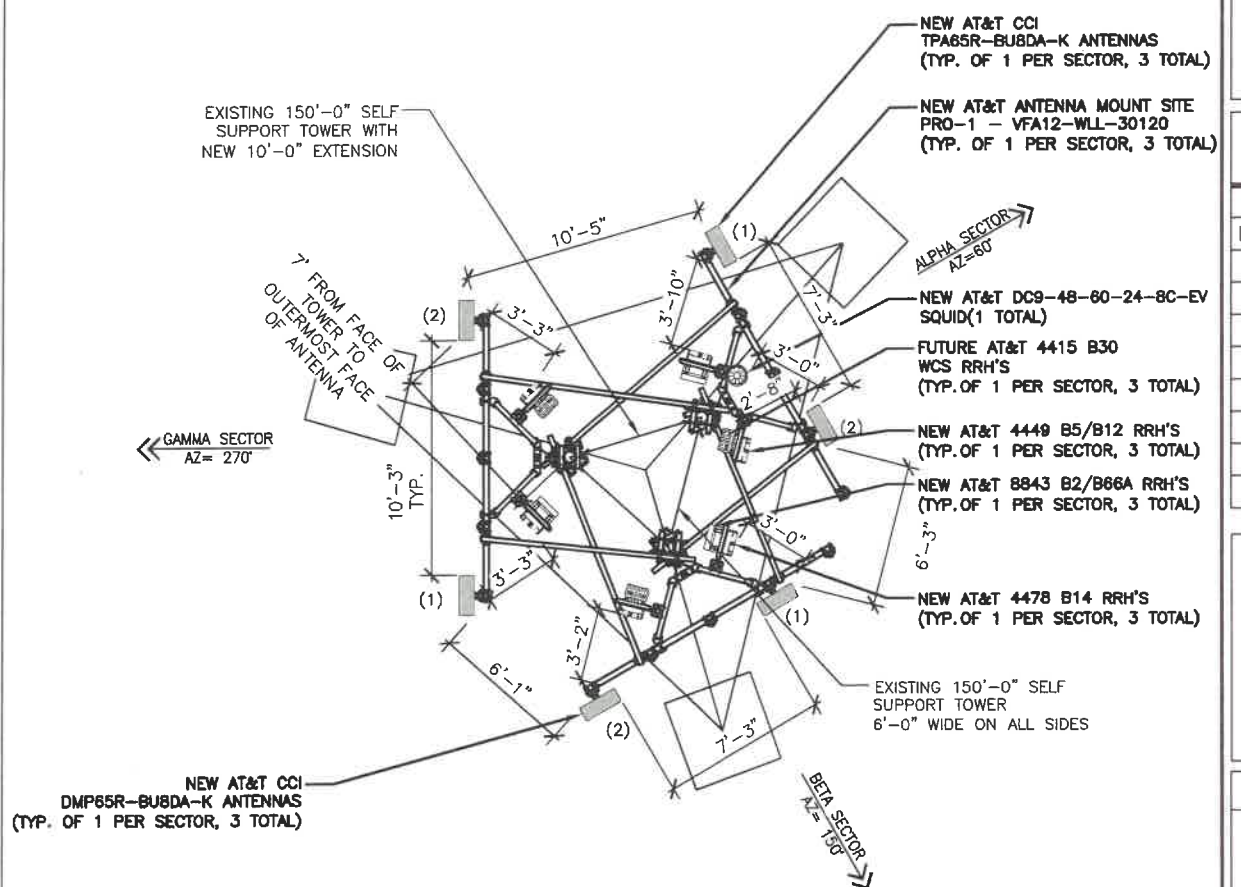
**NOTES:**

REFER TO STRUCTURAL ANALYSIS AND MODIFICATIONS BY TEP DATED 4/7/2022 FOR MODIFICATION DETAILS AND INSTALLATION.



EAST ELEVATION

PROPOSED ANTENNAS	TOTAL ANTENNAS	PROPOSED RRHs	FUTURE WCS RRHs	TOTAL RRHs TO INSTALL
6	6	9	3	12



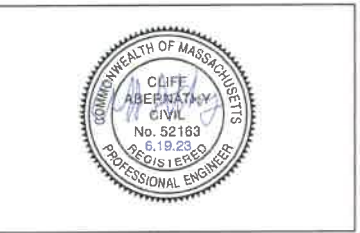
1 NEW ANTENNA LAYOUT



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**SUBMITTALS**

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**SITE INFORMATION**

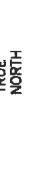
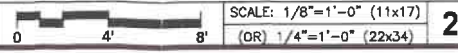
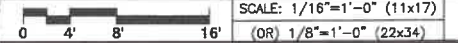
WAREHAM BROWN ST  
MA1883  
FA#: 15283436  
USID: 317182  
25 BROWN STREET  
WAREHAM, MA 02571

**SHEET DESCRIPTION**

ELEVATION AND ANTENNA LAYOUT

SHEET NO.

A-4







84 DEERFIELD LN  
MERIDEN, CT 06450



85 RANGEWAY ROAD  
BLDG 3, SUITE 102  
NORTH BILLERICA, MA 01862



1825 W. WALNUT HILL LANE, SUITE 120  
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1-855-669-5421

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SITE INFORMATION

WAREHAM BROWN ST  
MA1883

FA#: 15283436

USID: 317182

25 BROWN STREET  
WAREHAM, MA 02571

SHEET DESCRIPTION

ANTENNA SCHEDULE

SHEET NO.

A-5

PROPOSED ANTENNA SCHEDULE AND RF SYSTEM

SECTOR	ANTENNA POSITION	ANTENNA MAKE/MODEL	AZIMUTH	RAD CENTER	TIP HEIGHT	RRH MAKE/MODEL	RAYCAP DEMARC SQUID	FEEDLINE	FEEDLINE LENGTH
ALPHA	#1	CCI ANTENNAS TPA65R-BU8DA-K	60°	159'-0"	163'-0"	RRU 4478 B14 RRU 8843 B2/B66A	DC9-48-60-24-8C-EV	(3) DC CABLE (1) 18 PAIR FIBER CABLE	200'-0"
	#2	CCI ANTENNAS DMP65R-BU8DA-K	60°	159'-0"	163'-0"	RRU 4449 B5/B12 (FUTURE) RRU 4415 B30 WCS	-		
BETA	#1	CCI ANTENNAS TPA65R-BU8DA-K	150°	159'-0"	163'-0"	RRU 4478 B14 RRU 8843 B2/B66A	-	-	-
	#2	CCI ANTENNAS DMP65R-BU8DA-K	150°	159'-0"	163'-0"	RRU 4449 B5/B12 (FUTURE) RRU 4415 B30 WCS	-		
GAMMA	#1	CCI ANTENNAS TPA65R-BU8DA-K	270°	159'-0"	163'-0"	RRU 4478 B14 RRU 8843 B2/B66A	-	-	-
	#2	CCI ANTENNAS DMP65R-BU8DA-K	270°	159'-0"	163'-0"	RRU 4449 B5/B12 (FUTURE) RRU 4415 B30 WCS	-		

\* DENOTES FUTURE RRH

FEEDLINE	FEEDLINE LENGTH
POWER	200'-0"
FIBER	200'-0"

PROPOSED ANTENNAS	PROPOSED RRHs	FUTURE RRHs	TOWER MOUNT
6	9	3	(3) VFA12-WLL-30120

CABLE COUNT	
QUANTITY	CABLE TYPE
3	DC CABLE
1	18 PAIR FIBER CABLE

CABLE LENGTH AND COUNT

N.T.S. 1

SNAPTAK PIM FREE POLYMER HANGERS				
	PART #	AT&T ITEM NUMBER	CABLE SIZE RANGE	AT&T APPROVED CABLES
	SSH-47	ANT. 16979	4.0 TO 7.0 MM	2 FIBER JUMPERS AND 4 FIBER JUMPERS
	SSH-710	ANT. 16980	7.1 TO 10.0 MM	RET CABLES
	SSH-1014	ANT. 16981	10.1 TO 14.0 MM	2 CONDUCTOR POWER CABLES
	SSH-1416	ANT. 16982	14.1 TO 16.0 MM	1/2" COAX CABLE JUMPERS

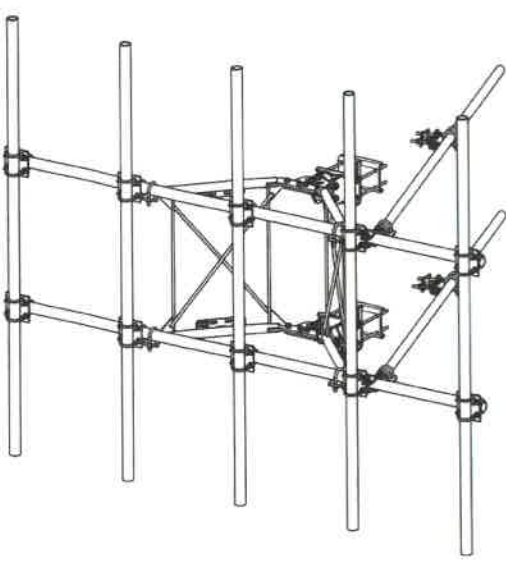
NOTE:  
 1. USE SNAPTAK PIM FREE POLYMER HANGERS FOR COAX, DC AND FIBER JUMPER SUPPORT.  
 2. CONTRACTOR TO FOLLOW AT&T CONSTRUCTION STANDARDS DOCUMENT # ATT-CEM-18006 TITLED "HOSE CLAMP & METAL SNAP-IN SUPPORTS PIM PROBLEM RESOLUTION".

SNAPTAK PIM FREE POLYMER HANGERS

N.T.S. 2

PROPOSED MOUNT (VFA12-M3-WLL)

N.T.S. 3



ITEM	QTY	PART NO.	PART DESCRIPTION	LENGTH	UNIT WGT.	NET WT.
1	2	X-VFVW	SUPPORT ARMS		71.41	142.81
2	1	X-HDCAMTBW	CLAMP WELDMENT FOR BCAM-HD		33.06	33.06
3	1	X-MHTPHD	MULTI-HOLE TAPER PLATE WELDMENT		36.24	36.24
4	1	X-HDCAMSS	ANGLE ADJUSTMENT WELDMENT FOR BCAM-HD		16.39	16.39
5	2	X-VFAPL4	VFA-HD PIVOT PLATE	12 in	15.08	31.77
6	2	X-LCBP4	BENT BACKRNG PLATE	13 in	19.00	38.01
7	4	X-SP7B	SLIDING PIPE TIE BACK PLATE	5.12 in	5.97	23.48
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	10	3C2	CROSSOVER PLATE	7 in	4.80	47.90
11	4	MCP	CLAMP HALF 1/2" THICK, 11-5/8" LONG	12.116 in	3.59	14.37
12	8	DCP	1/2" THICK, 5-3/4" CENTER TO CENTER CLAMP HALF	8.188 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	75.94	151.87
15	4	A34212	3/4" X 2-1/2" UNC HEX BOLT (A325)	2.12 in	0.45	1.82
16	4	G34LW	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.)		1.57	12.54
20	4	G58R-12	5/8" X 12" THREADED ROD (HDG.)		1.05	4.18
21	4	G58R-8	5/8" X 8" THREADED ROD (HDG.)		0.70	2.79
22	4	X-UB500	5/8" X 3" X 5-1/4" X 3-1/8" U-BOLT (HDG.)		1.15	4.60
23	8	X-UB325	5/8" X 3" X 5-1/4" 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	2.1/8 in	0.31	2.50
29	25	G58FW	5/8" HDG USS FLATWASHER	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	48	X-UB300	1/2" X 3" X 5" X 2" GALV. U-BOLT		0.74	35.45
33	20	X-UB1212	1/2" X 2-1/2" X 4-1/2" X 2" GALV. U-BOLT		0.66	13.13
34	80	G12FW	1/2" HDG USS FLATWASHER	3/32 in	0.03	2.73
35	80	G12LW	1/2" HDG LOCKWASHER		0.01	1.11
36	80	G12NUT	1/2" HDG HEAVY 2H HEX NUT		0.07	5.73
37	5	P30120	2-7/8" X 120" (2-1/2" SCH. 40) GALVANIZED PIPE	120 in	58.07	290.33
					TOTAL WT #	1056.41

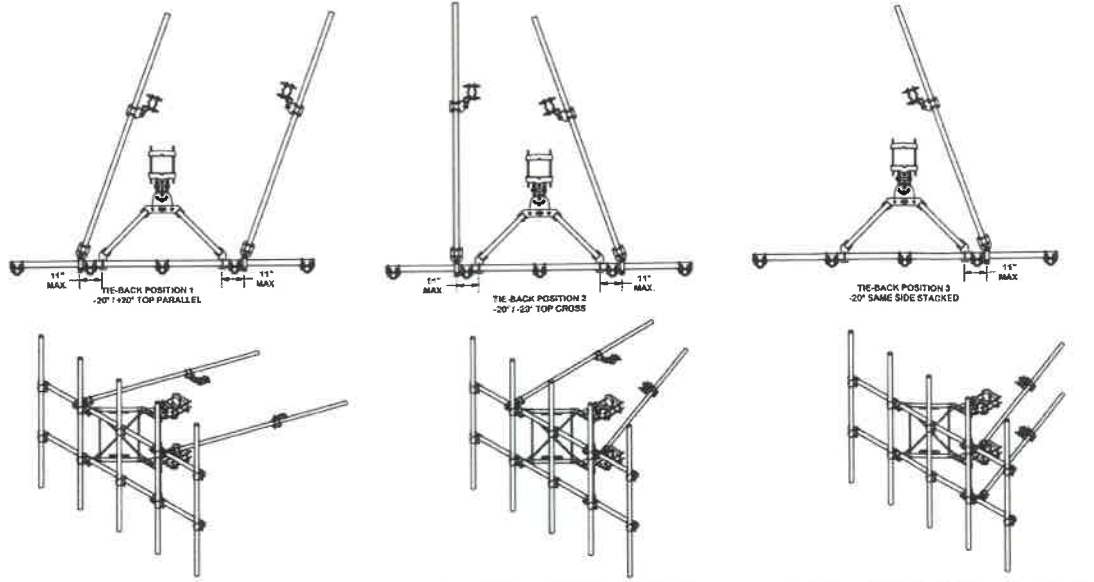
**TOLERANCE NOTES**  
 TOLERANCES ON DIMENSIONS, UNLESS OTHERWISE NOTED ARE:  
 SAWS, SHEARED AND GAS CUT EDGES ± 0.007"  
 DRILLED AND GAS CUT HOLES ± 0.007" - NO CORING OF HOLES  
 LASER CUT EDGES AND HOLES ± 0.010" - NO CORING OF HOLES  
 BENDS ARE ± 1/2 DEGREE  
 ALL OTHER MACHINING ± 0.007"  
 ALL OTHER ASSEMBLY ± 0.007"

DESCRIPTION: 12" 6" HEAVY DUTY V-FRAME ASSEMBLY W/ 2 STIFF ARMS & MOUNT PIPES

DATE: 1/25/2017  
 DRAWN BY: CSL  
 CHECKED BY: BMC  
 DATE: 5/3/2018

REV A: UPDATED BCAM VERSION 1 TO BCAM VERSION 2  
 REV 1: DESCRIPTION OF REVISIONS

**TIE-BACK POSITIONS**



**TOLERANCE NOTES**  
 TOLERANCES ON DIMENSIONS, UNLESS OTHERWISE NOTED ARE:  
 SAWS, SHEARED AND GAS CUT EDGES ± 0.007"  
 DRILLED AND GAS CUT HOLES ± 0.007" - NO CORING OF HOLES  
 LASER CUT EDGES AND HOLES ± 0.010" - NO CORING OF HOLES  
 BENDS ARE ± 1/2 DEGREE  
 ALL OTHER MACHINING ± 0.007"  
 ALL OTHER ASSEMBLY ± 0.007"

DESCRIPTION: 12" 6" HEAVY DUTY V-FRAME ASSEMBLY W/ 2 STIFF ARMS & MOUNT PIPES

DATE: 1/25/2017  
 DRAWN BY: CSL  
 CHECKED BY: BMC  
 DATE: 5/3/2018

REV A: UPDATED BCAM VERSION 1 TO BCAM VERSION 2  
 REV 1: DESCRIPTION OF REVISIONS



84 DEERFIELD LN  
 MERIDEN, CT 06450



85 RANGEWAY ROAD  
 BLDG 3, SUITE 102  
 NORTH BILLERICA, MA 01862



1825 W. WALNUT HILL LANE, SUITE 120  
 IRVING, TEXAS 75038  
 1-855-669-5421

DRAWING SCALES ARE INTENDED FOR 11"x17" SIZE PRINTED MEDIA ONLY.

SUBMITTALS			
REV	DATE	DESCRIPTION	BY
A	11/03/22	90% CD	JSR
B	11/09/22	90% CD	DIN
C	11/30/22	90% CD	DIN
0	01/31/23	100% CD	DIN
1	02/21/23	ADDING FALL ZONE	JSR
2	04/20/23	REDLINES PER CLIENT	JSR
3	05/05/23	REDLINES PER CLIENT	JSR
4	06/19/23	10' EXTENSION	JSR



**SITE INFORMATION**

WAREHAM BROWN ST  
 MA1883  
 FA#: 15283436  
 USID: 317182

25 BROWN STREET  
 WAREHAM, MA 02571

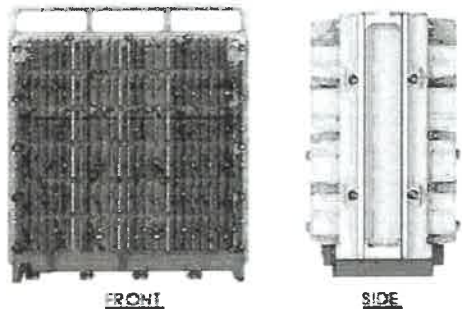
**SHEET DESCRIPTION**

CABLE AND MOUNT DETAILS

**SHEET NO.**

D-6

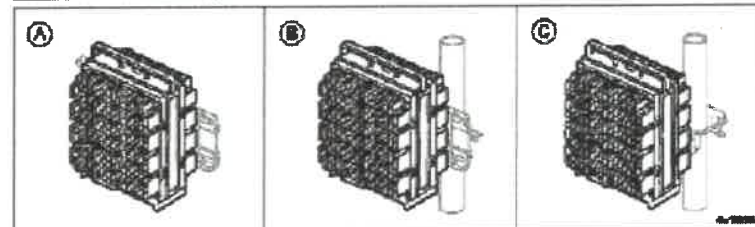




**SPECIFICATIONS**

MFG: ERICSSON  
 MODEL: RRUS 4449  
 B5/B12  
 HEIGHT: 14.96 IN  
 WIDTH: 13.19 IN  
 DEPTH: 10.43 IN  
 WEIGHT: 73 LBS

**MOUNTING KIT OPTIONS:**



**RADIO 8843 - B2 + B66A (PREV 4443)  
 4TX 4RX PER BAND**

0 antenna ports, 4TX/4RX for 2 bands with separate RF ports  
 Up to 320W RF Power shared between 2 bands  
 Ermses  
 4x60W on each band of  
 4x20W on B2 and 4x50W on Band 66A  
 2x50W on Band 2 and 2x50W on Band 66A

Carrier Capacity:  
 15 to 24 carrier and up to 55-70 MHz CBW for LTE  
 2x 10Gbps CPRI  
 Size and Weight:

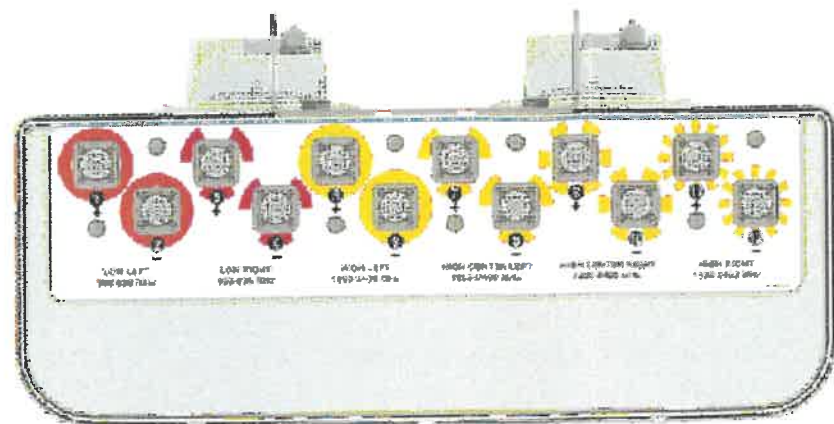
Radio Model	Height	Width	Depth	Weight
RRUS 4449 B5/B12	14.96	13.19	10.43	73 lbs
RRUS 4449 B5/B12	14.96	13.19	10.43	73 lbs

-48 VDC  
 2x25A fuse (2 power connectors, 2 or 3 wire) (26A for 4x60W)  
 A/B/C TMA & RFT support (2 Bias-T 1 A/D port)  
 Type 4 3-10 RF connectors  
 2 external alarms  
 IP65, -40 to +55 C

RADIO 8843



Portrail Mount Only



Dimensions (LxWxD)	96.0x20.7x7.7 in (2438x525x197 mm)
Survival Wind Speed	> 150 mph (> 241 kph)
Front Wind Load	457 lbs (2033 N) @ 100 mph (161 kph)
Side Wind Load	209 lbs (929 N) @ 100 mph (161 kph)
Equivalent Flat Plate Area	17.9 ft <sup>2</sup> (1.7 m <sup>2</sup> )
Weight *	67.1 lbs (30.5 kg)
Package Dimensions (LxWxD)	104.3x28.7x16.9 in (2650x730x430 mm)
Package Weight	145 lbs (65.8 kg)
Connector	12 x 4.3-10 female
Mounting Pole	2 to 5 in (5 to 12 cm)

RRUS 4449 B5/B12 RRH DETAIL

NOT TO SCALE

1

RRUS 8843 B2/B66A RRH DETAIL

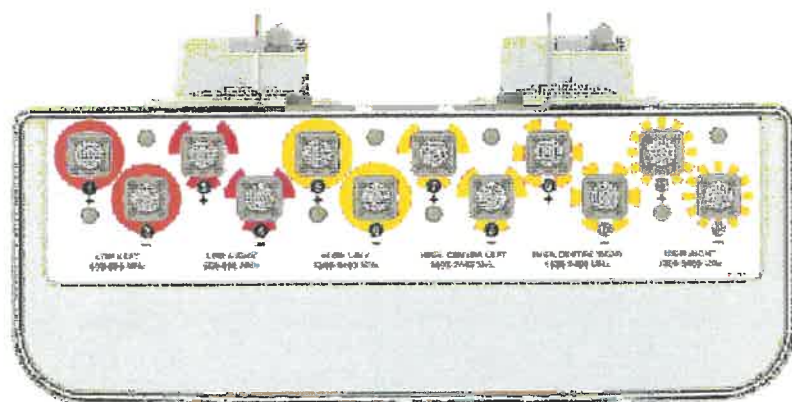
NOT TO SCALE

2

TPA65R-BU8DA-K ANTENNA DETAIL

NOT TO SCALE

3



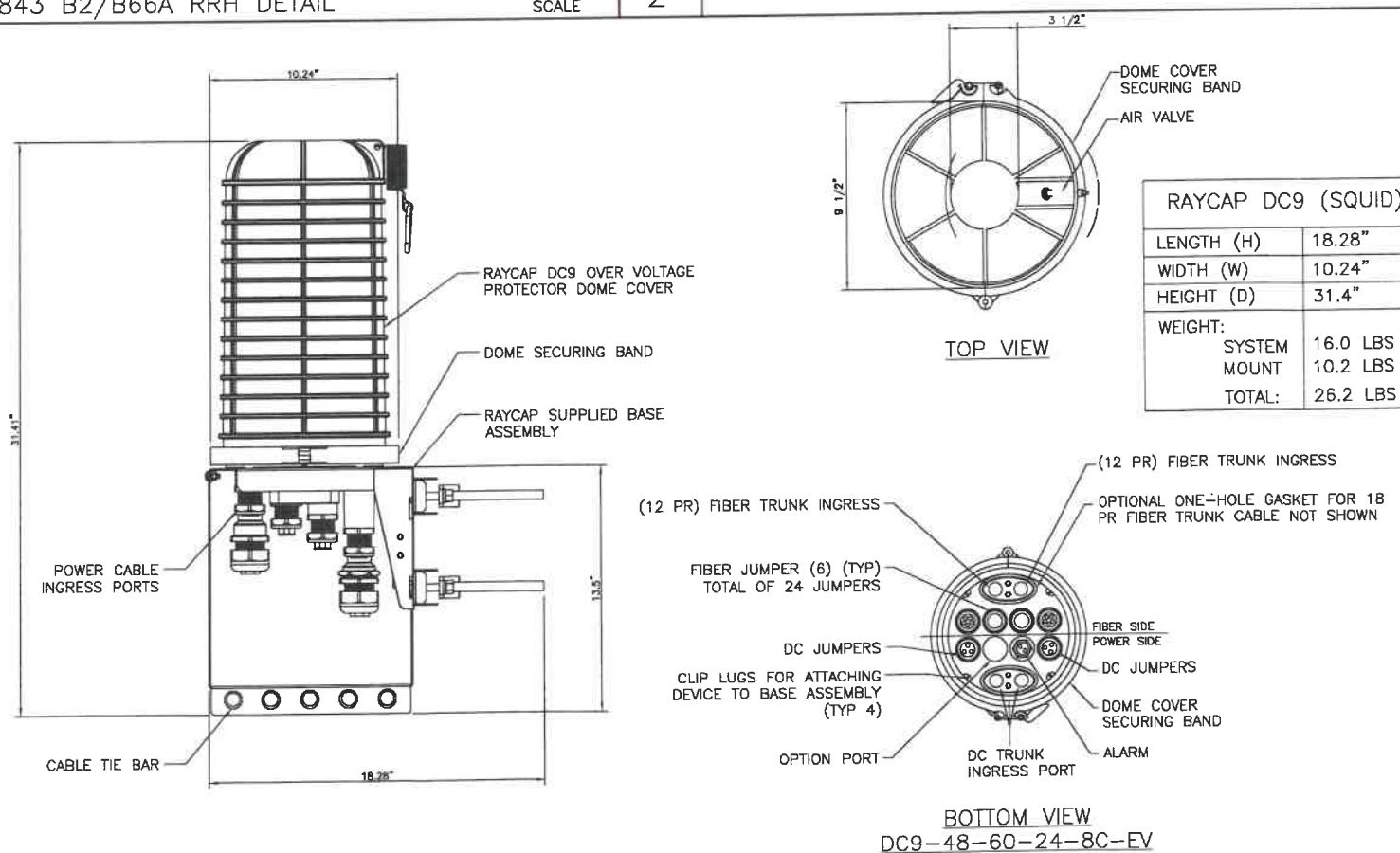
Dimensions (LxWxD)	96.0x20.7x7.7 in (2438x525x197 mm)
Survival Wind Speed	> 150 mph (> 241 kph)
Front Wind Load	457 lbs (2033 N) @ 100 mph (161 kph)
Side Wind Load	209 lbs (929 N) @ 100 mph (161 kph)
Equivalent Flat Plate Area	17.9 ft <sup>2</sup> (1.7 m <sup>2</sup> )
Weight *	119.0 lbs (54.0 kg)
Connector	8 x 4.3-10 female
Mounting Pole	2 to 5 in (5 to 12 cm)

DMP65R-BU8DA-K ANTENNA DETAIL

NOT TO SCALE

4

DC9-48-60-24-8C-EV RAYCAP DETAIL



DMP65R-BU8DA-K ANTENNA DETAIL

NOT TO SCALE

4

DC9-48-60-24-8C-EV RAYCAP DETAIL

NOT TO SCALE

5



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3	05/05/23	REDLINES PER CLIENT	JSR
4	06/19/23	10' EXTENSION	JSR



**SITE INFORMATION**

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 MA1883  
 FA#: 15283436  
 USID: 317182  
 25 BROWN STREET  
 WAREHAM, MA 02571

**SHEET DESCRIPTION**

EQUIPMENT DETAILS

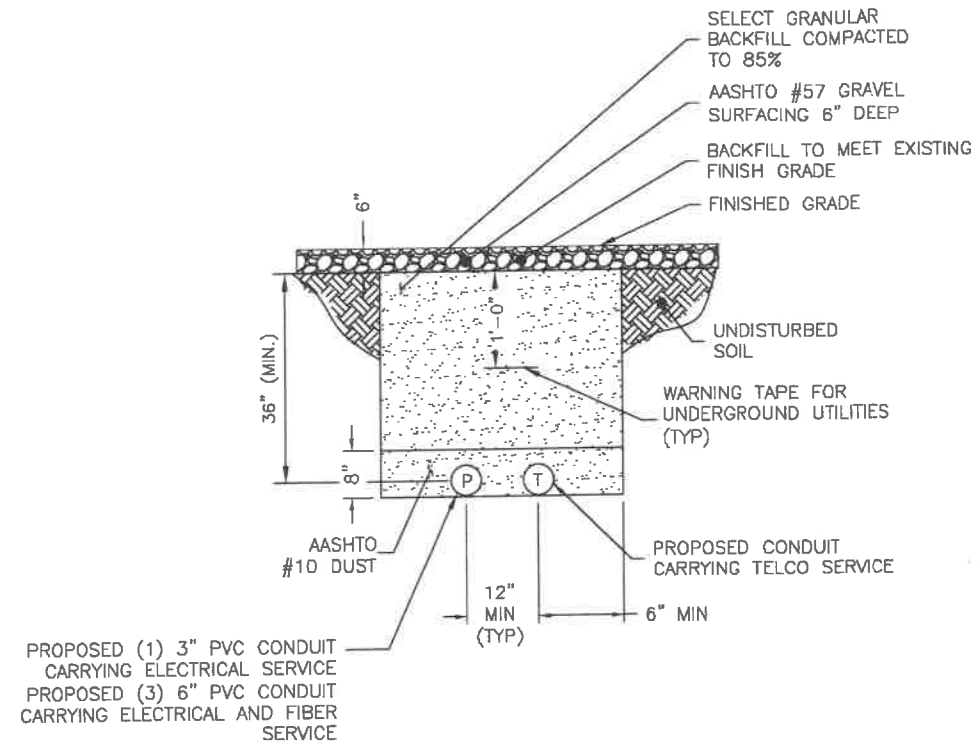
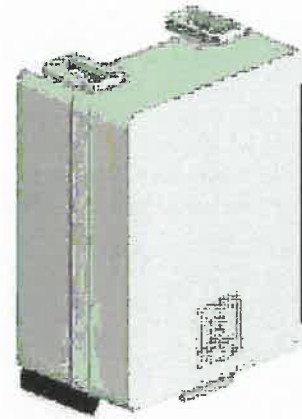
**SHEET NO.**

D-7



# RRUS 4478 B14

- B14
  - TX = 758 - 766 MHz
  - RX = 788 - 798 MHz
- CPRI 2 ports x 2.5/4.9/9.8/10.1 Gbps. Install 1 SFP and connect 1 fiber pair to the RRUS 4478 during initial install.
- Only use Ericsson supplied and approved SFPs RDH10255/25 until 12/1/2017, after use RDH10247/25
- 2 external alarm inputs
- Max wind load @ 50m/sec = 350N
- Breaker size = 25A, DC Power Consumption = 650W (for dimensioning)
- 200mm horizontal separation required for side by side mounting
- 200mm separation required from antenna backplane to radio
- 500mm/300mm vertical outdoor/indoor separation required
- Min, Max DC cable size from squid to radio = 10.8 AWG
  - Adapter is required for 2-wire connection
  - Shielded DC cable is required
- Ground cable size = 2AWG
- Dimensions (incl. handles, feet and fan unit)
  - Height: 16.1" (460 mm)
  - Width: 13.4" (342 mm)
  - Depth: 6.26" (210 mm)
- Weight, excl. mounting hardware = 59.4 lbs (27 kg)



**NOTE:**  
TELCO TO BE DETERMINED  
EXCAVATE EXISTING SUBGRADE AS REQUIRED  
TO INSTALL CONDUITS ACCORDING TO OSHA  
AND ALL APPLICABLE CODES.



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3	05/05/23	REDLINES PER CLIENT	JSR
4	06/19/23	10' EXTENSION	JSR

RRUS 4478 B14 RRH DETAIL

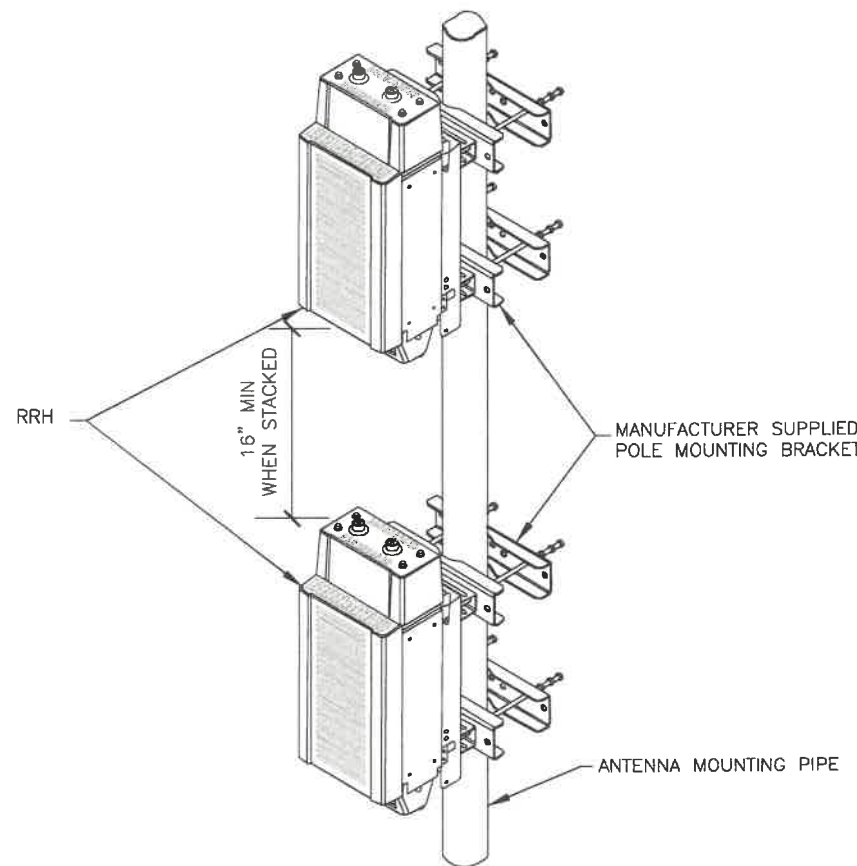
NOT TO SCALE

1

TYPICAL TRENCH DETAIL

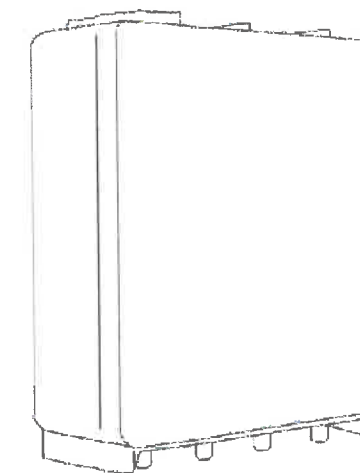
NOT TO SCALE

2



### RRUS 4415 B30

- B30
  - TX = TBD
  - RX = TBD
- CPRI 2 ports x 2.5/4.9/9.8/10.1 Gbps. Install 2 SFPs and connect 2 fiber pair to the RRUS 4415 during initial install.
- Only use Ericsson supplied and approved SFPs RDH10255/25  
Exception: SFP7 RDH10255/3 for CPRI 1.4km to 10km  
Exception: SFP7 (pair): RDH10270/1 and RDH10275/2 for CPRI > 10km
- 2 external alarm inputs
- Max wind load @ 50m/sec = 260N
- Breaker size = 25A, DC Power Consumption = 670 W (for dimensioning)
- 200mm horizontal separation required for side by side mounting
- 200mm separation required from antenna backplane to radio
- 400mm vertical outdoor/indoor separation required between 2 radios
- 500mm vertical separation below antenna
- Min, Max DC cable size from squid to radio = 10.8 AWG
  - Adapter is required for 2-wire connection
  - Shielded DC cable is required
- Ground cable size = 2AWG
- Dimensions (incl. handles, feet and sunshield, w/o fan unit)
  - Height: 16.5" (420 mm)
  - Width: 13.4" (342 mm)
  - Depth: 5.3" (148 mm)
- Weight, excl. mounting hardware = 43 lbs (21 kg)



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WAREHAM, MA 02571

### SHEET DESCRIPTION

EQUIPMENT DETAILS

### SHEET NO.

D-8

RRH MOUNTING DETAIL

NOT TO SCALE

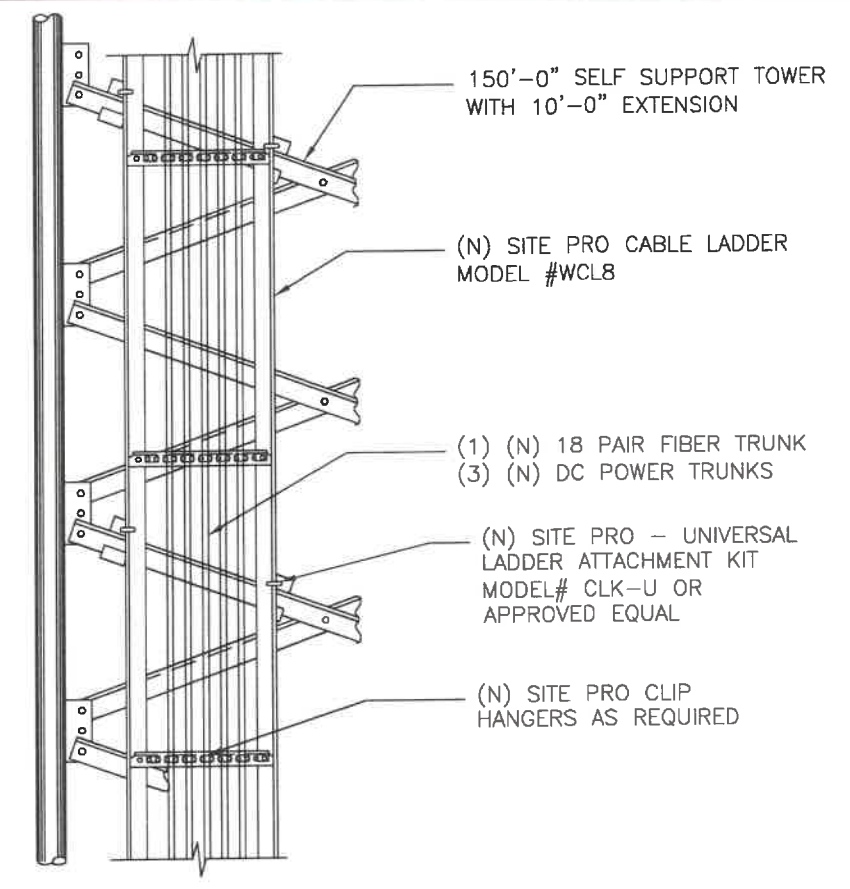
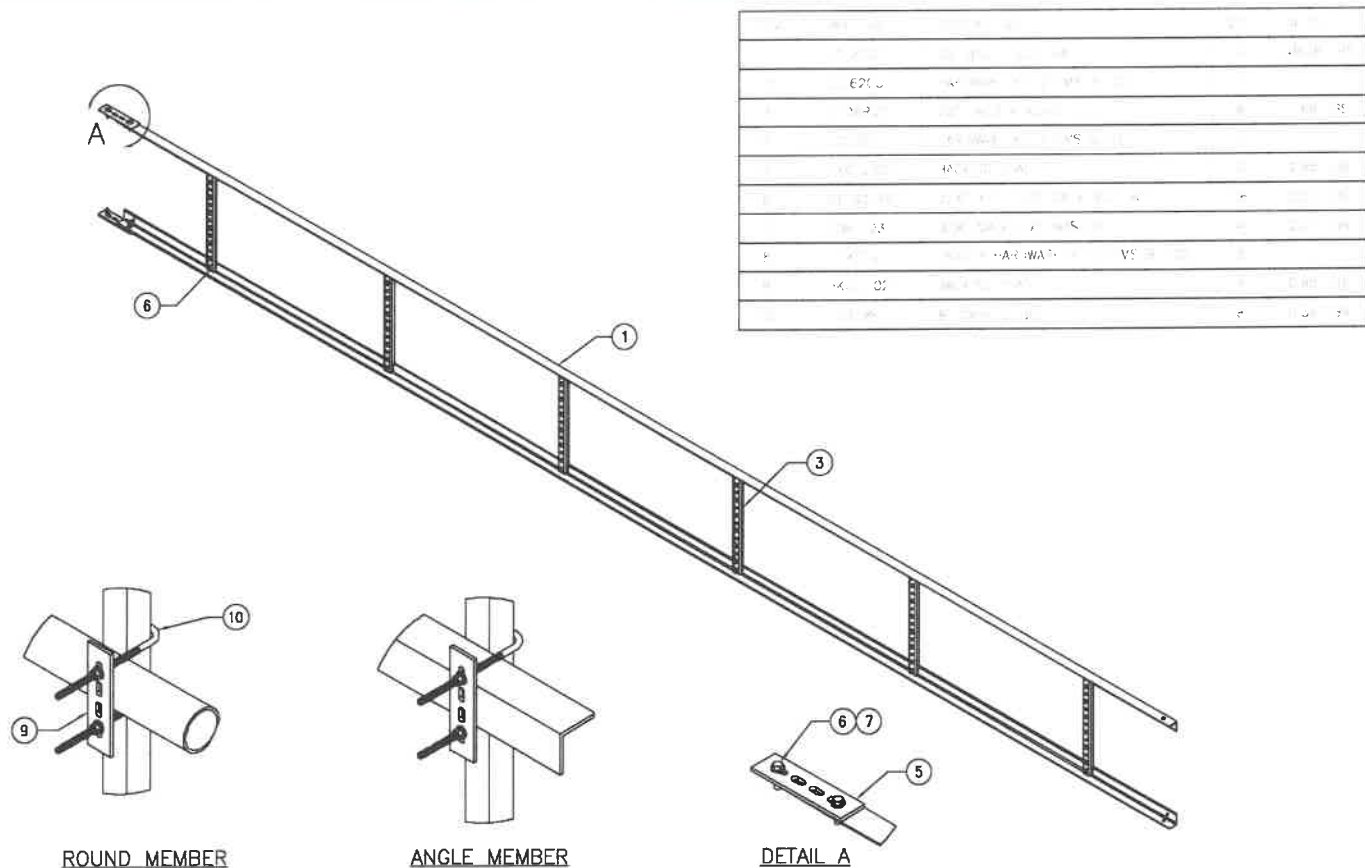
3

(FUTURE) 4415 B30 WCS RRH DETAIL

NOT TO SCALE

4





CABLE LADDER DETAIL

NOT TO SCALE

1

CABLE LADDER DETAIL

NOT TO SCALE

2

NOT USED

NOT TO SCALE

3

NOT USED

NOT TO SCALE

4



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3	05/05/23	REDLINES PER CLIENT	JSR
4	06/19/23	10' EXTENSION	JSR



SITE INFORMATION

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 25 BROWN STREET  
 WAREHAM, MA 02571

SHEET DESCRIPTION

EQUIPMENT DETAILS

SHEET NO.

D-9



8'x8' SATN70

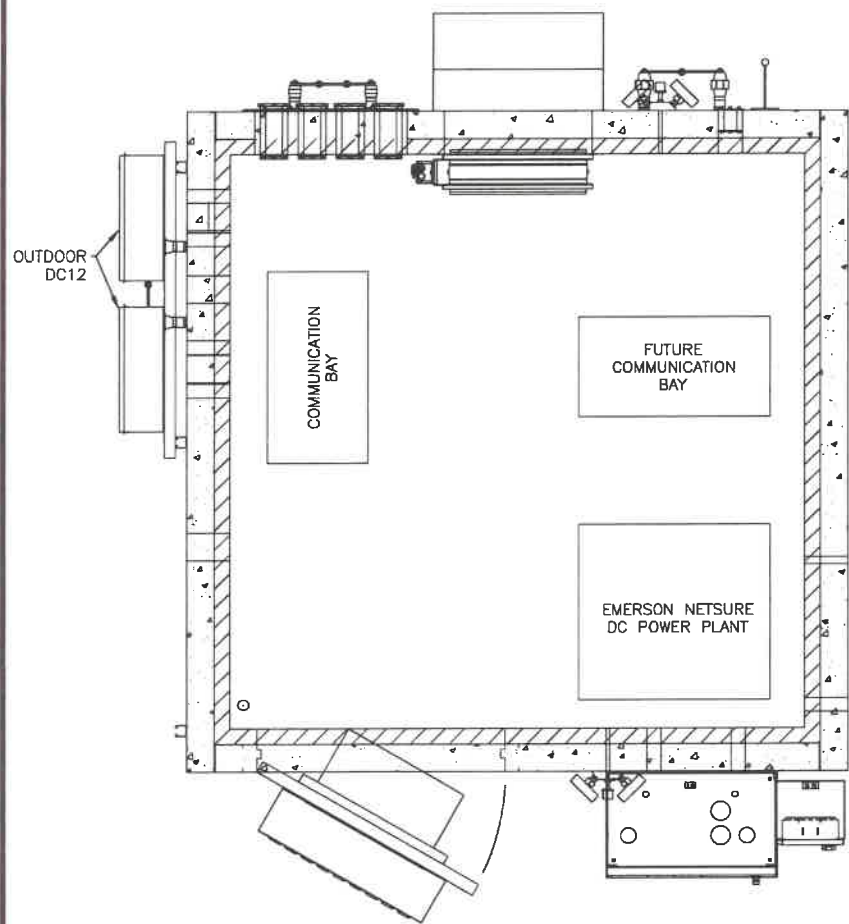
Concrete Walk-In-Cabinet (CWIC)

Sabreindustries.com

5031 Hazel Jones Road

Bossier City, LA 71111

(318) 213-2800

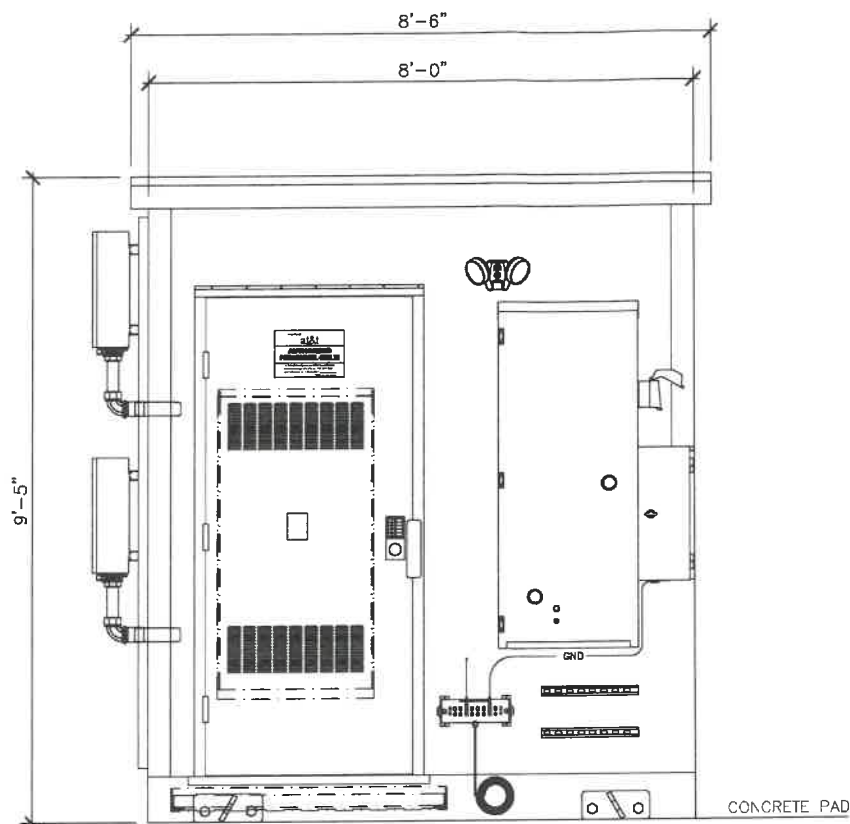


**NOTE:**  
 THE WIC IS EQUIPPED WITH TWO 19" WIDE EQUIPMENT BAYS AND EACH PROVIDES 45 RACK UNITS. ONE RACK COMES EQUIPPED WITH A FIBER PATCH PANEL (TELCO RACK) AND THE OTHER DOES NOT (LTE RACK).  
 RF EQUIPMENT IS TO BE IN ONE RACK, AND ANY POWER EQUIPMENT IS TO BE IN THE OTHER RACK (CIVIL VENDOR TO ENSURE RACKS ARE CORRECTLY SEPARATED).

CONCRETE WALK-IN-CABINET PLAN (CWIC)

N.T.S.

1 SIDE ELEVATION



FRONT ELEVATION

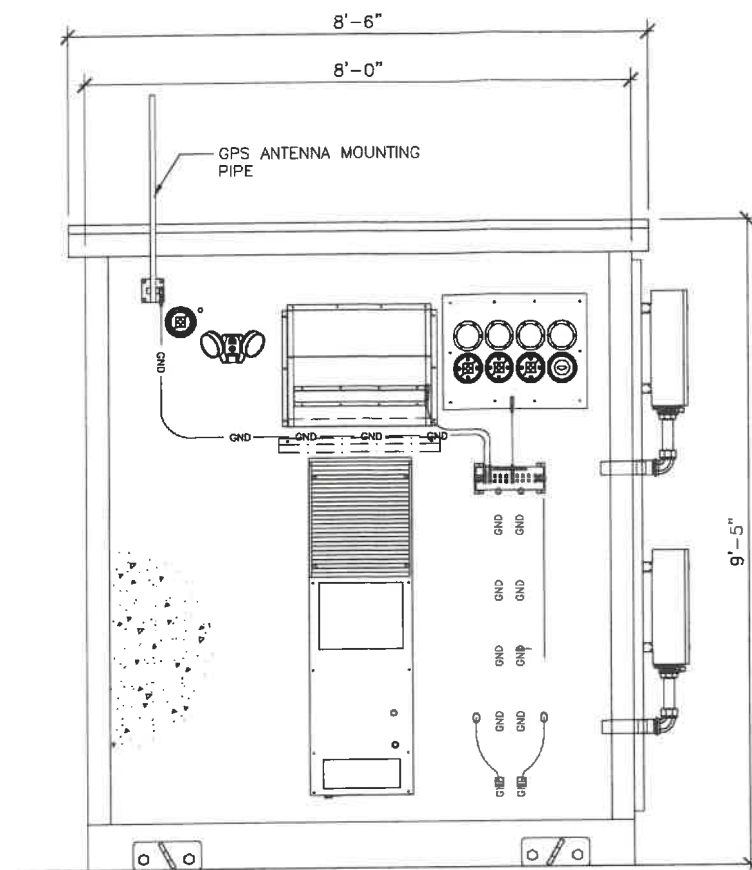
N.T.S.

2

REAR ELEVATION

N.T.S.

3



REAR ELEVATION

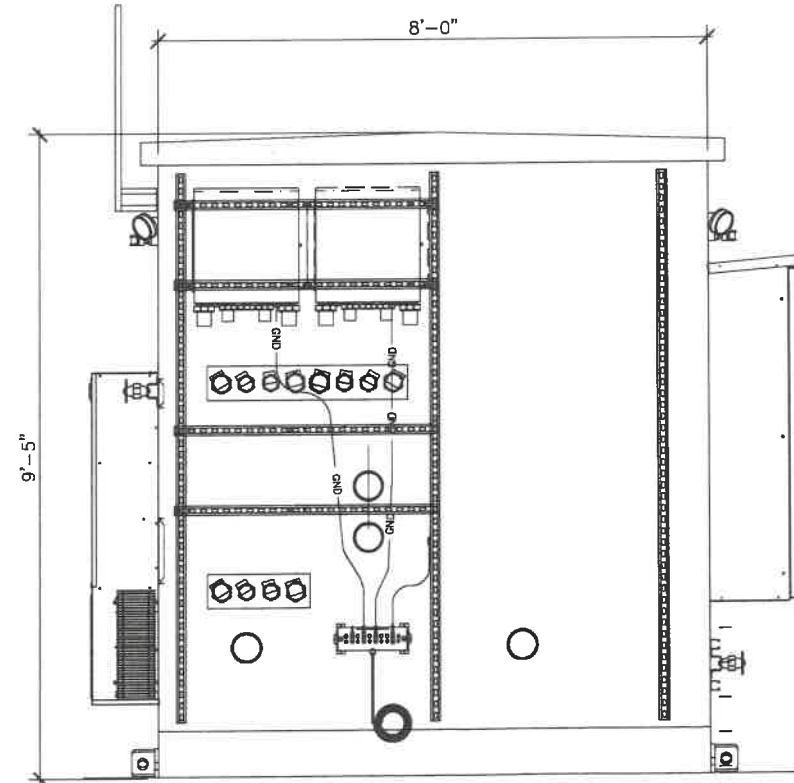
N.T.S.

2

REAR ELEVATION

N.T.S.

3



1 SIDE ELEVATION

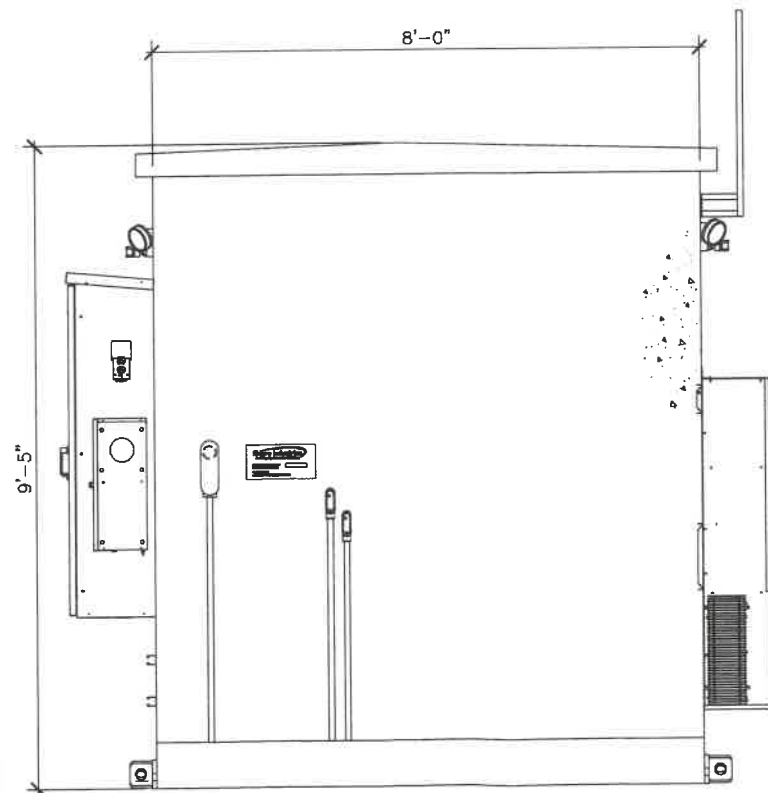
N.T.S.

4

SIDE ELEVATION

N.T.S.

5



SIDE ELEVATION

N.T.S.

5



84 DEERFIELD LN  
 MERIDEN, CT 06450



85 RANGWAY ROAD  
 BLDG 3, SUITE 102  
 NORTH BILLERICA, MA 01862



1825 W. WALNUT HILL LANE, SUITE 120  
 IRVING, TEXAS 75038  
 1-855-669-5421

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3	05/05/23	REDLINES PER CLIENT	JSR
4	06/19/23	10' EXTENSION	JSR



SITE INFORMATION

WAREHAM BROWN ST

MA1883

FA#: 15283436

USID: 317182

25 BROWN STREET  
 WAREHAM, MA 02571

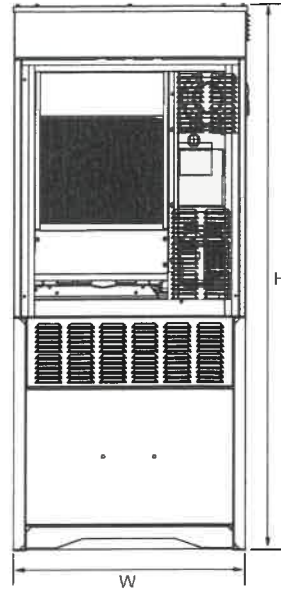
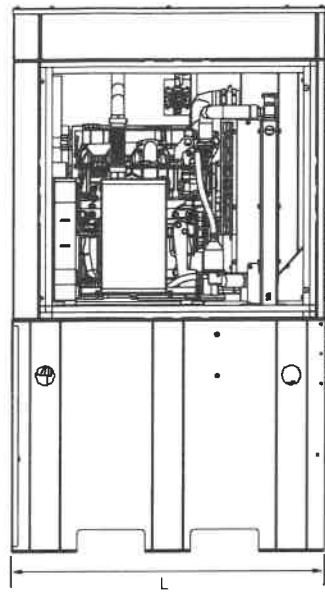
SHEET DESCRIPTION

WALK IN CABINET DETAILS

SHEET NO.

D-10





Level 2 Sound Attenuation Enclosure	
Run Time Hours	48
Usable Capacity Gal (L)	92 (348.2)
L x W x H in (mm)	48 x 36 x 90 (1219.2 x 914.4 x 2286)
Weight lbs (kg)	2400 (1089)
Sound Level	71 dBA

## SDC20 | 2.5L | 20 kW - AC INDUSTRIAL DIESEL GENERATOR

**GENERAC** INDUSTRIAL POWER

Model G007098-0 (Steel)

EPA Certified Stationary Emergency

### APPLICATION AND ENGINEERING DATA

#### ENGINE SPECIFICATIONS

##### General

Make	Mitsubishi
EPA Emissions Compliance	Interim Tier 4
Cylinder #	4
Type	In-Line
Displacement - L (Cu In)	2.5 (158)
Bore - mm (in)	88 (3.5)
Stroke - mm (in)	103 (4.1)
Compression Ratio	22:1
Intake Air Method	Naturally Aspirated

##### Engine Governing

Governor	Electronic Isochronous
Frequency Regulation (Steady State) ±	0.25%

##### Lubrication System

Oil Pump Type	Trochoid Gear Pump
Oil Filter Type	Filtering Paper, Full Flow
Crankcase Capacity - L (qts)	6.5 (6.9)

##### Cooling System

Cooling System Type	Forced Circulation
Water Pump Type	Centrifugal Pump
Fan Type	Pusher
Fan Speed (rpm)	2100
Fan Diameter - mm (in)	431.8 (17)
Coolant Heater Wattage	1000
Coolant Heater Voltage	120

##### Fuel System

Fuel Type	Ultra Low Sulfur Diesel #2
Fuel Specifications	ASTM
Fuel Filtering (microns)	6
Fuel Inject Pump Make	Bosch
Injector Type	Engine Driven Gear
Engine Type	Diesel
Fuel Supply Line - mm (in.)	6.6 (0.26)

##### Engine Electrical System

System Voltage	12 VDC
Battery Charger Alternator	12V-50A
Battery Size	650 CCA
Battery Group	35
Battery Voltage	12 VDC
Ground Polarity	Negative

#### ALTERNATOR SPECIFICATIONS

Standard Model	Mecc Alte ECP 28-2L/4
Poles	4
Field Type	Revolving
Insulation Class - Rotor	H
Insulation Class - Stator	H
Total Harmonic Distortion	<5%
Telephone Interference Factor (TIF)	<45
Standard Excitation	Brushless

Bearings	Dual Sealed
Coupling	Belt, Pulley
Load Capacity - Standby	100%
Prototype Short Circuit Test	Yes
Voltage Regulator Type	Digital
Number of Sensed Phases	All
Regulation Accuracy (Steady State) ±	0.5%

#### OPERATING DATA

##### POWER RATINGS

Single-Phase 120/240 VAC @1.0pf	20 kW	Amps: 83
Circuit Breaker Size	100A	

##### FUEL CONSUMPTION RATES\*

Percent Load	Diesel - gph (lph)	
	Standby	
25%	0.74 (2.80)	
50%	0.99 (3.75)	
75%	1.41 (5.30)	
100%	1.90 (7.19)	

\* Fuel supply installation must accommodate fuel consumption rates at 100% load.

#### COOLING

		Standby
Coolant Flow per Minute	gpm (lpm)	11.9 (45)
Coolant System Capacity	gal (L)	3.5 (13.2)
Heat Rejection to Coolant	BTU/hr	238,200
Inlet Air	cfm (m3/min)	2365 (67)
Max. Operating Ambient Temperature (Before Derate)	°F (°C)	77° (25°)
Maximum Radiator Backpressure	in H2O	0.50

#### COMBUSTION AIR REQUIREMENTS

	Standby
Flow at Rated Power cfm (m3/min)	88 (2.49)

#### ENGINE

	Standby
Rated Engine Speed rpm	1800
Horsepower at Rated kW** hp	33.5
Piston Speed ft/min	1220.47
BMEP psi	96.5

#### EXHAUST

	Standby
Exhaust Flow (Rated Output) cfm (m3/min)	193 (328)
Max. Backpressure (Post Silencer) inHg (kPa)	1.38 (4.67)
Exhaust Temp (Rated Output - Post Silencer) °F (°C)	928 (497.7)

\*\* Refer to "Emissions Data Sheet" for maximum bHP for EPA and SCAQMD permitting purposes.



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1-855-669-5421

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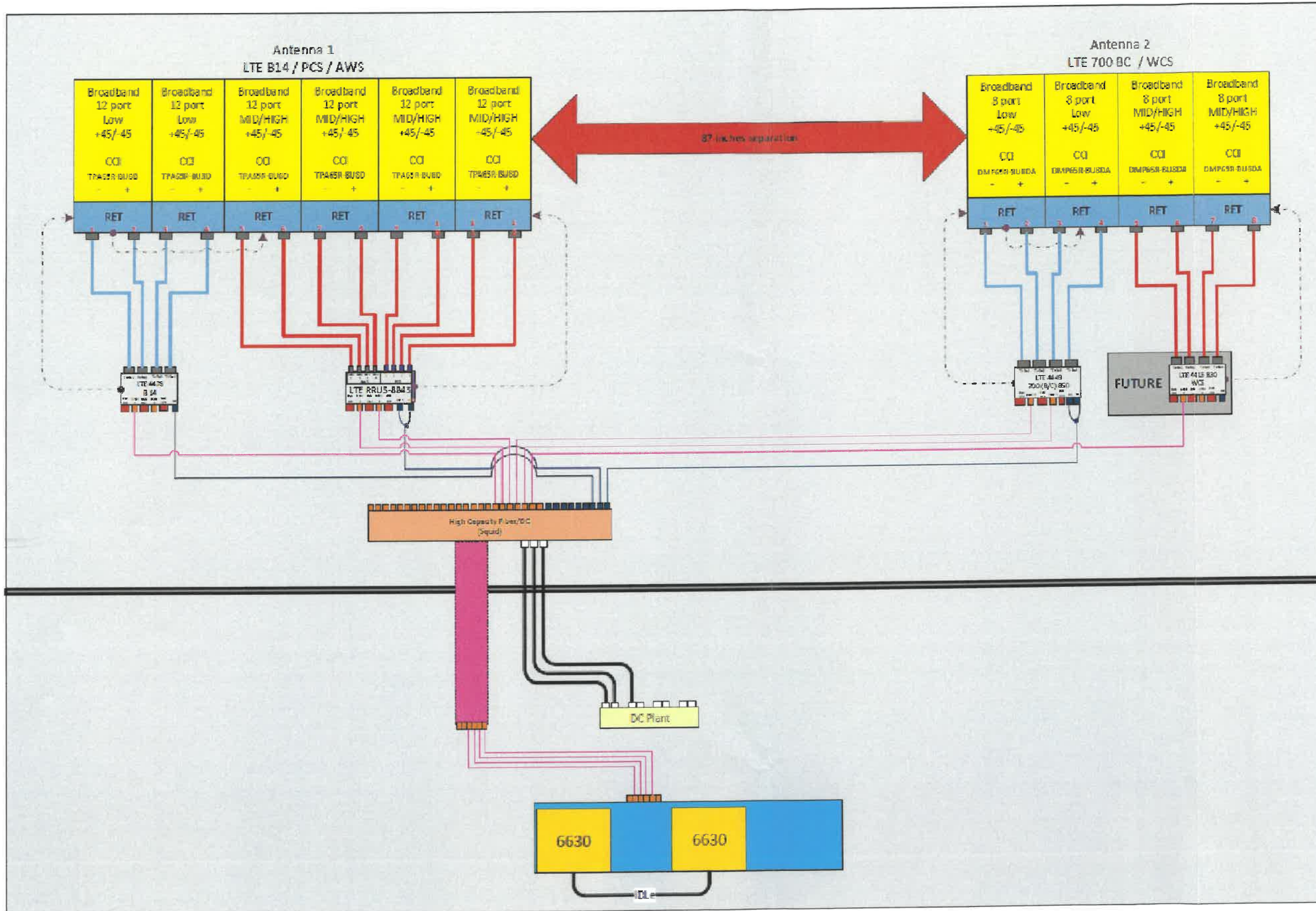
#### SHEET DESCRIPTION

WALK IN CABINET DETAILS

#### SHEET NO.

D-11

NOTE:  
THIS PLUMBING DIAGRAM IS COMMON FOR ALL SECTOR AND EQUIPMENT.



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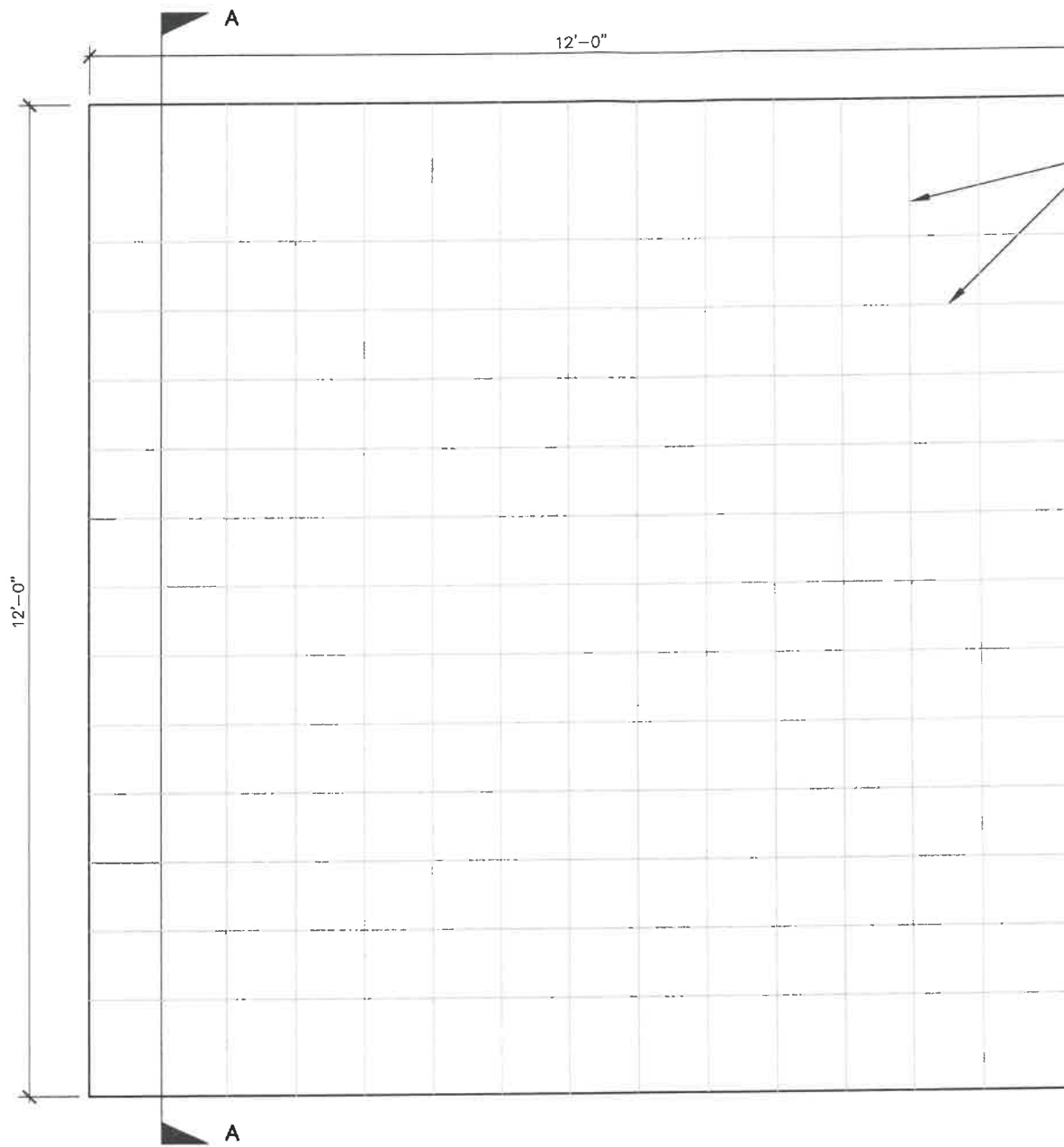
SHEET DESCRIPTION

PLUMBING DIAGRAM

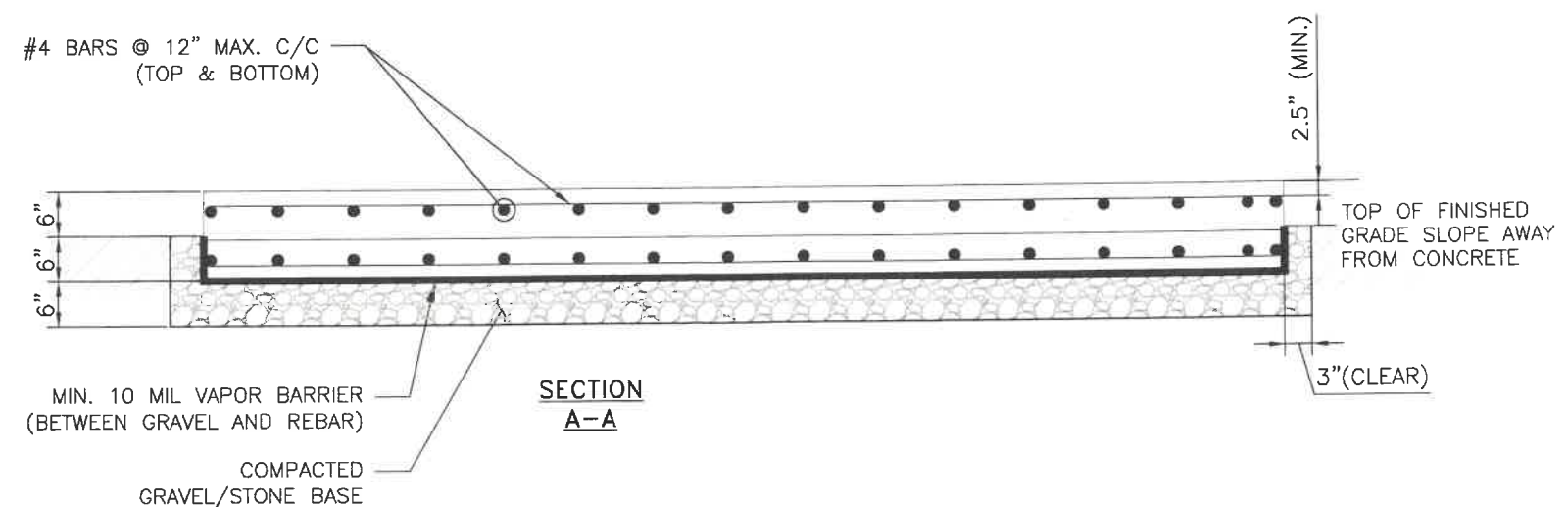
SHEET NO.

D-12





#4 BARS @ 12" MAX. C/C SPACING WITH MIN 2.5" CLEAR COVER (TOP & BOTTOM)



#4 BARS @ 12" MAX. C/C (TOP & BOTTOM)

MIN. 10 MIL VAPOR BARRIER (BETWEEN GRAVEL AND REBAR)  
 COMPACTED GRAVEL/STONE BASE

SECTION A-A

TOP OF FINISHED GRADE SLOPE AWAY FROM CONCRETE

3" (CLEAR)

2.5" (MIN.)

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 FA#: 15283436  
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25 BROWN STREET  
 WAREHAM, MA 02571

SHEET DESCRIPTION  
 CONCRETE PAD DETAILS

SHEET NO.  
 S-1



84 DEERFIELD LN  
MERIDEN, CT 06450



85 RANGEWAY ROAD  
BLDG 3, SUITE 102  
NORTH BILLERICA, MA 01862



1825 W. WALNUT HILL LANE, SUITE 120  
IRVING, TEXAS 75038  
1-855-669-5421

DRAWING SCALES ARE INTENDED FOR 11"x17" SIZE  
PRINTED MEDIA ONLY.

SUBMITTALS

REV	DATE	DESCRIPTION	BY
A	11/03/22	90% CD	JSR
B	11/09/22	90% CD	DIN
C	11/30/22	90% CD	DIN
0	01/31/23	100% CD	DIN
1	02/21/23	ADDING FALL ZONE	JSR
2	04/20/23	REDLINES PER CLIENT	JSR
3	05/05/23	REDLINES PER CLIENT	JSR
4	08/19/23	10' EXTENSION	JSR



SITE INFORMATION

WAREHAM BROWN ST  
MA1883  
FA#: 15283436  
USID: 317182  
25 BROWN STREET  
WAREHAM, MA 02571

SHEET DESCRIPTION

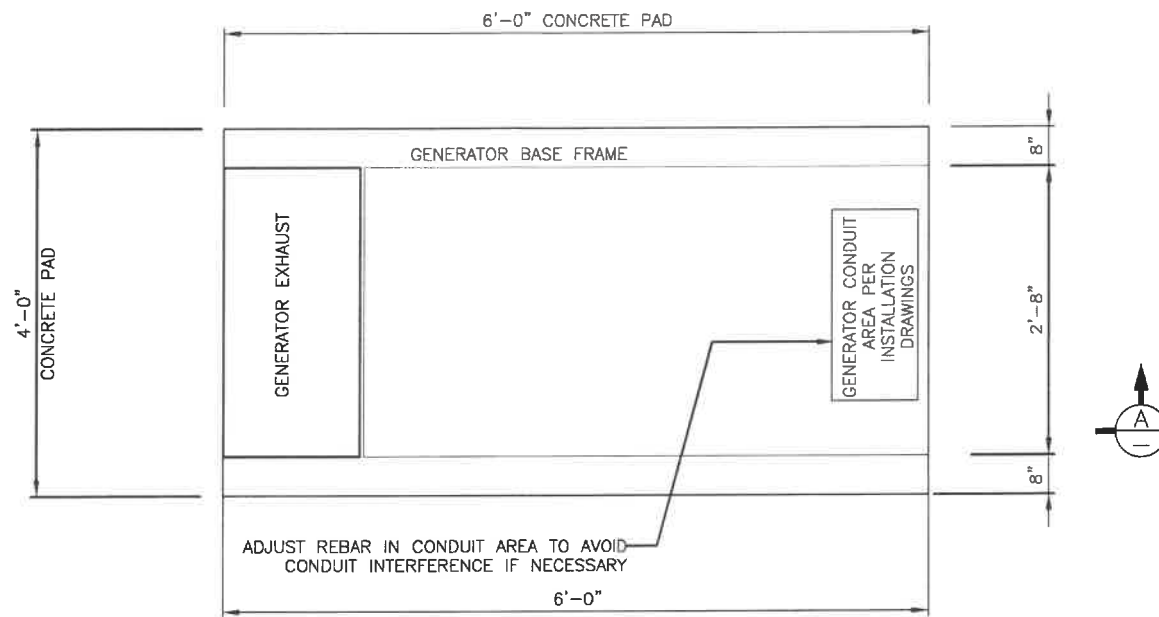
FOUNDATION DETAILS

SHEET NO.

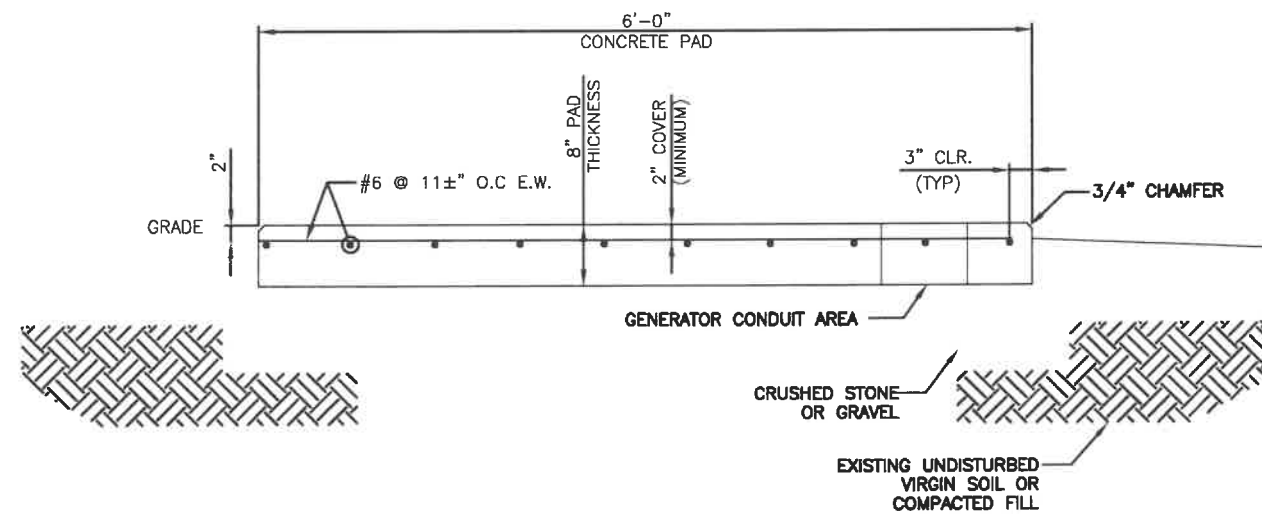
S-2

NOTES:

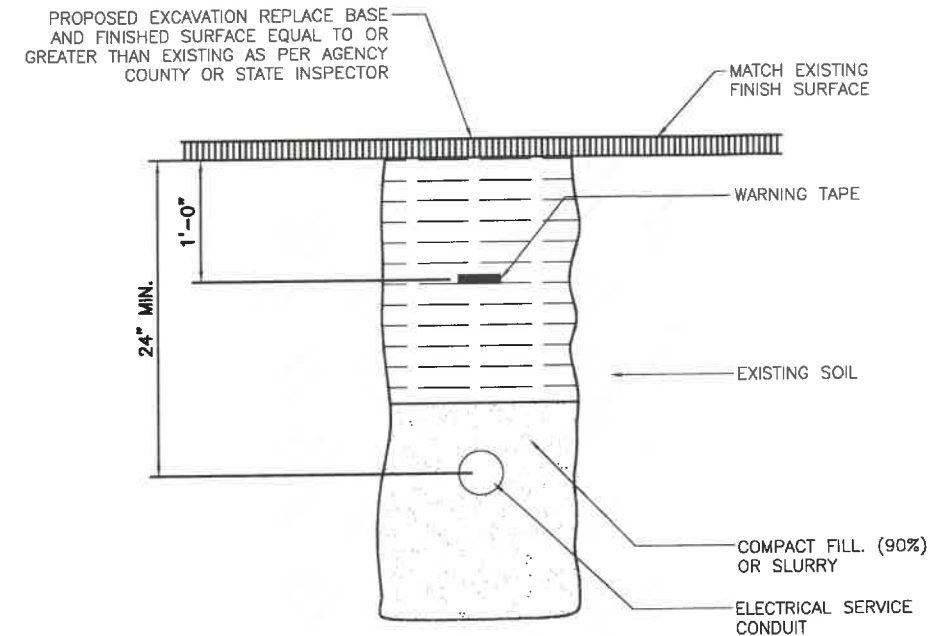
- ALL CONCRETE CONSTRUCTION SHALL MEET THE REQUIREMENTS OF THE AMERICAN CONCRETE INSTITUTE (ACI 318-14) BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE AND (ACI 301) STANDARD SPECIFICATION FOR STRUCTURAL CONCRETE. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE ACI 301, ACI 308, ASTM A184 AND ASTM A185.
- MINIMUM ALLOWABLE CONCRETE COMPRESSIVE STRENGTH SHALL BE 2500 PSI AT 28 DAYS WHEN TESTED IN ACCORDANCE WITH THE AMERICAN SOCIETY FOR TESTING AND MATERIALS METHODS STANDARDS ASTM C172, ASTM C31 AND ASTM C39 UNLESS OTHERWISE NOTED.
- REINFORCING STEEL SHALL CONFORM TO ASTM A615, GRADE 60, DEFORMED UNLESS NOTED OTHERWISE. WELDING WIRE FABRIC SHALL CONFORM TO ASTM A185 WELDED STEEL WIRE FABRIC UNLESS NOTED OTHERWISE. SPLICES SHALL BE CLASS "B" AND ALL HOOKS SHALL BE STANDARD, UNLESS NOTED OTHERWISE.
- DETAILING SHALL BE IN ACCORDANCE WITH MANUAL OF STANDARD PRACTICE OF DETAILING REINFORCED CONCRETE STRUCTURES (ACI STD-315-92).
- CHAMFER ALL EXPOSED EDGES OF CONCRETE 3/4" IN ACCORDANCE WITH ACI 301 SECTION 4.2.2. UNLESS OTHERWISE NOTED.
- REINFORCING STEEL SHALL BE ACCURATELY PLACED AND ADEQUATELY SECURED IN POSITION. LOCATION OF REINFORCEMENT SHALL BE INDICATED ON THE DRAWINGS. CONCRETE COVER SHALL DEPEND ON WHETHER CONCRETE IS PRE-CAST OR CAST IN PLACE.
- TOP OF FOUNDATION TO HAVE A "BRUSH FINISH".
- EXPOSED FINISHED SURFACE IS NOT TO HOLD WATER.
- ALL SURFACES ARE TO BE CLEANED OF ANY RESIDUAL CONCRETE FROM SPLASHING OR SPILLS.



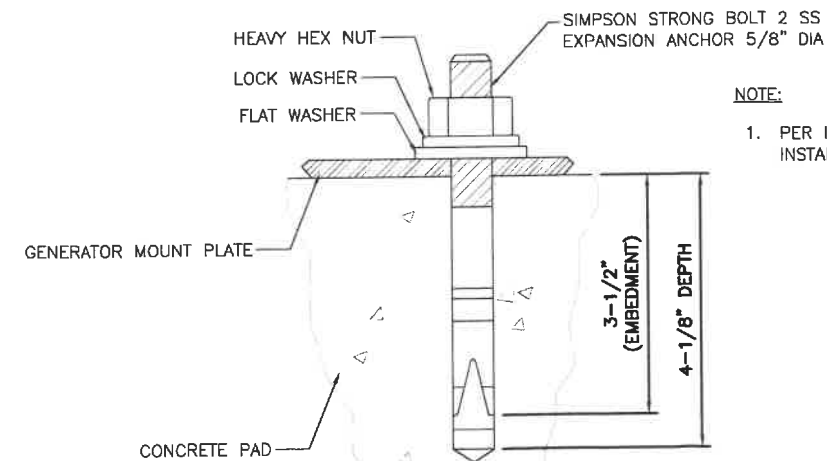
1 FOUNDATION PLAN  
S-2 SCALE (11" X 17"): 1' = 1/2"



2 SECTION A-A  
S-2 SCALE (11" X 17"): 1 = 1/2"



3 UTILITY TRENCH  
S-2 SCALE (11" X 17"): N.T.S



4 ANCHOR BOLT DETAIL  
S-2 SCALE (11" X 17"): N.T.S

NOTE:

- PER ICC ESR-3037 SECTION 4.3 INSTALLATION TORQUE OF 80FT/LB





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FA#: 15283436

USID: 317182

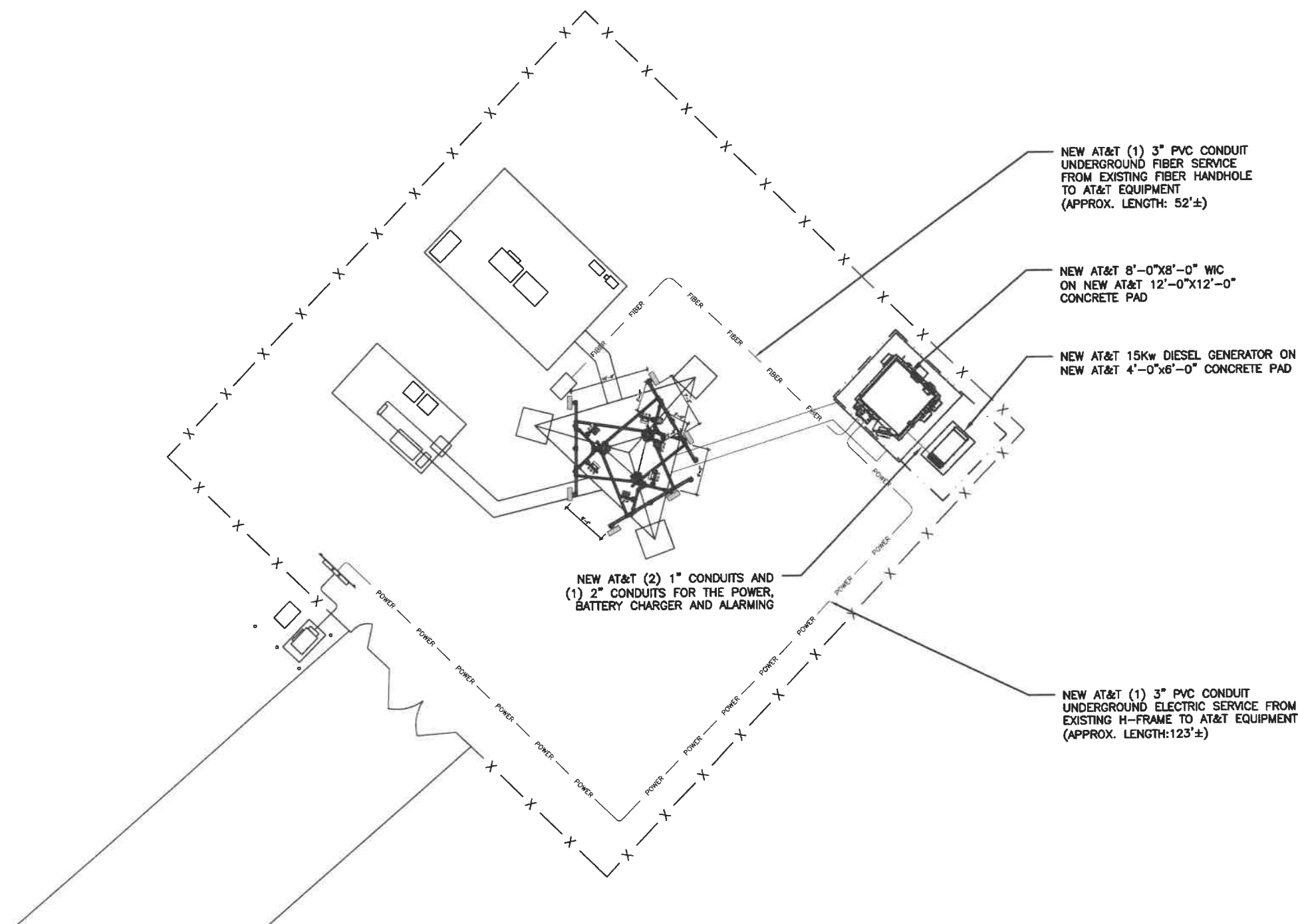
25 BROWN STREET  
WAREHAM, MA 02571

SHEET DESCRIPTION

UTILITY PLAN

SHEET NO.

E-1





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MERIDEN, CT 06450



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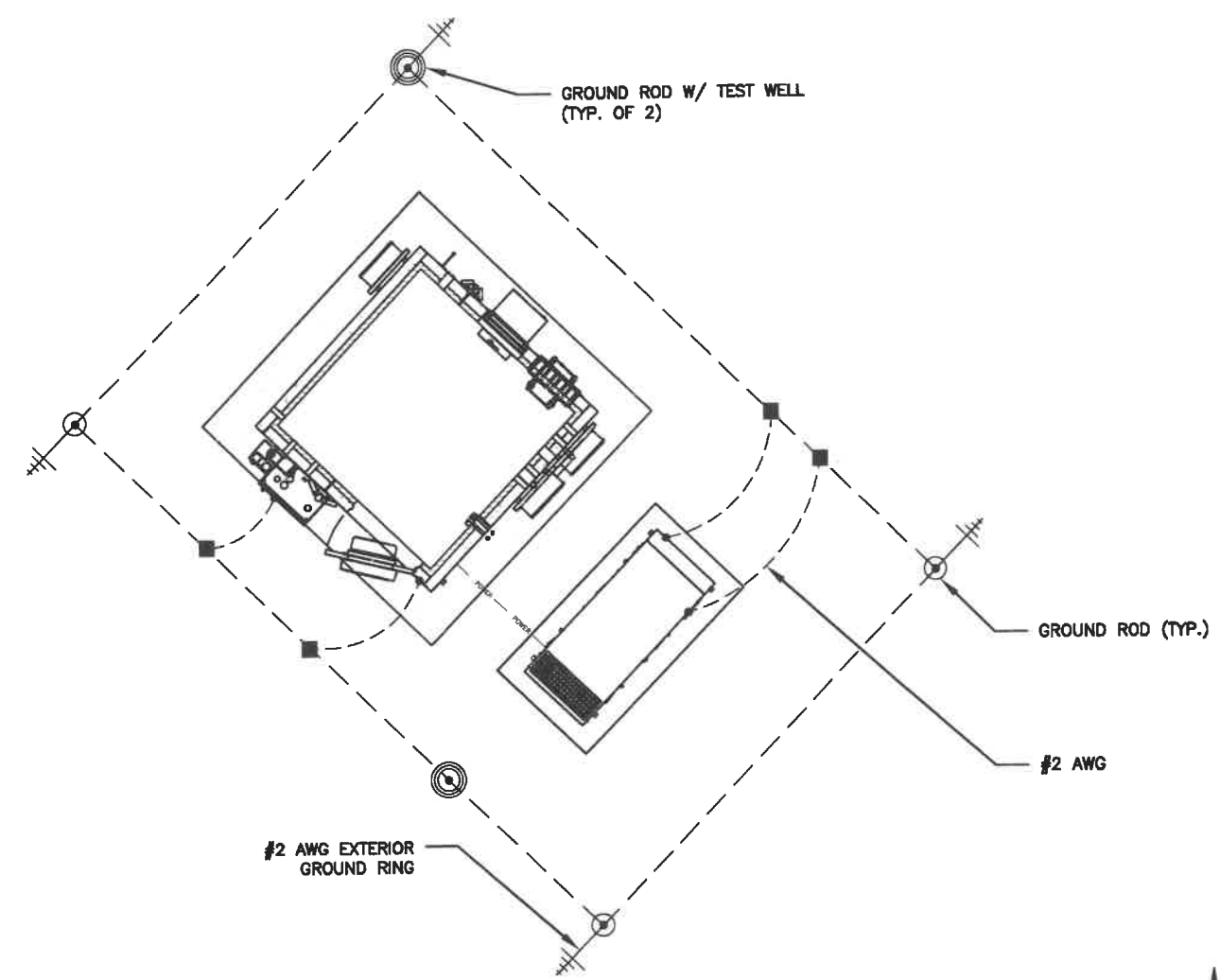
25 BROWN STREET  
WAREHAM, MA 02571

SHEET DESCRIPTION

GROUNDING PLAN

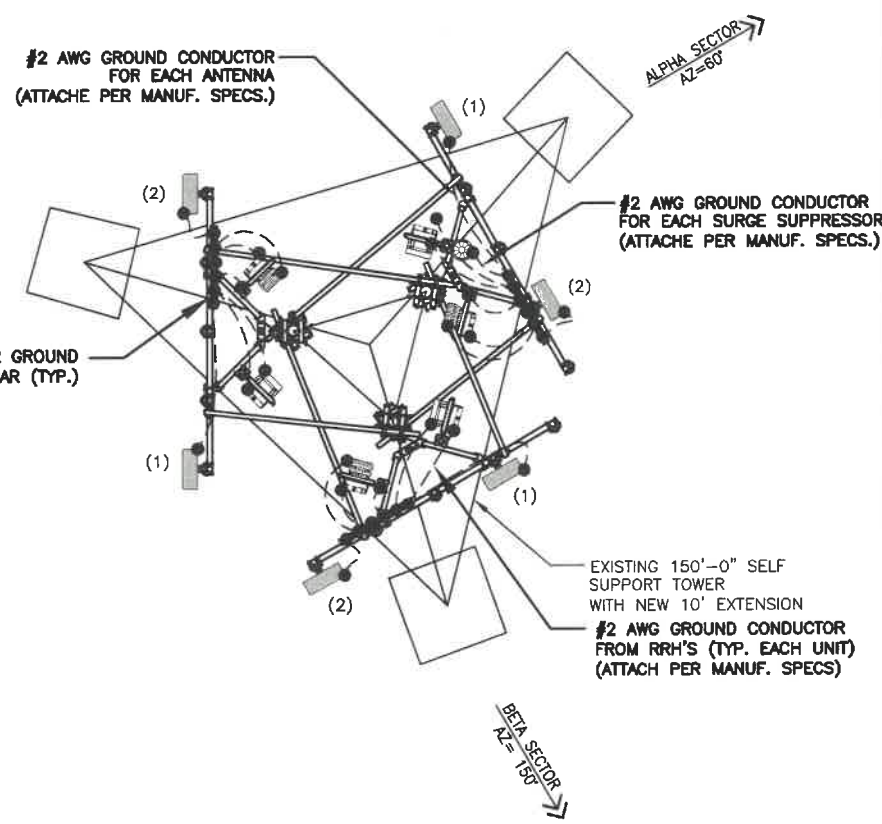
SHEET NO.

G-1



NOTES:

- EXOTHERMIC WELDS SHALL BE USED FOR ALL GROUNDING CONNECTIONS BELOW GRADE.
- APPROVED ANTIOXIDANT COATINGS (I.E., CONDUCTIVE GEL OR PASTE) SHALL BE USED ON ALL COMPRESSION AND BOLTED GROUND CONNECTIONS.
- MISCELLANEOUS ELECTRICAL AND NON-ELECTRICAL METAL BOXES, FRAMES AND SUPPORTS SHALL BE BONDED TO THE GROUND RING, IN ACCORDANCE WITH THE NEC.
- METAL CONDUIT AND TRAY SHALL BE GROUNDING AND MADE ELECTRICALLY CONTINUOUS WITH LISTED BONDING FITTINGS OR BY BONDING ACROSS THE DISCONTINUITY WITH 6 AWG COPPER WIRE AND UL APPROVED GROUNDING TYPE CONDUIT CLAMPS.
- GROUND CONDUCTORS USED IN THE FACILITY GROUND AND LIGHTNING PROTECTION SYSTEMS SHALL NOT BE ROUTED THROUGH METALLIC OBJECTS THAT FORM A RING AROUND THE CONDUCTOR, SUCH AS METALLIC CONDUITS, METAL SUPPORT CLIPS OR SLEEVES THROUGH WALLS OR FLOORS. WHEN IT IS REQUIRED TO BE HOUSED IN CONDUIT TO MEET CODE REQUIREMENTS OR LOCAL CONDITIONS, NON-METALLIC MATERIAL SUCH AS PVC PLASTIC CONDUIT SHALL BE USED. WHERE USE OF METAL CONDUIT IS UNAVOIDABLE (E.G., NON-METALLIC CONDUIT PROHIBITED BY LOCAL CODE) THE GROUND CONDUCTOR SHALL BE BONDED TO EACH END OF THE METAL CONDUIT.
- ANY EQUIPMENT, BOX, SKID TO BE GROUNDING AND DOES NOT HAVE A DESIGNATED GROUND CONNECTION SHALL BE DRILLED AS NECESSARY TO CONNECT A GROUND WIRE. REMOVE PAINT IN AREA UNDER LUG. APPLY ANTI-OXIDANT COMPOUND AND CONNECT WITH TWO-HOLE, COMPRESSION LUG.
- GROUND BARS SHALL BE TINNED COPPER AND SHALL BE ENGRAVED OR IMPRESSED "STOLEN-DO NOT RECYCLE" AND/OR "PROPERTY OF AT&T", ETCHED OR STAMPED WITH SITE FA LOCATION AND SECURED WITH ANTI-THEFT HARDWARE.
- THE SUBCONTRACTOR SHALL PERFORM IEEE FALL-OF-POTENTIAL RESISTANCE TO EARTH TESTING FOR GROUND ELECTRODE SYSTEMS. TESTING SHALL BE IN ACCORDANCE WITH IEEE STD 81.
- THE SUBCONTRACTOR SHALL FURNISH AND INSTALL SUPPLEMENTAL GROUND ELECTRODES AS NEEDED TO ACHIEVE A TEST RESULT OF 5 OHMS OR LESS. WHEN ADDING ELECTRODES, CONTRACTOR SHALL MAINTAIN A MINIMUM DISTANCE BETWEEN THE ADDED ELECTRODE AND ANY OTHER EXISTING ELECTRODE EQUAL TO THE BURIED LENGTH OF THE ROD. IDEALLY, CONTRACTOR SHALL STRIVE TO KEEP THE SEPARATION DISTANCE EQUAL TO OR LESS THAN TWICE THE BURIED LENGTH OF THE RODS.
- METAL RACEWAY SHALL NOT BE USED AS THE NEC REQUIRED EQUIPMENT GROUND CONDUCTOR. STRANDED COPPER CONDUCTORS WITH GREEN INSULATION, SIZED IN ACCORDANCE WITH THE NEC, SHALL BE FURNISHED AND INSTALLED WITH THE POWER CIRCUITS TO BTS EQUIPMENT.
- ALUMINUM CONDUCTOR OR COPPER CLAD STEEL CONDUCTOR SHALL NOT BE USED FOR GROUNDING CONNECTIONS.
- EACH INTERIOR COMMUNICATION CABINET FRAME/PLINTH SHALL BE ELECTRICALLY ISOLATED FROM GROUNDS AND SHALL BE DIRECTLY CONNECTED TO THE CELL REFERENCE GROUND BAR WITH 6 AWG OR LARGER STRANDED, GREEN INSULATED GROUND WIRES.
- GROUND WIRING INSTALLED OUTDOOR EXPOSED SHALL BE 600V, GREEN SUNLIGHT RESISTANT UL LISTED TYPE THW OR THWN OR XHHW, ANNEALED, TINNED, OR UN-TUNNED CLASS B OR CLASS I STRANDED COPPER, SIZE 6 UNLESS OTHERWISE SPECIFIED.
- GROUND RODS SHOULD BE SPACED AT APPROXIMATELY TWICE THEIR LENGTH AS PER ATT-TP-76416 SPECIFICATIONS.

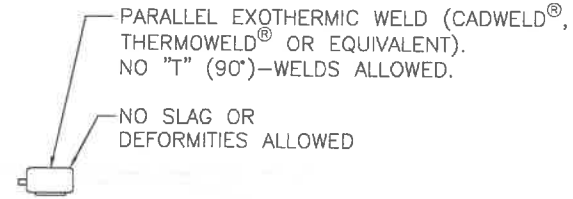


GROUNDING LEGEND	
●	MECHANICAL CONNECTION
■	EXOTHERMIC CONNECTION
—	SECTOR GROUND BAR
- - -	GROUND WIRE





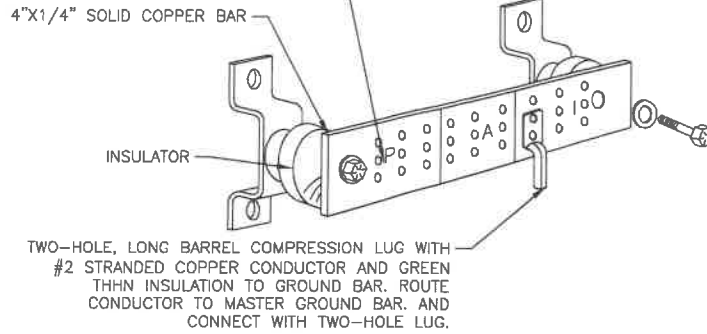
EXTERIOR GROUND RING,  
3 AWG SOLID, BARE, TINNED  
COPPER GROUNDING  
CONDUCTOR



MINIMUM BENDING  
RADIUS 6 INCHES,  
(12 INCHES PREFERRED)  
TYPICAL

BRANCH, 2 AWG SOLID,  
BARE, TINNED COPPER  
GROUNDING CONDUCTOR

USE PERMANENT MARKER TO DRAW  
THE LINES BETWEEN EACH SECTION  
AND LABEL EACH SECTION ("P", "A",  
"I") WITH 1" HIGH LETTERS.

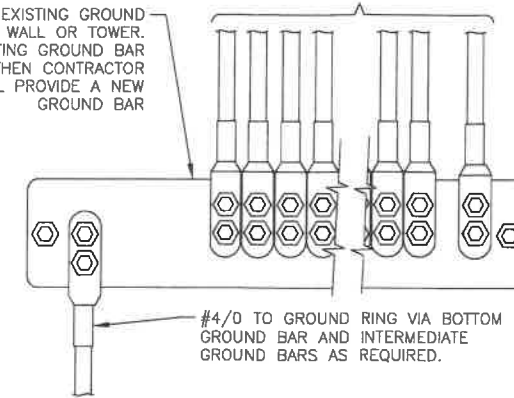


EACH GROUND CONDUCTOR TERMINATING ON ANY GROUND BAR SHALL HAVE AN  
IDENTIFICATION TAG ATTACHED AT EACH END THAT WILL IDENTIFY ITS ORIGIN AND  
DESTINATION.

**SECTION "P" - SURGE PRODUCERS**

- CABLE ENTRY PORTS (HATCH PLATES)
- GENERATOR FRAMEWORK (IF AVAILABLE)
- TELCO GROUND BAR
- COMMERCIAL POWER COMMON NEUTRAL/GROUND BOND
- +24V POWER SUPPLY RETURN BAR (#2)
- 48V POWER SUPPLY RETURN BAR (#2)
- RECTIFIER FRAMES

UTILIZE EXISTING GROUND  
BAR ON WALL OR TOWER.  
IF EXISTING GROUND BAR  
IS FULL THEN CONTRACTOR  
SHALL PROVIDE A NEW  
GROUND BAR



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TYPICAL EXTERIOR GROUND RING CONNECTION

NOT TO  
SCALE

1

GROUND BAR

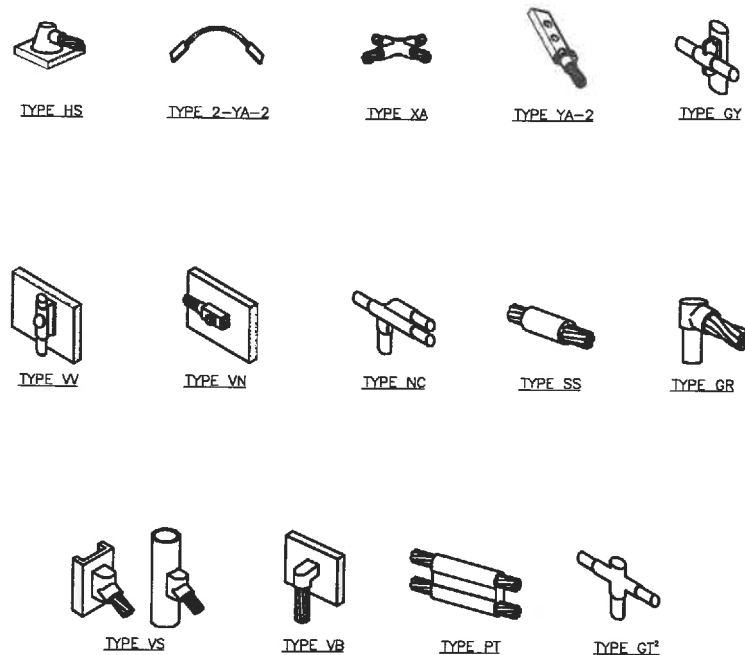
NOT TO  
SCALE

2

SECTOR GROUND BAR

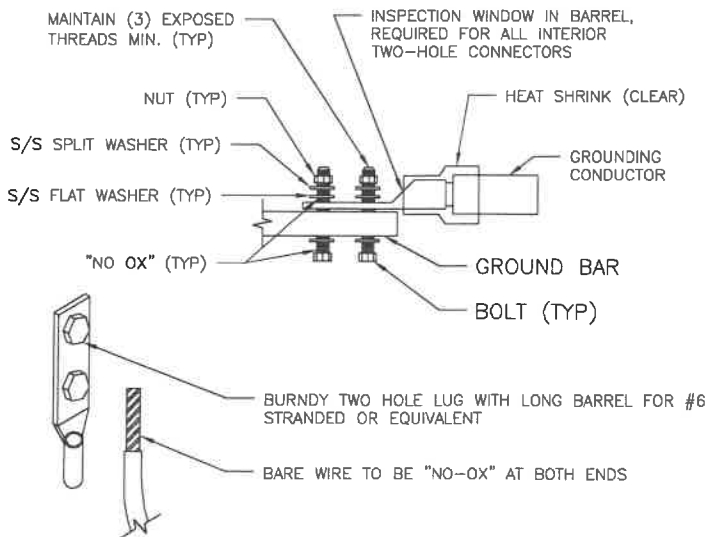
NOT TO  
SCALE

3



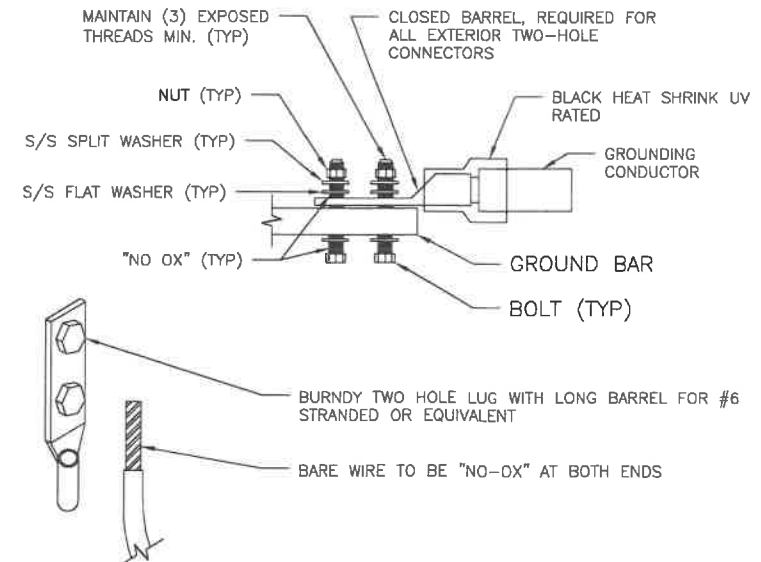
**NOTE:**

1. ERICO EXOTHERMIC "MOLD TYPES" SHOWN HERE ARE EXAMPLES. CONSULT WITH CONSTRUCTION MANAGER FOR SPECIFIC MOLDS TO BE USED FOR THIS PROJECT.
2. MOLD TYPE ONLY TO BE USED BELOW GRADE WHEN CONNECTING GROUND RING TO GROUND ROD.



**NOTES:**

1. ALL HARDWARE SHALL BE 18-8 STAINLESS STEEL.
2. COAT ALL SURFACES WITH ANTIOXIDANT COMPOUND BEFORE MATING.
3. ALL EXPOSED EASILY ACCESSIBLE GROUND BARS SHALL BE TAGGED "DO NOT DISCONNECT".
4. COAT ALL BARRELS WITH ANTIOXIDANT BEFORE CRIMPING.



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**SHEET DESCRIPTION**

GROUNDING DETAILS

**SHEET NO.**

G-2

CADWELD GROUNDING CONNECTIONS

NOT TO  
SCALE

4

INTERIOR GROUND BAR LUG

NOT TO  
SCALE

5

EXTERIOR GROUND BAR LUG

NOT TO  
SCALE

6