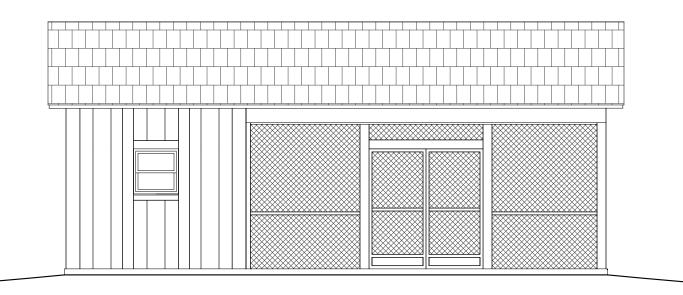
# RESIDENTIAL SERVICES BUILDING

# **FOR UNIVERSITY OF SOUTH CAROLINA**



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ADA ACCESSIBILITY STANDARDS

LIFE SAFETY PLAN

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A1.02	ROOF PLAN
A2.01	ELEVATIONS
A2.02	ELEVATIONS
A2.03	ELEVATIONS
A3.01	BUILDING SECTION

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E2.01	NOTES & DETAILS

UNIVERSITY OF SOUTH CAROLINA ADMINISTRATION ADDRESS: 1300 PICKENS STREET COLUMBIA, SC 29208



EARTHWERKS



171052.COV

G1

RESIDENTIAL SERVICES BUILDING S8 LACEWING RD

# OCCUPANCY LOAD:

SPACE DESCRIPTION	AREA SQ. FT.	AREA PER OCCUPANT	NUMBER OF OCCUPANTS
GATHERING	400	15 NET	26
LAUNDRY	200	100 GROSS	2
TOTAL OCCUPANCY LOA	28		

# LIFE SAFETY SYSTEM REQUIREMENTS:

EMERGENCY LIGHTING:	$\square$ NO	XYES
EXIT SIGNS:	<b>X</b> NO	□YES
FIRE ALARM:	<b>X</b> NO	□YES
SMOKE DETECTION SYSTEMS:	<b>X</b> NO	□YES
PANIC HARDWARE:	<b>X</b> NO	□YES
SPRINKLERS:	NO	
STANDPIPES:	NO	

# NUMBER AND ARRAGEMENT OF EXITS

SPACE DESCRIPTION	NUMBER OF EXITS		TRAVEL DISTANCE		
	REQUIRED ACTUAL		ALLOWABLE	ACTUAL	
GATHERING	1	1	100'	29'	
LAUNDRY	1	1	75'	29'	

# **EXIT WIDTH**

SPACE DESCRIPTION	NUMBER OF OCCUPANTS	INCHES PER OCCUPANT	REQUIRED (32" CLEAR MIN.)	ACTUAL
-	-	0.2	32"	32"
GATHERING	26	.2	32"	32"
LAUNDRY	2	.2	32"	32"

ACCESSIBILITY: NEW CONSTRUCTION ALL AREAS OF WORK REQUIRED TO BE FULLY ADA ACCESSIBLE AND MEET ALL ACCESSIBILITY REQUIREMENTS OF THE 2015 IBC & ANSI A117.1 CODE



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331-A SIS H27-Z

CODE ANALYS
BMITTALS & REVISIONS
DESCRIPTION
BY IN THE STATEMENT OF THE ST

PROJECT

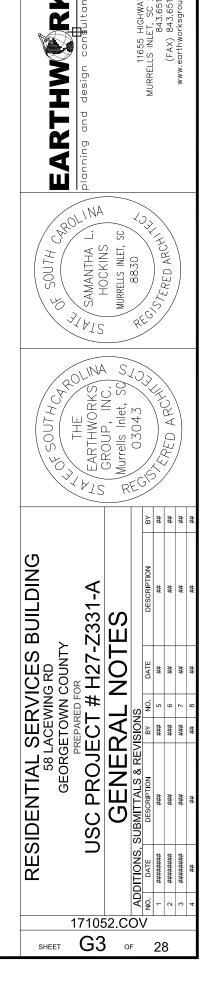
RESIDENTIAL SERVICES BUILDING S8 LACEWING RD

171052.COV

G2 OF

NOTE: NO SPECIAL INSPECTIONS REQUIRED

- 1. THESE NOTES ARE AN INTEGRAL PART OF THE BUILDING DESIGN DRAWINGS AND ARE TO BE USED IN CONJUNCTION WITH THE JOB SPECIFICATIONS. WHEN THERE ARE NO SPECIFICATIONS IN ADDITION TO THESE NOTES THE NOTES SHALL GOVERN. WHEN THERE IS A SPECIFICATION IN ADDITION TO THE NOTES THE MOST STRINGENT OF THE TWO SHALL GOVERN.
- 2. CONTRACTOR SHALL CONTACT THE ARCHITECT IMMEDIATELY UPON DISCOVERY OF ANY DISCREPANCIES, ERRORS OR OMISSIONS WITHIN THE CONSTRUCTION DOCUMENTS. THIS CONTACT SHALL BE MADE BEFORE PROCEEDING WITH THE WORK TO GIVE THE ARCHITECT THE OPPORTUNITY TO CLARIFY THEIR INTENT. ANY WORK COMPLETED WITHOUT THIS CLARIFICATION WILL BE SUBJECT TO REMOVAL AND CORRECTION AT THE CONTRACTOR'S EXPENSE.
- 3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REVIEWING THE DIMENSIONS OF THE DRAWINGS AND ADVISING THE ARCHITECT/ENGINEER OF ANY DIFFERENCES IN DIMENSIONS BETWEEN THE FLOOR PLANS AND SECTIONS AND OTHER DRAWINGS PRIOR TO COMMENCING CONSTRUCTION.
- 4. ALL DRAWINGS IN THIS SET BECOME PART AND PARCEL OF THE PROJECT MANUAL, AND ARE TO BE USED IN CONJUNCTION WITH ALL SPECIFICATION DIVISIONS AND SECTIONS AND ALL OTHER DOCUMENTS INCORPORATED BY REFERENCE.
- 5. ALL DRAWINGS SHALL BE USED IN CONJUNCTION WITH ALL OTHER DRAWINGS RELATED TO OTHER DISCIPLINES. THE GENERAL CONTRACTOR SHALL CHECK AND COORDINATE DIMENSIONS AND CLEARANCES WITH THE WORK OF ALL TRADES.
- 6. THE CONTRACTOR IS INSTRUCTED TO MAKE EVERY ATTEMPT TO CONFINE WORK WHICH MAY INTERFERE WITH THE NORMAL DAILY OPERATIONS OF ANY SURROUNDING BUSINESS AND/OR PUBLIC AREA. EXCESSIVELY LOUD WORK WILL BE RESTRICTED TO NIGHTS AND WEEKENDS AND SHALL BE COORDINATED WITH THE OWNER.
- 7. INTERRUPTIONS OF UTILITIES SHALL NOT PROCEED WITHOUT PRIOR CONSENT OF THE OWNER, AND SHALL BE RETURNED TO NORMAL OPERATING CONDITIONS IN THE QUICKEST TIME POSSIBLE.
- 8. THE CONTRACTOR SHALL COMPLY WITH ALL PERTINENT CODES, STANDARDS, REGULATIONS, AND APPLICABLE LAWS. MOST CURRENT CODES GOVERN.
- 9. THE CONTRACTOR SHALL REVIEW ALL SECTIONS OF THE WORK AND COORDINATE ALL APPLICABLE WORK OF ALL TRADES.
- 10. IF THE CONTRACTOR OBSERVES THAT THE CONTRACT DOCUMENTS ARE IN VARIANCE WITH ANY LAWS, REGULATIONS, CODES OR ORDINANCES, HE SHALL NOTIFY THE ARCHITECT/ENGINEER AND NOT PROCEED UNTIL NECESSARY REVISIONS REQUIRED FOR COMPLIANCE WITH SAID LAWS, REGULATIONS, CODES AND ORDINANCES HAVE BEEN EFFECTED PER CONTRACT.
- 11. WORK NOT INDICATED AS PART OF THE DRAWINGS BUT REASONABLY IMPLIED TO BE SIMILAR TO THAT AT CORRESPONDING LOCATIONS SHALL BE REPEATED.
- 12. ALL SECTIONS AND DETAILS ARE TYPICAL AT SIMILAR LOCATIONS AND WHERE APPLICABLE.
- 13. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LAYING OUT THE WORK AND VERIFYING ALL DOCUMENTS, DIMENSIONS AND EXISTING CONDITIONS. ANY DISCREPANCIES SHALL BE REPORTED TO THE ARCHITECT/ENGINEER AND WORK SHALL NOT PROCEED UNLESS DIRECTED BY THE ARCHITECT/ENGINEER.
- 14. THE CONTRACTOR SHALL KEEP THE PREMISES FREE FROM ACCUMULATIONS OF DEBRIS OR RUBBISH CAUSED BY THE WORK OR HIS EMPLOYEES, SUBCONTRACTORS, ETC. AND PAY ALL ASSOCIATED COSTS FOR CONTAINMENT AND DISPOSAL.
- 15. THE CONTRACTOR SHALL PAY ALL COSTS OF PERMITS AND LICENSES NECESSARY FOR THE COMPLETION OF THE WORK.
- 16. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FINAL JANITORIAL CLEANING AND POLISHING PER OWNER'S JANITORIAL SERVICE CONTRACTOR. COORDINATE SERVICE WITH THE OWNER AND PAY ALL ASSOCIATED COSTS.
- 17. CONTRACTOR TO FURNISH ALL MATERIALS AND LABOR FOR THE WORK DESCRIBED FOR THE COMPLETE INSTALLATION OF ALL WORK DESCRIBED UNLESS NOTED OTHERWISE.
- 18. ALL WORK IS TO BE PERFORMED IN A COMPETENT WORKMANSHIP MANNER AS APPROVED BY THE ARCHITECT/ENGINEER AND SHALL BE NEAT IN APPEARANCE WHEN COMPLETED.
- 19. DIMENSIONS ARE FACE OF STUD TO FACE OF STUD UNLESS OTHERWISE NOTED.
- 20. GRAB BARS SHALL BE CAPABLE OF SUPPORTING A 250 POUND LOAD APPLIED IN ANY DIRECTION, ANYWHERE ALONG ITS LENGTH.
- 21. THE CONTRACTOR SHALL PROVIDE ADEQUATE TEMPORARY BRACING, SHORING AND GUYING OF FRAMING AND WALLS AGAINST WIND, CONSTRUCTION LOADS AND OTHER TEMPORARY FORCES UNTIL SUCH PROTECTION IS NO LONGER REQUIRED FOR THE SAFE SUPPORT OF THE FRAMING.
- 22. THESE DRAWINGS DO NOT CONTAIN NECESSARY COMPONENTS FOR SAFETY DURING CONSTRUCTION.

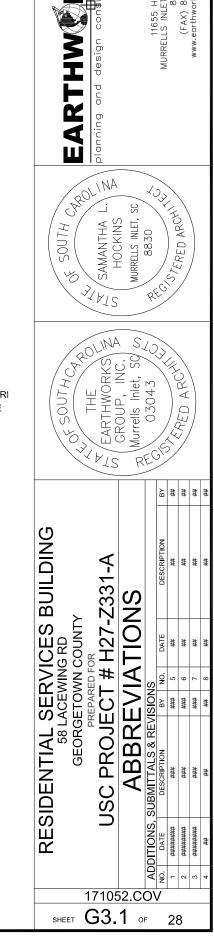


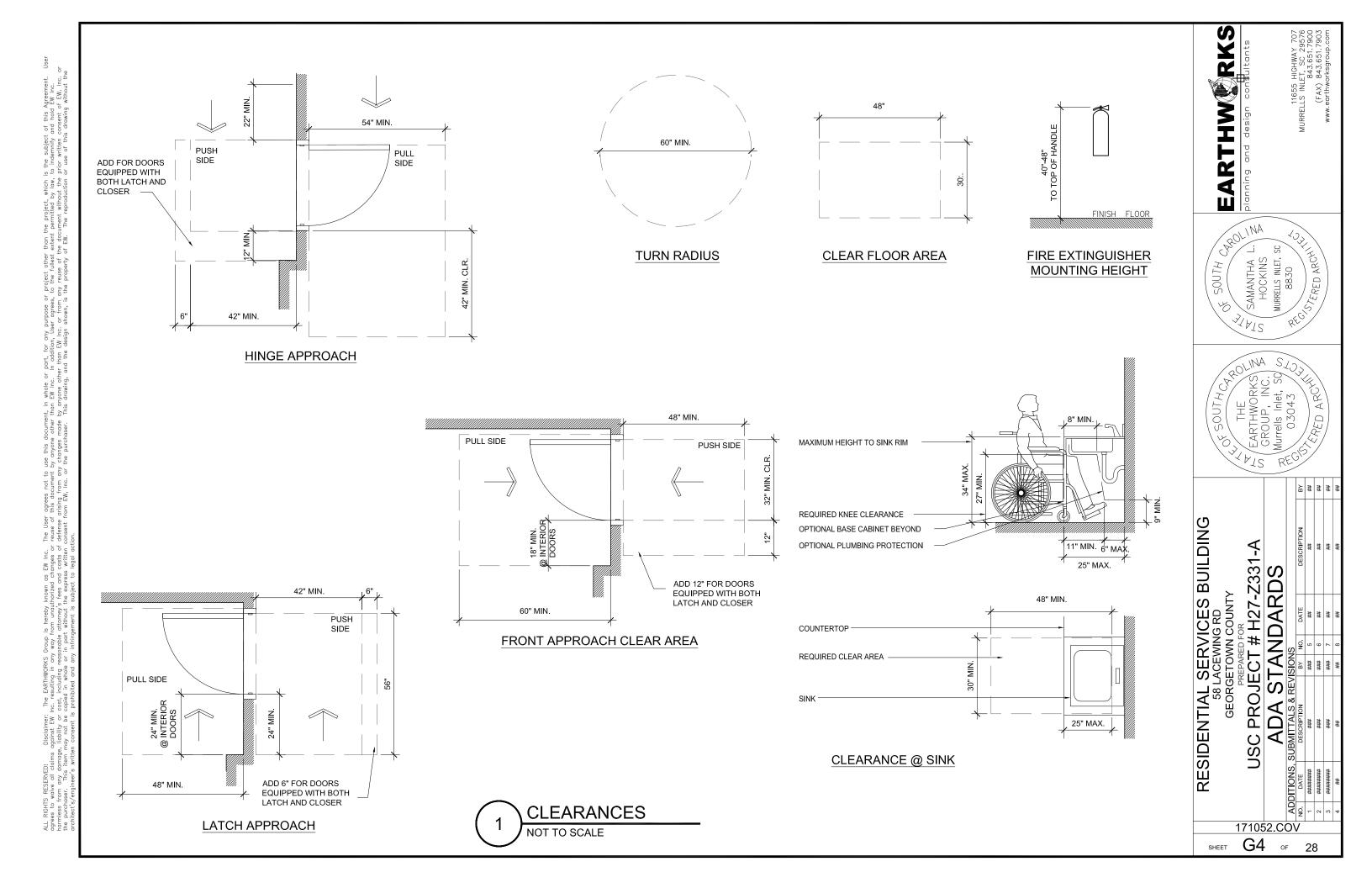
HANDRAIL

AREA DRAIN	E.F.D.	EXTERIOR FLOOR DRAIN	HARDW'D	HARDWOOD	O2	OXYGEN	STOR.	STORAGE
AMERICANS WITH DISABILITIES AC	TE.I.F.S.	EXTERIOR INSULATION FINISH SYSTEM	HDW.	HARDWARE	OA	OUTSIDE AIR	STRUCT.	STRUCTURE
ABOVE FINISHED FLOOR	E.S.R.	ELASTOMETRIC SHEET ROOFING	HGT.	HEIGHT	OD	OVERFLOW DRAIN	SUSP'D	SUSPENDED
ACCESS PANEL	E.W.	EACH WAY	HORZ.	HORIZONTAL	O.F.C.I.	OWNER FURNISHED CONTRACTOR INSTALLED	T/	TOP OF
AIR CONDITIONING	EA.	EACH	HR.	HOUR	O.F.O.I.	OWNER FURNISHED OWNER INSTALLED	T/CNTR.	TOP OF COUNTER
ABOVE	EAG	EXHAUST AIR GRILLE	HT.	HEIGHT	OPP.	OPPOSITE	T/FTG.	TOP OF FOOTING
ACOUSTICAL CEILING TILE	E.E.W.	EMERGENCY EYE WASH	HVAC	HEATING VENTILATION AND AIR CONDITIONING	P.E.	PHOTO-ELECTRIC	T/GRATE	TOP OF GRATE
AIR HANDLING UNIT	EJ	EXPANSION JOINT	HZ.	HERTZ	P.P.	PLUMBING PANEL	T/SLAB	TOP OF SLAB
ALUMINUM	EL.	ELEVATION	I/O	INDOOR/OUTDOOR	PH.	PHONE	TELE.	TELEPHONE
BELOW FINISHED CEILING	ELEC.	ELECTRICAL	IBC	INTERNATIONAL BUILDING CODE	PLUMB.	PLUMBING	THK.	THICK
BACKFLOW PREVENTER	ELEV.	ELEVATION	INFO.	INFORMATION	PLYW'D	PLYWOOD	TP	TRAP PRIMER
BOTH WAYS	EQ.	EQUAL	INSUL.	INSULATION	PRESS.	PRESSURE	TRTD.	TREATED
BOTTOM OF	EQUIP.	EQUIPMENT	INT.	INTERIOR	PVC	POLY-VINYL CHLORIDE	TW	TEMPERED WATER
BOTTOM OF CABINET	E.SH.	EMERGENCY SHOWER	J.B.	JOIST BEAM	QTY.	QUANTITY	TYP.	TYPICAL
BUILDING	EWC	ELECTRIC WATER COOLER	JAN.	JANITOR	R.D.	ROOF DRAIN	U	URINAL
BRITISH THERMAL UNITS	EWH	ELECTRIC WATER HEATER	LAV.	LAVATORY	R.O.	ROUGH OPENING	U.L.	UNDERWRITERS LABORATORI
CENTER TO CENTER	F.D.	FLOOR DRAIN	LVR.	LOUVER	R.R.	RESTROOM	U.N.O.	UNLESS NOTED OTHERWISE
CONDENSATE	F.E.	FIRE EXTINGUISHER	M.L.	MATCH LINE	RAG	RETURN AIR GRILLE	U-CUT	UNDERCUT
CEILING DIFFUSER	F.O.C.	FACE OF CONCRETE	M.O.	MASONRY OPENING	REC.	RECEPTACLE	V	VENT
CENTER	F.O.M.	FACE OF MASONRY	M.S.	MOP SINK	REF.	REFERENCE	V.	VOLT
CUBIC FEET PER HOUR	F.O.S.	FACE OF STUD	MATL.	MATERIAL	REINF.	REINFORCING	V.C.T.	VINYL COMPOSITE TILE
CUBIC FEET PER MINUTE	F.R.	FIRE RATED (RESISTIVE)	MAX.	MAXIMUM	REQ'D	REQUIRED	V.I.F.	VERIFY IN FIELD
CONTROL JOINT	FCO	FLOOR CLEANOUT	MECH.	MECHANICAL	RESIL	RESILIENT	VA	VACUUM
CENTER LINE	FIN.	FINISH	MEZZ.	MEZZANINE	REV.	REVERSE	VEN.	VENDOR
CEILING	FIN. FLR.	FINISH FLOOR	MFR.	MANUFACTURER	RM.	ROOM	VERT.	VERTICAL
CONCRETE MASONRY UNIT	FLR.	FLOOR	MIL.	MILLIMETER	RTU	ROOF TOP UNIT	VEST.	VESTIBULE
COLUMN	FPWH	FROST PROOF WALL HYDRANT	MIN.	MINIMUM	S.	SINK	VTR	VENT THROUGH ROOF
CONCRETE	FTG.	FOOTING	MIN.	MINUTE	S/S	STAINLESS STEEL	W.C.	WATER CLOSET
CONDENSATE	FURN.	FURNACE	MR GYP.	MOISTURE RESISTANT GYP. BOARD	S.A.F.B.	SOUND ATTENUATION FIBERGLASS BATT INSULATION	W.H.	WATER HEATER
CONSTRUCTION	G	NATURAL GAS	MTL.	METAL	SAN.	SANITARY	W.P.	WORKING POINT
CONTINUOUS	G.C.	GENERAL CONTRACTOR	MTL.	METAL	SCHED.	SCHEDULE	W.W.F.	WELDED WIRE FABRIC
COORDINATE	G.P.H.	GALLONS PER HOUR	MTR.	METER	SEC.	SECOND	W.W.M.	WELDED WIRE MESH
CORRIDOR	GA.	GAUGE	N.I.C.	NOT IN CONTRACT	SHT.	SHEET	W/	WITH
CERAMIC TILE	GAL.	GALLONS PER HOUR	N.T.S.	NOT TO SCALE	SIM.	SIMILAR	WATT.	WATTAGE
DOMESTIC COLD WATER	G.F.I.C.	GROUND FAULT INTERCEPT CIRCUIT	N/A	NOT APPLICABLE	SPECS.	SPECIFICATIONS	WC	WATER CLOSET
DRINKING FOUNTAIN	GR.	GRADE	N2	NITROGEN	SPKLR.	SPRINKLER	WCO	WALL CLEANOUT
DOMESTIC HOT WATER	GWH	GAS WATER HEATER	NO.	NUMBER	SQ.	SQUARE	WF	WASH FOUNTAIN
DOMESTIC HOT WATER RETURN	GYP.	GYPSUM BOARD	NOM.	NOMINAL	SS	SANITARY SEWER	WP	WATER PROOF
DIAMETER	H.C.	HANDICAP ACCESSIBLE	O.C.	ON CENTER	ST.	STORM DRAIN	YCO	YARD CLEANOUT
DOWN	H.M.	HOLLOW METAL	O.D.	OUTSIDE DIMENSION	STD.	STANDARD	YD.	YARD

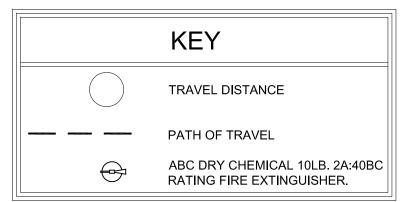
STEEL

NITROUS OXIDE

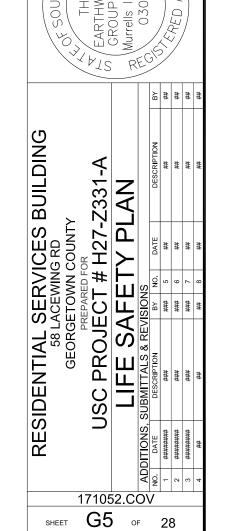








NOTE: ALL EXTINGUISHERS TO BE SERVICED, TAGGED & INSPECTED BY APPROVED FIRE PROTECTION COMPANY.

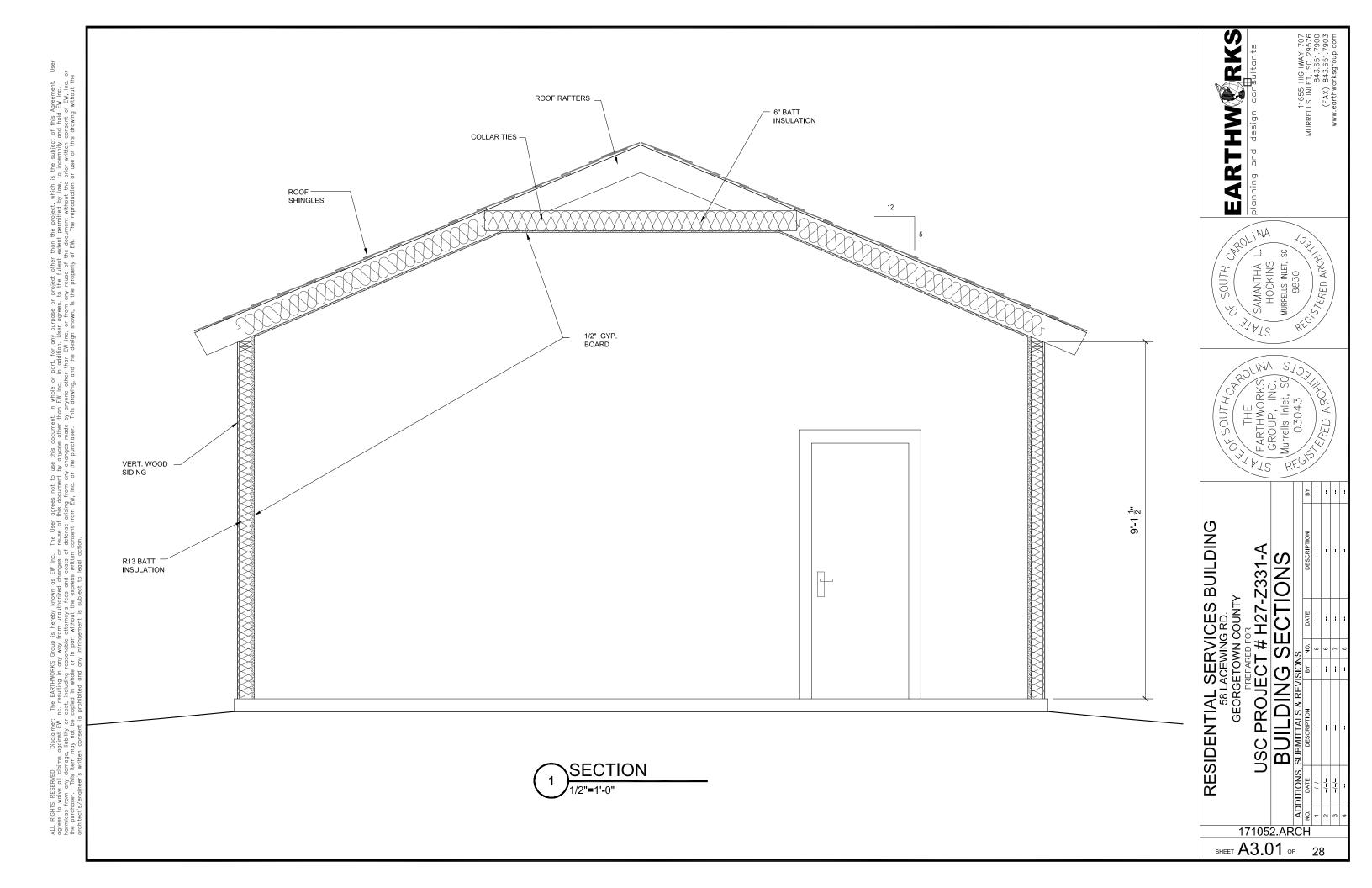


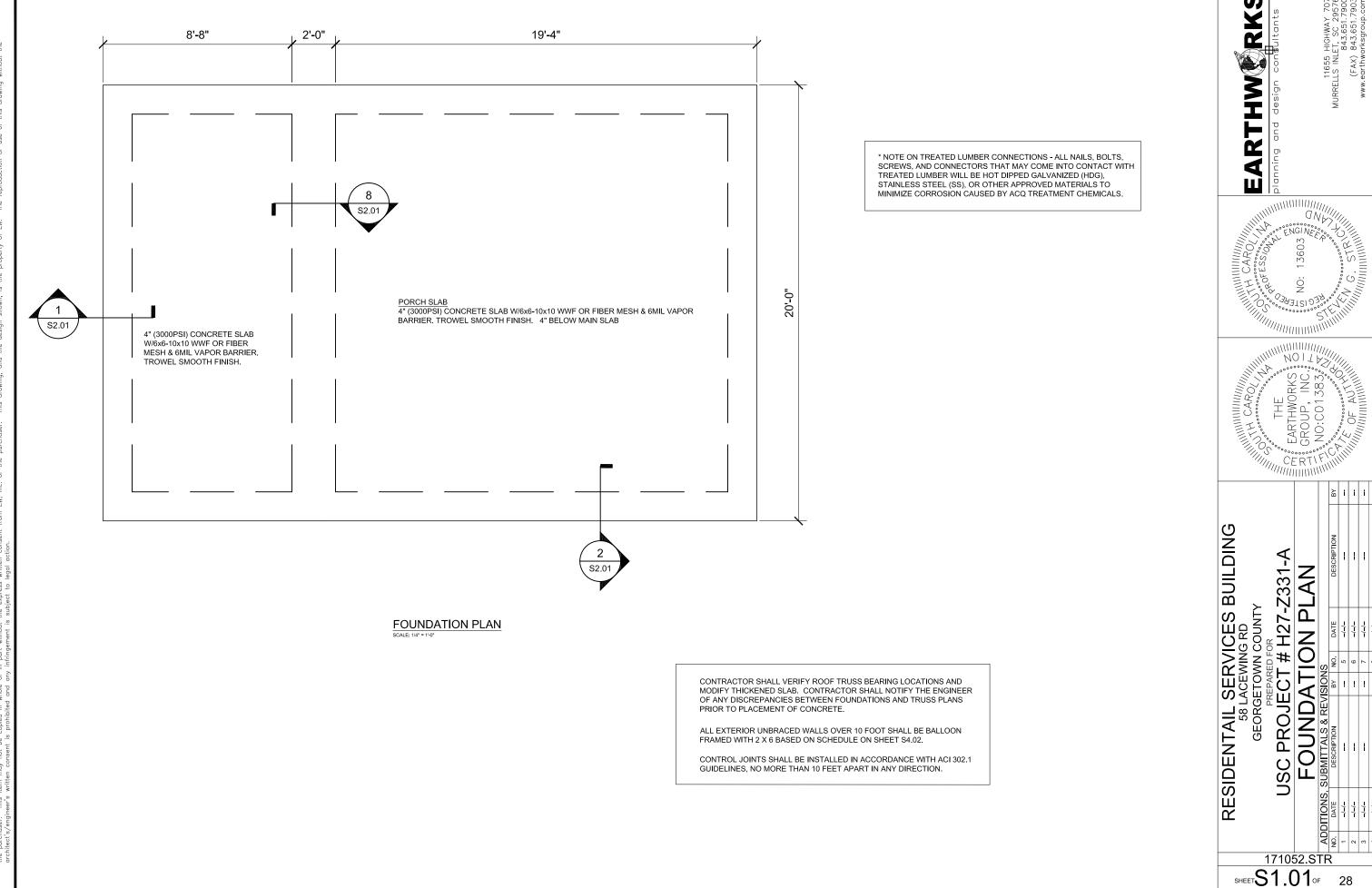
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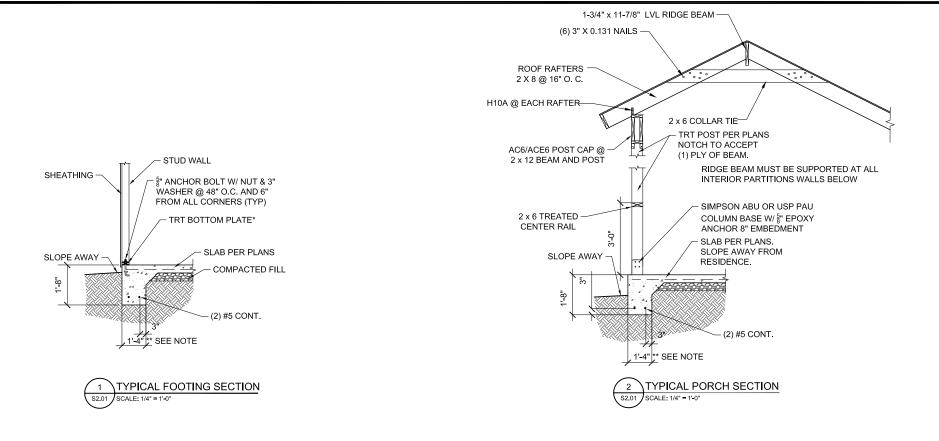
11655 HIGHWAY MURRELLS INLET, SC 29 843.651.77 (FAX) 843.651.77 www.earthworksgroup.o

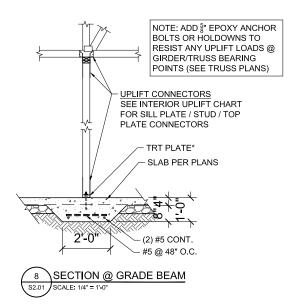
SHEET A1.02 OF 28

SHEET **A2.01** OF 28









\* NOTE ON TREATED LUMBER CONNECTIONS - ALL NAILS, BOLTS, SCREWS, AND CONNECTORS THAT MAY COME INTO CONTACT WITH TREATED LUMBER WILL BE HOT DIPPED GALVANIZED (HDG), STAINLESS STEEL (SS), OR OTHER APPROVED MATERIALS TO MINIMIZE CORROSION CAUSED BY ACQ TREATMENT CHEMICALS

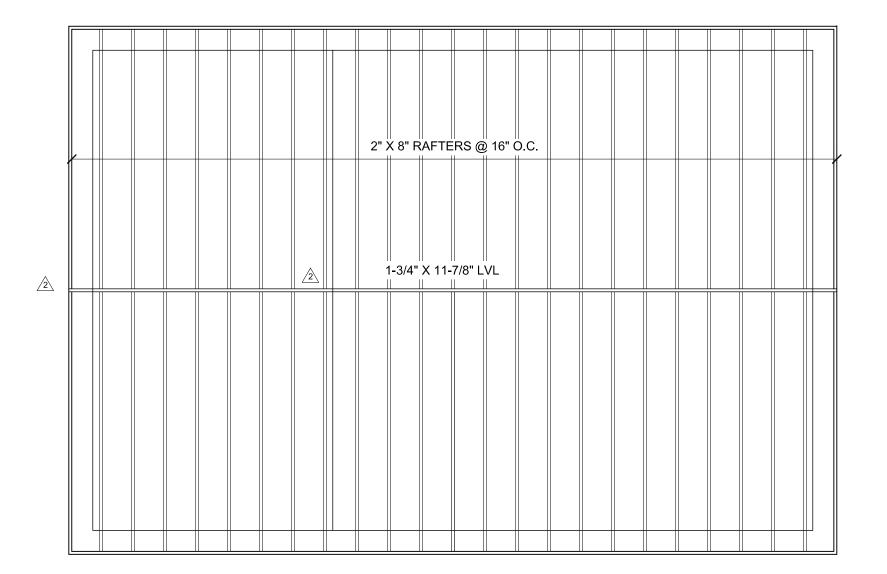
\*\* USE 16" WIDE FOOTING FOR SOIL BEARING PRESSURES FROM 1500 PSF T0 2000 PSF. 12" WIDE FOOTINGS CAN BE USED FOR SOIL PRESSURES ABOVE 2000 PSF.

FOOTINGS CAN BE FROM 20" TO 24" IN DEPTH WITH OUT ADDING ADDITIONAL REBAR.

BY NO.CO1383.														
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Z			DESCRIPTION		-									
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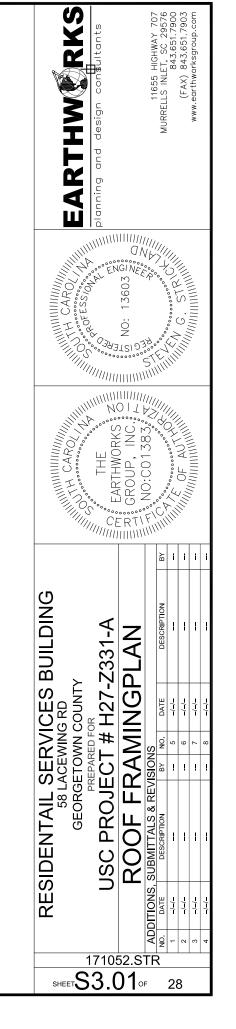
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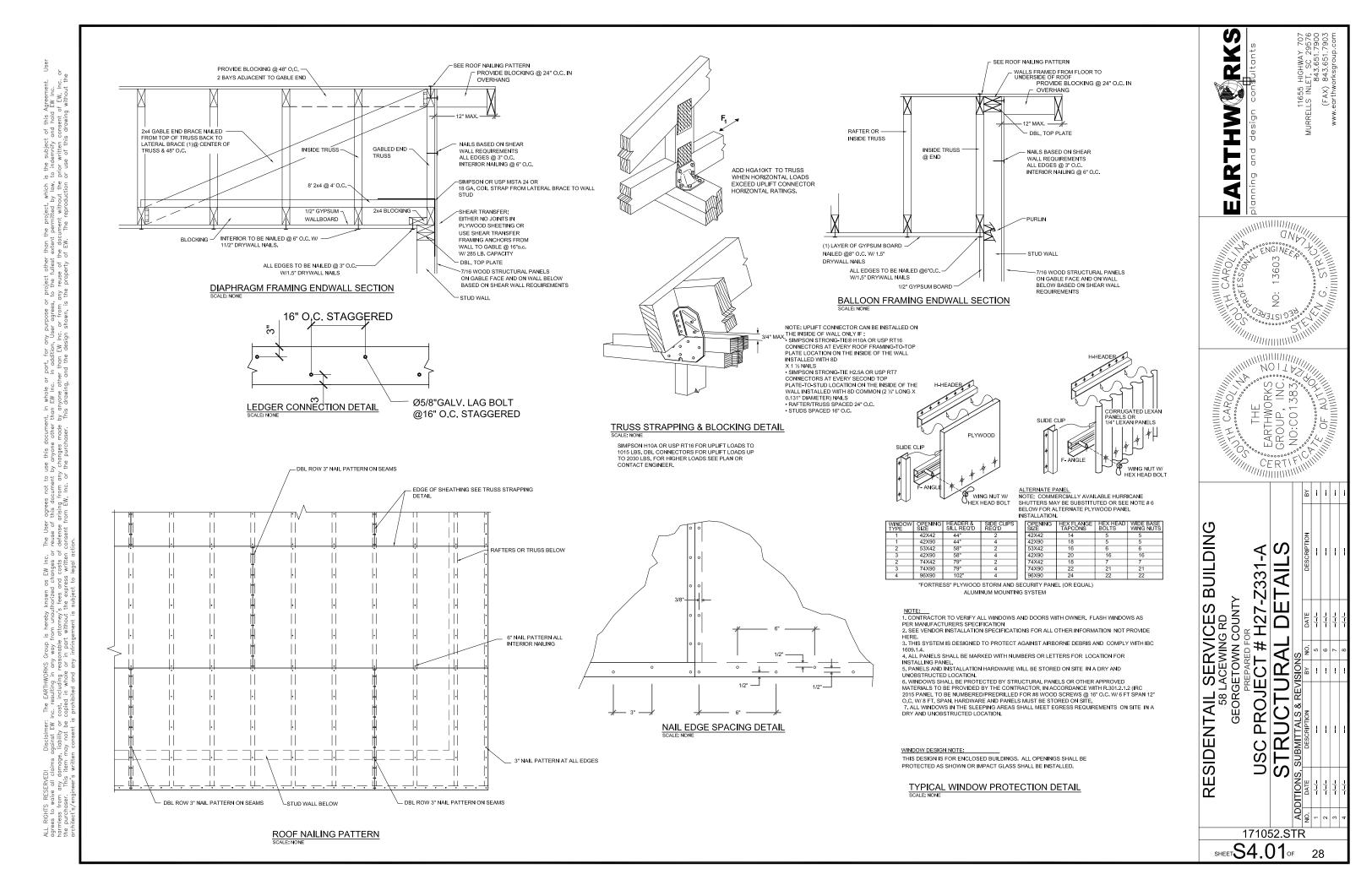


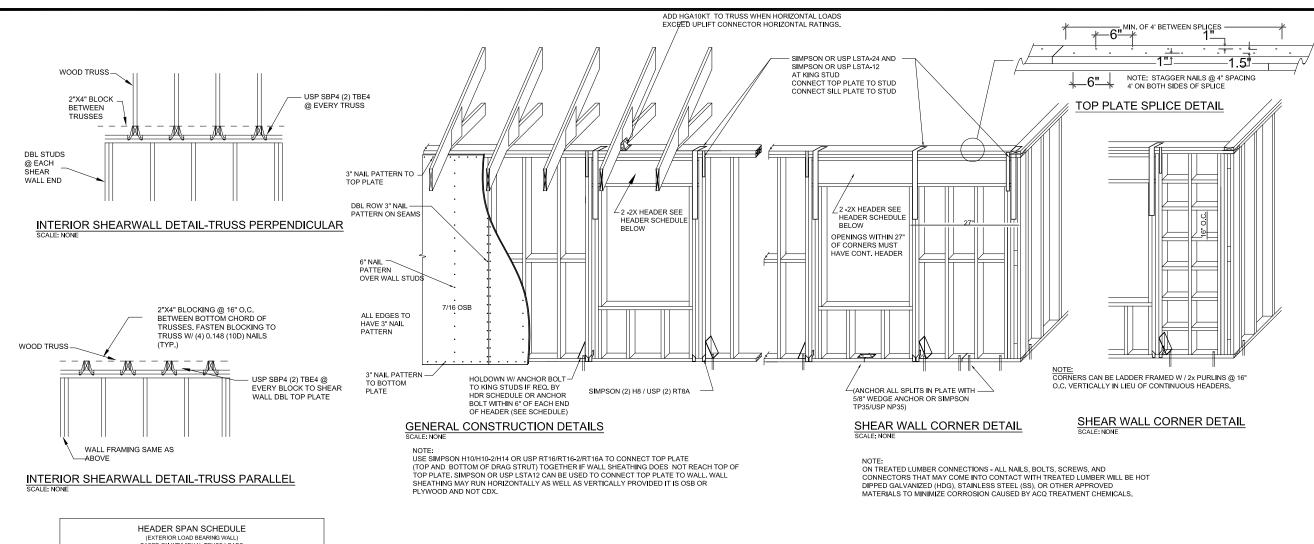
# ROOF FRAMING PLAN SCALE: 1/4" = 1'-0"

SEE BALLOON FRAMING NOTE

ALL EXTERIOR UNBRACED WALLS OVER 10 FOOT SHALL BE BALLOON FRAMED WITH 2 X 6 BASED ON SCHEDULE ON SHEET S4.02.







HEADER SPAN SCHEDULE (EXTERIOR LOAD BEARING WALL) BASED ON INDIVIDUAL TRUSS LOADS										
TRUSS LOADS 1000 LBS 1500 LBS 2000 LBS 2500 LBS										
4'-0"	(2)-2x6	(2)-2x6	(2)-2x8	(2)-2x8						
6'-6"	(2)-2x10	(2)-2x10	(2)-2x12	(2)-2x12						
8'-6"	(2)-2X10	(2)-2x12	3½" x 11¼" LVL*	3½" x 11¼" LVL*						
10'-8"	10"-8" 3½" x 9¼" LVL* 3½" x 11½" LVL* 3½" x 11½" LVL* 3½" x 14" LVL									
12'-8"	12'-8" 3½" x 11 ½" LVL* 3½" x 11 ½" LVL* 3½" x 14" LVL* 3½" x 16" LVL*									
SPA	SPANS OVER 12'-8" OR 2500 LBS ARE TO BE ENGINEERED									
ALL DIMENSIONAL LUMBER TO BE A COUTUERNIVELLOW DIME										

ALL DIMENSIONAL LUMBER TO BE A SOUTHERN YELLOW PINE "ALL ENGINEERED LUMBER TO BE A MINIMUM OF 1.9E (2) 1 %" OR 3 %"

CONTRACTOR TO VERIFY TRUSS LOADS WITH TRUSS ENGINEERING PACKAGE PRIOR TO START OF FRAMING HEADERS

NOTE: MIN. 15/32" SHEATHING AND 2X6 WALL MAY BE REQUIRED FOR EXTERIOR WALL WITH STUCCO FINISH

ll II	NTERIOR WALL	UPLIFT C	ONNECTOR	R SCHEDULE
TRUSS UPLIFT	TRUSS TO PLATE	RATED CO	NNECTOR	ANCHOR BOLT SPACING
@ 24" O.C.		TYPE	SPACING	Ø%: EPOXY 8" EMBEDMENT
500	H10A	RSP4	16"	48"
685	H10A	SP 1 / 2	16"	48"
700	H10A	SSP	16"	48"
950	(2) H10A	SP4	16"	32"
1400	(2) H10A	(2)SSP*	16"	32"
1700	(2) H10A	SPH4	16"	32"
	*ADDLV	/ TO BC	TH CID	ES OF STUD

\*APPLY TO BOTH SIDES OF STUD

JNSUPPORTED WALL HEIGHT	STUD SPACING	MAXIMUM HEADER SPAN	# OF JACK STUDS @ EACH END OF HEADER	# OF KING STUDS @ EACH END OF HEADER	HOLDOWNS @ KING STUD @ EACH END OF HEADER
		3'-2" OR LESS	1	1 OR 2 *	SIMPSON (2) H8 / USP (2) RT8A
0'-0" OR LESS	16" O.C.	3'-2" TO 6'-2"	2	1 OR 2 *	SIMPSON (2) H8 & LTT20B / USP (2) RT8A & LTS20B
		6'-2" TO 10'-0"	2	3	SIMPSON (2) H8 & HTT4 / USP (2) RT8A & HTT22
		10'-0" OR MORE	SEE ENGINEERING	SEE ENGINEERING	

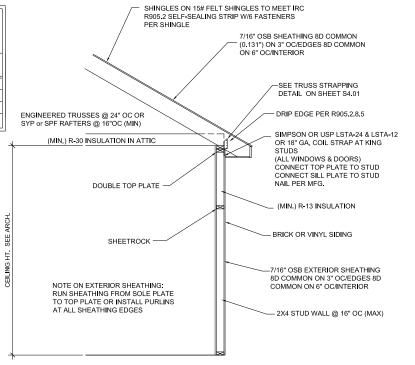
\* INDICATES EXTERIOR ONLY

BALLOON FRAMING SCHEDULE	
LENGTH BASED ON #2 SPF FRAMING	

MAXIMUM UNBRACED LENGTH (FT)	LAYERS OF <sup>15</sup> ⁄ <sub>32</sub> " OSB	2x6 CENTERS (INCHES)
12	1	16
14	1	12
16	1	8
14	2	16
16	2	12
20	2	8

NOTE: 2 x 4 SPF ARE NOT TO BE USED FOR BEARING WALLS OVER 10'-0" HIGH

NOTE: USP EQUIVALENT PRODUCTS MAY BE USED IN PLACE OF SIMPSON PRODUCTS



FOR FOUNDATION SEE PLAN & DETAILS

TYPICAL WALL SECT

Ш OND: SEC ISTERES MOITAS CERT BUILDING 4 0 H27-Z331-DETAIL /ICES E  $\forall$ CT RESIDENTAIL S
58 LA
GEORGE PROJE STRI ADDITIONS, SU NO DATE

1 - 1-12 - 1-13 - 1-11 - 1-11 - 1-12 - 1-11 - 1-171052.STR  $\mathsf{SHEET} S4.02 \mathsf{OF}$ 

RKS

RTHW

11655 HIGH

### A. GENERAL

- THE STRUCTURE IS DESIGNED TO BE SELF-SUPPORTING AND STABLE AFTER THE BUILDING IS FULLY THE STRUCTURE IS DESIGNED TO BE SELF-SUPPORTING AND STABLE AFTER THE BUILDING IS FULLY COMPLETED, IT IS SOLELY THE CONTRACTORS RESPONSIBILITY TO DETERMINE ERECTION PROCEDURES AND SEQUENCE, AND TO ENSURE THE STABILITY OF THE BUILDING AND ITS COMPONENT PARTS, AND THE ADDITION ADDITION OF THE PROPERTY OR INCOMPLETE CONNECTIONS, DURING REFECTION. THIS INCLUDES THE ADDITION OF ANY SHORING, SHEETING, TEMPORARY BRACING OR TIEDDWINS THAT MIGHT BE NECESSARY, SUCH MATERIAL IS NOT SHOWN ON THE DRAWINGS. IF APPLIED. THEY SHALL BE REMOVED AS CONDITIONS PERMIT. THE ENGINEER TAKES NO RESPONSIBILITY FOR, CONSTRUCTION MEANS AND METHODS OR JOS SITE SAFETY DURING CONSTRUCTION, PROCESSING AND/OR APPROVING SUBMITTALS MADE BY THE CONTRACTOR WHICH MAY CONTAIN INFORMATION RELATED TO CONSTRUCTION METHODS OR SAFETY ISSUES, OR PARTICIPATION IN MEETINGS WHERE SUCH ISSUES MIGHT BE DISCUSSED, SHALL HOT BE CONSTRUCTOR AS VOLUNTARY ASSUMPTION BY THE ENGINEER OF ANY RESPONSIBILITY FOR SAFETY PROCEDURES.
- IT IS SOLELY THE RESPONSIBILITY OF EACH CONTRACTOR TO FOLLOW ALL APPLICABLE SAFETY CODES AND REGULATIONS DURING ALL PHASES OF CONSTRUCTION. THE ENGINEER DOES NOT SUPERVISE, CONSTRUCTION UNLESS CONTRACTED TO DO SO, THE CONTRACTOR IS RESPONSIBLE FOR LIMITING THE AMOUNT OF CONSTRUCTION LOAD IMPOSED UPON STRUCTURAL FRAMING, CONSTRUCTION LOADS SHALL NOT EXCEED THE DESIGN CAPACITY OF THE FRAMING AT THE TIME THE LOADS ARE IMPOSED.
- EQUIPMENT FRAMING LOADS, OPENINGS AND STRUCTURE IN ANY WAY RELATED TO HVAC, PLUMBING, OR ELECTRICAL REQUIREMENTS ARE SHOWN FOR BIDDING PURPOSES ONLY. CONTRACTOR SHALL COORDINATE THIS INFORMATION WITH THE INVOLVED TRADES BEFORE PROCEEDING WITH SUCH PORTION OF THE WORK, EXCESS COST RELATED TO VARIATION IN THESE REQUIREMENTS TO BE BORNE BY THE APPROPRIATE CONTRACTOR,
- SHOULD ANY OF THE DETAILED INSTRUCTIONS SHOWN ON THE PLANS CONFLICT WITH THESE STRUCTURAL NOTES, THE SPECIFICATIONS, OR WITH EACH OTHER, THE STRICTEST PROVISIO SHALL GOVERN, DO NOT SCALE THESE DRAWINGS, USE DIMENSIONS.
- GOVERNING CODE: INTERNATIONAL BUILDING CODE 2015 FOR COMMERCIAL AND IN ACCORDANCE WITH ASCE 7-10 BUILDING CATEGORY II
- WIND DESIGN PARAMETERS
- BASIC WIND SPEED = ULT 150 / ASD 116
- WIND LOAD IMPORTANCE FACTOR = 1.0
- MAIN WIND DESIGN PRESSURE: 34 PSF (END ZONE) 26 PSF (INTERNAL)
- MAX. ROOF UPLIFT: -28 PSF (END ZONE) -24 PSF (INTERNAL)
- INTERNAL PRESSURE COFFICIENT FOR ENCLOSED STRUCTURE qi=+/- 0.18
- 7. SEISMIC DESIGN PARAMETERS
- a. DESIGN SPECTRAL ACCELERATION PARAMETERS
  - Sds=0.819 Sd1=0.419
- SEISMIC USE GROUP 1 SEISMIC DESIGN CATEGORY = CATEGORY D2
- SITE CLASS D
- BASIC STRUCTURAL SYSTEM BEARING WALLS
- SEISMIC RESISTING SYSTEM -- LIGHT FRAME WALLS W/ WOOD SHEAR PANELS RESPONSE MODIFICATION FACTOR (R) = 6.5
- SEISMIC BASE SHEAR 0.1W
- ANALYSIS PROCEDURE EQUIVALENT LATERAL FORCE

- THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS WITH ARCHITECTURAL FLOOR PLANS PRIOR TO CONSTRUCTION, ARCHITECTURAL FLOOR PLANS SHALL GOVERN DIMENSIONS, AND ANY DISCREPANCIES SHALL BE REPORTED TO THE ENGINEER IMMEDIATELY, DO NOT SCALE DRAWINGS.
- FOR WIND AND SEISMIC LOADS. COMMERCIAL PROJECTS ARE DESIGNED TO MEET REQUIREMENTS OF 2015 INTERNATIONAL BUILDING CODE FOR WIND AND SEISMIC LOADS. SEE ALSO DESIGN CRITERIA.
- FIRST FLOOR WINDOWS AND DOORS SHALL HAVE A RATING OF DP50. GARAGE DOORS TO HAVE DP RATING OF 25. SECOND FLOOR WINDOWS SHALL HAVE A RATING OF DP50.
- SOIL: FOUNDATION DESIGN BASED ON MINIMUM BEARING CAPACITY OF 2000 PSF. CONTRACTOR TO VERIFY SOIL CONDITIONS PRIOR TO PLACEMENT OF CONCRETE, ORGANIC SOILS TO BE REMOVED AND STRUCTURAL FILL PLACED AND COMPACTED PRIOR TO CONCRETE PLACEMENT. CONTRACTOR TO MOTIFY OWNER IF SOIL CONDITIONS DO NOT HAVE ADEQUATE BEARING CAPACITY.
- NOTE ON TREATED LUMBER CONNECTIONS ALL NAILS, BOLTS, SCREWS, AND CONNECTORS THAT MAY COME INTO CONTACT WITH TREATED LUMBER WILL BE HOT DIPPED GALVANIZED (HIDG), STAINLESS STEEL (SS), OR OTHER MATERIALS APPROVED BY THE MANUFACTURET O MININIZE CORROSION GAUSED BY ACO TREATMENT CHEMICALS.

## B. REINFORCED CONCRETE:

- a. SPECIFICATIONS: IN GENERAL, COMPLY WITH ACI 318-11 "SPECIFICATIONS FOR STRUCTURAL CONCRETE."
- b. STRUCTURAL CONCRETE: LOCATION

FOOTINGS 3000 MONOLITHIC SLABS ON GRADE, AND ALL INTERIOR CONCRETE NOT OTHERWISE IDENTIFIED. 3000

F'c (PSI)

FINISHING: RINISHING OF CONCRETE SHALL BE IN ACCORDANCE WITH ACI 301 (LATEST EDITION), CURING: BEGINNING IMMEDIATELY AFTER PLACEMENT, CONCRETE SHALL BE PROTECTED FROM PREMATURE DRYING: EXCESSIVELY HOT OR COLD TEMPERATURES, AND MECHANICAL INJURY, AND SHALL BE MAINTAINED WITH MINIMAL MOISTURE LOSS AT A RELATIVELY CONSTANT. TEMPERATURE FOR THE PERIOD NECESSARY FOR THE HYDRATION OF THE CEMENT AND HARDENING OF THE CONCRETE. THE MATERIALS AND METHODS OF CURING SHALL CONFORM TO ACL 301

RAISED STEMWALL SLABS AND CONCRETE ON GRADE, PIERS, AND ALL EXTERIOR CONCRETE NOT OTHERWISE IDENTIFIED.

BACKFILL BELOW FOOTINGS

MIXES: ALL CONCRETE MIXES SHALL BE DESIGNED BY THE SUPPLIER TO MEET THE REQUIREMENTS SET FORTH HEREIN, SLUMP; MAXIMUM ALLOWABLE SLUMP FOR CONCRETE SHALL BE 4" UNLESS OTHERWISE NOTEO OR APPROVED. IF HIGHER SLUMP IS DESIRED TO INCREASE WORKABILITY, CONTRACTOR SHALL CONSULT WITH CONCRETE SUPPLIER ABOUT USING A CONCRETE ADDITIVE THAT WILL INCREASE SLUMP WITHOUT INCREASING WATER/CEMENT RATIO OF THE CONCRETE. THE CONTRACTOR SHALL VERIFY THAT ANY CONCRETE ADDITIVES WILL NOT HAVE ANY DETRINEMATAL EFFECTS ON EMBEDDED ITEMS, FINISHES INDICATED ON PLANS OR LIKELY FUTURE FINISHES.

ALL DEFORMED REINFORCING BARS: FY = 60,000, ASTM A-615 GRADE 60

- FIELD MANUAL: PROVIDE AT LEAST ONE COPY OF THE ACI FIELD REFERENCE MANUAL, SP-15, IN THE FIELD OFFICE AT ALL TIMES.
- MISCELLANEOUS
  - BENT BARS, IF REQUIRED, SHALL BE BENT PER MANUFACTURE RECOMMENDATION, UNLESS
  - PROVIDE SUPPORTS AS REQUIRED TO MAINTAIN ALIGNMENT OF SCHEDULED REINFORCING.
- - CONCRETE SLABS ON GRADE SHALL BE CONSTRUCTED IN ACCORDANCE WITH ACI 302.IR-96 "GUIDE FOR CONCRETE"
  - CONTROL JOINTS SHALL BE SPACED IN INTERIOR SLABS ON GRADE AT A MAXIMUM OF 20'- O/C, AND IN EXTERIOR SLABS, ON GRADE AT A MAXIMUM OF 10'- O/C UNLESS NOTED.
- CONTROL JOINTS SHALL BE PRODUCED USING CONVENTIONAL PROCESSES WITHIN 4 TO 12 HOURS AFTER THE SLAB HAS BEEN FINISHED. REINFORCING SHALL NOT EXTEND THROUGH THE CONTROL JOINT.
- CONSTRUCTION JOINTS PERMITTED ONLY WHERE SHOWN OR AS APPROVED BY THE STRUCTURAL ENGINEER. ALL CONSTRUCTION JOINTS ARE TO BE KEYED. KEYWAYS SHALL BE 1-1/2 INCHES DEEP X 1/3 MEMBER THICKNESS.
- PROVIDE 6 MIL POLYETHYLENE VAPOR BARRIER BETWEEN SUBGRADE & CONCRETE SLAB.
- TREAT SOIL FOR TERMITES PRIOR TO PLACEMENT OF CONCRETE.
- PREPARE SITE BY REMOVING ORGANIC/EXPANSIVE SOILS AND COMPACTING TO
- SLAB FINISHES: (A) ALL OFFICE SPACES, RETAIL, RESIDENTIAL AND SIMILAR SLABS, SHALL HAVE A MACHINE FINISH WITH 1/8" PER 10"0" TOLERANCE. (B) ALL EXTERIOR, WET SURFACE, DRIVEWAYS, SIDEWALKS, AND SIMILAR SLABS SHALL BE FINISHED WITH ROUGH NON-SKID SURFACE (BROOM FINISH). BRUSH LINES IN THE FINISH SHALL BE PARALLEL TO DIRECTION OF SLOPE.
- THE CONCRETE SLAB-ON-GRADE HAS BEEN DESIGNED USING A SUBGRADE MODULUS OF K-250 PCI AND A DESIGN LOADING OF 2000 PSF. THE STRUCTURAL ENGINEER OF RECORD IS NOT RESPONSIBLE FOR DIFFERENTIAL SETTLEMENT, SLAB CRACKING OR OTHER FUTURE DEFECTS RESULTING FROM UNREPORTED COMDITIONS MITIGATING THE ABOVE ASSUMPTIONS.

### OPENINGS:

- OPENINGS SHOWN ARE FOR BIDDING PURPOSES ONLY. COORDINATE THEIR EXACT SIZES AND LOCATIONS WITH HVAC, PLUMBING, AND OTHER REQUIREMENTS BEFORE PROCEEDING WITH WORK.
- IF ANY OPENING NOT SHOWN ON THE PLANS IS REQUIRED. SECURE APPROVAL OF THE STRUCTURAL ENGINEER BEFORE PROCEEDING
- PROVIDE TWO #5 BARS AROUND ALL SLAB OPENINGS, EXTENDING 2 FEET BEYOND OPENING IN EVERY DIRECTION, U.N.O., OPENINGS NOT EXCEEDING 16 INCHES x 16 INCHES MAY BE SLEEVED AS REQUIRED BY WORKING THE REINFORCING STEEL AROUND THEM.

- DOWELS IN FOOTINGS TO MATCH VERTICAL PIER OR WALL REINFORCING.
- PROVIDE CORNER BARS AT FOOTING CORNERS TO MATCH HORIZONTAL REINFORCING. MINIMUM LAP LENGTH WITH HORIZONTAL REINFORCEMENT 35 BAR DIAMETERS.
- BACKFILL AGAINST BOTH SIDES OF WALLS EQUALLY UNTIL THE LOWER ELEVATION IS ATTAINED.
- PROVIDE MIN, 18 INCH THICK LAYER OF GRANULAR BACKFILL FULL HEIGHT OF
- CAST IN CONTINUOUS DOVE TAIL ANCHOR SLOTS ON VERTICAL SURFACES WHERE MASONRY ABUTS, 16 INCHES O.C. FOR PARALLEL SURFACES, AT CENTERLINE OF MASONRY FOR PERPENDICULAR SURFACES.
- PROVIDE LEAN CONCRETE UNDER FOUNDATIONS FOR ACCIDENTAL OVER-EXCAVATION, SOFT SPOTS AND TRENCHES.

### SPLICES: UNLESS NOTED OTHERWISE, MINIMUM LAP SPLICE LENGTHS TO BE AS FOLLOWS:

- (INCLUDING DOWELS)
- FOOTINGS
- CONCRETE COVER: UNLESS NOTED OTHERWISE, DETAIL REINFORCING TO PROVIDE CONCRETE COVER AS FOLLOWS:

HORIZONTAL BARS IN SLABS &

CONCRETE CAST AGAINST AND

- 3 INCHES PERMANENTLY EXPOSED TO EARTH CONCRETE EXPOSED TO EARTH OR WEATHER: 1-1/2 INCHES
- 2 INCHES CONCRETE NOT EXPOSED TO EARTH OR WEATHER;
- ALL OTHERS 1-1/2 INCHES PILE CAPS

### MISCELLANEOUS:

GROUT UNDER COLUMN BASE PLATES SHALL BE NON-SHRINKING TYPE. THE USE OF LEVELING PLATES AT COLUMN BASES IS PROHIBITED, GROUT BELOW BEARING PLATES, SETTING PLATES, AND COLUMN BASE PLATES IS TO BE INSTALLED ONLY AFTER THE STEEL IS PLUMBED.

### C. MASONRY

- SPECIFICATIONS: MASONRY CONSTRUCTION AND MATERIALS SHALL CONFORM TO ALL SPECIFICATIONS, MASONITY CONSTRUCTION AND MATERIALS SPACECOVITY-DAY TO ALL RECOURSEMENTS OF "SPECIFICATIONS FOR MASONINY STRUCTURES (ACI 530, 1-9) AND ALL 6-99); PUBLISHED BY THE AMERICAN CONCRETE INSTITUTE, DETROIT, MICHIGAN, EXCEPT AS MODIFIED BY THE REQUIREMENTS OF THESE CONTRACT DOCUMENTS.
- - CONCRETE BLOCK: ASTM C90. MINIMUM NET AREA COMPRESSIVE STRENGTH OF C.M.U. = 1900 PSI. GRADE N-1
  - MORTAR: ASTM C270 (USING THE PROPERTY SPECIFICATION METHOD, PARAGRAPH 3.2), TYPE S, MINIMUM COMPRESSIVE STRENGTH = 1800 PSI.
  - BOND BEAM AND CORE FILL: ASTM C476, COARSE OR FINE TYPE, PLACE PER ACI 530.1. TABLE 5. JOINT REINFORCING: HOT-DIPPED GALVANIZED FINISH, 9 GAGE MINIMUM SIDE WIRES AND CROSS WIRES, EXCEPT USE 3/16 INCH DIAMETER SIDE WIRES WHERE "HEAVY-WEIGHT" IS REQUIRED.
  - BAR REINFORCING: ASTM A615, GRADE 60, UNLESS NOTED OTHERWISE.
  - WIRE TIES AND ANCHORS: RECTANGULAR TYPE, 3/16" DIAMETER WIRE TIES (HOT
  - CONCRETE GROUT: ALL FILLED CELLS OF MASONRY UNITS SHALL BE FILLED WITH CONCRETE GROUT (CMU BLOCKFILL) HAVING A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI AND A MAXIMUM SLUMP OF 9".
- REINFORCED MASONRY: WHERE VERTICAL BARS ARE TO BE GROUTED INTO CORES, THE FOLLOWING REQUIREMENTS APPLY:
- PROVIDE DOWELS FROM FOOTING, SAME SIZE AND SPACING AS WALL BARS. LAP 12 INCHES MINIMUM WITH WALL BAR. EMBED INTO FOOTING 9 INCHES.
- PROVIDE A CONTINUOUS VERTICAL CAVITY, AT LEAST 3"x4" IN SIZE, FREE OF MORTAR DROPPING.
- PROVIDE REBAR ALIGNMENT DEVICES AT A MAXIMUM SPACING OF 96 BAR DIAMETERS (MINIMUM OF 2 PER BAR).
- AT SPLICES IN VERTICAL BARS, PROVIDE 48 DIAMETER LAP.
- ALL REINFORCEMENT MUST BE INSTALLED AND SECURELY ANCHORED IN PLACE PRIOR TO PLACEMENT OF GROUT.
- ALL C.M.U.'S USED IN REINFORCED MASONRY SHALL BE TWO CELL UNITS.
- - VERTICAL COLLAR JOINTS SHALL BE FILLED SOLID WITH MORTAR OR GROUT
  - FILL CORE SOLID AROUND ANCHOR BOLTS.
  - PROVIDE 100% SOLID BLOCKS OR SOLIDLY-FILLED HOLLOW BLOCKS FOR AT LEAST 4" ALL AROUND ALL EXPANSION BOLTS.
  - HOLLOW MASONRY UNITS TO BE LAID WITH FULL MORTAR COVERAGE ON HORIZONTAL AND VERTICAL FACE SHELLS. WEBS SHALL ALSO BE BEDDED IN THE STARTING COURSE ON FOOTINGS, AND WHEN ADJACENT TO CELLS OR CAVITIES TO BE REINFORCED OR FILLED WITH CONCRETE OR GROUT. SOLID UNITS TO BE LAID WITH FULL HEAD AND BED JOINTS.
  - PROVIDE JOINT REINFORCING AT 16 INCHES, EXCEPT AS NOTED. LAP JOINT REINFORCING 6 INCHES FOR STANDARD, 15 INCHES FOR HEAVY
  - WHERE MASONRY UNITS ARE USED ABOVE HOLLOW UNITS OF A DIFFERENT THICKNESS, PROVIDE A CONTINUOUS COURSE OF 100% SOLID MASONRY AT LEAST 8 INCHES HIGH BELOW TRANSITION.

  - BLOCK PLACEMENT: ALL CELLS TO BE FILLED WITH CONCRETE SHALL BE AS STRAIGHT AS POSSIBLE. THE BLOCK SHOULD NOT BE STAGGERED SO AS TO CONSTRICT THE FLOW OF CONCRETE IN ANY WAY. THIS SHOULD ACCOMPLISHED BY PLACING PICES OF BLOCK VERTICALLY BETWEEN FILLED CELLS IN NON-MODULAR SECTION OF WALL AND ABOVE AND BELOW MONIMORAL OF MACHINERY DEPRINES. NON-MODULAR MASONRY OPENINGS.

### G. STRUCTURAL LUMBER

- STRUCTURAL LUMBER INCLUDING BEARING AND EXTERIOR WALL STUDS;
  MINIMUM PROPERTIES OF SPRUCE-PINE-FIR #2, ALLOWABLE STRESSES PER THE
  NATIONAL DESION SPECIFICATION SUPPLEMENT 1997 EDITION, 19% MAX. M.C.
  OTHER ACCEPTABLE SPECIES INCLUDE HEM-FIR, SOUTHERN PINE, AND DOUGLAS FIR-LARCH.
- PLYWOOD: FOR ROOFS.....OSB OR C-D PLUGGED, 5-PLY, EXPOSURE 1, 7/16" THICK. FOR WALLS.....OSB OR C-D PLUGGED, 5-PLY, EXPOSURE 1, 7/16" THICK.
- OSB: FOR WALLS NOT AT SHEAR WALLS: 7/16" INCH THICK WITH PANEL INDEX W24, EXPOSURE 1.
- ALL FRAMING EXPOSED TO THE WEATHER OR IN CONTACT WITH MASONRY OR CONCRETE SHALL BE PRESSURE TREATED IN ACCORDANCE WITH THE AMERICAN WOOD PRESERVERS ASSOCIATION SPECIFACATIONS. WHERE POSSIBLE ALL CLTS AND HOLES SHOULD BE COMPLETED BEFORE TREATMENT. CLT AND HOLES DUE TO ON SITE FABRICATION SHALL BE BRUSHED WITH 2 COATS OF COPPER NAPHTHEMATE SOLUTION CONTAINING A MINIMUM OF 2% METALLIC COPPER IN SOLUTION (PER AWPA STD. M4)
- SPECIFICATIONS: UNLESS SPECIFICALLY SHOWN OTHERWISE, DESIGN, FABRICATION AND ERECTION SHALL BE GOVERNED BY THE LATEST EDITION OF:
  - NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION.
- JOISTS TO SIDES OF BEAMS: 16 GA. GALVANIZED STD. JOIST HANGERS, UNLESS SHOWN OTHERWISE.

- JOISTS AND TRUSSES TO TOPS OF WALLS AND BEAMS: 18 GA, GALVANIZED HURRICANE ANCHORS.

  PLYWOOD TO ROOF TRUSSES OR RAFTERS: NAILED USE 88 RING SHANK NAILS AT 51 KINCHES OVE AT PANEL EDGES AND 12 INCHES OVE AT INTERMEDIATE SUPPORTS (UNLESS NOTED OTHERWISE), PROVIDE PLYWOOD CLIPS AT MID-SPAN OF PLYWOOD BETWEEN SUPPORTS.

  ALL METAL CONNECTIONS SHALL BE SIMPSON OR USP.
  ALL CONNECTIONS TO BE INSTALLED PER MANUFACTURERS INSTRUCTIONS. CONTACT ENGINEER WITH OUESTIONS PERTAINING TO HOLDOWINS SPECIFIED ON PLANS.

  STUD COLUMNS SHALL BE SECURED WITH 2 ROWS OF 100 NAILS @ 24" O.C. (UNLESS NOTED OTHERWISE)

- LOAD VALUES FOR 8d, 10d, 16d AND 20d DESIGNATIONS IN THE FASTENER SCHEDULES THROUGHOUT THIS CATALOG REFER TO COMMON WIRE NAILS UNLESS NOTED OTHERWINS, NAILS SHALL CONFORM TO A RECOGNIZED NATIONAL STANDARD, SUCH AS ASTM F1667, AS PRESCRIBED BY THE MODEL BUILDING CODES.

### WOOD TRUSSES

- WOOD TRUSSES SHALL BE DESIGNED BY THE MANUFACTURER IN ACCORDANCE WITH THE APPLICABLE PROVISIONS OF THE LATEST ADDITION OF THE NATIONAL DESIGN SPECIFICATION OF THE NATIONAL THE DESIGN SPECIFICATION FOR METAL PLATE CONNECTED WOOD TRUSSES OF THE TRUSS PLATE INSTITUTE.
- WOOD TRUSSES SHALL BE ERECTED IN ACCORDANCE WITH THE TRUSS MANUFACTURER'S REQUIREMENTS, THIS WORK SHALL BE DONE BY A QUALIFIED AND EXPERIENCED CONTRACTOR. TRUSS ERECTION BY AN UNEXPERIENCED OR NONQUALIFIED CONTRACTOR CAN RESULT IN CONSTRUCTION COLLAPSE ANDIOR
- THE CONTRACTOR SHALL PROVIDE ALL TEMPORARY AND PERMANENT BRACING AS REQUIRED FOR SERVED FROM THE TRUSS PLATE INSTITUTE PUBLICATION "HIE-91, COMMENTARY AND RECOMMENDATIONS FOR HADDLING, INSTALLING AND BRACING METAL PLATE CONNECTED WOOD TRUSSES" SHANLE BE A MINIMUM REQUIREMENT.
- TRUSS MEMBERS AND COMPONENTS SHALL NOT BE CUT, NOTCHED, DRILLED NOT OTHERWISE ALTERED IN ANY WAY WITHOUT WRITTEN APPROVAL OF THE TRUSS ENGINEER
- SUBMIT COMPLETE SHOP DRAWINGS FOR ALL WOOD TRUSSES SHOWING MEMBER SIZES, SPECIES, GRADE, MOISTURE CONTENT, SPAN, CAMBER, DIMENSIONS, CHORD PITCH, BRACING REQUIREMENTS AND LOADINGS, SHOP DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER AND SHALL BEAR THE SEAL OF A PROFESSIONAL ENGINEER REGESTERED IN THE STATE OF SOUTH CARCINEY.

### STRUCTURAL WOOD PANELS

- FABRICATION AND PLACEMENT OF STRUCTURAL WOOD SHEATHING SHALL BE IN ACCORDANCE WITH THE APA DESIGNICONSTRUCTION GUIDE "RESIDENTIAL AND COMMERCIAL," AND ALL OTHER APPLICABLE APA STANDARDS.
- ALL STRUCTURALLY REQUIRED WOOD SHEATHING SHALL BEAR THE MARK OF THE
- WOOD WALL SHEATHING SHALL COMPLY WITH THE REQUIREMENTS OF THE INTERNATIONAL RESIDENTIAL CODE. WOOD WALL SHEATHING SHALL BE IN TENTIAL OF THE MORE STRUCKED AND ATTACHED TO ITS SUPPORTING WALL FRAMING WITH (1)-BO CONTINUOUS RESIDENCE THE WORLD FRAMING STRUCK THE STRUCK WALL GROUND THE PLANS AND AT 6" O.C. IN PARIL FIELD WITH (1)-BO CONFILCT OCCUR BETWEEN THESE STRUCKED AND AT 6" ONFILCT OCCUR BETWEEN THE STRUCKED AND ATTACHED AND ATTACHED THE MORE STRUKKED AND THE FORMENTIONED CODE

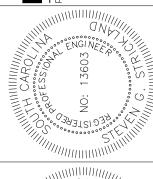
  REFERENCES THE MORE STRUKKED THE FACE OF STRUCKED AND ATTACHED AND ATTACHED THE MORE STRUKKED THE STRUKKED THE MORE STRUKKED THE MORE STRUKKED THE STRUKKED T
- ROOF SHEATHING SHALL BE APA RATED SHEATHING EXPOSURE 1 OR 2. ROOF ROOF SHEATHING SHALL BE APA RATED SHEATHING EXPOSURE 1 OR 2, ROOF SHEATHING SHALL BE CONTINUOUS OVER TWO SUPPORTS AND ATTACHED TO ITS SUPPORTING ROOF FRAMING WITH (1), 8D CC NAIL AT 3' O.C. IN PAREL FELD UNLESS OTHERWISE NOTED ON THE PLANS. SHEATHING SHALL BE APPLIED WITH THE LONG OF IRECTION PERFENDICULAR TO FRAMING.
  SHALL BE APPLIED WITH THE LONG OF IRECTION PERFENDICULAR TO FRAMING.
  SHALL BE APPLIED WITH THE LONG OF IRECTION PERFENDICULAR TO FRAMING.
  WILLIAM SHALL ELDES SUPPORTS BY USE OF PLYWOOD CLIPS OF LUMBERS BLOCKING
  UNLESS OTHERWISE NOTED, PANEL END JOINTS SHALL OCCUR OVER FRAMING.
  APPLY SHILL INDICE APPER QUEER SHEATHING AS REQUIRED BY THE INTERNATIONAL APPLY BUILDING PAPER OVER SHEATHING AS REQUIRED BY THE INTERNATIONAL RESIDENTIAL BUILDING CODE.
- WOOD FLOOR SHEATHING SHALL BE APA RATED SHEATHING EXPOSURE 1 OR 2 WOULD FLOOR SHEAT HINGS STALL BE APIA KAT LED SHEAT HING EXPOSURE 1 OR 2 ATTACH SHEATHING TO ITS SUPPORTING FRAMING WITH (1) EDC CRINS-SHANK MAIL AT 6" O.C. @ PANEL EDGE AND @ 12" O.C. IN PANEL FIELD UNLESS OTHERWISE NOTED ON THE PLANS. SHEATHING SHALL BE APPLIED PERPENDICULAR FRAMING FRAMING SHEAT SHEATHING SHALL HAVE A SPAN RATING FOR STATE WITH THE FRAMING SHEATHING SHALL HAVE A SPAN RATING FOR STATE WITH THE FRAMING SHALL HAVE A SPAN RATING FOR STATE WOULD FRAMING SHALL HAVE A SPAN RATING FOR STATE WOULD FRAMING SHALL HAVE A SPAN RATING FOR STATE WOULD FRAMING SHALL HAVE A SPAN RATING FOR STATE WOULD FRAMING SHALL HAVE A SPAN RATING FOR STATE WOULD FRAMING SHALL HAVE A SPAN RATING FOR STATE WOULD FRAMING SHALL HAVE A SPAN RATING FOR STATE WOULD FRAMING SHALL HAVE A SPAN RATING FOR STATE WOULD FRAMING SHALL HAVE A SPAN RATING FOR STATE WOULD FRAMING SHALL HAVE A SPAN RATING FOR STATE WOULD FRAMING SHALL HAVE A SPAN RATING FOR STATE WOULD FRAMING SHALL HAVE A SPAN RATING FOR STATE WOULD FRAMING SHALL HAVE A SPAN RATING FOR STATE WOULD FRAMING SHALL HAVE A SPAN RATING FOR STATE WOULD FRAMING SHALL HAVE A SPAN RATING FOR STATE WOULD FRAMING SHALL HAVE A SPAN RATING FOR STATE WOULD FRAMING SHALL HAVE A SPAN RATING FOR STATE WOULD FRAMING SHALL HAVE A SPAN RATING FRAMING SHALL HAVE A SPAN RATING FOR STATE WOULD FRAMING SHALL HAVE A SPAN RATING FOR STATE WOULD FRAMING SHALL HAVE A SPAN RATING FOR STATE WOULD FRAMING SHALL HAVE A SPAN RATING FRAMING SHALL HAVE A SPAN RATING FRAMING SHALL HAVE A SPAN RATING FRAMING FRAMIN SPACINGS, USE SOLITIBLE EDUS SPEPFORT IS 100 SOFT TAS THAT WOLD OF THE WOLD OF THE COURT OVER FRAMING, APPLY BUILDING PAPER OVER THE SHEATHING AS REQUIRED BY THE STATE BUILDING CODE.
- SHEATHING EDGES SHALL HAVE A 1/8" GAP AT ENDS AND EDGES AS RECOMMENDED IN ACCORDANCE WITH THE APA.

## 6. STRUCTURAL FIBERBOARD PANELS

- FABRICATION AND PLACEMENT OF STRUCTURAL FIBERBOARD SHEATHING SHALL BE IN ACCORDANCE WITH THE APPLICABLE AFA STANDARDS
  - ALL STRUCTURALLY REQUIRED FIBERBOARD SHEATHING SHALL BEAR THE
- FIBERBOARD WALL SHEATHING SHALL COMPLY WITH THE REQUIREMENTS OF THE INTERNATIONAL RESIDENTAL CODE. FIBERBOARD WALL SHEATHING SHALL CONTINUOUS OVER TWO SUPPORTS AND ATTACHED TO ITS SUPPORTING WALL FRAMING WITH -1/2" LONG 16" GAGE STAPLES @ 3" O.C. AT PANEL EDGES AND @ 6" O.C. IN PANEL FIELD UNLESS NOTED OTHERWISE ON THE PLANS, SHOULD A CONFLICT OCCUR BETWEEN THESE DRAWINGS AND THE FOREMENTIONED CODE REFERENCES, THE MORE STRINGENT SHALL GOVERN.
- SHEATHING SHALL HAVE A 1/8" GAP AT PANEL EDGES AS RECOMMENDED IN ACCORDANCE WITH THE AFA.

- USE ONE LINE OF SOLID BLOCKING OR CROSS BRIDGING AT 8"-0" O/C MAX. FOR ALL JOISTS AND RAFTERS, USE SOLID BLOCKING AT JOIST AND RAFTER USE SOLID BLOCKING AT MID-HEIGHT FOR ALL EXTERIOR STUDWALLS AND
- INTERIOR BEARING PARTITIONS. USE DOUBLE STUDS UNDER BEAM AND LINTEL BEARING, UNLESS SHOWN OTHERWISE
- IN AREAS WHERE TOP CHORD OF TRUSSES DO NOT RECEIVE PLYWOOD. SHEATHING, PROVIDE 1x4 CONTINUOUS BRIDGING PERPENDICULAR TO TOP CHORDS AND SPACED AT 3'-0" O.C.
- PROVIDE AND INSTALL BRIDGING FOR PREFABRICATED WOOD TRUSSES AS INDICATED ON THE TRUSS MANUFACTURER'S APPROVED SHOP DRAWINGS.





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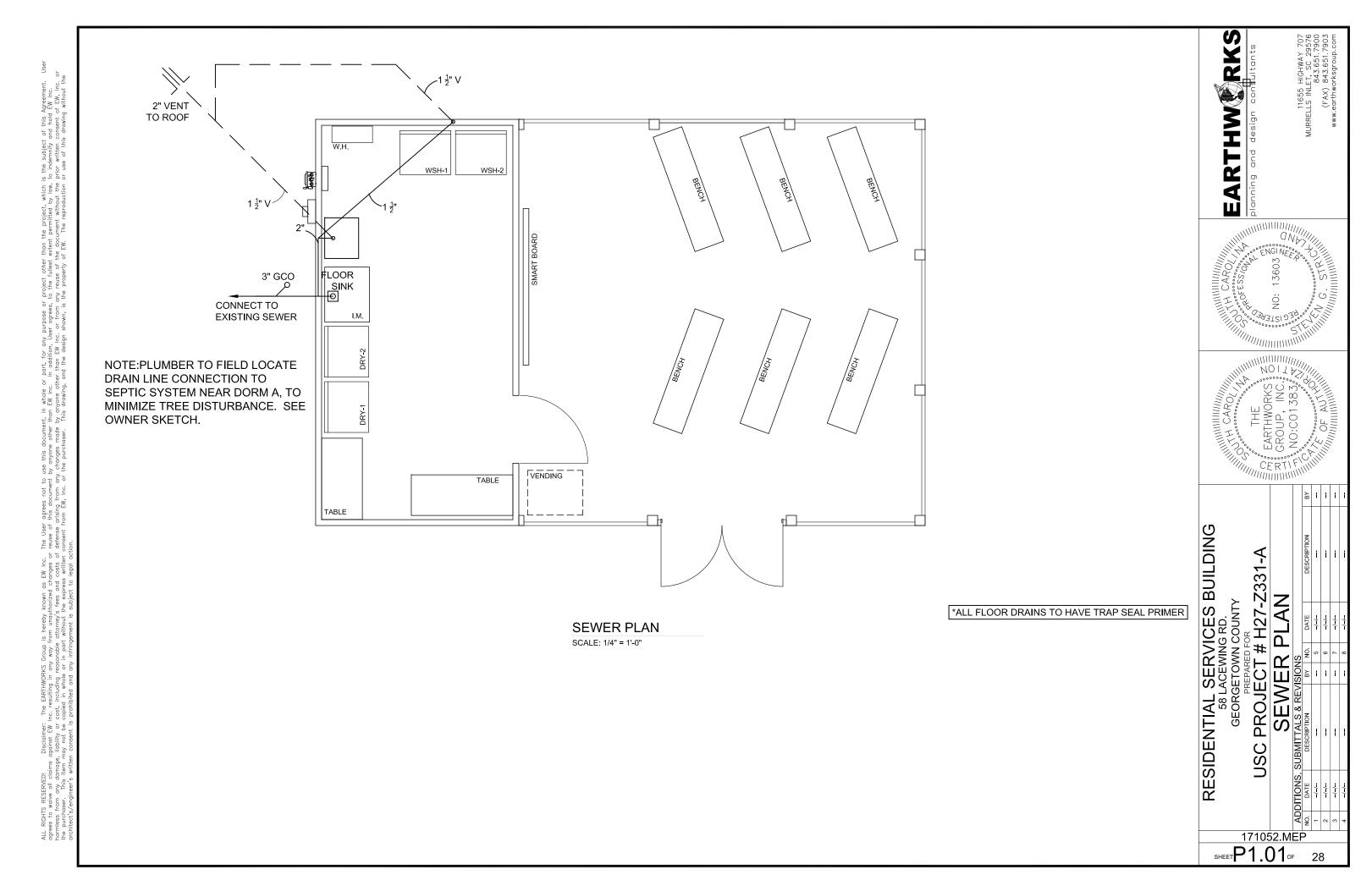
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### PLUMBING NOTES:

- ALL WORK SHALL BE EXECUTED AND INSPECTED IN ACCORDANCE WITH ALL LOCAL OR STATE CODES. LAWS, ORDINANCES, RULES AND REGULATIONS APPLICABLE TO THE PARTICULAR CLASS OF WORK. IF, TO THE KNOWLEDGE OF THE CONTRACTOR, THE DRAWINGS AND SPECIFICATIONS ARE IN CONFLICT WITH THE ABOVE. HE SHALL PROMPTLY NOTIFY THE ENGINEER IN WRITING SO THAT ANY NECESSARY CHANGES CAN BE PROVIDED FOR IN HIS CONTRACT. IF THE CONTRACTOR PERFORMS ANY WORK WITHOUT NOTICE AS REQUIRED, HE SHALL BEAR ALL COSTS OF CORRECTIVE ACTION.
- 2 THE CONTRACTOR SHALL INCLUDE IN HIS QUOTATION ALL APPLICABLE SERVICE CHARGES FEES PERMITS, ROYALTIES, AND OTHER SIMILAR COSTS IN CONNECTION WITH THE WORK. OBTAIN PERMITS,

AND REQUEST INSPECTIONS FROM AUTHORITY HAVING JURISDICTION

- 3. INSTALL WORK IN LOCATIONS SHOWN ON DRAWINGS, UNLESS PREVENTED BY PROJECT CONDITIONS. FOR PURPOSES OF CLEARNESS AND LEGIBILITY, DRAWINGS ARE ESSENTIALLY DIAGRAMMATIC, AND ALTHOUGH SIZE AND LOCATION OF EQUIPMENT ARE DRAWN TO SCALE WHENEVER POSSIBLE. THE CONTRACTOR SHALL MAKE USE OF ALL DATA IN ALL OF THE CONTRACT DOCUMENTS AND SHALL VERIEV THIS INFORMATION AT THE SITE
- THE DRAWINGS INDICATE REQUIRED SIZE AND POINTS OF TERMINATION OF PIPES AND DUCTS, AND SUGGEST PROPER ROUTES OF PIPE TO CONFORM TO STRUCTURE, AVOID OBSTRUCTIONS AND PRESERVE CLEARANCES HOWEVER IT IS NOT INTENDED THAT DRAWINGS INDICATE ALL NECESSARY

OFFSETS, AND IT SHALL BE THE WORK OF THIS SECTION TO INSTALL PIPING AND DUCTS IN SUCH A MANNER AS TO CONFORM TO STRUCTURE AVOID ALL OBSTRUCTIONS, PRESERVE HEADROOM, AND KEEP OPENINGS AND PASSAGEWAYS CLEAR WITHOUT FURTHER INSTRUCTION OR COST TO THE

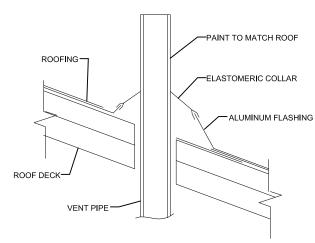
- CONTRACTOR SHALL GUARANTEE ALL WORK PERFORMED UNDER THIS CONTRACT TO BE FREE FROM DEFECTS IN MATERIALS AND WORKMANSHIP FOR A PERIOD OF ONE YEAR FROM DATE OF WITNESSED AND APPROVED STARTUP
- TRANSPORT AND HANDLE PRODUCTS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
- STORE AND PROTECT PRODUCTS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS, WITH SEALS AND LABELS INTACT AND LEGIBLE
- VERIFY THAT EACH PIECE OF EQUIPMENT OR SYSTEM HAS BEEN CHECKED FOR PROPER LUBRICATION, DRIVE ROTATION, BELT TENSION, CONTROL SEQUENCE, OR FOR OTHER CONDITIONS WHICH MAY CAUSE DAMAGE
- DEMONSTRATE OPERATION AND MAINTENANCE OF PRODUCTS TO OWNER'S PERSONNEL ONE WEEK PRIOR TO DATE OF FINAL INSPECTION.
- 10. EXECUTE FINAL CLEANING PRIOR TO FINAL PROJECT ASSESSMENT
- 11. PROVIDE SUPPORT AND EQUIPMENT REQUIRED TO CONTROL EXPANSION AND CONTRACTION OF PIPING. PROVIDE LOOPS, PIPE OFFSETS, AND SWING JOINTS, OR EXPANSION JOINTS WHERE REQUIRED.
- 12. ALL WATER HEATERS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS INSTALLATION INSTRUCTIONS
- 13. ELECTRIC WATER HEATER SHALL CONFORM TO THE REQUIREMENTS OF THE 2003 IPC AND 2005 NEC.
- WATER HEATER IN OVERHEAD OR ATTIC SHALL BE PROVIDED WITH AN OPENING LARGE ENOUGH TO ALLOW THE REMOVAL OF WATER HEATER (NOT LESS THAN 30" HIGH X 22" WIDE).
- 15. ALL DISCHARGE FROM THE RELIEF VALVE SHALL BE PIPED FULL-SIZE TO AN OUTSIDE DRAIN OR AN INDIRECT WASTE RECEPTOR LOCATED INSIDE THE BUILDING AT THE WATER HEATER LOCATION (PER IPC 504.6.1)

- 16. A DRAIN PAN OF 1 1/2" DEEP MINIMUM WILL BE PROVIDED FOR WATER HEATER. ROUTE DRAIN FULL-SIZE TO AN OUTSIDE DRAIN OR AN INDIRECT WASTE RECEPTOR LOCATED INSIDE THE BUILDING
- 17. SANITARY DRAIN PIPING SHALL BE SCHEDULE 40 PVC (ASTM F1488) OR SERVICE WEIGHT CAST IRON
- (ASTM A74). CONFORM TO LOCAL CODE REQUIREMENTS.

  18. DOMESTIC WATER PIPING SHALL BE TYPE "L" COPPER (ASTM B88), CPVC (ASTM D2846), PEX (ASTM F877) OR SCHEDULE 40 GALVANIZED STEEL (ASTM A53). UNDERGROUND WATER PIPING SHALL BE TYPE "K" COPPER, PEX (ASTM F876/F877) OR SCHEDULE 40 CPVC (ASTM D2846), AS LOCAL CODES ALLOW. INSULATE DOMESTIC COLD WATER LINES WITH 1/2" THICK FIBERGLASS OR FOAM INSULATION AND HOT WATER LINES WITH 1" THICK FIBERGLASS OR FOAM INSULATION TO PREVENT CONDENSATION ON COPPER OR PVC LINES
- 19. BEFORE COMMENCING WORK ON SANITARY SEWER, CHECK INVERTS AND ENSURE THAT THESE CAN
- 21. PROVIDE NON-CONDUCTING DIELECTRIC CONNECTIONS WHEREVER JOINTING DISSIMILAR METALS.
- 24. PROVIDE INSULATING ADA PLUMBING JACKETS UNDER EACH ADA FIXTURE WITH EXPOSED DRAIN AND
- 26. PROVIDE TRAP PRIMERS FOR ALL FLOOR DRAINS.
- BATHROOM UNIT. ONE DCW AND ONE DHW. PROVIDE SHUTOFF VALVE FOR SERVICING SHOCKSTOP.
- ASSEMBLY, PENETRATIONS SHALL BE PER DETAILS ON THE DRAWINGS OR SOME OTHER U.L. LISTED
- 29. CONTRACTOR TO VERIFY ALL FIELD CONDITIONS PRIOR TO WORK COMMENCING. COORDINATE WITH
- 30. PROVIDE 3/8" DCW CONNECTION TO ICE MAKER, IF APPLICABLE.
- 31. IF NATURAL GAS IS USED ON PROJECT, NATURAL GAS PIPING SHALL BE SCH. 40 METALLIC PIPE. PAINT

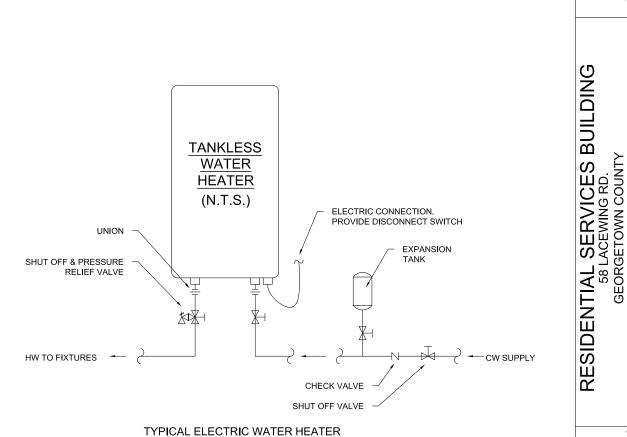
32. ALL EQUIPMENT SHALL BE SUBMITTED, WITH DESCRIPTIVE DATA, TO THE DESIGNER FOR APPROVAL OR REJECTION. ALL EQUIPMENT SHALL BE SUBMITTED IN AN INDEXED, BOUND BROCHURE WITH THREE COPIES. ALL ITEMS SHALL BE SUBMITTED AT ONE TIME. PARTIAL PRE-SUBMITTALS WILL BE CONSIDERED ONLY AS AN EXPEDIENCY UPON SPECIAL REQUEST. EACH SUBMITTAL BROCHURE SHALL BE SIGNED, ON THE INDEX PAGE, BY THE CONTRACTOR. THIS SIGNATURE SHALL INDICATE THE

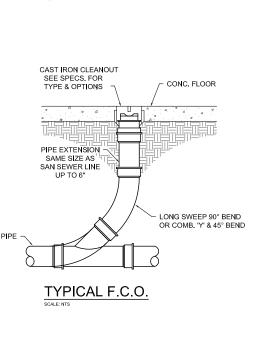
CONTRACTOR HAS EXAMINED ALL DATA THEREIN AND FOUND SAME TO BE IN ORDER. ALL ITEMS SUBMITTED THAT ARE NOT AS SUBMITTED SHALL HAVE ANY AND ALL CHARACTERISTICS THAT DIFFER

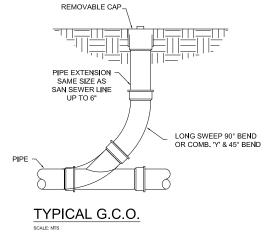


- 1. PIPE MUST BE ANCHORED TO BOTTOM OF ROOF DECK TO ASSURE STABILITY.
- 2. CONTRACTOR SHALL PLACE PIPING BEFORE ROOFING WORK BEGINS.
- 3. ALL ROOF PENETRATIONS TO BE PAINTED TO MATCH ROOF COLOR.

TYP. ROOF VENT DTL.







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BE PROPERLY CONNECTED WITH SLOPE FOR DRAINAGE AND COVER TO AVOID FREEZING.

20. PROVIDE NEW WATER SERVICE COMPLETE WITH REDUCED PRESSURE BACKFLOW PREVENTOR 22. PROVIDE ACCESSIBLE STOPS IN PIPING CONNECTIONS TO ALL PLUMBING FIXTURES.23. ASSURE EXTERIOR WALL CHASES ARE INSULATED TO PREVENT FREEZING. WATER PIPING

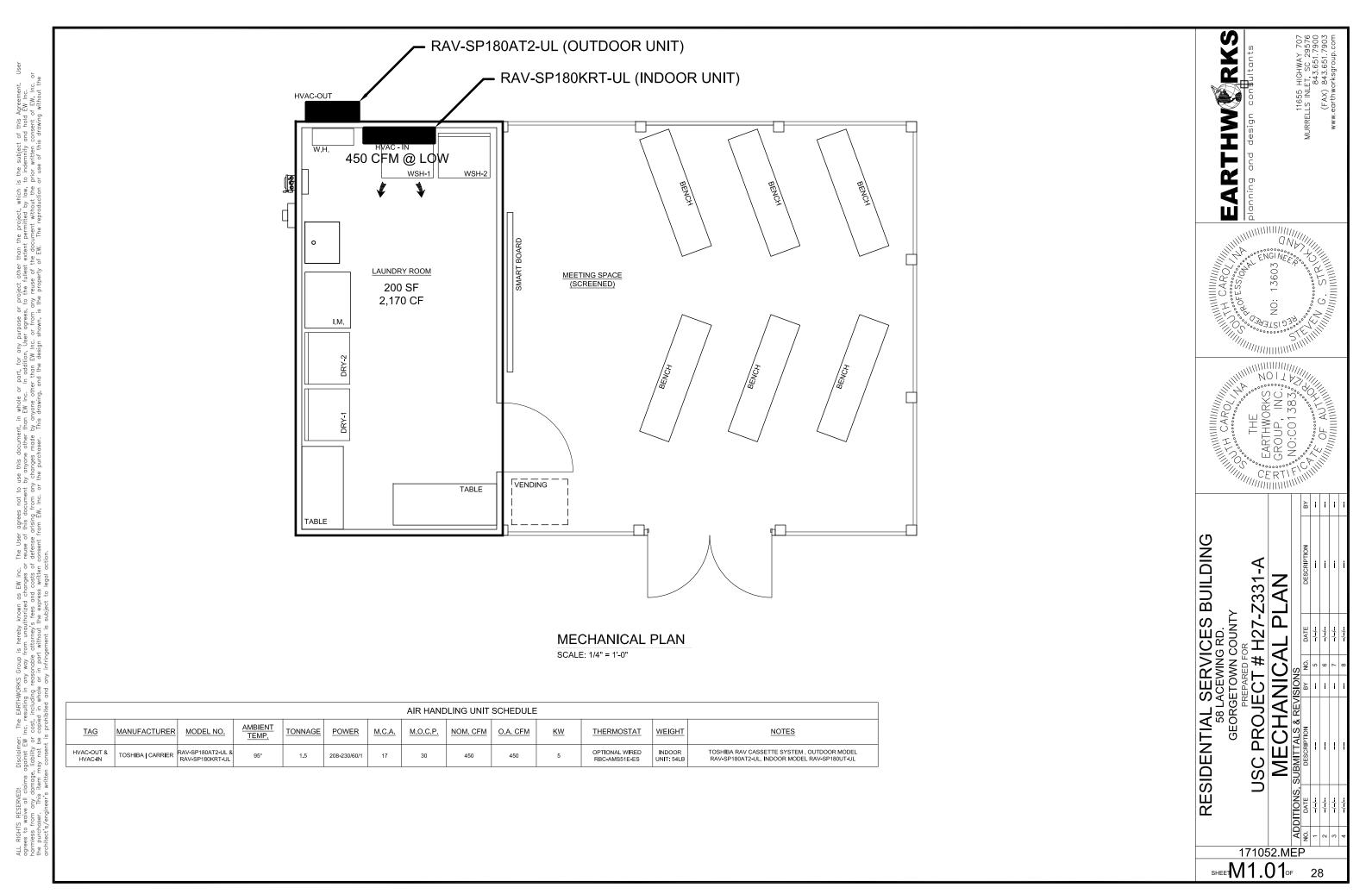
25. PROVIDE PIPE LABELS FOR ALL PIPING SYSTEMS.

27 PROVIDE AND INSTALL SHOCKSTOPS FOR DOMESTIC WATER PIPING SYSTEM. TWO REQUIRED PER

28. VERIFY FLOOR PLAN AND WALL/FLOOR/CEILING RATINGS WITH ARCHITECTURAL PLANS. PROVIDE RATED PENETRATIONS AT EACH INSTANCE WHERE PLUMBING INSTALLATION PENETRATES A RATED

OTHER TRADES FOR THE PLACEMENT OF PIPING AND EQUIPMENT.

PIPING LOCATED OUTDOORS



- REFER TO FLOOR PLANS TO VERIFY ALL CONDITIONS PRIOR TO BIDDING OR START OF CONSTRUCTION.
- ALL WORK SHALL BE EXECUTED AND INSPECTED IN ACCORDANCE WITH ALL LOCAL AND STATE CODES, LAWS,
  ORDINANCES, RULES AND REGULATIONS APPLICABLE TO THE PARTICULAR CLASS OF WORK. IF, TO THE KNOWLEDGE OF THE CONTRACTOR, THE DRAWINGS AND SPECIFICATIONS ARE IN CONFLICT WITH THE ABOVE, HE SHALL PROMPTLY NOTIFY THE ENGINEER IN WRITING SO THAT ANY NECESSARY CHANGES CAN BE PROVIDED FOR IN HIS CONTRACT. IF THE CONTRACTOR PERFORMS ANY WORK WITHOUT NOTICE AS REQUIRED, HE SHALL BEAR ALL COSTS OF CORRECTIVE
- 3. THE CONTRACTOR SHALL INCLUDE IN HIS QUOTATION ALL APPLICABLE SERVICE CHARGES, FEES, PERMITS, ROYALTIES. AND OTHER SIMILAR COSTS IN CONNECTION WITH THE WORK. OBTAIN PERMITS, AND REQUEST INSPECTIONS FROM AUTHORITY HAVING JURISDICTION.
- 4. INSTALL WORK IN LOCATIONS SHOWN ON DRAWINGS, UNLESS PREVENTED BY PROJECT CONDITIONS, FOR PURPOSES OF

CLEARNESS AND LEGIBILITY, DRAWINGS ARE ESSENTIALLY DIAGRAMMATIC, AND ALTHOUGH SIZE AND LOCATION OF EQUIPMENT ARE DRAWN TO SCALE WHENEVER POSSIBLE, THE CONTRACTOR SHALL MAKE USE OF ALL DATA IN ALL OF THE CONTRACT DOCUMENTS AND SHALL VERIFY THIS INFORMATION AT THE SITE.

THE DRAWINGS INDICATE REQUIRED SIZE AND POINTS OF TERMINATION OF PIPES AND DUCTS. AND SUGGEST PROPER ROUTES OF PIPE TO CONFORM TO STRUCTURE, AVOID OBSTRUCTIONS AND PRESERVE CLEARANCES. HOWEVER, IT IS NOT INTENDED THAT DRAWINGS INDICATE ALL NECESSARY OFFSETS, AND IT SHALL BE THE WORK OF THIS SECTION TO INSTALL PIPING AND DUCTS IN SUCH A MANNER AS TO CONFORM TO STRUCTURE, AVOID ALL OBSTRUCTIONS, PRESERVE

HEADROOM AND KEEP OPENINGS AND PASSAGEWAYS CLEAR WITHOUT FURTHER. INSTRUCTION OR COST TO THE

- 6. CONTRACTOR SHALL GUARANTEE ALL WORK PERFORMED UNDER THIS CONTRACT TO BE FREE FROM DEFECTS IN MATERIALS AND WORKMANSHIP FOR A PERIOD OF ONE YEAR FROM DATE OF WITNESSED AND APPROVED STARTUP.
- MOTORS FOR ALL MECHANICAL EQUIPMENT SHALL BE FURNISHED BY SUPPLIERS OF SUCH EQUIPMENT AND SHALL BE THE TYPE THAT HAS CHARACTERISTICS SUITABLE FOR CONTINUOUS OPERATING CONDITIONS.
- TRANSPORT AND HANDLE PRODUCTS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
- 9. STORE AND PROTECT PRODUCTS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS, WITH SEALS AND LABELS INTACT AND LEGIBLE.
- 10. VERIFY THAT EACH PIECE OF EQUIPMENT OR SYSTEM HAS BEEN CHECKED FOR PROPER LUBRICATION, DRIVE ROTATION,
- BELT TENSION, CONTROL SEQUENCE, OR FOR OTHER CONDITIONS WHICH MAY CAUSE DAMAGE.
- DEMONSTRATE OPERATION AND MAINTENANCE OF PRODUCTS TO OWNER'S PERSONNEL ONE WEEK PRIOR TO DATE OF FINAL INSPECTION.
- 12. EXECUTE FINAL CLEANING PRIOR TO FINAL PROJECT ASSESSMENT.
- 13. PROVIDE SUPPORT AND EQUIPMENT REQUIRED TO CONTROL EXPANSION AND CONTRACTION OF PIPING. PROVIDE
- LOOPS, PIPE OFFSETS, AND SWING JOINTS, OR EXPANSION JOINTS WHERE REQUIRED.
- 14. PROVIDE INSECT SCREENS FOR FRESH AIR INTAKES.
- 15. PROVIDE AND INSTALL REFRIGERANT PIPING FROM COOLING COILS TO CONDENSING UNITS. SUPPORT AS REQUIRED TO PREVENT SAGGING. PROVIDE ADDITIONAL CHARGE AS REQUIRED. INSULATED SUCTION LINE WITH ARMAFLEX.
- 16 CONDENSATE DRAIN PIPING SHALL BE SCH. 40 PVC OR TYPE "K" COPPER
- 17. IF THE STRUCTURE HAS A CEILING, NON HEATED/COOLED SPACES ABOVE CEILING WILL HAVE EXHAUST VENTILATION WITH THERMOSTATS. ALL EXHAUST VENTS WILL WORK TOGETHER EXCEPT FOR STORAGE ROOM AND GARAGE, IF APPLICABLE, WHICH WILL HAVE ITS OWN SYSTEM.
- PROVIDE NON-CONDUCTING DIELECTRIC CONNECTIONS WHEREVER JOINING DISSIMILAR METALS.
- 19. ALL DUCTWORK SHALL BE FABRICATED AND INSTALLED IN ACCORDANCE WITH THE SMACNA HVAC DUCT CONSTRUCTION

STANDARDS - "METAL AND FLEXIBLE", AND AS INDICATED. PROVIDE DUCT MATERIAL, GAGES, REINFORCING, AND SEALING FOR OPERATING PRESSURES INDICATED.

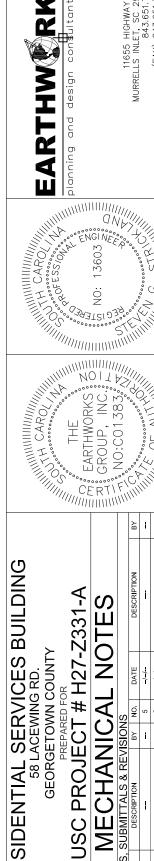
- 20. DUCT SIZES INDICATED ARE ACTUAL DUCT DIMENSIONS. ALLOWANCES HAVE BEEN MADE FOR THICKNESS OF INSULATION, ALL EXPOSED ROUND DUCTWORK SHALL BE DOUBLE WALL SPIRAL WITH INTERNAL LINER ALL ROUND DUCTS HIDDEN FROM VIEW SHALL BE WRAPPED WITH 1-1/2" THICK FOIL BACKED FIBERGLASS INSULATION. ALL RECTANGULAR DUCTS TO BE LINED WITH 1" THICK, MECHANICALLY FASTENED, FIBERGLASS INSULATION.
- 21. SIZE ROUND DUCTS INSTALLED IN PLACE OF RECTANGULAR DUCTS IN ACCORDANCE WITH ASHRAE TABLE OF EQUIVALENT RECTANGULAR AND ROUND DUCTS.
- 22. FLEXIBLE DUCTWORK SHALL BE FOULVALENT TO OMNIAIR MODEL 1200 WITH 1" THICK FIBERGLASS INSULATION AND VAPOR FLEXIBLE DUCTWORK SHALL BE UL LISTED AND APPROVED BARRIER. FLEXIBLE DUCT SUPPORT HANGERS SHALL BE OF A TYPE TO PREVENT THE COLLAPSING OF FLEXIBLE DUCTWORK. WIRE SUPPORT HANGERS ARE UNACCEPTABLE.

  23. SEAL ALL LONGITUDINAL AND TRANSVERSE SEAMS BEFORE APPLYING INSULATION. SEALANT SHALL BE
- NON-HARDENING, WATER RESISTANT, FIRE RESISTIVE, COMPATIBLE WITH MATING MATERIALS, LIQUID USED ALONE OR WITH TAPE, OR HEAVY MASTIC.
- 24. ROUND DUCTWORK SHALL USE A FLAT LOCK SEAM. SNAP LOCK DUCT IS NOT ACCEPTABLE
- 25. LOCATE DUCTS WITH SUFFICIENT SPACE AROUND EQUIPMENT TO ALLOW NORMAL OPERATING AND MAINTENANCE ACTIVITIES.
- PROVIDE CANVAS, FLAME RETARDING DUCT CONNECTORS AT ALL CONNECTIONS OF FANS TO DUCTWORK
- 27. CONTROL WIRING SHALL BE PROVIDED IN CONDUIT IN ACCORDANCE WITH ALL FEDERAL. STATE AND LOCAL CODES. 28. WHERE APPLICABLE, ALL MECHANICAL PENETRATIONS THROUGH RATED PARTITIONS AND SLABS SHALL BE PER
- APPROVED U.L. LISTED PENETRATION DESIGN, PER 2003 INTERNATIONAL MECHANICAL CODE AND PER DETAIL(S) IN THESE DRAWINGS. VERIFY ALL WALL/PARTITION/SLAB RATINGS WITH ARCHITECTURAL DRAWINGS.
- 29. ALL TRUNK LINES FOR HVAC SHALL HAVE SMOKE DETECTOR WITH AUTOMATIC SYSTEM SHUT DOWNS (ALL HVAC SYSTEMS)
- 30. ALTERNATE HVAC EQUIPMENT SHALL BE OF THE SAME QUALITY, SPECIFICATIONS AND CAPABILITIES OF SPECIFIED EQUIPMENT OR BETTER.
- 31. PER 2003 INTERNATIONAL MECHANICAL CODE. SECTION 607.5.3. DUCT PENETRATIONS THROUGH FIRE PARTITIONS SHALL BE PROTECTED BY A FIRE DAMPER. FIRE RATED WALLS LESS THAN 1 HR RATING SHALL BE SEALED WITH FIRE CAULK. DUCT PENETRATIONS DO NOT REQUIRE FIRE DAMPERS PROVIDED THE FOLLOWING MINIMUM REQUIREMENTS ARE MET:
- 1) THE DUCT DOES NOT EXCEED 100 SQ. INCHES. 2) THE DUCT IS OF 0.0217 INCH MINIMUM STEEL.
- 3) THE DUCT SHALL NOT HAVE OPENINGS THAT COMMUNICATE THE CORRDOR WITH ADJACENT SPACES OR ROOMS
- 4) THE DUCT IS INSTALLED ABOVE A CEILING.
- 5) THE DUCT SHALL NOT TERMINATE AT A WALL REGISTER IN THE FIRE-RESISTANCE-RATED WALL.
  6) A MINIMUM 12 INCH-LONG BY 0.060-INCH-THICK STEEL SLEEVE SHALL BE CENTERED IN EACH DUCT OPENING. THIS SLEEVE SHALL BE SECURED TO BOTH SIDES OF THE WALL AND ALL FOUR SIDES OF THE SLEEVE WITH MIN. 1.5-INCH BY

1.5-INCH BY 0.060-INCH STEEL RETAINING ANGLES. THE RETAINING ANGLES SHALL BE SECURED TO THE SLEEVE AND THE WALL WITH NO. 10 (M5) SCREWS. THE ANNULAR SPACE BETWEEN THE STEEL SLEEVE AND THE WALL OPENING SHALL BE FILLED WITH ROCK (MINERAL) WOOL BATTING ON ALL SIDES.

32. ALL COMPONENTS SHALL COMPLY WITH THE SEISMIC REQUIREMENTS SPECIFIED IN ASCE-7 SECTION 9.6

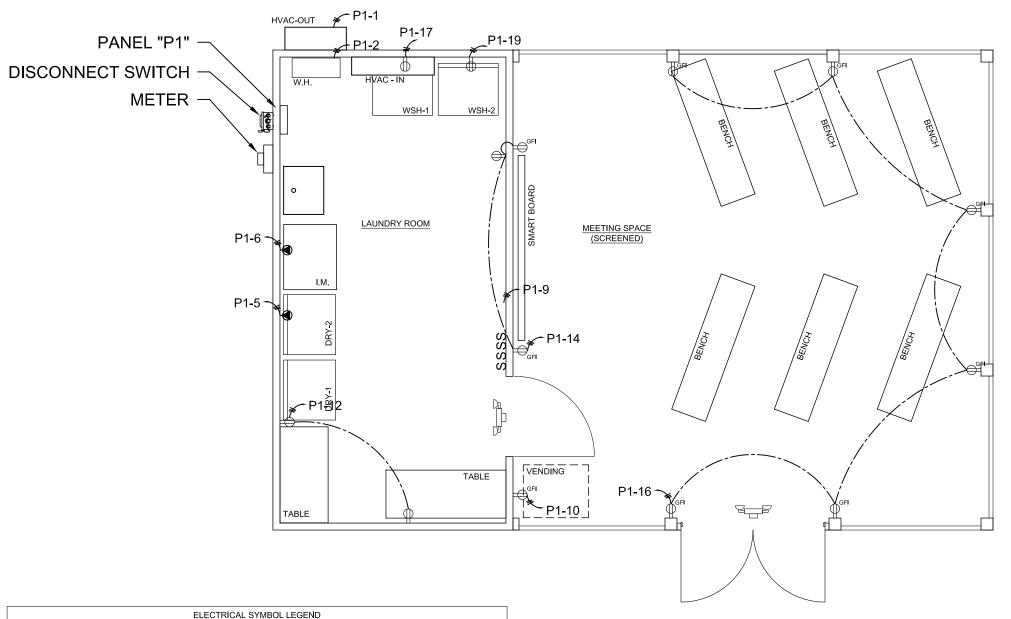
	AIR HANDLING UNIT SCHEDULE												
TAG MANUFACTURER MODEL NO. AMBIENT TONNAGE POWER M.C.A. M.O.C.P. NOM. CFM O.A. CFM KW THERMOSTAT WEI									WEIGHT	<u>NOTES</u>			
HVAC-OUT & HVAC-IN		RAV-SP180AT2-UL & RAV-SP180KRT-UL	95°	1.5	208-230/60/1	17	30	450	450	5	OPTIONAL WIRED RBC-AMS51E-ES	INDOOR UNIT: 54LB	TOSHIBA RAV CASSETTE SYSTEM , OUTDOOR MODEL RAV-SP180AT2-UL, INDOOR MODEL RAV-SP180UT-UL



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		ELECTRICAL	SYMBOL LEGEND				
SYMBOL	ITEM	MAKE / MODEL	DESCRIPTION / COMMENTS				
S	SWITCH	LEVITON / CS120-2W	SINGLE POLE SWITCH, 20A, 120V/277V				
	SUSPENDED LIGHT FIXTURE	LITHONIA / GRAD LINEAR	FIXTURE, LED GRAD LINEAR, GRD-ID1500LMF-0/100-120-80-35K, 4FT SECTION, SUSPENDED AT MINIMUM 8'-0" ABOVE FINISH FLOOR				
0+	EXTERIOR LIGHT FIXTURE	EATON / IB-0-100-120-5112	EXTERIOR LIGHT, 100W, 120V				
$\Rightarrow$	DUPLEX RECEPTACLE	LEVITON / 5352-W	RECEPTACLE DUPLEX, 20A, 125V, NEMA 5-20R				
€GFI	GFI GROUND FAULT CURRENT INTERRUPT RECEPTACLE LEVITON / G 5362-W		RECEPTACLE DUPLEX, GROUND FAULT CURRENT INTERRUPT, 20A, 120V, NEMA 5-20R, WATER-RESISTANT, HEAVY-DUTY				
۵	240V RECEPTACLE	LEVITON / 5207	RECEPTACLE, 30A, 125/250V, STRAIGHT BLADE, NEMA 10-30R				
$\bigcirc_{M}$	OCCUPANCY SENSOR WATTSTOPPER / CI-355		PASSIVE INFRARED OCCUPANCY SENSOR, 120V				
000	DISCONNECT SWITCH	TBD	200A, 240VAC/DC, 1PH/3W, DISCONNECT SWITCH, MIN. NEMA 3R				
	PANEL BOX	TBD	PANEL, 200A, 120/240V, 1PH/3W				
	METER	TBD	SINGLE SOCKET, 200A, 1PH/3W				
2-F	EXIT SIGN	COOPER / APC7R	EXIT SIGN, 120V W/ BATTERY BACK UP, RED LETTERS				
×	CEILING FAN & LIGHT	TBD	OUTDOORS RATED CEILING FAN & LIGHT COMBINATION				

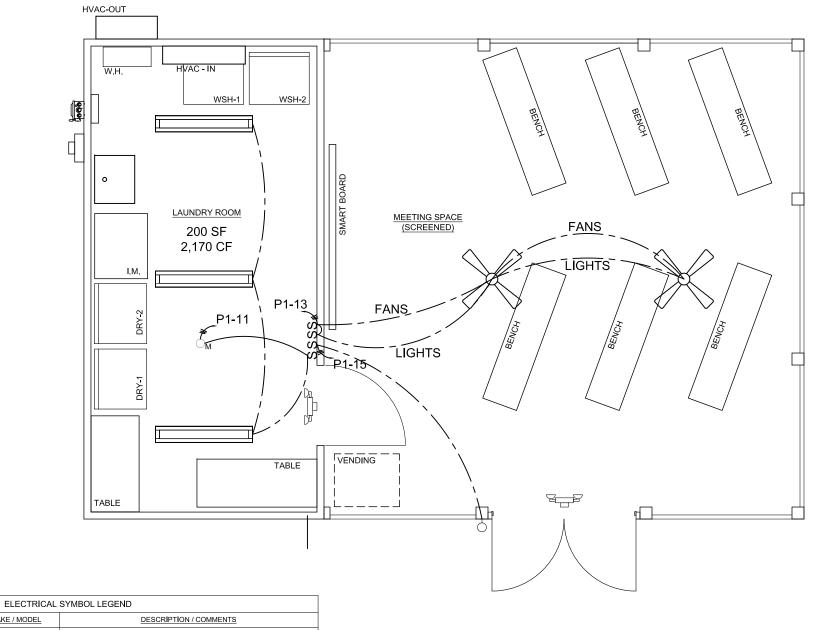
# POWER PLAN

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

ELECTRICA	AL LINE LEGEND
LINE	DESCRIPTION
	LIGHT POWER LEG
/	LIGHT SWITCH LEG
	RECEPTACLE POWER
4	HOME RUN - # INDICATES CIRCUIT NO.

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BUILDING	Z331-A	7		DESCRIPTION	1	i
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RESIDENTIAL SERVICES BU 58 LACEWING RD. GEORGETOWN COUNTY	USC PROJECT # H27-Z33	POWER PLAN	DDITIONS, SUBMITTALS & REVI	DATE DESCRIPTION	/-/-	/
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SYMBOL	ITEM	MAKE / MODEL	DESCRIPTION / COMMENTS
S	switch	LEVITON / CS120-2W	SINGLE POLE SWITCH, 20A, 120V/277V
	SUSPENDED LIGHT FIXTURE	LITHONIA / GRAD LINEAR	FIXTURE, LED GRAD LINEAR, GRD-ID1500LMF-0/100-120-80-35K, 4FT SECTION, SUSPENDED AT MINIMUM 8'-0" ABOVE FINISH FLOOR
$\bigcirc$	EXTERIOR LIGHT FIXTURE	EATON / IB-0-100-120-5112	EXTERIOR LIGHT, 100W, 120V
$\rightleftharpoons$	DUPLEX RECEPTACLE	LEVITON / 5352-W	RECEPTACLE DUPLEX, 20A, 125V, NEMA 5-20R
€GFI	GROUND FAULT CURRENT INTERRUPT RECEPTACLE	LEVITON / G 5362-W	RECEPTACLE DUPLEX, GROUND FAULT CURRENT INTERRUPT, 20A, 120V, NEMA 5-20R, WATER-RESISTANT, HEAVY-DUTY
	240V RECEPTACLE	LEVITON / 5207	RECEPTACLE, 30A, 125/250V, STRAIGHT BLADE, NEMA 10-30R
$\bigcirc_{M}$	OCCUPANCY SENSOR	WATTSTOPPER / CI-355	PASSIVE INFRARED OCCUPANCY SENSOR, 120V
( <del>-00</del> )	DISCONNECT SWITCH	TBD	200A, 240VAC/DC, 1PH/3W, DISCONNECT SWITCH, MIN. NEMA 3R
	PANEL BOX	TBD	PANEL, 200A, 120/240V, 1PH/3W
	METER	TBD	SINGLE SOCKET, 200A, 1PH/3W
<u> </u>	EXIT SIGN	COOPER / APC7R	EXIT SIGN, 120V W/ BATTERY BACK UP, RED LETTERS
	CEILING FAN & LIGHT	TBD	OUTDOORS RATED CEILING FAN & LIGHT COMBINATION

# LIGHTING PLAN

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

ELECTRICA	AL LINE LEGEND
<u>LINE</u>	<u>DESCRIPTION</u>
	LIGHT POWER LEG
/	LIGHT SWITCH LEG
/	RECEPTACLE POWER
#	HOME RUN - # INDICATES CIRCUIT NO.

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### GENERAL ELECTRICAL NOTES:

- IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO INSTALL ALL MATERIAL AND EQUIPMENT IN A NEAT AND WORKMANLIKE WAY. INSTALLATIONS SHALL COMPLY WITH THE CURRENT EDITION OF THE NATIONAL ELECTRIC CODE (NEC), THE NATIONAL ELECTRICAL CONTRACTORS ASSOCIATION (NECA). AND ANY OTHER LOCAL CODE HAVING JURISDICTION
- THE CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS, AND SUPERVISION NECESSARY TO ACCOMPLISH THE WORK AS SHOWN AND NOTED ON THE DRAWINGS. ANY DEVIATION FROM THE DRAWINGS SHALL BE APPROVED BY THE OWNER OR ENGINEER.
- ALL WORK SHALL BE COORDINATED WITH THE OTHER TRADES.
- CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTIONS.
- THE ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR THE REMOVAL OF ALL HIS TOOLS, DEBRIS, AND GENERAL CLEANUP FROM HIS WORK.
- THE ELECTRICAL CONTRACTOR SHALL DO ALL CUTTING AND PATCHING OF BUILDING MATERIALS REQUIRED FOR THE INSTALLATION HIS WORK.
- 7. EXACT MOUNTING HEIGHTS AND LOCATIONS OF ALL NEW POWER OUTLETS, DATA OUTLETS, AND TELEPHONE OUTLETS SHALL BE CONFIRMED WITH OWNER, FURNITURE SUPPLIER, AND ARCHITECT BEFORE ROUGH-IN.
- 9. PROVIDE DISCONNECT AT EXTERIOR HVAC LOCATION. PROVIDE DISCONNECT AT INTERIOR AIR HANDLERS
- 10. ALL PENETRATIONS IN A FIRE RATED ASSEMBLY MUST MEET IBC 712.3.

8. ALL EXTERIOR DUPLEX RECEPTACLES SHALL HAVE WATERPROOF COVERS.

- 11. ALL EXTERIOR ELECTRICAL PANELS AND BOXES TO BE NEMA 3R.
- 12. ALL EXTERIOR LIGHTING TO BE APPROVED FOR DAMP LOCATIONS.13. FOR CLEAN POWER SYSTEMS FOR COMPUTERS AND ALL OTHER SENSITIVE ELECTRONIC SYSTEMS OR DEVICES REQUIRING A CLEAN GROUND AS INDICATED ON PLAN, PROVIDE A SEPARATE INSULATED GROUNDING CONDUCTOR IN EACH CONDUIT GROUND TO BE #12 MINIMUM OR AS SHOWN ON DRAWINGS GROUND AT CLEAN PANEL GROUND ONLY, NOT TO BUILDING STRUCTURE OR THE CONDUIT SYSTEM. PROVIDE

ISOLATED/ INSULATED GROUND BUS IN THE DESIGNATED PANEL(S). COMPUTER RECEPTACLES SHALL BE 2

- POLE, 3 WIRE, 115 VOLTS, 20 AMPERES. THE GROUND MUST BE INSULATED FROM THE MOUNTING HARDWARE ALL RACEWAYS SHALL BE RUN CONCEALED IN CEILING, WALLS OR FLOOR SLABS. ALL EXPOSED, EXTERIOR, PVC CONDUIT TO BE SCHEDULE 80. ALL UNDERGROUND, PVC CONDUIT TO BE SCHEDULE 40 MIN.
- 15. IN GENERAL, CONDUIT RUNS BETWEEN PULL BOXES SHALL NOT EXCEED THE EQUIVALENT OF TWO 90 DEGREE BENDS AND IN NO CASE EXCEED. THREE FOUIVALENT 90 DEGREE BENDS. IN LONG STRAIGHT CONDUIT RUNS LOCATE PULL BOXES AT 100 FOOT INTERVALS. INSTALL ELECTRICAL BOXES AS SHOWN ON DRAWINGS, AND AS REQUIRED FOR SPLICES, TAPS, WIRE PULLING, EQUIPMENT CONNECTIONS, AND REGULATORY REQUIREMENTS. USE CAST BOXES IN MANHOLE AND IN OUTSIDE LOCATIONS.
- 16. ALL CONDUCTORS TO BE SOFT DRAWN COPPER WITH 600 VOLT INSULATION MINIMUM SIZE TO BE #12 AWG. WIRE SIZED #10 AWG AND SMALLER SHALL BE SOLID COPPER WITH TYPE 'THWN' OR 'THHN' INSULATION. CABLE SIZED #8 AND LARGER SHALL BE STRANDED COPPER WITH TYPE 'THWN' OR 'XHHW' INSULATION EXCEPT WHERE NOTED OTHERWISE, ALL WIRING SHALL BE INSTALLED IN CONDUIT, COMPLETELY SWAB RACEWAYS BEFORE INSTALLING CONDUCTORS.
- 17. PROVIDE CONNECTIONS TO ALL EQUIPMENT, MOTORS, ETC, FURNISHED BY OTHERS TO MAKE A COMPLETE. WORKING INSTALLATION.
- 18. INSTALL WIRE MARKERS ON EACH CONDUCTOR IN PANEL BOARD GUTTERS. PULL BOXES, OUTLET, AND JUNCTION BOXES, AND AT LOAD CONNECTIONS.
- A. USE BRANCH CIRCUIT OR FEEDER NUMBER TO IDENTIFY POWER AND LIGHTING CIRCUITS.
- B. USE CONTROL WIRE NUMBER AS INDICATED ON SCHEMATIC AND INTERCONNECTION DIAGRAMS TO IDENTIFY CONTROL WIRING.
- 19. PROVIDE A TYPEWRITTEN PANEL SCHEDULE FOR EACH PANEL USED IN THIS PROJECT.
- 20. PROVIDE DUCT DETECTOR, AIR HANDLER SHUTDOWN, AND INDICATION PER LOCAL CODES AND NFPA 90A. 21. ALL EMERGENCY AND EXIT LIGHTS SHALL HAVE BATTERY BACKUP AND BE ON SEPARATE LOCKED CIRCUITS.
- 22. WHEN INSTALLING LIGHT FIXTURES IN AN INSULATED CEILING, PROVIDE A WIRE CAGE OVER THE FIXTURE TO
- KEEP INSTALLATION 6" OFF THE FIXTURE
- 23. THE ELECTRICAL CONTRACTOR SHALL MAKE ALL NECESSARY TESTS TO INSURE THAT THE ENTIRE INSTALLATION IS FREE FROM IMPROPER GROUNDS AND FROM SHORTED AND/OR OPEN CIRCUITS. VOLTAGE AND CURRENT TESTS SHALL BE MADE BEFORE ANY CIRCUITS ARE PLACED IN OPERATION.
- 24. IT IS THE INTENT OF THIS SPECIFICATION FOR THE CONTRACTOR TO PROVIDE A COMPLETE AND OPERABLE ELECTRICAL SYSTEM WITHOUT ANY EXCEPTIONS. IN THE UNLIKELY CASE WHERE THESE PLANS AND SPECIFICATIONS SHOW OTHERWISE DUE TO ERRORS OR OMISSIONS THE CONTRACTOR SHALL PROVIDE A LIST OF EXCEPTIONS WITH HIS BID. OTHERWISE, EXTRAS DURING CONSTRUCTION WILL NOT BE ALLOWED IN ORDER TO PROVIDE A COMPLETE AND OPERABLE ELECTRICAL SYSTEM.
- 25. APPLY AND ARRANGE FOR ELECTRICAL SERVICE FROM POWER COMPANY TO NEW BUILDING.
- 26. MATERIALS OTHER THAN THOSE SPECIFIED OR PRE-APPROVED AS LISTED ON THE DRAWINGS AND SPECIFICATIONS, SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW NOT LESS THAN TEN WORKING DAYS PRIOR TO THE PROJECT BID DATE. SUBMITTALS MUST INCLUDE COMPLETE CATALOG NUMBERS AND SPECIFICATION SHEETS
- 27. ALL BRANCH CIRCUITS THAT SUPPLY CEILING FANS, SMOKE DETECTORS, AND 125-VOLT, SINGLE-PHASE, 15 AND 20-AMPERE OUTLETS INSTALLED IN DWELLING UNIT BEDROOMS SHALL BE PROTECTED BY AN ARC-FAULT CIRCUIT INTERRUPTER LISTED TO PROVIDE PROTECTION OF THE ENTIRE BRANCH CIRCUIT.

TYP	E PL	JG <b>-I</b> N	MOUNTING _	SURF	ACE	_ 6	ENCLO	SURE	NEMA-		WIRE_	3
VOL	TS 12	0/240 MA	IN200A MA	JN	FRAME	20	00A	SHO	RT CIR.	RATING <u>10,000</u> RM	S SYM M	IIN
CKT.	CKT. BKR. TRIP	DESCRIPTIO	N	PHASE/I	OADING B	Ą	В	PHASE/LO	DADING B	DESCRIPTION	CKT. BKR. TRIP	CK
1	30/2	HVAC - TOS	HIBA	3.9	- B		<b>-</b> ^−	3.5	-	WATER HEATER	30/2	2
3					3.9		<b>-</b> ∼-		3.5	***************************************		4
5	30/2	DRYER NO.	1	5.6			- 1	5.6	0.0	DRYER NO. 2	30/2	6
7					5.6	<b>一</b> 个	<b>→</b> ┴-		5.6			8
9	20/1	ICE MACHIN	ΙE	0.6			<del>-</del> т-	1.2		VENDING MACHINE	20/1	10
11	20/1	LIGHTS (LA	UNDRY)		0.2	1-~	•^-		.4	RECP (TABLE)	20/1	12
13	20/1	LIGHTS (ME	ETING)	XX		-^+		.6		RECP (SMART BOARD)	20/1	14
15	20/1	LIGHTS (EX	TERIOR)		XX		•^-		1.2	RECP (MEETING)	20/1	16
17	20/1	WASHER NO	0.1	1.8		-^+	T-	-			-	18
19	20/1	WASHER NO	O. 2		1.8		•^-		-		-	20
21	-			-				-			-	22
23	-				-		<b>-</b> ^-		-		-	24
25	-			-				-			-	26
27	-				-	-^-	<b>-</b>		-		-	28
29	-			-				-			-	30
31	-				-	<u> -^</u>	•^-		-		-	32
33	-			-		-^+	+^-	-			-	34
35	-				-	<u> -^</u>	<b>-</b>		-		-	36
37	-			-		-~	+^=	-			-	38
39	-				-	<u> -^</u>	<b>-</b>		-		-	40
41	-			-		<u> -^</u>	+^-	-			-	42
SUB	TOTAL			12.2	11.7			10.9	10.7			
NOT	TES:		TOTAL P	ANEL L	OAD:	AØ23.1	I KVA	BØ22.4	KVA	NEUTRAL TERMİ GROUND TERMİN		_

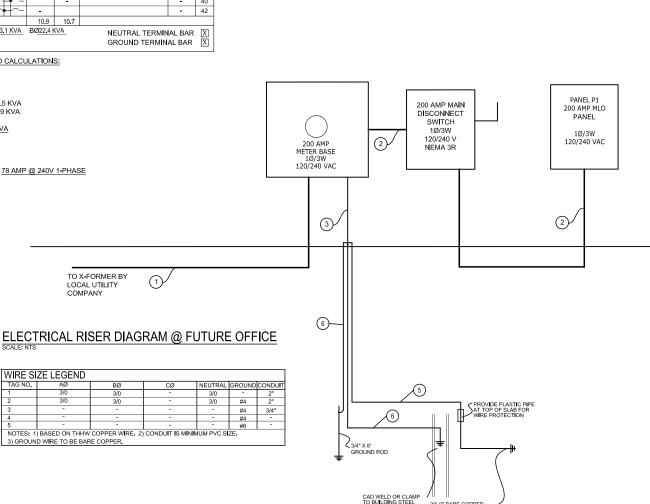
FUTURE OFFICE SPACE / WAREHOUSE LOAD CALCULATIONS:

RECEPTACLE CONNECTED LOAD: 2.2 KVA

CONTINUOUS LOADS GENERAL LIGHTING LAUNDRY: (128 \* 3.5) = 0.5 KVA GENERAL LIGHTING MEETING: (244 \* 3.5) = 0.9 KVA WATER HEATER: 7.0 KVA CONTINUOUS LOADS: (1.8 KVA \* 1.25) = <u>2.3 KVA</u>

HEAT PUMP LOADS / HEATERS HEAT PUMP: 7.8 KVA

TOTAL LOAD: 2.3 + 9. + 2.3 + 7.8 = 18.6 KVA = 78 AMP @ 240V 1-PHASE



<u>ITEM</u>

INSTANTANEOUS HOT WATER HEATER

WASHING MACHINES

DRYERS

ICE MAKER

SMART BOARD

MISC. EQUIPMENT USED FOR DESIGN PURPOSES

MAKE / MODEL

BRADFORD WHITE / ES-3500-4-S-10

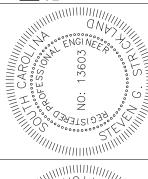
MAYTAG / MVW18CSB

MAYTAG / MDEG28PD

MANITOWOC / NEO 140

SMART / E70 IFP | OR | SMART BOARD / 6065

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4017 P.S. MANAGET ... CERT

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∞ SERVICES FACET IN SECTION OF COUNTY H27. ES #  $\Box$ 

SIDENTIAL S 58 LAV GEORGE PROJE

BUILDING

SC

171052.MEP SHEET **E 2.01** OF