#### **PROJECT INFORMATION**

SCOPE OF WORK: UNMANNED TELECOMMUNICATIONS FACILITY MODIFICATIONS

SITE ADDRESS: 211 CUMBERLAND AVENUE PORTLAND, ME 04101

LATITUDE: 43.661380 N 43° 40° 41.90" N LONGITUDE: 70.256111 W 70° 15' 22" W

JURISDICTION: NATIONAL, STATE & LOCAL CODES OR ORDINANCES

CURRENT USE: TELECOMMUNICATIONS FACILITY
PROPOSED USE: TELECOMMUNICATIONS FACILITY



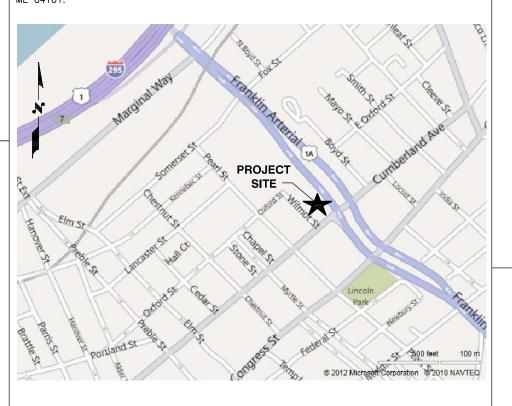
## SITE NUMBER: ME5040 SITE NAME: MUNJOY HILL

	DRAWING INDEX	REV
T-1	TITLE SHEET	1
GN-1	GENERAL NOTES	1
A-1	EQUIPMENT & ROOFTOP PLAN	1
A-2	ELEVATION	1
A-3	ANTENNA LAYOUT	1
A-4	DETAILS	1
G-1	PLUMBING DIAGRAM & GROUNDING DETAILS	1

#### IRECTIONS:

START WEST ON COCHITUATE RD TOWARD BURR ST. 0.3 MI. MAKE A U-TURN AT WHITTIER ST. 0.3 MI. TAKE RAMP RIGHT FOR I-90 E. 6.7 MI. TAKE EXIT 14 FOR I-95 N TOWARD N.H - MAINE PARTIAL TOLL ROAD PASSING THROUGH NEW HAMPSHIRE ENTERING MAINE. 112.6 MI, MERGE ONTO I-295 N VIA EXIT 44 TOWARD SOUTH PORTLAND/DOWNTOWN PORTLAND (PORTIONS TOLL). 5.7 MI. TAKE THE FRANKLIN ST/US-1A EXIT, EXIT 7. 0.2 MI. TURN RIGHT ONTO US-1A S/FRANKLIN ARTERIAL. 0.4 MI. TURN RIGHT ONTO CUMBERLAND AVE. END AT 211 CUMBERLAND AVE. PORTLAND,

**VICINITY MAP** 



## **GENERAL NOTES**

- THIS DOCUMENT IS THE CREATION, DESIGN, PROPERTY AND COPYRIGHTED WORK OF AT&T.
   ANY DUPLICATION OR USE WITHOUT EXPRESS WRITTEN CONSENT IS STRICTLY PROHIBITED.
   DUPLICATION AND USE BY GOVERNMENT AGENCIES FOR THE PURPOSES OF CONDUCTING
   THEIR LAWFULLY AUTHORIZED REGULATORY AND ADMINISTRATIVE FUNCTIONS IS SPECIFICALLY
   ALLOWED.
- 2. THE FACILITY IS AN UNMANNED PRIVATE AND SECURED EQUIPMENT INSTALLATION. IT IS ONLY ACCESSED BY TRAINED TECHNICIANS FOR PERIODIC ROUTINE MAINTENANCE AND THEREFORE DOES NOT REQUIRE ANY WATER OR SANITARY SEWER SERVICE. THE FACILITY IS NOT GOVERNED BY REGULATIONS REQUIRING PUBLIC ACCESS PER ADA REQUIREMENTS.
- . CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE AT&T REPRESENTATIVE IN WRITING OF DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.



CALL

BEFORE YOU DIG



CALL TOLL FREE 888-DIG-SAFE

UNDERGROUND SERVICE ALERT





#### SITE NUMBER: ME5040 SITE NAME: MUNJOY HILL

211 CUMBERLAND AVENUE PORTLAND, ME 04101 CUMBERLAND COUNTY



550 COCHITUATE ROAD FRAMINGHAM, MA 01701

							2	1	ن
							111		1
							7	<b>4</b>	1
1	02/23/12	ISSUED FO	R PERMITTING			SB	<b>/</b>	DPH	
0	02/10/12	ISSUED FO	R REVIEW		н <b>у</b> (	12	<b>JOHN</b>	۸.	
NO.	DATE		REVIS	IONS		BY	哥	APP D	3,
SCA	LE: AS SI	HOWN	DESIGNED BY:	DC	DRAWN	BY:	HC	9	^



AT&T

TITLE SHEET

TITLE SHEET
(LTE)

JOB WUMBER DRAWING NUMBER

T-1



#### **GROUNDING NOTES**

- 1. THE SUBCONTRACTOR SHALL REVIEW AND INSPECT THE EXISTING FACILITY GROUNDING SYSTEM AND LIGHTNING PROTECTION SYSTEM (AS DESIGNED AND INSTALLED) FOR STRICT COMPLIANCE WITH THE NEC (AS ADOPTED BY THE AHJ), THE SITE—SPECIFIC (UL, LPI, OR NFPA) LIGHTING PROTECTION CODE, AND GENERAL COMPLIANCE WITH TELCORDIA AND TIA GROUNDING STANDARDS. THE SUBCONTRACTOR SHALL REPORT ANY VIOLATIONS OR ADVERSE FINDINGS TO THE CONTRACTOR FOR RESOLUTION
- 2. 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.
- 3. THE SUBCONTRACTOR SHALL PERFORM IEEE
  FALL-OF-POTENTIAL RESISTANCE TO EARTH TESTING (PER IEEE
  1100 AND 81) FOR NEW GROUND ELECTRODE SYSTEMS. THE
  SUBCONTRACTOR SHALL FURNISH AND INSTALL
  SUPPLEMENTAL GROUND ELECTRODES AS NEEDED TO
  ACHIEVE A TEST RESULT OF 5 OHMS OR LESS.
- 4. 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.
- 5. EACH BTS 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
  STRANDED COPPER FOR OUTDOOR BTS.
- EXOTHERMIC WELDS SHALL BE USED FOR ALL GROUNDING CONNECTIONS BELOW GRADE.
- 7. APPROVED ANTIOXIDANT COATINGS (I.E., CONDUCTIVE GEL OR PASTE) SHALL BE USED ON ALL COMPRESSION AND BOLTED GROUND CONNECTIONS.
- 8. ICE BRIDGE BONDING CONDUCTORS SHALL BE
  EXOTHERMICALLY BONDED OR BOLTED TO THE BRIDGE AND
  THE TOWER GROUND BAR.
- ALUMINUM CONDUCTOR OR COPPER CLAD STEEL CONDUCTOR SHALL NOT BE USED FOR GROUNDING CONNECTIONS.
- 10. MISCELLANEOUS ELECTRICAL AND NON-ELECTRICAL
  METAL BOXES, FRAMES AND SUPPORTS SHALL BE BONDED
  TO THE GROUND RING, IN ACCORDANCE WITH THE NEC.
- 11. METAL CONDUIT SHALL BE MADE ELECTRICALLY
  CONTINUOUS WITH LISTED BONDING FITTINGS OR BY
  BONDING ACROSS THE DISCONTINUITY WITH 6 AWS COPPER
  WIRE UL APPROVED GROUNDING TYPE CONDUIT CLAMPS.
- 12. ALL NEW STRUCTURES WITH A FOUNDATION AND/OR FOOTIING HAVING 20 FT. OR MORE 1/2" OR GREATER ELECTRICALLY CONDUCTIVE REINFORCING STEEL MUST HAVE IT BONDED TO THE GROUND RING USING AN EXOTHERMIC WELD CONNECTION USING #2 AWG SOLID TINNED COPPER GROUND WIRE, PER NEC 250.50

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

**GENERAL NOTES** 

CONTRACTOR - NEXLINK
SUBCONTRACTOR - GENERAL CONTRACTOR (CONSTRUCTION)
OWNER - AT&T MOBILITY

- 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.
- 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 BE SCALED 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 CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE SUBCONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION SPACE FOR APPROVAL BY THE CONTRACTOR.
- 9. SUBCONTRACTOR SHALL DETERMINE ACTUAL ROUTING OF CONDUIT, POWER AND T1 CABLES, GROUNDING CABLES AS SHOWN ON THE POWER, GROUNDING AND TELCO PLAN DRAWING. SUBCONTRACTOR SHALL UTILIZE EXISTING TRAYS AND/OR SHALL ADD NEW TRAYS AS NECESSARY. SUBCONTRACTOR SHALL CONFIRM THE ACTUAL ROUTING WITH THE CONTRACTOR.
- 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.
- 13. ALL CONCRETE REPAIR WORK SHALL BE DONE IN ACCORDANCE WITH AMERICAN CONCRETE INSTITUTE (ACI) 301.
- 14. ANY NEW CONCRETE NEEDED FOR THE CONSTRUCTION SHALL BE AIR—ENTRAINED AND SHALL HAVE 4000 PSI STRENGTH AT 28 DAYS. ALL CONCRETE WORK SHALL BE DONE IN ACCORDANCE WITH ACI 318 CODE REQUIREMENTS

- 15. ALL STRUCTURAL STEEL WORK SHALL BE DETAILED, FABRICATED AND ERECTED IN ACCORDANCE WITH AISC SPECIFICATIONS. ALL STRUCTURAL STEEL SHALL BE ASTM A36 (Fy = 36 ksi) UNLESS OTHERWISE NOTED. PIPES SHALL BE ASTM A53 TYPE E (Fy = 36 ksi). ALL STEEL EXPOSED TO WEATHER SHALL BE HOT DIPPED GALVANIZED. TOUCHUP ALL SCRATCHES AND OTHER MARKS IN THE FIELD AFTER STEEL IS ERECTED USING A COMPATIBLE ZINC RICH PAINT.
- 16. CONSTRUCTION SHALL COMPLY WITH UMTS SPECIFICATIONS AND "GENERAL CONSTRUCTION SERVICES FOR CONSTRUCTION OF AT&T MOBILITY SITES."
- 17. SUBCONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS PRIOR TO COMMENCING ANY WORK. ALL DIMENSIONS OF EXISTING CONSTRUCTION SHOWN ON THE DRAWINGS MUST BE VERIFIED. SUBCONTRACTOR SHALL NOTIFY THE CONTRACTOR OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.
- 18. THE EXISTING CELL SITE IS IN FULL COMMERCIAL OPERATION. ANY CONSTRUCTION WORK BY SUBCONTRACTOR SHALL NOT DISRUPT THE EXISTING NORMAL OPERATION. ANY WORK ON EXISTING EQUIPMENT MUST BE COORDINATED WITH CONTRACTOR. ALSO, WORK SHOULD BE SCHEDULED FOR AN APPROPRIATE MAINTENANCE WINDOW USUALLY IN LOW TRAFFIC PERIODS AFTER MIDNIGHT.
- 19. SINCE THE CELL SITE IS ACTIVE, ALL SAFETY PRECAUTIONS MUST BE TAKEN WHEN WORKING AROUND HIGH LEVELS OF ELECTROMAGNETIC RADIATION. EQUIPMENT SHOULD BE SHUTDOWN PRIOR TO PERFORMING ANY WORK THAT COULD EXPOSE THE WORKERS TO DANGER. PERSONAL RF EXPOSURE MONITORS ARE ADVISED TO BE WORN TO ALERT OF ANY DANGEROUS EXPOSURE LEVELS.
- 20. APPLICABLE BUILDING CODES: SUBCONTRACTOR'S WORK SHALL COMPLY WITH ALL APPLICABLE NATIONAL, STATE, AND LOCAL CODES AS ADOPTED BY THE LOCAL AUTHORITY HAVING JURISDICTION (AHJ) FOR THE LOCATION. THE EDITION OF THE AHJ ADOPTED CODES AND STANDARDS IN EFFECT ON THE DATE OF CONTRACT AWARD SHALL GOVERN THE DESIGN.

BUILDING CODE: IBC 2009
ELECTRICAL CODE: REFER TO ELECTRICAL DRAWINGS
LIGHTENING CODE: REFER TO ELECTRICAL DRAWINGS

SUBCONTRACTOR'S WORK SHALL COMPLY WITH THE LATEST EDITION OF THE FOLLOWING STANDARDS:

AMERICAN CONCRETE INSTITUTE (ACI) 318; BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE;

AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC)

MANUAL OF STEEL CONSTRUCTION, ASD, NINTH EDITION;

TELECOMMUNICATIONS INDUSTRY ASSOCIATION (TIA) 222-G, STRUCTURAL STANDARDS FOR STEEL

ANTENNA TOWER AND ANTENNA SUPPORTING STRUCTURES; REFER TO ELECTRICAL DRAWINGS FOR SPECIFIC ELECTRICAL STANDARDS.

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.

#### **ABBREVIATIONS** AGI ABOVE GRADE LEVEL G.C. GENERAL CONTRACTOR RF RADIO FREQUENCY AWG AMERICAN WIRE GAUGE MGB MASTER GROUND BUS BCW BARE COPPER WIRE MIN TBD TO BE DETERMINED MINIMUM BTS BASE TRANSCEIVER STATION PROPOSED NEW TBR TO BE REMOVED TO BE REMOVED EXISTING EXISTING NOT TO SC NOT TO SCALE TRRR AND REPLACED EQUIPMENT GROUND RING EQUIPMENT GROUND FG OF M REQUIRED TYP TYPICAL EGR PREQ

Hudson Design Groupus 1400 OSGOOD STREET BUILDING 20 NORTH, SUITE 2-101 N. ANDOVER, MA 01845 TEL: (978) 557-5553 FAX: (978) 336-586



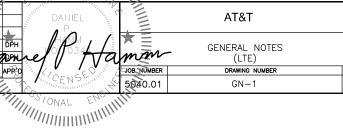
#### SITE NUMBER: ME5040 SITE NAME: MUNJOY HILL

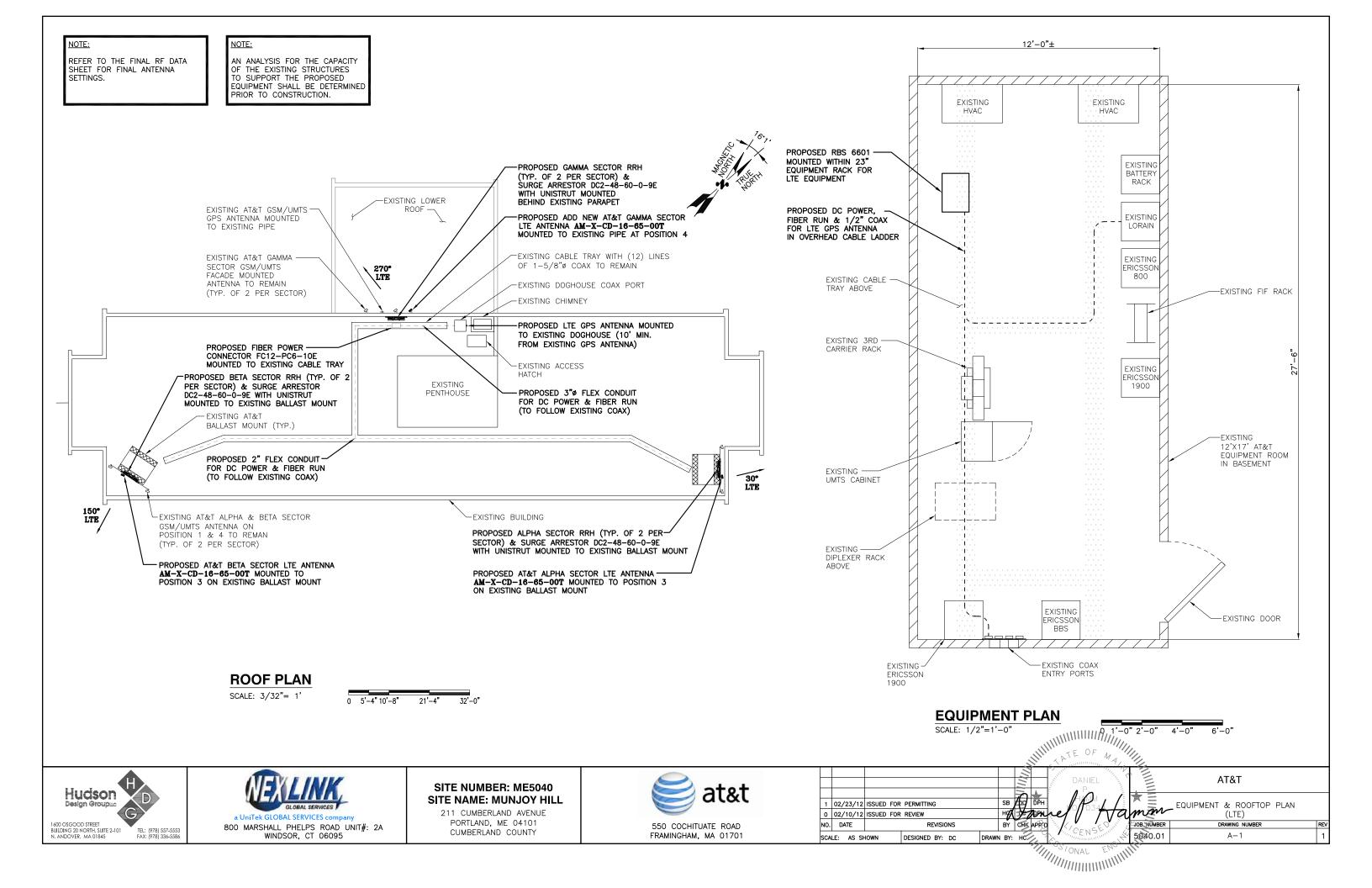
211 CUMBERLAND AVENUE PORTLAND, ME 04101 CUMBERLAND COUNTY

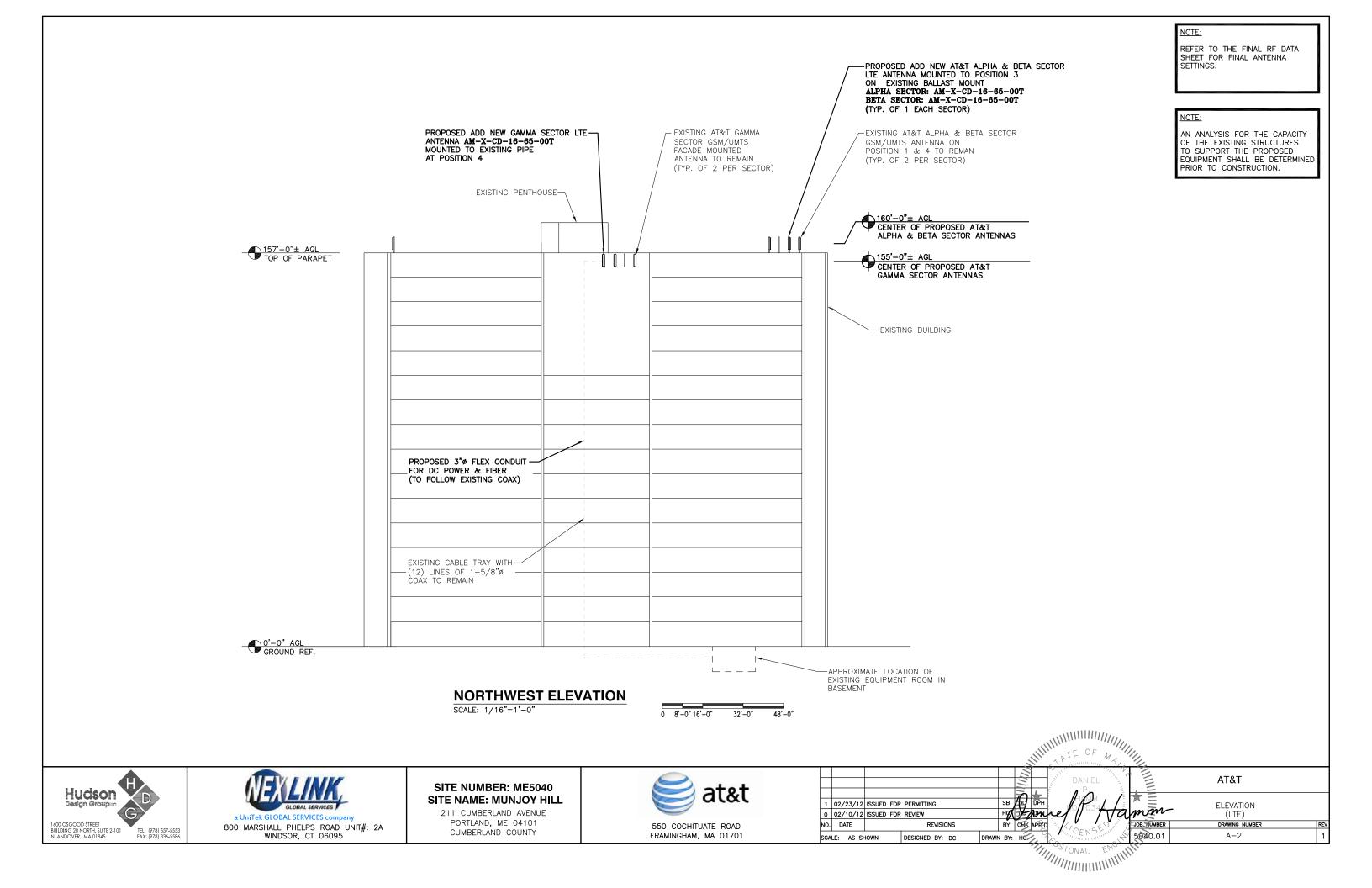


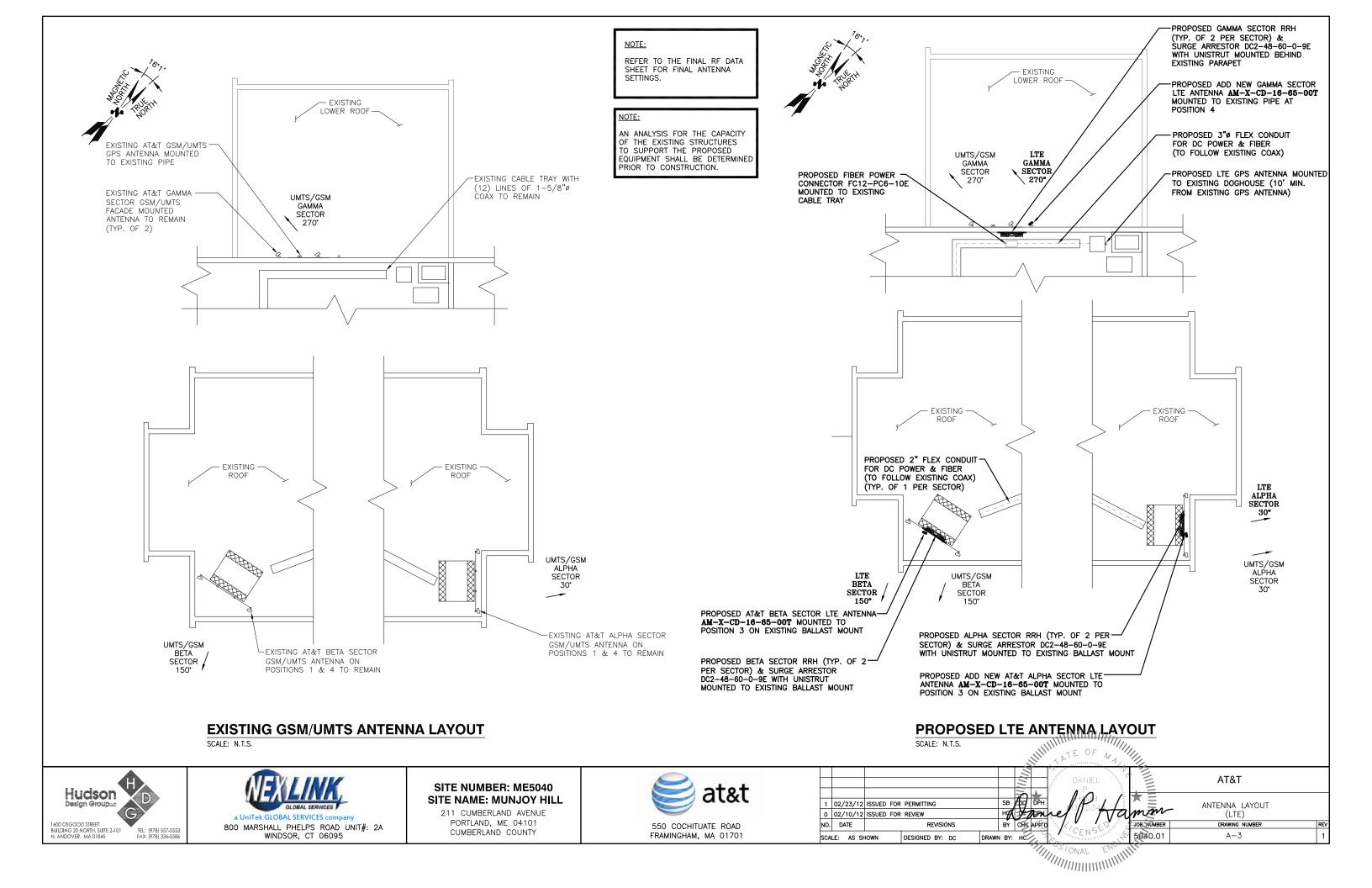
FRAMINGHAM, MA 01701

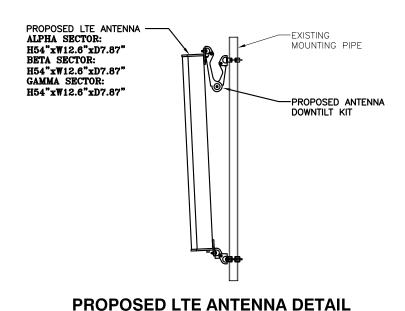
								111	
								3//	4
1	02/23/12	ISSUED F	OR PER	RMITTING			SB	<b>/</b> -J	ĎΡ̈́Η
0	02/10/12	ISSUED F	OR REV	/IEW			H97	70	DD H
NO.	DATE			REVISI	ONS		BY	E	APP)
SCA	IF. AS SI	IOWN	DES	ICNED BY:	DC	DRAWN	BY.	HC	-







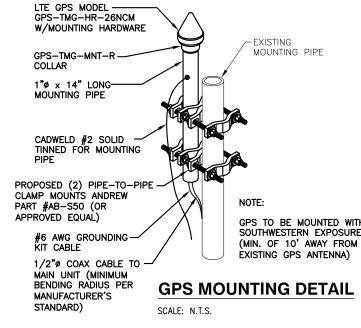


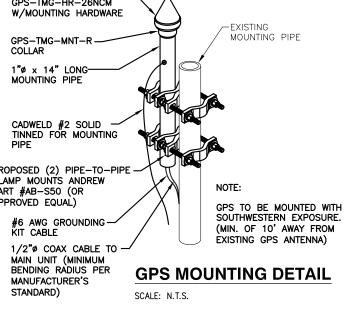


SCALE: N.T.S.

PROPOSED FIBER & -POWER CONNECTOR MODEL NUMBER:

FC12-PC-10E DIMENSIONS: H16.10"xW14.0"xD6.6"





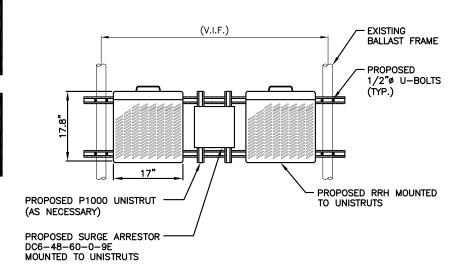
NOTE:

NOTE:

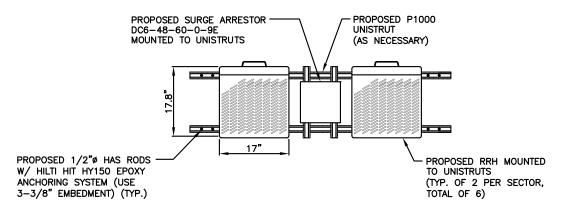
REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA

AN ANALYSIS FOR THE CAPACITY OF THE EXISTING STRUCTURES TO SUPPORT THE PROPOSED

EQUIPMENT SHALL BE DETERMINED PRIOR TO CONSTRUCTION.

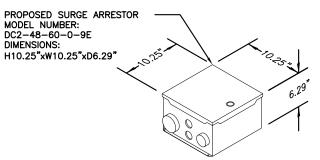


### PROPOSED (ALPHA & BETA SECTORS) RRH & SURGE ARRESTOR MOUNTING DETAIL



## PROPOSED LTE (GAMMA SECTOR) RRH & SURGE ARRESTOR MOUNT DETAIL

SCALE: N.T.S.



MOUNT PER MANUFACTURER'S SPECIFICATIONS.

## DC SURGE SUPPRESSOR DETAIL

SCALE, W.T.S.

SCALE: N.T.S. Hudson BUILDING 20 NORTH, SUITE 2-101 N. ANDOVER, MA 01845 TEL: (978) 557-5553 FAX: (978) 336-5586



MOUNT PER MANUFACTURER'S SPECIFICATIONS.

FIBER & POWER CONNECTOR DETAIL

#### SITE NUMBER: ME5040 SITE NAME: MUNJOY HILL

211 CUMBERLAND AVENUE PORTLAND, ME 04101 CUMBERLAND COUNTY



						/////	- String.	DANIEL		 		AT&T	
1 0 NO.	02/10/12	ISSUED FOR		F	W	DPH DPH CHK APP	rej		<del>/</del> /a		MANUMBER JOB_NUMBER		REV
SCA	LE: AS SH	HOWN	DESIGNED BY: DC	DRAWN				CENS	minning.	Ž.	5040.01	A-4	1
	WIND ONAL ENDONINE												

# PROPOSED RRH DIMENSIONS: H17.8"xW17"xD7.2"

MOUNT PER MANUFACTURER'S SPECIFICATIONS.

## **RRH DETAIL**

SCALE: N.T.S.

