



FOR CONSTRUCTION

PREPARED FOR:
verizon[✓]
 118 FLANDERS ROAD
 WESTBOROUGH, MA 01581
 (508) 330-3330 TEL.

Hudson
 Design Group, LLC

 1600 OSGOOD STREET
 BUILDING 20 NORTH, SUITE 3090 TEL: (978) 557-5553
 N. ANDOVER, MA 01845 FAX: (978) 336-5586

PORTLAND 3 ME

476 SUMMIT STREET

PORTLAND, ME 04103



VICINITY MAP **SCALE: N.T.S.**

DIRECTIONS TO SITE:
 GET ON I-495 N FROM FRIBERG PKWY AND MA-9 E/STATE HWY 9 E/BOSTON WORCESTER TURNPIKE. HEAD NORTHWEST ON FRIBERG PKWY TOWARD RESEARCH DR TURN LEFT ONTO RESEARCH DR. TURN RIGHT TO MERGE ONTO MA-9 E/STATE HWY 9 E/BOSTON WORCESTER TURNPIKE. MERGE ONTO I-495 N VIA THE RAMP TO LOWELL. FOLLOW I-495 N AND I-95 N TO ME-100 S/ME-26 S IN FALMOUTH. TAKE EXIT 53 FROM I-95 N. MERGE ONTO I-495 N CONTINUE ONTO EXIT 60 (SIGNS FOR ROUTE 286/BEACHES/SALISBURY) MERGE ONTO I-95 N. ENTERING NEW HAMPSHIRE KEEP LEFT AT THE FORK TO STAY ON I-95 N. ENTERING MAINE TAKE EXIT 53 TOWARD MAINE ME 26 W/MAINE ME 100 W/FALMOUTH CONTINUE ON ME-100 S/ME-26 S. DRIVE TO SUMMIT ST IN PORTLAND TURN RIGHT ONTO ME-100 S/ME-26 S. TURN RIGHT ONTO SUMMIT ST TURN RIGHT ONTO LAMBERT ST. TURN LEFT ONTO SUMMIT ST DESTINATION WILL BE ON THE LEFT. 476 SUMMIT ST. PORTLAND, ME 04103

CONSULTANT TEAM

PROJECT ENGINEER

HUDSON DESIGN GROUP, LLC
 1600 OSGOOD STREET
 BUILDING 20 NORTH, SUITE 3090
 NORTH ANDOVER, MA 01845
 TEL: 1-(978)-557-5553
 FAX: 1-(978)-336-5586

SURVEYOR

NORTHEAST SURVEY CONSULTANTS
 116 PLEASANT ST. SUITE 302
 EASTHAMPTON, MA 01027
 TEL: 1-(413)-203-5144

MEP ENGINEER

CSI ENGINEERING, LLC
 999 BROADWAY
 SUITE 206
 SAUGUS, MA 01906
 TEL: 1-(781)-233-4808
 FAX: 1-(781)-233-4848

PROJECT SUMMARY

SITE NAME: PORTLAND 3 ME

SITE ADDRESS: 476 SUMMIT STREET
 PORTLAND, ME 04103

APPLICANT: VERIZON WIRELESS
 118 FLANDERS ROAD
 WESTBOROUGH, MA 01581

ZONING DISTRICT: R2

ZONING JURISDICTION: CITY OF PORTLAND, ME

LATITUDE: N43° 43' 01.74"

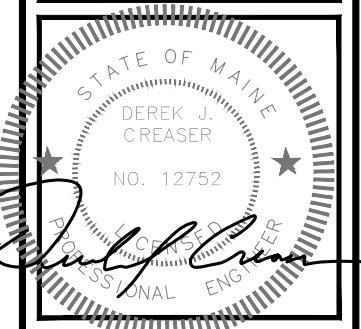
LONGITUDE: W70° 17' 44.60"

PARCEL ID: 384-A021 & 385-C002

PROPERTY OWNER: GRACE BAPTIST CHURCH
 476 SUMMIT STREET
 PORTLAND, ME 04103

SHEET INDEX

SHT. NO.	DESCRIPTION
T-1	TITLE SHEET
C-1	ABUTTERS PLAN
C-2	EXISTING CONDITIONS
C-3	SITE PLAN
A-1	COMPOUND PLAN
A-2	ELEVATION
A-3	ANTENNA PLAN AND DETAILS
A-4	DETAILS
A-5	EROSION CONTROL NOTES & DETAILS
A-6	DETAILS
A-7	EQUIPMENT DETAILS
E-1	ELECTRICAL NOTES & WIRING DIAGRAM
E-2	ELECTRICAL ONE-LINE AND GROUNDING DIAGRAM
E-3	GROUNDING PLAN
E-4	ELECTRICAL/GROUNDING DETAILS
RF-1	RF COLOR CODE
RF-2	RF ANTENNA DESIGN



CHECKED BY: JX

APPROVED BY: DPH

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
3	07/12/16	REVISED PER BID WALK	HH
2	07/06/16	REVISED EQUIPMENT LAYOUT	HH
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PORTLAND 3 ME

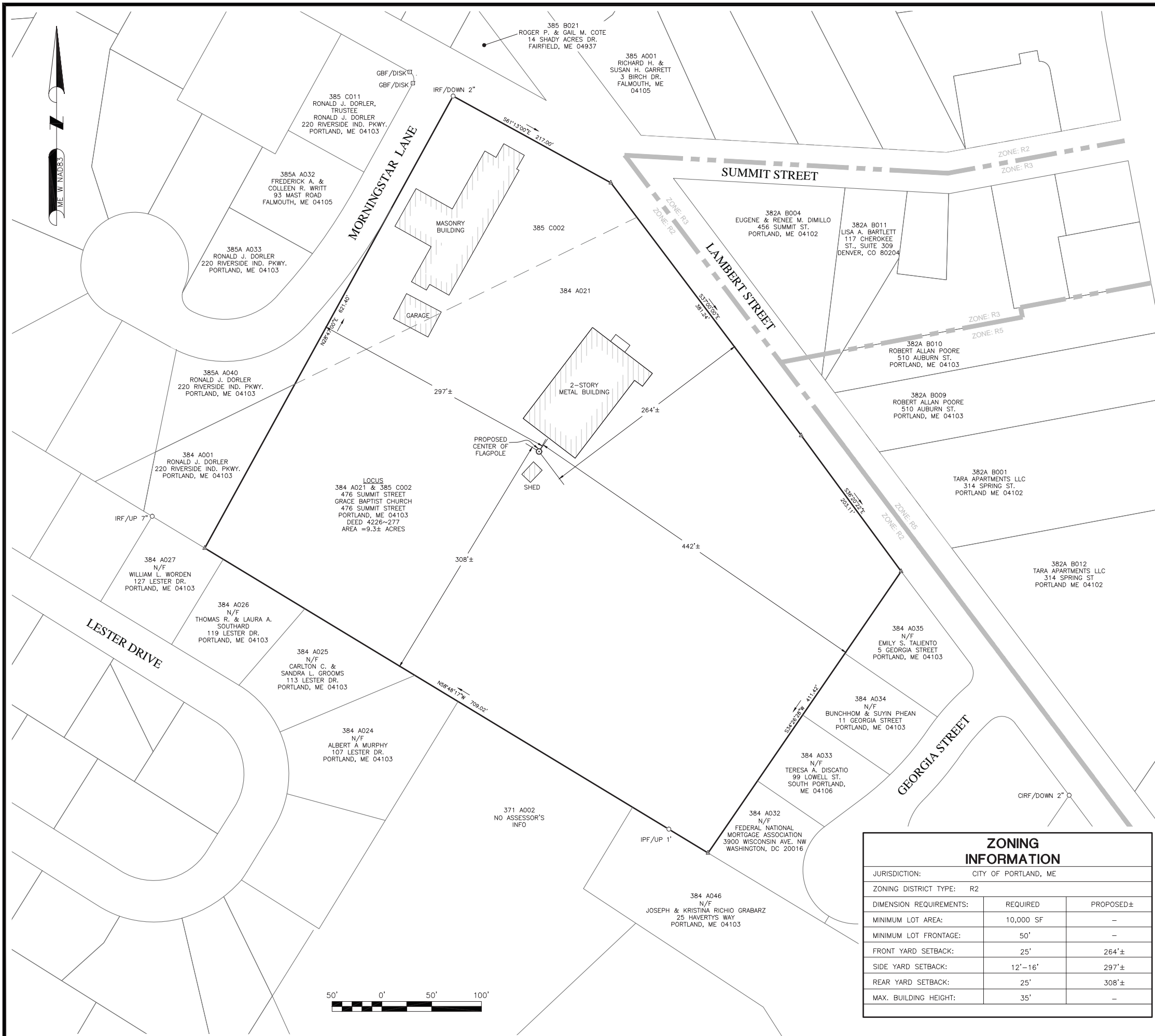
SITE ADDRESS:
 476 SUMMIT STREET
 PORTLAND, ME 04103

SHEET TITLE
TITLE SHEET

SHEET NUMBER
T-1

AS BUILT
12/2/2016
M. HEATH
EASTERN COMMUNICATIONS, INC.

72 HOURS
CALL BEFORE YOU DIG
 CALL TOLL FREE 1-888-DIG-SAFE
 OR CALL 811
UNDERGROUND SERVICE ALERT



LEGEND

- PROPERTY LINE — SUBJECT PARCEL
- - - ABUTTERS PROPERTY LINE
- - - CONTOUR LINE
- - - UNDERGROUND UTILITY LINE
- ○ ○ ○ ○ GUARD RAIL
- CHAIN LINK FENCE
- PAINTED WHITE LINE
- PAINTED YELLOW LINE
- ⊙ CONIFEROUS TREE
- ⊕ CATCH BASIN
- ⊙ ROOF DRAIN
- ⊙ POST/BOLLARD
- ⊕ WATER GATE VALVE
- ⊙ MANHOLE, UNKNOWN
- ⊕ DRAIN MANHOLE
- ⊕ TELEPHONE MANHOLE
- ⊕ GAS METER
- ⊕ GAS GATE VALVE
- ⊕ UTILITY POLE
- ⊕ SIGN
- ⊕ MONUMENTS, AS DESCRIBED
- △ CALCULATED POINT

- ### SITE SPECIFIC NOTES:
- FIELD SURVEY DATE: 03-26-2015
 - HORIZONTAL DATUM: NORTH AMERICAN DATUM OF 1983 (NAD83)
 - VERTICAL DATUM: NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88)
 - OWNER: GRACE BAPTIST CHURCH
476 SUMMIT STREET
PORTLAND ME 04103
 - SITE NAME: PORTLAND 3 ME
 - SITE ADDRESS: 476 SUMMIT STREET
PORTLAND, ME 04103
 - APPLICANT: BELL ATLANTIC MOBILE OF MASSACHUSETTS CORPORATION, LTD.,
d/b/a VERIZON WIRELESS
 - JURISDICTION: CITY OF PORTLAND
CUMBERLAND COUNTY
 - TAX ID: 384-A021 & 385-C002
 - DEED REFERENCE: BOOK 4226 PAGE 277
 - PLAN REFERENCE: NONE
 - ZONING DISTRICT: R2
 - THE HORIZONTAL DATUM AND VERTICAL DATUM WERE DERIVED FROM A DUAL FREQUENCY GPS SURVEY.
 - ALL UNDERGROUND UTILITY INFORMATION PRESENTED HEREON WAS DETERMINED FROM SURFACE EVIDENCE AND PLANS OF RECORD. ALL UNDERGROUND UTILITIES SHOULD BE LOCATED IN THE FIELD PRIOR TO COMMENCEMENT OF ALL SITE WORK. CALL DIGSAFE 1-800-322-4844 A MINIMUM OF 72 HOURS PRIOR TO PLANNED ACTIVITY.
 - ACCORDING TO FEDERAL EMERGENCY MANAGEMENT AGENCY MAPS, THE PROPOSED IMPROVEMENTS ON THIS PROPERTY ARE LOCATED IN AN AREA DESIGNATED AS ZONE X (UNSHADED), AREAS DETERMINED TO BE OUTSIDE 500-YEAR FLOODPLAIN.
COMMUNITY PANEL NO. 2300510002C
EFFECTIVE DATE: 12-08-1998
 - FIELD SURVEY BY EDM TOTAL STATION.
 - THIS IS NOT A BOUNDARY SURVEY.**
 - ALL PROPERTY LINES SHOWN ARE FROM PLANS & DEEDS OF RECORD AND ARE APPROXIMATE ONLY.
 - ABUTTING PROPERTY LINES, ABUTTING STREET LINES AND ABUTTING BUILDING LOCATIONS ARE AS TAKEN FROM GIS AND ARE APPROXIMATE ONLY.

ZONING INFORMATION

JURISDICTION:	CITY OF PORTLAND, ME	
ZONING DISTRICT TYPE:	R2	
DIMENSION REQUIREMENTS:	REQUIRED	PROPOSED±
MINIMUM LOT AREA:	10,000 SF	-
MINIMUM LOT FRONTAGE:	50'	-
FRONT YARD SETBACK:	25'	264'±
SIDE YARD SETBACK:	12'-16'	297'±
REAR YARD SETBACK:	25'	308'±
MAX. BUILDING HEIGHT:	35'	-

AS BUILT
12/2/2016
M. HEATH
EASTERN COMMUNICATIONS, INC.

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BUILDING 20 NORTH, SUITE 3090 TEL: (978) 557-5553
N. ANDOVER, MA 01845 FAX: (978) 336-5886

NORTHEAST SURVEY CONSULTANTS

116 Pleasant St. Ste. 302
P.O. Box 109
Easthampton, Ma. 01027
(413) 203-5144
northeastsurvey.com

DANIEL F. STASZ
2268

Dan Stasz
DANIEL F. STASZ, PLS #2268

CHECKED BY: BCF

APPROVED BY: DFS

SUBMITTALS

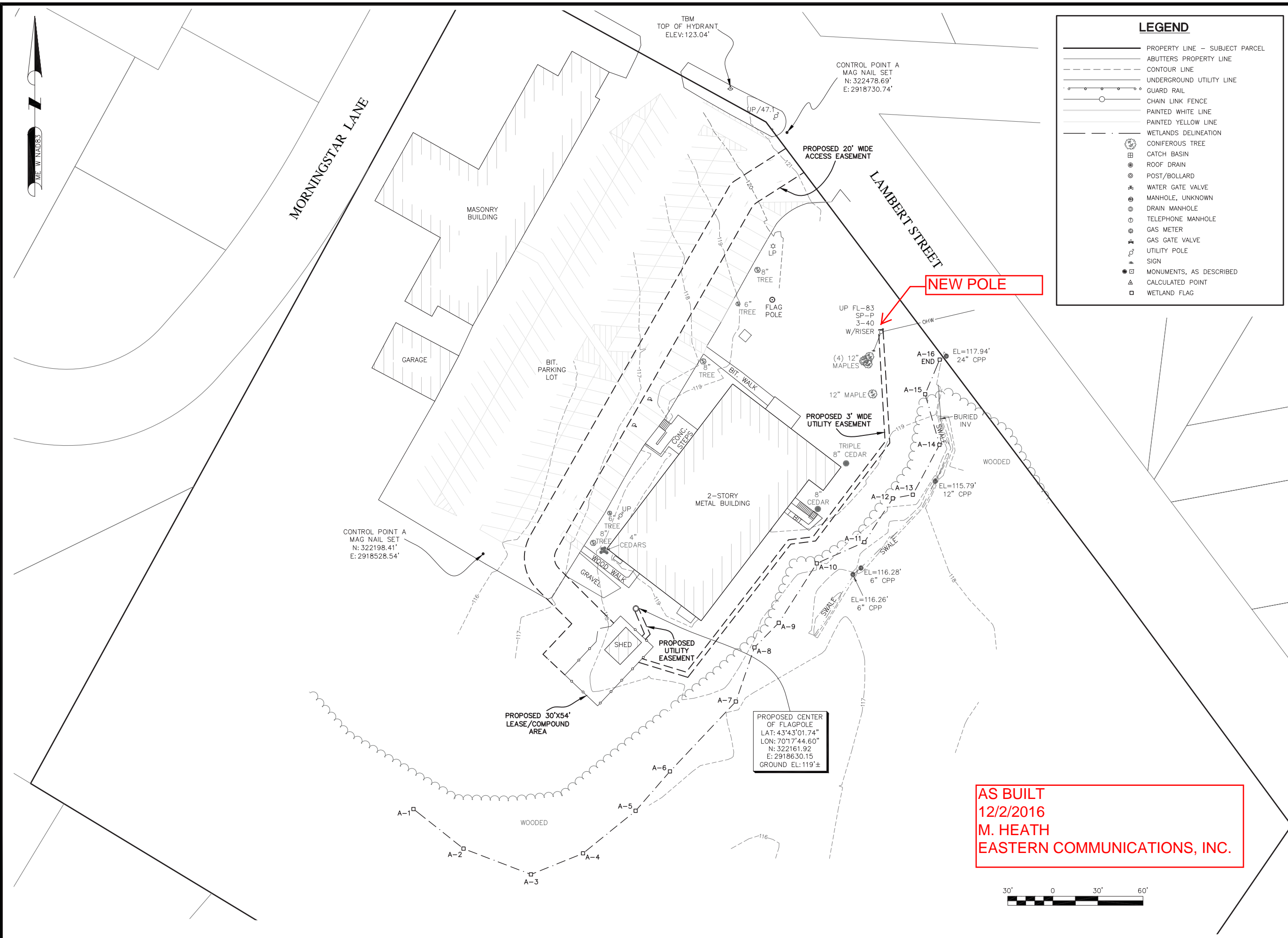
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SITE NAME:
PORTLAND 3 ME

SITE ADDRESS:
476 SUMMIT STREET
PORTLAND, ME 04103

SHEET TITLE
ABUTTERS PLAN

SHEET NUMBER
C-1



LEGEND

	PROPERTY LINE - SUBJECT PARCEL
	ABUTTERS PROPERTY LINE
	CONTOUR LINE
	UNDERGROUND UTILITY LINE
	GUARD RAIL
	CHAIN LINK FENCE
	PAINTED WHITE LINE
	PAINTED YELLOW LINE
	WETLANDS DELINEATION
	CONIFEROUS TREE
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	MANHOLE, UNKNOWN
	DRAIN MANHOLE
	TELEPHONE MANHOLE
	GAS METER
	GAS GATE VALVE
	UTILITY POLE
	SIGN
	MONUMENTS, AS DESCRIBED
	CALCULATED POINT
	WETLAND FLAG

NEW POLE

**AS BUILT
12/2/2016
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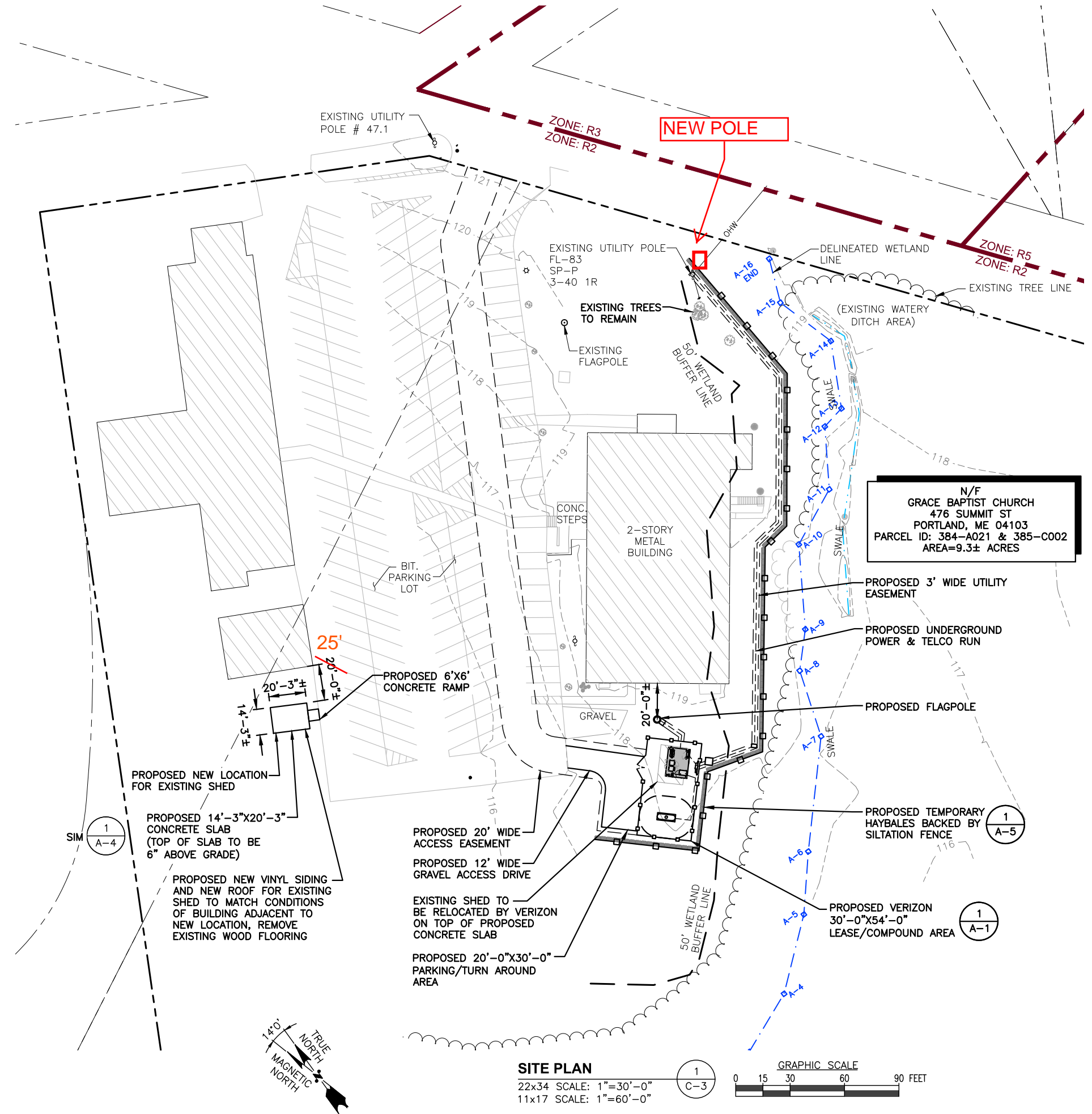
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SHEET TITLE
EXISTING CONDITIONS

SHEET NUMBER
C-2



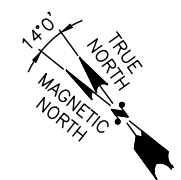
NOTE:
1. VERIFY AZIMUTHS W/ RF ENGINEER.

NOTE:
VERIZON WILL REPLACE FLAG AS WEAR AND TEAR BEGIN TO OCCUR



N/F
GRACE BAPTIST CHURCH
476 SUMMIT ST
PORTLAND, ME 04103
PARCEL ID: 384-A021 & 385-C002
AREA=9.3± ACRES

SITE PLAN
22x34 SCALE: 1"=30'-0"
11x17 SCALE: 1"=60'-0"
GRAPHIC SCALE
0 15 30 60 90 FEET



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STATE OF MAINE
Derek J. Creaser
NO. 12752
Professional Engineer

CHECKED BY: JX

APPROVED BY: DPH

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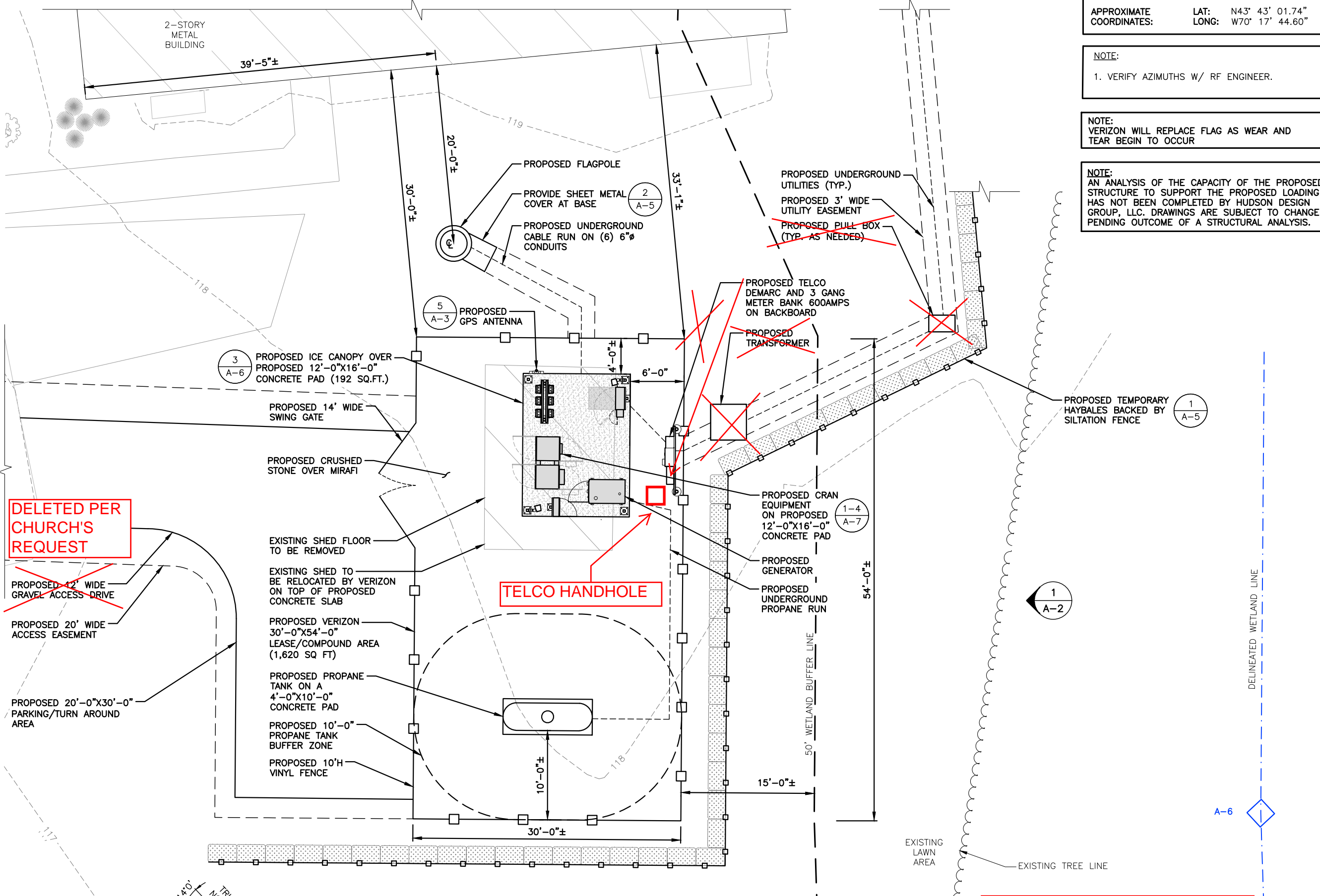
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SHEET TITLE
SITE PLAN

SHEET NUMBER
C-3

AS BUILT
12/2/2016
M. HEATH
EASTERN COMMUNICATIONS, INC.



APPROXIMATE COORDINATES: LAT: N43° 43' 01.74" LONG: W70° 17' 44.60"

NOTE:
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NOTE:
AN ANALYSIS OF THE CAPACITY OF THE PROPOSED STRUCTURE TO SUPPORT THE PROPOSED LOADING HAS NOT BEEN COMPLETED BY HUDSON DESIGN GROUP, LLC. DRAWINGS ARE SUBJECT TO CHANGE PENDING OUTCOME OF A STRUCTURAL ANALYSIS.

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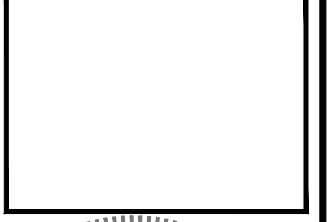
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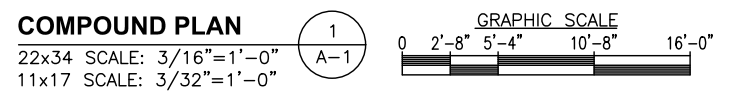
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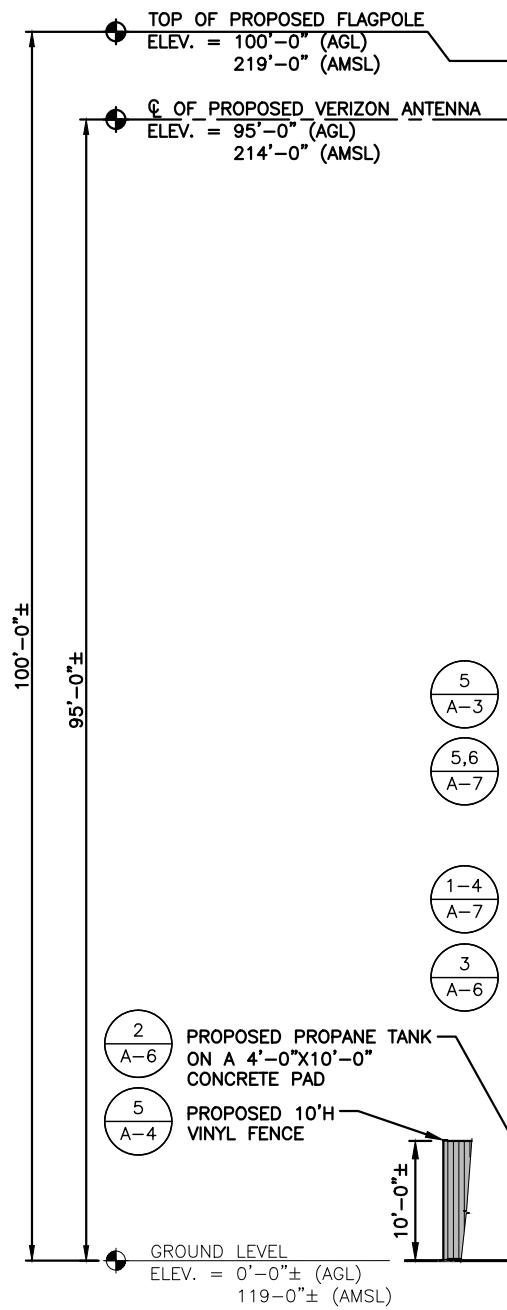
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SHEET TITLE
COMPOUND PLAN

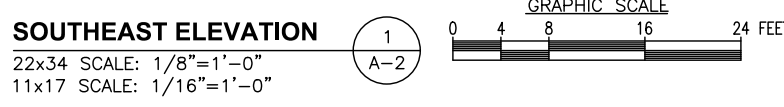
SHEET NUMBER
A-1

AS BUILT
12/2/2016
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EASTERN COMMUNICATIONS, INC.





- 5 A-3 PROPOSED GPS ANTENNA
- 5,6 A-7 PROPOSED LED FLOOD LIGHT
- PROPOSED 3 GANG METER BANK
600AMPS ON BACKBOARD
- 1-4 A-7 PROPOSED CRAN EQUIPMENT
ON PROPOSED 12'-0"X16'-0"
CONCRETE PAD
- 3 A-6 PROPOSED ICE CANOPY OVER
PROPOSED 12'-0"X16'-0"
CONCRETE PAD (160 SQ.FT.)
- 2 A-6 PROPOSED PROPANE TANK
ON A 4'-0"X10'-0"
CONCRETE PAD
- 5 A-4 PROPOSED 10'H
VINYL FENCE
- PROPOSED GENERATOR



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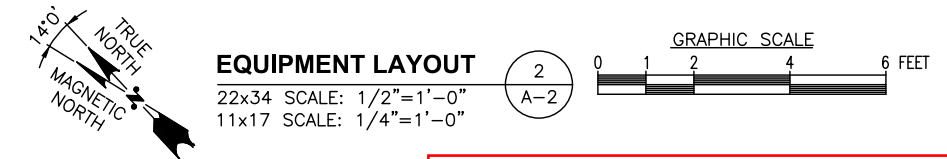
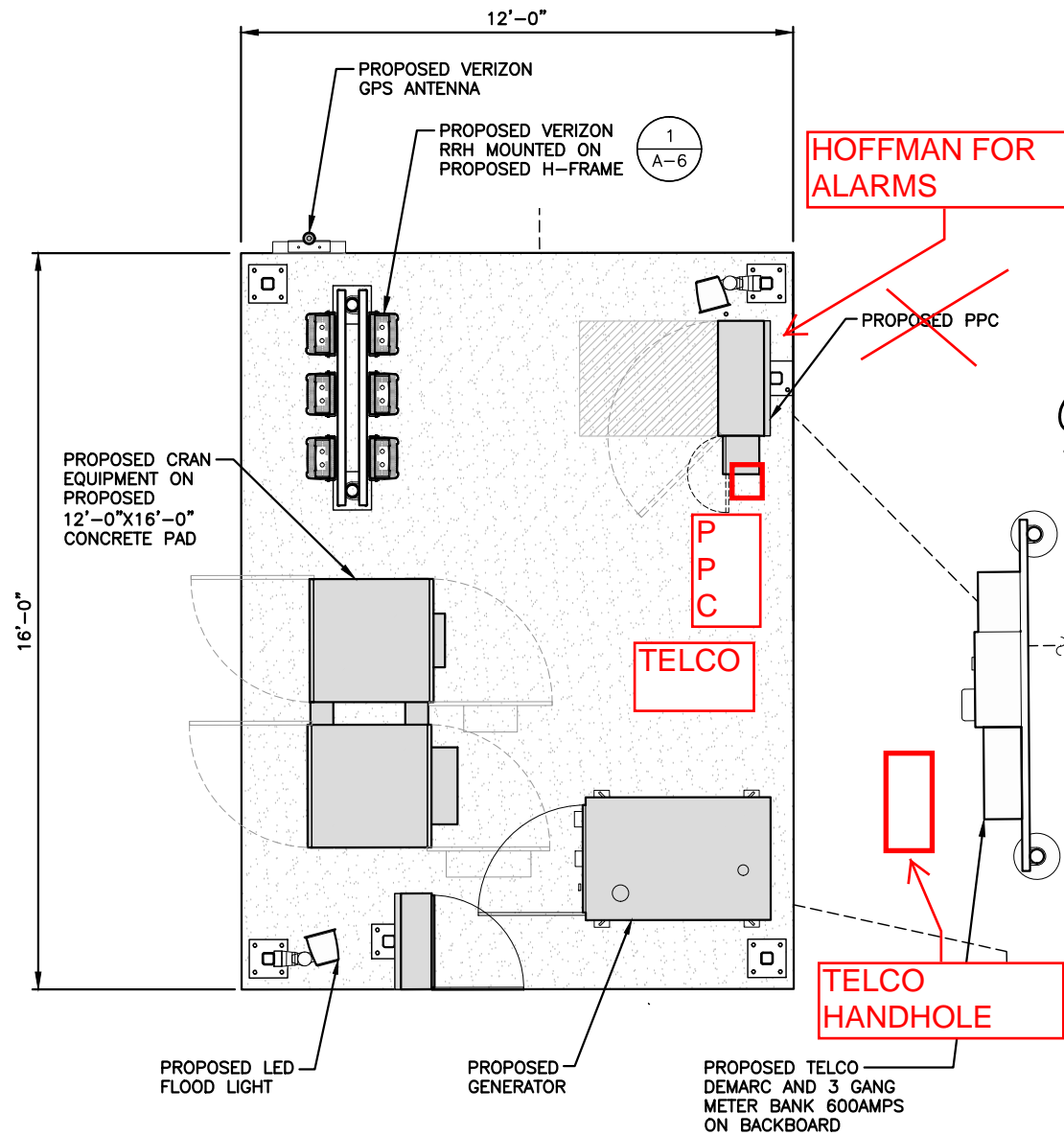
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PROPOSED ANTENNA INFORMATION

SECTOR	STATUS	AZIMUTH	CABLE LENGTH
1	PROPOSED	TBD	150'
2	PROPOSED	TBD	150'
3	PROPOSED	TBD	150'

NOTE: CABLE LENGTH = EXACT LENGTH PLUS 25'

APPROXIMATE COORDINATES: LAT: N43° 43' 01.74"
LONG: W70° 17' 44.60"



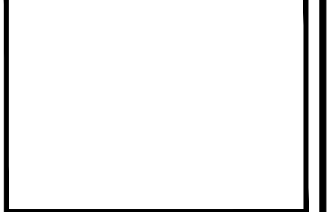
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SHEET TITLE
ELEVATION

SHEET NUMBER
A-2

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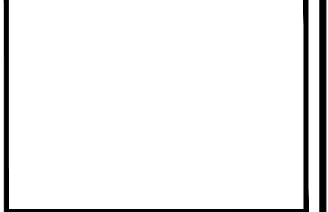
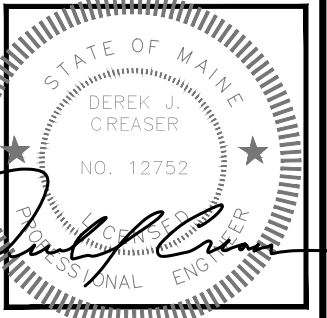
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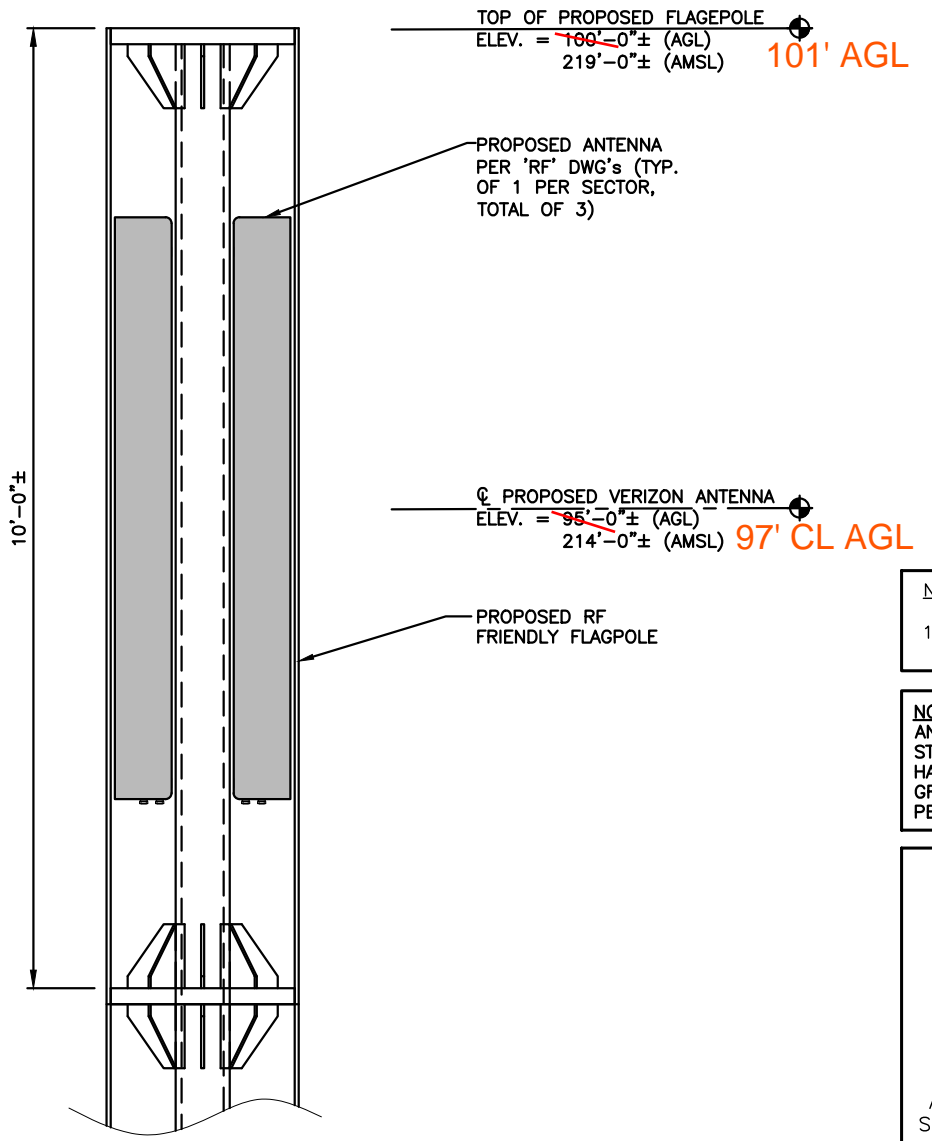
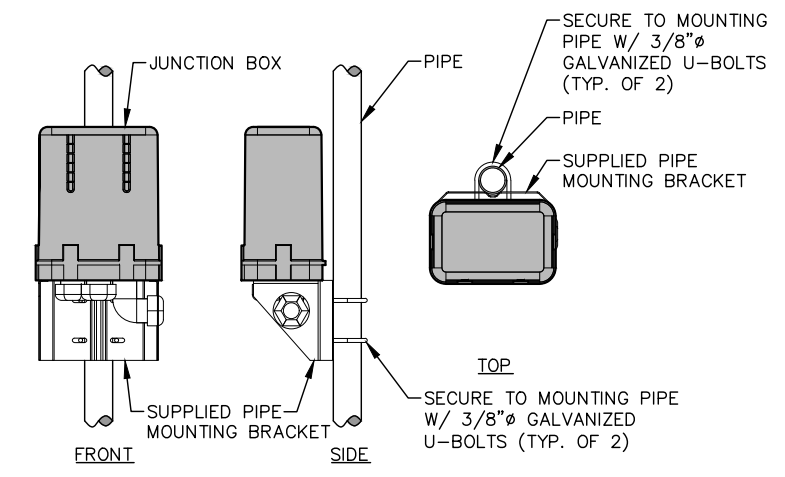
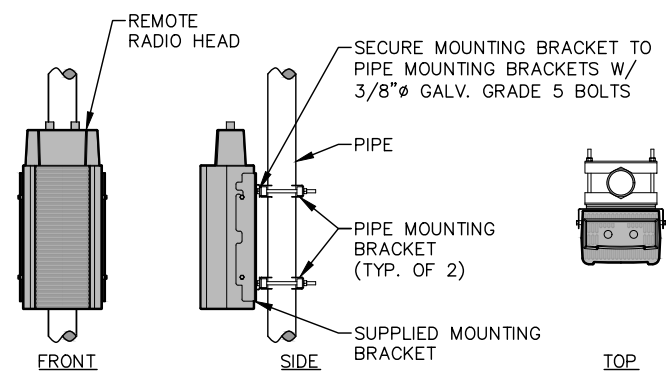
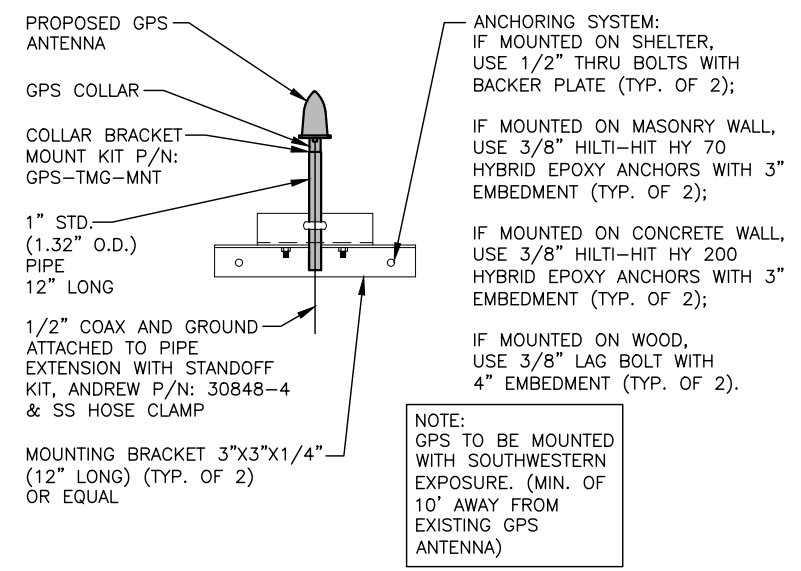
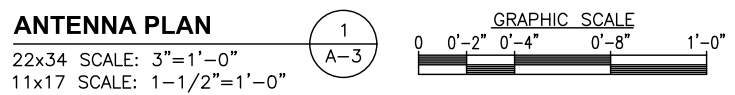
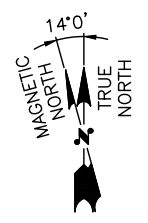
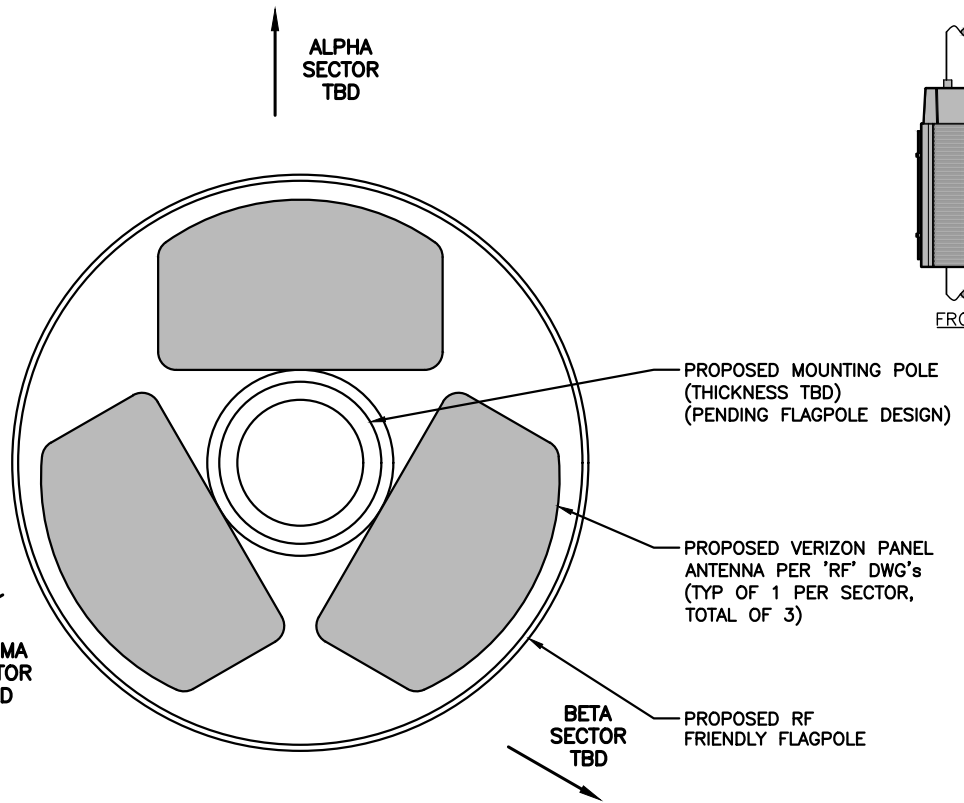
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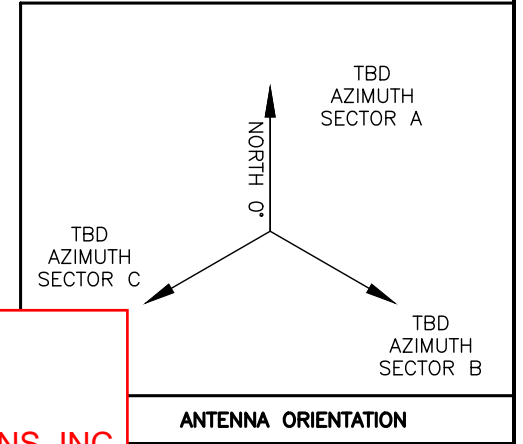
SHEET TITLE
ANTENNA PLAN
& DETAILS

SHEET NUMBER
A-3



NOTE:
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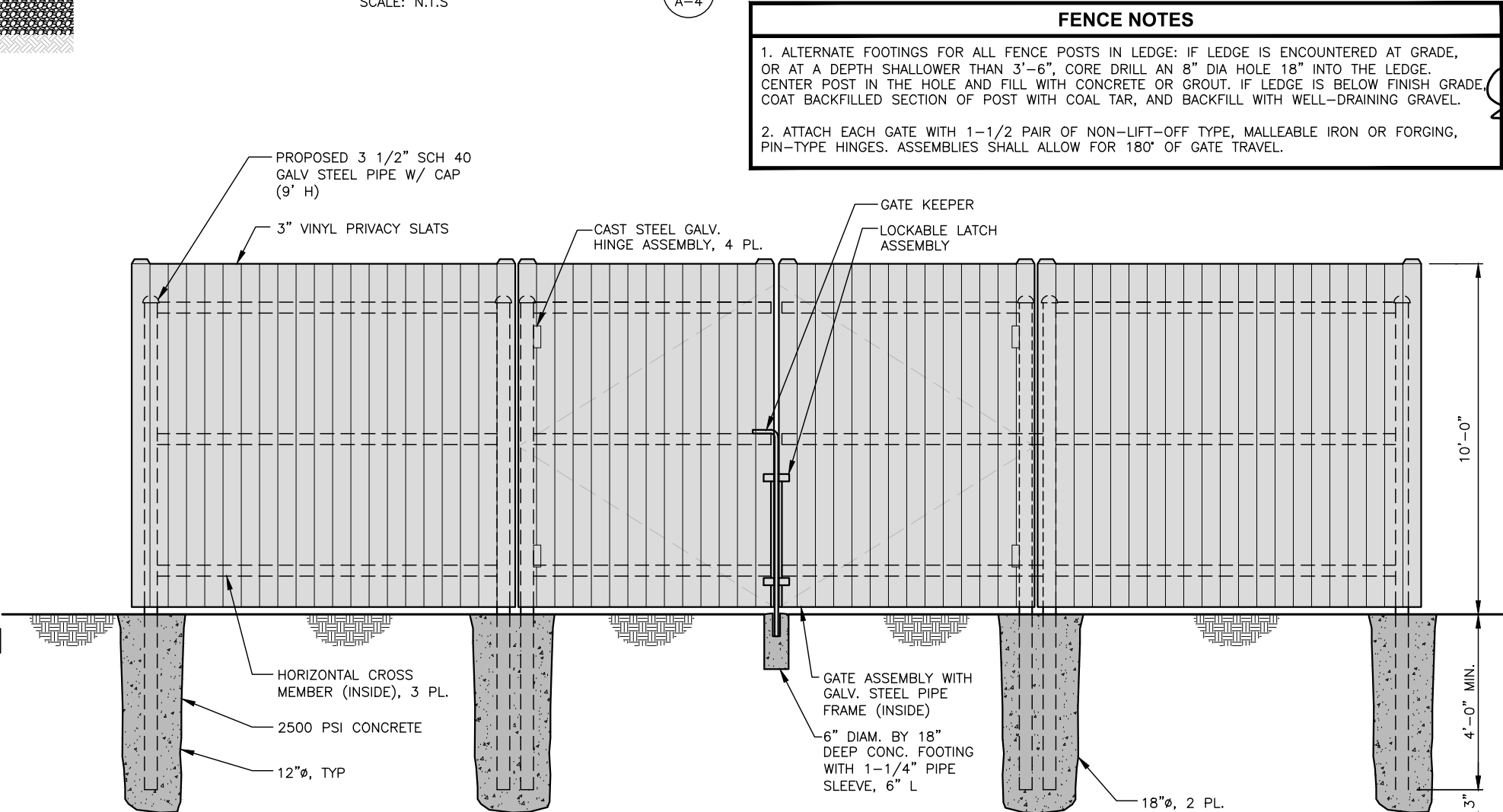
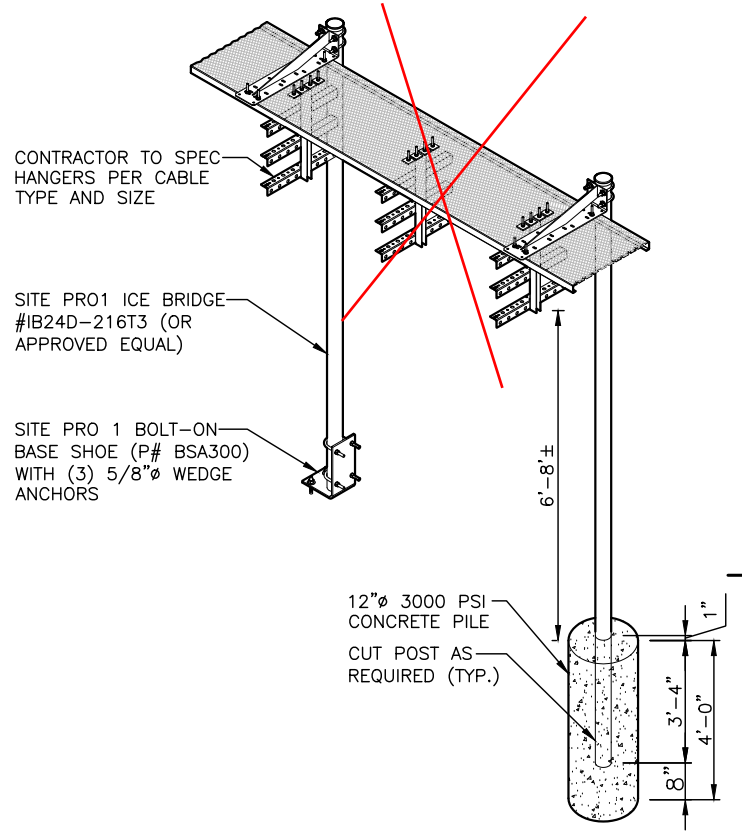
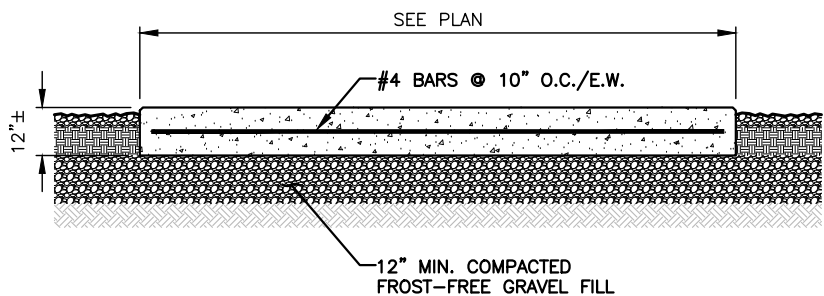
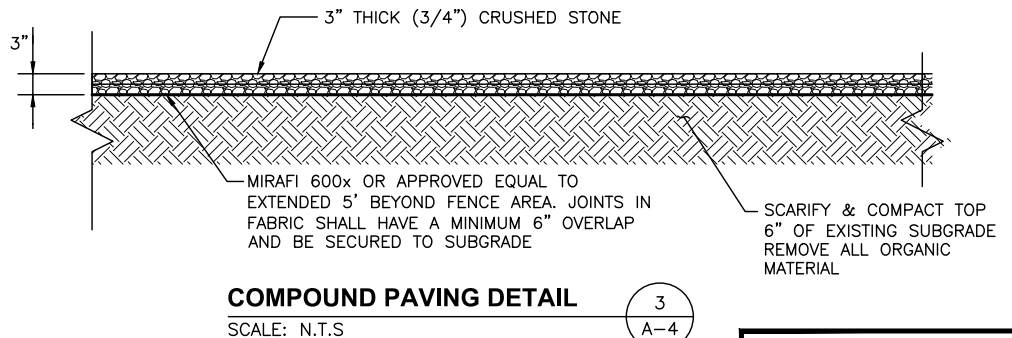
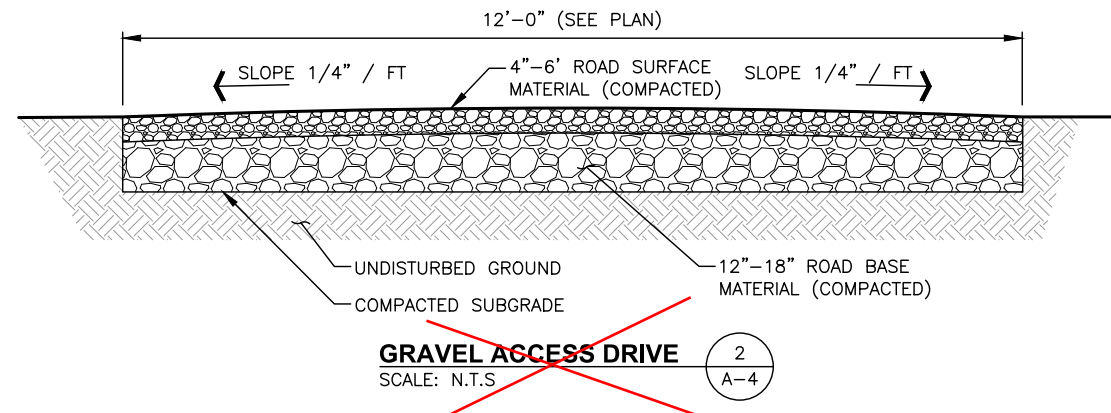


AS BUILT
12/2/2016
M. HEATH
EASTERN COMMUNICATIONS, INC.

FOUNDATION NOTES & CONCRETE SPECIFICATIONS:

- FOUNDATION AREA SHALL BE EXCAVATED TO THE DEPTH AND DIMENSIONS SHOWN ON THE PLANS. EXISTING LEDGE AND ALL OTHER EXISTING UNSUITABLE MATERIAL SHALL BE REMOVED AND LEGALLY DISPOSED OF OFF-SITE. THE SUBGRADE SHALL BE ROLLED WITH A 1-TON, VIBRATORY, WALK-BEHIND ROLLER AT A SPEED OF LESS THAN 2 FPS, 6 PASSES MINIMUM, TO PROVIDE UNYIELDING SURFACE.
- UNDERCUT SOFT OR "WEAVING" AREAS A MINIMUM OF 12 INCHES DEEP. BACKFILL UNDERCUT AREA WITH FILL MEETING THE SPECIFICATIONS OF STRUCTURAL FILL.
- CONCRETE TO HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH (f'c)=4000 psi. CONCRETE TO BE AIR ENTRAINED, DESIRED AIR CONTENT TO BE 6% (PLUS OR MINUS 2%)
- REINFORCING BAR TO BE ASTM A615 GRADE 60.
- WELDED WIRE FABRIC TO CONFORM TO THE REQUIREMENTS OF ASTM A185. WIRES FOR FABRIC TO CONFORM TO THE REQUIREMENTS OF ASTM A82.
- COORDINATE WITH MANUFACTURER OF PREFABRICATED SHELTER FOR LOCATION OF ATTACHMENTS TO BASE SLAB.
- ALL REINFORCING TO HAVE MINIMUM CONCRETE COVER PER ACI SPECIFICATIONS.
- ALL CONCRETE MATERIALS AND WORKMANSHIP SHALL CONFORM TO LATEST EDITION OF ACI 318 AND APPLICABLE STATE BUILDING CODE.

MAINE DOT (2014) STANDARD SPECIFICATIONS			
ROAD BASE MATERIAL		ROAD SURFACE MATERIAL	
ALL MATERIAL LESS THAN 6" IN SIZE		ALL MATERIAL LESS THAN 2" IN SIZE	
% BY WEIGHT	IS SMALLER THAN	% BY WEIGHT	IS SMALLER THAN
78-100	1 1/2"	85-100	3/4"
55-75	3/4"	70-100	1/2"
30-55	1/4"	55-85	1/4"
8-22	#40 (SAND)	20-35	#40 (SAND)
0-7	#200 (SILT)	7-12	#200 (SILT)



FENCE NOTES

- ALTERNATE FOOTINGS FOR ALL FENCE POSTS IN LEDGE: IF LEDGE IS ENCOUNTERED AT GRADE, OR AT A DEPTH SHALLOWER THAN 3'-6", CORE DRILL AN 8" DIA HOLE 18" INTO THE LEDGE. CENTER POST IN THE HOLE AND FILL WITH CONCRETE OR GROUT. IF LEDGE IS BELOW FINISH GRADE, COAT BACKFILLED SECTION OF POST WITH COAL TAR, AND BACKFILL WITH WELL-DRAINING GRAVEL.
- ATTACH EACH GATE WITH 1-1/2 PAIR OF NON-LIFT-OFF TYPE, MALLEABLE IRON OR FORGING, PIN-TYPE HINGES. ASSEMBLIES SHALL ALLOW FOR 180° OF GATE TRAVEL.

AS BUILT
12/2/2016
M. HEATH
EASTERN COMMUNICATIONS, INC.

FOR CONSTRUCTION

PREPARED FOR:
verizon
118 FLANDERS ROAD
WESTBOROUGH, MA 01581
(508) 330-3330 TEL.

Hudson Design Group
1600 OSGOOD STREET
BUILDING 20 NORTH, SUITE 3090
N. ANDOVER, MA 01845
TEL: (978) 557-5553
FAX: (978) 336-5586

STATE OF MAINE
Derek J. Creaser
NO. 12752
Professional Engineer

CHECKED BY: JX

APPROVED BY: DPH

SUBMITTALS			
REV.	DATE	DESCRIPTION	BY
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2	07/06/16	REVISED EQUIPMENT LAYOUT	HH
1	02/09/16	FOR CONSTRUCTION	MR
0	07/31/15	FOR CONSTRUCTION	HH

SITE NAME:
PORTLAND 3 ME

SITE ADDRESS:
476 SUMMIT STREET
PORTLAND, ME 04103

SHEET TITLE
DETAILS

SHEET NUMBER
A-4

CONSTRUCTION SPECIFICATION – SILT FENCE:

1. THE GEOTEXTILE FABRIC SHALL MEET THE DESIGN CRITERIA FOR SILT FENCES.
2. THE FABRIC SHALL BE EMBEDDED A MINIMUM OF 8 INCHES INTO THE GROUND AND THE SOIL COMPACTED OVER THE EMBEDDED FABRIC.
3. WOVEN WIRE FENCE SHALL BE FASTENED SECURELY TO THE FENCE POSTS WITH WIRE TIES OR STAPLES.
4. FILTER CLOTH SHALL BE FASTENED SECURELY TO THE WOVEN WIRE FENCE WITH TIES SPACED EVERY 24 INCHES AT THE TOP, MID-SECTION AND BOTTOM.
5. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER, THEY SHALL BE OVERLAPPED BY 6 INCHES, FOLDED, AND STAPLED.
6. FENCE POSTS SHALL BE A MINIMUM OF 36 INCHES LONG AND DRIVEN A MINIMUM OF 16 INCHES INTO THE GROUND. WOOD POSTS SHALL BE OF SOUND QUALITY HARDWOOD AND SHALL HAVE A MINIMUM CROSS SECTIONAL AREA OF 3.0 SQUARE INCHES.
7. MAINTENANCE SHALL BE PERFORMED AS NEEDED TO PREVENT BULGES IN THE SILT FENCE DUE TO DEPOSITION OF SEDIMENT.

MAINTENANCE – SILT FENCE

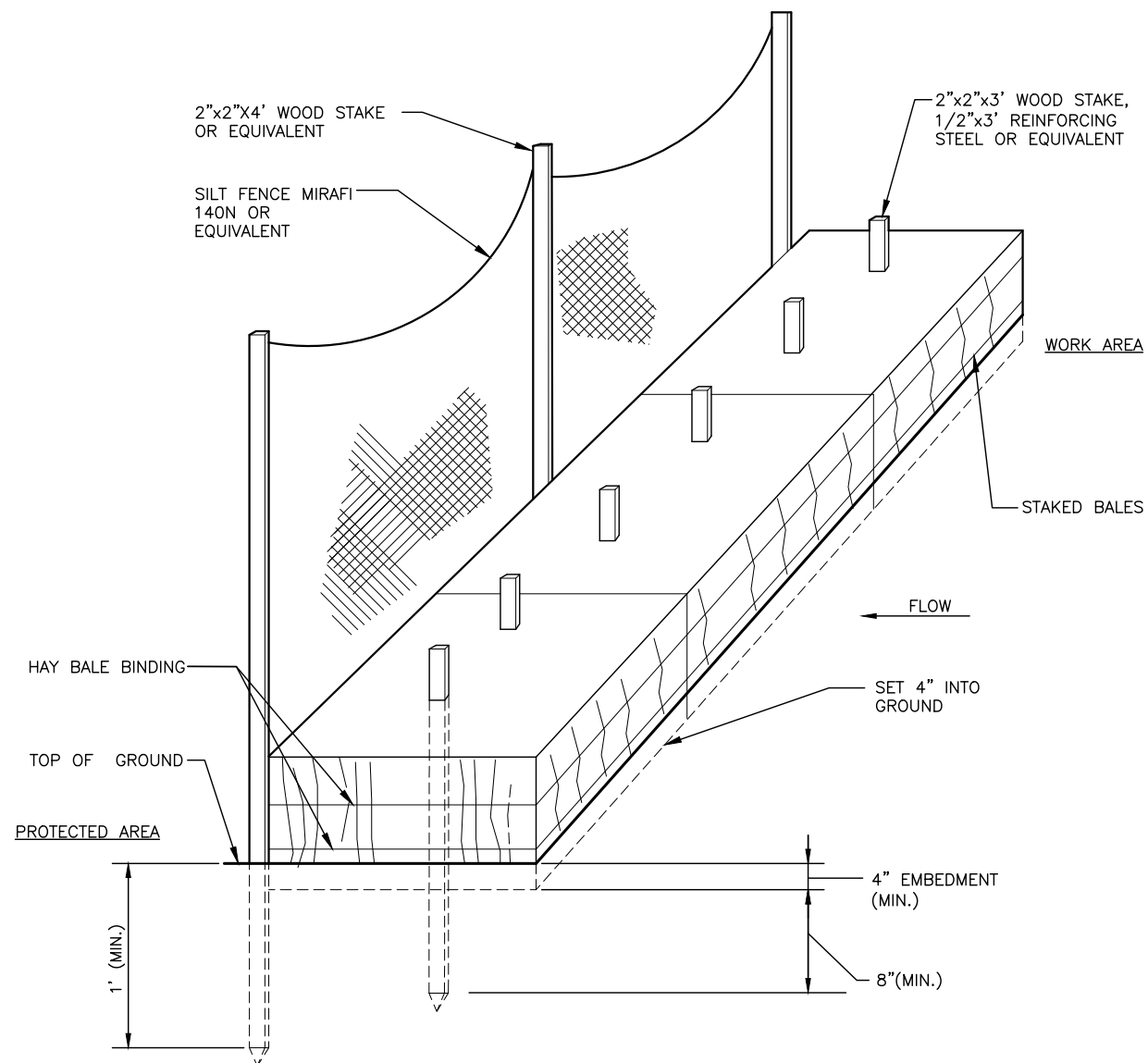
1. SILT FENCES SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REPAIRS THAT ARE REQUIRED SHALL BE MADE IMMEDIATELY.
2. IF THE FABRIC ON A SILT FENCE SHOULD DECOMPOSE OR BECOME INEFFECTIVE DURING THE EXPECTED LIFE OF THE FENCE, THE FABRIC SHALL BE REPLACED PROMPTLY.
3. SEDIMENT DEPOSITS SHOULD BE INSPECTED AFTER EVERY STORM EVENT. THE DEPOSITS SHOULD BE REMOVED WHEN THEY REACHED APPROXIMATELY ONE-HALF THE HEIGHT OF THE BARRIER.
4. SEDIMENT DEPOSITS THAT ARE REMOVED OR LEFT IN PLACE AFTER THE FABRIC HAS BEEN REMOVED SHALL BE GRADED TO CONFORM WITH THE EXISTING TOPOGRAPHY AND VEGETATED.
5. REMOVE ALL SEDIMENTATION CONTROLS AFTER SOIL IS STABILIZED.

EROSION CONTROL MEASURES:

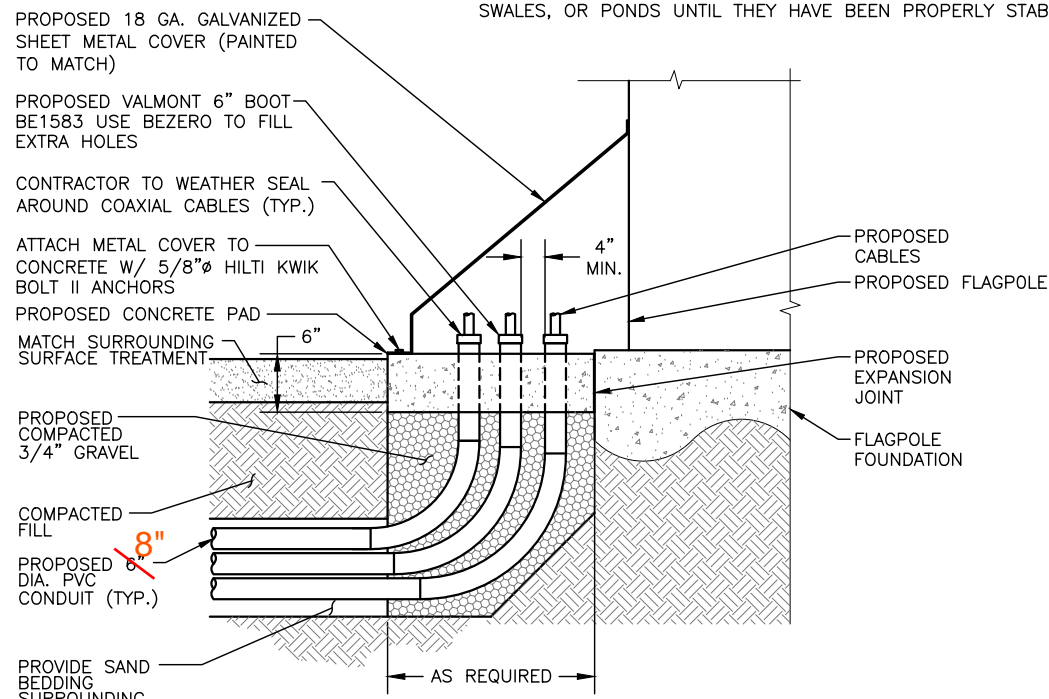
1. DISTURBED AREAS SHALL BE KEPT TO THE MINIMUM AREA NECESSARY TO CONSTRUCT THE ROADWAYS AND ASSOCIATED DRAINAGE FACILITIES.
2. HAY BALE BARRIERS AND SEDIMENT TRAPS SHALL BE INSTALLED AS REQUIRED. BARRIERS AND TRAPS ARE TO BE MAINTAINED AND CLEANED UNTIL ALL SLOPES HAVE A HEALTHY STAND OF GRASS.
3. BALED HAY AND MULCH SHALL BE MOWINGS OF ACCEPTABLE HERBACEOUS GROWTH, FREE FROM NOXIOUS WEEDS OR WOODY STEMS, AND SHALL BE DRY. NO SALT HAY SHALL BE USED.
4. FILL MATERIAL SHALL BE FREE FROM STUMPS, WOOD, ROOTS, ETC.
5. STOCKPILED MATERIALS SHALL BE PLACED ONLY IN AREAS SHOWN ON THE PLANS. STOCKPILES SHALL BE PROTECTED BY SILTATION FENCE AND SEEDED TO PREVENT EROSION. THESE MEASURES SHALL REMAIN UNTIL ALL MATERIAL HAS BEEN PLACED OR DISPOSED OFF SITE.
6. ALL DISTURBED AREAS SHALL BE LOAMED AND SEEDED. A MINIMUM OF 4 INCHES OF LOAM SHALL BE INSTALLED WITH NOT LESS THAN ONE POUND OF SEED PER 50 SQUARE YARDS OF AREA.
7. APPLICATION OF GRASS SEED, FERTILIZERS AND MULCH SHALL BE ACCOMPLISHED BY BROADCAST SEEDING OR HYDROSEEDING AT THE RATES OUTLINED BELOW:

LIMESTONE:	75-100 LBS./1,000 SQ FT
FERTILIZER:	RATE RECOMMENDED BY MANUFACTURER
MULCH:	HAY MULCH APPROXIMATELY 3 TON/ACRE UNLESS CONTROL MATTING IS USED
EROSION SEED MIX:	(SLOPES LESS THAN 4:1) LBS./ACRE
	CREEPING RED RESCUE 20
	TALL RESCUE 20
	REDTOP 2
	42
	(SLOPES GREATER THAN 4:1) LBS./ACRE
	CREEPING RED RESCUE 20
	TALL RESCUE 20
	BIRDSFOOT TREEFOIL 8
	48

8. AFTER ALL DISTURBED AREAS HAVE BEEN STABILIZED THE TEMPORARY EROSION CONTROL MEASURES ARE TO BE REMOVED.
9. ALL CATCH BASIN INLETS WILL BE PROTECTED WITH LOW POINT SEDIMENTATION BARRIER.
10. ALL STORM DRAINAGE OUTLETS WILL BE STABILIZED AND CLEANED AS REQUIRED, BEFORE THE DISCHARGE POINTS BECOME OPERATIONAL.
11. ALL DEWATERING OPERATIONS MUST DISCHARGE DIRECTLY INTO A SEDIMENT FILTER AREA.
12. NO DISCHARGE SHALL BE DIRECTED TOWARDS ANY PROPOSED DITCHES, SWALES, OR PONDS UNTIL THEY HAVE BEEN PROPERLY STABILIZED.



HAY BALES / SILT FENCE DETAIL 1
SCALE: N.T.S. A-5



CABLE TRANSITION @ FLAGPOLE 2
SCALE: N.T.S. A-5

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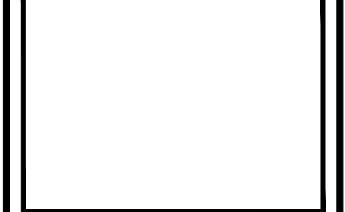
SHEET TITLE
EROSION CONTROL NOTES & DETAILS

SHEET NUMBER
A-5

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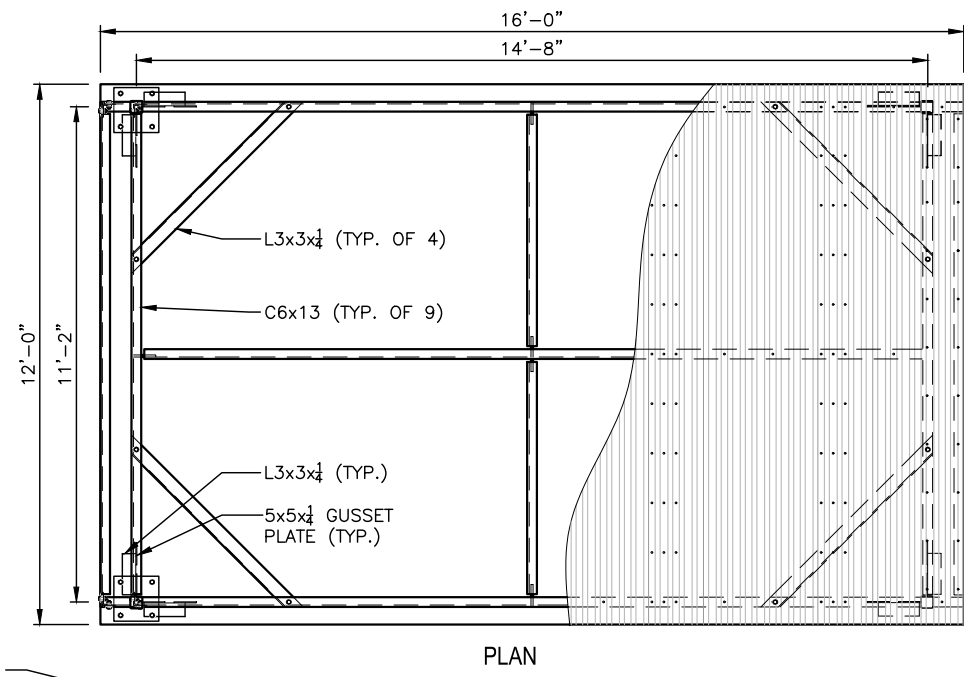
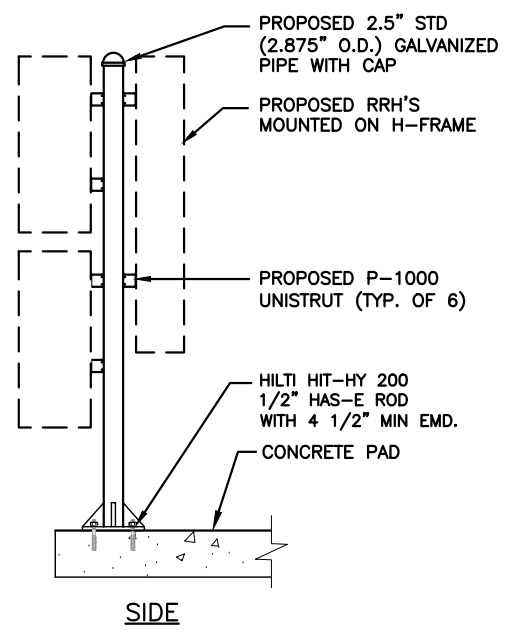
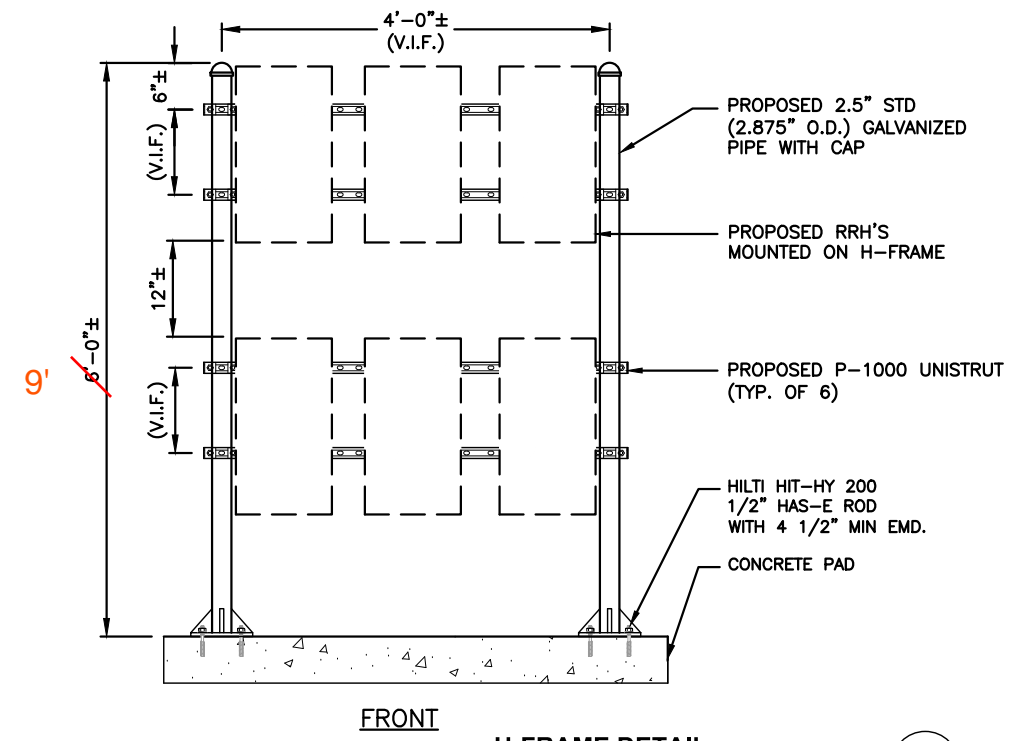
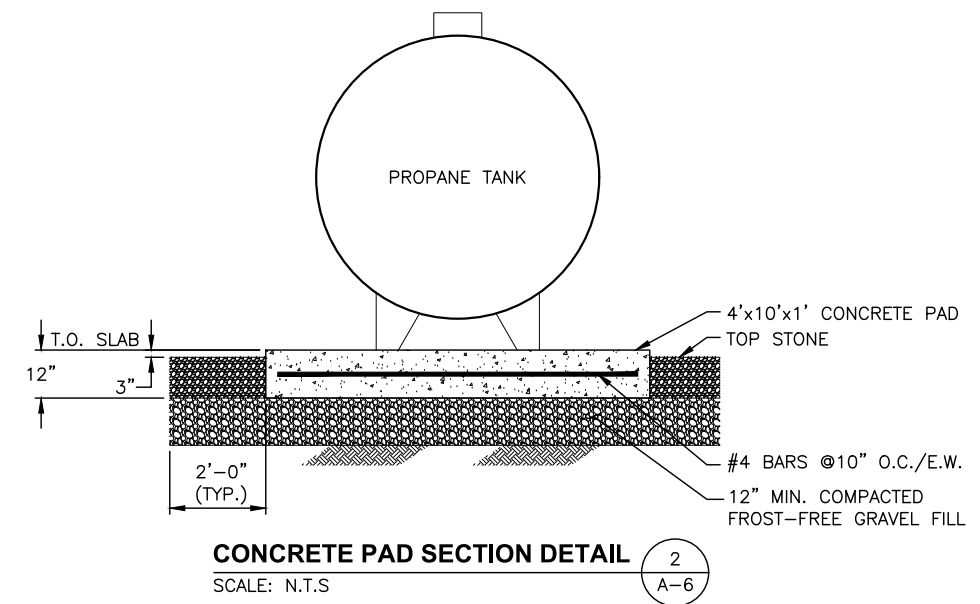
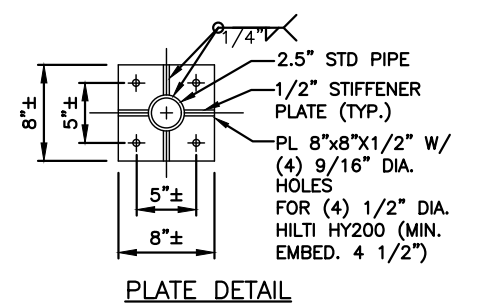
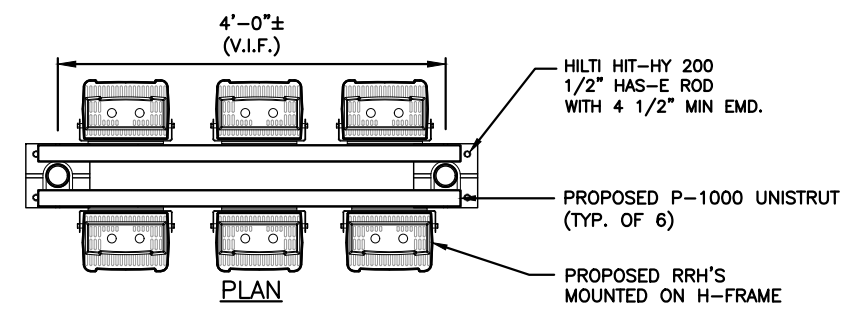
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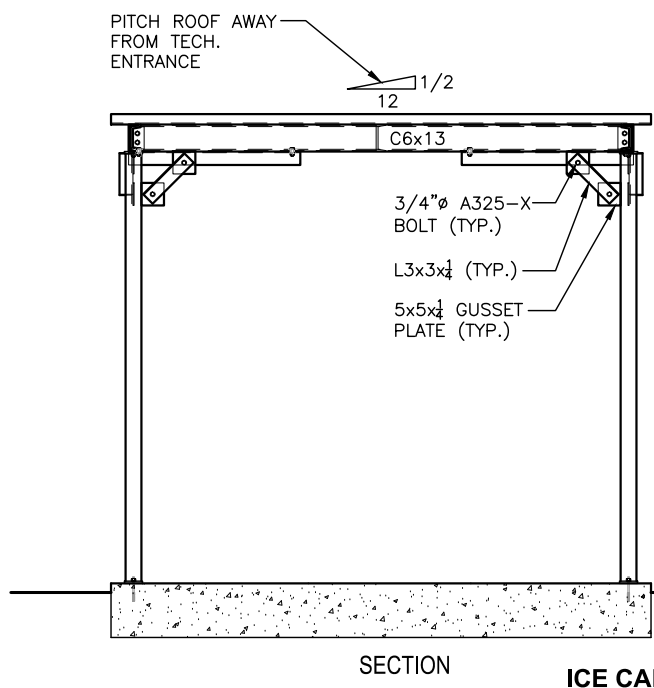
SITE ADDRESS:
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SHEET TITLE
DETAILS

SHEET NUMBER
A-6



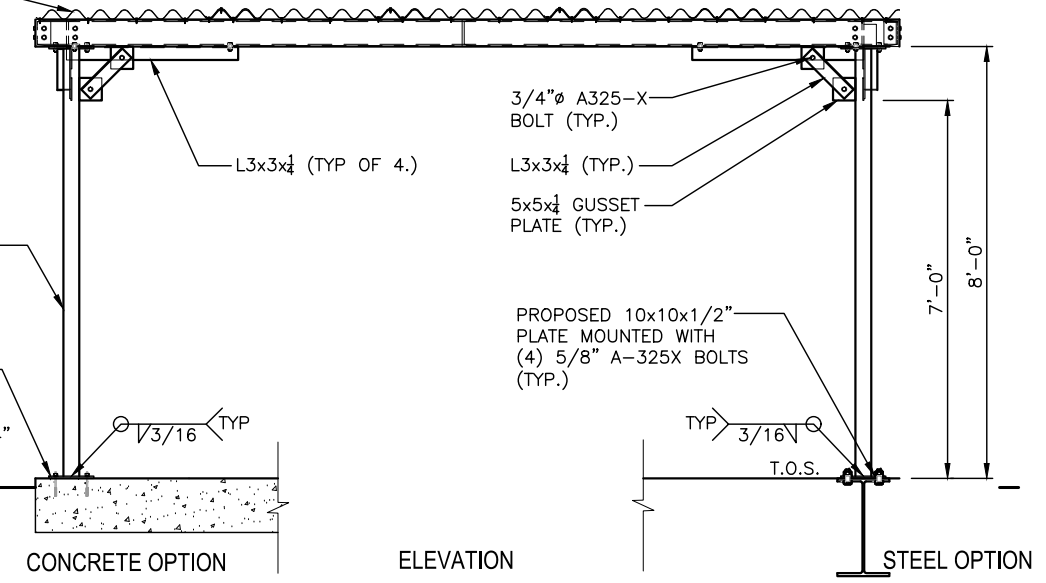
H-FRAME DETAIL
 22x34 SCALE: 1/8"=1'-0"
 11x17 SCALE: 1/16"=1'-0"



PROPOSED 16 GAUGE 1-1/2" CORRUGATED GALVANIZED SHEET METAL. OVERLAP MIN. 6" W/ SILICONE SEALANT. FASTEN W/ NO. 12 (USE #5 DRILL PT.) S.S. SELF-TAPPING SCREW @ MAX. 12" O.C.

3 x 3 x 1/4" HSS 8'-0" LONG (TYP. OF 4)

PROPOSED 10x10x1/2" PLATE MOUNTED WITH (4) 5/8" HILTI HIT-HY 200 HYBRID ANCHOR MIN. EMD. 4"



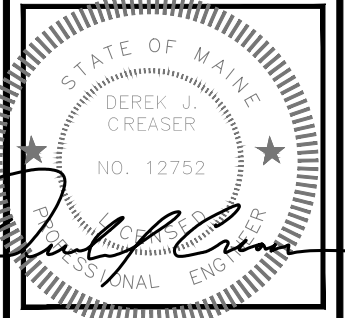
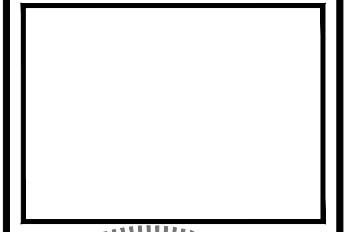
ICE CANOPY DETAIL
 22x34 SCALE: N.T.S.

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12/2/2016
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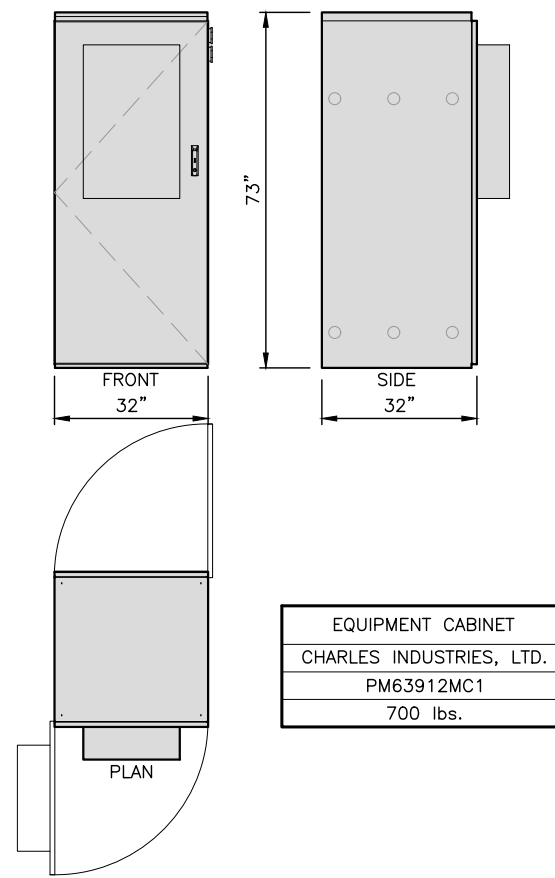
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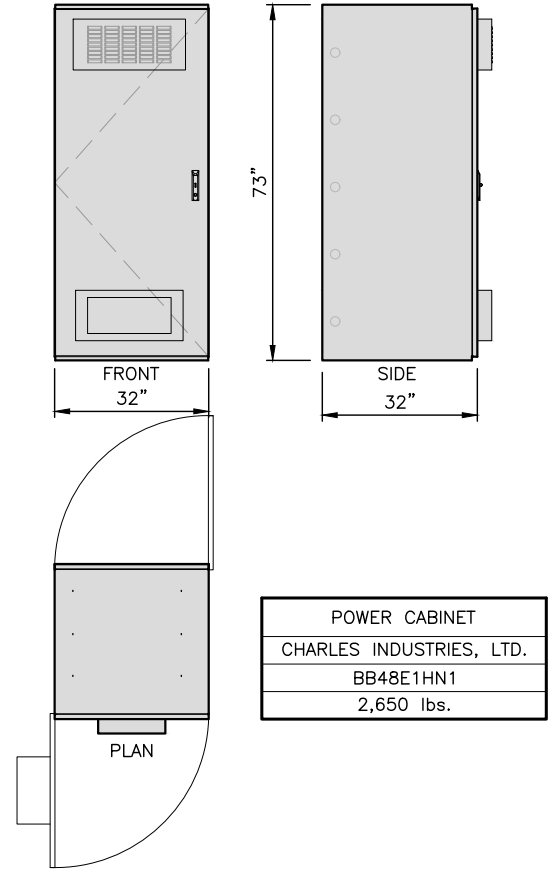
SHEET TITLE
EQUIPMENT DETAILS

SHEET NUMBER
A-7



EQUIPMENT CABINET
 CHARLES INDUSTRIES, LTD.
 PM63912MC1
 700 lbs.

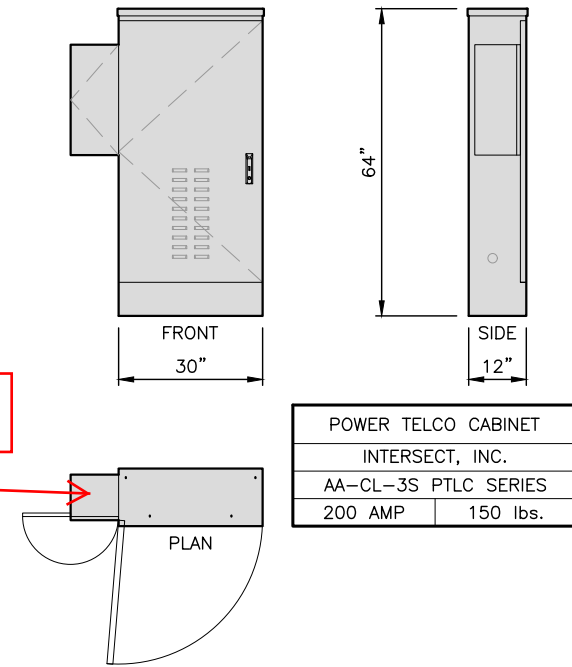
EQUIPMENT CABINET DETAIL 1
 SCALE: N.T.S. A-7



POWER CABINET
 CHARLES INDUSTRIES, LTD.
 BB48E1HN1
 2,650 lbs.

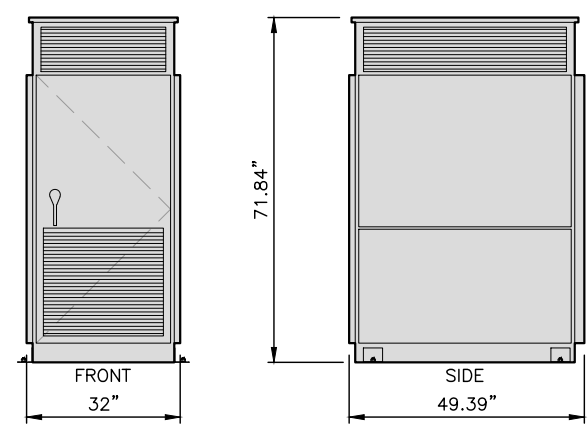
POWER CABINET DETAIL 2
 SCALE: N.T.S. A-7

CAMLOCK INSTALLED



POWER TELCO CABINET
 INTERSECT, INC.
 AA-CL-3S PTLC SERIES
 200 AMP | 150 lbs.

POWER TELCO CABINET DETAIL 3
 SCALE: N.T.S. A-7



GENERATOR
 POLAR POWER, INC.
 8220-603-D-10KW
 DRY WEIGHT - 1,106 lbs.

GENERATOR DETAIL 4
 SCALE: N.T.S. A-7

AC LIGHTS



RAB LIGHTING -- FFLED18DC
 18W
 BRONZE

MOUNT PER MANUFACTURER'S SPECIFICATIONS.

LED FLOOD LIGHT DETAIL 5
 SCALE: N.T.S. A-7



INTERMATIC WP1220C
 TYPE: DOUBLE GANG
 HINGE: VERTICAL
 INSERT: WP217
 DEPTH: 2-1/4"
 COLOR: CLEAR

OR APPROVED EQUIVALENT



INTERMATIC FF6H
 TIME CYCLE: 6 HOURS
 SWITCH: SPST
 HOLD: NO

OR APPROVED EQUIVALENT

SWITCH DETAIL 6
 SCALE: N.T.S. A-7

AS BUILT
 12/2/2016
 M. HEATH
 EASTERN COMMUNICATIONS, INC.

GENERAL NOTES

- ELECTRICAL**
- ALL CONDUCTORS SHALL BE COPPER.
 - ALL WIRING DEVICES AND EQUIPMENT SHALL BE SPECIFICATION GRADE AND UL LISTED.
 - THE INSTALLATION OF ALL MATERIALS SHALL COMPLY WITH THE NATIONAL ELECTRIC CODE, 2014 EDITION OR LATEST.
 - ALL MATERIALS SHALL BE NEW.
 - OUTLETS AND JUNCTION BOXES SHALL BE ZINC-COATED OR CADMIUM PLATED SHEET STEEL NOT LESS THAN FOUR INCHES SQUARE AND SUITABLE FOR THE TYPE OF SERVICE OUTLET. ALL OUTLET AND JUNCTION BOXES SHALL BE SECURELY SURFACE MOUNTED.
 - THE ENTIRE SYSTEM SHALL BE SOLIDLY GROUNDED USING COMPRESSION-TYPE CONDUIT FITTINGS ON CONDUITS AND PROPERLY BONDED GROUND CONDUCTORS. CRIMP-TYPE AND SET SCREW-TYPE CONDUIT FITTINGS ARE NOT ALLOWED. ALL RECEPTACLES AND EQUIPMENT CIRCUITS SHALL BE GROUNDED USING A FULL-SIZE EQUIPMENT GROUNDING CONDUCTOR RUN WITH THE CURRENT CONDUCTORS.
 - ALL WALL PENETRATIONS FOR TELCO, POWER, AND GROUNDING SHALL REQUIRE RIGID STEEL SLEEVES.
 - ALL SWITCHES SHALL BE 48 INCHES A.F.F.
 - ALL RECEPTACLES SHALL BE 18 INCHES A.F.F.
 - ALL T-STATS SHALL BE 60 INCHES A.F.F.
 - CABLE TRAY
 - BOTTOM OF CABLE TRAY SHALL BE 7"-6" A.F.F.
 - CABLE TRAY ANCHORS SHALL BE MOUNTED TO STRUCTURAL CEILING.
 - AFTER FINAL LEVELING OF CABLE TRAY, CUT THREADED RODS 1/2" BELOW NUT AND CAP OFF.
 - ALARM AND SIGNAL
 - ALL ALARM WIRES SHALL BE RUN FROM EACH OF THE COMPONENTS TERMINAL STRIP. LEAVE ADDITIONAL ALARM WIRE COILED WITH SUFFICIENT LENGTH TO REACH THE FLOOR.
 - ALL ALARM WIRES SHALL BE TAGGED AND LABELED WITH THE APPROPRIATE ALARM ITEM. ALL CONTRACTORS WILL BE NORMALLY CLOSED, DRY, AND ISOLATED FROM GROUND, U.O.N.
 - ALL ALARM WIRING SHALL BE 1/2", 2 #22, UNLESS OTHERWISE NOTED.
 - ELECTRICAL CONTRACTOR TO CARRY POWER FEED OF LESSEE'S MOD CELL EQUIPMENT.
 - ALL ENCLOSURES TO BE NEMA 3R.
 - INTEGRATED LOAD CENTER ASSEMBLY AND THE GENERATOR SUPPLIED BY LESSEE.

ABBREVIATIONS

AGB	COPPER ANTENNA GROUND BAR
AWG	AMERICAN WIRE GAUGE
BCW	BARE COPPER WIRE
BTS	BASE TRANSMISSION SYSTEM
CIGBE	COAX INSULATED GROUND BAR EXTERNAL DRAWING
DWG	DRAWING
EMT	ELECTRICAL METALLIC TUBING
GEN	GENERATOR
GPS	GLOBAL POSITIONING SYSTEM
GR	GROWTH
IGR	INTERNAL GROUND RING (HALO)
LAGB	LOWER ANTENNA COPPER GROUND BAR
MCB	MAIN CIRCUIT BREAKER
MIGB	MASTER ISOLATED GROUND BAR
PCS	PERSONAL COMMUNICATION SYSTEM
PPC	POWER PROTECTION CABINET
PRC	PRIMARY RADIO CABINET
RGS	RIGID GALVANIZED STEEL
RWY	RACEWAY
TYP	TYPICAL
UAGB	UPPER ANTENNA COPPER GROUND

PANEL NAME: PROPOSED PTC CABINET

CKT No.	BRKR AMPS	P	LOAD DESCRIPTION	KVA	BRANCH CKT	BRANCH CKT	KVA	LOAD DESCRIPTION	P	BRKR AMPS	CKT No.
1											2
3	20	2	RECTIFIER #1		2#12, 1#12G, 3/4"	2#12, 1#12G, 3/4"		RECTIFIER #5	2	20	4
5											6
7	20	2	RECTIFIER #2		2#12, 1#12G, 3/4"	2#12, 1#12G, 3/4"		RECTIFIER #6	2	20	8
9											10
11											12
13											14
15	20	2	RECTIFIER #4		2#12, 1#12G, 3/4"	2#12, 1#12G, 3/4"		RECTIFIER #8	2	20	16
17	20	1	FLOODLIGHT		3#12, 1#12G, 3/4"						18
19	20	1	RECEPTACLES		2#12, 1#12G, 3/4"						20
21	20	1	GEN CHARGER		2#12, 1#12G, 3/4"						22
23	20	1	GEN BLOCK HEAT		2#12, 1#12G, 3/4"	2#12, 1#12G, 3/4"		TELCO RECEPTACLE	1	20	24
25			SPARE					SPARE			26
27			SPARE					SPARE			28
29	1		SPARE					SPARE			30
31											32
33											34
35											36
37											38
39											40
41											42

ELECTRICAL NOTES

- UTILITY SERVICES SHOWN ARE PROPOSED, THE ELECTRIC CONTRACTOR SHALL COORDINATE EXACT TELEPHONE AND ELECTRIC SERVICE CONNECTION POINTS, PULL BOXES, ROUTING AND ASSOCIATED REQUIREMENTS WITH OWNER AND LOCAL UTILITY CO.
- VISIT SITE AND EXAMINE CONDITIONS UNDER WHICH WORK MUST BE PERFORMED. REPORT ADVERSE CONDITIONS IN WRITING TO LICENSEE. COMMENCEMENT OF WORK SHALL BE CONSIDERED AS COMPLETE ACCEPTANCE OF EXISTING CONDITIONS INCLUDING PREPARATORY WORK DONE BY OTHERS.
- GIVE NOTICES, FILE PLANS, OBTAIN PERMITS AND LICENSES, PAY FEES AND BACK CHARGES, AND OBTAIN NECESSARY APPROVALS FROM AUTHORITIES THAT HAVE JURISDICTION.
- PERFORM WORK AS REQUIRED BY BOCA AND PER LOCAL LAWS.
- THE ELECTRICAL CONTRACTOR SHALL COORDINATE ALL CONDUIT ROUTING WITH OWNER AND FIELD CONSTRUCTION MANAGER.
- ALL EXTERIOR WALL PENETRATIONS SHALL BE SILICONE SEALED.
- MATERIAL AND EQUIPMENT SHALL BE UL, NEMA, ANSI, IEEE, ADA & CBM APPROVED FOR INTENDED SERVICE. INSTALLATION SHALL MEET REQUIREMENTS OF NATIONAL AND STATE ELECTRICAL CODE.
- ALL ELECTRICAL EQUIPMENT SHALL HAVE AN INTERRUPTING RATING NOT LESS THEN THE MAXIMUM SHORT CIRCUIT CURRENT TO WHICH THEY MAY BE SUBJECTED, AND A MINIMUM OF 10,000 A.I.C..
- ALL NEW WIRING SHALL BE TYPE THWN RATED 75°C., 600 VOLT. WET OR DRY LOCATIONS. MINIMUM BRANCH CIRCUIT WIRING SHALL BE #12 AWG SOLID COPPER.
- ALL METALLIC CONDUITS SHALL BE PROVIDED WITH BONDING BUSHINGS.
- ALL BROCHURES, OPERATING MANUALS, CATALOGS, SHOP DRAWINGS, ETC. SHALL BE TURNED OVER TO THE LICENSEE PROJECT MANAGER AT JOB COMPLETION.
- PROVIDE THE OWNER WITH ONE SET OF COMPLETE ELECTRICAL "AS BUILT" DRAWINGS AT THE COMPLETION OF THE JOB.
- GUARANTEE WORK IN WRITING FOR ONE YEAR FROM DATE OF FINAL ACCEPTANCE. REPAIR OR REPLACE DEFECTIVE MATERIALS OR INSTALLATION AT NO COST TO OWNER. CORRECT DAMAGE CAUSED IN MAKING NECESSARY REPAIRS AND REPLACEMENTS UNDER GUARANTEE AT NO COST TO OWNER.
- CONTRACTOR SHALL CONTACT "DIG SAFE" (1-888-DIG-SAFE) PRIOR TO COMMENCEMENT OF WORK.

GENERATOR SPECIFICATIONS

THE ENGINE GENERATOR SHALL BE OF THE SAME QUALITY AS THE POLAR POWER 10KW GENERATOR.

MODEL #: 8220K-972

GENERATOR SHALL BE 10KW/ STANDBY 24-500V ENCLOSED UNIT, SERVICE VOLTAGE SHALL MATCH THAT OF ENCLOSURE.

OVERALL SIZE: 24.5" x 18"W x 21"H

WEIGHT (WET): 302 LBS.±

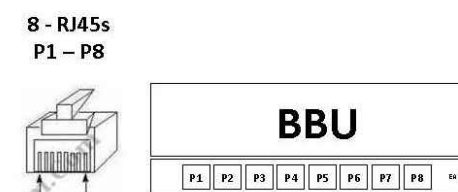
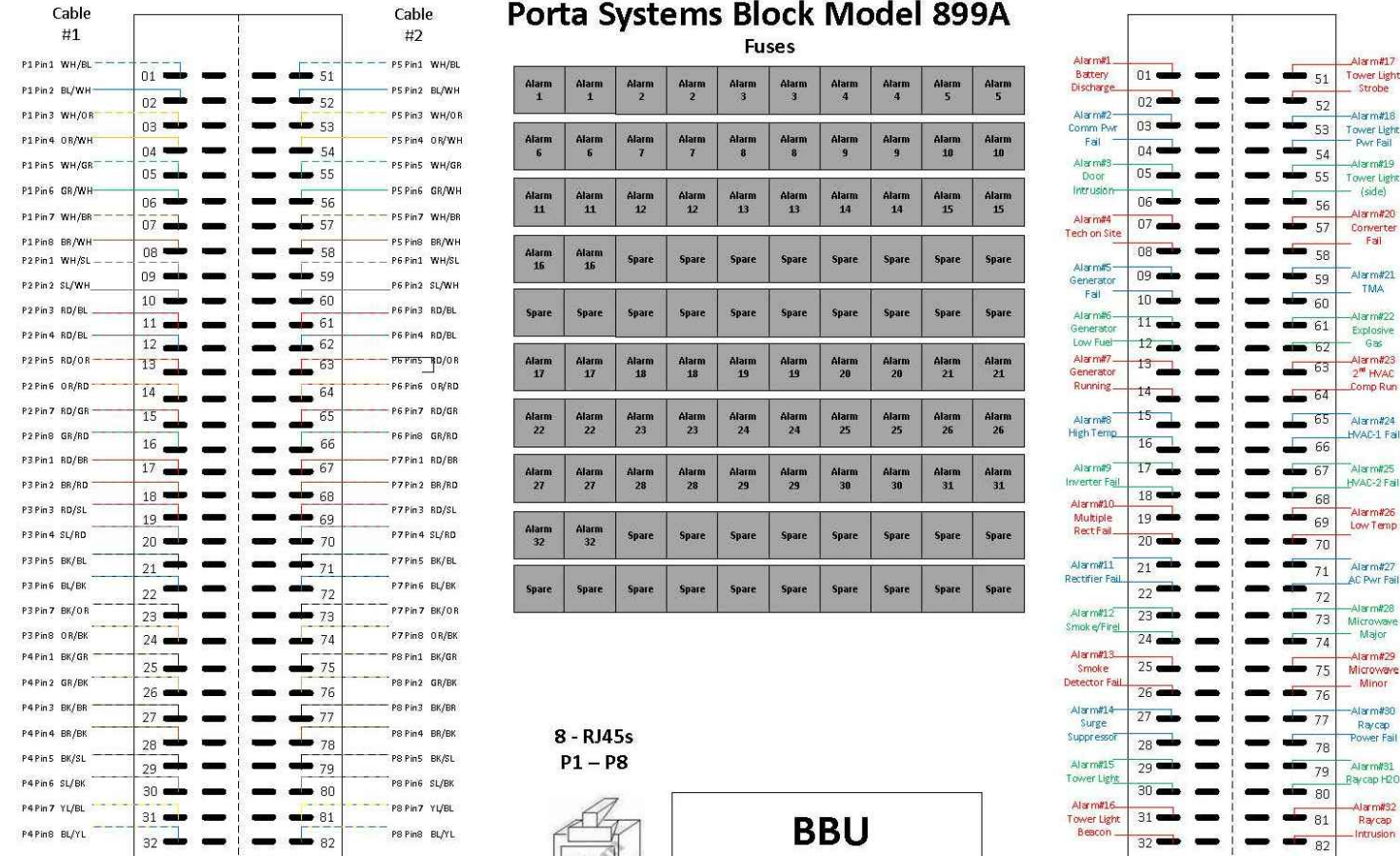
LOCAL FUEL GAS AND PLUMBING CODE APPLIES TO THE GENERATOR AND ITS COMPONENTS.

ACCESSORIES:

- ACOUSTICAL ENCLOSURE WITH CRITICAL EXHAUST SILENCER
- FLEXIBLE EXHAUST CONNECTOR STAINLESS STEEL
- BLOCK HEATER WITH THERMOSTAT
- TAIL PIPE AND RAIN CAP KIT
- BATTERY
- BATTERY RACK AND CABLES
- BATTERY CHARGER, EQUALIZE/FLOAT-TYPE
- OIL DRAIN KIT
- COMMON FAILURE RELAY KIT
- VIBRATION ISOLATION KIT 5

DC CABLE TYPE AND SIZING (2% DROP)	6KW	10KW	15KW
10 FT (3 M)	#4	#3	#1
20 FT (6 M)	#2	#1/0	#3/0
50 FT (15 M)	#3/0	#250 kCMIL	#400 kCMIL
100 FT (30 M)	#300 kCMIL	#500 kCMIL	#750 kCMIL
150 FT (45 M)	#500 kCMIL	#750 kCMIL	#1250 kCMIL
200 FT (60 M)	#600 kCMIL	#1000 kCMIL	#1500 kCMIL

Wiring Diagram for Porta Systems Block Model 899A Fuses



ALARM DETAIL 1
SCALE: N.T.S. E-1

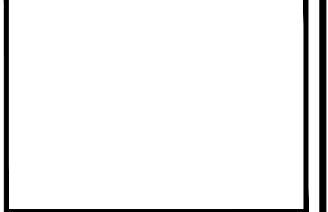
AS BUILT
12/2/2016
M. HEATH
EASTERN COMMUNICATIONS, INC.

FOR CONSTRUCTION

PREPARED FOR:

118 FLANDERS ROAD
WESTBOROUGH, MA 01581
(508) 330-3330 TEL.

1600 OSGOOD STREET
BUILDING 20 NORTH, SUITE 3090
N. ANDOVER, MA 01845
TEL: (978) 557-5553
FAX: (978) 336-5586



CHECKED BY: JX

APPROVED BY: DPH

SUBMITTALS

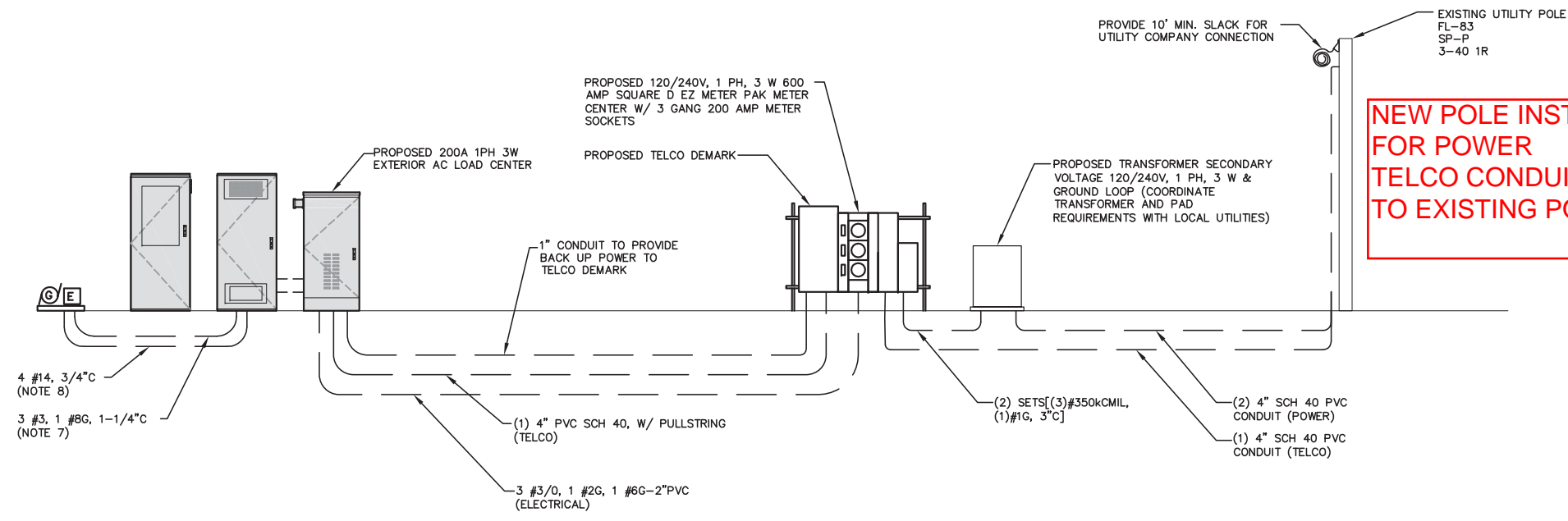
REV.	DATE	DESCRIPTION	BY
3	07/12/16	REVISED PER BID WALK	HH
2	07/06/16	REVISED EQUIPMENT LAYOUT	HH
1	02/09/16	FOR CONSTRUCTION	MR
0	07/31/15	FOR CONSTRUCTION	HH

SITE NAME:
PORTLAND 3 ME

SITE ADDRESS:
476 SUMMIT STREET
PORTLAND, ME 04103

SHEET TITLE
ELECTRICAL NOTES &
WIRING DIAGRAM

SHEET NUMBER
E-1



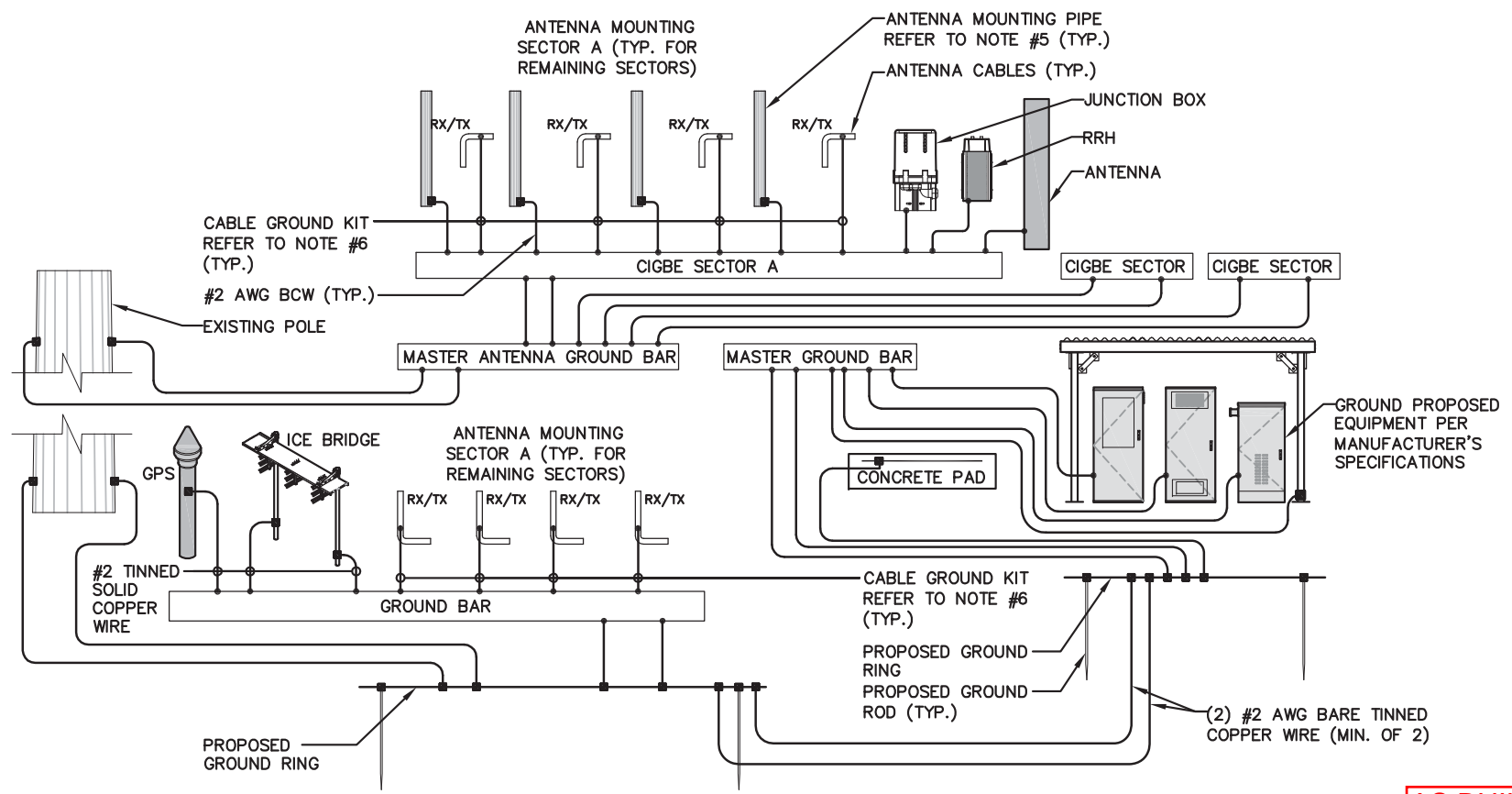
**NEW POLE INSTALLED FOR POWER
TELCO CONDUITS RUN TO EXISTING POLE FL-83**

NOTES

1. EXACT LOCATIONS OF ALL EQUIPMENT SHALL BE DETERMINED IN FIELD. ALL NEC CLEARANCE REQUIREMENTS SHALL BE MET.
2. REFER TO "A" AND "C" DWGS FOR EXACT ROUTING OF ALL CONDUITS.
3. VERIZON CONSTRUCTION MANAGER SHALL COORDINATE ALL ELECTRICAL WORK WITH UTILITY COMPANY.
4. REFER TO DETAILS ON DWG E-3 FOR ADDITIONAL INFORMATION. TYPICAL BURRIED CONDUIT DETAIL SHALL APPLY TO ALL UNDERGROUND CONDUIT.
5. #350 KCMIL CONDUCTORS HAVE BEEN SELECTED FOR VOLTAGE DROP. THE LOCATION OF THE TRANSFORMER HAS BEEN ASSUMED TO BE NEAR THE CELL SITE ENCLOSURE. IF THE LOCATION IS CLOSER TO THE ACCESS ROAD THE CONDUCTORS SHALL BE ADJUSTED WITH APPROVAL OF THE ENGINEER.
6. INSTALL (2) PULL STRINGS AND CAP THE TELCO CONDUITS INSIDE THE VAULT AND MESA CABINET TO AVOID WATER/ICE FILL UP.
7. LOCATION OF GENERATOR ASSUMED TO BE WITHIN 10'-0" OF PROPOSED LOAD CENTER. IF LOCATION OF GENERATOR IS CHANGED, CONDUCTOR SIZE SHALL BE RESIZED BASED ON DC CABLE TYPE AND SIZING TABLE ON E-1
8. CONFIRM EXACT AUTO-START REQUIREMENTS WITH MANUFACTURER.
9. PROVIDE SERVICE GROUNDING IN ACCORDANCE WITH NEC ARTICLE 250.

POWER & TELEPHONE RISER DIAGRAM
22x34 SCALE: N.T.S.

1
E-2



GROUNDING DIAGRAM
SCALE: N.T.S.

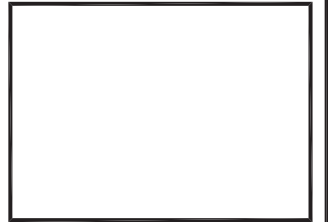
2
E-2

**AS BUILT
12/2/2016
J. GAGNON/M. HEATH
EASTERN COMMUNICATIONS, INC.**

FOR CONSTRUCTION

PREPARED FOR:
verizon
118 FLANDERS ROAD
WESTBOROUGH, MA 01581
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Hudson Design Group LLC
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TEL: (978) 557-5553
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CHECKED BY: JX

APPROVED BY: DPH

SUBMITTALS

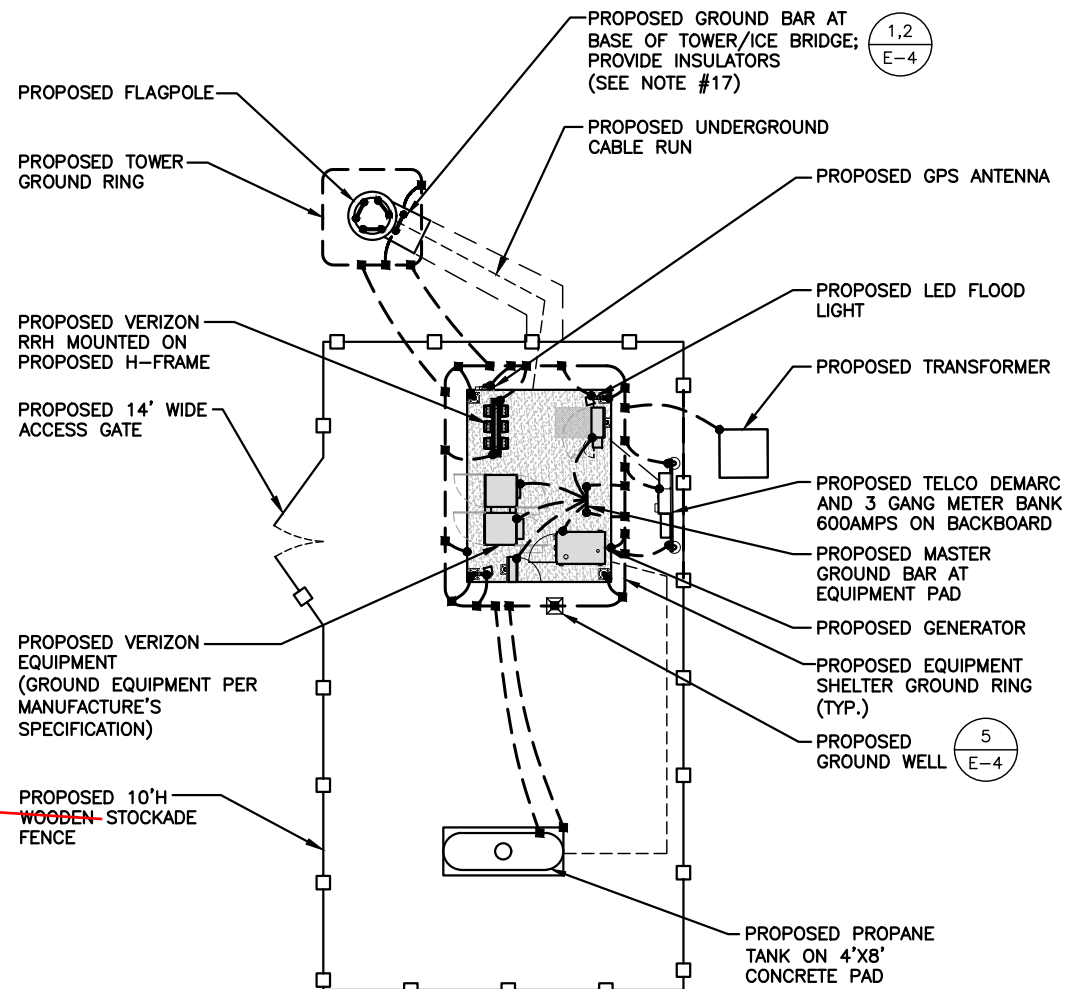
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SITE NAME:
PORTLAND 3 ME

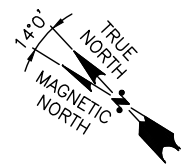
SITE ADDRESS:
476 SUMMIT STREET
PORTLAND, ME 04103

SHEET TITLE
**ELECTRICAL
ONE-LINE AND
GROUNDING DIAGRAM**

SHEET NUMBER
E-2



10' VINYL



SITE POWER, TELCO & GROUNDING PLAN

N.T.S.

1
E-3

GROUNDING NOTES

1. ALL GROUND WIRE SHALL BE BARE COPPER #2 AWG UNLESS OTHERWISE NOTED.
2. ALL GROUND WIRES SHALL PROVIDE A STRAIGHT, DOWNWARD PATH TO GROUND WITH GRADUAL BENDS AS REQUIRED. GROUND WIRES SHALL NOT BE LOOPED OR SHARPLY BENT.
3. ELECTRICAL CONTRACTOR SHALL COORDINATE INSTALLATION OF GROUND RODS AND GROUND RING WITH FOUNDATION AND UNDERGROUND CONDUIT.
4. EACH EQUIPMENT CABINET SHALL BE CONNECTED TO THE MASTER ISOLATION GROUND BAR (MIGB) WITH #2 AWG INSULATED STRANDED COPPER WIRE. EQUIPMENT CABINETS SHALL EACH HAVE (2) CONNECTIONS.
5. PROVIDE DEDICATED #2 AWG COPPER GROUND WIRE FROM EACH ANTENNA MOUNTING PIPE TO ASSOCIATED CIGBE (TYPICAL FOR FOUR MOUNTING PIPES PER SECTOR).
6. ANTENNA GROUND KITS SHALL BE FURNISHED AND INSTALLED BY ELECTRICAL CONTRACTOR.
7. COORDINATE NEW LICENSEE GROUND SYSTEM WITH EXISTING SITE GROUND SYSTEM.
8. EACH SECTION OF CABLE TRAY, ICE BRIDGE AND ICE SHIELD SHALL BE CONNECTED IN A FASHION TO PROVIDE A CONTINUOUS GROUND.
9. AT ALL TERMINATIONS AT EQUIPMENT ENCLOSURES, PANELS AND FRAMES OF EQUIPMENT, AND WHERE EXPOSED FOR GROUNDING, CONDUCTOR TERMINATION SHALL BE PERFORMED UTILIZING TWO HOLE BOLTED TONGUE COMPRESSION TYPE WITH STAINLESS STEEL SELF-TAPPING SCREWS.
10. ALL CLAMPS AND SUPPORTS USED TO SUPPORT THE GROUNDING SYSTEM CONDUCTORS AND PVC CONDUITS SHALL BE PVC TYPE (NON CONDUCTIVE). DO NOT USE METAL BRACKETS OR SUPPORTS WHICH WOULD FORM A COMPLETE RING AROUND ANY GROUNDING CONDUCTOR.
11. ALL GROUNDING CONNECTIONS SHALL BE COATED WITH A COPPER SHIELD ANTI-CORROSIVE AGENT SUCH AS T&B KOPR SHIELD. VERIFY PRODUCT WITH LICENSEE PROJECT MANAGER.
12. ALL BOLTS, WASHERS, AND NUTS USED ON GROUNDING CONNECTIONS SHALL BE STAINLESS STEEL.
13. INSTALL GROUND BUSHINGS ON ALL METALLIC CONDUITS AND BOND TO THE EQUIPMENT GROUND BUS IN THE PANELBOARD.
14. GROUND ANTENNA BASES, FRAMES, CABLE RACKS AND OTHER METALLIC COMPONENTS WITH #2 GROUNDING CONDUCTORS AND CONNECT TO INSULATED SURFACE MOUNTED GROUND BARS. CONNECTION DETAILS SHALL FOLLOW MANUFACTURER'S SPECIFICATIONS FOR GROUNDING.
15. GROUND COAXIAL SHIELD AT BOTH ENDS USING MANUFACTURER'S GUIDELINES.
16. REINFORCEMENT IN EQUIPMENT SLAB TO BE WELDED AND REINFORCEMENT TO BE BONDED TO GROUNDING RING.
17. CONCRETE-ENCASED ELECTRODES GREATER THAN 20 S.F. OF SURFACE AREA & 1/2" OR GREATER REINFORCING STEEL MUST BE BONDED TO THE GROUNDING RING PER NEC 250.50.
18. ALL GROUND BARS SHALL BE GALVANIZED WITH ANTI-THEFT HARDWARE.

GROUNDING LEGEND

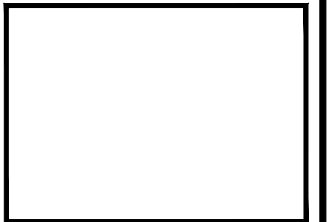
- EXOTHERMIC TYPE CONNECTION
- COMPRESSION TYPE CONNECTION
- #2 SOLID TINNED COPPER WIRE UNLESS OTHERWISE NOTED
- ⊗ 5/8" x 10'-0" COPPER CLAD GROUND ROD
- ⊠ GROUND WELL

AS BUILT
12/2/2016
J. GAGNON/M. HEATH
EASTERN COMMUNICAITONS, INC.

FOR CONSTRUCTION

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verizon
 118 FLANDERS ROAD
 WESTBOROUGH, MA 01581
 (508) 330-3330 TEL.

Hudson Design Group, Inc.
 1600 OSGOOD STREET
 BUILDING 20 NORTH, SUITE 3090 TEL: (978) 557-5553
 N. ANDOVER, MA 01845 FAX: (978) 336-5586



CHECKED BY: JX
 APPROVED BY: DPH

SUBMITTALS

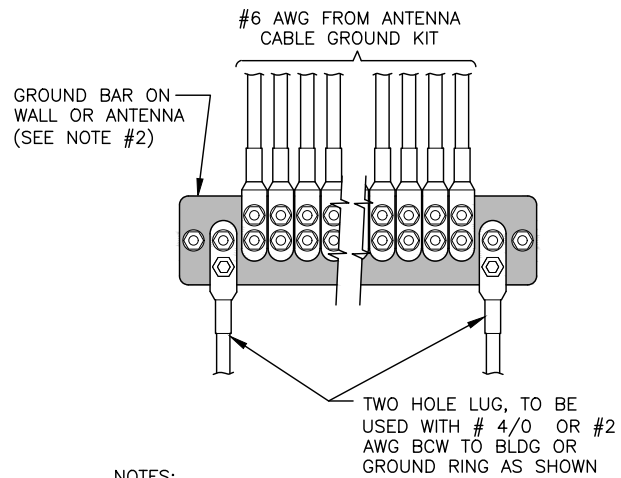
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SITE NAME:
PORTLAND 3 ME

SITE ADDRESS:
 476 SUMMIT STREET
 PORTLAND, ME 04103

SHEET TITLE
GROUNDING PLAN

SHEET NUMBER
E-3



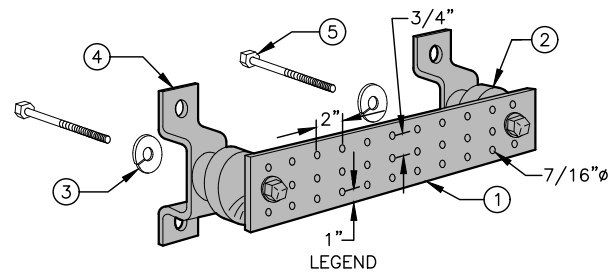
NOTES:

1. CONTRACTOR TO UTILIZE KOPR-SHIELD (THOMAS & BETTS) ON ALL LUG CONNECTIONS.
2. ALL GROUND BARS SHALL BE GALVANIZED WITH ANTI-THEFT HARDWARE.

**GROUNDING - STANDARD
DETAIL INSTALLATION OF
GROUNDWIRE TO GROUND BAR**

SCALE: N.T.S

1
E-4



- 1 GALVANIZED STEEL GROUND BAR, 1/4"x4"x20", OR OTHER LENGTH AS REQUIRED, HOLE CENTERS TO MATCH NEMA DOUBLE LUG CONFIGURATION.
- 2 INSULATORS, NEWTON INSTRUMENT CAT. NO. 3061-4 OR EQUAL.
- 3 5/8" LOCKWASHERS OR EQUAL.
- 4 WALL MOUNTING BRACKET, NEWTON INSTRUMENT CO. CAT. NO. A-8056 OR EQUAL.
- 5 5/8-11 x 1" H.H.C.S. BOLTS

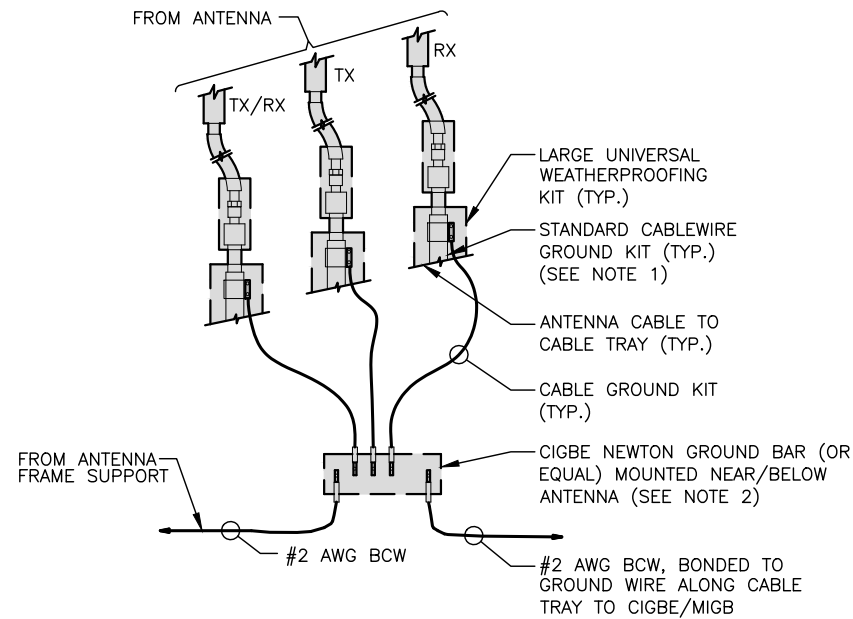
NOTES:

1. ALL BOLTS, NUTS, WASHERS, AND LOCK WASHERS SHALL BE 18-8 STAINLESS STEEL.
2. ALL GROUND BARS SHALL BE GALVANIZED WITH ANTI-THEFT HARDWARE.

**GROUNDING - STANDARD
DETAIL GROUND BAR**

SCALE: N.T.S

2
E-4



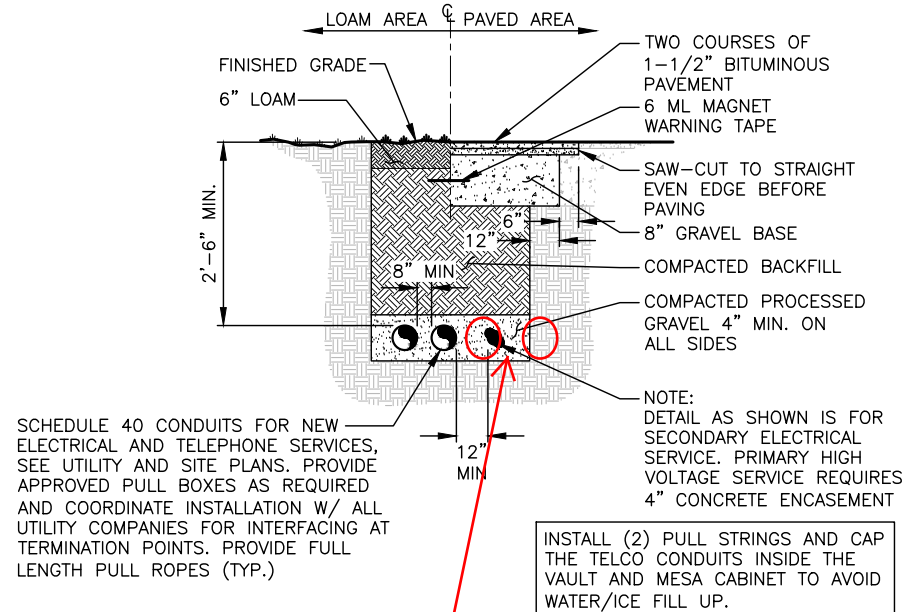
NOTES:

1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO CIGBE.
2. ALL GROUND BARS SHALL BE GALVANIZED WITH ANTI-THEFT HARDWARE.

**GROUNDING - STANDARD DETAIL
CONNECTION OF GROUND WIRES
TO GROUND BAR (CIGBE)**

SCALE: N.T.S

3
E-4



SCHEDULE 40 CONDUITS FOR NEW ELECTRICAL AND TELEPHONE SERVICES, SEE UTILITY AND SITE PLANS. PROVIDE APPROVED PULL BOXES AS REQUIRED AND COORDINATE INSTALLATION W/ ALL UTILITY COMPANIES FOR INTERFACING AT TERMINATION POINTS. PROVIDE FULL LENGTH PULL ROPES (TYP.)

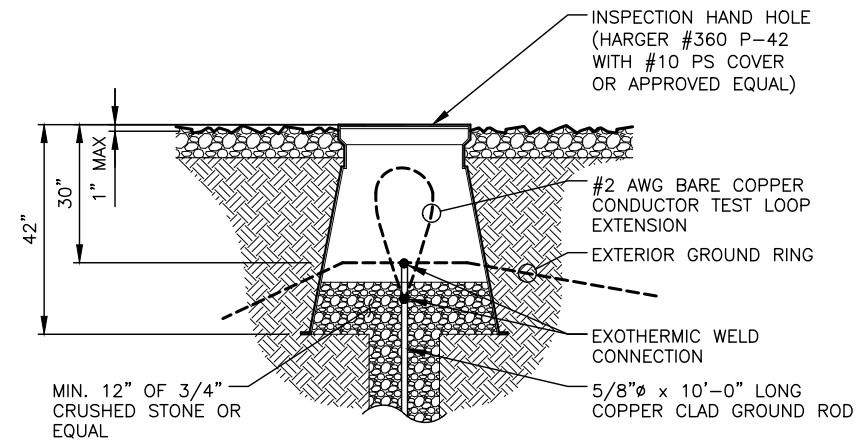
NOTE: DETAIL AS SHOWN IS FOR SECONDARY ELECTRICAL SERVICE. PRIMARY HIGH VOLTAGE SERVICE REQUIRES 4" CONCRETE ENCASMENT

BURIED CONDUIT DETAIL

SCALE: N.T.S

4
E-4

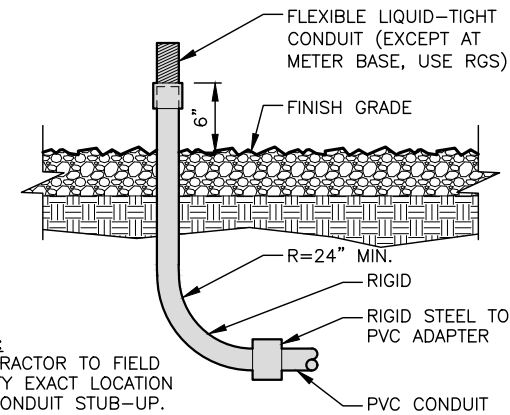
2-4" FOR POWER
2-4" FOR TELCO



GROUNDING WELL DETAIL

SCALE: N.T.S

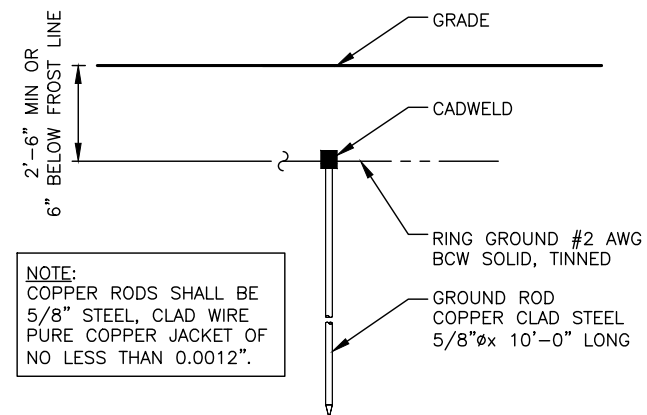
5
E-4



CONDUIT STUB-UP

SCALE: N.T.S

6
E-4



TYPICAL GROUND ROD DETAIL

SCALE: N.T.S

7
E-4

AS BUILT
12/2/2016
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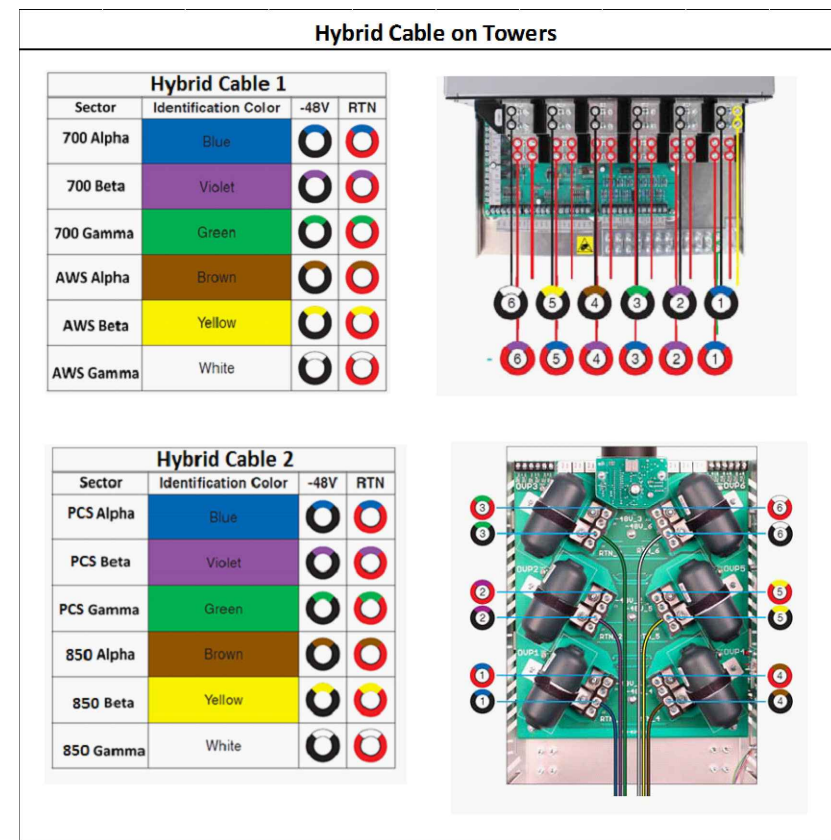
SHEET TITLE
**ELECTRICAL/
GROUNDING
DETAILS**

SHEET NUMBER
E-4

Line Color Code	Band	Tx / Rx	Color Pairs	Sector	Cable Length (FT)
BR	850	Tx0/Rx0	Blue + Red	Alpha	A&E to estimate cable lengths based on drawings. CM's to use as reference only. CM must verify and provide their revised numbers to Operations for material ordering 150'
BY	850	Tx 1/Rx1	Blue + Yellow		
BG	1900 CDMA	Tx0/Rx0	Blue + Green		
BBG	1900 CDMA	Tx 1/Rx1			
BP	700	Tx0/Rx0	Blue + Purple		
BBP	700	Tx 1/Rx1			
BBBP	700	Tx 2/Rx2			
BBBBP	700	Tx 3/Rx3			
BBr	AWS	Tx0/Rx0	Blue + Brown		
BBBr	AWS	Tx 1/Rx1			
BBBBr	AWS	Tx 2/Rx2			
BBBBBr	AWS	Tx 3/Rx3			
BGG	1900 LTE	Tx0/Rx0	Blue + Green		
BBGG	1900 LTE	Tx 1/Rx1			
BBBGG	1900 LTE	Tx 2/Rx2			
BBBBGG	1900 LTE	Tx 3/Rx3			
WR	850	Tx0/Rx0	White + Red	Beta	A&E to estimate cable lengths based on drawings. CM's to use as reference only. CM must verify and provide their revised numbers to Operations for material ordering 150'
WY	850	Tx 1/Rx1	White + Yellow		
WG	1900 CDMA	Tx0/Rx0	White + Green		
WWG	1900 CDMA	Tx 1/Rx1			
WP	700	Tx0/Rx0	White + Purple		
WWP	700	Tx 1/Rx1			
WWWP	700	Tx 2/Rx2			
WWWWP	700	Tx 3/Rx3			
WBr	AWS	Tx0/Rx0	White + Brown		
WWBr	AWS	Tx 1/Rx1			
WWWBr	AWS	Tx 2/Rx2			
WWWWBr	AWS	Tx 3/Rx3			
WGG	1900 LTE	Tx0/Rx0	White + Green		
WWGG	1900 LTE	Tx 1/Rx1			
WWWGG	1900 LTE	Tx 2/Rx2			
WWWWGG	1900 LTE	Tx 3/Rx3			
OR	850	Tx0/Rx0	Orange + Red	Gamma	A&E to estimate cable lengths based on drawings. CM's to use as reference only. CM must verify and provide their revised numbers to Operations for material ordering 150'
OY	850	Tx 1/Rx1	Orange + Yellow		
OG	1900 CDMA	Tx0/Rx0	Orange + Green		
OOG	1900 CDMA	Tx 1/Rx1			
OP	700	Tx0/Rx0	Orange + Purple		
OOP	700	Tx 1/Rx1			
OOOP	700	Tx 2/Rx2			
OOOOP	700	Tx 3/Rx3			
OBr	AWS	Tx0/Rx0	Orange + Brown		
OObR	AWS	Tx 1/Rx1			
OOObR	AWS	Tx 2/Rx2			
OOOObR	AWS	Tx 3/Rx3			
OGG	1900 LTE	Tx0/Rx0	White + Green		
OOGG	1900 LTE	Tx 1/Rx1			
OOOGG	1900 LTE	Tx 2/Rx2			
OOOOGG	1900 LTE	Tx 3/Rx3			

LINE COLOR CODE

SCALE: N.T.S



CABLE COLOR CODE

SCALE: N.T.S



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 PORTLAND, ME 04103

SHEET TITLE
 RF COLOR CODE

SHEET NUMBER

RF-1

ANTENNA DESIGN TO BE PROVIDED BY RF ENGINEER

RF ANTENNA DESIGN
SCALE: N.T.S

1
RF-2

G.C. TO VERIFY LATEST RF ANTENNA PRIOR TO CONSTRUCTION.

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SHEET TITLE
RF ANTENNA DESIGN

SHEET NUMBER
RF-2