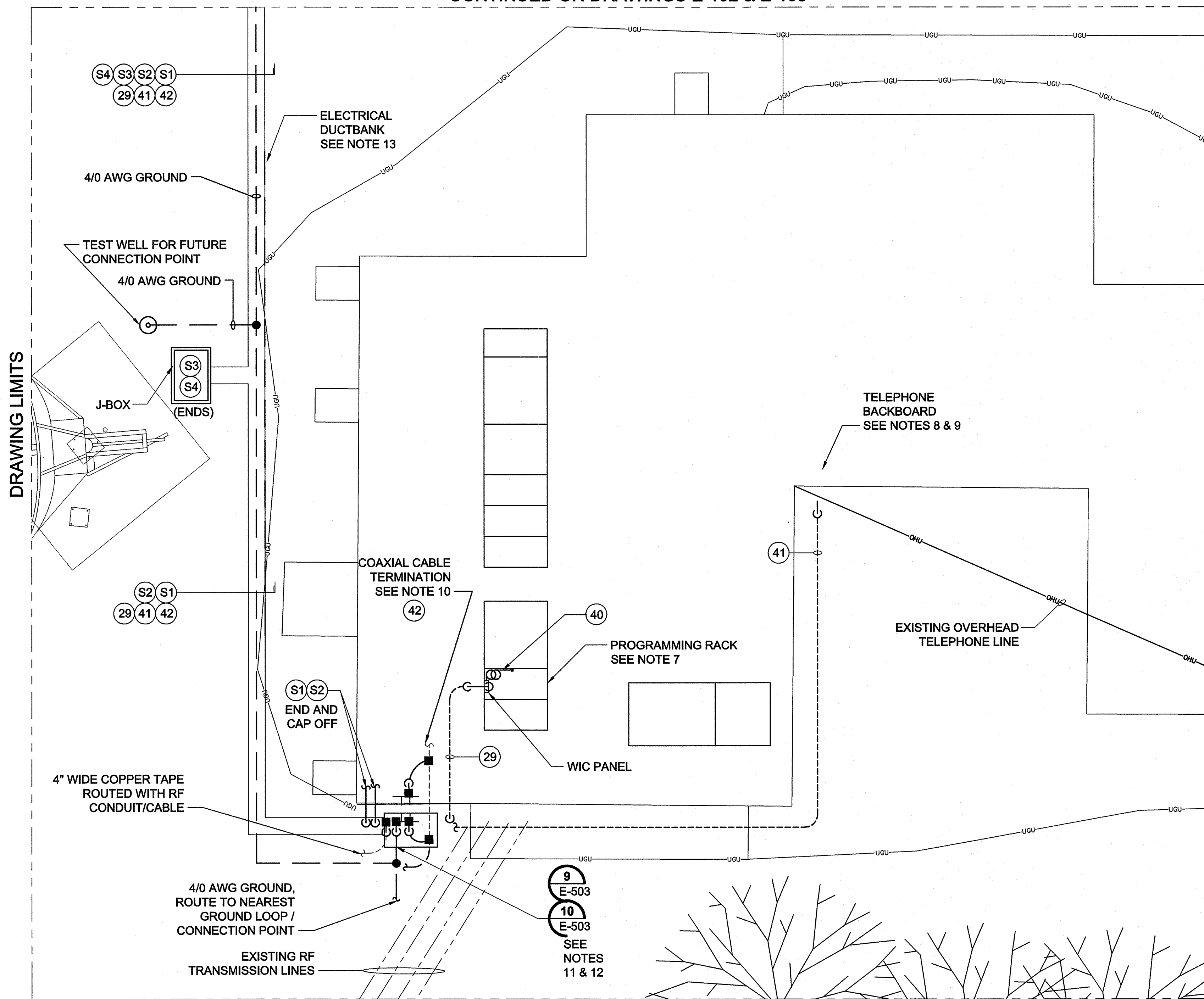


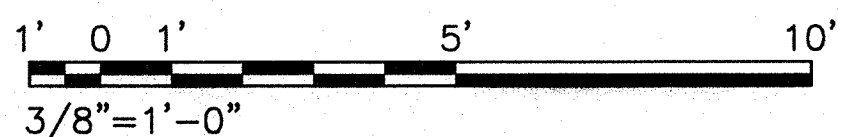
CONTINUED ON DRAWINGS E-102 & E-103



DRAWING LIMITS

DRAWING LIMITS

A **GROUNDING & POWER PLAN**
E-101 SCALE: 3/8"=1'-0"



CONTINUED ON DRAWING E-104

NOTES:

- ALL ELECTRICAL INSTALLATIONS SHALL BE IN ACCORDANCE WITH THE 2011 EDITION OF THE NATIONAL ELECTRICAL CODE (NEC NFPA 70) AND THE OCCUPATIONAL SAFETY AND HEALTH ACT (OSHA) AND PROJECT SPECIFICATIONS AND APPLICABLE CODES AND STANDARDS..
- ALL BUILDING PENETRATIONS SHALL BE SEALED WITH A FIRE BLOCK SEALANT TO PREVENT WATER FROM ENTERING THE INTERIOR. ALL PANEL ENTRY PENETRATIONS SHALL UTILIZE MYERS HUBS WITH GROUNDING BUSHINGS.
- ALL CONDUIT ROUTING IS SHOWN DIAGRAMMATIC, CONTRACTOR SHALL VERIFY LOCATION AND ROUTING BEFORE INSTALLATION. COORDINATE INSTALLATION WITH OTHER CRAFTS BEFORE INSTALLING CONDUITS, PULL BOXES AS REQUIRED, PANELS, AND DEVICES.
- ALL SHUT DOWN WORK REQUIRED SHALL BE PLANNED AND APPROVED BY THE STATION BEFORE PROCEEDING. PROVISIONS SHALL BE PROVIDED FOR ELECTRICAL POWER DURING SHUTDOWN PERIODS, INCLUDING TEMPORARY GENERATOR, DAY TANK, REQUIRED FUEL AND OPERATOR TECHNICIAN AS REQUIRED.
- CONTRACTOR SHALL VERIFY ELECTRICAL PHASE ARRANGEMENTS / CONNECTIONS, MAKING ADJUSTMENTS AS REQUIRED, MATCHING THE NEW INSTALLED SYSTEM(S) TO THE EXISTING FACILITIES SYSTEM. NEW PANEL CONNECTIONS TO EXISTING EQUIPMENT SHALL BE VERIFIED BEFORE APPLICATION OF POWER. FACILITIES ENGINEER SHALL BE PRESENT UPON ENERGIZING EQUIPMENT.
- CONDUITS INSTALLED UNDERGROUND SHALL BE PVC COATED RIGID GALVANIZED STEEL. ABOVE GRADE EXTERIOR CONDUITS SHALL BE RIGID GALVANIZED STEEL (RGS), INTERIOR CONDUITS MAY BE ELECTRICAL METALLIC TUBING (EMT).
- CONTRACTOR SHALL PROVIDE FIBER OPTIC JUMPERS (PIGTAILS) AS REQUIRED FOR CONNECTION TO THE PROGRAMMING EQUIPMENT. CONNECTING TO THE OSP FIBER OPTIC CABLING TO THE FIBER OPTIC WALL MOUNT INTERCONNECTION CENTER BY SABRE INDUSTRIES. CONTRACTOR SHALL FURNISH ST STYLE CONNECTORS INSTALLING FAN OUT KITS AS REQUIRED FOR THE 6 FIBER 62.5 / 125 MULTI-MODE OUTSIDE PLANT RATED F/O CABLE.
- CONTRACTOR SHALL INSTALL A NEW COMMUNICATION BACKBOARD UTILIZING 3/4" PLYWOOD. ROUTE THE 25 PAIR OSP COMMUNICATION CABLE TO THE NEW COMMUNICATION BACKBOARD AND SHALL PROVIDE AND INSTALL A NEW SURGE PROTECTED 66 BLOCK (CIRCA TELECOM 2625QC-3B1E OR EQUAL) WITH ANALOG GAS TUBE SURGE PROTECTORS IN THE TELEPHONE CLOSET. ALL 25 PAIRS SHALL BE TERMINATED TO THE 66 BLOCK WITH THE (2) UTILIZED PAIRS IDENTIFIED/NOTED. CONTRACTOR SHALL INSTALL ALL JUMPERS /CROSS CONNECTION FOR THE TWO UTILIZED LINES AS REQUIRED FOR TERMINATION TO THE PHONE COMPANY DEMARCATION POINT. CONTRACTOR SHALL BOND THE 66 BLOCK TO THE EXISTING GROUNDING TERMINAL, WHERE THIS ISNT IN PLACE THE CONTRACTOR SHALL ROUTE A INSULATED #4 AWG GROUND CONDUCTOR TO THE NEAREST GROUNDING POINT.
- CONTRACTOR SHALL ROUTE A 4-PAIR TELEPHONE CABLE IN THE EXISTING FLOOR TRENCH TO THE TELEPHONE DEMARCATION BOX.
- ROUTE COAX RF CABLE INTO PHASOR ROOM. STATION ENGINEER WILL TERMINATE CABLE.
- THE RF COAX CABLE SHALL BE BONDED TO THE GROUNDING BUS BARS BELOW THE BULK HEAD PENETRATION BOTH EXTERIOR AND INTERIOR. ANDREWS GROUNDING KIT(S) NO. 241088-2 OR APPROVED EQUAL.
- CONTRACTOR SHALL CONNECT TO THE EXTERIOR GROUND BUS BAR TO THE GROUND LOOP WITH A #4/0 AWG INSULATED GROUND CONDUCTOR.
- DUE TO UNDERGROUND INSTALLATION OBSTRUCTIONS HAND EXCAVATION IS REQUIRED FOR AREA ADJACENT TO THE STATION BUILDING. NO EXCAVATORS OR POWERED EQUIPMENT SHALL BE UTILIZED.

LEGEND:

- UNDERGROUND CONDUIT
- ABOVE GROUND CONDUIT
- ⊙ GROUND ROD, 3/4" X 10' SECTIONAL COPPER CLAD
- EXOTHERMIC WELD, SEE DETAIL FOR TYPE
- MECHANICAL GROUND CONNECTION, SEE DETAIL FOR TYPE
- ⊙ GROUNDING TEST WELL
- GROUNDING CONDUCTOR (BURIAL DEPTH 30")
- 4" WIDE (.016" TO .022") COPPER RF BONDING TAPE
- 3" C 7/8" RF COAXIAL CABLE
- G CONDUIT / CABLE TURNED DOWN
- CONDUIT / CABLE TURNED UP
- TT GROUNDING BUS BAR
- ⊕ GROUND CONNECTION TO FOUNDATION REBAR LOCATION AT LOWEST LEVEL (UFER GROUND)
- ⊞ HIGH PRESSURE SODIUM WALL MOUNTED FIXTURE, 70 WATT, 120 VAC, FURNISHED WITH MODULES. CONTRACTOR SHALL MOUNT LIGHTS AND DISCONNECT THE INTERGAL PHOTO ELECTRIC CELL(S). T.O.F. ELEVATION 9'-0" A.F.G.
- ⊙ CABLE NUMBER (SEE E-403)
- ⊙XXX-X INSTRUMENT TAG
- ⊙XX E-5XX DETAIL/SHEET #



Project Manager	
QC Reviewer	
Structural	
Mechanical	
Plumbing	
Electrical	
City	

ISSUED FOR CONSTRUCTION	11/7/12	Approved
Mark		

Designed by:	Checked by:
Drawn by:	Reviewed by:
Date:	2012

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FEMA
Engineering Services by
KBR Engineering Co., LLC

FEMA EMERGENCY RADIO NETWORK
ON WOGAT PORTLAND, MAINE

GROUNDING & POWER PLAN

Drawing Number:
E-105

