

SITE NAME:
CHASE HIGH SCHOOL

SITE ADDRESS:
1603 CHASE HIGH RD.
FOREST CITY, NC 28043

SITE COORDINATES:
LATITUDE – N35° 15’ 10.55520” (NAD 83)
LONGITUDE – W 081° 50’ 40.18920” (NAD 83)

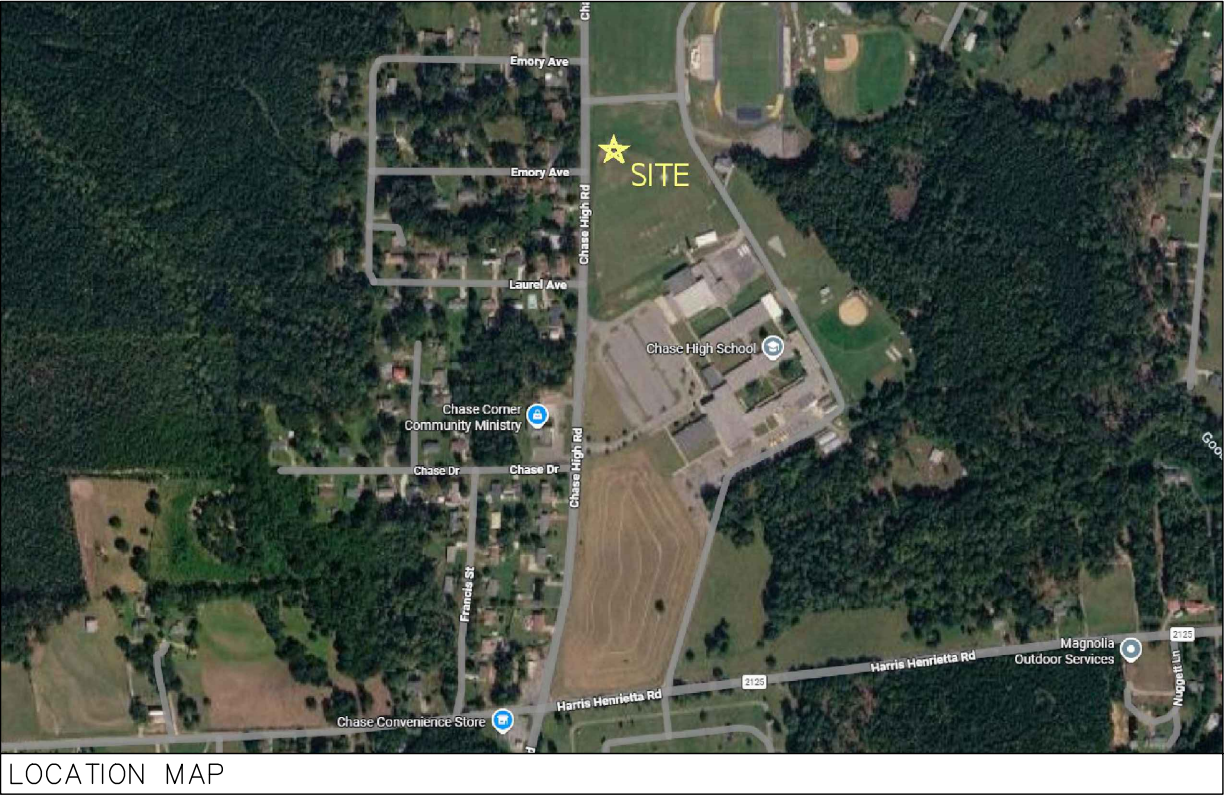
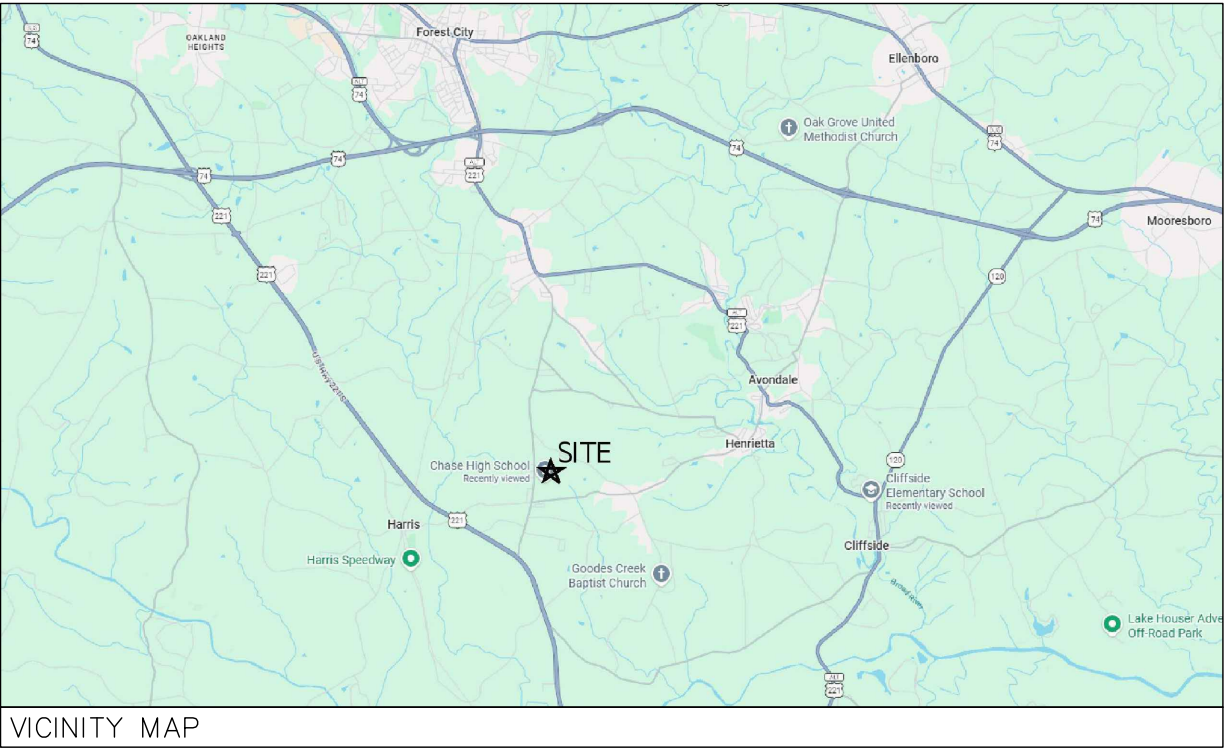
SITE INFORMATION

LAND OWNER
RUTHERFORD COUNTY BOARD OF EDUCATION
382 W MAIN ST
FOREST CITY, NC 28043

PANGAEA CONTACT
KEN GRIFFIN, CEO
KEN@E-POLK.ORG
828-859-3072

PROJECT MANAGER
THE THRASHER GROUP NC
300 S. FIRESTONE ST.
SUITE 200-C
GASTONIA, NC 28052
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704-864-2201

CONSULT TEAM



CHASE HIGH SCHOOL

1603 CHASE HIGH RD.

FOREST CITY, NC 28043

LIST OF SHEETS

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NOTE:
CONTRACTOR TO COORDINATE WITH UTILITY COMPANIES FOR SERVICE.
DUKE ENERGY FOR POWER.
PANGAEA FOR FIBER CONNECTIVITY.

THIS DOCUMENT, TOGETHER WITH THE CONCEPTS AND DESIGNS PRESENTED HEREIN, AS AN INSTRUMENT OF SERVICE, IS INTENDED ONLY FOR THE SPECIFIC PURPOSE AND CLIENT FOR WHICH IT WAS PREPARED. ANY REPRODUCTION, REUSE AND/OR IMPROPER RELIANCE ON THIS DOCUMENT WITHOUT EXPRESS WRITTEN AUTHORIZATION AND ADAPTATION BY THE THRASHER GROUP NORTH CAROLINA, INC. SHALL BE STRICTLY PROHIBITED.

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North Carolina

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PANGAEA

INTERNET AT THE SPEED OF LIGHT

PROJECT INFORMATION SHEET
CHASE HIGH SCHOOL 1603 CHASE HIGH DRIVE FOREST CITY, NC 28043
PROJ. #: R80-11092



ARISSA M. COLES

GENERAL REQUIREMENTS

1. GENERAL

1.1 SUMMARY OF WORK

THE WORK MAY CONSIST OF, BUT NOT BE LIMITED TO, THE INSTALLATION OF PTAC, GAS TANK, COMPRESSOR, GROUNDING, ELECTRICAL WORK, ETC., ASSOCIATED WITH THE PANGAEA INTERNET EQUIPMENT AS INDICATED ON DRAWINGS AND AS SPECIFIED HERIN. CONTRACTOR SHALL PROVIDE ALL PERMANENT MATERIALS/EQUIPMENT REQUIRED AND ALL LABOR, EQUIPMENT, TOOLS, UTILITIES, MINOR HARDWARE/MATERIALS, TRANSPORTATION AND FACILITIES NECESSARY FOR PROPER EXECUTION AND COMPLETION OF SERVICES AND INSTALL WORK, WHETHER TEMPORARY OR PERMANENT. CONTRACTOR SHALL BE OBLIGATED TO PERFORM ALL THE WORK OUTLINED IN THESE DRAWINGS IN ACCORDANCE WITH THE CONTRACT AGREEMENT, FEDERAL REGULATION, STATE REQUIREMENTS, LOCAL CODES, COMMERCIAL/INDUSTRY STANDARDS, DETAILED SCOPE OF WORK AND THE DOCUMENTS IDENTIFIED BELOW. IN CASE OF A CONFLICT BETWEEN THE ABOVE LISTED DOCUMENTS REGARDING STANDARDS OF WORK, THE MORE STRINGENT CRITERIA SHALL APPLY. ANY ADDITIONAL COSTS OR DELAYS RESULTING FROM CORRECTION OF THE WORK TO COMPLY WITH THE ABOVE REQUIREMENT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

1.2 SITE VISIT

CONTRACTOR SHALL VISIT THE SITE AND FAMILIARIZE ITSELF WITH THE SCOPE OF WORK REQUIRED PER THE DRAWINGS AND ALL LOCAL CONDITIONS AND LAWS AND REGULATIONS THAT MAY IN ANY MANNER AFFECT THE PRICE, PROGRESS AND PERFORMANCE OF WORK, INCLUDING ANY COSTS ASSOCIATED WITH IT. THE CONTRACTOR SHALL ALSO VERIFY THAT THE PROJECT CAN BE CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND NOTIFY PANGAEA INTERNET REPRESENTATIVE OF ANY DISCREPANCIES OR INTERFERENCES WHICH AFFECT THE WORK OF THE CONTRACT.

1.3 STANDARDS AND CODES

THE FOLLOWING DOCUMENTS (LATEST REVISION) SHALL BE CONSIDERED TO BE SPECIFICATION AND ARE INCORPORATED HEREIN BY REFERENCE, IN THE EVENT OF CONFLICT BETWEEN REQUIREMENTS OF THIS SPECIFICATION AND THE REQUIREMENTS OF THE REFERENCED DOCUMENTS, THE STRICTER SPECIFICATION SHALL GOVERN. WHERE PROVISIONS OF THE CODES AND STANDARDS ARE IN CONFLICT WITH THE BUILDING CODE IN FORCE FOR THIS PROJECT, THE BUILDING CODE SHALL GOVERN.

A. AMERICAN CONCRETE INSTITUTE:

- *ACI 301 "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS".
- *ACI 305 "HOT WEATHER CONCRETING."
- *ACI 306 "COLD WEATHER CONCRETING."
- *ACI 318 "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE."
- *ACI 614 "RECOMMENDED PRACTICE FOR MEASURING, MIXING AND PLACING CONCRETE".
- *ACI 311 "RECOMMENDED PRACTICE FOR CONCRETE INSPECTION".
- *ACI 315 "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES".
- *ACI 613 "RECOMMENDED PRACTICE FOR SELECTING PROPORTIONS FOR CONCRETE".

B. AMERICAN SOCIETY FOR TESTING AND MATERIALS:

- *ASTM A615 – "SPECIFICATION FOR DEFORMED AND PAIN BILLET STEEL BARS FOR CONCRETE REINFORCEMENT".
- *ASTM C94–80 – "SPECIFICATION FOR READY–MIX CONCRETE"
- *ASTM C39–77 – "SPECIFICATION FOR TEST FOR COMPREHENSIVE STRENGTH OF CYLINDRICAL CONCRETE SPECIMEN".
- *ASTM 33 – "SPECIFICATION FOR CONCRETE AGGREGATES".
- *ASTM C150 – "SPECIFICATION FOR PORTLAND CEMENT"
- *ASTM C172 – "SAMPLING FRESH CONCRETE"
- *ASTM C143 – "SLUMP OF PORTLAND CEMENT CONCRETE".
- *ASTM D698–91 – "TEST METHOD FOR LABORATORY COMPACTION CHARACTERISTICS OF THE SOIL USING STANDARD EFFORT".
- *ASTM D1556–84 – "DENSITY OF SOIL IN PLACE BY THE SAND–CONE METHOD".
- *ASTM D1557 – "TEST FOR MOISTURE–UNIT WEIGHT RELATIONS OF SOILS AND SOIL–AGGREGATE MIXTURES USING 10–LB. HAMMER AND 18–IN. DROP". (PROCEDURE C)
- *ASTM D2487 – "STANDARD CLASSIFICATION OF SOILS FOR ENGINEERING PURPOSES (UNIFIED SOIL CLASSIFICATION SYSTEM)
- *ASTM D2922 – "DENSITY OF SOIL AND SOIL AGGREGATE IN PLACE BY NUCLEAR METHODS SHALLOW DEPTH:.
- *ASTM D2940 – "STANDARD SPECIFICATION FOR GRADED AGGREGATE MATERIAL FOR BASES OR SUB–BASES FOR HIGHWAYS OR AIRPORTS".

C. NATIONAL FIRE PROTECTION ASSOCIATION:

- NFPA 1 – FIRE ASSOCIATION
- NFPA 54 – NATURAL GAS FUEL CODE
- NFPA 58 – LP GAS CODE
- NFPA 70 – NATIONAL ELECTRICAL CODE
- NFPA 101 – LIFE SAFETY CODE
- NFPA 110 – EMERGENCY/STANDBY POWER SYSTEMS

- NFPA 111 – STANDARD ON STORED ELECTRICAL ENERGY, EMERGENCY AND STANDBY POWER SYSTEMS
- NFPA 780 – STANDARD FOR THE INSTALLATION OF LIGHTING PROTECTION SYSTEMS

D. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION:

- OSHA 1926
- OSHA DIRECTIVES CPL 2–1.29 – INTERIM INSPECTION PROCEDURES DURING COMMUNICATION POLE CONSTRUCTION ACTIVITIES

E. INTERNATIONAL BUILDING CODE AND ELECTRICAL CODE, OR AHJ CODES.

1.4 NOTICE TO PROCEED

WHEN THE SITE IS READY FOR INSTALLATION, PANGAEA INTERNET SHALL ISSUE A NOTICE TO PROCEED TO THE CONTRACTOR. UPON RECEIPT OF THE NOTICE TO PROCEED, THE CONTRACTOR SHALL SUBMIT TO PANGAEA INTERNET A SCHEDULE REFLECTING THE WORK PLAN. THE CONTRACTOR SHALL ADVISE THE PANGAEA INTERNET REPRESENTATIVE IMMEDIATELY OF ANY SCHEDULE CHANGES.

1.5 PANGAEA INTERNET REPRESENTATIVE

PANGAEA INTERNET SHALL DESIGNATE A REPRESENTATIVE. THIS PERSON IS THE ONLY CONTACT POINT AUTHORIZED TO MAKE ANY CHANGES TO THE CONTRACT PROVISIONS OR THE PLANS AND SPECIFICATIONS. ANY CHANGES MADE BY THE CONTRACTOR ARE AT THE CONTRACTOR’S RESPONSIBILITY AND RISK.

1.6 CONTRACTORS FIELD REPRESENTATIVE

CONTRACTOR SHALL ASSIGN A FIELD REPRESENTATIVE WHO IS FAMILIAR WITH THESE SPECIFICATIONS AND WILL REPRESENT THE CONTRACTOR AND HAVE THE AUTHORITY TO ACT FOR THE CONTRACTOR AND SUPERVISE ALL CONSTRUCTION ACTIVITIES. THE REPRESENTATIVE SHALL BE AVAILABLE WHEN CONSTRUCTION ACTIVITIES BEGIN. THE FIELD REPRESENTATIVE SHALL BE THE PRIMARY POINT OF CONTACT FOR PANGAEA INTERNET DURING THE CONSTRUCTION PHASE OF WORK.

1.7 PROJECT MEETINGS

THE CONTRACTOR SHALL CONDUCT THE INITIAL (PRE–CONSTRUCTION) MEETING (INCLUDING ALL SUB–CONTRACTORS) WITH THE PANGAEA INTERNET REPRESENTATIVE WITHIN TWO WEEKS AFTER AWARD OF THE CONTRACT. SUBSEQUENTLY, THE CONTRACTOR SHALL PROVIDE PROGRESS SCHEDULE UPDATES TO PANGAEA INTERNET ON A WEEKLY BASIS.

1.8 MATERIALS

CONTRACTOR SHALL FURNISH AND INSTALL ALL MATERIALS AS REQUIRED FOR COMPLETE SYSTEMS INCLUDING: ALL PARTS OBVIOUSLY OR REASONABLY INCIDENTAL TO A COMPLETE INSTALLATION, WHETHER SPECIFICALLY INDICATED OR NOT. ALL SYSTEMS SHALL BE COMPLETELY ASSEMBLED, TESTED, ADJUSTED, AND DEMONSTRATED TO BE READY FOR OPERATION PRIOR TO PANGAEA INTERNET’S ACCEPTANCE.

MATERIALS AND WORKMANSHIP SHALL BE THE BEST OF THEIR RESPECTIVE KINDS (AS DEFINED BY INDUSTRY STANDARDS), FREE OF DEFECTS AND ALL MATERIALS SHALL BE NEW AND UNUSED IN ALL CASES, UNLESS OTHERWISE SPECIFIED. WHERE THE NAME OF A CONCERN OR MANUFACTURER IS MENTIONED ON THE DRAWINGS OR IN SPECIFICATIONS IN REFERENCE TO A REQUIRED SERVICE OR PRODUCT, AND NO QUALIFICATIONS OR SPECIFICATION OF SUCH IS INCLUDED, THEN THE MATERIAL SPECIFICATIONS, DETAILS OF MANUFACTURE, FINISH, ETC., SHALL BE IN ACCORDANCE WITH MANUFACTURER’S STANDARD PRACTICE, DIRECTIONS OR SPECIFICATIONS. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS ACCORDING TO THE MANUFACTURER’S/VENDOR’S SPECIFICATIONS UNLESS NOTED OTHERWISE OR WHERE LOCAL CODES OR ORDINANCES TAKE PRECEDENCE.

1.9 VERIFICATION OF EXISTING CONDITIONS

BEFORE STARTING ANY OPERATION, THE CONTRACTOR SHALL EXAMINE EXISTING WORK, OR WORK PERFORMED BY OTHERS. TO WHICH IT’S WORK IS TO ADJOIN OR BE APPLIED AND SHALL REPORT TO PANGAEA INTERNET PROJECT MANAGER ANY CONDITIONS THAT WILL PREVENT SATISFACTORY ACCOMPLISHMENT OF HIS WORK. PRIOR TO COMMENCING ANY EXCAVATION OR GRADING, THE CONTRACTOR SHALL SATISFY HIMSELF AS TO THE ACCURACY OF ALL SURVEY DATA AS INDICATED IN THE PLANS AND SPECIFICATIONS AND/OR AS PROVIDED BY PANGAEA INTERNET. SHOULD THE CONTRACTOR DISCOVER ANY INACCURACIES, ERRORS, OR OMISSIONS IN THE SURVEY DATA, HE SHALL IMMEDIATELY NOTIFY THE PANGAEA INTERNET REPRESENTATIVE IN ORDER THAT PROPER ADJUSTMENTS CAN BE ANTICIPATED AND ORDERED. FAILURE TO NOTIFY PANGAEA INTERNET REPRESENTATIVE OF DEFICIENCIES, ERRORS OR FAULTS PRIOR TO COMMENCEMENT OF WORK SHALL CONSTITUTE ACCEPTANCE THEREOF AND WAIVER OF ANY CLAIMS OF UNDERSTANDABILITY, ERRORS, OMISSIONS OR INACCURACIES.

THE CONTRACTOR SHALL MAKE NECESSARY PROVISIONS TO PROTECT EXISTING IMPROVEMENTS, EASEMENTS, ETC. DURING CONSTRUCTION. UPON COMPLETION OF WORK, THE CONTRACTOR SHALL REPAIR ANY DAMAGE THAT MAY HAVE OCCURRED DUE TO CONSTRUCTION ON OR ABOUT THE PROPERTY. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR PRESERVING ALL ESTABLISHED SURVEY CONTROL POINTS. IF THE CONTRACTOR OR ANY OF HIS SUB–CONTRACTORS MOVE OR DESTROY ANY SURVEY CONTROL POINTS, THE COST INCURRED BY THE LAND OWNER OR PANGAEA INTERNET TO RE–ESTABLISH THEM WILL BE BORNE BY THE CONTRACTOR.

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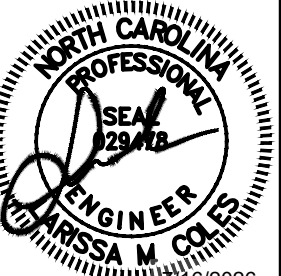
PANGAEA

INTERNET AT THE SPEED OF LIGHT

GENERAL NOTES

CHASE HIGH SCHOOL
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FOREST CITY, NC 28043

PROJ. #: R80-11092



GN-1

SHEET

1.0 PERMITS
THE CONTRACTOR SHALL GIVE ALL NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY, MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS, AND LOCAL AND STATE JURISDICTIONAL CODES BEARING ON THE PERFORMANCE OF THE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTIONS WHICH MAY BE REQUIRED FOR THE WORK BY THE STATE, COUNTY OR LOCAL GOVERNMENT AUTHORITY. THE WORK PERFORMED ON THE PROJECT AND THE MATERIALS INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. THE CONTRACTOR SHALL MEET ALL OF THE REGULATORY REQUIREMENTS OF THE JURISDICTION GOVERNING CONSTRUCTION.

1.11 SITE INSPECTION
THE CONTRACTOR SHALL HAVE THE RESPONSIBILITY FOR ARRANGING WITH PANGAEA INTERNET FOR AN INSPECTION PRIOR TO COVERING UP ALL WORK THAT WILL BE COVERED IN FINISHED CONDITION. IT IS THE SITE GENERAL CONTRACTOR’S RESPONSIBILITY TO MANAGE THE SEQUENCE OF WORK AND REQUEST THE INSPECTIONS IN A TIMELY MANNER. THE SITE GENERAL CONTRACTORS SHALL NOT REQUEST AN INSPECTION UNLESS ALL OF THE RELATED WORK HAS BEEN COMPLETED. WORK SHALL NOT PROCEED TO THE NEXT STEP UNTIL THE PREVIOUS STEP HAS BEEN INSPECTED AND APPROVED BY THE LOCAL INSPECTORS AND THE PANGAEA INTERNET REPRESENTATIVE. THE PRESENCE OF THE OWNER OR PANGAEA INTERNET REPRESENTATIVE ON THE JOB SITE IN NO WAY RELIEVES THE SITE GENERAL CONTRACTOR OF THE ASSOCIATED RESPONSIBILITIES OF THE JOB. ANY WORK WHICH DOES NOT MEET THE REQUIREMENTS OF THE CONTRACT DOCUMENTS WILL BE CORRECTED OR REMOVED SOLELY AT THE SITE GENERAL CONTRACTOR’S EXPENSE.

THE FOLLOWING INFORMATION IN INCLUDED AS A GUIDE TO THE CONTRACTOR TO ASSIST IN DETERMINING THE TYPE OF FREQUENCY OF INSPECTIONS. THE LISTED INSPECTIONS REPRESENT THOSE REQUIRED FOR SMALL OR SIMPLE PROJECTS. LARGE OR COMPLEX PROJECTS MAY REQUIRE ADDITIONAL INSPECTIONS DEPENDING ON THE SEQUENCE OF WORK.

- FOUNDATION EXCAVATIONS AND REBAR: TO BE MADE AFTER TRENCHES ARE EXCAVATED AND FORMS ERECTED, REINFORCEMENT PLACED, COMPACTION TESTED, SOIL TREATED, VAPOR BARRIER PLACED, AND ESSENTIALLY READY FOR CONCRETE PLACEMENT.
- GROUNDING:TO BE MADE AFTER THE BELOW GROUND CADWELD CONNECTIONS HAVE BEEN COMPLETED, PRIOR TO COVERING UP THE TRENCHES.
- ELECTRICAL WORK WITHIN WALLS: TO BE MADE AFTER THE ROOF, FRAMING, FIRE BLOCKING AND BRACING IS IN PLACE PRIOR TO THE INSTALLATION OF INSULATION OR WALL/CEILING MEMBRANES.

AS A GENERAL RULE, THE CONTRACTOR SHALL PROVIDE ADVANCE NOTICE TO PANGAEA INTERNET FOR INSPECTION OF ALL WORK PRIOR TO CONCEALMENT. THE CONTRACTOR HAS RESPONSIBILITIES RELATIVE TO ALL TYPES OF INSPECTIONS AND IS RESPONSIBLE FOR CONTACTING ALL OF THE INSPECTING ENTITIES TO DETERMINE HIS RESPONSIBILITIES. ALL OF THE INSPECTING ENTITIES HAVE UNIQUE AND SEPARATE RESPONSIBILITIES. ONE INSPECTION FROM AN ENTITY WILL NOT SUBSTITUTE FOR AN INSPECTION FROM ANOTHER ENTITY.

1.12 SAFETY
THE CONTRACTOR, HIS EMPLOYEES, ANY SUB–CONTRACTORS, VENDORS, THEIR RESPECTIVE EMPLOYEES AND CONTRACTOR’S VISITORS SHALL COMPLY WITH ALL SAFETY STANDARDS, ACCIDENT PREVENTION REGULATIONS AND ENVIRONMENTAL REGULATIONS PROMULGATED BY FEDERAL, STATE, OR LOCAL AUTHORITIES HAVING JURISDICTION AND SHALL AT ALL TIMES CONDUCT ALL OPERATIONS UNDER THE CONTRACT IN A MANNER TO AVOID THE RISK OF BODILY HARM TO ANY PERSONS AND THE RISK OF DAMAGE TO ANY PROPERTY, EQUIPMENT OR MATERIALS. SUCH PARTIES SHALL ALSO COMPLY WITH ANY SAFETY PROGRAMS AND/OR RULES PROMULGATED BY OWNER AND/OR PANGAEA INTERNET. IN ADDITION, ALL WORK SHALL BE IN ACCORDANCE WITH OSHA STANDARDS.

FOR CRANE LIFTS, FOLLOW COE EM385 SAFETY AND HEALTH MANUAL

1.13 SITE CLEANUP
THE CONTRACTOR SHALL KEEP THE GENERAL WORK AREA CLEAN AND HAZARD FREE AT ALL TIMES DURING CONSTRUCTION AND DISPOSE OF ALL DIRT, DEBRIS, VEGETATION, AND RUBBISH, AND REMOVE EQUIPMENT NOT SPECIFIED AS REMAINING ON THE PROPERTY. WHENEVER THE WORK–SITE IS LEFT UNATTENDED, THE CONTRACTOR SHALL BLOCK THE OPENING WITH WARNING TAPE TO DISCOURAGE TRESPASSING. THE PREMISES SHALL BE LEFT IN CLEAN CONDITION AND FREE FROM PAINT SPOTS, DUST, OR SMUDGES OF ANY NATURE AT THE CONCLUSION OF THE SITE WORK.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR LANDSCAPE GRADING AND SEEDING OF THE DISTURBED SOIL. THE CONTRACTOR SHALL USE LOCAL GRASS SEED TO STABILIZE SOIL AND SHALL COVER DISTURBED AREAS WITH HAY MULCH TO REDUCE RUNOFF OF SEDIMENT TO DOWNSTREAM AREAS. THE CONTRACTOR SHALL RESTORE THE SITE TO ITS ORIGINAL CONDITION. ALL SLOPES AND DISTURBED AREAS NOT RECEIVING AGGREGATE SURFACING ARE TO BE PREPARED AND BROADCAST SEEDED AND FERTILIZED FOR EROSION PROTECTION. SEEDING FOR AREAS DISTURBED SHALL BE ESTABLISHED SEASONALLY AS REQUIRED BY LOCAL CODES.

THE CONTRACTOR SHALL EXERCISE ALL CARE TO AVOID DAMAGE OR INTERRUPTION OF EXISTING UNDERGROUND OR OVERHEAD ELECTRIC SERVICES, UNDERGROUND GROUNDING AND FUEL LINES, EQUIPMENT AND BUILDINGS ON THE SITE, PLUS OFF SITE SERVICES, BURIED OR OVERHEAD, SURROUNDING THE EXISTING OR EXPANDED COMPOUND. ANY PROPERTY DAMAGE CAUSED BY THE CONTRACTOR OR HIS OPERATIONS SHALL BE CORRECTED AND/OR RESTORED TO THE SATISFACTION OF THE PROPERTY OWNER(S) AND PANGAEA INTERNET AT NO ADDITIONAL COST TO THE PROPERTY OWNER OR PANGAEA INTERNET.

BURNING WILL NOT BE PERMITTED.

1.14 FACILITY STARTUP & COMMISSIONING:
THE CONTRACTOR AND/OR SUB–CONTRACTORS SHALL DEMONSTRATE TO PANGAEA INTERNET THAT ALL SYSTEMS AND SUB–SYSTEMS INSTALLED UNDER THIS CONTRACT, OPERATE PROPERLY PRIOR TO THE FINAL ACCEPTANCE INSPECTION AND PROVIDE THE OPERATIONS AND MAINTENANCE MANUALS AT THIS TIME.

1.15 SHOP DRAWINGS/AS–BUILT DRAWINGS
THE MODIFICATIONS TO THE DRAWINGS AFTER CONSTRUCTION START SHALL RECEIVE ENGINEERING AND PANGAEA INTERNET APPROVAL PRIOR TO ANY CHANGES BEING MADE. THE ENGINEER OF RECORD SHALL MAKE THE REQUIRED CHANGE AND WILL SUBMIT CHANGES TO PANGAEA INTERNET AND ANY JURISDICTION HAVING AUTHORITY.

THE CONTRACTOR SHALL KEEP UP–TO–DATE MARKED–UP PRINTS OF THE PROJECT DRAWINGS. UPON COMPLETION OF WORK AT THE SITE, THE CONTRACTOR SHALL REVIEW THE COMPLETED AS–BUILT DRAWINGS, AND ASCERTAIN THAT ALL DATA FURNISHED ON THE DRAWINGS IS ACCURATE AND TRULY REPRESENTS THE WORK IS ACTUALLY INSTALLED. MARKING INDICATING CHANGES TO THE DRAWINGS SHALL BE RED OR GREEN AND CLEARLY VISIBLE. TWO (2) SETS OF ”AS–BUILT” DRAWINGS SHALL BE FURNISHED TO THE PANGAEA INTERNET REPRESENTATIVE WITHIN 5 DAYS OF THE COMPLETION OF THE PROJECT. THESE DRAWINGS SHALL ALSO SHOW THE FOLLOWING:
–MODIFICATIONS TO SITE LAYOUT.
–GROUNDING SYSTEM LAYOUT.
–UNDERGROUND FUEL LINE RUN.
–UNDERGROUND ELCO CABLE RUN.
–UNDERGROUND ELECTRICAL RUN.

WHERE THE CONTRACTOR IS RESPONSIBLE FOR SUPPLYING THE SITE EQUIPMENT ROOM. ISOLATION TRANSFORMER. GENERATOR, ETC.) THAT REQUIRES PERIODIC MAINTENANCE, THE CONTRACTOR SHALL INCLUDE ALL OPERATION AND MAINTENANCE MANUALS AND ALL AS–BUILT DRAWINGS WHICH FULLY DESCRIBE THE ACTUAL INSTALLED EQUIPMENT.

1.16 TEST PROCEDURES AND RESULTS
CONTRACTOR WILL CONTRACT WITH A THIRD PARTY ”INDEPENDENT” TESTING FIRM TO PERFORM & SUBMIT THE RESULTS OF ALL TESTS REQUIRED BY THE PROJECT SPECIFICATIONS AND DRAWINGS THAT FALL WITHIN THE SCOPE OF WORK. THE RESULTS SHALL BE SUBMITTED TO THE DESIGNATED PANGAEA REPRESENTATIVE. IN GENERAL, THE ”INDEPENDENT” TESTING FIRM SHALL SUBMIT THE FOLLOWING TEST RESULTS:
–MIX DESIGN/CONCRETE COMPRESSION TEST FOR ALL CONCRETE WORK.
–FUEL LINE LEAKAGE TEST FOR FUEL TANK AND PIPING INSTALLATION WORK.
–SLUMP TEST FOR CONCRETE WORK.
–GROUNDING RESISTANCE TEST FOR GROUNDING WORK.
–STRUCTURAL STEEL FABRICATION DRAWINGS.
–ANY OTHER TEST THAT MAY BE REQUIRED.

1.17 CONTRACT CLOSEOUT – IN ACCORDANCE WITH PANGAEA INTERNET SUBCONTRACT AGREEMENT TERMS AND CONDITIONS.

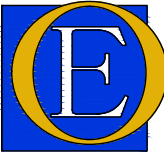
PANGAEA INTERNET REPRESENTATIVE WILL PROVIDE A CERTIFICATE OF COMPLETION AND APPROVE FINAL PAYMENT WHEN ALL PUNCH–LIST ITEMS HAVE BEEN CORRECTED, RECORD DRAWINGS SUBMITTED, AND ALL SYSTEMS ARE ACCEPTABLE. THE CONTRACTOR MUST ALSO RECEIVE A CERTIFICATE OF COMPLETION FROM THE MUNICIPALITY. AFTER FINAL PAYMENT, CONTRACTOR WILL SIGN A RELEASE OF LIEN.

1.18 WARRANTY
ALL WORK PERFORMED BY THE CONTRACTOR IN COMPLETING THE SCOPE IDENTIFIED ON THE DRAWINGS SHALL BE GUARANTEED BY THE CONTRACTOR FOR A PERIOD OF ONE YEAR FROM THE DATE OF FINAL COMPLETION OF THE PROJECT. THIS GUARANTEE SHALL COVER ALL MATERIALS, EQUIPMENT OR WORKMANSHIP WHICH IN THE OPINION OF PANGAEA INTERNET IS RENDERED DEFECTIVE OR INFERIOR OR NOT IN ACCORDANCE WITH THE TERMS OF THE CONTRACT DURING THE GUARANTEE PERIOD. IF, WITHIN THE GUARANTEE PERIOD, REPAIRS OR CHANGES ARE REQUIRED TO CORRECT THE GUARANTEE WORK. THEN UPON RECEIPT OF NOTICE, THE CONTRACTOR SHALL PROMPTLY AND WITHOUT EXPENSE TO PANGAEA INTERNET OR THE OWNER, PROCEED TO:
–PLACE IN SATISFACTORY CONDITION ALL OF SUCH GUARANTEED WORK AND CORRECT ALL DEFECTS THEREIN.
–MAKE GOOD ALL DAMAGES TO THE STRUCTURE OR SITE OR EQUIPMENT OR CONTENTS THEREOF, WHICH, IN THE OPINION OF PANGAEA INTERNET REPRESENTATIVE, IS THE RESULT OF THE USE OF MATERIALS, EQUIPMENT, OR WORKMANSHIP WHICH ARE INFERIOR, DEFECTIVE, OR NOT IN ACCORDANCE WITH THE TERMS OF THE CONTRACT.
–MAKE GOOD ANY WORK, MATERIALS OR EQUIPMENT AND ADJACENT STRUCTURES DISTURBED IN FULFILLING THE GUARANTEE.

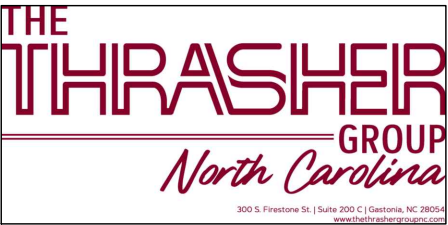
1.19 RELATED DOCUMENTS
CONTRACTOR SHALL BECOME FAMILIAR WITH THE INFORMATION AND REQUIREMENTS CONTAINED IN THE FOLLOWING DOCUMENTS RELATED TO THE PROJECT:
A. STANDARDS AND GUIDELINES FOR COMMUNICATIONS BY PANGAEA INTERNET.
B. ALL OTHER PERTINENT DOCUMENTS.

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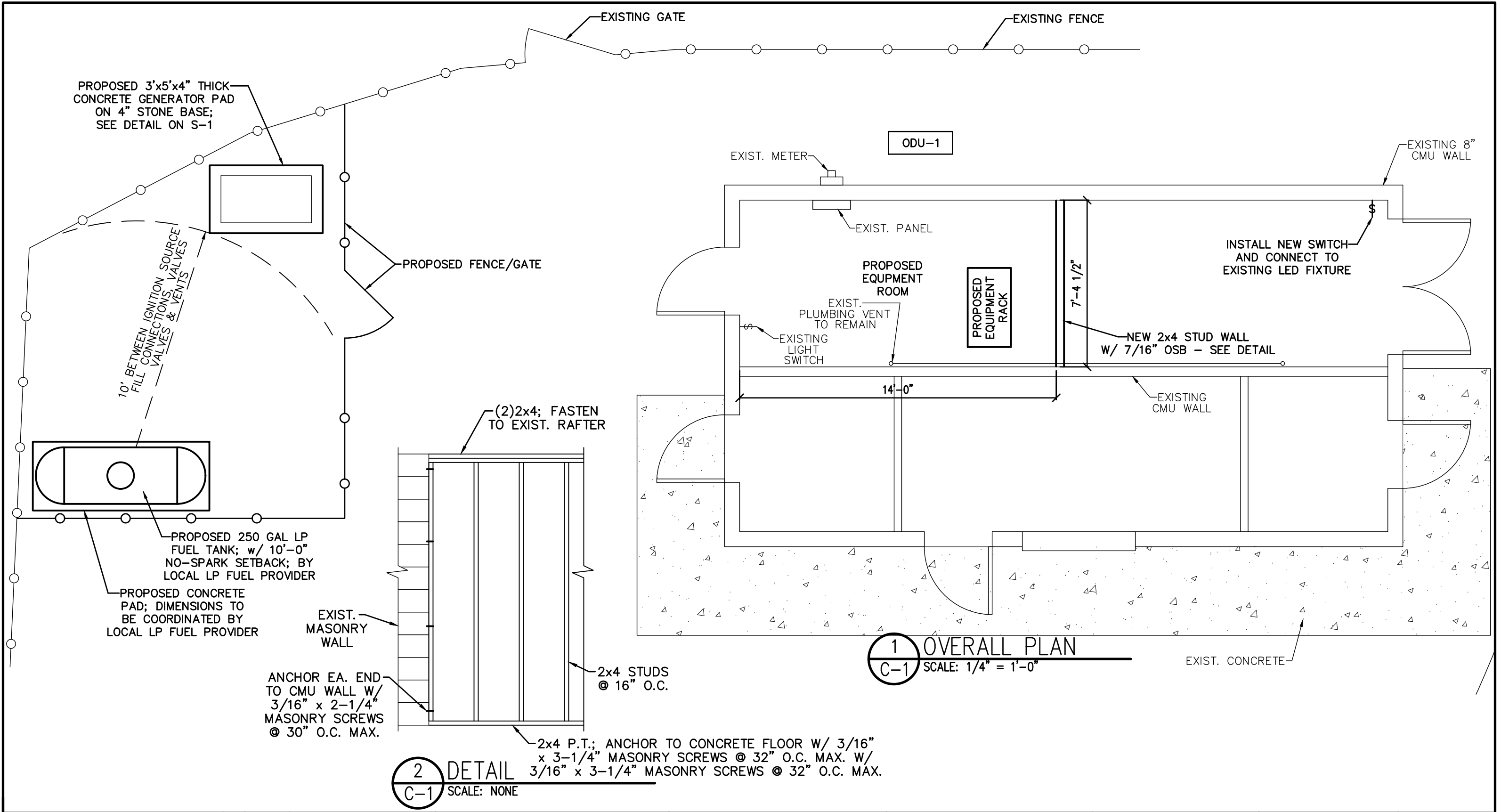
GENERAL NOTES

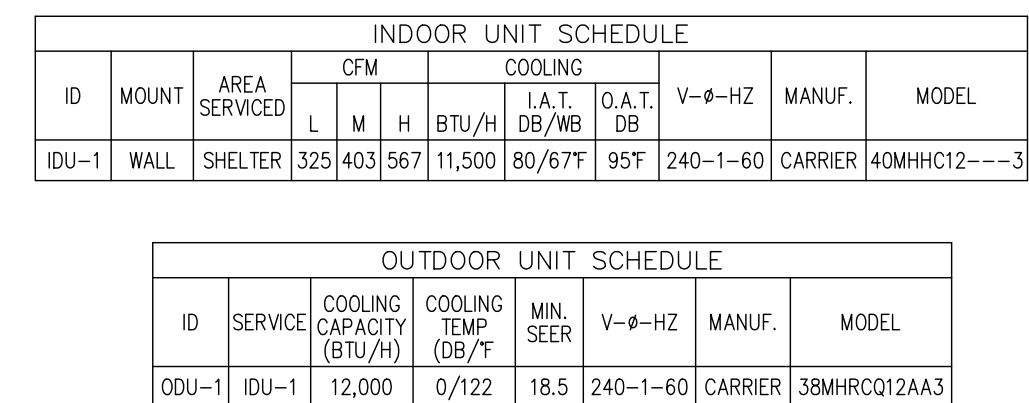
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GN-2
SHEET

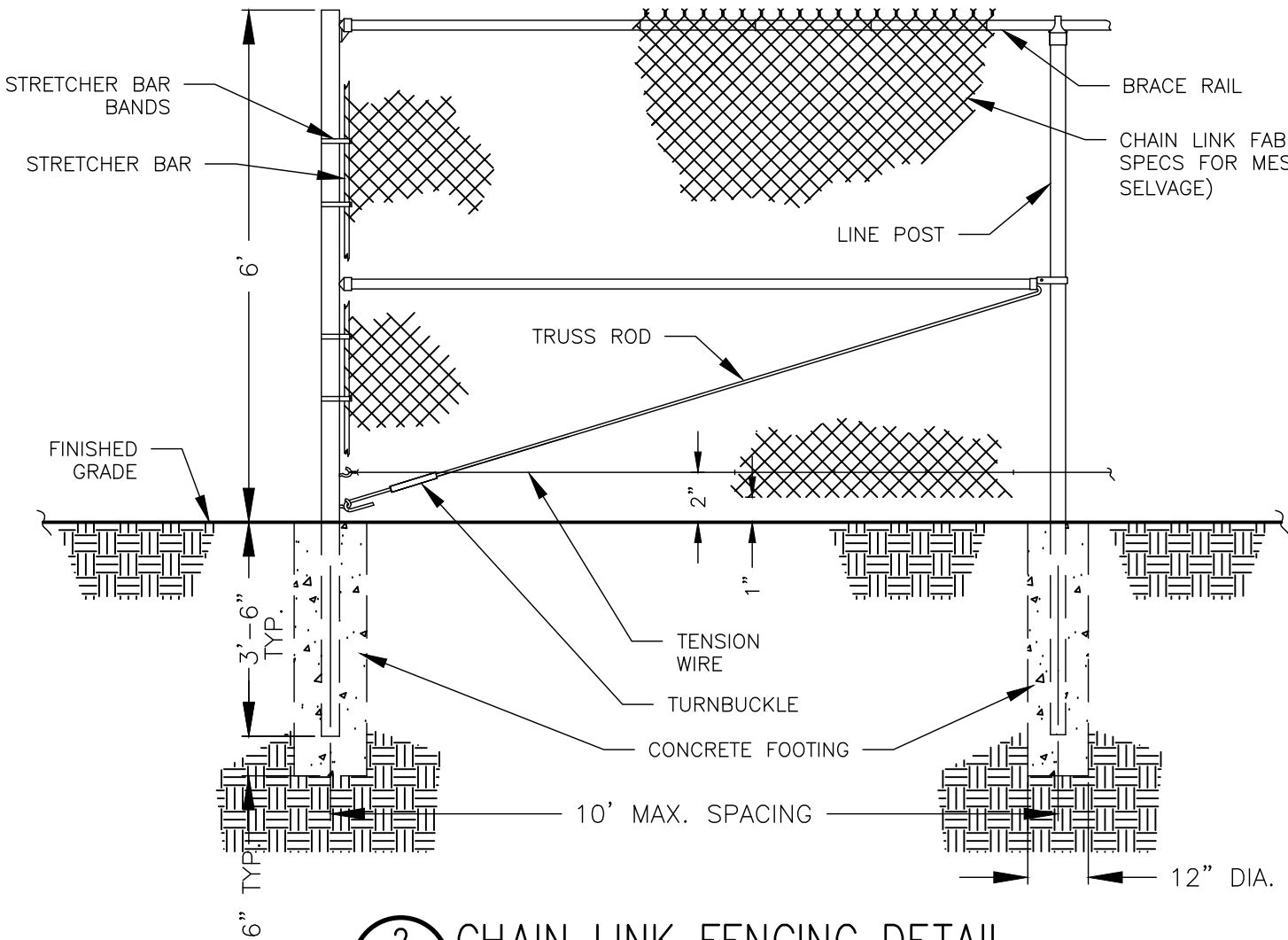




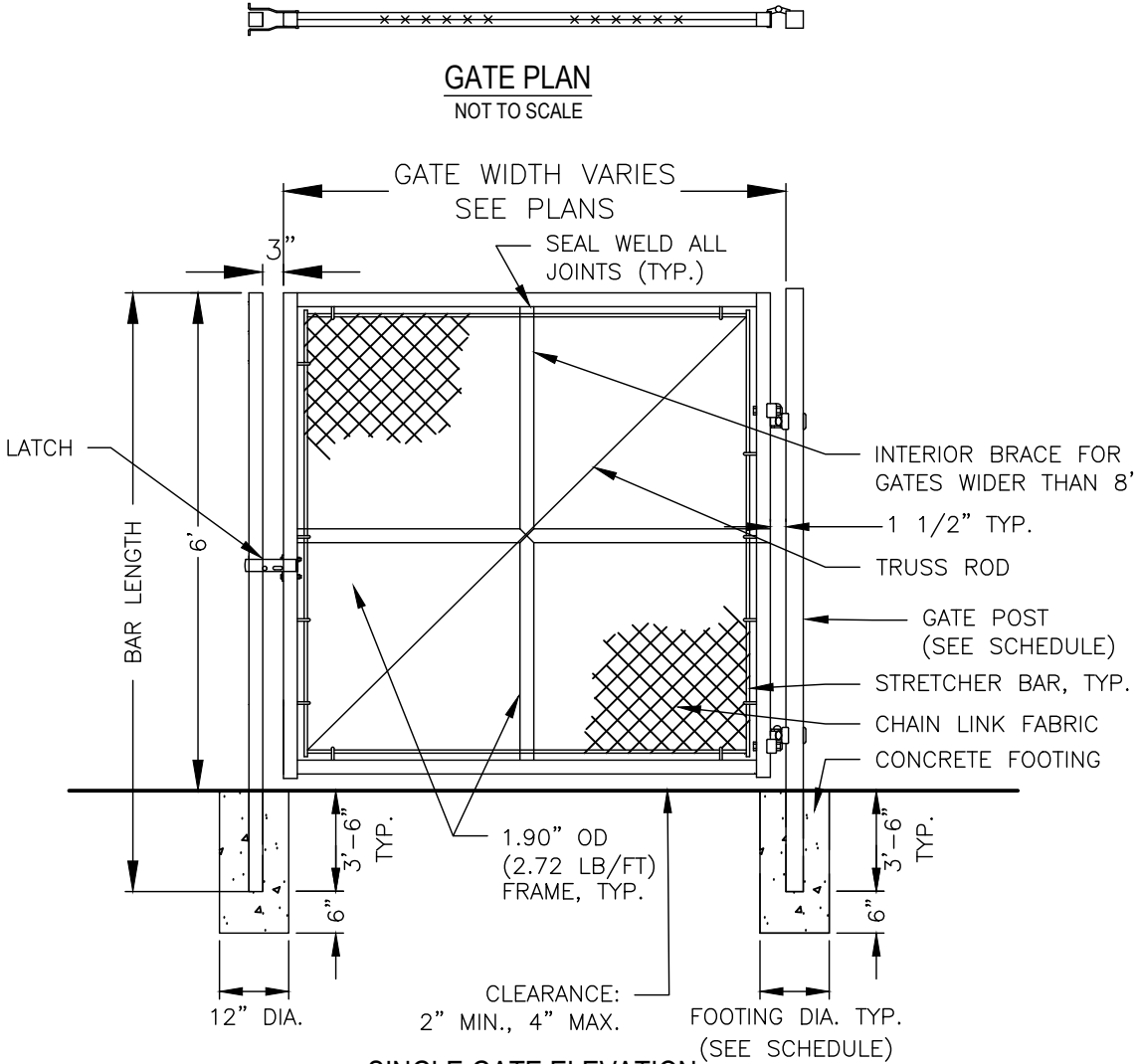
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SHEET

- NOTES:
- 1. REFER TO PROJECT SPECIFICATIONS FOR INFORMATION NOT SHOWN IN THE DRAWING.
 - 2. FENCE FABRIC SHALL CONFORM TO CHAIN LINK FENCE MANUFACTURERS INSTITUTE (CLFMI) PRODUCT MANUAL.
 - 3. INSTALL FENCE IN COMPLIANCE WITH ASTM F 567.
 - 4. INSTALL SWING GATES IN COMPLIANCE WITH ASTM F 900.
 - 5. DO NOT BEGIN INSTALLATION AND ERECTION BEFORE FINAL GRADING IS COMPLETED, UNLESS OTHERWISE PERMITTED. INSTALL FENCING ON BOUNDARY LINES INSIDE OF PROPERTY LINE ESTABLISHED BY SURVEY.
 - 6. DRILL OR HAND-EXCAVATE (USING POST-HOLE DIGGER) HOLES FOR POST TO DIAMETERS AND SPACING INDICATED, IN FIRM, UNDISTURBED OR COMPACTED SOIL. IF NOT INDICATED ON DRAWINGS, EXCAVATE HOLES FOR EACH POST TO A MINIMUM DIAMETER RECOMMENDED BY FENCE MANUFACTURER, BUT NOT LESS THAN (4) TIMES LARGES CROSS-SECTION OF POST.
 - 7. SPREAD POST HOLE SPOILS ON SITE. DO NOT SET SPOILS ON AGGREGATE WITHOUT ADEQUATE PROTECTION.
 - 8. PROTECT PORTION OF POSTS ABOVE GROUND FROM CONCRETE SPLATTER. PLACE CONCRETE AROUND POSTS AND VIBRATE OR TAMP FOR CONSOLIDATION. CHECK EACH POST FOR VERTICAL AND TOP ALIGNMENT AND HOLD IN POSITION DURING PLACEMENT AND FINISHING OPERATIONS, UNLESS OTHERWISE SHOWN. EXTEND CONCRETE FOOTING 1 INCH ABOVE GRADE AND TROWEL TO A CROWN TO SHED WATER.
 - 9. APPLY FABRIC TO OUTSIDE OF FRAMEWORK.

GATE POST SCHEDULE			
LEAF SPAN	POST O.D.	WEIGHT	CONC. FOOTING
UP TO 4'	2 7/8"	5.79 LB/FT	24" DIA
6' TO 13'	4"	9.11 LB/FT	24" DIA
13' TO 18'	6 5/8"	18.97 LB/FT	36" DIA
OVER 18'	8 5/8"	28.55 LB/FT	48" DIA



2 CHAIN LINK FENCING DETAIL
C-3 NOT TO SCALE



1 SINGLE GATE ELEVATION
C-3 NOT TO SCALE

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PANGAEA

INTERNET AT THE SPEED OF LIGHT

FENCE DETAILS

CHASE HIGH SCHOOL
1603 CHASE HIGH DRIVE
FOREST CITY, NC 28043

PROJ. #: R80-11092



CHRISSA M. COLES
ENGINEER
7/16/2026

FOR EMERGENCY NOTIFICATION OR
FOR ACCESS CALL
(877) 859-8219
SITE NAME:
CHASE HIGH SCHOOL
SITE ADDRESS:
1603 CHASE HIGH DRIVE
FOREST CITY, NC 28043



SITE SIGNAGE NOTES:
AT A MINIMUM, SITES WHICH ARE NOT CONTINUOUSLY SUPERVISED SHALL PORT THE FOLLOWING SIGNAGE:

- AUTHORIZED PERSONNEL ONLY. NO TRESPASSING
- RESPONSIBLE ENTITY IDENTIFICATIONS
- SITE OPERATING ENTITY WITH APPROPRIATE CONTACT INFORMATION
- PERMIT OR LICENSE INFORMATION (AS ASSIGNED BY THE FEDERAL COMMUNICATIONS COMMISSION OR OTHER EQUIVALENT)

ALL SIGNAGE SHALL BE FURNISHED AND INSTALLED BY THE GENERAL CONTRACTOR. QUESTIONS FROM THE GENERAL CONTRACTOR CONCERNING SITE SIGNAGE SHALL BE DIRECTED TO PANGAEA INTERNET CONSTRUCTION MANAGER PRIOR TO ORDERING.

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SITE SIGNAGE DETAILS

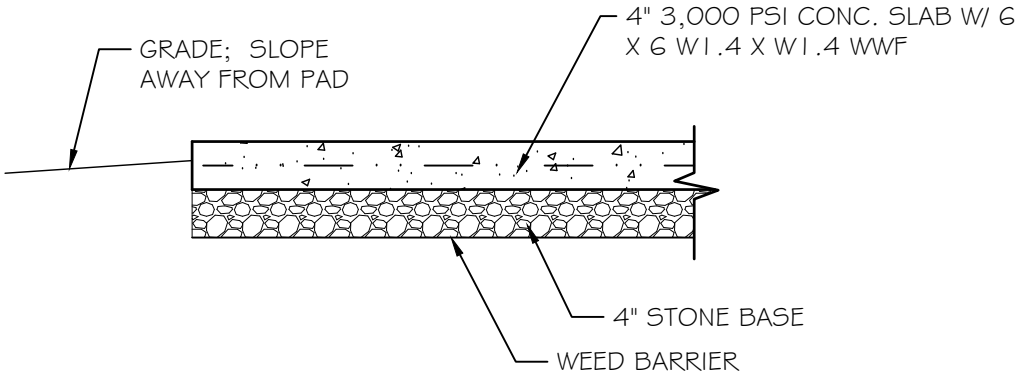
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CONCRETE/ REINFORCING STEEL

- 1. ALL CONCRETE WORK SHALL BE DONE IN ACCORDANCE WITH CURRENT ACI BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE (ACI 318–19).
- 2. CONCRETE MIXES SHALL BE DESIGNED IN ACCORDANCE WITH ACI 301.
- 3. ALL NORMAL WEIGHT CONCRETE SHALL HAVE ASTM C–33 AGGREGATE WITH UNIT WEIGHT OF 150 PCF. CONCRETE COMPRESSIVE STRENGTH SHALL BE 3000 PSI AT 28 DAYS, MINIMUM.
- 4. TEMPERATURE OF THE SURROUNDINGS SHALL NOT BE LOWER THAN 40°F DURING PLACING CONCRETE OR WITHIN 24 HOURS THEREAFTER. TEMPERATURE OF CONCRETE SHALL NOT BE LOWER THAN 55°F FOR THICKNESS 12” OR LESS IN THICKNESS AND 50°F FOR SECTIONS THICKER THAN 12”, NOR HIGHER THAN 90°F. IF TEMPERATURE OF REINFORCING STEEL IS GREATER THAN 120°F, FORMS AND REBARS SHALL BE SPRAYED WITH WATER.
- 5. CONCRETE SHALL NOT BE PLACED ON FROZEN GROUND. IF GROUND RECEIVING FOUNDATION CONCRETE IS FROZEN, IT SHALL BE THAWED BY STEAM, DIRECT HEAT, OR OTHER METHODS APPROVED BY THE ENGINEER.
- 6. MINIMUM CONCRETE COVER SHALL BE AS FOLLOWS:
CAST AGAINST SOIL = 3 INCHES
FORMED BUT EXPOSED TO SOIL = 2 INCHES
CASES NOT INDICATED HERE OR SHOWN ON THE DRAWING SHALL BE IN ACCORDANCE WITH SECTION 20.5 OF ACI 301–19.
- 7. REINFORCING STEEL SHALL MEET THE FOLLOWING SPECIFICATIONS:
ASTM A615 – GRADE 60.
REINFORCING TO BE WELDED (INCLUDING DEFORMED BAR ANCHORS/DBA) – ASTM A706.
WELDED WIRE FABRIC – ASTM A185 (FLAT SHEETS ONLY)
- 8. REFER TO THE DRAWINGS FOR REINFORCING LAP REQUIREMENTS, WHERE LAP SPLICES ARE NOT SHOWN, LAP PER ACI 318 OR CRSI STANDARDS.
- 9. LAP WELDED WIRE FABRIC SHEETS 8” MINIMUM.
- 10. FOR SLABS ON GRADE, SLAB AND GRADE BEAM REINFORCING SHALL BE HELD IN PLACE BY BAR SUPPORTS WITH SAND PLATES, OR PRECAST CONCRETE BAR SUPPORTS AS DESCRIBED IN CHAPTER 3 OF THE CRSI MANUAL OF STANDARD PRACTICE. BAR SUPPORTS SHALL BE SPACED AT A MAXIMUM OF 4’–0” OC BOTH WAYS. ROCKS, CMU, OR CLAY BRICK WILL NOT BE USED AS SUPPORTS.
- 11. THE CONTRACTOR SHALL NOTIFY THE ENGINEER FAR ENOUGH IN ADVANCE (48 HOURS) OF EACH CONCRETE POUR TO ALLOW AMPLE TIME TO CHECK THE LAYOUT OF THE STEEL BEFORE THE BEGINNING OF THE ACTUAL POUR, BUT NOT PRIOR TO 90% OF THE STEEL HAVING BEEN PLACED.



1 GENERATOR PAD DETAIL
S-1 NOT TO SCALE

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PANGAEA

INTERNET AT THE SPEED OF LIGHT

CONCRETE NOTES

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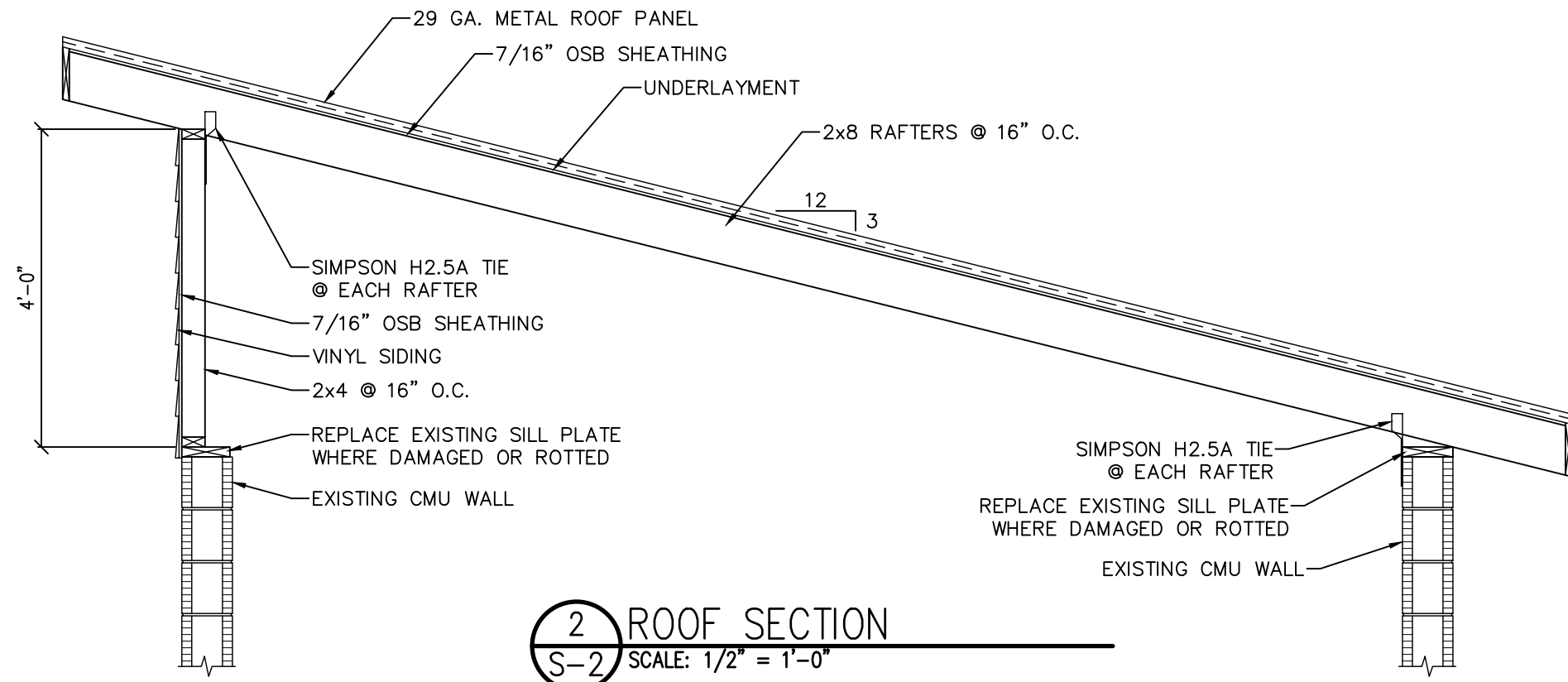
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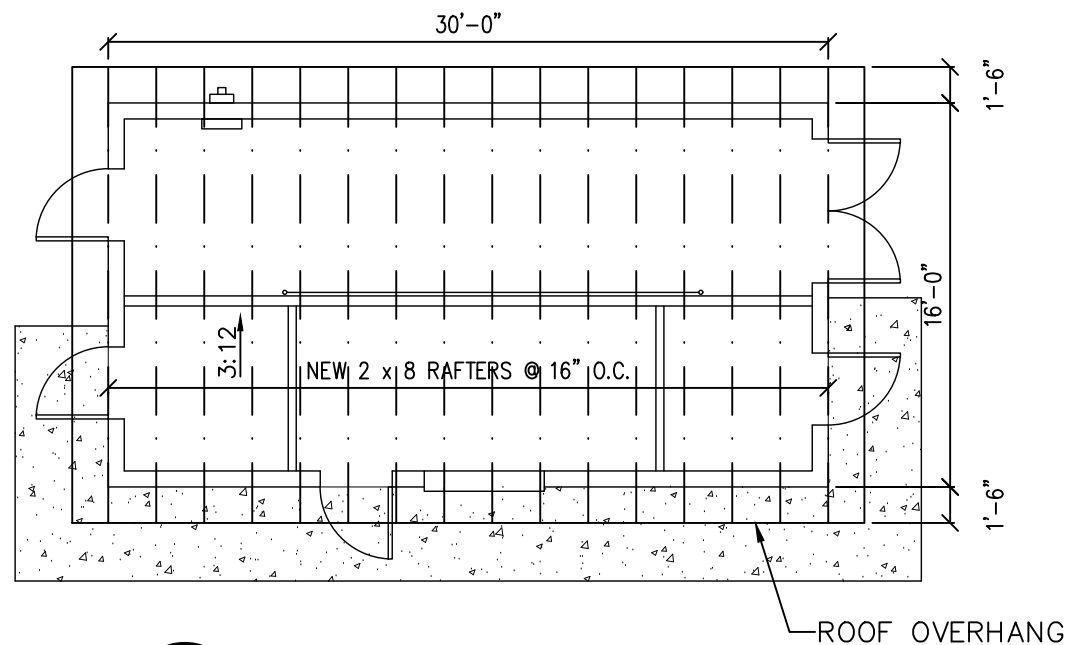
7/16/2026

S-1

SHEET



2 ROOF SECTION
S-2 SCALE: 1/2" = 1'-0"



1 ROOF REPLACEMENT PLAN
S-2 SCALE: 1/8" = 1'-0"

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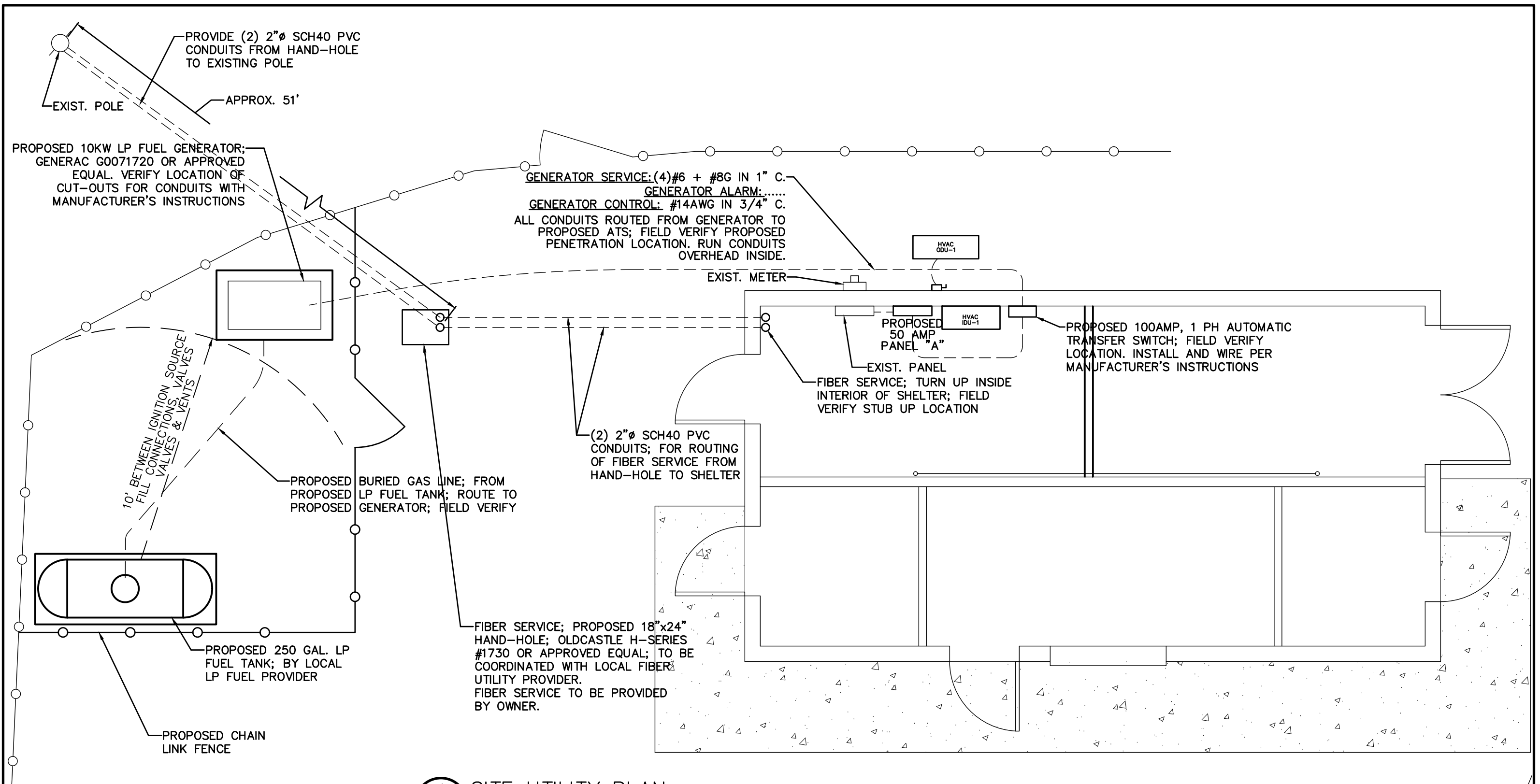
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ROOF REPLACEMENT PLAN
CHASE HIGH SCHOOL
1603 CHASE HIGH DRIVE
FOREST CITY, NC 28043
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S-2
SHEET



1 SITE UTILITY PLAN
E-1 SCALE: 1/4" = 1'-0"

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SITE UTILITY PLAN

CHASE HIGH SCHOOL
1603 CHASE HIGH DRIVE
FOREST CITY, NC 28043

PROJ. #: R80-11092



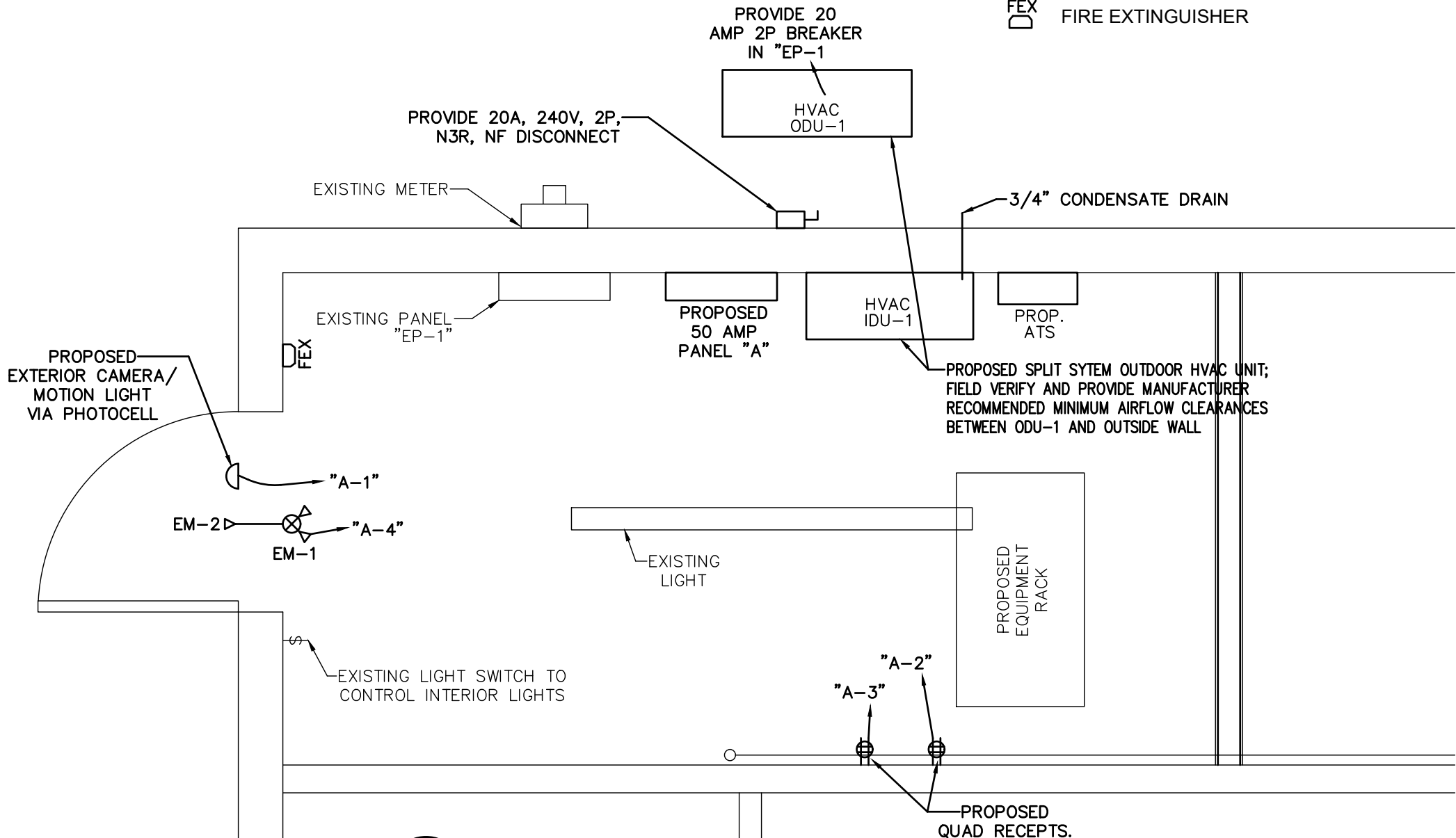
E-1
SHEET

NOTES:

- 1. PROVIDE NEW 50 AMP 2P BREAKER IN EXISTING PANEL "EP-1" TO FEED PROPOSED PANEL "A".
- 2. PROVIDE NEW 20 AMP 2P BREAKER IN EXISTING PANEL "EP-1" FOR NEW ODU-1.

LEGEND

- EM-1 INTERIOR EMERGENCY/EXIT LIGHT W/ 90 MIN. BATTERY BACK-UP
- EM-2 EXTERIOR EMERGENCY/EXIT LIGHT W/ 90 MIN. BATTERY BACK-UP
- FEX FIRE EXTINGUISHER



NOTES:

- 1. THE LOCATION AND SIZE AND TYPE OF MATERIAL OF EXISTING UTILITIES INDICATED ON THE PLANS IS NOT REPRESENTED AS BEING ACCURATE, SUFFICIENT OR COMPLETE. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE ACTUAL LOCATION OF ALL SUCH FACILITIES, INCLUDING THE SERVICE CONNECTIONS TO UNDERGROUND UTILITIES. PRIOR TO CONSTRUCTION THE CONTRACTOR SHALL NOTIFY THE UTILITY COMPANIES OF HIS OPERATIONAL PLANS AND SHALL OBTAIN FROM THE RESPECTIVE UTILITY COMPANIES DETAILED INFORMATION AND ASSISTANCE RELATIVE TO THE LOCATION OF THEIR FACILITIES AND THE WORKING SCHEDULE OF THE COMPANIES FOR REMOVAL OR ADJUSTMENT WHERE REQUIRED. IN THE EVENT AN UNEXPECTED UTILITY INTERFERENCE IS ENCOUNTERED DURING CONSTRUCTION, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE UTILITY COMPANY OF JURISDICTION. THE ENGINEER SHALL ALSO BE IMMEDIATELY NOTIFIED. ANY SUCH MAINS AND SERVICES SHALL BE RESTORED TO SERVICE AT ONCE AND PAID FOR BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE CONTRACT.
- 2. NEW GROUNDING NOT SHOWN FOR CLARITY.
- 3. WARNING TAPE SHALL BE INSTALLED DIRECTLY ABOVE CONDUITS AT A DEPTH OF 12 INCHES BELOW FINISHED GRADE UNLESS NOTED OTHERWISE. TAPE COLOR SHALL BE AS SPECIFIED BELOW AND SHALL BEAR DESCRIPTION OF THE UTILITY.
- 4. UTILITY CONDUITS MAY BE COMBINED INTO (1) CONCRETE ENCASEMENT AS LONG AS PROPER SEPARATION BETWEEN UTILITIES IS MAINTAINED.
- 5. EXCAVATE EXISTING SUBGRADE AS REQUIRED TO INSTALL CONDUITS IN ACCORDANCE WITH OSHA AND ALL APPLICABLE CODES.
- 6. CONDUIT SHALL UTILIZE LARGE RADIUS 90° BENDS.
- 7. CONDUIT DEPTHS FROM FINISHED GRADE ARE ABSOLUTE MINIMUMS.

GENERAL NOTES:

- 1. ALL ELECTRICAL EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH NFPA 70. THE RESPECTIVE EQUIPMENT MANUFACTURER'S DIRECTIONS AND ALL OTHER APPLICABLE LOCAL CODES, LAWS, ORDINANCES AND REQUIREMENTS IN FORCE. ANY INSTALLATION WHICH VOID THE U.L. LISTING (OR OTHER THIRD PARTY LISTING) AND/OR THE MANUFACTURER'S WARRANTY OF A DEVICE SHALL NOT BE PERMITTED.
- 2. ALL CONDUIT SHALL BE SEALED WATERTIGHT UNTIL FINAL TERMINATIONS ARE MADE.
- 3. PROVIDE PULL CORD IN ALL CONDUITS. SECURE AT EACH END.
- 4. ADJUST DEPTH OF CONDUITS TO PASS ABOVE GROUNDING SYSTEM.
- 5. PROVIDE 18 INCH (MIN.) RADIUS ELBOWS FOR ALL BENDS.
- 6. CONTRACTOR SHALL VERIFY ALL EQUIPMENT ELECTRICAL REQUIREMENTS PRIOR TO COMMENCING WORK.

SERVICE CONDUIT:

- 1. PROVIDE PVC SCH 40 (OUTSIDE), PVC SCH 80 (OUTSIDE IN TRAFFIC AREAS) CONDUIT FOR ALL POWER & ALARM/CONTROL REQUIREMENTS. WIRING PROVIDED BY CONTRACTOR.
- 2. COORDINATE LOCATION OF GENERATOR POWER AND CONTROL WITH GENERATOR EQUIPMENT INSTALLATION MANUFACTURER DRAWINGS.

1 SHELTER UTILITY PLAN

E-2 SCALE: 1/2" = 1' 0"

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SHELTER UTILITY PLAN

CHASE HIGH SCHOOL
1603 CHASE HIGH DRIVE
FOREST CITY, NC 28043

PROJ. #: R80-11092



E-2
SHEET

VOLTAGE: 120Y/240
AMPS: 50A – MB

PANEL: "A"

1-PHASE/3-WIRE
SURFACE

					LOAD PER PHASE									
DESCRIPTION	POLE	WIRE SIZE	BRK SIZE	CCT #	A	B	CCT #	BRK SIZE	WIRE SIZE	POLE	DESCRIPTION			
EXTERIOR CAMERA	1	12	20	1	0.5	1.0	2	20	12	1	RECEPTACLE			
RECEPTACLE	1	12	20	3	1.0	0.5	4	20	12	1	EXIT/EMERGENCY LIGHT			
SPACE	1			5	–	–	6			1	SPACE			
SPACE	1			7	–	–	8			1	SPACE			
SPACE	1			9	–	–	10			1	SPACE			
SPACE	1			11	–	–	12			1	SPACE			
TOTAL CONNECTED KVA					1.5	1.5	CONNECTED KVA: 3.0							
					3.0									
					CONNECTED AMPS: 12.5									

GENERAL ELECTRICAL NOTES:

1. SCOPE: PROVIDE LABOR, MATERIALS AND EQUIPMENT, ETC. REQUIRED TO COMPLETE THE INSTALLATION SHOWN ON THE DRAWINGS.
2. CODES AND STANDARDS: INSTALLATION SHALL COMPLY WITH APPLICABLE LAWS AND ORDINANCES, UTILITY COMPANY REGULATIONS AND APPLICABLE REQUIREMENTS OF EDITIONS OF:

NFC–NATIONAL FIRE CODE

UL–UNDERWRITERS LABORATORIES

NEC–NATIONAL ELECTRICAL CODE

NEMA–NATIONAL ECLECTIC MANUFACTURERS ASSOCIATION

OSHA–OCCUPATIONAL SAFETY AND HEALTH

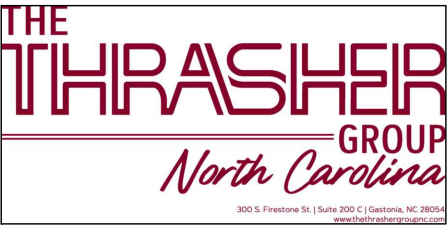
SBC–STANDARD BUILDING CODE
3. PERMITS: OBTAIN AND PAY FOR REQUIRED PERMITS, LICENSES, FEES, INSPECTIONS, ETC.
4. COORDINATION: COORDINATE WORK WITH OTHER TRADES.
5. SUBMITTALS: SUBMIT BROCHURES FOR APPROVAL ON SERVICE DISCONNECTING MEANS AND OTHER MAJOR SYSTEM COMPONETS.
6. EXISTING SERVICE: DO NOT INTERRUPT EXISTING SERVICES WITHOUT WRITTEN PERMISSION OF THE OWNER.
7. EQUIPMENT: CONNECT ELECTRICALLY OPERATED EQUIPMENT.
8. RECORD DRAWINGS: MAINTAIN A RECORD OF ALL CHANGES, SUBSTITUTIONS BETWEEN WORK AS SPECIFIED AND INSTALLED. RECORD CHANGES ON A CLEAN SET OF CONTRACT DOCUMENTS WHICH SHALL BE TURNED OVER TO THE CONSTRUCTION MANAGER UPON COMPLETION OF THE PROJECT.
9. IDENTIFICATION: IDENTIFY SERVICE DISCONNECTING MEANS WITH PERMANENT NAMEPLATE. IDENTIFY PER NATIONAL ELECTRIC CODE.
10. GUARANTEE/WARRANTY: GUARANTEE INSTALLATION TO BE FREE OF DEFECTS, SHORTS, GROUNDING, ETC. FOR A PERIOD OF ONE YEAR. FURNISH WARRANTY SO THE DEFECTIVE MATERIAL AND/OR WORKMANSHIP WILL BE REPAIRED/REPLACED IMMEDIATELY UPON NOTIFICATION AT NO COST TO THE OWNER FOR PERIOD OF WARRANTY.
11. CUTTING AND PATCHING: PROVIDE CUTTING REQUIRED TO DO THE WORK. DO NOT CUT MAJOR STRUCTURAL ELEMENTS WITHOUT PRIOR APPROVAL. PATCHING SHALL BE OF QUALITY EQUAL TO AND OF MATCHING APPEARANCE OF EXISTING CONSTRUCTION.
12. RACEWAYS: EXPOSED CONDUIT SHALL BE RIGID GALVANIZED STEEL CONDUIT. PLUG AND CAP EACH END OF SPARE AND EMPTY CONDUITS AND PROVIDE TWO SEPARATE PULL STRINGS – 200 LB. TEST POLYETHYLENE CORD. ALL CONDUIT BENDS SHALL BE A MINIMUM OF 24” RADIUS UNLESS OTHERWISE NOTED. RGS CONDUITS WHEN SPECIFIED SHALL MEET UL–6 FOR GALVANIZED STEEL. ALL FITTING SHALL BE SUITABLE FOR USE WITH THREADED RIGID CONDUIT.
13. SUPPORTS: AS REQUIRED BY THE NATIONAL ELECTRIC CODE, UNLESS OTHERWISE NOTED.
14. CONDUCTORS: USE 98% CONDUCTIVITY COPPER WITH TYPE THHN OR TWHN INSULATION, 600 VOLT, COLOR CODED PER N.E.C. USE SOLID CONDUCTORS FOR WIRE UP TO AND INCLUDING #10 AWG. USE STRANDED CONDUCTORS FOR WIRE ABOVE #10 AWG, UNLESS OTHERWISE NOTED.
15. CONNECTORS: FOR POWER CONDUCTORS: USE PRESSURE TYPE INSULATED TWIST–ON CONNECTORS FOR #10 AWG AND SMALLER. USE SOLDERLESS MECHANICAL TERMINAL LUGS FOR #8 AWG AND LARGER.
16. TELEPHONE SERVICE: PROVIDE EMPTY CONDUITS WITH PULL WIRES AS INDICATED ON DRAWINGS.

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SITE UTILITY DETAILS

CHASE HIGH SCHOOL
1603 CHASE HIGH DRIVE
FOREST CITY, NC 28043

PROJ. #: R80-11092



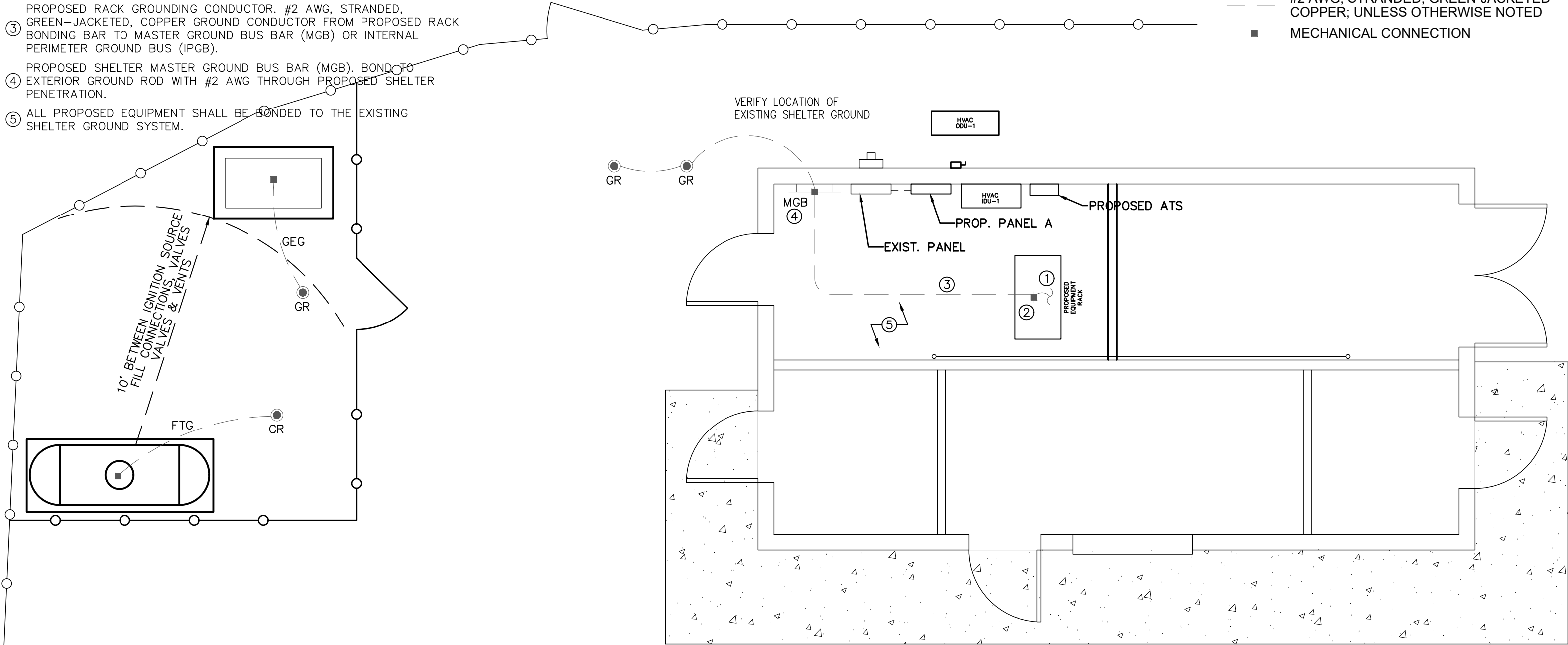
E-3

SHEET

NOTES:

- ① PROPOSED EQUIPMENT GROUND EXTENSION. #6 AWG, STRANDED, GREEN-JACKETED, COPPER GROUND CONDUCTOR FROM PROPOSED EQUIPMENT (ONE EACH) IN RACK TO RACK GROUND BUS BAR.
- ② PROPOSED RACK BONDING BAR. SOLID COPPER OR TIN-PLATED COPPER OR COPPER ALLOY WITH MIN. ONE SET OF PRE-DRILLED HOLES FOR TWO-HOLE LUG, 1/2" WIDE x 3/16" THICK MIN. x LENGTH AS REQUIRED.
- ③ PROPOSED RACK GROUNDING CONDUCTOR. #2 AWG, STRANDED, GREEN-JACKETED, COPPER GROUND CONDUCTOR FROM PROPOSED RACK BONDING BAR TO MASTER GROUND BUS BAR (MGB) OR INTERNAL PERIMETER GROUND BUS (IPGB).
- ④ PROPOSED SHELTER MASTER GROUND BUS BAR (MGB). BOND TO EXTERIOR GROUND ROD WITH #2 AWG THROUGH PROPOSED SHELTER PENETRATION.
- ⑤ ALL PROPOSED EQUIPMENT SHALL BE BONDED TO THE EXISTING SHELTER GROUND SYSTEM.

- GROUNDING LEGEND
- 5/8" x 10'-0" COPPER OR STAINLESS STEEL COPPERCLAD GROUND ROD
 - ⊙ GROUND ROD WITH INSPECTION WELL
 - EXOTHERMIC WELD (CADWELD)
 - #2 AWG, STRANDED, GREEN-JACKETED COPPER; UNLESS OTHERWISE NOTED
 - MECHANICAL CONNECTION



1 GROUNDING PLAN
G-1 SCALE: 1/4" = 1'-0"

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PANGAEA
INTERNET AT THE SPEED OF LIGHT

GROUNDING
PLAN

CHASE HIGH SCHOOL
1603 CHASE HIGH DRIVE
FOREST CITY, NC 28043

PROJ. #: R80-11092



NORTH CAROLINA
PROFESSIONAL
ENGINEER
CHARISSA M. COLES
7/16/2026

G-1

SHEET

LEGEND:

FTG: FUEL TANK GROUND; E.C. TO FURNISH AND INSTALL ONE (1) #2 SOLID TNND COPPER GROUND WIRE FROM FUEL TANK GROUND LUG TO GROUND ROD. CONNECTION AT FUEL TANK LUG TO BE MECHANICAL, CONNECTION AT GROUND ROD TO BE CADWELD (TYPICAL OF 2 PER FUEL TANK).

GEG: GENERATOR GROUND; E.C. TO FURNISH AND INSTALL ONE (1) #2 AWG BARE SOLID TNND COPPER GROUND WIRE FROM GENERATOR GROUND BAR TO GROUND ROD. CONNECTION AT GENERATOR GROUND BAR TO BE MECHANICAL, CONNECTION AT GROUND ROD TO BE CADWELD (TYPICAL OF 1).

GR: 5/8" DIA. x 10' LONG TNND COPPER CLAD STEEL GROUND ROD DRIVEN VERTICAL TOP OF ROD 24" MIN. BELOW GRADE. SPACING OF GROUND RODS 10' MIN. TO TWICE THE LENGTH OF THE ROD USED. ALL CONNECTIONS TO BE CADWELD.

MGB: MASTER GROUND BAR; 24" x 4" x 1/4" TNND COPPER GROUND BAR ON INTERIOR SIDEWALL OF SHELTER.

SG: SHELTER GROUND; E.C. TO FURNISH AND INSTALL ONE (1) #2 AWG BARE SOLID TNND COPPER GROUND WIRE FROM SHELTER MASTER GROUND BAR (MGB) TO GROUND ROD. CONNECTION AT SHELTER MASTER GROUND BAR GROUND BAR TO BE MECHANICAL, CONNECTION AT GROUND ROD TO BE CADWELD (TYPICAL OF 1).

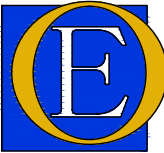
NOTE: GROUND LEADS AT SHELTER FROM EXTERNAL EQUIPMENT TO BE ROUTED IN 1/2" NON-METALLIC PVC RIGID CONDUIT SECURED TO SHELTER WALL WITH AT LEAST ONE (1) NON-METALLIC CONDUIT CLAMP 36" MAX. SPACING. CONDUIT TO BE 4" MAX. FROM APPLIANCE CONNECTION AND EXTEND 18" MIN. BELOW GRADE.

TYPICAL GROUNDING NOTES:

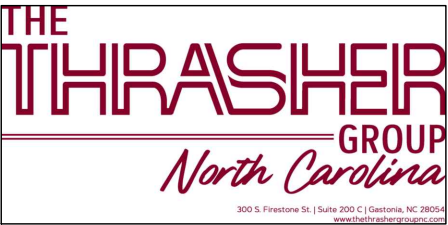
1. ALL GROUND CABLE IN CONCRETE OR THROUGH WALL SHALL BE IN 3/4" PVC CONDUIT. NO METALLIC CONDUIT SHALL BE USED FOR GROUNDING CONDUCTOR SLEEVES.
2. GROUND ALL EXPOSED METALLIC OBJECTS USING A TWO-HOLE NEMA DRILLED CONNECTOR SUCH AS THOMAS & BETTS #32207 OR APPROVED EQUAL.
3. THE CONTRACTOR SHALL NOTIFY THE PANGAEA INTERNET REPRESENTATIVE WHEN THE GROUND RING IS INSTALLED SO THAT THE REPRESENTATIVE CAN INSPECT GROUND RING BEFORE IT IS CONCEALED.
4. ALL EXTERIOR GROUND CONDUCTORS INCLUDING GROUND RING SHALL BE #2 AWG SOLID BARE TINNED COPPER. MAKE ALL GROUND CONNECTIONS AS SHORT AND DIRECT AS POSSIBLE. AVOID SHARP BENDS. THE RADIUS OF ANY BEND SHALL NOT BE LESS THAN 8" AND THE INCLUSIVE ANGLE OF ANY BEND SHALL NOT EXCEED 90°. GROUNDING CONDUCTORS SHALL BE ROUTED DOWNWARD TOWARD THE BURIED GROUND RING.
5. ALL BELOW GROUND EXTERNAL CONNECTIONS SHALL BE EXOTHERMICALLY WELDED. ALL EXOTHERMIC WELDS TO BURIED GROUND RING SHALL BE THE PARALLEL-TYPE. EXCEPT FOR THE GROUND RODS WHICH ARE TEE-TYPE EXOTHERMIC WELDS. REPAIR ALL GALVANIZED SURFACES THAT HAVE BEEN DAMAGED BY EXOTHERMIC WELDING. USE SPRAY GALVANIZED SUCH AS HOLUB LECTROSOL #13-501.
6. WHERE MECHANICAL CONNECTIONS (TWO-HOLD OR CLAMP) ARE USED, APPLY A LIBERAL PROTECTIVE COATING OF A CONDUCTIVE ANTI-OXIDE COMPOUND ON ALL CONNECTORS. PROVIDE LOCK WASHERS ON ALL MECHANICAL CONNECTORS. USE STAINLESS STEEL HARDWARE THROUGHOUT. THOROUGHLY REMOVE ALL PAINT AND CLEAN ALL DIRT FROM SURFACES REQUIRING GROUND CONNECTORS, REPAINT TO MATCH EXISTING AFTER CONNECTION IS MADE TO MAINTAIN CORROSION RESISTANCE. ALL GROUND CONNECTIONS SHALL BE APPROVED FOR THE TYPES OF METALS BEING ATTACHED TO.
7. A RESISTANCE TO GROUND OF (10) OHMS OR LESS IS REQUIRED FOR ALL PANGAEA INTERNET SITES. THE CONTRACTOR SHOULD RETAIN HIS OWN TESTER AT HIS OWN EXPENSE. IN ADDITION, A THIRD PARTY SHOULD BE HIRED TO OBTAIN MEGGER AND SWEEP RESULTS ON ALL SITES INCLUSIVE OF WHAT RESULTS THE CONTRACTOR SUBMITS, TO INSURE PROPER QUALITY CONTROL ON ALL SITES. SCHEDULE FINAL MEGGER TEST SUCH THAT THE PANGAEA INTERNET REPRESENTATIVE CAN BE PRESENT FOR FIELD VERIFICATION. FEFER TO THE PANGAEA INTERNET MASTER SPECIFICATION FOR MEGGER TESTING PROCEDURES. IF THE FINAL GROUNDING RESISTANCE MEASUREMENT EXCEEDS 10 (TEN) OHMS, THE CONTRACTOR SHALL NOTIFY THE PANGAEA INTERNET REPRESENTATIVE.
8. ALL MOUNTING HARDWARE SHALL BE STAINLESS STEEL.
9. THE GROUND CONDUCTORS SHALL BE RUN STRAIGHT FOR MINIMUM INDUCTANCE AND VOLTAGE DROP. SINCE CABLE BENDS INCRESE INDUCTANCE, THE MINIMUM REQUIRED BENDING RADIUS IS 8 INCHES WHEN BENDS AND UNAVOIDABLE. ALL METAL WORK WITHIN 6 FEET OF THE GROUND RING SHALL BE DIRECTLY BONDED TO THE GROUND SYSTEM WITHOUT USING SERIES OR DAISY CHAIN CONNECTION ARRANGEMENTS.
10. PAINT, ENAMEL, LACQUER AND OTHER ELECTRICALLY NON-CONDUCTIVE COATINGS SHALL BE REMOVED FROM THREADS AND SURFACE AREAS WHERE CONNECTIONS ARE MADE TO ENSURE GOOD ELECTRICAL CONTINUITY.
11. CONNECTIONS BETWEEN DISSIMILAR METALS SHALL NOT BE MADE UNLESS THE CONDUCTORS ARE SEPARATED BY A SUITABLE MATERIAL. THAT IS A PART OF THE ATTACHMENT DEVICE LISTED AND APPROVED FOR USE WITH THE SPECIFIC DISSIMILAR METALS MAY BE USED FOR THE PURPOSE.
12. ALL BELOW GRADE GROUND SYSTEM CONDUCTORS SHALL BE A MINIMUM DEPTH OF 24".

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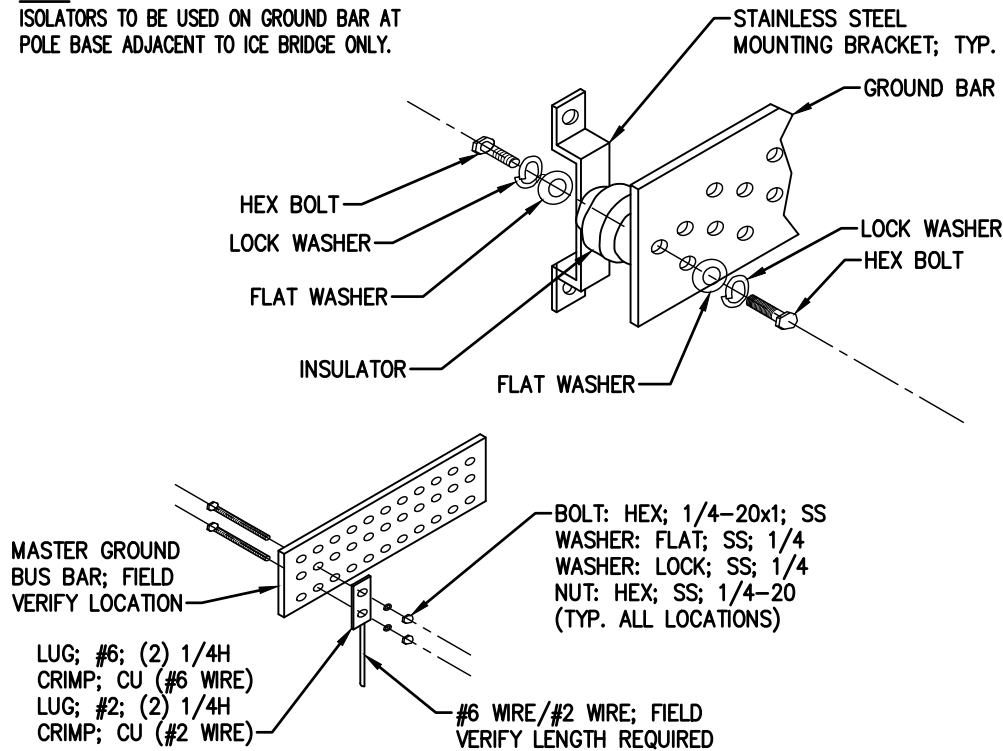
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NC Firm#: P-0880



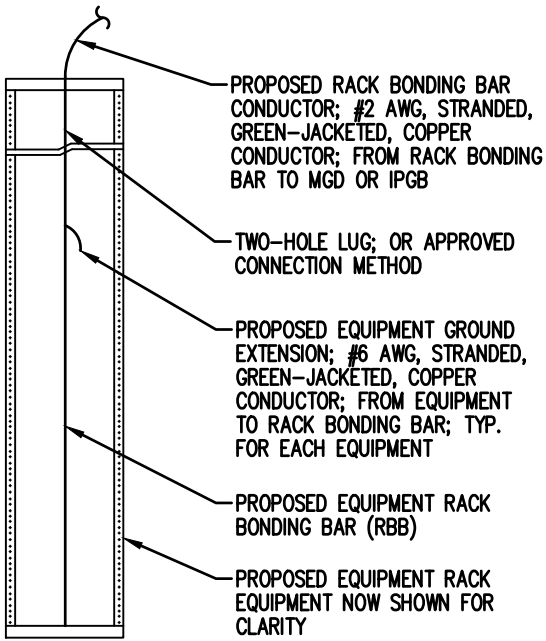
GROUNDING NOTES
CHASE HIGH SCHOOL 1603 CHASE HIGH DRIVE FOREST CITY, NC 28043
PROJ. #: R80-11092



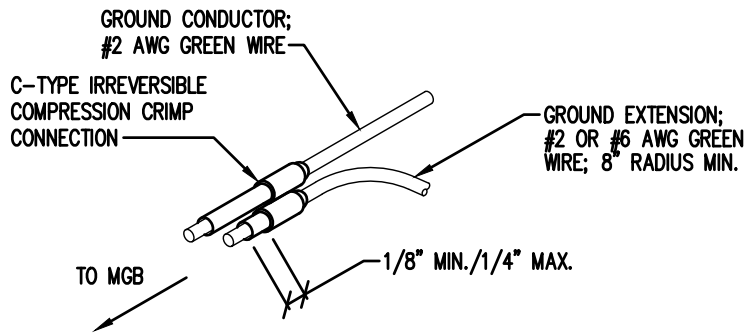
NOTE:
ISOLATORS TO BE USED ON GROUND BAR AT
POLE BASE ADJACENT TO ICE BRIDGE ONLY.



1 GROUNDING BAR DETAIL
G-2 SCALE: NOT TO SCALE



2 EQUIPMENT RACK
GROUNDING DETAIL
G-2 SCALE: NOT TO SCALE



3 GROUND BUS
CONDUCTOR DETAIL
G-2 SCALE: NOT TO SCALE

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GROUNDING
DETAILS

CHASE HIGH SCHOOL
1603 CHASE HIGH DRIVE
FOREST CITY, NC 28043

PROJ. #: R80-11092



G-3
SHEET

SITE NAME:
CLIFFSIDE ELEMENTARY SCHOOL

SITE ADDRESS:
4016 US 221A HWY
MOORESBORO, NC 28114

SITE COORDINATES:
LATITUDE – N35° 14’ 48.54840” (NAD 83)
LONGITUDE – W 081° 46’ 06.98520” (NAD 83)

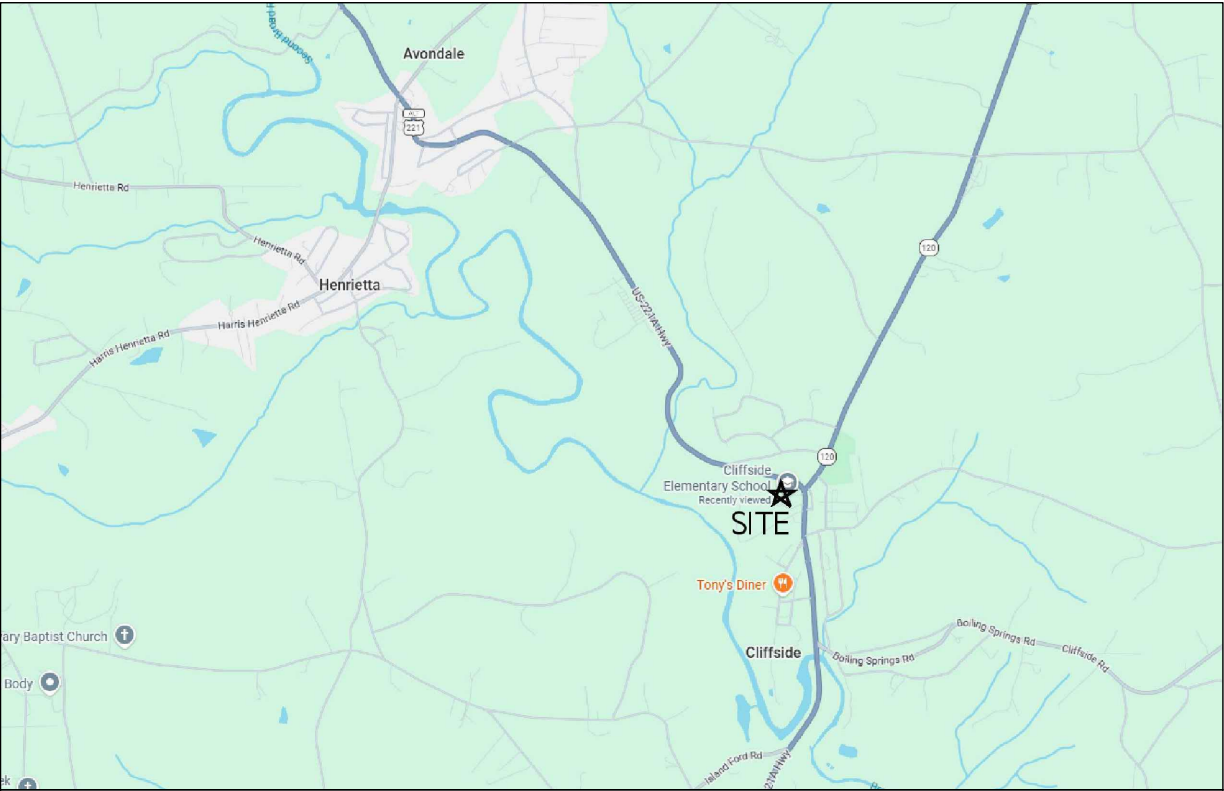
SITE INFORMATION

LAND OWNER
RUTHERFORD COUNTY BOARD OF EDUCATION
382 W MAIN ST
FOREST CITY, NC 28043

PANGAEA CONTACT
KEN GRIFFIN, CEO
KEN@E-POLK.ORG
828-859-3072

PROJECT MANAGER
THE THRASHER GROUP NC
300 S. FIRESTONE ST.
SUITE 200-C
GASTONIA, NC 28052
LCOLES@THETHRASHERGROUPNC.COM
704-864-2201

CONSULT TEAM



VICINITY MAP

CLIFFSIDE ELEMENTARY SCHOOL

4016 US 221A HWY
MOORESBORO, NC 28114

LIST OF SHEETS

PI-1	PROJECT INFORMATION SHEET
GN-1	GENERAL NOTES
GN-2	GENERAL NOTES
C-1	COMPOUND PLAN
C-2	EQUIPMENT SHELTER PLAN
C-3	FENCE DETAILS
C-4	SIGNAGE PLAN
S-1	CONCRETE NOTES
E-1	SITE UTILITY PLAN
E-2	SHELTER UTILITY PLAN
E-3	UTILITY DETAILS
G-1	GROUNDING PLAN
G-2	GROUNDING DETAILS

NOTE:
CONTRACTOR TO COORDINATE WITH UTILITY COMPANIES FOR SERVICE.
DUKE ENERGY FOR POWER.
PANGAEA FOR FIBER CONNECTIVITY.



LOCATION MAP

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THE
THRASHER
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North Carolina

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www.thrashergroupnc.com



PANGAEA
INTERNET AT THE SPEED OF LIGHT

PROJECT
INFORMATION SHEET

CLIFFSIDE
ELEMENTARY SCHOOL
4016 US 221A HWY
MOORESBORO, NC 28114
PROJ. #: R80-11092



07/16/2026

GENERAL REQUIREMENTS

1. GENERAL

1.1 SUMMARY OF WORK

THE WORK MAY CONSIST OF, NUT NOT BE LIMITED TO, THE INSTALLATION OF PTAC, GAS TANK, COMPRESSOR, GROUNDING, ELECTRICAL WORK, ETC., ASSOCIATED WITH THE PANGAEA INTERNET EQUIPMENT AS INDICATED ON DRAWINGS AND AS SPECIFIED HERIN. CONTRACTOR SHALL PROVIDE ALL PERMANENT MATERIALS/EQUIPMENT REQUIRED AND ALL LABOR, EQUIPMENT, TOOLS, UTILITIES, MINOR HARDWARE/MATERIALS, TRANSPORTATION AND FACILITIES NECESSARY FOR PROPER EXECUTION AND COMPLETION OF SERVICES AND INSTALL WORK, WHETHER TEMPORARY OR PERMANENT. CONTRACTOR SHALL BE OBLIGATED TO PERFORM ALL THE WORK OUTLINED IN THESE DRAWINGS IN ACCORDANCE WITH THE CONTRACT AGREEMENT, FEDERAL REGULATION, STATE REQUIREMENTS, LOCAL CODES, COMMERCIAL/INDUSTRY STANDARDS, DETAILED SCOPE OF WORK AND THE DOCUMENTS IDENTIFIED BELOW. IN CASE OF A CONFLICT BETWEEN THE ABOVE LISTED DOCUMENTS REGARDING STANDARDS OF WORK, THE MORE STRINGENT CRITERIA SHALL APPLY. ANY ADDITIONAL COSTS OR DELAYS RESULTING FROM CORRECTION OF THE WORK TO COMPLY WITH THE ABOVE REQUIREMENT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

1.2 SITE VISIT

CONTRACTOR SHALL VISIT THE SITE AND FAMILIARIZE ITSELF WITH THE SCOPE OF WORK REQUIRED PER THE DRAWINGS AND ALL LOCAL CONDITIONS AND LAWS AND REGULATIONS THAT MAY IN ANY MANNER AFFECT THE PRICE, PROGRESS AND PERFORMANCE OF WORK, INCLUDING ANY COSTS ASSOCIATED WITH IT. THE CONTRACTOR SHALL ALSO VERIFY THAT THE PROJECT CAN BE CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND NOTIFY PANGAEA INTERNET REPRESENTATIVE OF ANY DISCREPANCIES OR INTERFERENCES WHICH AFFECT THE WORK OF THE CONTRACT.

1.3 STANDARDS AND CODES

THE FOLLOWING DOCUMENTS (LATEST REVISION) SHALL BE CONSIDERED TO BE SPECIFICATION AND ARE INCORPORATED HEREIN BY REFERENCE, IN THE EVENT OF CONFLICT BETWEEN REQUIREMENTS OF THIS SPECIFICATION AND THE REQUIREMENTS OF THE REFERENCED DOCUMENTS, THE STRICTER SPECIFICATION SHALL GOVERN. WHERE PROVISIONS OF THE CODES AND STANDARDS ARE IN CONFLICT WITH THE BUILDING CODE IN FORCE FOR THIS PROJECT, THE BUILDING CODE SHALL GOVERN.

A. AMERICAN CONCRETE INSTITUTE:

- *ACI 301 "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS".
- *ACI 305 "HOT WEATHER CONCRETING."
- *ACI 306 "COLD WEATHER CONCRETING."
- *ACI 318 "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE."
- *ACI 614 "RECOMMENDED PRACTICE FOR MEASURING, MIXING AND PLACING CONCRETE".
- *ACI 311 "RECOMMENDED PRACTICE FOR CONCRETE INSPECTION".
- *ACI 315 "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES".
- *ACI 613 "RECOMMENDED PRACTICE FOR SELECTING PROPORTIONS FOR CONCRETE".

B. AMERICAN SOCIETY FOR TESTING AND MATERIALS:

- *ASTM A615 – "SPECIFICATION FOR DEFORMED AND PAIN BILLET STEEL BARS FOR CONCRETE REINFORCEMENT".
- *ASTM C94–80 – "SPECIFICATION FOR READY–MIX CONCRETE"
- *ASTM C39–77 – "SPECIFICATION FOR TEST FOR COMPREHENSIVE STRENGTH OF CYLINDRICAL CONCRETE SPECIMEN".
- *ASTM 33 – "SPECIFICATION FOR CONCRETE AGGREGATES".
- *ASTM C150 – "SPECIFICATION FOR PORTLAND CEMENT"
- *ASTM C172 – "SAMPLING FRESH CONCRETE"
- *ASTM C143 – "SLUMP OF PORTLAND CEMENT CONCRETE".
- *ASTM D698–91 – "TEST METHOD FOR LABORATORY COMPACTION CHARACTERISTICS OF THE SOIL USING STANDARD EFFORT".
- *ASTM D1556–84 – "DENSITY OF SOIL IN PLACE BY THE SAND–CONE METHOD".
- *ASTM D1557 – "TEST FOR MOISTURE–UNIT WEIGHT RELATIONS OF SOILS AND SOIL–AGGREGATE MIXTURES USING 10–LB. HAMMER AND 18–IN. DROP". (PROCEDURE C)
- *ASTM D2487 – "STANDARD CLASSIFICATION OF SOILS FOR ENGINEERING PURPOSES (UNIFIED SOIL CLASSIFICATION SYSTEM)
- *ASTM D2922 – "DENSITY OF SOIL AND SOIL AGGREGATE IN PLACE BY NUCLEAR METHODS SHALLOW DEPTH:.
- *ASTM D2940 – "STANDARD SPECIFICATION FOR GRADED AGGREGATE MATERIAL FOR BASES OR SUB–BASES FOR HIGHWAYS OR AIRPORTS".

C. NATIONAL FIRE PROTECTION ASSOCIATION:

- NFPA 1 – FIRE ASSOCIATION
- NFPA 54 – NATURAL GAS FUEL CODE
- NFPA 58 – LP GAS CODE
- NFPA 70 – NATIONAL ELECTRICAL CODE
- NFPA 101 – LIFE SAFETY CODE
- NFPA 110 – EMERGENCY/STANDBY POWER SYSTEMS

- NFPA 111 – STANDARD ON STORED ELECTRICAL ENERGY, EMERGENCY AND STANDBY POWER SYSTEMS
- NFPA 780 – STANDARD FOR THE INSTALLATION OF LIGHTING PROTECTION SYSTEMS

D. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION:

- OSHA 1926
- OSHA DIRECTIVES CPL 2–1.29 – INTERIM INSPECTION PROCEDURES DURING COMMUNICATION POLE CONSTRUCTION ACTIVITIES

E. INTERNATIONAL BUILDING CODE AND ELECTRICAL CODE, OR AHJ CODES.

1.4 NOTICE TO PROCEED

WHEN THE SITE IS READY FOR INSTALLATION, PANGAEA INTERNET SHALL ISSUE A NOTICE TO PROCEED TO THE CONTRACTOR. UPON RECEIPT OF THE NOTICE TO PROCEED, THE CONTRACTOR SHALL SUBMIT TO PANGAEA INTERNET A SCHEDULE REFLECTING THE WORK PLAN. THE CONTRACTOR SHALL ADVISE THE PANGAEA INTERNET REPRESENTATIVE IMMEDIATELY OF ANY SCHEDULE CHANGES.

1.5 PANGAEA INTERNET REPRESENTATIVE

PANGAEA INTERNET SHALL DESIGNATE A REPRESENTATIVE. THIS PERSON IS THE ONLY CONTACT POINT AUTHORIZED TO MAKE ANY CHANGES TO THE CONTRACT PROVISIONS OR THE PLANS AND SPECIFICATIONS. ANY CHANGES MADE BY THE CONTRACTOR ARE AT THE CONTRACTOR’S RESPONSIBILITY AND RISK.

1.6 CONTRACTORS FIELD REPRESENTATIVE

CONTRACTOR SHALL ASSIGN A FIELD REPRESENTATIVE WHO IS FAMILIAR WITH THESE SPECIFICATIONS AND WILL REPRESENT THE CONTRACTOR AND HAVE THE AUTHORITY TO ACT FOR THE CONTRACTOR AND SUPERVISE ALL CONSTRUCTION ACTIVITIES. THE REPRESENTATIVE SHALL BE AVAILABLE WHEN CONSTRUCTION ACTIVITIES BEGIN. THE FIELD REPRESENTATIVE SHALL BE THE PRIMARY POINT OF CONTACT FOR PANGAEA INTERNET DURING THE CONSTRUCTION PHASE OF WORK.

1.7 PROJECT MEETINGS

THE CONTRACTOR SHALL CONDUCT THE INITIAL (PRE–CONSTRUCTION) MEETING (INCLUDING ALL SUB–CONTRACTORS) WITH THE PANGAEA INTERNET REPRESENTATIVE WITHIN TWO WEEKS AFTER AWARD OF THE CONTRACT. SUBSEQUENTLY, THE CONTRACTOR SHALL PROVIDE PROGRESS SCHEDULE UPDATES TO PANGAEA INTERNET ON A WEEKLY BASIS.

1.8 MATERIALS

CONTRACTOR SHALL FURNISH AND INSTALL ALL MATERIALS AS REQUIRED FOR COMPLETE SYSTEMS INCLUDING: ALL PARTS OBVIOUSLY OR REASONABLY INCIDENTAL TO A COMPLETE INSTALLATION, WHETHER SPECIFICALLY INDICATED OR NOT. ALL SYSTEMS SHALL BE COMPLETELY ASSEMBLED, TESTED, ADJUSTED, AND DEMONSTRATED TO BE READY FOR OPERATION PRIOR TO PANGAEA INTERNET’S ACCEPTANCE.

MATERIALS AND WORKMANSHIP SHALL BE THE BEST OF THEIR RESPECTIVE KINDS (AS DEFINED BY INDUSTRY STANDARDS), FREE OF DEFECTS AND ALL MATERIALS SHALL BE NEW AND UNUSED IN ALL CASES, UNLESS OTHERWISE SPECIFIED. WHERE THE NAME OF A CONCERN OR MANUFACTURER IS MENTIONED ON THE DRAWINGS OR IN SPECIFICATIONS IN REFERENCE TO A REQUIRED SERVICE OR PRODUCT, AND NO QUALIFICATIONS OR SPECIFICATION OF SUCH IS INCLUDED, THEN THE MATERIAL SPECIFICATIONS, DETAILS OF MANUFACTURE, FINISH, ETC., SHALL BE IN ACCORDANCE WITH MANUFACTURER’S STANDARD PRACTICE, DIRECTIONS OR SPECIFICATIONS. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS ACCORDING TO THE MANUFACTURER’S/VENDOR’S SPECIFICATIONS UNLESS NOTED OTHERWISE OR WHERE LOCAL CODES OR ORDINANCES TAKE PRECEDENCE.

1.9 VERIFICATION OF EXISTING CONDITIONS

BEFORE STARTING ANY OPERATION, THE CONTRACTOR SHALL EXAMINE EXISTING WORK, OR WORK PERFORMED BY OTHERS. TO WHICH IT’S WORK IS TO ADJOIN OR BE APPLIED AND SHALL REPORT TO PANGAEA INTERNET PROJECT MANAGER ANY CONDITIONS THAT WILL PREVENT SATISFACTORY ACCOMPLISHMENT OF HIS WORK. PRIOR TO COMMENCING ANY EXCAVATION OR GRADING, THE CONTRACTOR SHALL SATISFY HIMSELF AS TO THE ACCURACY OF ALL SURVEY DATA AS INDICATED IN THE PLANS AND SPECIFICATIONS AND/OR AS PROVIDED BY PANGAEA INTERNET. SHOULD THE CONTRACTOR DISCOVER ANY INACCURACIES, ERRORS, OR OMISSIONS IN THE SURVEY DATA, HE SHALL IMMEDIATELY NOTIFY THE PANGAEA INTERNET REPRESENTATIVE IN ORDER THAT PROPER ADJUSTMENTS CAN BE ANTICIPATED AND ORDERED. FAILURE TO NOTIFY PANGAEA INTERNET REPRESENTATIVE OF DEFICIENCIES, ERRORS OR FAULTS PRIOR TO COMMENCEMENT OF WORK SHALL CONSTITUTE ACCEPTANCE THEREOF AND WAIVER OF ANY CLAIMS OF UNDERSTANDABILITY, ERRORS, OMISSIONS OR INACCURACIES.

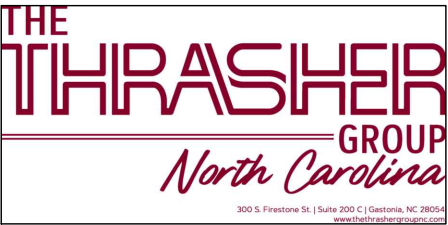
THE CONTRACTOR SHALL MAKE NECESSARY PROVISIONS TO PROTECT EXISTING IMPROVEMENTS, EASEMENTS, ETC. DURING CONSTRUCTION. UPON COMPLETION OF WORK, THE CONTRACTOR SHALL REPAIR ANY DAMAGE THAT MAY HAVE OCCURRED DUE TO CONSTRUCTION ON OR ABOUT THE PROPERTY. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR PRESERVING ALL ESTABLISHED SURVEY CONTROL POINTS. IF THE CONTRACTOR OR ANY OF HIS SUB–CONTRACTORS MOVE OR DESTROY ANY SURVEY CONTROL POINTS, THE COST INCURRED BY THE LAND OWNER OR PANGAEA INTERNET TO RE–ESTABLISH THEM WILL BE BORNE BY THE CONTRACTOR.

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GENERAL NOTES

CLIFFSIDE
ELEMENTARY SCHOOL
4016 US 221A HWY
MOORESBORO, NC 28114
PROJ. #: R80-11092



GN-1
SHEET

- 1.0 PERMITS

THE CONTRACTOR SHALL GIVE ALL NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY, MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS, AND LOCAL AND STATE JURISDICTIONAL CODES BEARING ON THE PERFORMANCE OF THE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTIONS WHICH MAY BE REQUIRED FOR THE WORK BY THE STATE, COUNTY OR LOCAL GOVERNMENT AUTHORITY. THE WORK PERFORMED ON THE PROJECT AND THE MATERIALS INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. THE CONTRACTOR SHALL MEET ALL OF THE REGULATORY REQUIREMENTS OF THE JURISDICTION GOVERNING CONSTRUCTION.
- 1.11 SITE INSPECTION

THE CONTRACTOR SHALL HAVE THE RESPONSIBILITY FOR ARRANGING WITH PANGAEA INTERNET FOR AN INSPECTION PRIOR TO COVERING UP ALL WORK THAT WILL BE COVERED IN FINISHED CONDITION. IT IS THE SITE GENERAL CONTRACTOR’S RESPONSIBILITY TO MANAGE THE SEQUENCE OF WORK AND REQUEST THE INSPECTIONS IN A TIMELY MANNER. THE SITE GENERAL CONTRACTORS SHALL NOT REQUEST AN INSPECTION UNLESS ALL OF THE RELATED WORK HAS BEEN COMPLETED. WORK SHALL NOT PROCEED TO THE NEXT STEP UNTIL THE PREVIOUS STEP HAS BEEN INSPECTED AND APPROVED BY THE LOCAL INSPECTORS AND THE PANGAEA INTERNET REPRESENTATIVE. THE PRESENCE OF THE OWNER OR PANGAEA INTERNET REPRESENTATIVE ON THE JOB SITE IN NO WAY RELIEVES THE SITE GENERAL CONTRACTOR OF THE ASSOCIATED RESPONSIBILITIES OF THE JOB. ANY WORK WHICH DOES NOT MEET THE REQUIREMENTS OF THE CONTRACT DOCUMENTS WILL BE CORRECTED OR REMOVED SOLELY AT THE SITE GENERAL CONTRACTOR’S EXPENSE.

THE FOLLOWING INFORMATION IS INCLUDED AS A GUIDE TO THE CONTRACTOR TO ASSIST IN DETERMINING THE TYPE OF FREQUENCY OF INSPECTIONS. THE LISTED INSPECTIONS REPRESENT THOSE REQUIRED FOR SMALL OR SIMPLE PROJECTS. LARGE OR COMPLEX PROJECTS MAY REQUIRE ADDITIONAL INSPECTIONS DEPENDING ON THE SEQUENCE OF WORK.

–FOUNDATION EXCAVATIONS AND REBAR: TO BE MADE AFTER TRENCHES ARE EXCAVATED AND FORMS ERECTED, REINFORCEMENT PLACED, COMPACTION TESTED, SOIL TREATED, VAPOR BARRIER PLACED, AND ESSENTIALLY READY FOR CONCRETE PLACEMENT.

–GROUNDING: TO BE MADE AFTER THE BELOW GROUND CADWELD CONNECTIONS HAVE BEEN COMPLETED, PRIOR TO COVERING UP THE TRENCHES.

–ELECTRICAL WORK WITHIN WALLS: TO BE MADE AFTER THE ROOF, FRAMING, FIRE BLOCKING AND BRACING IS IN PLACE PRIOR TO THE INSTALLATION OF INSULATION OR WALL/CEILING MEMBRANES.

AS A GENERAL RULE, THE CONTRACTOR SHALL PROVIDE ADVANCE NOTICE TO PANGAEA INTERNET FOR INSPECTION OF ALL WORK PRIOR TO CONCEALMENT. THE CONTRACTOR HAS RESPONSIBILITIES RELATIVE TO ALL TYPES OF INSPECTIONS AND IS RESPONSIBLE FOR CONTACTING ALL OF THE INSPECTING ENTITIES TO DETERMINE HIS RESPONSIBILITIES. ALL OF THE INSPECTING ENTITIES HAVE UNIQUE AND SEPARATE RESPONSIBILITIES. ONE INSPECTION FROM AN ENTITY WILL NOT SUBSTITUTE FOR AN INSPECTION FROM ANOTHER ENTITY.
- 1.12 SAFETY

THE CONTRACTOR, HIS EMPLOYEES, ANY SUB–CONTRACTORS, VENDORS, THEIR RESPECTIVE EMPLOYEES AND CONTRACTOR’S VISITORS SHALL COMPLY WITH ALL SAFETY STANDARDS, ACCIDENT PREVENTION REGULATIONS AND ENVIRONMENTAL REGULATIONS PROMULGATED BY FEDERAL, STATE, OR LOCAL AUTHORITIES HAVING JURISDICTION AND SHALL AT ALL TIMES CONDUCT ALL OPERATIONS UNDER THE CONTRACT IN A MANNER TO AVOID THE RISK OF BODILY HARM TO ANY PERSONS AND THE RISK OF DAMAGE TO ANY PROPERTY, EQUIPMENT OR MATERIALS. SUCH PARTIES SHALL ALSO COMPLY WITH ANY SAFETY PROGRAMS AND/OR RULES PROMULGATED BY OWNER AND/OR PANGAEA INTERNET. IN ADDITION, ALL WORK SHALL BE IN ACCORDANCE WITH OSHA STANDARDS.

FOR CRANE LIFTS, FOLLOW COE EM385 SAFETY AND HEALTH MANUAL
- 1.13 SITE CLEANUP

THE CONTRACTOR SHALL KEEP THE GENERAL WORK AREA CLEAN AND HAZARD FREE AT ALL TIMES DURING CONSTRUCTION AND DISPOSE OF ALL DIRT, DEBRIS, VEGETATION, AND RUBBISH, AND REMOVE EQUIPMENT NOT SPECIFIED AS REMAINING ON THE PROPERTY. WHENEVER THE WORK–SITE IS LEFT UNATTENDED, THE CONTRACTOR SHALL BLOCK THE OPENING WITH WARNING TAPE TO DISCOURAGE TRESPASSING. THE PREMISES SHALL BE LEFT IN CLEAN CONDITION AND FREE FROM PAINT SPOTS, DUST, OR SMUDGES OF ANY NATURE AT THE CONCLUSION OF THE SITE WORK.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR LANDSCAPE GRADING AND SEEDING OF THE DISTURBED SOIL. THE CONTRACTOR SHALL USE LOCAL GRASS SEED TO STABILIZE SOIL AND SHALL COVER DISTURBED AREAS WITH HAY MULCH TO REDUCE RUNOFF OF SEDIMENT TO DOWNSTREAM AREAS. THE CONTRACTOR SHALL RESTORE THE SITE TO ITS ORIGINAL CONDITION. ALL SLOPES AND DISTURBED AREAS NOT RECEIVING AGGREGATE SURFACING ARE TO BE PREPARED AND BROADCAST SEEDED AND FERTILIZED FOR EROSION PROTECTION. SEEDING FOR AREAS DISTURBED SHALL BE ESTABLISHED SEASONALLY AS REQUIRED BY LOCAL CODES.

THE CONTRACTOR SHALL EXERCISE ALL CARE TO AVOID DAMAGE OR INTERRUPTION OF EXISTING UNDERGROUND OR OVERHEAD ELECTRIC SERVICES, UNDERGROUND GROUNDING AND FUEL LINES, EQUIPMENT AND BUILDINGS ON THE SITE, PLUS OFF SITE SERVICES, BURIED OR OVERHEAD, SURROUNDING THE EXISTING OR EXPANDED COMPOUND. ANY PROPERTY DAMAGE CAUSED BY THE CONTRACTOR OR HIS OPERATIONS SHALL BE CORRECTED AND/OR RESTORED TO THE SATISFACTION OF THE PROPERTY OWNER(S) AND PANGAEA INTERNET AT NO ADDITIONAL COST TO THE PROPERTY OWNER OR PANGAEA INTERNET.

BURNING WILL NOT BE PERMITTED.
- 1.14 FACILITY STARTUP & COMMISSIONING:

THE CONTRACTOR AND/OR SUB–CONTRACTORS SHALL DEMONSTRATE TO PANGAEA INTERNET THAT ALL SYSTEMS AND SUB–SYSTEMS INSTALLED UNDER THIS CONTRACT, OPERATE PROPERLY PRIOR TO THE FINAL ACCEPTANCE INSPECTION AND PROVIDE THE OPERATIONS AND MAINTENANCE MANUALS AT THIS TIME.
- 1.15 SHOP DRAWINGS/AS–BUILT DRAWINGS

THE MODIFICATIONS TO THE DRAWINGS AFTER CONSTRUCTION START SHALL RECEIVE ENGINEERING AND PANGAEA INTERNET APPROVAL PRIOR TO ANY CHANGES BEING MADE. THE ENGINEER OF RECORD SHALL MAKE THE REQUIRED CHANGE AND WILL SUBMIT CHANGES TO PANGAEA INTERNET AND ANY JURISDICTION HAVING AUTHORITY.

THE CONTRACTOR SHALL KEEP UP–TO–DATE MARKED–UP PRINTS OF THE PROJECT DRAWINGS. UPON COMPLETION OF WORK AT THE SITE, THE CONTRACTOR SHALL REVIEW THE COMPLETED AS–BUILT DRAWINGS, AND ASCERTAIN THAT ALL DATA FURNISHED ON THE DRAWINGS IS ACCURATE AND TRULY REPRESENTS THE WORK IS ACTUALLY INSTALLED. MARKING INDICATING CHANGES TO THE DRAWINGS SHALL BE RED OR GREEN AND CLEARLY VISIBLE. TWO (2) SETS OF “AS–BUILT” DRAWINGS SHALL BE FURNISHED TO THE PANGAEA INTERNET REPRESENTATIVE WITHIN 5 DAYS OF THE COMPLETION OF THE PROJECT. THESE DRAWINGS SHALL ALSO SHOW THE FOLLOWING:

–MODIFICATIONS TO SITE LAYOUT.

–GROUNDING SYSTEM LAYOUT.

–UNDERGROUND FUEL LINE RUN.

–UNDERGROUND ELCO CABLE RUN.

–UNDERGROUND ELECTRICAL RUN.

WHERE THE CONTRACTOR IS RESPONSIBLE FOR SUPPLYING THE SITE EQUIPMENT ROOM. ISOLATION TRANSFORMER. GENERATOR, ETC.) THAT REQUIRES PERIODIC MAINTENANCE, THE CONTRACTOR SHALL INCLUDE ALL OPERATION AND MAINTENANCE MANUALS AND ALL AS–BUILT DRAWINGS WHICH FULLY DESCRIBE THE ACTUAL INSTALLED EQUIPMENT.
- 1.16 TEST PROCEDURES AND RESULTS

CONTRACTOR WILL CONTRACT WITH A THIRD PARTY “INDEPENDENT TESTING FIRM TO PERFORM & SUBMIT THE RESULTS OF ALL TESTS REQUIRED BY THE PROJECT SPECIFICATIONS AND DRAWINGS THAT FALL WITHIN THE SCOPE OF WORK. THE RESULTS SHALL BE SUBMITTED TO THE DESIGNATED PANGAEA REPRESENTATIVE. IN GENERAL, THE “INDEPENDENT” TESTING FIRM SHALL SUBMIT THE FOLLOWING TEST RESULTS:

–MIX DESIGN/CONCRETE COMPRESSION TEST FOR ALL CONCRETE WORK.

–FUEL LINE LEAKAGE TEST FOR FUEL TANK AND PIPING INSTALLATION WORK.

–SLUMP TEST FOR CONCRETE WORK.

–GROUNDING RESISTANCE TEST FOR GROUNDING WORK.

–STRUCTURAL STEEL FABRICATION DRAWINGS.

–ANY OTHER TEST THAT MAY BE REQUIRED.
- 1.17 CONTRACT CLOSEOUT – IN ACCORDANCE WITH PANGAEA INTERNET SUBCONTRACT AGREEMENT TERMS AND CONDITIONS.

PANGAEA INTERNET REPRESENTATIVE WILL PROVIDE A CERTIFICATE OF COMPLETION AND APPROVE FINAL PAYMENT WHEN ALL PUNCH–LIST ITEMS HAVE BEEN CORRECTED, RECORD DRAWINGS SUBMITTED, AND ALL SYSTEMS ARE ACCEPTABLE. THE CONTRACTOR MUST ALSO RECEIVE A CERTIFICATE OF COMPLETION FROM THE MUNICIPALITY. AFTER FINAL PAYMENT, CONTRACTOR WILL SIGN A RELEASE OF LIEN.
- 1.18 WARRANTY

ALL WORK PERFORMED BY THE CONTRACTOR IN COMPLETING THE SCOPE IDENTIFIED ON THE DRAWINGS SHALL BE GUARANTEED BY THE CONTRACTOR FOR A PERIOD OF ONE YEAR FROM THE DATE OF FINAL COMPLETION OF THE PROJECT. THIS GUARANTEE SHALL COVER ALL MATERIALS, EQUIPMENT OR WORKMANSHIP WHICH IN THE OPINION OF PANGAEA INTERNET IS RENDERED DEFECTIVE OR INFERIOR OR NOT IN ACCORDANCE WITH THE TERMS OF THE CONTRACT DURING THE GUARANTEE PERIOD. IF, WITHIN THE GUARANTEE PERIOD, REPAIRS OR CHANGES ARE REQUIRED TO CORRECT THE GUARANTEE WORK. THEN UPON RECEIPT OF NOTICE, THE CONTRACTOR SHALL PROMPTLY AND WITHOUT EXPENSE TO PANGAEA INTERNET OR THE OWNER, PROCEED TO:

–PLACE IN SATISFACTORY CONDITION ALL OF SUCH GUARANTEED WORK AND CORRECT ALL DEFECTS THEREIN.

–MAKE GOOD ALL DAMAGES TO THE STRUCTURE OR SITE OR EQUIPMENT OR CONTENTS THEREOF, WHICH, IN THE OPINION OF PANGAEA INTERNET REPRESENTATIVE, IS THE RESULT OF THE USE OF MATERIALS, EQUIPMENT, OR WORKMANSHIP WHICH ARE INFERIOR, DEFECTIVE, OR NOT IN ACCORDANCE WITH THE TERMS OF THE CONTRACT.

–MAKE GOOD ANY WORK, MATERIALS OR EQUIPMENT AND ADJACENT STRUCTURES DISTURBED IN FULFILLING THE GUARANTEE.
- 1.19 RELATED DOCUMENTS

CONTRACTOR SHALL BECOME FAMILIAR WITH THE INFORMATION AND REQUIREMENTS CONTAINED IN THE FOLLOWING DOCUMENTS RELATED TO THE PROJECT:

A. STANDARDS AND GUIDELINES FOR COMMUNICATIONS BY PANGAEA INTERNET.

B. ALL OTHER PERTINENT DOCUMENTS.

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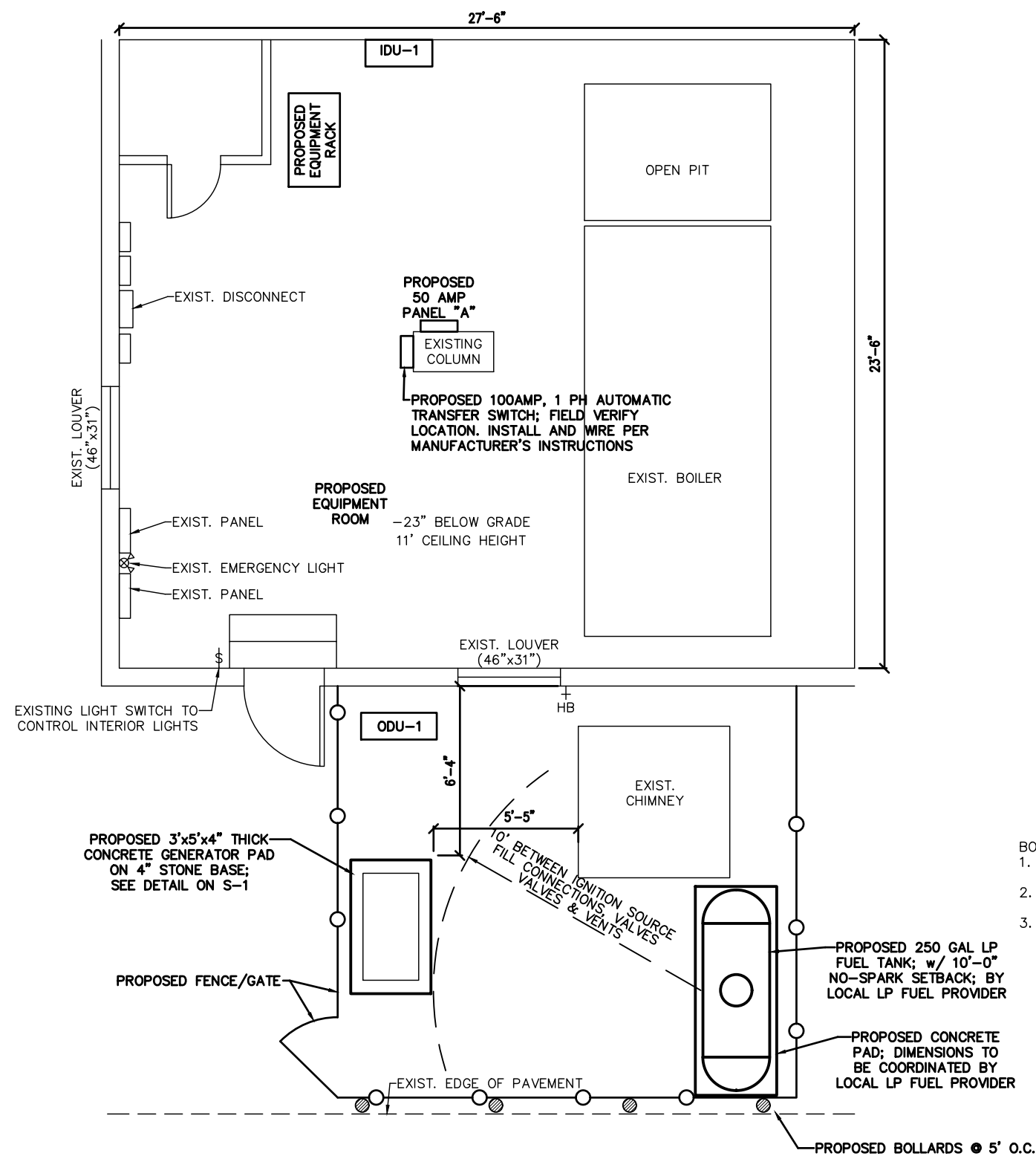


GENERAL NOTES

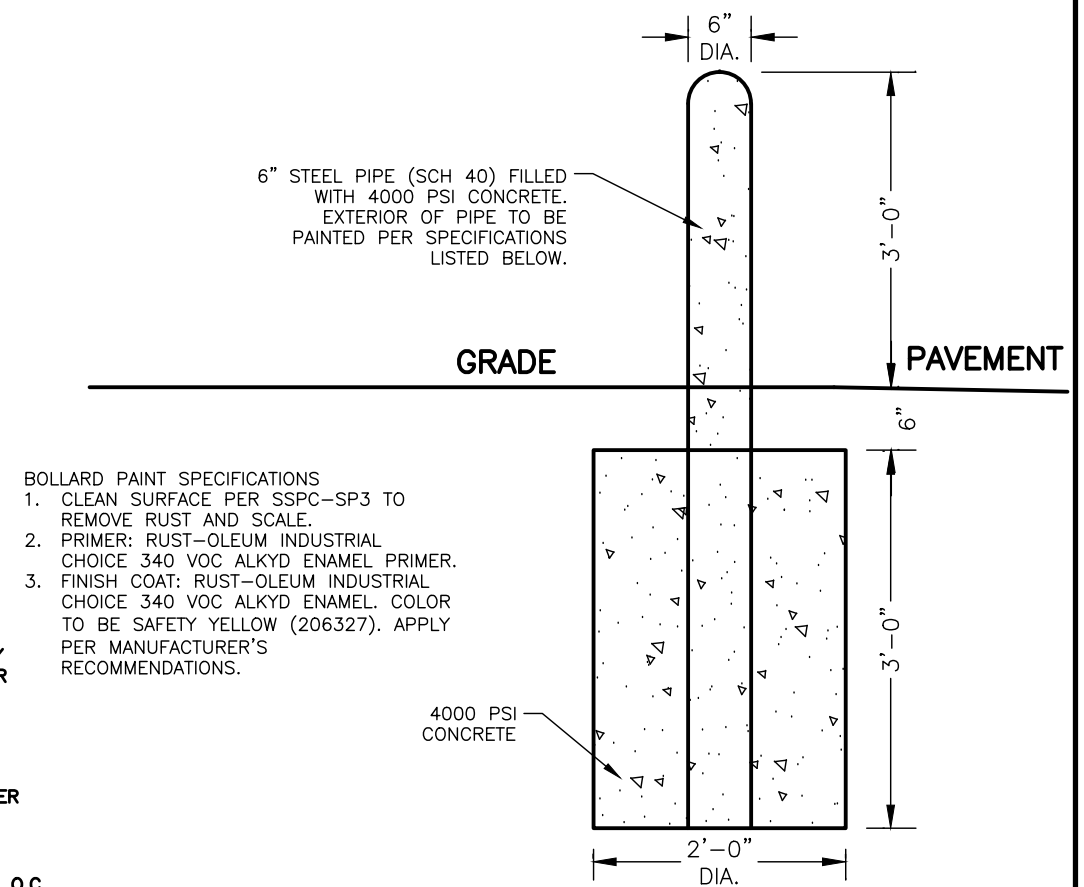
CLIFFSIDE
ELEMENTARY SCHOOL
4016 US 221A HWY
MOORESBORO, NC 28114
PROJ. #: R80-11092



GN-2
SHEET



1 COMPOUND PLAN
C-1 SCALE: 3/16" = 1'-0"



- BOLLARD PAINT SPECIFICATIONS
1. CLEAN SURFACE PER SSPC-SP3 TO REMOVE RUST AND SCALE.
 2. PRIMER: RUST-OLEUM INDUSTRIAL CHOICE 340 VOC ALKYD ENAMEL PRIMER.
 3. FINISH COAT: RUST-OLEUM INDUSTRIAL CHOICE 340 VOC ALKYD ENAMEL. COLOR TO BE SAFETY YELLOW (206327). APPLY PER MANUFACTURER'S RECOMMENDATIONS.

2 BOLLARD DETAIL
C-1 SCALE: NONE

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COMPOUND PLAN

CLIFFSIDE
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4016 US 221A HWY
MOORESBORO, NC 28114

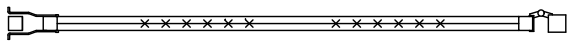
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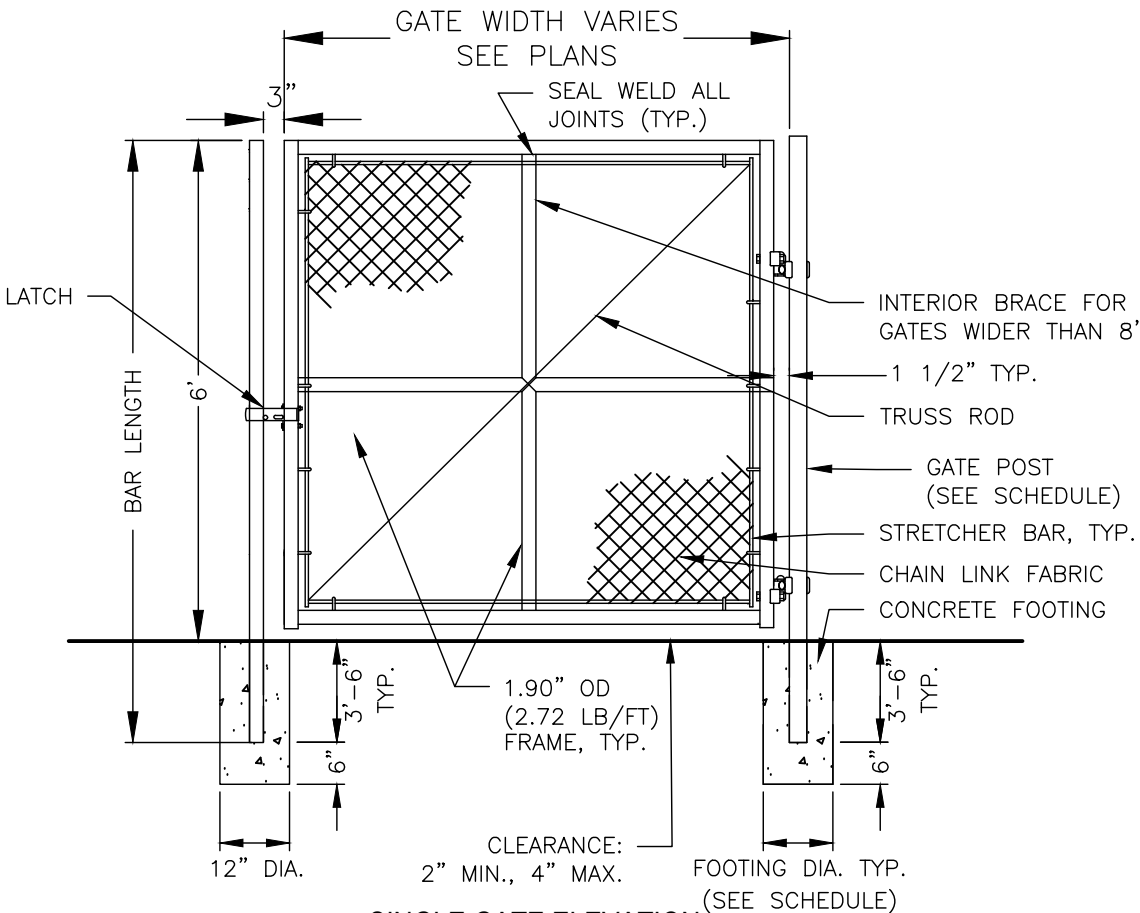
C-1
SHEET

- NOTES:
- 1. REFER TO PROJECT SPECIFICATIONS FOR INFORMATION NOT SHOWN IN THE DRAWING.
 - 2. FENCE FABRIC SHALL CONFORM TO CHAIN LINK FENCE MANUFACTURERS INSTITUTE (CLFMI) PRODUCT MANUAL.
 - 3. INSTALL FENCE IN COMPLIANCE WITH ASTM F 567.
 - 4. INSTALL SWING GATES IN COMPLIANCE WITH ASTM F 900.
 - 5. DO NOT BEGIN INSTALLATION AND ERECTION BEFORE FINAL GRADING IS COMPLETED, UNLESS OTHERWISE PERMITTED. INSTALL FENCING ON BOUNDARY LINES INSIDE OF PROPERTY LINE ESTABLISHED BY SURVEY.
 - 6. DRILL OR HAND-EXCAVATE (USING POST-HOLE DIGGER) HOLES FOR POST TO DIAMETERS AND SPACING INDICATED, IN FIRM, UNDISTURBED OR COMPACTED SOIL. IF NOT INDICATED ON DRAWINGS, EXCAVATE HOLES FOR EACH POST TO A MINIMUM DIAMETER RECOMMENDED BY FENCE MANUFACTURER, BUT NOT LESS THAN (4) TIMES LARGES CROSS-SECTION OF POST.
 - 7. SPREAD POST HOLE SPOILS ON SITE. DO NOT SET SPOILS ON AGGREGATE WITHOUT ADEQUATE PROTECTION.
 - 8. PROTECT PORTION OF POSTS ABOVE GROUND FROM CONCRETE SPLATTER. PLACE CONCRETE AROUND POSTS AND VIBRATE OR TAMP FOR CONSOLIDATION. CHECK EACH POST FOR VERTICAL AND TOP ALIGNMENT AND HOLD IN POSITION DURING PLACEMENT AND FINISHING OPERATIONS, UNLESS OTHERWISE SHOWN. EXTEND CONCRETE FOOTING 1 INCH ABOVE GRADE AND TROWEL TO A CROWN TO SHED WATER.
 - 9. APPLY FABRIC TO OUTSIDE OF FRAMEWORK.

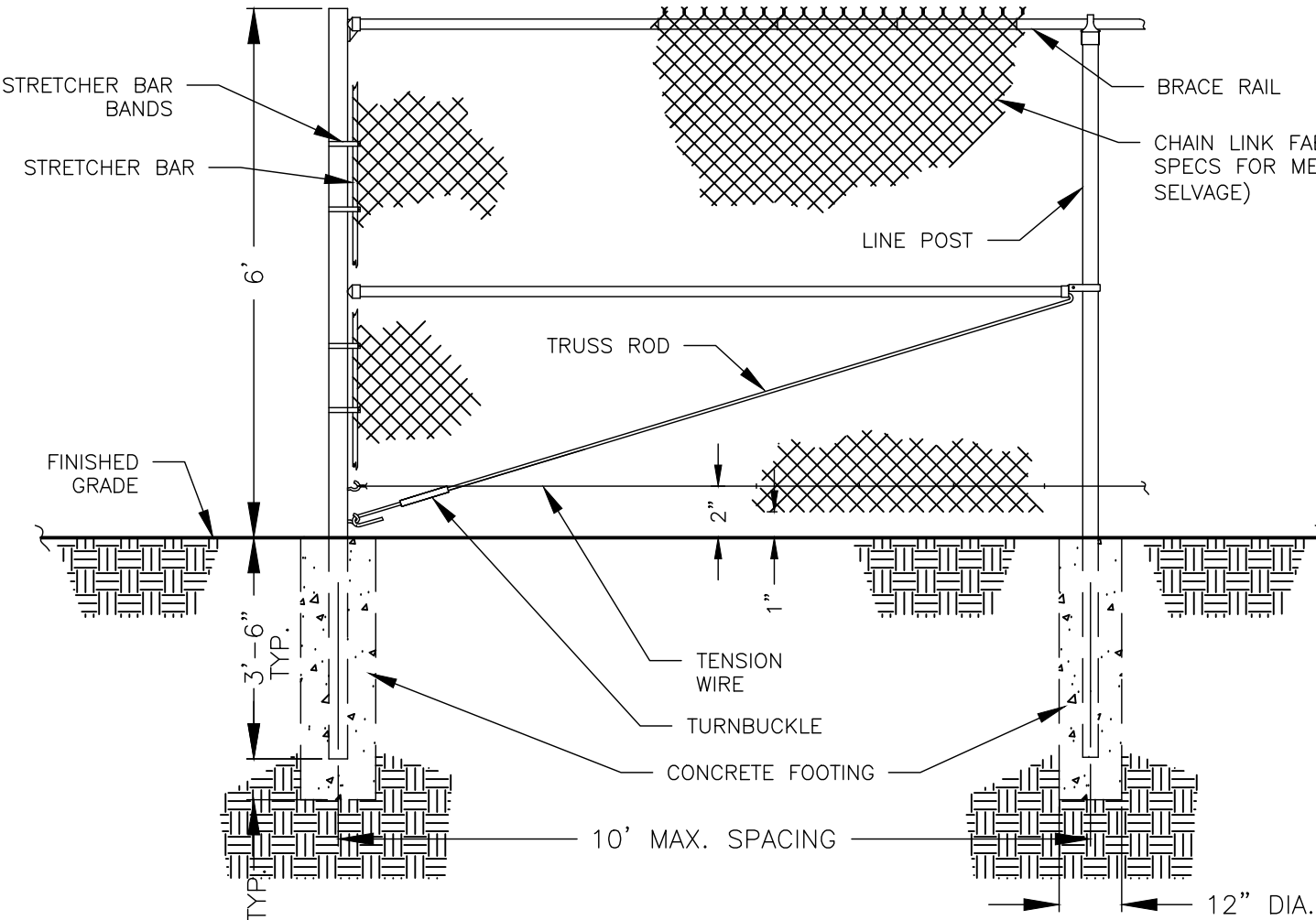
GATE POST SCHEDULE			
LEAF SPAN	POST O.D.	WEIGHT	CONC. FOOTING
UP TO 4'	2 7/8"	5.79 LB/FT	24" DIA
6' TO 13'	4"	9.11 LB/FT	24" DIA
13' TO 18'	6 5/8"	18.97 LB/FT	36" DIA
OVER 18'	8 5/8"	28.55 LB/FT	48" DIA



GATE PLAN
NOT TO SCALE



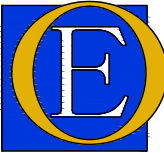
1 SINGLE GATE ELEVATION
C-3 NOT TO SCALE



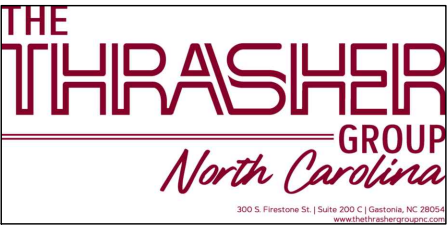
2 CHAIN LINK FENCING DETAIL
C-3 NOT TO SCALE

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FENCE DETAILS

CLIFFSIDE
ELEMENTARY SCHOOL
4016 US 221A HWY
MOORESBORO, NC 28114
PROJ. #: R80-11092



C-3
SHEET

FOR EMERGENCY NOTIFICATION OR
FOR ACCESS CALL
(877) 859-8219
SITE NAME:
CLIFFSIDE
ELEMENTARY SCHOOL
SITE ADDRESS:
4016 US 221 A HWY
MOORESBORO, NC 28114



SITE SIGNAGE NOTES:
AT A MINIMUM, SITES WHICH ARE NOT CONTINUOUSLY SUPERVISED SHALL PORT THE FOLLOWING SIGNAGE:

- AUTHORIZED PERSONNEL ONLY. NO TRESPASSING
- RESPONSIBLE ENTITY IDENTIFICATIONS
- SITE OPERATING ENTITY WITH APPROPRIATE CONTACT INFORMATION
- PERMIT OR LICENSE INFORMATION (AS ASSIGNED BY THE FEDERAL COMMUNICATIONS COMMISSION OR OTHER EQUIVALENT)

ALL SIGNAGE SHALL BE FURNISHED AND INSTALLED BY THE GENERAL CONTRACTOR. QUESTIONS FROM THE GENERAL CONTRACTOR CONCERNING SITE SIGNAGE SHALL BE DIRECTED TO PANGAEA INTERNET CONSTRUCTION MANAGER PRIOR TO ORDERING.

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THE
THRASHER
GROUP
North Carolina

300 S. Firestone St. | Suite 200 C | Gastonia, NC 28054
www.thrashergroupnc.com



INTERNET AT THE SPEED OF LIGHT

SITE SIGNAGE DETAILS

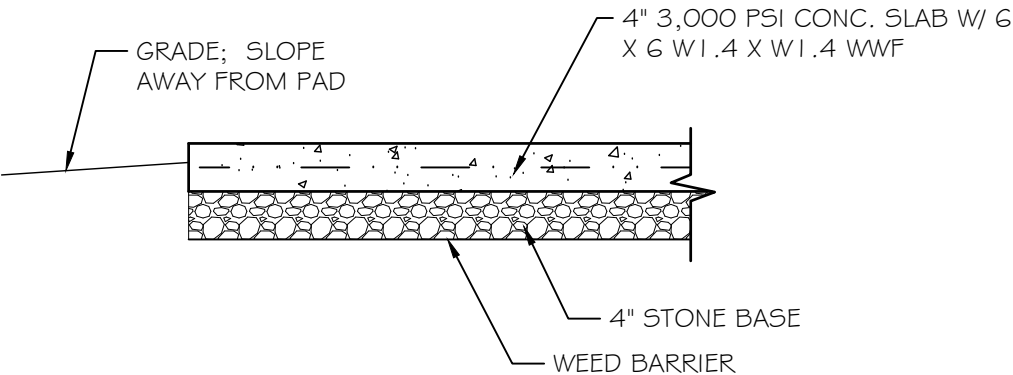
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PROJ. #: R80-11092



NORTH CAROLINA
PROFESSIONAL
ENGINEER
MARISSA M. COLES
029478
7/16/2026

CONCRETE/ REINFORCING STEEL

- 1. ALL CONCRETE WORK SHALL BE DONE IN ACCORDANCE WITH CURRENT ACI BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE (ACI 318–19).
- 2. CONCRETE MIXES SHALL BE DESIGNED IN ACCORDANCE WITH ACI 301.
- 3. ALL NORMAL WEIGHT CONCRETE SHALL HAVE ASTM C–33 AGGREGATE WITH UNIT WEIGHT OF 150 PCF. CONCRETE COMPRESSIVE STRENGTH SHALL BE 3000 PSI AT 28 DAYS, MINIMUM.
- 4. TEMPERATURE OF THE SURROUNDINGS SHALL NOT BE LOWER THAN 40°F DURING PLACING CONCRETE OR WITHIN 24 HOURS THEREAFTER. TEMPERATURE OF CONCRETE SHALL NOT BE LOWER THAN 55°F FOR THICKNESS 12” OR LESS IN THICKNESS AND 50°F FOR SECTIONS THICKER THAN 12”, NOR HIGHER THAN 90°F. IF TEMPERATURE OF REINFORCING STEEL IS GREATER THAN 120°F, FORMS AND REBARS SHALL BE SPRAYED WITH WATER.
- 5. CONCRETE SHALL NOT BE PLACED ON FROZEN GROUND. IF GROUND RECEIVING FOUNDATION CONCRETE IS FROZEN, IT SHALL BE THAWED BY STEAM, DIRECT HEAT, OR OTHER METHODS APPROVED BY THE ENGINEER.
- 6. MINIMUM CONCRETE COVER SHALL BE AS FOLLOWS:
CAST AGAINST SOIL = 3 INCHES
FORMED BUT EXPOSED TO SOIL = 2 INCHES
CASES NOT INDICATED HERE OR SHOWN ON THE DRAWING SHALL BE IN ACCORDANCE WITH SECTION 20.5 OF ACI 301–19.
- 7. REINFORCING STEEL SHALL MEET THE FOLLOWING SPECIFICATIONS:
ASTM A615 – GRADE 60.
REINFORCING TO BE WELDED (INCLUDING DEFORMED BAR ANCHORS/DBA) – ASTM A706.
WELDED WIRE FABRIC – ASTM A185 (FLAT SHEETS ONLY)
- 8. REFER TO THE DRAWINGS FOR REINFORCING LAP REQUIREMENTS, WHERE LAP SPLICES ARE NOT SHOWN, LAP PER ACI 318 OR CRSI STANDARDS.
- 9. LAP WELDED WIRE FABRIC SHEETS 8” MINIMUM.
- 10. FOR SLABS ON GRADE, SLAB AND GRADE BEAM REINFORCING SHALL BE HELD IN PLACE BY BAR SUPPORTS WITH SAND PLATES, OR PRECAST CONCRETE BAR SUPPORTS AS DESCRIBED IN CHAPTER 3 OF THE CRSI MANUAL OF STANDARD PRACTICE. BAR SUPPORTS SHALL BE SPACED AT A MAXIMUM OF 4’–0” OC BOTH WAYS. ROCKS, CMU, OR CLAY BRICK WILL NOT BE USED AS SUPPORTS.
- 11. THE CONTRACTOR SHALL NOTIFY THE ENGINEER FAR ENOUGH IN ADVANCE (48 HOURS) OF EACH CONCRETE POUR TO ALLOW AMPLE TIME TO CHECK THE LAYOUT OF THE STEEL BEFORE THE BEGINNING OF THE ACTUAL POUR, BUT NOT PRIOR TO 90% OF THE STEEL HAVING BEEN PLACED.



1 GENERATOR PAD DETAIL
S-1 NOT TO SCALE

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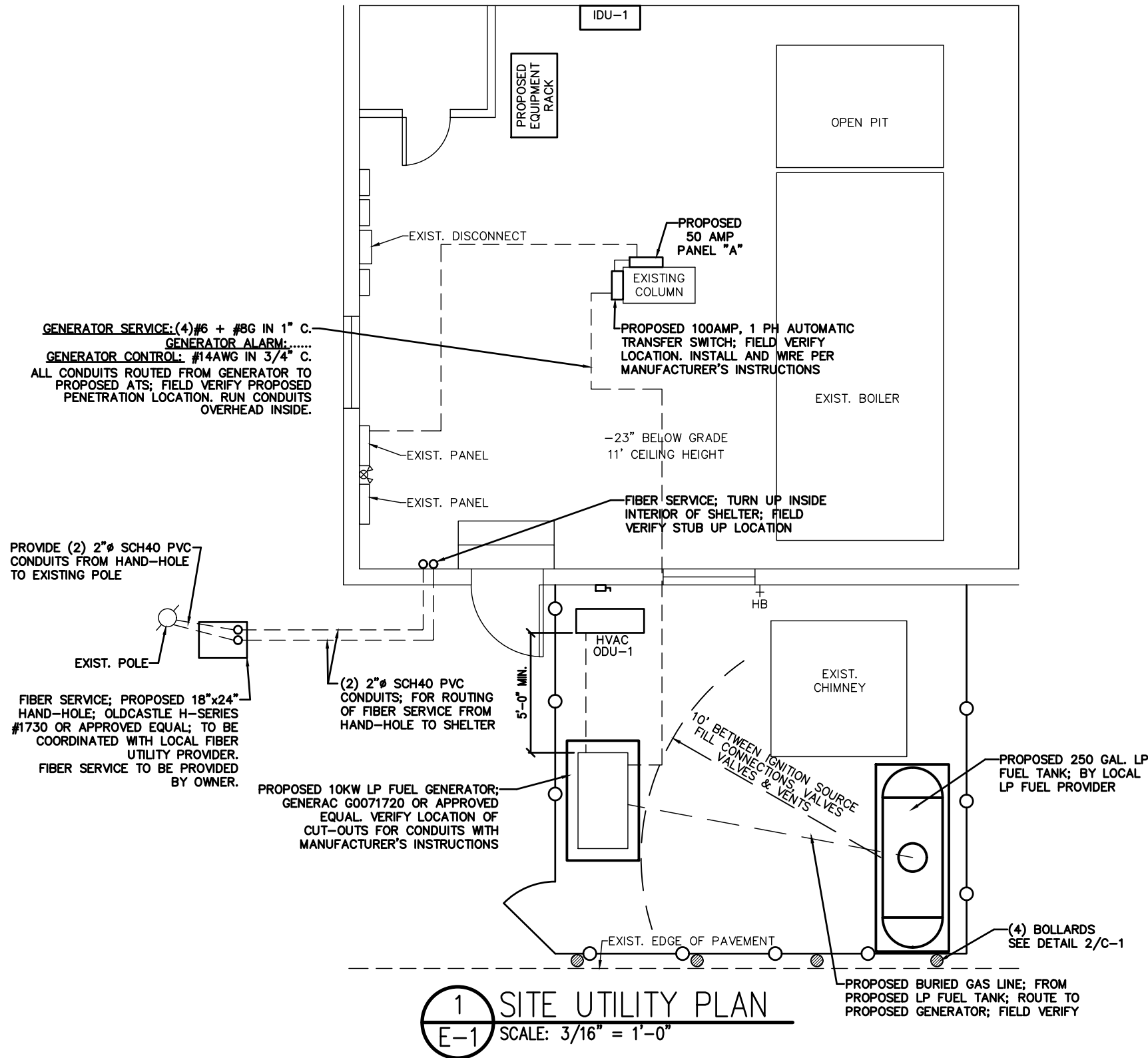
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CONCRETE NOTES

CLIFFSIDE
ELEMENTARY SCHOOL
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MOORESBORO, NC 28114
PROJ. #: R80-11092





NOTES:

1. THE LOCATION AND SIZE AND TYPE OF MATERIAL OF EXISTING UTILITIES INDICATED ON THE PLANS IS NOT REPRESENTED AS BEING ACCURATE, SUFFICIENT OR COMPLETE. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE ACTUAL LOCATION OF ALL SUCH FACILITIES, INCLUDING THE SERVICE CONNECTIONS TO UNDERGROUND UTILITIES. PRIOR TO CONSTRUCTION THE CONTRACTOR SHALL NOTIFY THE UTILITY COMPANIES OF HIS OPERATIONAL PLANS AND SHALL OBTAIN FROM THE RESPECTIVE UTILITY COMPANIES DETAILED INFORMATION AND ASSISTANCE RELATIVE TO THE LOCATION OF THEIR FACILITIES AND THE WORKING SCHEDULE OF THE COMPANIES FOR REMOVAL OR ADJUSTMENT WHERE REQUIRED. IN THE EVENT AN UNEXPECTED UTILITY INTERFERENCE IS ENCOUNTERED DURING CONSTRUCTION, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE UTILITY COMPANY OF JURISDICTION. THE ENGINEER SHALL ALSO BE IMMEDIATELY NOTIFIED. ANY SUCH MAINS AND SERVICES SHALL BE RESTORED TO SERVICE AT ONCE AND PAID FOR BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE CONTRACT.
2. NEW GROUNDING NOT SHOWN FOR CLARITY.
3. WARNING TAPE SHALL BE INSTALLED DIRECTLY ABOVE CONDUITS AT A DEPTH OF 12 INCHES BELOW FINISHED GRADE UNLESS NOTED OTHERWISE. TAPE COLOR SHALL BE AS SPECIFIED BELOW AND SHALL BEAR DESCRIPTION OF THE UTILITY.
4. UTILITY CONDUITS MAY BE COMBINED INTO (1) CONCRETE ENCASEMENT AS LONG AS PROPER SEPARATION BETWEEN UTILITIES IS MAINTAINED.
5. EXCAVATE EXISTING SUBGRADE AS REQUIRED TO INSTALL CONDUITS IN ACCORDANCE WITH OSHA AND ALL APPLICABLE CODES.
6. CONDUIT SHALL UTILIZE LARGE RADIUS 90° BENDS.
7. CONDUIT DEPTHS FROM FINISHED GRADE ARE ABSOLUTE MINIMUMS.

GENERAL NOTES:

1. ALL ELECTRICAL EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH NFPA 70. THE RESPECTIVE EQUIPMENT MANUFACTURER'S DIRECTIONS AND ALL OTHER APPLICABLE LOCAL CODES, LAWS, ORDINANCES AND REQUIREMENTS IN FORCE. ANY INSTALLATION WHICH VOID THE U.L. LISTING (OR OTHER THIRD PARTY LISTING) AND/OR THE MANUFACTURER'S WARRANTY OF A DEVICE SHALL NOT BE PERMITTED.
2. ALL CONDUIT SHALL BE SEALED WATERTIGHT UNTIL FINAL TERMINATIONS ARE MADE.
3. PROVIDE PULL CORD IN ALL CONDUITS. SECURE AT EACH END.
4. ADJUST DEPTH OF CONDUITS TO PASS ABOVE GROUNDING SYSTEM.
5. PROVIDE 18 INCH (MIN.) RADIUS ELBOWS FOR ALL BENDS.
6. CONTRACTOR SHALL VERIFY ALL EQUIPMENT ELECTRICAL REQUIREMENTS PRIOR TO COMMENCING WORK.

SERVICE CONDUIT:

1. PROVIDE PVC SCH 40 (OUTSIDE), PVC SCH 80 (OUTSIDE IN TRAFFIC AREAS) CONDUIT FOR ALL POWER & ALARM/CONTROL REQUIREMENTS. WIRING PROVIDED BY CONTRACTOR.
2. COORDINATE LOCATION OF GENERATOR POWER AND CONTROL WITH GENERATOR EQUIPMENT INSTALLATION MANUFACTURER DRAWINGS.

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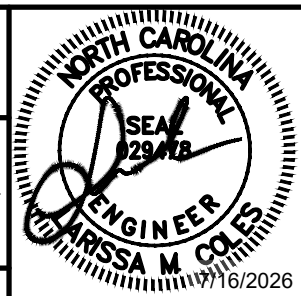


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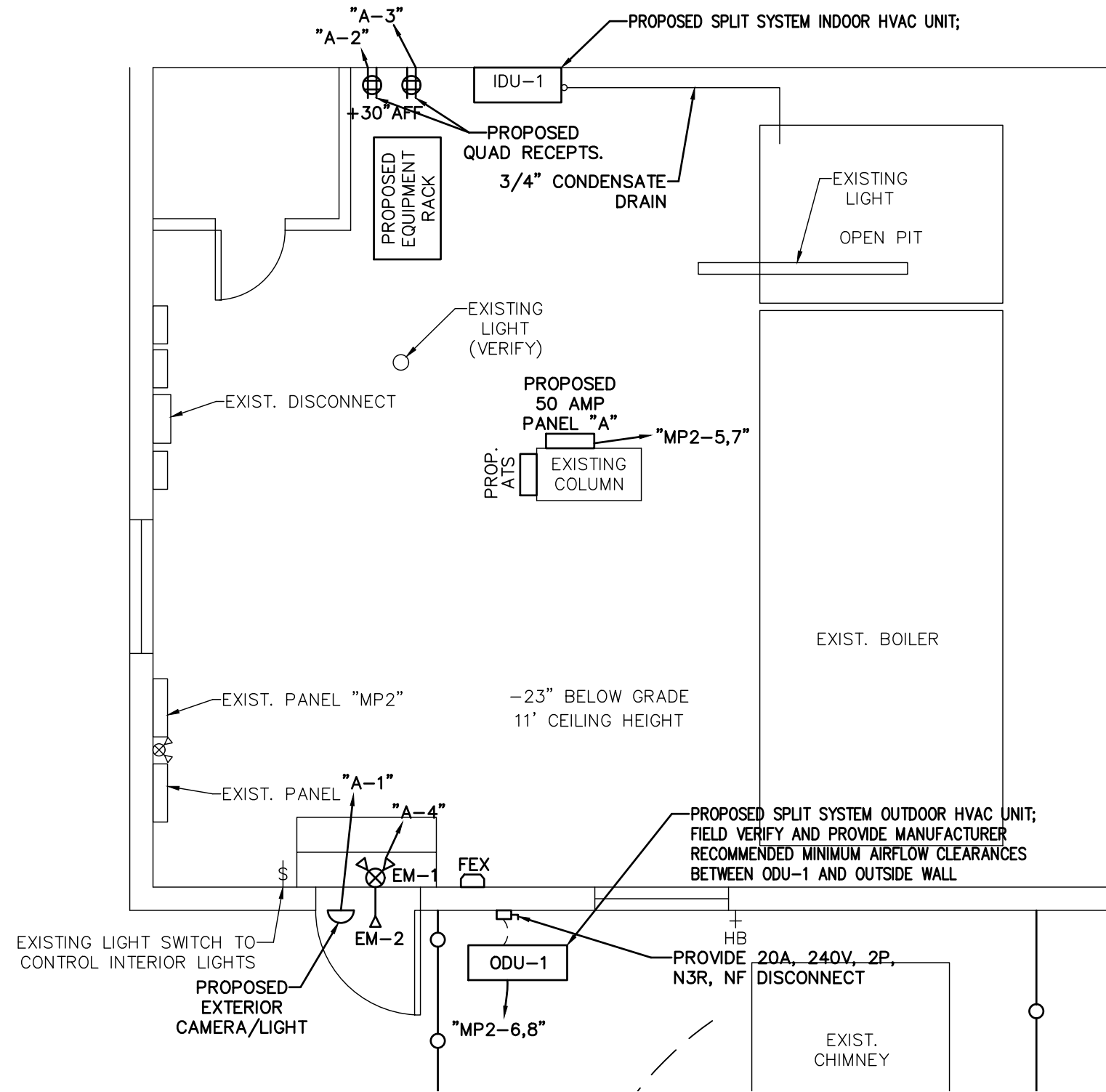


SITE UTILITY PLAN

CLIFFSIDE
 ELEMENTARY SCHOOL
 4016 US 221A HWY
 MOORESBORO, NC 28114
 PROJ. #: R80-11092



E-1
 SHEET



NOTES:

1. PROVIDE NEW 50 AMP 2P BREAKER IN EXISTING PANEL "MDP" TO FEED PROPOSED PANEL "A".
2. PROVIDE NEW 20 AMP 2P BREAKER IN EXISTING PANEL "MDP" FOR NEW ODU-1.

LEGEND

- EM-1 INTERIOR EMERGENCY/EXIT LIGHT W/ 90 MIN. BATTERY BACK-UP
- EM-2 EXTERIOR EMERGENCY/EXIT LIGHT W/ 90 MIN. BATTERY BACK-UP
- FEX FIRE EXTINGUISHER

1 SHELTER UTILITY PLAN

E-2 SCALE: 1/4" = 1'-0"

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SHELTER UTILITY PLAN

CLIFFSIDE
ELEMENTARY SCHOOL
4016 US 221A HWY
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E-2

SHEET

VOLTAGE: 120Y/240
AMPS: 50A – MB

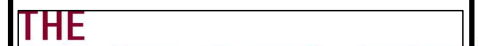
PANEL: ”A”

1-PHASE/3-WIRE
SURFACE

					LOAD PER PHASE						
DESCRIPTION	POLE	WIRE SIZE	BRK SIZE	CCT #	A	B	CCT #	BRK SIZE	WIRE SIZE	POLE	DESCRIPTION
EXTERIOR CAMERA	1	12	20	1	0.5	1.0	2	20	12	1	RECEPTACLE
RECEPTACLE	1	12	20	3	1.0	0.50	4	20	12	1	EXIT/EMERGENCY LIGHT
SPACE	1			5	–	–	6			1	SPACE
SPACE	1			7	–	–	8			1	SPACE
SPACE	1			9	–	–	10			1	SPACE
SPACE	1			11	–	–	12			1	SPACE
TOTAL CONNECTED KVA					1.5	1.5	CONNECTED KVA: 3.0 CONNECTED AMPS: 12.5				
					3.0						

GENERAL ELECTRICAL NOTES:

1. SCOPE: PROVIDE LABOR, MATERIALS AND EQUIPMENT, ETC. REQUIRED TO COMPLETE THE INSTALLATION SHOWN ON THE DRAWINGS.
2. CODES AND STANDARDS: INSTALLATION SHALL COMPLY WITH APPLICABLE LAWS AND ORDINANCES, UTILITY COMPANY REGULATIONS AND APPLICABLE REQUIREMENTS OF EDITIONS OF:
 - NFC—NATIONAL FIRE CODE
 - UL—UNDERWRITERS LABORATORIES
 - NEC—NATIONAL ELECTRICAL CODE
 - NEMA—NATIONAL ECLECTIC MANUFACTURERS ASSOCIATION
 - OSHA—OCCUPATIONAL SAFETY AND HEALTH
 - SBC—STANDARD BUILDING CODE
3. PERMITS: OBTAIN AND PAY FOR REQUIRED PERMITS, LICENSES, FEES, INSPECTIONS, ETC.
4. COORDINATION: COORDINATE WORK WITH OTHER TRADES.
5. SUBMITTALS: SUBMIT BROCHURES FOR APPROVAL ON SERVICE DISCONNECTING MEANS AND OTHER MAJOR SYSTEM COMPONENTS.
6. EXISTING SERVICE: DO NOT INTERRUPT EXISTING SERVICES WITHOUT WRITTEN PERMISSION OF THE OWNER.
7. EQUIPMENT: CONNECT ELECTRICALLY OPERATED EQUIPMENT.
8. RECORD DRAWINGS: MAINTAIN A RECORD OF ALL CHANGES, SUBSTITUTIONS BETWEEN WORK AS SPECIFIED AND INSTALLED. RECORD CHANGES ON A CLEAN SET OF CONTRACT DOCUMENTS WHICH SHALL BE TURNED OVER TO THE CONSTRUCTION MANAGER UPON COMPLETION OF THE PROJECT.
9. IDENTIFICATION: IDENTIFY SERVICE DISCONNECTING MEANS WITH PERMANENT NAMEPLATE. IDENTIFY PER NATIONAL ELECTRIC CODE.
10. GUARANTEE/WARRANTY: GUARANTEE INSTALLATION TO BE FREE OF DEFECTS, SHORTS, GROUNDING, ETC. FOR A PERIOD OF ONE YEAR. FURNISH WARRANTY SO THE DEFECTIVE MATERIAL AND/OR WORKMANSHIP WILL BE REPAIRED/REPLACED IMMEDIATELY UPON NOTIFICATION AT NO COST TO THE OWNER FOR PERIOD OF WARRANTY.
11. CUTTING AND PATCHING: PROVIDE CUTTING REQUIRED TO DO THE WORK. DO NOT CUT MAJOR STRUCTURAL ELEMENTS WITHOUT PRIOR APPROVAL. PATCHING SHALL BE OF QUALITY EQUAL TO AND OF MATCHING APPEARANCE OF EXISTING CONSTRUCTION.
12. RACEWAYS: EXPOSED CONDUIT SHALL BE RIGID GALVANIZED STEEL CONDUIT. PLUG AND CAP EACH END OF SPARE AND EMPTY CONDUITS AND PROVIDE TWO SEPARATE PULL STRINGS – 200 LB. TEST POLYETHYLENE CORD. ALL CONDUIT BENDS SHALL BE A MINIMUM OF 24" RADIUS UNLESS OTHERWISE NOTED. RGS CONDUITS WHEN SPECIFIED SHALL MEET UL-6 FOR GALVANIZED STEEL. ALL FITTING SHALL BE SUITABLE FOR USE WITH THREADED RIGID CONDUIT.
13. SUPPORTS: AS REQUIRED BY THE NATIONAL ELECTRIC CODE, UNLESS OTHERWISE NOTED.
14. CONDUCTORS: USE 98% CONDUCTIVITY COPPER WITH TYPE THHN OR TWHN INSULATION, 600 VOLT, COLOR CODED PER N.E.C. USE SOLID CONDUCTORS FOR WIRE UP TO AND INCLUDING #10 AWG. USE STRANDED CONDUCTORS FOR WIRE ABOVE #10 AWG, UNLESS OTHERWISE NOTED.
15. CONNECTORS: FOR POWER CONDUCTORS: USE PRESSURE TYPE INSULATED TWIST-ON CONNECTORS FOR #10 AWG AND SMALLER. USE SOLDERLESS MECHANICAL TERMINAL LUGS FOR #8 AWG AND LARGER.
16. TELEPHONE SERVICE: PROVIDE EMPTY CONDUITS WITH PULL WIRES AS INDICATED ON DRAWINGS.

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NO.	DATE	REVISIONS					CLIFFSIDE ELEMENTARY SCHOOL 4016 US 221A HWY MOORESBORO, NC 28114 PROJ. #: R80-11092	7/16/2026	SHEET

NOTES:

- PROPOSED EQUIPMENT GROUND EXTENSION. #6 AWG, STRANDED, GREEN-JACKETED, COPPER GROUND CONDUCTOR FROM PROPOSED EQUIPMENT (ONE EACH) IN RACK TO RACK GROUND BUS BAR.
- PROPOSED RACK BONDING BAR. SOLID COPPER OR TIN-PLATED COPPER OR COPPER ALLOY WITH MIN. ONE SET OF PRE-DRILLED HOLES FOR TWO-HOLE LUG, 1/2" WIDE x 3/16" THICK MIN. x LENGTH AS REQUIRED.
- PROPOSED RACK GROUNDING CONDUCTOR. #2 AWG, STRANDED, GREEN-JACKETED, COPPER GROUND CONDUCTOR FROM PROPOSED RACK BONDING BAR TO MASTER GROUND BUS BAR (MGB) OR INTERNAL PERIMETER GROUND BUS (IPGB).
- PROPOSED SHELTER MASTER GROUND BUS BAR (MGB). BOND TO EXTERIOR GROUND ROD WITH #2 AWG THROUGH PROPOSED SHELTER PENETRATION.
- ALL PROPOSED EQUIPMENT SHALL BE BONDED TO THE EXISTING SHELTER GROUND SYSTEM.

GROUNDING LEGEND

- 5/8" x 10'-0" COPPER OR STAINLESS STEEL COPPERCLAD GROUND ROD
- GROUND ROD WITH INSPECTION WELL
- EXOTHERMIC WELD (CADWELD)
- #2 AWG, STRANDED, GREEN-JACKETED COPPER; UNLESS OTHERWISE NOTED
- MECHANICAL CONNECTION

LEGEND:

FTG: FUEL TANK GROUND; E.C. TO FURNISH AND INSTALL ONE (1) #2 SOLID TNND COPPER GROUND WIRE FROM FUEL TANK GROUND LUG TO GROUND ROD. CONNECTION AT FUEL TANK LUG TO BE MECHANICAL, CONNECTION AT GROUND ROD TO BE CADWELD (TYPICAL OF 2 PER FUEL TANK).

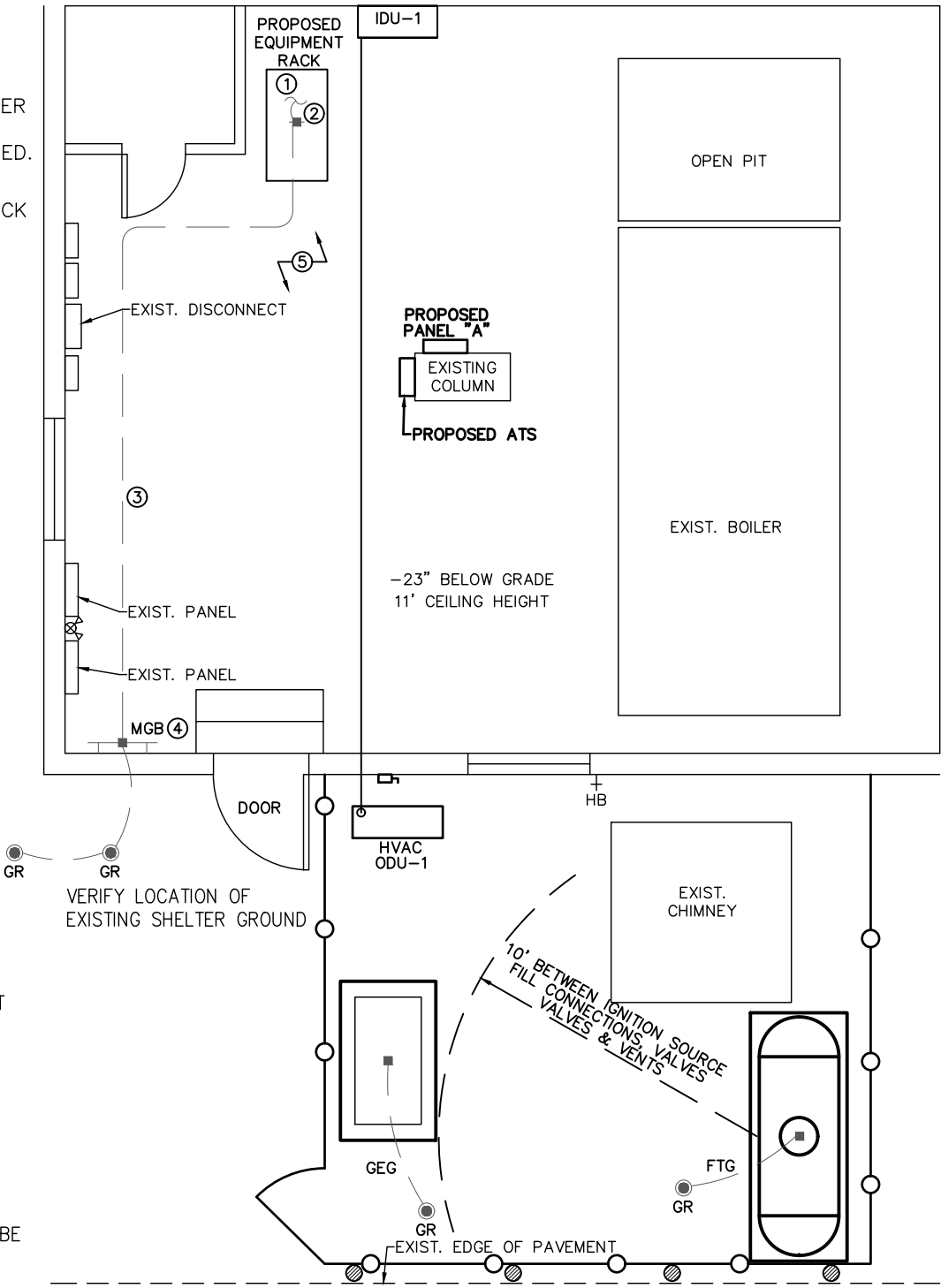
GEG: GENERATOR GROUND; E.C. TO FURNISH AND INSTALL ONE (1) #2 AWG BARE SOLID TNND COPPER GROUND WIRE FROM GENERATOR GROUND BAR TO GROUND ROD. CONNECTION AT GENERATOR GROUND BAR TO BE MECHANICAL, CONNECTION AT GROUND ROD TO BE CADWELD (TYPICAL OF 1).

GR: 5/8" DIA. x 10' LONG TNND COPPER CLAD STEEL GROUND ROD DRIVEN VERTICAL TOP OF ROD 24" MIN. BELOW GRADE. SPACING OF GROUND RODS 10' MIN. TO TWICE THE LENGTH OF THE ROD USED. ALL CONNECTIONS TO BE CADWELD.

MGB: MASTER GROUND BAR; 24" x 4" x 1/4" TNND COPPER GROUND BAR ON INTERIOR SIDEWALL OF SHELTER.

SG: SHELTER GROUND; E.C. TO FURNISH AND INSTALL ONE (1) #2 AWG BARE SOLID TNND COPPER GROUND WIRE FROM SHELTER MASTER GROUND BAR (MGB) TO GROUND ROD. CONNECTION AT SHELTER MASTER GROUND BAR GROUND BAR TO BE MECHANICAL, CONNECTION AT GROUND ROD TO BE CADWELD (TYPICAL OF 1).

NOTE: GROUND LEADS AT SHELTER FROM EXTERNAL EQUIPMENT TO BE ROUTED IN 1/2" NON-METALLIC PVC RIGID CONDUIT SECURED TO SHELTER WALL WITH AT LEAST ONE (1) NON-METALLIC CONDUIT CLAMP 36" MAX. SPACING. CONDUIT TO BE 4" MAX. FROM APPLIANCE CONNECTION AND EXTEND 18" MIN. BELOW GRADE.



1 GROUNDING PLAN
G-1 SCALE: 1/4" = 1'-0"

TYPICAL GROUNDING NOTES:

- ALL GROUND CABLE IN CONCRETE OR THROUGH WALL SHALL BE IN 3/4" PVC CONDUIT. NO METALLIC CONDUIT SHALL BE USED FOR GROUNDING CONDUCTOR SLEEVES.
- GROUND ALL EXPOSED METALLIC OBJECTS USING A TWO-HOLE NEMA DRILLED CONNECTOR SUCH AS THOMAS & BETTS #32207 OR APPROVED EQUAL.
- THE CONTRACTOR SHALL NOTIFY THE PANGAEA INTERNET REPRESENTATIVE WHEN THE GROUND RING IS INSTALLED SO THAT THE REPRESENTATIVE CAN INSPECT GROUND RING BEFORE IT IS CONCEALED.
- ALL EXTERIOR GROUND CONDUCTORS INCLUDING GROUND RING SHALL BE #2 AWG SOLID BARE TINNED COPPER. MAKE ALL GROUND CONNECTIONS AS SHORT AND DIRECT AS POSSIBLE. AVOID SHARP BENDS. THE RADIUS OF ANY BEND SHALL NOT BE LESS THAN 8" AND THE INCLUSIVE ANGLE OF ANY BEND SHALL NOT EXCEED 90°. GROUNDING CONDUCTORS SHALL BE ROUTED DOWNWARD TOWARD THE BURIED GROUND RING.
- ALL BELOW GROUND EXTERNAL CONNECTIONS SHALL BE EXOTHERMICALLY WELDED. ALL EXOTHERMIC WELDS TO BURIED GROUND RING SHALL BE THE PARALLEL-TYPE. EXCEPT FOR THE GROUND RODS WHICH ARE TEE-TYPE EXOTHERMIC WELDS. REPAIR ALL GALVANIZED SURFACES THAT HAVE BEEN DAMAGED BY EXOTHERMIC WELDING. USE SPRAY GALVANIZED SUCH AS HOLUB LECTROSOL #13-501.
- WHERE MECHANICAL CONNECTIONS (TWO-HOLD OR CLAMP) ARE USED, APPLY A LIBERAL PROTECTIVE COATING OF A CONDUCTIVE ANTI-OXIDE COMPOUND ON ALL CONNECTORS. PROVIDE LOCK WASHERS ON ALL MECHANICAL CONNECTORS. USE STAINLESS STEEL HARDWARE THROUGHOUT. THOROUGHLY REMOVE ALL PAINT AND CLEAN ALL DIRT FROM SURFACES REQUIRING GROUND CONNECTORS, REPAINT TO MATCH EXISTING AFTER CONNECTION IS MADE TO MAINTAIN CORROSION RESISTANCE. ALL GROUND CONNECTIONS SHALL BE APPROVED FOR THE TYPES OF METALS BEING ATTACHED TO.
- A RESISTANCE TO GROUND OF (10) OHMS OR LESS IS REQUIRED FOR ALL PANGAEA INTERNET SITES. THE CONTRACTOR SHOULD RETAIN HIS OWN TESTER AT HIS OWN EXPENSE. IN ADDITION, A THIRD PARTY SHOULD BE HIRED TO OBTAIN MEGGER AND SWEEP RESULTS ON ALL SITES INCLUSIVE OF WHAT RESULTS THE CONTRACTOR SUBMITS, TO INSURE PROPER QUALITY CONTROL ON ALL SITES. SCHEDULE FINAL MEGGER TEST SUCH THAT THE PANGAEA INTERNET REPRESENTATIVE CAN BE PRESENT FOR FIELD VERIFICATION. FEFER TO THE PANGAEA INTERNET MASTER SPECIFICATION FOR MEGGER TESTING PROCEDURES. IF THE FINAL GROUNDING RESISTANCE MEASUREMENT EXCEEDS 10 (TEN) OHMS, THE CONTRACTOR SHALL NOTIFY THE PANGAEA INTERNET REPRESENTATIVE.
- ALL MOUNTING HARDWARE SHALL BE STAINLESS STEEL.
- THE GROUND CONDUCTORS SHALL BE RUN STRAIGHT FOR MINIMUM INDUCTANCE AND VOLTAGE DROP. SINCE CABLE BENDS INCRESE INDUCTANCE, THE MINIMUM REQUIRED BENDING RADIUS IS 8 INCHES WHEN BENDS AND UNAVOIDABLE. ALL METAL WORK WITHIN 6 FEET OF THE GROUND RING SHALL BE DIRECTLY BONDED TO THE GROUND SYSTEM WITHOUT USING SERIES OR DAISY CHAIN CONNECTION ARRANGEMENTS.
- PAINT, ENAMEL, LACQUER AND OTHER ELECTRICALLY NON-CONDUCTIVE COATINGS SHALL BE REMOVED FROM THREADS AND SURFACE AREAS WHERE CONNECTIONS ARE MADE TO ENSURE GOOD ELECTRICAL CONTINUITY.
- CONNECTIONS BETWEEN DISSIMILAR METALS SHALL NOT BE MADE UNLESS THE CONDUCTORS ARE SEPARATED BY A SUITABLE MATERIAL. THAT IS A PART OF THE ATTACHMENT DEVICE LISTED AND APPROVED FOR USE WITH THE SPECIFIC DISSIMILAR METALS MAY BE USED FOR THE PURPOSE.
- ALL BELOW GRADE GROUND SYSTEM CONDUCTORS SHALL BE A MINIMUM DEPTH OF 24".

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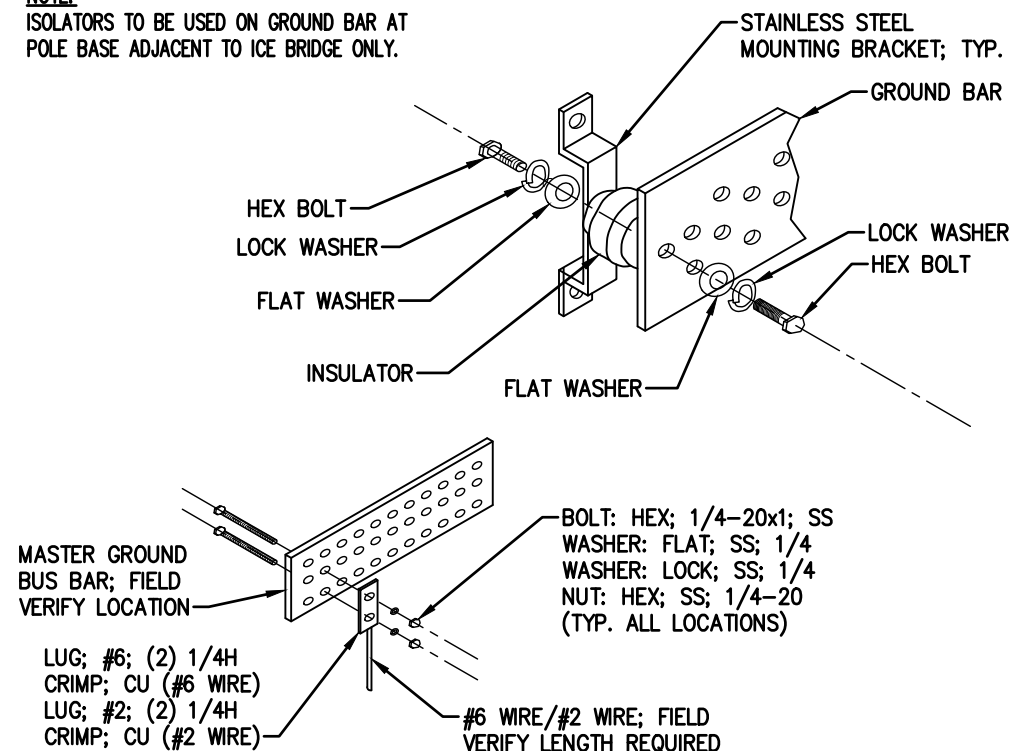


GROUNDING
PLAN
CLIFFSIDE
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PROJ. #: R80-11092

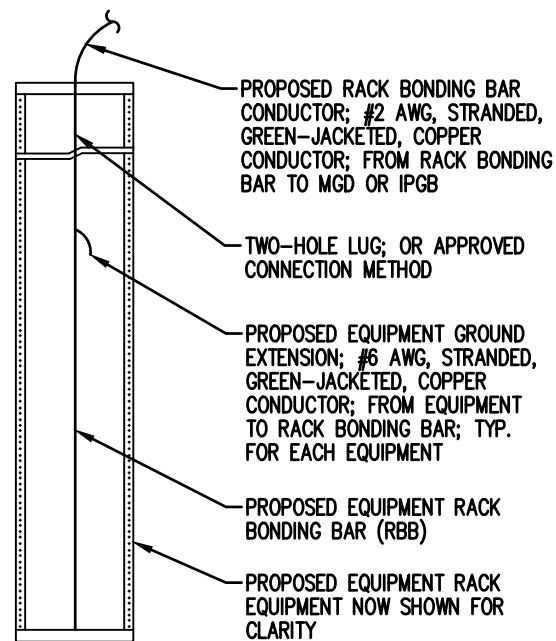


G-1
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NOTE:
ISOLATORS TO BE USED ON GROUND BAR AT
POLE BASE ADJACENT TO ICE BRIDGE ONLY.



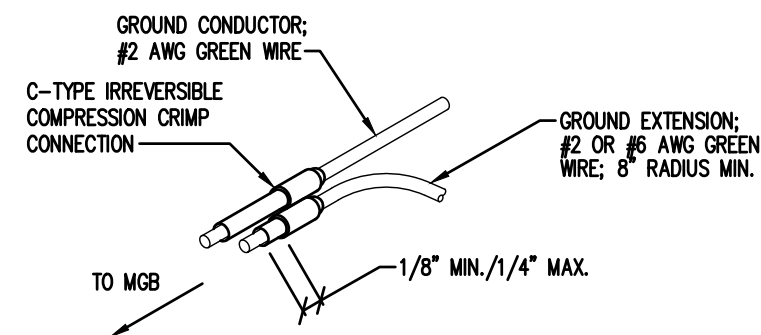
1 GROUNDING BAR DETAIL
G-2 SCALE: NOT TO SCALE



EQUIPMENT RACK
GROUNDING DETAIL

2
G-2

SCALE: NOT TO SCALE



GROUND BUS
CONDUCTOR DETAIL

3
G-2

SCALE: NOT TO SCALE

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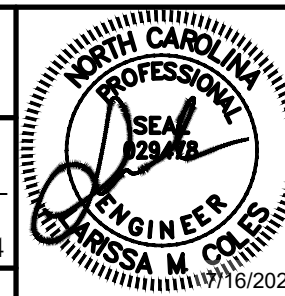
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GROUNDING DETAILS

CLIFFSIDE
ELEMENTARY SCHOOL
4016 US 221A HWY
MOORESBORO, NC 28114
PROJ. #: R80-11092



G-2
SHEET



GENERAL REQUIREMENTS

1. GENERAL

1.1 SUMMARY OF WORK

THE WORK MAY CONSIST OF, BUT NOT BE LIMITED TO, THE INSTALLATION OF PTAC, GAS TANK, COMPRESSOR, GROUNDING, ELECTRICAL WORK, ETC., ASSOCIATED WITH THE PANGAEA INTERNET EQUIPMENT AS INDICATED ON DRAWINGS AND AS SPECIFIED HERIN. CONTRACTOR SHALL PROVIDE ALL PERMANENT MATERIALS/EQUIPMENT REQUIRED AND ALL LABOR, EQUIPMENT, TOOLS, UTILITIES, MINOR HARDWARE/MATERIALS, TRANSPORTATION AND FACILITIES NECESSARY FOR PROPER EXECUTION AND COMPLETION OF SERVICES AND INSTALL WORK, WHETHER TEMPORARY OR PERMANENT. CONTRACTOR SHALL BE OBLIGATED TO PERFORM ALL THE WORK OUTLINED IN THESE DRAWINGS IN ACCORDANCE WITH THE CONTRACT AGREEMENT, FEDERAL REGULATION, STATE REQUIREMENTS, LOCAL CODES, COMMERCIAL/INDUSTRY STANDARDS, DETAILED SCOPE OF WORK AND THE DOCUMENTS IDENTIFIED BELOW. IN CASE OF A CONFLICT BETWEEN THE ABOVE LISTED DOCUMENTS REGARDING STANDARDS OF WORK, THE MORE STRINGENT CRITERIA SHALL APPLY. ANY ADDITIONAL COSTS OR DELAYS RESULTING FROM CORRECTION OF THE WORK TO COMPLY WITH THE ABOVE REQUIREMENT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

1.2 SITE VISIT

CONTRACTOR SHALL VISIT THE SITE AND FAMILIARIZE ITSELF WITH THE SCOPE OF WORK REQUIRED PER THE DRAWINGS AND ALL LOCAL CONDITIONS AND LAWS AND REGULATIONS THAT MAY IN ANY MANNER AFFECT THE PRICE, PROGRESS AND PERFORMANCE OF WORK, INCLUDING ANY COSTS ASSOCIATED WITH IT. THE CONTRACTOR SHALL ALSO VERIFY THAT THE PROJECT CAN BE CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND NOTIFY PANGAEA INTERNET REPRESENTATIVE OF ANY DISCREPANCIES OR INTERFERENCES WHICH AFFECT THE WORK OF THE CONTRACT.

1.3 STANDARDS AND CODES

THE FOLLOWING DOCUMENTS (LATEST REVISION) SHALL BE CONSIDERED TO BE SPECIFICATION AND ARE INCORPORATED HEREIN BY REFERENCE, IN THE EVENT OF CONFLICT BETWEEN REQUIREMENTS OF THIS SPECIFICATION AND THE REQUIREMENTS OF THE REFERENCED DOCUMENTS, THE STRICTER SPECIFICATION SHALL GOVERN. WHERE PROVISIONS OF THE CODES AND STANDARDS ARE IN CONFLICT WITH THE BUILDING CODE IN FORCE FOR THIS PROJECT, THE BUILDING CODE SHALL GOVERN.

A. AMERICAN CONCRETE INSTITUTE:

- *ACI 301 "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS".
- *ACI 305 "HOT WEATHER CONCRETING."
- *ACI 306 "COLD WEATHER CONCRETING."
- *ACI 318 "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE."
- *ACI 614 "RECOMMENDED PRACTICE FOR MEASURING, MIXING AND PLACING CONCRETE".
- *ACI 311 "RECOMMENDED PRACTICE FOR CONCRETE INSPECTION".
- *ACI 315 "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES".
- *ACI 613 "RECOMMENDED PRACTICE FOR SELECTING PROPORTIONS FOR CONCRETE".

B. AMERICAN SOCIETY FOR TESTING AND MATERIALS:

- *ASTM A615 – "SPECIFICATION FOR DEFORMED AND PAIN BILLET STEEL BARS FOR CONCRETE REINFORCEMENT".
- *ASTM C94–80 – "SPECIFICATION FOR READY–MIX CONCRETE"
- *ASTM C39–77 – "SPECIFICATION FOR TEST FOR COMPREHENSIVE STRENGTH OF CYLINDRICAL CONCRETE SPECIMEN".
- *ASTM 33 – "SPECIFICATION FOR CONCRETE AGGREGATES".
- *ASTM C150 – "SPECIFICATION FOR PORTLAND CEMENT"
- *ASTM C172 – "SAMPLING FRESH CONCRETE"
- *ASTM C143 – "SLUMP OF PORTLAND CEMENT CONCRETE".
- *ASTM D698–91 – "TEST METHOD FOR LABORATORY COMPACTION CHARACTERISTICS OF THE SOIL USING STANDARD EFFORT".
- *ASTM D1556–84 – "DENSITY OF SOIL IN PLACE BY THE SAND–CONE METHOD".
- *ASTM D1557 – "TEST FOR MOISTURE–UNIT WEIGHT RELATIONS OF SOILS AND SOIL–AGGREGATE MIXTURES USING 10–LB. HAMMER AND 18–IN. DROP". (PROCEDURE C)
- *ASTM D2487 – "STANDARD CLASSIFICATION OF SOILS FOR ENGINEERING PURPOSES (UNIFIED SOIL CLASSIFICATION SYSTEM)
- *ASTM D2922 – "DENSITY OF SOIL AND SOIL AGGREGATE IN PLACE BY NUCLEAR METHODS SHALLOW DEPTH:.
- *ASTM D2940 – "STANDARD SPECIFICATION FOR GRADED AGGREGATE MATERIAL FOR BASES OR SUB–BASES FOR HIGHWAYS OR AIRPORTS".

C. NATIONAL FIRE PROTECTION ASSOCIATION:

- NFPA 1 – FIRE ASSOCIATION
- NFPA 54 – NATURAL GAS FUEL CODE
- NFPA 58 – LP GAS CODE
- NFPA 70 – NATIONAL ELECTRICAL CODE
- NEPA 101 – LIFE SAFETY CODE
- NFPA 110 – EMERGENCY/STANDBY POWER SYSTEMS

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PANGAEA
INTERNET AT THE SPEED OF LIGHT

GENERAL NOTES

RUTHERFORD
TECHNOLOGY CENTER
158 HEIGH ST.
ELLENBORO, NC 28040

PROJ. #: R80-11092



07/16/2026

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- NFPA 111 – STANDARD ON STORED ELECTRICAL ENERGY, EMERGENCY AND STANDBY POWER SYSTEMS
- NFPA 780 – STANDARD FOR THE INSTALLATION OF LIGHTING PROTECTION SYSTEMS

D. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION:

- OSHA 1926
- OSHA DIRECTIVES CPL 2–1.29 – INTERIM INSPECTION PROCEDURES DURING COMMUNICATION POLE CONSTRUCTION ACTIVITIES

E. INTERNATIONAL BUILDING CODE AND ELECTRICAL CODE, OR AHJ CODES.

1.4 NOTICE TO PROCEED

WHEN THE SITE IS READY FOR INSTALLATION, PANGAEA INTERNET SHALL ISSUE A NOTICE TO PROCEED TO THE CONTRACTOR. UPON RECEIPT OF THE NOTICE TO PROCEED, THE CONTRACTOR SHALL SUBMIT TO PANGAEA INTERNET A SCHEDULE REFLECTING THE WORK PLAN. THE CONTRACTOR SHALL ADVISE THE PANGAEA INTERNET REPRESENTATIVE IMMEDIATELY OF ANY SCHEDULE CHANGES.

1.5 PANGAEA INTERNET REPRESENTATIVE

PANGAEA INTERNET SHALL DESIGNATE A REPRESENTATIVE. THIS PERSON IS THE ONLY CONTACT POINT AUTHORIZED TO MAKE ANY CHANGES TO THE CONTRACT PROVISIONS OR THE PLANS AND SPECIFICATIONS. ANY CHANGES MADE BY THE CONTRACTOR ARE AT THE CONTRACTOR’S RESPONSIBILITY AND RISK.

1.6 CONTRACTORS FIELD REPRESENTATIVE

CONTRACTOR SHALL ASSIGN A FIELD REPRESENTATIVE WHO IS FAMILIAR WITH THESE SPECIFICATIONS AND WILL REPRESENT THE CONTRACTOR AND HAVE THE AUTHORITY TO ACT FOR THE CONTRACTOR AND SUPERVISE ALL CONSTRUCTION ACTIVITIES. THE REPRESENTATIVE SHALL BE AVAILABLE WHEN CONSTRUCTION ACTIVITIES BEGIN. THE FIELD REPRESENTATIVE SHALL BE THE PRIMARY POINT OF CONTACT FOR PANGAEA INTERNET DURING THE CONSTRUCTION PHASE OF WORK.

1.7 PROJECT MEETINGS

THE CONTRACTOR SHALL CONDUCT THE INITIAL (PRE–CONSTRUCTION) MEETING (INCLUDING ALL SUB–CONTRACTORS) WITH THE PANGAEA INTERNET REPRESENTATIVE WITHIN TWO WEEKS AFTER AWARD OF THE CONTRACT. SUBSEQUENTLY, THE CONTRACTOR SHALL PROVIDE PROGRESS SCHEDULE UPDATES TO PANGAEA INTERNET ON A WEEKLY BASIS.

1.8 MATERIALS

CONTRACTOR SHALL FURNISH AND INSTALL ALL MATERIALS AS REQUIRED FOR COMPLETE SYSTEMS INCLUDING: ALL PARTS OBVIOUSLY OR REASONABLY INCIDENTAL TO A COMPLETE INSTALLATION, WHETHER SPECIFICALLY INDICATED OR NOT. ALL SYSTEMS SHALL BE COMPLETELY ASSEMBLED, TESTED, ADJUSTED, AND DEMONSTRATED TO BE READY FOR OPERATION PRIOR TO PANGAEA INTERNET’S ACCEPTANCE.

MATERIALS AND WORKMANSHIP SHALL BE THE BEST OF THEIR RESPECTIVE KINDS (AS DEFINED BY INDUSTRY STANDARDS), FREE OF DEFECTS AND ALL MATERIALS SHALL BE NEW AND UNUSED IN ALL CASES, UNLESS OTHERWISE SPECIFIED. WHERE THE NAME OF A CONCERN OR MANUFACTURER IS MENTIONED ON THE DRAWINGS OR IN SPECIFICATIONS IN REFERENCE TO A REQUIRED SERVICE OR PRODUCT, AND NO QUALIFICATIONS OR SPECIFICATION OF SUCH IS INCLUDED, THEN THE MATERIAL SPECIFICATIONS, DETAILS OF MANUFACTURE, FINISH, ETC., SHALL BE IN ACCORDANCE WITH MANUFACTURER’S STANDARD PRACTICE, DIRECTIONS OR SPECIFICATIONS. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS ACCORDING TO THE MANUFACTURER’S/VENDOR’S SPECIFICATIONS UNLESS NOTED OTHERWISE OR WHERE LOCAL CODES OR ORDINANCES TAKE PRECEDENCE.

1.9 VERIFICATION OF EXISTING CONDITIONS

BEFORE STARTING ANY OPERATION, THE CONTRACTOR SHALL EXAMINE EXISTING WORK, OR WORK PERFORMED BY OTHERS. TO WHICH IT’S WORK IS TO ADJOIN OR BE APPLIED AND SHALL REPORT TO PANGAEA INTERNET PROJECT MANAGER ANY CONDITIONS THAT WILL PREVENT SATISFACTORY ACCOMPLISHMENT OF HIS WORK. PRIOR TO COMMENCING ANY EXCAVATION OR GRADING, THE CONTRACTOR SHALL SATISFY HIMSELF AS TO THE ACCURACY OF ALL SURVEY DATA AS INDICATED IN THE PLANS AND SPECIFICATIONS AND/OR AS PROVIDED BY PANGAEA INTERNET. SHOULD THE CONTRACTOR DISCOVER ANY INACCURACIES, ERRORS, OR OMISSIONS IN THE SURVEY DATA, HE SHALL IMMEDIATELY NOTIFY THE PANGAEA INTERNET REPRESENTATIVE IN ORDER THAT PROPER ADJUSTMENTS CAN BE ANTICIPATED AND ORDERED. FAILURE TO NOTIFY PANGAEA INTERNET REPRESENTATIVE OF DEFICIENCIES, ERRORS OR FAULTS PRIOR TO COMMENCEMENT OF WORK SHALL CONSTITUTE ACCEPTANCE THEREOF AND WAIVER OF ANY CLAIMS OF UNDERSTANDABILITY, ERRORS, OMISSIONS OR INACCURACIES.

THE CONTRACTOR SHALL MAKE NECESSARY PROVISIONS TO PROTECT EXISTING IMPROVEMENTS, EASEMENTS, ETC. DURING CONSTRUCTION. UPON COMPLETION OF WORK, THE CONTRACTOR SHALL REPAIR ANY DAMAGE THAT MAY HAVE OCCURRED DUE TO CONSTRUCTION ON OR ABOUT THE PROPERTY. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR PRESERVING ALL ESTABLISHED SURVEY CONTROL POINTS. IF THE CONTRACTOR OR ANY OF HIS SUB–CONTRACTORS MOVE OR DESTROY ANY SURVEY CONTROL POINTS, THE COST INCURRED BY THE LAND OWNER OR PANGAEA INTERNET TO RE–ESTABLISH THEM WILL BE BORNE BY THE CONTRACTOR.

1.0 PERMITS
THE CONTRACTOR SHALL GIVE ALL NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY, MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS, AND LOCAL AND STATE JURISDICTIONAL CODES BEARING ON THE PERFORMANCE OF THE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTIONS WHICH MAY BE REQUIRED FOR THE WORK BY THE STATE, COUNTY OR LOCAL GOVERNMENT AUTHORITY. THE WORK PERFORMED ON THE PROJECT AND THE MATERIALS INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. THE CONTRACTOR SHALL MEET ALL OF THE REGULATORY REQUIREMENTS OF THE JURISDICTION GOVERNING CONSTRUCTION.

1.11 SITE INSPECTION
THE CONTRACTOR SHALL HAVE THE RESPONSIBILITY FOR ARRANGING WITH PANGAEA INTERNET FOR AN INSPECTION PRIOR TO COVERING UP ALL WORK THAT WILL BE COVERED IN FINISHED CONDITION. IT IS THE SITE GENERAL CONTRACTOR’S RESPONSIBILITY TO MANAGE THE SEQUENCE OF WORK AND REQUEST THE INSPECTIONS IN A TIMELY MANNER. THE SITE GENERAL CONTRACTORS SHALL NOT REQUEST AN INSPECTION UNLESS ALL OF THE RELATED WORK HAS BEEN COMPLETED. WORK SHALL NOT PROCEED TO THE NEXT STEP UNTIL THE PREVIOUS STEP HAS BEEN INSPECTED AND APPROVED BY THE LOCAL INSPECTORS AND THE PANGAEA INTERNET REPRESENTATIVE. THE PRESENCE OF THE OWNER OR PANGAEA INTERNET REPRESENTATIVE ON THE JOB SITE IN NO WAY RELIEVES THE SITE GENERAL CONTRACTOR OF THE ASSOCIATED RESPONSIBILITIES OF THE JOB. ANY WORK WHICH DOES NOT MEET THE REQUIREMENTS OF THE CONTRACT DOCUMENTS WILL BE CORRECTED OR REMOVED SOLELY AT THE SITE GENERAL CONTRACTOR’S EXPENSE.

THE FOLLOWING INFORMATION IN INCLUDED AS A GUIDE TO THE CONTRACTOR TO ASSIST IN DETERMINING THE TYPE OF FREQUENCY OF INSPECTIONS. THE LISTED INSPECTIONS REPRESENT THOSE REQUIRED FOR SMALL OR SIMPLE PROJECTS. LARGE OR COMPLEX PROJECTS MAY REQUIRE ADDITIONAL INSPECTIONS DEPENDING ON THE SEQUENCE OF WORK.

- FOUNDATION EXCAVATIONS AND REBAR: TO BE MADE AFTER TRENCHES ARE EXCAVATED AND FORMS ERECTED, REINFORCEMENT PLACED, COMPACTION TESTED, SOIL TREATED, VAPOR BARRIER PLACED, AND ESSENTIALLY READY FOR CONCRETE PLACEMENT.
- GROUNDING:TO BE MADE AFTER THE BELOW GROUND CADWELD CONNECTIONS HAVE BEEN COMPLETED, PRIOR TO COVERING UP THE TRENCHES.
- ELECTRICAL WORK WITHIN WALLS: TO BE MADE AFTER THE ROOF, FRAMING, FIRE BLOCKING AND BRACING IS IN PLACE PRIOR TO THE INSTALLATION OF INSULATION OR WALL/CEILING MEMBRANES.

AS A GENERAL RULE, THE CONTRACTOR SHALL PROVIDE ADVANCE NOTICE TO PANGAEA INTERNET FOR INSPECTION OF ALL WORK PRIOR TO CONCEALMENT. THE CONTRACTOR HAS RESPONSIBILITIES RELATIVE TO ALL TYPES OF INSPECTIONS AND IS RESPONSIBLE FOR CONTACTING ALL OF THE INSPECTING ENTITIES TO DETERMINE HIS RESPONSIBILITIES. ALL OF THE INSPECTING ENTITIES HAVE UNIQUE AND SEPARATE RESPONSIBILITIES. ONE INSPECTION FROM AN ENTITY WILL NOT SUBSTITUTE FOR AN INSPECTION FROM ANOTHER ENTITY.

1.12 SAFETY
THE CONTRACTOR, HIS EMPLOYEES, ANY SUB–CONTRACTORS, VENDORS, THEIR RESPECTIVE EMPLOYEES AND CONTRACTOR’S VISITORS SHALL COMPLY WITH ALL SAFETY STANDARDS, ACCIDENT PREVENTION REGULATIONS AND ENVIRONMENTAL REGULATIONS PROMULGATED BY FEDERAL, STATE, OR LOCAL AUTHORITIES HAVING JURISDICTION AND SHALL AT ALL TIMES CONDUCT ALL OPERATIONS UNDER THE CONTRACT IN A MANNER TO AVOID THE RISK OF BODILY HARM TO ANY PERSONS AND THE RISK OF DAMAGE TO ANY PROPERTY, EQUIPMENT OR MATERIALS. SUCH PARTIES SHALL ALSO COMPLY WITH ANY SAFETY PROGRAMS AND/OR RULES PROMULGATED BY OWNER AND/OR PANGAEA INTERNET. IN ADDITION, ALL WORK SHALL BE IN ACCORDANCE WITH OSHA STANDARDS.

FOR CRANE LIFTS, FOLLOW COE EM385 SAFETY AND HEALTH MANUAL

1.13 SITE CLEANUP
THE CONTRACTOR SHALL KEEP THE GENERAL WORK AREA CLEAN AND HAZARD FREE AT ALL TIMES DURING CONSTRUCTION AND DISPOSE OF ALL DIRT, DEBRIS, VEGETATION, AND RUBBISH, AND REMOVE EQUIPMENT NOT SPECIFIED AS REMAINING ON THE PROPERTY. WHENEVER THE WORK–SITE IS LEFT UNATTENDED, THE CONTRACTOR SHALL BLOCK THE OPENING WITH WARNING TAPE TO DISCOURAGE TRESPASSING. THE PREMISES SHALL BE LEFT IN CLEAN CONDITION AND FREE FROM PAINT SPOTS, DUST, OR SMUDGES OF ANY NATURE AT THE CONCLUSION OF THE SITE WORK.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR LANDSCAPE GRADING AND SEEDING OF THE DISTURBED SOIL. THE CONTRACTOR SHALL USE LOCAL GRASS SEED TO STABILIZE SOIL AND SHALL COVER DISTURBED AREAS WITH HAY MULCH TO REDUCE RUNOFF OF SEDIMENT TO DOWNSTREAM AREAS. THE CONTRACTOR SHALL RESTORE THE SITE TO ITS ORIGINAL CONDITION. ALL SLOPES AND DISTURBED AREAS NOT RECEIVING AGGREGATE SURFACING ARE TO BE PREPARED AND BROADCAST SEEDED AND FERTILIZED FOR EROSION PROTECTION. SEEDING FOR AREAS DISTURBED SHALL BE ESTABLISHED SEASONALLY AS REQUIRED BY LOCAL CODES.

THE CONTRACTOR SHALL EXERCISE ALL CARE TO AVOID DAMAGE OR INTERRUPTION OF EXISTING UNDERGROUND OR OVERHEAD ELECTRIC SERVICES, UNDERGROUND GROUNDING AND FUEL LINES, EQUIPMENT AND BUILDINGS ON THE SITE, PLUS OFF SITE SERVICES, BURIED OR OVERHEAD, SURROUNDING THE EXISTING OR EXPANDED COMPOUND. ANY PROPERTY DAMAGE CAUSED BY THE CONTRACTOR OR HIS OPERATIONS SHALL BE CORRECTED AND/OR RESTORED TO THE SATISFACTION OF THE PROPERTY OWNER(S) AND PANGAEA INTERNET AT NO ADDITIONAL COST TO THE PROPERTY OWNER OR PANGAEA INTERNET.

BURNING WILL NOT BE PERMITTED.

1.14 FACILITY STARTUP & COMMISSIONING:
THE CONTRACTOR AND/OR SUB–CONTRACTORS SHALL DEMONSTRATE TO PANGAEA INTERNET THAT ALL SYSTEMS AND SUB–SYSTEMS INSTALLED UNDER THIS CONTRACT, OPERATE PROPERLY PRIOR TO THE FINAL ACCEPTANCE INSPECTION AND PROVIDE THE OPERATIONS AND MAINTENANCE MANUALS AT THIS TIME.

1.15 SHOP DRAWINGS/AS–BUILT DRAWINGS
THE MODIFICATIONS TO THE DRAWINGS AFTER CONSTRUCTION START SHALL RECEIVE ENGINEERING AND PANGAEA INTERNET APPROVAL PRIOR TO ANY CHANGES BEING MADE. THE ENGINEER OF RECORD SHALL MAKE THE REQUIRED CHANGE AND WILL SUBMIT CHANGES TO PANGAEA INTERNET AND ANY JURISDICTION HAVING AUTHORITY.

THE CONTRACTOR SHALL KEEP UP–TO–DATE MARKED–UP PRINTS OF THE PROJECT DRAWINGS. UPON COMPLETION OF WORK AT THE SITE, THE CONTRACTOR SHALL REVIEW THE COMPLETED AS–BUILT DRAWINGS, AND ASCERTAIN THAT ALL DATA FURNISHED ON THE DRAWINGS IS ACCURATE AND TRULY REPRESENTS THE WORK IS ACTUALLY INSTALLED. MARKING INDICATING CHANGES TO THE DRAWINGS SHALL BE RED OR GREEN AND CLEARLY VISIBLE. TWO (2) SETS OF ”AS–BUILT” DRAWINGS SHALL BE FURNISHED TO THE PANGAEA INTERNET REPRESENTATIVE WITHIN 5 DAYS OF THE COMPLETION OF THE PROJECT. THESE DRAWINGS SHALL ALSO SHOW THE FOLLOWING:
–MODIFICATIONS TO SITE LAYOUT.
–GROUNDING SYSTEM LAYOUT.
–UNDERGROUND FUEL LINE RUN.
–UNDERGROUND ELCO CABLE RUN.
–UNDERGROUND ELECTRICAL RUN.

WHERE THE CONTRACTOR IS RESPONSIBLE FOR SUPPLYING THE SITE EQUIPMENT ROOM. ISOLATION TRANSFORMER. GENERATOR, ETC.) THAT REQUIRES PERIODIC MAINTENANCE, THE CONTRACTOR SHALL INCLUDE ALL OPERATION AND MAINTENANCE MANUALS AND ALL AS–BUILT DRAWINGS WHICH FULLY DESCRIBE THE ACTUAL INSTALLED EQUIPMENT.

1.16 TEST PROCEDURES AND RESULTS
CONTRACTOR WILL CONTRACT WITH A THIRD PARTY ”INDEPENDENT TESTING FIRM TO PERFORM & SUBMIT THE RESULTS OF ALL TESTS REQUIRED BY THE PROJECT SPECIFICATIONS AND DRAWINGS THAT FALL WITHIN THE SCOPE OF WORK. THE RESULTS SHALL BE SUBMITTED TO THE DESIGNATED PANGAEA REPRESENTATIVE. IN GENERAL, THE ”INDEPENDENT” TESTING FIRM SHALL SUBMIT THE FOLLOWING TEST RESULTS:
–MIX DESIGN/CONCRETE COMPRESSION TEST FOR ALL CONCRETE WORK.
–FUEL LINE LEAKAGE TEST FOR FUEL TANK AND PIPING INSTALLATION WORK.
–SLUMP TEST FOR CONCRETE WORK.
–GROUNDING RESISTANCE TEST FOR GROUNDING WORK.
–STRUCTURAL STEEL FABRICATION DRAWINGS.
–ANY OTHER TEST THAT MAY BE REQUIRED.

1.17 CONTRACT CLOSEOUT – IN ACCORDANCE WITH PANGAEA INTERNET SUBCONTRACT AGREEMENT TERMS AND CONDITIONS.

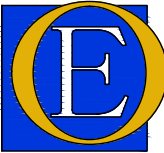
PANGAEA INTERNET REPRESENTATIVE WILL PROVIDE A CERTIFICATE OF COMPLETION AND APPROVE FINAL PAYMENT WHEN ALL PUNCH–LIST ITEMS HAVE BEEN CORRECTED, RECORD DRAWINGS SUBMITTED, AND ALL SYSTEMS ARE ACCEPTABLE. THE CONTRACTOR MUST ALSO RECEIVE A CERTIFICATE OF COMPLETION FROM THE MUNICIPALITY. AFTER FINAL PAYMENT, CONTRACTOR WILL SIGN A RELEASE OF LIEN.

1.18 WARRANTY
ALL WORK PERFORMED BY THE CONTRACTOR IN COMPLETING THE SCOPE IDENTIFIED ON THE DRAWINGS SHALL BE GUARANTEED BY THE CONTRACTOR FOR A PERIOD OF ONE YEAR FROM THE DATE OF FINAL COMPLETION OF THE PROJECT. THIS GUARANTEE SHALL COVER ALL MATERIALS, EQUIPMENT OR WORKMANSHIP WHICH IN THE OPINION OF PANGAEA INTERNET IS RENDERED DEFECTIVE OR INFERIOR OR NOT IN ACCORDANCE WITH THE TERMS OF THE CONTRACT DURING THE GUARANTEE PERIOD. IF, WITHIN THE GUARANTEE PERIOD, REPAIRS OR CHANGES ARE REQUIRED TO CORRECT THE GUARANTEE WORK. THEN UPON RECEIPT OF NOTICE, THE CONTRACTOR SHALL PROMPTLY AND WITHOUT EXPENSE TO PANGAEA INTERNET OR THE OWNER, PROCEED TO:
–PLACE IN SATISFACTORY CONDITION ALL OF SUCH GUARANTEED WORK AND CORRECT ALL DEFECTS THEREIN.
–MAKE GOOD ALL DAMAGES TO THE STRUCTURE OR SITE OR EQUIPMENT OR CONTENTS THEREOF, WHICH, IN THE OPINION OF PANGAEA INTERNET REPRESENTATIVE, IS THE RESULT OF THE USE OF MATERIALS, EQUIPMENT, OR WORKMANSHIP WHICH ARE INFERIOR, DEFECTIVE, OR NOT IN ACCORDANCE WITH THE TERMS OF THE CONTRACT.
–MAKE GOOD ANY WORK, MATERIALS OR EQUIPMENT AND ADJACENT STRUCTURES DISTURBED IN FULFILLING THE GUARANTEE.

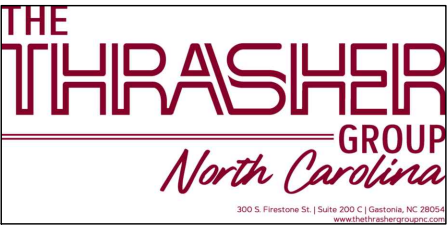
1.19 RELATED DOCUMENTS
CONTRACTOR SHALL BECOME FAMILIAR WITH THE INFORMATION AND REQUIREMENTS CONTAINED IN THE FOLLOWING DOCUMENTS RELATED TO THE PROJECT:
A. STANDARDS AND GUIDELINES FOR COMMUNICATIONS BY PANGAEA INTERNET.
B. ALL OTHER PERTINENT DOCUMENTS.

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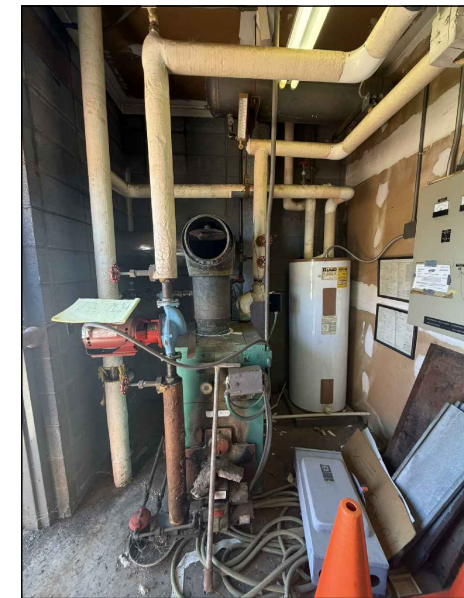
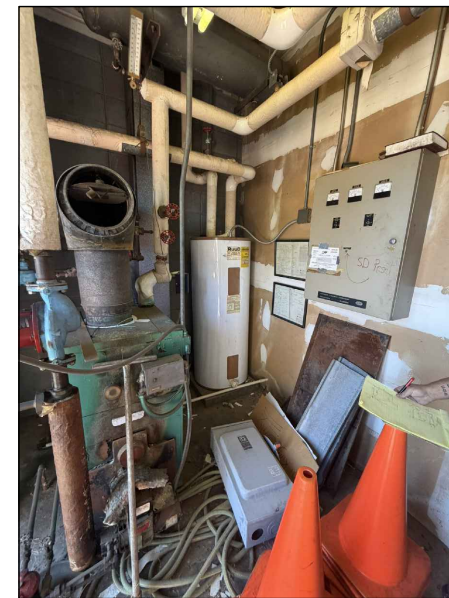
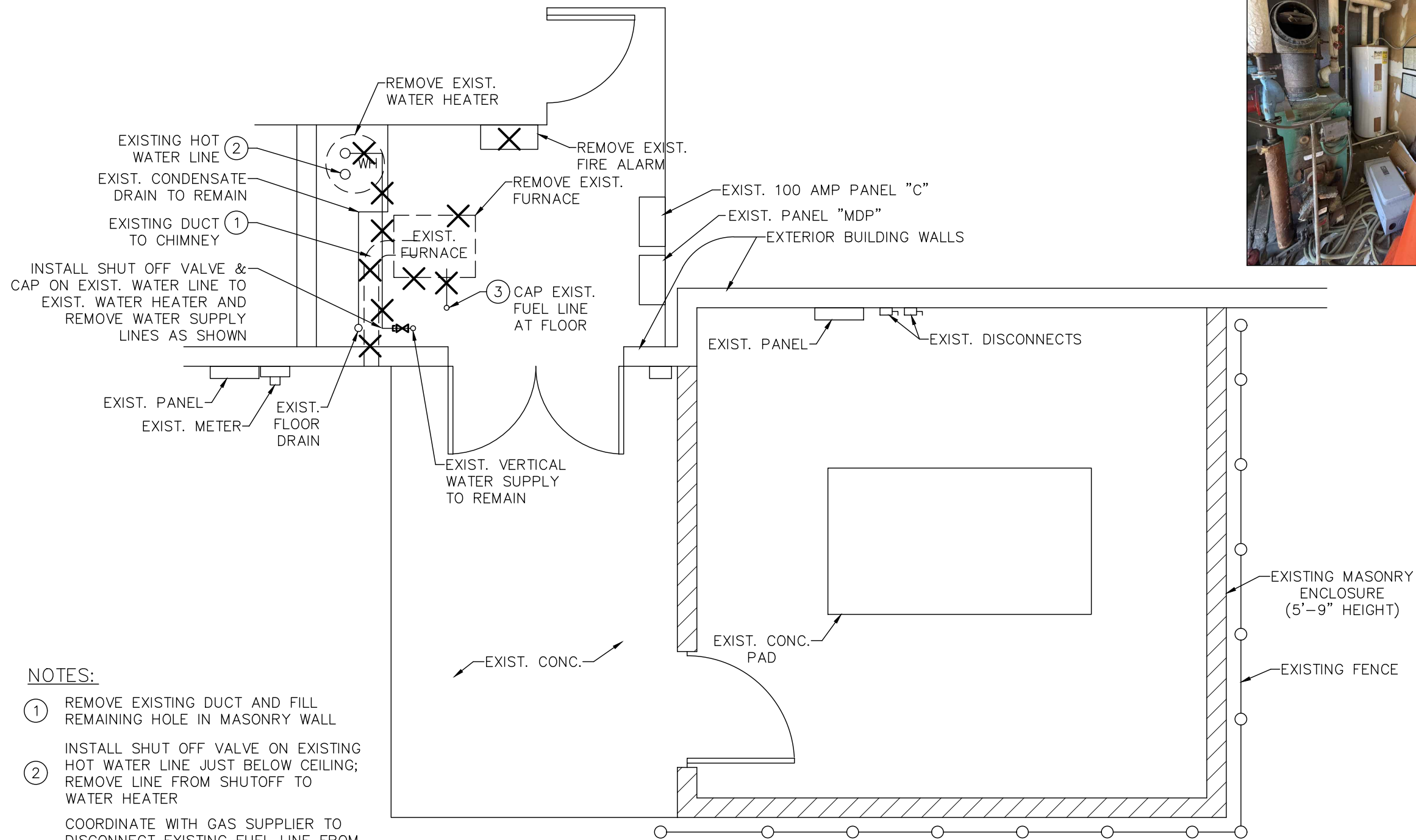


GENERAL NOTES

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GN-2
SHEET



NOTES:

- ① REMOVE EXISTING DUCT AND FILL REMAINING HOLE IN MASONRY WALL
- ② INSTALL SHUT OFF VALVE ON EXISTING HOT WATER LINE JUST BELOW CEILING; REMOVE LINE FROM SHUTOFF TO WATER HEATER
- ③ COORDINATE WITH GAS SUPPLIER TO DISCONNECT EXISTING FUEL LINE FROM SOURCE. PURGE AND DISCONNECT LINE AT THE TANK SIDE. CAP BOTH ENDS OF THE LINE WITH THREADED FITTING. INTERIOR STUB SHOULD BE CUT AT SLAB LEVEL

1 DEMOLITION PLAN
D-1 SCALE: 1/4" = 1'-0"

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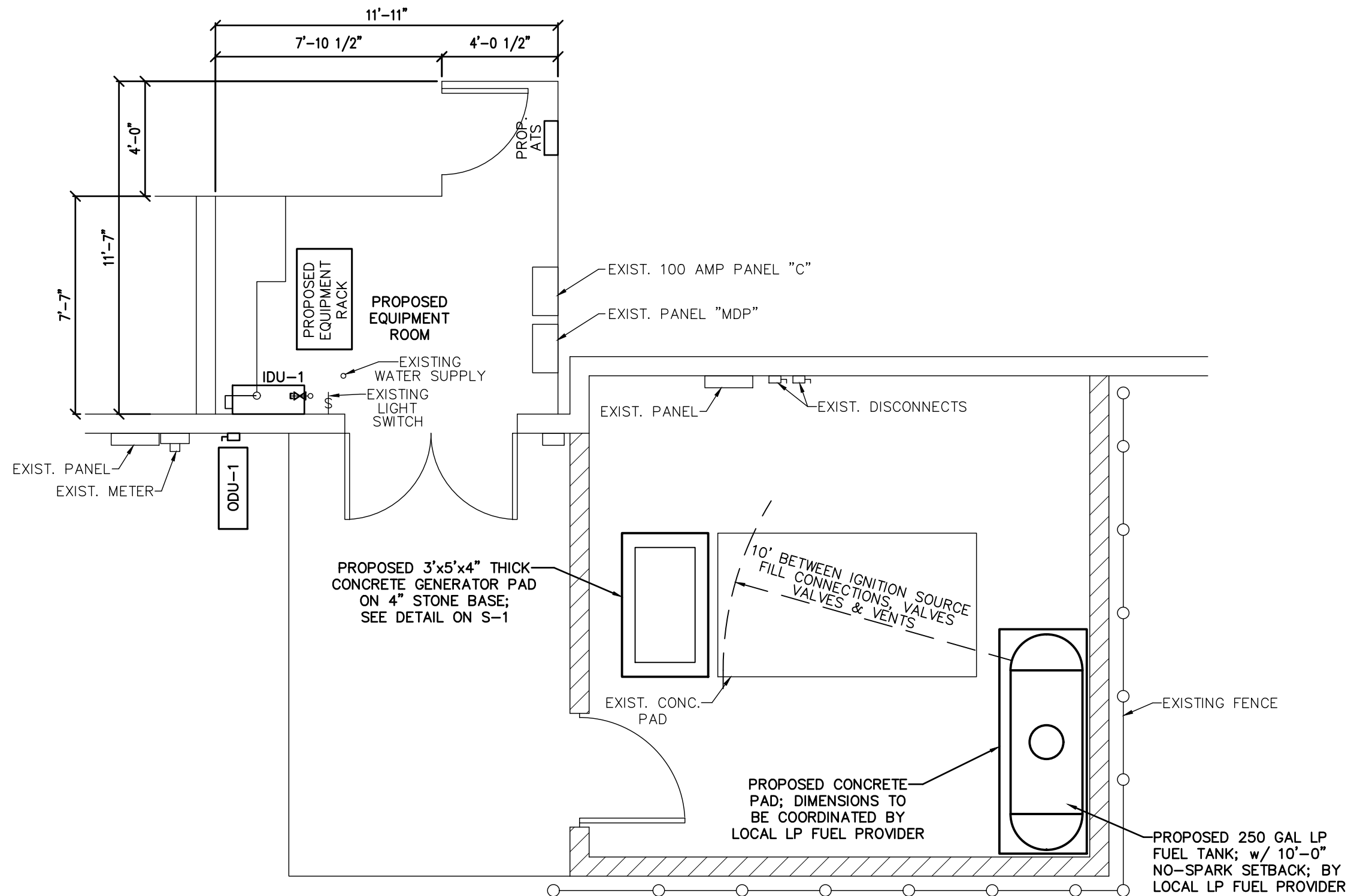
PANGAEA
INTERNET AT THE SPEED OF LIGHT

DEMOLITION PLAN

RUTHERFORD TECHNOLOGY CENTER
158 HEIGH ST.
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PROJ. #: R80-11092



PROFESSIONAL ENGINEER
M. COLES
029478
7/16/2026



1 COMPOUND PLAN
C-1 SCALE: 1/4" = 1'-0"

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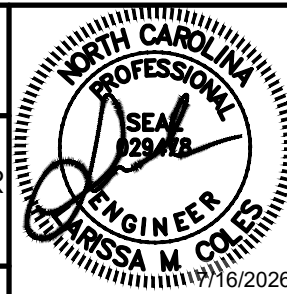


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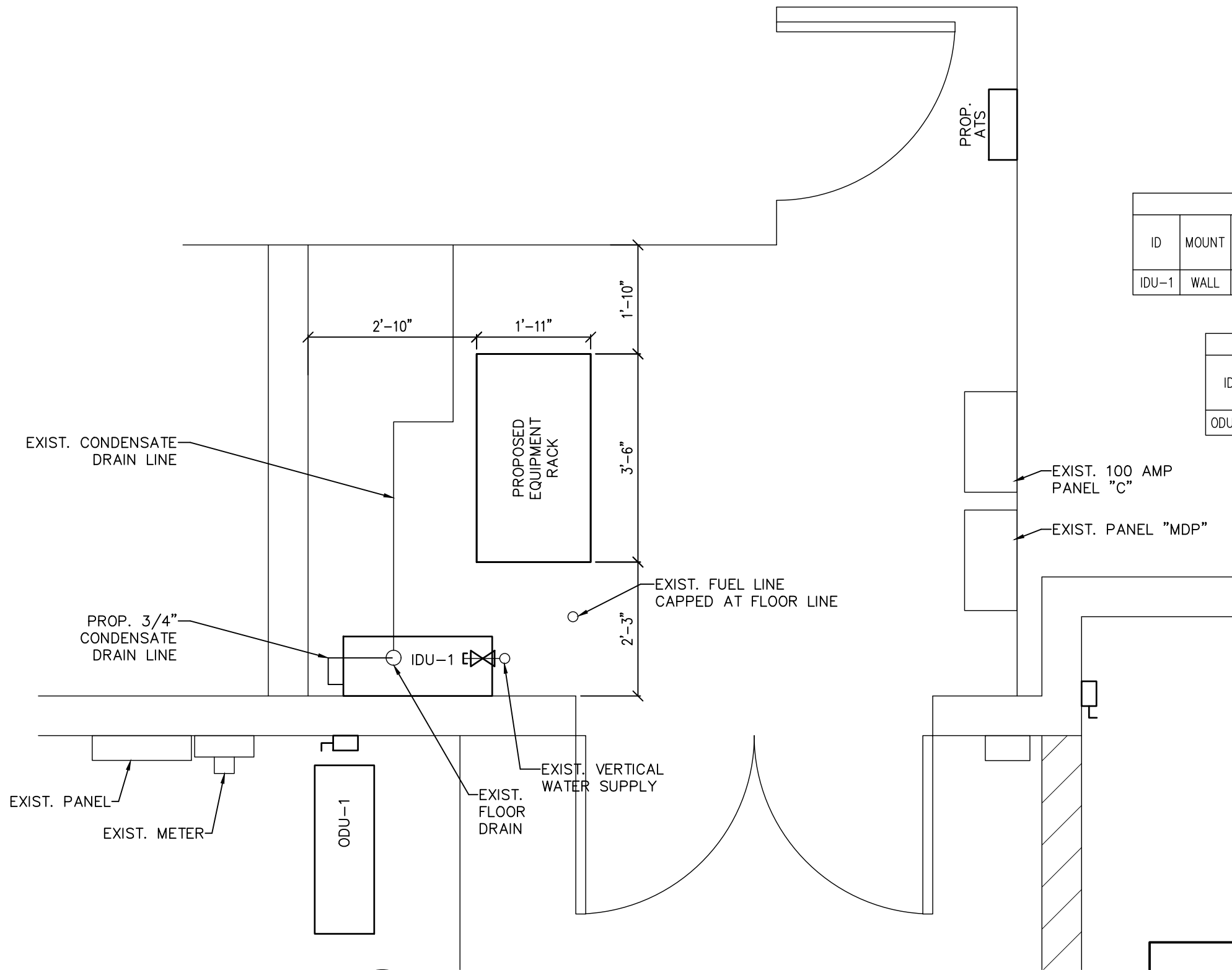


COMPOUND PLAN

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C-1
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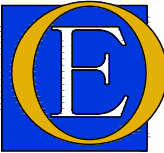
INDOOR UNIT SCHEDULE											
ID	MOUNT	AREA SERVICED	CFM			COOLING			V-ø-HZ	MANUF.	MODEL
			L	M	H	BTU/H	I.A.T. DB/WB	O.A.T. DB			
IDU-1	WALL	SHELTER	325	403	567	11,500	80/67F	95F	240-1-60	CARRIER	40MHHC12---3

OUTDOOR UNIT SCHEDULE							
ID	SERVICE	COOLING CAPACITY (BTU/H)	COOLING TEMP (DB/°F)	MIN. SEER	V-φ-HZ	MANUF.	MODEL
ODU-1	IDU-1	12,000	0/122	18.5	240-1-60	CARRIER	38MHRCQ12AA3

1 EQUIPMENT SHELTER PLAN
 C-2 SCALE: 1/2" = 1'-0"

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EQUIPMENT SHELTER
PLAN

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C-2
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FOR EMERGENCY NOTIFICATION OR
FOR ACCESS CALL
(877) 859-8219
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RUTHERFORD
TECHNOLOGY CENTER
SITE ADDRESS:
158 HEIGH ST.
ELLENBORO, NC 28040



SITE SIGNAGE NOTES:
AT A MINIMUM, SITES WHICH ARE NOT CONTINUOUSLY SUPERVISED SHALL PORT THE FOLLOWING SIGNAGE:

- AUTHORIZED PERSONNEL ONLY. NO TRESPASSING
- RESPONSIBLE ENTITY IDENTIFICATIONS
- SITE OPERATING ENTITY WITH APPROPRIATE CONTACT INFORMATION
- PERMIT OR LICENSE INFORMATION (AS ASSIGNED BY THE FEDERAL COMMUNICATIONS COMMISSION OR OTHER EQUIVALENT)

ALL SIGNAGE SHALL BE FURNISHED AND INSTALLED BY THE GENERAL CONTRACTOR. QUESTIONS FROM THE GENERAL CONTRACTOR CONCERNING SITE SIGNAGE SHALL BE DIRECTED TO PANGAEA INTERNET CONSTRUCTION MANAGER PRIOR TO ORDERING.

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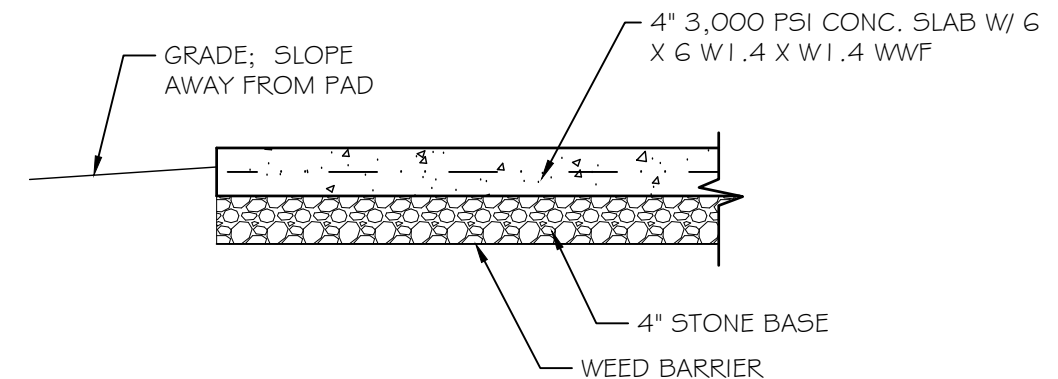
SITE SIGNAGE DETAILS

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07/16/2026

1. ALL CONCRETE WORK SHALL BE DONE IN ACCORDANCE WITH CURRENT ACI BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE (ACI 318-19).
2. CONCRETE MIXES SHALL BE DESIGNED IN ACCORDANCE WITH ACI 301.
3. ALL NORMAL WEIGHT CONCRETE SHALL HAVE ASTM C-33 AGGREGATE WITH UNIT WEIGHT OF 150 PCF. CONCRETE COMPRESSIVE STRENGTH SHALL BE 3000 PSI AT 28 DAYS, MINIMUM.
4. TEMPERATURE OF THE SURROUNDINGS SHALL NOT BE LOWER THAN 40°F DURING PLACING CONCRETE OR WITHIN 24 HOURS THEREAFTER. TEMPERATURE OF CONCRETE SHALL NOT BE LOWER THAN 55°F FOR THICKNESS 12" OR LESS IN THICKNESS AND 50°F FOR SECTIONS THICKER THAN 12", NOR HIGHER THAN 90°F. IF TEMPERATURE OF REINFORCING STEEL IS GREATER THAN 120°F, FORMS AND REBARS SHALL BE SPRAYED WITH WATER.
5. CONCRETE SHALL NOT BE PLACED ON FROZEN GROUND. IF GROUND RECEIVING FOUNDATION CONCRETE IS FROZEN, IT SHALL BE THAWED BY STEAM, DIRECT HEAT, OR OTHER METHODS APPROVED BY THE ENGINEER.
6. MINIMUM CONCRETE COVER SHALL BE AS FOLLOWS:
CAST AGAINST SOIL = 3 INCHES
FORMED BUT EXPOSED TO SOIL = 2 INCHES
CASES NOT INDICATED HERE OR SHOWN ON THE DRAWING SHALL BE IN ACCORDANCE WITH SECTION 20.5 OF ACI 301-19.
7. REINFORCING STEEL SHALL MEET THE FOLLOWING SPECIFICATIONS:
ASTM A615 – GRADE 60.
REINFORCING TO BE WELDED (INCLUDING DEFORMED BAR ANCHORS/DBA) – ASTM A706.
WELDED WIRE FABRIC – ASTM A185 (FLAT SHEETS ONLY)
8. REFER TO THE DRAWINGS FOR REINFORCING LAP REQUIREMENTS, WHERE LAP SPLICES ARE NOT SHOWN, LAP PER ACI 318 OR CRSI STANDARDS.
9. LAP WELDED WIRE FABRIC SHEETS 8" MINIMUM.
10. FOR SLABS ON GRADE, SLAB AND GRADE BEAM REINFORCING SHALL BE HELD IN PLACE BY BAR SUPPORTS WITH SAND PLATES, OR PRECAST CONCRETE BAR SUPPORTS AS DESCRIBED IN CHAPTER 3 OF THE CRSI MANUAL OF STANDARD PRACTICE. BAR SUPPORTS SHALL BE SPACED AT A MAXIMUM OF 4'-0" OC BOTHWAYS. ROCKS, CMU, OR CLAY BRICK WILL NOT BE USED AS SUPPORTS.
11. THE CONTRACTOR SHALL NOTIFY THE ENGINEER FAR ENOUGH IN ADVANCE (48 HOURS) OF EACH CONCRETE POUR TO ALLOW AMPLE TIME TO CHECK THE LAYOUT OF THE STEEL BEFORE THE BEGINNING OF THE ACTUAL POUR, BUT NOT PRIOR TO 90% OF THE STEEL HAVING BEEN PLACED.



1
S-1

GENERATOR PAD DETAIL

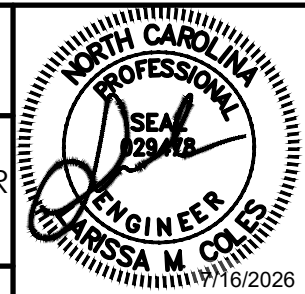
NOT TO SCALE

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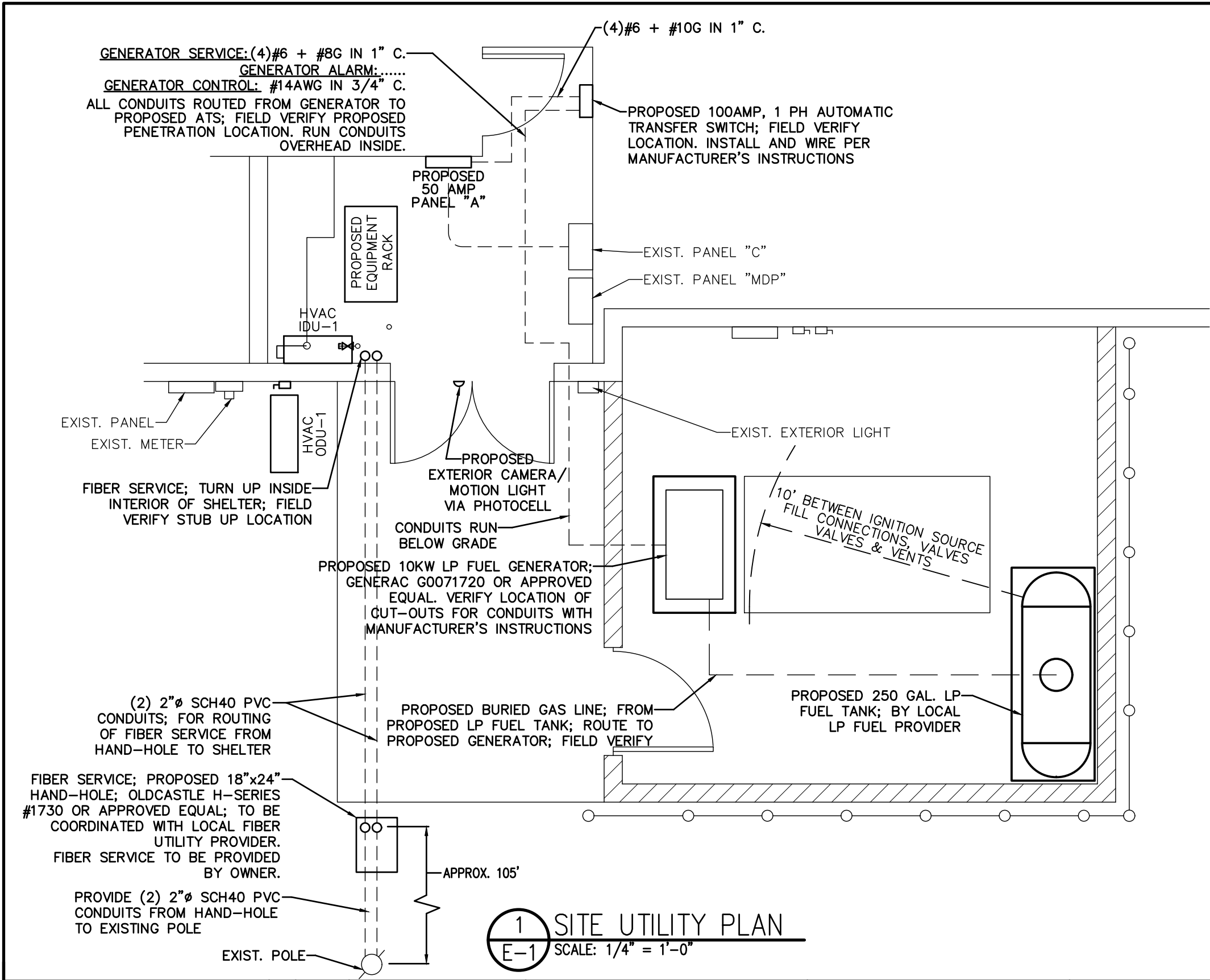


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S-1

SHEET



- NOTES:**
1. THE LOCATION AND SIZE AND TYPE OF MATERIAL OF EXISTING UTILITIES INDICATED ON THE PLANS IS NOT REPRESENTED AS BEING ACCURATE, SUFFICIENT OR COMPLETE. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE ACTUAL LOCATION OF ALL SUCH FACILITIES, INCLUDING THE SERVICE CONNECTIONS TO UNDERGROUND UTILITIES. PRIOR TO CONSTRUCTION THE CONTRACTOR SHALL NOTIFY THE UTILITY COMPANIES OF HIS OPERATIONAL PLANS AND SHALL OBTAIN FROM THE RESPECTIVE UTILITY COMPANIES DETAILED INFORMATION AND ASSISTANCE RELATIVE TO THE LOCATION OF THEIR FACILITIES AND THE WORKING SCHEDULE OF THE COMPANIES FOR REMOVAL OR ADJUSTMENT WHERE REQUIRED. IN THE EVENT AN UNEXPECTED UTILITY INTERFERENCE IS ENCOUNTERED DURING CONSTRUCTION, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE UTILITY COMPANY OF JURISDICTION. THE ENGINEER SHALL ALSO BE IMMEDIATELY NOTIFIED. ANY SUCH MAINS AND SERVICES SHALL BE RESTORED TO SERVICE AT ONCE AND PAID FOR BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE CONTRACT.
 2. NEW GROUNDING NOT SHOWN FOR CLARITY.
 3. WARNING TAPE SHALL BE INSTALLED DIRECTLY ABOVE CONDUITS AT A DEPTH OF 12 INCHES BELOW FINISHED GRADE UNLESS NOTED OTHERWISE. TAPE COLOR SHALL BE AS SPECIFIED BELOW AND SHALL BEAR DESCRIPTION OF THE UTILITY.
 4. UTILITY CONDUITS MAY BE COMBINED INTO (1) CONCRETE ENCASEMENT AS LONG AS PROPER SEPARATION BETWEEN UTILITIES IS MAINTAINED.
 5. EXCAVATE EXISTING SUBGRADE AS REQUIRED TO INSTALL CONDUITS IN ACCORDANCE WITH OSHA AND ALL APPLICABLE CODES.
 6. CONDUIT SHALL UTILIZE LARGE RADIUS 90° BENDS.
 7. CONDUIT DEPTHS FROM FINISHED GRADE ARE ABSOLUTE MINIMUMS.

- GENERAL NOTES:**
1. ALL ELECTRICAL EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH NFPA 70. THE RESPECTIVE EQUIPMENT MANUFACTURER'S DIRECTIONS AND ALL OTHER APPLICABLE LOCAL CODES, LAWS, ORDINANCES AND REQUIREMENTS IN FORCE. ANY INSTALLATION WHICH VOID THE U.L. LISTING (OR OTHER THIRD PARTY LISTING) AND/OR THE MANUFACTURER'S WARRANTY OF A DEVICE SHALL NOT BE PERMITTED.
 2. ALL CONDUIT SHALL BE SEALED WATERTIGHT UNTIL FINAL TERMINATIONS ARE MADE.
 3. PROVIDE PULL CORD IN ALL CONDUITS. SECURE AT EACH END.
 4. ADJUST DEPTH OF CONDUITS TO PASS ABOVE GROUNDING SYSTEM.
 5. PROVIDE 18 INCH (MIN.) RADIUS ELBOWS FOR ALL BENDS.
 6. CONTRACTOR SHALL VERIFY ALL EQUIPMENT ELECTRICAL REQUIREMENTS PRIOR TO COMMENCING WORK.

- SERVICE CONDUIT:**
1. PROVIDE PVC SCH 40 (OUTSIDE), PVC SCH 80 (OUTSIDE IN TRAFFIC AREAS) CONDUIT FOR ALL POWER & ALARM/CONTROL REQUIREMENTS. WIRING PROVIDED BY CONTRACTOR.
 2. COORDINATE LOCATION OF GENERATOR POWER AND CONTROL WITH GENERATOR EQUIPMENT INSTALLATION MANUFACTURER DRAWINGS.

VOLTAGE: 120Y/240 AMPS: 50A – MB					PANEL: ”A”					1-PHASE/3-WIRE SURFACE				
					LOAD PER PHASE									
DESCRIPTION	POLE	WIRE SIZE	BRK SIZE	CCT #	A	B	CCT #	BRK SIZE	WIRE SIZE	POLE	DESCRIPTION			
EXTERIOR CAMERA	1	12	20	1	0.5	1.0	2	20	12	1	RECEPTACLE			
RECEPTACLE	1	12	20	3	1.0	0.5	4	20	12	1	EXIT/EMERGENCY LIGHT			
SPACE	1			5	–	–	6			1	SPACE			
SPACE	1			7	–	–	8			1	SPACE			
SPACE	1			9	–	–	10			1	SPACE			
SPACE	1			11	–	–	12			1	SPACE			
TOTAL CONNECTED KVA					1.5	1.5	CONNECTED KVA: 3.0							
					3.0									
							CONNECTED AMPS: 12.5							

GENERAL ELECTRICAL NOTES:

1. SCOPE: PROVIDE LABOR, MATERIALS AND EQUIPMENT, ETC. REQUIRED TO COMPLETE THE INSTALLATION SHOWN ON THE DRAWINGS.
2. CODES AND STANDARDS: INSTALLATION SHALL COMPLY WITH APPLICABLE LAWS AND ORDINANCES, UTILITY COMPANY REGULATIONS AND APPLICABLE REQUIREMENTS OF EDITIONS OF:
NFC–NATIONAL FIRE CODE
UL–UNDERWRITERS LABORATORIES
NEC–NATIONAL ELECTRICAL CODE
NEMA–NATIONAL ECLECTIC MANUFACTURERS ASSOCIATION
OSHA–OCCUPATIONAL SAFETY AND HEALTH
SBC–STANDARD BUILDING CODE
3. PERMITS: OBTAIN AND PAY FOR REQUIRED PERMITS, LICENSES, FEES, INSPECTIONS, ETC.
4. COORDINATION: COORDINATE WORK WITH OTHER TRADES.
5. SUBMITTALS: SUBMIT BROCHURES FOR APPROVAL ON SERVICE DISCONNECTING MEANS AND OTHER MAJOR SYSTEM COMPONENTS.
6. EXISTING SERVICE: DO NOT INTERRUPT EXISTING SERVICES WITHOUT WRITTEN PERMISSION OF THE OWNER.
7. EQUIPMENT: CONNECT ELECTRICALLY OPERATED EQUIPMENT.
8. RECORD DRAWINGS: MAINTAIN A RECORD OF ALL CHANGES, SUBSTITUTIONS BETWEEN WORK AS SPECIFIED AND INSTALLED. RECORD CHANGES ON A CLEAN SET OF CONTRACT DOCUMENTS WHICH SHALL BE TURNED OVER TO THE CONSTRUCTION MANAGER UPON COMPLETION OF THE PROJECT.
9. IDENTIFICATION: IDENTIFY SERVICE DISCONNECTING MEANS WITH PERMANENT NAMEPLATE. IDENTIFY PER NATIONAL ELECTRIC CODE.
10. GUARANTEE/WARRANTY: GUARANTEE INSTALLATION TO BE FREE OF DEFECTS, SHORTS, GROUNDING, ETC. FOR A PERIOD OF ONE YEAR. FURNISH WARRANTY SO THE DEFECTIVE MATERIAL AND/OR WORKMANSHIP WILL BE REPAIRED/REPLACED IMMEDIATELY UPON NOTIFICATION AT NO COST TO THE OWNER FOR PERIOD OF WARRANTY.
11. CUTTING AND PATCHING: PROVIDE CUTTING REQUIRED TO DO THE WORK. DO NOT CUT MAJOR STRUCTURAL ELEMENTS WITHOUT PRIOR APPROVAL. PATCHING SHALL BE OF QUALITY EQUAL TO AND OF MATCHING APPEARANCE OF EXISTING CONSTRUCTION.
12. RACEWAYS: EXPOSED CONDUIT SHALL BE RIGID GALVANIZED STEEL CONDUIT. PLUG AND CAP EACH END OF SPARE AND EMPTY CONDUITS AND PROVIDE TWO SEPARATE PULL STRINGS – 200 LB. TEST POLYETHYLENE CORD. ALL CONDUIT BENDS SHALL BE A MINIMUM OF 24” RADIUS UNLESS OTHERWISE NOTED. RGS CONDUITS WHEN SPECIFIED SHALL MEET UL–6 FOR GALVANIZED STEEL. ALL FITTING SHALL BE SUITABLE FOR USE WITH THREADED RIGID CONDUIT.
13. SUPPORTS: AS REQUIRED BY THE NATIONAL ELECTRIC CODE, UNLESS OTHERWISE NOTED.
14. CONDUCTORS: USE 98% CONDUCTIVITY COPPER WITH TYPE THHN OR TWHN INSULATION, 600 VOLT, COLOR CODED PER N.E.C. USE SOLID CONDUCTORS FOR WIRE UP TO AND INCLUDING #10 AWG. USE STRANDED CONDUCTORS FOR WIRE ABOVE #10 AWG, UNLESS OTHERWISE NOTED.
15. CONNECTORS: FOR POWER CONDUCTORS: USE PRESSURE TYPE INSULATED TWIST–ON CONNECTORS FOR #10 AWG AND SMALLER. USE SOLDERLESS MECHANICAL TERMINAL LUGS FOR #8 AWG AND LARGER.
16. TELEPHONE SERVICE: PROVIDE EMPTY CONDUITS WITH PULL WIRES AS INDICATED ON DRAWINGS.

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NO.	DATE	REVISIONS



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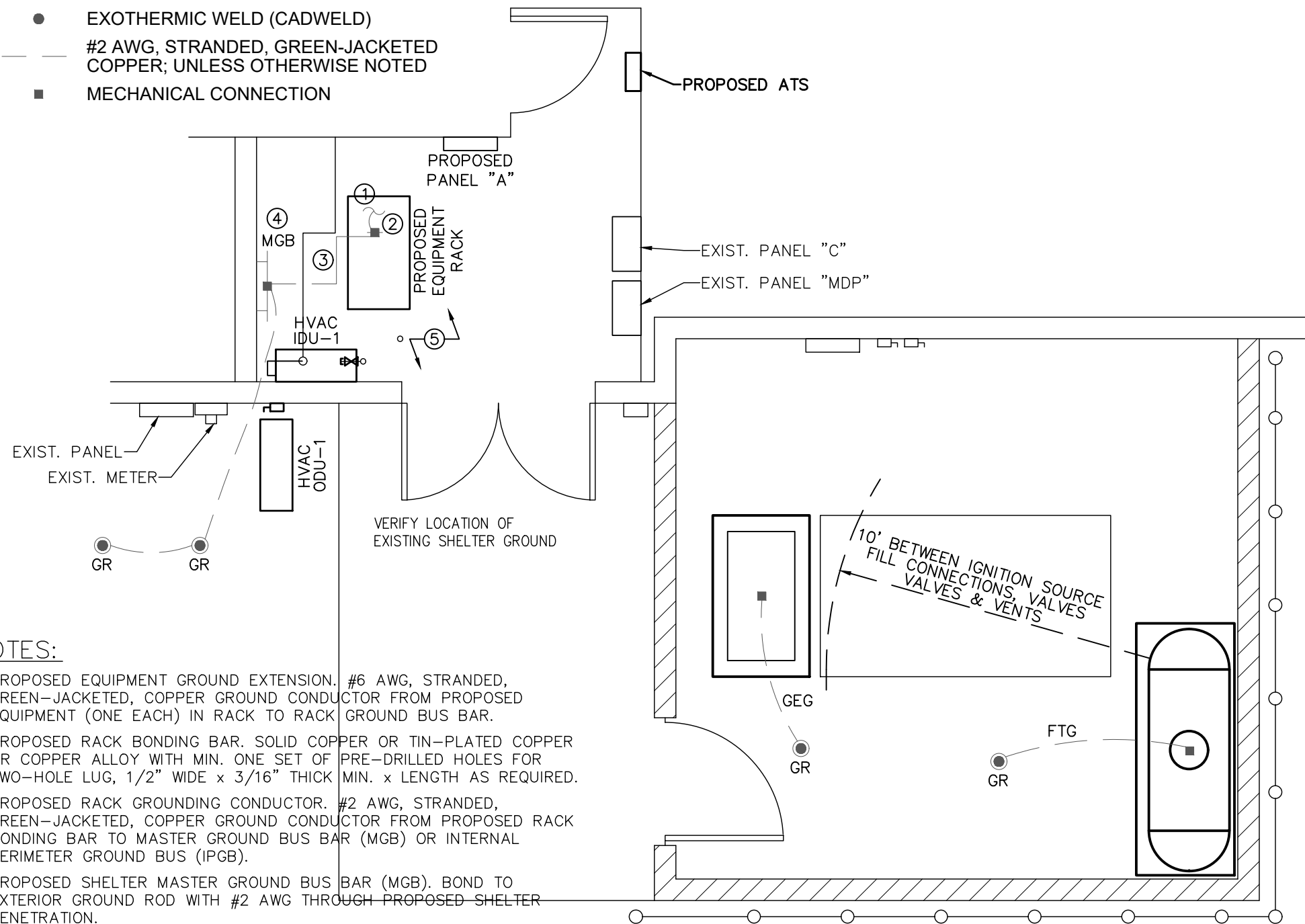
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E-3
SHEET

- 5/8" x 10'-0" COPPER OR STAINLESS STEEL COPPERCLAD GROUND ROD
- GROUND ROD WITH INSPECTION WELL
- EXOTHERMIC WELD (CADWELD)
- #2 AWG, STRANDED, GREEN-JACKETED COPPER; UNLESS OTHERWISE NOTED
- MECHANICAL CONNECTION



- PROPOSED EQUIPMENT GROUND EXTENSION. #6 AWG, STRANDED, GREEN-JACKETED, COPPER GROUND CONDUCTOR FROM PROPOSED EQUIPMENT (ONE EACH) IN RACK TO RACK GROUND BUS BAR.
- PROPOSED RACK BONDING BAR. SOLID COPPER OR TIN-PLATED COPPER OR COPPER ALLOY WITH MIN. ONE SET OF PRE-DRILLED HOLES FOR TWO-HOLE LUG, 1/2" WIDE x 3/16" THICK MIN. x LENGTH AS REQUIRED.
- PROPOSED RACK GROUNDING CONDUCTOR. #2 AWG, STRANDED, GREEN-JACKETED, COPPER GROUND CONDUCTOR FROM PROPOSED RACK BONDING BAR TO MASTER GROUND BUS BAR (MGB) OR INTERNAL PERIMETER GROUND BUS (IPGB).
- PROPOSED SHELTER MASTER GROUND BUS BAR (MGB). BOND TO EXTERIOR GROUND ROD WITH #2 AWG THROUGH PROPOSED SHELTER PENETRATION.
- ALL PROPOSED EQUIPMENT SHALL BE BONDED TO THE EXISTING SHELTER GROUND SYSTEM.

1 GROUNDING PLAN
G-1 SCALE: 1/4" = 1'-0"

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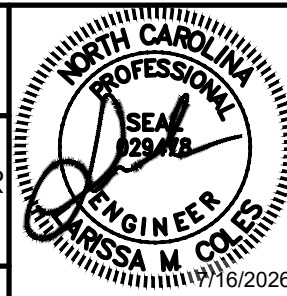
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GROUNDING
PLAN

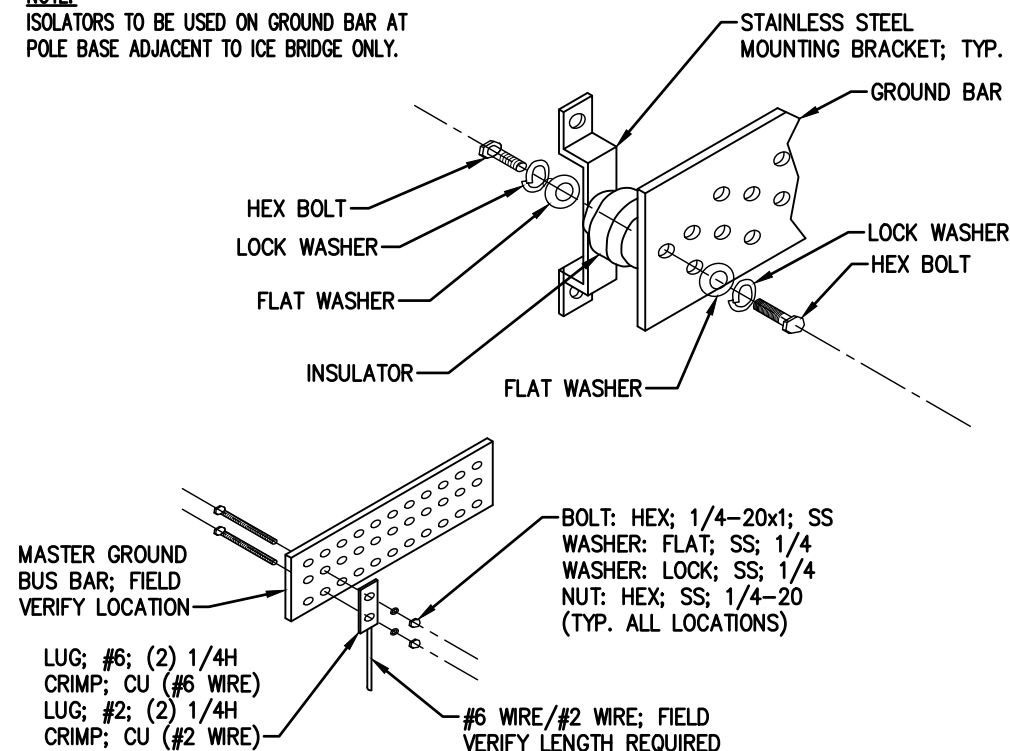
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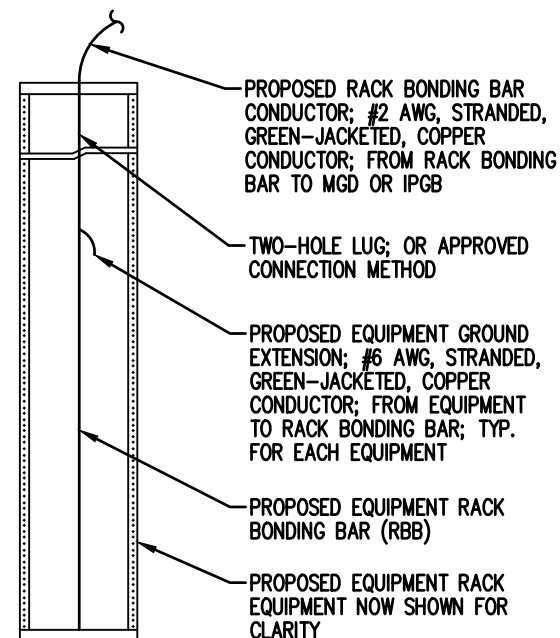


G-1
SHEET

NOTE:
ISOLATORS TO BE USED ON GROUND BAR AT
POLE BASE ADJACENT TO ICE BRIDGE ONLY.



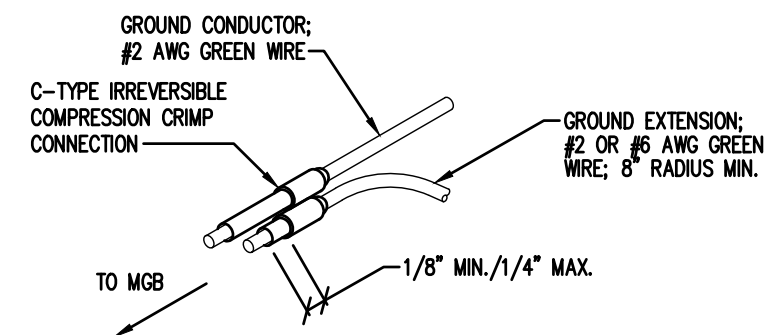
1 GROUNDING BAR DETAIL
G-2 SCALE: NOT TO SCALE



EQUIPMENT RACK
GROUNDING DETAIL

2
G-2

SCALE: NOT TO SCALE



GROUND BUS
CONDUCTOR DETAIL

3
G-2

SCALE: NOT TO SCALE

LEGEND:

FIG: FUEL TANK GROUND; E.C. TO FURNISH AND INSTALL ONE (1) #2 SOLID TND COPPER GROUND WIRE FROM FUEL TANK GROUND LUG TO GROUND ROD. CONNECTION AT FUEL TANK LUG TO BE MECHANICAL, CONNECTION AT GROUND ROD TO BE CADWELD (TYPICAL OF 2 PER FUEL TANK).

GEG: GENERATOR GROUND; E.C. TO FURNISH AND INSTALL ONE (1) #2 AWG BARE SOLID TND COPPER GROUND WIRE FROM GENERATOR GROUND BAR TO GROUND ROD. CONNECTION AT GENERATOR GROUND BAR TO BE MECHANICAL, CONNECTION AT GROUND ROD TO BE CADWELD (TYPICAL OF 1).

GR: 5/8" DIA. x 10' LONG TNND COPPER CLAD STEEL GROUND ROD DRIVEN
VERTICAL TOP OF ROD 24" MIN. BELOW GRADE. SPACING OF GROUND RODS 10'
MIN. TO TWICE THE LENGTH OF THE ROD USED. ALL CONNECTIONS TO BE CADWELD.

MGB: MASTER GROUND BAR; 24" x 4" x 1/4" TNND COPPER GROUND BAR ON INTERIOR SIDEWALL OF SHELTER.

SG: SHELTER GROUND; E.C. TO FURNISH AND INSTALL ONE (1) #2 AWG BARE SOLID T1ND COPPER GROUND WIRE FROM SHELTER MASTER GROUND BAR (MGB) TO GROUND ROD. CONNECTION AT SHELTER MASTER GROUND BAR GROUND BAR TO BE MECHANICAL. CONNECTION AT GROUND ROD TO BE CADWELD (TYPICAL OF 1).

NOTE: GROUND LEADS AT SHELTER FROM EXTERNAL EQUIPMENT TO BE ROUTED IN 1/2" NON-METALLIC PVC RIGID CONDUIT SECURED TO SHELTER WALL WITH AT LEAST ONE (1) NON-METALLIC CONDUIT CLAMP 36" MAX. SPACING. CONDUIT TO BE 4" MAX. FROM APPLIANCE CONNECTION AND EXTEND 18" MIN. BELOW GRADE.

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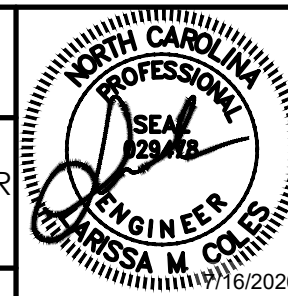
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G-2
SHEET