

TOWN OF MEDWAY
Department of Community and Economic Development
155 Village Street - Medway, Massachusetts 02053
508-533-3291
planningboard@townofmedway.org

November 8, 2018

ADMINISTRATIVE SITE PLAN DECISION
113R Main Street
APPROVED

Crown Castle Towers 09, LLC has requested Site Plan Approval under Section 3.5.3.A.3. Administrative Site Plan Review of the *Medway Zoning Bylaw*. The owner of the property is C&C Realty Trust.

- I. PROJECT LOCATION** – 113R Main Street (Medway map and parcel #49-001) in the Central Business (CB) zoning district. The property is 1.623 acres in area.
- II. DESCRIPTION of PROPOSED WORK** – The applicant seeks to add one APU generator and one liquid propane tank to the site. The site currently has a cellular tower and related equipment shelters, generators, a liquid propane gas tank, and other appurtenances located on it.

III. PROCEDURAL HISTORY

An application for administrative site plan review was filed with the Community and Economic Development office on October 25, 2018. The application was filed with the Town Clerk on November 1, 2018. The Medway Administrative Site Plan Review Team (Building Commissioner Jack Mee, Planning and Economic Development Coordinator Susan Affleck-Childs, and Director of Community and Economic Development Barbara Saint Andre) met to review the administrative site plan application and associated materials on November 8, 2018.

IV. INDEX OF SITE PLAN DOCUMENTS – The following materials were provided for review:

- A. Administrative Site Plan Review Application dated October 24, 2018
- B. Plans for T-Mobile Site Number: 4DET504A, 113R Main Street Medway, MA 02053 prepared by Crown Castle dated September 12, 2018.
- C. Grant of Easement and Assignment of Lease.

V. FINDINGS

- A. Administrative site plan review is required for this project pursuant to *the Medway Zoning Bylaw* Section 3.5.3.A.3.i.

VI. DECISION – At its meeting on November 8, 2018, the Medway Administrative Site Plan Review Team voted to approve the site plan application, and the plan referenced in Section IV.B of this decision above; all work shall be done in accordance with said plan.

VII. SPECIFIC CONDITIONS OF APPROVAL – Administrative approval of this site plan application is subject to the following specific conditions:

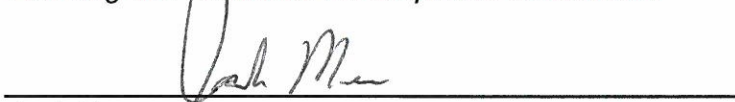
This decision is enforceable under Section 3.1 of the Medway Zoning Bylaw

VIII. APPEAL - Any person aggrieved by this Administrative Site Plan Review decision may appeal such to the Planning & Economic Development Board.

Approved by Medway Administrative Site Plan Review Team:



Susan E. Affleck-Childs
Planning and Economic Development Coordinator



Jack Mee
Building Commissioner



Barbara J. Saint Andre
Director of Community and Economic Development

COPIES TO: Donna Greenwood, Principal Assessor
David D'Amico, DPS
Michael Boynton, Town Administrator
Bridget Graziano, Conservation Agent
Jack Mee, Building Commissioner
Barbara Saint Andre, Director of Community and Economic Development
Chief Allen Tingley, Police Department
Dennis Crowley, Chairman, Board of Selectman
Nesmet Badawi, Crown Castle



T-MOBILE SITE NUMBER: 4DET504A
T-MOBILE SITE NAME: BO504/BAM-MEDWAY
SITE TYPE: MONOPOLE
TOWER HEIGHT: 140'-0"
T-MOBILE APU DC GENERATOR PROJECT

BUSINESS UNIT #: 806610
SITE ADDRESS: 113R MAIN STREET
MEDWAY, MA 02053
COUNTY: NORFOLK
JURISDICTION: TOWN OF MEDWAY



T-MOBILE SITE NUMBER: 4DET504A

BU #: 806610
BOS MEDWAY 959033

113R MAIN STREET
MEDWAY, MA 02053

EXISTING 140'-0" MONOPOLE

SITE INFORMATION

CROWN CASTLE USA INC.	BOS MEDWAY 959033
SITE NAME:	113R MAIN STREET
SITE ADDRESS:	MEDWAY, MA 02053
COUNTY:	NORFOLK
MAP/PARCEL #:	MEDW-000006-000000-000041
AREA OF CONSTRUCTION:	EXISTING
LATITUDE:	42° 08' 56.98"
LONGITUDE:	-71° 24' 54.74"
LAT/LONG TYPE:	NAD83
GROUND ELEVATION:	254.0
CURRENT ZONING:	NOT AVAILABLE
JURISDICTION:	TOWN OF MEDWAY
OCCUPANCY CLASSIFICATION:	U
TYPE OF CONSTRUCTION:	VB
A.D.A. COMPLIANCE:	FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION
PROPERTY OWNER:	CMR INVESTMENTS, LLC PO BOX 126 MEDWAY, MA 02053
TOWER OWNER:	CROWN ATLANTIC COMPANY LLC 2000 CORPORATE DRIVE CANONSBURG, PA 15317
CARRIER/APPLICANT:	T-MOBILE 12920 SE 38TH STREET BELLEVUE, WA 98006
CROWN CASTLE USA INC.	APPLICATION ID: 403996
ELECTRIC PROVIDER:	NSTAR (800) 572-9337
TELCO PROVIDER:	VERIZON (800) 483-2000

DRAWING INDEX

SHEET #	SHEET DESCRIPTION
T-1	TITLE SHEET
T-2	GENERAL NOTES
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C-3	INSTALLATION AND EQUIPMENT DETAILS
C-4	INSTALLATION DETAILS AND CABLE SPECIFICATIONS
C-5	PHOTOS AND ONE-LINE DIAGRAM
C-6	SIGNAGE REQUIREMENTS
G-1	GROUNDING DETAILS
G-2	GROUNDING DETAILS

ALL DRAWINGS CONTAINED HEREIN ARE FORMATTED FOR 11X17. CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.

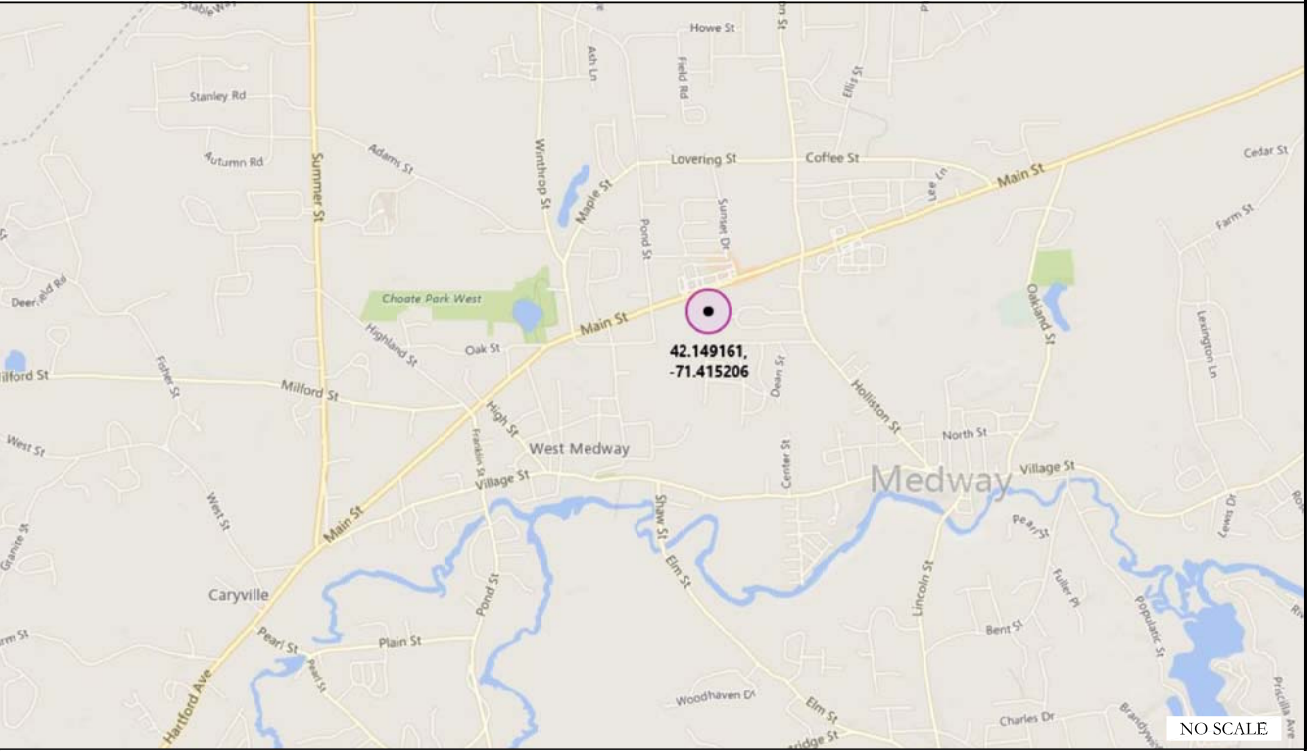
APPROVALS

APPROVAL	SIGNATURE	DATE
PROPERTY OWNER OR REP.		
LAND USE PLANNER		
T-MOBILE		
OPERATIONS		
RF		
NETWORK		
BACKHAUL		
CONSTRUCTION MANAGER		

THE PARTIES ABOVE HEREBY APPROVE AND ACCEPT THESE DOCUMENTS AND AUTHORIZE THE CONTRACTOR TO PROCEED WITH THE CONSTRUCTION DESCRIBED HEREIN. ALL CONSTRUCTION DOCUMENTS ARE SUBJECT TO REVIEW BY THE LOCAL BUILDING DEPARTMENT AND ANY CHANGES AND MODIFICATIONS THEY MAY IMPOSE.

NOTE:
PRIOR TO ACCESSING/ENTERING THE SITE YOU MUST CONTACT THE CROWN NOC AT (800) 788-7011 & CROWN CONSTRUCTION MANAGER

LOCATION MAP



APPLICABLE CODES/REFERENCE DOCUMENTS

THE PURPOSE OF THIS PROJECT IS TO ENHANCE BROADBAND CONNECTIVITY AND CAPACITY TO THE EXISTING ELIGIBLE WIRELESS FACILITY.

TOWER SCOPE OF WORK

- NO TOWER WORK

GROUND SCOPE OF WORK

- NEW 7.5KW, 48VDC PROPANE GENERATOR (LISTED UL 2200)
- NEW ASME 120 GALLON LP TANK W/ FILL VALVE WITH INTEGRAL MANUAL SHUTOFF VALVE

ALL WORK SHALL BE PERFORMED AND MATERIALS 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 THESE CODES:

CODE TYPE	CODE
BUILDING	MA STATE BUILDING CODE, 8TH EDITION (780 CMR)/2009 IBC W/ AMENDMENTS
MECHANICAL	MA STATE BUILDING CODE, 8TH EDITION (780 CMR)/2009 IMC W/ AMENDMENTS
ELECTRICAL	MA ELECTRICAL CODE/2017 NEC W/ AMENDMENTS
LP GAS	MA COMPREHENSIVE FIRE SAFETY CODE

REFERENCE DOCUMENTS: NONE REQUIRED

DESIGN PACKAGE BASED ON THE APPLICATION
ID: 403996
REVISION: 0



CALL MASSACHUSETTS ONE CALL
(888) 344-7233
CALL 3 WORKING DAYS
BEFORE YOU DIG!



PROJECT TEAM

A&E FIRM:	CROWN CASTLE USA INC. 2000 CORPORATE DRIVE CANONSBURG, PA 15317 CROWNAE.APPROVAL@CROWNCastle.COM
CROWN CASTLE USA INC. DISTRICT CONTACTS:	3 CORPORATE PARK DRIVE, SUITE 101 CLIFTON PARK, NY 12065 PAUL PEDICONE - PROJECT MANAGER (518) 373-3530 MICHAEL RULEY - CONSTRUCTION MANAGER (724) 416-4031 REBECCA ALESCIO - A&E PROJECT MANAGER REBECCA.ALESCIO@CROWNCastle.COM (518) 373-3547
T-MOBILE CONTACT:	SHALIN PATEL (973) 397-4899

DocuSigned by

ANDREW JOSEPH FANDOZZI III
CIVIL
No. 51667
REGISTERED PROFESSIONAL ENGINEER

9/12/2018 5:08:50 PM EDT

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

SHEET NUMBER:

T-1

REVISION:

0

SITE WORK GENERAL NOTES:

1. THE SUBCONTRACTOR SHALL CONTACT UTILITY LOCATING SERVICES PRIOR TO THE START OF CONSTRUCTION.
2. ALL EXISTING ACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES WHERE ENCOUNTERED IN THE WORK, SHALL BE PROTECTED AT ALL TIMES AND WHERE REQUIRED FOR THE PROPER EXECUTION OF THE WORK, SHALL BE RELOCATED AS DIRECTED BY CONTRACTOR. 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 WILL INCLUDE BUT NOT BE LIMITED TO A) FALL PROTECTION B) CONFINED SPACE C) ELECTRICAL SAFETY D) TRENCHING AND EXCAVATION.
3. ALL SITE WORK TO COMPLY WITH QAS–STD–10068 "INSTALLATION STANDARDS FOR CONSTRUCTION ACTIVITIES ON CROWN CASTLE USA INC. TOWER SITE" AND LATEST VERSION OF TIA 1019 "STANDARD FOR INSTALLATION, ALTERATION, AND MAINTENANCE OF ANTENNA SUPPORTING STRUCTURES AND ANTENNAS."
4. ALL SITE WORK SHALL BE AS INDICATED ON THE STAMPED CONSTRUCTION DRAWINGS AND PROJECT SPECIFICATIONS.
5. IF NECESSARY, RUBBISH, STUMPS, DEBRIS, STICKS, STONES AND OTHER REFUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF LEGALLY.
6. ALL EXISTING INACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES, WHICH INTERFERE WITH THE EXECUTION OF THE WORK, SHALL BE REMOVED AND/OR CAPPED, PLUGGED OR OTHERWISE DISCONTINUED AT POINTS WHICH WILL NOT INTERFERE WITH THE EXECUTION OF THE WORK, SUBJECT TO THE APPROVAL OF CONTRACTOR, OWNER AND/OR LOCAL UTILITIES.
7. THE SUBCONTRACTOR SHALL PROVIDE SITE SIGNAGE IN ACCORDANCE WITH THE TECHNICAL SPECIFICATION FOR SITE SIGNAGE.
8. THE SITE SHALL BE GRADED TO CAUSE SURFACE WATER TO FLOW AWAY FROM THE BTS EQUIPMENT AND TOWER AREAS.
9. NO FILL OR EMBANKMENT MATERIAL SHALL BE PLACED ON FROZEN GROUND. FROZEN MATERIALS, SNOW OR ICE SHALL NOT BE PLACED IN ANY FILL OR EMBANKMENT.
10. THE SUB GRADE SHALL BE COMPACTED AND BROUGHT TO A SMOOTH UNIFORM GRADE PRIOR TO FINISHED SURFACE APPLICATION.
11. THE AREAS OF THE OWNERS 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 AS SPECIFIED ON THE PROJECT SPECIFICATIONS.
12. SUBCONTRACTOR SHALL MINIMIZE DISTURBANCE TO EXISTING SITE DURING CONSTRUCTION. EROSION CONTROL MEASURES, IF REQUIRED DURING CONSTRUCTION, SHALL BE IN CONFORMANCE WITH THE LOCAL GUIDELINES FOR EROSION AND SEDIMENT CONTROL.
13. NOTICE TO PROCEED– NO WORK TO COMMENCE PRIOR TO COMPANY'S WRITTEN NOTICE TO PROCEED AND THE ISSUANCE OF A PURCHASE ORDER.
14. ALL CONSTRUCTION MEANS AND METHODS; INCLUDING BUT NOT LIMITED TO, ERECTION PLANS, RIGGING PLANS, CLIMBING PLANS, AND RESCUE PLANS SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR RESPONSIBLE FOR THE EXECUTION OF THE WORK CONTAINED HEREIN AND SHALL MEET ANSI/ASSE A10.48 (LATEST EDITION); FEDERAL, STATE, AND LOCAL REGULATIONS; AND ANY APPLICABLE INDUSTRY CONSENSUS STANDARDS RELATED TO THE CONSTRUCTION ACTIVITIES BEING PERFORMED. ALL RIGGING PLANS SHALL ADHERE TO ANSI/ASSE A10.48 (LATEST EDITION) AND CROWN CASTLE USA INC. STANDARD STANDARD CED–STD–10253 INCLUDING THE REQUIRED INVOLVEMENT OF A QUALIFIED ENGINEER FOR CLASS IV CONSTRUCTION TO CERTIFY THE SUPPORTING STRUCTURE(S) IN ACCORDANCE WITH THE ANSI/TIA–322 (LATEST EDITION).

STRUCTURAL STEEL NOTES:

1. ALL STEEL WORK SHALL BE PAINTED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS AND IN ACCORDANCE WITH ASTM A36 UNLESS OTHERWISE NOTED.
2. BOLTED CONNECTIONS SHALL BE ASTM A325 BEARING TYPE (3/4") CONNECTIONS AND SHALL HAVE MINIMUM OF TWO BOLTS UNLESS NOTED OTHERWISE.
3. NON–STRUCTURAL CONNECTIONS FOR STEEL GRATING MAY USE 5/8" ASTM A307 BOLTS UNLESS NOTED OTHERWISE.
4. INSTALLATION OF CONCRETE EXPANSION/WEDGE ANCHOR, SHALL BE PER MANUFACTURER'S 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 CONTRACTOR APPROVAL WHEN DRILLING HOLES IN CONCRETE. SPECIAL INSPECTIONS, REQUIRED BY GOVERNING CODES, SHALL BE PERFORMED IN ORDER TO MAINTAIN MANUFACTURER'S MAXIMUM ALLOWABLE LOADS.

CONCRETE AND REINFORCING STEEL NOTES:

1. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE ACI 301, ACI 318, ACI 336, ASTM A184, ASTM A185 AND THE DESIGN AND CONSTRUCTION SPECIFICATION FOR CAST–IN–PLACE CONCRETE.
2. ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS, UNLESS NOTED OTHERWISE. SLAB FOUNDATION DESIGN ASSUMING ALLOWABLE SOIL BEARING PRESSURE OF 2000 PSF.
3. REINFORCING STEEL SHALL CONFORM TO ASTM A615, GRADE 60, DEFORMED UNLESS NOTED OTHERWISE. WELDED 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, UNO.
4. THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCING STEEL UNLESS SHOWN OTHERWISE ON DRAWINGS:

CONCRETE CAST AGAINST EARTH.....3 IN.
CONCRETE EXPOSED TO EARTH OR WEATHER:
#6 AND LARGER.....2 IN.
#5 AND SMALLER & WWF.....1 1/2 IN.
CONCRETE NOT EXPOSED TO EARTH OR WEATHER OR NOT CAST AGAINST THE GROUND:
SLAB AND WALLS.....3/4 IN.
BEAMS AND COLUMNS.....1 1/2 IN.
5. A CHAMFER 3/4" SHALL BE PROVIDED AT ALL EXPOSED EDGES OF CONCRETE, UNLESS NOTED OTHERWISE. IN ACCORDANCE WITH ACI 301 SECTION 4.2.4.

MASONRY NOTES:

1. HOLLOW CONCRETE MASONRY UNITS SHALL MEET A.S.T.M. SPECIFICATION C90, GRADE N. TYPE 1. THE SPECIFIED DESIGN COMPRESSIVE STRENGTH OF CONCRETE MASONRY (F'm) SHALL BE 1500 PSI.
2. MORTAR SHALL MEET THE PROPERTY SPECIFICATION OF A.S.T.M. C270 TYP. "S" MORTAR AND SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 2000 PSI.
3. GROUT SHALL MEET A.S.T.M. SPECIFICATION C475 AND HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 2000 PSI.
4. CONCRETE MASONRY SHALL BE LAID IN RUNNING (COMMON) BOND.
5. WALL SHALL RECEIVE TEMPORARY BRACING. TEMPORARY BRACING SHALL NOT BE REMOVED UNTIL GROUT IS FULLY CURED.

GENERAL NOTES:

1. FOR THE PURPOSE OF CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY:

CONTRACTOR–
SUBCONTRACTOR–
CARRIER–
TOWER OWNER–
OEM–










GENERAL CONTRACTOR (CONSTRUCTION)
T–MOBILE
CROWN CASTLE USA INC.
ORIGINAL EQUIPMENT MANUFACTURER
2. PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING SUBCONTRACTOR SHALL VISIT THE CELL SITE TO FAMILIARIZE WITH THE EXISTING CONDITIONS AND TO CONFIRM THAT THE WORK CAN BE ACCOMPLISHED AS SHOWN ON THE CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF CONTRACTOR AND CROWN CASTLE USA INC.
3. 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. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.
4. DRAWINGS PROVIDED HERE ARE NOT TO SCALE AND ARE INTENDED TO SHOW OUTLINE ONLY.
5. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
6. "KITTING LIST" SUPPLIED WITH THE BID PACKAGE IDENTIFIES ITEMS THAT WILL BE SUPPLIED BY CONTRACTOR. ITEMS NOT INCLUDED IN THE BILL OF MATERIALS AND KITTING LIST SHALL BE SUPPLIED BY THE SUBCONTRACTOR.
7. THE SUBCONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
8. IF THE SPECIFIED EQUIPMENT CAN NOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE SUBCONTRACTOR SHALL PRODUCE AN ALTERNATIVE INSTALLATION FOR APPROVAL BY THE CONTRACTOR AND CROWN CASTLE USA INC. PRIOR TO PROCEEDING WITH ANY SUCH CHANGE OF INSTALLATION.
9. SUBCONTRACTOR SHALL DETERMINE ACTUAL ROUTING OF CONDUIT, POWER AND T1 CABLES, GROUNDING CABLES AS SHOWN ON THE POWER, GROUNDING AND TELCO PLAN DRAWINGS.
10. THE SUBCONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT SUBCONTRACTOR'S EXPENSE TO THE SATISFACTION OF OWNER.
11. SUBCONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.
12. SUBCONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION. TRASH AND DEBRIS SHOULD BE REMOVED FROM SITE ON A DAILY BASIS.




ABBREVIATIONS AND SYMBOLS:

ABBREVIATIONS:

AGL ABOVE GRADE LEVEL
BTS BASE TRANSCIEVER STATION
(E) EXISTING
MIN. MINIMUM
REF REFERENCE
RF RADIO FREQUENCY
T.B.D. TO BE DETERMINED
T.B.R. TO BE RESOLVED
TYP TYPICAL
REQ REQUIRED
EGR EQUIPMENT GROUND RING
AWG AMERICAN WIRE GAUGE
MGB MASTER GROUND BAR
EG EQUIPMENT GROUND
BCW BARE COPPER WIRE
SIAD SMART INTEGRATED ACCESS DEVICE
GEN GENERATOR
IGR INTERIOR GROUND RING (HALO)
RBS RADIO BASE STATION

SYMBOLS:

 SOLID GROUND BUS BAR
 SOLID NEUTRAL BUS BAR
 SUPPLEMENTAL GROUND CONDUCTOR
 2–POLE THERMAL–MAGNETIC CIRCUIT BREAKER
 SINGLE–POLE THERMAL–MAGNETIC CIRCUIT BREAKER
 CHEMICAL GROUND ROD
 TEST WELL
 DISCONNECT SWITCH
 METER

 EXOTHERMIC WELD (CADWELD) (UNLESS OTHERWISE NOTED)
 MECHANICAL CONNECTION
 GROUNDING WIRE

ELECTRICAL INSTALLATION NOTES:

1. ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS, NEC AND ALL APPLICABLE FEDERAL, STATE, AND LOCAL CODES/ORDINANCES.
2. CONDUIT ROUTINGS ARE SCHEMATIC. SUBCONTRACTOR SHALL INSTALL CONDUITS SO THAT ACCESS TO EQUIPMENT IS NOT BLOCKED AND TRIP HAZARDS ARE ELIMINATED.
3. WIRING, RACEWAY AND SUPPORT METHODS AND MATERIALS SHALL COMPLY WITH THE REQUIREMENTS OF THE NEC. HILTI EPOXY ANCHORS ARE REQUIRED BY CROWN CASTLE USA INC.
4. ALL CIRCUITS SHALL BE SEGREGATED AND MAINTAIN MINIMUM CABLE SEPARATION AS REQUIRED BY THE NEC.
5. CABLES SHALL NOT BE ROUTED THROUGH LADDER–STYLE CABLE TRAY RUNGS.
6. EACH END OF EVERY POWER, POWER PHASE CONDUCTOR (I.E., HOTS), GROUNDING AND T1 CONDUCTOR AND CABLE SHALL BE LABELED WITH COLOR–CODED INSULATION OR ELECTRICAL TAPE (3M BRAND, 1/2" PLASTIC ELECTRICAL TAPE WITH UV PROTECTION, OR EQUAL). THE IDENTIFICATION METHOD SHALL CONFORM WITH NEC AND OSHA.
7. ALL ELECTRICAL COMPONENTS SHALL BE CLEARLY LABELED WITH PLASTIC TAPE PER COLOR SCHEDULE. ALL EQUIPMENT SHALL BE LABELED WITH THEIR VOLTAGE RATING, PHASE CONFIGURATION, WIRE CONFIGURATION, POWER OR AMPACITY RATING AND BRANCH CIRCUIT ID NUMBERS (I.E. PANEL BOARD AND CIRCUIT ID'S).
8. PANEL BOARDS (ID NUMBERS) AND INTERNAL CIRCUIT BREAKERS (CIRCUIT ID NUMBERS) SHALL BE CLEARLY LABELED WITH PLASTIC LABELS.
9. ALL TIE WRAPS SHALL BE CUT FLUSH WITH APPROVED CUTTING TOOL TO REMOVE SHARP EDGES.
10. POWER, CONTROL AND EQUIPMENT GROUND WIRING IN TUBING OR CONDUIT SHALL BE SINGLE CONDUCTOR (#14 AWG OR LARGER), 600 V, OIL RESISTANT THHN OR THWN–2, CLASS B STRANDED COPPER CABLE RATED FOR 90° C (WET & DRY) OPERATION LISTED OR LABELED FOR THE LOCATION AND RACEWAY SYSTEM USED UNLESS OTHERWISE SPECIFIED.
11. SUPPLEMENTAL EQUIPMENT GROUND WIRING LOCATED INDOORS SHALL BE SINGLE CONDUCTOR (#6 AWG OR LARGER), 600V, OIL RESISTANT THHN OR THWN–2 GREEN INSULATION CLASS B STRANDED COPPER CABLE RATED FOR 90° C (WET AND DRY) OPERATION LISTED OR LABELED FOR THE LOCATION AND RACEWAY SYSTEM USED UNLESS OTHERWISE SPECIFIED.
12. POWER AND CONTROL WIRING, NOT IN TUBING OR CONDUIT, SHALL BE MULTI–CONDUCTOR, TYPE TC CABLE (#14 AWG OR LARGER), 600 V, OIL RESISTANT THHN OR THWN–2, CLASS B STRANDED COPPER CABLE RATED FOR 90° C (WET AND DRY) OPERATION WITH OUTER JACKET LISTED OR LABELED FOR THE LOCATION USED UNLESS OTHERWISE SPECIFIED.
13. ALL POWER AND GROUNDING CONNECTIONS SHALL BE CRIMP–STYLE, COMPRESSION WIRE LUGS AND WIRE NUTS BY THOMAS AND BETTS (OR EQUAL). LUGS AND WIRE NUTS SHALL BE RATED FOR OPERATION AT NO LESS THAN 75° C (90° C IF AVAILABLE).
14. RACEWAY AND CABLE TRAY SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE AND NEC.
15. ELECTRICAL METALLIC TUBING (EMT) OR RIGID NONMETALLIC CONDUIT (I.E. RIGID PVC SCHEDULE 40 OR RIGID PVC SCHEDULE 80 FOR LOCATIONS SUBJECT TO PHYSICAL DAMAGE) SHALL BE USED FOR EXPOSED INDOOR LOCATIONS.
16. ELECTRICAL METALLIC TUBING (EMT), ELECTRICAL NONMETALLIC TUBING (ENT) OR RIGID NONMETALLIC CONDUIT (RIGID PVC, SCHEDULE 40) SHALL BE USED FOR CONCEALED INDOOR LOCATIONS.
17. SCHEDULE 40 PVC UNDERGROUND ON STRAIGHTS AND SCHEDULE 80 PVC FOR ALL ELBOWS/90s AND ALL APPROVED ABOVE GRADE PVC CONDUIT.
18. LIQUID–TIGHT FLEXIBLE METALLIC CONDUIT (LIQUID–TITE FLEX) SHALL BE USED INDOORS AND OUTDOORS, WHERE VIBRATION OCCURS OR FLEXIBILITY IS NEEDED.
19. CONDUIT AND TUBING FITTINGS SHALL BE THREADED OR COMPRESSION–TYPE AND APPROVED FOR THE LOCATION USED. SET SCREW FITTINGS ARE NOT ACCEPTABLE.
20. CABINETS, BOXES AND WIRE WAYS SHALL BE LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE AND NEC.
21. WIREWAYS SHALL BE EPOXY–COATED (GRAY) AND INCLUDE A HINGED COVER, DESIGNED TO SWING OPEN DOWNWARDS; SHALL BE PANDUIT TYPE E (OR EQUAL); AND RATED NEMA 1 (OR BETTER).
22. CONDUITS SHALL BE FASTENED SECURELY IN PLACE WITH APPROVED NON–PERFORATED STRAPS AND HANGERS. EXPLOSIVE DEVICES FOR ATTACHING HANGERS TO STRUCTURE WILL NOT BE PERMITTED. CLOSELY FOLLOW THE LINES OF THE STRUCTURE, MAINTAIN CLOSE PROXIMITY TO THE STRUCTURE AND KEEP CONDUITS IN TIGHT ENVELOPES. CHANGES IN DIRECTION TO ROUTE AROUND OBSTACLES SHALL BE MADE WITH CONDUIT OUTLET BODIES. CONDUIT SHALL BE INSTALLED IN A NEAT AND WORKMANLIKE MANNER. PARALLEL AND PERPENDICULAR TO STRUCTURE WALL AND CEILING LINES. ALL CONDUIT SHALL BE FISHED TO CLEAR OBSTRUCTIONS. ENDS OF CONDUITS SHALL BE TEMPORARILY CAPPED FLUSH TO FINISH GRADE TO PREVENT CONCRETE, PLASTER OR DIRT FROM ENTERING. CONDUITS SHALL BE RIGIDLY CLAMPED TO BOXES BY GALVANIZED MALLEABLE IRON BUSHIN ON INSIDE AND GALVANIZED MALLEABLE IRON LOCKNUT ON OUTSIDE AND INSIDE.
23. EQUIPMENT CABINETS, TERMINAL BOXES, JUNCTION BOXES AND PULL BOXES SHALL BE GALVANIZED OR EPOXY–COATED SHEET STEEL; SHALL MEET OR EXCEED UL 50 AND RATED NEMA 1 (OR BETTER) INDOORS OR NEMA 3R (OR BETTER) OUTDOORS.
24. METAL RECEPTACLE, SWITCH AND DEVICE BOXES SHALL BE GALVANIZED, EPOXY–COATED OR NON–CORRODING; SHALL MEET OR EXCEED UL 514A AND NEMA OS 1; AND RATED NEMA 1 (OR BETTER) INDOORS OR WEATHER PROTECTED (WP OR BETTER) OUTDOORS.
25. NONMETALLIC RECEPTACLE, SWITCH AND DEVICE BOXES SHALL MEET OR EXCEED NEMA OS 2; AND RATED NEMA 1 (OR BETTER) INDOORS OR WEATHER PROTECTED (WP OR BETTER) OUTDOORS.
26. THE SUBCONTRACTOR SHALL NOTIFY AND OBTAIN NECESSARY AUTHORIZATION FROM THE CONTRACTOR BEFORE COMMENCING WORK ON THE AC POWER DISTRIBUTION PANELS.
27. THE SUBCONTRACTOR SHALL PROVIDE NECESSARY TAGGING ON THE BREAKERS, CABLES AND DISTRIBUTION PANELS IN ACCORDANCE WITH THE APPLICABLE CODES AND STANDARDS TO SAFEGUARD LIFE AND PROPERTY.
28. INSTALL PLASTIC LABEL ON THE METER CENTER TO SHOW "T–MOBILE".
29. ALL CONDUITS THAT ARE INSTALLED ARE TO HAVE A METERED MULE TAPE PULL CORD INSTALLED.

GREENFIELD GROUNDING NOTES:

1. ALL GROUND ELECTRODE SYSTEMS (INCLUDING TELECOMMUNICATION, RADIO, LIGHTNING PROTECTION AND AC POWER GES'S) SHALL BE BONDED TOGETHER AT OR BELOW GRADE, BY TWO OR MORE COPPER BONDING CONDUCTORS IN ACCORDANCE WITH THE NEC.
2. THE SUBCONTRACTOR SHALL PERFORM IEEE FALL–OF–POTENTIAL RESISTANCE TO EARTH TESTING (PER IEEE 1100 AND 81) FOR GROUND ELECTRODE SYSTEMS. THE SUBCONTRACTOR SHALL FURNISH AND INSTALL SUPPLEMENTAL GROUND ELECTRODES AS NEEDED TO ACHIEVE A TEST RESULT OF 5 OHMS OR LESS.
3. THE SUBCONTRACTOR IS RESPONSIBLE FOR PROPERLY SEQUENCING GROUNDING AND UNDERGROUND CONDUIT INSTALLATION AS TO PREVENT ANY LOSS OF CONTINUITY IN THE GROUNDING SYSTEM OR DAMAGE TO THE CONDUIT AND PROVIDE TESTING RESULTS.
4. METAL CONDUIT AND TRAY SHALL BE GROUNDED AND MADE ELECTRICALLY CONTINUOUS WITH LISTED BONDING FITTINGS OR BY BONDING ACROSS THE DISCONTINUITY WITH #6 AWG COPPER WIRE UL APPROVED GROUNDING TYPE CONDUIT CLAMPS.
5. 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.
6. EACH CABINET FRAME SHALL BE DIRECTLY CONNECTED TO THE MASTER GROUND BAR WITH GREEN INSULATED SUPPLEMENTAL EQUIPMENT GROUND WIRES, 6 AWG STRANDED COPPER OR LARGER FOR INDOOR BTS; #2 AWG SOLID TINNED COPPER FOR OUTDOOR BTS.
7. CONNECTIONS TO THE GROUND BUS SHALL NOT BE DOUBLED UP OR STACKED BACK TO BACK CONNECTIONS ON OPPOSITE SIDE OF THE GROUND BUS ARE PERMITTED.
8. ALL EXTERIOR GROUND CONDUCTORS BETWEEN EQUIPMENT/GROUND BARS AND THE GROUND RING SHALL BE #2 AWG SOLID TINNED COPPER UNLESS OTHERWISE INDICATED.
9. ALUMINUM CONDUCTOR OR COPPER CLAD STEEL CONDUCTOR SHALL NOT BE USED FOR GROUNDING CONNECTIONS.
10. USE OF 90° BENDS IN THE PROTECTION GROUNDING CONDUCTORS SHALL BE AVOIDED WHEN 45° BENDS CAN BE ADEQUATELY SUPPORTED.
11. EXOTHERMIC WELDS SHALL BE USED FOR ALL GROUNDING CONNECTIONS BELOW GRADE.
12. ALL GROUND CONNECTIONS ABOVE GRADE (INTERIOR AND EXTERIOR) SHALL BE FORMED USING HIGH PRESS CRIMPS.
13. COMPRESSION GROUND CONNECTIONS MAY BE REPLACED BY EXOTHERMIC WELD CONNECTIONS.
14. ICE BRIDGE BONDING CONDUCTORS SHALL BE EXOTHERMICALLY BONDED OR BOLTED TO THE BRIDGE AND THE TOWER GROUND BAR.
15. APPROVED ANTIOXIDANT COATINGS (I.E. CONDUCTIVE GEL OR PASTE) SHALL BE USED ON ALL COMPRESSION AND BOLTED GROUND CONNECTIONS.
16. ALL EXTERIOR GROUND CONNECTIONS SHALL BE COATED WITH A CORROSION RESISTANT MATERIAL.
17. MISCELLANEOUS ELECTRICAL AND NON–ELECTRICAL METAL BOXES, FRAMES AND SUPPORTS SHALL BE BONDED TO THE GROUND RING, IN ACCORDANCE WITH THE NEC.
18. BOND ALL METALLIC OBJECTS WITHIN 6 FT. OF MAIN GROUND WIRES WITH 1–#2 AWG TIN–PLATED COPPER GROUND CONDUCTOR.
19. 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., NONMETALLIC CONDUIT PROHIBITED BY LOCAL CODE) THE GROUND CONDUCTOR SHALL BE BONDED TO EACH END OF THE METAL CONDUIT.
20. ALL GROUNDS THAT TRANSITION FROM BELOW GRADE TO ABOVE GRADE MUST BE #2 TINNED SOLID IN 3/4" LIQUID TIGHT CONDUIT FROM 24" BELOW GRADE TO WITHIN 3" TO 6" OF CAD–WELD TERMINATION POINT. THE EXPOSED END OF THE LIQUID TIGHT CONDUIT MUST BE SEALED WITH SILICONE CAULK. (ADD TRANSITIONING GROUND STANDARD DETAIL AS WELL).

NEC INSULATOR COLOR CODE		
DESCRIPTION	PHASE/CODE LETTER	WIRE COLOR
240/120 1Ø	LEG 1	BLACK
	LEG 2	RED
AC NEUTRAL	N	WHITE
GROUND (EGC)	G	GREEN
VDC POS	+	*RED–POLARITY MARK AT TERMINATION
VDC NEG	–	*BLACK–POLARITY MARK AT TERMINATION
240V OR 208V, 3Ø	PHASE A	BLACK
	PHASE B	RED(ORG. IF HI LEG)
	PHASE C	BLUE
480V, 3Ø	PHASE A	BROWN
	PHASE B	ORANGE OR PURPLE
	PHASE C	YELLOW

* SEE NEC 210.5(C)(1) AND (2)



T-MOBILE SITE NUMBER:
4DET504A

BU #: 806610
BOS MEDWAY 959033

113R MAIN STREET
MEDWAY, MA 02053

EXISTING 140'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
A	09/25/17	TB	PRELIMINARY	JM
0	09/12/18	JAS	CONSTRUCTION	AJF



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REVISION:

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T-Mobile

12920 SE 38TH STREET
BELLEVUE, WA 98006

CROWN
CASTLE

3 CORPORATE PARK DRIVE, SUITE 101
CLIFTON PARK, NY 12065

T-MOBILE SITE NUMBER:
4DET504A

BU #: 806610
BOS MEDWAY 959033

113R MAIN STREET
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DocuSigned by

BAD6066DD9024F40

ANDREW JOSEPH
FANDOZZI III
CIVIL
No. 51667

REGISTERED
PROFESSIONAL ENGINEER

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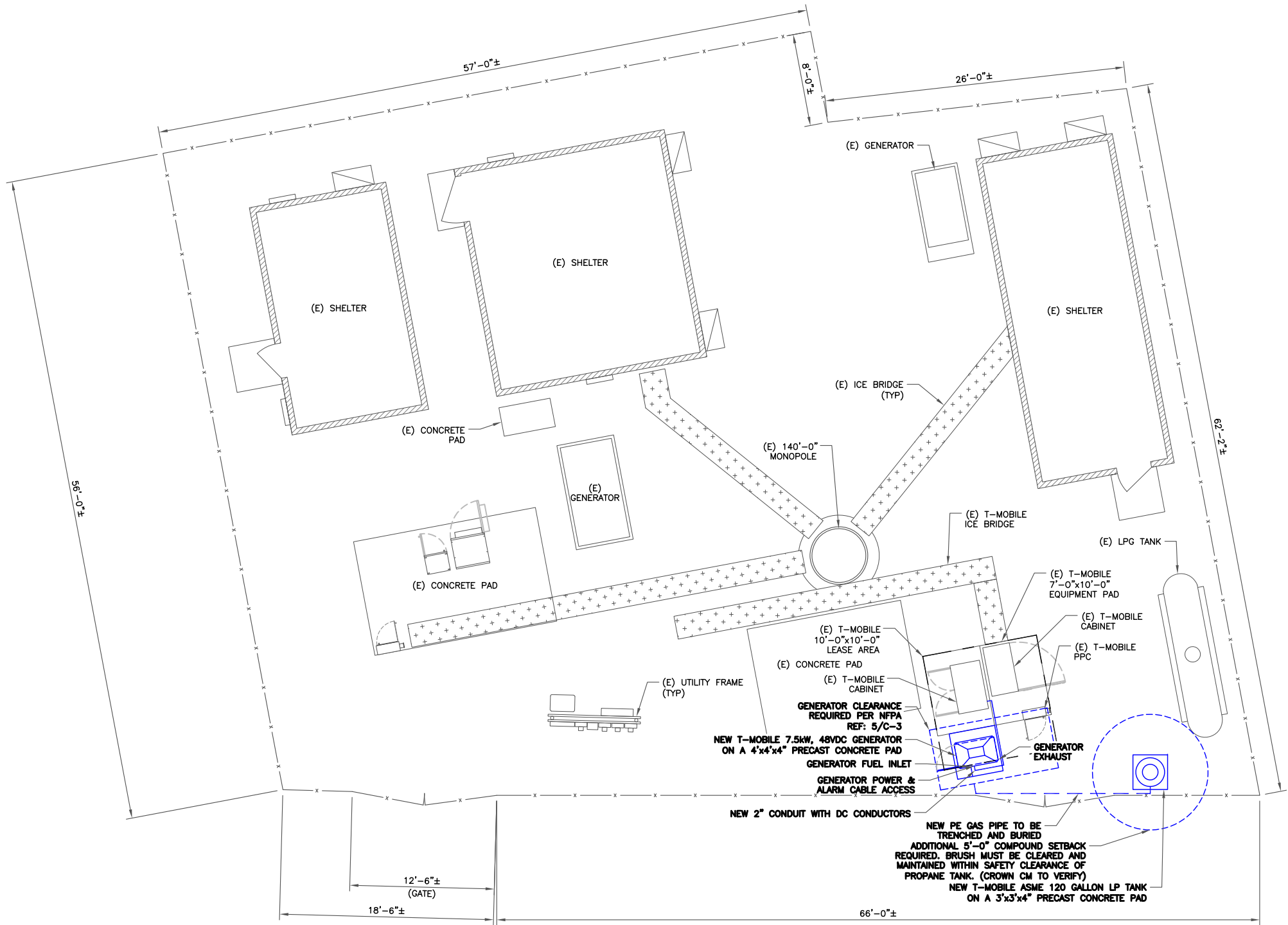
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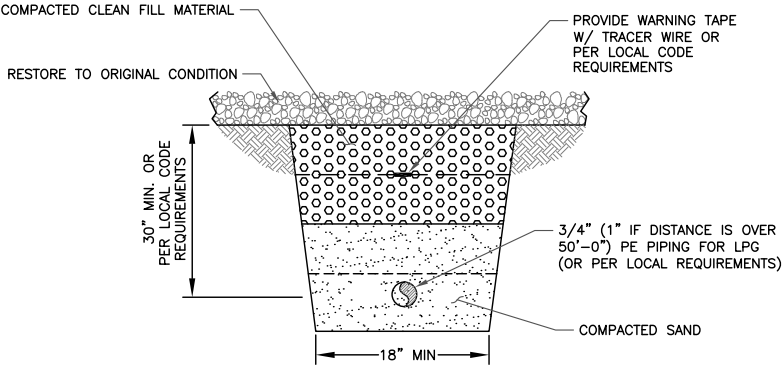
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1 SITE PLAN

SCALE: 3/16"=1'-0" (FULL SIZE)
3/32"=1'-0" (11x17)





NOTES: TRENCH TO BE HAND DUG AND BEDDING TO BE COMPACTED, PROVIDE CONTINUOUS GRADE, AND FREE OF ROCKS OF DEBRIS.

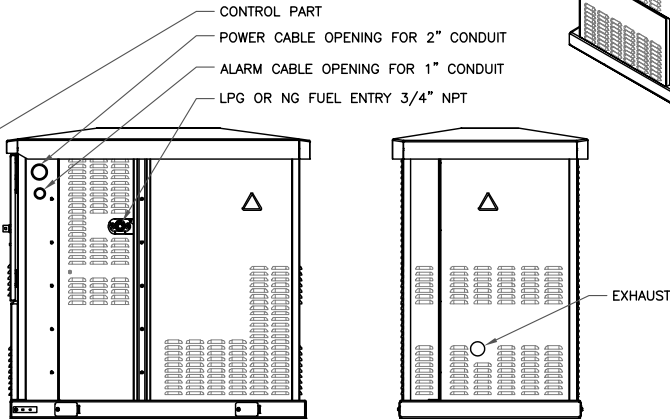
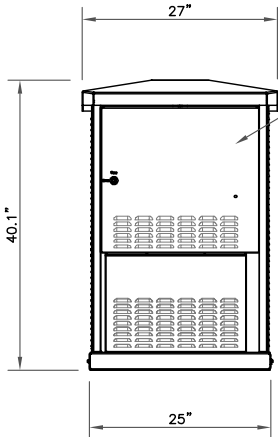
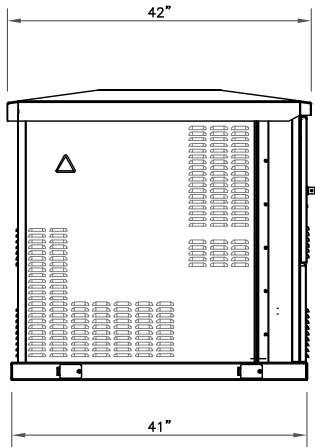
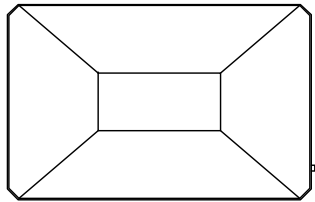
1 GAS PIPE TRENCH
SCALE: NOT TO SCALE



2 LP TANK LOCATION PHOTO
SCALE: NOT TO SCALE

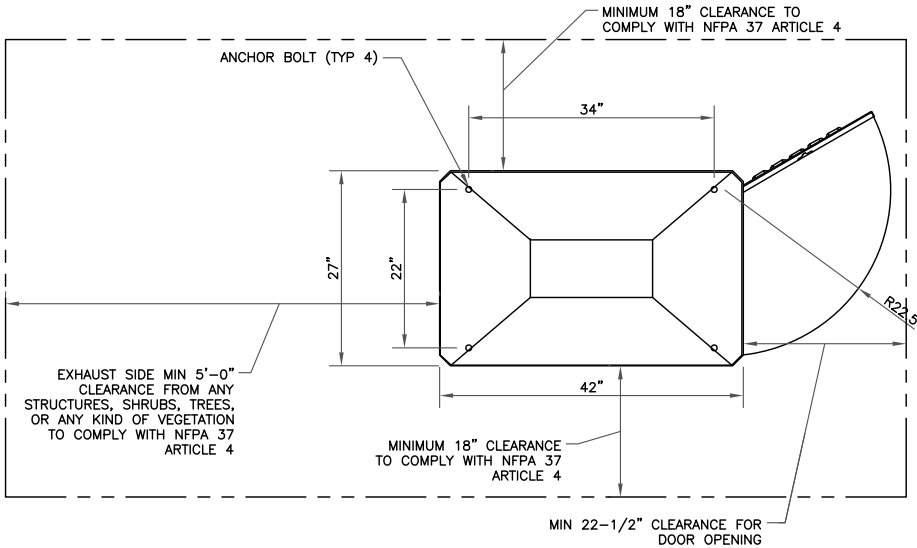


3 GENERATOR LOCATION PHOTO
SCALE: NOT TO SCALE



7.5KW GENERATOR FUEL REQUIREMENTS: 56.4 CF/H (LP VAPOR)
WEIGHT: 635 LBS MAX (WITH BATTERY-PYL12V100FS x 4PCS)
OPTIONAL STANDBY SYSTEM
AGENCY LISTINGS: UL 2200

4 7.5kW, 48VDC PROPANE GENERATOR (DELTA POWERGEN 7500)
SCALE: NOT TO SCALE



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CROWN CASTLE

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BOS MEDWAY 959033

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MEDWAY, MA 02053

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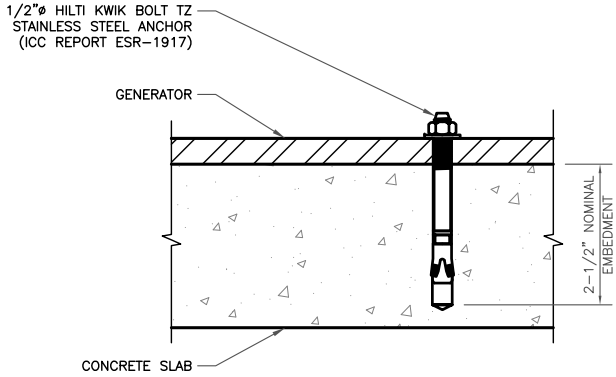
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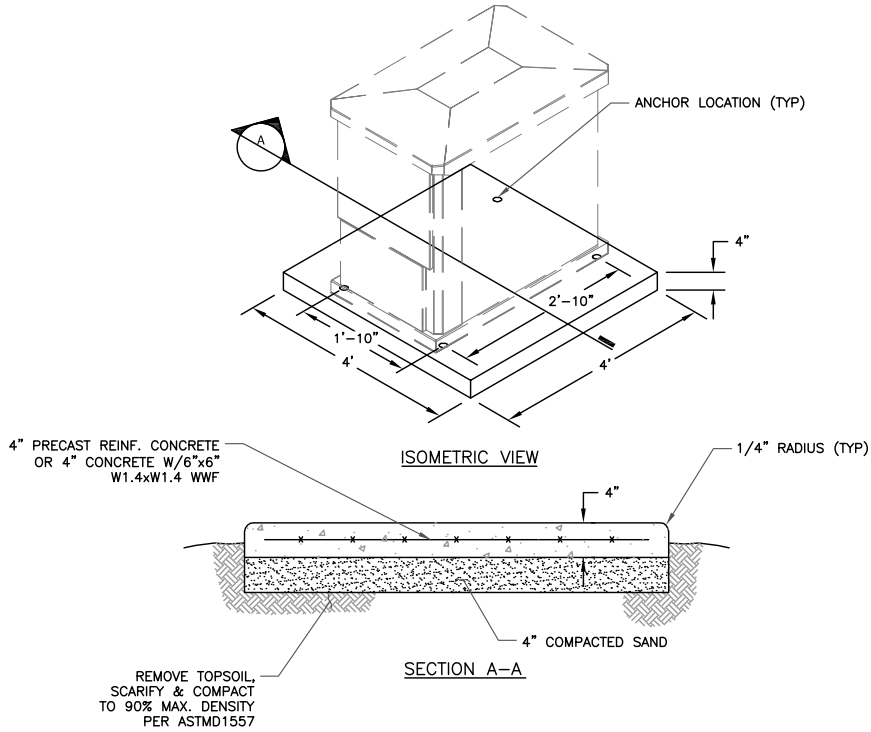
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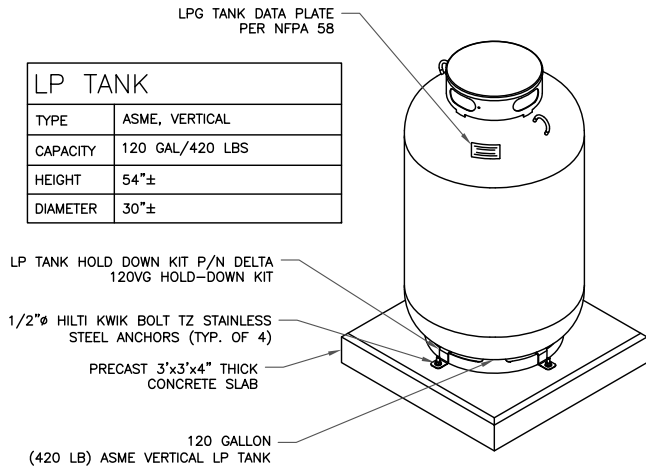
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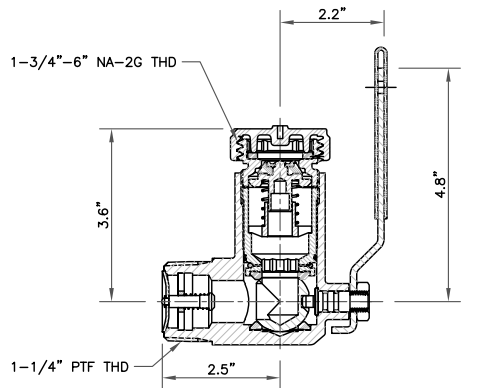
1 ANCHORAGE DETAIL
SCALE: NOT TO SCALE



2 PRECAST GENERATOR SLAB DETAIL
SCALE: NOT TO SCALE



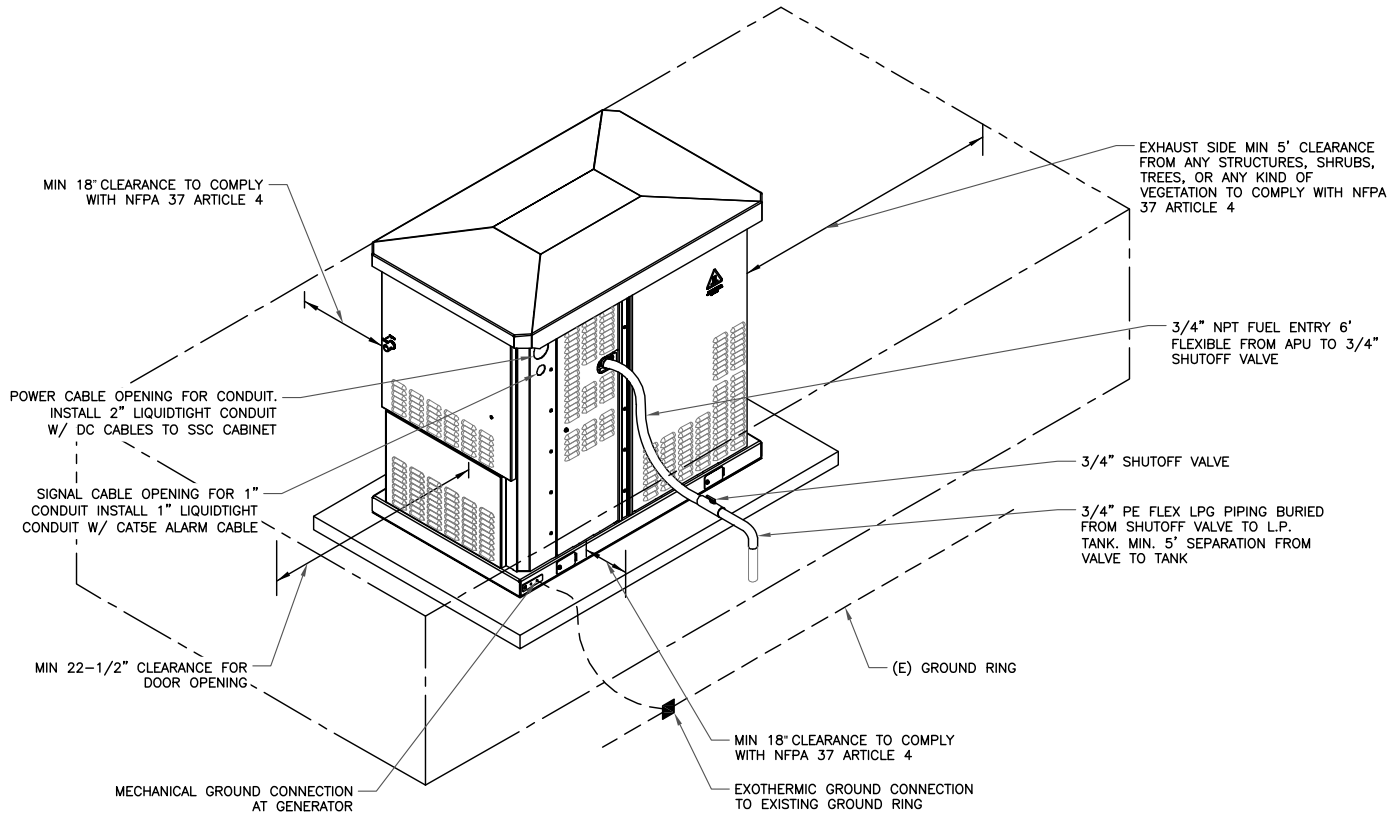
3 LP TANK DETAILS
SCALE: NOT TO SCALE



REGO - 7502 1-1/4" M-NPT FILLER VALVE W/ MANUAL SHUTOFF

MATERIALS:
SHUTOFF LEVER.....STEEL
SHUTOFF BALL.....STAINLESS STEEL
SHUTOFF PACKING.....TEFLON
UPPER BODY.....BRASS
LOWER BODY.....BRASS
SPRINGS.....STAINLESS STEEL
WASHER AND SEAT DISC.....SYNTHETIC RUBBER
CAP.....MOLDED PLASTIC

4 REGO - 7502 1-1/4" M-NPT FILLER VALVE W/ MANUAL SHUTOFF
SCALE: NOT TO SCALE



5 UTILITY ENTRY DETAIL
SCALE: NOT TO SCALE

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T-MOBILE SITE NUMBER:
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BOS MEDWAY 959033

113R MAIN STREET
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ANDREW JOSEPH FANDOZZI III
CIVIL
No. 51667
REGISTERED PROFESSIONAL ENGINEER
9/12/2018 5:08:50 PM EDT

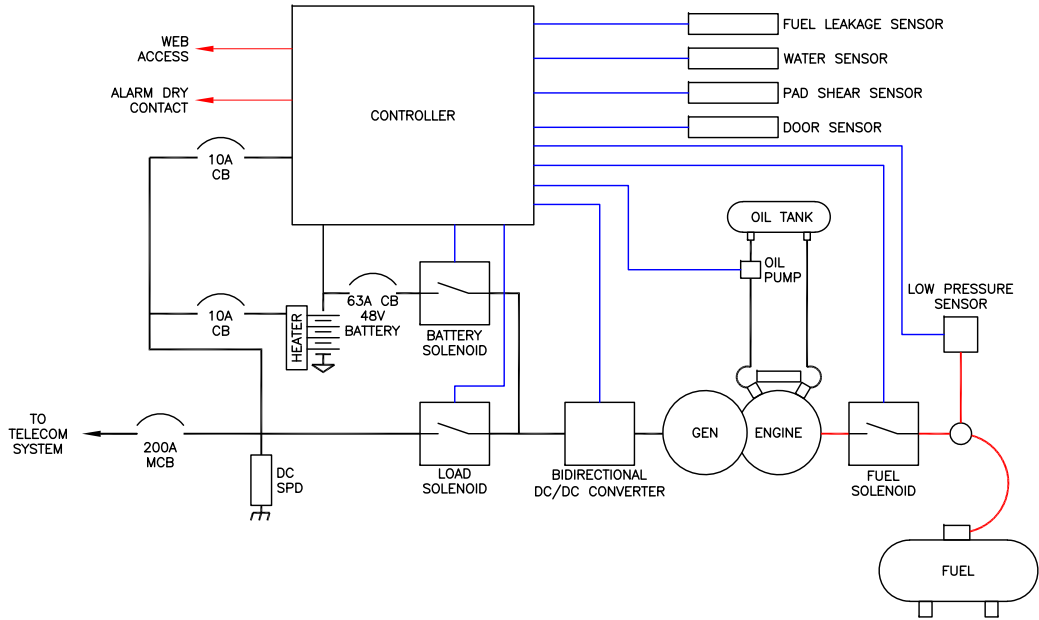
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1 DELTA POWERGEN 7500 DC GENSET BLOCK DIAGRAM
SCALE: NOT TO SCALE

2 NOT USED
SCALE: NOT TO SCALE

AC NORMAL:

UNDER NORMAL CONDITIONS WITH AC POWER TO THE TELECOM CABINET, TELECOM CABINET RECTIFIERS PROVIDE POWER TO LOAD EQUIPMENT AT FLOAT VOLTAGE ABOVE 53V, AND THE GENSET IS NOT RUNNING.

AC FAIL:

WHEN AC FAILS, TELECOM CABINET BATTERIES PROVIDE POWER TO LOAD EQUIPMENT, AND BEGIN TO DISCHARGE. WHEN THE TELECOM CABINET BATTERIES DISCHARGE BELOW 48V THE GENSET STARTS AND PROVIDES POWER TO LOAD AND POWER TO RECHARGE THE TELECOM CABINET BATTERIES TO 52V. GENSET OUTPUT IS ACTIVELY LIMITED TO PREVENT BATTERY RECHARGE OVERCURRENT.

AC RECOVERY:

WHEN AC RECOVERS, TELECOM CABINET RECTIFIERS RESUME PROVIDING POWER TO LOAD EQUIPMENT AND RECHARGE THE TELECOM CABINET BATTERIES A FLOAT VOLTAGE ABOVE 53V AND THE GENSET GOES TO NO OUTPUT. WHEN VOLTAGE GOES ABOVE 53V THE GENSET COOLS DOWN AND SHUTS DOWN.

3 DELTA POWERGEN 7500 DC GENSET OPERATING MODES
SCALE: NOT TO SCALE

4 NOT USED
SCALE: NOT TO SCALE

T-Mobile

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BELLEVUE, WA 98006

CROWN
CASTLE

3 CORPORATE PARK DRIVE, SUITE 101
CLIFTON PARK, NY 12065

T-MOBILE SITE NUMBER:
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BOS MEDWAY 959033

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EXISTING 140'-0" MONOPOLE

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CIVIL
No. 51667

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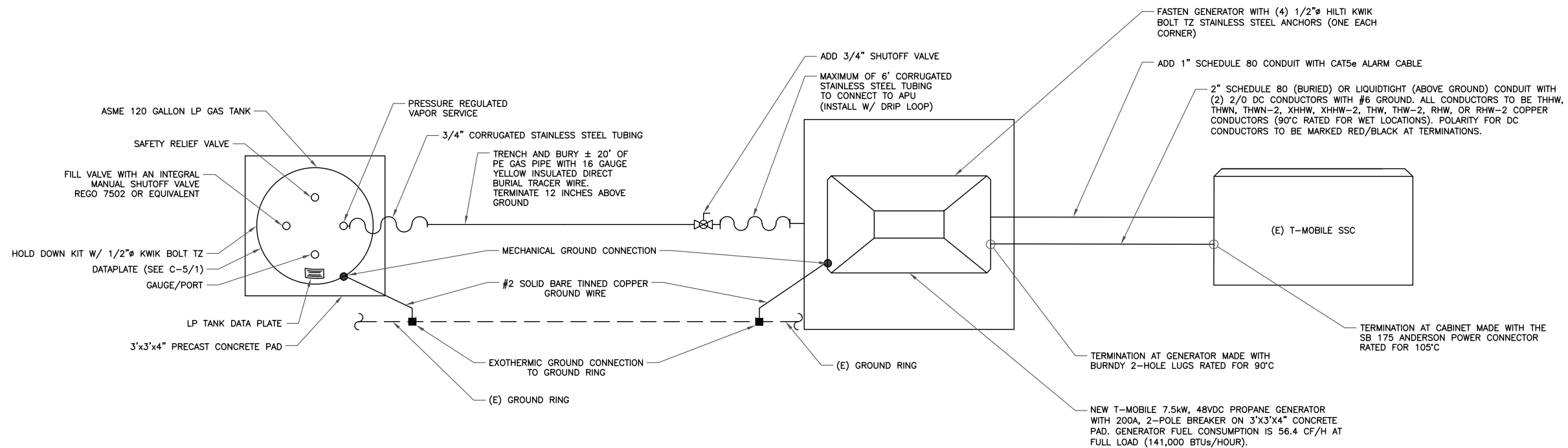
1 ASME 120 GALLON LP TANK
SCALE: NOT TO SCALE



2 UNDERGROUND PROPANE LINE STUB UP
SCALE: NOT TO SCALE



3 48VDC GENERATOR 7.5KW
SCALE: NOT TO SCALE



4 48VDC PROPANE GENERATOR ONE LINE DIAGRAM
SCALE: NOT TO SCALE

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BADA666DD9024F40
COMMONWEALTH OF MASSACHUSETTS
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FANDOZZI III
CIVIL
No. 51667
REGISTERED
PROFESSIONAL ENGINEER
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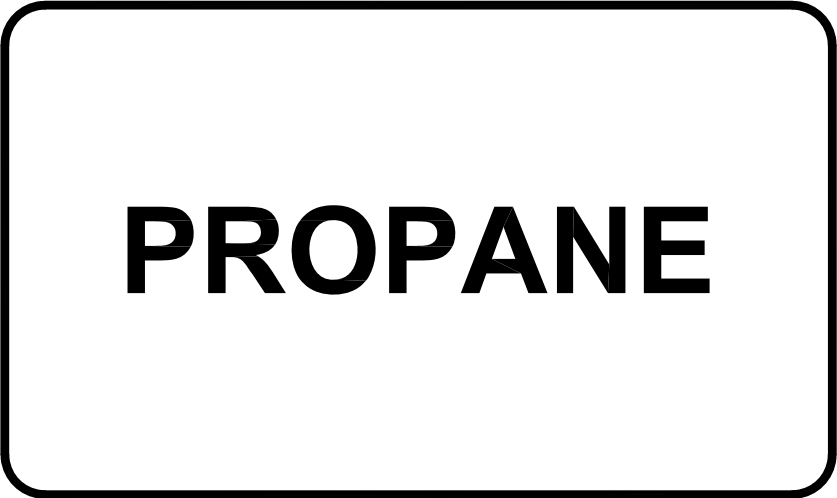
SIGNAGE REQUIREMENTS:

1. STORAGE CONTAINER MUST HAVE A DATAPLATE. (PROVIDED BY TANK MANUFACTURER DURING TANK FABRICATION)
NFPA 58:5.2.8.3
2. STORAGE CONTAINER MUST BE MARKED DESCRIBING THE CONTENTS (PROPANE OR LIQUEFIED PRETROLEUM GAS) AND A STATEMENT OF THE HAZARD (FLAMMABLE).
NFPA 1:60.1.13 & IFC:2703.5
3. STORAGE CONTAINER MUST BE MARKED WITH HAZMAT ID. (CERTAIN ENTRANCES TO STORAGE OR DISPENSING AREAS MAY ALSO REQUIRE HAZMAT ID MARKING)
NFPA 1:60.1.13, NFPA 704:1.3 & IFC:2703.5
4. NO SMOKING SIGNS MUST BE POSTED IN AREAS OR SITES WHERE FLAMMABLE GASES ARE USED OR STORED. NO SMOKING OR OPEN FLAMES WITHIN 25 FT. OF POINT OF TRANSFER.
NFPA 1:60.1.13, IFC:3807.2, IFC:2703.7, & NFPA 58:7.2.3.2(B)
5. THE MAXIMUM PERMITTED PERCENTAGE (%) OF TANK CAPACITY MUST BE MARKED EITHER ON THE DATAPLATE OR ADJACENT TO THE FIXED MAXIMUM LIQUID LEVEL GAUGE.
NFPA 58:5.7.5.4

1

SIGNAGE REQUIREMENTS

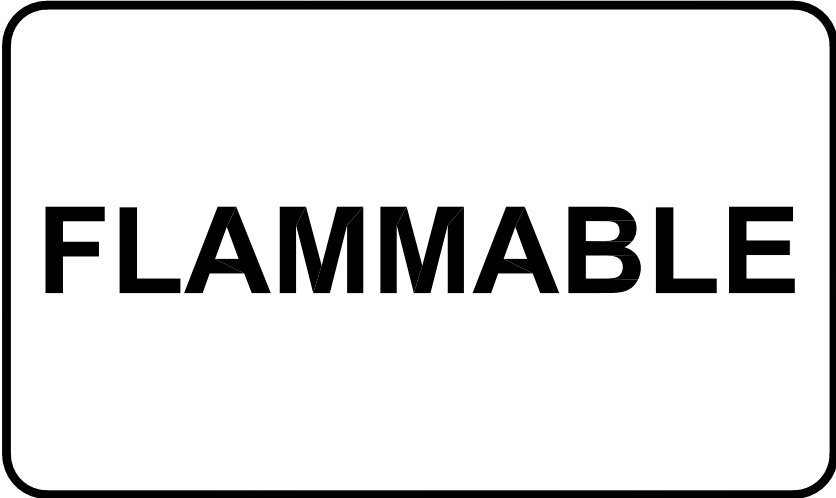
SCALE: NOT TO SCALE



2

PROPANE SIGN

SCALE: NOT TO SCALE



3

FLAMMABLE SIGN

SCALE: NOT TO SCALE



4

LIQUID PETROLEUM GAS

SCALE: NOT TO SCALE



5

HAZARD LEVEL INDICATOR SIGN

SCALE: NOT TO SCALE



6

NO SMOKING SIGN

SCALE: NOT TO SCALE

T-Mobile
12920 SE 38TH STREET
BELLEVUE, WA 98006

CROWN CASTLE
3 CORPORATE PARK DRIVE, SUITE 101
CLIFTON PARK, NY 12065


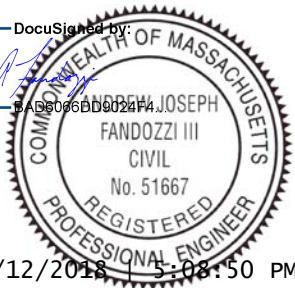
T-MOBILE SITE NUMBER:
4DET504A

BU #: **806610**
BOS MEDWAY 959033

113R MAIN STREET
MEDWAY, MA 02053

EXISTING 140'-0" MONOPOLE

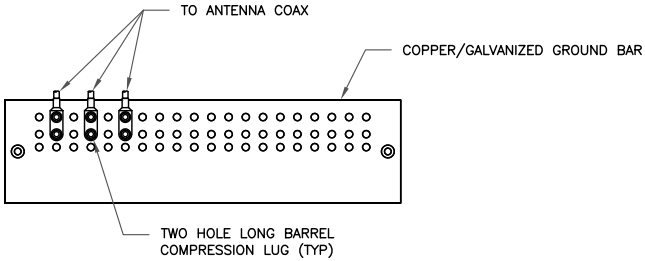
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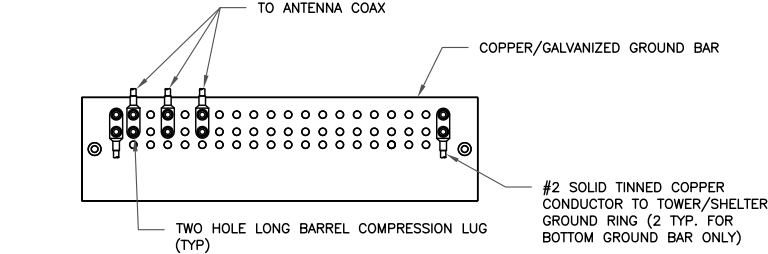
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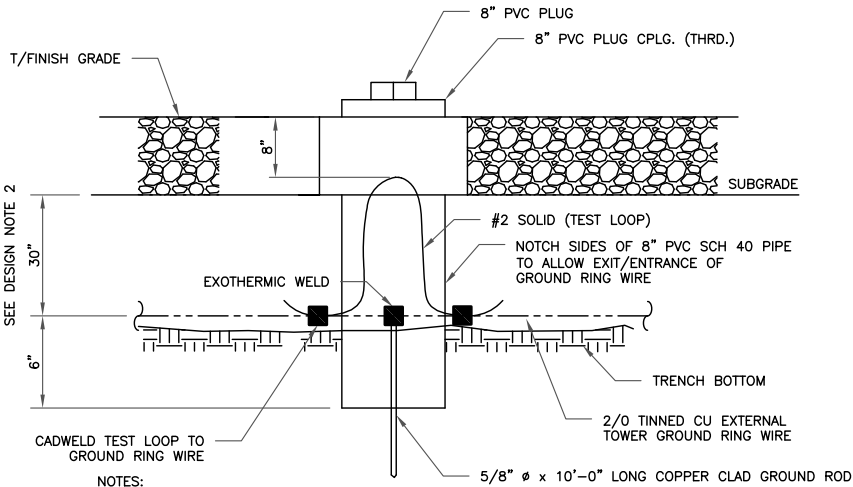
NOTES:

1. DOUBLING UP "OR STACKING" OF CONNECTIONS IS NOT PERMITTED.
2. EXTERIOR ANTIOXIDANT JOINT COMPOUND TO BE USED ON ALL EXTERIOR CONNECTIONS.
3. GROUND BAR SHALL NOT BE ISOLATED FROM TOWER. MOUNT DIRECTLY TO TOWER STEEL.



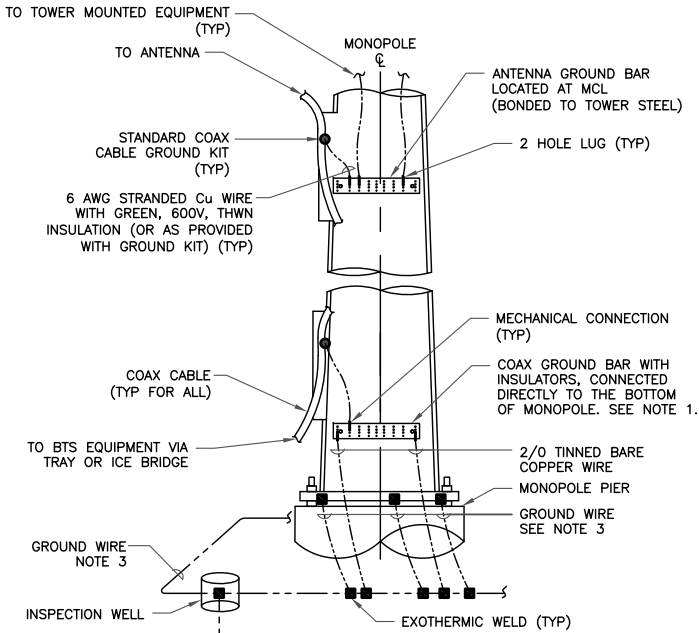
NOTES:

1. EXTERIOR ANTIOXIDANT JOINT COMPOUND TO BE USED ON ALL EXTERIOR CONNECTIONS.
2. GROUND BAR SHALL NOT BE ISOLATED FROM TOWER. MOUNT DIRECTLY TO TOWER STEEL (TOWER ONLY).
3. GROUND BAR SHALL BE ISOLATED FROM BUILDING OR SHELTER.



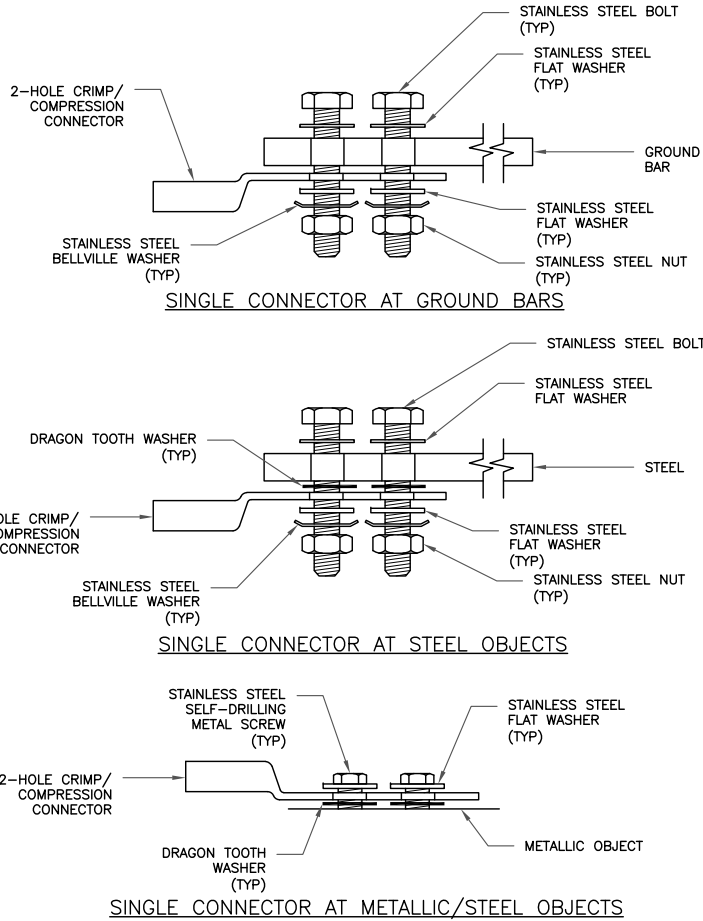
NOTES:

1. GROUND ROD SHALL BE DRIVEN VERTICALLY, NOT TO EXCEED 45 DEGREES FROM THE VERTICAL.
2. GROUND WIRE SHALL BE MIN. 30" BELOW GRADE OR 6" BELOW FROST LINE. (WHICH EVER IS GREATER) AS PER N.E.C. ARTICLE 250-50(D)

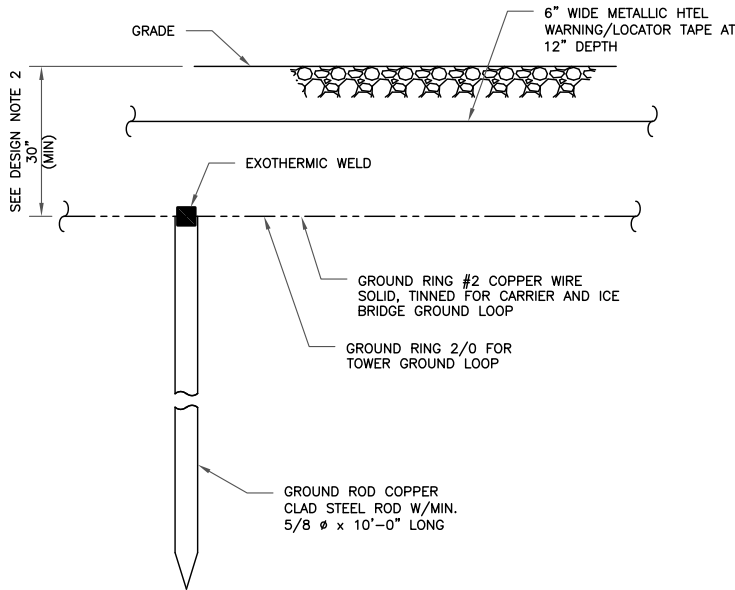


NOTES:

1. NUMBER OF GROUNDING BARS MAY VARY DEPENDING ON THE TYPE OF TOWER, ANTENNA LOCATIONS AND CONNECTION ORIENTATION. COAXIAL CABLES EXCEEDING 200 FEET ON THE TOWER SHALL HAVE GROUND KITS AT THE MIDPOINT. PROVIDE AS REQUIRED.
2. ONLY MECHANICAL CONNECTIONS ARE ALLOWED TO BE MADE TO CROWN CASTLE TOWERS. ALL MECHANICAL CONNECTIONS SHALL BE TREATED WITH AN ANTI-OXIDANT COATING.
3. ALL TOWER GROUNDING SYSTEMS SHALL COMPLY WITH THE REQUIREMENTS OF THE RECOGNIZED EDITION OF ANSI/TIA 222 AND NFPA 780.



5 HARDWARE DETAIL FOR EXTERIOR CONNECTIONS
SCALE: NOT TO SCALE



NOTES:

1. GROUND ROD SHALL BE DRIVEN VERTICALLY, NOT TO EXCEED 45 DEGREES FROM THE VERTICAL.
2. GROUND WIRE SHALL BE MIN. 30" BELOW GRADE OR 6" BELOW FROST LINE. (WHICH EVER IS GREATER) AS PER N.E.C. ARTICLE 250-50(D)

6 GROUND ROD DETAIL
SCALE: NOT TO SCALE

T-Mobile
12920 SE 38TH STREET
BELLEVUE, WA 98006

CROWN CASTLE
3 CORPORATE PARK DRIVE, SUITE 101
CLIFTON PARK, NY 12065

T-MOBILE SITE NUMBER:
4DET504A

BU #: **806610**
BOS MEDWAY 959033

113R MAIN STREET
MEDWAY, MA 02053

EXISTING 140'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
A	09/25/17	TB	PRELIMINARY	JM
0	09/12/18	JAS	CONSTRUCTION	AJF

DocuSigned by
ANDREW JOSEPH FANDOZZI III
CIVIL
No. 51667
REGISTERED PROFESSIONAL ENGINEER
9/12/2018 5:08:50 PM EDT

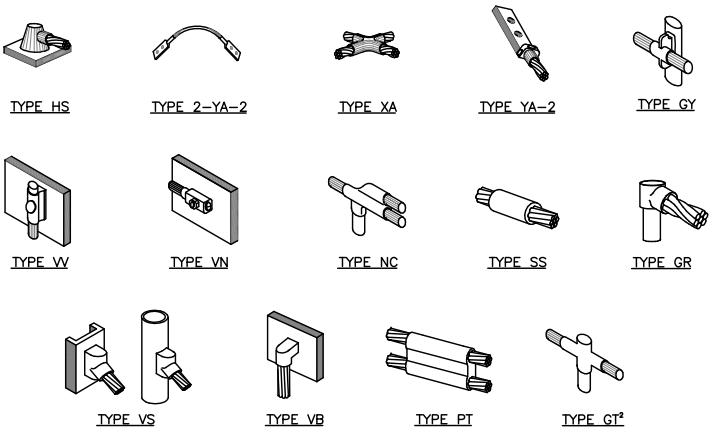
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SHEET NUMBER:

G-1

REVISION:

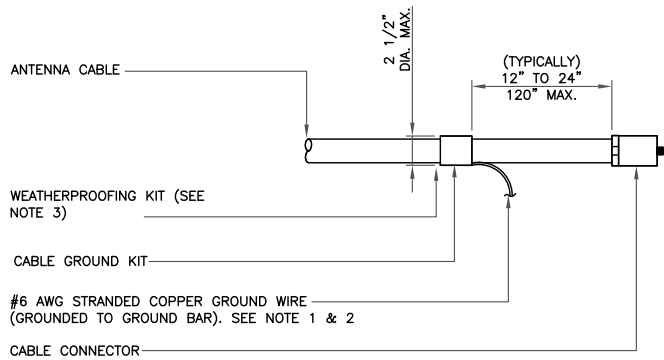
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NOTE:

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.

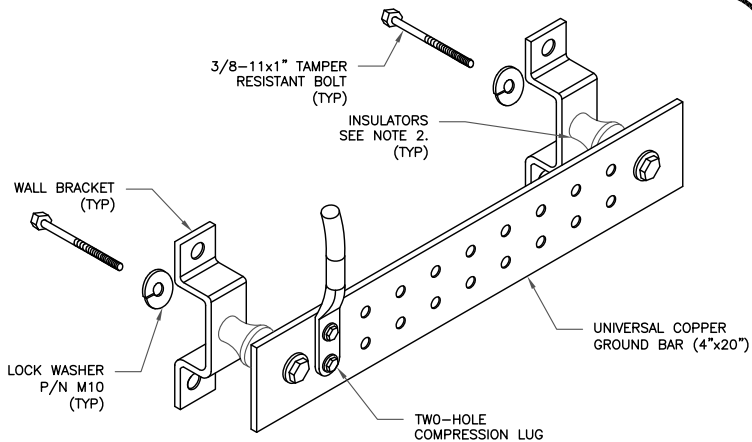
1 CADWELD GROUNDING CONNECTIONS
SCALE: NOT TO SCALE



NOTES:

1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO GROUND BAR.
2. GROUNDING KIT SHALL BE TYPE AND PART NUMBER AS SUPPLIED OR RECOMMENDED BY CABLE MANUFACTURER.
3. WEATHER PROOFING SHALL BE TWO-PART TAPE KIT, COLD SHRINK SHALL NOT BE USED.

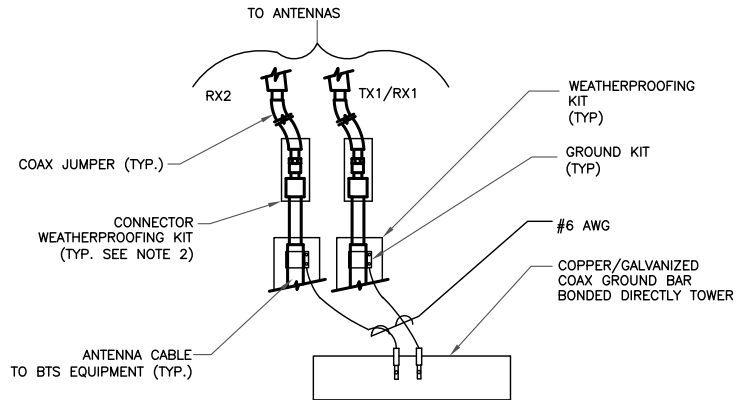
3 CABLE GROUND KIT CONNECTION
SCALE: NOT TO SCALE



NOTES:

1. DOWN LEAD (HOME RUN) CONDUCTORS ARE NOT TO BE INSTALLED ON CROWN CASTLE TOWER, PER THE GROUNDING DOWN CONDUCTOR POLICY QAS-STG-10091. NO MODIFICATION OR DRILLING TO TOWER STEEL IS ALLOWED IN ANY FORM OR FASHION, CAD-WELDING ON THE TOWER AND/OR IN THE AIR ARE NOT PERMITTED.
2. OMIT INSULATOR WHEN MOUNTING TO TOWER STEEL OR PLATFORM STEEL. USE INSULATORS WHEN ATTACHING TO BUILDING OR SHELTERS.

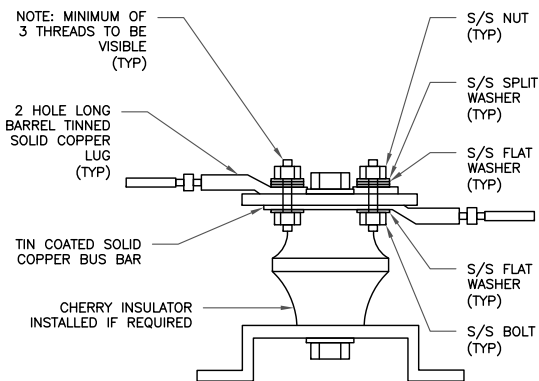
6 GROUND BAR DETAIL
SCALE: NOT TO SCALE



NOTES:

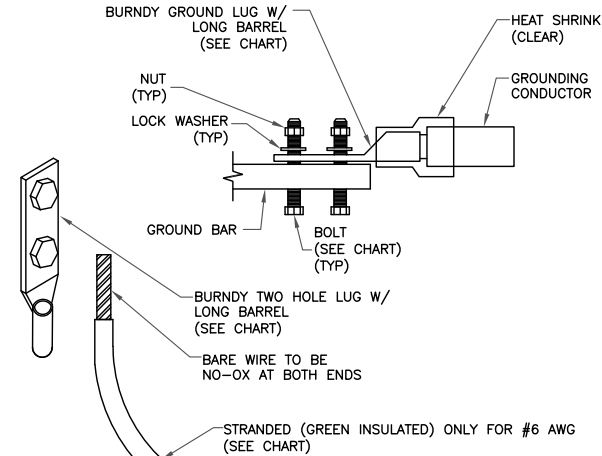
1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO ANTENNA GROUND BAR.
2. WEATHER PROOFING SHALL BE TWO-PART TAPE KIT. COLD SHRINK SHALL NOT BE USED.

4 GROUND CABLE CONNECTION
SCALE: NOT TO SCALE



7 LUG DETAIL
SCALE: NOT TO SCALE

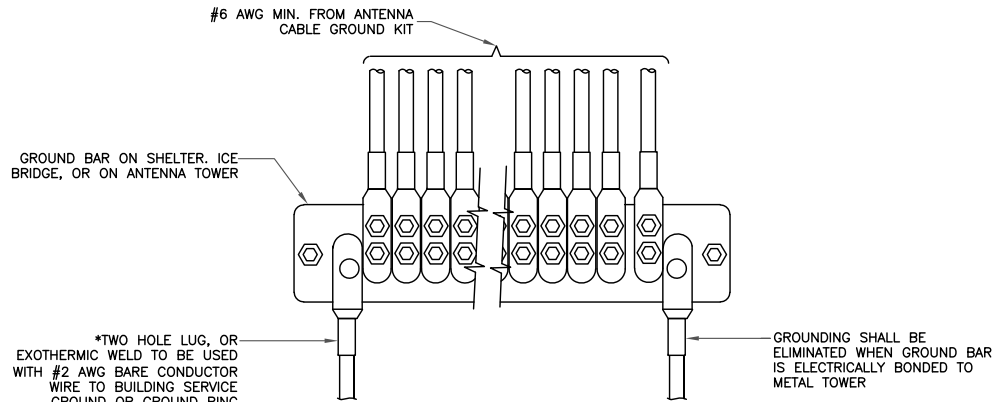
WIRE SIZE	BURNDY LUG	BOLT SIZE
#6 AWG GREEN INSULATED	YA6C-2TC38	3/8" - 16 NC S 2 BOLT
#2 AWG SOLID TINNED	YA3C-2TC38	3/8" - 16 NC S 2 BOLT
#2 AWG STRANDED	YA2C-2TC38	3/8" - 16 NC S 2 BOLT
#2/0 AWG STRANDED	YA26-2TC38	3/8" - 16 NC S 2 BOLT
#4/0 AWG STRANDED	YA28-2N	1/2" - 16 NC S 2 BOLT



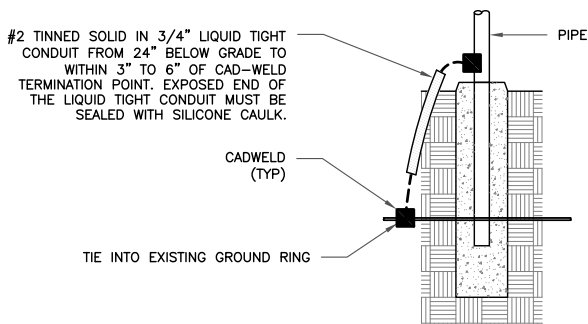
NOTES:

1. ALL GROUNDING LUGS ARE TO BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS. ALL HARDWARE BOLTS, NUTS, LOCK WASHERS SHALL BE STAINLESS STEEL. ALL HARDWARE ARE TO BE AS FOLLOWS: BOLT, FLAT WASHER, GROUND BAR, GROUND LUG, FLAT WASHER AND NUT.

2 MECHANICAL LUG CONNECTION
SCALE: NOT TO SCALE



5 GROUNDWIRE INSTALLATION
SCALE: NOT TO SCALE



8 TRANSITIONING GROUND DETAIL
SCALE: NOT TO SCALE

T-Mobile
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BELLEVUE, WA 98006

CROWN CASTLE
3 CORPORATE PARK DRIVE, SUITE 101
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4DET504A

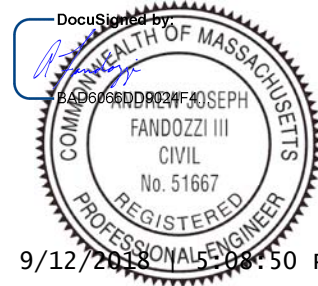
BU #: 806610
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EXISTING 140'-0" MONOPOLE

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SHEET NUMBER:

G-2

REVISION:

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Certificate Of Completion

Envelope Id: 78E3E7607AF9479CABF19B76FFAAAA2B	Status: Completed
Subject: Please DocuSign: 4DET504A_806610_BOS MEDWAY 959033_T-Mobile Generator FCD REV 0 9.12.18.pdf	
Source Envelope:	
Document Pages: 10	Signatures: 10
Certificate Pages: 3	Initials: 0
AutoNav: Enabled	Envelope Originator:
Envelopeld Stamping: Enabled	Phillip Lander
Time Zone: (UTC-05:00) Eastern Time (US & Canada)	2000 Corporate Drive
	Canonsburg, PA 15317
	Phillip.Lander.Contractor@crowncastle.com
	IP Address: 50.197.38.250

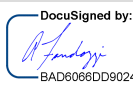
Record Tracking

Status: Original	Holder: Phillip Lander	Location: DocuSign
9/12/2018 4:37:48 PM	Phillip.Lander.Contractor@crowncastle.com	

Signer Events

Signature	Timestamp
<p>Andrew Fandozzi</p> <p>Andrew.Fandozzi@crowncastle.com</p> <p>Senior Project Engineer</p> <p>Crown Castle</p> <p>Security Level: Email, Account Authentication (None)</p>	<p>Sent: 9/12/2018 4:40:06 PM</p> <p>Viewed: 9/12/2018 5:08:03 PM</p> <p>Signed: 9/12/2018 5:08:50 PM</p>

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ID: 0ad6e259-5603-4a14-ab5b-e489fb215734

In Person Signer Events	Signature	Timestamp
Editor Delivery Events	Status	Timestamp
Agent Delivery Events	Status	Timestamp
Intermediary Delivery Events	Status	Timestamp
Certified Delivery Events	Status	Timestamp
Carbon Copy Events	Status	Timestamp
Notary Events	Signature	Timestamp
Envelope Summary Events	Status	Timestamps
Envelope Sent	Hashed/Encrypted	9/12/2018 4:40:06 PM
Certified Delivered	Security Checked	9/12/2018 5:08:04 PM
Signing Complete	Security Checked	9/12/2018 5:08:50 PM
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Payment Events	Status	Timestamps
Electronic Record and Signature Disclosure		

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Canonsburg, PA 15317

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