

City of Portland, Maine - Building or Use Permit Application

389 Congress Street, 04101 Tel: (207) 874-8703, Fax: (207) 874-8716

PERMIT ISSUED	
Permit No: 02-1009 OCT	Issue Date: 1 2002
CBL: 415 B006001	

Location of Construction: 503-525 Presumpscot St	Owner Name: Sawdust Investments Llc Ii	Owner Address: Eben Hill Rd CITY OF PORTLAND	Phone:
Business Name:	Contractor Name:	Contractor Address:	Phone:
Lessee/Buyer's Name	Phone:	Permit Type: Alterations - Commercial	Zone: IM

Past Use: Telecommunication facility	Proposed Use: Industrial/commercial	Permit Fee: \$296.00	Cost of Work: \$38,230.00	CEO District: 2
Proposed Project Description: Install a verizon wireless antenna on mono pole <i>existing</i>		FIRE DEPT: <input checked="" type="checkbox"/> Approved <input type="checkbox"/> Denied	INSPECTION: Use Group: U Type: 2c 9/30/02 <i>[Signature]</i>	

Signature: <i>[Signature]</i>	Signature: <i>[Signature]</i>
PEDESTRIAN ACTIVITIES DISTRICT (P.A.D.)	
Action: <input type="checkbox"/> Approved <input type="checkbox"/> Approved w/Conditions <input type="checkbox"/> Denied	
Signature:	Date:

Permit Taken By: jmy	Date Applied For: 09/06/2002	Zoning Approval
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<p>1. This permit application does not preclude the Applicant(s) from meeting applicable State and Federal Rules.</p> <p>2. Building permits do not include plumbing, septic or electrical work.</p> <p>3. Building permits are void if work is not started within six (6) months of the date of issuance. False information may invalidate a building permit and stop all work..</p>	<p>Special Zone or Reviews</p> <p><input type="checkbox"/> Shoreland</p> <p><input type="checkbox"/> Wetland</p> <p><input type="checkbox"/> Flood Zone</p> <p><input type="checkbox"/> Subdivision</p> <p><input type="checkbox"/> Site Plan</p> <p>Maj <input type="checkbox"/> Minor <input type="checkbox"/> MM <input type="checkbox"/></p> <p>Date: <i>9/19/02</i></p>	<p>Zoning Appeal</p> <p><input type="checkbox"/> Variance</p> <p><input type="checkbox"/> Miscellaneous</p> <p><input type="checkbox"/> Conditional Use</p> <p><input type="checkbox"/> Interpretation</p> <p><input type="checkbox"/> Approved</p> <p><input type="checkbox"/> Denied</p> <p>Date:</p>	<p>Historic Preservation</p> <p><input checked="" type="checkbox"/> Not in District or Landmark</p> <p><input type="checkbox"/> Does Not Require Review</p> <p><input type="checkbox"/> Requires Review</p> <p><input type="checkbox"/> Approved</p> <p><input type="checkbox"/> Approved w/Conditions</p> <p><input type="checkbox"/> Denied</p> <p>Date: <i>[Signature]</i></p>
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CERTIFICATION

I hereby certify that I am the owner of record of the named property, or that the proposed work is authorized by the owner of record and that I have been authorized by the owner to make this application as his authorized agent and I agree to conform to all applicable laws of this jurisdiction. In addition, if a permit for work described in the application is issued, I certify that the code official's authorized representative shall have the authority to enter all areas covered by such permit at any reasonable hour to enforce the provision of the code(s) applicable to such permit.

SIGNATURE OF APPLICANT	ADDRESS	DATE	PHONE
RESPONSIBLE PERSON IN CHARGE OF WORK, TITLE		DATE	PHONE

02-1009

All Purpose Building Permit Application

If you or the property owner owes real estate or personal property taxes or user charges on any property within the City, payment arrangements must be made before permits of any kind are accepted.

Location/Address of Construction: <u>503-525 PRESUMPTON STREET PORTLAND ME</u>			
Total Square Footage of Proposed Structure <u>360 sq Ft</u>		Square Footage of Lot	
Tax Assessor's Chart, Block & Lot Chart# <u>415</u> Block# <u>B</u> Lot# <u>6</u>	Owner: <u>MERRILL INDUSTRIES INC</u> <u>601 DANFORTH ST</u> <u>PORTLAND ME</u>		Telephone:
Lessee/Buyer's Name (If Applicable)	Applicant name, address & telephone: <u>VERIZON WIRELESS</u> <u>400 FRIBERG PARKWAY</u> <u>WESTBOROUGH, MA (508) 380-3300</u>	Cost Of Work: \$ <u>38,230</u>	Fee: \$ <u>296.00</u>
Current use: <u>Industrial / Comm</u>			
If the location is currently vacant, what was prior use: <u>TELECOMMUNICATION FACILITY</u>			
Approximately how long has it been vacant: <u>-</u>			
Proposed use: <u>VERIZON WIRELESS ANTENNA INSTALLATION</u>			
Project description: <u>on a radio pole</u>			
Contractor's name, address & telephone:			
Who should we contact when the permit is ready: <u>ROBERT P. HOGAN - 1-781-771-8300</u>			
Mailing address: <u>tt tt Cal</u>			
We will contact you by phone when the permit is ready. You must come in and pick up the permit and review the requirements before starting any work, with a Plan Reviewer. A stop work order will be issued and a \$100.00 fee if any work starts before the permit is picked up. PHONE: <u>1-781-771-8300</u>			

IF THE REQUIRED INFORMATION IS NOT INCLUDED IN THE SUBMISSIONS THE PERMIT WILL BE AUTOMATICALLY DENIED AT THE DISCRETION OF THE BUILDING/PLANNING DEPARTMENT, WE MAY REQUIRE ADDITIONAL INFORMATION IN ORDER TO APPROVE THIS PERMIT.

I hereby certify that I am the Owner of record of the named property, or that the owner of record authorizes the proposed work and that I have been authorized by the owner to make this application as his/her authorized agent. I agree to conform to all applicable laws of this jurisdiction. In addition, if a permit for work described in this application is issued, I certify that the Code Official's authorized representative shall have the authority to enter all areas covered by this permit at any reasonable hour to enforce the provisions of the codes applicable to this permit.

Signature of applicant: <u>Robert P. Hogan</u>	Date: <u>9-6-02</u>
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This is NOT a permit, you may not commence ANY work until the permit is issued. If you are in a Historic District you may be subject to additional permitting and fees with the Planning Department on the 4th floor of City Hall



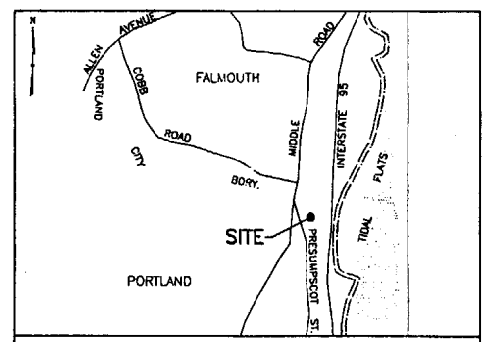
SITE NAME:
PORTLAND
 503-525 PRESUMPCOT STREET
 PORTLAND, ME 04102
 CUMBERLAND COUNTY

PROJECT SUMMARY	
APPROVALS FOR RECORD USE	
REVIEWED BY:	
REAL ESTATE MANAGER	INITIAL _____ DATE _____
LANDLORD/REPRESENTATIVE	INITIAL _____ DATE _____
CONSTRUCTION MANAGER	INITIAL _____ DATE _____
R.F. DESIGN ENGINEER	INITIAL _____ DATE _____

PROJECT SUMMARY	
SITE NAME:	PORTLAND
CANDIDATE ADDRESS:	503-525 PRESUMPCOT STREET PORTLAND, MA 04102 CUMBERLAND COUNTY
PROPERTY OWNER:	MERRILL INDUSTRIES, INC. 601 DANFORTH STREET PORTLAND, MA 04102
APPLICANT:	VERIZON WIRELESS 400 FRIBERG PARKWAY WESTBOROUGH, MA 01581
ENGINEER:	TECTONIC ENGINEERING CONSULTANTS 4 WEST MAIN STREET SUITE 401 NORTHBOROUGH, MA 01532
JURISDICTION:	TOWN OF PORTLAND
ZONING:	INDUSTRIAL (2)
TAX IDENTIFICATION:	MAP 415 PARCEL BLOCK B LOT 6

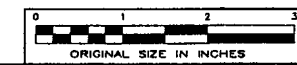
*Verizon site
Portland*

SHEET INDEX			
SHEET NO.	DESCRIPTION	REV. NO.	REVISION DATE
T-1	TITLE SHEET	-	02/13/02
C-1	SITE PLAN	-	02/13/02
C-2	SITE DETAIL PLAN	-	02/13/02
C-3	ELEVATION & SITE DETAILS	-	02/13/02
S-1	EQUIPMENT PLAN & DETAILS	-	02/13/02
E-1	ELECTRIC DETAILS	-	02/13/02
E-2	GROUNDING DETAILS	-	02/13/02



VICINITY MAP SCALE: NTS

DIRECTIONS:
 FROM BOSTON TAKE INTERSTATE 95 NORTH TOWARDS MAINE. TAKE THE I-285 NORTH EXIT (EXIT NUMBER 8A) TOWARDS SO. PORTLAND/PORTLAND DOWNTOWN. TAKE THE ME-26 NORTH/WASHINGTON AVENUE EXIT (EXIT NUMBER 8). STAY STRAIGHT TO GO ONTO ME-26. TURN RIGHT ONTO ME-9. PRESUMPCOT STREET IS ON THE RIGHT AND SITE IS ON THE LEFT.



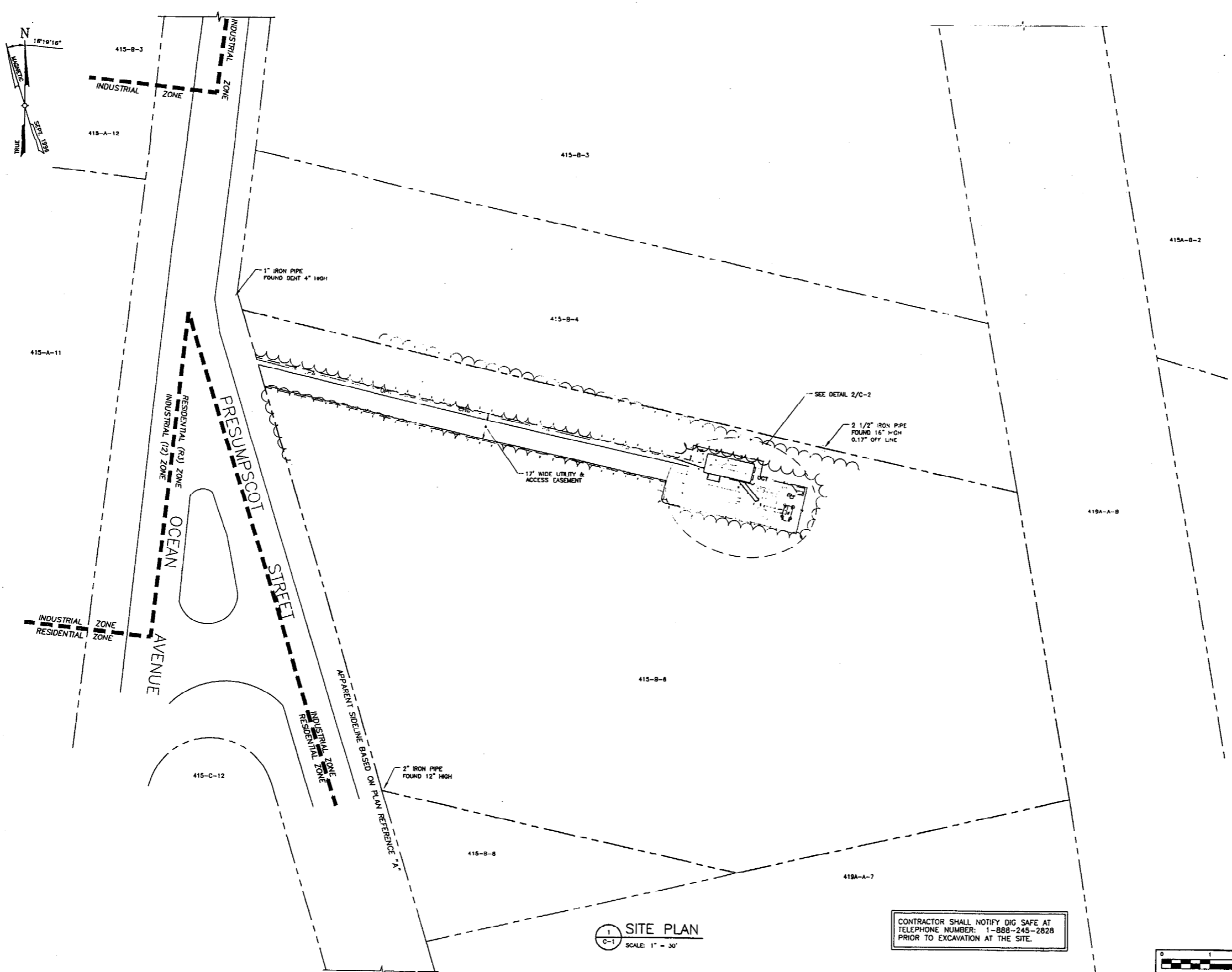
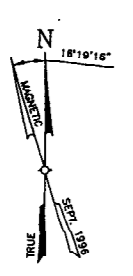
400 FRIBERG PARKWAY
 WESTBOROUGH, MA 01581
verizon wireless Phone: (508) 330-3300
 Fax: (781) 481-1398

TECTONIC ENGINEERING CONSULTANTS P.C.
 4 WEST MAIN STREET OFFICE: (508) 333-7411
 NORTHBOROUGH, MA 01532 FAX: (508) 330-3408

Rev	Date	Revision	Approved	DRAWING CONTROL		
△	02/13/02	ISSUED FOR CONSTRUCTION - COMMENT	MLF	Designed by: MLF	Drawn by: MLF	Checked by: AC
				Purpose	Released by	Date
				● For Comment		
				○ For Approval		
				○ For Bid		
				○ For Construction		



TITLE SHEET			
PORTLAND 503-525 PRESUMPCOT STREET PORTLAND, ME 04102 CUMBERLAND COUNTY			
Date 01/30/02	Work Order 1994.PORTLND	Drawing No. T-1	Rev -
Scale AS SHOWN			



LEGEND	
— OHW —	EXISTING OVERHEAD WIRES
— OHW —	PROPOSED OVERHEAD WIRES
— U.P. —	EXISTING UTILITY POLE
— U.P. —	PROPOSED UTILITY POLE
— ROAD —	EXISTING ROAD
— FENCE —	EXISTING CHAIN LINK FENCE
— FENCE —	EXISTING CHAIN LINK FENCE TO BE REMOVED
— FENCE —	PROPOSED FENCE
— ADJ. —	ADJOINERS
— P.L. —	PROPERTY LINE
— Z.B. —	ZONE BOUNDARY
— TREE —	EXISTING TREE LINE

PLAN OF REFERENCE

- BEARINGS ARE BASED ON A GPS POSITION OF TRUE NORTH TAKEN ON SEPTEMBER 18, 1998 BY SEBAGO TECHNICS, INC.
- DEED REFERENCE BOOK 8284, PAGE 72, DATED: SEPT. 14, 1983, CUMBERLAND COUNTY REGISTRY OF DEEDS.
- THE BOUNDARY SHOWN HEREON IS BASED ON PLAN REFERENCE "1" AND MONUMENTATION FOUND IN THE FIELD.
- THIS PLAN IS BASED ON A STANDARD BOUNDARY SURVEY PREPARED IN ACCORDANCE WITH THE STANDARDS ADOPTED BY THE MAINE STATE BOARD OF LICENSURE FOR PROFESSIONAL LAND SURVEYORS STANDARDS OF PRACTICE CATEGORY I, CONDITION II WITH THE FOLLOWING EXCEPTIONS:
 - A. NO WRITTEN SURVEYORS REPORT.

REFERENCE PLANS:

- PLAN OF LAND ON PRESUMPCOT STREET, PORTLAND, MAINE DATED AUGUST 24, 1982, RECORDED IN PLAN BOOK 136, PAGE 11.
- A PLAN ENTITLED "PLOT PLAN" BY SEBAGO TECHNICS FOR TECTONIC ENGINEERING CONSULTANTS, P.C. AND DATED 10/10/98.

GENERAL NOTES

- CONTRACTOR SHALL VERIFY ALL DIMENSION AND CONDITIONS IN THE FIELD PRIOR TO FABRICATION AND ERECTION OF ANY MATERIAL. UNUSUAL CONDITIONS SHALL BE REPORTED TO THE ATTENTION OF THE ENGINEER.
- CONTRACTOR SHALL FIELD VERIFY LOCATIONS OF EXISTING UNDERGROUND UTILITIES PRIOR TO ANY EXCAVATION WORK.
- DESIGN OF THE EQUIPMENT SHELTER SHALL BE DONE BY A REGISTERED ENGINEER AND IN ACCORDANCE WITH THE MASSACHUSETTS STATE BUILDING CODE.
- THE EQUIPMENT SHELTER AND FOUNDATIONS INDICATED ARE BASED ON INFORMATION PROVIDED BY VERIZON WIRELESS.
- FOUNDATIONS HAVE BEEN DESIGNED BASED ON AN ASSUMED SOIL BEARING CAPACITY OF 3,000 LBS PER SQ. FT. ACTUAL BEARING CAPACITY SHALL BE VERIFIED BY A REGISTERED GEOTECHNICAL ENGINEER.

EARTHWORK NOTES

- ALL EXCAVATIONS SHALL BE Dewatered by a manner which will not loosen foundation subgrade material. Surface water shall be diverted away from excavations by means of berms, diversion ditches, or other suitable methods.
- CONFINED EXCAVATIONS FOR FOUNDATIONS, UTILITIES, ETC. SHALL BE LIMITED TO 4 FT. IN DEPTH UNLESS SHORING AND BRACING ARE USED. TRENCH EXCAVATION GEOMETRY AND/OR BRACING SHALL CONFORM WITH LATEST OSHA REQUIREMENTS.
- ALL FOOTING SUBGRADES SHALL BE COMPACTED UNDER THE OBSERVATION OF THE ENGINEER. AREAS FOUND TO BE UNSTABLE OR CONTAINING ORGANIC MATERIAL OR DEBRIS SHALL BE UNDERCUT AND REPLACED WITH GRANULAR MATERIAL OR AS DIRECTED BY THE ENGINEER.
- FILL PLACED TO ESTABLISHED GRADE BENEATH FOOTINGS, SLAB, AND PAVEMENTS SHALL BE PLACED IN MAXIMUM LOOSE LIFT THICKNESSES OF 8 INCHES AND SHALL BE COMPACTED TO AT LEAST 95% OF PROCTOR DENSITY.
- ALL FOUNDATION SUBGRADES AND PLACEMENT OF BACKFILL SHALL BE INSPECTED BY THE ENGINEER. MATERIALS PROPOSED FOR USE AS GRANULAR MATERIAL SHALL BE SUBMITTED TO THE ENGINEER FOR TESTING AND APPROVED PRIOR TO USE ON-SITE.
- GRANULAR MATERIAL SHALL BE WELL GRADED SAND AND GRAVEL HAVING A MAXIMUM SIZE OF 3 INCHES, BETWEEN 5 AND 50 PERCENT BY WEIGHT SHALL PASS THE NO. 40 SIEVE AND NO MORE THAN 12 PERCENT SHALL PASS THE NO. 200 SIEVE.
- SAND BEDDING SHALL BE WELL GRADED GRANULAR MATERIAL WITH 100% OF THE MATERIAL PASSING THE NO. 4 SIEVE AND 0% OF THE MATERIAL PASSING THE NO. 200 SIEVE.
- BACKFILL SHALL CONSIST OF MATERIAL ON SITE FREE OF ANY FROZEN MATERIAL, ORGANIC MATERIAL, DEBRIS, OR ANY OTHER UNSUITABLE MATERIAL.
- ALL SUBGRADES AND NATIVE SOILS SHALL BE PROOFROLLED IN THE PRESENCE OF THE ENGINEER BY MAKING A MINIMUM OF 4 PASSES IN TWO PERPENDICULAR DIRECTION WITH A SMOOTH DRUM VIBRATOR ROLLER HAVING A STATIC WEIGHT OF AT LEAST 15 TONS. PROOFROLLING SHOULD NOT BE PERFORMED IN WET AREAS UNTIL THEY ARE ALLOWED TO DRY. IF SOFT OR UNACCEPTABLE MATERIALS ARE ENCOUNTERED AFTER STRIPPING AS DETERMINED BY VISUAL INSPECTION AND/OR PROOFROLLING, FURTHER UNDERCUTTING SHOULD BE EMPLOYED AS DIRECTED UNTIL ALL UNSUITABLE MATERIAL IS REMOVED OR AS DIRECTED BY THE ENGINEER.

1 SITE PLAN
C-1
SCALE: 1" = 30'

CONTRACTOR SHALL NOTIFY DIG SAFE AT TELEPHONE NUMBER: 1-888-245-2828 PRIOR TO EXCAVATION AT THE SITE.



400 FRIBERG PARKWAY
WESTBOROUGH, MA 01581
Phone: (508) 330-3300
Fax: (781) 481-1398

verizon wireless

TECTONIC ENGINEERING CONSULTANTS P.C.

4 WEST MAIN STREET
NORTHBOROUGH, MA 01532
OFFICE: (508) 363-7411
FAX: (508) 330-3408

Rev	Date	Revision	Approved	DRAWING CONTROL		
△	02/13/02	ISSUED FOR CONSTRUCTION - COMMENT	MLF	Designed by MLF	Drawn by MLF	Checked by RC
				Purpose	Released by	Date
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				○ For Bid		
				○ For Construction		

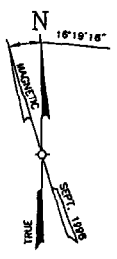


SITE PLAN

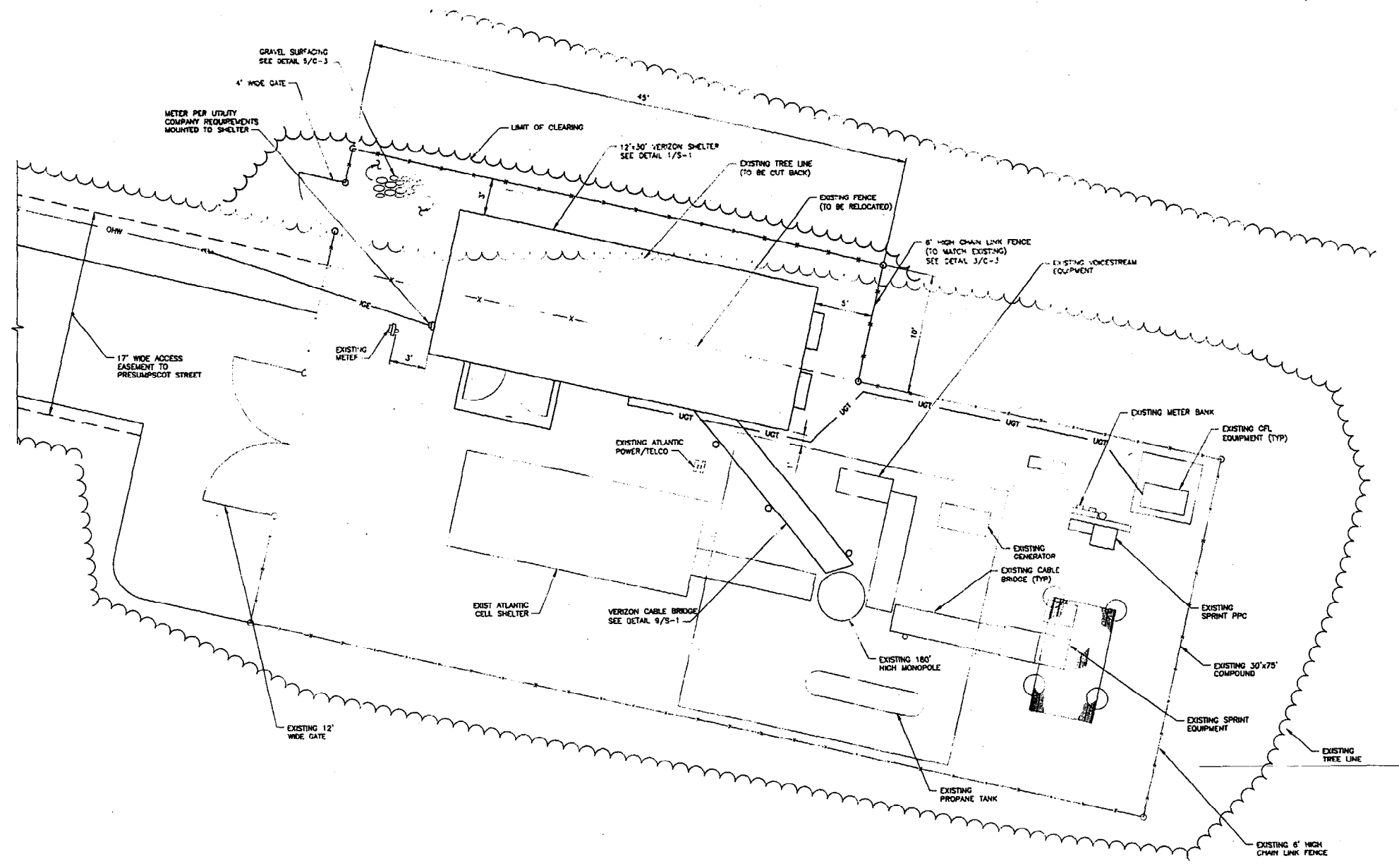
503-525 PRESUMPCOT STREET
PORTLAND, ME 04102
CUMBERLAND COUNTY

Date	Work Order	Drawing No.	Rev
01/30/02	1994.PORTLND	C-1	-

Scale: AS SHOWN



LEGEND	
OHW	EXISTING OVERHEAD WIRES
TCP	EXISTING UTILITY POLE
---	EXISTING CHAIN LINK FENCE
- - -	EXISTING CHAIN LINK FENCE (TO BE REMOVED)
---	FENCE
~~~~~	EXISTING TREE LINE
~~~~~	LIMIT OF CLEARING
~~~~~	EXISTING TREE LINE (TO BE REMOVED)
---	UNDERGROUND ELECTRIC SERVICE
---	UNDERGROUND TELCO SERVICE



1 SITE DETAIL PLAN  
C-2 SCALE: 1" = 5'

400 FRIBERG PARKWAY  
WESTBOROUGH, MA 01581  
Phone: (508) 330-3300  
Fax: (781) 481-1306

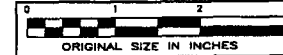
**TECTONIC** ENGINEERING  
CONSULTANTS P.C.

4 WEST MAIN STREET NORTHBOROUGH, MA 01838 OFFICE: (508) 383-7411 FAX: (508) 330-3408

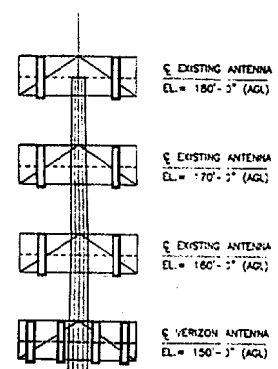
SITE DETAIL PLAN

PORTLAND  
503-525 PRESUMPCOT STREET  
PORTLAND, ME 04102  
CUMBERLAND COUNTY

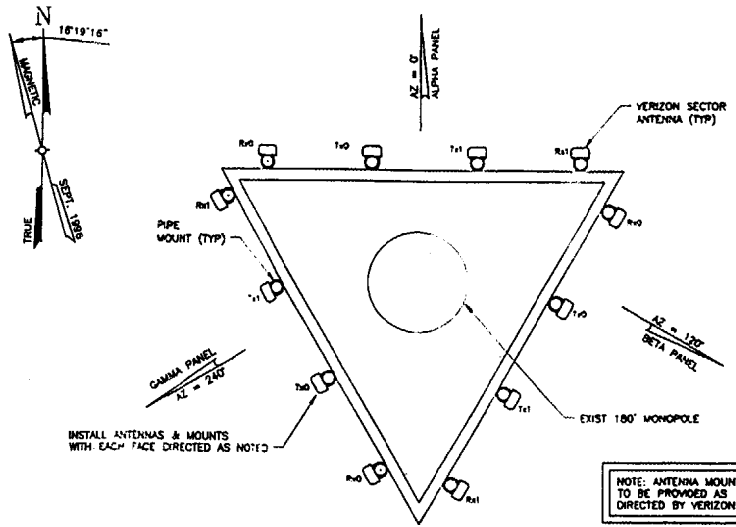
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Rev	Date	Revision	Approved	DRAWING CONTROL		
				Designed by	Drawn by	Checked by
Δ	02/13/02	ISSUED FOR CONSTRUCTION - COMMENT	MLF			

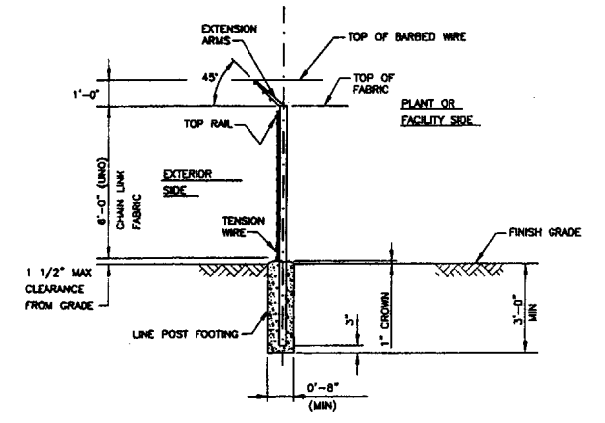
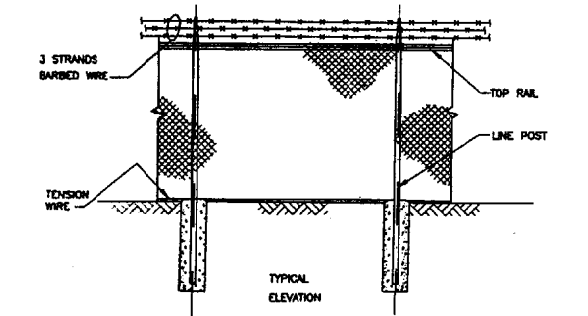


*New*

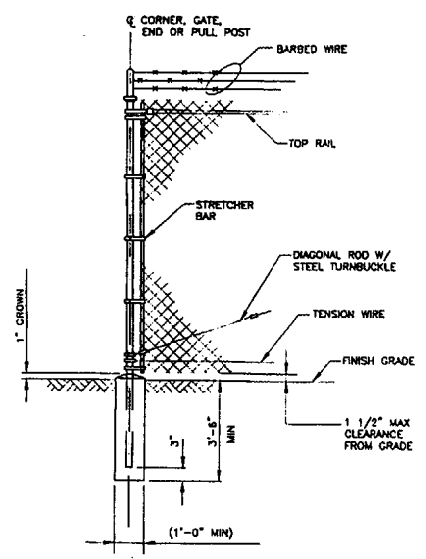
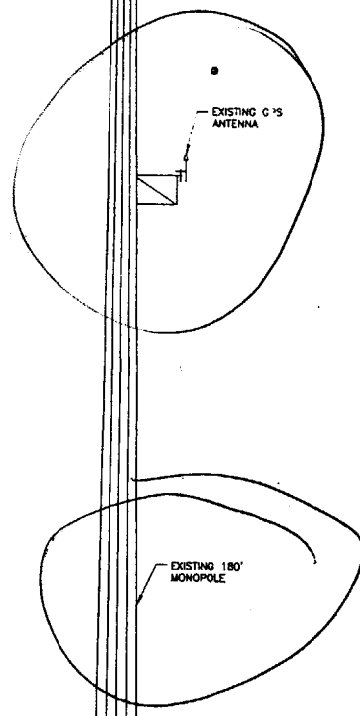


NOTE: ANTENNA MOUNTS TO BE PROVIDED AS DIRECTED BY VERIZON WIRELESS

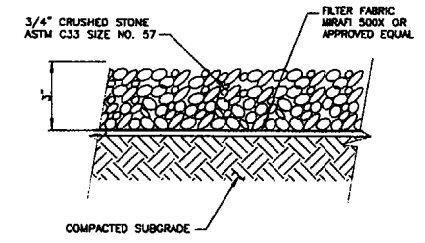
2 ANTENNA MOUNTING PLAN  
SCALE: NTS



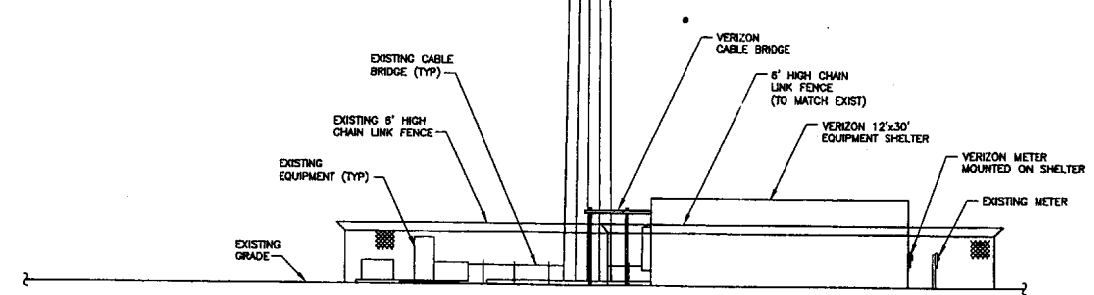
3 TYPICAL SECTION  
WOVEN WIRE FENCE DETAIL  
SCALE: NTS



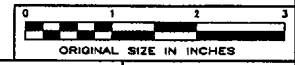
4 WOVEN WIRE CORNER, GATE END OR PULL POST  
SCALE: NTS



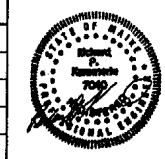
5 GRAVEL SURFACING DETAIL  
SCALE: NTS



1 NORTH ELEVATION  
SCALE: 1" = 10'



Rev	Date	Revision	Approved	DRAWING CONTROL		
△	02/13/02	ISSUED FOR CONSTRUCTION - COMMENT	MLF	Designed by: MLF	Drawn by: MLF	Checked by: NO
				Purpose:	Released by:	Date:
				● For Comment		
				○ For Approval		
				○ For Bid		
				○ For Construction		



400 FRIBERG PARKWAY  
 WESTBOROUGH, MA 01581  
 Phone: (508) 330-3300  
 Fax: (781) 481-1396

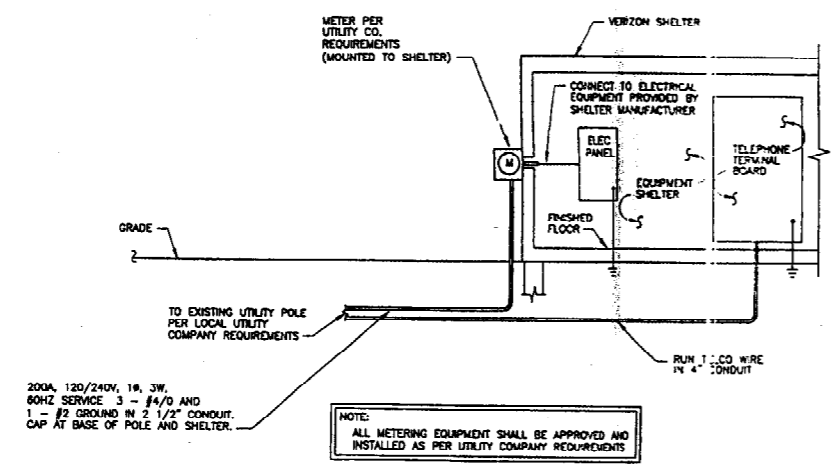
**TECTONIC ENGINEERING CONSULTANTS P.C.**

4 WEST MAIN STREET NORTHBOROUGH, MA 01532 OFFICE: (508) 393-7411 FAX: (508) 330-3408

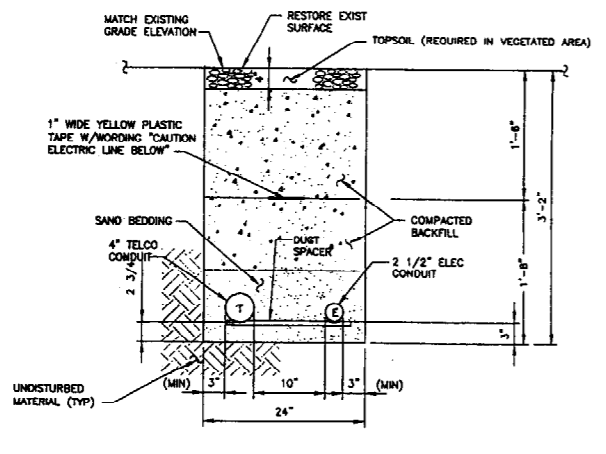
ELEVATION & SITE DETAILS  
 PORTLAND  
 503-525 PRESUMPCOT STREET  
 PORTLAND, ME 04102  
 CUMBERLAND COUNTY

Date: 01/30/02	Work Order: 1994.PORTLND	Drawing No.: C-3	Rev: -
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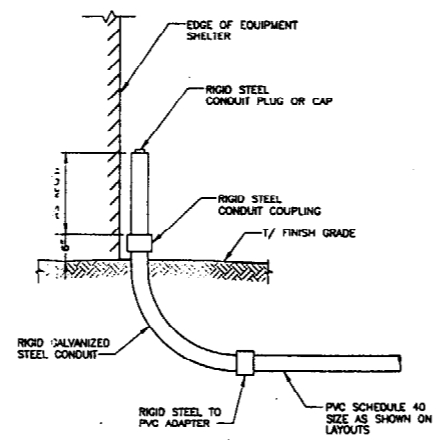




1 UTILITY SERVICE ELEVATION  
E-1 SCALE: NTS



2 SERVICE CONDUIT TRENCH  
E-1 SCALE: NTS

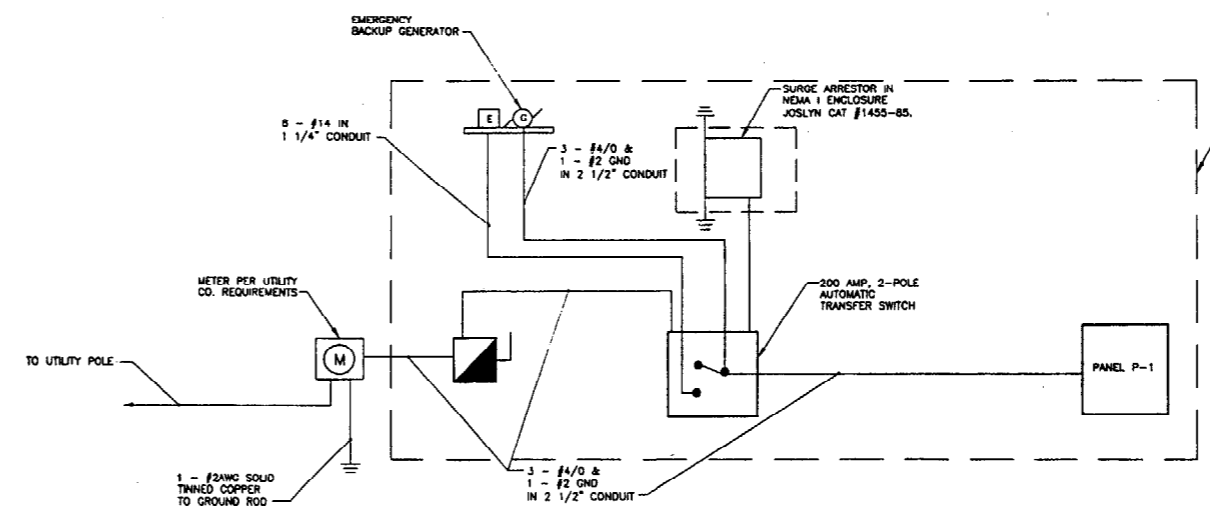


3 CONDUIT STUB-UP  
E-1 SCALE: NTS

ANTENNA MARK	SECTOR/ AZIMUTH	ANTENNA MODEL	CABLE/WAVE CONNECTION MODEL #	ANTENNA HEIGHT (FEET)	COAXIAL CABLE FEED LENGTH	COAXIAL CABLE SIZE	COAX CABLE WAVE
Rx0	ALPHA	SWEDCOM SC 9012	738851	150'	200'	CABLE/WAVE FLEXWELL 1 5/8" FLC158-50JFR	BLUE / RED
Tx0	ALPHA	SWEDCOM SC 9012	738851	150'	200'	CABLE/WAVE FLEXWELL 1 5/8" FLC158-50JFR	BLUE
Tx1	ALPHA	SWEDCOM SC 9012	738851	150'	200'	CABLE/WAVE FLEXWELL 1 5/8" FLC158-50JFR	BLUE / BLUE
Rx1	ALPHA	SWEDCOM SC 9012	738851	150'	200'	CABLE/WAVE FLEXWELL 1 5/8" FLC158-50JFR	BLUE / YELLOW
Rx0	BETA	SWEDCOM SC 9012	738851	150'	200'	CABLE/WAVE FLEXWELL 1 5/8" FLC158-50JFR	WHITE / RED
Tx0	BETA	SWEDCOM SC 9012	738851	150'	200'	CABLE/WAVE FLEXWELL 1 5/8" FLC158-50JFR	WHITE
Tx1	BETA	SWEDCOM SC 9012	738851	150'	200'	CABLE/WAVE FLEXWELL 1 5/8" FLC158-50JFR	WHITE / WHITE
Rx1	BETA	SWEDCOM SC 9012	738851	150'	200'	CABLE/WAVE FLEXWELL 1 5/8" FLC158-50JFR	WHITE / YELLOW
Rx0	GAMMA	SWEDCOM SC 9012	738851	150'	200'	CABLE/WAVE FLEXWELL 1 5/8" FLC158-50JFR	ORANGE / RED
Tx0	GAMMA	SWEDCOM SC 9012	738851	150'	200'	CABLE/WAVE FLEXWELL 1 5/8" FLC158-50JFR	ORANGE
Tx1	GAMMA	SWEDCOM SC 9012	738851	150'	200'	CABLE/WAVE FLEXWELL 1 5/8" FLC158-50JFR	ORANGE / ORANGE
Rx1	GAMMA	SWEDCOM SC 9012	738851	150'	200'	CABLE/WAVE FLEXWELL 1 5/8" FLC158-50JFR	ORANGE / YELLOW

CABLE SIZE (DIA)	MIN. BENDING RAD.	CABLE TYPE
1/2" DIA.	5"	ANTENNA COAX
7/8" DIA.	10"	ANTENNA COAX
1 1/4" DIA.	15"	ANTENNA COAX
1 5/8" DIA.	20"	ANTENNA COAX
1/2" DIA.	2"	R.F. ANTENNA JUMPER

- ### ELECTRICAL NOTES
- CONTRACTOR SHALL PERFORM ALL VERIFICATION, OBSERVATION, TESTS, AND EXAMINATION WORK PRIOR TO THE ORDERING OF THE ELECTRICAL EQUIPMENT AND THE ACTUAL CONSTRUCTION. CONTRACTOR SHALL ISSUE A WRITTEN NOTICE OF ALL FINDINGS TO THE ENGINEER LISTING ALL MALFUNCTIONS, FAULTY EQUIPMENT AND DISCREPANCIES.
  - CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS, INSURANCE, EQUIPMENT, INSTALLATION, CONSTRUCTION TOOLS, TRANSPORTATION, ETC., FOR A COMPLETE AND PROPERLY OPERATIVE SYSTEM ENERGIZED THROUGHOUT AND AS INDICATED ON DRAWINGS, AS SPECIFIED HEREIN AND/OR AS OTHERWISE REQUIRED.
  - ALL MATERIALS AND EQUIPMENT SHALL BE NEW AND IN PERFECT CONDITION WHEN INSTALLED AND SHALL BE OF THE BEST GRADE AND OF THE SAME MANUFACTURER THROUGHOUT FOR EACH CLASS OR GROUP OF EQUIPMENT. MATERIALS SHALL BE LISTED AND APPROVED BY UNDERWRITERS LABORATORIES (UL) AND SHALL BEAR THE INSPECTION LABEL "J" WHERE SUBJECT TO SUCH APPROVAL. MATERIALS SHALL MEET WITH APPROVAL OF ALL GOVERNING BODIES HAVING JURISDICTION, AND SHALL BE MANUFACTURED IN ACCORDANCE WITH APPLICABLE STANDARDS ESTABLISHED BY ANSI, NEMA AND NERF.
  - ALL ELECTRICAL EQUIPMENT SHALL BE LABELED WITH PERMANENT ENGRAVED PLASTIC LABELS.
  - WIRE AND CABLE CONDUCTORS SHALL BE COPPER #12 AWG MINIMUM WITH TYPE THHN INSULATION UNLESS SPECIFICALLY NOTED OTHERWISE.
  - ALL CONDUCTORS SHALL BE COPPER.
  - EACH CONDUCTOR OF EVERY SYSTEM SHALL BE PERMANENTLY TAGGED IN EACH PANEL, BOARD, PULLBOX, J-BOX, SWITCH BOX, ETC., IN COMPLIANCE WITH THE OCCUPATIONAL SAFETY AND HEALTH ACT (O.S.H.A.)
  - CONDUIT:
    - RIGID CONDUIT SHALL BE U.L. LISTED RIGID METAL AND SHALL BE USED WHEN INSTALLED IN OR UNDER CONCRETE SLABS, IN CONTACT WITH THE EARTH, UNDER PUBLIC ROADWAYS, IN MASONRY WALLS, OR EXPOSED ON THE BUILDING EXTERIOR, AND SHALL HAVE SUITABLE CORROSION PROTECTION.
    - ELECTRICAL METALLIC TUBING (EMT) SHALL HAVE U.L. LABEL. FITTINGS SHALL BE GLAND RING COMPRESSION TYPE. EMT SHALL BE USED ONLY FOR INTERIOR RUNS. NO SET SCREW OR CRIMP TYPE FITTINGS SHALL BE USED.
    - FLEXIBLE METALLIC CONDUIT SHALL HAVE U.L. LISTED LABEL AND MAY BE USED WHERE PERMITTED BY CODE. FITTINGS SHALL BE "SAKE" OR "SQUEEZE" TYPE, SEAL TIGHT FLEXIBLE CONDUIT. ALL CONDUIT IN EXCESS OF SIX FEET IN LENGTH SHALL HAVE FULL SIZE GROUND WIRE.
    - CONDUIT SHALL BE SIZED PER THE NEC AND AS SHOWN.
    - CONDUIT RUNS MAY BE SURFACE MOUNTED IN CEILINGS OR WALLS UNLESS INDICATED OTHERWISE. CONDUIT INDICATED SHALL RUN PARALLEL OR AT RIGHT ANGLES TO CEILING, FLOOR OR BEAMS. VERIFY EXACT ROUTING OF ALL EXPOSED CONDUIT WITH OWNER PRIOR TO INSTALLING.
    - ALL CONDUIT ONLY (C.O.) RUNS SHALL HAVE A PULL WIRE OR ROPE.
  - THE ENTIRE INSTALLATION SHALL CONFORM TO THE REQUIREMENTS OF THE LOCAL ELECTRIC COMPANY. CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLATION AND COORDINATION OF THE ELECTRICAL & COMMUNICATION SERVICES WITH THE UTILITY COMPANIES AND SHALL PAY ALL FEES REQUIRED TO COMPLETE THE INSTALLATION.
  - COORDINATE THE INSTALLATION OF THE SECONDARY ELECTRIC & COMMUNICATION SERVICES INCLUDING SUPPORTS AND ACCESSORIES AS INDICATED. COORDINATE WITH AND MEET THE REQUIREMENTS OF THE LOCAL UTILITY COMPANY, THE N.E.C. AND ALL APPLICABLE LOCAL AND STATE CODES.
  - CONTRACTOR SHALL PROVIDE THE METER SOCKET AND ASSOCIATED EQUIPMENT, BACK BOX, ETC. FOR INSTALLATION OF METER BY UTILITY COMPANY. WORK SHALL BE COORDINATED WITH UTILITY COMPANY.



4 SHELTER ONE LINE DIAGRAM  
E-1 SCALE: NTS



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**ELECTRICAL DETAILS**

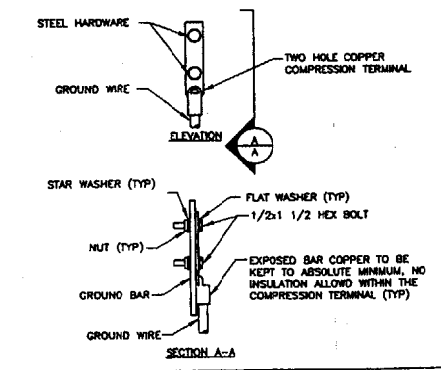
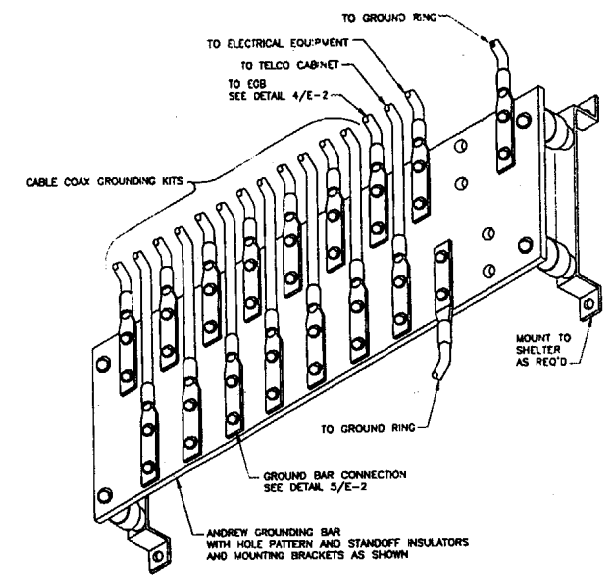
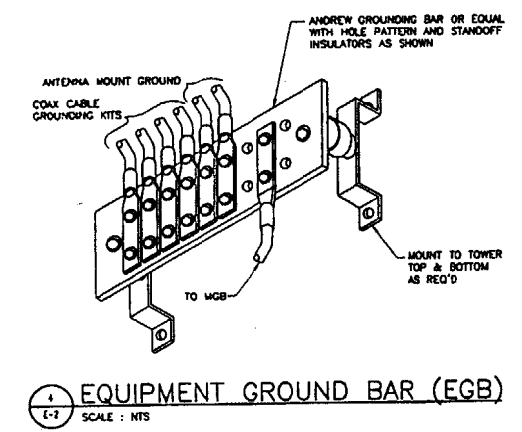
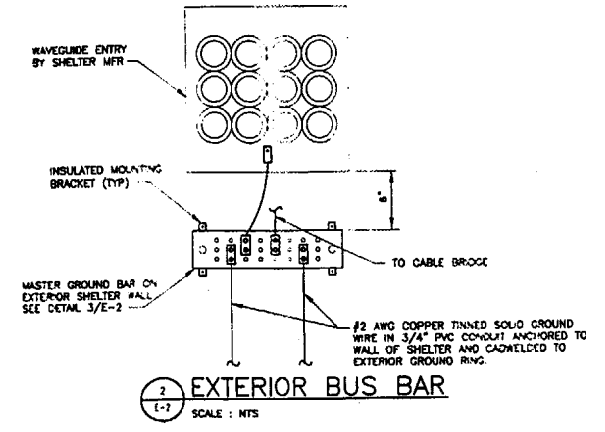
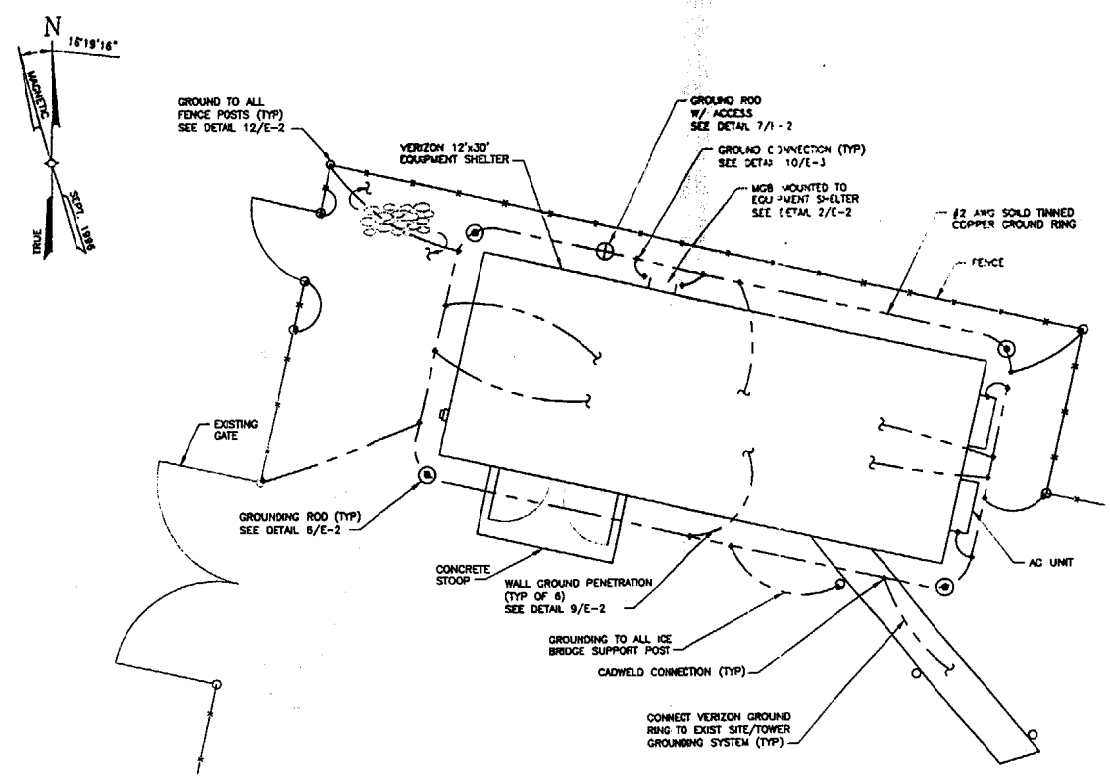
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Scale: AS SHOWN			

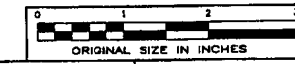
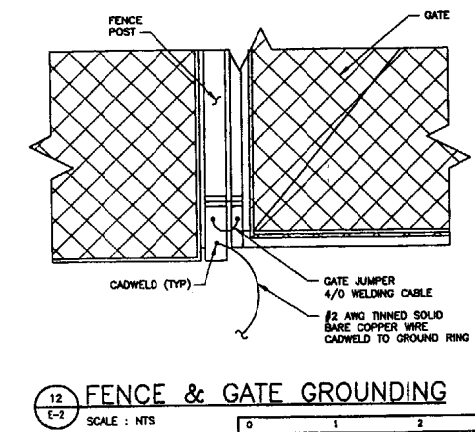
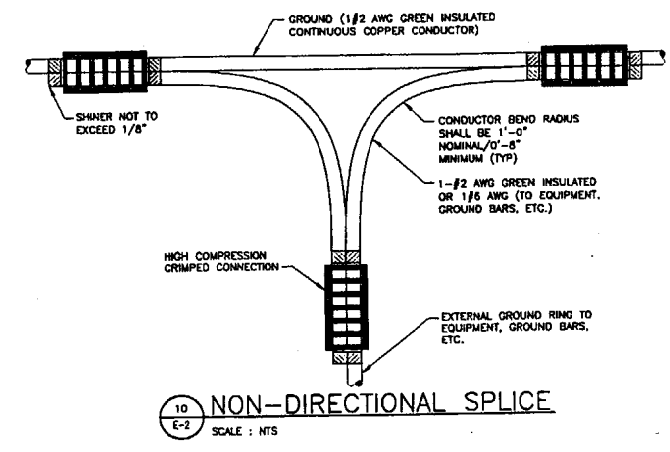
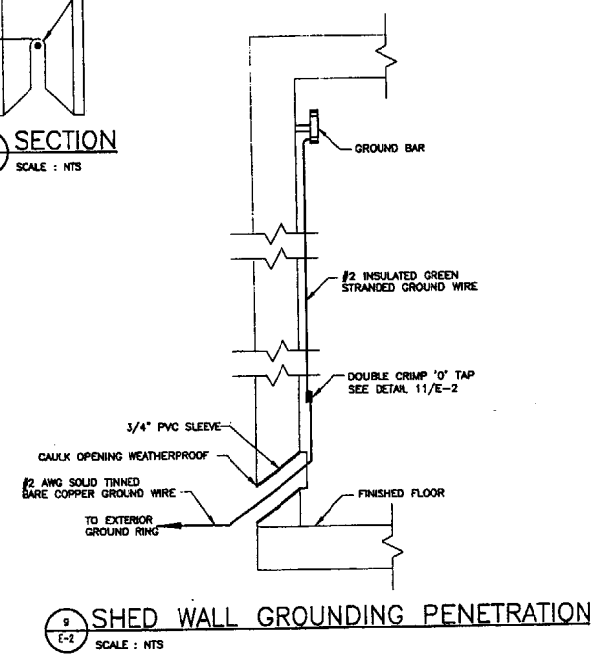
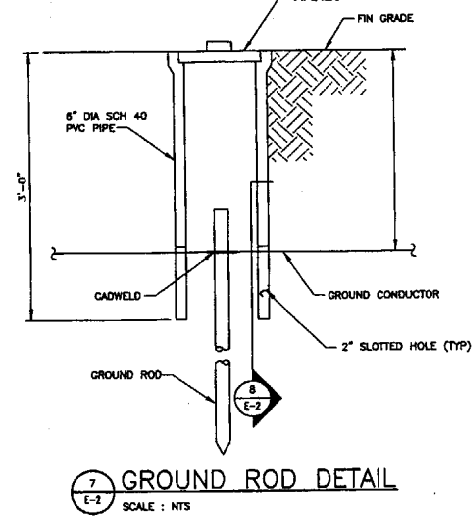
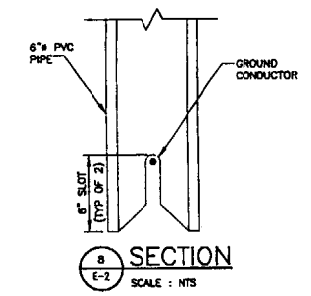
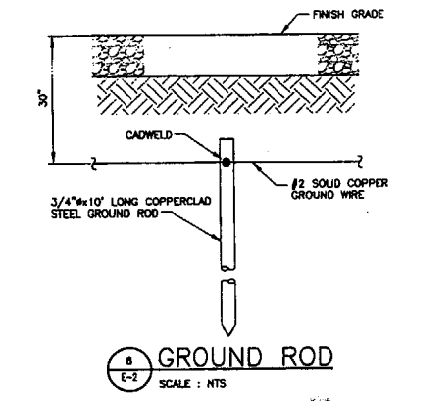
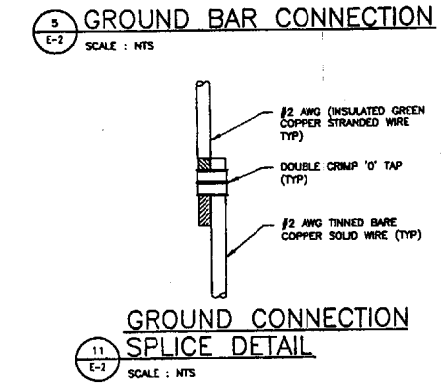


**GROUNDING NOTES**

- GROUNDING SHALL COMPLY WITH NEC ART. 250.
- GROUND COAXIAL CABLE SHIELDS MINIMUM AT BOTH ENDS USING MANUFACTURERS COAX CABLE GROUNDING KITS SUPPLIED BY VERIZON.
- USE #8 COPPER STRANDED WIRE WITH GREEN COLOR INSULATION FOR ABOVE GRADE GROUNDING (UNLESS OTHERWISE SPECIFIED) AND #2 SOLID TINNED BARE COPPER WIRE FOR BELOW GRADE GROUNDING AS INDICATED ON THE DRAWING.
- ALL GROUND CONNECTIONS TO BE BURNDY HYGROUND COMPRESSION TYPE CONNECTORS OR CADWELD EXOTHERMIC WELD. DO NOT ALLOW BARE COPPER WIRE TO BE IN CONTACT WITH GALVANIZED STEEL.
- ROUTE GROUNDING CONDUCTORS ALONG THE SHORTEST AND STRAIGHTEST PATH POSSIBLE, EXCEPT AS OTHERWISE INDICATED. GROUNDING LEADS SHOULD NEVER BE BENT AT RIGHT ANGLE. ALWAYS MAKE AT LEAST 12" RADIUS BENDS. #5 WIRE CAN BE BENT AT 6" RADIUS WHEN NECESSARY.
- BOND ANY METAL OBJECTS WITHIN 7 FEET OF EQUIPMENT TO MASTER GROUND BAR.
- CONNECTIONS TO MGB SHALL BE ARRANGED IN THREE MAIN GROUPS: SURGE PRODUCERS (COAXIAL CABLE GROUND KITS, TELCO AND POWER PANEL GROUND); GROUNDING ELECTRODE RING OR BUILDING STEEL; NON-SURROUNDING OBJECTS
- CONNECTIONS TO GROUND BARS SHALL BE MADE WITH TWO HOLE COMPRESSION TYPE COPPER LUGS. APPLY OXIDE INHIBITING COMPOUND TO ALL LOCATIONS.
- APPLY OXIDE INHIBITING COMPOUND TO ALL COMPRESSION TYPE GROUND CONNECTIONS.
- BOND ANTENNA MOUNTING BRACKETS AND COAXIAL CABLE GROUND KITS TO EGB PLACED NEAR THE ANTENNA LOCATION.
- BOND ANTENNA EGB TO EGB AT BASE TO MGB OUTSIDE SHELTER.
- BOND MASTER GROUND BAR TO GROUND RING.
- TEST COMPLETED GROUND SYSTEM AND RECORD RESULTS FOR PROJECT CLOSE-OUT DOCUMENTATION. IF SYSTEM FAILS TO MEET 5 OHM OR LESS DESIGN REQUIREMENT, INSTALL ADDITIONAL GROUND RODS AS NECESSARY TO ACHIEVE COMPLIANCE WITH 5 OHM STANDARD.
- EXTEND #2 COPPER GROUND FROM MASTER GROUND BAR TO GROUND RING SHOWN ON PLAN. TEST GROUND RING FOR GROUND RESISTANCE AND CONTINUITY TO A READING OF 5 OHMS OR LESS.



**NOTE:**  
1. "DOUBLING UP" OR "STACKING" OF CONNECTION IS NOT PERMITTED.  
2. OXIDE INHIBITING COMPOUND TO BE USED AT ALL LOCATIONS.



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