

# BLUE RIDGE HIGH SCHOOL - ANIMAL BARN

GREENVILLE COUNTY SCHOOLS - GREER, SC

BID SET

- GOODWYN MILLS & CAWOOD, LLC | ARCHITECTURE, INTERIORS, CIVIL, LANDSCAPE
- MMSA, INC. | STRUCTURAL ENGINEERING
- PERITUS ENGINEERS & ASSOC., INC. | MECHANICAL & PLUMBING ENGINEERING
- BURDETTE ENGINEERING | ELECTRICAL ENGINEERING

TITLE SHEET

T1.00

BLUE RIDGE HIGH SCHOOL - ANIMAL BARN

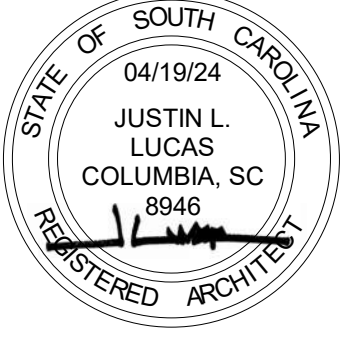
2151 FEWS CHAPEL RD  
GREER, SC 29651

GMC # AC01240002

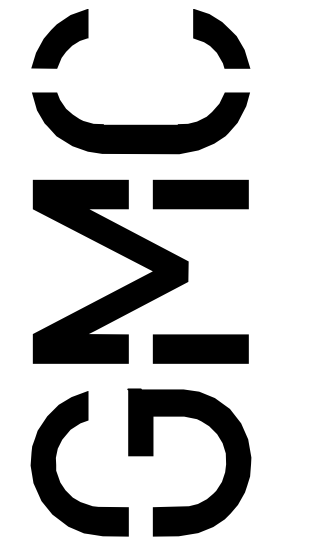
ISSUE DATE

BID SET 04/19/24

DRAWN BY: J.L.  
CHECKED BY: J.L.



915 Lady Street, Suite C  
Columbia, SC 29201  
T 803.724.1282  
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FORM F3 BUILDING CODE ANALYSIS

DATE: 4/19/2024
SUBMITTAL: SCHEMATIC DESIGN DEVELOPMENT CONSTRUCTION DOCUMENT
SC CODE EDITION: 2021 ICC CODE EDITION: 2021 ICC A17.1 EDITION: 2017 OSF GUIDE EDITION: 2023

Project Description: [Brief Scope of Work & Include Project Delivery Method (i.e. CMR, etc.)]
The demolition work will remove and existing greenhouse and antenna tower in their entirety. The new construction building is a stand-alone pre-engineered metal building to be used for an animal barn. Site work consists of minor asphalt tie-in, utility tie-in and new fencing. The project delivery method is design-bid-build.

BASIC BUILDING CODE INFORMATION
DESIGNATED AREAS OF BUILDING: Building Code, Area 1, Area 2, Area 3, Area 4, Area 5
CONSTRUCTION CLASSIFICATION TYPE: Section 602 V-B
OCCUPANCY GROUP (indicate all): Section 302 U
MOST RESTRICTIVE OCCUPANCY GROUP: Tables 504.3, 504.4 & 506.2

EXISTING BUILDING CODE INFORMATION [SCBC]
DESIGNATED AREAS OF BUILDING: Area 1, Area 2, Area 3
Method of Compliance: Option 1: Perspective Compliance Method (Ch. 3.5)
Alteration: Addition, Change of Occupancy, Historic Building

EXISTING BUILDING CODE INFORMATION [SCBC]
DESIGNATED AREAS OF BUILDING: Area 4, Area 5
Method of Compliance: Option 1: Perspective Compliance Method (Ch. 3.5)
Alteration: Addition, Change of Occupancy, Historic Building

SUMMARY - BUILDING DESIGN OCCUPANT LOAD
STORY: Area 1, Area 2, Area 3, Area 4, Area 5
TOTAL: 4

NOTE: Per SC Building Code Chapter 10, list individual spaces occupant load on life safety plan.

ALLOWABLE BUILDING AREA
DESIGNATED AREAS OF BUILDING: Area 1, Area 2, Area 3, Area 4, Area 5
A1: Tabular allowable area factor (NS, S1, S1R, or SM as applicable) in accordance with IBC Table 506.2
Allowable Area Increase (Equations 5-1 through 5-5, as applicable)

BUILDING HEIGHT
DESIGNATED AREAS OF BUILDING: Building Code, Area 1
HEIGHT: In Feet, In Stories
Table 504.3, Table 504.4

NOTE: Allowable Building Height & Number of Stories Above Grade Plane

GENERAL FIRE PROTECTION REQUIREMENTS
DESIGNATED AREAS OF BUILDING: Building Code, Area 1, Area 2, Area 3, Area 4, Area 5
SEPARATIONS: Fire Wall Required, Fire Barrier Required, Fire Partition Required, Smoke Barriers Required, Fireblocking, Draftstopping, Incidental Use Area
ALARM AND DETECTION: Fire Alarm and Detection System, Emergency Alarm System Required
SUPPRESSION: Automatic Sprinkler System Provided Required, Alternative Automatic Fire-Extinguishing Kitchen Hoods, Standpipes Required, Portable Extinguishers Required

FIRE RESISTANCE RATING OF BUILDING ELEMENTS
DESIGNATED AREAS OF BUILDING: Building Code, Building 1, Building 2, Building 3, Building 4, Building 5
Primary Structural Frame: Table 601
Bearing Walls, Exterior: Table 601
Bearing Walls, Interior: Table 601
Nonbearing Walls and Partitions, Interior: Table 601
Nonbearing Walls and Partitions, Exterior: Table 602
Floor Construction and associated secondary members: Table 601
Roof Construction and associated secondary members: Table 601
Fire Walls: Section 706
Fire Barriers: Section 707
Fire Partitions: Section 708
Smoke Barriers: Section 709
Smoke Partitions: Section 710
Horizontal Assemblies: Section 711
Shaft Enclosures: Section 712 & 713
Opening & Protective Listing by Category (fire, shutters, doors, etc.): Section 716
Others (as required by Designer)

FLOOD HAZARD INFORMATION AND FLOOD LOADS
FLOOD HAZARD AREA: NO FLOOD ZONE ON SITE
Base Flood Elevation (NVD or FIRM): N/A MSL
NON-HIGH VELOCITY WAVE ACTION: N/A MSL
ELEVATION OF LOWEST PROPOSED FLOOR (MEET ASCE 24 SECTION 2.6.2.1): MSL
HIGH VELOCITY WAVE ACTION: YES NO
Elevation of Bottom of Lowest Horizontal Structural Member of lowest floor: TBD MSL
Floodation Resistant (ASCE 24): YES NO
Breakaway Wallpaper (ASCE 24): YES NO

FIRE SERVICE INFORMATION
Service Line Size: N/A
Fire Department Connection: Location
Backflow: Type, Date, Flow, Residual, Initial
Fire Hydrant Flow Test

ENERGY INFORMATION
INSULATION: Roof, Walls, Underlath, GLAZING (each type), Window to Wall Ratio, Glass Type
Summary of data approved ASHRAE 90.1 compliance sheets.

STRUCTURAL DESIGN INFORMATION, AREA
Building Code, Area 1, Area 2, Area 3, Area 4, Area 5
OCCUPANCY CATEGORY: Table 1604.5
LIVE LOAD FOR EACH OCCUPANCY TYPE: Figure 1608.2 or ASCE 7

SOILS, SITE
SOILS INVESTIGATION REQUIRED? (IBC 1803.2): YES NO
SOILS CLASSIFICATION: Seismic Site Class (SCBC 1613.3.2)
Seismic Soil of Materials (SCS System) (SCBC 1803.5.1)
MINIMUM DESIGN SOIL BEARING LOAD (IBC 1803.2): psf
MINIMUM DESIGN SOIL LATERAL LOAD (IBC 1804.6): psf
FOOTINGS: Undeveloped footings, Compacted Fill Material (SCBC 1804.6)
ELEVATIONS: Elevation of Water Table, Elevation of lowest footing, Elevation of lowest floor or basement

STATEMENT OF SPECIAL INSPECTIONS
MATERIAL, TYPE OF INSPECTION, FREQUENCY, SPECIFICATION REFERENCE, INSPECTION BY

PLUMBING INFORMATION
WATER SYSTEM: Service Line Size, Distribution Design Criteria (SCPC Table 604.3), Maximum Flow Rate (SCPC Table 604.4)
SANITARY SEWER SYSTEM: Service Line Size, Drainage Design Criteria (SCPC Tables 709.1 and 709.2), Maximum Flow Rate, Slope (SCPC Table 704.1)

MECHANICAL INFORMATION
GENERAL INFORMATION: Building Location, Climate Zone
OUTSIDE AIR: Outdoor Design Temperature, Indoor Design Temperature
MECHANICAL SYSTEMS, SERVICE SYSTEMS & EQUIPMENT: Briefly describe mechanical system.

MECHANICAL INFORMATION (continued)
Service Transformer: By Utility, By District, KVA Primary, Voltage/Phase
ELECTRICAL SERVICE INFORMATION: Service Voltage/Phase, Service Entrance Conductors Size, Total Connected Load, Estimated Maximum Demand, Available Fault Current in Symmetrical Amperes, Interrupting Capacity of Service Overcurrent Device, Grounding Electrode System Components (NEC 250)
EMERGENCY SERVICE INFORMATION: Emergency Generator, Fuel, Exit/Emergency Lights Backup Power, Fire Alarm System

Occupancy Load and Fixture Count Worksheet - N/A
(Provide this table for new construction and addition/renovations with multiple occupancies)
Classification/Description, Area, Area per Person, Number of Occupants, Male (WC, UR, LAV), Female (WC, LAV), Drinking Fountain, Service Sink

STRUCTURAL DESIGN INFORMATION, BUILDING
WIND LOADS: Analysis Procedure (ASCE 7 or SCBC 1609.6), Basic Wind Speed, MPH (3 sec gust IBC Fig. 1609.3), Exposure Category, Wind Importance Factor (ASCE 7 Table 1.5-2), Internal Pressure Coefficient (ASCE 7), External Pressure Coefficient (ASCE 7)
SEISMIC LOADS: Seismic Importance Factor (ASCE 7), Site Class (SCBC 1613.3.2), Mapped Spectral Response Accelerations, Design Spectral Response Acceleration Parameters, Seismic Use Group (ASCE 7 and Seismic Occupancy Category (SC)
ELEVATIONS: Seismic Design Category (SCBC Tables 1613.3.5(1) & 1613.3.5(2)), Basic Seismic Force Resisting System, Design Base Shear, Seismic Response Coefficient(s) ASCE 7, Response Modification Factor(s) ASCE 7, Analysis Procedure

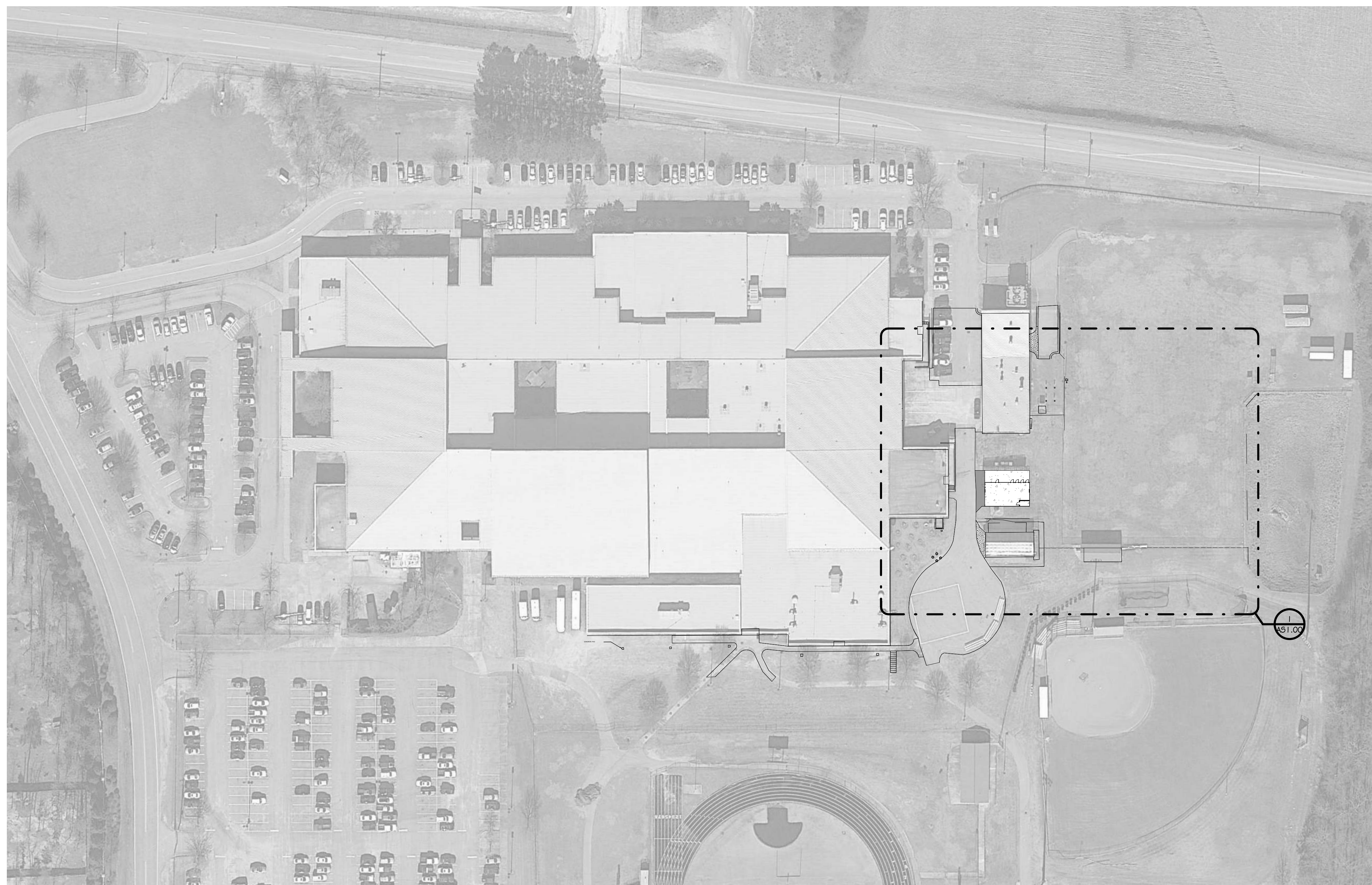
SUMMARY OF FIXTURES (SCPC Section 403 & Table 403.1)
Water Closets: Male - Required, N/A; Male WC - Provided, N/A; Male Urinal - Provided, N/A; Female - Required, N/A; Female - Provided, N/A
Lavatories: Male - Required, N/A; Female - Provided, N/A
Showers: Male - Provided, N/A; Female - Provided, N/A
Drinking Fountains: Required, N/A
Family or Assisted-Use Toilet: Provided, N/A
Service Sink: Required, N/A; Provided, N/A
Others (list): Required, N/A; Provided, N/A

GMC logo and contact information: 915 Lady Street, Suite C, Columbia, SC 29201, T 803.724.1282, gmcnetwork.com. Includes professional seals for Justin L. Lucas and J.L. Greenlee, Registered Architects.

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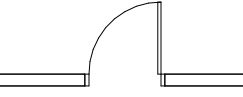



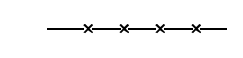



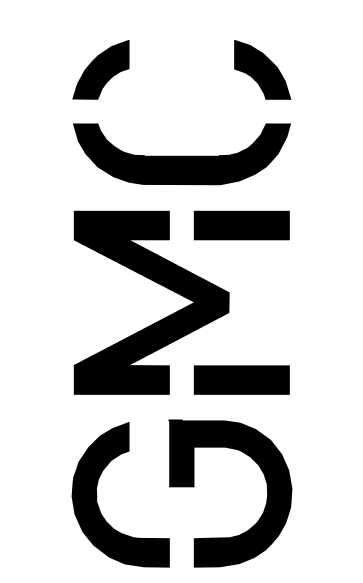
**1 LOCATION PLAN**  
SCALE: 1" = 60'-0"

**GENERAL NOTES**

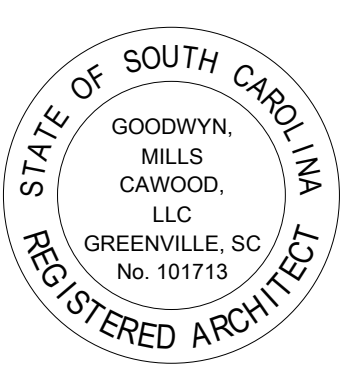
- A THIS DRAWING IS FOR REFERENCE ONLY AND LOCATES THE BUILDING RELATIVE TO THE EXISTING CAMPUS.
- B FIELD VERIFY ALL DIMENSIONS AND CONDITIONS. GENERAL CONTRACTOR TO BRING ANY DISCREPANCIES TO THE ARCHITECT'S ATTENTION IMMEDIATELY PRIOR TO PERFORMING THE WORK.
- C GENERAL CONTRACTOR TO PROTECT ALL EXISTING WORK TO REMAIN THROUGHOUT CONSTRUCTION.
- D PATCH AND REPAIR ALL EXISTING FINISHES, AS REQUIRED, DUE TO DEMOLITION WORK.
- E REFERENCE CIVIL, STRUCTURAL, MECHANICAL, PLUMBING, AND ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION.

**LOCATION PLAN LEGEND**

-  DOOR
-  WALL
-  ASPHALT PAVING - SEE CIVIL
-  GRAVEL - SEE CIVIL
-  NEW 6'-0" TALL CHAIN LINK FENCE - SEE DETAILS
-  WORK AREA



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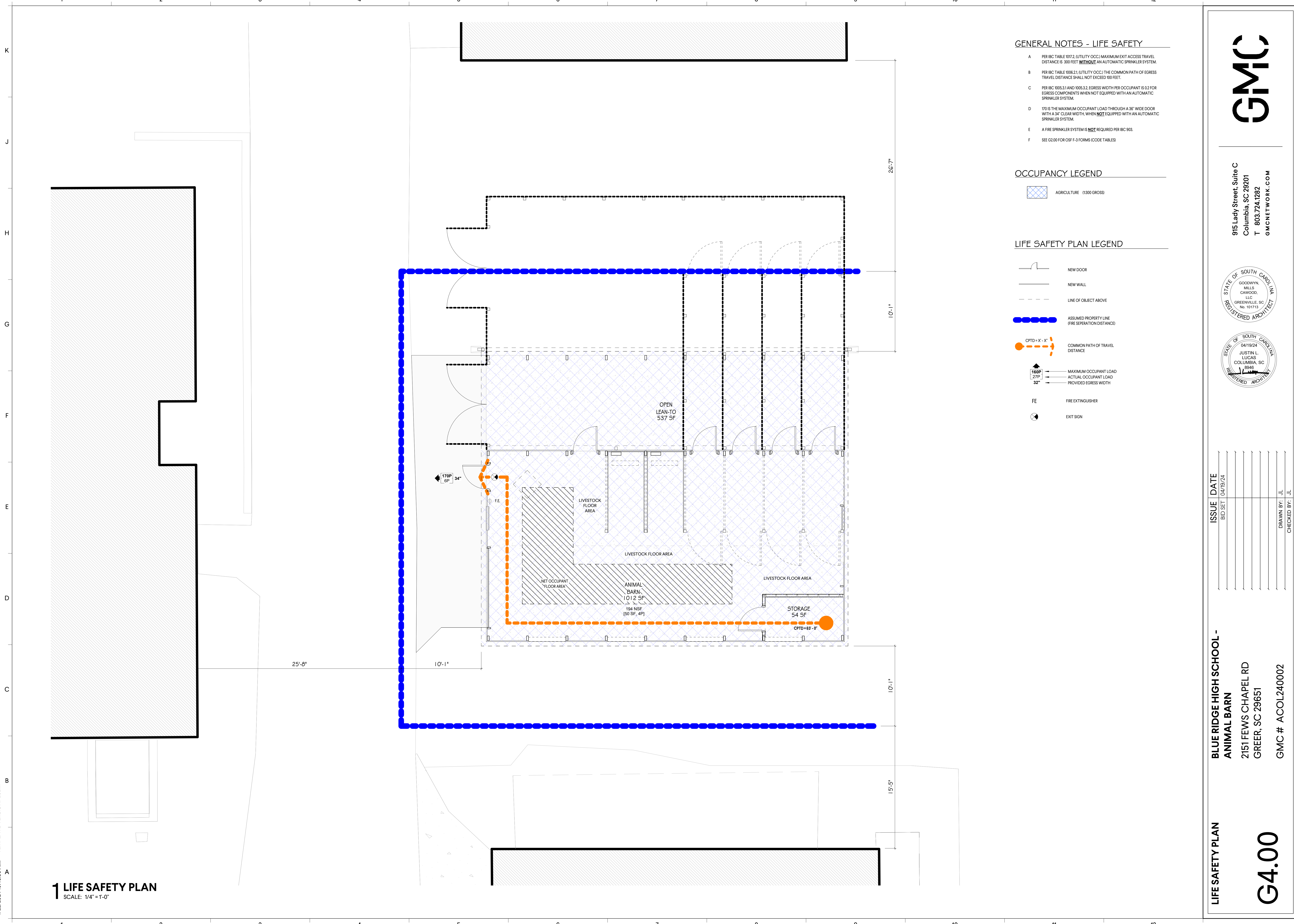
**LOCATION PLAN**  
**G3.00**

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# LIFE SAFETY PLAN

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



### GENERAL NOTES - LIFE SAFETY

- A PER IBC TABLE 1017.2 (UTILITY OCC.) MAXIMUM EXIT ACCESS TRAVEL DISTANCE IS 300 FEET WITHOUT AN AUTOMATIC SPRINKLER SYSTEM.
- B PER IBC TABLE 1006.2.1 (UTILITY OCC.) THE COMMON PATH OF EGRESS TRAVEL DISTANCE SHALL NOT EXCEED 100 FEET.
- C PER IBC 1005.1 AND 1005.3.2, EGRESS WIDTH PER OCCUPANT IS 0.2 FOR EGRESS COMPONENTS WHEN NOT EQUIPPED WITH AN AUTOMATIC SPRINKLER SYSTEM.
- D 170 IS THE MAXIMUM OCCUPANT LOAD THROUGH A 36" WIDE DOOR WITH A 34" CLEAR WIDTH WHEN NOT EQUIPPED WITH AN AUTOMATIC SPRINKLER SYSTEM.
- E A FIRE SPRINKLER SYSTEM IS NOT REQUIRED PER IBC 903.
- F SEE G2.00 FOR OSF F-3 FORMS (CODE TABLES)

### OCCUPANCY LEGEND

- AGRICULTURE (1300 GROSS)

### LIFE SAFETY PLAN LEGEND

- NEW DOOR
- NEW WALL
- LINE OF OBJECT ABOVE
- ASSUMED PROPERTY LINE (FIRE SEPARATION DISTANCE)
- COMMON PATH OF TRAVEL DISTANCE
- MAXIMUM OCCUPANT LOAD  
ACTUAL OCCUPANT LOAD  
PROVIDED EGRESS WIDTH
- FIRE EXTINGUISHER
- EXIT SIGN

LIFE SAFETY PLAN

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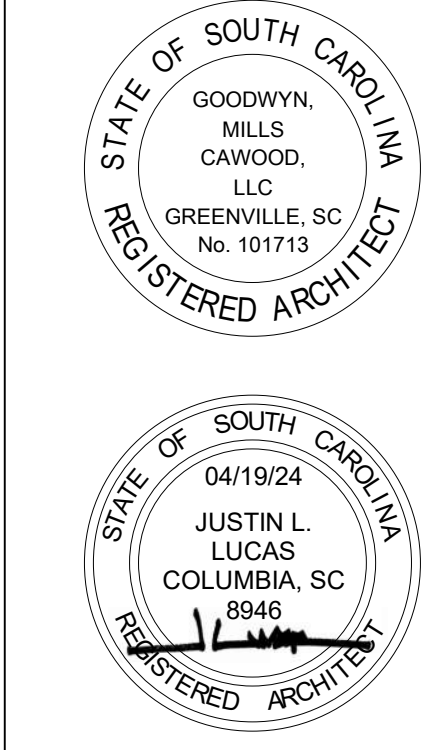
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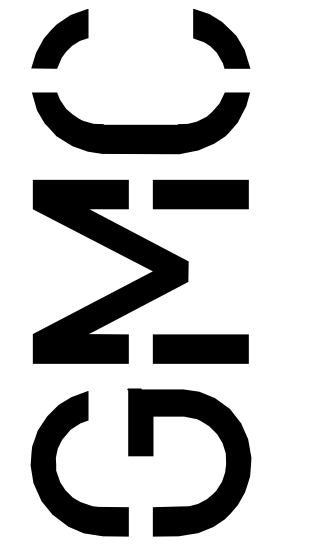
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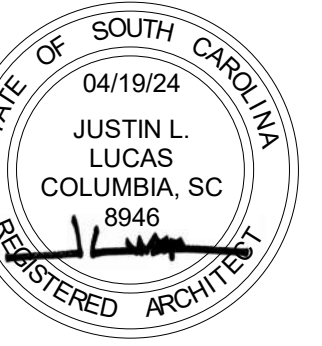




# GENERAL NOTES AND SPECIFICATIONS

# GMC

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GENERAL NOTES AND  
SPECIFICATIONS

## G5.00

## A DIVISION 1 - GENERAL REQUIREMENTS

1.01. **ALLOWANCE #1:** \$25,000 FOR A **PRE-MANUFACTURED BUILDING STRUCTURE:** THE MANUFACTURER OF THE STRUCTURE USED IN THE DESIGN OF THIS PROJECT IS "CARPORT CENTRAL". IF OFFEROR'S WOULD LIKE TO SUBMIT A SUBSTITUTE MANUFACTURER'S STRUCTURE TO REPLACE THE ONE USED IN DESIGN, THEN IT MUST BE SUBMITTED AS A PROPOSED SUBSTITUTE AND APPROVED BY GREENVILLE COUNTY SCHOOLS PRIOR TO THE INQUIRY DEADLINE (10 DAYS PRIOR TO BID OPENING).

1.02. **COMPLETE CONTRACT DOCUMENTS:** COMPLETE DRAWINGS, SPECIFICATIONS, ADDENDA, AND CLARIFICATIONS ISSUED BY FIELD ORDER OR SIMILAR INSTRUMENTS CONSTITUTE THE CONTRACT DOCUMENTS AND SHALL REMAIN INTACT. GENERAL CONTRACTOR IS FULLY RESPONSIBLE FOR COMPLIANCE WITH THE REQUIREMENTS INCLUDED, OR REASONABLY INFERRED THEREIN. CONSTRUCTION MANAGER OR GENERAL CONTRACTOR (AS APPLICABLE) MUST NOT ISSUE PARTIAL SETS OR OTHERWISE CAUSE INCOMPLETE CONTRACT INFORMATION TO BE PROVIDED TO PARTIES TO THE CONTRACT, INCLUDING ASSOCIATED SUB-CONTRACTORS, OR SUB-SUB-CONTRACTORS.

1.03. **MULTI-TRADE COORDINATION:** ALL WORK SHALL BE COORDINATED WITH THE WORK OF OTHER TRADES TO AVOID INTERFERENCES AND CONFLICTS. NO ALLOWANCES WILL BE MADE FOR CONTRACTOR'S FAILURE TO COORDINATE BETWEEN MULTIPLE DISCIPLINES, SYSTEMS OR EQUIPMENT. UNCOORDINATED WORK THAT RESULTS IN THE INEFFICIENT USE OF AVAILABLE SPACE AND/OR ENCROACHES ON THE WORK OF OTHER TRADES WILL BE SUBJECT TO REJECTION AND RE-INSTALLATION.

1.04. **VERIFICATION:** GENERAL CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS, CONSTRUCTION, MATERIALS, METHODS OF CONSTRUCTION, GRADES AND ELEVATIONS. NOTIFY THE ARCHITECT OF ANY DISCREPANCIES OR CONFLICTS WITHIN THE DOCUMENTS PRIOR TO BID, CONSTRUCTION, AND/OR INSTALLATION OF ASSOCIATED WORK. COMMENCEMENT OF WORK CONSTITUTES ACCEPTANCE THAT THE EXISTING CONDITIONS ARE CONSISTENT WITH THOSE OF THE CONTRACT DOCUMENTS. ANY CHANGE ORDER REQUEST ASSOCIATED WITH AN IDENTIFIABLE EXISTING CONDITION, WHETHER IN CONFLICT OR COMPLIANCE WITH THE CONTRACT DOCUMENTS, WILL NOT BE ACCEPTED. THIS PROVISION SHALL NOT APPLY TO WORK PERFORMED UNDER UNIT PRICE OR ALLOWANCE FEE STRUCTURES.

1.05. **DISCREPANCIES:** GENERAL CONTRACTOR SHALL NOTIFY THE ARCHITECT PROMPTLY UPON IDENTIFICATION OF ANY DISCREPANCIES OR CONFLICTS IN THE CONTRACT DOCUMENTS, WITH THE OBJECTIVE OF RESOLVING THE CONFLICT OR DISCREPANCY IN A TIMELY MANNER AND PRIOR TO ANY IMPACT TO CONTRACT TIME OR CONTRACT COST. GENERAL CONTRACTOR SHALL INCLUDE THE MORE EXPENSIVE, COMPLEX, AND TIME CONSUMING COMPONENTS OF ANY DISCREPANCIES IN THE BASE BID PRICE. FAILURE TO NOTIFY THE ARCHITECT PROMPTLY OF A KNOWN DISCREPANCY CONSTITUTES ACCEPTANCE OF FULL RESPONSIBILITY FOR THE ASSOCIATED COST AND SCHEDULE IMPACT.

1.06. **DRAWING SCALE:** REPROGRAPHIC TECHNIQUES MAY RENDER DRAWINGS DIFFERENTLY THAN THE INTENDED PRINTED SCALE. THEREFORE, DO NOT RELY UPON THE SCALE OF ANY PRINTED DRAWINGS. CONTACT THE ARCHITECT FOR REQUIRED DIMENSIONS THAT ARE NOT PROVIDED CLEARLY IN NUMERIC FORM HEREIN. FAILURE TO REQUEST CRITICAL DIMENSIONAL INFORMATION FROM THE ARCHITECT MAY RESULT IN THE REJECTION OF INSTALLED WORK.

1.07. **DIMENSIONAL STANDARDS:** STANDARD DIMENSION CONVENTIONS UTILIZED HEREIN CALL FOR DIMENSIONS TO FACE OF STUD (MASONRY) OF FINISHED PARTITION, FACE OF FINISH, OR CENTERLINE OF COLUMN LINE OR OTHER REFERENCE LINE, UNLESS OTHERWISE NOTED OR GRAPHICALLY ILLUSTRATED. DIMENSIONS NOTED AS "CLEAR", "MIN", OR "MAX" SHALL BE STRICTLY ENFORCED.

1.08. **PERMITTING:** THE GENERAL CONTRACTOR SHALL SECURE AND PAY FOR ALL NECESSARY AND REQUIRED PERMITS AND APPROVALS FROM JURISDICTIONAL AUTHORITIES, PRIOR TO COMMENCING THE WORK. THIS REQUIREMENT SHALL APPLY TO ON-SITE AND OFF-SITE WORK REQUIRED BY THE CONTRACT DOCUMENTS.

1.09. **CODE COMPLIANCE:** THE WORK SHALL BE PERFORMED IN STRICT COMPLIANCE WITH ALL APPLICABLE LAWS, CODES, AND ORDINANCE. THE GENERAL CONTRACTOR AND SUB-CONTRACTORS SHALL PERFORM THEIR WORK IN COMPLIANCE WITH ALL APPLICABLE BUILDING CODES, LAWS, REGULATIONS, AND ORDINANCES. GENERAL CONTRACTOR AND ALL SUB-CONTRACTORS SHALL CAREFULLY READ AND FAMILIARIZE THEMSELVES WITH THE CODE COMPLIANCE DATA INCLUDED IN THE DRAWINGS AND SPECIFICATIONS.

1.10. **LIFE-SAFETY MEASURES DURING CONSTRUCTION:** THE GENERAL CONTRACTOR SHALL COMPLY WITH ALL REQUIREMENTS REQUIRED BY OSHA, CODE, AND OTHER APPLICABLE REGULATORY AUTHORITIES.

1.11. **MEANS OF EGRESS:** THE GENERAL CONTRACTOR SHALL MAINTAIN CLEAR AND UNOBSTRUCTED MEANS OF EGRESS AT ALL TIMES DURING CONSTRUCTION, WITHOUT EXCEPTION.

1.12. **CONSTRUCTION LOADS:** THE GENERAL CONTRACTOR SHALL NEVER LOAD NEW OR EXISTING CONSTRUCTION BEYOND ITS DESIGN CAPACITY WITH STORED MATERIAL, CONSTRUCTION EQUIPMENT, TEMPORARY LOADS ASSOCIATED WITH MATERIAL MOVEMENT, HOISTING, STORAGE, OR SIMILAR CONDITIONS.

1.13. **GENERAL CLEAN-UP:** THE GENERAL CONTRACTOR SHALL INCLUDE ONGOING CLEAN-UP OF THE PROPERTY AND BUILDING, INCLUDING REMOVAL OF TRASH AND WASTE MATERIALS, ON A REGULAR BASIS DURING CONSTRUCTION. RECYCLING OF CONSTRUCTION WASTE IS ENCOURAGED.

1.14. **PROTECTION:** EXISTING SITE AMENITIES AND BUILDINGS TO REMAIN AFTER CONSTRUCTION SHALL BE PROTECTED DURING CONSTRUCTION ACTIVITIES. PROTECTION SHALL ENCOMPASS CONSTRUCTION OF TEMPORARY BARRIERS AND PHYSICAL PROTECTION OF WORK TO REMAIN THAT IS SUBJECT TO DAMAGE FROM CONSTRUCTION ACTIVITIES. THE GENERAL CONTRACTOR SHALL REPAIR OR REPLACE EXISTING WORK SCHEDULED TO REMAIN, THAT IS DAMAGED DURING CONSTRUCTION DUE TO INSUFFICIENT PROTECTION.

1.15. **SERVICE INTERRUPTION:** ANY SERVICE INTERRUPTION MUST BE SCHEDULED IN ADVANCE WITH THE OWNER'S AUTHORIZED REPRESENTATIVE. WHETHER SUCH INTERRUPTION IS FOR ADDITION, MODIFICATION, OR TESTING OF ANY EXISTING SERVICE, THE CONTRACTOR SHALL TAKE EVERY PRECAUTION TO MINIMIZE INTERRUPTION TO THE EXISTING FACILITY.

1.16. **SUBMITTAL PROCEDURES:** FOR ALL PRODUCTS LISTED IN THE CONTRACT DOCUMENTS, THE GENERAL CONTRACTOR MUST PROVIDE A COMPREHENSIVE SUBMITTAL, INCLUDING BUT NOT LIMITED TO PRODUCT DATA, WARRANTY INFORMATION, SHOP DRAWINGS, SAMPLES, ETC.

1.17. **EXECUTION:** THE GENERAL CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE CODES AND REGULATIONS, THE CONTRACT DOCUMENTS, AND STANDARD MANUFACTURER INSTALLATION REQUIREMENTS FOR ALL BUILDING ELEMENTS AND SYSTEMS, UNLESS NOTED OTHERWISE.

1.18. **FINAL CLEANING:** GENERAL CONTRACTOR IS REQUIRED TO CLEAN ALL AREAS AND SURFACES AFFECTED BY THE WORK, BOTH NEW AND EXISTING.

1.19. **CLOSEOUT DOCUMENTS:** PRIOR TO COMPLETION OF THE PROJECT, THE GENERAL CONTRACTOR MUST PROVIDE COMPREHENSIVE CLOSEOUT DOCUMENTS PER THE OWNER'S STANDARD REQUIREMENTS, INCLUDING BUT NOT LIMITED TO AS-BUILT DRAWINGS, O&M MANUALS, WARRANTY INFORMATION, AND ANY OTHER INFORMATION REQUIRED BY THE OWNER.

## B DIVISION 2 - EXISTING CONDITIONS

2.01. **POSITIVE DRAINAGE AT BUILDING:** SLOPE EXTERIOR GRADE AWAY FROM THE BUILDING IN ACCORDANCE WITH THE INTERNATIONAL BUILDING CODE.

## C DIVISION 3 - CONCRETE

3.01. **CONCRETE SPECIFICATIONS AND NOTES:** SEE STRUCTURAL DRAWINGS.

## D DIVISION 6 - WOOD, PLASTICS & COMPOSITES

6.01. **WOOD IN CONTACT WITH CONCRETE:** ALL WOOD IN CONTACT WITH THE CONCRETE FLOOR SLAB SHALL BE PRESSURE TREATED [PT].

## E DIVISION 7 - THERMAL & MOISTURE PROTECTION

7.01. **GENERAL SEALANTS:** CONTINUOUSLY SEAL PERIMETER OF ALL DOOR, WINDOW FRAMES, AND SIMILAR FIXED CONSTRUCTION WITH LATEX SEALANT.

7.02. **BUILDING ENVELOPE:** WITH ALL NEW WORK AND ANY PENETRATIONS OR PATCHING, THE GENERAL CONTRACTOR MUST MAINTAIN A CONTINUOUS AND WATER-TIGHT BARRIER. WHERE PATCHING OR REPAIR IS REQUIRED, MATCH EXISTING SYSTEMS AND ASSEMBLIES.

7.03. **GUTTER AND DOWNSPOUTS:** GUTTER AND PAIR OF DOWNSPOUTS WITH SPLASH PADS BY GENERAL CONTRACTOR

## F DIVISION 8 - OPENINGS

8.01. **OPENINGS:** IT IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO PROVIDE ALL DOORS AND APPROPRIATE HARDWARE AS WELL AS COORDINATE DIMENSIONS AND INSTALLATION WITH THE PRE-ENGINEERED BUILDING SUPPLIER FOR THE FOLLOWING OPENINGS (GC TO COORDINATE KEYING WITH SCHOOL DISTRICT):

- (1) 3'-0" X 7'-0" INTERIOR DOOR
- (4) 3'-0" X 7'-0" EXTERIOR DUTCH / EQUINE DOOR WITH LATCHING TOP AND BOTTOM PANEL. BY G.C.
- (4) 4'-8" WIDE X 2'-0" TALL EXTERIOR FRAMED OPENINGS FOR STOREFRONT WINDOWS BY GENERAL CONTRACTOR
- AUTOMATIC OPENER OPENER FOR GARAGE DOOR BY GENERAL CONTRACTOR

ALL OTHER OPENINGS SHALL BE PROVIDED BY THE PREMANUFACTURED BUILDING SUPPLIER AS NOTED BELOW.

## G DIVISION 9 - FINISHES

9.01. **INTERIOR PAINTING:** PROVIDE SURFACE PREPARATION AND APPLICATION OF PAINT SYSTEMS ON THE FOLLOWING SUBSTRATES: WOOD. MANUFACTURER'S BY ONE OF THE FOLLOWING: SHERWIN WILLIAMS, BENJAMINE MOORE & CO., PPG ARCHITECTURAL FINISHES, INC., OR EQUAL.

ALL INTERIOR CMU SURFACES SHALL BE PAINTED. ALL CONCRETE FLOORS SHALL BE SEALED.

**PAINT SCHEDULE:** (INSTALL LAYERS OF COATS PER MANUFACTURER RECOMMENDATIONS PER SUBSTRATE)  
**FLOOR COATINGS:**

- SEALER, WATER BASED, FOR CONCRETE FLOORS: MPI #99
- SHERWIN WILLIAMS H4C WET LOOK SEALER.
- SEALED CONCRETE FLOORS MUST MEET ADA SLIP-RESISTANCE REQUIREMENTS.

**PAINT COLOR:** ON ALL WOOD SURFACES, PROVIDE SW 7064 PASSIVE.

## H DIVISION 10 - SPECIALTIES

10.01. **PREMANUFACTURED BUILDING STRUCTURE:** PREMANUFACTURED BUILDING SHELTER SHALL BE A DELEGATED DESIGN SUBMITTAL STAMPED BY A LICENSED STRUCTURAL ENGINEER IN SOUTH CAROLINA. THE PREMANUFACTURED BUILDING PROVIDER SHALL BE RESPONSIBLE FOR THE STRUCTURE, CLADDING, ROOF, INSULATION, OPENINGS, AND ALL ASSOCIATED WORK TO PROVIDE A WEATHER TIGHT AND STRUCTURALLY SOUND COMPLETE BUILDING STRUCTURE AS OUTLINED IN THE DRAWINGS. BASIS OF DESIGN IS "CARPORT CENTRAL". SEE BELOW FOR ADDITIONAL (MINIMUM) REQUIREMENTS:

- ALUMINUM TUBE FRAME STRUCTURE SET AT 5'-0" O.C. BAY SPACING
- METAL PANEL SIDING AND ROOF CLADDING MATERIAL
- 12'-0" WIDE OPEN LEAN-TO AREA
- R-7 INSULATION ON WALLS AND CEILING
- (2) 3'-0" X 7'-0" EXTERIOR DOORS WITH VISION PANEL
- (1) 10X10 GARAGE DOORS (AUTOMATIC OPENER PROVIDED AND INSTALLED BY G.C.)
- FRAMED ROUGH OPENINGS FOR (4) 3'-0" X 7'-0" DOORS TO BE PROVIDED BY G.C.
- FRAMED ROUGH OPENINGS FOR (4) 4'-8" WIDE X 2'-0" TALL OPENINGS FOR STOREFRONT WINDOWS BY G.C.

SEE DRAWINGS FOR ADDITIONAL REQUIREMENTS.

SEE STRUCTURAL FOR DESIGN CRITERIA

10.02. **FIRE EXTINGUISHER:** PROVIDE FIRE EXTINGUISHERS WHERE INDICATED ON THE DRAWINGS

10.03. **WOOD STORAGE SHELVING:** PROVIDE PALMETTO SHELVING, OR EQUAL WHERE INDICATED ON PLANS. CUSTOM WOOD SHELVING 2 FEET DEEP, 6 FEET TALL, W/ 5 SHELVES.

## I DIVISION 22 - PLUMBING

22.01. **PLUMBING:** SEE PLUMBING DRAWINGS FOR PLUMBING DETAILS AND SPECIFICATIONS.

## J DIVISION 23 - HVAC

23.01. **HVAC:** SEE MECHANICAL DRAWINGS FOR MECHANICAL DETAILS AND SPECIFICATIONS.

## K DIVISION 26 - ELECTRICAL

26.01. **ELECTRICAL:** SEE ELECTRICAL DRAWINGS FOR MECHANICAL DETAILS AND SPECIFICATIONS.

26.02. **INTERCOM:** G.C. TO PROVIDE AND INSTALL INTERCOM SPEAKER AND CONNECT TO SCHOOL SYSTEM.

## L DIVISION 32 - EXTERIOR IMPROVEMENTS

32.01. **FENCE AND GATES:** PROVIDE FENCES AND GATES AS NOTED ON THE DRAWINGS.

**SAFETY NOTICE TO CONTRACTOR:**

IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, THE CONTRACTOR SHALL BE SOLELY AND COMPLETELY RESPONSIBLE FOR CONDITIONS OF THE JOB SITE, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY DURING PERFORMANCE OF THE WORK. THIS REQUIREMENT WILL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS. ANY CONSTRUCTION OBSERVATION BY THE ENGINEER OF THE CONTRACTOR'S PERFORMANCE IS NOT INTENDED TO INCLUDE REVIEW OF THE ADEQUACY OF THE CONTRACTOR'S SAFETY MEASURES, IN, ON OR NEAR THE CONSTRUCTION SITE.

**WARRANTY/DISCLAIMER:**

THE DESIGNS REPRESENTED IN THESE PLANS ARE IN ACCORDANCE WITH ESTABLISHED PRACTICES OF CIVIL ENGINEERING FOR THE DESIGN FUNCTIONS AND USES INTENDED BY THE OWNER AT THIS TIME. HOWEVER, NEITHER THE ENGINEER NOR ITS PERSONNEL CAN OR DO WARRANT THESE DESIGNS OR PLANS AS CONSTRUCTED EXCEPT IN THE SPECIFIC CASES WHERE THE ENGINEER INSPECTS AND CONTROLS THE PHYSICAL CONSTRUCTION ON A CONTEMPORARY BASIS AT THE SITE.

**AGENCY AND UTILITY CONTACTS**

**LOCAL ZONING OFFICE**

GREENVILLE COUNTY  
ZONING ADMINISTRATION  
301 UNIVERSITY RIDGE  
GREENVILLE, SC 29601  
PH: (864) 467-7425

**WATER & SEWER**

SPARTANBURG WATER  
175 NORTH LIBERTY STREET  
SPARTANBURG, SC 29304  
PH: 864-580-5681

**FIRE DEPARTMENT**

LAKE CUNNINGHAM FD  
3970 PENNINGTON ROAD  
GREER, SC 29651  
PH: (864) 895-4630

**ELECTRIC**

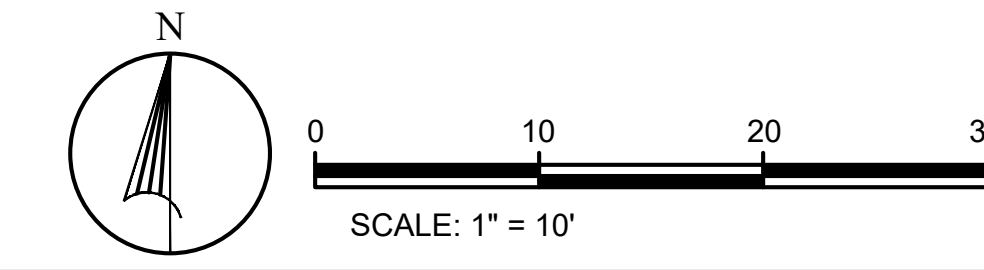
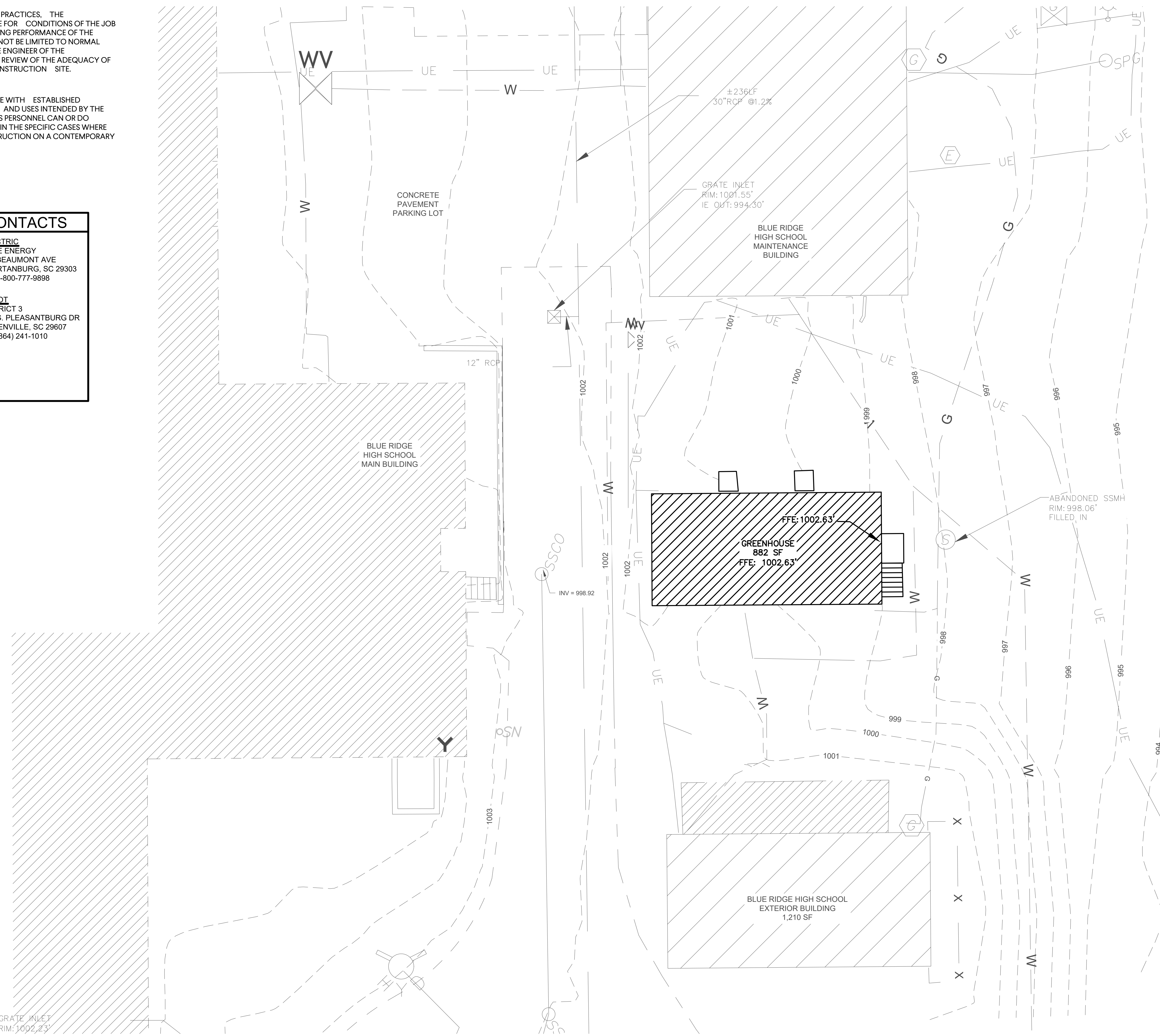
DUKE ENERGY  
915 BEAUMONT AVE  
SPARTANBURG, SC 29303  
PH: 1-800-777-9898

**SCDOT**

DISTRICT 3  
252 S. PLEASANTBURG DR  
GREENVILLE, SC 29607  
PH: (864) 241-1010

**NOTES**

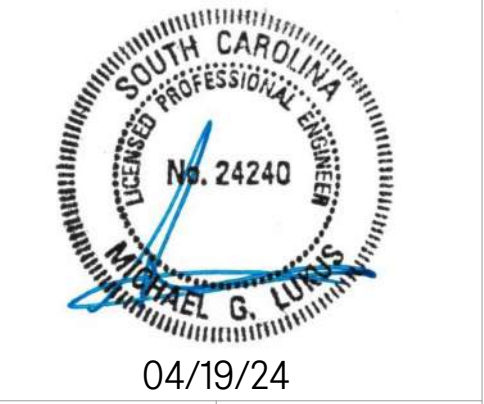
- ALL TOPOGRAPHY TO BE VERIFIED PRIOR TO CONSTRUCTION
- THIS PROPERTY DOES NOT LIE IN A 100-YEAR FLOODPLAIN OR IN AN IDENTIFIED "FLOOD PRONE AREA", AS DEFINED PURSUANT TO THE FLOOD DISASTER PROTECTION ACT OF 1973, AS AMENDED, AS REFLECTED BY FLOOD INSURANCE RATE MAP PANEL45045C0241D, DATED 12/2/2004.




117 Welborn St.  
Greenville, SC 29601  
T 864.527.0460

ISSUE	DATE
BID SET	04-19-24

PROJECT MANAGER: MGL  
DESIGNER: DBK



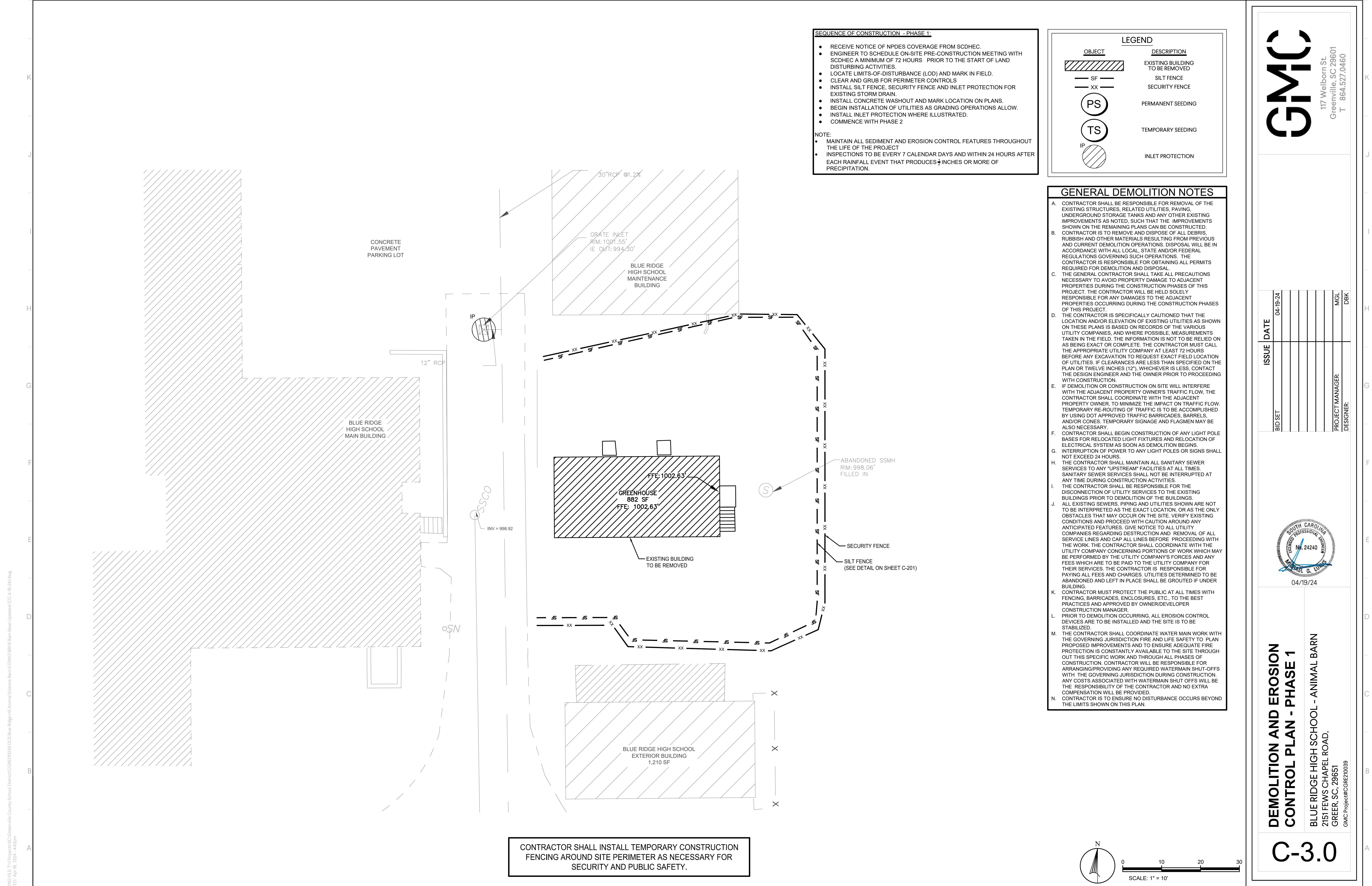
**EXISTING CONDITIONS**

BLUE RIDGE HIGH SCHOOL - ANIMAL BARN  
2151 FEWS CHAPEL ROAD,  
GREER, SC, 29651  
GMC Project#CGR210039

**C-2.0**

DRAWING FILE: T:\Projects\2024\CGR210039\CGR210039.dwg; Project: Blue Ridge HS Animal Barn; User: MGL; Date: 04/19/24; Scale: 1"=10'; Plot Date: 04/19/24; Plot Time: 4:49pm





- SEQUENCE OF CONSTRUCTION - PHASE 1:**
- RECEIVE NOTICE OF NPDES COVERAGE FROM SCDHEC.
  - ENGINEER TO SCHEDULE ON-SITE PRE-CONSTRUCTION MEETING WITH SCDHEC A MINIMUM OF 72 HOURS PRIOR TO THE START OF LAND DISTURBING ACTIVITIES.
  - LOCATE LIMITS-OF-DISTURBANCE (LOD) AND MARK IN FIELD.
  - CLEAR AND GRUB FOR PERIMETER CONTROLS
  - INSTALL SILT FENCE, SECURITY FENCE AND INLET PROTECTION FOR EXISTING STORM DRAIN.
  - INSTALL CONCRETE WASHOUT AND MARK LOCATION ON PLANS.
  - BEGIN INSTALLATION OF UTILITIES AS GRADING OPERATIONS ALLOW.
  - INSTALL INLET PROTECTION WHERE ILLUSTRATED.
  - COMMENCE WITH PHASE 2
- NOTE:**
- MAINTAIN ALL SEDIMENT AND EROSION CONTROL FEATURES THROUGHOUT THE LIFE OF THE PROJECT
  - INSPECTIONS TO BE EVERY 7 CALENDAR DAYS AND WITHIN 24 HOURS AFTER EACH RAINFALL EVENT THAT PRODUCES 1/4 INCHES OR MORE OF PRECIPITATION.

**LEGEND**

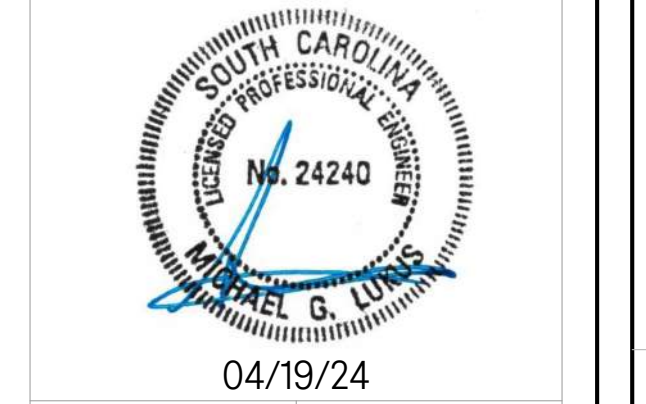
OBJECT	DESCRIPTION
	EXISTING BUILDING TO BE REMOVED
	SILT FENCE
	SECURITY FENCE
	PERMANENT SEEDING
	TEMPORARY SEEDING
	INLET PROTECTION

- GENERAL DEMOLITION NOTES**
- CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL OF THE EXISTING STRUCTURES, RELATED UTILITIES, PAVING, UNDERGROUND STORAGE TANKS AND ANY OTHER EXISTING IMPROVEMENTS AS NOTED, SUCH THAT THE IMPROVEMENTS SHOWN ON THE REMAINING PLANS CAN BE CONSTRUCTED.
  - CONTRACTOR IS TO REMOVE AND DISPOSE OF ALL DEBRIS, RUBBISH AND OTHER MATERIALS RESULTING FROM PREVIOUS AND CURRENT DEMOLITION OPERATIONS. DISPOSAL WILL BE IN ACCORDANCE WITH ALL LOCAL, STATE AND/OR FEDERAL REGULATIONS GOVERNING SUCH OPERATIONS. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL PERMITS REQUIRED FOR DEMOLITION AND DISPOSAL.
  - THE GENERAL CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO AVOID PROPERTY DAMAGE TO ADJACENT PROPERTIES DURING THE CONSTRUCTION PHASES OF THIS PROJECT. THE CONTRACTOR WILL BE HELD SOLELY RESPONSIBLE FOR ANY DAMAGES TO THE ADJACENT PROPERTIES OCCURRING DURING THE CONSTRUCTION PHASES OF THIS PROJECT.
  - THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON THE RECORDS OF THE VARIOUS UTILITY COMPANIES, AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANY AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IF CLEARANCES ARE LESS THAN SPECIFIED ON THE PLAN OR TWELVE INCHES (12"), WHICHEVER IS LESS, CONTACT THE DESIGN ENGINEER AND THE OWNER PRIOR TO PROCEEDING WITH CONSTRUCTION.
  - IF DEMOLITION OR CONSTRUCTION ON SITE WILL INTERFERE WITH THE ADJACENT PROPERTY OWNER'S TRAFFIC FLOW, THE CONTRACTOR SHALL COORDINATE WITH THE ADJACENT PROPERTY OWNER, TO MINIMIZE THE IMPACT ON TRAFFIC FLOW. TEMPORARY RE-ROUTING OF TRAFFIC IS TO BE ACCOMPLISHED BY USING DOT APPROVED TRAFFIC BARRICADES, BARRELS, AND/OR CONES. TEMPORARY SIGNAGE AND FLAGMEN MAY BE ALSO NECESSARY.
  - CONTRACTOR SHALL BEGIN CONSTRUCTION OF ANY LIGHT POLE BASES FOR RELOCATED LIGHT FIXTURES AND RELOCATION OF ELECTRICAL SYSTEM AS SOON AS DEMOLITION BEGINS.
  - INTERRUPTION OF POWER TO ANY LIGHT POLES OR SIGNS SHALL NOT EXCEED 24 HOURS.
  - THE CONTRACTOR SHALL MAINTAIN ALL SANITARY SEWER SERVICES TO ANY "UPSTREAM" FACILITIES AT ALL TIMES. SANITARY SEWER SERVICES SHALL NOT BE INTERRUPTED AT ANY TIME DURING CONSTRUCTION ACTIVITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DISCONNECTION OF UTILITY SERVICES TO THE EXISTING BUILDINGS PRIOR TO DEMOLITION OF THE BUILDINGS.
  - ALL EXISTING SEWERS, PIPING AND UTILITIES SHOWN ARE NOT TO BE INTERPRETED AS THE EXACT LOCATION, OR AS THE ONLY OBSTACLES THAT MAY OCCUR ON THE SITE. VERIFY EXISTING CONDITIONS AND PROCEED WITH CAUTION AROUND ANY ANTICIPATED FEATURES. GIVE NOTICE TO ALL UTILITY COMPANIES REGARDING DESTRUCTION AND REMOVAL OF ALL SERVICE LINES AND CAP ALL LINES BEFORE PROCEEDING WITH THE WORK. THE CONTRACTOR SHALL COORDINATE WITH THE UTILITY COMPANY CONCERNING PORTIONS OF WORK WHICH MAY BE PERFORMED BY THE UTILITY COMPANY'S FORCES AND ANY FEES WHICH ARE TO BE PAID TO THE UTILITY COMPANY FOR THEIR SERVICES. THE CONTRACTOR IS RESPONSIBLE FOR PAYING ALL FEES AND CHARGES. UTILITIES DETERMINED TO BE ABANDONED AND LEFT IN PLACE SHALL BE GROUTED IF UNDER BUILDING.
  - CONTRACTOR MUST PROTECT THE PUBLIC AT ALL TIMES WITH FENCING, BARRICADES, ENCLOSURES, ETC., TO THE BEST PRACTICES AND APPROVED BY OWNER/DEVELOPER CONSTRUCTION MANAGER.
  - PRIOR TO DEMOLITION OCCURRING, ALL EROSION CONTROL DEVICES ARE TO BE INSTALLED AND THE SITE IS TO BE STABILIZED.
  - THE CONTRACTOR SHALL COORDINATE WATER MAIN WORK WITH THE GOVERNING JURISDICTION FIRE AND LIFE SAFETY TO PLAN PROPOSED IMPROVEMENTS AND TO ENSURE ADEQUATE FIRE PROTECTION IS CONSTANTLY AVAILABLE TO THE SITE THROUGHOUT THIS SPECIFIC WORK AND THROUGH ALL PHASES OF CONSTRUCTION. CONTRACTOR WILL BE RESPONSIBLE FOR ARRANGING/PROVIDING ANY REQUIRED WATERMAIN SHUT-OFFS WITH THE GOVERNING JURISDICTION DURING CONSTRUCTION. ANY COSTS ASSOCIATED WITH WATERMAIN SHUT-OFFS WILL BE THE RESPONSIBILITY OF THE CONTRACTOR AND NO EXTRA COMPENSATION WILL BE PROVIDED.
  - CONTRACTOR IS TO ENSURE NO DISTURBANCE OCCURS BEYOND THE LIMITS SHOWN ON THIS PLAN.



ISSUE	DATE	BY	REVISION
BID SET	04-19-24		

PROJECT MANAGER: MGL  
DESIGNER: DBK

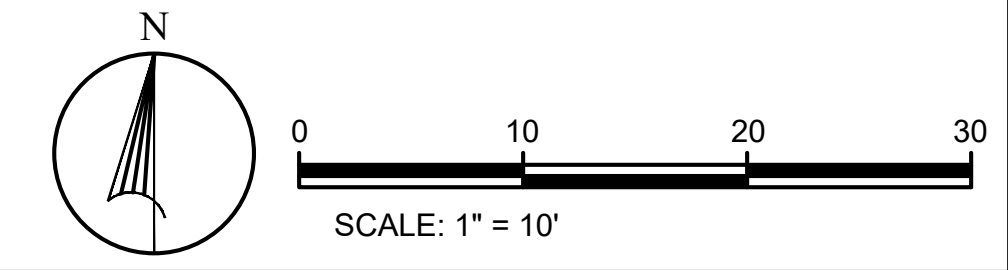


**DEMOLITION AND EROSION CONTROL PLAN - PHASE 1**

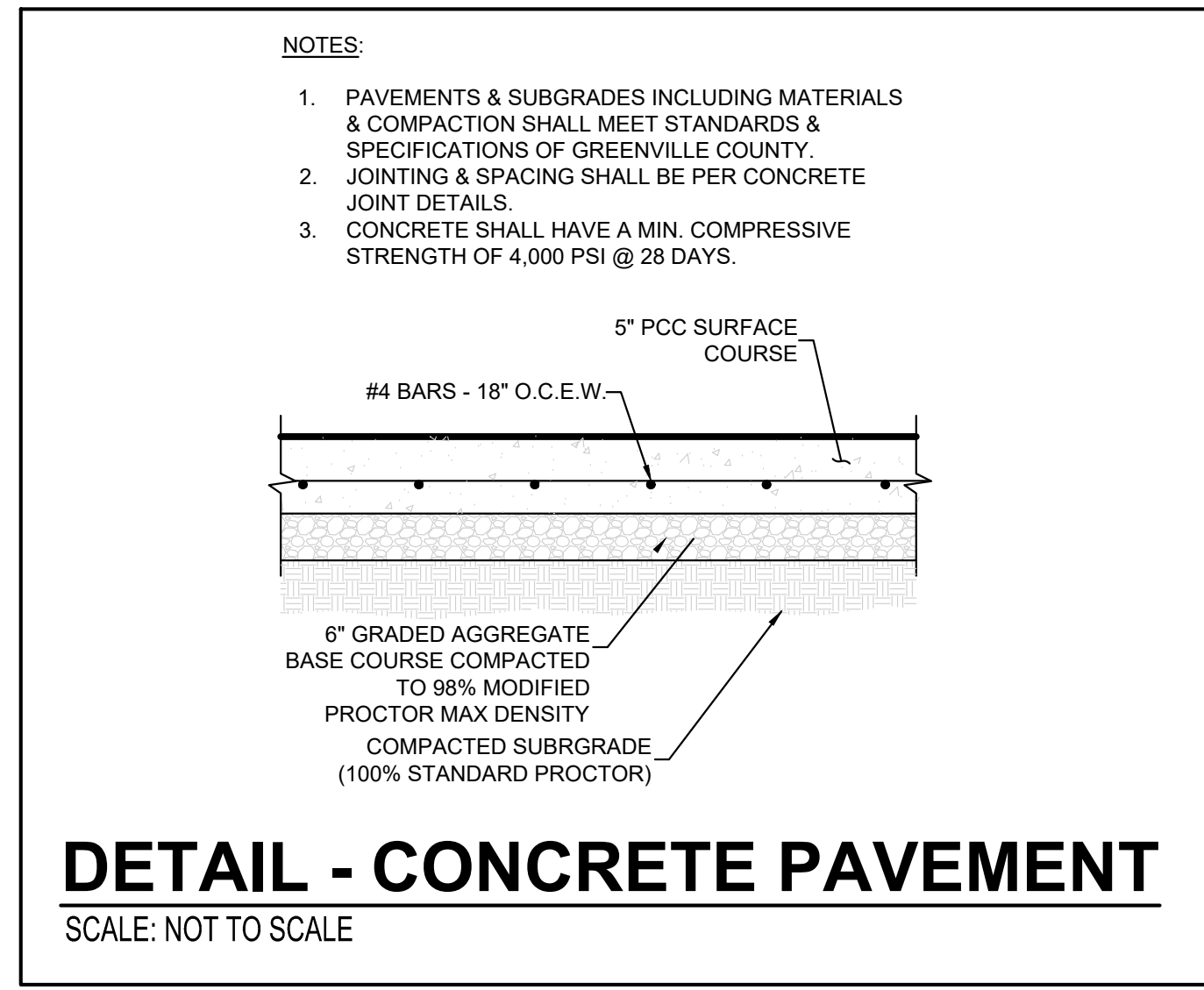
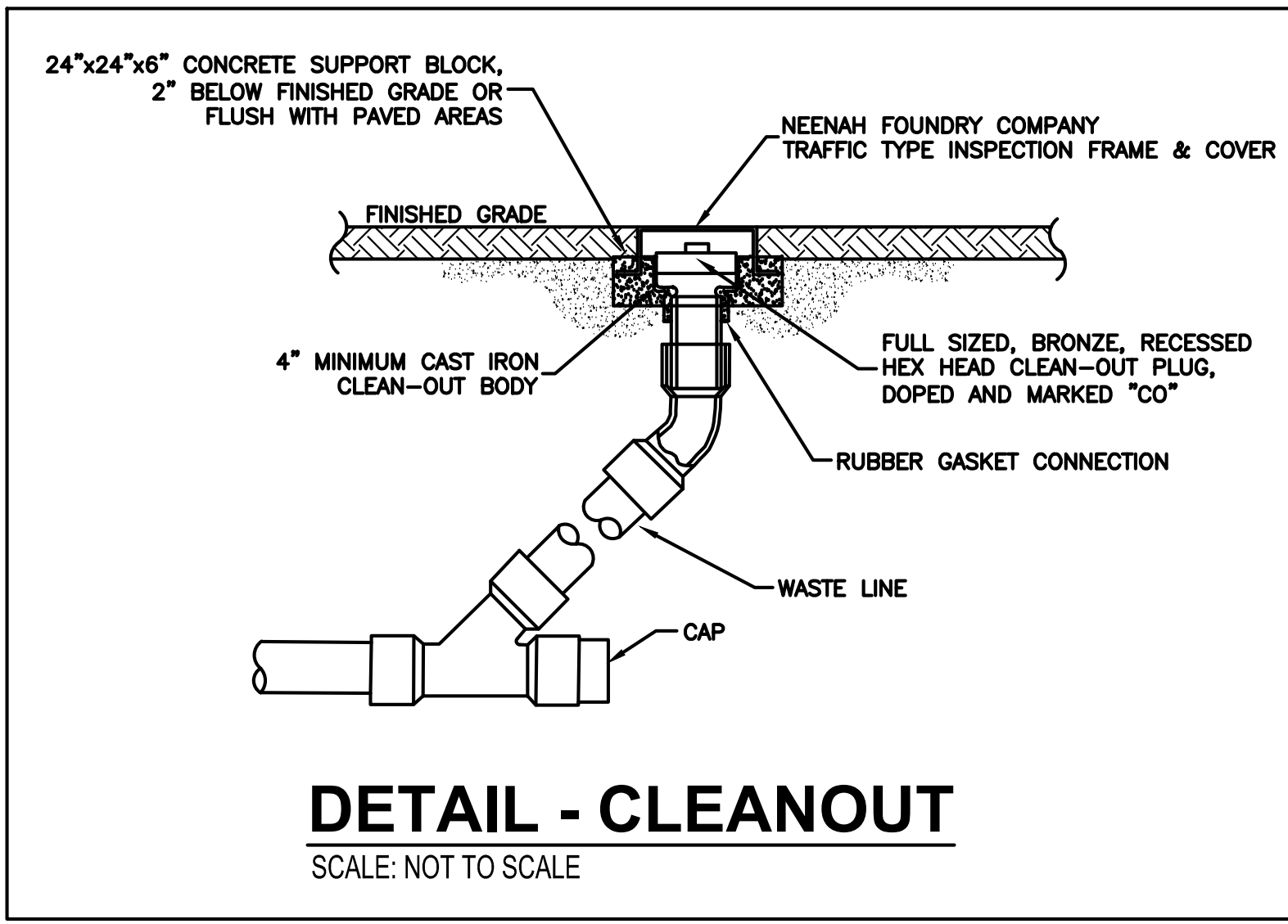
BLUE RIDGE HIGH SCHOOL - ANIMAL BARN  
2151 FEWS CHAPEL ROAD,  
GREER, SC, 29651  
GMC Project#CGR210039

C-3.0

CONTRACTOR SHALL INSTALL TEMPORARY CONSTRUCTION FENCING AROUND SITE PERIMETER AS NECESSARY FOR SECURITY AND PUBLIC SAFETY.







**NOTES**

1. ALL WORK AND MATERIALS SHALL COMPLY WITH ALL CITY/COUNTY REGULATIONS AND CODES, O.S.H.A. STANDARDS, AND OSF REQUIREMENTS
2. CONTRACTOR SHALL REFER TO THE ARCHITECTURAL PLANS FOR EXACT LOCATIONS AND DIMENSIONS OF VESTIBULES, SLOPE PAVING, SIDEWALKS, EXIT PORCHES, TRUCK DOCKS, PRECISE BUILDING DIMENSIONS AND EXACT BUILDING UTILITY ENTRANCE LOCATIONS.
3. ALL DISTURBED AREAS ARE TO RECEIVE FOUR INCHES OF TOPSOIL, SEED, MULCH AND WATER UNTIL A HEALTHY STAND OF GRASS IS ESTABLISHED.
4. EXISTING STRUCTURES WITHIN CONSTRUCTION LIMITS ARE TO BE ABANDONED, REMOVED OR RELOCATED AS NECESSARY. ALL COST SHALL BE INCLUDED IN BASE BID.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL RELOCATIONS, INCLUDING BUT NOT LIMITED TO, ALL UTILITIES, STORM DRAINAGE, SIGNS, ETC. AS REQUIRED. ALL WORK SHALL BE IN ACCORDANCE WITH GOVERNING AUTHORITIES' SPECIFICATIONS AND SHALL BE APPROVED BY SUCH. ALL COST SHALL BE INCLUDED IN BASE BID.
6. REFER TO ARCHITECTURAL PLANS FOR SITE LIGHTING ELECTRICAL PLAN.
7. ALL BOUNDARY AND TOPOGRAPHICAL INFORMATION SHOWN WAS TAKEN FROM A SURVEY BY ATLAS SURVEYING, INC., DATED 03/12/2021.
8. THIS PROPERTY DOES NOT LIE IN A 100-YEAR FLOODPLAIN OR IN AN IDENTIFIED "FLOOD PRONE AREA", AS DEFINED PURSUANT TO THE FLOOD DISASTER PROTECTION ACT OF 1973, AS AMENDED, AS REFLECTED BY FLOOD INSURANCE RATE MAP PANEL45045C0241D, DATED 12/2/2004.

**LEGEND**

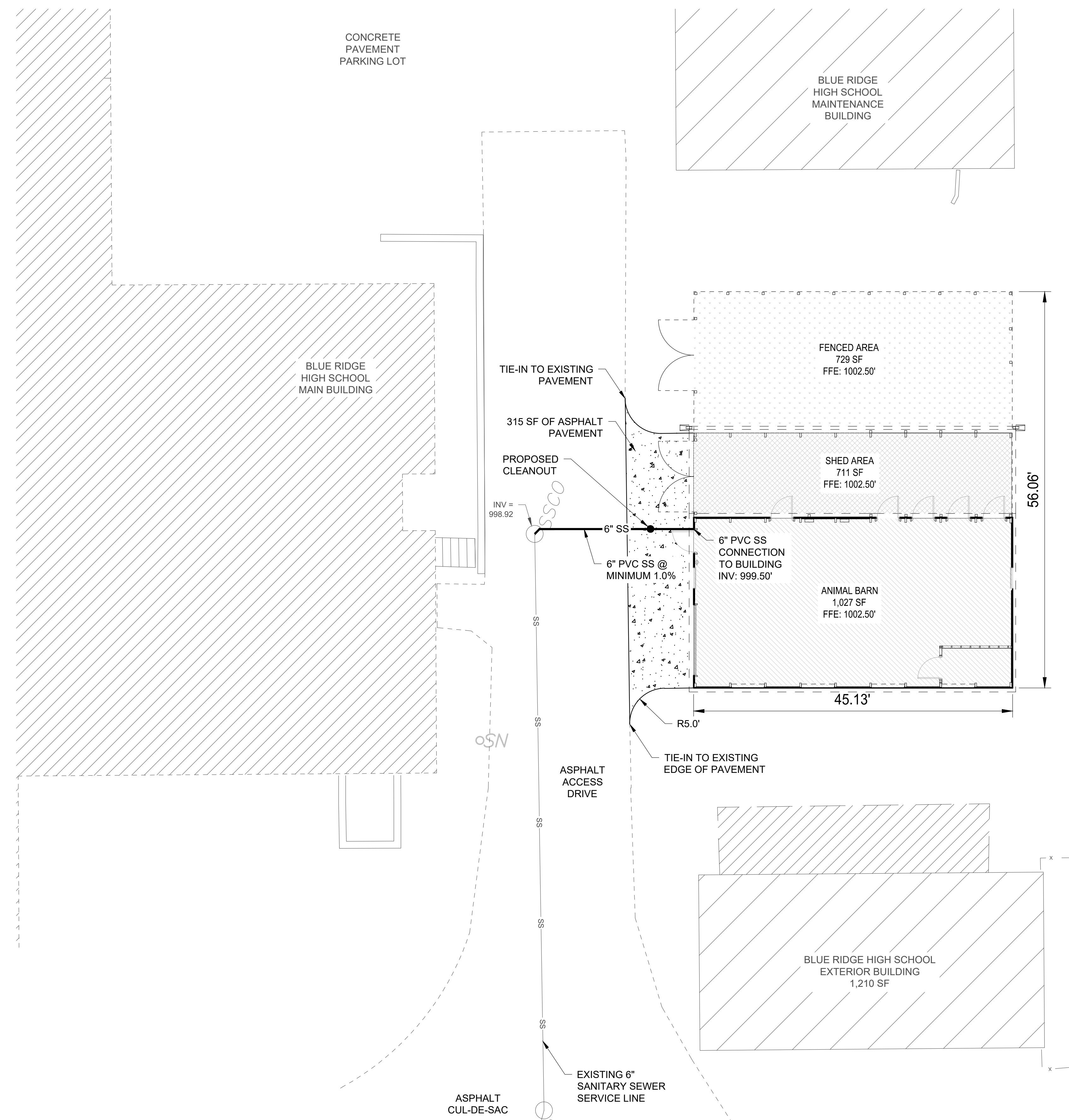
EXISTING	PROPOSED	DESCRIPTION
---	---	EDGE OF PAVEMENT
SS	6" SS	18" CONCRETE CURB & GUTTER
[Pattern]	[Pattern]	CONCRETE PAVEMENT

**SITE DATA**

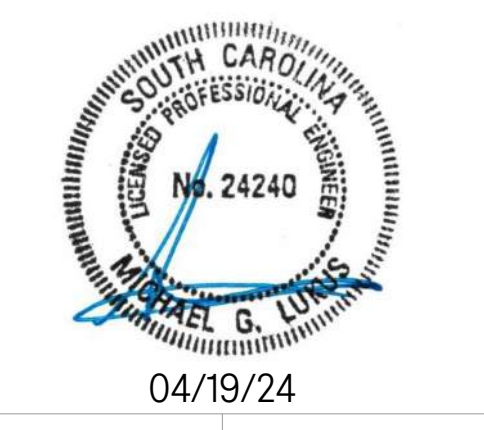
SITE DATA	
PARCEL ID(S):	0635010101701
LOT AREA/SIZE:	40.9 ACRES
ADDRESS:	2151 FEWS CHAPEL ROAD
COUNTY:	GREENVILLE
STATE:	SOUTH CAROLINA
ZONING CLASSIFICATION	
JURISDICTION:	GREENVILLE COUNTY
EXISTING ZONING:	UNZONED
EXISTING USE:	BLUE RIDGE HS (INSTITUTIONAL)
PROPOSED USE:	BLUE RIDGE HS (INSTITUTIONAL)

SCHOOL IS TO REMAIN OPEN THROUGHOUT CONSTRUCTION (SEE ARCHITECTURAL PLANS AND CONSTRUCTION SEQUENCE ON EROSION CONTROL PLANS FOR CONSTRUCTION PHASING INFORMATION). CONTRACTOR SHALL INSTALL TEMPORARY CONSTRUCTION FENCING AROUND SITE PERIMETER AS NECESSARY FOR SECURITY AND PUBLIC SAFETY.

NOTE: REFER TO ARCHITECTURAL PLANS FOR ALL FENCE/GATE SIZE AND DETAILS

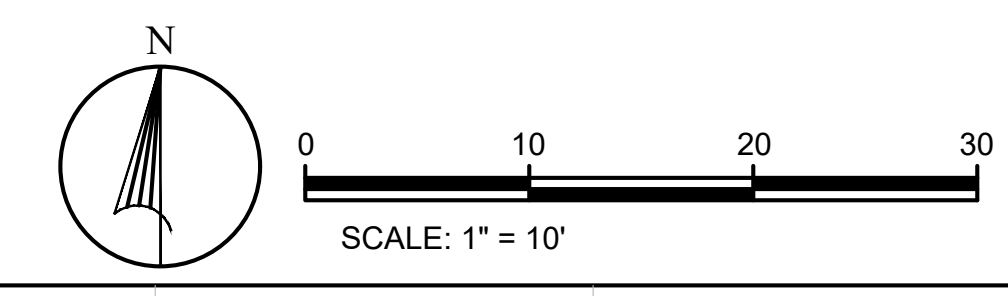


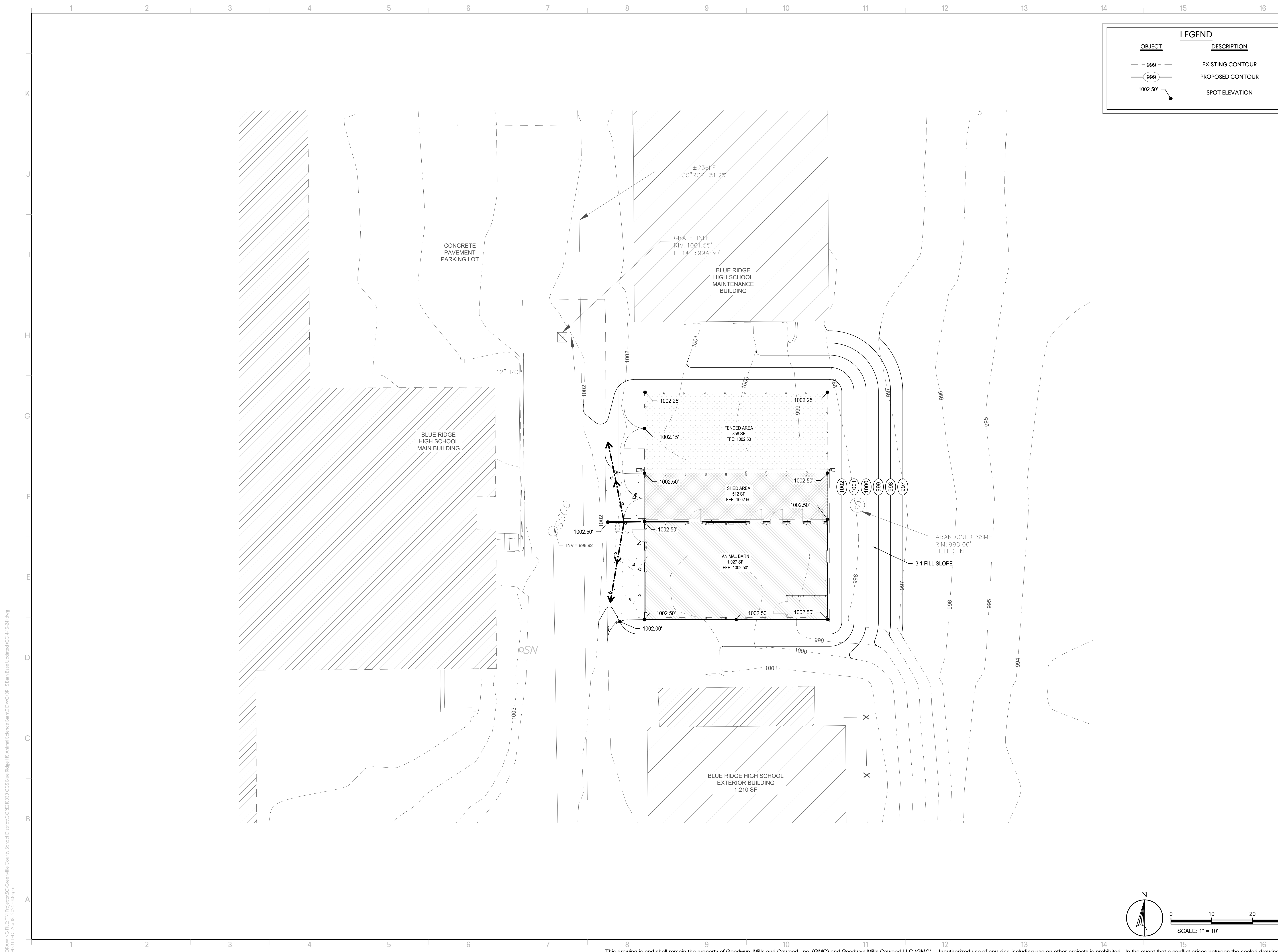
ISSUE	DATE
ISSUED FOR BID	04-18-24
PROJECT MANAGER:	MGL
DESIGNER:	DRK



**SITE / UTILITY PLAN**  
 BLUE RIDGE HIGH SCHOOL ANIMAL SCIENCE BARN  
 2151 FEWS CHAPEL ROAD,  
 GREER, SC 29651  
 GMC Project#CGRE210039

**C-4.0**





**LEGEND**

OBJECT	DESCRIPTION
	EXISTING CONTOUR
	PROPOSED CONTOUR
	SPOT ELEVATION

**GMC**  
 117 Welborn St.  
 Greenville, SC 29601  
 T 864.527.0460

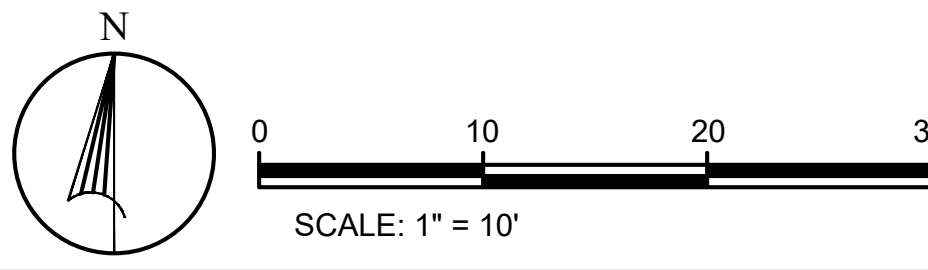
ISSUE	DATE
BID SET	04-19-24
PROJECT MANAGER:	MGL
DESIGNER:	DBK



04/19/24

**GRADING PLAN**  
 BLUE RIDGE HIGH SCHOOL - ANIMAL BARN  
 2151 FEWS CHAPEL ROAD,  
 GREER, SC, 29651  
 GMC Project#CGRE210039

**C-5.0**



DRAWING FILE: S:\Projects\SC\Greenville County School District\CGRE210039\CGS Blue Ridge HS Animal Science Barn\DWG\Barn Base Updated DCC 4-19-24.dwg  
 PLOTTED: Apr 19, 2024 - 4:53pm

1 2 3 4 5 6 7 8 9 10 11 12

K  
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A

**GMC**

915 Lady Street, Suite C  
Columbia, SC 29201  
T 803.724.1282  
gmcnetwork.com

STATE OF SOUTH CAROLINA  
GOODWIN, MILLS CAWOOD, LLC  
GREENVILLE, SC No. 101713  
REGISTERED ARCHITECT

STATE OF SOUTH CAROLINA  
04/19/24  
JUSTIN L. LUCAS  
COLUMBIA, SC No. 8946  
REGISTERED ARCHITECT

ISSUE	DATE
BID SET	04/19/24

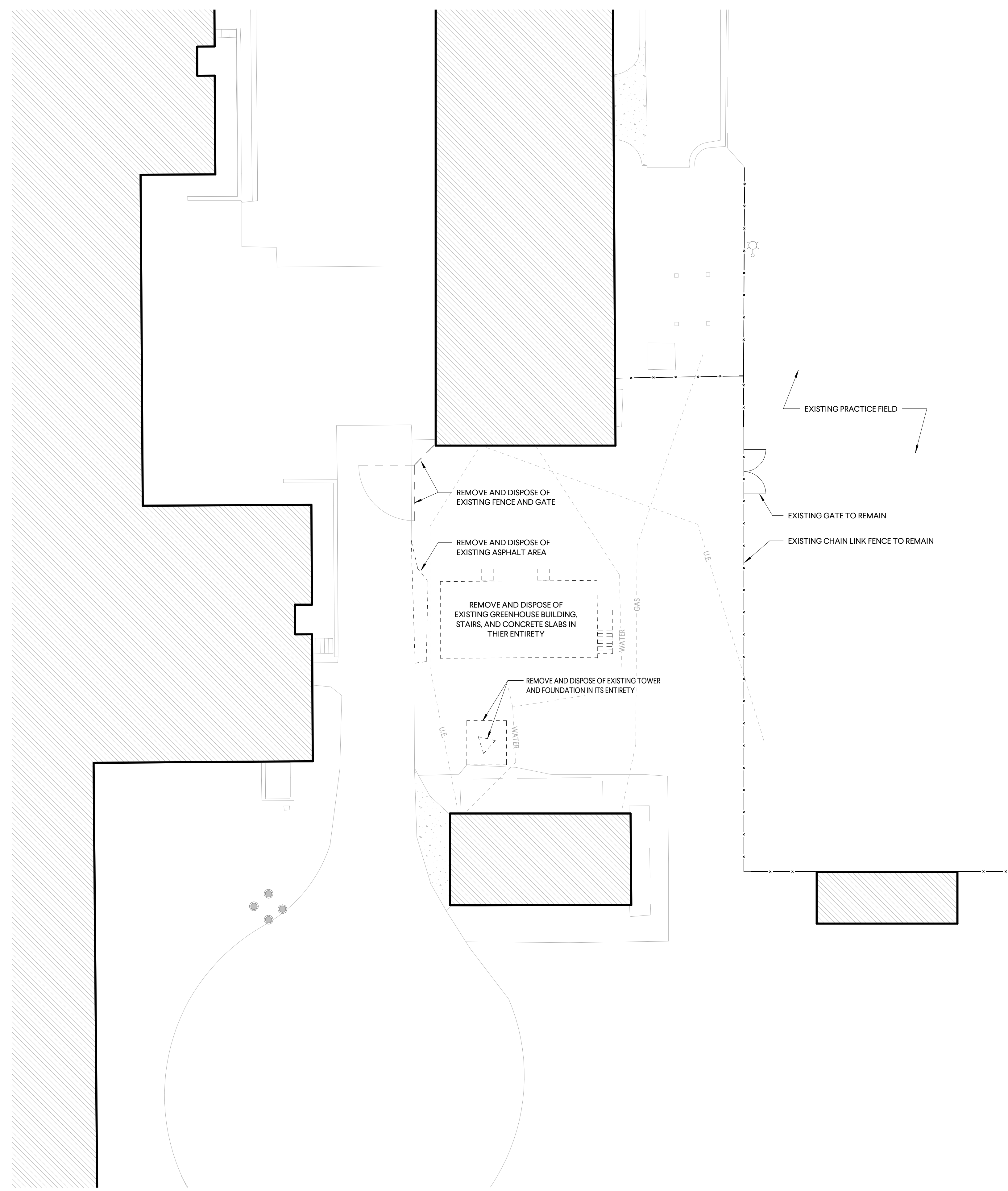
DRAWN BY: J.L.  
CHECKED BY: J.L.

**BLUE RIDGE HIGH SCHOOL - ANIMAL BARN**

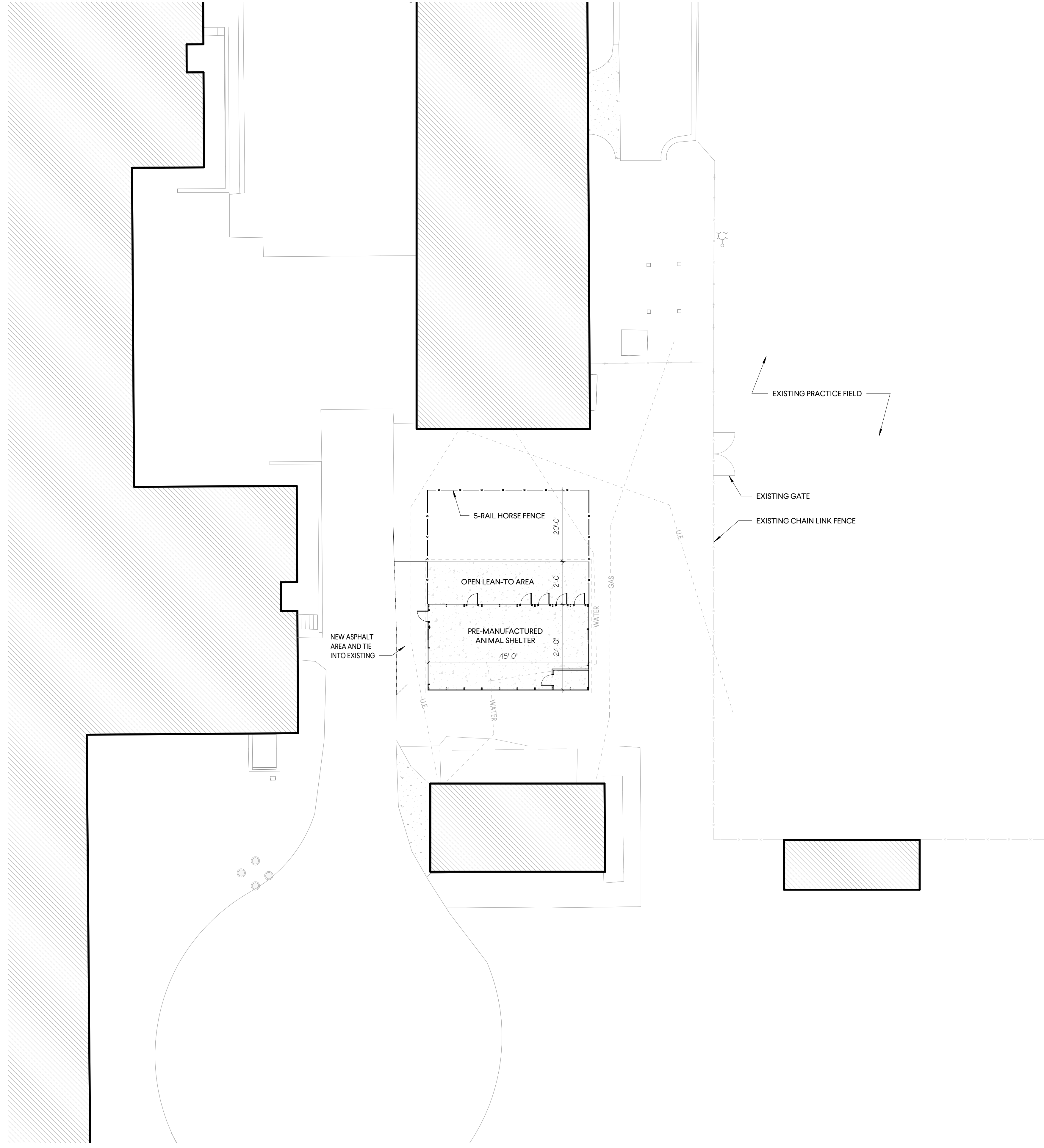
**DEMOLITION AND NEW CONSTRUCTION SITE PLAN**

2151 FEWS CHAPEL RD  
GREER, SC 29651  
GMC # AC01240002

**AS1.00**



**2 DEMOLITION SITE PLAN**  
SCALE: 1/16"=1'-0"



**1 NEW CONSTRUCTION SITE PLAN**  
SCALE: 1/16"=1'-0"

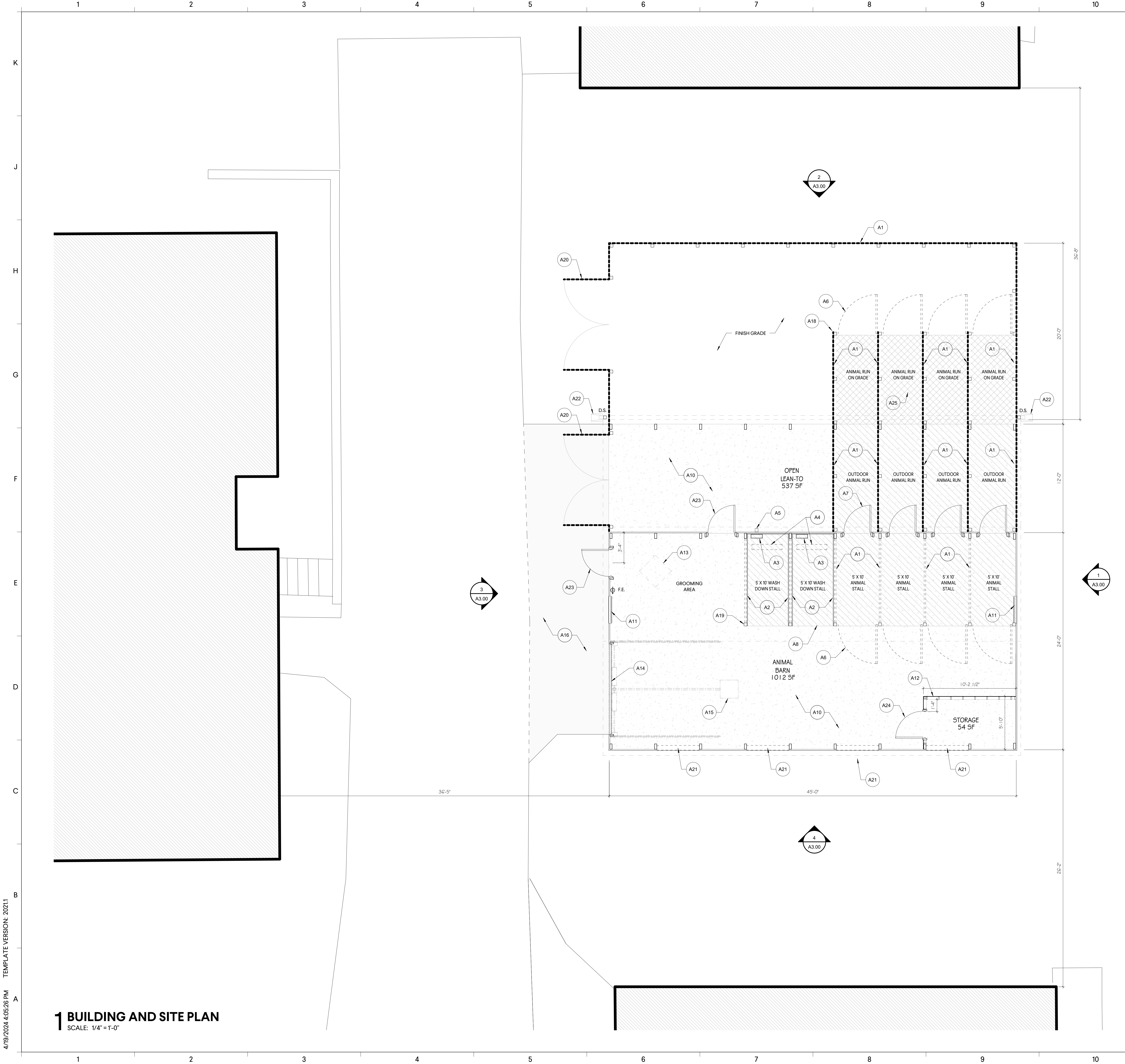
**SITE PLAN LEGEND**

	DOOR
	WALL
	EXISTING BUILDINGS
	ASPHALT PAVING - SEE CIVIL
	GRAVEL - SEE CIVIL
	NEW 6'-0" TALL CHAIN LINK FENCE - SEE DETAILS

- GENERAL NOTES**
- A REFERENCE CIVIL DRAWINGS FOR DETAILED SITE INFORMATION, SITE UTILITIES, AND DEMOLITION.
  - B REFERENCE CIVIL DRAWINGS FOR LIMITS OF CONSTRUCTION.
  - C GENERAL CONTRACTOR TO PROTECT EXISTING CONSTRUCTION TO REMAIN WHILE PERFORMING SITE WORK.
  - D FIELD VERIFY ALL DIMENSION AND CONDITIONS. BRING ANY DISCREPANCIES TO THE ARCHITECT'S ATTENTION PRIOR TO PERFORMING ASSOCIATED WORK.
  - E REVIEW FENCE LAYOUTS ON SITE W/ ARCHITECT PRIOR TO PERFORMING THE WORK.
  - F THE GENERAL CONTRACTOR IS RESPONSIBLE FOR PERFORMING ALL REQUIRED DEMOLITION AND SITE PREP REQUIRED TO INSTALL THE NEW WORK.
  - G THE GENERAL CONTRACTOR IS TO PROVIDE ALL TEMPORARY INFRASTRUCTURE MODIFICATIONS REQUIRED TO MAINTAIN FUNCTIONALITY OF EXISTING INFRASTRUCTURE ON SITE DURING CONSTRUCTION.
  - H ALL DISTURBED AREAS MUST BE STABILIZED, SEE CIVIL.

1 2 3 4 5 6 7 8 9 10 11 12

4/19/2024 2:19:14 PM  
TEMPLATE VERSION: 20211



**GENERAL NOTES**

- A FIELD VERIFY ALL DIMENSIONS AND CONDITIONS. GENERAL CONTRACTOR TO BRING ANY DISCREPANCIES TO THE ARCHITECT'S ATTENTION IMMEDIATELY PRIOR TO PROCEEDING WITH WORK.
- B GENERAL CONTRACTOR TO PROTECT ALL EXISTING WORK TO REMAIN THROUGHOUT CONSTRUCTION.
- C REFERENCE CIVIL, MECHANICAL, PLUMBING AND ELECTRICAL DRAWINGS FOR ADDITIONAL DEMOLITION AND RENOVATION INFORMATION.
- D THE PRE-ENGINEERED METAL BUILDING AND RELATED ITEMS ARE TO BE PROVIDED BY THE PRE-MANUFACTURED METAL BUILDING PROVIDER - THIS IS A DELEGATED DESIGN AND THE SHOP DRAWING SUBMITTAL MUST BE STAMPED BY A STRUCTURAL ENGINEER LICENSED IN SOUTH CAROLINA. FINAL DIMENSIONS, DETAILS, AND CONSTRUCTION ARE TO BE DETERMINED BY THE METAL BUILDING PROVIDER. SUBMIT FULL SHOP DRAWINGS FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION. GENERAL CONTRACTOR MUST COORDINATE ALL RELATED WORK WITH THE APPROVED PRE-MANUFACTURED METAL BUILDING SHOP DRAWINGS.

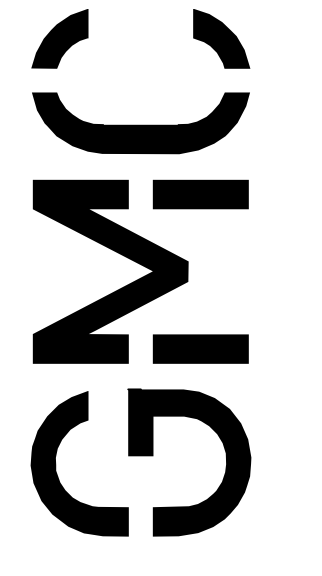
**FLOOR PLAN LEGEND**

- NEW DOOR
- NEW WALL
- LINE OF OBJECT ABOVE
- FIRE EXTINGUISHER
- INTERLOCKING RUBBER FLOOR MATS OVER FLOOR SLAB
- MUD CONTROL GRIDS ON GRADE

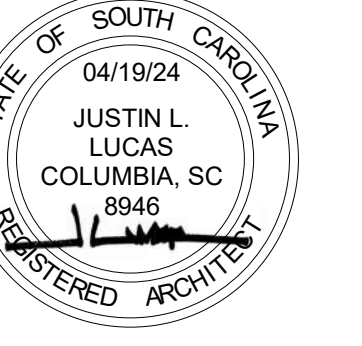
**KEY NOTE LEGEND - GENERAL**

Key	Keynote Text
A1	66" TALL 5-RAIL HORSE FENCE WITH HOG WIRE.
A2	6" TALL SOLID WOOD SLATTED PARTITIONS WITH CONTINUOUS GALVANIZED U-CHANNELS AT EACH END. PROVIDE CONTINUOUS PRE-FINISHED METAL WALL CAPPING. PROVIDE VERTICAL METAL WALL BRACE AT MIDPOINT OF EACH STALL WALL. INSTALL 6" HIGH FRP LINER PANELS ON BOTH SIDES AND BACK OF WASH DOWN STALL. PROVIDE HORSE CROSS-TIE RINGS AT 4' HIGH ON EACH SIDE OF STALL.
A3	PROVIDE HOSE REEL AND NOZZLE BRACKET AT END OF WASH DOWN STALL. SEE PLUMBING.
A4	PROVIDE TRENCH DRAIN WITH GALVANIZED METAL GRATE. SEE PLUMBING AND CIVIL
A5	PROVIDE FROST PROOF EXTERIOR HYDRANT. SEE PLUMBING AND CIVIL
A6	PROVIDE SOLID WOOD STALL DOOR WITH ASSOCIATED HINGE AND LATCH HARDWARE, TYPICAL.
A7	3'-0" x 7'-0" EXTERIOR DUTCH/EQUINE DOOR WITH LATCHING TOP AND BOTTOM PANEL, TYPICAL, BY G.C.
A8	PROVIDE APPROXIMATELY 500 S.F. OF INTERLOCKING RUBBER MAT FLOORING. BASIS OF DESIGN: AMERICAN STALLS. TRIM TO FIT 5'-10" STALLS, TYP.
A10	SEALED CONCRETE FINISH, TYP.
A11	WALL LOUVER WITH INTEGRAL FAN, TYP.
A12	WOOD STUD WALL WITH OUTSIDE FACE CLAD IN TONGUE-AND-GROOVE T1-11 PANELS TO DECK. PAINTED BOTH SIDES.
A13	UNIT HEATER ABOVE, TYP.
A14	10' X 10' GARAGE DOOR BY PRE-ENGINEERED BUILDING SUPPLIER.
A15	GARAGE DOOR OPENER AND TROLLEY ABOVE, BY G.C.
A16	NEW ASPHALT PAVED AREA. SLOPE AWAY FROM PAD AT 1/8" PER FOOT. TIE INTO EXISTING DRIVE.
A18	P.T. WOOD GROUND CONTACT GRADE 4" X 4" POST SET IN CONCRETE PIER BELOW GRADE, TYP. CONNECT POSTS WITH SOLID WOOD OVERHEAD BRACE.
A19	P.T. WOOD 4" X 4" POST SET INTO CONCRETE WITH GALVANIZED STEEL POST FLOOR ANCHOR, TYP. CONNECT POSTS WITH SOLID WOOD OVERHEAD BRACE.
A20	10' WIDE ACCESS GATE.
A21	4'-8" WIDE, 2" TALL CLERESTORY WINDOW ABOVE AT 8'-0" SILL HEIGHT.
A22	PROVIDE CONCRETE SPLASH PAD AT OUT-TURNED DOWNSPOUT.
A23	3'-0" x 7'-0" EXTERIOR DOOR WITH VISION PANEL BY PRE-ENGINEERED BUILDING SUPPLIER.
A24	3'-0" x 7'-0" INTERIOR HOLLOW METAL SOLID DOOR, PAINTED, WITH STORAGE HARDWARE SET, BY G.C.
A25	MUD CONTROL GRIDS, 212" RECYCLED PLASTIC. 16.7" X 16.7" PANELS ON GRADE

**1 BUILDING AND SITE PLAN**  
SCALE: 1/4" = 1'-0"



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BID SET	04/19/24								

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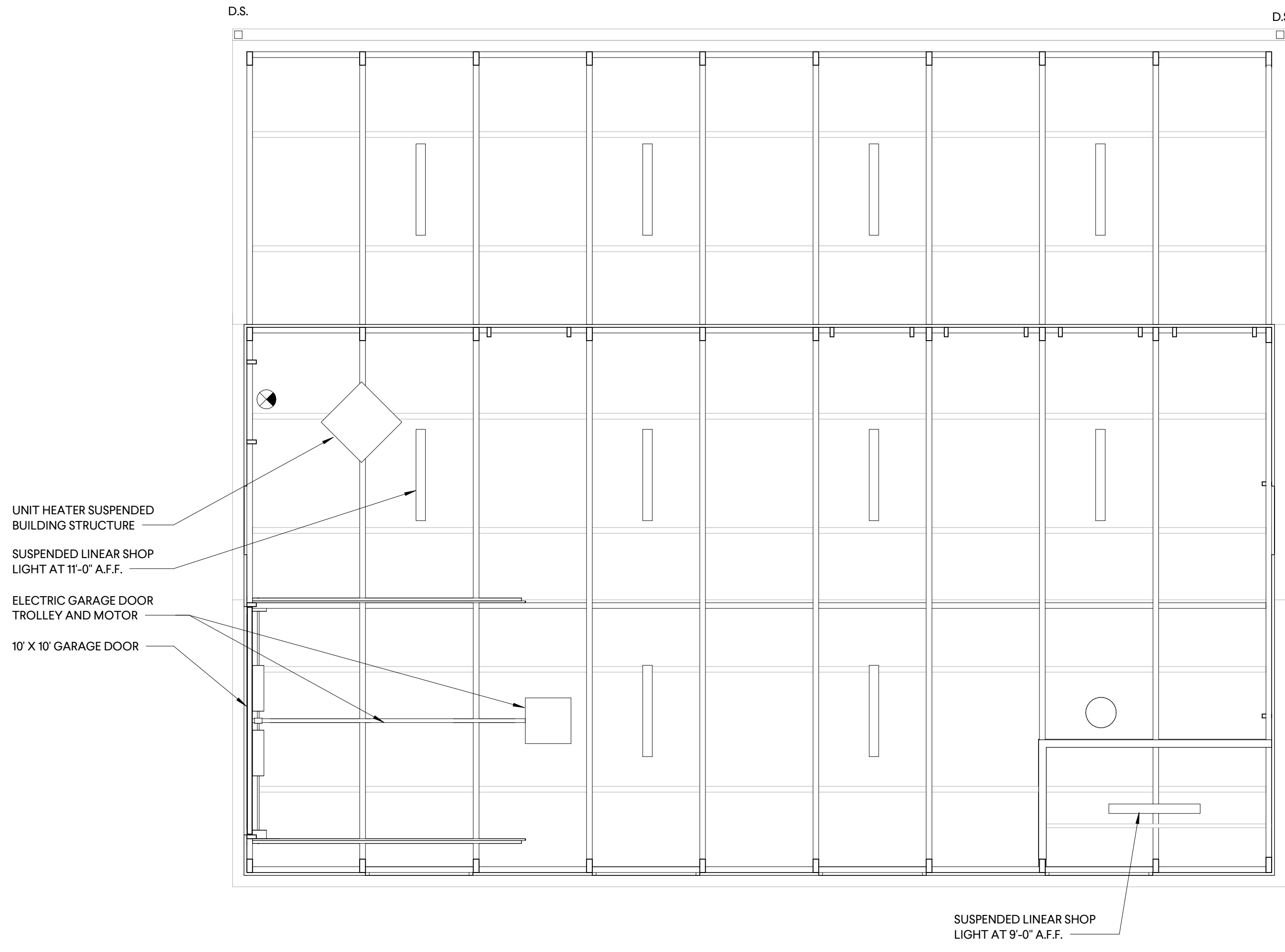
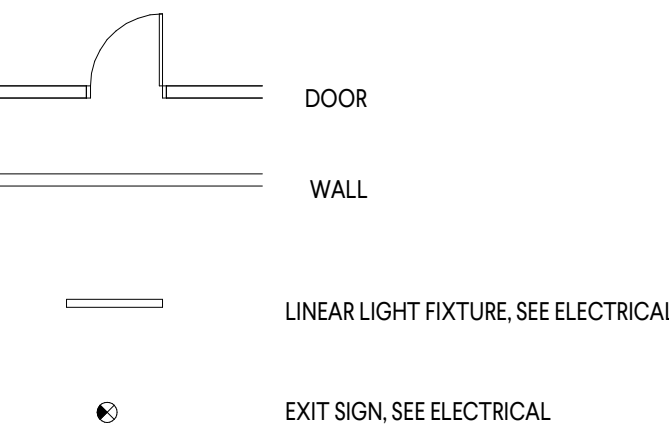
**BUILDING AND SITE PLAN - BLUE RIDGE HIGH SCHOOL - ANIMAL BARN**  
2151 FEWS CHAPEL RD  
GREER, SC 29651  
GMC # AC01240002

**A1.00**

GENERAL NOTES

- A. GENERAL CONTRACTOR TO FIELD VERIFY ALL EXISTING CONDITIONS. BRING ALL DISCREPANCIES TO THE ARCHITECT'S ATTENTION PRIOR TO PROCEEDING WITH THE WORK. GENERAL CONTRACTOR TO PROTECT EXISTING CONSTRUCTION TO REMAIN DURING DEMOLITION AND CONSTRUCTION.
- B. REFER TO ELECTRICAL AND MECHANICAL DRAWINGS FOR QUANTITIES OF LIGHTS, MECHANICAL EQUIPMENT, AND OTHER DEVICES. DEVICES ARE SHOWN ON ARCHITECTURAL DRAWINGS FOR LOCATIONS, COORDINATION WITH RELATED WORK, AND ARE FOR REFERENCE ONLY.
- C. THE PROJECT IS SEISMIC DESIGN CATEGORY C. ALL CEILING SYSTEMS AND SUSPENDED FIXTURES MUST MEET ALL REQUIREMENTS AS MANDATED UNDER SEISMIC DESIGN CATEGORY C.
- D. THE PRE-ENGINEERED METAL BUILDING AND RELATED ITEMS ARE TO BE PROVIDED BY THE PRE-MANUFACTURED METAL BUILDING PROVIDER - THIS IS A DELEGATED DESIGN AND THE SHOP DRAWING SUBMITTAL MUST BE STAMPED BY A STRUCTURAL ENGINEER LICENSED IN SOUTH CAROLINA. FINAL DIMENSIONS, DETAILS, AND CONSTRUCTION ARE TO BE DETERMINED BY THE METAL BUILDING PROVIDER. SUBMIT FULL SHOP DRAWINGS FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION. GENERAL CONTRACTOR MUST COORDINATE ALL RELATED WORK WITH THE APPROVED PRE-MANUFACTURED METAL BUILDING SHOP DRAWINGS.

RCP LEGEND

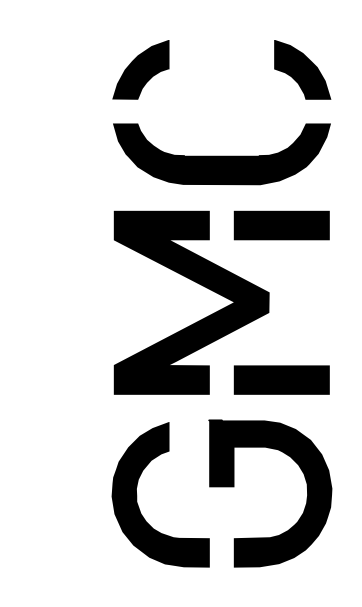


1 REFLECTED CEILING PLAN SCALE: 1/4\"/>

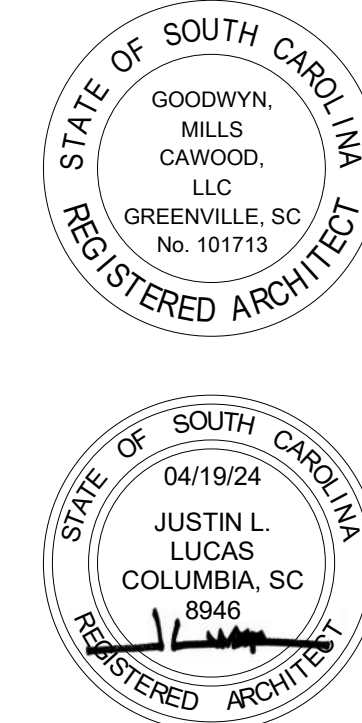


2 ROOF PLAN SCALE: 1/4\"/>

REFINISHED ALUMINUM 6X6 GUTTER AND 4X4 DOWNSPOUTS (DS), TYPICAL - PROVIDE SPLASHBLOCK AT EACH DOWNSPOUT LOCATION, TYPICAL



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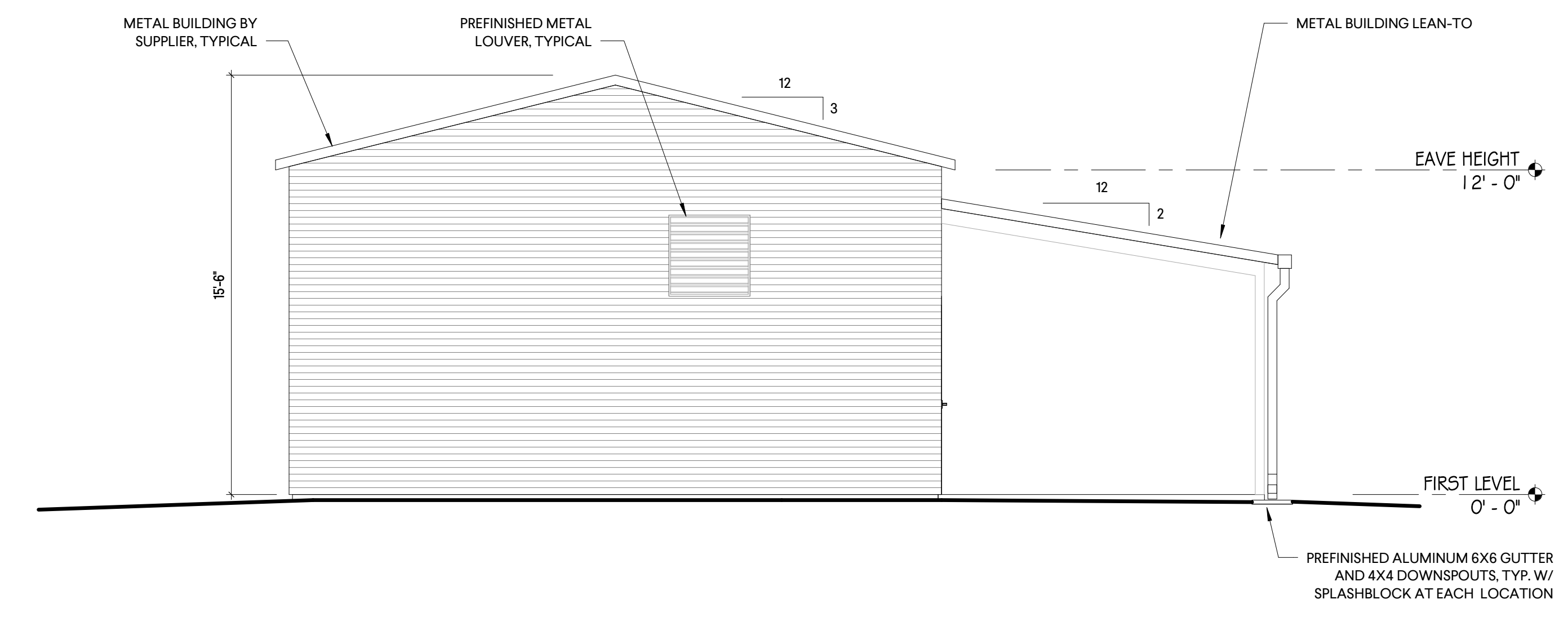
BLUE RIDGE HIGH SCHOOL -  
ANIMAL BARN  
2151 FEWS CHAPEL RD  
GREER, SC 29651  
GMC # ACO1240002

REFLECTED CEILING PLAN  
AND ROOF PLAN  
A2.00

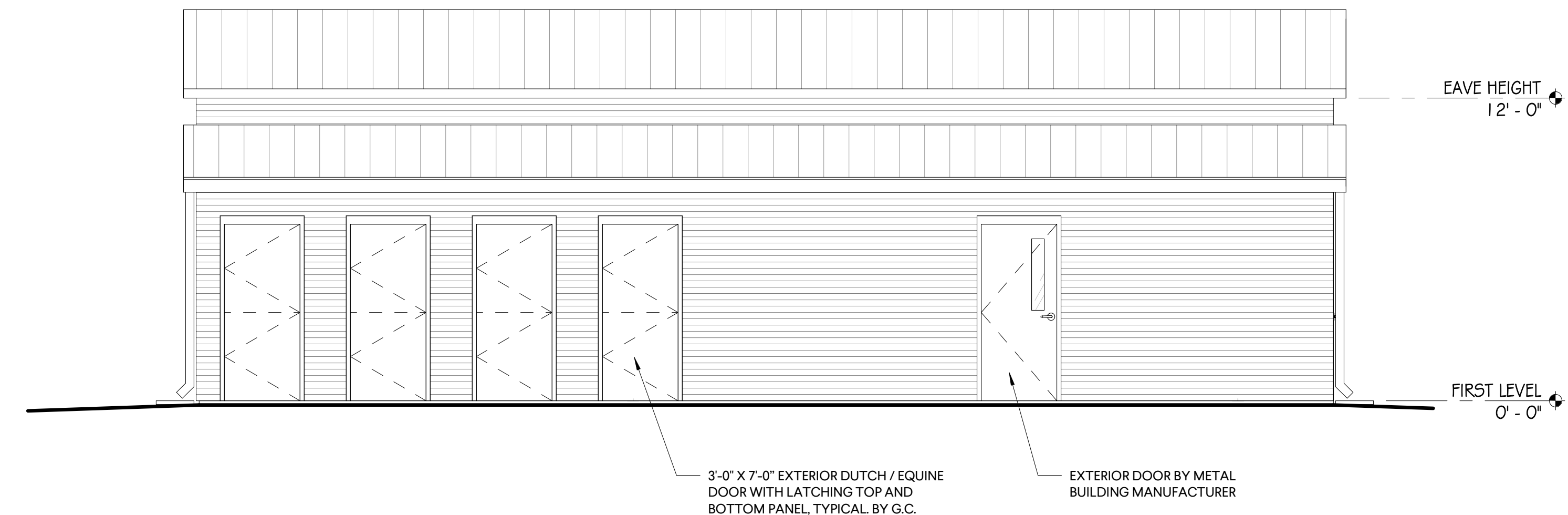
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**GENERAL NOTES**

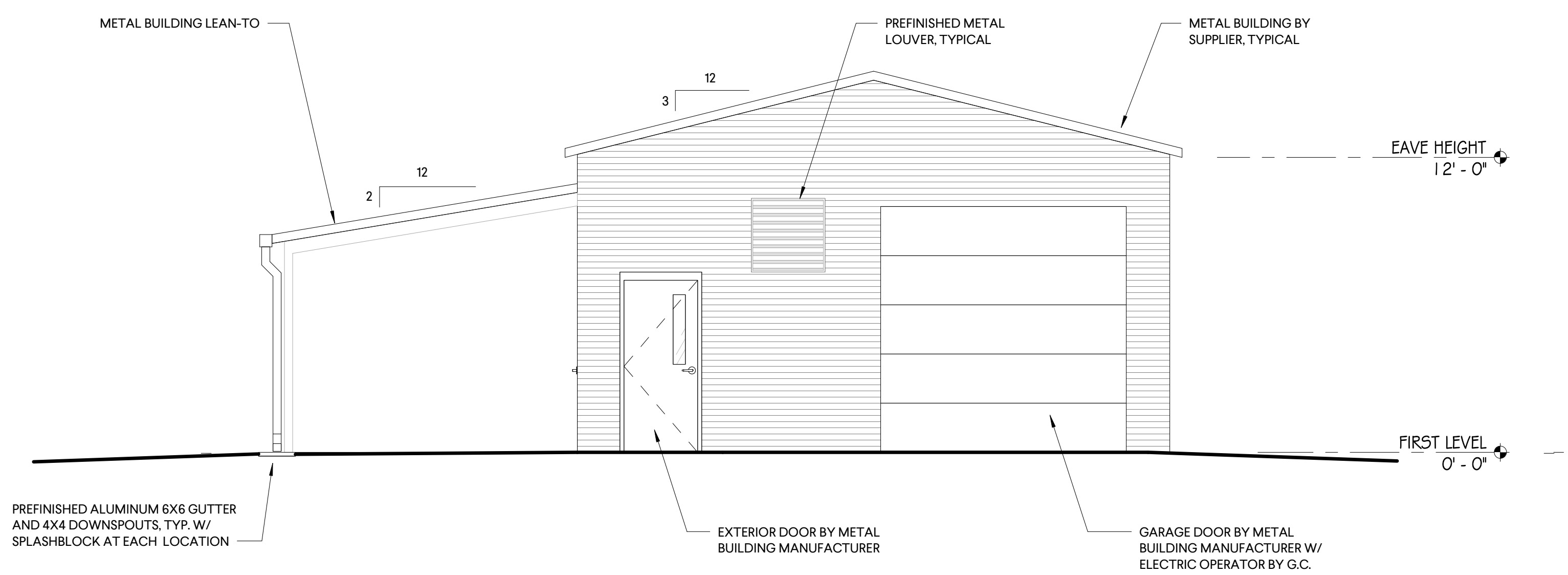
- A FIELD VERIFY ALL DIMENSIONS AND CONDITIONS. GENERAL CONTRACTOR TO BRING ANY DISCREPANCIES TO THE ARCHITECT'S ATTENTION IMMEDIATELY. PRIOR TO PROCEEDING WITH WORK.
- B GENERAL CONTRACTOR TO PROTECT ALL EXISTING WORK TO REMAIN THROUGHOUT CONSTRUCTION.
- C PATCH AND REPAIR ALL EXISTING FINISHES, AS REQUIRED, DUE TO DEMOLITION WORK.
- D REFERENCE CIVIL, MECHANICAL, PLUMBING AND ELECTRICAL DRAWINGS FOR ADDITIONAL DEMOLITION AND RENOVATION INFORMATION.
- E THE PRE-ENGINEERED METAL BUILDING AND RELATED ITEMS ARE TO BE PROVIDED BY THE PRE-MANUFACTURED METAL BUILDING PROVIDER. THIS IS A DELEGATED DESIGN AND THE SHOP DRAWING SUBMITTAL MUST BE STAMPED BY A STRUCTURAL ENGINEER LICENSED IN SOUTH CAROLINA. FINAL DIMENSIONS, DETAILS, AND CONSTRUCTION ARE TO BE DETERMINED BY THE METAL BUILDING PROVIDER. SUBMIT FULL SHOP DRAWINGS FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION. GENERAL CONTRACTOR MUST COORDINATE ALL RELATED WORK WITH THE APPROVED PRE-MANUFACTURED METAL BUILDING SHOP DRAWINGS.



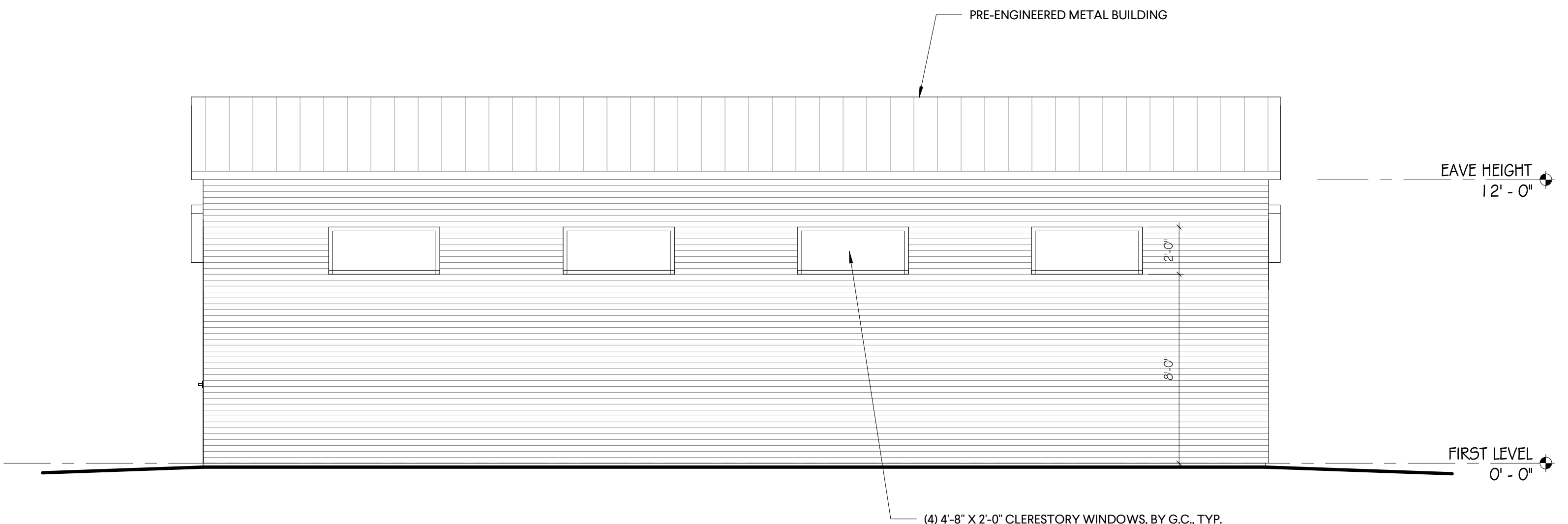
**1 EAST ELEVATION**  
SCALE: 1/4" = 1'-0"



**2 NORTH ELEVATION**  
SCALE: 1/4" = 1'-0"



**3 WEST ELEVATION**  
SCALE: 1/4" = 1'-0"



**4 SOUTH ELEVATION**  
SCALE: 1/4" = 1'-0"

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JUSTIN L. LUCAS  
COLUMBIA, SC  
REGISTERED ARCHITECT

JUSTIN L. LUCAS  
COLUMBIA, SC  
REGISTERED ARCHITECT

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**EXTERIOR ELEVATIONS**

**BLUE RIDGE HIGH SCHOOL - ANIMAL BARN**  
2151 FEWS CHAPEL RD  
GREER, SC 29651  
GMC # AC01240002

A3.00



GENERAL NOTES

1.0 THIS PROJECT HAS BEEN DESIGNED FOR THE WEIGHTS AND MATERIALS INDICATED ON THE DRAWINGS AND FOR THE LIVE LOADS INDICATED IN THE DESIGN DATA. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE ALLOWABLE CONSTRUCTION LOADS AND TO PROVIDE PROPER DESIGN AND CONSTRUCTION OF FALSEWORK, FORMWORK, STAGING, BRACING, SHEETING, AND SHORING, ETC.

1.1 COORDINATE THESE DRAWINGS WITH THE ARCHITECTURAL, MECHANICAL, ELECTRICAL, PLUMBING, AND CIVIL DRAWINGS.

1.2 THE CONTRACTOR SHALL REFER TO THE ARCHITECTURAL, MECHANICAL, ELECTRICAL AND PLUMBING DRAWINGS FOR SLEEVES, CURBS, INSERTS OR OPENINGS, ETC. NOT HEREIN INDICATED.

1.3 SLAB OPENINGS SMALLER THAN 10" AND NOT INDICATED ON PLAN SHALL BE CORE DRILLED IN FIELD U.N.O. SEE MECHANICAL, ELECTRICAL AND PLUMBING DRAWINGS FOR LOCATIONS OF THESE OPENINGS.

1.4 WORK NOT INCLUDED ON THE DRAWINGS BUT IMPLIED TO BE SIMILAR TO THAT SHOWN AT CORRESPONDING PLACES ELSEWHERE ON THE DRAWINGS SHALL BE REPEATED.

1.5 IN CASE OF CONFLICT BETWEEN THE NOTES, DETAILS AND SPECIFICATIONS, THE MOST RIGID REQUIREMENTS SHALL GOVERN.

FOUNDATION NOTES

2.0 FOUNDATION NOTES

2.1 (NOT USED)

2.2 SEE THE SPECIFICATION REQUIREMENTS FOR EXCAVATION AND PREPARATION OF THE FOUNDATION AND SLAB ON GRADE SUBGRADE INCLUDING COMPACTION PROCEDURES.

2.3 EXCAVATIONS FOR FOOTINGS SHALL HAVE THE SIDES AND BOTTOM TEMPORARILY LINED WITH 6 MIL POLYETHYLENE IF PLACEMENT OF CONCRETE DOES NOT OCCUR WITHIN 24 HOURS OF THE EXCAVATION OF THE FOOTING.

2.4 FOUNDATION CONDITIONS NOTED DURING CONSTRUCTION WHICH DIFFER FROM THOSE DESCRIBED IN THE GEOTECHNICAL REPORT SHALL BE REPORTED TO THE GENERAL CONTRACTOR BEFORE FURTHER CONSTRUCTION IS ATTEMPTED. SEE PROJECT SPECIFICATIONS. ALL BASEMENT WALLS UNLESS NOTED ARE DESIGNED AS LATERALLY SUPPORTED AT THE TOP. THEREFORE, THE 1ST FLOOR FRAME AND SLAB SHALL BE INSTALLED BEFORE BACKFILLING WALLS. ALSO, THE BASEMENT SLAB ON GRADE SHALL BE INSTALLED BEFORE BACKFILL AT PERIMETER BUILDING BASEMENT WALLS.

2.5 NO FOOTINGS OR SLABS SHALL BE POURED INTO OR AGAINST SUBGRADE CONTAINING FREE WATER, FROST, ICE OR LOOSE MATERIAL.

2.6 SEE PLUMBING, ELECTRICAL & CIVIL DRAWINGS FOR REQUIRED UNDERSLAB UTILITIES.

2.7 SEE SPECIFICATIONS FOR ALL WATERPROOFING DETAILS AND MATERIALS AS REQUIRED.

2.8 IF UNDERMINING OF FOOTING OCCURS, FILL VOIDS WITH 2500 PSI CONCRETE. DO NOT ATTEMPT TO REPLACE AND RECOMPACT SOIL.

CONCRETE

3.0 CONCRETE SHALL HAVE THE UNIT WEIGHT AND THE MINIMUM COMPRESSIVE STRENGTHS (F'c) AT 28 DAYS AS SHOWN ON THE CONCRETE MATERIALS SCHEDULE ON DWG 5002. SEE SPECIFICATIONS FOR FURTHER INFORMATION.

3.2 ENTRAIN AIR TO PRODUCE TOTAL AIR CONTENT ACCORDING TO THE SPECIFICATIONS. FOR CONCRETE EXPOSED TO FREEZING TEMPERATURES (EXTERIOR FOOTINGS, SLAB TURNDOWNS, EXTERIOR SLABS AND SLABS-ON-GRADE, EXTERIOR RETAINING WALLS, AND EXTERIOR GRADE BEAMS.)

3.3 GROUT FOR BASE PLATES SHALL BE NON-SHRINKABLE GROUT AND SHALL HAVE A MINIMUM SPECIFIED COMPRESSIVE STRENGTH AT 28 DAYS OF 5000 PSI, U.N.O.

3.4 NO CALCIUM CHLORIDE SHALL BE USED IN ANY CONCRETE.

3.5 MIXING, TRANSPORTING AND PLACING OF CONCRETE SHALL CONFORM TO ACI-301.

3.6 ALL CONCRETE WORK SHALL CONFORM TO THE REQUIREMENTS OF "SPECIFICATIONS FOR STRUCTURAL CONCRETE", ACI 301, AND CONTRACT SPECIFICATIONS, WHEN THERE IS A CONFLICT BETWEEN ACI AND SPECIFICATIONS, THE MORE STRINGENT SHALL GOVERN.

3.7 CHAMFER ALL EXPOSED EXTERNAL CORNERS OF CONCRETE WITH 1/4" X 45 DEGREE CHAMFER U.N.O.

3.8 CONCRETE REINFORCEMENT BARS SHALL CONFORM TO ASTM A615, GRADE 60 U.N.O. REINFORCING BARS SHALL NOT BE TACK WELDED, WELDED, HEATED OR CUT, UNLESS INDICATED ON THE CONTRACT DOCUMENTS. ALL LAP SPLICES SHALL BE CLASS "B" U.N.O. SEE LAP SPLICE SCHEDULE ON DRAWING 5002.

3.9 HORIZONTAL FOOTING AND HORIZONTAL WALL REINFORCEMENT SHALL BE CONTINUOUS AND SHALL HAVE 90 DEGREE BENDS AND EXTENSIONS, OR CORNER BARS OF EQUIVALENT SIZE LAPPED WITH A CLASS B TENSION SPLICE AT CORNERS AND INTERSECTIONS. TOP BAR CRITERIA SHALL APPLY IF 12" OR MORE OF FRESH CONCRETE IS PLACED BELOW BAR.

3.10 SLABS-ON-GRADE SHALL HAVE CONSTRUCTION JOINTS OR CRACK CONTROL JOINTS AS SHOWN ON THE DRAWINGS. CONSTRUCTION JOINTS CAN BE USED AT CONTROL JOINT LOCATIONS AT CONTRACTORS OPTION. SEE SLAB PLANS & JOINT DETAILS FOR ADDITIONAL INFORMATION.

3.11 SEE SPECIFICATIONS FOR ALL WATERPROOFING/DAMP-PROOFING DETAILS.

3.12 ALL WELDED WIRE FABRIC SHALL CONFORM TO THE STANDARDS OF ASTM A-185. SUPPLY IN FLAT SHEETS.

3.13 ALL CONCRETE REINFORCEMENT SHALL BE DETAILED, FABRICATED, LABELED, SUPPORTED, AND SPACED IN FORMS AND SECURED IN PLACE IN ACCORDANCE WITH THE PROCEDURES AND REQUIREMENTS OUTLINED IN THE LATEST EDITION OF THE "SPECIFICATIONS FOR STRUCTURAL CONCRETE", ACI 301, AND THE "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES", ACI 315, LATEST EDITION.

3.14 SHOP DRAWINGS SHOWING REINFORCING DETAILS, INCLUDING STEEL SIZES, SPACING AND PLACEMENT SHALL BE SUBMITTED FOR REVIEW PRIOR TO FABRICATION.

3.15 ALL WELDED WIRE FABRIC SHALL BE LAPPED TWO (2) FULL MESH PANELS AND TIED SECURELY.

3.16 ALL DOWELS SHALL MATCH SIZE AND NUMBER OF MAIN REINFORCING, U.N.O. ON DRAWINGS.

3.17 ADDITIONAL BARS SHALL BE PROVIDED AROUND ALL FLOOR AND WALL OPENINGS AS SHOWN ON THE DRAWINGS.

3.18 SEE ARCHITECTURAL DRAWINGS FOR TYPE AND LOCATION OF ALL FLOOR FINISHES.

3.19 THE CONTRACTOR SHALL COORDINATE ADDITIONAL WALL/SLAB OPENINGS NOT SHOWN ON STRUCTURAL DRAWINGS. SEE MECHANICAL, ELECTRICAL, PLUMBING AND CIVIL DRAWINGS.

3.20 U.N.O., ALL CURBS SHALL BE REINFORCED WITH AT LEAST 1 #4 CONTINUOUS AND #4 AT 12" O.C. DOWELS TO STRUCTURE BELOW.

3.21 THE SUB-CONTRACTOR SHALL VERIFY ALL OPENINGS, PAD SIZES, AND ANCHOR BOLTS WITH EQUIPMENT SELECTED.

3.22 FOR ALL WALLS & PIERS, PROVIDE DOWELS INTO FOOTING AT EACH VERT. REINF. BAR, U.N.O. DOWEL SIZE SHALL BE SAME AS VERT. REINF.

3.23 ALL DEFORMED BAR ANCHORS SHALL BE TRS NELSON DIVISION OR EQUAL 1/2" DIA. U.N.O. CONFORMING TO ASTM A498 WITH A MINIMUM TENSILE STRENGTH OF 80,000 PSI. ANCHOR DIMENSIONS SHALL BE IN ACCORDANCE WITH ASTM D-19. INSTALL ANCHORS IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS BY AUTOMATIC END WELDING AS INDICATED ON THE DRAWINGS. NO UNAUTHORIZED OR FIELD WELDING SHALL BE MADE WITHOUT AUTHORIZATION FROM THE MANUFACTURER.

3.24 ALL REINFORCING INDICATED TO BE WELDED SHALL BE IN ACCORDANCE WITH ASTM A706, "LOW ALLOY STEEL DEFORMED BARS FOR CONCRETE REINFORCEMENT". ANY INSTALLATIONS USING MANUFACTURER'S EQUIPMENT SHALL BE PER MANUFACTURER'S RECOMMENDATIONS.

3.25 WELDING OF REINFORCEMENT SHALL BE IN ACCORDANCE WITH AWS D1.4

2.0 PROVIDED CONCRETE POUR STOPS OR FORM AS REQUIRED FOR INSTALLATION OF ALL CONCRETE WORK.

2.02 PROVIDE ADDITIONAL 2-#4 x 3'-0" REINFORCING BARS IN SLAB-ON-GRADE AT ALL RE-ENTRANT CORNERS. PLACE BARS AT MID-DEPTH OF SLAB WITH A CLEARANCE OF 2" FROM CORNER U.N.O.

2.03 CONSTRUCTION TOLERANCES FOR CONCRETE WORK SHALL BE IN ACCORDANCE WITH ACI 117. "SPECIFICATIONS FOR TOLERANCE FOR CONCRETE CONSTRUCTION AND MATERIALS AND COMMENTARY" FOR CIP CONCRETE.

PRE-ENGINEERED BUILDING (BY OTHERS, N.I.C.)

ANCHORING TO CONCRETE

5.1 EXCEPT WHERE INDICATED ON THE DRAWINGS, POST-INSTALLED ANCHORS SHALL CONSIST OF ONE OF THE FOLLOWING ANCHOR TYPES: ANCHORS SHALL BE BY HILTI, SIMPSON STRONG-TIE, POWERS FASTENERS, OR A MANUFACTURER WITH EQUAL PRODUCTS AS REFERENCED IN THE CONSTRUCTION DOCUMENTS. PROVIDED ANCHORS SHALL HAVE PROPER TESTING AND ACCREDITATION BY ICC FOR THEIR INTENDED USE.

5.1.1 ANCHORAGE TO CONCRETE

5.1.1.1 ADHESIVE ANCHORS FOR USE WITH CRACKED AND UNCRACKED CONCRETE.

5.1.1.2 MEDIUM DUTY MECHANICAL ANCHORS FOR USE WITH CRACKED AND UNCRACKED CONCRETE.

5.1.1.3 HEAVY DUTY MECHANICAL ANCHORS FOR USE WITH CRACKED AND UNCRACKED CONCRETE.

5.1.2 REBAR DOWELING INTO CONCRETE

5.1.2.1 ADHESIVE ANCHORS FOR USE WITH CRACKED AND UNCRACKED CONCRETE.

5.1.3 ANCHORAGE TO SOLID GROUTED MASONRY

5.1.3.1 ADHESIVE ANCHORS

5.1.3.2 MECHANICAL ANCHORS

5.1.4 ANCHORAGE TO HOLLOW / MULTI-WYTHE MASONRY

5.1.4.1 ADHESIVE ANCHORS WITH ASSOCIATED MESH NETTING AND GROUTING

5.2 SEE DRAWINGS FOR THE TYPE, SIZE, LOCATION AND MINIMUM EMBEDMENT DEPTH OF ANCHORS.

5.3 MINIMUM EDGE DISTANCE AS SHOWN OR IMPLIED IN THE CONSTRUCTION DRAWINGS SHALL BE MET.

5.4 INSPECTIONS OF POST-INSTALLED ANCHORS SHALL BE IN ACCORDANCE WITH THE SPECIAL INSPECTION REQUIREMENTS OF IBC AS SHOWN IN THESE CONSTRUCTION DOCUMENTS.

5.5 ANCHOR CAPACITY FOR THE SELECTED ANCHORS SHALL BE COMPATIBLE WITH THE ANCHORAGE CAPACITY LISTED FOR THE REFERENCED PRODUCT IN THE CONSTRUCTION DOCUMENTS. SUBSTITUTION REQUESTS FOR ALTERNATE PRODUCTS MUST BE APPROVED THRU THE SUBMITTAL PROCESS BY THE STRUCTURAL ENGINEER OF RECORD PRIOR TO USE. CONTRACTOR SHALL PROVIDE CALCULATIONS OR DOCUMENTATION DEMONSTRATING THAT THE SUBSTITUTED PRODUCT IS CAPABLE OF ACHIEVING THE PERFORMANCE VALUES OF THE REFERENCED PRODUCT. SUBSTITUTIONS SHALL BE EVALUATED BY THEIR HAVING AN ICC ESR SHOWING COMPLIANCE WITH THE RELEVANT BUILDING CODE FOR SEISMIC USES, LOAD RESISTANCE, INSTALLATION CATEGORY AND APPROPRIATE INSTALLATION INSTRUCTIONS.

5.6 ADHESIVE ANCHORS SELECTED ARE ASSUMED TO BE INSTALLED AFTER THE CONCRETE HAS BEEN CURED AND REACHED ITS 28-DAY SPECIFIED COMPRESSIVE STRENGTH. THE CONTRACTORS SHALL BE RESPONSIBLE FOR SELECTING AN APPROPRIATE ANCHOR FOR A SUBSTITUTION REQUEST (SEE NOTE 5 ABOVE) IF THE CONCRETE HAS NOT YET REACHED ITS 28-DAY SPECIFIED COMPRESSIVE STRENGTH AT THE TIME OF INSTALLATION.

5.7 INSTALL ANCHORS IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS. POST-INSTALLED ADHESIVE ANCHORS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS (MPII). INSTALLATION OF ADHESIVE ANCHORS SHALL BE PERFORMED BY PERSONNEL TRAINED TO INSTALL ADHESIVE ANCHORS.

5.8 ADHESIVE ANCHORS INSTALLED IN A HORIZONTAL OR UPWARDLY INCLINED ORIENTATION SHALL BE CONTINUOUSLY INSPECTED DURING INSTALLATION BY THE SPECIAL INSPECTOR. INSTALLATION OF THESE ANCHORS SHALL BE PERFORMED BY PERSONNEL CERTIFIED BY AN APPLICABLE CERTIFICATION PROGRAM. THE CERTIFICATION SHALL INCLUDE WRITTEN AND PERFORMANCE TESTS IN ACCORDANCE WITH THE ACICRSI ADHESIVE ANCHOR INSTALLER CERTIFICATION PROGRAM, OR EQUIVALENT.

5.9 ADHESIVE ANCHORS SHALL BE PROOF TESTED IN ACCORDANCE WITH ACI 308.4.

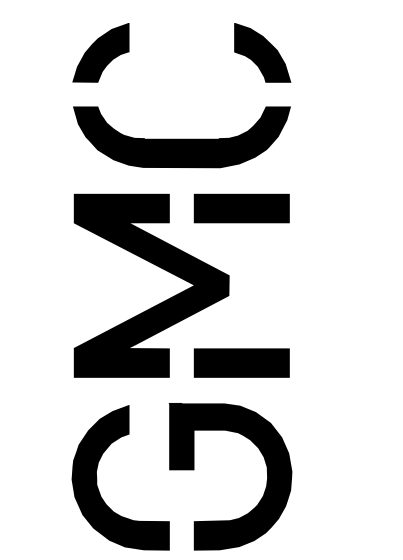
5.10 EXTERIOR ANCHORS SHALL BE GALVANIZED FOR PROTECTION FROM THE ELEMENTS.

5.11 THE CONTRACTOR SHALL ARRANGE AN ANCHOR MANUFACTURER'S REPRESENTATIVE TO PROVIDE ONSITE INSTALLATION TRAINING FOR ALL OF THE PRODUCTS SPECIFIED. (THIS DOES NOT SUPERCEDE THE REQUIREMENTS OF NOTE 8 ABOVE.)

5.12 EXISTING REINFORCING BARS IN THE CONCRETE STRUCTURE MAY CONFLICT WITH SPECIFIC ANCHOR LOCATIONS. UNLESS NOTED ON THE DRAWINGS THAT THE BARS CAN BE CUT, THE CONTRACTORS SHALL REVIEW THE EXISTING STRUCTURAL DRAWINGS AND SHALL UNDERTAKE TO LOCATE THE POSITION OF THE REINFORCING BARS AT THE LOCATIONS OF THE CONCRETE ANCHORS BY GPR, X-RAY OR OTHER NON-DESTRUCTIVE MEANS.

MMSA, INC. - STRUCTURAL ENGINEERS, ARE EOR ONLY FOR THE DESIGN OF THE FOUNDATIONS / SLAB-ON-GRADE SYSTEM

MMSA, INC. IS NOT RESPONSIBLE FOR ENGINEERED BUILDING DESIGN OR BUILDING ATTACHMENTS TO CONCRETE SLAB



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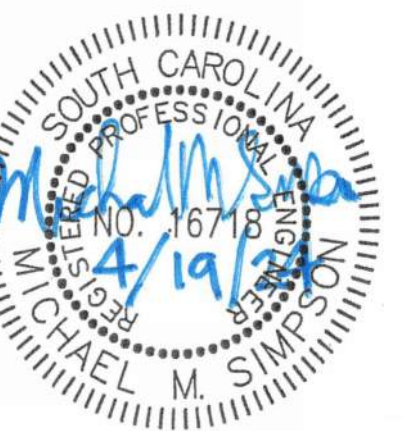


Table with 2 columns: ISSUE DATE, BID SET DATE. Values: 04/19/24

BLUE RIDGE HIGH SCHOOL - ANIMAL BARN 2151 FEWS CHAPEL RD GREER, SC 29651 GMC # ACOL240002

GENERAL NOTES S001

# STRUCTURAL DESIGN CRITERIA

ALL DESIGNS SHALL CONFORM TO THE PROVISIONS OF THE INTERNATIONAL BUILDING CODE, 2021 EDITION

## 1.0 DESIGN LOADS

### 1.1 DEAD LOADS

#### 1.1.1 ROOF DEAD LOADS

DEAD LOAD	GRAVITY LOADS
DEAD LOAD	3 PSF
PRIMARY COLLATERAL LOAD (ROOF)	10 PSF (MIN.)
	13 PSF

### 1.2 LIVE LOADS (PER IBC 2021)

#### 1.2.1 ROOF LIVE LOADS: ALL AREAS (ZONES)

GREATER OF 20 PSF MINIMUM (REDUCIBLE) OR SNOW LOAD

### 1.3 SNOW LOAD (PER IBC 2021 / ASCE 7-16)

#### 1.3.1 DESIGN PARAMETERS

GROUND SNOW LOAD, $P_g$	10 PSF
SNOW IMPORTANCE FACTOR, $I_s$	1.0
EXPOSURE FACTOR, $C_e$	0.9
EXPOSURE FACTOR, $C_d$	1.2
FLAT ROOF SNOW LOAD, $P_f$	10 PSF (MIN.)

### 1.4 WIND LOAD (PER IBC 2021 / ASCE 7-16)

#### 1.4.1 DESIGN PARAMETERS

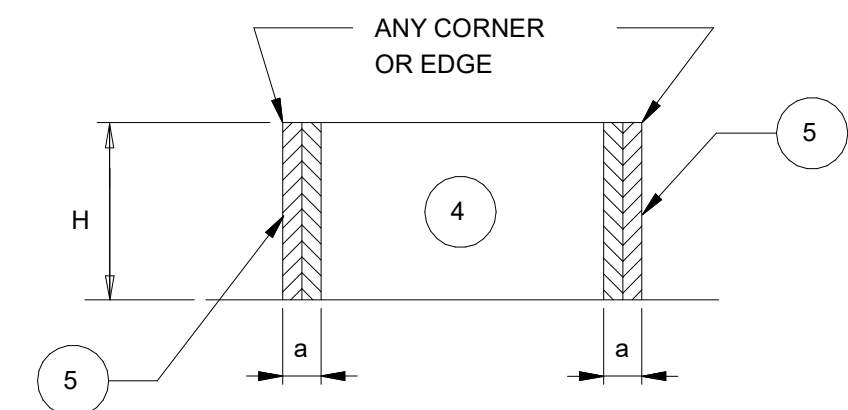
BASIC WIND SPEED (3 SEC. GUST)	$V_{LE7} = 107$ MPH
	$V_{MBD} = 83$ MPH
RISK CATEGORY	II
EXPOSURE CATEGORY	C
INTERNAL PRESSURE COEFF., $GC_p$	$\pm 0.18$ (ENCLOSED)

#### 1.4.2 DESIGN WIND PRESSURE - MAIN WINDFORCE RESISTING SYSTEM (ULTIMATE)

LOCATION	WALL (WINDWARD + LEEWARD) (@ MEAN ROOF HEIGHT)		ROOF		CANOPY +/-38.0 PSF	2a (FT)
	INTERIOR ZONE	END ZONE	INTERIOR ZONE	END ZONE		
ALL AREAS, U.N.O.	$\pm 19.0$ PSF	$\pm 28.0$ PSF	-19.0 PSF	-28.0 PSF		8.0

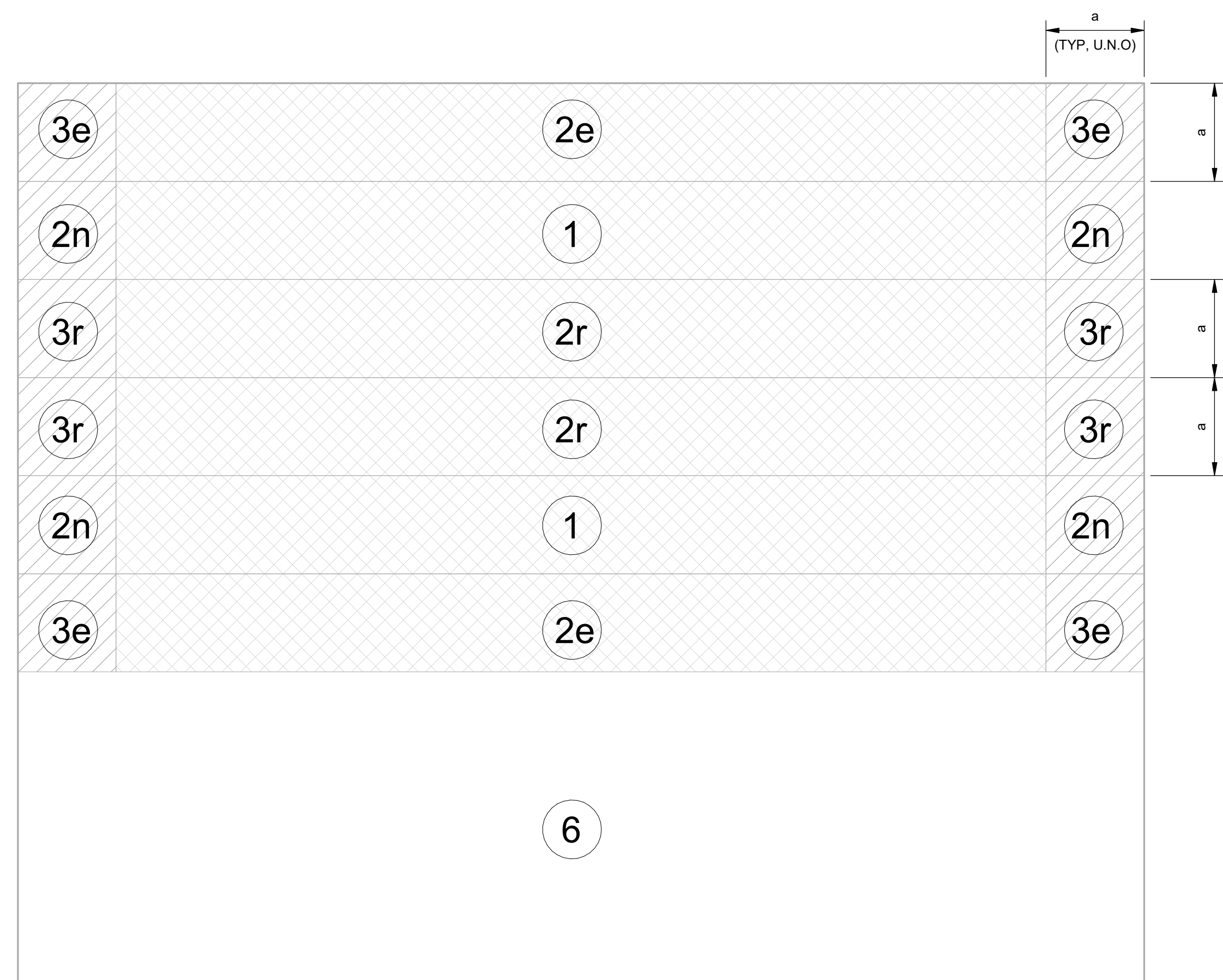
#### 1.4.3 DESIGN WIND PRESSURE - WALL COMPONENTS & CLADDING (ULTIMATE)

EXTERIOR WALL SYSTEMS & THEIR ATTACHMENTS TO THE PRIMARY STRUCTURE SHALL BE DESIGNED FOR THE PRESSURES SHOWN IN THE DIAGRAM BELOW.



NOTE: PRESSURE ON EXTERIOR WALL SYSTEMS FOR BUILDINGS WITH MEAN ROOF HEIGHT (H) = AS SHOWN

LOCATION	H	WINDWARD PRESSURE psf (INWARD)		LEEWARD PRESSURE psf (OUTWARD)		a (FT)
		4	5	4	5	
AREA $\leq 10$ ft <sup>2</sup>	0-18.5'	26.0	26.0	-28.0	-34.5	4.0
AREA = 50 ft <sup>2</sup>	0-18.5'	23.0	23.0	-25.5	-29.0	4.0
AREA = 100 ft <sup>2</sup>	0-18.5'	22.0	22.0	-24.0	-27.0	4.0



#### 1.4.4 DESIGN WIND PRESSURE - ROOF COMPONENTS & CLADDING (ULTIMATE)

TRIBUTARY AREA	MAIN BUILDING ROOF (OPEN)						"a"
	UPLIFT PRESSURE psf (ULTIMATE)						
	ALL ZONES	ZONE (2e)	ZONE (2n) (2r) (3e)	ZONE (3r)	ZONE (6)	OVERHANG	
$A \leq 10R^2$	+16	-47.5	-69	-82.5	+42.5, -80	-102.5	4.0
$A = 50R^2$	+16	-29	-47.5	-55	+32, -58	-66	4.0
$A = 100R^2$	+16	-16	-38	-43	+21.5, -38	-53	4.0

\*T\* = TYPICAL ROOF AREA EXCLUDING OVERHANG  
 \*\* = PRESSURES ACTING TOWARD SURFACES  
 \*\*\* = PRESSURES ACTING AWAY FROM SURFACES  
 "OH" = INDICATES ROOF OVERHANG

### 1.5 SEISMIC LOAD (PER IBC 2021 / ASCE 7-16)

1.5.1 RISK CATEGORY	II (TABLE 1604.5)
1.5.2 SEISMIC IMPORTANCE FACTOR	1.0
1.5.3 SPECTRAL ACCELERATION COEFFICIENTS $S_s$ AND $S_1$	$S_s = 0.294g$ $S_1 = 0.094g$
1.5.4 SPECTRAL RESPONSE COEFFICIENTS $S_{DS}$ AND $S_{D1}$	$S_{DS} = 0.307g$ $S_{D1} = 0.150g$
1.5.5 SITE CLASS	D (ASSUMED)
1.5.6 BASIC SEISMIC-FORCE-RESISTING SYSTEM (PER TABLE 1617.6)	STRUCTURAL STEEL SYSTEMS NOT SPECIFICALLY DETAILED FOR SEISMIC RESISTANCE
1.5.7 DESIGN BASE SHEAR, $V = C_d \times W$	$0.102 \times W$ (KIPS, IN EA. DIR.)
1.5.9 ANALYSIS PROCEDURE	EQUIVALENT LATERAL FORCE
1.5.10 SEISMIC RESPONSE COEFF., $C_d$	0.102
1.5.11 SEISMIC DESIGN CATEGORY	C (TABLE 1616.3 (1))
1.5.12 RESPONSE MODIFICATION FACTOR, R	3.0

### 2.0 FOUNDATION DESIGN CRITERIA

- 2.1 ALLOWABLE SOIL BEARING PRESSURE = 2000 PSF (ASSUMED)  
- TO BE FIELD VERIFIED BY GEOTECHNICAL ENGINEER PRIOR TO SLAB-ON-GRADE/ FOUNDATION INSTALLATION.
- 2.2 (NOT USED)
- 2.3 MINIMUM FACTOR OF SAFETY FOR STABILITY AGAINST SLIDING, OVERTURNING AND UPLIFT IS 1.5  
SLIDING FRICTION COEFFICIENT FOR FOOTINGS IS 0.30

CONCRETE MATERIALS SCHEDULE		
STRUCTURAL ELEMENT	$f_c$ CONCRETE COMPRESSIVE STRENGTH @ 28 DAYS (PSI)	REMARKS
ALL FOOTINGS U.N.O.	3000	
SLAB-ON-GRADE	4000	
CONCRETE PIERS	4000	
ALL OTHER CONCRETE	4000	

NOTES:  
1. ALL CONCRETE SHALL BE NORMAL WEIGHT CONCRETE. (150 PCF) (U.N.O.)

CONCRETE COVER SCHEDULE	
MINIMUM CONCRETE COVER PROTECTION FOR REINFORCEMENT BARS SHALL BE AS FOLLOWS: 1. SEE ACI 318-14, SECTION 20.6 FOR CONDITIONS NOT NOTED. 2. DIMENSIONS FOR BAR PLACEMENT GIVEN IN SECTIONS AND DETAILS SHALL SUPERSEDE MINIMUM COVER REQUIREMENTS GIVEN HERE.	
FOOTINGS (EARTH FORMED)	3 INCHES
COLUMNS / PIERS	1 1/2 INCHES
GRADE BEAMS OR SLAB TURNED DOWN EDGES:	
TOP	1 1/2 INCHES
BOTTOM	3 INCHES
SIDES (EARTH FORMED)	3 INCHES
SIDES (BOARD FORMED)	#5 BAR & SMALLER
SLABS-ON-GRADE (NO EXPOSURE TO WEATHER) FROM TOP	#5 THRU #11 BAR
SLABS-ON-GRADE (EXPOSURE TO WEATHER) FROM TOP	2 INCHES
RETAINING WALLS (NO SURFACES SHALL BE EARTH FORMED EARTH SIDE AND FRONT SIDE (EXPOSED TO WEATHER):	
#5 BAR AND SMALLER	1 1/2 INCHES
#5 THRU #11 BAR	2 INCHES
PROVIDE STANDARD BAR CHAIRS AND SPACERS AS REQUIRED TO MAINTAIN CONCRETE PROTECTION SPECIFIED.	

CONCRETE COVER SCHEDULE NOTES:  
1. YIELD STRENGTH OF REINFORCEMENT,  $f_y = 60$  ksi.  
2. CONCRETE IS NORMAL WEIGHT (150 pcf), SEE SCHED. THIS DWG FOR CONC. COMPRESSIVE STRENGTH.

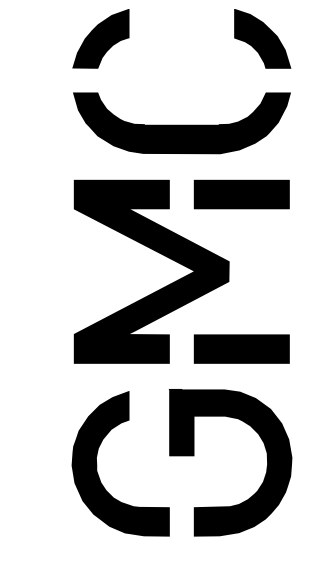
STANDARD HOOKS IN TENSION PER (ACI 318-14)			
HOOK DEVELOPMENT LENGTH $L_{dh}$ (INCHES)			
BAR SIZE	$f_c$ 4000 PSI	$f_c$ 3000 PSI	
#3	7	9	
#4	10	11	
#5	12	14	
#6	15	17	
#7	17	19	
#8	19	22	
#9	22	25	
#10	24	28	
#11	27	31	

HOOK EXTENSION PER ACI 318-14

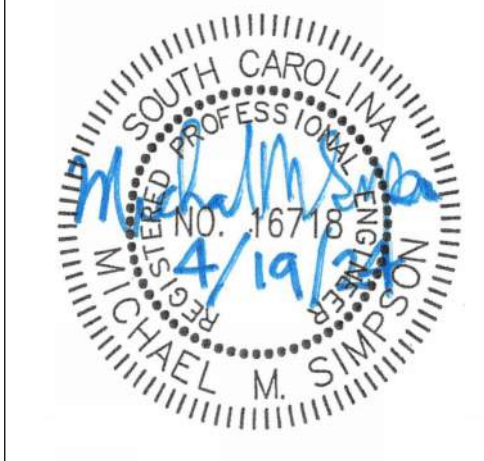
HOOK DEVELOPMENT LENGTH,  $L_{dh}$

MINIMUM LAP SPLICES OF REINFORCING BARS IN TENSION (PER ACI 318-14)								
BAR CONDITION BAR SIZE	$f_c = 3000$ psi				$f_c = 4000$ psi			
	(-TOP BARS-)		(-OTHER BARS-)		(-TOP BARS-)		(-OTHER BARS-)	
	CATEGORY A	CATEGORY B	CATEGORY A	CATEGORY B	CATEGORY A	CATEGORY B	CATEGORY A	CATEGORY B
#3	22	32	17	25	20	29	15	22
#4	29	43	22	33	25	38	19	29
#5	36	54	28	41	32	47	24	36
#6	43	64	33	50	38	60	29	43
#7	63	94	48	72	55	82	42	63
#8	72	107	55	82	63	94	48	72
#9	81	121	62	93	71	106	54	81
#10	91	136	70	105	80	119	61	91
#11	101	151	78	116	87	130	67	100

LAP SPLICE REINFORCING SCHEDULE NOTES:  
1. YIELD STRENGTH OF REINFORCEMENT,  $f_y = 60$  ksi (LAP SPLICE LENGTH GIVEN IN SCHEDULE IS IN INCHES).  
2. CONCRETE IS NORMAL WEIGHT (150 pcf), SEE SCHEDULE THIS DRAWING FOR CONCRETE COMPRESSIVE STRENGTH.  
3. TOP BAR INDICATES HORIZONTAL REINFORCEMENT WHICH IS PLACED ABOVE 12" OR MORE OF FRESH CONCRETE.  
4. UNLESS NOTED OTHERWISE COLUMNS & PIERS UTILIZE TENSION LAP SPLICES.  
5. CATEGORY 'A' IN TABLE DENOTES BARS THAT HAVE CLEAR SPACING AND COVER AT LEAST  $4d_b$  AND STIRRUPS NOT LESS THAN CODE MIN. OR CLEAR SPACING GREATER THAN  $24d_b$  AND CLEAR COVER OF  $d_b$ . CATEGORY 'B' IS ALL OTHER CASES.  
6. VALUES IN TABLES ARE FOR A CLASS 'A' TENSION SPLICE. CLASS 'B' TENSION SPLICE VALUES CAN BE OBTAINED BY MULTIPLYING THE VALUES FROM THE TABLE BY 1.3.



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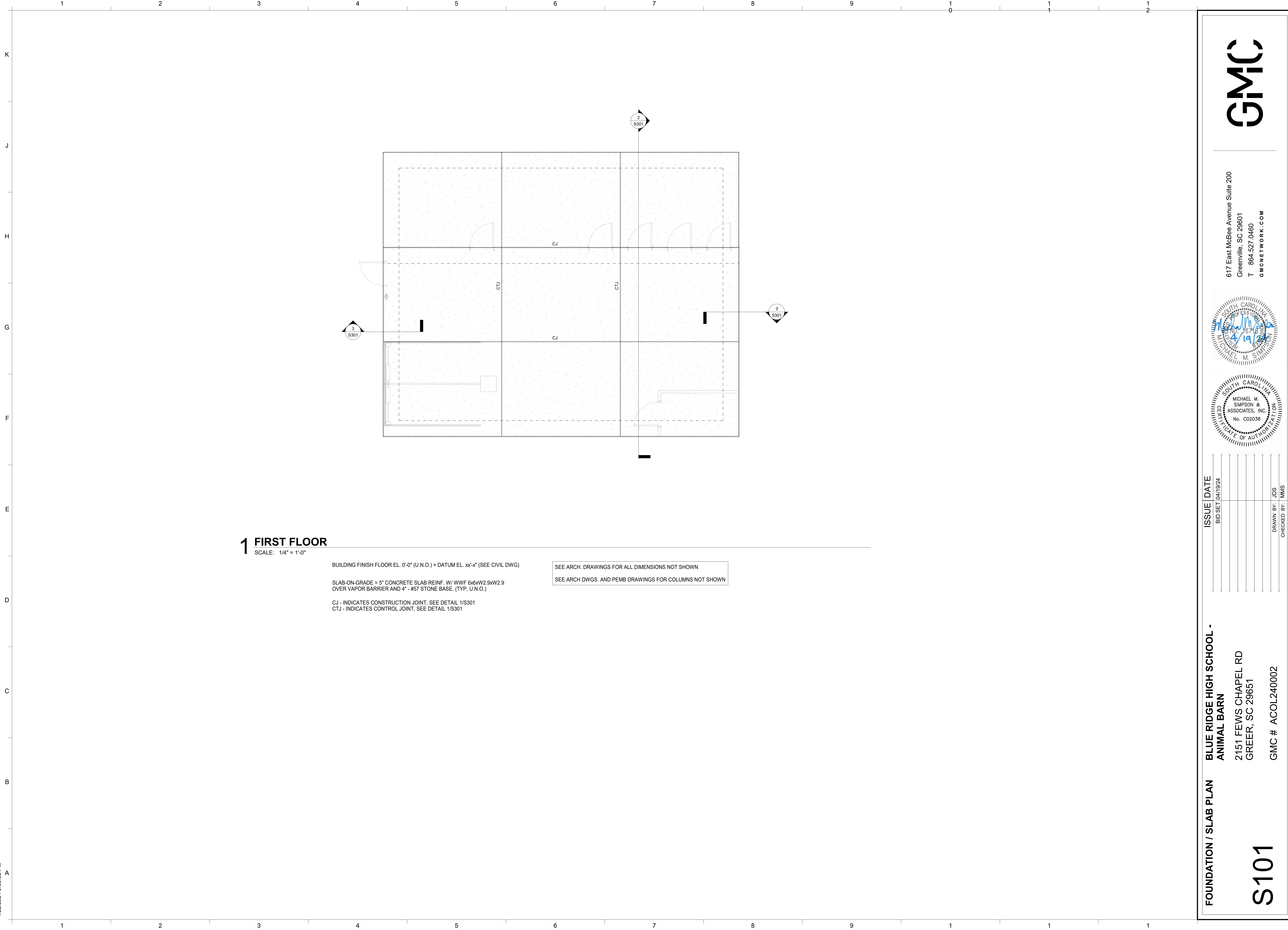
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CHECKED BY: IMS

BLUE RIDGE HIGH SCHOOL - ANIMAL BARN  
2151 FEWS CHAPEL RD  
GREER, SC 29651  
GMC # ACOL240002

BASIS OF DESIGN  
S002

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**1 FIRST FLOOR**  
SCALE: 1/4" = 1'-0"

BUILDING FINISH FLOOR EL. 0'-0" (U.N.O.) + DATUM EL. xx'-x" (SEE CIVIL DWG)

SLAB-ON-GRADE = 5" CONCRETE SLAB REINF. W/ WWF 6x6xW2.9xW2.9  
OVER VAPOR BARRIER AND 4" - #57 STONE BASE. (TYP. U.N.O.)

CJ - INDICATES CONSTRUCTION JOINT, SEE DETAIL 1/S301  
CTJ - INDICATES CONTROL JOINT, SEE DETAIL 1/S301

SEE ARCH. DRAWINGS FOR ALL DIMENSIONS NOT SHOWN

SEE ARCH DWGS. AND PEMB DRAWINGS FOR COLUMNS NOT SHOWN

FOUNDATION / SLAB PLAN  
BLUE RIDGE HIGH SCHOOL -  
ANIMAL BARN

2151 FEWS CHAPEL RD  
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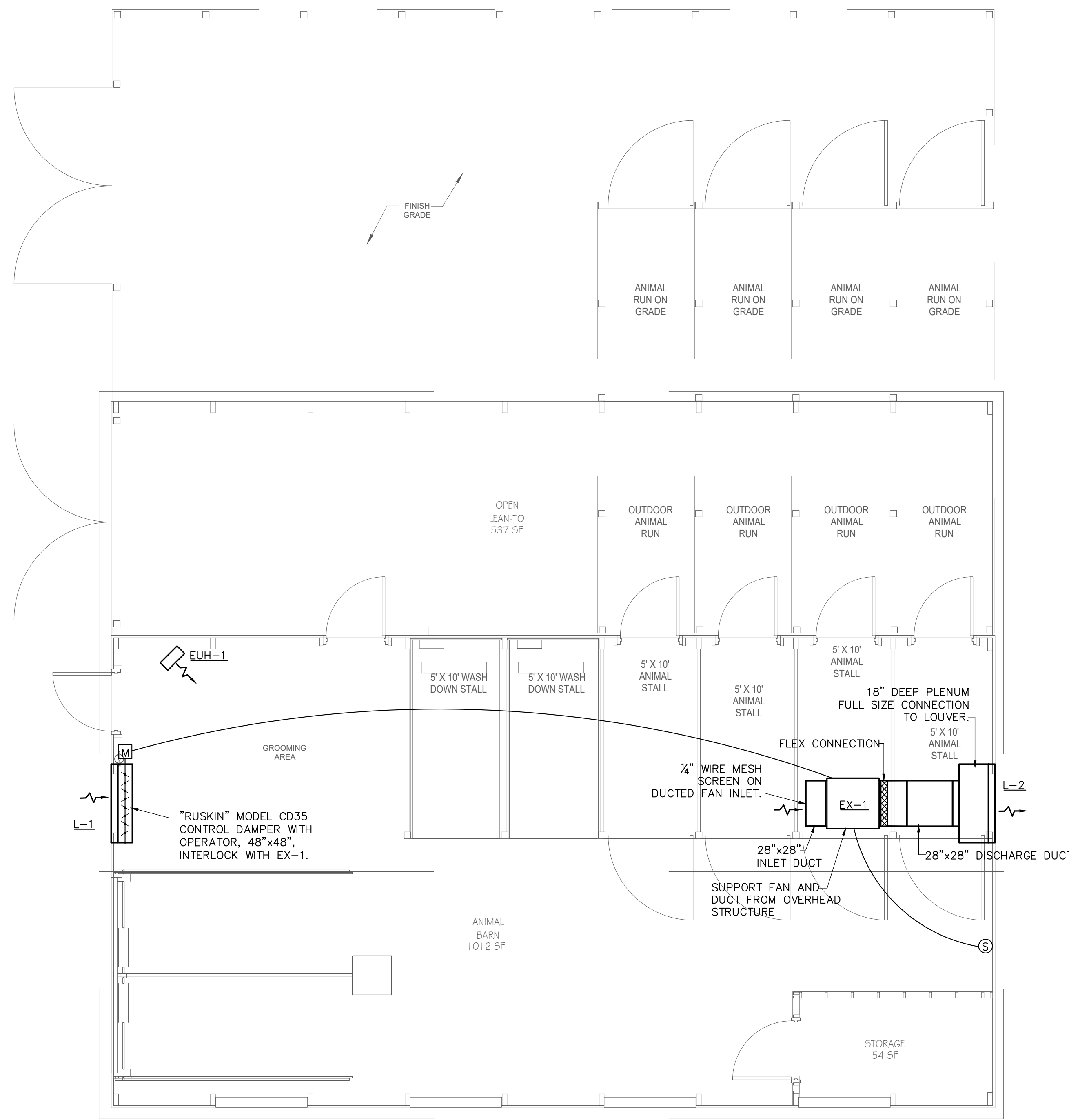
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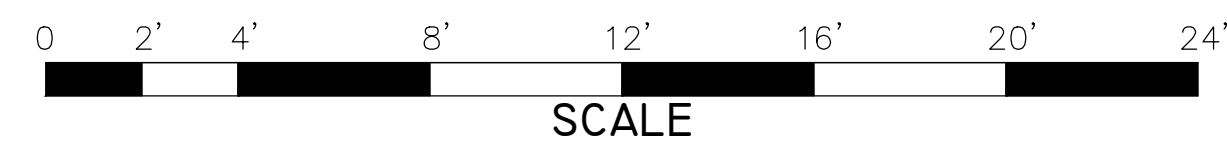
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**HVAC BUILDING PLAN**  
SCALE: 1/4" = 1'-0"



ELECTRIC UNIT HEATER SCHEDULE								
UNIT No.	RAYWALL MODEL No.	OUTPUT MBH	INPUT KW	C.F.M.	AMPS	VOLTAGE	WEIGHT (lbs.)	REMARKS
EUH-1	F2F5107CAIL	25.6	7.5	700	36.1	208/1/60	54	NOTE 1

**NOTES:**  
1. PROVIDE WITH WALL MOUNTING KIT, DISCONNECT, AND UNIT MOUNTED THERMOSTAT.

LOUVER SCHEDULE				
SYMBOL	SIZE WxH	TYPE	CFM	REMARKS
L-1	48"x48"	INTAKE	4000	NOTES 1-6
L-2	48"x48"	INTAKE	4000	NOTES 1-6

**NOTES:**  
1. BASIS OF DESIGN "RUSKIN" MODEL ELF375DX.  
2. EXTRUDED ALUMINUM STATIONARY BLADE LOUVER.  
3. DRAINABLE BLADE, 4" DEEP.  
4. 37.5 DEGREE BLADE ANGLE.  
5. INCLUSIVE OF BIRDSCREEN.  
6. FREE AREA VELOCITY = 466 PER MINUTE, 8.58 SQUARE FEET NET FREE AREA.

EXHAUST FAN SCHEDULE										
UNIT No.	GREENHECK MODEL NO.	TYPE DRIVE	C.F.M.	R.P.M.	S.P. INCHES	H.P./ WATTS	ELECTRICAL	SONES INLET/RADIATED	WEIGHT (lbs.)	REMARKS
EX-1	BS0-200	BELT	4000	898	0.5	1.5 HP	208/1/60	13.8/11.0	250	1, 2

**NOTES:**  
1. INTERLOCK WITH MANUAL SWITCH.  
2. INLINE SQUARE EXHAUST FAN WITH HANGING VIBRATION ISOLATORS, MOUNTING BRACKETS, AND DISCONNECT SWITCH.

OUTSIDE AIR SCHEDULE (PER 2021 IMC) - SINGLE ZONE SYSTEMS (VRP METHOD)							
SYSTEM NO.	SPACE NAME	SPACE TYPE	SIZE/ PEOPLE	METHOD	CALCULATIONS	CFM REQ'D	CFM PROVIDED
EX-1	ANIMAL BARN	ANIMAL AREA	1071 S.F./10 PEOPLE	7.5 CFM PER PERSON 0.18 CFM PER SQ. FT. Z.A.D.E. = 1.0	$(7.5 \times 10) + (0.18 \times 1071) = 268$ 1.0	268	4000

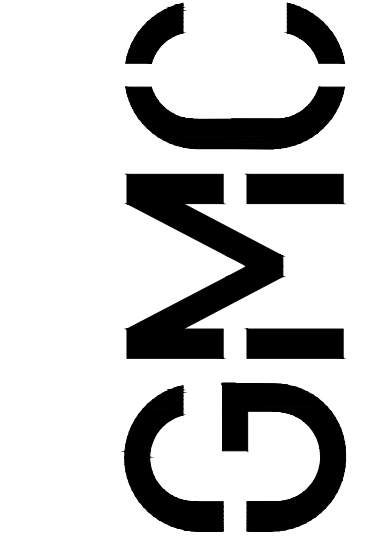
**NOTES:**  
1. Z.A.D.E. - ZONE AIR DISTRIBUTION EFFECTIVENESS, E<sub>z</sub>, Z.A.D.E.=1.0  
2. VENTILATION SYSTEM CALCULATED FOR 15 AIR CHANGES PER HOUR.

### MECHANICAL SPECIFICATIONS

**SECTION 15000 - MECHANICAL GENERAL PROVISIONS**  
COORDINATION OF MECHANICAL WORK:  
GENERAL: IT IS RECOGNIZED THAT THE CONTRACT DOCUMENTS ARE DIAGRAMMATIC IN SHOWING CERTAIN PHYSICAL RELATIONSHIPS WHICH MUST BE ESTABLISHED WITHIN THE MECHANICAL WORK, AND IN ITS INTERFACE WITH OTHER WORK INCLUDING UTILITIES AND ELECTRICAL WORK, AND THAT SUCH ESTABLISHMENT IS THE EXCLUSIVE RESPONSIBILITY OF THE CONTRACTOR.  
QUALITY ASSURANCE, STANDARDS AND SYMBOLS:  
GENERAL: THE FOLLOWING STANDARDS ARE IMPOSED, AS APPLICABLE TO THE WORK IN EACH INSTANCE:  
INTERNATIONAL BUILDING CODE (IBC), 2021 EDITION  
NFPA CODE  
INTERNATIONAL ENERGY CONSERVATION CODE (IECC), 2009 EDITION  
INTERNATIONAL MECHANICAL CODE (IMC) 2021 EDITION  
NATIONAL ELECTRICAL CODE, NFPA 70  
ELECTRICAL PROVISIONS OF MECHANICAL WORK:  
WIRING: THE CONTRACTOR IS RESPONSIBLE FOR ALL CONTROL WIRING. ALL CONTROL WIRING SHALL BE IN CONDUIT.  
**SECTION 15250 - SYSTEMS INSULATION**  
DESCRIPTION:  
DUCTWORK:  
EXTENT OF INSULATION WORK IS INDICATED AS DESCRIBED HEREIN. IN GENERAL, THE WORK TO INCLUDE INSULATING ALL NEW SUPPLY/RETURN DUCT THAT CONNECTS TO HVAC EQUIPMENT.  
DUCT INSULATION SHALL COMPLY WITH PARAGRAPH 803.2.8 IN THE 2009 INTERNATIONAL ENERGY CONSERVATION CODE.  
DUCTWORK SHALL BE INSULATED WITH 2" THICK TYPE OWENS CORNING FRK-25 SERIES ED150 DUCT WRAP (1.5 PCF). SEAL INSULATION JOINTS WITH FIRE RETARDANT MASTIC.  
**SECTION 15800 - DUCTWORK**  
ALL SHEET METAL WORK SHALL BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS STIPULATED IN THE CURRENT ISSUE OF NFPA PAMPHLET NO. 90.  
SHEET METAL CONSTRUCTION: DUCTWORK SHALL BE CONSTRUCTED OF GALVANIZED STEEL, GAUGES (U.S. STANDARDS) OF METAL WHICH SHALL BE USED, TOGETHER WITH THE TYPE OF JOINTS AND METHODS OF STIFFENING AND BRACING FOR VARIOUS SIZE DUCTS SHALL BE AS FOLLOWS:  
FABRICATION SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF SMACNA HVAC DUCT CONSTRUCTION STANDARDS FOR THE CLASS AND STATIC PRESSURES REQUIRED.  
ALL DUCTS SHALL HAVE ALL SEAMS AND JOINTS SEALED AIRTIGHT WITH UNITED SHEET METAL SEALER TO BE APPLIED AS PER MFG. BULLETIN DS-3. NO DUCT TAPE WILL BE ALLOWED.  
DUCT HANGERS AND SUPPORTS: SHALL BE EITHER STRAP HANGERS OR TRAPEZE HANGERS PROPERLY SECURED TO THE BUILDING CONSTRUCTION. STRAP HANGERS, METAL ATTACHED TO DUCTS, SHALL BE FASTENED TO SUPPORTING MEMBER BY CLAMPS, ANCHOR BOLTS, OR METAL SCREWS WHICHEVER IS MOST APPLICABLE.  
**SECTION 15990 - TEST AND BALANCE**  
AIRSIDE SYSTEMS SHALL BE FLOW TESTED AND BALANCED BY NEBB CERTIFIED TEST AND BALANCE SUBCONTRACTOR. THE SCOPE OF WORK TO INCLUDE TEST AND BALANCE OF EX-1 EXHAUST FAN SYSTEM.

### MECHANICAL GENERAL NOTES

- ALL SCHEDULES SHOWN ARE THE PURPOSE OF AIDING THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CORRECT TOTALS.
- THE CONTRACTOR SHALL REFER TO ARCHITECTURAL DRAWINGS FOR CONSTRUCTION DETAILS. CO-ORDINATE HVAC INSTALLATION WITH ALL OTHER TRADES.
- REFER TO ELECTRICAL DRAWINGS FOR POWER CONNECTION POINTS.
- FOR EXACT DIFFUSER/GRILLE LOCATIONS, REFER TO ARCHITECTURAL REFLECTED CEILING PLANS.
- ALL INSULATION AND FLEX DUCT SHALL COMPLY WITH CHAPTER 6 OF THE INTERNATIONAL MECHANICAL CODE, 2021 EDITION.
- AUXILIARY DRAIN PANS AND LINES SHALL COMPLY WITH CHAPTER 3 OF THE INTERNATIONAL MECHANICAL CODE, 2021 EDITION.
- ALL ELECTRICALLY POWERED EQUIPMENT SHALL BE LISTED AND LABELED PER NATIONAL ELECTRICAL CODE, AND INTERNATIONAL MECHANICAL CODE, 2021 EDITION CHAPTER 3.
- ALL EQUIPMENT SHALL BE ACCESSIBLE PER INTERNATIONAL MECHANICAL CODE, CHAPTER 3 2021 EDITION.
- ALL DUCTWORK ARRANGEMENT AND ROUTING AS SHOWN IS DIAGRAMMATIC AND MAY REQUIRE ALTERATIONS DIFFERENT FROM THAT SHOWN IN ORDER TO ACCOMMODATE STRUCTURE/ARCHITECTURAL FEATURES. CONTRACTOR SHALL FIELD VERIFY AND MAKE ALTERATIONS OR REVISIONS AS REQUIRED.
- INSIDE DUCT DIMENSIONS SHALL BE SAME AS THOSE SHOWN ON DRAWINGS.



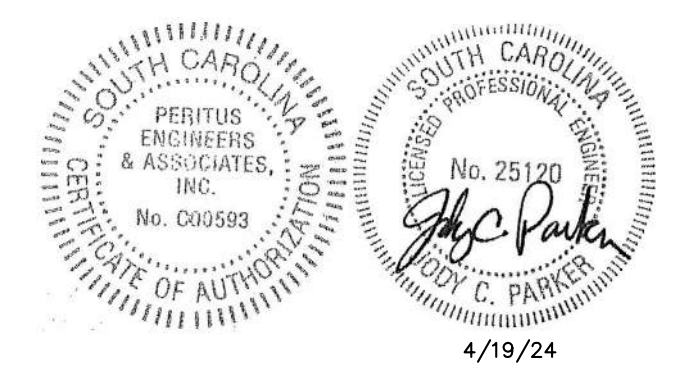
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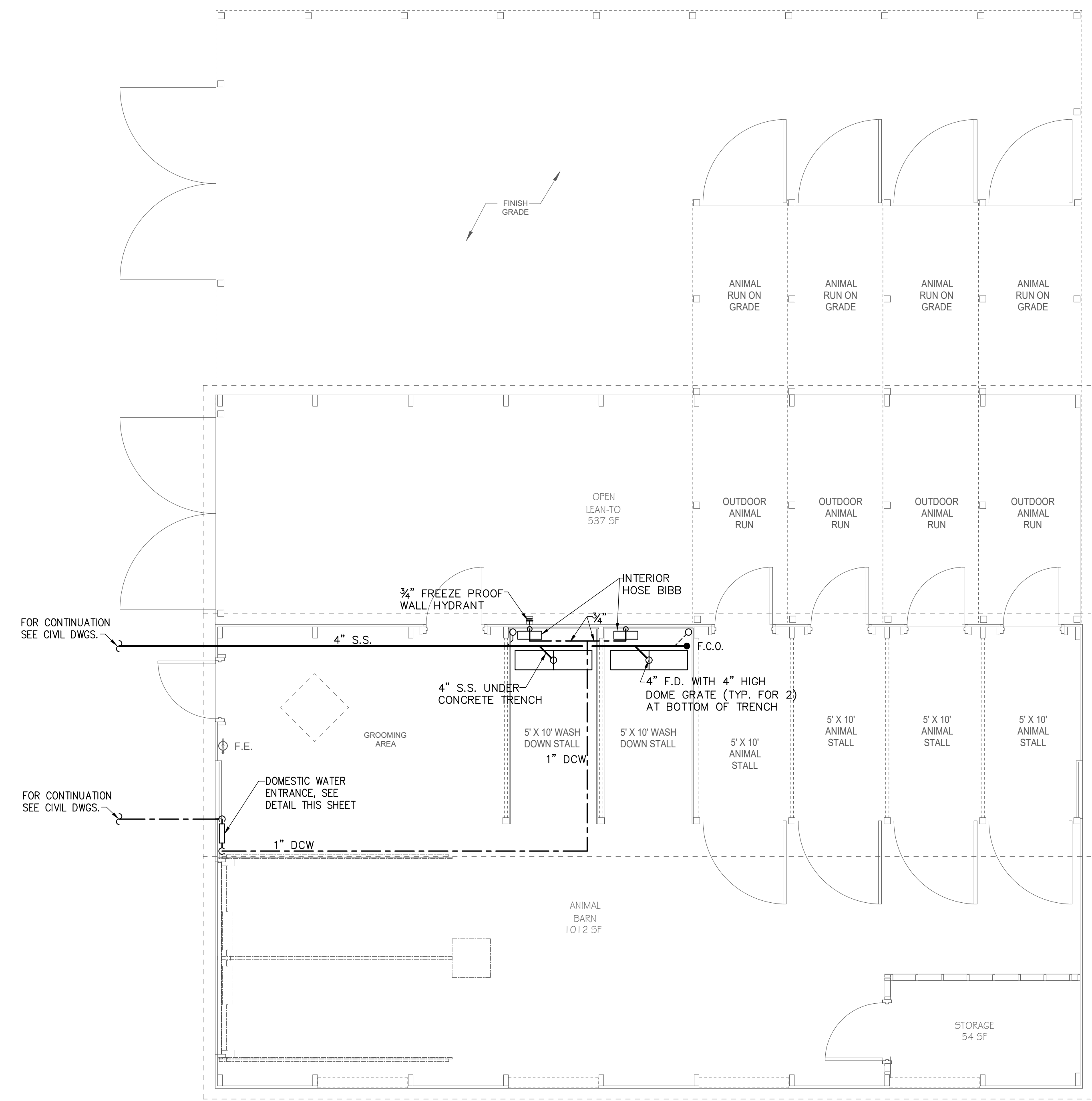


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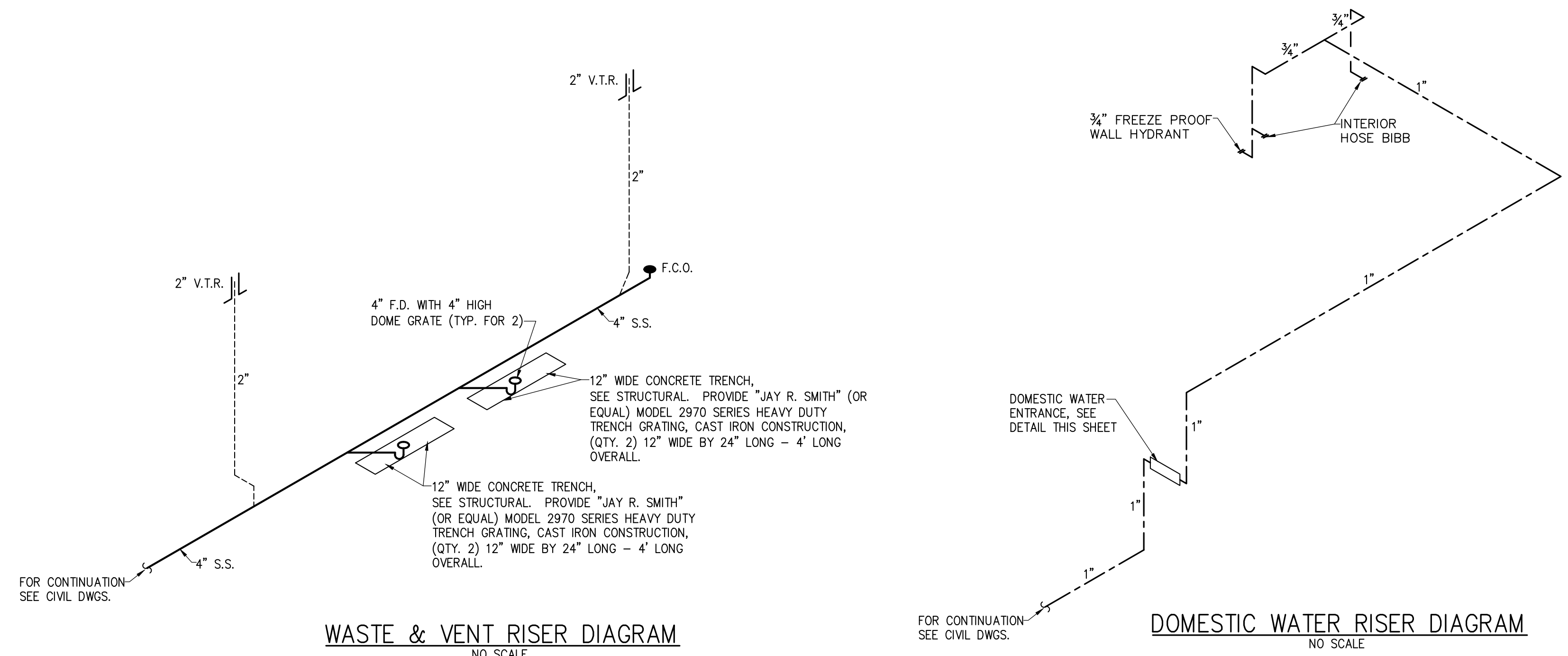
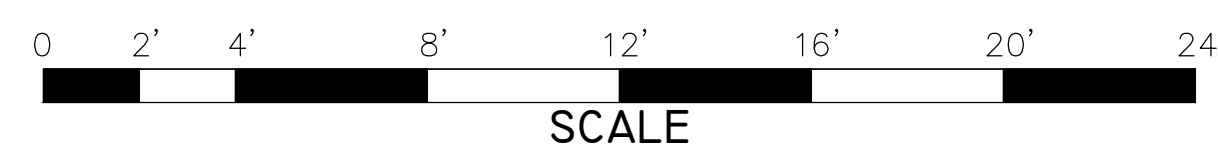
**HVAC BUILDING PLAN & SCHEDULES**  
**BLUE RIDGE HIGH SCHOOL - ANIMAL BARN**  
2151 FEWS CHAPEL RD  
GREER, SC 29651  
GMC # ACOL240002

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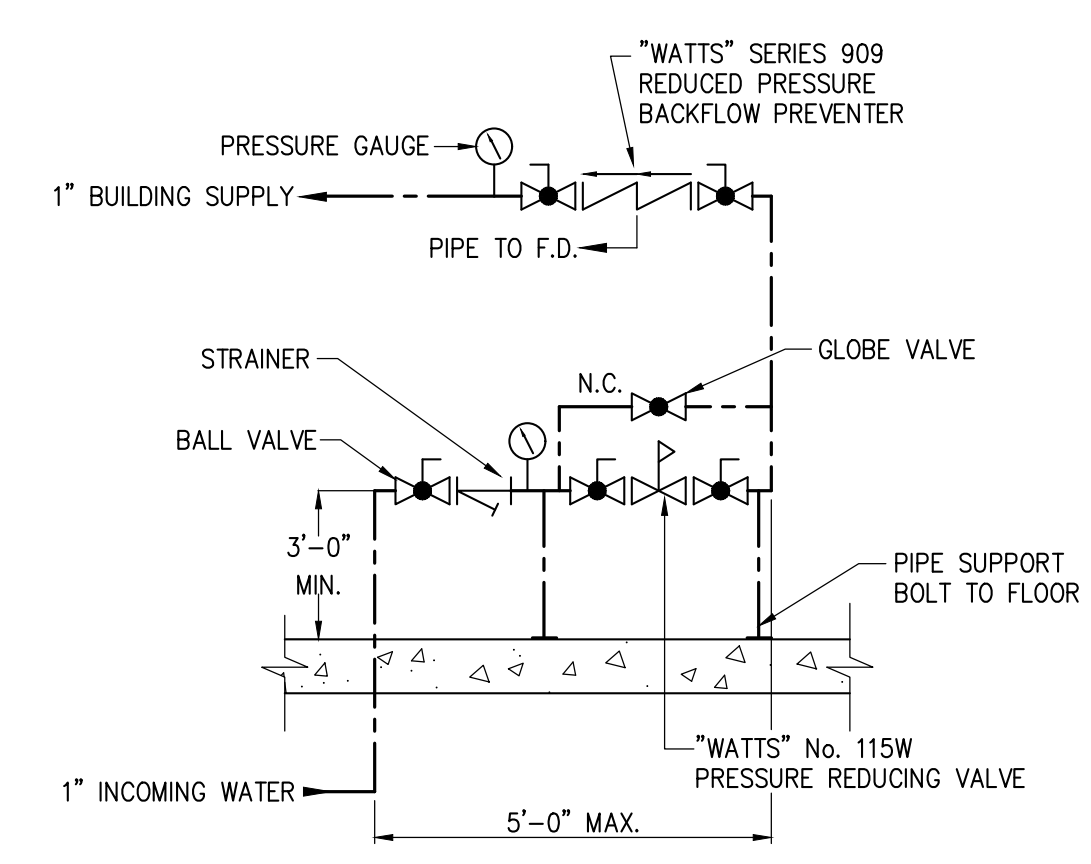


**PLUMBING BUILDING PLAN**  
SCALE: 1/4" = 1'-0"



PLUMBING LEGEND	
ITEM	DESCRIPTION
C.T.E.	CONNECT TO EXISTING
F.C.O.	FLOOR CLEAN OUT
---	DOMESTIC COLD WATER PIPING - D.C.W.
---	DOMESTIC HOT WATER PIPING (110°F) - D.H.W.
---	SANITARY SEWER or WASTE PIPING - S.S.
---	VENT PIPING
---	TRANSITION (LOCATED WHERE PIPES CHANGE SIZE)
○	BALL VALVE
⊥	CHECK VALVE

PLUMBING GENERAL NOTES	
1.	THE CONTRACTOR SHALL CO-ORDINATE INSTALLATION WITH OTHER TRADES.
2.	THE CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS SHOWN.
3.	THE CONTRACTOR SHALL REFER TO SITE PLANS FOR ALL OUTSIDE WORK TO BE PERFORMED.
4.	ALL PLUMBING WORK SHALL CONFORM TO THE 2021 INTERNATIONAL PLUMBING CODE, OSHA & ADA REQUIREMENTS, AND ALL APPLICABLE LOCAL CODES AND ORDINANCES.
5.	THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING WASTE & WATER PIPING BEFORE STARTING THE PROJECT.
6.	REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATIONS OF PLUMBING EQUIPMENT, FLOOR DRAINS & MOUNTING HEIGHTS OF PLUMBING FIXTURES.
7.	PIPING SHOWN ON ALL RISER DIAGRAMS ARE DIAGRAMMATIC, CONTRACTOR IS RESPONSIBLE FOR ALL FITTINGS AND CONNECTIONS AS REQUIRED FOR A COMPLETE INSTALLATION.
8.	ALL PIPING ARRANGEMENTS & ROUTINGS AS SHOWN ARE DIAGRAMMATIC AND MAY REQUIRE ALTERATIONS DIFFERENT FROM THAT SHOWN IN ORDER TO ACCOMMODATE STRUCTURAL/ARCHITECTURAL FEATURES. THE CONTRACTOR SHALL VERIFY AND MAKE ALTERATIONS OR REVISIONS AS REQUIRED.
9.	THE PLUMBER SHALL PAY FOR ALL FEES.



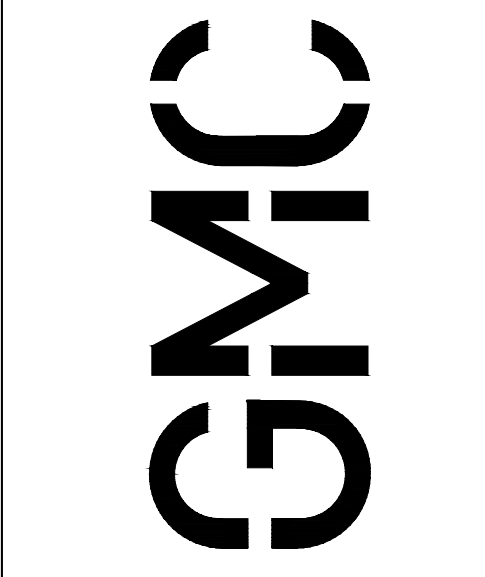
**DOMESTIC WATER PIPING ENTRANCE DETAIL**  
NO SCALE

**PLUMBING SPECIFICATIONS**

- GENERAL PROVISIONS**
- A. CODES - THE FOLLOWING CODES ARE IMPOSED AS APPLICABLE TO THE WORK.
- SOUTH CAROLINA DEPARTMENT OF HEALTH & ENVIRONMENTAL CONTROL
  - INTERNATIONAL BUILDING CODE - 2021 EDITION
  - INTERNATIONAL PLUMBING CODE - 2021 EDITION
  - INTERNATIONAL ENERGY CONSERVATION CODE - 2009 EDITION
- B. EQUIPMENT LABELING - ALL ELECTRICALLY POWERED EQUIPMENT TO BE U.L. LABELED OR SIMILAR TESTING AGENCY.
- C. MAINTENANCE MANUALS - PROVIDE OWNER WITH (3) THREE COMPLETE SETS OF BOUND PRODUCT AND MAINTENANCE DATA.
- D. ELECTRICAL - ALL WIRING TO BE PROVIDED BY ELECTRICAL CONTRACTOR.

- SYSTEMS INSULATION**
- A. DOMESTIC WATER PIPING - PIPE SIZE 1-1/2" AND SMALLER - 1" THICKNESS. INSULATION TO BE OWENS CORNING FIBERGLAS ASJ/SSL-11, U.L. LISTED.
- B. ALL EXPOSED WATER AND WASTE DRAINAGE PIPE UNDER ALL HANDICAPPED AND PUBLIC LAVATORIES SHALL BE COVERED WITH "TRUEBRO" INSULATION & COVERING.
- C. ACCEPTABLE MANUFACTURERS - CERTANTEED, KNUAF, AND OWENS-CORNING.
- DOMESTIC WATER PIPING SYSTEM**
- A. PIPING - COPPER TUBE ASTM B88, TYPE L, HARD-DRAWN TEMPER.
- B. VALVES - 150 LB. BRONZE GATE AND GLOBE VALVES. ACCEPTABLE MANUFACTURERS: HAMMOND, NIBCO-SCOTT, GRINNELL AND CRANE.
- C. ESCUTCHEON - HEAVY CHROME PLATED BRASS.
- D. STERILIZATION - AS REQUIRED BY SOUTH CAROLINA DEPARTMENT OF HEALTH & ENVIRONMENTAL CONTROL.

- SOIL/WASTE AND VENT PIPING SYSTEM**
- A. SANITARY SEWER WASTE AND VENT PIPING - SCHEDULE 40 SOLID WALL PVC PIPING WITH DWV FITTINGS AND SOLVENT CEMENT JOINTS FOR UNDERGROUND AND ABOVE GROUND WASTE AND VENT PIPING.
- B. ESCUTCHEONS - HEAVY CHROME PLATED BRASS.
- C. CLEANOUTS - ACCEPTABLE MANUFACTURERS: JOSAM, ZURN, WADE, J.R. SMITH.



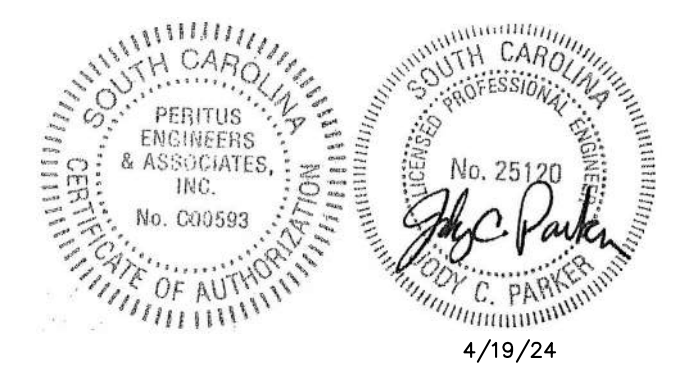
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**PLUMBING BUILDING PLAN - BLUE RIDGE HIGH SCHOOL - ANIMAL BARN**  
2151 FEWS CHAPEL RD  
GREER, SC 29651  
GMC # ACOL240002

**SCHEDULES, RISER DIAGRAMS & DETAILS**  
**P1.00**



SYMBOL	DESCRIPTION
	<b>CIRCUITS AND CONDUIT</b> HOME RUN TO LIGHTING/SERVICE PANEL. HASH MARKS, WHEN SHOWN, INDICATE NUMBERS OF CONDUCTORS. 1/1 INDICATES HOT WIRE. 1/0 INDICATES NEUTRAL CONDUCTOR. 2/0 INDICATES GROUND CONDUCTOR. HOME RUN NOTE INDICATES PANEL NAME AND CIRCUIT NAME OR FEEDER TAG. CONDUCTORS SHALL BE #12 AWG IN 3/4" CONDUIT UNLESS NOTED OTHERWISE. ANY HOME RUN OR CONDUIT WITHOUT HASH MARKS IS TO CONTAIN 3 CONDUCTORS: 1 HOT, 1 NEUTRAL, AND 1 EQUIPMENT GROUND. EACH HOT CIRCUIT SHALL BE PAIRED WITH A SEPARATE NEUTRAL CONDUCTOR. SHARING OF NEUTRAL CONDUCTORS BETWEEN CIRCUITS IS NOT ALLOWED.
	EXPOSED CONDUIT
	CONDUIT RUN IN SLAB OR UNDERGROUND.
	CONDUIT RUN CONCEALED ABOVE CEILING OR IN WALLS, UNLESS NOTED OTHERWISE.
	<b>EQUIPMENT</b>
	LIGHTING OR SERVICE PANEL, SURFACE MOUNTED (208V)
	EXHAUST FAN. SEE MECHANICAL DRAWINGS FOR FAN SPECIFICATIONS.
	UNIT HEATER
	<b>WIRING DEVICES</b> NOTE: ALL WIRING DEVICES TO BE GRAY, WITH #302 STAINLESS STEEL COVERPLATE (FLUSH MOUNTED) UNLESS NOTED OTHERWISE ON THE DRAWING OR SPECIFICATIONS.
	<b>STRAIGHT BLADE DEVICE SYMBOLS</b> 20A, 125V, 2P, 3W, NEMA 5-20R, DUPLEX RECEPTACLE. HUBBELL 53624 OR EQUAL. STANDARD POWER. "WP" DENOTES WEATHER RESISTANT TYPE RECEPTACLE WITH CAST IN USE COVER. "GFI" DENOTES GFCI TYPE. "C" DENOTES RECEPTACLE TO BE FLUSH MOUNTED IN CEILING.
	<b>SWITCH SYMBOLS</b> SAME AS "Φ" ABOVE EXCEPT SURFACE MOUNTED. (SEE DETAIL 3/E0.01)
	MANUAL MOTOR STARTER, 208V, 2 POLE
	SINGLE POLE LIGHTING SWITCH 120-277 VOLT, 20 AMP, SPEC GRADE. LETTER "V" DESIGNATES WHICH FIXTURES ARE CONTROLLED FROM WHICH SWITCHES WHEN MULTIPLE SWITCHES ARE USED ON ONE CIRCUIT.
	PASSIVE INFRARED WALL SWITCH/OCCUPANCY SENSOR - WATTSTOPPER # PW-301
	4" STRIP FIXTURE
	EXTERIOR WALL PACK
	COMBINATION EMERGENCY LIGHT AND EXIT FIXTURE WITH INTEGRAL BATTERIES - ARROW INDICATES ILLUMINATED DIRECTIONAL ARROWS. SHADED SECTION INDICATES FACE WHICH IS ILLUMINATED. STEM INDICATES WALL MOUNTED. ALL EXIT LIGHTS SHALL BE MOUNTED TO THE STRUCTURE.
	EMERGENCY LIGHTING UNIT. EMERGENCY LIGHTS SHALL BE MOUNTED TO THE CEILING. MOUNT TO JUNCTION BOX SUPPORTED FROM T-BAR SUPPORT.
	EMERGENCY LIGHTING UNIT. ALL EMERGENCY LIGHTS SHALL BE MOUNTED TO THE STRUCTURE.

- ELECTRICAL GENERAL NOTES:**
- INSPECT SITE PRIOR TO SUBMITTING BID. DRAWINGS ARE INTENDED TO COVER THE REQUIRED ELECTRICAL SYSTEMS. DRAWINGS MAY NOT SHOW COMPLETE OR ACCURATE DETAILS OF THE BUILDING OR SYSTEM IN EVERY RESPECT. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO OBTAIN ANY ADDITIONAL INFORMATION AS REQUIRED.
  - CONFORM TO THE NATIONAL ELECTRICAL CODE (2020), IBC (2021), IECC (2019), APPLICABLE NEMA, ANSI AND IEEE PUBLICATIONS, UL, AND ADA STANDARDS AND OSHA REQUIREMENTS. COMPLY WITH LOCAL, COUNTY, STATE AND NATIONAL CODES HAVING JURISDICTION.
  - FURNISH AND INSTALL ALL MATERIALS IN A NEAT AND WORKMANLIKE FASHION. ALL MATERIALS SHALL BE NEW, WITH FIRST QUALITY AND UL LABEL.
  - VERIFY ALL DIMENSIONS AND CLEARANCES PRIOR TO INSTALLATION OF EQUIPMENT AND RACEWAYS. CONTRACTOR IS RESPONSIBLE FOR COORDINATION OF WORK WITH THAT OF ALL OTHER TRADES AS REQUIRED.
  - CONDUIT SHALL BE EMT FOR BRANCH CIRCUIT WIRING AS ALLOWED BY NEC, EXCEPT THAT SET SCREW OR CRIMP FITTINGS ARE NOT ALLOWED. WHERE EXPOSED TO PHYSICAL DAMAGE CONDUITS SHALL BE RIGID GALVANIZED STEEL. MINIMUM CONDUIT SIZE SHALL BE 3/4". ALL CONDUCTORS SHALL BE TYPE THHN/THWN, STRANDED 800V COPPER BUILDING WIRE. MINIMUM SIZE SHALL BE #12 AWG COPPER UNLESS NOTED. UNDERGROUND CONDUITS SHALL BE PVC SCHEDULE 40 WITH TRANSITION TO RIGID GALVANIZED STEEL FOR EXPOSED CONDUITS.
  - PROVIDE GROUNDING FOR ALL EQUIPMENT IN ACCORDANCE WITH ARTICLE 250 OF THE NATIONAL ELECTRICAL CODE.
  - ALL ENCLOSURES SHALL BE OF THE NEMA TYPE WHICH IS SUITABLE FOR THE APPLICATION.
  - SEAL ALL CONDUIT PENETRATIONS TO MATCH RATING OF WALL BEING PENETRATED.
  - ALL WORK SHALL HAVE PROPER LABELING AND NAMEPLATES. ALL CIRCUITS SHALL BE LABELED AT PANELS AND BOXES AS INDICATED. ALL PANELS AND DISCONNECTS ARE TO BE PERMANENTLY MARKED WITH NAME OF EQUIPMENT SERVED AS WELL AS SOURCE PANEL AND CIRCUIT NUMBER PER NEC 110. ALL PANELS ARE TO BE PROVIDED WITH TYPEWRITTEN PANEL SCHEDULES.
  - THOROUGHLY CLEAN ALL EQUIPMENT AND SYSTEMS BEFORE PLACING IN OPERATION. RESTORE FINISHED SURFACES IF DAMAGED AND DELIVER THE ENTIRE INSTALLATION IN AN APPROVED CONDITION. INSTRUCT THE OWNER'S PERSONNEL IN THE PROPER OPERATION AND MAINTENANCE OF THE SYSTEMS. FURNISH TO THE OWNER THREE SETS OF OPERATION AND MAINTENANCE MANUALS FOR EACH SYSTEM.
  - GUARANTEE THE WORK INSTALLED FOR A PERIOD OF ONE YEAR AFTER DATE OF FINAL ACCEPTANCE. DEFECTS WHICH APPEAR AS A RESULT OF NORMAL USAGE SHALL BE REMEDIED BY THE CONTRACTOR TO THE COMPLETE SATISFACTION OF THE OWNER WITHOUT COST TO THE OWNER.
  - CONTRACTOR SHALL KEEP CURRENT A SET OF PLANS FOR THE DURATION OF CONSTRUCTION WITH ALL CHANGES TO WORK NEATLY AND ACCURATELY MARKED IN RED AND SHALL TURN OVER TO OWNER AT COMPLETION OF PROJECT.
  - ALL ELECTRICAL EQUIPMENT SHALL BE INSTALLED TO MEET SEISMIC REQUIREMENTS OF 2021 IBC.

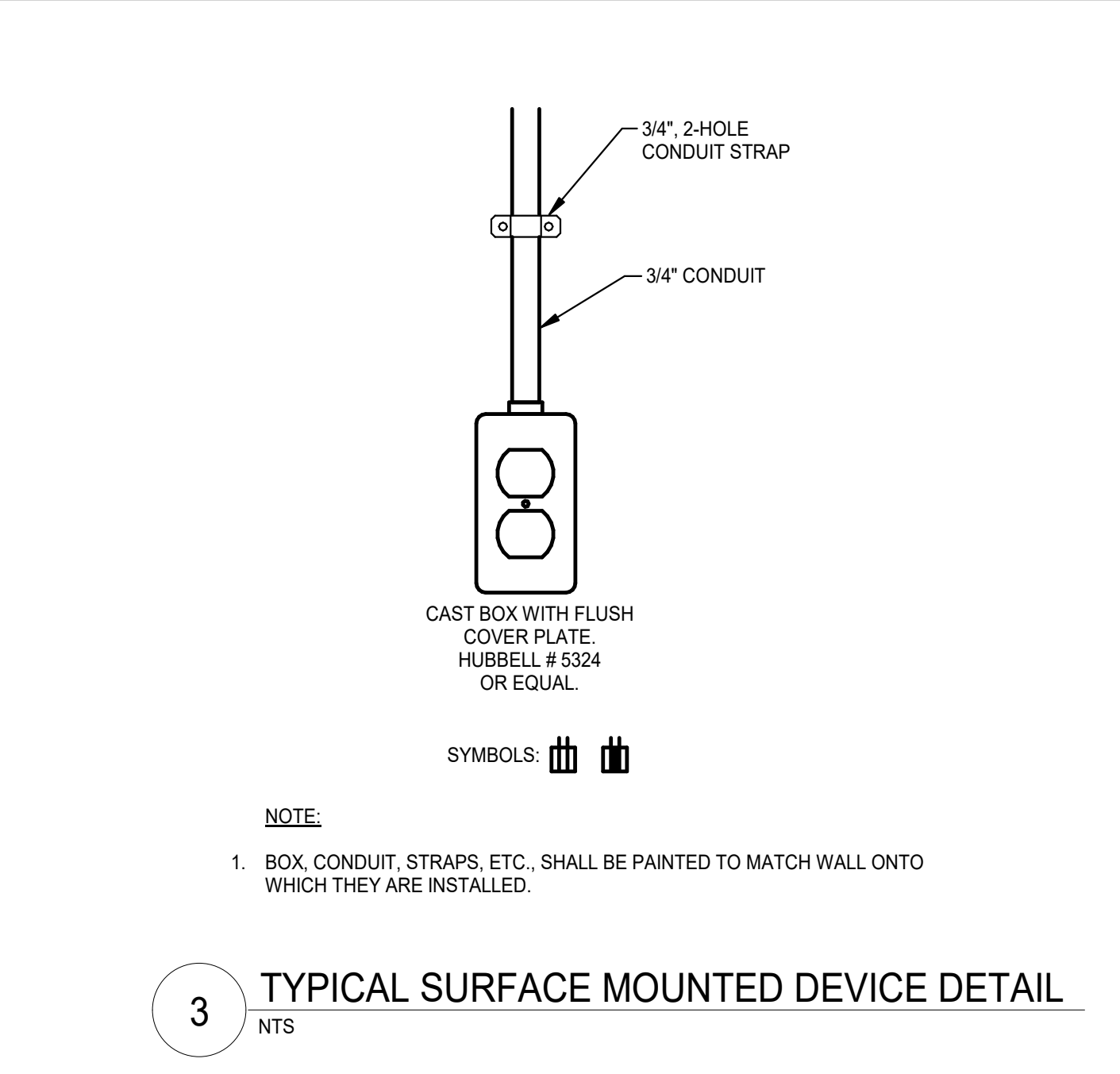
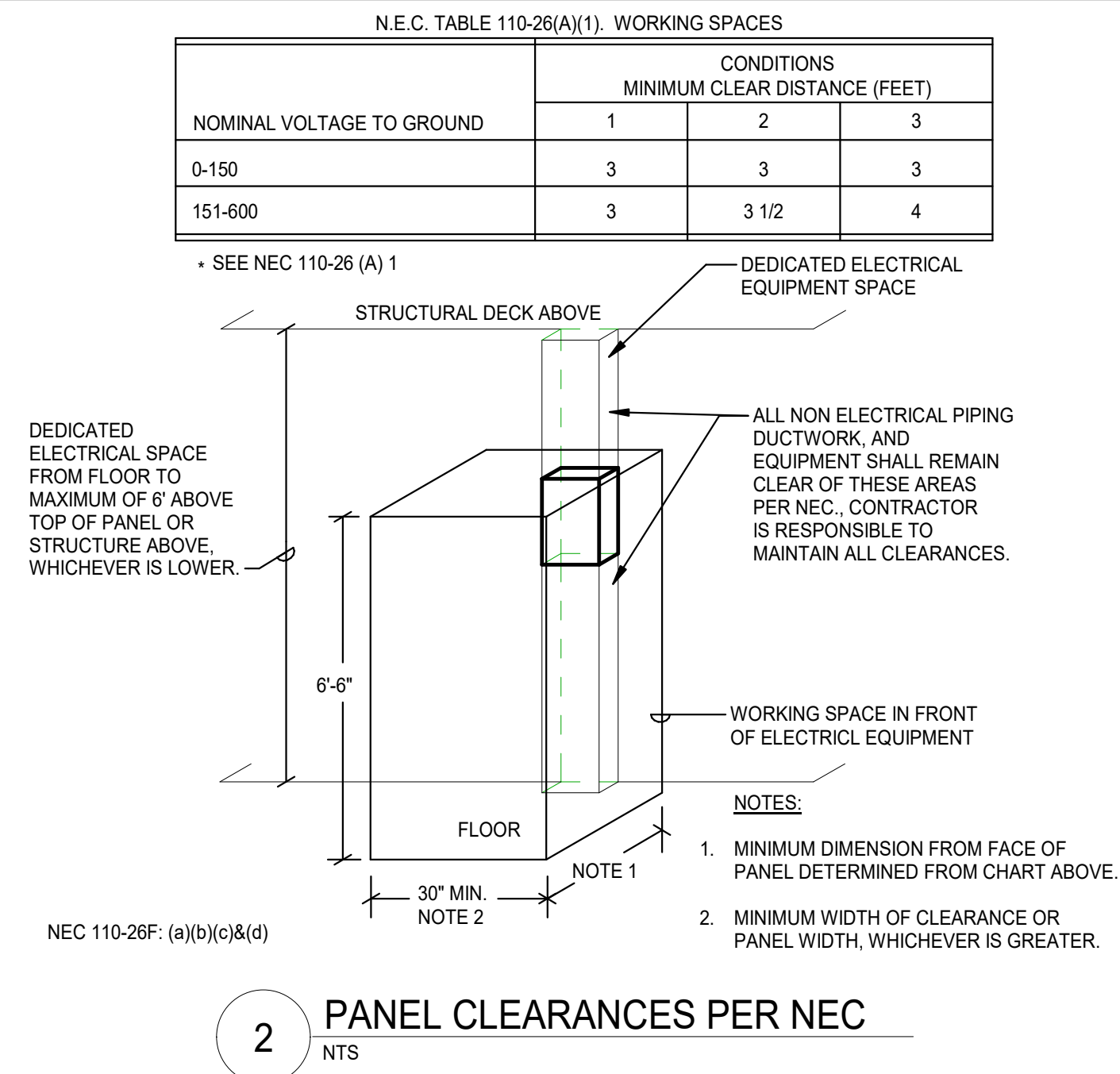
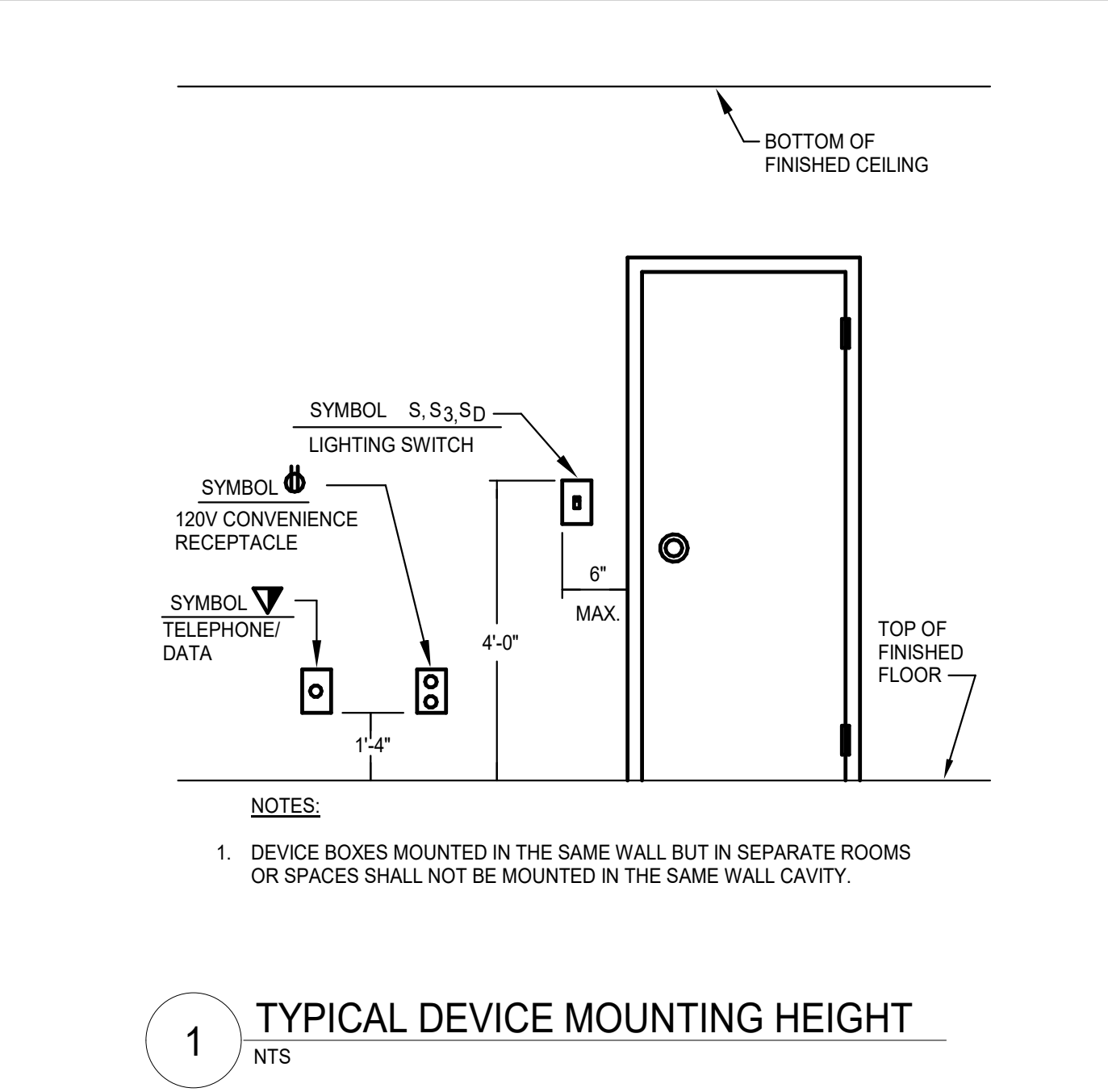
- GENERAL LIGHTING NOTES:**
- MANUFACTURERS & NUMBERS ARE LISTED TO ESTABLISH QUALITY ONLY AND NOT TO LIMIT COMPETITION. PRIOR TO BIDDING, SUBSTITUTIONS ARE ALLOWED SUBJECT TO SUBMITTAL DATA, PHOTOMETRICS & ENGINEERS APPROVAL AS REQUIRED BY SPECIFICATIONS. "SUBJECT TO APPROVAL" BIDS ARE PROHIBITED.
  - ALL FIXTURES TO BE U.L., E.T.L. OR C.S.A. LABELED. ALL EXTERIOR FIXTURES SHALL HAVE WET LABEL OR DAMP LABEL AS REQUIRED BY LOCATION. CONTRACTOR SHALL VERIFY BEFORE SUBMITTING FIXTURE.
  - ALL FIXTURES TO BE PAINTED AFTER FABRICATION.
  - PROVIDE ALL MOUNTING ACCESSORIES, BAR HANGARS & HARDWARE REQUIRED. COORDINATE MOUNTING REQUIREMENTS WITH ARCHITECT'S REFLECTED CEILING PLAN.

**LIGHTING FIXTURE SCHEDULE**

TYPE	DESCRIPTION	MANUFACTURER	MOUNTING HEIGHT	LAMP	WATTAGE	VOLTAGE
EM	WALL MOUNTED SPECIFICATION GRADE TWIN-HEAD LED EMERGENCY LIGHT. WHITE FINISH WITH EMERGENCY BATTERY BACKUP.	LITHONIA # ELM2-LED EMERGLITE # EL-2LED LIGHTALARMS # LCA-2LED	ABOVE DOOR	BY MFR.	4 VA	UNIVERSAL
EMC	CEILING MOUNTED TWIN-HEAD LOW PROFILE CONTOURED EMERGENCY LIGHT. WHITE FINISH WITH EMERGENCY BATTERY BACKUP.	EELP # EM2LED MAXILUME # ELM-LED-806-W LEGION # EMTFC-W	ATTACHED TO STRUCTURE	BY MFR.	6 VA	UNIVERSAL
EXM	UNIVERSAL MOUNTED EXIT SIGN COMBO WITH RED LETTERS ON WHITE HOUSING. DIFFUSER LENS WITH TWIN LED EMERGENCY HEADS.	LITHONIA # LHM4LED-R EMERGLITE # ELXN400-R-2LED LIGHTALARMS # LQLXN500-R-2LED	ABOVE DOOR	RED LED/ LED HEADS BY MFR.	5 VA	UNIVERSAL
IA	4" LED CHANNEL STRIP LIGHT. STEEL HOUSING. FROSTED ACRYLIC LENS. WHITE FINISH. PAF, 0-10V DIMMING DRIVER	LITHONIA # ZL1D-48-3000LM-FST-MVOLT-135K-80CRI-WH WILLIAMS # WPR-4-1.50(855-4L40)-DIM-UNV COLUMBIA # MPS-4-35-LW-C-W-ED-U	ATTACHED TO STRUCTURE	NOMINAL 4000 LM LED 3500K	34 VA	UNIVERSAL
WRE	TRAPEZOID EXTERIOR LED SCONCE WITH GASKETED DOORFRAME. TEMPERED GLASS LENS. GLARE SHIELD. FULL CUTOFF. INTEGRAL COLD WEATHER EMERGENCY BATTERY. DARK BRONZE FINISH. WIDE THROW OPTICS.	LITHONIA # WST LED-P2-40K-VW-MVOLT-E7WC-DD8XD WILLIAMS # WWPV-1.90(740)-TS-DS2-SDCL-EM4W-DIM-UNV HUBBELL # TRP2-24L-30-4K7-3-UNV-DB-CS-EH	9'-0" AFF	NOMINAL 3000 LM LED 4000K	36 VA	UNIVERSAL

**ABBREVIATIONS:**

AFS	ABOVE FINISHED GRADE	NTS	NOT TO SCALE
FU	FUSE	PH	PHASE
FWE	FURNISHED WITH EQUIPMENT	PVC	POLYVINYL CHLORIDE CONDUIT
GR	GROUND FAULT INTERRUPTER DEVICE	RECP	RECEPTACLE (R.)
LTG	LIGHTING (L.)	UH	UNIT HEATER
MLO	MAIN LUGS ONLY	WP	WEATHER PROOF
MCB	MAIN CIRCUIT BREAKER		



**GMC**

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**BLUE RIDGE HIGH SCHOOL - ANIMAL BARN**  
2151 FEWS CHAPEL RD  
GREER, SC 29651  
GMC # ACOL240002

**ELECTRICAL SYMBOL LEGEND**

**E0.01**

ISSUE DATE: 04/19/24  
DRAWN BY: TMP  
CHECKED BY: RAB/LCM

**BURDETTE ENGINEERING, INC.**  
200 Regent Park, Court  
Greenville, SC 29607  
Phone: 864 / 297-8717  
Email: be@burdetteengr.com  
BEI Job No: 24371A





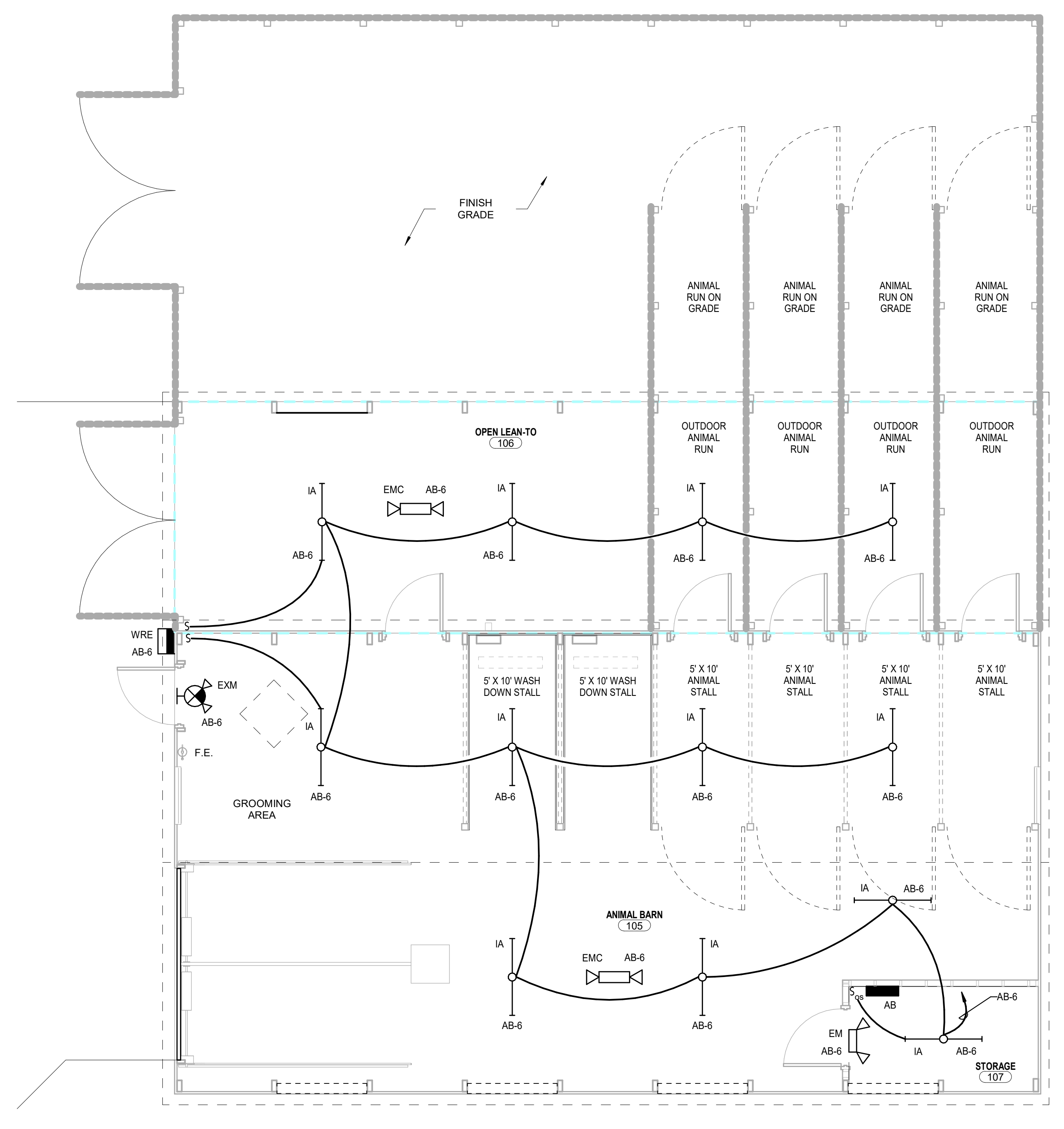
**GENERAL SHEET NOTES**

- SUSPEND LIGHTING FIXTURES AT 11'-0" AFF.
- SEE MECHANICAL DRAWINGS FOR EXACT LOCATIONS OF ALL MECHANICAL EQUIPMENT.
- PANEL 'RP11' IS LOCATED IN ADJACENT CENTRAL ENERGY PLANT. SEE SITE PLAN.

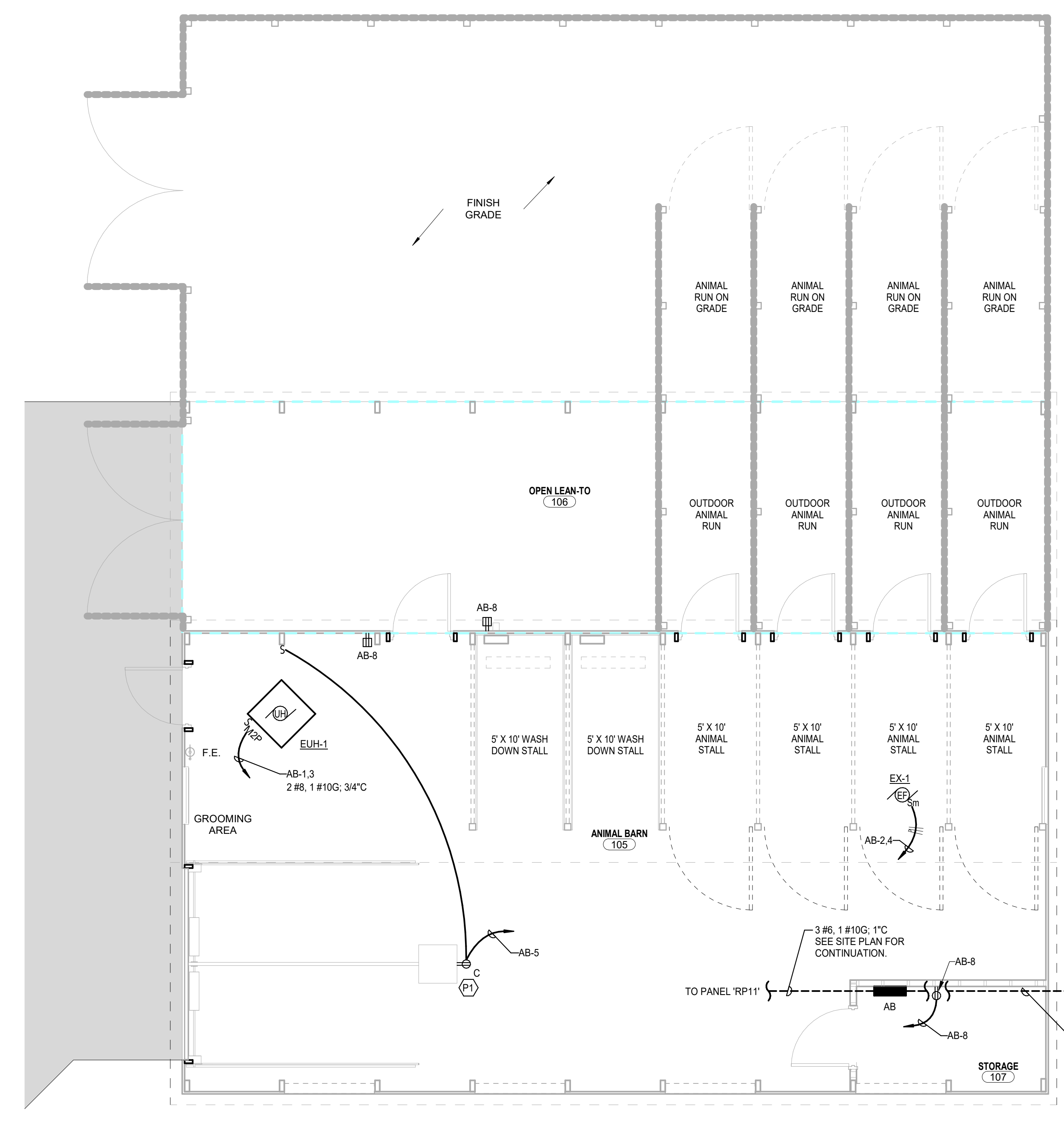
**POWER PLAN KEYNOTES**

- P1. POWER TO GARAGE OPENER. COORDINATE EXACT REQUIREMENTS.

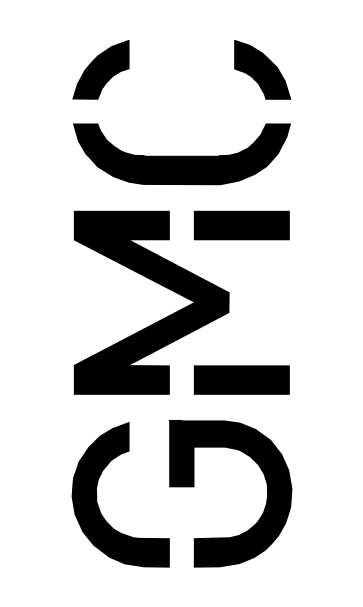
PANEL	VOLTAGE	CABINET SURFACE		TYPE		SQUARE D NO		NO. OF DEVICES	AMPS TRIP
		PHASE 3 WIRES 4 FEEDER BOTTOM		MAINS		60 A MCB			
		ØA	ØB	ØC					
DEVICE	BRANCH CIRCUIT	PHASE LOAD (VOLT-AMPS)				BRANCH CIRCUIT		DESIGNATION	NO.
DESIGNATION	No.	ØA	ØB	ØC	No.	DESIGNATION			
45 A 2	HEATER (EUH-1)	1	3750	1040	2	4	EX-1		2
20 A 1	R- GARAGE DR OPENER	5			180	485	L-BUILDING		1
20 A 1	SPARE	7	0	540			R- ROOMS 106, 105, 107		1
20 A 1	SPARE	9			0	0	SPARE		11
20 A 1	SPARE	11			0	0	SPARE		11
INTEGRATED EQUIPMENT RATING	10K AIC		5.3 kVA	4.8 kVA	0.6 kVA		PANELBOARD LOAD TOTAL		10.8 kVA



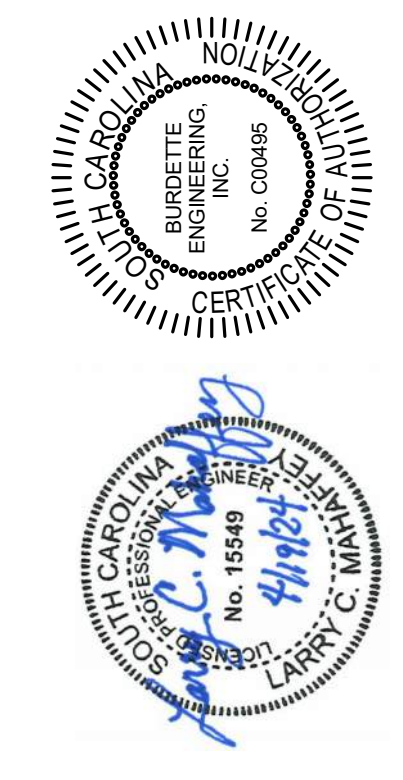
**1 ELECTRICAL LIGHTING PLAN**  
 1/4" = 1'-0"



**2 ELECTRICAL POWER PLAN**  
 1/4" = 1'-0"



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 GMCNETWORK.COM



ISSUE	DATE	BY	CHECKED BY
BID SET	04/18/24		

DRAWN BY: TMP  
 CHECKED BY: RAB/LCM

**BLUE RIDGE HIGH SCHOOL - ANIMAL BARN**

2151 FEWS CHAPEL RD  
 GREER, SC 29651

GMC # ACOL240002



**ELECTRICAL LIGHTING AND POWER PLANS**

**E2.01**

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SECTION 260500 — GENERAL PROVISIONS

**PART 1 - GENERAL**

1.1 RELATED SECTIONS

A. The provisions of all other sections of Division 1 of these Specifications shall govern the work under this Division or Section the same as if incorporated herein.

1.2 SCOPE

A. The Contractor shall provide and install complete electrical systems including all conductors, raceways, fittings, protective devices, wiring devices, fixtures, supports, and all miscellaneous hardware necessary. All of the above equipment shall be completely installed and left in proper operating condition. All electrically powered equipment whether furnished by others or by the Contractor shall be wired by the Contractor.

B. Complete Power distribution and utilization system shall be installed, including panelboards, utilization devices and equipment as required an indicated on drawings.

C. The Contractor shall furnish and install power, wiring and/or disconnects as shown on drawings for wiring systems for mechanical systems specified in other drawings and specification sections for this division. Temperature control wiring, equipment control and interlock wiring are not included in this division unless specifically noted in these specifications or shown on the plans. All motor disconnects, starters, combination motor controllers and motor control centers shall be furnished under this division of specifications unless noted otherwise.

1.3 REQUIREMENTS

A. Field verification of scale on electrical plans is directed since actual locations, distances and levels will be governed by actual field conditions. The contractor shall investigate existing electrical system and verify circuits shown are available. Before final payment, provide the owner with redlined copy of all changes made during the project and labeled "FIELD RECORD DRAWINGS" with date, company and job superintendent. Provide all panels affected by the project with an updated, typed panel schedules reflecting all changes made.

B. In case of conflicts or discrepancies between plans, plans and specifications and/or actual field conditions, Contractor shall notify the Engineer before work is continued. Coordinate with other trades to avoid conflicts.

C. Permits, Inspections and Tests - The Contractor shall procure and pay for all permits, fees, inspections, and licenses required. Perform all tests to ensure all systems are in good operating condition.

D. Review of Material: Specific reference in the specification to any article, device, product, material, fixture, form or type of construction by name, make or catalog number, with or without the words "or equal", shall be interpreted as establishing a standard of quality and shall not be construed as limiting competition.

E. Bidders shall base bids on the material specified or on equals receiving approval 10 days prior to Bid Opening. Any increase in the cost of work resulting from substitution of any product specified in part of this contract and shall be accomplished in an approved manner at no extra cost to the Owner.

F. Substitutions. No substitution will be considered unless written request for approval has been received by the Engineer at least 10 days prior to the date of receipt of bids. Each such request shall include the name of the material or equipment for which it is to be substituted and a complete description of the proposed substitution including drawings, cuts, performance and test data and any other information necessary for an evaluation. A statement setting forth any changes in other materials, equipment or other Work that incorporation of the substitute would require shall be included; failure to do so does not alleviate the Contractor of his responsibility to make any and all necessary changes required for installation of the approved substitution. The burden of proof of the proposed substitute is upon the proposer. The Engineer's decision of approval or disapproval of a proposed substitution shall be final.

G. All materials shall be new and of current manufacturer. When more than one of a type of device is used, all shall be by the same manufacturer. All materials shall conform to the grade, quality and standards of those specified.

H. Shop drawings shall be submitted in accordance with the General Conditions. Each item shall bear project name and identifying symbol from plans. Shop Drawings required are as follows:

- Lighting Fixtures
- Wiring Devices
- Panelboards
- Motor Starters
- Seismic Supports

I. Interferences - The drawings are generally diagrammatic in nature, and accordingly the Contractor shall coordinate his work with that of all other trades to avoid interferences. The Contractor shall examine the complete set of drawings and specifications for the job before installation of electrical work, coordinating locations and routings with other trades to avoid interferences. Work installed by the Contractor which does interfere with another trade shall be removed and reinstalled at the Contractor's expense when directed by the Architect.

J. Workmanship shall be of the highest quality and all work shall be done by workmen skilled in the trades involved.

K. The Contractor shall guarantee all work under this contract for one year and shall be responsible for the maintenance of all electrical equipment furnished and installed under this contract, excluding lamp replacement, for a period of one year from the date of substantial completion.

**PART 2 - PRODUCTS**  
NOT USED

**PART 3 - EXECUTION**

3.1 APPLICABLE CODES AND STANDARDS  
Note: The materials and installation shall conform to the minimum requirements and latest outstanding issues and revisions of the following codes, standards, and regulations when they apply:  
NFPA No. 70, National Electrical Code, (2020 edition).  
IBC (2021), IECC (2009), IFC (2021)  
American National Standards, National Electrical Safety Code.  
Applicable Publications of NEMA, ANSI, IEEE and IPEEA.  
Underwriter's Laboratories, Inc. Standards  
City, State and Local Codes and Regulations having jurisdiction.  
OSHA requirements.  
ADA requirements.

END OF SECTION 260500

SECTION 260501 — BASIC MATERIALS

**PART 1 - GENERAL**

1.1 RELATED SECTIONS

A. Materials specified in this section shall comply with all applicable requirements of SECTION 260500, GENERAL PROVISIONS.

1.2 SCOPE

A. Contractor Furnished. Unless otherwise noted on the drawings, equipment list, or specifications, the Contractor shall furnish and install all materials, devices, and apparatus necessary for the complete electrical system. All materials and equipment shall be of types and manufacturer specified wherever practical. Should materials or equipment so specified be unavailable, the Contractor shall submit the description and manufacturer's literature, reason for the substitution request and shall secure the approval of the Engineers before substitution of other material or equipment. This specification establishes performance requirements and the quality of equipment acceptable for use and shall in no way be construed to limit procurement from other manufacturers.

B. Equal or Equivalent. The term "or equal" and similar terms as used on the drawings or specifications shall be interpreted to mean "equal or equivalent" in the opinion of the Engineers.

C. Manufacturer's Prints. Where the Contractor furnishes equipment other than standard construction items, he shall furnish manufacturer's prints of all such equipment to the Engineers.

D. U.L. Listing. All equipment and materials shall be new and conform to the requirements of this specification. All equipment and materials shall be listed by the Underwriter's Laboratories, Inc., and shall bear their label whenever standards have been established and label service is regularly furnished. All equipment and materials shall be of the best grade of their respective kind for the purpose.

**PART 2 - PRODUCTS AND EXECUTION**

2.1 PANELBOARDS (WHERE INDICATED AS NEW)

A. Contractor Furnished. The contractor shall furnish all lighting, service, and power distribution panelboards required. All panelboards shall be of deadfront construction and shall incorporate all switching and protective devices of the type, quantity, number of poles, rating and type specified or shown on the drawings. The drawings and schedules indicate the ampere rating of mains, main breaker or disconnect, main lugs, voltage rating, phases, neutral and type of devices and enclosures. Enclosures for panelboards may be flush or surface type as designated on the drawings.

B. Doors. Hinged doors covering all switching device handles shall be included in all panel trims, except that panelboards having individual metal clad externally operable deadfront units may be supplied without such doors. Trims for flush panels shall overlap the box by at least 3/4" all around. Surface trim shall have the same width and height as the box. Trims shall be mountable by a screw-driver without the need for special tools.

C. Directory. A directory holder with glass or heavy plastic plate and metal frame shall be mounted inside of each door with a neatly typed directory properly identifying each circuit as shown on panel schedule drawings.

D. Nameplate. The contractor shall furnish and install an engraved, laminated plastic nameplate on the trim. The nameplate shall identify the panel by power source designation, panel designation, voltage rating and phase. Nameplate shall be blank engraved letters on white background.

E. Bus Bars. Bus bars and other conductive parts shall be copper and sized in accordance with Underwriter's Laboratories standards. Full size insulated neutral bars shall be included. Bussing shall be brass equal to or greater than the highest rated practice governing short circuit stresses in panelboards. Phase bussing shall be full height without reduction. Cross connectors shall be copper.

F. Neutral Bus. Neutral bussing on 3-phase panels shall have a suitable lug for each outgoing feeder requiring a neutral connection.

G. Ground Bus. All panels shall be furnished with a bare equipment ground bus.

H. Circuit Numbering. Panelboard circuit numbering shall be such that starting at the top, odd numbers shall be used in sequence down the left-hand side and even numbers shall be used in sequence down the right-hand side.

I. Terminals. Terminals for feeder conductors to the panelboard mains and neutral shall be U.L. listed as suitable for the type of conductor specified. Terminals for branch circuit wiring, both breaker and neutral, shall be U.L. listed as suitable for the type of conductor specified.

J. 277/480V Panels. All lighting/service panels rated 277/480 volt, shall be equal to Square D Company, Type NF equipped with bolt-on branch breakers the type and rating specified on the drawings.

K. 120/208V Panels. All lighting/service panels rated 120/208 volt, shall be equal to Square D Company, Type NQOD equipped with bolt-on branch breakers of the type and rating specified on the drawings.

L. Panels and Panelboards are designed around Square D equipment. Acceptable alternate manufacturers are Cutler-Hammer, Siemens, and General Electric Company. All alternate or substitution requests shall meet all performance requirements of specified equipment, as well as space and dimension requirements noted on drawings.

2.2 CIRCUIT BREAKERS

A. Contractor Furnished. The contractor will provide breakers unless specifically designated to be "Owner Furnished" on the drawings, equipment list, or within the specifications.

B. As Specified. Breakers shall be of the type, rating, number of poles, size, and interrupting capacity, as specified or required for the environment, location, application, and load served.

C. Molded Case Circuit Breakers. Molded case circuit breakers shall be circuit interrupting devices which will operate both manually for normal switching functions and automatically under overload and short circuit conditions. Circuit breakers shall provide circuit protection when applied within rating.

D. Rating. The molded case circuit breakers shall be rated for fault duty as specified on the plans. Series ratings are not allowed. The Contractor shall verify available fault current with the Utility Company for the actual installation and forward to the Engineer.

2.3 SAFETY SWITCHES

A. Contractor Furnished. The contractor shall provide all safely disconnect switches required. The switches shall be of the type, voltage, ampere, and horsepower rating, number of poles, fusible or nonfusible, as specified or required for the environment, location, application, and load served.

B. Description. All safety switches shall be NEMA premium heavy duty, horsepower rated, industrial type, and shall be Underwriters' Laboratories listed. Fusible switches shall be complete with fuses of the type and rating specified (refer to paragraph "Fuses") and as indicated on the drawings or within these specifications. All switches shall have switch blades that are fully visible in the OFF position when the door is open and shall be of dead front construction with arc suppressors. The mechanism shall be quick-make, quick-break type. The door shall be interlocked (deflatable type) with the handle or mechanism to prevent unauthorized opening of the door in ON position. Pad-locking provisions shall be provided for padlocking in the OFF position with one or more locks or lockable hasps. Grounded switches in a common enclosure shall be mounted in enclosure types specified elsewhere. Individually mounted switches shall be mounted in enclosures suitable for the location and environment as specified on the drawings.

C. Nameplate. All switches shall be provided with an engraved laminated phenolic nameplate showing the power source (ULN No. or other), and title of equipment served. Nameplates to be black letters on white background.

D. Manufacturer and Enclosures. All switches furnished shall have enclosures as specified on the drawings. Acceptable manufacturers shall be Square D, General Electric, Siemens, and Cutler-Hammer.

2.4 FUSES

A. Contractor Furnished. The contractor shall furnish and install fuses in all fusible devices and equipment that are furnished by the contractor.

B. Manufacturer and Listing. The following fuse types shall be used for the applications listed. The following are trade names of the Busman Manufacturing Division, however, equivalent products by Chase Shawmut Division shall be acceptable.

Application	Trade Names	Class	Voltage (Type)
Motors, Transformers & Miscellaneous Equipment 0-600 Amps	Fusetron	K-S	240 (FRA) 600 (FRS)
Panelboard Feeders & Service Disconnects 0-600 Amps	Low Peak RK-S	240 (LPM-R) 600 (LPS-R)	
Panelboard Feeders & Service Disconnects 601-6000 A	HI-CAP	L	600 (KRP-C)

2.5 MISCELLANEOUS CONTROL DEVICES

A. Furnished by Others. Miscellaneous control devices such as duct switches, air flow switches, thermostats and temperature control devices, and similar equipment shall normally be furnished under another division. Any such device that is to be furnished under this division shall be specifically designated on the drawings.

B. Enclosures. All devices furnished shall be suitable for the control requirements and shall have voltage rating and adequate capacity for the application. They shall be housed in enclosures suitable for the location and environment as indicated on the drawings.

2.6 RECEPTACLES - OUTLETS

A. Contractor Furnished. The contractor shall furnish and install all convenience (and power type) receptacles and outlets shown on the drawings. Suitable boxes, covers and matching plugs as specified shall be provided and the installation shall conform to typical details, drawings, and as described elsewhere in this specification. See electrical symbol drawings for additional descriptive data. Contractor shall install devices of the color and type specified on plans.

B. Single Manufacturer. Receptacles of similar usage and rating shall be those of a single manufacturer.

C. Usage and Manufacturer. General use and convenience outlets shall be as specified by symbol on the drawings and as listed on the symbols drawing.

D. Ground Fault Protection. Note that all convenience receptacles to be installed as ground fault interrupting type are so noted on drawings. All outlets located within 7' of sink or water source shall be GFCI type.

2.7 BOXES

A. Contractor Furnished. The contractor shall furnish and install all electrical boxes required for the proper installation of the electrical systems. Boxes shall be of the NEMA type suitable for the location. Boxes shall be installed as specified on the drawings and as described under "Wiring Methods," and other applicable sections of this specification for wiring devices such as switches, receptacles, and similar devices. In order to maintain fire ratings, boxes have installed "back-to-back" in fire walls shall not be located in the same space between studs, but shall have a stud located between them.

B. Concealed. Fixture, outlet, and switch boxes installed concealed in walls or ceiling areas shall be galvanized or cadmium plated sheet steel of not less than the minimum size as recommended in the National Electrical Code and shall be furnished with appropriate covers as specified in other applicable sections of these specifications or on the drawings. All boxes shall be accessible for maintenance purposes.

C. Exact locations of all floor boxes shall be coordinated in the field with the architect unless specific dimensions are shown on the drawings.

D. Surface Mounted. Fixture, outlet, and switch boxes installed surface mounted shall only be installed where noted on the plans.

E. Pull Boxes. Pull boxes for interior, or outdoor exposed power wiring shall be provided where shown or required to facilitate the installation of the wiring. Pull boxes shall not be located in finished rooms and shall be accessible for maintenance use.

F. Exterior and Underground. For exterior exposed work, pull boxes shall be of NEMA 3R construction.

2.8 COVERS AND DEVICE PLATES

A. Contractor Furnished. The contractor shall furnish and install the appropriate cover on all boxes, conduit fittings, panels, cabinets, switches, receptacles, and similar wiring devices and other equipment that is Contractor furnished. Conduit outlet fitting covers shall be the type specified under "Conduit Fittings."

2.9 ENCLOSURES

A. Enclosures and housings for all Contractor furnished electrical equipment and devices shall be suitable for the location and environmental conditions and shall be of NEMA type as shown on symbol sheet drawing.

END OF SECTION 260501

SECTION 260519 - CONDUCTORS

**PART 1 - GENERAL**

1.1 RELATED SECTIONS

A. Materials specified in this section shall comply with all applicable requirements of section 260500, GENERAL PROVISIONS.

1.2 SCOPE

A. This specification covers the requirements for all wire and cable to be used in the installation of the electrical systems for the project, including all power, lighting, control and instrumentation systems.

B. Wire and cable will normally be furnished by the contractor for installation. Drawings will indicate where cable is not to be furnished.

C. All cable is to be "contractor-furnished"; the contractor shall submit for approval by the owner any deviations anticipated or proposed with respect to the cable manufacturer, cable type, or specification contained herein.

**PART 2 - PRODUCTS**

2.1 MATERIALS

A. All wire and cable shall be Underwriters' Laboratories (UL) listed. In addition to other standard labeling, all wire and cable shall be marked UL on the outer surface indicating Underwriters' Laboratories, Inc. Certification.

B. Grounding conductors, where insulated, shall be colored solid green. Conductors intended as a neutral shall be colored solid white.

C. For all circuits 600 volt and less, wires and cables shall have code grade, 600 volt type THWN-THHN, 75 degrees C, wet or dry locations, moisture and heat resistant thermoplastic insulation. Insulation thickness shall be per national American code, table 310-13.

D. Conductor sizes are expressed in American wire gage (awg) or in circular mils. Conductors shall be annealed copper wire, minimum size #12 awg, except that #14 awg may be used for control. All conductors shall be stranded except that solid conductors may be used for #12 awg lighting and receptacle branch circuits.

**PART 3 - EXECUTION**

3.1 INSTALLATION

A. Separation of usage. Lighting and power wiring shall be routed in conduits, or other raceways as shown on the drawings. Lighting and power wiring shall not be routed in a common raceway except where shown on drawings. Push-button wiring shall be routed in separate raceways even though related to a particular motor circuit.

B. Pulling. Where mechanical assistance is used for pulling conductors, patented wire pulling compounds having inert qualities that do not harm the wire insulation or covering shall be applied to the conductors as they are pulled into raceways. Interior of all raceways shall be free from grease, filings or foreign matter before conductors are pulled in.

3.2 IDENTIFICATION

A. Wire, cable, raceways, and conduits.

B. Circuit identification numbers shall be placed on each end of the conductor involved by using self-laminating marker tags. T&B Company E-2 code type WSL or equal. Circuit numbers shall be as shown on the plan and panel schedule drawings.

C. Phase identification. Phase sequence throughout the installation shall be standardized wherever practical in all electrical power equipment as follows:

	phase a	phase b	phase c
position occupied	front top left	center center center	rear bottom right
color code:	208/120v, 3-phase 480/277v, 3-phase	black brown	red orange blue yellow

3.3 SPLICES AND TERMINATIONS

A. Lighting conductors. Splices in lighting conductors shall be made with splicing caps with metal inserts only, such as 3M Company's "Scotchlock" spring connectors. The splices shall be firmly and neatly taped to prevent entry of moisture.

B. Power conductors shall be continuous from outlet to outlet. No power cable shall be spliced except on explicit instructions of the owner's representative.

3.4 LUGS

A. All lugs shall be furnished and installed by the contractor where required.

B. Lugs for copper power wiring, sizes no. 12 and no. 10 awg shall be T&B "Sta-Kon" unmineralized ring type lugs. Lugs for copper power wiring from no. 10 awg to size 1/0 awg shall be T&B 1-hole type 54100 series. Size 2/0 awg and larger lugs shall be 2-hole type 54200 series (except where 1-hole is required to match motor lead lugs). Sizes above 1/0 are to be applied using hydraulic pump tool.

C. Where motor leads are furnished without lugs, T&B 54500 series 2-way connectors (splicing sleeves) shall be used. Splice sleeves may be desirable where limited space for termination exists.

D. The proper lugs will normally be furnished with equipment in all owner-furnished equipment. All other lugs shall be furnished and installed by the contractor. No mechanical type lugs shall be used except in panelboards. If any mechanical type lugs are furnished with owner-furnished equipment, the contractor shall replace them with proper compression type lugs where practical.

3.5 TAPING

A. All voids, sharp corners and bolt projections shall be made smooth by filing with okmole or scotch file before applying the lugs of tape required for insulation. All loose strands of wire shall be removed before taping. Duxseal will not be permitted.

B. Joints and other sections of wiring requiring tape shall be half lap and at least two layers. Taping shall be neatly done and shall form a permanent insulation equal in mechanical and electrical strength to the insulation of the conductor. Taping shall be as follows:  
600 volt insulation - a minimum of 1-1/2 lap layer varnished cambric and 2-1/2 lap layers of 3M No. 33 vinyl plastic electrical tape.

C. All taping, splicing and termination materials shall be furnished by the contractor.

END OF SECTION 260519

SECTION 260526 — GROUNDING

**PART 1 - GENERAL**

1.1 RELATED SECTIONS

A. Materials specified in this Section shall comply with all applicable requirements of SECTION 260500, GENERAL PROVISIONS.

1.2 WORK INCLUDES

A. As Required By the NEC. In general, fixtures, outlets, the enclosing cases, mounting frames, etc., of all switches, circuit breakers, control panels, motors and any other electrically operated or electrical equipment, conduit, trays, and other raceways shall be effectively and permanently grounded with a separate copper grounding conductor of cross-section as required by the National Electrical Code and drawings. It shall be of capacity sufficient to insure continuity and continued effectiveness of the ground connections to carry fault currents. Ground conductors must be as short and straight as possible, protected from mechanical injury and if practicable without splice or joint. The grounding conductor shall be run from a ground established at the source of supply to the equipment to be grounded. Ground wires from below grade shall be protected by galvanized conduit and the conductor shall be bonded via a listed fitting to conduit sleeve on each end. All grounding conductors shall be copper.

**PART 2 - PRODUCTS**  
NOT USED

**PART 3 - EXECUTION**

3.1 INSTALLATION

A. Power Conductors Supplying Equipment. A copper grounding conductor must be run inside the conduit or raceway, enclosing the power conductors supplying the equipment, or in case of a multi-conductor power cable, must be located within the sheath.

B. Connect at Source. Ground conductors in power cable or ground wire in conduits shall always be connected directly to station ground at the source end, and to motor frame or equipment enclosure and/or equipment ground bar.

C. System Neutral. The equipment grounding conductor in all circuits shall be connected to the frame and ground lug in the panelboards and not the neutral bus. Equipment ground connections to a system neutral are not permitted.

D. Fuses. In all cases of grounded circuits, fuses must be omitted from the grounded neutral conductor throughout the entire installation.

E. Equipment Frames. Frames of all electrical apparatus will be connected to the grounding system. Neutrals of service transformers shall be connected to the grounding system.

F. Metallic Raceways. All metallic conduits and wiring channels must be connected at each end to the grounding conductor with a good electrical contact.

G. Identification. The grounding conductor shall be stranded and covered with a green jacket.

H. In all cases the white wire should be used for the current-carrying neutral only and never as a grounding conductor, or other purpose.

I. Ground Rods. Where specified on drawings, grounding connections to earth shall be made with 5/8" diameter (minimum) copper-clad steel extra-type ground rods a minimum of 8 feet long, or depth as indicated.

END OF SECTION 260526

SECTION 260539 — ELECTRICAL RACEWAYS

**PART 1 - GENERAL**

1.1 RELATED SECTIONS

A. Materials specified in this section shall comply with all applicable requirements of SECTION 260500, GENERAL PROVISIONS.

1.2 SCOPE

A. Contractor Furnished. The contractor shall provide all conduit, fittings, and supports required and not otherwise shown on plans as furnished by others.

B. The types of electrical raceways required for the project include the following:  
1. Electrical Metallic Tubing  
2. Intermediate Metal Conduit  
3. Flexible Metal Conduit  
4. Liquid-Tight Flexible Metal Conduit  
5. Rigid Galvanized Conduit  
6. PVC Rigid Conduit

C. The minimum raceway size shall be as indicated on plans. If no indication is given on plans, then conduit shall be minimum 3/4".

D. Product Delivery, Storage, and Handling. Contractor is to provide color-coded end-cap thread protectors and handle conduit and tubing carefully to prevent damage. Store pipe and tubing inside wherever possible. When necessary to store outdoors, elevate well above grade and enclose with durable, watertight wrapping.

**PART 2 - PRODUCTS**

2.1 MATERIALS AND COMPONENTS

A. Electrical Metallic Tubing. Galvanized, thin wall tubing, fittings shall be hex-rund, expansion gland type, zinc plated, and U.L. listed as "fairlight." No crimp, spring, or set-screw type fittings will be accepted.

B. Intermediate Metal Conduit. Galvanized steel tubing, with zinc coated interior.

C. Flexible Metal Conduit. Galvanized single steel strip, flexible, interlocked.

D. Liquid-Tight Flexible Metal Conduit. Galvanized single steel strip, flexible, interlocked, double wrapped, with liquid-tight PVC jacket.

E. Rigid Galvanized Conduit. Rigid steel, hot-dipped galvanized conduit.

F. PVC Rigid Conduit. U.L. listed Schedule 40 heavy wall rigid conduit.

G. Conduit, tubing and duct accessories including straps, hangers, expansion and deflection fittings as recommended by conduit, tubing, and duct manufacturers.

**PART 3 - EXECUTION**

3.1 APPLICATION

A. Electrical Metallic Tubing. Branch circuits run in hollow dry walls and above ceilings. Not to be exposed.

B. Flexible Metal Conduit. Connection of motors and for other electrical equipment where subject to movement and vibration and located in a dry, interior location. Flexible conduit is not to exceed 60" in length for any one application and shall be secured at each end and per code.

C. Liquid-tight Flexible Metal Conduit. Connection of motors and for other electrical equipment where subject to movement and vibration, and also subjected to one or more of the following conditions: Exterior location; moist or humid atmosphere where condensate can be expected to accumulate; corrosive atmosphere; subjected to water spray; subjected to dripping oil, grease or water. Flexible conduit is not to exceed 60" in length for any one application and shall be secured at each end and per code.

D. Metal Clad Cable Assemblies. Metal Clad Cable Assemblies (Type AC or MC) shall only be installed when allowed on plans. When installed, assemblies shall be installed in a neat and workmanlike manner, secured to structure per NEC, routed parallel and perpendicular to building walls and structure, and grouped together as much as practical.

E. Intermediate Metal Conduit. All conduits of 2" nominal trade size or more and/or where exposed. Not to be stubbed up off level.

F. Rigid Galvanized. Where specified on plans for certain underground or exposed runs, or where stubbed up at floor level.

G. Rigid PVC. Where specified on plans for certain underground runs, UL approved Schedule 40 heavy wall rigid PVC conduit shall be used. Not to be stubbed up at floor level. All PVC underground runs shall transition to rigid galvanized before stubbing up through floor slab or pipe.

3.2 INSTALLATION

A. Install conduit and tubing in accordance with NEC and National Electrical Contractors Association's "Standard of Installation," and with recognized industry practices. Where NECA and NEC standards differ, use the more stringent requirement.

B. Complete the installation of raceways before starting installation of wires.

C. Wherever possible, install horizontal raceway runs above water and steam piping.

D. Care shall be taken to keep the interior of conduits clean, and each conduit run shall be thoroughly cleaned and dried before any cable is pulled through.

E. Unless indicated otherwise on drawings, all exposed conduits shall be run parallel with or perpendicular to building structural members.

F. Conduits entering sheet metal enclosures shall be made up with double locknut and insulating bushing. Locknut shall be of the type which will bite into the metal of the box.

G. Conduits entering threaded openings in equipment enclosures, boxes, etc., shall have at least five full threads engaged. In outdoor and underground locations, threaded joints shall be made up with a thin application of conducting joint compound. The inside of the fitting shall be thoroughly cleaned of any excess compound.

H. Power operated bending machines shall be used on conduits 1-1/4" and larger. Heating with torches will not be permitted.

I. All conduit runs shall be continuous from outlet to outlet with all joints and connections pulled tight to insure an electrically continuous and mechanically secure raceway system.

J. All raceways in "finished areas" such as offices, corridors, etc., shall be concealed.

3.3 CONDUIT AND TRAY OPENINGS

A. Contractor's Responsibility. The Contractor shall be responsible for all sleeves and openings through walls and floors necessary for passage of electrical conduits and raceways. Where contractor must provide openings and/or drill concrete floors and/or walls, he shall be responsible for the repair of these openings. Structural members and reinforcing shall not be cut, burned or damaged in any way. All openings in walls and floors, and under swinggear and panels where electrical cables and conduits are installed, shall be closed up by the Contractor to prevent dust, dirt and water from entering.

B. Sealing. The Contractor shall be responsible for sealing all wall and floor openings and all floor and wall sleeve openings utilized by the contractor whether furnished by Others or by the Contractor.

C. Sleeves and openings shall be sealed with materials that will withstand fire and heat to the same rating as the wall, floor, or ceiling through which the conduit or tray passes and shall not be less than a 30-minute barrier.

END OF SECTION 260539

SECTION 260510 — LIGHTING

**PART 1 - GENERAL**

1.1 RELATED SECTIONS

A. Materials specified in this Section shall comply with all applicable requirements of SECTION 260500, GENERAL PROVISIONS.

1.2 WORK INCLUDED

A. Contractor Furnished. The Contractor shall furnish, install and wire all lighting fixtures and the complete lighting system as shown on the drawings. The contractor shall furnish all appropriate mounting hardware as required for installation of the fixtures in the various ceiling types. The contractor shall coordinate the various ceiling types with the architect's reflected ceiling plan and contractor details. All fixtures shall be the type and manufacturer specified, with UL label.

B. Contractor Work for Relocated Fixtures. The contractor shall disconnect all existing fixtures indicated to be relocated, remove them from the ceiling and store in a safe and protected area for installation in new location. Fixtures shall be cleaned and re-templated before being installed in new location. All relocated fixtures shall have new seismic slack wires provided and installed by contractor per Seismic Requirements and as indicated on plans.

C. Typical Details, Drawings and Symbols. The Contractor shall install lighting fixtures complete with lamps and as shown on drawings. Refer to symbol drawings for additional descriptive and installation data. The Contractor shall check the location of all fixtures in relation to the structure and the work of other crafts and shall obtain approval of the Owner's representative to relocate fixtures, if required, to avoid interferences.

**PART 2 - PRODUCTS**

2.1 WIRING DEVICES

A. Lighting Devices. All wall switches for lighting shall be those of a single manufacturer and shall be as specified by the symbol on the drawings and as listed on the symbols drawings.

2.2 LIGHTING FIXTURES

A. All lighting fixtures shall be as specified on the future schedule on the drawings.

B. All LED fixtures shall be provided complete with driver, housing, and diffusers/reflectors as indicated on plans.

C. Substitutions. The following manufacturers acceptable manufacturers for the types of fixtures specified on the drawings. If proper grade fixture is not provided, fixtures will be required to be replaced with correct fixtures.

**PART 3 - EXECUTION**

3.1 FIXTURE OUTLETS

A. Fixture outlets shall be installed in the locations shown on the drawings. The contractor shall study the general building plans in relation to the spaces surrounding each outlet in order that his work may fit the other work required, as well as the work of other trades. When necessary, the contractor shall relocate outlets so that when fixtures or other fittings are installed, they will be symmetrically located according to room layout and will not interfere with other work or equipment.

3.2 LIGHTING SWITCHES

A. Lighting Switches. The Contractor shall furnish and install all lighting switches shown on the drawings. The switches shall be installed in the ungrounded lines and shall be mounted in the appropriate boxes for flush or surface mounting as specified under "Boxes". The appropriate coverplates as specified under "covers" shall be installed. Switch mounting shall be as described on the symbol drawings and as described elsewhere in this specification.

B. Local Switches. Local switches shall be located on the strike side of the doors, keeping approximately 3" away from the door trim or corner, wherever possible. Switch handles shall be set to operate vertically; wall receptacles shall be set with the long dimension vertical where possible. Switches suitable for use in millions of glass partitions shall be used where noted on plans.

C. Neutral Conductor. The neutral conductor of lighting systems shall be of the same size as the phase conductors. On three and four wire systems the load shall be divided as evenly as possible on each "outside" or phase conductor. Neutral conductors shall be identified throughout by using a white or gray (as specified in "Color Code" section) insulated wire. A green ground wire shall be run in raceway to ground all lighting fixtures, receptacles, boxes and wiring devices.

3.3 FINAL INSPECTIONS

A. At the conclusion of the job, the Contractor shall see to it that all fixtures are cleaned, lamped and in good operating condition. Upon final inspection all covers shall be installed.

END OF SECTION 260510

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**ISSUE DATE** 04/18/24  
**BID SET** [Blank]  
**DRAWN BY:** TIMP  
**CHECKED BY:** RABLC/M

**ELECTRICAL SPECIFICATIONS**

**ES1.01**

**BLUE RIDGE HIGH SCHOOL - ANIMAL BARN**  
2151 FEWS CHAPEL RD  
GREER, SC 29651  
GMC # ACOL240002