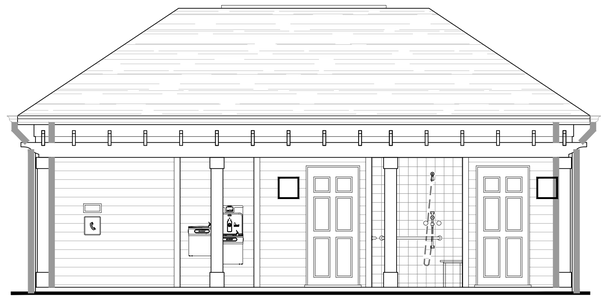
CAITLIN CROSSING
POOL HOUSE
LILLINGTON, NORTH CAROLINA



PROJECT SCOPE

- SITE AMENITY BUILDINGS INCLUDE A POOL HOUSE

STATE OF NORTH CAROLINA ADOPTED CODES

- 2018 NORTH CAROLINA STATE BUILDING CODE
- 2018 NORTH CAROLINA STATE BUILDING CODE: MECHANICAL CODE
- 2018 NORTH CAROLINA STATE BUILDING CODE: PLUMBING CODE
- 2018 NORTH CAROLINA STATE BUILDING CODE: ENERGY CONSERVATION CODE
- 2018 NORTH CAROLINA STATE BUILDING CODE: FIRE PREVENTION CODE
- 2020 NATIONAL ELECTRICAL CODE
- 2009 ANSI A117.1 ACCESSIBLE AND USABLE BUILDINGS AND FACILITIES

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ABBREVIATIONS LIST

ATOS	ABOVE TOP OF SLAB
AFF	ABOVE FINISHED FLOOR
ACT	ACOUSTIC(AL) CEILING TILE
ADD	ADDENDUM
ADH	ADHESIVE
ADJ	ADJACENT
ALUM	ALUMINUM
ARCH	ARCHITECT(URAL)
BM	BEAM
BET	BETWEEN
BLK	BLOCK(ING)
BD	BOARD
BLDG	BUILDING
BHD	BULKHEAD
BTOS	BELOW TOP OF SLAB
CAB	CABINET
CLG	CEILING
CT	CERAMIC TILE
CTR	CENTER
CLR	CLEAR(ANCE)
CL	CLOSET
COL	COLUMN
COMB	COMBINATION
CONC	CONCRETE
CMU	CONCRETE MASONRY UNIT
CONF	CONFERENCE
CONST	CONSTRUCTION
CJ	CONSTRUCTION JOINT
CONT	CONTINUOUS
CONTR	CONTRACTOR
DEMO	DEMOLITION
DTL	DETAIL
DIAG	DIAGONAL
DIA	DIAMETER
DIM	DIMENSION
DISP	DISPENSER
DIV	DIVISION
DR	DOOR
DBL	DOUBLE
DN	DOWN
DWR	DRAWER
DWG	DRAWING
DF	DRINKING FOUNTAIN
EA	EACH
ELEC	ELECTRIC(AL)
EWC	ELECTRIC WATER COLLER
EL	ELEVATION
ELEV	ELEVATOR
ENCL	ENCLOSE(URE)
EQ	EQUAL
EX	EXISTING
EJ	EXPANSION JOINT
EXP	EXPOSED
EXT	EXTERIOR
FF	FINISHED FLOOR
FIN	FINISH(ED)
FA	FIRE ALARM
FC	FLOORING CHANGE
FE	FIRE EXTINGUISHER
FHC	FIRE HOSE CABINET
FR	FIRE RATED(ING)
FL	FLOOR(ING)
FD	FLOOR DRAIN
FT	FULLY TEMPERED
FUR	FURR(ING)
GA	GAUGE
GWB	GYPSUM WALL BOARD
HORZ	HORIZONTAL
H&V	HORIZONTAL AND VERTICAL
HR	HOUR
INCL	INCLUDE(D)(ING)
ID	INSIDE DIAMETER
INSUL	INSULATE(D)(ION)
INT	INTERIOR
ISG	INSULATED SAFETY GLAZING
JC	JANITORS CLOSET
KD	KNOCK DOWN
JT	JOINT
KIT	KITCHEN
LBL	LABEL
LAM	LAMINATE
LAV	LAVATORY
LH	LEFT HAND
LT	LIGHT
LG	LONG, LENGTH
MFR	MANUFACTURER
MO	MASONRY OPENING
MTL	MATERIAL(S)
MAX	MAXIMUM
MECH	MECHANICAL
MET	METAL
MIN	MINIMUM
MISC	MISCELLANEOUS
MTD	MOUNTED
MOV	MOVABLE
MUL	MULLION
NOM	NOMINAL
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
NO	NUMBER
OFF	OFFICE
OC	ON CENTER
OPNG	OPENING
OPP	OPPOSITE
OD	OUTSIDE DIAMETER
OA	OVERALL
AH	OVERHEAD
PTD	PAINTED
JPR	PAIR
PBD	PARTICLE BOARD
PTN	PARTITION
PERF	PERFORATED
PLAS	PLASTER
PLAM	PLASTIC LAMINATE
PWD	PLYWOOD
PT	PAPER TOWEL DISPENSER/DISPOSAL
PT	PRESSURE TREATED
PT	POST TENSIONED
PROJ	PROJECTED(ION)
QT	QUARRY TILE
RAD, R	RADIUS
REF	REFERENCE
REINF	REINFORCE(D)(ING)
REQ	REQUIRED
RES	RESILIENT
REV	REVISION
RH	RIGHT HAND
R	RISER
RM	ROOM
RO	ROUGH OPENING
RB	RUBBER BASE
SND	SANITARY NAPKIN DISPENSER
SR	SANITARY NAPKIN RECEPTACLE
SCHED	SCHEDULE
SD	SOAP DISPENSER
SG	SAFETY GLAZING
SH	SHELF, SHELVING
SIM	SIMILAR
SC	SOLID CORE
SPEC	SPECIFICATION, SPECIFIED
SQ	SQUARE
SS	STAINLESS STEEL
STD	STANDARD
STL	STEEL
STOR	STORAGE
STRUC	STRUCTURAL
SUSP	SUSPENDED
TEL	TELEPHONE
THK	THICKENS
THRES	THRESHOLD
TP	TOILET PAPER DISPENSER
T&G	TONGUE AND GROOVE
T	TREAD
TOS	TOP OF SLAB
TYP	TYPICAL
UC	UNDERCUT
UNF	UNFINISHED
UON	UNLESS OTHERWISE NOTED
VIF	VERIFY IN FIELD
VB	VINYL BASE
VERT	VERTICAL
VCT	VINYL COMPOSITION TILE
WC	WALL COVERING
WP	WATERPROOFING
W/	WITH
W/O	WITHOUT
WD	WOOD

POOL HOUSE SHEET INDEX

ARCHITECTURAL								STRUCTURAL			
SHEET NUMBER	REV. #	REVISION DATE	SHEET TITLE	SHEET NUMBER	REV. #	REVISION DATE	SHEET TITLE	SHEET NUMBER	REV. #	REVISION DATE	SHEET TITLE
G000			COVER SHEET, SHEET INDEX & BUILDING TABULATIONS	A100			POOL HOUSE FLOOR PLAN & ROOF PLAN	S101			FOUNDATION & ROOF FRAMING PLANS
				A200			POOL HOUSE ELEVATIONS AND WALL SECTIONS	S201			FOUNDATION DETAILS
G001			GENERAL PROJECT NOTES	A400			POOL HOUSE ENLARGED PLANS & INTERIOR ELEVATIONS	S301			FRAMING DETAILS
G002			GENERAL PROJECT NOTES	A600			ENLARGED DOOR & WINDOW DETAILS	S401			GENERAL NOTES
G003			ACCESSIBILITY REQUIREMENTS								
G004			ARCHITECTURAL SITE PLAN								
G010			POOL HOUSE CODE SUMMARY & LIFE SAFETY PLAN								
G015			UL DETAILS								
G016			UL DETAILS								
G020			ASSEMBLY TYPES								

POOL HOUSE SHEET INDEX

PME - PLUMBING				PME - MECHANICAL				PME - ELECTRICAL			
SHEET NUMBER	REV. #	REVISION DATE	SHEET TITLE	SHEET NUMBER	REV. #	REVISION DATE	SHEET TITLE	SHEET NUMBER	REV. #	REVISION DATE	SHEET TITLE
P1			PLUMBING NOTES	M1			MECHANICAL PLAN	E1			ELECTRICAL NOTES
P2			SANITARY & DOMESTIC SUPPLY PLAN					E2			LIGHTING AND POWER PLAN
P3			PLUMBING RISERS								

CAITLIN CROSSING - BUILDING TABULATION

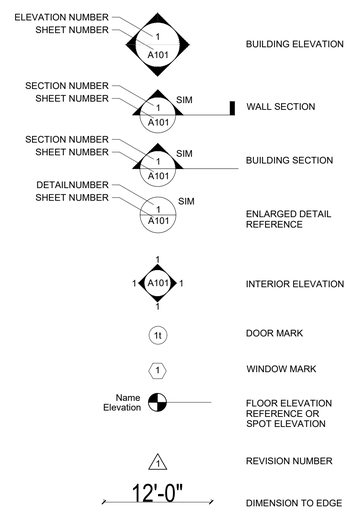
BUILDING TYPE	BUILDING DESCRIPTION	UNITS PER BLDG	UNIT MIX	TOTAL HEATED SQFT. (PER BUILDING CODE)	GROSS SQFT (PER BUILDING CODE. TOTAL AREA UNDER ROOF)	# OF BLDGS ON SITE	TOTAL NET SQFT	TOTAL GROSS SQFT
*POOL HOUSE	1- STORY BLDG	N/A	N/A	413	637	1	413	637

* = WINTERIZED/FREEZE PROTECTION BUILDING

MATERIAL GRAPHICS

- WOOD BLOCKING
- FINISH WOOD
- PLYWOOD
- ACOUSTIC TILE CEILING
- GYPSUM WALL BOARD
- BATT INSULATION
- RIGID OR SEMI RIGID INSULATION
- STEEL
- CONCRETE
- CMU
- STONE / GRAVEL
- EARTH
- ALUMINUM

ARCHITECTURAL SYMBOLS



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Caitlin Crossing Pool House
Triangle Land Partners
Lillington, NC
PERMIT REVIEW SET (02-16-24)

DANIEL R. SCHMIDT
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NORTH CAROLINA
RALEIGH, N.C.
2-16-2024

PROGRESS DATE:	-		
ISSUE DATE:	02-16-2024		
REVISIONS: NUMBER	DATE	INITIALS	DESCRIPTION

PROJECT NO: 005623
DRAWN BY: TH / BB
CHECKED BY: DS

SHEET TITLE:
Project Cover Sheet
Sheet Index & Tabulations

SHEET NUMBER:
G000

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2. Contractor is to notify architect immediately of conditions or items varying from depicted information.
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4. Planworx Architecture, P.A. will not assume any liability for expenses associated with errors and omissions on these drawings unless offset by verified construction savings as a result of Planworx Architecture, P.A. Design.
5. Planworx Architecture, P.A. retains ownership of all of designs depicted and implied herein.
6. Planworx Architecture, P.A. is not responsible for estimating, maintaining, or regulating construction costs associated with these plans.

AIR SEALING NOTES - NORTH CAROLINA

NOTE: THIS LIST DOES NOT COVER ALL AIR SEALING LOCATIONS NOR DOES IT ADDRESS TECHNIQUES. SEE NC STATE BUILDING CODE: ENERGY CONSERVATION CODE, 2018 EDITION FOR ADDITIONAL INFORMATION. OTHER CODE PROVISIONS MAY BE APPLICABLE AS WELL.

1. PLATE AND WALL PENETRATIONS BY PLUMBING, ELECTRICAL, PHONE, CATV, ETC.
2. TUB/SHOWER ON OUTSIDE OR ATTIC WALL.
3. WINDOW AND DOOR ROUGH OPENINGS.
4. AIRTIGHT, IC-RATED RECESSED LIGHTS AND ELECTRICAL FIXTURES EXPOSED TO ATTIC.
5. EXTERIOR WALL EXHAUST FAN TERMINATIONS.
6. CEILING MOUNTED BATH FANS, SPEAKERS, ETC.
7. BOTTOM PLATE AND TOP PLATE.
8. SEAMS BETWEEN RIGID EXTERIOR SHEATHING.
9. BAND AREA BETWEEN FLOORS, CONDITIONED SPACE AND ATTIC.
10. MECHANICAL EQUIPMENT AND DUCTWORK CHASES IN ATTICS, CRAWLSPACES.
11. CEILING/CRAWLSPACE ELECTRICAL BOXES.
12. CEILING/CRAWLSPACE HVAC BOOTS.
13. SHOWER AND TUB DRAIN LINE.
14. FIREPLACE INSERTS.
15. ATTIC KNEEWALL DOORS.
16. JOIST CAVITIES UNDER ATTIC KNEEWALLS.
17. TRANSITION BETWEEN CEILING HEIGHTS.
18. ATTIC SCUTTLE HATCH.
19. WALL PENETRATIONS OF MECHANICAL COMBUSTION CLOSETS.
20. THRESHOLDS AT MECHANICAL COMBUSTION CLOSETS.
21. BAND JOIST EXPOSED TO EXTERIOR.
22. EXTERIOR WALL PENETRATIONS FOR REFRIGERATION LINES, CONDENSATE LINE, ETC.
23. DOORS AND WINDOWS BETWEEN UNHEATED AND HEATED SPACE SHALL BE WEATHER-STRIPPED AROUND THEIR PERIMETER TO LIMIT AIR LEAKAGE WHEN CLOSED.
24. FOAM GASKETS SHALL BE USED ON ALL RECEPTACLES, SWITCHES, AND OTHER UTILITY BOXES ON EXTERIOR WALLS.
25. CAULK AND SEAL OPENINGS IN ELECTRICAL BOXES AND WHERE BOX MEETS DRYWALL WITH AN APPROVED SEALANT.

ACCESSIBILITY NOTES - NORTH CAROLINA

THE FOLLOWING ARE GENERAL NOTES FOR ACCESSIBILITY REQUIREMENTS, IT IS NOT AN ALL-ENCOMPASSING LIST NOR DOES IT ADDRESS SPECIFIC TECHNIQUES. THESE NOTES ARE

INTENDED AS A GENERAL OUTLINE. ENTIRETY OF BUILDING, SPACES, RESIDENTIAL UNITS, ETC. SHALL MEET THE 2018 NORTH CAROLINA STATE BUILDING CODE, ACCESSIBILITY CODE,

MOST CURRENT VERSION, INCLUDING AMENDMENTS, IN ADDITION, ANY AND ALL APPLICABLE LOCAL, STATE, FEDERAL, ETC. CODES SHALL APPLY IN JURISDICTION OF THE PROJECT.

1. ACCESSIBLE ENTRANCES TO BE PROVIDED WITH SIGNS WITH THE INTERNATIONAL SYMBOL OF ACCESSIBILITY.
2. ALL HORIZONTAL WALKING SURFACES TO BE CONTINUOUS AND WITHOUT ABRUPT VERTICAL CHANGES EXCEEDING 1/4" MINIMUM. ALL HORIZONTAL WALKING SURFACES WILL BE MAINTAINED SLIP RESISTANT.
3. DOOR OPENING REQUIREMENTS SHALL COMPLY WITH ICC/ANSI 117.1 - 2009 SECTION 404.
4. THE FLOOR OR LANDING ON EACH SIDE OF AN EXIT DOOR WILL BE LEVEL AND CLEAR. THE LEVEL AREA WILL HAVE A LENGTH IN THE DIRECTION OF DOOR SWING OF AT LEAST 44" AND A LENGTH OPPOSITE OF 44", AS MEASURED AT RIGHT ANGLES TO THE PLANE OF THE DOOR IN A CLOSED POSITION.
5. MAXIMUM EFFORT TO OPERATE DOORS AND BLDG ENTRY GATES WILL NOT EXCEED 8.5 LBS. FOR EXTERIOR DOORS AND 5 LBS. FOR INTERIOR DOORS. SUCH PULL OR PUSH

   EFFORT BEING APPLIED AT RIGHT ANGLES TO HINGED DOORS AND AT CENTER PLANE OF SLIDING OR FOLDING COMPENSATING DEVICES OR AUTOMATIC DOOR OPERATORS MAY BE UTILIZED/REQUIRED TO MEET THE ABOVE STANDARDS.
6. THE BOTTOM 10" OF ALL DOORS, EXCEPT AUTOMATIC AND SLIDING, WILL HAVE A SMOOTH UNINTERRUPTED SURFACE TO ALL THE DOOR TO BE OPENED BY A WHEELCHAIR

   FOOTREST WITHOUT CREATING A TRAP OR HAZARDOUS CONDITION. WHERE NARROW FRAME DOORS ARE USED, A 10" HIGH SMOOTH PANEL WILL BE INSTALLED ON THE PUSH SIDE OF THE DOOR, WHICH WILL ALLOW THE DOOR TO BE OPENED BY A WHEELCHAIR FOOTREST WITHOUT CREATING A TRAP OR HAZARDOUS CONDITION.
9. THRESHOLDS WILL NOT EXCEED 1/2" IN TOTAL HEIGHT. VERTICAL FACES WILL NOT EXCEED 1/4". CHANGE IN LEVEL BETWEEN 1/4" AND 1/2" WILL BE BEVELED WITH A SLOPE NO GREATER THAN 1:2. CHANGE IN LEVEL GREATER THAN 1/2" WILL BE ACCOMPLISHED BY MEANS OF A RAMP.
8. STAIRWAY TREADS MUST BE SLIP RESISTANT WITH, ROUNDED OR BEVELED EDGES AND NO ABRUPT EDGES AT THE NOSE.
9. THE FLOOR OR LANDING IMMEDIATELY OUTSIDE THE ENTRY MAY BE SLOPED UP TO 1/8" PER FOOT IN THE DIRECTION AWAY FROM THE BUILDING FOR DRAINAGE.
10. PET WASTE STATIONS SHALL BE LOCATED ON AN ACCESSIBLE ROUTE AND LOCATED PER ICC/ANSI A117.1 - 2009 SECTION 308.
11. ALL MAILBOXES/PARCEL BOXES SHALL BE LOCATED ON AN ACCESSIBLE ROUTE AND MEET/LOCATED PER ICC/ANSI 117.1 -2009 SECTION 308 AND U.S. POSTAL SERVICE STD-4C. CONFIRM WITH THE LOCAL USPS RESPONSIBLE FOR MAIL SERVICE TO/FROM THE SITE.
12. ACCESSIBLE RAMP CROSS SLOPES SHALL NOT EXCEED A MAXIMUM 2% CROSS SLOPE.
13. ACCESSIBLE RAMP SLOPES SHALL NOT EXCEED A MAXIMUM 8.33% SLOPE AND PROVIDE A LEVEL LANDING AT THE TOP AND BOTTOM OF THE RAMP, AT A MINIMUM THE LANDING SHALL BE 60" X WIDTH OF RAMP RUN.
14. ACCESSIBLE WALKING SURFACE SLOPES SHALL NOT EXCEED A MAXIMUM 5% SLOPE.

ACOUSTICAL NOTES - NORTH CAROLINA

THE FOLLOWING IS A GENERAL LISTING OF MINIMUM ACOUSTICAL RECOMMENDATIONS, IT IS NOT AN ALL-ENCOMPASSING LIST NOR DOES IT ADDRESS SPECIFIC TECHNIQUES. SEE DRAWINGS, AND PROJECT

MANUAL FOR ADDITIONAL INFORMATION. AT A MINIMUM, PROVIDE SOUND TRANSMISSION CONTROL PER NCSBC SECTION 1207 AND ANY AND ALL OTHER APPLICABLE CODES/REGULATIONS.

1. FIREPROOFING AT PENETRATIONS OF CONCRETE FLOORS MAY BE PROVIDED WITH LATEX OR SILICONE BASED INTUMESCENT SEALANT THAT CURES TO A 'RUBBER-LIKE' STATE, OR IF PERMITTED BY CODE, BY USING MINERAL WOOL SAFING. MATERIALS THAT SET-UP HARD ARE NOT PERMITTED.
2. WHERE BATHROOMS ARE ADJACENT TO SHARED WALLS BETWEEN DIFFERING UNITS, THE SHARED WALL CONSTRUCTION MUST EXTEND BEHIND BATHTUBS AND SHOWERS, SUBSTITUTING APPROPRIATE WATER-RESISTANT MATERIALS FOR THE GYPSUM BOARD AS PERMITTED AND APPLICABLE.
3. BATHTUBS, JACUZZI/AIR-JET TUBS, SHOWERS, TOILETS, DISHWASHERS, GARBAGE DISPOSALS, TRASH COMPACTORS, AND CLOTHES WASHERS AND DRYERS MUST BE ISOLATED FROM THE STRUCTURE:

A. THESE ITEMS, WHERE PRACTICAL, SHOULD NORMALLY REST ON TOP OF ISOLATED FLOOR SURFACES. IF THIS IS NOT PRACTICAL, NEOPRENE OR RUBBER MUST BE USED TO ISOLATE THEM.

B. IT MAY BE NECESSARY TO HAVE THE PORTION OF THE BATHROOM FLOORS UNDER TUBS AND SHOWERS INSTALLED PRIOR TO THE REST OF THE FLOOR SUCH THAT THE TUB AND SHOWER BASES CAN BE INSPECTED BEFORE THE REST OF THE FLOOR IS INSTALLED.

C. BATHTUBS, JACUZZI/AIR-JET (INCLUDING ANY ASSOCIATED MOTOR) AND SHOWER BASES NOT RESTING ON ISOLATED FLOORS MUST REST ON MINIMUM 10mm OR 3/8 INCH THICK 40 DUROMETER NEOPRENE OR RUBBER. SUCH MATERIAL MUST ALSO BE PLACED BETWEEN BATHTUBS AND WALLS UNLESS THE BATH TUB CAN BE KEPT AWAY FROM THE WALL (1/4 INCH GAP- NO DIRECT CONTACT). THIS MAY BE A SHEET OF REGUPOL 40 DUROMETER OR INDIVIDUAL PADS AT SUPPORT POINTS. EDGES MUST BE SEALED WITH SILICONE SEALANT RATHER THAN GROUT.

NOTE: IF 1/2 INCH CORK IS INSTALLED EVERYWHERE ELSE, IT IS ACCEPTABLE TO USE THE 1/2 INCH CORK INSTEAD OF THE 10mm 40 DUROMETER REGUPOL. HOWEVER, THINNER MATERIAL IS UNACCEPTABLE.

D. IF THE SPECIFIED JACUZZI/AIR-JET TUB REQUIRES RIGID ATTACHMENT TO THE WALLS; HE WALLS MUST BE ATTACHED TO THE MAIN FLOOR THROUGH THE REGUPOL OR CORK WITH A RUBBER BUSHING - SUCH AS THE KINETICS KAI. THE TOP OF THE WALL MUST BE SUPPORTED FROM ABOVE WITH A SLIP TRACK; THIS ATTACHMENT TO THE FLOOR ABOVE MUST BE DONE WITH A RUBBER BUSHING -SUCH AS THE KINETICS KAI.

E. NEOPRENE ISOLATION CUPS (MODEL BM FROM MASON INDUSTRIES) SHOULD BE USED UNDER THE FEET OF APPLIANCES THAT ARE NOT ON ISOLATED FLOORS.

F. GARBAGE DISPOSALS MUST HAVE A FLEXIBLE CONNECTION TO THE SINK AND MUST DISCHARGE THROUGH A FLEXIBLE PIPE TO THE DRAIN.

G. TOILETS MUST REST ON AN ISOLATED FLOOR AND SHOULD BE BOLTED TO A FLANGE ON THE WASTE PIPING SUCH THAT THE BOLTS AND PIPING DO NOT CONTACT THE FLOOR STRUCTURE. THIS MAY REQUIRE OVERSIZED HOLES IN THE FLOOR OR GROMMETS IN THE FLOOR. IF IT IS NECESSARY TO BOLT THE TOILET TO THE STRUCTURAL FLOOR, SOFT GROMMETS SHALL BE USED TO ISOLATE THE BOLTS FROM THE TOILET.

4. HORIZONTAL WASTE PIPE TO BE SUPPORTED ON HALF-INCH COMPRESSED FELT OR NEOPRENE, OR NEOPRENE HANGERS CAN BE USED. VERTICAL SUPPORTS TO BE MADE FROM WAFFLE-PATTERN OR RIBBED 40 DUROMETER NEOPRENE PADS APPROPRIATELY SIZED FOR THE LOAD AND PLACED UNDER BRACKETS ATTACHED TO THE PIPE AT FLOORS.
5. ALL PIPING SHALL BE CAREFULLY CENTERED IN HOLES SO THAT IT DOES NOT CONTACT FRAMING OR CONCRETE. DO NOT ATTEMPT TO PLACE ISOLATION MATERIAL (OTHER THAN AS NEEDED FOR FIREPROOFING) AROUND PIPES WHERE THEY PASS THROUGH STRUCTURE.
6. ANY BEDROOM, DINING, OR LIVING ROOM CEILING OR WALL CONTAINING SUPPLY PIPING SHALL HAVE THE PIPES FULLY COVERED WITH CLOSED-CELL FOAM PIPE INSULATION. INSULATION TO BE ARMAFLEX AS MANUFACTURED BY ARMACELL. PIPE INSULATION SIZE TO BE THE SAME SIZE AS INDICATED FOR THE PIPE ISOLATION.
7. WALL CAVITIES CONTAINING WASTE PIPES SHALL HAVE THE SPACE BETWEEN THE PIPE AND GYPSUM BOARD FILLED WITH FIBERGLASS BATT INSULATION ON EACH SIDE. BATT TO BE 1 INCH THICK OR 2 1/2 INCH THICK, SLIGHTLY COMPRESSED (NOT OVERLY COMPRESSED), ON EACH SIDE OF PIPE. ALTERNATIVELY, THE PIPING IS TO BE FULLY COVERED WITH CLOSED-CELL FOAM PIPE INSULATION TO BE ARMAFLEX AS MANUFACTURED BY ARMACELL. PIPE INSULATION TO BE THE SAME SIZE AS INDICATED FOR PIPE ISOLATION. THERE SHALL BE A MINIMUM OF ONE (1) INCH SPACE BETWEEN PIPING AND GYPSUM WALL BOARD.
8. CEILING CAVITIES CONTAINING WASTE PIPES SHALL PROVIDE A REASONABLE CAVITY SPACE, ISOLATE THE PIPING FROM THE STRUCTURE, AND HAVE INSULATION BATTS IN THE CAVITY. THERE SHALL BE A MINIMUM OF ONE (1) INCH SPACE BETWEEN PIPING AND GYPSUM WALL BOARD.
9. ROOF DRAIN PIPING SHALL BE PROPERLY ISOLATED FORM THE STRUCTURE. PIPING SHALL BE ATTACHED, VIA APPROPRIATE ISOLATION BRACKETS AT EACH FLOOR/ROOF LEVEL. SIZE ISOLATION BRACKETS PER THE LOAD(S) TO ALLOW FOR ONE TO TWO TENTHS OF AN INCH DEFLECTION.
10. ALL REFRIGERANT PIPING SHOULD BE ROUTED WHEREVER POSSIBLE SO IT DOES NOT PASS-THROUGH BEDROOM WALLS OR OVER THE CEILING OF BEDROOMS, ESPECIALLY IF IT IS THE REFRIGERANT PIPING FOR ANOTHER UNIT. IDEALLY, THE PIPING SHALL BE IN A WALL OF THE MECHANICAL EQUIPMENT CLOSET BUTTING ANOTHER CLOSET. A BATHROOM OR KITCHEN WALL IS A BETTER LOCATION THAN A BEDROOM WALL. CONTRACTOR TO PROVIDE OWNER AND ARCHITECT WITH PROPOSED ROUTING OF PIPING FOR REVIEW PRIOR TO FABRICATION/INSTALLATION.
11. ALL ABOVE GROUND WASTE PIPING- SERVICING UNITS AND BUILDING- SHALL BE CAST IRON.
12. WATER HAMMER ARRESTERS MUST BE INSTALLED AT THE ENDS OF LONG RUNS AND AT DISHWASHERS AND CLOTHES WASHERS.
13. PERIMETER OF SHARED PARTY WALL IS CRITICAL. ACOUSTICAL SEALANT SHALL BE INSTALLED ACCORDING TO THE DETAIL(S) PROVIDED TO ENSURE AN AIRTIGHT SEAL. SEAL AROUND ALL ELECTRICAL, PLUMBING AND MECHANICAL PENETRATIONS.
14. WALL PANELS TO BE STAGGERED TO AVOID BACK-TO-BACK BUTT JOINTS. SPECIFICALLY FOR PARTY WALLS.
15. LIGHT SWITCHES AND RECEPTACLES SHOULD NOT BE CONSTRUCTED BACK-TO-BACK. WHEREVER POSSIBLE STAGGER 'BOXES' SUCH THAT THEY ARE NOT LOCATED IN THE SAME STUD BAY. SPECIFICALLY FOR APARTMENT UNIT PARTY WALLS.
16. KEEP AIR CAVITY OF PARTY WALLS CLEAN AND FREE OF CONSTRUCTION DEBRIS.
17. ALL RECESSED LIGHTING TO HAVE SEALED BACKS. NO RECESSED LIGHTING TO BE 'OPEN' TO PLENUM SPACE.
18. MINIMIZE THE NUMBER OF PIPE TRANSITIONS AND LATERAL RUNS IN DROPPED CEILINGS.
19. IF KITCHEN OR BATHROOM CABINETS ARE LOCATED ON TENANT SEPARATION WALLS, SOFT BUMPERS ON ALL THE CABINETRY DRAWERS AND DOORS ARE TO BE INSTALLED.
20. CONTACT BETWEEN MEPFP COMPONENTS

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REVISIONS: NUMBER	DATE	INITIALS	DESCRIPTION

PROJECT NO: 005623
DRAWN BY: TH / BB
CHECKED BY: DS

SHEET TITLE:
General Project Notes

SHEET NUMBER:
G001

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1. THE GENERAL CONTRACTOR (G.C.) SHALL FULLY ACQUAINT THEMSELVES WITH THE CONDITIONS OF THE CONTRACT, LOCAL CONDITIONS RELATING TO THE JOB SITE, ACCESSIBILITY AND GENERAL CHARACTER OF THE CONSTRUCTION SITE AND LOCAL LABOR CONDITIONS SO THAT THEY UNDERSTAND THE NATURE, EXTENT, DIFFICULTIES AND RESTRICTIONS RELATED TO THE EXECUTION OF THE WORK.
2. ALL WORK PERFORMED BY THE CONTRACTOR/SUB-CONTRACTOR SHALL CONFORM TO THE REQUIREMENTS OF ALL APPLICABLE MUNICIPAL, LOCAL OR FEDERAL AND STATE LAWS, AS WELL AS ANY OTHER GOVERNING REQUIREMENTS, WHETHER OR NOT SPECIFIED WITHIN THE CONSTRUCTION DOCUMENTS.
3. THE CONTRACTOR/SUB-CONTRACTOR EXPRESSLY WARRANTS THAT ALL WORK SHALL BE EXECUTED IN A SOUND AND WORKMANLIKE MANNER IN CONFORMANCE WITH THE HIGHEST STANDARDS WITHIN THE INDUSTRY AND WARRANTS THAT ALL MATERIALS USED TO COMPLETE THE WORK/PROJECT ARE MERCHANTABLE, FREE FROM ANY PATENT OR LATENT DEFECT, FIT FOR THEIR INTENDED USE, AND EQUAL IN QUALITY TO THE BEST OF THEIR KIND.
4. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS AND ALERT THE ARCHITECT AND OWNER IN ADVANCE, TO ANY UNFORESEEN CONDITIONS AND/OR CONSTRUCTION DIFFICULTIES PRIOR TO COMMENCING WORK OR WORKING ON THE AFFECTED PORTION OF THE WORK.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF ALL EXISTING UTILITIES. ANY EXISTING UTILITIES INDICATED HAVE BEEN OBTAINED FROM AVAILABLE RECORDS AND ARE INDICATED FOR CONVENIENCE ONLY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADDITIONAL UTILITY LOCATIONS NOT INDICATED. CONTRACTOR SHALL EXERCISE EXTREME CARE TO AVOID DAMAGE OR DISTURBANCE TO EXISTING UTILITIES.
6. THROUGHOUT THE DRAWINGS ARE ABBREVIATIONS THAT ARE IN COMMON USE AND/OR DEFINED WITHIN. THE ARCHITECT SHALL DEFINE THE INTENT OF ANY IN QUESTION.
7. TYPICAL WALL SECTIONS, FINISHES, DETAILS, ETC. ARE NOT INDICATED EVERYWHERE THEY OCCUR ON THE DRAWINGS; REFER TO DETAILED DRAWINGS WHERE PROVIDED.
9. NOTHING IN THE DRAWINGS AND/OR THE SPECIFICATIONS/PROJECT MANUAL SHALL BE CONSTRUED TO PERMIT AN INSTALLATION IN VIOLATION OF APPLICABLE CODES, MANUFACTURER RECOMMENDATIONS, AND/OR REQUIREMENTS. CONTRACTOR SHALL NOTIFY THE ARCHITECT AND OWNER IMMEDIATELY AND CEASE WORK ON ALL PARTS OF THE CONTRACT THAT ARE AFFECTED. THE WORK TO BE PERFORMED UNDER THIS CONTRACT SHALL BE IN FULL ACCORDANCE WITH THE MOST CURRENT ADOPTED, AND AS APPLICABLE, AMENDED, RULES, REGULATIONS, RESTRICTIONS, REQUIREMENTS AND CODES.
9. IN CASE OF ANY CONFLICT WHEREIN THE METHODS OR STANDARDS OF INSTALLATION OR THE MATERIALS SPECIFIED DO NOT EQUAL OR EXCEED THE REQUIREMENTS OF THE LAWS OR ORDINANCES, THE LAWS OR ORDINANCES SHALL GOVERN. CONTRACTOR SHALL NOTIFY THE ARCHITECT AND OWNER OF ALL CONFLICTS ONCE KNOWN.
10. THE ARCHITECT ASSUMES NO RESPONSIBILITY AS TO THE PHYSICAL CHARACTERISTICS OF THE SOIL(S) OR THE ACCURACY OF ENGINEERING DATA SUPPLIED BY OTHERS.
11. THE G.C. SHALL VERIFY DIMENSIONS, LEVELS, EASEMENTS, BOUNDARIES AND CONSTRUCTION INDICATED ON CONTRACT DRAWINGS BEFORE PROCEEDING WITH THE WORK. ALSO, THE G.C. SHALL NOTIFY THE ARCHITECT IMMEDIATELY OF ANY DISCREPANCIES OR OMISSIONS BETWEEN THE CONSTRUCTION DOCUMENTS AND FIELD CONDITIONS, BEFORE COMMENCING WITH ANY WORK AND REQUEST CLARIFICATION AS REQUIRED.
12. DIMENSIONS, NOTES, FINISHES, AND FIXTURES SHOWN ON TYPICAL PLANS, SECTIONS, OR DETAILS SHALL APPLY TO SIMILAR, SYMMETRICAL OR OPPOSITE PLANS, SECTIONS OR DETAILS.
13. DIMENSIONS NOTED AS "CLR." ARE TO BE CLEAR FROM FACE OF FINISH MATERIAL TO FACE OF FINISH MATERIAL OR CENTERLINE OF FIXTURE AND ARE NOT ADJUSTABLE WITHOUT WRITTEN APPROVAL OF ARCHITECT.
14. THE CONTRACTOR SHALL VERIFY ALL ROUGH-IN DIMENSIONS FOR THE EQUIPMENT FURNISHED AND INSTALLED BY CONTRACTOR OR OTHERS.
15. THE CONTRACTOR SHALL BE BOUND TO THE FINISH SCHEDULE(S) PROVIDED FOR ROOMS AND SPACES BUT SHALL ALSO BE RESPONSIBLE FOR PROVIDING OTHER MATERIALS NOT DESIGNATED IN THE SCHEDULE IF REQUIRED TO CREATE A FINISHED PRODUCT.
16. INSTALL AND SEAL ALL BATHROOM ACCESSORIES (E.G. GRAB BARS, TOWEL BARS, ETC.) ON OR WITHIN WALLS TO PROTECT ELEMENTS FROM MOISTURE. WALLS AT SHOWERS AND BATHTUBS SHALL BE WATERTIGHT TO A MINIMUM OF 7'-0" HIGH ABOVE DRAIN INLET.
17. PROVIDE APPROPRIATE SEALANT AROUND WINDOWS, DOOR JAMBS & HEADS, AND ADJACENT CONSTRUCTION.
18. WOOD IN CONTACT WITH CONCRETE OR MASONRY SHALL BE PRESSURE PRESERVATIVE TREATED; USE OF CCA PRESERVATIVE IS PROHIBITED. USE APPROPRIATE FASTENERS PER PRESERVATIVE.
19. ALL MATERIALS AND/OR EQUIPMENT SHALL BE INSTALLED/USED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS AND/OR RECOMMENDATIONS & SHALL COMPLY W/ ALL APPLICABLE CODES, ORDINANCES AND REGULATIONS.
20. THE G.C. SHALL PROVIDE FIRE EXTINGUISHERS AS REQUIRED BY CODE AND LOCAL FIRE MARSHALL. GENERAL CONTRACTOR SHALL REVIEW AND CONFIRM ESTABLISHED LOCATIONS W/ ARCHITECT PRIOR TO COMMENCEMENT OF BUILDING FRAMING.
21. PROVIDE INTERIOR EXIT STAIRWAY NUMBERING SYSTEM PER NORTH CAROLINA BUILDING CODE SECTION 1023.9.1 AND ANY AND ALL OTHER APPLICABLE CODES/REGULATIONS.
22. THESE DRAWINGS DO NOT CONTAIN THE REQUIREMENTS FOR JOB SAFETY. ALL PROVISIONS FOR SAFETY SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
23. THE G.C. SHALL MAINTAIN A CURRENT AND COMPLETE SET OF APPROVED CONSTRUCTION DRAWINGS ON SITE DURING ALL PHASES OF CONSTRUCTION FOR USE BY ALL TRADES.
24. THE G.C. SHALL SUBMIT SHOP DRAWINGS AS REQUIRED AND FOR ITEMS LISTED IN THE PROJECT MANUAL (UNDER SEPARATE COVER).
25. ALL FINISHED FLOOR ELEVATIONS SHALL BE A MINIMUM OF 8" ABOVE THE FINISHED GRADE OR AS INDICATED ON THE DRAWINGS.
26. PROVIDE TEMPERED GLASS AS REQUIRED BY CODE ADJACENT TO DOORS AND EXIT WAYS.
27. GRADE SHALL BE SLOPED AWAY FROM BUILDING FOR POSITIVE DRAINAGE.
28. ROWLOCKS ARE TO PROJECT MIN. 1/2" FROM THE FACE OF RUNNING BOND BELOW. UNLESS INDICATED OTHERWISE ON THE DRAWINGS.
29. ALL HVAC, PLUMBING AND ELEC. PENETRATIONS THROUGHOUT THE EXTERIOR WALLS AND AT THE TOP AND BOTTOM PLATES SHALL BE PROPERLY SEALED.
30. EXTERIOR SEALANT SHALL BE SILICONE BASED; NO OTHER TYPES SHALL BE USED.
31. PROVIDE 1/2" TO 3/4" SEPARATION BETWEEN BASE FLASHING AND EXTERIOR MATERIALS.
32. APPROVE ALL EXTERIOR MATERIALS & COLORS WITH THE OWNER & ARCHITECT PRIOR TO ORDERING/FABRICATION. CONTRACTOR TO CONSTRUCT A MOCK-UP PANEL OF BUILDING EXTERIOR (IN ACCORDING TO ARCHITECT'S INSTRUCTIONS PRIOR TO APPLICATION OF EXTERIOR FINISHES AND WINDOWS ON BUILDING. FINAL APPROVAL BY ARCHITECT & OWNER OF ALL EXTERIOR FINISHES / COLORS WILL BE MADE BASED ON THE MOCK-UP PANEL.
33. THE G.C. SHALL ASSURE THAT ANY AND ALL MATERIAL COMPATIBILITY IS ACHIEVED WITH NO NEGATIVE EFFECT ON MATERIALS, I.E. CONTACT OF DISSIMILAR MATERIALS WILL HAVE NO NEGATIVE IMPACT/EFFECT ON EITHER MATERIAL OR SURROUNDING CONSTRUCTION. G.C. SHALL INFORM ARCHITECT OF ANY AND ALL CONCERNS PRIOR TO FABRICATION/INSTALLATION. PROVIDE GALVANIC INSULATION BETWEEN DISSIMILAR METALS.
34. NO BRICK/MASONRY CORE HOLES SHALL BE EXPOSED, TYP. CLOSURE (SOLID CORE) BRICK/MASONRY SHALL BE USED WHERE CORE HOLES WOULD OTHERWISE BE EXPOSED TO THE ELEMENTS.
35. EXPOSED STEEL LINTELS AND 'BREAK' METAL TO BE PAINTED TO MATCH ADJACENT SURFACE UNLESS NOTES OTHERWISE.
36. PROVIDE SOLID BLOCKING WITHIN WALL CAVITY SEGMENTS BEHIND ALL EXTERIOR LIGHTS, SIGNAGE, BRACKETS, ETC.
37. COORDINATE ALL EXTERIOR PAVING CONDITIONS WITH CIVIL DRAWINGS.
38. ALL CAULKING/SEALANT COLORS TO MATCH ADJACENT SURFACES.
39. PROVIDE 5/8" GWB WITHIN FIRE RATED WALL CAVITY SEGMENTS BEHIND ALL SURFACE MOUNTED ELECTRICAL PANELS PRIOR TO PANEL INSTALLATION.
40. VERIFY ALL FINISH FLOOR ELEVATIONS WITH CIVIL DRAWINGS.
41. COORDINATE ALL SIDEWALK LOCATIONS AND HEIGHTS WITH ALL HARDSCAPE PLANS. ALL SIDEWALKS AT DOOR THRESHOLDS SHALL BE LEVEL AND MEET ALL FHA REQUIREMENTS.
42. LOADS ON HANDRAILS, GUARDS, AND VEHICLE BARRIERS SHALL COMPLY WITH 2018 NCSBC CHAPTER 16.
43. ANY AND ALL MECHANICAL EQUIPMENT, APPLIANCES, AND SUPPORTS THAT ARE EXPOSED TO WIND SHALL BE DESIGNED AND INSTALLED TO RESIST THE WIND LOADING/PRESSURES DETERMINED IN ACCORDANCE WITH THE 2018 NCSBC.

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2-16-2024

PROGRESS DATE:	-	REVISIONS: NUMBER	DATE	INITIALS	DESCRIPTION
ISSUE DATE:	02-16-2024				

PROJECT NO: 005623
DRAWN BY: TH / BB
CHECKED BY: DS

SHEET TITLE:
General Project Notes

SHEET NUMBER:
G002

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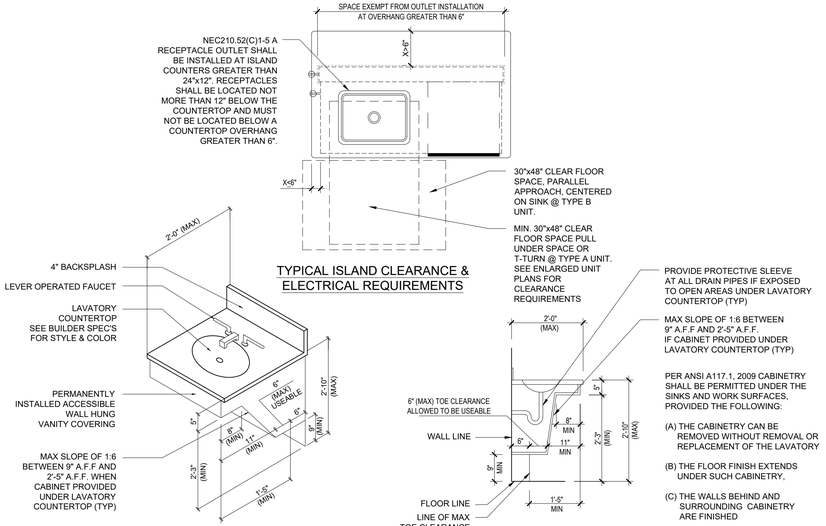
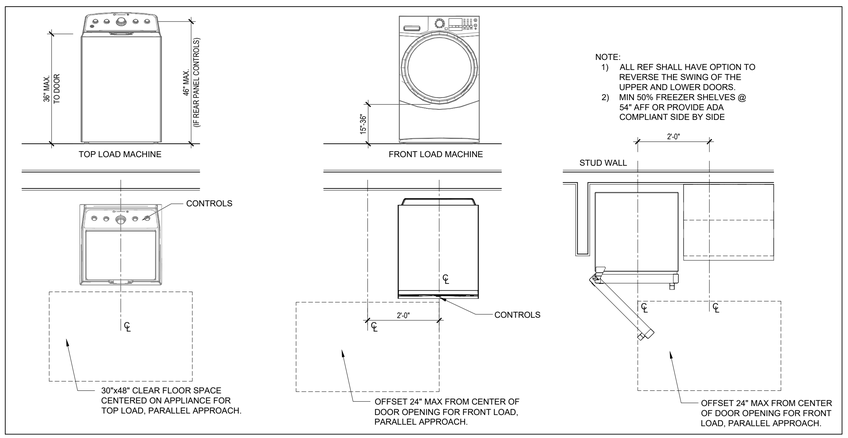
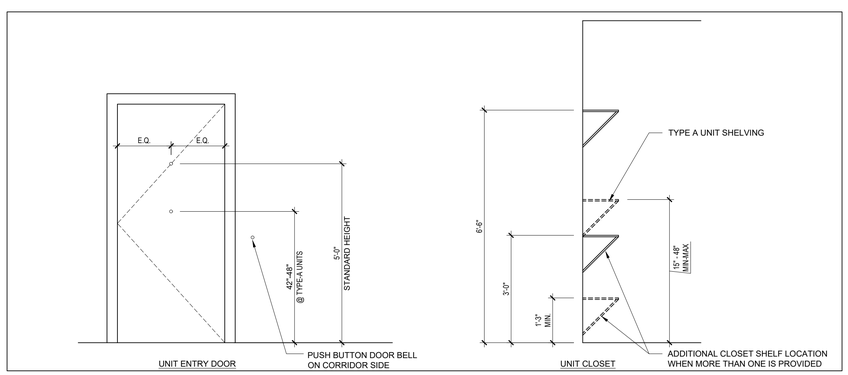


SINK & ISLAND REQUIREMENTS

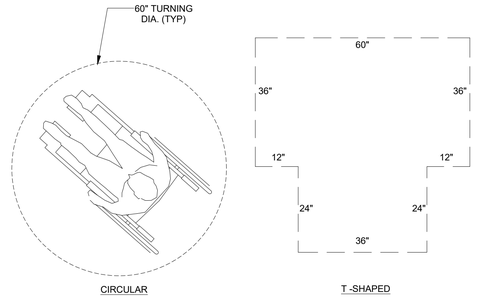


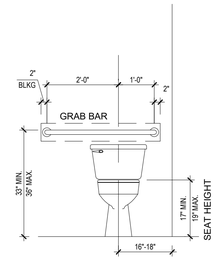
ACCESSIBLE APPLIANCE REQUIREMENTS

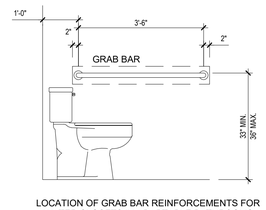


SHELVING & DOOR PEEP HOLE MOUNTING REQUIREMENTS

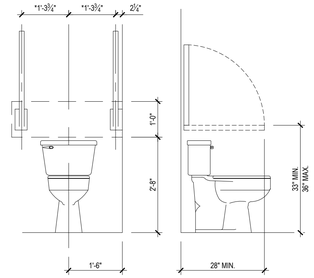
TURNING SPACE



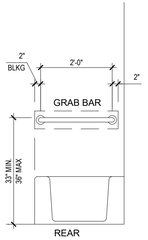


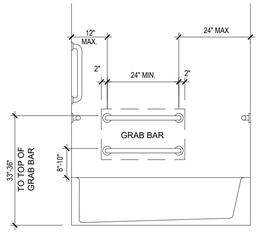


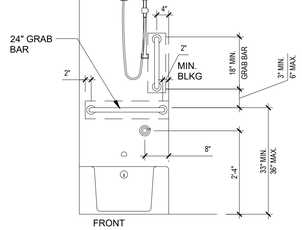
LOCATION OF GRAB BAR REINFORCEMENTS FOR WATER CLOSETS IN ADAPTABLE BATHROOMS



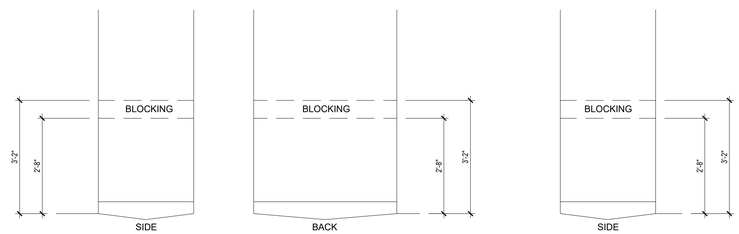
FOLD UP GRAB BAR
SEE FAIR HOUSING NOTE 3







LOCATION OF GRAB BAR REINFORCEMENTS FOR ADAPTABLE BATHTUBS



LOCATION OF GRAB BAR REINFORCEMENTS FOR ADAPTABLE SHOWERS

NOTE:
THE AREAS OUTLINED IN DASHED LINES REPRESENT LOCATIONS OF BLOCKING FOR FUTURE INSTALLATION OF GRAB BARS.

BLOCKING SHALL ACCOMMODATE GRAB BARS WHICH WILL BE MOUNTED AT 33"-36" AFF

TYPICAL BLOCKING REQUIREMENTS AND ACCESSIBILITY NOTES

ACCESSIBILITY REQUIREMENTS

1. ALL GROUND FLOOR UNITS SHALL MEET THE REQUIREMENTS OF TYPE B UNITS PER THE NORTH CAROLINA STATE BUILDING CODE.
2. ALL UNITS ON FLOORS SERVED BY AN ELEVATOR SHALL MEET THE REQUIREMENTS OF TYPE B UNITS PER THE NORTH CAROLINA STATE BUILDING CODE.
3. SEE CIVIL DRAWINGS FOR ACCESSIBLE ROUTES WITHIN THE SITE AND ROUTE TO THE BUILDING.
4. PROVIDE 12" MIN. CLEARANCE ON PUSH SIDE OF ALL UNIT ENTRY DOORS.
5. PROVIDE "FINGER PULL/U-SHAPED" HARDWARE ON ALL KITCHEN AND BATHROOM CABINETS PER ANSI 117.1 SECTION 404.2.6.
6. GC RESPONSIBLE FOR ACCESSIBILITY COMPLIANCE ON ANY TEMPORARY LEASING TRAILERS ON SITE.
7. CABINET SHOP DRAWINGS SHALL INCLUDE ACCESSIBLE CLEARANCE AREAS SUBMITTED TO THE ARCHITECT FOR REVIEW. SHOP DRAWINGS SHALL BE APPROVED BY THE GC AND REVIEWED BY THE ARCHITECT PRIOR TO FABRICATION OR INSTALLATION OF KITCHEN AND BATHROOM CABINETS IN BOTH TYPE A AND TYPE B UNITS.
8. MAXIMUM DOOR THRESHOLD HEIGHT ON ALL TYPE A OR TYPE B HINGED DOORS SHALL BE 1/2", SLIDING DOORS TO BE 3/4".

REQUIREMENTS FOR ALL TYPE "A" & TYPE "B" DWELLING UNITS

THE FOLLOWING SHALL BE INSTALLED IN TYPE A AND TYPE B UNITS PRIOR TO CERTIFICATE OF OCCUPANCY.

1. PROVIDE WALL BLOCKING FOR GRAB BARS & SHOWER SEAT CAPABLE OF SUPPORTING 250 LBS. LOCATE BLOCKING AT 2'-9" TO C.L. TO CENTERLINE ABOVE TUB AND AT WATER CLOSET.
2. MOUNT TOILET PAPER HOLDER BETWEEN 18" & 19" A.F.F. TO BOTTOM OF HOLDER.
3. TOWEL BARS MOUNTED AT 48" A.F.F. (MAX.)
4. LIGHT AND FAN SWITCHES, DRAPERY MECHANISMS, THERMOSTATS AND FIRE ALARMS SHALL BE LOCATED NO HIGHER THAN 48" A.F.F.
5. ELECTRICAL OUTLETS SHALL NOT BE LOCATED LOWER THAN 15" MEASURED FROM THE FINISHED FLOOR TO THE CENTERLINE OF LOWEST RECEPTACLE PLUG IN THE BOX.
6. ELECTRICAL PANELS MUST BE MOUNTED A MINIMUM OF 24" FROM THE ADJACENT PERPENDICULAR WALL TO CENTER OF THE PANEL. ALL OPERABLE BREAKERS ARE REQUIRED TO BE LOCATED BETWEEN 15" AFF MIN, 48" AFF MAX.
7. PROVIDE LEVER STYLE DOOR HANDLE ON ALL DOORS WITHIN TYPE A AND TYPE B UNITS. ALL OPERABLE PARTS SHALL BE LOCATED 34"-48" MAX AFF

GENERAL REQUIREMENTS FOR TYPE "A" DWELLING UNITS

THE FOLLOWING SHALL BE INSTALLED IN TYPE A UNIT PRIOR TO CERTIFICATE OF OCCUPANCY.

1. WATER SUPPLY AND DRAIN LINES UNDER KITCHEN SINK AND AT THE ACCESSIBLE BATHROOM LAVATORY SHALL BE INSULATED OR SHIELDED TO PROTECT AGAINST KNEE CONTACT. PROVIDE REAR DRAIN SINKS AT ALL TYPE A UNITS AND LAVATORIES.
2. CABINET FRONT AT KITCHEN SINK AND AT THE ACCESSIBLE BATHROOM LAVATORY SHALL BE REMOVABLE WITHOUT THE REMOVAL OR REPLACEMENT OF THE SINK/LAV.
3. THE FLOOR FINISH AT KITCHEN SINK AND AT THE ACCESSIBLE BATHROOM LAVATORY SHALL EXTEND UNDER THE CABINETRY.
4. THE WALL BEHIND AND THE CABINETRY SURROUNDING THE KNEE SPACE AT KITCHEN SINK AND AT THE ACCESSIBLE BATHROOM LAVATORY SHALL BE FINISHED.
5. PROVIDE A MIN. 30" W X 19" L X 27" H CLEAR FLOOR AREA BELOW KITCHEN SINK AND AT THE ACCESSIBLE BATHROOM LAVATORY.
6. INSTALL SHELVES IN CLOSETS AT 48" A.F.F. MAX.
7. INSTALL RANGE W/ FRONT MOUNTED CONTROLS.
8. INSTALL DISHWASHER WITH FRONT MOUNTED PUSH-BUTTON CONTROLS. DISHWASHER DOOR SHALL LOCK EITHER BY BUTTON OR LEVER.
9. PROVIDE ACCESSIBLE WASHER AND DRYER WITH FRONT CONTROLS. TOP LOADING MACHINES SHALL HAVE THE DOOR TO THE LAUNDRY COMPARTMENTS 36 INCHES MAXIMUM ABOVE THE FLOOR. FRONT LOADING MACHINES SHALL HAVE THE BOTTOM OF THE OPENING TO THE LAUNDRY COMPARTMENT 15 INCHES MINIMUM AND 36 INCHES MAXIMUM ABOVE THE FLOOR.
10. PROVIDE KITCHEN SINK W/ AT LEAST ONE BOWL DEPTH THAT ALLOWS KNEE CLEARANCE DEPTH OF 8 INCHES AT 27 INCHES AFF AND 11 INCHES DEPTH AT 9 INCHES AFF.
11. PROVIDE ACCESSIBLE LAVATORY THAT ALLOWS KNEE CLEARANCE DEPTH OF 8 INCHES AT 27 INCHES AFF AND 11 INCHES DEPTH AT 9 INCHES AFF.
12. PROVIDE ADJUSTABLE SHOWER HEAD W/ 60" FLEXIBLE HOSE AT 76" A.F.F. AND SINGLE LEVER WATER CONTROL AT 6" MAX. ABOVE AND 8" TUB RIM AND 8" CENTERLINE FROM TUB EDGE.
13. BOTTOM EDGE OF MIRROR REFLECTIVE SURFACE MOUNTED AT 40" A.F.F. (MAX.)
14. PROVIDE KITCHEN COUNTER WORK SURFACE AT 34 INCHES AFF. PROVIDE PULL UNDER KNEE SPACE AT A SECTION OF WORK SURFACE OF MINIMUM WIDTH 30 INCHES 15.PROVIDE PUSH BUTTON DOOR BELL ON CORRIDOR SIDE OF EACH TYPE A UNIT ON LATCH/STRIKE SIDE OF UNIT ENTRY DOOR.
16. INSTALL TWO PEEP HOLES ON ALL TYPE A UNIT ENTRY DOORS. INSTALL LOWER, ACCESSIBLE PEEP HOLE BETWEEN 42"-48" AFF
17. PROVIDE 18" CLEAR BETWEEN DOOR EDGE AND ADJACENT WALL ON PULL SIDE OF ALL PASSAGE DOORS LOCATED WITHIN TYPE A UNITS.
18. WATER CLOSET FLUSH CONTROLS ON OPEN SIDE OF ALL TOILETS IN TYPE A BATHROOMS.
19. PROVIDE RANGE WITH FRONT CONTROLS IN ALL TYPE A UNITS.
20. PROVIDE WALL SWITCH FOR ALL RANGE HOODS IN TYPE A KITCHENS.

ADAPTABLE OPTIONS FOR TYPE "A" DWELLING UNITS AFTER CERTIFICATE OF OCCUPANCY

THE FOLLOWING ADAPTABLE FEATURES ARE ALLOWED TO BE INSTALLED AFTER CERTIFICATE OF OCCUPANCY BUT BEFORE OCCUPATION BY A HANDICAPPED TENANT.

1. INSTALL GRAB BARS IN BATHROOMS. (BLOCKING SHALL BE PROVIDED BEFORE C OF O PER ABOVE NOTES)
2. INSTALL TUB SEAT IN ACCESSIBLE BATHTUB(S).
3. INSTALL SHOWER SEAT IN ACCESSIBLE SHOWER(S).

1 ACCESSIBILITY NOTES

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Caitlin Crossing Pool House
Triangle Land Partners
Lillington, NC
PERMIT REVIEW SET (02-16-24)

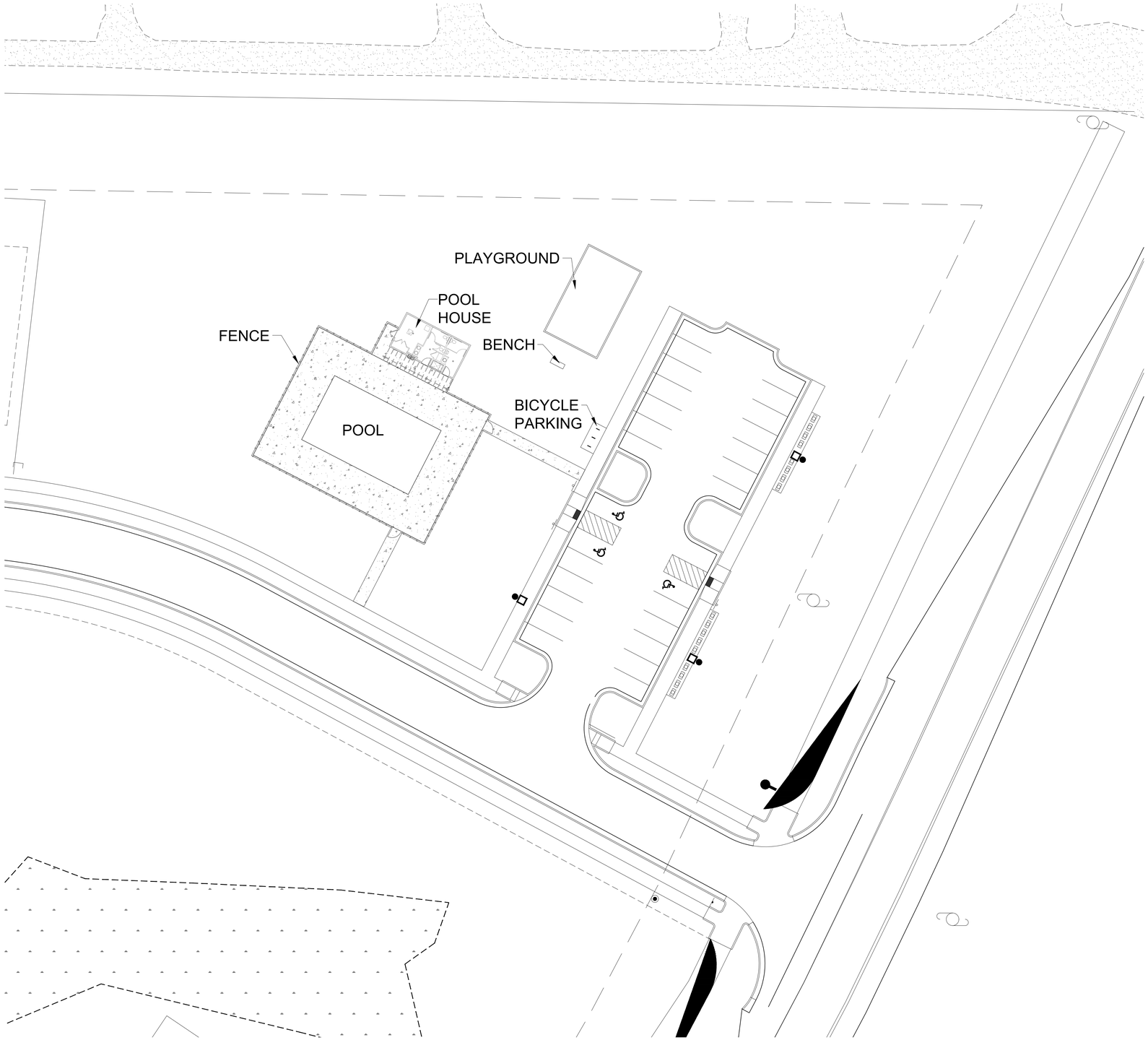
DANIEL R. SCHMIDT
REGISTERED ARCHITECT
13142
NORTH CAROLINA
RALEIGH, N.C.
2-16-2024

PROGRESS DATE:	-		
ISSUE DATE:	02-16-2024		
REVISIONS: NUMBER	DATE	INITIALS	DESCRIPTION

PROJECT NO: 005623
DRAWN BY: TH / BB
CHECKED BY: DS

SHEET TITLE: Accessibility Requirements

SHEET NUMBER: G003



NOTES:

1. ARCHITECTURAL SITE PLAN IS INTENDED TO BE FOR REFERENCE ONLY AND IS A SCHEMATIC REPRESENTATION OF BUILDING LOCATIONS.
   SEE CIVIL ENGINEERING DRAWINGS FOR SITE SCOPE
2. SEE CIVIL ENGINEERING DRAWINGS FOR CONSTRUCTION OF ANY LANDSCAPE & RETAINING WALLS
3. SEE CIVIL ENGINEERING DRAWINGS FOR ALL CIVIL ENGINEERING INFORMATION.
4. COORDINATE ALL FINISH FLOOR ELEVATIONS, ACCESSORY BUILDING SLABS AND RETAINING WALL LOCATIONS WITH CIVIL ENGINEERING DRAWINGS.
5. SEE CIVIL, LANDSCAPE, ELECTRICAL, AND MECHANICAL DRAWINGS FOR LOCATIONS OF TRANSFORMERS, METER CENTERS, CONDENSING UNITS, AND FOR LOCATIONS OF METERS SUBFEEDING OTHER BUILDINGS OR SITE FEATURES.
6. = LOCATION OF BARRIER-FREE PARKING SPACE OR ACCESSIBLE DETACHED GARAGE BAY. TYPE-A APARTMENT UNIT ON GROUND LEVEL & HANDICAP GARAGE BAY AS NOTED.

1 ARCHITECTURAL SITE PLAN

NTS

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REVISIONS: NUMBER	DATE	INITIALS	DESCRIPTION

PROJECT NO: 005623
DRAWN BY: TH / BB
CHECKED BY: DS

SHEET TITLE:
Architectural Site Plan

SHEET NUMBER:
G004

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6. Planworx Architecture, P.A. is not responsible for estimating, maintaining, or regulating construction costs associated with these plans.

2018 APPENDIX B
BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS
(EXCEPT 1 AND 2-FAMILY DWELLINGS AND TOWNHOUSES)
(Reproduce the following data on the building plans sheet 1 or 2)

Name of Project: Caitlin Crossing (Pool House)
Address: Near 573 Matthews Road Lillington, North Carolina Zip Code: 27546
Owner/Authorized Agent: David Cushing Phone # (919) 478-7872 E-Mail: dc.greyrock@gmail.com
Owned By: Private
Code Enforcement Jurisdiction: City

DESIGNER	FIRM	NAME	LICENSE #	TELEPHONE #	E-MAIL
Architectural	Planworx Architecture	Daniel R. Schmidt	13142	919.846.8100	dschmdt@planworx.com
Civil	CE Group	Ashley Faulkner	0950	919.307.8700	joe@cegroupinc.com
Electrical	Kilian Engineering Inc.	Michael Kilian	17304	252.438.8778	mkilian@kilianengineering.com
Fire Alarm					
Plumbing	Kilian Engineering Inc.	Michael Kilian	17304	252.438.8778	mkilian@kilianengineering.com
Mechanical	Kilian Engineering Inc.	Michael Kilian	17304	252.438.8778	mkilian@kilianengineering.com
Sprinkler-Standpipe	( )				
Structural	Hauser-Creech	Michael Gabriel Hauser	035814	919.817.7579	gabriel@hauser-creech.com
Retaining Walls >5' High	( )				
Other	( )				

("Other" should include firms and individuals such as truss, precast, pre-engineered, interior designers, etc.)

2018 NC BUILDING CODE: New Building

2018 NC EXISTING BUILDING CODE: N/A N/A N/A
CONSTRUCTED: (date) _____ **CURRENT OCCUPANCY(S)** (Ch. 3): _____
RENOVATED: (date) _____ **PROPOSED OCCUPANCY(S)** (Ch. 3): A-3

RISK CATEGORY (Table 1604.5): **Current:** N/A **Proposed:** II

BASIC BUILDING DATA
Construction Type: V-B
Sprinklers: No Select one
Standpipes: N/A
Primary Fire District: No **Flood Hazard Area:** No
Special Inspections Required: Yes (Contact the local inspection jurisdiction for additional procedures and requirements.)

Gross Building Area Table

FLOOR	EXISTING (SQ FT)	NEW (SQ FT)	SUB-TOTAL
2nd Floor			
1st Floor		637	637
TOTAL		637	637

ALLOWABLE AREA

Primary Occupancy Classification(s): Assembly - A-3 Select one Select one Select one Select one Select one
Accessory Occupancy Classification(s):
Incidental Uses (Table 509):
Special Uses (Chapter 4 – List Code Sections):
Special Provisions: (Chapter 5 – List Code Sections):
Mixed Occupancy: No **Separation:** Select one **Exception:**
No

$$\frac{\text{Actual Area of Occupancy A}}{\text{Allowable Area of Occupancy A}} + \frac{\text{Actual Area of Occupancy B}}{\text{Allowable Area of Occupancy B}} \leq 1$$

_____ + _____ + ... = _____ ≤ 1.00

STORY NO.	DESCRIPTION AND USE	(A) BLDG AREA PER STORY (ACTUAL)	(B) TABLE 506.2[4] AREA	(C) AREA FOR FRONTAGE INCREASE[1,2]	(D) ALLOWABLE AREA PER STORY OR UNLIMITED[2,3]
1	A-3	637	6,000	NOT TAKEN	6,000

[1] Frontage area increases from Section 506.3 are computed thus:
a. Perimeter which fronts a public way or open space having 20 feet minimum width = _____ (F)
b. Total Building Perimeter = _____ (P)
c. Ratio (F/P) = _____ (F/P)
d. W = Minimum width of public way = _____ (W)
e. Percent of frontage increase $I_f = 100[F/P - 0.25] \times W/30 =$ _____ (%)
[2] Unlimited area applicable under conditions of Section 507.
[3] Maximum Building Area = total number of stories in the building x D (maximum 3 stories) (506.2).
[4] The maximum area of open parking garages must comply with Table 406.5.4.
[5] Frontage increase is based on the unsprinklered area value in Table 506.2.

ALLOWABLE HEIGHT

	ALLOWABLE	SHOWN ON PLANS	CODE REFERENCE[1]
Building Height in Feet (Table 504.3)[2]	40'	12'-4"	
Building Height in Stories (Table 504.4)[3]	3	1	

[1] Provide code reference if the "Shown on Plans" quantity is not based on Table 504.3 or 504.4.
[2] The maximum height of air traffic control towers must comply with Table 412.3.1.
[3] The maximum height of open parking garages must comply with Table 406.5.4.

FIRE PROTECTION REQUIREMENTS

BUILDING ELEMENT	FIRE SEPARATION DISTANCE (FEET)	RATING REQ'D	RATING PROVIDED (W/ * REDUCTION)	DETAIL # AND SHEET #	DESIGN # FOR RATED ASSEMBLY	SHEET # FOR RATED PENETRATIONS	SHEET # FOR RATED JOINTS
Structural Frame, including columns, girders, trusses							
Bearing Walls		0	0	N/A	N/A		
Exterior		0	0	N/A	N/A		
North	>30'	0	0	N/A	N/A		
East	>30'	0	0	N/A	N/A		
West	>30'	0	0	N/A	N/A		
South	>30'	0	0	N/A	N/A		
Interior		0	0	N/A	N/A		
Nonbearing Walls and Partitions Exterior walls							
North	>30'	0	0	N/A	N/A		
East	>30'	0	0	N/A	N/A		
West	>30'	0	0	N/A	N/A		
South	>30'	0	0	N/A	N/A		
Interior walls and partitions (Pool Equipment)		1	1	1/G015	U305	-	-
Floor Construction Including supporting beams and joists		N/A	N/A	N/A	N/A		
Floor Ceiling Assembly		0	0	N/A	N/A	-	
Columns Supporting Floors		N/A	N/A	N/A	N/A	-	-
Roof Construction, including supporting beams and joists		N/A	N/A	N/A	N/A	-	*
Roof Ceiling Assembly (Pool Equipment)		1	1	1/G016	P522	-	
Columns Supporting Roof				N/A	N/A	-	-
Shaft Enclosures - Exit		N/A	N/A	N/A	N/A	-	-
Shaft Enclosures - Other		N/A	N/A	N/A	N/A		
Corridor Separation		0	0	N/A	N/A	-	
Occupancy/Fire Barrier Separation		N/A	N/A	N/A	N/A	-	-
Party/Fire Wall Separation		N/A	N/A	N/A	N/A	-	-
Smoke Barrier Separation		N/A	N/A	N/A	N/A	-	-
Smoke Partition		N/A	N/A	N/A	N/A	-	*
Tenant Dwelling Unit/ Sleeping Unit Separation		N/A	N/A	N/A	N/A		
Incidental Use Separation		N/A	N/A	N/A	N/A		

* Indicate section number permitting reduction

PERCENTAGE OF WALL OPENING CALCULATIONS

FIRE SEPARATION DISTANCE (FEET) FROM PROPERTY LINES	DEGREE OF OPENINGS PROTECTION (TABLE 705.8)	ALLOWABLE AREA (%)	ACTUAL SHOWN ON PLANS (%)
All SIDES > 30'	UNPROTECTED, NON SPRINKLERED (UP, NS)	NO LIMIT (PER 705.8.1 EXCEPTION 2)	N/A

* Per 705.8.1 exception 2

LIFE SAFETY SYSTEM REQUIREMENTS

Emergency Lighting: Yes
Exit Signs: No
Fire Alarm: No
Smoke Detection Systems: No
Carbon Monoxide Detection: No

LIFE SAFETY PLAN REQUIREMENTS

Life Safety Plan Sheet #: G010

- [x] Fire and/or smoke rated wall locations (Chapter 7)
- [ ] Assumed and real property line locations (if not on the site plan)
- [ ] Exterior wall opening area with respect to distance to assumed property lines (705.8)
- [x] Occupancy Use for each area as it relates to occupant load calculation (Table 1004.1.2)
- [x] Occupant loads for each area
- [ ] Exit sign locations (1013)
- [x] Exit access travel distances (1017)
- [ ] Common path of travel distances (Tables 1006.2.1 & 1006.3.2(1))
- [ ] Dead end lenghts (1020.4)
- [ ] Clear exit widths for each exit door
- [ ] Maximum calculated occupant load capacity each exit door can accommodate based on egress width (1005.3)
- [ ] Actual occupant load for each exit door
- [ ] A separate schematic plan indicating where fire rated floor/ceiling and/or roof structure is provided for purposes of occupancy separation
- [ ] Location of doors with panic hardware (1010.1.10)
- [ ] Location of doors with delayed egress locks and the amount of delay (1010.1.9.7)
- [ ] Location of doors with electromagnetic egress locks (1010.1.9.9)
- [ ] Location of doors equipped with hold-open devices
- [ ] Location of emergency escape windows (1030)
- [ ] The square footage of each fire area (202)
- [ ] The square footage of each smoke compartment for Occupancy Classification I-2 (407.5)
- [ ] Note any code exceptions or table notes that may have been utilized regarding the items above

ACCESSIBLE DWELLING UNITS
(SECTION 1107)

UNIT CLASSIFICATION	TOTAL UNITS (ON SITE)	ACCESSIBLE UNITS REQUIRED	ACCESSIBLE UNITS PROVIDED	TYPE A UNITS REQUIRED	TYPE A UNITS PROVIDED	TYPE B UNITS REQUIRED	TYPE B UNITS PROVIDED	TOTAL ACCESSIBLE UNITS PROVIDED
	----	----	----	----	----	----	----	----

* Numbers above note total accessible dwelling units required for entire project phase.

ACCESSIBLE PARKING
(SECTION 1106)

LOT OR PARKING AREA	TOTAL # OF PARKING SPACES		# OF ACCESSIBLE SPACES PROVIDED		TOTAL # ACCESSIBLE PROVIDED
	REQUIRED	PROVIDED	96" SPACES	132" SPACES	
SEE CIVIL DRAWINGS					
TOTAL					

PLUMBING FIXTURE REQUIREMENTS
(TABLE 2902.1)

USE		WATER CLOSETS			URINALS	LAVATORIES			SHOWERS/ TUBS	DRINKING FOUNTAINS	
		MALE	FEMALE	UNISEX		MALE	FEMALE	UNISEX		REGULAR	ACCESSIBLE
SPACE	EDIT'G	0	0	0	0	0	0	0	0	0	0
	NEW	1	2	0	1	1	2	0	1	1	1
	REQ'D	1	2	0	1	1	2	0	1	1	1

SPECIAL APPROVALS

Special approval: (Local Jurisdiction, Department of Insurance, OSC, DPI, DHHS, etc., describe below)
DHHS – Pool Submission

ENERGY SUMMARY

ENERGY REQUIREMENTS:
The following data shall be considered minimum, and any special attribute required to meet the energy code shall also be provided. Each Designer shall furnish the required portions of the project information for the plan data sheet. If performance method, state the annual energy cost for the standard reference design vs annual energy cost for the proposed design.

Existing building envelope complies with code: No

Exempt Building: No Provide code or statutory reference:

Climate Zone: 4A

Method of Compliance: Energy Code - Prescriptive
(If "Other" specify source here)

THERMAL ENVELOPE (Prescriptive method only)

Roof/ceiling Assembly (each assembly)
Description of assembly: Pre-engineered wood roof trusses w/ roof sheathing, roofing felt and asphalt shingles
U-Value of total assembly: 1/38 – 0.026
R-Value of insulation: 42 (AT CONDITIONED SPACES ONLY)
Skylights in each assembly: N/A
U-Value of skylight: N/A
total square footage of skylights in each assembly: N/A

Exterior Walls (each assembly)
Description of assembly: 2x6 stud wall u.n.o. w/ 5/8" gyp. bd, batt insulation, exterior sheathing and exterior cladding per elevations
U-Value of total assembly: 0.05
R-Value of insulation: 20
Openings (windows or doors with glazing)
U-Value of assembly: 0.32 max.
Solar heat gain coefficient: 0.25 max.
projection factor: ~0.25
Door R-Values: 3.0 min.

Walls below grade (each assembly)
Description of assembly: N/A
U-Value of total assembly: N/A
R-Value of insulation: N/A

Floors over unconditioned space (each assembly)
Description of assembly: _____
U-Value of total assembly: _____
R-Value of insulation: _____

Floors slab on grade
Description of assembly: 4" Concrete slab on vapor barrier w/ #57 stone over 95% compacted fill
U-Value of total assembly: 1/15 = 0.066
R-Value of insulation: 15 for 24" (AT CONDITIONED SPACES ONLY)
Horizontal/vertical requirement: applied downward to the bottom of the footing
slab heated: N/A

2018 APPENDIX B
BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS
STRUCTURAL DESIGN
(SEE STRUCTURAL DRAWINGS)

DESIGN LOADS:

Importance Factors: Snow (Is) Select one
Seismic (Ie) Select one

Live Loads: Roof _____ psf
Mezzanine _____ psf
Floor _____ psf

Ground Snow Load: _____ psf

Wind Load: Ultimate Wind Speed _____ mph (ASCE-7)
Exposure Category Select one

SEISMIC DESIGN CATEGORY: Select one
Provide the following Seismic Design Parameters:
Risk Category (Table 1604.5) Select one
Spectral Response Acceleration S_s _____ %g S_1 _____ %g
Site Classification (ASCE 7) Select one
Data Source: Select one
Basic structural system Select one
Analysis Procedure: Select one
Architectural, Mechanical, Components anchored? Select one

LATERAL DESIGN CONTROL: Select one

SOIL BEARING CAPACITIES:
Select one _____ psf
Pile size, type, and capacity _____

2018 APPENDIX B
BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS
MECHANICAL DESIGN
(SEE MECHANICAL DRAWINGS)

MECHANICAL SUMMARY

MECHANICAL SYSTEMS, SERVICE SYSTEMS AND EQUIPMENT

Thermal Zone
winter dry bulb: _____
summer dry bulb: _____

Interior design conditions
winter dry bulb: _____
summer dry bulb: _____
relative humidity: _____

Building heating load: _____

Building cooling load: _____

Mechanical Spacing Conditioning System
Unitary
description of unit: _____
heating efficiency: _____
cooling efficiency: _____
size category of unit: _____
Boiler
Size category. If oversized, state reason.: _____
Chiller
Size category. If oversized, state reason.: _____

List equipment efficiencies: _____

2018 APPENDIX B
BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS
ELECTRICAL DESIGN
(SEE ELECTRICAL DRAWINGS)

ELECTRICAL SUMMARY

ELECTRICAL SYSTEM AND EQUIPMENT

Method of Compliance: Select one

Lighting schedule (each fixture type)
lamp type required in fixture
number of lamps in fixture
ballast type used in the fixture
number of ballasts in fixture
total wattage per fixture
total interior wattage specified vs. allowed (whole building or space by space)
total exterior wattage specified vs. allowed

Additional Efficiency Package Options
(When using the 2018 NCECC; not required for ASHRAE 90.1)
- [ ] C406.2 More Efficient HVAC Equipment Performance
- [ ] C406.3 Reduced Lighting Power Density
- [ ] C406.4 Enhanced Digital Lighting Controls
- [ ] C406.5 On-Site Renewable Energy
- [ ] C406.6 Dedicated Outdoor Air System
- [ ] C406.7 Reduced Energy Use in Service Water Heating

SIGNAGE NOTES

1. PROVIDE ROOM SIGNS AT ALL PUBLIC ROOM DOORS.
2. SIGNS SHALL COMPLY WITH ANSI 703.
3. PROVIDE POSTED OCCUPANT LOAD SIGN IN EVERY ROOM OR SPACE THAT IS AN ASSEMBLY OCCUPANCY IN A CONSPICUOUS PLACE, NEAR THE MAIN EXIT OR EXIT ACCESS DOORWAY FROM THE ROOM OR SPACE PER IBC 1004.3. POSTED SIGNS SHALL BE OF AN APPROVED LEGIBLE PERMANENT DESIGN AND SHALL BE MAINTAINED BY THE OWNER OR AUTHORIZED AGENT.
4. PROVIDE "EXIT" SIGNS IN VISUAL CHARACTERS, RAISED CHARACTERS AND BRAILLE COMPLYING WITH ICC A117.1 ADJACENT TO EACH DOOR TO AN AREA OF REFUGE, AN EXTERIOR AREA FOR ASSISTED RESCUE, AN EXIT STAIRWAY OR RAMP, AN EXIT PASSAGEWAY AND THE EXIT DISCHARGE. SIGNS SHALL BE PLACED ON THE WALL, ON THE LATCH SIDE OF THE DOOR, 48-60 INCHES OFF THE FLOOR.
5. PROVIDE DIRECTIONAL SIGNS INDICATING THE ROUTE TO THE NEAREST LIKE ACCESSIBLE ELEMENT SHALL BE PROVIDED AT INACCESSIBLE BUILDING ENTRANCES.
5. PROVIDE 5/8" TALL RAISED CHARACTERS AND TYPE 2 BRAILLE ON ALL SIGNS.
6. MOUNT SIGNS AT 48" AFF TO BOTTOM OF SIGN. MOUNT SIGNS ON WALL, NOT ON DOORS. LOCATE SIGN ADJACENT TO THE LATCH SIDE OF DOOR. SEE LOCATION NOTES BELOW FOR ADDITIONAL INFORMATION.
7. SIGNS SHALL COMPLY WITH 1009.9, 1013.4, 1111 & E107 OF THE NCSBC AND 703 OF ICC A117.1

LOCATION NOTES

1. WHERE A SIGN CONTAINING RAISED CHARACTERS AND BRAILLE IS PROVIDED AT A DOOR, THE SIGN SHALL BE ALONGSIDE THE DOOR AT THE LATCH SIDE.
2. WHERE A SIGN CONTAINING RAISED CHARACTERS AND BRAILLE IS PROVIDED AT DOUBLE DOORS WITH ONE ACTIVE LEAF, THE SIGN SHALL BE LOCATED ON THE INACTIVE LEAF.
3. WHERE A SIGN CONTAINING RAISED CHARACTERS AND BRAILLE IS PROVIDED AT DOUBLE DOORS WITH TWO ACTIVE LEAVES, THE SIGN SHALL BE TO THE RIGHT OF THE RIGHT-HAND DOOR.
4. WHERE THERE IS NO WALL SPACE ON THE LATCH SIDE OF A SINGLE DOOR, OR TO THE RIGHT SIDE OF DOUBLE DOORS, SIGNS SHALL BE ON THE NEAREST ADJACENT WALL.
5. SIGNS CONTAINING RAISED CHARACTERS AND BRAILLE SHALL BE LOCATED SO THAT A CLEAR FLOOR AREA 18" MIN. BY 18" MIN. CENTERED ON THE RAISED CHARACTERS IS PROVIDED BEYOND THE ARC OF ANY DOOR SWING BETWEEN THE CLOSED POSITION AND 45 DEGREE OPEN POSITION.

WALL LEGEND

X

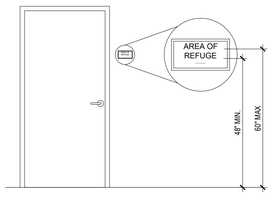
SEE SHEET G020 FOR ALL ASSOCIATED WALL TYPES.

MARK	UL WALL TYPE	DESCRIPTION
1	U305	SINGLE 1 HOUR RATED WALL
2	NOT USED	NOT USED
3	P522	1 HOUR RATED CEILING / ROOF SEPARATION

LIFE SAFETY PLAN LEGEND

- FE — SEMI-RECESSED FIRE EXTINGUISHER CABINET -TYPE 2A, 21/2" GALLONS, STORED PRESSURE *UL 1HR RATED CABINET AT RATED WALLS. SEE PLAN FOR LOCATIONS*
- EXIT ACCESS TRAVEL DISTANCE PER SECTION (1017.2), OF THE 2018 NCSBC
- 1-HOUR RATED WALL (SEE WALL LEGEND CHART FOR ASSEMBLY)

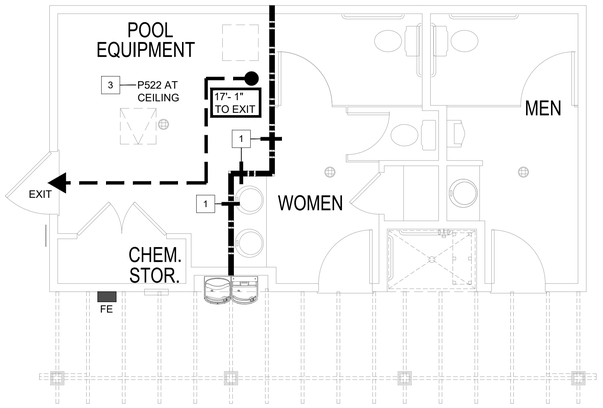
GENERAL NOTES



NOTICE
FOR YOUR SAFETY
OCCUPANCY
IS LIMITED TO:
XXX
PERSONS
BY ORDER OF
THE CODE OFFICIAL
Keep Posted Under Penalty of Law

EXAMPLE OF OCCUPANT LOAD LIMIT SIGN PER 2018 NCSBC 1004.3
(SEE SIGNAGE NOTES NOTE #3 ABOVE)

2 SIGN REQUIREMENT



1 POOL HOUSE - LIFE SAFETY PLAN
Scale: 1/4" = 1'-0"

Project name:	Caitlin Crossing										
Date:	1/9/2024										
Minimum Plumbing Fixture Calculations for Pools								Maximum Occupant Load Calculations for Egress			
HEALTH DEPARTMENT RULES FOR POOLS - 15A NCAC 18A .2500								**NORTH CAROLINA STATE BUILDING CODE**			
Pool Area	1,500							DECK AREA	3,300	Deck Occupants (Deck Area/15)	220
Pool Occ Load (Pool Area/15):	100							POOL AREA	1,500	Pool Occupants (Pool Area/50)	30
Male: (1 wc/lav: 1st 100)	50	Male WC:	1	Male Lav:	1	Male Urin.:	1			Pool House Occupants	0
Female: (2 wc/lav: 1st 100)	50	Female WC:	2	Female Lav:	2					Total Occupants	250
		D. Fount:	1 (1 min.)							Total Pool Gates Required	2
Shower:	1 (1 per 200 Pool Occ)							**POOL HOUSE OCCUPANT LOAD**			
FINAL NUMBER BASED ON WORST CASE OF THE TWO DESIGN CASES								**Space**	**Area (sqft.)**	**Load Factor**	**Occupant Load**
See Plumbing Fixture Requirements Chart on Appendix B Code Summary for Total Fixtures Required.								Gather	0	15 (net)	0

NC Pool Rules (MALE): One water closet, one lavatory, and one urinal shall be provided for the first 100 male users. One additional water closet, lavatory, and urinal shall be provided for each additional 200 male users up to a total of 500 users. Where user load exceeds 500 male users, two additional water closets or urinals and one lavatory shall be provided for each additional 250 male users. Where the maximum bather load includes less than 50 users, one water closet and one lavatory will be sufficient.

Note: Urinals may be substituted for water closets; however, substitution rule of section 419 of the NC plumbing code shall be used in which up to 67 percent of the requried water closets may be urinals in assembly occupancies

NC Pool Rules (FEMALE): Two water closets and two lavatories shall be provided for the first 100 female users. One additional water closet and lavatoryl shall be provided for each additional 100 female users up to a total of 500 users. Where user load exceeds 500 female users, two additional water closets and one lavatory shall be provided for each additional 250 female users. Where the maximum bather load includes less than 50 users, one water closet and one lavatory will be sufficient.

PLANWORX ARCHITECTURE
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website www.planworx.com

PLANWORX ARCHITECTURE, P.A. REGISTERED ARCHITECTURAL CORPORATION CERT. NO. 50909 N.C. RALEIGH, NC

Caitlin Crossing Pool House
Triangle Land Partners
Lillington, NC
PERMIT REVIEW SET (02-16-24)

DANIEL R. SCHMIDT REGISTERED ARCHITECT 13142 NORTH CAROLINA RALEIGH, N.C.
2-16-2024

PROGRESS DATE:	-		
ISSUE DATE:	02-16-2024		
REVISIONS: NUMBER	DATE	INITIALS	DESCRIPTION

PROJECT NO: 005623
DRAWN BY: TH / BB
CHECKED BY: DS

SHEET TITLE:
Pool House Code Summary & Life Safety Plan

SHEET NUMBER:
G010

1. All drawings are to be coordinated with all site information by owner and contractor, and applicable codes.
2. Contractor is to notify architect immediately of conditions or items varying from depicted information.
3. Planworx Architecture, P.A. is not responsible for constructed variations from the information depicted.
4. Planworx Architecture, P.A. will not assume any liability for expenses associated with errors and omissions on these drawings unless offset by verified construction savings as a result of Planworx Architecture, P.A. Design.
5. Planworx Architecture, P.A. retains ownership of all of designs depicted and implied herein.
6. Planworx Architecture, P.A. is not responsible for estimating, maintaining, or regulating construction costs associated with these plans.

UL Product iQ®

UL Solutions

Design/System/Construction/Assembly Usage Disclaimer

- Authorities Having Jurisdiction should be consulted in all cases as to the particular requirements covering the installation and use of UL Certified products, equipment, system, devices, and materials.
- Authorities Having Jurisdiction should be consulted before construction.
- Fire resistance assemblies and products are developed by the design submitter and have been investigated by UL for compliance with applicable requirements. The published information cannot always address every construction nuance encountered in the field.
- When field issues arise, it is recommended the first contact for assistance be the technical service staff provided by the product manufacturer noted for the design. Users of fire resistance assemblies are advised to consult the general Guide Information for each product category and each group of assemblies. The Guide Information includes specifics concerning alternate materials and alternate methods of construction.
- Only products which bear UL's Mark are considered Certified.

BXUV - Fire Resistance Ratings - ANSI/UL 263 Certified for United States

BXUV7 - Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada

See General Information for Fire-resistance Ratings - ANSI/UL 263 Certified for United States
Design Criteria and Allowable Variances

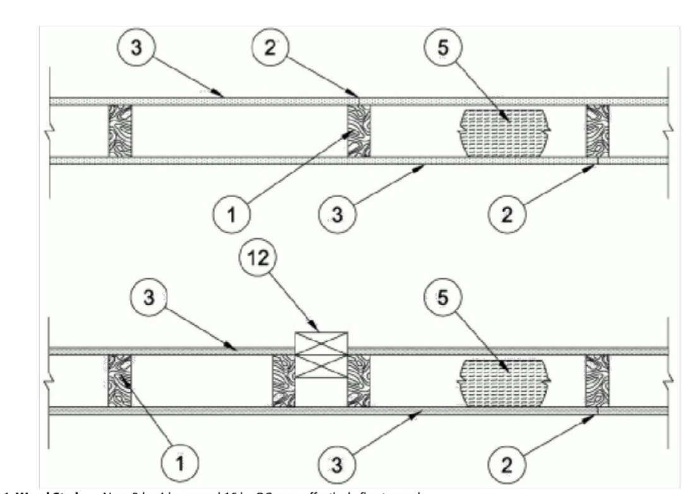
See General Information for Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada
Design Criteria and Allowable Variances

Design No. **U305**

January 30, 2024

Bearing Wall Rating — 1 Hr
Finish Rating — See Items 3, 3A, 3D, 3E, 3F, 3G, 3H, 3J and 3L.
STC Rating - 56 (See Item 9)
This design was evaluated using a load design method other than the Limit States Design Method (e.g., Working Stress Design Method). For jurisdictions employing the Limit States Design Method, such as Canada, a load restriction factor shall be used — See Guide BXUV or BXUV7

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**



1. **Wood Studs —** Nom 2 by 4 in. spaced 16 in. OC max, effectively firestopped.

2. **Joints and Nail-Heads —** Joints covered with joint compound and paper tape. Joint compound and paper tape may be omitted when square edge boards are used. As an alternate, nom 3/32 in. thick gypsum veneer plaster may be applied to the entire surface of Classified veneer baseboard with the joints reinforced with paper tape. Nailheads exposed or covered with joint compound.

3. **Gypsum Board* —** 5/8 in. thick paper or vinyl surfaced, with beveled, square, or tapered edges, applied either horizontally or vertically. Gypsum panels nailed 7 in. OC with 6d cement coated nails 1-7/8 in. long, 0.0915 in. shank diam and 15/64 in. diam heads. When used in widths other than 48 in., gypsum panels are to be installed horizontally. For an alternate method of attachment of gypsum panels, refer to Items 6 through 6F, **Steel Framing Members***.
When Items 6, 6B, 6C, 6D, 6E, or 6F, **Steel Framing Members***, are used, gypsum panels attached to furring channels with 1 in. long Type S bugle-head steel screws spaced 12 in. OC.

When Item 6A, **Steel Framing Members***, is used, two layers of gypsum panels attached to furring channels. Base layer attached to furring channels with 1 in. long Type S bugle-head steel screws spaced 12 in. OC. Face layer attached to furring channels with 1-5/8 in. long Type S bugle-head steel screws spaced 12 in. OC. All joints in face layers staggered with joints in base layers. One layer of gypsum board attached to opposite side of wood stud without furring channels as described in Item 3.

When Item 7, resilient channels are used, 5/8 in. thick, 4 ft wide gypsum panels applied vertically. Screw attached furring channels with 1 in. long, self-drilling, self-tapping Type S or S-12 steel screws spaced 8 in. OC, vertical joints located midway between studs.

AMERICAN GYPSUM CO — Types AGX-1(finish rating 23 min.), M-Glass (finish rating 23 min.), Type AGX-11 (finish rating 26 min), Type AGX-12 (finish rating 22 min), Type LightRoc (finish rating 23 min.) or Type AG-C

BEIJING NEW BUILDING MATERIALS PUBLIC LTD CO — Type DBX-1 (finish rating 24 min)

CABOT MANUFACTURING ULC — Type X (finish rating 22 min), 5/8 Type X, Moisture Resistant Type X, Gypsum Sheathing Type X, Mold & Mildew Resistant Type X and Mold & Mildew Resistant AR Type X, Type Blueglass Exterior Sheathing

CERTAINTEED GYPSUM INC — Type C, Type X-1 (finish rating 26 min); Type EGRG or GlasRoc (finish rating 23 min), GlasRoc-2, Type Habito (finish rating 26 min), Type LWTX (finish rating 18 min), Type LGFC6A (finish rating 34 min), Type LGFC2A, Type LGFC-C/A, Type LGFC-WD, Type LGLLX (finish rating 21 min), Type CLLX (finish rating 24 min)

CGC INC — Type AR (finish rating 24 min), Type C (finish rating 24 min), Type IP-AR (finish rating 24 min), Type IPC-AR (finish rating 24 min), Type IP-X1 (finish rating 24 min), Type IP-X2 (finish rating 24 min), Type SCX (finish rating 24 min), Type SHX (finish rating 24 min), Type ULX (finish rating 22 min), Type WRC (finish rating 24 min), Type WRX (finish rating 24 min), Type ULIX (finish rating 20 min)

GEORGIA-PACIFIC GYPSUM L L C — Type 5 (finish rating 26 min), Type 6 (finish rating 23 min), Type 9 (finish rating 26 min), Type C (finish rating 26 min), Type DGG (finish rating 20 min), Type GPFS1 (finish rating 20 min), Type GPFS2 (finish rating 20 min), Type GPFS6 (finish rating 26 min), Type DS, Type DAP, Type DD (finish rating 20 min), Type DA, Type DAPC, Type LS (finish rating 23 min), Type X, Veneer Plaster Base - Type X, Water Rated - Type X, Sheathing - Type X, Soffit - Type X, Type LWX (finish rating 22 min), Veneer Plaster Base-Type LWX (finish rating 22 min), Water Rated-Type LWX (finish rating 22 min), Sheathing Type-LWX (finish rating 22 min), Soffit-Type LWX (finish rating 22 min), Type DGLW (finish rating 22 min), Water Rated-Type DGLW (finish rating 22 min), Sheathing Type- DGLW (finish rating 22 min), Soffit-Type DGLW (finish rating 22 min), Type LWX (finish rating 22 min), Type LW2X (finish rating 22 min), Veneer Plaster Base - Type LW2X (finish rating 22 min), Water Rated - Type LW2X (finish rating 22 min), Sheathing - Type LW2X (finish rating 22 min), Soffit - Type LW2X (finish rating 22 min), Type DGL2W (finish rating 22 min), Water Rated - Type DGL2W (finish rating 22 min), Sheathing - Type DGL2W (finish rating 22 min)

NATIONAL GYPSUM CO — Type FSK (finish rating 20 min), Type FSK-G (finish rating 20 min), Type FSW (finish rating 20 min), Type FSW-2 (finish rating 24 min), Type FSW-3 (finish rating 20 min), Type FSW-5 (finish rating 22 min), Type FSW-G (finish rating 20 min), Type FSK-C (finish rating 20 min), Type FSW-C (finish rating 20 min), Type FSMR-C, Type FSW-6 (finish rating 20 min), Type FSL (finish rating 24 min), Type FSW-8, Type FSLX (finish rating 21 min), Type RSX (finish rating 26 min).

NATIONAL GYPSUM CO — Riyadh, Saudi Arabia — Type FR, or WR.

PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Types C, PG-2 (finish rating 20 min), PG-3 (finish rating 20 min), Types PG-3W, PG-SW (finish rating 20 min), Type PG-4 (finish rating 20 min), Type PG-6 (finish rating 23 min), Types PG-3WS, PG-5WS, PGS-WRS (finish rating 20 min), Types PG-5, PG-9 (finish rating 26 min), PG-11 PG-13 (Nails increased to 2 in.), Type PG-C or PGI (finish rating 26 min)

PANEL REY S A — Type ARX, GREX, GRIX, PRX, PRC, PRC2; Types RHX, Guard Rey, MDX, ETX (finish rating 22 min), PRX2 (finish rating 21 min)

SIAM GYPSUM INDUSTRY (SARABURI) CO LTD — Type EX-1 (finish rating 26 min)

THAI GYPSUM PRODUCTS PCL — Type C, Type X (finish rating 26 min)

UNITED STATES GYPSUM CO — Type AR (finish rating 24 min), Type C (finish rating 24 min), Type FRX-G (finish rating 29 min), Type IP-AR (finish rating 24 min), Type IPC-AR (finish rating 24 min), Type IP-X1 (finish rating 24 min), Type IP-X2 (finish rating 24 min), Type SHX (finish rating 24 min), Type SGX (finish rating 24 min), Type ULX (finish rating 22 min), Type WRX (finish rating 24 min), Type WRC (finish rating 24 min), Type ULIX (finish rating 20 min)

USG BORAL DRYWALL SFZ LLC — Type SGX (finish rating 24 min).

USG MEXICO S A DE C V — Type AR (finish rating 24 min), Type C (finish rating 24 min), Type WRX (finish rating 24 min), Type WRC (finish rating 24 min), Type IP-X1 (finish rating 24 min), Type IP-X2 (finish rating 24 min), Type SHX (finish rating 24 min), SCX (finish rating 24 min), Type IP-AR (finish rating 24 min), Type IPC-AR (finish rating 24 min), Type ULX (finish rating 22 min)

3A. **Gypsum Board* —** (As an alternate to Item 3) — 5/8 in. thick gypsum panels, with beveled, square, or tapered edges, applied either horizontally or vertically. Gypsum panels fastened to framing with 1-1/4 in. long Type W coarse thread gypsum panel steel screws spaced a max 8 in. OC, with last screw 1 in. from edge of board. When used in widths of other than 48 in., gypsum boards are to be installed horizontally.

AMERICAN GYPSUM CO — Types AGX-1 (finish rating 25 min.), M-Glass (finish rating 25 min.), AG-C (finish rating 25 min.), LighttRoc (finish rating 25 min.)

CERTAINTEED GYPSUM INC — Type C, Type X-1 (finish rating 26 min), Type EGRG or GlasRoc, LWTX.

CGC INC — Type AR (finish rating 24 min), Type C (finish rating 24 min), Type IP-AR (finish rating 24 min), Type IPC-AR (finish rating 24 min), Type IP-X1 (finish rating 24 min), Type IP-X2 (finish rating 24 min), Type SCX (finish rating 24 min), Type SHX (finish rating 24 min), Type WRC (finish rating 24 min), Type WRX (finish rating 24 min)

NATIONAL GYPSUM CO — Type FSW (finish rating 24 min)

UNITED STATES GYPSUM CO — Type AR (finish rating 24 min), Type SGX (finish rating 24 min), Type C (finish rating 24 min), Type WRX (finish rating 24 min), Type WRC (finish rating 24 min), Type IP-X1 (finish rating 24 min), Type IP-X2 (finish rating 24 min), Type SHX (finish rating 24 min), Type FRX-G (finish rating 24 min), Type IP-AR (finish rating 24 min), Type IPC-AR (finish rating 24 min)

USG BORAL DRYWALL SFZ LLC — Types C, SCX, SGX (finish rating 24 min).

USG MEXICO S A DE C V — Type AR (finish rating 24 min), Type C (finish rating 24 min), Type WRX (finish rating 24 min), Type WRC (finish rating 24 min), Type IP-X1 (finish rating 24 min), Type IP-X2 (finish rating 24 min), Type SHX (finish rating 24 min), Type SCX, Type IP-AR (finish rating 24 min), Type IPC-AR (finish rating 24 min)

3B. **Gypsum Board* —** (As an alternate to Item 3) — Nom 3/4 in. thick, installed with 1-7/8 in. long cement coated nails as described in Item 3 or 1-3/8 in. long Type W coarse thread gypsum panel steel screws as described in Item 3A.
CGC INC — Types AR, IP-AR

UNITED STATES GYPSUM CO — Types AR, IP-AR

USG MEXICO S A DE C V — Types AR, IP-AR

3C. **Gypsum Board* —** (As an alternate to Items 3, 3A and 3B) — 5/8 in. thick, 2 ft wide, tongue and groove edge, applied horizontally to one side of the assembly. Installed with 1-7/8 in. long cement coated nails as described in Item 3 or 1-1/4 in. long Type W coarse thread gypsum panel steel screws as described in Item 3A. Joint covering (Item 2) not required.
CGC INC — Type SHX

UNITED STATES GYPSUM CO — Type SHX

USG MEXICO S A DE C V — Type SHX

3D. **Gypsum Board* —** (As an alternate to Items 3, 3A, 3B, or 3C — Not Shown) — For Direct Application to Studs Only- Nom 5/8 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over studs and staggered min 1 stud cavity on opposite sides of studs. Wallboard secured to studs with 1-5/8 in. long Type W coarse thread gypsum panel steel screws spaced 8 in. OC at perimeter and in the field. Lead batten strips required behind vertical joints of lead backed gypsum wallboard and optional at remaining stud locations. Lead batten strips, min 1-1/2 in. wide, max 10 ft long with a max thickness of 0.125 in. placed on the face of studs and attached to the stud with two 1 in. long Type S-12 pan head steel screws, one at the top of the strip and one at the bottom of the strip. Lead discs or tabs may be used in lieu of or in addition to the lead batten strips or optional at other locations. Max 3/4 in. diam by max 0.125 in. thick lead discs compression fitted or adhered over steel screw heads or max 1/2 in. by 1-1/4 in. by max 0.125 in. thick lead tabs placed on gypsum boards underneath screw locations prior to the installation of the screws. Lead batten strips to have a purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C".
RAY-BAR ENGINEERING CORP — Type RB-LBG (finish rating 24 min)

3E. **Gypsum Board* —** (As an alternate to Items 3, 3A, 3B, 3C, and 3D) — 5/8 in. thick gypsum panels, with square edges, applied either horizontally or vertically. Gypsum panels fastened to framing with 1-1/4 in. long Type W coarse thread gypsum panel steel screws spaced a max 8 in. OC, with last 2 screws 1 and 4 in. from edge of board or nailed 7 in. OC with 6d cement coated nails 1-7/8 in. long, 0.0915 in. shank diam and 15/64 in. diam heads. When used in widths of other than 48 in., gypsum boards are to be installed horizontally.
GEORGIA-PACIFIC GYPSUM L L C — Type DGG (finish rating 20 min), GreenGlass Type X (finish rating 23 min)

3F. **Gypsum Board* —** (As an alternate to Items 3, 3A, 3B, 3C, 3D, and 3E) — 5/8 in. glass-mat faced with square edges, applied either horizontally or vertically. Gypsum panels nailed 7 in. OC around the perimeter and in the field with 6d cement coated nails 1-7/8 in. long, 0.0915 in. shank diam and 15/64 in. diam heads. Nails shall be placed 1 inch and 3 inch from horizontal joints and 7 inch OC thereafter.
CGC INC — Type USGX (finish rating 22 min)

UNITED STATES GYPSUM CO — Type USGX (finish rating 22 min.)

USG BORAL DRYWALL SFZ LLC — , Type USGX (finish rating 22 min.)

USG MEXICO S A DE C V — Type USGX (finish rating 22 min.)

3G. **Gypsum Board* —** (As an alternate to Items 3 through 3F) — 5/8 in. thick paper surfaced applied vertically. Gypsum panels nailed 7 in. OC with 6d cement coated nails 1-7/8 in. long, 0.0915 in. shank diam and 15/64 in. diam heads.
GEORGIA-PACIFIC GYPSUM L L C — Type X ComfortGuard Sound Deadening Gypsum Board (finish rating 27 min)

3H. **Gypsum Board* —** (As an alternate to Items 3) — Not to be used with items 6 or 7. 5/8 in. thick paper surfaced applied vertically only. Gypsum panels nailed 7 in. OC with 6d cement coated nails 1-7/8 in. long, 0.0915 in. shank diam and 15/64 in. diam heads.
NATIONAL GYPSUM CO — Type SBWB

3I. **Gypsum Board* —** (As an alternate to Items 3 through 3H, Not Shown) — Nominal 5/8 in. thick, 4 ft wide panels, applied vertically. Panels nailed 7 in. OC with 6d cement coated nails 1-7/8 in. long, 0.0915 in. shank diam and 15/64 in. diam heads. Panel joints covered with paper tape and two layers of joint compound. Nailheads covered with two layers of joint compound.
PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Type QuietRock ES (finish rating 20 min)

3J. **Gypsum Board* —** (As an alternate to Item 3) — 5/8 in. thick paper surfaced applied vertically or horizontally. Gypsum panels secured with 1-1/4 in. long Type W coarse thread gypsum panel steel screws spaced a maximum of 12 in. OC.
CERTAINTEED GYPSUM INC — Type SilentFX

3K. **Gypsum Board* —** (As an alternate to Item 3) — 5/8 in. thick gypsum panels, with beveled, square, or tapered edges, applied either horizontally or vertically. Gypsum panels fastened to framing with 1-1/4 in. long Type W coarse thread gypsum panel steel screws spaced a maximum 8 in. OC with the last screw 1 in. from the edge of the board. When used in widths other than 48 in., gypsum panels are to be installed horizontally.
NATIONAL GYPSUM CO — Type FSK (finish rating 20 min), Type FSK-G (finish rating 20 min), Type FSW (finish rating 20 min), Type FSW-2 (finish rating 24 min), Type FSW-3 (finish rating 20 min), Type FSW-5 (finish rating 22 min), Type FSW-G (finish rating 20 min), Type FSK-C (finish rating 20 min), Type FSW-C (finish rating 20 min), Type FSMR-C, Type FSW-6 (finish rating 20 min), Type FSL (finish rating 24 min).

3L. **Gypsum Board* —** (As an alternate to Item 3) — For Direct Application to Studs Only — Nom 5/8 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over studs and staggered min 1 stud cavity on opposite sides of studs. Wallboard secured to studs with 1-5/8 in. long Type W coarse thread gypsum panel steel screws spaced 8 in. OC at perimeter and in the field. Lead batten strips required behind vertical joints of lead backed gypsum wallboard and optional at remaining stud locations. Lead batten strips, min 2 in. wide, max 10 ft long with a max thickness of 0.140 in. placed on the face of studs and attached to the stud with two 1 in. long Type S-8 pan head steel screws, one at the top of the strip and one at the bottom of the strip. Lead discs, max 5/16 in. diam by max 0.140 in. thick. compression fitted or adhered over the screw heads. Lead batten strips to have a purity of 99.5% meeting the Federal specification QQ-L-201f, Grades "B, C or D".
MAYCO INDUSTRIES INC — "X-Ray Shielded Gypsum"

3M. **Gypsum Board* —** (As an alternate to Items 3) — For Direct Application to Studs Only — For use as the base layer or as the face layer. Nom 5/8 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over studs and staggered min 1 stud cavity on opposite sides of studs. Wallboard secured to studs with 1-5/8 in. long Type W coarse thread gypsum panel steel screws spaced 8 in. OC at perimeter and in the field when applied as the base layer. When applied as the face layer screw length to be increased to 2-1/2 in. Lead batten strips required behind vertical joints of lead backed gypsum wallboard and optional at remaining stud locations. Lead batten strips, min 2 in. wide, max 8 ft long with a max thickness of 0.14 in. placed on the face of studs and attached to the stud with construction adhesive and two 1 in. long Type S-12 pan head steel screws, one at the top of the strip and one at the bottom of the strip. Lead discs, nominal 3/8 in. diam by max 0.085 in. thick. Compression fitted or adhered over the screw heads. Lead batten strips and discs to have a purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C". Fasteners for face layer gypsum panels (Items 4, 4A or 4B) when installed over lead backed board to be min 2-1/2 in. Type S-12 bugle head steel screws spaced as described in Item 4.
RADIATION PROTECTION PRODUCTS INC — Type RPP - Lead Lined Drywall

3N. **Gypsum Board* —** (As an alternate to Item 3) — 5/8 in. thick, 4 ft. wide, applied horizontally or vertically with vertical joints centered over studs and staggered one stud cavity on opposite sides of studs. Secured as described in Item 3 or 3A.
CERTAINTEED GYPSUM INC — Easi-Lite Type X (finish rating 24 min), Easi-Lite Type X-2 (finish rating 24 min)

3O. **Wall and Partition Facings and Accessories* —** (As an alternate to Item 3, Not Shown) — Nominal 5/8 in. thick, 4 ft wide panels, applied vertically. Panels nailed 7 in. OC with 6d cement coated nails 1-7/8 in. long, 0.0915 in. shank diam and 15/64 in. diam heads. Panel joints covered with paper tape and two layers of joint compound. Nailheads covered with two layers of joint compound.
PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Type QuietRock 527 (finish rating 24 min).

3P. **Gypsum Board* —** (As an alternate to Item 3, Not Shown) — Two layers nom. 5/16 in. thick gypsum panels applied vertically or horizontally. Horizontal edge joints and horizontal butt joints on opposite sides of studs need not be staggered or backed by wood studs. Horizontal joints on the same side between face and base layers need not be staggered. Base layer gypsum panels fastened to studs with 1-1/4 in. long drywall nails spaced 8 in. OC. Face layer gypsum panels fastened to studs with 1-7/8 in. long drywall nails spaced 8 in. OC starting with a 4" stagger.
NATIONAL GYPSUM CO — Type FSW (finish rating 25 min)

3Q. **Gypsum Board* —** (As an alternate to Item 3) — 5/8 in. thick gypsum panels, with beveled, square, or tapered edges, applied either horizontally or vertically. Gypsum panels fastened to framing with 1-1/4 in. long Type W coarse thread gypsum panel steel screws spaced a maximum 10 in. OC with the last two screws 4 and 1 in. from the edges of the board. When used in widths other than 48 in., gypsum panels are to be installed horizontally.
CERTAINTEED GYPSUM INC — Type LGFC6A (finish rating 21 min), Type LGFC2A, Type LGFC-C/A, Type LGFC-WD, Type LGLLX

3R. **Gypsum Board* —** (As an alternate to Item 3. For use with Item 5H) — Any 5/8 in. thick, 4 ft. wide, Gypsum Board listed in Item 3 above. Applied either horizontally or vertically, and screwed to panels with 1-5/8 in. long Type W coarse thread gypsum steel screws at 8 in. OC at perimeter and in the field with the last two screws 4 and 3/4 in. from the edges of the board when applied as the base layer. When used in widths other than 48 in., gypsum panels are to be installed horizontally.

3S. **Gypsum Board* —** 3/4 in. thick paper or vinyl surfaced, with beveled, square, or tapered edges, applied either horizontally or vertically. Gypsum panels secured as described in Item 3 with nail length increased to 2 in.
PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Type PG-13

3T. **Wall and Partition Facings and Accessories* —** (As an alternate to 5/8 in. thick board as outlined in Item 3) — Nominal 1-3/8 in. thick, 4 ft wide panels, applied vertically or horizontally. Fastened with #6 x 2 in. long drywall screws spaced 8 in. OC along the perimeter and 12 in. OC in the field.
PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Type QuietRock 545

3U. **Gypsum Board* —** (As an alternate to Item 3 - For use with Foamed Plastic products, Item 5J) — 5/8 in. thick, 4 ft. wide, applied vertically with vertical joints centered over studs and staggered one stud cavity on opposite sides of studs. Gypsum panels nailed 7 in. OC with 6d cement coated nails 1-7/8 in. long, 0.0915 in. shank diam and 15/64 in. diam heads.
AMERICAN GYPSUM CO — Types AGX-1

BEIJING NEW BUILDING MATERIALS PUBLIC LTD CO — Type DBX-1

CABOT MANUFACTURING ULC — Type X

CERTAINTEED GYPSUM INC — Type X

CGC INC — Type SCX

PANEL REY S A — Type ARX, PRX

SIAM GYPSUM INDUSTRY (SARABURI) CO LTD — Type EX-1

THAI GYPSUM PRODUCTS PCL — Type X

UNITED STATES GYPSUM CO — Types SCX and SGX

USG BORAL DRYWALL SFZ LLC — Types SCX and SGX

USG MEXICO S A DE C V — Type SCX

3V. **Gypsum Board* —** (As an alternate to Item 3. For use with Item 5K) — Any 5/8 in. thick, 4 ft. wide, Gypsum Board listed in Item 3 above. Applied vertically with vertical joints centered over studs and staggered one stud cavity on opposite sides of studs. Gypsum panels secured to studs with 1-5/8 in. long Type W coarse thread gypsum panel steel screws spaced 8 in. OC at perimeter and in the field.

3W. **Gypsum Board* —** (As an alternate to Item 3. For use with Item 5L) — Any 5/8 in. thick, 4 ft. wide, Gypsum Board listed in Item 3 above. Applied vertically with vertical joints centered over studs and staggered one stud cavity on opposite sides of studs. Gypsum panels secured to studs with 1-1/4 in. long Type W screws spaced 8 in. OC at perimeter and in the field.

4. **Steel Corner Fasteners —** (Optional) — For use at wall corners. Channel shaped, 2 in. long by 1 in. high on the back side with two 1/8 in. wide cleats protruding into the 5/8 in. wide channel, fabricated from 24 gauge galv steel. Fasteners applied only to the end or cut edge (not along tapered edges) of the gypsum board, no greater than 2 in. from corner of gypsum board, max spacing 16 in. OC. Nailed to adjacent stud through tab using one No. 6d cement coated nail per fastener. Corners of wall board shall be nailed to top and bottom plate using No. 6d cement coated nails.

5. **Batts and Blankets* —** (Optional — Required when Item 6A is used (RC-1)) — Glass fiber or mineral wool insulation. Placed to completely or partially fill the stud cavities. When Item 6A is used, glass fiber or mineral wool insulation shall be friction-fitted to completely fill the stud cavities.
CERTAINTEED CORP

JOHNS MANVILLE

KNAUF INSULATION LLC

MANSON INSULATION INC

ROCKWOOL — Types Acoustical Fire Batts and Type AFB, min. density 1.69 pcf / 27.0 kg/m^3

ROCKWOOL MALAYSIA SDN BHD — Type Acoustical Fire Batts

ROCK WOOL MANUFACTURING CO — Delta Board

THERMAFIBER INC — Type SAFB, SAFB FF

5A. **Fiber, Sprayed* —** (Not Shown — Not for use with Item 6) — As an alternate to Batts and Blankets (Item 5) — Spray applied cellulose material. The fiber is applied with water to completely fill the enclosed cavity in accordance with the application instructions supplied with the product with a nominal dry density of 2.7 lb/ft^3. Alternate Application Method: The fiber is applied without water or adhesive at a nominal dry density of 3.5 lb/ft^3, in accordance with the application instructions supplied with the product. When Item 6B is used, Fiber, Sprayed shall be INS735, INS745, INS750LD, INS765LD, INS773LD or SANCTUARY.

Applegate Greenfiber Acquisition LLC — Insulmax and SANCTUARY for use with wet or dry application. INS515LD and INS541LD are to be used for dry application only

5B. **Fiber, Sprayed* —** (Not Shown - Not for use with Item 6) — As an alternate to Batts and Blankets (Item 5) - Spray applied cellulose insulation material. The fiber is applied with water to interior surfaces in accordance with the application instructions supplied with the product. Applied to completely fill the enclosed cavity. Minimum dry density of 4.3 pounds per cubic ft.
NU-WOOL CO INC — Cellulose Insulation

5C. **Batts and Blankets* —** Required for use with resilient channels, Item 7, 3 in. thick mineral wool batts, friction-fitted to fill interior of wall.
THERMAFIBER INC — Type SAFB, SAFB FF

5D. **Glass Fiber Insulation —** (As an alternate to Item 5C) — 3 in. thick glass fiber batts bearing the UL Classification Marking as to Surface Burning and/or Fire Resistance, friction-fitted to fill the interior of the wall. See **Batts and Blankets** (BKNV or BZJZ) Categories for names of Classified companies.

5E. **Batts and Blankets* —** (Required for use with Wall and Partition Facings and Accessories, Item 3D) — Glass fiber insulation, nom 3-1/2 in. thick, min. density of 0.80 pcf, with a flame spread of 25 or less and a smoke developed of 50 or less, friction-fitted to completely fill the stud cavities. See Batts and Blankets Category (BKNV) for names of manufacturers.

5F. **Fiber, Sprayed* —** (Optional, Not Shown — Not for use with Items 6, 6A, 6B, 6C, or 6D) — As an alternate to Batts and Blankets (Item 5) and Item 5A - Spray applied granulated mineral fiber material. The fiber is applied with adhesive, at a minimum density of 4.0 pcf, to completely fill the enclosed cavity in accordance with the application instructions supplied with the product. See **Fiber, Sprayed** (CCAZ).
AMERICAN ROCKWOOL MANUFACTURING, LLC — Type Rockwool Premium Plus

5G. **Fiber, Sprayed* —** (Optional, Not Shown — Not for use with Items 6, 6A, 6B, 6C, or 6D). — As an alternate to Batts and Blankets (Item 5) and Item 5A - Brown Colored Spray applied cellulose fiber. The fiber is applied with water to completely fill the enclosed stud cavity in accordance with the application instructions supplied with the product. The minimum dry density shall be 4.30 lbs/ft^3.
INTERNATIONAL CELLULOSE CORP — Celbar-RL

5H. **Foamed Plastic* —** (Optional -For use with Item 3R) — Spray applied, foamed plastic insulation, at any thickness from partial fill to completely filling stud cavity.
SES FOAM INC — Nexseal™ 2.0 or Nexseal™ 2.0 LE Spray Foam and Sucraseal Spray Foam.

5I. Deleted.

5J. **Foamed Plastic* —** (Optional, Not Shown - For use with Item 3U) — Spray applied, foamed plastic insulation, at any thickness from partial fill to completely filling stud cavity.
HOLCIM SOLUTIONS AND PRODUCTS US, LLC — Types GacoEZSpray F4500, GacoProFill FR6500R, Gaco 052N, GacoOnePass F1850, GacoOnePass Low GWP F1880, and Gaco WallFoam 183M

5K. **Foamed Plastic* —** (Optional, Not Shown - For use with Item 3V) — Spray applied, foamed plastic insulation, at any thickness from partial fill to completely filling stud cavity.
CARLISLE SPRAY FOAM INSULATION — Types SealTite ONE, SealTite Pro Closed Cell (CC), SealTite Pro Open Cell (OC), SealTite Pro OCX, SealTite Pro No Trim 21, SealTite Pro One Zero, Foamsulate Closed Cell, Foamsulate OCX, Foamsulate 70, and Foamsulate HFO.

5L. **Foamed Plastic*** - (Optional, Not Shown – For use with Item 3W) - Spray applied, foamed plastic insulation, at any thickness from partial fill to completely filling stud cavity.
BASF CORP – Types Enertite® NM, Enertite® G, FE178®, Spraytite® 178, Spraytite® 81206, Walltite® 200, Walltite® US, Walltite® US-N, Walltite® HP+, Spraytite® Comfort XL, and Walltite® XL.

6. **Steel Framing Members* —** (Optional, Not Shown) — Furring channels and Steel Framing Members as described below:

a. **Furring Channels —** Formed of No. 25 MSG galv steel. 2-9/16 in. or 2-23/32 in. wide by 7/8 in. deep, spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Ends of adjoining channels are overlapped 6 in. and tied together with double strand of No. 18 SWG galv steel wire near each end of overlap. As an alternate, ends of adjoining channels may be overlapped 6 in. and secured together with two self-tapping #6 framing screws, min. 7/16 in. long at the midpoint of the overlap, with one screw on each flange of the channel. Gypsum board attached to furring channels as described in Item 3.

b. **Steel Framing Members* —** Used to attach furring channels (Item 6a) to studs. Clips spaced 48 in. OC. RSIC-1 and RSIC-1 (2.75) clips secured to studs with No. 8 x 2-1/2 in. coarse drywall screw through the center grommet. RSIC-V and RSIC-V (2.75) clips secured to studs with No. 8 x 1-1/2 in. coarse drywall screw through the center hole. Furring channels are friction fitted into clips. RSIC-1 and RSIC-V clips for use with 2-9/16 in. wide furring channels. RSIC-1 (2.75) and RSIC-V (2.75) clips for use with 2-23/32 in. wide furring channels.
PAC INTERNATIONAL L L C — Types RSIC-1, RSIC-V, RSIC-1 (2.75), RSIC-V (2.75)

6A. **Steel Framing Members* —** (Optional, Not Shown) — Furring channels and Steel Framing Members on one side of studs as described below:
a. **Furring Channels —** Formed of No. 25 MSG galv steel, spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Ends of adjoining channels are overlapped 6 in. and tied together with double strand of No. 18 SWG galv steel wire near each end of overlap. Batts and Blankets placed in stud cavity as described in Item 5. Two layers of gypsum board attached to furring channels as described in Item 3.

b. **Steel Framing Members* —** Used to attach furring channels (Item 6Aa) to one side of studs only. Clips spaced 48 in. OC., and secured to studs with two No. 8 x 2-1/2 in. coarse drywall screws, one through the hole at each end of the clip. Furring channels are friction fitted into clips.
KINETICS NOISE CONTROL INC — Type Isomax

6B. **Steel Framing Members* —** (Optional, Not Shown) — Furring channels and Steel Framing Members as described below:
a. **Furring Channels —** Formed of No. 25 MSG galv steel. 2-3/8 in. wide by 7/8 in. deep, spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Ends of adjoining channels are overlapped 6 in. and tied together with double strand of No. 18 SWG galv steel wire near each end of overlap. As an alternate, ends of adjoining channels may be overlapped 6 in. and secured together with two self-tapping #6 framing screws, min. 7/16 in. long at the midpoint of the overlap, with one screw on each flange of the channel. Gypsum board attached to furring channels as described in Item 3.

b. **Steel Framing Members* —** Used to attach furring channels (Item 6Ba) to studs. Clips spaced 48 in. OC. Genie clips secured to studs with No. 8 x 1-1/2 in. coarse drywall screw through the center hole. Furring channels are friction fitted into clips.
PLITEQ INC — Type Genie Clip

6C. **Steel Framing Members* —** (Optional, Not Shown) — Furring channels and Steel Framing Members as described below:
a. **Furring Channels —** Formed of No. 25 MSG galv steel. Spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Ends of adjoining channels overlapped 6 in. and tied together with double strand of No. 18 AWG galvanized steel wire. Gypsum board attached to furring channels as described in Item 3.

b. **Steel Framing Members* —** Used to attach furring channels (Item 6Ca) to studs. Clips spaced 48 in. OC., and secured to studs with No. 2 in. coarse drywall screw with 1 in. diam washer through the center hole. Furring channels are friction fitted into clips.
STUDCO BUILDING SYSTEMS — RESILMOUNT Sound Isolation Clips - Type A237 or A237R

6D. **Steel Framing Members* —** (Optional, Not Shown) — Furring channels and Steel Framing Members as described below:
a. **Furring Channels —** Formed of No. 25 MSG galv steel, spaced 24 in. OC, and perpendicular to studs. Channels secured to studs as described in Item b. Ends of adjoining channels overlapped 6 in. and secured in place with a double strand of No. 18 AWG twisted steel wire. Gypsum board attached to furring channels as described in Item 3.

b. **Steel Framing Members* —** Used to attach furring channels (Item 6Da) to studs. Clips spaced 48 in. OC., and secured to studs with No. 8 x 2-1/2 in. coarse drywall screw through the center hole. Furring channels are friction fitted into clips.
REGUPOL AMERICA — Type SonusClip

6E. **Steel Framing Members* —** (Optional, Not Shown) — Resilient channels and Steel Framing Members as described below:

a. **Resilient Channels —** Formed of No. 25 MSG galv steel, spaced 24 in. OC, and perpendicular to studs. Channels secured to studs as described in Item b. Ends of adjoining channels overlapped 6 in. and secured in place with two No. 8 15 x 1/2 in. Philips Modified Truss screws spaced 2-1/2 in. from the center of the overlap. Gypsum board attached to resilient channels as described in Item 3.

b. **Steel Framing Members* —** Used to attach resilient channels (Item 6Ea) to studs. Clips spaced 48 in. OC., and secured to studs with No. 8 x 2-1/2 in. coarse drywall screw through the center hole. Resilient channels are secured to clips with one No. 10 x 1/2 in. pan-head self-drilling screw.
KEENE BUILDING PRODUCTS CO INC - Type RC+ Assurance Clip

6F. **Steel Framing Members* —** (Optional, Not Shown) — Furring channels and Steel Framing Members as described below:
a. **Furring Channels —** Formed of No. 25 MSG galv steel. 2-23/32 in. wide by 7/8 in. deep, spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Ends of adjoining channels are overlapped 6 in. and tied together with double strand of No. 18 SWG galv steel wire near each end of overlap. As an alternate, ends of adjoining channels may be overlapped 6 in. and secured together with two self-tapping #6 framing screws, min. 7/16 in. long at the midpoint of the overlap, with one screw on each flange of the channel. Gypsum board attached to furring channels as described in Item 3.

b. **Steel Framing Members* —** Used to attach furring channels (Item 6Fa) to studs. Clips spaced 48 in. OC. Clips secured to studs with No. 8 x 2-1/2 in. coarse drywall screw through the center grommet. Furring channels are friction fitted into clips.
CLARKDIETRICH BUILDING SYSTEMS — Type ClarkDietrich Sound Clip

6G. **Steel Framing Members* —** (Optional, Not Shown) — Used as an alternate method to attach resilient channels to wall studs. A resilient sound isolation accessory shall be used at each attachment point of the resilient channels and spaced max 16 in. O.C. Channel ends butted and centered under the structural members and attached with one accessory at each end. Additional accessories used to hold resilient channels that support the gypsum board end joints. The accessory envelops the mounting edge of the resilient channel. The accessory and resilient channel are fastened to the structural members with the screws supplied with the accessory and per the accessory manufacturer's installation instructions.
PAC INTERNATIONAL L L C — Type RC-1 Boost

7. **Furring Channel —** Optional — Not Shown — For use on one side of the wall - Resilient channels, 25 MSG galv steel, spaced vertically 24 in. OC, flange portion screw attached to one side of studs with 1-1/4 in. long diamond shaped point, double lead Phillips head steel screws. When resilient channels are used, insulation, Items 5C or 5D is required.

8. **Caulking and Sealants —** (Not Shown, Optional) — A bead of acoustical sealant applied around the partition perimeter for sound control.

9. **STC Rating —** The STC Rating of the wall assembly is 56 when it is constructed as described by Items 1 through 6, except:

A. Item 2, above — Nailheads Shall be covered with joint compound.

B. Item 2, above — Joints As described, shall be covered with fiber tape and joint compound.

C. Item 5, above — Batts and Blankets* The cavities formed by the studs shall be friction fit with R-19 unfaced fiberglass insulation batts measuring 6-1/4 in. thick and 15-1/4 in. wide.

D. Item 6, above — Steel Framing Members* Type RSIC-1 clips shall be used to attach gypsum board to studs on either side of the wall assembly.

E. Item 8, above — Caulking and Sealants (Not Shown) A bead of acoustical sealant shall be applied around the partition perimeter for sound control.

F. Steel Corner Fasteners (Item 4), Fiber, Sprayed (Items 5A and 5B) and Steel Framing Members (Item 6A), not evaluated as alternatives for obtaining STC rating.

10. **Wall and Partition Facings and Accessories* —** (Optional, Not Shown) — Nominal 1/2 in. thick, 4 ft wide panels, for optional use as an additional layer on one or both sides of the assembly. Panels attached in accordance with manufacturer's recommendations.

When the QR-500 or QR-510 panel is installed between the wood framing and the UL Classified gypsum board, the required UL Classified gypsum board layer(s) is/are to be installed as indicated as to fastener type and spacing, except that the required fastener length shall be increased by a minimum of 1/2 in. Not evaluated or intended as a substitute for the required layer(s) of UL Classified Gypsum Board.
PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Type QuietRock QR-500 and QR-510

11. **Cementitious Backer Units* —** (Optional Item Not Shown — For Use On Face Of 1 Hr Systems With All Standard Items Required) - 7/16 in., 1/2 in., 5/8 in., 3/4 in. or 1 in. thick, min. 32 in. wide. Applied vertically or horizontally with vertical joints centered over studs. Fastened to studs and runners with cement board screws of adequate length to penetrate stud by a minimum of 3/8 in. for steel framing members, and a minimum of 3/4 in. for wood framing members spaced a max of 8 in. OC. When 4 ft. wide boards are used, horizontal joints need not be backed by framing.
NATIONAL GYPSUM CO — Type DuraBacker, PermaBase, DuraBacker Plus, or PermaBase Plus

12. **Non-Bearing Wall Partition Intersection —** (Optional) —Two nominal 2 by 4 in. studs or nominal 2 by 6 in. studs nailed together with two 3 in. long 10d nails spaced a max. 16 in. OC. vertically and fastened to one side of the minimum 2 by 4 in. stud with 3 in. long 10d nails spaced a max. 16 in. OC. vertically. Intersection between partition wood studs to be flush with the 2 by 4 in. studs. The wall partition wood studs are to be framed by with a second 2 by 4 in. wood stud fastened with 3 in. long 10d nails spaced a max. 16 in. OC. vertically. Maximum one non-bearing wall partition intersection per stud cavity. Non-bearing wall partition stud depth shall be at a minimum equal to the depth of the bearing wall.

13. **Mesh Netting —** (Not Shown) — Any thin, woven or non-woven fibrous netting material attached with staples to the outer face of one row of studs to facilitate the installation of the sprayed fiber from the opposite row.

14. **Mineral and Fiber Board* —** (Optional, Not Shown) — For optional use as an additional layer on one side of wall. Nom 1/2 in. thick, 4 ft wide with long dimension parallel and centered over studs. Attached to framing with 2 in. long Type W steel screws, spaced 12 in. OC. The required UL Classified gypsum board layer(s) is/are to be installed as indicated as to fastener type and spacing, except that the required fastener length shall be increased by a minimum of 1/2 in. Not evaluated or intended as a substitute for the required layer(s) of UL Classified Gypsum Board.
HOMASOTE CO — Homasote Type 440-32

14A. **Mineral and Fiber Board* —** (Optional, Not Shown) — For use with Items 14B-14E) — For optional use as an additional layer on one side of wall. Nom 1/2 in. thick, 4 ft wide with long dimension parallel and centered over studs. Attached to framing with minimum 1-3/8 in. long ring shanked nails or 1-1/4 in. long Type W steel screws, spaced 12 in. OC along board edges and 24 in. OC in field of board along intermediate framing. Not evaluated or intended as a substitute for the required layer(s) of UL Classified Gypsum Board.
HOMASOTE CO — Homasote Type 440-32

14B. **Glass Fiber Insulation —** (For use with Item 14A) — 3-1/2 in. thick glass fiber batts bearing the UL Classification Marking as to Surface Burning and/or Fire Resistance, placed to fill the interior of the wall. See Batts and Blankets (BKNV or BZJZ) categories for names of Classified companies.

14C. **Batts and Blankets* —** (As an alternate to Item 14B, For use with Item 14A), 3 in. thick mineral wool batts, placed to fill interior of wall, attached to the 3-1/2 in. face of the studs with staples placed 24 in. OC.
THERMAFIBER INC — Type SAFB, SAFB FF

14D. **Adhesive —** (For use with Item 14A) — Construction grade adhesive applied in vertical, serpentine, nominal 3/8 in. wide beads down the length of both vertical edges of Mineral and Fiber Board (Item 14A).

14E. **Gypsum Board* —** (For use with Item 14A) — 5/8 in. thick, 4 ft wide, applied vertically over Mineral and Fiber Board (Item 14A) with vertical joints located anywhere over stud cavities. Secured to mineral and fiber boards with 1-1/2 in. Type G Screws spaced 8 in. OC along edges of each vertical joint and 12 in. OC in intermediate field of the Mineral and Fiber Board (Item 14A). Secured to outermost studs and bearing plates with 2 in. long Type S screws spaced 8 in. OC. Gypsum Board joints covered with paper tape and joint compound. Screw heads covered with joint compound. Finish Rating 30 Min.
AMERICAN GYPSUM CO — Type AG-C

CGC INC — Types C, IP-X2, IPC-AR

CERTAINTEED GYPSUM INC — Type LGFC-C/A

GEORGIA-PACIFIC GYPSUM L L C — Types 5, DAPC, TG-C

NATIONAL GYPSUM CO — Types FSK-C, FSW-C

PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Type PG-C

PANEL REY S A — Type PRC

THAI GYPSUM PRODUCTS PCL — Type C

UNITED STATES GYPSUM CO — Types C, IP-X2, IPC-AR

USG BORAL DRYWALL SFZ LLC — Type C

USG MEXICO S A DE C V — Types C, IP-X2, IPC-AR

14F. **Mineral and Fiber Board —** (Optional, Not Shown) — For optional use as an additional layer on one side of wall - Nom 1/2 in. thick, 4 ft wide, square edge fiber boards applied vertically to studs on one side of the wall in between the wood studs and the UL Classified Gypsum Board (Item 3). Fiber boards installed with 1-1/4 in. long, Type W, bugle head, coarse thread gypsum board screws spaced 12 in. OC max, with the last screws spaced 2 in. and 6 in. from edge of board. Gypsum board (Item 3) installed as indicated as to fastener type and spacing, except that the required fastener length shall be increased by a minimum of 1/2 in. Not evaluated or intended as a substitute for the required layer(s) of UL Classified Gypsum Board.
BLUE RIDGE FIBERBOARD INC — SoundStop

14G. **Building Units –** (Optional Item Not Shown – For use over Gypsum Board, Item 3) 1 in., 2 in. or 3 in. thick, 4 ft. wide – Applied vertically or horizontally with vertical joints centered over studs. Fastened to studs and runners with wafer head screws of adequate length to penetrate framing by a minimum of of ¾ in., spaced a max 8 in. o.c.

NATIONAL GYPSUM CO – Type PBCI

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**

Last Updated on 2023-12-11

1 U.L. # U305 (1-HR INTERIOR BEARING WALL ASSEMBLY)

NTS

PLANWORX
ARCHITECTURE
5711 SIX FORKS ROAD, SUITE 100
RALEIGH NC 27609
website www.planworx.com

PLANWORX ARCHITECTURE, PA
REGISTERED ARCHITECTURAL CORPORATION
CERT. NO. 50909
N.C.
RALEIGH, NC

Caitlin Crossing Pool House

Triangle Land Partners

Lillington, NC

PERMIT REVIEW SET (02-16-24)

DANIEL R. SCHMIDT
REGISTERED ARCHITECT
13142
NORTH CAROLINA
RALEIGH, N.C.
2-16-2024

PROGRESS DATE: -

ISSUE DATE: 02-16-2024

REVISIONS: NUMBER	DATE	INITIALS	DESCRIPTION

PROJECT NO: 005623

DRAWN BY: TH / BB

CHECKED BY: DS

SHEET TITLE:

UL DETAILS

SHEET NUMBER:

G015

1. All drawings are to be coordinated with all site information by owner and contractor, and applicable codes.
2. Contractor is to notify architect immediately of conditions or items varying from depicted information.
3. Planworx Architecture, P.A. is not responsible for constructed variations from the information depicted.
4. Planworx Architecture, P.A. will not assume any liability for expenses associated with errors and omissions on these drawings unless offset by verified construction savings as a result of Planworx Architecture, P.A. Design.
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UL Product iQ®

Design/System/Construction/Assembly Usage Disclaimer

- Authorities Having Jurisdiction should be consulted in all cases as to the particular requirements covering the installation and use of UL Certified products, equipment, system, devices, and materials.
- Authorities Having Jurisdiction should be consulted before construction.
- Fire resistance assemblies and products are developed by the design submitter and have been investigated by UL for compliance with applicable requirements. The published information cannot always address every construction nuance encountered in the field.
- When field issues arise, it is recommended the first contact for assistance be the technical service staff provided by the product manufacturer noted for the design. Users of fire resistance assemblies are advised to consult the general Guide Information for each product category and each group of assemblies. The Guide Information includes specifics concerning alternate materials and alternate methods of construction.
- Only products which bear UL's Mark are considered Certified.

BXUV - Fire Resistance Ratings - ANSI/UL 263 Certified for United States
BXUV7 - Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada

See General Information for Fire resistance Ratings - ANSI/UL 263 Certified for United States
Design Criteria and Allowable Variances

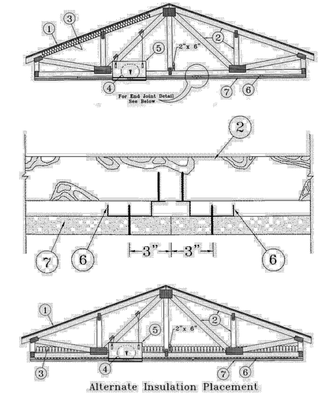
See General Information for Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada
Design Criteria and Allowable Variances

Design No. P522

December 1, 2023

Unrestrained Assembly Rating — 1 Hr
Finish Rating — 25 Min (See Items 3 or 3A)
This design was evaluated using a load design method other than the Limit States Design Method (e.g., Working Stress Design Method). For jurisdictions employing the Limit States Design Method, such as Canada, a load restriction factor shall be used — See Guide BXUV or BXUV7.

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**



1. **Roofing System* —** Any UL Class A, B or C Roofing System (TGFU) or Prepared Roof Covering (TFWZ) acceptable for use over nom 15/32 in. thick wood structural panels, min. grade "C-D" or "Sheathing". Nom 15/32 in. thick wood structural panels secured to trusses with No. 6d ringed shank nails spaced 12 in. OC along each truss. Staples having a min. 7/16 in. crown width and lateral resistance strength may be substituted for the 6d nails. Construction adhesive may be used with either the nails or staples.

2. **Trusses —** Pitched or parallel chord wood trusses, spaced a max of 24 in. OC, fabricated from nom 2 by 4 lumber, with lumber oriented vertically or horizontally. Truss members secured together with min. 0.0356 in. thick galv steel plates. Plates have 5/16 in. long teeth projecting perpendicular to the plane of the plate. The teeth are in pairs facing each other (made by the same punch), forming a split tooth type plate. Each tooth has a chisel point on its outside edge. These points are diagonally opposite each other for each pair. The top half of each tooth has a twist for stiffness. The pairs are repeated on approximately 7/8 in. centers with four rows of teeth per inch of plate width. Minimum parallel chord truss depth shall be 18 in. When pitched truss intersects with the interior face of the exterior walls, the min truss depth shall be 5-1/4 in. with a min roof slope of 3/12 and a min. average depth of 18 in.. Where the truss intersects with the interior face of the exterior walls, the min truss depth may be reduced to 3 in. if the batts and blankets (Item 3) are used as shown in the above Illustration (Alternate Insulation Placement) and are firmly packed against the intersection of the bottom chords and the plywood sheathing.

3. **Batts and Blankets* —** (Optional) — Required when Item 6B is used — Glass fiber insulation, secured to the wood structural panels with staples spaced 12 in. OC or to the trusses with 0.090 in. diam galv steel wires spaced 12 in. OC. Any glass fiber insulation bearing the UL Classification Marking as to Surface Burning Characteristics and/or Fire Resistance, having a min density of 0.5 pcf. As an option, the insulation may be fitted in the concealed space, draped over the resilient channel/gypsum board ceiling membrane when resilient channels and gypsum board attachment is modified as specified in Items 6 and 7. When **Steel Framing Members** (Item 6B) are used, max 3-1/2 in. thick insulation shall be draped over the furring channels (Item 6Ba) and gypsum board ceiling membrane, and friction-fitted between trusses and Steel Framing Members (Item 6Bd). The finished rating has only been determined when the insulation is secured to the decking.

3A. **Fiber, Sprayed* —** As an alternate to Item 3 (not evaluated for use with Item 6B) — Any thickness of spray-applied cellulose insulation material, having a min density of 0.5 lb/ft^3, applied with water, over the resilient channel/gypsum board ceiling membrane when resilient channels and gypsum board attachment is modified as specified in Items 6 and 7. Fiber, Sprayed is applied with moisture in accordance with the application instructions supplied with the product. The finish rating when Fiber Sprayed is used has not been determined. Alternate application method: The fiber is applied without water or adhesive in accordance with the application instructions supplied with a minimum density of 0.5 lb/ft^3 over the resilient channel/gypsum board ceiling membrane when resilient channels and gypsum board attachment is modified as specified in Items 6 and 7. Alternate application method: The fiber is applied both lower edges of the rafters creating a cavity to accept the cellulose fiber.
APPLEGATE GREENFIBER ACQUISITION LLC — SANCTUARY for use with wet or dry application. INS510LD, INS515LD, INS541LD, and Insulmax are to be used for dry application only.

3B. **Foamed Plastic* —** (As an alternate to Item 3 or 3A, Not Shown) — Spray foam insulation applied directly to the underside of the underside of the roofing system (Item 1). Spray foam insulation installed to a maximum thickness of 10 in. at a nominal 0.5 lb/ft^3 density, while maintaining a minimum 8-1/2 in. clearance between the spray foam insulation and the gypsum board (Item 7). When spray foam insulation is used, resilient channels (Item 6) shall be installed maximum 12 in. OC, with channels adjacent to butt joints of gypsum board (Item 7) installed at 6 in. OC to allow for maximum 3 in. spacing off ends of the gypsum board joints. Gypsum board (Item 7) to be installed using 1-1/4 in. long Type S screws, spaced maximum 8 in. OC, and butted end joints shall be staggered min. 2 ft within the assembly, and occur midway between the continuous furring channels. If used with a fire damper (Items 5 through 5K) in the concealed space, no clearance is necessary between damper housing and spray foam insulation. Not evaluated for use with Items 6A through 6F.
SES FOAM INC — Sucreseal

3C. **Cavity Insulation - Batts and Blankets* or Fiber, Sprayed* —** (As described above) in Items 3 and 3A — (For Use with Item 7B, Not Shown) — Min. 3-1/2 in thick with no limit on maximum thickness fitted in the concealed space, draped over the resilient channel (Item 6G)/gypsum board (Item 7B) ceiling membrane.

3D. **Foamed Plastic* —** (As alternate to Item 3, 3A, or 3B, Not Shown) — Spray foam insulation applied directly to the underside of the roofing system (Item 1). Spray foam insulation installed to a maximum thickness of 10 in. at a nominal 0.5 lb/ft^3 or 2.0 lb/ft^3 density, depending on the product installed. When spray foam insulation is installed, resilient channels (Item 6) shall be installed maximum 12 in. OC, with channels adjacent to butt joints of gypsum board (Item 7) spaced maximum 3 in. away from gypsum butt joints. Gypsum board (Item 7) to be installed using minimum 1-1/4 in. long Type S screws, spaced maximum 8 in. OC, and butted end joints shall be staggered min. 2 ft within the assembly, and occur midway between the continuous furring channels. If used with a fire damper (Items 5 through 5H) in the concealed space, minimum 1 in. clearance to be maintained between damper housing and spray foam insulation. Not evaluated for use with Items 6A through 6F.

Damper installed in accordance with the manufacturers installation instructions provided with the damper. A steel grille shall be installed in accordance with installation instructions.
CBS AIR PRODUCTS — Model RD-521-IP, RD-521-NP

PottoRFF — Models CFD-521-IP, CFD-521-NP

5C. **Alternate Ceiling Damper* —** Ceiling damper & fan assembly. Max nom area shall be 75 sq in. with the length not to exceed 8-9/16 in. and the width not to exceed 8-3/4 in. Max height of damper shall be 9-7/8 in. Aggregate damper openings shall not exceed 38 sq in. per 100 sq ft of ceiling area. Damper shall be installed in combination with one of the fan models described in, and in accordance with, the manufacturers installation instructions provided with the damper. A plastic grille shall be installed in accordance with installation instructions.
DELTA ELECTRONICS INC — Models CRD2, GBR-CRD, ITG-CRD

5D. **Alternate Ceiling Damper* —** Ceiling damper & fan. Max nom area shall be 75 sq in. with the length not to exceed 9-1/4 in. and the width not to exceed 9-3/4 in. Max height of damper shall be 9-7/8 in. Aggregate damper openings shall not exceed 45 sq in. per 100 sq ft of ceiling area. Damper shall be installed in combination with one of the fan models described in, and in accordance with, the manufacturer's installation instructions provided with the damper. A plastic grille shall be installed in accordance with installation instructions.
DELTA ELECTRONICS INC — Model SIG-CRD

5E. **Alternate Ceiling Damper* —** Max nom area shall be 144 sq in. with the length not to exceed 14 in. and the width not to exceed 12 in. Max height of damper shall be 17-7/8 in. Aggregate damper openings shall not exceed 74 sq in. per 100 sq ft of ceiling area. Damper installed in accordance with the manufacturers installation instructions provided with the damper. A steel grille shall be installed in accordance with installation instructions.
C&S AIR PRODUCTS — Model RD-521-90, RD-521-NP90

PottoRFF — Models CFD-521-90, CFP-521-90NP

5F. **Alternate Ceiling Damper* —** Ceiling damper & fan assembly. Max nom area shall be 131 sq in. with the length not to exceed 11-1/16 in. and the width not to exceed 11-7/8 in. Aggregate damper openings shall not exceed 66 sq in. per 100 sq ft of ceiling area. Damper shall be installed in combination with one of the fan models described in, and in accordance with, the manufacturer's installation instructions provided with the damper. A plastic grille shall be installed in accordance with installation instructions.
DELTA ELECTRONICS INC — Model SMT-CRD

5G. **Alternate Ceiling Damper* —** Ceiling damper & fan assembly. Max nom area shall be 103 sq in. with the length not to exceed 10-1/8 in. and the width not to exceed 10-1/8 in. Aggregate damper openings shall not exceed 52 sq in. per 100 sq ft of ceiling area. Damper shall be installed in combination with one of the fan models described in, and in accordance with, the manufacturer's installation instructions provided with the damper. A plastic grille shall be installed in accordance with installation instructions.
PANASONIC CORPORATION, PANASONIC CORPORATION OF NORTH AMERICA — Model PC-RD05CS

5H. **Alternate Ceiling Damper* —** Ceiling damper & fan assembly. Max nom area shall be 113 sq in. with the length not to exceed 10-1/8 in. and the width not to exceed 11-1/8 in. Aggregate damper openings shall not exceed 57 sq in. per 100 sq ft of ceiling area. Damper shall be installed in combination with one of the fan models described in, and in accordance with, the manufacturer's installation instructions provided with the damper. A plastic grille shall be installed in accordance with installation instructions.
BROAN-NUTONE L L C — Model RDTUVNT

5I. **Alternate Ceiling Damper* —** Ceiling damper & fan. Max nom area shall be 79 sq in. with the length not to exceed 10 in. and the width not to exceed 7-15/16 in. Aggregate damper openings shall not exceed 40 sq in. per 100 sq ft of ceiling area. Damper shall be installed in combination with one of the fan models described in, and in accordance with, the manufacturer's installation instructions provided with the damper. A metallic grille shall be installed in accordance with installation instructions.
BROAN-NUTONE L L C — Models RDI1 and RDH

5J. **Alternate Ceiling Damper* —** Ceiling damper & fan assembly. Max nom area shall be 87 sq in. with the length not to exceed 9 in. and the width not to exceed 9-11/16 in. Aggregate damper openings shall not exceed 44 sq in. per 100 sq ft of ceiling area. Damper shall be installed in combination with one of the fan models described in, and in accordance with, the manufacturer's installation instructions provided with the damper. A plastic grille shall be installed in accordance with installation instructions.
BROAN-NUTONE L L C — Model RDMWT2

6. **Furring Channels —** Resilient channels formed of 25 MSG thick galv steel. Installed perpendicular to the trusses (Item 2), spaced a max of 16 in. OC when no insulation (Item 3 or 3A) is fitted in the concealed spaced, or a max of 12 in. OC when insulation (Item 3 or 3A) is fitted in the concealed space, draped over the resilient channel/gypsum board ceiling membrane, or when insulation (Item 3B, 3D or 3E) is applied to the underside of the roofing system (Item 1). Two courses of resilient channel positioned 6 in. OC at wallboard butt joints (3 in. from each end of wallboard). Channels oriented opposite at wallboard butt joints. Channel splices overlapped 4 in. beneath wood trusses. Channels secured to each truss with 1-1/4 in. long Type S screws.

6A. **Steel Framing Members* —** (Not Shown) — As an alternate to Item 6, furring channels and Steel Framing Members as described below:
a. **Furring Channels —** Formed of No. 25 MSG galv steel. 2-9/16 in. or 2-23/32 in. wide by 7/8 in. deep, spaced 16 in. OC perpendicular to trusses when no insulation (Items 3 or 3A) is fitted in the concealed space or 12 in. OC when insulation (Items 3 or 3A) is fitted in the concealed space, draped over the furring channel/gypsum board ceiling membrane or 24 in. OC when insulation (Items 3 or 3A) is fitted in the concealed space, draped over the furring channel/gypsum board ceiling membrane and a second layer of gypsum board is attached as described in Item 7 for steel framing members. Channels secured to trusses as described in Item 6Ab. Ends of adjoining channels overlapped 6 in. and tied together with double strand of No. 18 SWG galv steel wire near each end of overlap.

b. **Steel Framing Members —** Used to attach furring channels (Item a) to trusses (Item 2). Clips spaced 48 in. OC. RSIC-1 and RSIC-1 (2.75) clips secured to alternating trusses with No. 8 by 2-1/2 in. coarse drywall screw through the center grommet. RSIC-V and RSIC-V (2.75) clips secured to alternating trusses with No. 8 by 1-1/2 in. coarse drywall screw through the center hole. Furring channels are friction fitted into clips. RSIC-1 and RSIC-V clips for use with 2-9/16 in. wide furring channels. RSIC-1 (2.75) and RSIC-V (2.75) clips for use with 2-23/32 in. wide furring channels. Adjoining channels are overlapped as described in Item 6Aa. As an alternate, ends of adjoining channels may be overlapped 6 in. and secured together with two self-tapping No. 6 framing screws, min .7/16 in. long at the midpoint of the overlap, with one screw on each flange of the channel. Additional clips required to hold furring channel that supports the gypsum board butt joints, as described in Item 7.
PAC INTERNATIONAL L L C — Types RSIC-1, RSIC-V, RSIC-1 (2.75), RSIC-V (2.75).

6B. **Steel Framing Members* —** (Not Shown) — As an alternate to Items 6 and 6A.
a. **Furring Channels —** Hat-shaped furring channels, 7/8 in. deep by 2-5/8 in. wide at the base and 1-1/4 in. wide at the face, formed from No. 25 ga. galv steel, spaced max 16 in. OC perpendicular to trusses and Cold Rolled Channels (Item 6Bb). Furring channels secured to Cold Rolled Channels at every intersection with a 1/2 in. pan head self-drilling screw through each furring channel leg. Ends of adjoining channels overlapped 4 in. and tied together with two double strand No. 18 SWG galv steel wire ties, one at each end of overlap. Supplemental furring channels at base layer and outer layer gypsum board butt joints are not required. Batts and Blankets draped over furring channels as described in Item 3. Two layers of gypsum board attached to furring channels as described in Item 7.

b. **Cold Rolled Channels —** 1-1/2 in. by 1/2 in., formed from No. 16 ga. galv steel, positioned vertically and parallel to trusses, friction-fitted into the channel caddy on the Steel Framing Members (Item 6Bd). Adjoining lengths of cold rolled channels lapped min. 6 in. and wire-tied together with two double strand 18 SWG galv steel wire ties, one at each end of overlap.

c. **Blocking —** Where truss design does not permit direct, full contact of the hanger bracket, a piece of nominal 2 by 4 in. lumber (blocking), min. 6 in. long to permit full contact of the hanger bracket, to be secured vertically to the side of the truss (Item 2) at the top and bottom of the blocking at each Steel Framing Member (Item 6Bd) location.

d. **Steel Framing Members* —** Hangers spaced 48 in. OC, max along truss, and secured to the Blocking (Item 6Bc) on alternating trusses with a single 5/16 in. by 2 in. hex head lag bolt or four #6 1-1/4 in. drywall screws through mounting hole(s) on the hanger bracket. The two 1/4 in. long steel teeth on the hanger are embedded in the side of the blocking. Hanger positioned on blocking and leveling bolt height adjusted such that furring channels are flush with bottom of trusses before gypsum board installation. Spring gauge of hanger chosen per manufacturer's instructions.
KINETICS NOISE CONTROL INC — Type ICW.

6C. **Steel Framing Members* —** (Not Shown) — As an alternate to Items 6, 6A and 6B.
a. **Furring Channels —** Formed of No. 25 MSG galv steel, 2-3/8 in. wide by 7/8 in. deep installed perpendicular to wood structural members. Channels spaced a max of 16 in. OC when no insulation (Item 3 or 3A) is fitted in the concealed space or a max of 12 in. OC when insulation (Item 3 or 3A) is fitted in the concealed space. Channels secured to trusses as described in Item 6Cb. Ends of adjoining channels overlapped 6 in. and tied together with double strand of No. 18 AWG galvanized steel wire near each end of overlap.

b. **Steel Framing Members* —** Used to attach furring channels (Item 6Ca) to trusses (Item 2). Clips secured to the bottom chord of each truss (48 in. OC) with one No. 8 by 2-1/2 in. long coarse drywall screw through center grommet. Furring channels are friction fitted into clips. Adjoining channels are overlapped as described in Item 6Ca. As an alternate, ends of adjoining channels may be overlapped 6 in. and secured together with two self-tapping No. 6 framing screws, min 7/16 in. long at the midpoint of the overlap, with one screw on each flange of the channel. Additional clips required to hold furring channel that supports the gypsum board butt joints, as described in Item 7.
PLITEQ INC — Type Genie Clip

6D. **Steel Framing Members* —** (Not Shown) — As an alternate to Items 6, 6A, 6B and 6C.
a. **Main runners —** Installed perpendicular to trusses — Nom 12 or 12 ft long, 15/16 in. or 1-1/2 in. wide face, spaced 4 ft OC. Main runners hung a min of 2 in. from bottom chord of trusses with 12 SWG galv steel wire. Wires located a max of 48 in. OC.

b. **Cross tees or channels —** Nom 4 ft long, 15/16 in. or 1-1/2 in. wide face or cross channels, nom 4 ft long. 1-1/2 wide face, installed perpendicular to the main runners, spaced 16 in. OC. Additional cross tees or channels used at 8 in. from each side of butted gypsum board end joints. The cross tees or channels may be riveted or screw-attached to the wall-angle or channel to facilitate the ceiling installation.

c. **Wall angles or channels —** Used to support steel framing member ends and for screw-attachment of the gypsum wallboard — Min 0.016 in. thick painted or galvanized steel angle with 1 in. legs or min. 0.016 in. thick painted or galvanized steel channel with a 1 by 1-1/2 by 1 in. profile, attached to walls at perimeter of ceiling with fasteners 16 in. OC.
CGC INC — Type DGL or RX

USG INTERIORS LLC — Type DGL or RX

6E. **Alternate Steel Framing Members* —** (Not Shown) — As an alternate to items 6, 6A, 6B, and 6C, furring channels and Steel Framing Members as described below.
a. **Furring Channels —** Formed of No. 25 MSG galv steel, 2-5/8 in. wide by 7/8 in deep, spaced 16 in OC, perpendicular to trusses. When insulation, Items 3 or 3A is used, the furring channel spacing shall be reduced to 12 in. OC. Channels secured to joists as described in item b.

b. **Steel Framing Members* —** Used to attach furring channels (item a) to the wood trusses (Item 2). Clips spaced at 48" OC and secured to the bottom of the trusses with one 2 in. Coarse Drywall Screw with 1 in. diam washer through the center hole. Furring channels are then friction fitted into clips. Ends of channels are overlapped 6" and tied together with double strand of No. 18 AWG galvanized steel wire. Additional clips are required to hold the Gypsum Butt joints as described in Item 7.
STUDCO BUILDING SYSTEMS — RESILMOUNT Sound Isolation Clips - Type A237 or A237R

6F. **Steel Framing Members* —** (Not Shown) — As an alternate to Items 6 through 6E- Not for use with Items 3 or 3A. Main runners nom 12 ft long, spaced 72 in. OC. Main runners suspended by min 12 SWG galv steel hanger wires spaced 48 in. OC. Cross tees, nom 6 ft long, installed perpendicular to main runners and spaced 24 in. OC. Additional 6 ft long cross tees required at each gypsum board end joint with butted gypsum board end joints centered between cross tees spaced 8 in. OC. The main runners and cross tees may be riveted or screw attached to the wall angle or channel to facilitate the ceiling installation.
USG INTERIORS LLC — Type DGL or RX

6G. **Resilient Channels —** For Use With Item 7B - Formed from min 25 MSG galv steel installed perpendicular to trusses and spaced 16 in. OC. Channels secured to each truss with 1-5/8 in. long Type S bugle head steel screws. Channels overlapped 4 in. at splices. Two channels, spaced 6 in. OC, oriented opposite each gypsum panel end joint. Additional channels shall extend min 6 in. beyond each side edge of panel. Insulation, Item 3C is applied over the resilient channel/gypsum panel ceiling membrane.

6H. **Alternate Steel Framing Members* —** (Not Shown) — As an alternate to items 6 through 6G, furring channels and Steel Framing Members as described below.
a. **Furring Channels —** Formed of No. 25 MSG galv steel, 2-1/2 in. wide by 7/8 in deep, spaced 16 in OC, perpendicular to trusses. When insulation, Items 3 or 3A is used, the furring channel spacing shall be reduced to 12 in. OC. Channels secured to joists as described in Item b.

b. **Steel Framing Members* —** Used to attach furring channels (Item a) to the wood trusses (Item 2). Clips spaced at 48" OC and secured to the bottom of the trusses with one 2-1/2 in. Coarse Drywall Screw with 1 in. diam washer through the center hole. Furring channels are then friction fitted into clips. Ends of channels are overlapped 6" and tied together with double strand of No. 18 AWG galvanized steel wire. Additional clips are required to hold the Gypsum Butt joints as described in Item 7.
REGUPOL AMERICA — Type SonusClip

7. **Gypsum Board* —** One layer of nom 5/8 in. thick by 48 in. wide boards, installed with long dimension parallel to trusses. Attached to the resilient channels using 1 in. long Type S bugle-head screws. Screws spaced a max of 12 in. OC along butted end-joints and in the field when no insulation (Item 3 or 3A) is fitted in the concealed spaced, or a max of 8 in. OC along butted end-joints and in the field when insulation (Item 3 or 3A) is fitted in the concealed space, draped over the resilient channel/gypsum board ceiling membrane. When insulation (Item 3B, 3D or 3E) is installed in the concealed space, spray-applied to the underside of the roofing system (Item 1), screws are spaced a max of 8 in. OC along resilient channels, fasteners are increased in length to 1-1/4 in, and gypsum board butt joints shall be staggered min. 2 ft within the assembly, and occur between the main furring channels.
When **Steel Framing Members*** (Item 6A or 6C) are used, sheets installed with long dimension perpendicular to furring channels and side joints of sheet located beneath trusses. Gypsum board screws are driven through channel spaced 12 in. OC in the field when no insulation (Item 3 or 3A) is fitted in the concealed space, or 8 in. OC in the field when insulation (Item 3 or 3A) is fitted in the concealed space, draped over the furring channel/gypsum board ceiling membrane. Gypsum board butt joints shall be staggered min. 2 ft within the assembly, and occur between the main furring channels. At the gypsum board butt joints, each end of the gypsum board shall be supported by a single length of furring channel equal to the width of the wallboard plus 6 in. on each end. The furring channels shall be spaced approximately 3-1/2 in. OC and be attached to the trusses with one clip at each end of the channel. Screw spacing along the butt joint to attach the gypsum board to the furring channels shall be 8 in. OC. Second (outer) layer of gypsum board required when furring channels (Item 6A, a) are spaced 24 in. OC and insulation is fitted in the concealed space, draped over the furring channel/gypsum board ceiling membrane. Outer layer of gypsum board attached to the furring channels using 1-5/8 in. long Type S bugle-head screws spaced 8 in. OC at butted joints and 12 in. OC in the field. Butted end joints of outer layer to be offset a minimum of 8 in. from base layer end joints. Butted side joints of outer layer to be offset min 16 in. from butted side joints of base layer.

When **Steel Framing Members** (Item 6B) are used, two layers of nom 5/8 in. thick, 4 ft wide gypsum board are installed with long dimensions perpendicular to furring channels (Item 6Ba). Base layer attached to the furring channels using 1 in. long Type S bugle head steel screws spaced 8 in. OC along butted end joints and 12 in. OC in the field of the board. Butted end joints centered on the continuous furring channels. Butted base layer end joints to be offset a min of 16 in. in adjacent courses. Outer layer attached to the furring channels using 1-5/8 in. long Type S bugle head steel screws spaced 8 in. OC at butted end joints and 12 in. OC in the field. Butted end joints centered on the continuous furring channels and offset a min of 16 in. from butted end joints of base layer. Butted side joints of outer layer to be offset min 16 in. from butted side joints of base layer.

When **Steel Framing Members** (Item 6C) are used, one layer of nom 5/8 in. thick, 4 ft wide gypsum board is installed with long dimensions perpendicular to furring channels. Gypsum board secured to furring channels with nom 1 in. long Type S bugle head steel screws spaced 8 in. OC in the field of the board. Gypsum board butted end joints shall be staggered minimum 72 in. At the gypsum board butt joints, each end of each gypsum board shall be supported by a single length of furring channel equal to the width of the gypsum board plus 3 in. on each end, spaced approximately 2 in. in from joint. Screw spacing along the gypsum board butt joint shall be 8 in. OC. Butt joint furring channels shall be attached with a RESILMOUNT Sound Isolation Clip secured to underside of every truss that is located over the butt joint. Over all Gypsum Board side joints, approximately 20 in. lengths of furring channel shall be installed parallel to trusses (Item 2) between main furring channels. Side joint furring channels shall be attached to underside of the joist with RESILMOUNT Sound Isolation Clips - located approximately 2 in. from each end of the approximate 20 in. length of channel. Both Gypsum Boards at side joints fastened into channel with screws spaced 8 in. OC, approximately 1/2 in. from joint edge.

When **Steel Framing Members** (Item 6D) are used, one layer of nom 5/8 in. thick, 4 ft wide gypsum board is installed with long dimensions perpendicular to furring channels. Gypsum board secured to furring channels with nom 1 in. long Type S bugle head steel screws spaced 8 in. OC in the field of the board. Gypsum board butted end joints shall be staggered minimum 48 in. and centered over main furring channels. At the gypsum board butt joints, each end of each gypsum board shall be supported by a single length of furring channel equal to the width of the gypsum board plus 3 in. on each end. The two support furring channels shall be spaced approximately 3 in. in from end joint. Screw spacing along the gypsum board butt joint and along both additional channels shall be 8 in. OC. Additional screws shall be placed in the adjacent section of gypsum board into the aforementioned 3 in. extension of the extra butt joint channels as well as into the main channel that runs between. Butt joint furring channels shall be attached with one RESILMOUNT Sound Isolation Clip at each end of the channel.

When alternate **Steel Framing Members*** (Item 6F) are used, one layer of nom 5/8 in. thick, 4 ft wide gypsum board sheets installed with long dimension (side joints) perpendicular to the 6 ft long cross tees with the end joints staggered min 4 ft and centered between cross tees which are spaced 8 in. OC. Gypsum board side joints may occur beneath or between main runners. Prior to installation of the gypsum board sheets, backer strips consisting of nom 7-3/4 in. wide pieces of gypsum board are to be laid atop the cross tee flanges and centered over each butted end joint location. The backer strips are to be secured to the flanges of the cross tees at opposite corners of the backer strip with hold down clips to prevent the backer strips from being uplifted during screw-attachment of the gypsum board sheets. Gypsum board fastened to cross tees with 1 in. drywall screws spaced 1 in. and 4 in. from the side joints and max 8 in. OC in the field of the board. The butted end joints are to be secured to the backer strip with No. 10 by 1-1/2 in. long Type G laminating screws located 1 in. from each side of the butted end joint and spaced 1 in. and 4 in. from the side joints and max 8 in. OC in the field of the board.

When **Steel Framing Members** (Item 6H) are used, one layer of nom 5/8 in. thick, 4 ft wide gypsum board is installed with long dimensions perpendicular to furring channels. Gypsum board secured to furring channels with nom 1 in. long Type S bugle-head steel screws spaced 8 in. OC in the field of the board. Gypsum board butted end joints shall be staggered minimum 48 in. and centered over main furring channels. At the gypsum board butt joints, an additional single length of furring channel shall be installed and be spaced approximately 3 in. from the butt joint (6 in. from the continuous furring channels) to support the floating end of the gypsum board. Each of these shorter sections of furring channel shall extend one truss beyond the width of the gypsum panel and be attached to the adjacent trusses with one SonusClip at every truss involved with the butt joint.
CGC INC — Types C, IP-X2, IPC-AR

UNITED STATES GYPSUM CO — Types C, IP-X2, IPC-AR

USG BORAL DRYWALL SYZ LLC — Type C

USG MEXICO S A DE C V — Types C, IP-X2, IPC-AR

7A. **Gypsum Board* —** For use with Steel Framing Members (Item 6D) when Batts and Blankets* (Item 3) are not used - One layer of nom 5/8 in. thick by 48 in. wide boards, installed with long dimension parallel to the main runners. Gypsum board fastened to each cross tee or channel with five wallboard screws, with one screw located at the midspan of the cross tee or channel, one screw located 12 in. from and on each side of the cross tee or channel mid span and one screw located 1-1/2 in. from each gypsum board side joint. Except at wallboard end joints, wallboard screws shall be located on alternating sides of cross tee flange. At gypsum board end joints, gypsum board screws shall be located 1/2 in. from the joint. Gypsum board fastened to main runners with wallboard screws 1/2 in. from side joints, midway between intersections with cross tees or channels (16 in. OC). End joints of adjacent gypsum board sheets shall be staggered not less than 32 in. Gypsum board sheets screw attached to leg of wall angle with wallboard screws spaced 12 in. OC. Joints treated as described in Item 7. For use with **Steel Framing Members*** (Item 6D) when **Batts and Blankets*** (Item 3) are used - Ratings limited to 1 Hour - 5/8 in. thick, 4 ft wide; installed with long dimension perpendicular to cross tees with side joints centered along main runners and end joints centered along cross tees. Fastened to cross tees with 1 in. long steel gypsum board screws spaced 8 in. OC in the field and 8 in. OC along end joints. Fastened to main runners with 1 in. long gypsum board screws spaced midway between cross tees. Screws along sides and ends of boards spaced 3/8 to 1/2 in. from board edge. End joints of the sheets shall be staggered with spacing between joints on adjacent boards not less than 4 ft OC.
CGC INC — Type C or IP-X2

UNITED STATES GYPSUM CO — Type C or IP-X2

USG BORAL DRYWALL SYZ LLC — Type C

USG MEXICO S A DE C V — Type C or IP-X2

7B. **Gypsum Board* —** For use with Items 3C and 6G. Nom 5/8 in. thick, 48 in. wide gypsum panels installed with long dimension perpendicular to resilient channels. Gypsum panels secured with 1 in. long Type S bugle head steel screws spaced 8 in. OC and located a min of 1/2 in. from side joints and 3 in. from the end joints. Finish Rating with this ceiling system is 20 min.
CGC INC — Type ULIX

UNITED STATES GYPSUM CO — Type ULIX

1. All drawings are to be coordinated with all site information by owner and contractor, and applicable codes.
2. Contractor is to notify architect immediately of conditions or items varying from depicted information.
3. Planworx Architecture, P.A. is not responsible for constructed variations from the information depicted.
4. Planworx Architecture, P.A. will not assume any liability for expenses associated with errors and omissions on these drawings unless offset by verified construction savings as a result of Planworx Architecture, P.A. Design.
5. Planworx Architecture, P.A. retains ownership of all of designs depicted and implied herein.
6. Planworx Architecture, P.A. is not responsible for estimating, maintaining, or regulating construction costs associated with these plans.

1 U.L. # P522 (1-HR ROOF - CEILING ASSEMBLY)
NTS

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PLANWORX ARCHITECTURE, P.A. REGISTERED ARCHITECTURAL CORPORATION CERT. NO. 50909 N.C. RALEIGH, NC

Caitlin Crossing Pool House
Triangle Land Partners
Lillington, NC
PERMIT REVIEW SET (02-16-24)

DANIEL R. SCHMIDT REGISTERED ARCHITECT 13142 NORTH CAROLINA RALEIGH, N.C.
2-16-2024

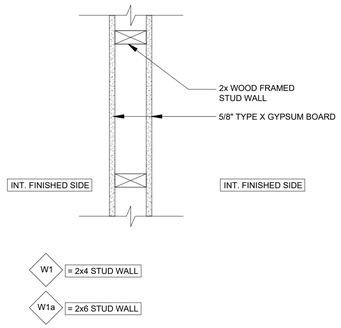
PROGRESS DATE: -
ISSUE DATE: 02-16-2024

REVISIONS: NUMBER	DATE	INITIALS	DESCRIPTION

PROJECT NO: 005623
DRAWN BY: TH / BB
CHECKED BY: DS

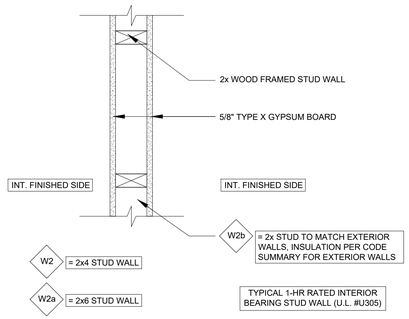
SHEET TITLE: UL DETAILS

SHEET NUMBER: G016



W1 TYPICAL INTERIOR STUD WALL

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

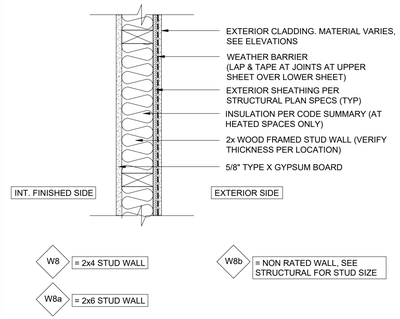


W2 1-HR RATED INTERIOR BEARING WALL

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

W3 NOT USED

-



W8 TYP. EXT. BEARING WALL - CLADDING

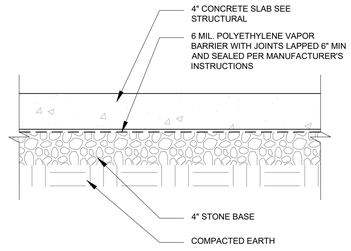
SCALE: 1 1/2" = 1'-0"

- GENERAL ASSEMBLY NOTES

NTS

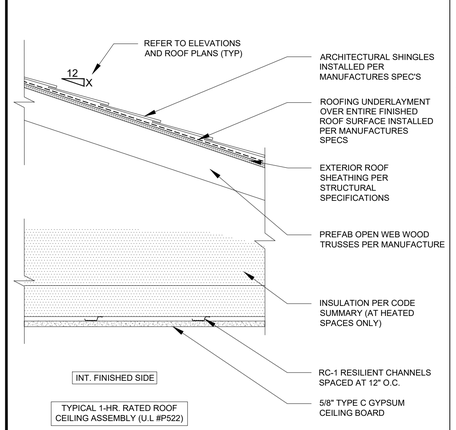
GENERAL ASSEMBLY NOTES:

1. REFER TO STRUCTURAL DRAWINGS FOR ALL SHEAR WALL LOCATIONS AND TYPES. STUD SIZES LISTED IN STRUCTURAL DRAWINGS SUPERSEDE ARCHITECTURAL NOTES. INFORM ARCHITECT OF ANY DISCREPANCIES BETWEEN ARCHITECTURAL AND STRUCTURAL DRAWINGS PRIOR TO CONSTRUCTION.
2. SEE STRUCTURAL FOR STUD SPACING. NON-LOAD BEARING WALLS 16" OC UNO.
3. SEE UL DETAILS FOR SPECIFIC REQUIREMENTS OF RATED ASSEMBLIES.
4. MINIMUM STC VALUE OF 50 BETWEEN TENANT DEMISING WALLS AND UNIT/CORRIDOR WALLS PER SECTION 1207.2 OF THE 2018 NCSBC. MINIMUM IIC VALUE OF 50 BETWEEN UNIT FLOOR/CEILING.
5. SEE SCHEDULE SHEETS FOR INTERIOR AND EXTERIOR MATERIAL SPECIFICATIONS.
6. PROVIDE NON-RATED 5/8" GYPSUM BOARD AT EXTERIOR WALLS OF ALL AMENITY BUILDINGS
7. ALL WALL, FLOOR, CEILING AND ROOF ASSEMBLIES, AND INTERSECTIONS OF WALL/CEILING ASSEMBLIES, TO BE FIREBLOCKED AND DRAFTSTOPPED PER SECTION 718 OF THE 2018 NCSBC.



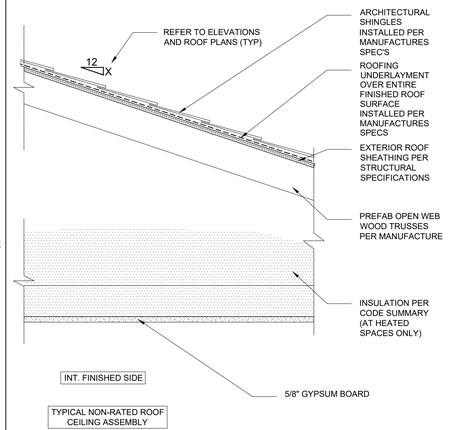
F4 TYP. FLOOR SLAB ASSEMBLY

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



R1 1-HR. ROOF/CLG. ASSEMBLY - SHINGLE

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



R5 NON-RATED ROOF/CLG. ASSEM.-SHINGLE

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

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Caitlin Crossing Pool House

Triangle Land Partners

Lillington, NC

PERMIT REVIEW SET (02-16-24)

DANIEL R. SCHMIDT REGISTERED ARCHITECT 13142 NORTH CAROLINA RALEIGH, N.C.

2-16-2024

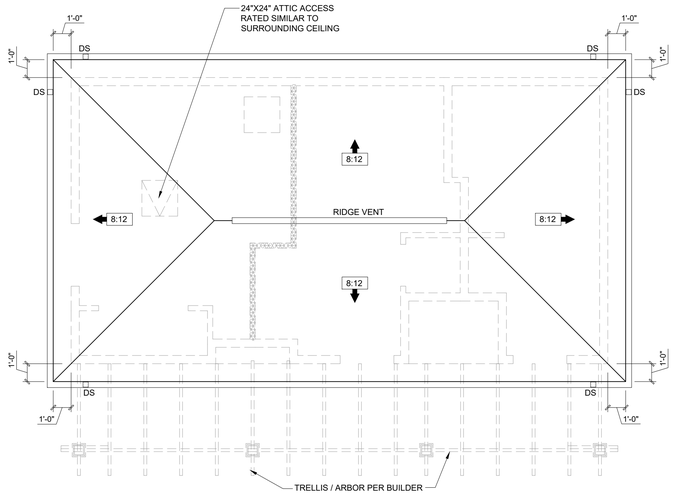
REVISIONS: NUMBER	DATE	INITIALS	DESCRIPTION
-	02-16-2024		

PROGRESS DATE:
ISSUE DATE:

PROJECT NO: 005623
DRAWN BY: TH / BB
CHECKED BY: DS

SHEET TITLE:
Assembly Types

SHEET NUMBER:
G020



2 POOL HOUSE - ROOF PLAN

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

ROOF PLAN GENERAL NOTES

1. ALL DOWNSPOUTS ARE 6" AND TO TIE INTO STORM. SEE CIVIL

2. APPLY ICE+WATER SHIELD TO ALL AREAS OF ROOF NOTED BELOW:
   - VALLEYS. MIN. 18" EACH SURFACE
   - ROOF SLOPES BELOW 4:12
   - ROOF/WALL INTERSECTIONS

D.S. = DOWNSPOUT
T.R.B. = TO ROOF BELOW

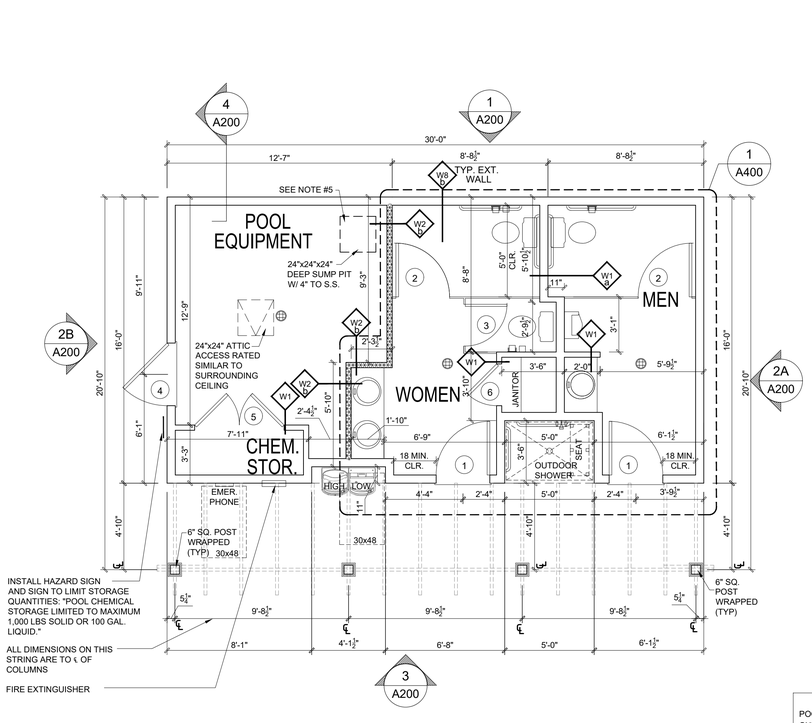
Pool House - Roof Ventilation

A	Ceiling area (square footage)	**576**
B	Sqft. of ventilation required	1.9

Formulas: B = A / 300

Notes:

Builder to calculate quantities and types of vents to make up the minimum requirement. Attic ventilation shall be approximately 50% soffit, and 50% high (gable end or ridge vents).



SQUARE FOOTAGE

POOL EQUIPMENT ROOM =	154
CHEM. STORAGE =	26
BATHROOMS =	279
PORCH / SHOWER =	178
GROSS BLDG. SQ. FT. =	637

POOL HOUSE FLOOR PLAN GENERAL NOTES

WALLS

1. ALL EXTERIOR WALLS ARE ASSEMBLY TYPE W8a AT EXTERIOR LOCATIONS INDICATED ON THE EXTERIOR ELEVATIONS (U.N.O). SEE G SERIES SHEETS FOR DETAILS.

2. ALL EXTERIOR WALLS ARE 2x6 STUDS U.N.O AND DIMENSIONED TO EXTERIOR STUD EDGE. ALL INTERIOR WALLS ARE ASSEMBLY TYPE W1 (U.N.O)

3. ALL GYPSUM BOARD TO BE MOISTURE RESISTANT

ATTIC ACCESS

ATTIC ACCESS SHALL BE PROVIDED BY BUILDER ACCORDING TO LOCAL CODE.

WALL/CEILING HEIGHTS

1. WALL AND CEILING HEIGHTS NOTES ARE BASED ON NOMINAL WALL SIZE (I.E. A 10'-1 1/8" ACTUAL WALL HEIGHT IS LABELED 10/0 ON THE PLANS).

2. PROVIDE FULL HEIGHT FRP FINISH AT POOL EQUIPMENT AND CHEM. STORAGE ROOMS

GENERAL

1. ALL EXTERIOR THRESHOLDS TO BE BARRIER FREE DESIGN.

2. SUMP PIT, POOL EQUIPMENT ROOM SIZE / LAYOUT , FLOOR DRAINS & HOSE BIBS TO BE VERIFIED BEFORE CONSTRUCTION BEGINS TO COORDINATE WITH POOL MANUFACTURES SPECS & DRAWINGS BY OTHERS. IF NOT SUPPLIED PRIOR TO PERMITTING DRAWING RELEASE ARCHITECT HOLDS NO LIABILITY FOR FUTURE COORDINATION (TYP).

3. ANY STRUCTURAL INFORMATION SHOWN IS FOR REFERENCE ONLY & TO BE CONFIRMED ON THE APPROPRIATE STRUCTURAL SHEETS. IF THERE ARE ANY DISCREPANCIES BETWEEN THE ARCHITECTURAL AND STRUCTURAL SHEETS, THE INFORMATION SHOWN ON THE STRUCTURAL SHEETS WILL OVERRIDE ANY ARCHITECTURAL INFORMATION SHOWN AND SHOULD BE REPORTED TO PLANWORX ARCHITECTURE, P.A., FOR CONFIRMATION BEFORE CONSTRUCTION.

4. MATERIALS STORED ARE CORROSIVE, IRRITANT, APPROX. 200 LBS. SOLID.

5. 24"x24"x24" DEEP SUMP PIT W/ 6" TO S.S. VERIFY FINAL SIZE AND LOCATION WITH POOL ENGINEERS DRAWINGS.

6. 10. CHEMICAL STORAGE SPACE BASED ON MIN. OF FIVE SQFT. FOR THE FIRST 10,000 GALLONS OF POOL WATER PLUS ONE ADDITIONAL SQFT. FOR EACH ADDITIONAL 3,000 GALLONS OR PORTION THEREOF UP TO A TOTAL AREA OF 100 SQFT. STORAGE SIZE TO BE FIELD VERIFIED.

1 POOL HOUSE - FLOOR PLAN

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

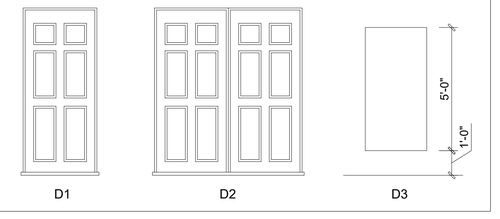
ARCHITECTURAL PLANS WALL LEGEND

= STANDARD STUD WALL INT OR EXT
IF EXT SEE ELEVATIONS FOR SIDING
STYLE THICKNESS OF WALL NOTED IN PLAN NOTES
OR AT WALL LOCATIONS

= HALF WALL WITH 1x CAP
(42" HEIGHT UNLESS NOTED OTHERWISE ON PLANS)

= 1 HOUR RATED WALL DESIGNATION
SEE LIFE SAFETY SHEET G010

DOOR TYPES



4 POOL HOUSE - DOOR ELEVATIONS

SCALE: NOT TO SCALE

(X) DOOR SCHEDULE

DOOR NUMBER	SIZE: WIDTH	SIZE: HEIGHT	SIZE: THICKNESS	CONSTRUCTION: DOOR TYPE	CONSTRUCTION: INSUL. MTL. 6 PANEL	CONSTRUCTION: METAL STALL DOOR PER MANF	CONSTRUCTION: HOLLOW METAL	REMARKS: PAIR OF DOORS	REMARKS: TEMPERED GLASS	REMARKS: INSTALL @ ACCESSIBLE LEVEL ONLY*	REMARKS: INSTALL @ ACCESSIBLE TOILET ROOM ONLY*	REMARKS: WEATHER STRIPPING	INSTRUCTIONS
1	3'-0"	6'-8"	1 3/4"	D1	●							●	PROVIDE CLOSER AND PUSH/PULL PLATES
2	3'-0"			D3		●							DOOR HEIGHT PER MANF. SPECS.
3	2'-4"			D3		●							DOOR HEIGHT PER MANF. SPECS.
4	3'-6"	6'-8"	1 3/4"	D1	●							●	
5	2-2'-6"	6'-8"	1 3/4"	D2	●			●				●	
6	2'-4"	6'-8"	1 3/4"	D1			●						

3 POOL HOUSE - DOOR SCHEDULE

SCALE: NOT TO SCALE

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Caitlin Crossing Pool House
Triangle Land Partners
Lillington, NC
PERMIT REVIEW SET (02-16-24)

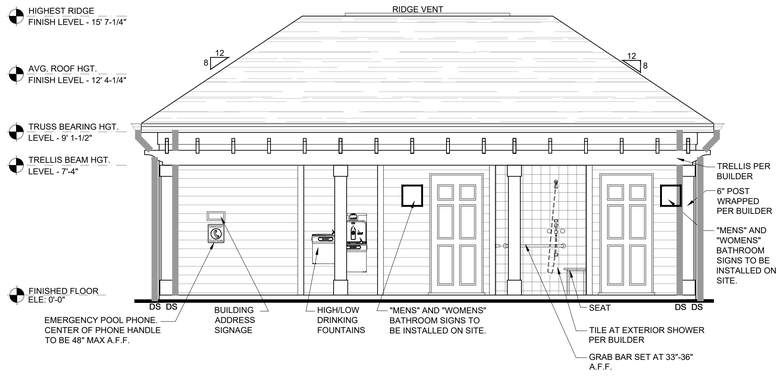
DANIEL R. SCHMIDT REGISTERED ARCHITECT 13142 NORTH CAROLINA RALEIGH, N.C.
2-16-2024

PROGRESS DATE:	-			
ISSUE DATE:	02-16-2024			
REVISIONS:	NUMBER	DATE	INITIALS	DESCRIPTION

PROJECT NO: 005623
DRAWN BY: TH / BB
CHECKED BY: DS

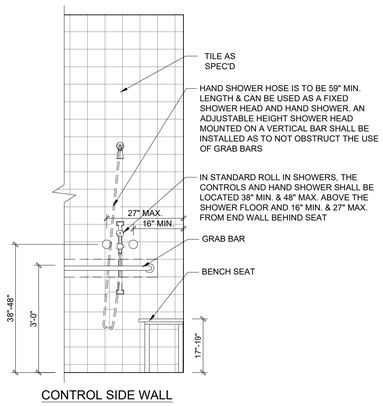
SHEET TITLE:
Pool House
Floor Plan & Roof Plan

SHEET NUMBER:
A100



3 POOL HOUSE - FRONT ELEVATIONS

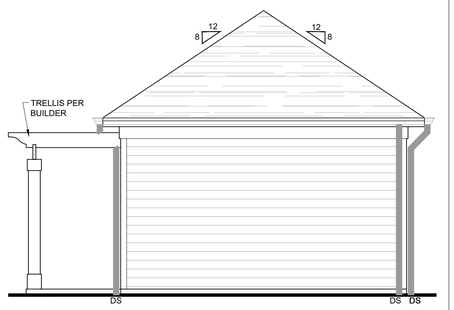
SCALE: 1/4" = 1'-0"



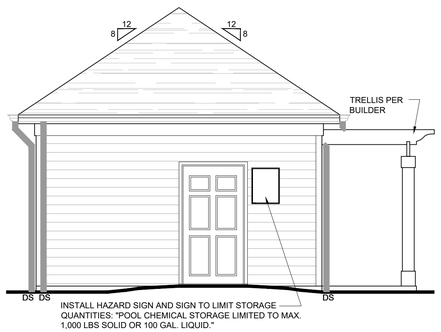
CONTROL SIDE WALL

5 POOL HOUSE - SHOWER ELEVATION

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



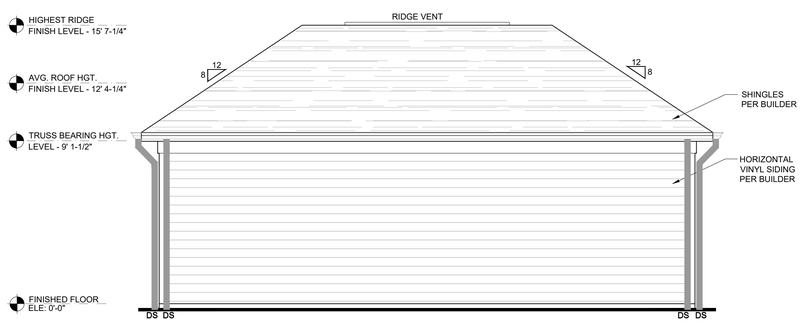
Ⓐ RIGHT SIDE



Ⓑ LEFT SIDE

2 POOL HOUSE - SIDE ELEVATIONS

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



1 POOL HOUSE - REAR ELEVATION

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

4 POOL HOUSE - WALL SECTION

SCALE: 3/4" = 1'-0"

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RALEIGH, NC

Caitlin Crossing Pool House
Triangle Land Partners
Lillington, NC
PERMIT REVIEW SET (02-16-24)

DANIEL R. SCHMIDT
REGISTERED ARCHITECT
13142
NORTH CAROLINA
RALEIGH, N.C.
2-16-2024

PROGRESS DATE:	-			
ISSUE DATE:	02-16-2024			
REVISIONS:	NUMBER	DATE	INITIALS	DESCRIPTION

PROJECT NO: 005623
DRAWN BY: TH / BB
CHECKED BY: DS

SHEET TITLE:
Pool House Elevations & Wall Sections

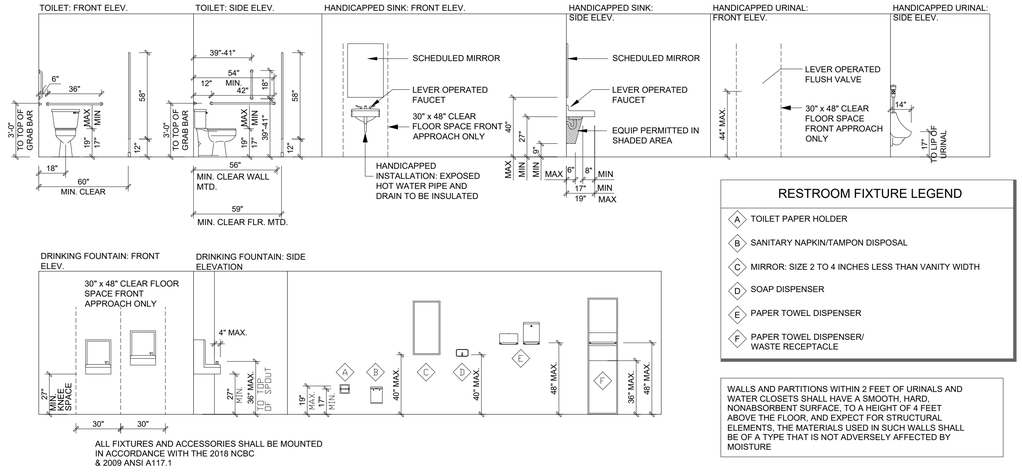
SHEET NUMBER:
A200

FLOOR CLEARANCES	
1	CLEAR FLOOR SPACE 30"X 48"
2	LAVATORY CLEAR FLOOR SPACE 30"X 48"
3	WATER CLOSET CLEAR FLOOR SPACE 60"X 59"
4	60" TURNING RADIUS

RESTROOM FIXTURE LEGEND
A. TOILET PAPER HOLDER
B. SANITARY NAPKIN/TAMPON DISPOSAL
C. MIRROR: SIZE 2 TO 4 INCHES LESS THAN VANITY WIDTH
D. SOAP DISPENSER
E. PAPER TOWEL DISPENSER
F. PAPER TOWEL DISPENSER/ WASTE RECEPTACLE

1 POOL HOUSE - ENLARGED BATH & SHOWER PLANS

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

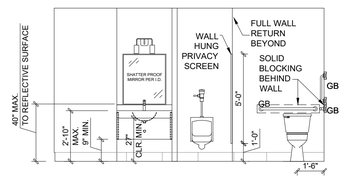


RESTROOM FIXTURE LEGEND
A TOILET PAPER HOLDER
B SANITARY NAPKIN/TAMPON DISPOSAL
C MIRROR: SIZE 2 TO 4 INCHES LESS THAN VANITY WIDTH
D SOAP DISPENSER
E PAPER TOWEL DISPENSER
F PAPER TOWEL DISPENSER/ WASTE RECEPTACLE

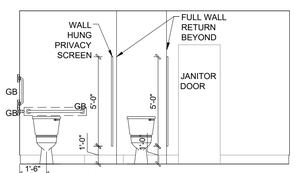
WALLS AND PARTITIONS WITHIN 2 FEET OF URINALS AND WATER CLOSETS SHALL HAVE A SMOOTH, HARD, NONABSORBENT SURFACE, TO A HEIGHT OF 4 FEET ABOVE THE FLOOR, AND EXPECT FOR STRUCTURAL ELEMENTS, THE MATERIALS USED IN SUCH WALLS SHALL BE OF A TYPE THAT IS NOT ADVERSELY AFFECTED BY MOISTURE

3 POOL HOUSE - FIXTURES & ACCESSORY ELEVATIONS

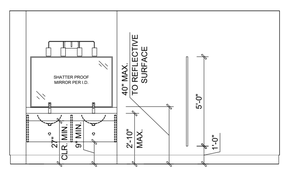
SCALE: 1/4" = 1'-0"



A1 MENS



B1 WOMENS



B2 WOMENS

2 POOL HOUSE - BATH ELEVATIONS

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

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Caitlin Crossing Pool House
Triangle Land Partners
Lillington, NC
PERMIT REVIEW SET (02-16-24)

DANIEL R. SCHMIDT REGISTERED ARCHITECT 13142 NORTH CAROLINA RALEIGH, N.C.
2-16-2024

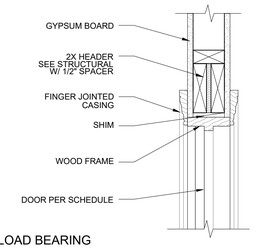
PROGRESS DATE:	-
ISSUE DATE:	02-16-2024

REVISIONS: NUMBER	DATE	INITIALS	DESCRIPTION

PROJECT NO: 005623
DRAWN BY: TH / BB
CHECKED BY: DS

SHEET TITLE:
Pool House Enlarged Plans & Interior Elevations

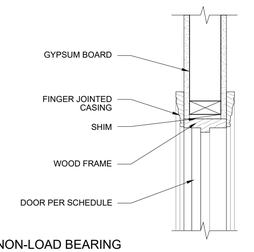
SHEET NUMBER:
A400



LOAD BEARING

1 INTERIOR DOOR HEADER

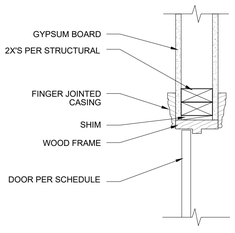
SCALE: 1-1/2" = 1'-0"



NON-LOAD BEARING

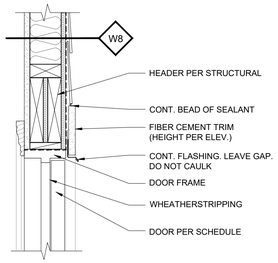
2 INTERIOR DOOR HEADER

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



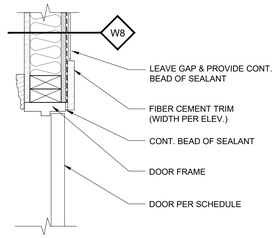
3 INTERIOR DOOR JAMB

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



4 EXTERIOR DOOR HEADER

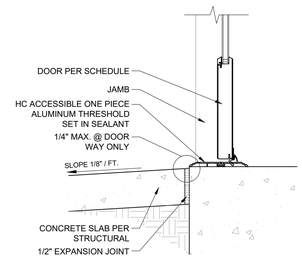
SCALE: 1-1/2" = 1'-0"



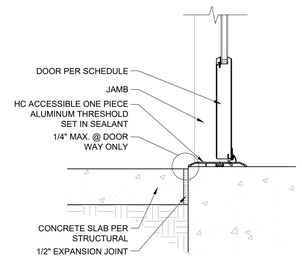
5 EXTERIOR DOOR JAMB

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

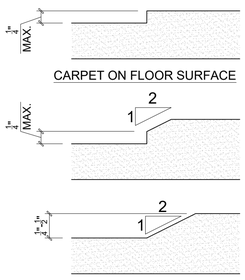
6 NOT USED



AT UNIT PATIO DOOR



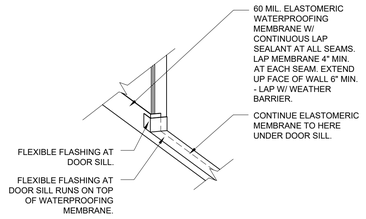
AT GROUND UNIT ENTRY DOOR



BEVELED CHANGES IN LEVEL

7 EXTERIOR DOOR SILL

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



8 EXT. DOOR SILL FLASHING

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

FLASHING REQUIRED AT THE FOLLOWING LOCATIONS (AT MIN)

- VALLEY FLASH MIN. 12" UP EACH SLOPE, AND INSTALL SPLASH DIVERTER RIB.
- STEP FLASH AT ROOF/WALL INTERSECTIONS, MIN. 8" VERTICALLY.
- COLLAR OR STEP FLASH AT ALL ROOF PENETRATIONS.
- UNDER BRICK INSTALLED ON TOP OF ROOF SURFACE.
- UNDER EXTERIOR FINISH MATERIAL AT ADJOINING DECK SURFACE.
- All WINDOW / DOOR HEADS & JAMBS.
- All WINDOW SILLS AND DOOR THRESHOLDS
- MASONRY / FRAME WALL INTERSECTIONS
- OTHER AREAS AS PER PROPER CONSTRUCTION PRACTICE

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Caitlin Crossing Pool House

Triangle Land Partners

Lillington, NC

PERMIT REVIEW SET (02-16-24)

DANIEL R. SCHMIDT REGISTERED ARCHITECT 13142 NORTH CAROLINA RALEIGH, N.C.

2-16-2024

REVISIONS: NUMBER	DATE	INITIALS	DESCRIPTION
-	02-16-2024		

PROGRESS DATE:
ISSUE DATE:

PROJECT NO: 005623
DRAWN BY: TH / BB
CHECKED BY: DS

SHEET TITLE:
Enlarged Door & Window Details

SHEET NUMBER:
A600

ROOF FRAMING NOTES:

1. ALL TRUSS SPACING IS AT 2'-0" O.C. UNLESS NOTED OTHERWISE. SPACE TRUSSES AT ATTIC ACCESS DOORS TO ALLOW FOR PROPER INSTALLATION.
2. TRUSS FABRICATOR SHALL VERIFY ALL DIMENSIONS, LAYOUTS AND COORDINATE WITH BEARING WALL AND BEAM LOCATIONS. ALTERNATE LAYOUT PLANS MAY BE SUBMITTED FOR APPROVAL.
3. THE CONTRACTOR MUST VERIFY THAT ALL LATERAL BRACING REQUIRED FOR TRUSS WEBS IS INSTALLED PER THE TRUSS SHOP DRAWINGS.
4. REFER TO FOUNDATION PLAN FOR DIMENSIONS AND TO ARCHITECTURAL PLANS FOR DIMENSIONS NOT SHOWN.
5. ALL TRUSS TO TRUSS CONNECTIONS SHALL BE SPECIFIED BY THE TRUSS DESIGNER AND SHALL BE CLEARLY INDICATED ON THE TRUSS SHOP DRAWINGS.
6. ROOF SHEATHING SHALL BE 7/16" OSB APA RATED, EXPOSURE 1 WITH "H" CLIPS AT UNSUPPORTED EDGES BETWEEN TRUSSES. SEE DETAIL 2/S301 FOR ROOF DECK NAILING PATTERN.
7. VERIFY LOCATION AND AMOUNTS OF ALL HEADERS.
8. SEE DETAIL 6/S301 FOR TOP PLATE SPLICE DETAIL.
9. SEE DETAILS 3/S301 AND 4/S301 FOR PERMANENT ROOF TRUSS BRACING. REFER TO TRUSS SHOP DRAWINGS FOR TRUSS BRACING REQUIREMENTS. SUBMIT ROOF TRUSS SHOP DRAWINGS FOR REVIEW AND APPROVAL.
10. PROVIDE MIN. (2) 2X STUDS BELOW ALL GIRDER TRUSS BEARING POINTS PROVIDE LGT TIE DOWN (LUN.O).
11. ANY TRUSS TIE DOWN SUBSTITUTIONS MUST BE APPROVED BY THE EOR

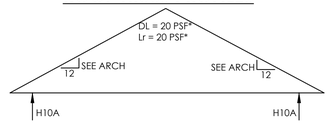
HEADER SCHEDULE

TYPE	SIZE	NOTES	SUPPORT
H1	(3) 2x8 DROPPED	W/ (2) 1/2" PLYWOOD SPACER.	(1) JACK + (1) KING

INTERIOR NON-BEARING HEADERS ARE NOT LABELED ON THE FRAMING PLANS. FOR OPENINGS IN INTERIOR NON-BEARING WALLS PROVIDE THE FOLLOWING HEADERS:

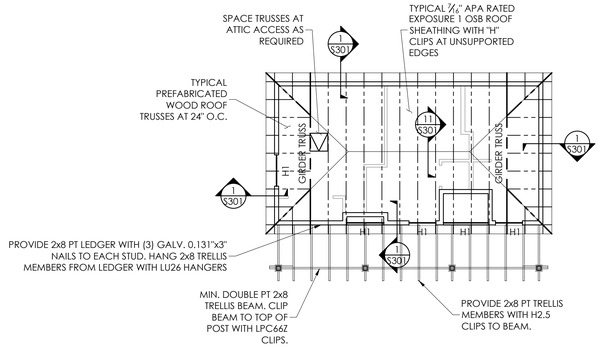
SPAN	SIZE	NOTES
3'-2" MAX	2x4 FLAT	FACE NAIL TO FULL HT. JAMB STUD W/ (2) 16d'S
6'-2" MAX	(2) 2x4	W/ (1) ½" PLYWOOD SPACER, (1) JACK + (1) KING
8'-2" MAX	(2) 2x8	W/ (1) ½" PLYWOOD SPACER, (1) JACK + (1) KING

ROOF TRUSS PROFILES



TYP. ROOF TRUSS

* ALL TRUSS PROFILES ARE NOT SHOWN.
* SEE S501 FOR TRUSS DESIGN CRITERIA
* SEE DETAILS FOR TIE DOWNS
*REFER TO STRUCTURAL DETAILS FOR TRUSS TIE DOWN REQUIREMENTS AND ADDITIONAL CONNECTION INFO.



POOL HOUSE ROOF FRAMING

SCALE: 1/8"=1'-0"

ABBREVIATIONS:

COL.	COLUMN
EX.	EXISTING
S.O.G.	SLAB ON GRADE
T.O.S.	TOP OF STEEL
T.O.P.	TOP OF PARAPET
T.O.M.	TOP OF MASONRY
O.C.	ON CENTERS SPACING
T+B	TOP AND BOTTOM
F.F.E.	FINISH FLOOR ELEVATION
TYP.	TYPICAL
DEMO.	DEMOLITION
CONT.	CONTINUOUS
CMU	CONCRETE MASONRY UNIT
STD.	STANDARD
XS.	EXTRA STRONG
XXS.	DOUBLE EXTRA STRING
GALV.	GALVANIZED
HD	HOLDDOWN
WWF	WIRE WELDED FABRIC
RT	ROOF TRUSS
GT	GIRDER TRUSS
FLRT	FLOOR TRUSS

FOUNDATION NOTES:

1. PROVIDE 4" THICK CONCRETE SLAB ON GRADE REINFORCED WITH WWF 6x6 W1.4-W1.4, OVER MINIMUM 6 MIL POLY VAPOR BARRIER. SLAB MAY BE PLACED DIRECTLY OVER COMPACTED SUBGRADE OR OVER 4" POROUS BASE, REFER TO GEOTECHNICAL REPORT RECOMMENDATIONS. IT IS STRUCTURALLY ACCEPTABLE TO USE FIBER MESH AT A DOSING RATE OF 1.5 LBS/CUY IN LIEU OF WELDED WIRE FABRIC.
2. ALL DIMENSIONS REFERENCED TO EDGE OF SLAB, VERIFY DIMENSIONS PRIOR TO CONSTRUCTION.
3. SEE ARCH. DWGS. FOR DIMENSIONS NOT SHOWN.
4. REFER TO ARCH. DWGS. FOR LOCATIONS OF RECESSED OR SLOPED SLAB AREAS. PROVIDE POSITIVE DRAINAGE.
5. SEE DETAIL 4/S201 FOR SLAB CONTROL JOINTS (CJ), ALTERNATE LAYOUT PLANS MAY BE SUBMITTED FOR APPROVAL.
6. REFER TO ARCHITECTURAL DRAWINGS FOR RATED WALL LOCATIONS.
7. SEE FOOTING SCHEDULE/SECTIONS FOR SIZES AND REINFORCING.
8. PROVIDE (1) 5'-0" LONG #5 BARS AT RE-ENTRANT CORNERS, PLACE AT MID-DEPTH OF SLAB.
9. SEE STUD SCHEDULE FOR MEMBER SIZES
10. "HD" INDICATED LOCATIONS OF HOLDOWNS. REFER TO HOLD DOWN SCHEDULE FOR MORE INFORMATION. HOLDOWNS HAVE BEEN DESIGNED TO RESIST OVERTURNING MOMENTS FROM SEISMIC AND WIND LOADS. ANY SUBSTITUTIONS MUST BE APPROVED BY THE EOR.
11. FOUNDATIONS ARE DESIGNED TO BEAR ON COMPETENT SOIL CAPABLE OF SUPPORTING 2000 PSF. SUBGRADE TO BE VERIFIED BY A GEOTECHNICAL ENGINEER.

STUD SCHEDULE

1. PROVIDE 2x6 STUDS AT 16" O.C. AT EXTERIOR WALLS.
2. PROVIDE MINIMUM 2x4 STUDS AT 16" O.C. AT INTERIOR WALLS, UNLESS ARCHITECTURAL PLANS INDICATE 2x6 STUDS.
3. ALL STUDS AND PLATES ARE SYP No. 2

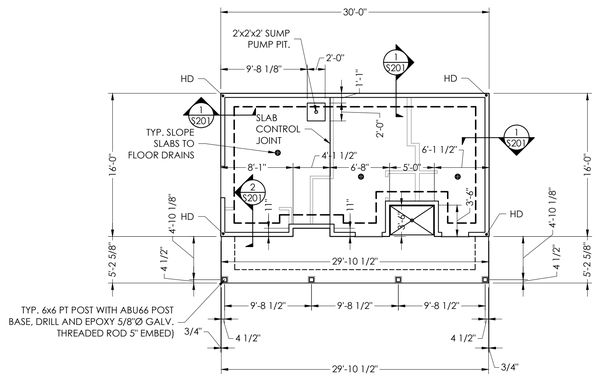
SHEAR WALL SCHEDULE

EXTERIOR WALLS
7/16" APA RATED OSB SHEATHING. **BLOCK ALL UNSUPPORTED EDGES WITH 2x4 BLOCKS.** PROVIDE MIN 8d'S AT 4" O.C. AT ALL EDGES AND 12" O.C. AT FIELD

HOLDOWN SCHEDULE (HD)

LOCATION	TIE DOWN
FOUNDATION	(1) LTT20B TIE (2) STUDS TO FOUNDATION. DRILL AND EPOXY 5/8" THREADED ROD (5" EMBED)

1. HOLDOWNS INDICATED IN TABLE SHALL BE USED AT ALL "HD" LOCATIONS.



POOL HOUSE FOUNDATION PLAN

SCALE: 1/8"=1'-0"

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Caitlin Crossing
Pool House
Lillington, North Carolina

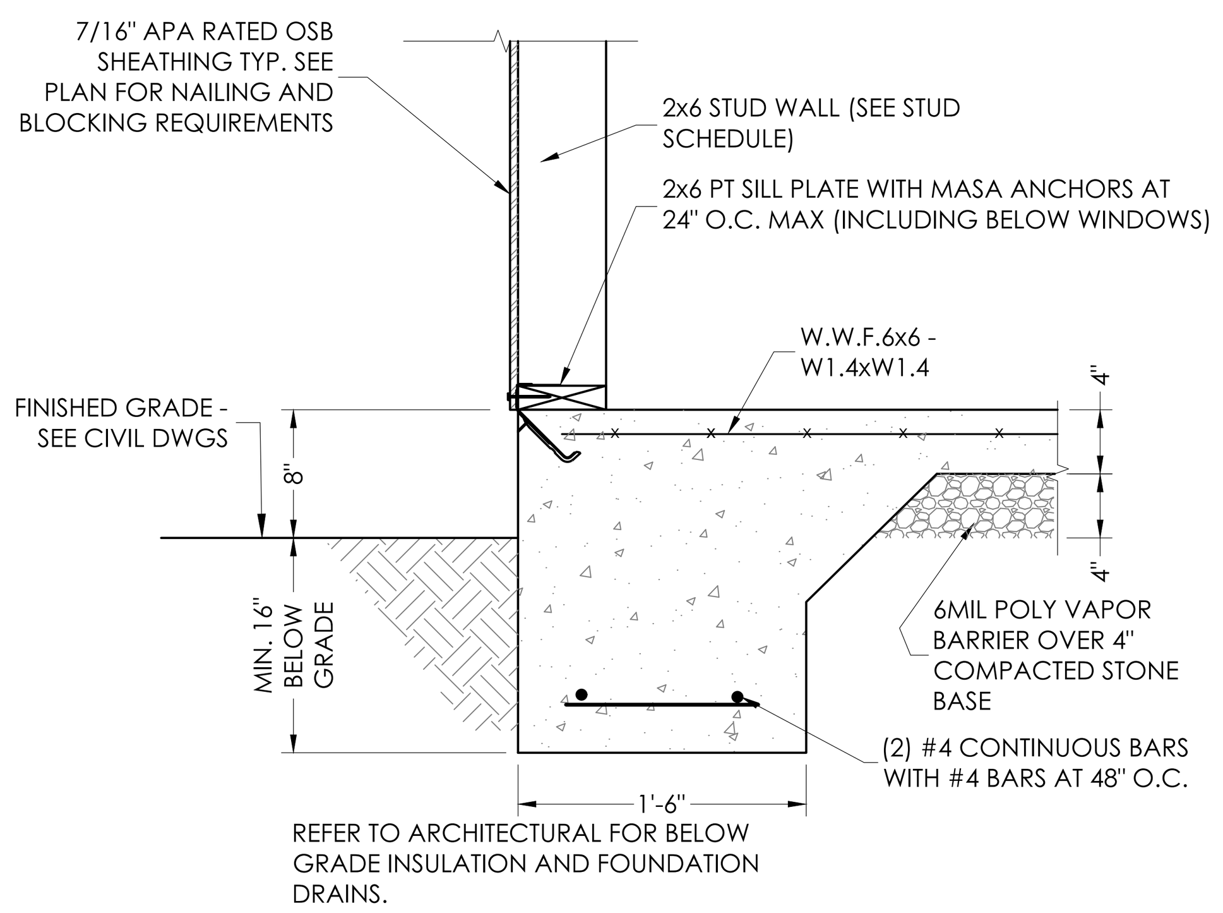
PROGRESS DATE:
ISSUE DATE: 02.14.2024

REVISIONS NUMBER	DATE	INITIALS	DESCRIPTION

PROJECT NO: 005623
DRAWN BY: RA
CHECKED BY: MGH

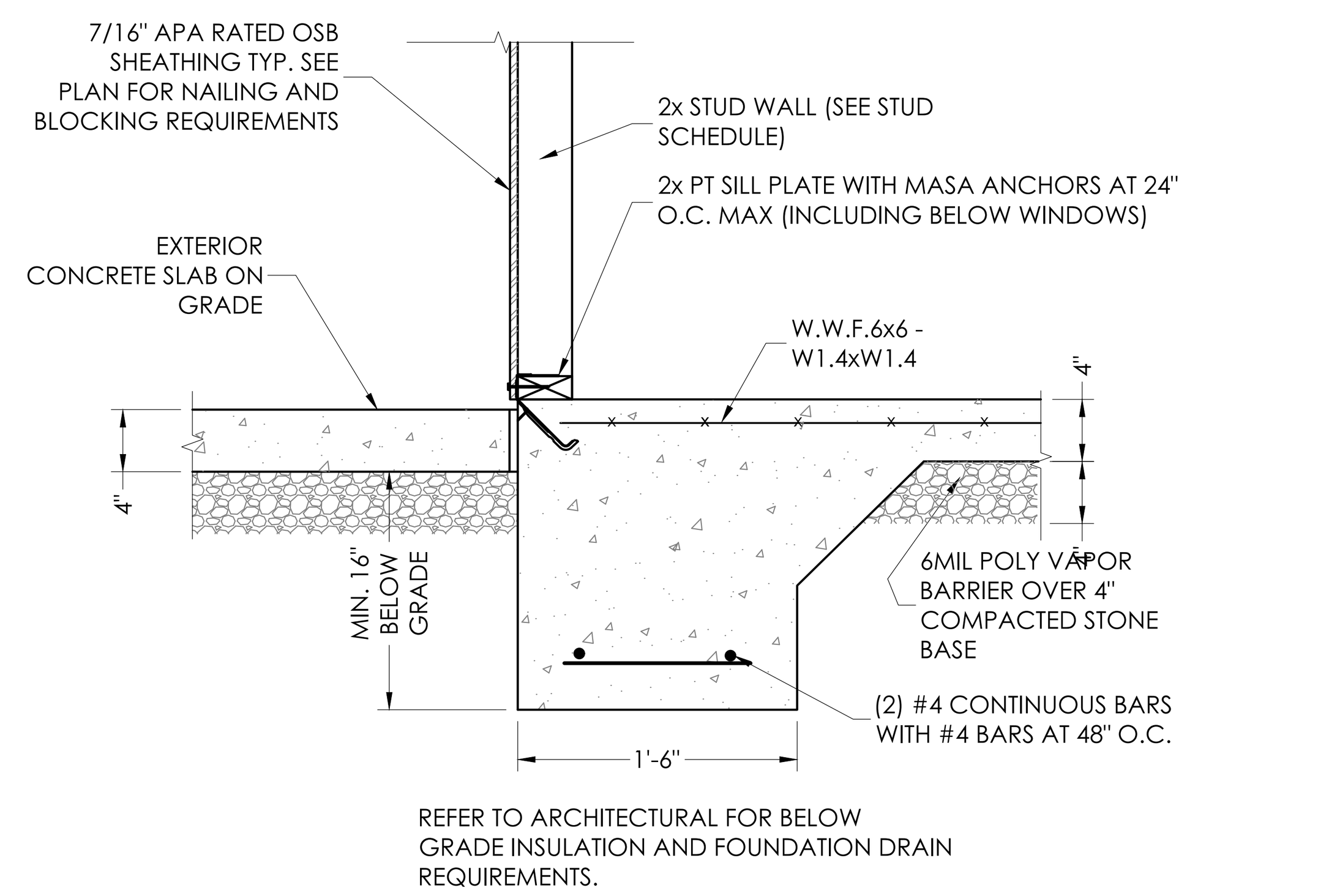
SHEET TITLE: FOUNDATION AND FRAMING PLANS

SHEET NUMBER: S101


7/16" APA RATED OSB SHEATHING TYP. SEE PLAN FOR NAILING AND BLOCKING REQUIREMENTS
2x6 STUD WALL (SEE STUD SCHEDULE)
2x6 PT SILL PLATE WITH MASA ANCHORS AT 24" O.C. MAX (INCLUDING BELOW WINDOWS)
W.W.F.6x6 - W1.4xW1.4
FINISHED GRADE - SEE CIVIL DWGS
8"
4"
4"
MIN. 16" BELOW GRADE
6MIL POLY VAPOR BARRIER OVER 4" COMPACTED STONE BASE
(2) #4 CONTINUOUS BARS WITH #4 BARS AT 48" O.C.
1'-6"
REFER TO ARCHITECTURAL FOR BELOW GRADE INSULATION AND FOUNDATION DRAINS.

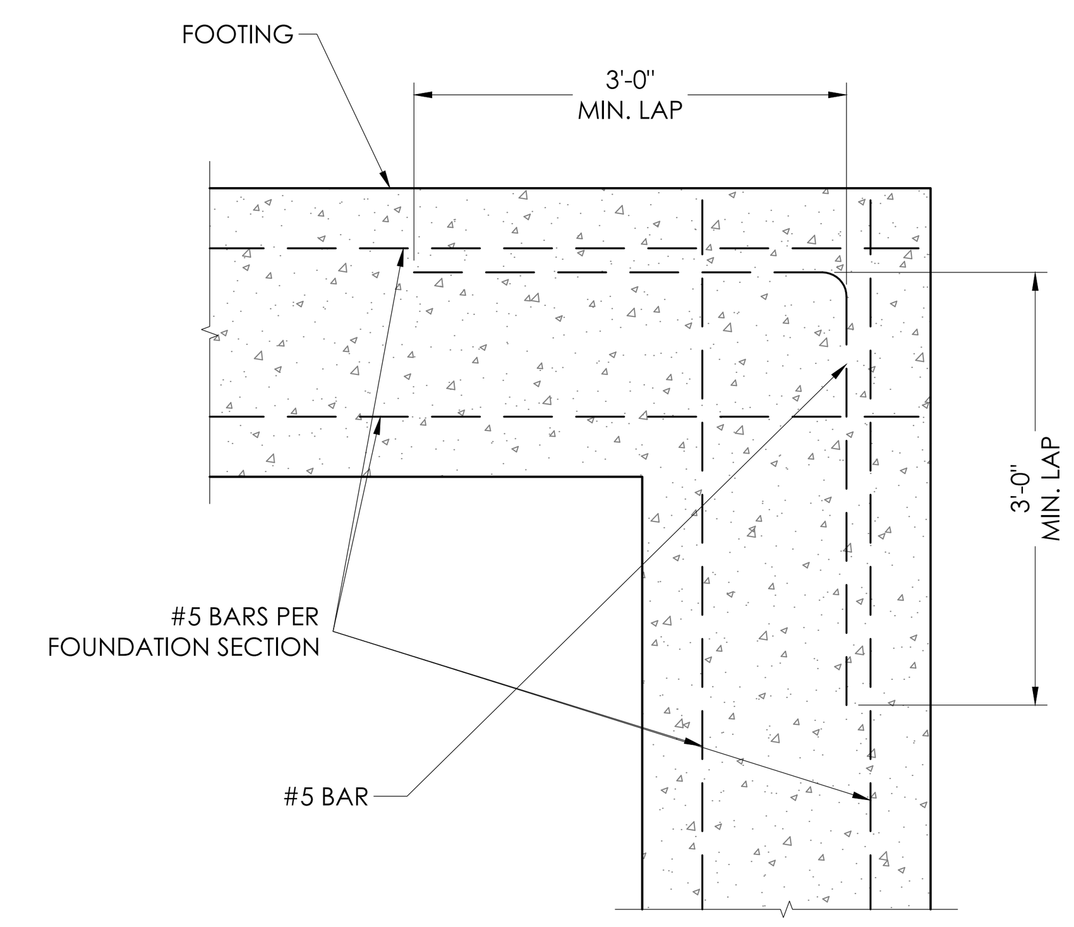
1 **EXTERIOR WALL SECTION**

SCALE: NONE


7/16" APA RATED OSB SHEATHING TYP. SEE PLAN FOR NAILING AND BLOCKING REQUIREMENTS
2x STUD WALL (SEE STUD SCHEDULE)
2x PT SILL PLATE WITH MASA ANCHORS AT 24" O.C. MAX (INCLUDING BELOW WINDOWS)
EXTERIOR CONCRETE SLAB ON GRADE
W.W.F.6x6 - W1.4xW1.4
4"
4"
MIN. 16" BELOW GRADE
6MIL POLY VAPOR BARRIER OVER 4" COMPACTED STONE BASE
(2) #4 CONTINUOUS BARS WITH #4 BARS AT 48" O.C.
1'-6"
REFER TO ARCHITECTURAL FOR BELOW GRADE INSULATION AND FOUNDATION DRAIN REQUIREMENTS.

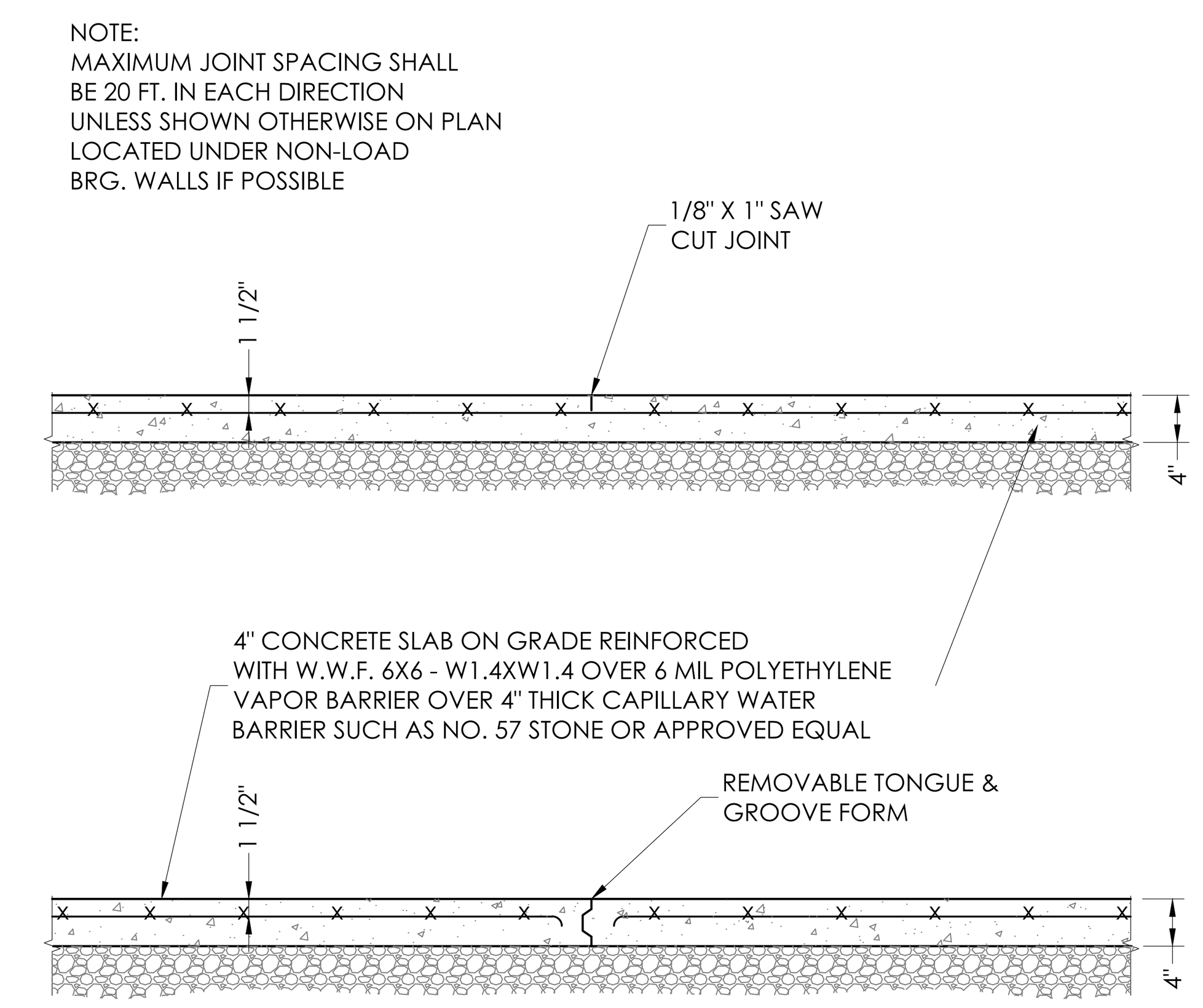
2 **WALL SECTION AT EXTERIOR CONCRETE SLAB**

SCALE: NONE



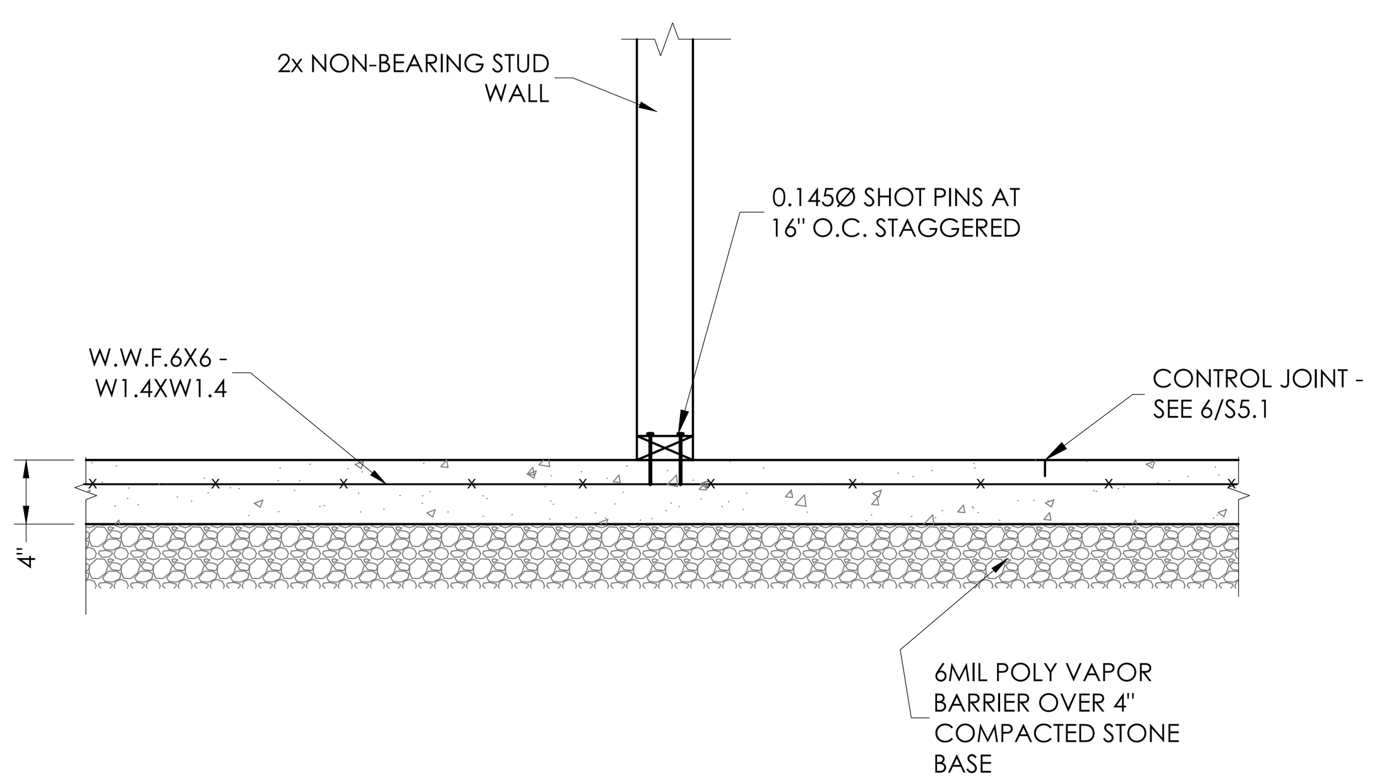
3 **FOOTING REBAR AT CORNER CONDITION**

SCALE: NONE


NOTE:
MAXIMUM JOINT SPACING SHALL BE 20 FT. IN EACH DIRECTION UNLESS SHOWN OTHERWISE ON PLAN LOCATED UNDER NON-LOAD BRG. WALLS IF POSSIBLE
1/8" X 1" SAW CUT JOINT
1 1/2"
4"
4" CONCRETE SLAB ON GRADE REINFORCED WITH W.W.F. 6X6 - W1.4XW1.4 OVER 6 MIL POLYETHYLENE VAPOR BARRIER OVER 4" THICK CAPILLARY WATER BARRIER SUCH AS NO. 57 STONE OR APPROVED EQUAL
REMOVABLE TONGUE & GROOVE FORM
1 1/2"
4"

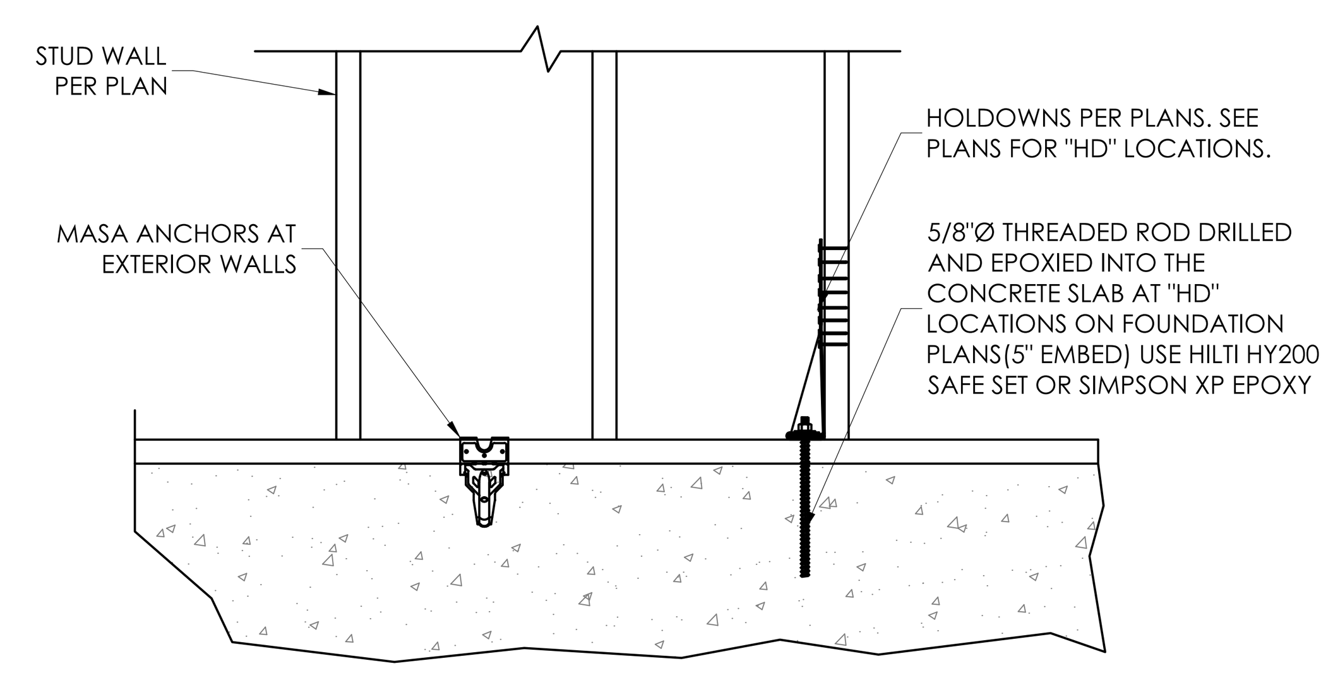
4 **SLAB CONTROL JOINT**

SCALE: NONE



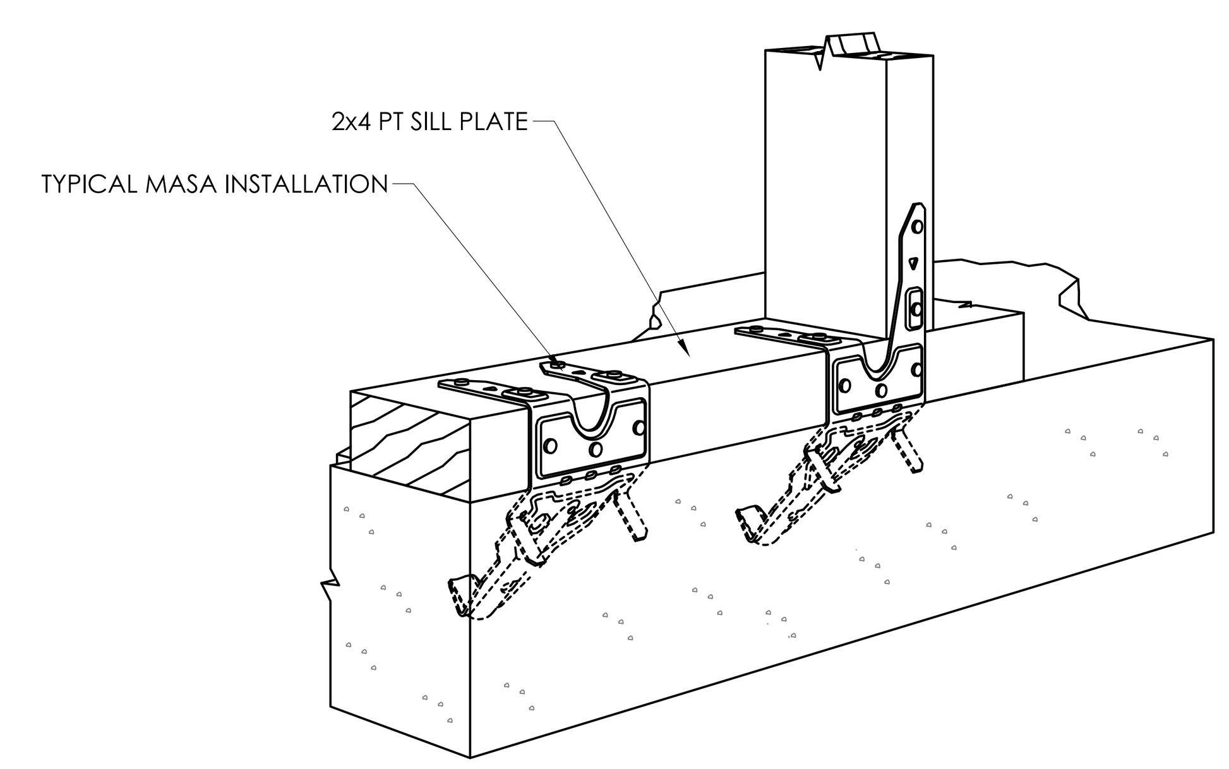
5 **NON-BEARING WALL ATTACHMENT**

SCALE: NONE


STUD WALL PER PLAN
MASA ANCHORS AT EXTERIOR WALLS
HOLDOWNS PER PLANS. SEE PLANS FOR "HD" LOCATIONS.
5/8"Ø THREADED ROD DRILLED AND EPOXIED INTO THE CONCRETE SLAB AT "HD" LOCATIONS ON FOUNDATION PLANS(5" EMBED) USE HILTI HY200 SAFE SET OR SIMPSON XP EPOXY

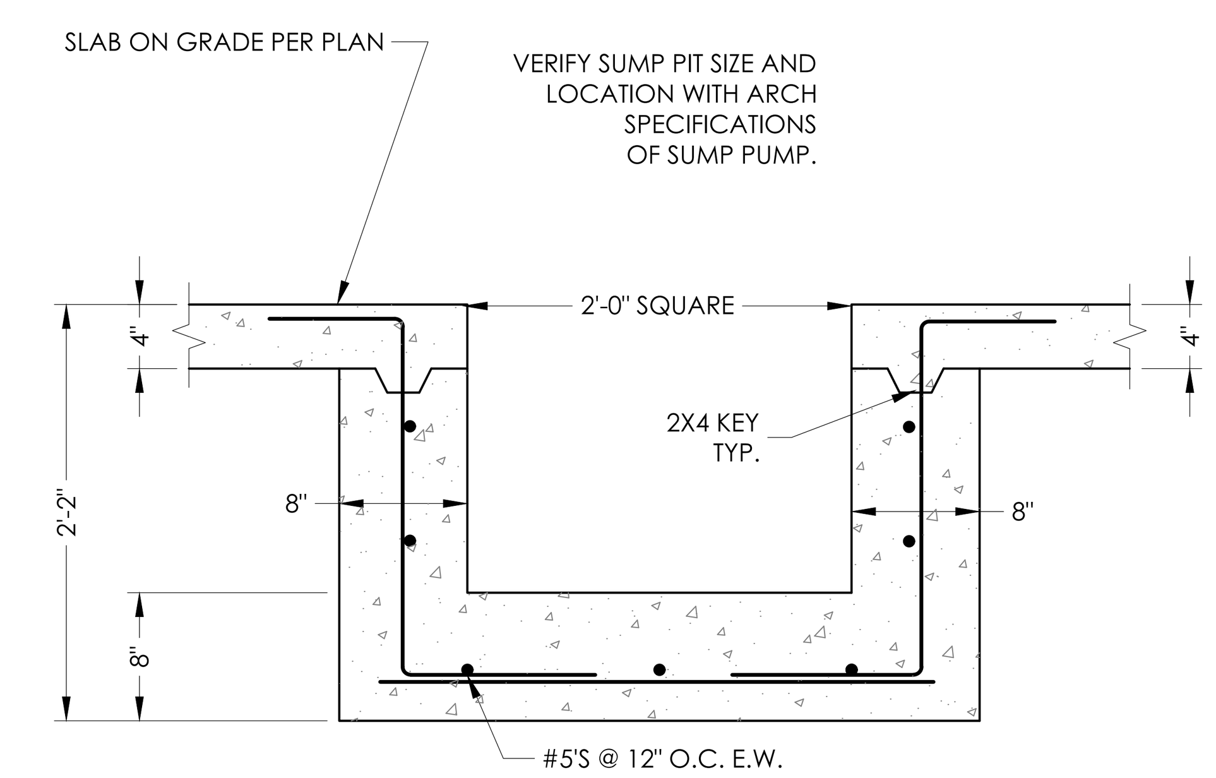
6 **SILL PLATE ANCHORAGE**

SCALE: NONE



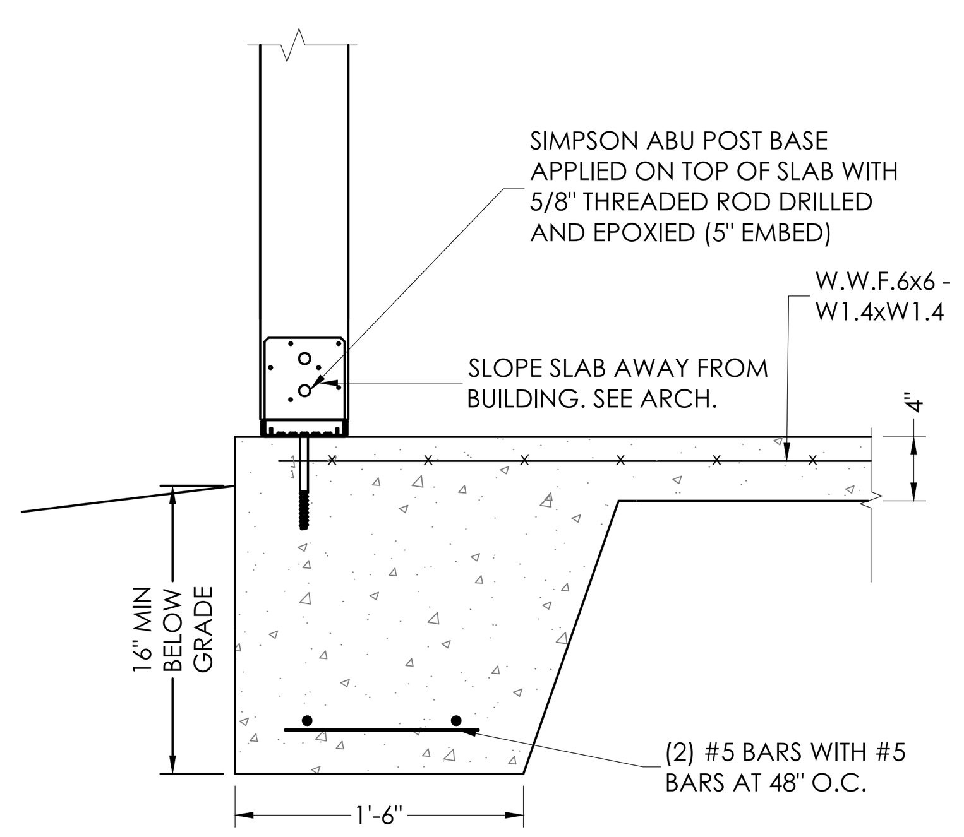
7 **MASA SILL PLATE ANCHOR ISOMETRIC**

SCALE: NONE



8 **SUMP PUMP PIT**

SCALE: NONE



9 **TURN DOWN SLAB EDGE AT PATIO WITH POST BASE**

SCALE: NONE

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NORTH CAROLINA PROFESSIONAL SEAL 035814 ENGINEER MICHAEL GABRIEL HAUSER
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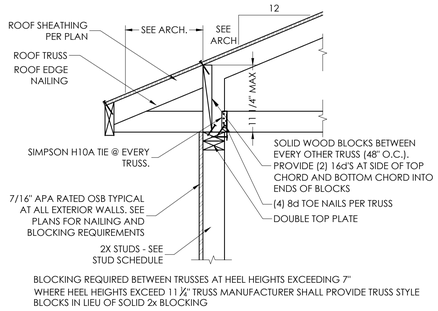
2/14/2024

Caitlin Crossing
Pool House
Lillington, North Carolina

PROGRESS DATE:	
ISSUE DATE:	02.14.2024

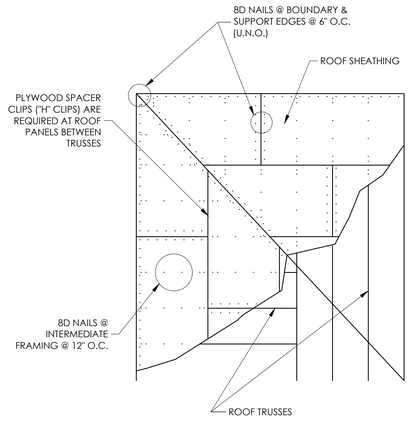
REVISIONS: NUMBER	DATE	INITIALS	DESCRIPTION
△			

PROJECT NO:	005623
DRAWN BY:	RA
CHECKED BY:	MGH
SHEET TITLE:	Foundation Details
SHEET NUMBER:	S201



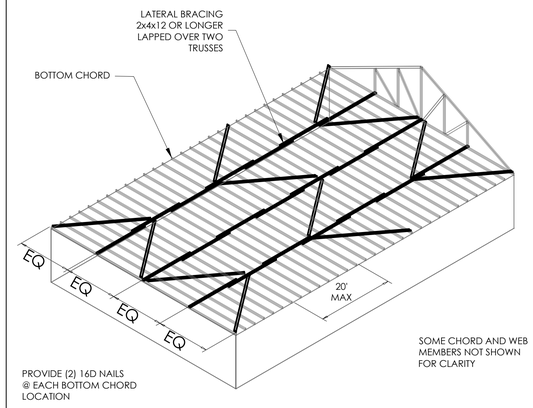
1 TYPICAL ROOF TRUSS BEARING AT EXTERIOR WALL

SCALE: NONE



2 HIP ROOF NAILING PATTERN

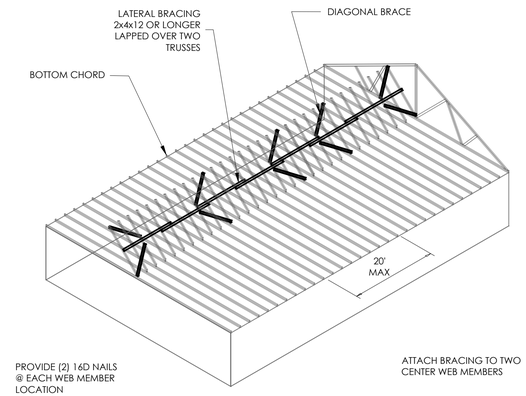
SCALE: NONE



PERMANENT BRACING OF THE BOTTOM TRUSS CHORD

3 PERMANENT TRUSS BRACING

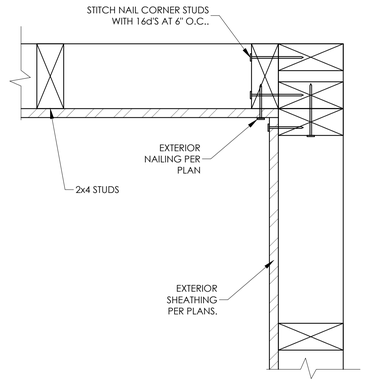
SCALE: NONE



PERMANENT BRACING OF CENTER WEB MEMBERS

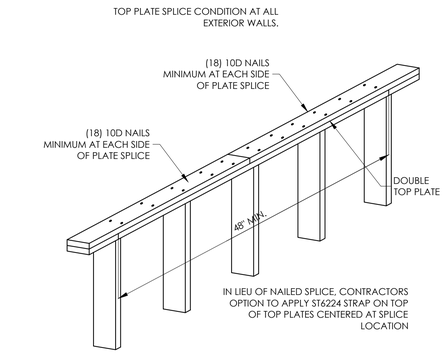
4 PERMANENT TRUSS BRACING

SCALE: NONE



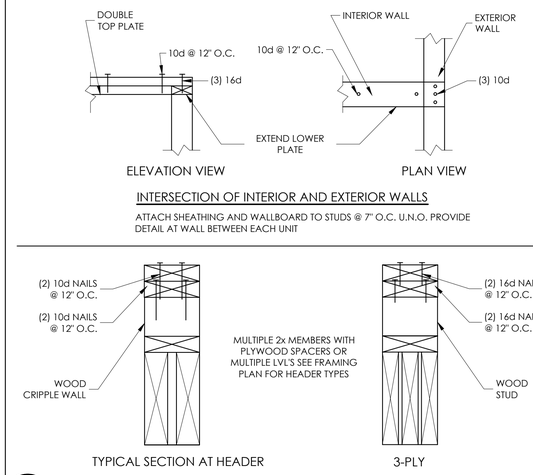
5 CORNER FRAMING DETAIL

SCALE: NONE



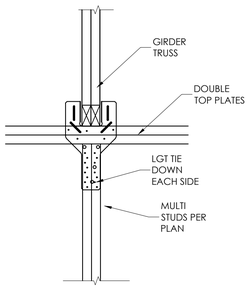
6 TYPICAL DOUBLE TOP PLATE SPLICE

SCALE: NONE



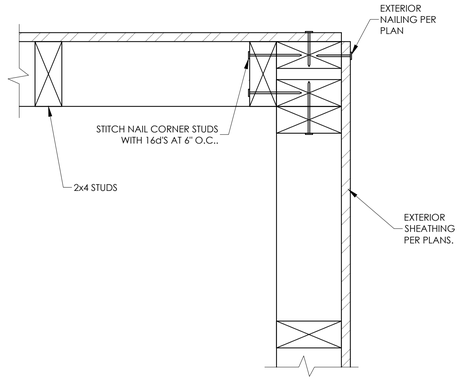
7 HEADER SECTION

SCALE: NONE



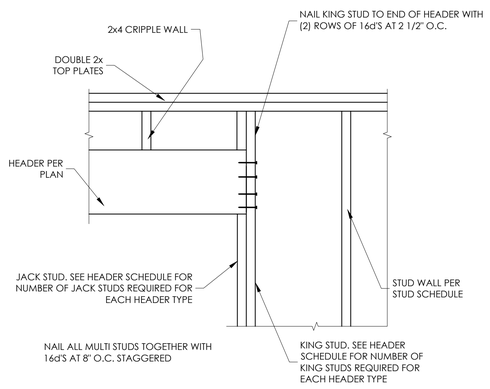
8 FLUSH ROOF BEAM

SCALE: NONE



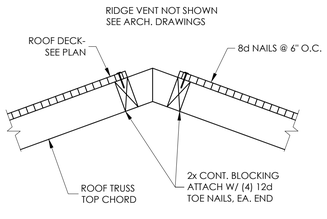
9 CORNER FRAMING DETAIL

SCALE: NONE



10 HEADER BEARING DETAIL

SCALE: NONE



SECTION @ RIDGE

11 RIDGE VENT

SCALE: NONE

12

SCALE: NONE

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2/14/2024

Caitlin Crossing
Pool House
Lillington, North Carolina

PROGRESS DATE:	ISSUE DATE:	REVISIONS NUMBER	DATE	INITIALS	DESCRIPTION
	02.14.2024				

PROJECT NO: 005623
DRAWN BY: RA
CHECKED BY: MGH

SHEET TITLE: Framing Details

SHEET NUMBER: S301

FOUNDATION NOTES:

1. FOUNDATION DESIGN IS BASED UPON ASSUMED SOIL BEARING VALUE OF 2000 PSF.
2. THE SOIL BEARING CAPACITY AND CONSISTENCY SHALL BE VERIFIED FOR THE BUILDING LIMITS BY A REGISTERED GEO-TECHNICAL ENGINEER WHEN FOUNDATION EXCAVATIONS HAVE BEEN CARRIED DOWN TO THE PROPOSED ELEVATIONS. THE BOTTOM OF ALL EXTERIOR FOOTINGS SHALL BE BELOW THE FROST LINE OR 16" BELOW GRADE, WHICH EVER IS GREATER. (U.N.O.)
4. WHERE FOOTING EXCAVATIONS ARE TO REMAIN OPEN AND MAY BE EXPOSED TO RAINFALL, THE EXCAVATIONS SHALL BE UNDERCUT AND A 3" THICK MUD MAT OF 2000 PSI CONCRETE SHALL BE PLACED OR CLEAN GRAVEL SHALL BE PLACED IN THE BOTTOM TO PROTECT THE BEARING SOILS.
5. WHERE FOOTING STEPS ARE NECESSARY, THEY SHALL BE NO STEEPER THAN 1 VERTICAL TO 2 HORIZONTAL, UNLESS SHOWN OTHERWISE ON PLANS.

REINFORCED CONCRETE:

1. ALL CONCRETE WORK SHALL CONFORM TO THE "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE," (ACI 318, 05)
2. REINFORCING STEEL SHALL BE DEFORMED BARS ASTM A-615 (GRADE 60)
3. FOUNDATIONS AND SLAB-ON-GRADE COMPRESSIVE STRENGTH AT 28 DAYS SHALL BE 3000 P.S.I. (SEE CIVIL DRAWINGS FOR SITE CONCRETE) KEEP COPY OF CONC. TEST REPORTS ON SITE AT ALL TIMES.
4. WALL COMPRESSIVE STRENGTH AT 28 DAYS SHALL BE 4000 P.S.I. (SEE CIVIL DRAWINGS FOR SITE CONCRETE) KEEP COPY OF CONC. TEST REPORTS ON SITE AT ALL TIMES
5. LAP SPLICES FOR #5 REINFORCING BARS SHALL BE 36" MIN., AND #6 REINFORCING BARS SHALL BE 43" MIN., UNLESS SUBMITTED AND APPROVED OTHERWISE.
6. CLEAR CONCRETE COVER FOR REINFORCING STEEL:
   - WALLS: 3" CAST AGAINST GROUND; 2" FORMED EDGES
   - FOOTINGS: 2" FORMED EDGES; 3" CAST AGAINST GROUND
   - SLAB ON GRADE: MID-HEIGHT OF SLAB
7. THE LONGITUDINAL REINFORCING STEEL IN WALLS AND FOOTINGS SHALL BE CONTINUOUS AROUND CORNERS. SEE TYPICAL DETAILS.
8. SLUMP LIMIT IS 5 INCHES FOR CONCRETE WITH VERIFIED SLUMP OF 2 TO 4 INCHES BEFORE ADDING HIGH-RANGE WATER-REDUCING ADMIXTURE OR PLASTICIZING ADMIXTURE, PLUS OR MINUS 1 INCH
9. AIR CONTENT: 6 PERCENT, PLUS OR MINUS 1.5 PERCENT AT POINT OF DELIVERY FOR 3/4-INCH NOMINAL MAXIMUM AGGREGATE SIZE. EXCEPTION TROWEL-FINISHED FLOOR SHALL NOT EXCEED 3 PERCENT.
10. MAXIMUM COARSE-AGGREGATE SIZE: 3/4 INCH NOMINAL.
11. PORTLAND CEMENT: ASTM C 150/C 150M, TYPE I.
12. COLD-WEATHER PLACEMENT: COMPLY WITH ACI 306.1.
13. HOT-WEATHER PLACEMENT: COMPLY WITH ACI 301.
14. DESIGN, ERECT, SHORE, BRACE, AND MAINTAIN FORMWORK, ACCORDING TO ACI 301, TO SUPPORT VERTICAL, LATERAL, STATIC, AND DYNAMIC LOADS, AND CONSTRUCTION LOADS THAT MIGHT BE APPLIED, UNTIL STRUCTURE CAN SUPPORT SUCH LOADS. PLACE FORMWORK SO CONCRETE MEMBERS AND STRUCTURES ARE OF SIZE, SHAPE, ALIGNMENT, ELEVATION, AND POSITION INDICATED, WITHIN TOLERANCE LIMITS OF ACI 117. CHAMFER EXTERIOR CORNERS AND EDGES OF PERMANENTLY EXPOSED CONCRETE
15. BEFORE PLACING CONCRETE, VERIFY THAT INSTALLATION OF FORMWORK, REINFORCEMENT, AND EMBEDDED ITEMS IS COMPLETE AND THAT REQUIRED INSPECTIONS ARE COMPLETED. DEPOSIT CONCRETE CONTINUOUSLY IN ONE LAYER OR IN HORIZONTAL LAYERS OF SUCH THICKNESS THAT NO NEW CONCRETE IS PLACED ON CONCRETE THAT HAS HARDENED ENOUGH TO CAUSE SEAMS OR PLANES OF WEAKNESS. IF A SECTION CANNOT BE PLACED CONTINUOUSLY, PROVIDE CONSTRUCTION JOINTS AS INDICATED. DEPOSIT CONCRETE TO AVOID SEGREGATION. CONSOLIDATE PLACED CONCRETE WITH MECHANICAL VIBRATING EQUIPMENT ACCORDING TO ACI 301.
16. ALL CONCRETE SHALL BE VIBRATED BY MECHANICAL VIBRATORS.

DESIGN INFORMATION:

1. ALL CONSTRUCTION SHALL CONFORM TO THE NORTH CAROLINA BUILDING CODE 2018 AND ASCE 7-10
2. DESIGN LOADS:
   DEAD AND LIVE LOADS
   ROOF LOADS
   - TOP CHORD DEAD 10 psf
   - BOTTOM CHORD DEAD 10 psf
   - TOP CHORD LIVE 20 psf
   - BOTTOM CHORD LIVE 10 psf
   - CATWALK (or mechanical platform) 40 psf

   RISK CATEGORY II

   IMPORTANCE FACTORS
   - I seismic 1.0
   - I snow 1.0

   GROUND SNOW LOAD (pg) 15 psf

   DESIGN WIND SPEED Risk Cat II = 120 mph (ASCE 7-10)

   SEISMIC DESIGN PARAMETERS
   - S1 0.086
   - Ss 0.183
   - SITE CLASS D
   - Sds 0.195
   - Sd1 0.136
   - SEISMIC DESIGN CATEGORY C
3. ADDITIONAL LIVE LOADS PRESCRIBED IN ASCE7-10 RELATED TO ROOF ATTICS AND ROOF TRUSSES, INCLUDING LIMITED ACCESS STORAGE IN ATTICS SHALL APPLY TO PRE-FABRICATED TRUSSES, AND SHALL BE CLEARLY IDENTIFIED ON THE TRUSS SHOP DRAWINGS..
4. THE DESIGN ADEQUACY AND SAFETY OF ERECTION BRACING, SHORING, TEMPORARY SUPPORTS, ETC. IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
5. FOR LOCATION OF MISCELLANEOUS ITEMS (SUCH AS INSERTS, ETC.) AFFECTING STRUCTURAL WORK, SEE ARCHITECTURAL, MECHANICAL, PLUMBING AND ELECTRICAL DRAWINGS.
6. THIS PROJECT CONTAINS A SERIES OF DETAILS CONSIDERED "TYPICAL DETAILS". THESE SHALL APPLY AT ALL SITUATIONS THAT ARE THE SAME OR SIMILAR AS THESE DETAILS. THESE "TYPICAL DETAILS" SHALL APPLY WHETHER OR NOT THEY ARE INDICATED OR CUT AT EACH LOCATION.
7. VERIFY EXISTING CONDITIONS AND NOTIFY ARCHITECT AND ENGINEER OF ANY CONDITIONS WHICH DO NOT COMPLY WITH PLANS AND SPECIFICATIONS. STRUCTURAL DRAWINGS MUST BE WORKED WITH ARCHITECTURAL DRAWINGS.
8. USE OF STRUCTURAL DRAWINGS FOR SHOP DRAWINGS IS NOT PERMITTED. THE CONTRACTOR SHALL REVIEW AND STAMP DRAWINGS ACCORDINGLY PRIOR TO SUBMITTING TO THE ENGINEER. THE OMISSION OF ITEMS FROM SHOP DRAWINGS SHALL NOT RELIEVE CONTRACTOR OF RESPONSIBILITY OF FURNISHING AND INSTALLING ITEMS REGARDLESS OF WHETHER SHOP DRAWINGS HAVE BEEN REVIEWED AND APPROVED.

WOOD FRAMING (NOT INCLUDING PRE-FABRICATED TRUSSES):

1. ALL WOOD CONSTRUCTION SHALL CONFORM TO THE 2018 NORTH CAROLINA BUILDING CODE AND TO THE NDS.
2. ALL NAILING (UNLESS NOTED OTHERWISE) SHALL CONFORM TO THE 2018 NORTH CAROLINA BUILDING CODE
3. ALL STUDS, TOP PLATES AND SILL PLATES IN BEARING WALLS SHALL BE SPF NO. 2 OR BETTER OR SYP NO. 2 OR BETTER.
4. ALL STUDS, TOP PLATES AND SILL PLATES IN NON-BEARING WALLS SHALL BE SPF STUD GRADE OR BETTER.
5. ALL 2x NOMINAL HEADERS SHALL BE SPF NO. 2 OR BETTER OR SYP NO. 2 OR BETTER.
6. ALL EXPOSED LUMBER SHALL BE PRESERVATIVE TREATED.
7. FINGER JOINTED STUDS MAY BE USED IN INTERIOR APPLICATIONS PROVIDED THE STRUCTURAL PROPERTIES EQUAL OR EXCEED THAT OF THE SOLID SAWN LUMBER. FINGER JOINTED LUMBER SHALL NOT BE USED IN EXPOSED CONDITIONS.
8. ALL CONNECTIONS IN EXPOSED LUMBER SHALL BE HOT DIPPED GALVANIZED OR STAINLESS STEEL.
9. ALL LUMBER IN CONTACT WITH CONCRETE SHALL BE PRESERVATIVE TREATED.
10. ALL MANUFACTURED LAMINATED VENEER LUMBER (LVL) SHALL HAVE A MODULUS OF ELASTICITY OF 2E6 psi AND A MINIMUM BENDING STRENGTH OF 2800 psi.
11. UNDER NO CIRCUMSTANCE SHALL LAMINATED VENEER LUMBER BE USED IN AN EXPOSED CONDITION. WHERE MANUFACTURER LUMBER IS REQUIRED IN AN EXPOSED CONDITION THE CONTRACTOR MUST USED PRESERVATIVE TREATED GLU-LAMINATED LUMBER (GLB).

WOOD TRUSSES:

1. IN ADDITION TO THE UNIFORM LOADING SPECIFIED FOR TRUSS DESIGN, THE TRUSS SUPPLIER SHALL INCLUDE ANY CONCENTRATED LOADS CAUSED BY ARCHITECTURAL FEATURES OR M, P&E EQUIPMENT OR MATERIALS AND BY SPRINKLER LOADS IN THE TRUSS DESIGN.
2. TRUSSES SHALL BE DESIGNED BY A REGISTERED ENGINEER IN THE STATE OF NORTH CAROLINA AND SHOP DRAWINGS BEARING THE ENGINEER'S SEAL SHALL BE SUBMITTED FOR APPROVAL.
3. TRUSSES SHALL BE DESIGNED, FABRICATED AND ERECTED IN ACCORDANCE WITH APPLICABLE STANDARDS OF THE TRUSS PLATE INSTITUTE.
4. LIMIT LIVE LOAD DEFLECTION TO L/360. LIMIT TOTAL LOAD DEFLECTION TO L/240 OR 1" MAX.

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NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 035814 MICHAEL GABRIEL HAISER

Caitlin Crossing
Pool House
Lillington, North Carolina

REVISIONS NUMBER	DATE	INITIALS	DESCRIPTION
			02.14.2024

PROGRESS DATE:
ISSUE DATE:

PROJECT NO: 005623
DRAWN BY: RA
CHECKED BY: MGH

SHEET TITLE: General Notes

SHEET NUMBER: S401

1. All drawings are to be coordinated with all site information by owner and contractor, and applicable codes.
2. Contractor is to notify architect immediately of conditions or items varying from depicted information.
3. Planworx Architecture, P.A. is not responsible for constructed variations from the information depicted.
4. Planworx Architecture, P.A. will not assume any liability for expenses associated with errors and omissions on these drawings unless offset by verified construction savings as a result of planworx architecture, P.A. Design.
5. Planworx Architecture, P.A. retains ownership of all of designs depicted and implied herein.
6. Planworx Architecture, P.A. is not responsible for estimating, maintaining, or regulating construction costs associated with these plans.

PLUMBING FIXTURE SCHEDULE						
SYMBOL	FIXTURE	MANUFACTURER	FITTING	HW	CW	WASTE
P1	TWO PIECE TANK TYPE WATER CLOSET	TOTO CST744EL OR EQUAL BY AMERICAN STANDARD OR KOHLER	TWO-PIECE VITREOUS CHINA TOILET WITH HIGH-PROFILE TANK, ELONGATED FRONT BOWL AND CHROME TRIP LEVER. 1.28 GPF. PROVIDE SC534 OPEN FRONT SEAT LESS COVER. ASME 112.19.2 COMPLIANCE.	-	1/2"	3"
P1H	TWO PIECE TANK TYPE ADA WATER CLOSET	TOTO CST744EL OR EQUAL BY AMERICAN STANDARD OR KOHLER	TWO-PIECE VITREOUS CHINA TOILET WITH HIGH-PROFILE TANK, ELONGATED FRONT BOWL AND CHROME TRIP LEVER. 1.28 GPF. PROVIDE SC534 OPEN FRONT SEAT LESS COVER. ASME 112.19.2 COMPLIANCE. TOP OF SEAT SHALL BE 17-19 INCHES AFF FOR ADA. LEVER MOUNTED ON WIDE SIDE FOR ADA	-	1/2"	3"
P2	COUNTER MOUNT LAVATORY	TOTO LT511.4 OR EQUAL BY AMERICAN STANDARD OR KOHLER	VITREOUS CHINA SELF-RIMMING LAVATORY COMPLYING WITH ASME 112.19.2. MOUNT SO RIM IS 34 INCHES AFF AND 2 INCHES FROM FRONT EDGE FOR ADA. PROVIDE WITH LAV-GUARD PROTECTORS SUPPLY AND DRAIN LINES. USE A METERING TYPE FAUCET SIMILAR TO CHICAGO 3300-CP.	1/2"	1/2"	2"
P3	URINAL	TOTO UT447E OR EQUAL BY AMERICAN STANDARD OR KOHLER	VITREOUS CHINA, WALL-MOUNTED, ADA COMPLIANT, LOW CONSUMPTION WASHOUT URINAL COMPLYING WITH ASME 112.19.2. 0.5 GPF. SLOAN CROWN 186-0.5 FLUSHOMETER VALVE OR EQUAL BY ZURN OR TOTO. TOP OF RIM SHALL BE 17 INCHES AFF FOR ADA.	-	3/4"	2"
P4	SHOWER	TILED SHOWER	PROVIDE SUBMITTALS TO OWNER. ADD HAND SHOWER ATTACHMENT. (DELTA 1300 SERIES, R1000 SHOWER VALVE)	-	1/2"	2"
P5	DRINKING FOUNTAIN	OASIS P8ACSL OR EQUAL BY ELKAY OR STERN WILLIAMS	ADA COMPLIANT FOR ADULT AND CHILD. 8.0 GPH OF 50°F WATER AT 90°F AMBIENT. PROVIDE ACCESSORY APRON FOR ADA COMPLIANCE AS NECESSARY	-	3/8"	2"
P6	FLOOR DRAIN	WATTS FD-200-A OR EQUAL BY ZURN OR JR SMITH	ON GRADE EPOXY COATED CAST IRON FLOOR DRAIN WITH ANCHOR FLANGE, WEEP HOLES, ADJUSTABLE ROUND NICKEL BRONZE STRAINER, AND NO HUB OUTLET. PROVIDE TRAP PRIMER CONNECTION OPTION IF NOTED.	-	-	3"
P7	EXPANSION TANK	AMTROL ST-5 OR EQUAL BY WATTS OR BELL & GOSSETT	INSTALL ON COLD WATER LINE BETWEEN WATER HEATER AND RPZ	-	3/4"	-
P8	THERMOSTATIC MIXING VALVE	WATTS LFMMV OR EQUAL BY LAWLER OR LEONARD VALVE	ASSE STANDARD 1069 OR 1070 APPROVED WITH 1/2 INCH FEMALE NPT INLET AND OUTLET CONNECTIONS, BRASS BODY, AND INTEGRAL MOUNTING HOLES. TAMPER RESISTANT THERMOPLASTIC ENCLOSURE. SINGLE REPLACEABLE CARTRIDGE DESIGN.	1/2"	1/2"	-
P9	AUTOMATIC TRAP PRIMER	ZURN 1022 OR EQUAL BY WATTS OR JR SMITH	COMPLIANT WITH ASSE 1018. INSTALL IN SUPPLY LINE TO LAVATORY 12 in OR MORE ABOVE FINISHED FLOOR. PROVIDE ACCESS PANEL FOR MAINTENANCE AND VISUAL INSPECTION.	-	1/2"	-
FCO	FLOOR CLEANOUT	ZURN, WATTS, JR SMITH	EPOXY COATED CAST IRON FLOOR CLEANOUT WITH ROUND ADJUSTABLE GASKETED NICKEL BRONZE TOP, REMOVABLE GAS TIGHT GASKETED BRASS CLEANOUT PLUG, AND NO HUB INLET.	-	-	4"
WCO	WALL CLEANOUT	ZURN, WATTS, OR JR SMITH	CAST IRON CLEANOUT FERRULE WITH THREADED BRASS COUNTERSUNK CLEANOUT PLUG, STAINLESS STEEL ACCESS COVER, AND VANDAL PROOF STAINLESS STEEL SCREW	-	-	4"
AAV	AIR ADMITTANCE VALVE	STUDOR REDIVENT OR APPROVED EQUAL	ANSI/ASSE 1051 LISTED. NSF STANDARD 14. PROVIDE PVC OR ABS CONNECTOR AS NECESSARY. CONNECT VALVE TO PIPING PER MANUFACTURER. INSTALL IN THE VERTICAL, UPRIGHT POSITION AFTER ROUGH-IN AND PRESSURE TESTING OF THE SYSTEM. PROVIDE WALL BOX IF NOT ABOVE CEILING OR OTHERWISE CONCEALED.	-	-	2"

PLUMBING LINES SIZING TABLE									
FIXTURE TYPE	OCCUPANCY	QTY	DRAINAGE FIXTURE UNITS		WATER SUPPLY FIXTURE UNITS				
			EACH	TOTAL	CW	HW	CW & HW	HW TOTAL	TOTAL
WATER CLOSET (FLUSH TANK)	PUBLIC	3	4.00	12.00	5.00	0.00	5.00	0.00	15.00
SHOWER	PUBLIC	1	2.00	2.00	3.00	3.00	4.00	3.00	4.00
LAVATORY	PUBLIC	3	1.00	3.00	1.50	1.50	2.00	4.50	6.00
URINAL (¾" FLUSH VALVE)	PUBLIC	1	2.00	2.00	5.00	0.00	5.00	0.00	5.00
DRINKING FOUNTAIN	PUBLIC	1	0.50	0.50	0.25	0.00	0.25	0.00	0.25
EMERGENCY FLOOR DRAIN	PUBLIC	3	0.00	0.00	0.00	0.00	0.00	0.00	0.00
DEMAND FIXTURE	GPM	QTY	TOTAL GPM	TOTAL DFU				19.5	
				TOTAL WFSUs				7.5	30.3
				GPM				12.80	23.50
				OTHER FIXTURES' GPM				0.00	0.00
				TOTAL GPM				12.80	23.50
MINIMUM BUILDING DRAIN SIZE	4"								
MINIMUM WATER LINE SIZE	1 1/4"								

DO NOT TAP WATER LINE AHEAD OF RPZ.

ELECTRIC WATER HEATER SCHEDULE											
MARK	MFG	MODEL	TANK VOL	INPUT	RECOVERY	SET POINT	POWER		CONNECTIONS		OPTIONS
			GALS	kW	GPH @ 60° ΔT	°F	VOLTAGE	PHASE	HOT	COLD	
WH-1	RHEEM	ELDS40	38	4.5	30	110	240	1	3/4	3/4	1-5

1. PROVIDE GALVANIZED STEEL SAFETY PAN
2. UL 174 LISTED
3. PROVIDE ASME LISTED TEMPERATURE AND PRESSURE RELIEF VALVE
4. MEET OR EXCEED ENERGY FACTOR REQUIREMENTS OF ASHRAE 90.1-2007
5. OR EQUAL BY A.O. SMITH, BRADFORD WHITE, OR STATE

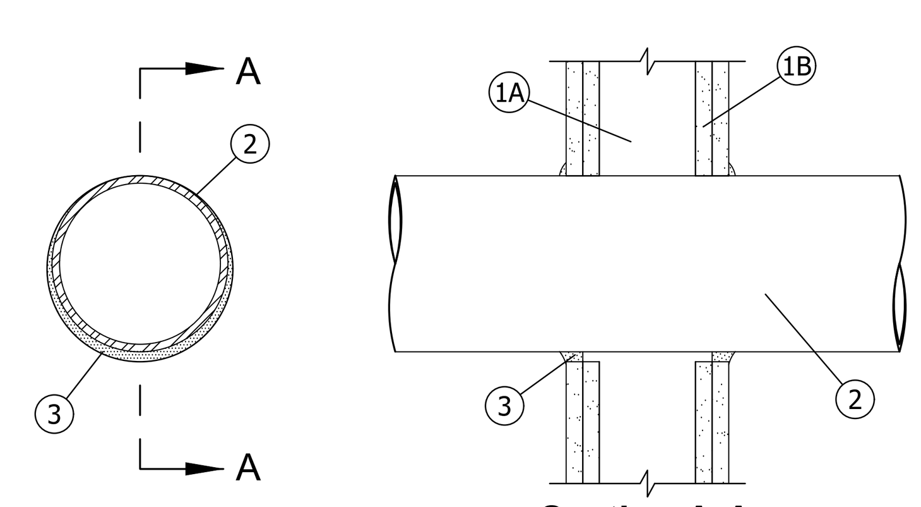
LINETYPE LEGEND

COLD WATER SUPPLY
HOT WATER SUPPLY
SANITARY SEWER LINE
VENT LINE

PLUMBING FIXTURE SCHEDULE | 1

System No. W-L-1088

F Ratings - 1 & 2 Hr. (See Item 1)
T Rating - 0 Hr.



Section A-A

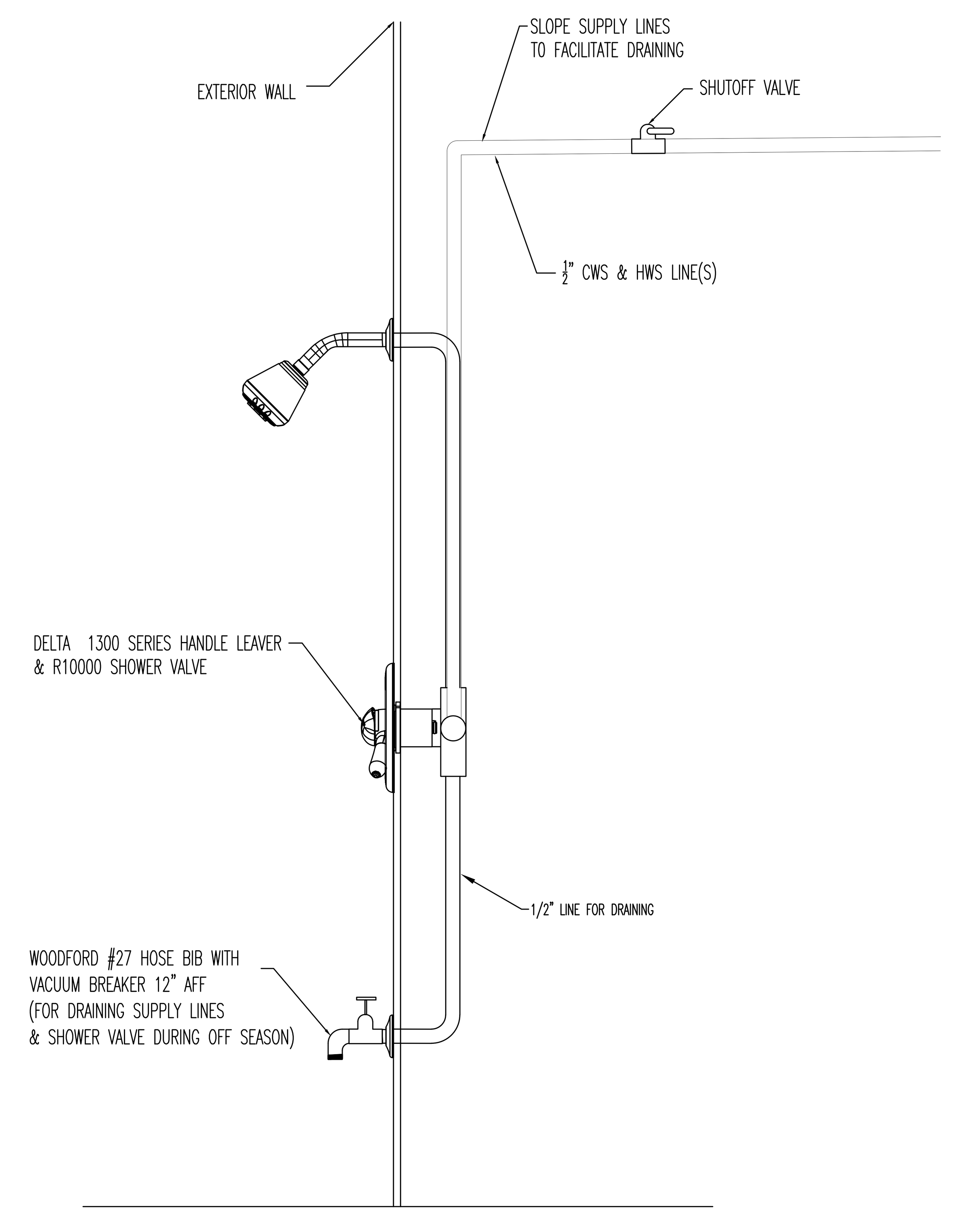
1. **Wall Assembly -** The 1 or 2 hr. fire-rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner described in the individual U300, U400 or V400 Series Wall and Partition Design in the UL Fire Resistance Directory and shall include the following construction features:
   A. **Studs -** Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. (51 by 102 mm) lumber spaced 16 in. (406 mm) O.C. with nom 2 by 4 in. (51 by 102 mm) lumber end plates and cross braces. Steel studs to be min. 3-1/2 in. (89 mm) wide and spaced max 24 in. (610 mm) O.C.
   B. **Gypsum Board* -** 5/8 in. (16 mm) thick, 4 ft (1.2 m) wide with square or tapered edges. The gypsum board type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual U300, U400 or V400 Series Design in the UL Fire Resistance Directory. Max diam of opening is 6-3/4 in. (171 mm).
   The hourly F Rating of the firestop system is equal to the hourly fire rating of the wall assembly in which it is installed.
2. **Through Penetrant -** One metallic pipe, tubing or conduit to be installed either concentrically or eccentrically within the firestop system. The annular space between pipes, tubing or conduits and periphery of opening shall be min 0 in. (point contact) to max 5/8 in. (16 mm). Pipe, tubing or conduit to be rigidly supported on both sides of wall assembly. The following types and sizes of metallic pipes, tubing or conduits may be used:
   A. **Steel Pipe -** Nom 6 in. (152 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe.
   B. **Iron Pipe -** Nom 6 in. (152 mm) diam (or smaller) cast or ductile iron pipe.
   C. **Copper Tubing -** Nom 6 in. (152 mm) diam (or smaller) Type M (or heavier) copper tubing.
   D. **Copper Pipe -** Nom 6 in. (152 mm) diam (or smaller) Regular (or heavier) copper pipe.
   E. **Conduit -** Nom 4 in. (102 mm) diam (or smaller) steel electrical metallic tubing, nom 4 in. (102 mm) diam (or smaller) galv steel conduit or nom 1 in. (25 mm) diam (or smaller) flexible steel conduit.
3. **Fill, Void or Cavity Material* - Sealant -** Min 5/8 in. (16 mm) thickness of fill material within annulus, flush with both surfaces of wall. Additional fill material installed such that a min 1/4 in. (6 mm) thick crown is formed around the penetrating item lapping 1/2 in. (13 mm) beyond the periphery of the opening.
   SPECIFIED TECHNOLOGIES INC - SpecSeal LC 150 Sealant, SpecSeal LE600 Sealant

*Bearing the UL Classification Mark

STI
Specified Technologies Inc. 200 Evans Way Somerville, NJ 08876
(800)992-1180 • (908)526-8000 • FAX (908)231-8415 • E-Mail:techserv@stifirestop.com • Website:www.stifirestop.com

Created or Revised: June 08, 2007
W-L-1088
PAGE 1 OF 1

RATED WALL PENETRATION DETAIL | 2



EXTERIOR SHOWER DETAIL - NO SCALE | 3

GENERAL PLUMBING NOTES:

ADMINISTRATIVE:
1. THE FOLLOWING ABBREVIATIONS SHALL APPLY TO NOTES AND PLANS: PC – PLUMBING CONTRACTOR, EC – ELECTRICAL CONTRACTOR, MC – MECHANICAL CONTRACTOR, GC – GENERAL CONTRACTOR, FASC – FIRE ALARM SYSTEM CONTRACTOR.
2. "PROVIDE" MEANS TO FURNISH AND INSTALL. THE PLUMBING CONTRACTOR SHALL ALSO INSTALL MATERIALS FURNISHED BY OTHERS AND THE GENERAL CONTRACTOR.
3. THE PC SHALL BE RESPONSIBLE FOR A COMPLETE AND OPERATIONAL SYSTEM AS DESCRIBED BY THESE PLANS AND SPECIFICATIONS.
4. ALL MATERIALS AND EQUIPMENT SHALL BE DELIVERED TO THE SITE AND UNLOADED AT AN APPROVED LOCATION. PC SHALL PROTECT ALL MATERIALS AND EQUIPMENT FROM BREAKAGE, THEFT, AND THE ELEMENTS. ALL MATERIALS AND EQUIPMENT SHALL REMAIN THE PROPERTY OF THE PC UNTIL THE PROJECT HAS BEEN COMPLETED AND TURNED OVER TO THE OWNER.
5. ALL MATERIALS USED SHALL BE NEW AND FREE OF DEFECTS. ANY MATERIALS FOUND TO BE DEFECTIVE SHALL BE REPLACED AT NO EXPENSE TO THE OWNER. ALL MATERIALS AND EQUIPMENT SHALL BEAR APPROVAL FROM UL OR AN APPROVED THIRD PARTY AGENCY. WHERE A MANUFACTURER AND MODEL NUMBER IS GIVEN, IT IS TO ESTABLISH A STANDARD OF QUALITY AND NOT TO LIMIT PRODUCTS TO A PARTICULAR MANUFACTURER. PRODUCTS DETERMINED TO BE EQUAL BY THE ENGINEER WILL BE ACCEPTED.
6. THE PLUMBING SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH THE 2018 NORTH CAROLINA PLUMBING CODE AND ANY APPLICABLE LOCAL CODES. WHERE A CONFLICT EXISTS BETWEEN THE ABOVE REQUIREMENTS, THE CONTRACTOR SHALL OBTAIN CLARIFICATION FROM THE ENGINEER OR IN THE EVENT ANY PART OF THESE PLANS CONFLICTS WITH THE ABOVE REQUIREMENTS.
7. THE PC SHALL OBTAIN AND PAY FOR ALL PERMITS, FEES, AND INSPECTIONS NECESSARY FOR THE COMPLETION OF THE WORK UNDER THIS CONTRACT.
8. DO NOT SCALE THESE DRAWINGS–REFER TO ARCHITECTURAL SHEETS FOR DIMENSIONS.
9. THESE PLANS ARE DIAGRAMMATIC. THE PC SHALL ADJUST THE LOCATIONS OF EQUIPMENT, FIXTURES, PIPING, ETC, TO ACCOMMODATE PLANNED AND ENCOUNTERED INTERFERENCES. THE DRAWINGS DO NOT SHOW ALL BENDS, OFFSETS, AND FITTINGS THAT MAY BE REQUIRED FOR A COMPLETE AND OPERATIONAL SYSTEM. THE PC SHALL MAKE ALLOWANCES FOR SUCH DEVIATIONS AND CONTINGENCIES IN BID TO IMPLEMENT THEM WITHOUT ADDITIONAL COST TO THE OWNER. THE PC SHALL VISIT THE SITE PRIOR TO BIDDING TO BECOME FAMILIAR WITH EXISTING CONDITIONS. CONTRACTOR SHALL CONTACT THE ENGINEER TO RESOLVE ANY DISCREPANCIES BETWEEN EXISTING CONDITIONS AND THESE PLANS. TO AVOID POTENTIAL CONFLICTS, COORDINATE WITH OTHER TRADES PRIOR TO THE START OF CONSTRUCTION. ALL UNDERGROUND UTILITIES SHALL BE LOCATED PRIOR TO ANY DIGGING.
10. TRENCHING, COMPACTION, AND BACKFILL SHALL BE BY PC AND SHALL BE IN ACCORDANCE WITH SECTION 306 OF THE NC PLUMBING CODE. UNDERGROUND LINES SHALL BE LOCATED SUCH THAT THEY DO NOT ENDANGER FOOTINGS OR FOUNDATION WALLS.
11. THE PC SHALL PROVIDE FIRESTOPPING AT ALL PENETRATIONS OF RATED FLOOR/CEILING ASSEMBLIES AND RATED WALL ASSEMBLIES TO PRESERVE OR RESTORE THE FIRE RESISTANCE RATING. SEAL ALL PENETRATIONS USING A UL LISTED SYSTEM FOUND IN THE UL DIRECTORY SPECIFIC TO THE UL LISTING OF THE ASSEMBLY BEING PENETRATED. SEE ARCHITECTURAL PLANS FOR UL RATED ASSEMBLIES SPECIFIC TO THE PROJECT.
12. SYSTEM TESTING SHALL BE PERFORMED BY PLUMBING CONTRACTOR IN ACCORDANCE WITH NORTH CAROLINA PLUMBING CODE, SECTIONS 312.2, 312.3, AND 312.5.
13. PC SHALL DISINFECT THE ENTIRE DOMESTIC WATER PIPING SYSTEM IN ACCORDANCE WITH THE AMERICAN WATER WORKS ASSOCIATION'S SPECIFICATIONS AND LOCAL HEALTH DEPARTMENT REGULATIONS.
14. AT THE COMPLETION OF WORK AND PRIOR TO ACCEPTANCE BY OWNER, THE PC SHALL CLEAN ALL EXPOSED FIXTURES, MATERIALS, AND EQUIPMENT UNDER THIS CONTRACT.
15. PC SHALL COORDINATE WITH THE GENERAL CONTRACTOR TO ENSURE ALL APPLICABLE CONSTRUCTION WASTE IS RECYCLED DURING THE CONSTRUCTION PHASE OF THE PROJECT.

MATERIALS:
1. ALL OVERHEAD DOMESTIC WATER PIPING SHALL BE TYPE L COPPER WITH 95/5 LEAD FREE SOLDER, AND ALL BELOW GRADE WATER PIPING SHALL BE TYPE K COPPER WITH NO JOINTS. ALL PIPING SHALL HAVE MANUFACTURER'S NAME AND THE APPLICABLE STANDARD TO WHICH IT WAS MANUFACTURED CLEARLY MARKED ON EACH LENGTH. PIPING SHALL COMPLY WITH ASTM B-88. USE BRAZED JOINTS ON ALL COPPER PIPING 1-1/2 INCH AND LARGER. *** PC MAY USE PEX (ASTM F 877) WITH APPROVED FITTINGS (ASTM F 1807) WITH OWNER'S APPROVAL. *** CPVC PIPING (ASTM D 2846 OR ASTM F 441) WITH APPROVED FITTINGS (ASTM D 2846, ASTM F 438, OR ASTM F 439) MAY ALSO BE USED WHERE NOT LOCATED IN PLENUMS. ALL PLASTIC PIPE, FITTINGS, AND COMPONENTS SHALL BE THIRD PARTY CERTIFIED AS CONFORMING TO NSF 14. ALL PIPE AND PIPE FITTINGS, INCLUDING VALVES AND FAUCETS, USED IN THE WATER DISTRIBUTION SYSTEM SHALL HAVE A MAXIMUM LEAD CONTENT OF .25-PERCENT AND SHALL CONFORM TO NSF 61. HOT WATER DISTRIBUTION PIPE AND TUBING SHALL HAVE A MINIMUM PRESSURE RATING OF 100 PSI AT 180°F. COLD WATER DISTRIBUTION PIPE AND TUBING SHALL HAVE A MINIMUM PRESSURE RATING OF 160 PSI AT 73.4°F. DO NOT INSTALL PEX OR CPVC PIPING IN RETURN AIR PLENUMS.
2. BALL VALVES SHALL HAVE BRASS BODY, FULL PORT, CHROME PLATED BALL, WITH TEFLON SEATS, 150 PSI WSP, AND COMPLY WITH MSS SP-110. GATE VALVES SHALL HAVE BRONZE BODY, CLASS 150, AND COMPLY WITH MSS SP-80, TYPE 2 STANDARD. VALVE BODY SHALL BE ASTM B 62, BRONZE WITH INTEGRAL SEAT AND UNION RING BONNET. ENDS SHALL BE THREADED OR SOLDER WITH COPPER-SILICON BRONZE STEM AND SOLID-WEDGE BRONZE DISC. INSTALL VALVES IN LOCATIONS THAT PERMIT EASY ACCESS WITHOUT DAMAGE TO BUILDING OR FINISHED MATERIALS; PROVIDE ACCESS DOORS IF REQUIRED. VALVES SHALL BE BY NIBCO, WATTS, OR STOCKHAM.
3. COLD WATER LINES SHALL BE INSULATED WITH 1/2 INCH THICK FIBROUS GLASS INSULATION WITH A FLAME DENSITY RATING LESS THAN 25 AND A SMOKE DENSITY RATING LESS THAN 50 WHEN TESTED IN ACCORDANCE WITH ASTM E 84. HOT WATER LINES UP TO 2 INCHES DIAMETER SHALL HAVE 1 INCH THICK INSULATION CONFORMING TO THE SAME STANDARD. PIPING LARGER THAN 2 INCHES SHALL RECEIVE 1-1/2 INCH THICK INSULATION. CLOSED CELL RUBBER INSULATION MEETING THE SMOKE AND FLAME RATINGS ABOVE MAY BE SUBSTITUTED FOR FIBROUS GLASS TYPE IF SO DESIRED. INSULATION INSTALLED ON PIPING OPERATING BELOW AMBIENT TEMPERATURES MUST HAVE A CONTINUOUS VAPOR RETARDER. ALL JOINTS, SEAMS AND FITTINGS MUST BE SEALED. ON SYSTEMS OPERATING ABOVE AMBIENT, THE BUTT JOINTS SHOULD NOT BE SEALED. ON COLD SURFACES WHERE A VAPOR SEAL MUST BE MAINTAINED, INSULATION SHALL BE APPLIED WITH A CONTINUOUS, UNBROKEN MOISTURE AND VAPOR RETARDER. ALL HANGERS, SUPPORTS, ANCHORS, OR OTHER PROJECTIONS SECURED TO COLD SURFACES SHALL BE INSULATED AND VAPOR SEALED TO PREVENT CONDENSATION. ALL PIPE INSULATION SHALL BE CONTINUOUS THROUGH WALLS, CEILING OR FLOOR OPENINGS, OR SLEEVES EXCEPT WHERE FIRESTOP OR FIRESAFING MATERIALS ARE REQUIRED. INSULATION SHALL HAVE A FACTORY APPLIED ALL-SERVICE JACKET WITH SELF-SEALING LAP. WHITE-KRAFT PAPER BONDED TO ALUMINUM FOIL AND REINFORCED WITH GLASS FIBERS; CONFORMING TO ASTM C 1136 TYPE 1; VAPOR RETARDER; WITH A SELF-SEALING ADHESIVE. VERIFY THAT PIPING HAS BEEN TESTED, SURFACES ARE CLEAN AND DRY, AND ALL FOREIGN MATERIALS ARE REMOVED BEFORE APPLYING INSULATION MATERIALS. INSULATION SHALL BE BY KNAUF, ARMACELL, JOHNS-MANVILLE, OR OWENS-CORNING.
4. ALL INSULATION CONTAINING FIBROUS MATERIALS EXPOSED TO AIRFLOW SHALL BE RATED FOR THAT EXPOSURE OR SHALL BE ENCAPSULATED. INSULATING PROPERTIES FOR ALL MATERIALS SHALL MEET OR EXCEED INDUSTRY STANDARDS. POLYSTYRENE PRODUCTS SHALL MEET ASTM C578 91. ALL INSULATION SHALL BE LOW-EMITTING WITH NOT GREATER THAN 0.05 PPM FORMALDEHYDE EMISSIONS. THE MAXIMUM FLAME SPREAD AND SMOKE DEVELOPED INDEX FOR INSULATION SHALL MEET THE REQUIREMENTS OF THE LOCAL CODES AND ORDINANCES ADOPTED BY THE JURISDICTION IN WHICH THE BUILDING IS LOCATED.
5. FAUCETS AND FIXTURE FITTINGS SHALL CONFORM TO ASME A112.18.1. FAUCETS AND FIXTURE FITTINGS THAT SUPPLY DRINKING WATER FOR HUMAN CONSUMPTION SHALL CONFORM TO THE REQUIREMENTS OF NSF 61, SECTION 9. FIXTURE FITTINGS, FAUCETS, AND DIVERTERS SHALL BE INSTALLED AND ADJUSTED SO THAT THE FLOW OF HOT WATER FROM THE FITTINGS CORRESPONDS TO THE LEFT HAND SIDE OF THE FIXTURE FITTING.
6. BACKFLOW PREVENTION SHALL BE IN ACCORDANCE WITH SECTION 608.13 OF THE NC PLUMBING CODE AND THE LOCAL AUTHORITY HAVING JURISDICTION. REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTERS SHALL CONFORM TO ASSE 1013 OR AWWA C511. THE RELIEF OPENING SHALL DISCHARGE BY AIR GAP. AIR GAPS SHALL COMPLY WITH ASME A112.1.1 AND AIR GAP FITTINGS WITH ASME A112.1.3. DOUBLE CHECK VALVE ASSEMBLIES SHALL CONFORM TO ASSE 1015 OR AWWA C510. ACCESS TO BACKFLOW PREVENTERS SHALL BE PROVIDED AS SPECIFIED BY THE INSTALLATION INSTRUCTIONS OF THE APPROVED MANUFACTURER.
7. FOR BELOW GRADE SANITARY WASTE PIPING, PC SHALL USE SERVICE WEIGHT CAST IRON PIPE WITH COMPRESSION JOINTS (ASTM A 74). USE MINIMUM 2 INCH SIZE UNDERGROUND. SOLID WALL SCHEDULE 40 PVC (ASTM D 2665) WITH SCHEDULE 40 SOCKET TYPE PIPE FITTINGS (ASTM D 3311) MAY ALSO BE USED. DO NOT USE PVC PIPE FOR APPLICATIONS WHERE THE WASTE WATER TEMPERATURE EQUALS OR EXCEEDS 140°F OR IF THE BUILDING HEIGHT EXCEEDS 75 FEET.
8. FOR ABOVE GRADE SANITARY WASTE AND VENT PIPING, USE SERVICE WEIGHT CAST IRON NO-HUB TYPE WITH COUPLINGS (CISPI 301). SOLID WALL SCHEDULE 40 PVC (ASTM D 2665) WITH SCHEDULE 40 SOCKET TYPE FITTINGS (ASTM D 3311) MAY BE USED IF PERMITTED BY LOCAL CODE, EXCEPT IN BUILDINGS EXCEEDING 75 FEET IN HEIGHT. DO NOT INSTALL PVC IN RETURN AIR PLENUMS. ALL VENT AND BRANCH VENT PIPES SHALL BE SO GRADED AND CONNECTED AS TO DRAIN BACK TO THE DRAINAGE PIPE BY GRAVITY. BRANCH VENTS EXCEEDING 40 FEET IN DEVELOPED LENGTH SHALL BE INCREASED BY ONE NOMINAL SIZE FOR THE ENTIRE DEVELOPED LENGTH OF THE PIPE.
9. PC SHALL PROVIDE ALL WATER HEATERS (WATTAGE/INPUT AND CAPACITY AS NOTED IN SCHEDULE). ALL WATER HEATERS SHALL BE THIRD PARTY CERTIFIED; PROVIDE PANS FOR WATER HEATERS IN ACCORDANCE WITH 504.7 OF THE NC PLUMBING CODE. ELECTRICAL CONNECTIONS SHALL BE BY ELECTRICAL CONTRACTOR, PC SHALL COORDINATE WITH EC ON ELECTRICAL CHARACTERISTICS OF THE EQUIPMENT PROVIDED.
10. ALL PUMPS SHALL BE RATED FOR TRANSPORT OF POTABLE WATER. PUMPS IN AN INDIVIDUAL WATER SUPPLY SYSTEM SHALL BE CONSTRUCTED AND INSTALLED SO AS TO PREVENT CONTAMINATION FROM ENTERING THE WATER SUPPLY SYSTEM.

METHODS:
1. EXTEND DOMESTIC WATER PIPE FROM FIVE (5) FEET OUTSIDE THE BUILDING INTO THE BUILDING AS INDICATED ON THE PLANS AND INSTALL DOMESTIC WATER DISTRIBUTION PIPING TO ALL FIXTURES AND EQUIPMENT REQUIRING THE SAME. WATER SERVICE PIPE AND THE BUILDING SEWER SHALL BE SEPARATED BY 5 FEET OF UNDISTURBED OR COMPACTED EARTH IN ACCORDANCE WITH 603.2. PROVIDE ALL FITTINGS, VALVES, AND OTHER ACCESSORIES AS NECESSARY FOR A COMPLETE INSTALLATION. ALL DOMESTIC WATER PIPING SHALL BE CONCEALED IN FINISHED AREAS. ANY OPEN ENDS SHALL BE PROTECTED UNTIL FINAL CONNECTIONS ARE MADE.
2. ABOVE GRADE DOMESTIC WATER PIPING SHALL BE SLOPED AT A MINIMUM OF 1/32 INCH PER FOOT AND ARRANGED TO DRAIN AT LOW POINTS. INSTALL PIPING TO ALLOW FOR EXPANSION AND CONTRACTION WITHOUT STRESSING PIPE, JOINTS, OR CONNECTED EQUIPMENT. ROUTE PIPING IN AN ORDERLY MANNER-PARALLEL OR PERPENDICULAR TO WALLS WHEN POSSIBLE-AND MAINTAIN GRADIENT. EACH SUPPLY BRANCH LINE SERVING MORE THAN ONE FIXTURE SHALL HAVE A SHUTOFF VALVE INSTALLED TO ISOLATE ALL FIXTURES AND PIECES OF EQUIPMENT SUPPLIED BY THE BRANCH LINE. THE SHUTOFF VALVE SHALL BE LABELED AND LOCATED AS CLOSE TO THE CONNECTION TO THE SUPPLY MAIN AND RISER AS POSSIBLE. PROVIDE A FULL-OPEN VALVE ON THE BASE OF EVERY WATER RISER PIPE AND ON THE TOP OF EVERY WATER DOWN-FEED PIPE. PROVIDE VALVE HANDLE EXTENSIONS AS NECESSARY FOR INSULATION.
3. IT SHALL BE THE RESPONSIBILITY OF THE PC TO SUSPEND AND SUPPORT ALL PIPING SYSTEMS FOLLOWING RECOGNIZED ENGINEERING PRACTICES AND USING STANDARD, COMMERCIALLY ACCEPTED PIPE HANGERS AND SUSPENSION EQUIPMENT. ALL FIXTURES, DEVICES, AND EQUIPMENT SHALL BE SECURELY MOUNTED TO THE BUILDING STRUCTURE AND SHALL NOT RELY ON CEILING OR WALL SURFACES FOR SUPPORT. THE SUPPORT ATTACHMENT SHALL SUPPORT THE WEIGHT OF THE FIXTURE OR EQUIPMENT PLUS THE WEIGHT OF THE SUPPORT ATTACHMENT ITSELF. SUPPORT FROM THE TOP CHORD OF THE ROOF JOISTS, GIRDERS, AND BEAMS. THE BOTTOM CHORD IS NOT TO BE USED FOR EQUIPMENT AND PIPING SUPPORT. HANGERS SHALL NOT BE ATTACHED TO CORRUGATED STEEL DECKING. USE STEEL HANGERS FOR STEEL AND PLASTIC PIPE AND COPPER OR COPPER-PLATED HANGERS FOR COPPER PIPE. PROVIDE PROTECTION FOR COPPER PIPING IN CONTACT WITH DISSIMILAR METALS. WHERE COPPER PIPING IS SUPPORTED ON HANGERS WITH OTHER PIPING, PROVIDE A PERMANENT ELECTROLYTIC ISOLATION MATERIAL TO PREVENT CONTACT WITH OTHER METALS. IN GENERAL, HANGERS SHALL BE CLEVIS TYPE, STANDARD WEIGHT. FOR PIPING, HANGER SPACING SHALL BE IN ACCORDANCE WITH TABLE 308.5 OF THE NC PLUMBING CODE. HANGERS AND ACCESSORIES SHALL BE GRINNEL, MASON, OR B-LINE.
4. SLEEVE ALL PIPES PASSING THROUGH PARTITIONS, WALLS, AND FLOORS. SLEEVES IN FLOORS AND INTERIOR WALLS OF POURED IN PLACE CONCRETE, BRICK, TILE, OR MASONRY SHALL BE SCHEDULE 40 STEEL PIPE, MACHINE CUT. SLEEVES IN GYPSUM BOARD WALLS SHALL BE 22 GAUGE, ROLLED GALVANIZED SHEET METAL. TACK WELD ON THE LONGITUDINAL SEAM. PROVIDE SLEEVES WHERE PIPES PASS THROUGH FLOORS AND WALLS ABOVE AND BELOW CEILINGS. PROVIDE SPLIT PIPE SLEEVES IN NEW WALLS BUILT UP AROUND EXISTING PIPES. TACK WELD SPLIT SLEEVES TOGETHER. SLEEVES IN WALLS SHALL BE INSTALLED FLUSH WITH THE WALL. SLEEVES IN FLOORS SHALL EXTEND 3/4 INCH ABOVE THE FLOOR-EXCEPT THEY SHALL BE FLUSH FOR 2 HOUR RATED FLOORS-AND SHALL BE FLUSH WITH THE STRUCTURE BELOW. EACH SLEEVE SHALL HAVE AN INSIDE DIAMETER 1 INCH LARGER THAN THE OUTSIDE DIAMETER OF THE COVERING OF EACH COVERED PIPE TO ALLOW CONTINUOUS INSULATION-BUT NOT LESS THAN TWO PIPE SIZES LARGER THAN EACH UNCOVERED. ANNULAR SPACES BETWEEN SLEEVES AND PIPES SHALL BE FILLED OR CAULKED IN AN APPROVED MANNER.
5. THE TOP OF WATER PIPES INSTALLED BELOW GRADE OUTSIDE THE BUILDING SHALL BE BELOW THE FROST LINE OR A MINIMUM OF 12 INCHES BELOW FINISHED GRADE WHICHEVER IS GREATER. WATER PIPING INSTALLED IN A WALL EXPOSED TO THE EXTERIOR SHALL BE LOCATED ON THE HEATED SIDE OF THE WALL INSULATION. WATER PIPING INSTALLED IN AN UNCONDITIONED UTILITY ROOM OR UNCONDITIONED ATTIC SHALL BE INSULATED TO A MINIMUM OF R6.5 DETERMINED IN ACCORDANCE WITH ASTM C 177.
6. HOT WATER PROVIDED TO PUBLIC HAND-WASHING FACILITIES/LAVATORIES SHALL BE TEMPERED WATER DELIVERED THROUGH AN APPROVED WATER-TEMPERATURE LIMITING DEVICE THAT CONFORMS TO ASSE 1070 OR CSA B125.3.
7. INSULATE ALL EXPOSED WASTE AND SUPPLY PIPING UNDER LAVATORIES, SINKS, AND ELECTRIC WATER COOLERS WITH THE HANDI-LAV GUARD INSULATION KIT BY TRUEBRO OR EQUAL.
8. POTABLE WATER OUTLETS SHALL BE PROTECTED FROM BACKFLOW IN ACCORDANCE WITH 608.15. PRESSURE TYPE VACUUM BREAKERS SHALL CONFORM TO ASSE 1020 AND SPILPROOF VACUUM BREAKERS SHALL COMPLY WITH ASSE 1056. HOSE-CONNECTION VACUUM BREAKERS SHALL CONFORM TO ASSE 1011, ASSE 1019, ASSE 1035, OR ASSE 1052. CONNECTIONS TO BEVERAGE DISPENSERS, COFFEE MACHINES, AND NON-CARBONATED BEVERAGE DISPENSERS SHALL BE PROTECTED BY A BACKFLOW PREVENTER IN ACCORDANCE WITH ASSE 1022.
9. THE PC SHALL INSTALL WATER HAMMER ARRESTORS ON BRANCH LINES WITH QUICK CLOSING VALVES PER MANUFACTURER'S INSTALLATION INSTRUCTIONS. WATER HAMMER ARRESTORS SHALL CONFORM TO ASSE 1010.
10. THE PC SHALL PROVIDE CHECK VALVES AT ALL FIXTURES WITH THREADED OUTLETS AS REQUIRED BY CODE. TRAP PRIMERS SHALL BE PROVIDED AS SHOWN ON THE PLANS OR AS REQUIRED.
11. ADJUST STOPS AND VALVES FOR INTENDED FLOW RATE TO FIXTURES WITHOUT SPLASHING, NOISE, OR OVERFLOW.
12. BEFORE COMMENCING WORK, CHECK INVERT ELEVATIONS REQUIRED FOR SEWER CONNECTIONS, CONFIRM INVERTS, AND VERIFY THESE CAN BE PROPERLY CONNECTED TO WITH SLOPE FOR DRAINAGE AND COVER TO AVOID FREEZING. ONCE INVERTS AND FALL HAVE BEEN ESTABLISHED, EXTEND SANITARY SEWER PIPING TO 5 FEET OUTSIDE THE BUILDING AND INSTALL ALL DRAINS, STACKS, VENTS, FLOOR DRAINS, AND CLEANOUTS NECESSARY FOR A COMPLETE INSTALLATION.
13. ALL SANITARY SEWER PIPING IS BELOW GRADE OR WITHIN WALLS UNLESS OTHERWISE NOTED. ALL SANITARY VENT PIPING IS ABOVE THE CEILING OR WITHIN WALLS UNLESS OTHERWISE NOTED. SOIL AND WASTE PIPING SHALL BE INSTALLED TO PROVIDE PROTECTION AGAINST FREEZING PER 305.4.1. WASTE AND SOIL LINES LEAVING THE BUILDING MUST HAVE A MINIMUM COVER OF 3 INCHES.
14. SOIL AND WASTE LINES 2-1/2 INCHES AND SMALLER SHALL BE SLOPED AT 1/4 INCH PER FOOT MINIMUM. SOIL AND WASTE LINES 3 INCHES TO 6 INCHES IN DIAMETER SHALL BE SLOPED AT 1/8 INCH PER FOOT MINIMUM.
15. FOR WATER CLOSET WASTE CONNECTIONS, A 4 INCH BY 3 INCH CLOSET BEND SHALL BE ACCEPTABLE. WHERE A 3 INCH BEND IS UTILIZED ON WATER CLOSETS, A 4 INCH BY 3 INCH FLANGE SHALL BE INSTALLED TO RECEIVE THE FIXTURE HORN.
16. FOR PLASTIC PIPE SIZES GREATER THAN 6 INCHES, AND OTHER PIPE SIZES GREATER THAN 4 INCHES, RESTRAINTS SHALL BE PROVIDED FOR DRAIN PIPES AT ALL CHANGES IN DIRECTION AND AT ALL CHANGES IN DIAMETER GREATER THAN TWO PIPE SIZES. BRACES, BLOCKS, RODDING, BACKFILL AND OTHER SUITABLE METHODS AS SPECIFIED BY THE COUPLING MANUFACTURER SHALL BE UTILIZED.
17. BASES OF STACKS SHALL BE SUPPORTED BY THE BUILDING STRUCTURE, VIRGIN OR COMPACTED EARTH, OR OTHER SUITABLE MATERIAL TO SUPPORT THE WEIGHT OF THE PIPING.
18. HORIZONTAL DRAIN PIPES SHALL HAVE CLEANOUTS IN ACCORDANCE WITH 708.10. EXTEND CLEANOUTS TO FINISHED FLOOR OR WALL SURFACE. LUBRICATE THREADED CLEANOUT PLUGS WITH A MIXTURE OF GRAPHITE AND LINSEED OIL. ENSURE CLEARANCE AT ALL CLEANOUTS FOR RODDING OF DRAINAGE SYSTEM. INSTALL FLOOR CLEANOUTS AT AN ELEVATION TO ACCOMMODATE FINISHED FLOOR. EVERY CLEANOUT SHALL BE INSTALLED TO ALLOW CLEANING IN THE DIRECTION OF FLOW OF THE DRAINAGE PIPE OR AT RIGHT ANGLES THERETO. CLEANOUTS ON 6 INCH AND SMALLER PIPES SHALL BE PROVIDED WITH A CLEARANCE OF NOT LESS THAN 18 INCHES FOR RODDING.
19. DRAINAGE PIPING FOR FUTURE FIXTURES SHALL TERMINATE WITH AN APPROVED CAP OR PLUG.
20. AIR ADMITTANCE VALVES SHALL BE INSTALLED AFTER THE DWV TESTING REQUIRED BY SECTIONS 312.2 AND 312.3. PROVIDE ACCESS TO ALL AIR ADMITTANCE VALVES PER CODE. INSTALLATION OF ALL AIR ADMITTANCE VALVES SHALL CONFORM TO SECTION 918 OF THE NC PLUMBING CODE. AIR ADMITTANCE VALVES SHALL CONFORM TO ASSE 1050 OR 1051.
21. INDIRECT WASTE PIPING THAT EXCEEDS 2 FEET IN DEVELOPED LENGTH MEASURED HORIZONTALLY, OR 4 FEET IN TOTAL DEVELOPED LENGTH, SHALL BE TRAPPED. THE AIR GAP BETWEEN THE INDIRECT WASTE PIPE AND THE FLOOD LEVEL RIM OF THE WASTE RECEPTOR SHALL BE A MINIMUM OF TWICE THE EFFECTIVE OPENING OF THE INDIRECT WASTE PIPE.
22. THE PC SHALL PROVIDE UNIONS FOR DISASSEMBLY AND SERVICE OF ALL FIXTURES AND OTHER RELEVANT PLUMBING EQUIPMENT. UNIONS SHALL BE GROUND-JOINT WITH BRASS SEAT. PROVIDE INSULATING UNIONS AT EACH JUNCTION OF DISSIMILAR MATERIALS.
23. THE PC SHALL ACCURATELY ROUGH-IN ALL FIXTURES ACCORDING TO MANUFACTURER'S INSTALLATION DIMENSIONS AND INSTRUCTIONS. OFFSET ADAPTERS AND FLEXIBLE CONNECTORS ARE NOT ACCEPTABLE. FLUSH HANDLES SHALL BE MOUNTED ON THE WIDE SIDE OF TOILET AREAS FOR ADA COMPLIANCE. INSTALL EACH FIXTURE WITH TRAP EASILY REMOVABLE FOR SERVICING AND CLEANING. SEAL FIXTURES TO WALL AND FLOOR SURFACES WITH SEALANT. SOLIDLY ATTACH WATER CLOSETS TO FLOOR WITH LAG SCREWS. SEAL ALL SELF-RIMMING LAVATORIES AND SINKS (VITREOUS CHINA AND STAINLESS STEEL) WITH A COMMERCIAL GRADE PLUMBER'S PUTTY OR ACRYLIC LATEX CAULK APPLIED TO THE UNDERSIDE OF THE FIXTURE RIM IN A GENEROUS AMOUNT SO THAT WHEN FIXTURE IS SET, SEALANT SHALL OOZE OUT.
24. ALL VENT THRU THE ROOF (VTR) PENETRATIONS SHALL BE COORDINATED WITH THE GENERAL CONTRACTOR. PC SHALL PROVIDE FLASHING MATERIAL REQUIRED FOR VTRS. JOINTS AT THE ROOF AND AROUND VENT PIPES SHALL BE MADE WATER TIGHT BY THE USE OF LEAD, COPPER, GALVANIZED STEEL, ALUMINUM, OR OTHER APPROVED FLASHINGS OR FLASHING MATERIAL. MAINTAIN MINIMUM 10 FEET FROM ALL OUTSIDE AIR INTAKES.
25. INSTALL FULL OPEN VALVES PER NC PLUMBING CODE 606.1 ON THE MAIN WATER LINE INTO THE BUILDING. INSTALL CUT OFF VALVES PER NC PC 606.2.

PLUMBING NOTES | 4

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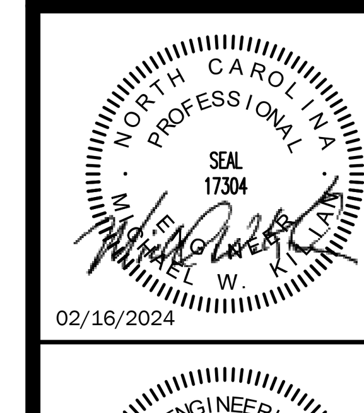


02/16/2024
SEAL

SEAL

NEW CONSTRUCTION
CAITLIN CROSSING POOL HOUSE
LILLINGTON, NC

REVISION:

NO.	DATE	DESCRIPTION
.	.	.

ISSUED:

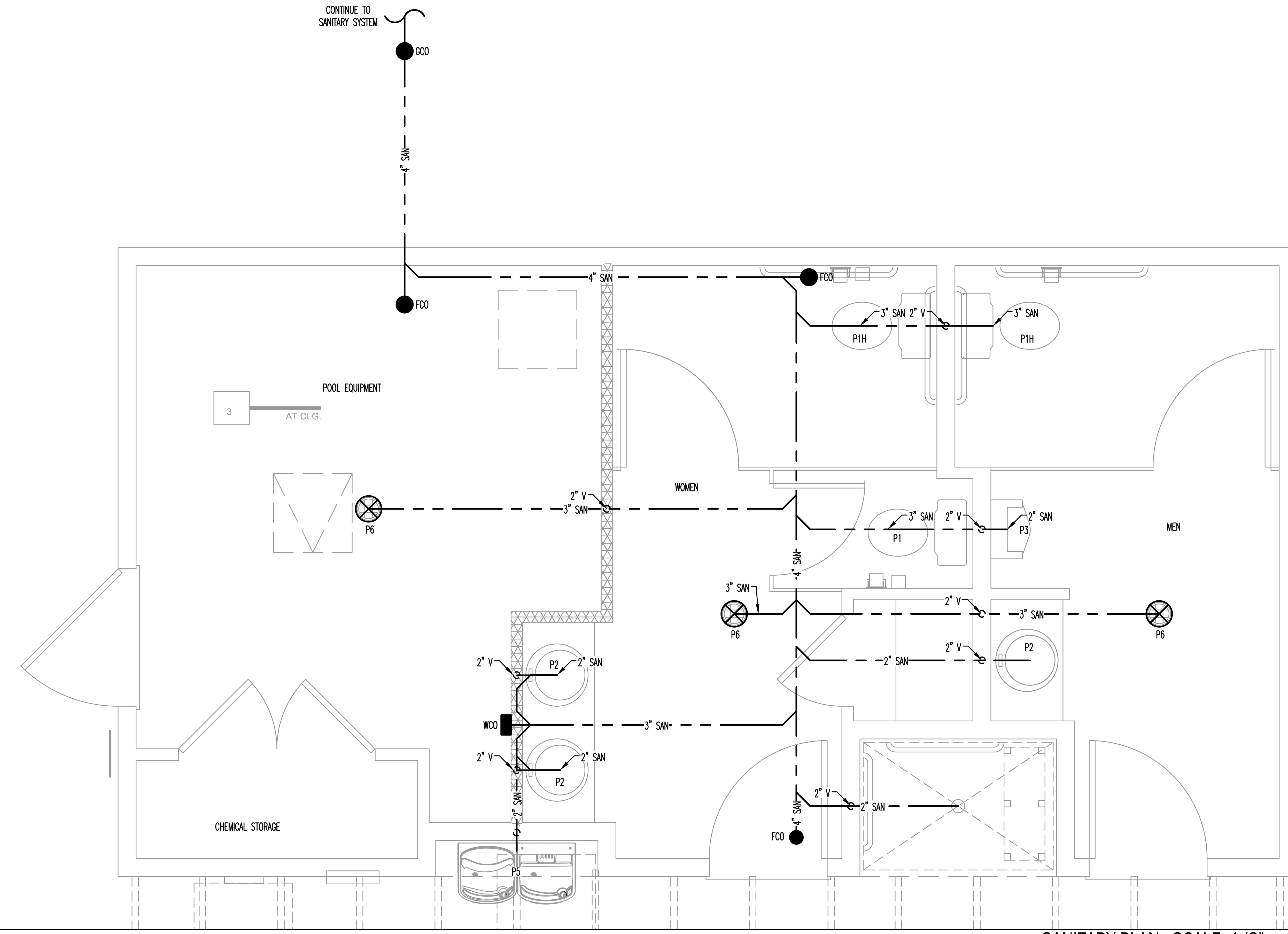
NO.	DATE	DESCRIPTION
0	02/16/2024	ISSUED FOR PERMITTING

DRAWN BY: BSL
CHECKED BY: MWK/REW

PLUMBING NOTES

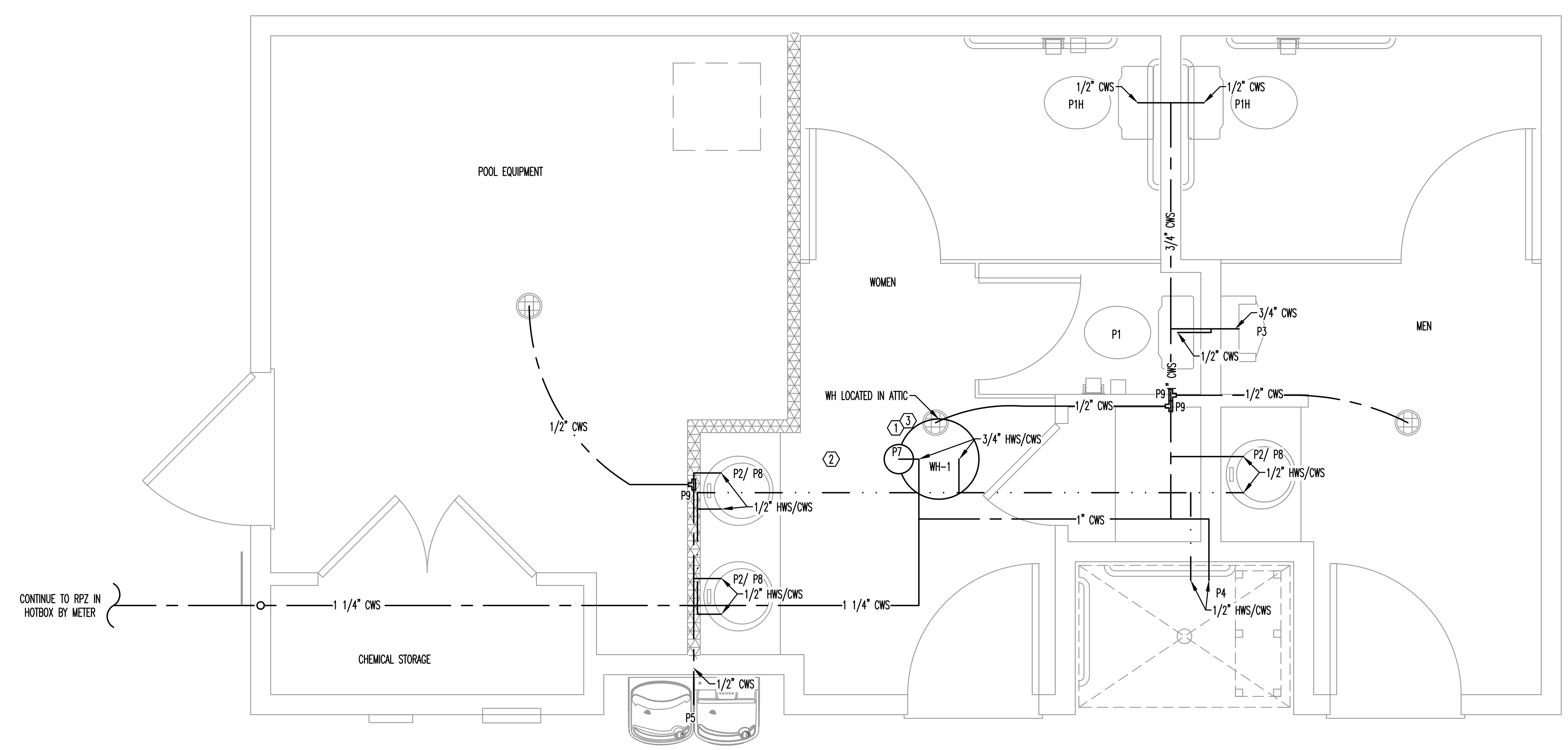
SHEET NO.
P1

PROJECT NO: 240124



▨ - 1 HOUR RATED WALLS

SANITARY PLAN - SCALE: 1/2" = 1' 1



HEX PLAN NOTES

1. WATER HEATER LOCATED IN UNCONDITIONED AND UN-INSULATED ATTIC SPACE. WATER HEATED TO BE COMPLETELY DRAINED AT END OF POOL SEASON.
2. ALL SUPPLY LINES TO PLUMBING FIXTURES INCLUDING HOSE BIBS TO BE DRAINED AT END OF POOL SEASON. THIS DOES NOT INCLUDE POOL EQUIPMENT.
3. WATER HEATER TO BE WINTERIZED YEARLY, OTHERWISE WATER HEATER TO BE INSTALLED IN POOL EQUIPMENT ROOM WITH UNIT HEATER.

SANITARY PLAN - SCALE: 1/2" = 1' 2

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NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 17304 MICHAEL W. KILIAN
[illegible]
02/16/2024 SEAL

KILIAN ENGINEERING, INC. CORPORATE SEAL NORTH CAROLINA
SEAL

NEW CONSTRUCTION
CAITLIN CROSSING POOL HOUSE
LILLINGTON, NC

REVISION:

NO.	DATE	DESCRIPTION

ISSUED:

NO.	DATE	DESCRIPTION
0	02/16/2024	ISSUED FOR PERMITTING

DRAWN BY: BSL
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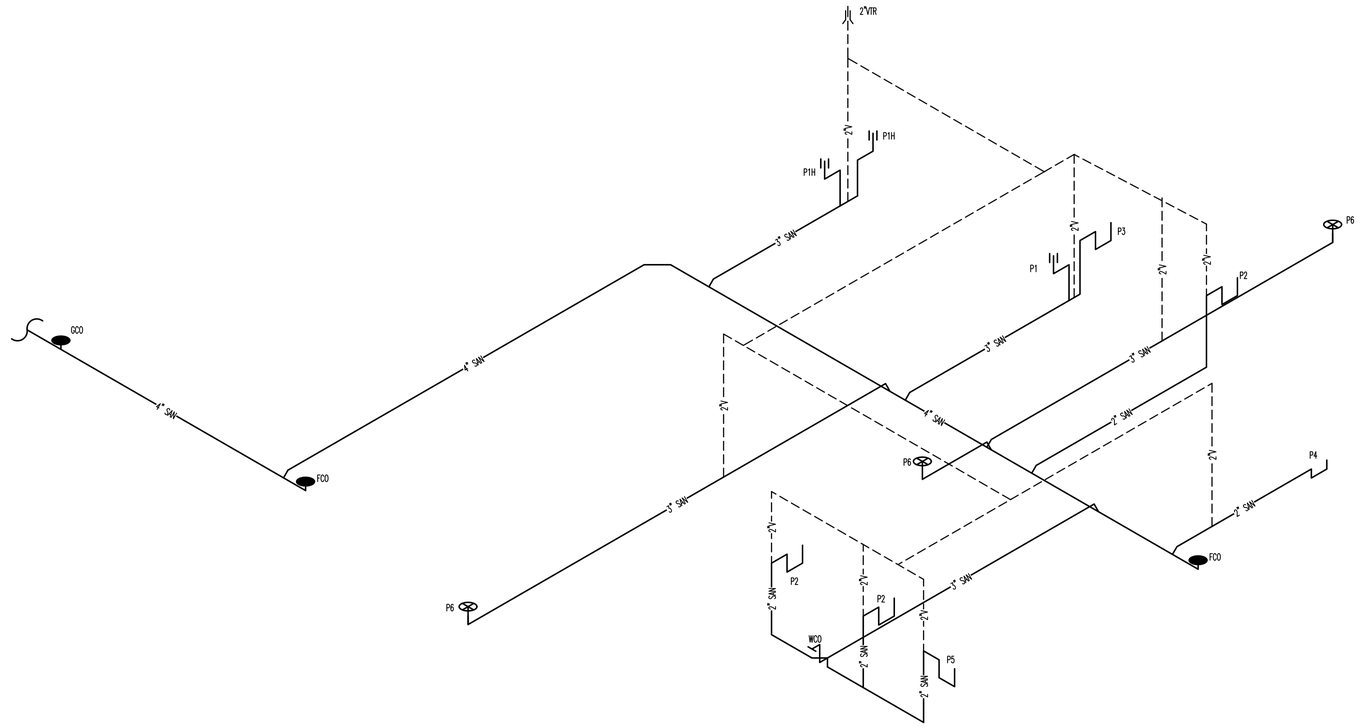
SANITARY & DOMESTIC SUPPLY PLAN

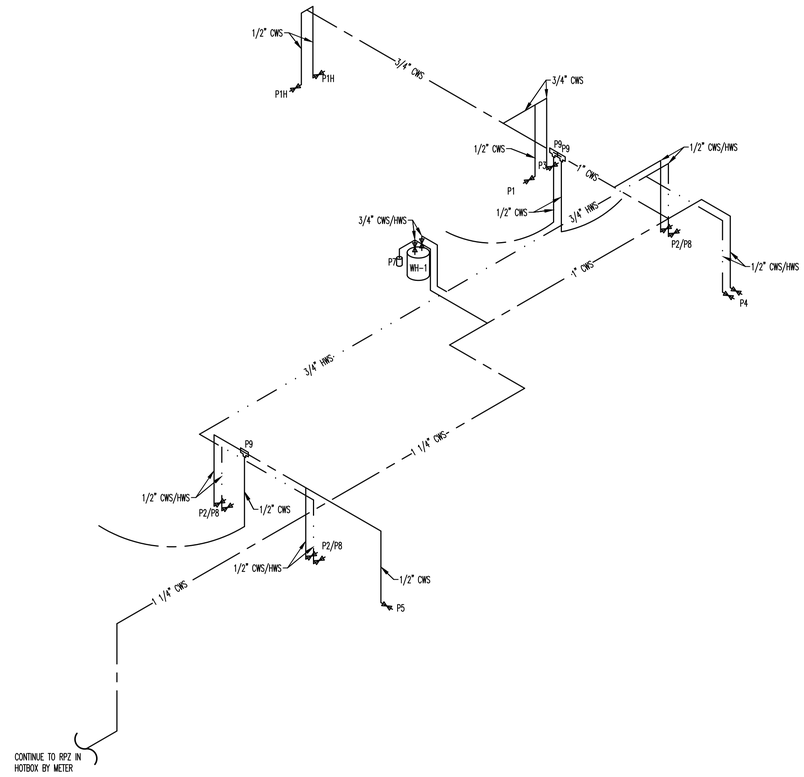
SHEET NO.
P2

PROJECT NO: 240124



SANITARY RISER - NO SCALE | 1

ALL REQUIRED VALVES NOT SHOWN.
INSTALL FULL OPEN VALVES PER 2018 PC CODE 606.1.5 AND 606.1.8
INSTALL SHUT OFF VALVES PER 2018 NC PLUMBING CODE 606.2 AND 606.2.1



DOMESTIC SUPPLY RISER - NO SCALE | 2

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NORTH CAROLINA PROFESSIONAL SEAL 17304 ENGINEER MARK W. KILIAN
02/16/2024
SEAL

KILIAN ENGINEERING CORPORATE INC. SEAL NORTH CAROLINA
SEAL

NEW CONSTRUCTION

CAITLIN CROSSING POOL HOUSE

LILLINGTON, NC

REVISION:

NO	DESCRIPTION	DATE

ISSUED:

NO	DESCRIPTION	DATE
1	ISSUED FOR PERMITTING	02/16/2024

DRAWN BY: BSL
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PLUMBING RISERS

SHEET NO.:

P3

PROJECT NO: 240124

ELECTRIC UNIT HEATER SCHEDULES									
MARK	MFG	MODEL #	LOCATION	TYPE	WATTS	AIRFLOW	VOLTS/Ø	WEIGHT	NOTES
UH-1	QMARK	MUH36	POOLHOUSE EQUIPMENT	WALL MOUNTED	5,000	210 cfm	240/1	22	1,2

1. PROVIDE WITH WALL/CLG. MOUNTING BRACKET.
2. OR EQUAL BY MARKEL, RAYWALL OR MODINE

ELECTRIC FAN-FORCED WALL HEATER SCHEDULE							
MARK	MFG / MODEL #	AIR FLOW	HEATER	VOLT/PH	FLA	MOCP	NOTES
		CFM	KW		AMPS	AMPS	
CWH-1,2	QMARK / CWH3404F	100	4	240/1Ø	16.7	20.0	1-4

1. BUILT-IN THERMOSTAT.
2. BUILT-IN DISCONNECT SWITCH.
3. PROVIDE WITH SURFACE MOUNTING SLEEVE KIT
4. PROVIDE WITH 14-GAUGE SECURITY FRONT COVER, WHITE

REGISTER & GRILLE SCHEDULE						
MARK	MFG	MODEL #	SIZE	MOUNTING	DESCRIPTION	NOTES
E	HART & COOLEY	RH90	12X12	SURFACE	HEAVY DUTY ALUMINUM EXHAUST GRILLE. SATIN ANODIZED FINISH.	1

1. OR EQUAL BY PRICE, METAL-AIRE, CARNES, TITUS OR NAILOR

EXHAUST FAN SCHEDULE									
MARK	MFG / MODEL #	TYPE	ESP (in WG)	CFM	VOLT/PH	FLA	SONES	NOTES
EF-1,2	GREENHECK SP-A200	CEILING	0.40	179	120/1	0.43	3.0	1-3
EF-3	FANTECH PRIDAIR 6 EC	INLINE	0.25	409	120/1	1	-	1-4

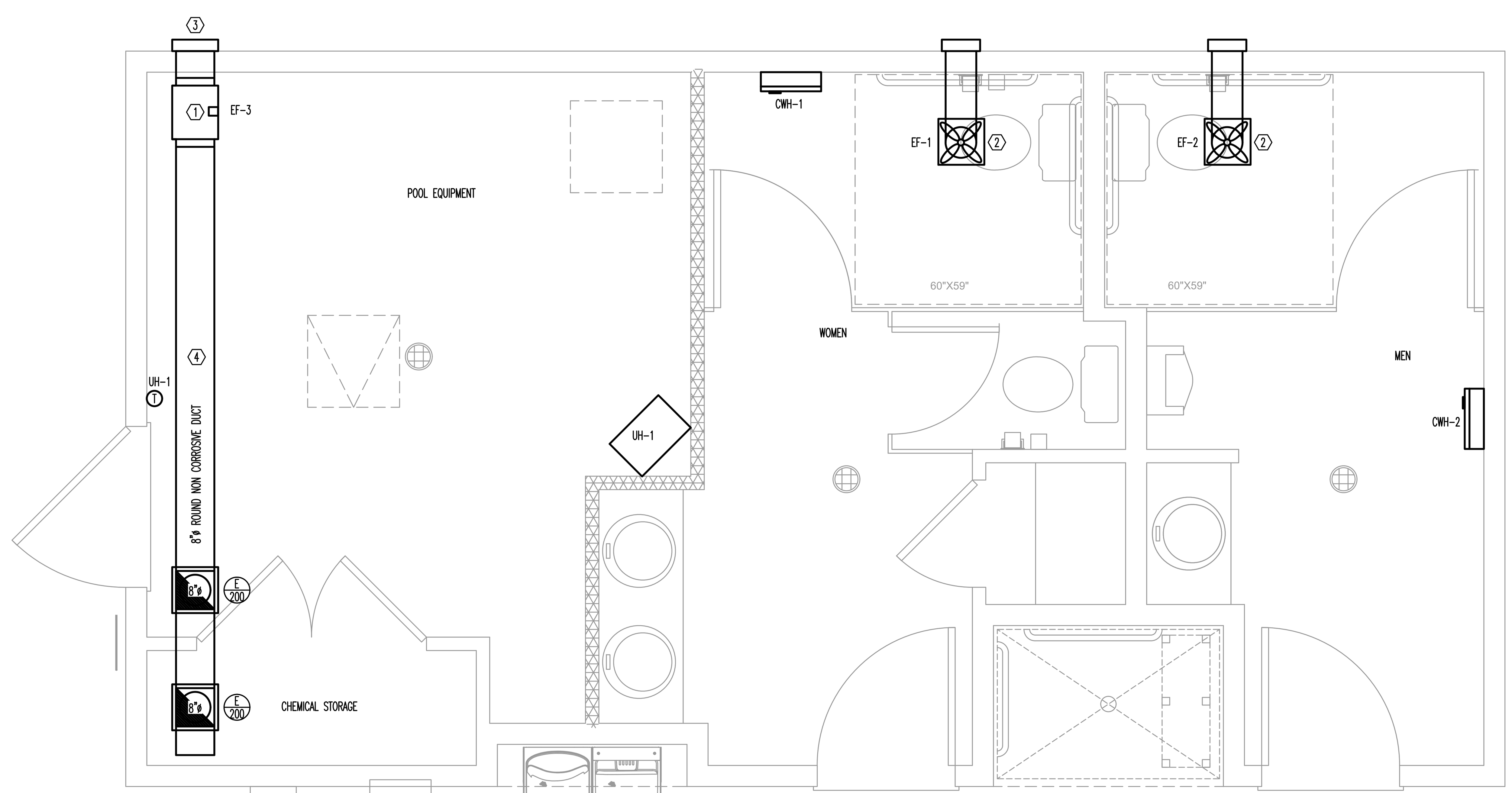
1. PROVIDE WITH PITCHED ROOF CURB & CAP FOR FLAT OR SLOPED ROOF, OR HOODED WALL WITH BACKDRAFT DAMPER CAP AS APPLICABLE.
2. PROVIDE WITH SQUARE TO ROUND DUCT ADAPTER AS NECESSARY
3. OR EQUAL BY LOREN COOK OR PENNBARRY OT TWIN CITY
4. MC TO INSTALL EF-4 ROOF CAP ON FRONT SIDE OF ROOF AWAY FROM POOL DECK AREA.

MECHANICAL SCHEDULE & DESIGNER'S STATEMENT | 1

HEX PLAN NOTES

1. MC TO INSTALL CORROSION RESISTANT INLINE PLASTIC DUCT FAN IN ATTIC SPACE. MC TO CONNECT 8" DUCT FROM EXHAUST GRILLE IN CHEMICAL ROOM AND POOL EQUIPMENT ROOM TO MAIN 10" EXHAUST DUCT TO INLINE FAN. EXHAUST DUCT TO TERMINATE AT ROOF CAP LOCATED ON THE FRONT SIDE OF ROOF, AWAY FROM POOL DECK.
2. 8"Ø FROM RESTROOM EXHAUST FAN TO EXTERIOR WALL. MC TO TERMINATE WITH HOODED WALL CAP. EXHAUST FAN TO BE CONTROLLED BY LIGHT OCCUPANCY SENSOR.
3. TERMINATE WITH HOODED WALL CAP. MC TO VERIFY A MINIMUM OF 3 FT FROM ANY OPERABLE OPENING.
4. DUCT WORK TO BE MADE OUT OF A NON CORROSIVE MATERIAL. DUCTWORK TO BE MOUNTED AT CEILING HEIGHT.

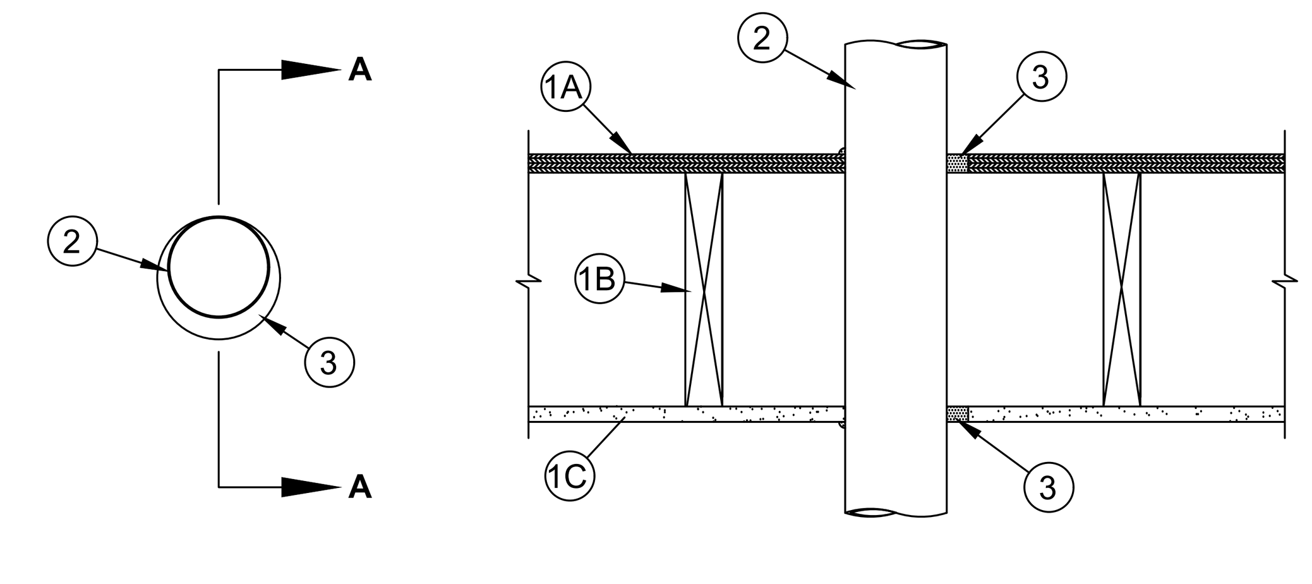
XXXXXXXXXX – 1 HOUR RATED WALLS



MECHANICAL PLAN - SCALE: 1/2" = 1' | 3

Classified by
Underwiters Laboratories, Inc.
to ANSI/UL 1479 (ASTM E814) and CAN/ULC S115 **System No. F-C-1074**

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Ratings - 1 Hr and 2 Hr (See Item 1)	F Ratings - 1 Hr and 2 Hr (See Item 1)
T Ratings - 1/4, 1/2 and 1 Hr (See Item 2)	FT Ratings - 1/4, 1/2 and 1 Hr (See Item 2)
L Rating At Ambient - Less Than 1 CFM/sq ft	FH Ratings - 1 Hr and 2 Hr (See Item 1)
L Rating At 400 F - Less Than 1 CFM/sq ft	FTH Ratings - 1/4, 1/2 and 1 Hr (See Item 2)
	L Rating At Ambient - Less Than 5.1 L/s/m2
	L Rating At 400 F - Less Than 5.1 L/s/m2



Section A-A

1. Floor - Ceiling Assembly - The 1 hr fire-rated wood joist floor-ceiling assembly shall be constructed of the materials and in the manner specified in the individual L500 Designs in the UL Fire Resistance Directory. The 2 hr fire-rated wood joist floor-ceiling assembly shall be constructed of the materials and in the manner specified in Design Nos. L505, L511 **or L536 in the UL Fire Resistance Directory. The F and FH Ratings of the firestop system are equal to the fire** rating of the floor-ceiling assembly. The general construction features of the floor assembly are summarized below:
   A. Flooring System - Lumber or plywood subfloor with finish floor of lumber, plywood or Floor Topping Mixture* as specified in the individual Floor-Ceiling Design. Diam of opening to be max 1 in. (25 mm) larger than diam of pipe. As an alternate, the opening may be square-cut with a max dimension 1 in. (25 mm) greater than the diam of the pipe.
   B. Wood Joists - Nom 10 in. (254 mm) deep (or deeper) lumber, steel or combination lumber and steel joists, trusses or Structural Wood Members* with bridging as required and with ends firestopped.
   C. Gypsum Board* - Thickness, type, number of layers and fasteners as required in the individual Floor-Ceiling Design. Diam of opening to be max 1 in. (25 mm) greater than diam of pipe.
   D. Furring Channel - (Not Shown) - In 2 hr fire-rated assemblies, resilient galv steel furring channels installed perpendicular to wood joists between base and face layers of gypsum board (Item C). Furring channels spaced max 24 in. (610 mm) OC with additional short lengths of furring channel installed adjacent to and max 3 in. (76 mm) from two opposing sides of penetrant.

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c UL us
F-C-1074
PAGE OF 2

FIRE RATED WALL DETAIL | 2

GENERAL MECHANICAL NOTES:

ADMINISTRATIVE:

1. THE FOLLOWING ABBREVIATIONS SHALL APPLY TO NOTES AND PLANS:
   PC – PLUMBING CONTRACTOR, EC – ELECTRICAL CONTRACTOR,
   MC – MECHANICAL CONTRACTOR, GC – GENERAL CONTRACTOR,
   FASC – FIRE ALARM SYSTEM CONTRACTOR, AHJ – AUTHORITY HAVING JURISDICTION.
2. "PROVIDE" MEANS TO FURNISH AND INSTALL. MC SHALL ALSO INSTALL MATERIALS FURNISHED BY OTHERS AND GENERAL CONTRACTOR AS SHOWN ON THE PLANS OR NECESSARY FOR A COMPLETE INSTALLATION.
3. THE MC SHALL BE RESPONSIBLE FOR A COMPLETE AND OPERATING SYSTEM AS DESCRIBED BY THESE PLANS AND SPECIFICATIONS.
4. ALL MATERIALS AND EQUIPMENT SHALL BE DELIVERED TO THE SITE AND UNLOADED BY THE CONTRACTOR AT AN APPROVED LOCATION. THE MC SHALL PROTECT ALL MATERIALS AND EQUIPMENT FROM BREAKAGE, THEFT, AND THE ELEMENTS. ALL MATERIALS AND EQUIPMENT SHALL REMAIN THE PROPERTY OF THE MC UNTIL THE PROJECT HAS BEEN COMPLETED AND TURNED OVER TO THE OWNER.
5. THE MC SHALL INSTALL ALL MATERIALS AND EQUIPMENT IN ACCORDANCE WITH THE 2018 NORTH CAROLINA MECHANICAL AND BUILDING CODES AND ANY APPLICABLE LOCAL CODES. WHERE A CONFLICT EXISTS BETWEEN THE ABOVE REQUIREMENTS, THE MC SHALL OBTAIN CLARIFICATION FROM THE ENGINEER OR IN THE EVENT ANY PART OF THESE PLANS CONFLICTS WITH THE ABOVE REQUIREMENTS.
6. THE MC SHALL OBTAIN AND PAY FOR ALL PERMITS, FEES, AND INSPECTIONS NECESSARY FOR THE COMPLETION OF THE WORK UNDER THIS CONTRACT.
7. DO NOT SCALE THESE DRAWINGS–REFER TO ARCHITECTURAL SHEETS FOR DIMENSIONS.
8. THE MC SHALL VISIT THE SITE PRIOR TO BIDDING TO BECOME FAMILIAR WITH EXISTING CONDITIONS. THE MC SHALL CONTACT THE ENGINEER TO RESOLVE ANY DISCREPANCIES BETWEEN EXISTING CONDITIONS AND THESE PLANS. THE MC SHALL COORDINATE WITH OTHER TRADES PRIOR TO THE START OF CONSTRUCTION.
9. ALL MECHANICAL MATERIALS SHALL BE NEW AND FREE OF DEFECT AND LISTED AND LABELED BY UL OR AN APPROVED THIRD PARTY AGENCY. ANY MATERIALS FOUND TO BE DEFECTIVE SHALL BE REPLACED BY THE MC WITHOUT ADDITIONAL COST TO THE OWNER. WHERE A MANUFACTURER AND MODEL NUMBER IS GIVEN, THE CITED EXAMPLE IS INTENDED TO ESTABLISH A STANDARD OF QUALITY AND NOT TO LIMIT PRODUCTS TO A PARTICULAR MANUFACTURER. SUCH EXAMPLES ARE USED TO CONVEY A GENERAL STYLE, TYPE, CHARACTER, AND QUALITY OF THE PRODUCT DESIRED; PRODUCTS DETERMINED TO BE EQUAL BY THE ENGINEER WILL BE ACCEPTED.
10. THESE PLANS ARE DIAGRAMMATIC. THE MC SHALL ADJUST THE LOCATIONS OF EQUIPMENT, DUCTS, REGISTERS, GRILLES, ETC, TO ACCOMMODATE PLANNED AND ENCOUNTERED INTERFERENCES. THE DRAWINGS DO NOT SHOW ALL BENDS, OFFSETS, AND FITTINGS THAT MAY BE REQUIRED FOR A COMPLETE AND OPERATIONAL SYSTEM. THE MC SHALL MAKE ALLOWANCES FOR SUCH DEVIATIONS AND CONTINGENCIES IN BID TO IMPLEMENT THEM WITHOUT ADDITIONAL COST TO THE OWNER.
11. THE MC SHALL VERIFY THE FUNCTIONALITY AND OPERATION OF ALL EXISTING MECHANICAL EQUIPMENT IN THE AREA OF WORK. REPLACE FILTERS, LEAK TEST AND RECHARGE REFRIGERANT LINES, REPLACE OR LUBRICATE BEARINGS, CHECK LINKAGES AND ACTUATORS, AND PERFORM OTHER MAINTENANCE SERVICE AS NECESSARY TO GET THE EQUIPMENT IN PROPER ORDER
12. ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL POWER CONNECTIONS TO THE MECHANICAL EQUIPMENT. MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONTROL WIRING.
13. IT IS THE MC'S RESPONSIBILITY TO VERIFY THAT ITEMS FURNISHED FOR THIS CONTRACT WILL FIT IN THE SPACE AVAILABLE. THE MC SHALL MAKE FIELD MEASUREMENTS AS NECESSARY TO DETERMINE SPACE REQUIREMENTS. IF THE MC MUST ALTER EQUIPMENT DUE TO SPACE CONSIDERATIONS, THE MC SHALL PROVIDE SIZES AND SHAPES THAT FIT THE INTENT OF THESE DRAWINGS AND SPECIFICATIONS.
14. MC SHALL COORDINATE WITH THE ELECTRICAL CONTRACTOR REGARDING THE ELECTRICAL REQUIREMENTS OF ALL EQUIPMENT BEING PROVIDED.
15. MAINTAIN CLEARANCES FOR ALL EQUIPMENT ACCORDING TO MANUFACTURER'S RECOMMENDATIONS FOR SERVICEABILITY. ALL ROOFTOP EQUIPMENT MUST BE A MINIMUM OF 10 FEET FROM ROOF EDGE.
16. MC SHALL FURNISH A BOUND SET OF OPERATING AND MAINTENANCE INSTRUCTIONS FOR ALL EQUIPMENT TO THE OWNER UPON COMPLETION OF THE PROJECT. MC SHALL PROVIDE ALL DOCUMENTATION TO THE OWNER AS NECESSARY TO SUBMIT FOR FACTORY WARRANTIES.
17. CONTRACTOR SHALL PROTECT ALL HVAC EQUIPMENT FROM CONSTRUCTION AND SHEET ROCK DUST DURING CONSTRUCTION. ALL FILTERS SHALL BE REPLACED WITH NEW AT THE COMPLETION OF THE PROJECT.
18. ALL EQUIPMENT INSTALLED ON ROOF MUST BE WITHIN THE ROOF SCREEN.
19. IF A ROOF PENETRATION IS REQUIRED AND THE ROOF IS UNDER WARRANTY, USE THE AUTHORIZED ROOFER. PROVIDE DOCUMENTATION.
20. ALL PIPING, WIRING, CONDUIT, INSULATION, EQUIPMENT, SUPPORTS, ETC. SHALL BE SUITABLE FOR INSTALLATION IN A RETURN PLENUM AS NECESSARY. COORDINATE WITH OTHER TRADES ON LOCATIONS OF ALL PLENUMS.
21. MC SHALL COORDINATE WITH THE GENERAL CONTRACTOR TO ENSURE ALL APPLICABLE CONSTRUCTION WASTE IS RECYCLED DURING THE CONSTRUCTION PHASE OF THE PROJECT.

MATERIALS:

1. THE MC SHALL PROVIDE ALL DX UNITARY HEATING AND COOLING EQUIPMENT AS SCHEDULED ON THE DRAWINGS. AIR-COOLED SPLIT SYSTEM HEAT PUMPS AND AIR-CONDITIONERS SHALL BE BY TRANE, CARRIER, OR YORK. AIR-COOLED ROOFTOP PACKAGE HEAT PUMPS, GAS-ELECTRIC UNITS, AND AIR-CONDITIONERS SHALL BE BY TRANE, CARRIER, OR YORK. GAS FURNACES SHALL BE BY TRANE, CARRIER, OR YORK. THE MC SHALL PROVIDE FACTORY AND FIELD INSTALLED ACCESSORIES AS SCHEDULED OR AS NECESSARY FOR A COMPLETE AND OPERATIONAL HVAC SYSTEM.
2. THE MC SHALL PROVIDE ALL EXHAUST AND SUPPLY FANS AS SCHEDULED. FANS SHALL BE BY GREENHECK, LOREN COOK, TWIN CITY, OR PENNBARRY.
3. DUCTWORK IS SHOWN WITH FREE AREA DIMENSIONS. ALL DUCTWORK SHALL BE FABRICATED AND INSTALLED IN ACCORDANCE WITH SMACNA LOW PRESSURE DUCT STANDARD, 2 INCH S.P.
4. EXTERNAL DUCT INSULATION AND FACTORY-INSULATED FLEXIBLE DUCT SHALL BE LEGIBLY PRINTED OR IDENTIFIED AT INTERVALS NOT GREATER THAN 36 INCHES WITH THE NAME OF THE MANUFACTURER, THE THERMAL RESISTANCE R-VALUE AT THE SPECIFIED INSTALLED THICKNESS AND THE FLAME SPREAD AND SMOKE-DEVELOPED INDEXES OF THE COMPOSITE MATERIALS. ALL DUCT INSULATION PRODUCT R-VALUES SHALL BE BASED ON INSULATION ONLY, EXCLUDING AIR FILMS, VAPOR RETARDERS OR OTHER DUCT COMPONENTS, AND SHALL BE BASED ON TESTED C-VALUES AT 75°F MEAN TEMPERATURE AT THE INSTALLED THICKNESS, IN ACCORDANCE WITH RECOGNIZED INDUSTRY PROCEDURES. THE INSTALLED THICKNESS OF DUCT INSULATION USED TO DETERMINE ITS R-VALUES SHALL BE DETERMINED AS FOLLOWS:
   - 4.1. FOR DUCT BOARD, DUCT LINER AND FACTORY-MADE RIGID DUCTS NOT NORMALLY SUBJECTED TO COMPRESSION, THE NOMINAL INSULATION THICKNESS SHALL BE USED.
   - 4.2. FOR DUCT WRAP, THE INSTALLED THICKNESS SHALL BE ASSUMED TO BE 75 PERCENT (25-PERCENT COMPRESSION) OF NOMINAL THICKNESS.
   - 4.3. FOR FACTORY-MADE FLEXIBLE AIR DUCTS, THE INSTALLED THICKNESS SHALL BE DETERMINED BY DIVIDING THE DIFFERENCE BETWEEN THE ACTUAL OUTSIDE DIAMETER AND NOMINAL INSIDE DIAMETER BY TWO.
5. DUCT LINER MAY BE SUBSTITUTED FOR EXTERIOR DUCT WRAP. DUCT LINER INSULATION MATERIALS SHALL MEET THE REQUIREMENTS OF ASTM C 1071, AND ASTM G 21. EXTERIOR DUCT R-VALUE SHALL BE R-8 AND INTERIOR R-VALUE SHALL BE R-6 IN ACCORDANCE WITH THE 2018 NORTH CAROLINA ENERGY CONSERVATION CODE. NOMINAL DUCT SIZES SHALL BE ADJUSTED AS NECESSARY SO THAT FREE AREA DIMENSIONS ARE PRESERVED AS SHOWN ON THE PLANS. FABRICATION AND INSTALLATION SHALL CONFORM TO THE MANUFACTURER'S INSTALLATION RECOMMENDATIONS AND TO THE REQUIREMENTS OF THE LATEST EDITION OF THE NORTH AMERICAN INSULATION MANUFACTURERS ASSOCIATION FIBROUS GLASS DUCT LINER STANDARDS AND/OR SMACNA HVAC DUCT CONSTRUCTION STANDARDS. DUCT LINER SHALL HAVE A BLACK PIGMENTED MAT ON THE AIRSTREAM SIDE TO RESIST DAMAGE DURING INSTALLATION AND SERVICE. EDGES SHALL BE FACTORY COATED WITH BLACK PIGMENTED COATING TO COMPLY WITH SMACNA DCS REQUIREMENTS. ALL PORTIONS OF DUCT DESIGNATED TO RECEIVE DUCT LINER SHALL BE COMPLETELY COVERED WITH DUCT LINER. TRANSVERSE JOINTS SHALL BE NEATLY BUTTED AND THERE SHALL BE NO INTERRUPTIONS OR GAPS. THE BLACK PIGMENTED OR MAT FACED SURFACES SHALL FACE THE AIRSTREAM. DUCT LINER SHALL BE ADHERED TO THE SHEET METAL WITH 90 PERCENT COVERAGE OF ADHESIVE COMPLYING WITH REQUIREMENTS OF ASTM C 916. ALL EXPOSED LEADING EDGES AND TRANSVERSE JOINTS SHALL BE FACTORY COATED OR COATED WITH ADHESIVE DURING FABRICATION. DUCT LINER SHALL BE ADDITIONALLY SECURED WITH MECHANICAL FASTENERS, EITHER WELD-SECURED OR IMPACT DRIVEN, WHICH SHALL COMPRESS THE DUCT LINER SUFFICIENTLY TO HOLD IT FIRMLY IN PLACE. ADHESIVE BONDED PINS ARE NOT PERMITTED DUE TO LONG-TERM ADHESIVE AGING CHARACTERISTICS. LININGS SHALL BE INTERRUPTED AT THE AREA OF OPERATION OF A FIRE DAMPER AND AT A MINIMUM OF 6 INCHES UPSTREAM AND 6 INCHES DOWNSTREAM OF ELECTRIC RESISTANCE AND FUEL-BURNING HEATERS IN A DUCT SYSTEM. METAL NOSINGS OR SLEEVES SHALL BE INSTALLED OVER EXPOSED DUCT LINER THAT FACE OPPOSITE THE DIRECTION OF AIRFLOW. UPON COMPLETION OF INSTALLATION OF DUCT LINER AND BEFORE OPERATION IS TO COMMENCE, VISUALLY INSPECT SYSTEM AND VERIFY THAT THE DUCT LINER IS PROPERLY INSTALLED. OPEN ALL SYSTEM DAMPERS AND TURN ON FANS TO BLOW ALL SCRAPS AND OTHER LOOSE PIECES OF MATERIAL OUT OF THE DUCT SYSTEM. ALLOW FOR A MEANS OF REMOVAL OF SUCH MATERIAL.
6. ALL INSULATION CONTAINING FIBROUS MATERIALS EXPOSED TO AIRFLOW SHALL BE RATED FOR THAT EXPOSURE OR SHALL BE ENCAPSULATED. INSULATING PROPERTIES FOR ALL MATERIALS SHALL MEET OR EXCEED INDUSTRY STANDARDS. POLYSTYRENE PRODUCTS SHALL MEET ASTM C578. ALL INSULATION SHALL HAVE FORMALDEHYDE EMISSIONS NOT GREATER THAN 0.05 PPM. THE MAXIMUM FLAME SPREAD AND SMOKE DEVELOPED INDEX FOR INSULATION SHALL MEET THE REQUIREMENTS OF THE LOCAL CODES AND ORDINANCES ADOPTED BY THE JURISDICTION IN WHICH THE BUILDING IS LOCATED.
7. MASTIC USED TO SEAL DUCTWORK SHALL BE LISTED AND LABELED IN ACCORDANCE WITH UL 181A-95 OR UL 181B-98. MAINTAIN AMBIENT TEMPERATURES AND CONDITIONS REQUIRED BY MANUFACTURER OF ADHESIVES, MASTICS, AND INSULATION CEMENTS. DO NOT INSTALL DUCT SEALANT WHEN TEMPERATURES ARE LESS THAT THOSE RECOMMENDED BY THE SEALANT MANUFACTURER.
8. ALL ADHESIVES AND SEALANTS SHALL HAVE VOC CONTENT BELOW 20 GRAMS PER LITER AND WHICH MEET THE REQUIREMENTS OF THE MANUFACTURER OF THE PRODUCTS BEING ADHERED OR INVOLVED. ADHESIVES AND SEALANTS SHALL CONTAIN NO HEAVY METALS OR FORMALDEHYDE.
9. FACTORY-MADE AIR DUCTS AND CONNECTORS SHALL COMPLY WITH UL 181-96.
10. FLEXIBLE DUCT SHALL BE UL LISTED CLASS 0 OR CLASS 1, INSULATED, AND COMPLY WITH UL 181. FLEXIBLE DUCT SHALL BE FACTORY FORMED, COMPOSED OF SPIRAL WOUND CORROSION RESISTANT WIRE BONDED TO AN INNER FABRIC LINER. DUCT SHALL BE FACTORY INSULATED WITH A FOIL VAPOR BARRIER JACKET. CONNECT TO RIGID DUCT WITH SPIN-IN FITTING AND DAMPER. FLEXIBLE DUCTS AND AIR CONNECTORS SHALL NOT PASS THROUGH ANY FIRE RESISTANCE RATED ASSEMBLY.
11. THE MC SHALL PROVIDE ALL DIFFUSERS GRILLES, LOUVERS, AND OTHER AIR DISTRIBUTION OUTLETS AND INLETS. LOUVERS, GRILLES, AND DIFFUSERS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS. FOR LAY-IN CEILINGS, INSTALL SUPPORT FROM THE STRUCTURE FOR EACH DIFFUSER OR DAMPER. AIR DISTRIBUTION OUTLETS AND INLETS SHALL BE BY HART & COOLEY, PRICE, METAL-AIRE, NAILOR, OR CARNES.
12. AIR FILTERS SHALL BE INSTALLED IN ACCORDANCE WITH SECTION 605 OF THE 2018 NC MECHANICAL CODE.
13. THE MC SHALL PROVIDE ALL REFRIGERATION PIPING. ALL PIPE AND FITTINGS SHALL BE TYPE ACR HARD COPPER TUBING WITH SWEAT FITTINGS. REFRIGERATION LINES SHALL BE RUN NEATLY. WHERE A GROUP OF LINES ARE RUN, TRAPEZE HANGERS MAY BE USED. DO NOT USE CHAIN OR WIRE HANGERS. WRAP TUBING WITH RUBBER TAPE AT EACH CLAMP OR HANGER. FOR COVERED PIPES, HANGERS SHALL FIT AROUND THE OUTSIDE OF THE COVERING WITH 12 GAUGE GALVANIZED STEEL SHIELDS OF A LENGTH EQUAL TO THE OUTSIDE DIAMETER OF THE INSULATION AND COVERING 3/4 OF THE CIRCUMFERENCE OF THE INSULATION. SAGS SHALL NOT BE PERMISSIBLE. HORIZONTAL LINES SHALL PITCH DOWN NOT LESS THAN 1 INCH IN 40 FEET. INSULATE WITH 1 INCH CLOSED CELL ARMAFLEX TYPE INSULATION WITH A FLAME DENSITY RATING LESS THAN 25 AND A SMOKE DENSITY RATING LESS THAN 50. ALL JOINTS AND SPLICES IN INSULATION SHALL BE TAPED AND AIR TIGHT. SOLDER REFRIGERATION LINES USING 15 PERCENT SILVER SOLDER AND EVACUATE LINES TO 300 MICRONS. PROVIDE MOISTURE INDICATING SIGHT GLASS AND FILTER DRYER IN LIQUID LINE. PROVIDE OIL TRAPS AND DOUBLE RISERS IN REFRIGERANT SUCTION AND HOT GAS LINES WHERE REQUIRED TO PREVENT OIL SLUGGING AT THE COMPRESSOR AND INSURE PROPER LUBRICATION. MC SHALL BE RESPONSIBLE FOR SEALING LINE SET PENETRATIONS OF ANY RATED ASSEMBLIES IN ACCORDANCE WITH A SYSTEM LISTED IN THE UL DIRECTORY FOR THE SPECIFIC ASSEMBLY BEING PENETRATED. SEE ARCHITECTURAL PLANS FOR A LIST OF ALL UL FIRE RATED ASSEMBLIES.

METHODS:

1. INSULATE DUCTWORK WITH FIBERGLASS DUCT WRAP; INSTALLED R-VALUE SHALL BE A MINIMUM R-6. COVERINGS AND LININGS, INCLUDING ADHESIVES WHEN USED, SHALL HAVE A FLAME SPREAD INDEX NOT MORE THAN 25 AND A SMOKE-DEVELOPED INDEX NOT MORE THAN 50 WHEN TESTED IN ACCORDANCE WITH ASTM E 84. ALL NEW DUCTWORK SHALL RECEIVE INSULATION ON THE OUTSIDE. INSTALL DUCT WRAP INSULATION WITH FACING OUTSIDE SO THAT TAPE FLAP OVERLAPS INSULATION AND FACING OF ADJACENT PIECE OF DUCT WRAP. INSULATION SHALL BE TIGHTLY BUTTED. FOR RECTANGULAR DUCTS, INSTALL SO INSULATION IS NOT EXCESSIVELY COMPRESSED AT DUCT CORNERS. STAPLE SEAMS APPROXIMATELY 6 INCHES ON CENTER WITH OUTWARD CLINCHING STAPLES. SEAL SEAMS WITH PRESSURE SENSITIVE TAPE MATCHING THE FACING. FOR RECTANGULAR DUCTS 24 INCHES IN WIDTH OR GREATER, SECURE DUCT WRAP TO THE BOTTOM OF THE DUCT WITH MECHANICAL FASTENERS SPACED 18 INCHES ON CENTER TO PREVENT SAGGING OF INSULATION. ADJACENT SECTIONS OF DUCT WRAP SHALL BE TIGHTLY BUTTED WITH THE 2 INCH TAPE FLAP OVERLAPPING. ALL TEARS, PUNCTURES, ETC. OF THE DUCT WRAP INSULATION SHALL BE SEALED WITH TAPE OR MASTIC TO PROVIDE A VAPOR TIGHT SYSTEM. INSULATION SHALL BE BY KNAUF INSULATION, OWENS CORNING CORP, OR CERTAINTEED CORPORATION.
2. VERIFY THAT DUCTS HAVE BEEN TESTED BEFORE APPLYING INSULATION MATERIALS. VERIFY THAT DUCT SURFACES ARE CLEAN, DRY AND FREE OF FOREIGN MATERIAL PRIOR TO INSULATING. DUCT COVERINGS SHALL NOT PENETRATE A WALL OR FLOOR REQUIRED TO HAVE A FIRE-RESISTANCE RATING OR REQUIRED TO BE FIRE BLOCKED.
3. WHERE DUCTS ARE CONNECTED TO EXTERIOR WALL LOUVERS AND DUCT OUTLET IS SMALLER THAN LOUVER FRAME, PROVIDE BLANK-OUT PANELS SEALING LOUVER AREA AROUND DUCT. USE SAME MATERIAL AS DUCT, PAINTED BLACK ON EXTERIOR SIDE; SEAL TO LOUVER FRAME AND DUCT.
4. DUCTS CONNECTING TO A FURNACE SHALL HAVE A CLEARANCE TO COMBUSTIBLES IN ACCORDANCE WITH THE FURNACE MANUFACTURER'S INSTALLATION INSTRUCTIONS.
5. FOR STRUCTURES IN FLOOD HAZARD AREAS, DUCTS SHALL BE LOCATED ABOVE THE DESIGN FLOOD ELEVATION. DUCT SHALL NOT BE INSTALLED IN OR WITHIN 4 INCHES OF THE EARTH.
6. PROVIDE DUCT ACCESS DOORS FOR INSPECTION AND CLEANING BEFORE AND AFTER FILTERS, COILS, FANS, AUTOMATIC DAMPERS, AT FIRE DAMPERS, COMBINATION FIRE AND SMOKE DAMPERS.
7. CONSTRUCT T's, BENDS, AND ELBOWS WITH RADII OF NOT LESS THAN 1-1/2 TIMES THE WIDTH OF THE DUCT ON CENTERLINE. WHERE NOT POSSIBLE AND WHERE RECTANGULAR ELBOWS MUST BE USED, PROVIDE TURNING VANES.
8. INCREASE DUCT SIZES GRADUALLY, NOT EXCEEDING 15 DEGREES DIVERGENCE; MAXIMUM OF 30 DEGREES DIVERGENCE UPSTREAM OF EQUIPMENT AND 45 DEGREES CONVERGENCE DOWNSTREAM.
9. IT SHALL BE THE RESPONSIBILITY OF THE MC TO SUSPEND AND SUPPORT ALL EQUIPMENT, DUCTWORK, DIFFUSERS, AND OTHER MATERIALS FOLLOWING RECOGNIZED ENGINEERING PRACTICES AND USING STANDARD, COMMERCIALLY ACCEPTED HANGERS AND SUSPENSION EQUIPMENT. ALL HVAC EQUIPMENT SHALL BE SECURELY MOUNTED TO THE BUILDING STRUCTURE AND SHALL NOT RELY ON CEILING OR WALL SURFACES FOR SUPPORT. THE SUPPORT ATTACHMENT SHALL SUPPORT THE WEIGHT OF THE EQUIPMENT PLUS THE WEIGHT OF THE SUPPORT ATTACHMENT ITSELF. SUPPORT FROM THE TOP CHORD OF THE ROOF JOISTS, GIRDERS, AND BEAMS. THE BOTTOM CHORD IS NOT TO BE USED FOR EQUIPMENT OR PIPING SUPPORT. HANGERS SHALL NOT BE ATTACHED TO CORRUGATED STEEL DECKING.
10. DUCTS SHALL BE SUPPORTED IN ACCORDANCE WITH SMACNA AT INTERVALS NOT EXCEEDING 10 FEET. DUCTS 36 INCHES OR LARGER SHALL HAVE TRAPEZE TYPE HANGERS SUSPENDED WITH THREADED ROD. SUPPORT DUCTS FROM BAR JOISTS, GIRDERS, OR BEAMS.
11. CHECK LOCATIONS OF AIR OUTLETS AND INLETS AND MAKE NECESSARY ADJUSTMENTS IN POSITION TO CONFORM WITH ARCHITECTURAL FEATURES, SYMMETRY, AND LIGHTING ARRANGEMENT. COORDINATE WITH SPRINKLER CONTRACTOR IF APPLICABLE.
12. PROVIDE BALANCING DAMPERS AT POINTS ON SUPPLY WHERE BRANCHES ARE TAKEN FROM LARGER DUCTS AS REQUIRED FOR AIR BALANCING. INSTALL MINIMUM 2 DUCT WIDTHS FROM DUCT TAKE-OFF. PROVIDE BALANCING DAMPERS ON DUCT TAKE-OFFS TO DIFFUSERS, AND REGISTERS, REGARDLESS OF WHETHER DAMPERS ARE SPECIFIED AS PART OF THE DIFFUSER OR REGISTER ASSEMBLY. ADJUST AIR HANDLING AND DISTRIBUTION SYSTEMS TO PROVIDE DESIGN SUPPLY, RETURN, AND EXHAUST AIR QUANTITIES AT SITE ALTITUDE.
13. MC SHALL INSTALL FIRE DAMPERS AT EACH PENETRATION OF A RATED WALL AS INDICATED ON THE DRAWINGS OR AS REQUIRED BY THE AUTHORITY HAVING JURISDICTION. FIRE DAMPERS SHALL BE UL LABELED (UL 555), CURTAIN TYPE, WITH INTEGRAL FACTORY SLEEVE AND BLADES LOCATED OUTSIDE THE AIR STREAM. INSTALLATION OF ALL FIRE DAMPERS SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS AND SECTION 607 OF THE 2018 NC MECHANICAL CODE. PROVIDE ACCESS PANELS FOR TESTING AND SERVICE AS NECESSARY. MC SHALL PROVIDE RADIATION DAMPERS AND THERMAL BLANKETS FOR ALL PENETRATIONS OF RATED CEILING ASSEMBLIES. RADIATION DAMPERS SHALL BE UL LABELED (UL 555C) AND INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFIC INSTALLATION INSTRUCTIONS. FIRE DAMPERS, COMBINATION FIRE/SMOKE DAMPERS, AND CEILING RADIATION DAMPERS SHALL BE BY RUSKIN, NAILOR, OR LLOYD INDUSTRIES.
14. MC SHALL INSTALL A SMOKE DETECTOR-UL LISTED FOR DUCT INSTALLATION (UL 268A) IN EACH UNIT'S RETURN UPSTREAM OF ANY FILTERS, OUTSIDE AIR CONNECTIONS, OR DECONTAMINATION EQUIPMENT. DUCT SMOKE DETECTORS SHALL BE INSTALLED IN ACCORDANCE WITH NFPA 72. DUCT SMOKE DETECTOR SUPERVISION SHALL COMPLY WITH 606.4.1 OF THE 2018 NC MECHANICAL CODE. IF THE BUILDING IS (TO BE) EQUIPPED WITH A FIRE ALARM SYSTEM, THE FIRE ALARM SYSTEM CONTRACTOR SHALL FURNISH AND WIRE ALL DUCT SMOKE DETECTORS. IF THE BUILDING IS NOT PROVIDED WITH A FIRE ALARM SYSTEM, THE MC SHALL FURNISH AND WIRE THE DUCT SMOKE DETECTORS AND A/V DEVICE. IT SHALL BE THE RESPONSIBILITY OF THE MC TO INSTALL ALL SMOKE DUCT DETECTORS PER NFPA AND MFG'S INSTALLATION INSTRUCTIONS REGARDLESS OF WHO FURNISHES THE DEVICES.
15. MC SHALL INSTALL PROGRAMMABLE THERMOSTATS AS SHOWN ON THE PLANS. THERMOSTAT SHALL BE MOUNTED AT 48 INCHES AFF. THERMOSTATS SHALL MEET THE REQUIREMENTS OF SECTION C403.2.4 OF THE 2018 NORTH CAROLINA ENERGY CONSERVATION CODE.
16. FRESH AIR INTAKES SHALL BE INSTALLED ON ALL UNITS AS SHOWN ON DRAWINGS. MAINTAIN 10 FEET OF DISTANCE BETWEEN FRESH AIR INTAKES AND ALL EXHAUST TERMINATIONS AND PLUMBING VENT THRU ROOFS.
17. UNITS PROVIDED WITH ECONOMIZERS SHALL ALSO BE PROVIDED WITH POWERED EXHAUST AND COMPARATIVE ENTHALPY CONTROLS.
18. MC SHALL INSTALL ALL EXHAUST FANS AND VENT TO THE BUILDING'S EXTERIOR. EC SHALL SWITCH FANS WITH LIGHTS OR ON SEPARATE SWITCH AS SHOWN.
19. P-TRAPS MUST BE INSTALLED ON ALL UNITS. MC SHALL INSTALL AUXILIARY DRAIN PANS UNDER OVERHEAD AIR HANDLERS AND AN AUTOMATIC CUT-OFF FLOAT SWITCH FOR EACH. P-TRAPS AND CONDENSATE LINES SHALL BE 1 INCH. P-TRAPS AND CONDENSATE LINES MAY BE PVC WHERE NOT LOCATED IN PLENUMS; OTHERWISE, THEY SHALL BE TYPE M COPPER. CONDENSATE SHALL BE ROUTED TO DAYLIGHT OR STORM DRAIN.
20. INSTALL BACKDRAFT DAMPERS ON FRESH AIR AND EXHAUST DUCTS WHERE THEY PENETRATE THE THERMAL ENVELOPE PER NORTH CAROLINA ENERGY CONSERVATION CODE C402.5.5

MECHANICAL NOTES | 4

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NORTH CAROLINA PROFESSIONAL SEAL 17304 MICHAEL W. KILIAN
02/16/2024 SEAL

KILIAN ENGINEERING, INC. CORPORATE SEAL NORTH CAROLINA
SEAL

CONSTRUCTION
CAITLIN CROSSING POOL HOUSE
LILLINGTON, NC

REVISION:

NO.	DATE	DESCRIPTION

ISSUED:

NO.	DATE	DESCRIPTION
0	02/16/2024	ISSUED FOR PERMITTING

DRAWN BY: BSL
CHECKED BY: MWK/REW

MECHANICAL PLAN

SHEET NO.
M1

PROJECT NO: 240124

LIGHT FIXTURE SCHEDULE											
MARK	DESCRIPTION	LOUVER/LENS	LAMPS			VOLTAGE	INPUT WATTAGE	MOUNTING	REMARKS	MFG	MODEL
			TYPE	WATTAGE	CCT						
A	4' WRAP LED	ACRYLIC	LED	32	3500K	120	32	SURFACE	2	LITHONIA	LBL4-4000LML-80CRI 35K NODIM MVOLT
EX	LED EXIT SIGN	ACRYLIC	LED	N/A	N/A	120	2	VARIES	1,2	EELP	XE2RW-EM-SD
EXH	LED EXIT/EMERGENCY COMBO	ACRYLIC	LED	N/A	N/A	120	2	VARIES	1,2	EELP	XC-LED-2-R-W-SD
EM	DUAL HEAD EMERGENCY FIXTURE	ACRYLIC	LED	N/A	N/A	120	2	VARIES	1,2	LITHONIA	ELM2L-SDRT

1. FIXTURE SHALL HAVE BATTERY BACKUP FOR 90 MINUTE ILLUMINATION.
2. OR EQUAL BY COOPER, MOBERN, OR CURRENT BY GE LIGHTING OR HUBBLE LIGHTING

LIGHTING DEVICE LEGEND		
SYMBOL	DESCRIPTION	REMARKS
$	SINGLE POLE WALL SWITCH	HEAVY DUTY, AC ONLY, COMMERCIAL GRADE GENERAL USE SNAP SWITCH COMPLYING WITH NEMA WD 6 AND WD 1. IVORY PLASTIC BODY WITH TOGGLE HANDLE. 120-277V, 20A. MEET FEDERAL SPECIFICATION W-S-896.
$LV	LOW VOLTAGE SWITCH	WATTSOPPER LVS-1 LOW VOLTAGE MOMENTARY CONTROL SWITCH.
DT	CEILING OCCUPANCY SENSOR	WATTSTOPPER, DT-300 LOW VOLTAGE OCCUPANCY SENSOR. 360° ULTRA SONIC AND INFRARED.
P	POWER PACK	WATTSTOPPER, BZ-150 LOW VOLTAGE POWER PACK FOR CEILING PACK SENSORS.
⊠	EXHAUST FAN	VENT FAN, 120V, CFM AS NOTED MC TO PROVIDE AND VENT, EC TO WIRE.

POWER DEVICE LEGEND		
SYMBOL	DESCRIPTION	REMARKS
▶	DATA AND TELEPHONE JACK	PHONE/DATA OUTLET. EC TO INSTALL 3/4"C WITH PULL-STRING FROM OUTLET BOX TO ABOVE CEILING FOR FUTURE USE. JACKS AND COMMUNICATION CABLING BY OTHERS.
⊖	DUPLEX RECEPTACLE	NEMA 5-20R, HEAVY DUTY, COMMERCIAL GRADE, 125V, 20A COMPLYING WITH NEMA WD 6 AND WD 1. GFCI OR AFCI IF NOTED. 'WP' DENOTES WEATHERPROOF COVER. 'CH' DENOTES COUNTER HEIGHT. LISTED TAMPERPROOF IF NOTED. MEET FEDERAL SPECIFICATION W-C-596.
▭	DISCONNECT SWITCH	HEAVY DUTY TYPE. TYPE 1 ENCLOSURE IN INTERIOR APPLICATIONS, TYPE 3R ENCLOSURE IN EXTERIOR APPLICATIONS.
J	JUNCTION BOX	GALVANIZED METAL BOX CONSTRUCTED IN ACCORDANCE WITH 314.40 OF THE NEC.

ELECTRICAL DESIGNER'S STATEMENT		
ELECTRICAL SYSTEM AND EQUIPMENT METHOD OF COMPLIANCE PRESCRIPTIVE _X_ PERFORMANCE ___ ENERGY COST BUDGET ___		
LIGHTING SCHEDULE:		
LAMP TYPE REQUIRED IN FIXTURE:	SEE LIGHTING LEGEND	
NUMBER OF LAMPS PER FIXTURE:	SEE LIGHTING LEGEND	
BALLAST TYPE USED IN FIXTURE:	SEE LIGHTING LEGEND	
NUMBER OF BALLASTS IN FIXTURE:	SEE LIGHTING LEGEND	
TOTAL WATTAGE PER FIXTURE:	SEE LIGHTING LEGEND	
TOTAL INTERIOR WATTAGE SPECIFIED VS ALLOWED:	WATTS SPECIFIED	WATTS ALLOWED
	224.0	294.80

OCCUPANCY	AREA (sf)	ALLOWANCE (W/sf)	WATTAGE ALLOWED
RESTROOM	247	0.80	197.60
STORAGE	162	0.60	97.20
TOTAL	409		294.80

EQUIPMENT SCHEDULES WITH MOTORS (NOT USED FOR MECHANICAL SYSTEMS)
MOTOR HORSEPOWER: N/A
NUMBER OF PHASES: N/A
MINIMUM EFFICIENCY: N/A
MOTOR TYPE: N/A
NUMBER OF POLES: N/A

DESIGNER STATEMENT: TO THE BEST OF MY KNOWLEDGE AND BELIEF, THE DESIGN OF THIS BUILDING COMPLIES WITH THE 2018 NORTH CAROLINA ENERGY CONSERVATION CODE.

FOR THE ADDITIONAL PRESCRIPTIVE REQUIREMENT REQUIRED BY C406 OF 2018 NORTH CAROLINA ENERGY CONSERVATION CODE, WE ARE CHOOSING C406.3 - REDUCED LIGHTING POWER DENSITY.

224 W SPECIFIED <= 265 W (294.8 W ALLOWED X 90%)

ELECTRICAL SCHEDULES | 1

PANEL A								
CKT	LOAD	BKR	LOAD kVA	PH	LOAD kVA	BKR	LOAD	CKT
1	RESTROOM LIGHTS	20/1	0.13	A	0.10	20/1	STORAGE LIGHTS	2
3	RESTROOM RECEPTS	20/1	0.36	B	0.18	20/1	SERVICE RECEPTS	4
(5)	WATER FOUNTAIN	20/1	0.18	A	2.00	20/2	CWH-1	6
7	STORAGE UNIT HEATER	30/2	2.50	B	2.00			8
9			2.50	A	2.00	20/2	CWH-2	10
11	WH-1	30/2	2.25	B	2.00			12
13			2.25	A	0.07	20/1	EF-3	14
15	SPACE		0.00	B	0.00		SPACE	16
17	SPACE		0.00	A	0.00		SPACE	18
19	SPACE		0.00	B	0.00		SPACE	20
21	SPACE		0.00	A	0.00		SPACE	22
23	SPACE		0.00	B	0.00		SPACE	24
25	SPACE		0.00	A	0.00		SPACE	26
27	SPACE		0.00	B	0.00		SPACE	28
29	SPACE		0.00	A	0.00		SPACE	30
31	SPACE		0.00	B	0.00		SPACE	32
33	SPACE		0.00	A	0.00		SPACE	34
35	SPACE		0.00	B	0.00		SPACE	36
37	SPACE		0.00	A	0.00		SPACE	38
39	SPACE		0.00	B	12.00	125/2	PANEL PE	40
41	SPACE		0.00	A	12.00			42
			kVA	PH	AMPS			
			21.2	A	177			
			21.3	B	177			

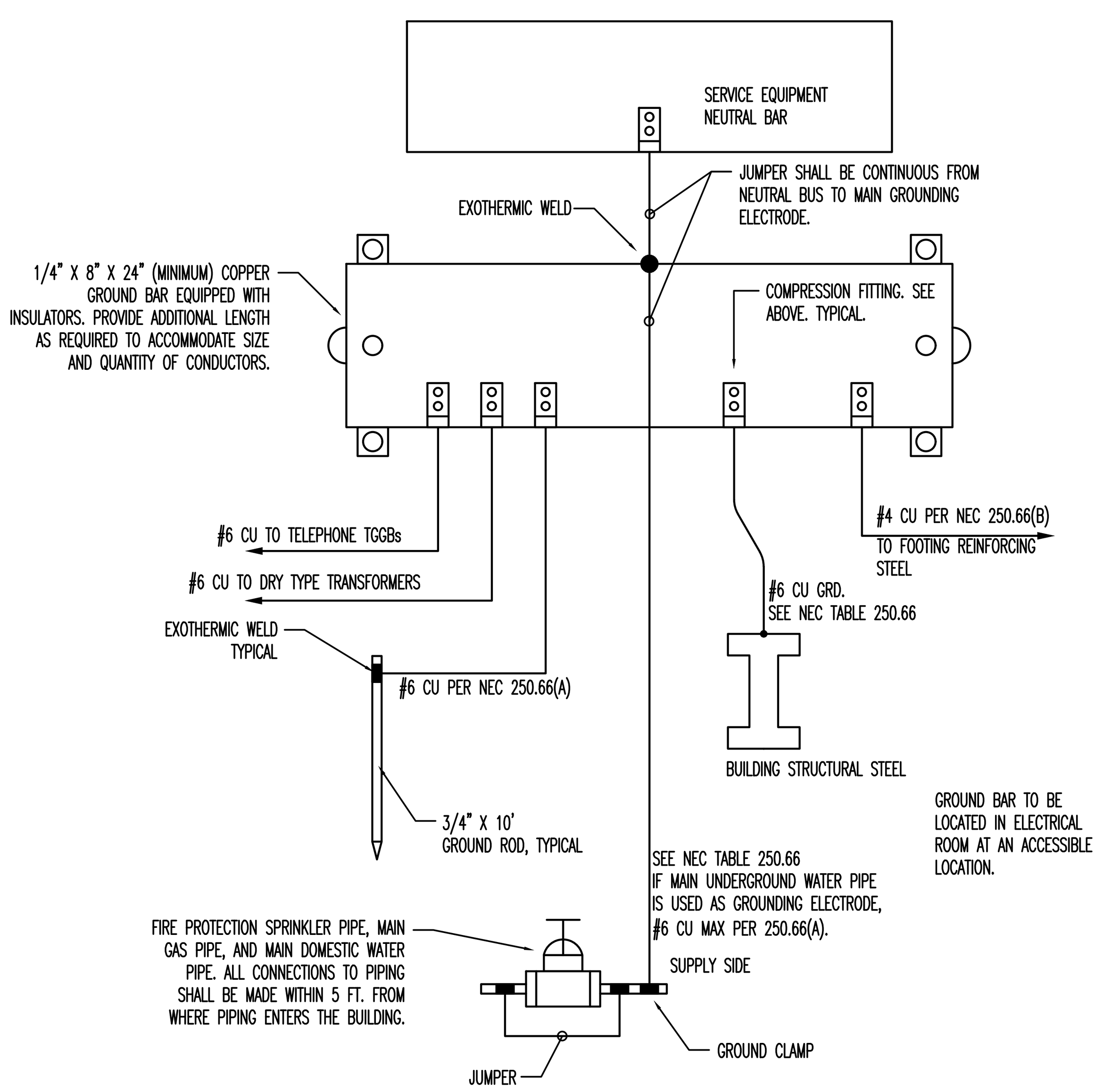
VOLTAGE/PHASE	120/240,1P,3W
BUS RATING	200A
MAIN CIRCUIT BREAKER RATING	MLO
AIC RATING	22K
SERVICE ENTRANCE RATED	NO
ENCLOSURE	NEMA 4X
MOUNTING	SURFACE

○ - GFCI BREAKER

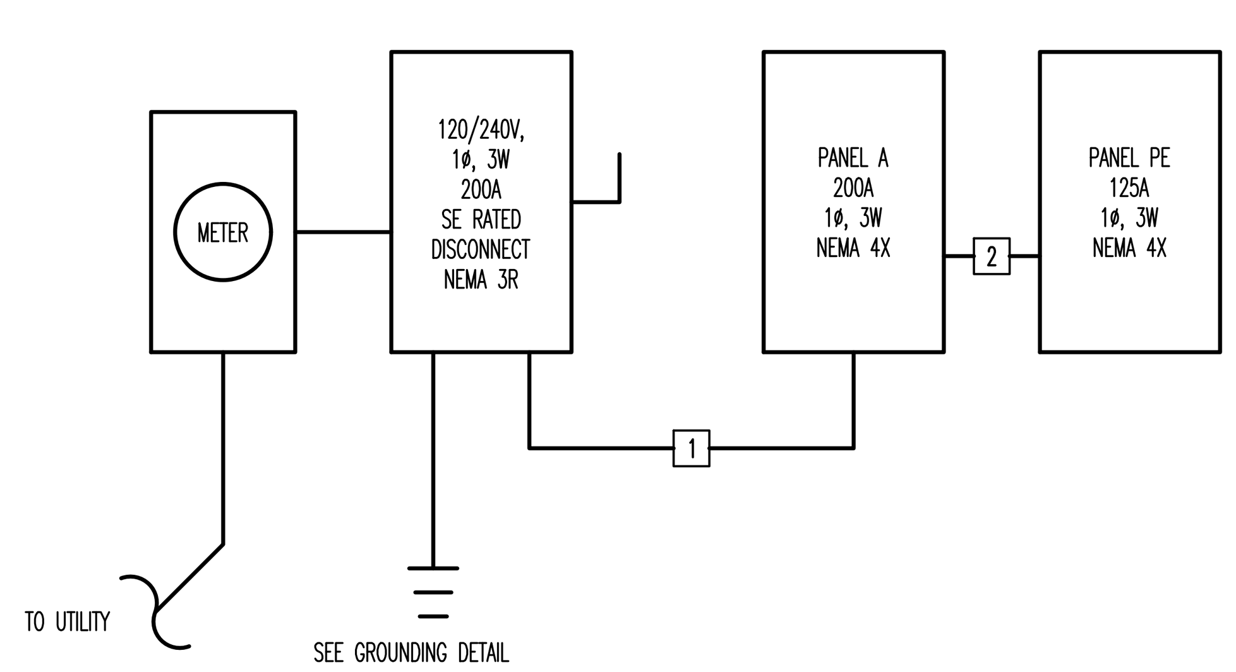
NEC ELECTRIC DEMAND SUMMARY 120/240V,1P,3W						
EQUIPMENT	DEMAND FACTOR	kVA A	kVA B	LOAD kVA	NEC REFERENCE	NOTES/CALCULATIONS
LIGHTING	100%	0.42	0.42	0.84	220.12	418 SF X 2 VA/SF
RECEPTACLES < 10 kVA	100%	0.00	0.54	0.54	220.44	
RECEPTACLES > 10 kVA	50%	0.00	0.00	0.00	220.44	
HVAC	100%	6.50	6.50	13.00	--	BASED ON MCA
WATER HEATER	125%	2.25	2.25	4.50	422.13	STORAGE TANK <120 GAL @ 125%
POOL EQUIPMENT	100%	12.00	12.00	24.00	--	
DEMAND kVA PER PHASE		21.17	21.71			
DEMAND AMPS PER PHASE		176	181			

THE CALCULATED LIGHTING LOAD EXCEEDS THE CONNECTED LIGHTING LOAD.

PANEL SCHEDULES | 2



GROUNDING DETAIL-NO SCALE | 3



GENERAL FEEDER SCHEDULE		#
MARK	WIRE AND CONDUIT	AMPS
1	3 - 3/0 CU, 1 - #6 CU GRD., 2" CONDUIT	200
2	3 - #1 CU, 1 - #6 CU GRD., 2" CONDUIT	125

ELECTRICAL SCHEDULES | 4

GENERAL ELECTRICAL NOTES:

ADMINISTRATIVE:

1. THE FOLLOWING ABBREVIATIONS SHALL APPLY TO NOTES AND PLANS: PC - PLUMBING CONTRACTOR, EC - ELECTRICAL CONTRACTOR, MC - MECHANICAL CONTRACTOR, GC - GENERAL CONTRACTOR, FASC - FIRE ALARM SYSTEM CONTRACTOR, AHJ - AUTHORITY HAVING JURISDICTION.
2. "PROVIDE" MEANS TO FURNISH AND INSTALL. THE ELECTRICAL CONTRACTOR SHALL ALSO INSTALL MATERIALS AND EQUIPMENT FURNISHED BY OTHERS AND THE GENERAL CONTRACTOR AS REQUIRED.
3. EC SHALL PROVIDE LABOR, MATERIALS, EQUIPMENT, AND SERVICES NECESSARY AND REASONABLY INCIDENTAL TO INSURE A COMPLETE AND OPERATIONAL ELECTRICAL SYSTEM IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS. MINOR ITEMS, ACCESSORIES, AND DEVICES REASONABLY INFERABLE AS NECESSARY FOR THE COMPLETION AND PROPER OPERATION OF ANY ELECTRICAL SYSTEM SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR.
4. WORKMANSHIP SHALL BE IN ACCORDANCE WITH NECA 1 "STANDARD PRACTICE FOR GOOD WORKMANSHIP IN ELECTRICAL CONTRACTING."
5. ALL MATERIALS AND EQUIPMENT SHALL BE DELIVERED TO THE SITE AND UNLOADED BY THE ELECTRICAL CONTRACTOR AT AN APPROVED LOCATION. THE ELECTRICAL CONTRACTOR SHALL PROTECT ALL MATERIALS AND EQUIPMENT FROM BREAKAGE, THEFT, AND THE ELEMENTS. ALL MATERIALS AND EQUIPMENT SHALL REMAIN THE PROPERTY OF THE ELECTRICAL CONTRACTOR UNTIL THE PROJECT HAS BEEN COMPLETED AND TURNED OVER TO THE OWNER.
6. THE ELECTRICAL CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS, FEES, AND INSPECTIONS NECESSARY FOR THE COMPLETION OF THE WORK UNDER THIS CONTRACT.
7. DO NOT SCALE THESE DRAWINGS-REFER TO ARCHITECTURAL SHEETS FOR DIMENSIONS.
8. TRADE NAMES AND MANUFACTURERS ARE SPECIFIED TO ESTABLISH A QUALITY STANDARD. SUBSTITUTIONS SHALL BE PERMITTED IF APPROVED BY THE ENGINEER PRIOR TO INSTALLATION. ALL LISTED MODEL NUMBERS SHALL BE VERIFIED WITH THE MANUFACTURER FOR PROPER APPLICATION OF EQUIPMENT.
9. THE ELECTRICAL CONTRACTOR SHALL VISIT THE SITE PRIOR TO BIDDING TO BECOME FAMILIAR WITH EXISTING CONDITIONS. THE ELECTRICAL CONTRACTOR SHALL CONTACT THE ENGINEER TO RESOLVE ANY DISCREPANCIES BETWEEN EXISTING CONDITIONS AND THESE PLANS. THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH OTHER TRADES PRIOR TO THE START OF CONSTRUCTION.
10. GROUNDING AND BONDING SHALL BE PER NEC ARTICLE 250. THE RACEWAY SYSTEM SHALL NOT BE RELIED UPON FOR GROUNDING CONTINUITY. A GREEN EQUIPMENT GROUNDING CONDUCTOR, SIZED PER NEC TABLE 250-122, SHALL BE RUN IN ALL POWER RACEWAYS. FOR NON-ISOLATED GROUND CIRCUITS PROVIDE ONE EQUIPMENT GROUNDING CONDUCTOR PER CONDUIT RUN. FOR ISOLATED GROUND CIRCUITS, PROVIDE ONE NEUTRAL AND ONE ISOLATED GROUND WIRE FOR EACH CIRCUIT; IN ADDITION, PROVIDE ONE EQUIPMENT GROUNDING CONDUCTOR PER CONDUIT RUN. MAIN BONDING JUMPERS AND SYSTEM BONDING JUMPERS SHALL BE INSTALLED IN ACCORDANCE WITH 250.28 OF THE NEC. FOR BUILDINGS OR STRUCTURES SUPPLIED BY FEEDERS OR BRANCH CIRCUITS, GROUNDING AND BONDING SHALL BE IN ACCORDANCE WITH 250.32. SEPARATELY DERIVED AC SYSTEMS SHALL BE GROUNDED IN ACCORDANCE WITH 250.30. RESISTANCE TO GROUND SHALL NOT EXCEED 25 OHMS; ADDITIONAL GROUNDING ELECTRODES SHALL BE INSTALLED PER 250.54 AS NECESSARY.
11. THE ELECTRICAL CONTRACTOR SHALL ALSO COORDINATE WITH THE GENERAL CONTRACTOR REGARDING THE BONDING OF THE FOOTING REBAR, SO THAT IT WILL BE IN PLACE AND READY AT TIME OF FOOTING INSPECTION.
12. ALL MATERIALS AND EQUIPMENT SHALL COMPLY WITH THE UNDERWRITERS' LABORATORIES, INC. STANDARDS OR HAVE UL APPROVAL, OR BEAR UL RE-EXAMINATION LISTING WHERE SUCH APPROVAL HAS BEEN ESTABLISHED FOR THE TYPE OF DEVICE IN QUESTION.
13. CONDUCTORS, FUSES, CIRCUIT BREAKERS, AND DISCONNECT SWITCHES SHOWN ON THESE PLANS HAVE BEEN SIZED FOR THE SPECIFIED EQUIPMENT. BEFORE ORDERING ELECTRICAL EQUIPMENT, THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH OTHER CONTRACTORS ON THE SITE AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES SHOULD CONDUCTOR, CIRCUIT BREAKER, OR FUSE SIZES REQUIRE CHANGE.
14. THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH THE GENERAL CONTRACTOR TO ENSURE THE FOLLOWING MATERIALS ARE RECYCLED DURING THE CONSTRUCTION PHASE OF THE PROJECT: LIGHT FIXTURES, INCLUDING PROPER DISPOSAL OF BALLASTS, FLUORESCENT LIGHT BULBS, AND TRANSFORMERS, WIRING AND ELECTRICAL EQUIPMENT, AND INSULATION. WASTE MATERIALS CONTAINING LEAD, ASBESTOS, PCBs (FLUORESCENT LAMP BALLASTS), OR OTHER HARMFUL SUBSTANCES SHALL BE HANDLED AND DISPOSED OF IN ACCORDANCE WITH FEDERAL AND STATE LAWS AND REQUIREMENTS CONCERNING HAZARDOUS WASTE.
15. ALL WORK SHALL CONFORM TO 2020 NATIONAL ELECTRIC CODE, 2018 STATE BUILDING CODE, AND ALL APPLICABLE LOCAL CODES.

MATERIALS:

1. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL NECESSARY DISCONNECTS, SWITCHES, RECEPTACLES, TERMINALS, ETC, UNDER THE ELECTRICAL BID AND SHALL INCLUDE ALL NECESSARY CIRCUITS AND CONNECTIONS TO THE EQUIPMENT PROVIDED BY ALL SUPPLIERS, UNLESS NOTED OTHERWISE BY OTHER DISCIPLINES.
2. ELECTRICAL CONTRACTOR SHALL PROVIDE ALL SERVICE ENTRANCE EQUIPMENT, SUB PANELS, AND OTHER ELECTRICAL DISTRIBUTION EQUIPMENT AS NECESSARY FOR A COMPLETE INSTALLATION. ELECTRICAL CONTRACTOR SHALL COORDINATE WITH UTILITY REGARDING SERVICE AND METERING DETAILS. PRIOR TO ORDERING EQUIPMENT, THE ELECTRICAL CONTRACTOR SHALL OBTAIN THE AVAILABLE FAULT CURRENT OR TRANSFORMER SIZE AND IMPEDANCE FROM THE UTILITY AND CONTACT THE ENGINEER IF THE VALUE EXCEEDS THE EQUIPMENT SPECIFIED. PANEL BOARDS AND SWITCH BOARDS SHALL BE SQUARE D, CUTLER-HAMMER, SIEMENS, OR GE. BUSES SHALL BE COPPER UNLESS OTHERWISE APPROVED BY THE ENGINEER. RECESSED PANEL BOARDS SHALL BE INSTALLED FLUSH WITH THE WALL FINISH. METER BASES SHALL COMPLY WITH THE UTILITY'S SPECIFICATIONS AND SHALL BE MOUNTED AT A HEIGHT APPROVED BY THE UTILITY. ALL EQUIPMENT IDENTIFIED FOR SERVICE ENTRANCE USE SHALL BE SO LABELED AND UL LISTED FOR SUCH USE. ELECTRICAL CONTRACTOR SHALL INSTALL ALL ELECTRICAL EQUIPMENT WITH CLEARANCES PER NEC 110.26. ELECTRICIAN SHALL PERMANENTLY LABEL EQUIPMENT PER NEC 110.24.
3. ENCLOSED SAFETY SWITCHES SHALL BE HEAVY DUTY TYPE BY SQUARE D, EATON, OR GE. ENCLOSED SWITCHES SHALL HAVE A HANDLE LOCKABLE IN THE OFF POSITION AND SHALL HAVE A HANDLE INTERLOCKED TO PREVENT OPENING THE FRONT COVER WHILE IN THE ON POSITION. ENCLOSED SWITCHES OF THE FUSIBLE TYPE SHALL BE FUSED IN ACCORDANCE WITH NAMEPLATE DATA WITH DUAL ELEMENT TYPE FUSES BY BUSSMAN, LITTELFUSE, OR MERSEN.
4. OCCUPANCY SENSORS SHALL BE BY WATTSTOPPER, LUTRON, LEVITON, SENSOR SWITCH, HUBBELL, OR APPROVED EQUAL.
5. CIRCUIT BREAKERS SHALL BE MOLDED-CASE, THERMAL MAGNETIC TYPE WITH QUICK-MAKE, QUICK-BREAK MECHANISM, COMMON TRIP ON MULTI-POLE BREAKERS, AND UL LISTED FOR BOTH COPPER AND ALUMINUM CONDUCTORS. CIRCUIT BREAKERS IN PANELS SHALL BE SERIES RATED WITH THE MAIN BREAKER, FULLY RATED FOR THE SYSTEM, OR SERIES RATED WITH THE BREAKER FEEDING THE PANEL FROM THE FACTORY.
6. ALL WIRE, CONNECTORS, TERMINALS, AND LUGS SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR. WHERE CONDUCTORS ARE RUN IN PARALLEL, LUGS SHALL BE LISTED FOR PARALLEL CONDUCTORS. PUSH WIRE CONNECTORS ARE NOT ALLOWED FOR BUILDING WIRE. PUSH CONNECTORS ARE ONLY ALLOWED, WHEN APPROVED, AS PART OF MANUFACTURED LISTED PRODUCTS. ALL WIRE SHALL BE INSTALLED IN CONDUIT UNLESS SPECIFICALLY NOTED OTHERWISE.
7. THE INSULATION TYPE FOR INTERIOR WIRING SHALL BE DUAL RATED THHN/THWN OR XHHW; ALL WIRING INSTALLED BELOW GRADE OR IN MOIST OR WET LOCATIONS SHALL HAVE TYPE THWN OR XHHW INSULATION. INSULATION VOLTAGE RATING SHALL BE 600 VOLTS AND A MINIMUM TEMPERATURE RATING OF 75°C. CONDUCTORS SHALL BE SOLID OR STRANDED COPPER FOR #10 AWG AND #12 AWG, AND STRANDED COPPER FOR #8 AWG AND LARGER SIZES. ALL WIRING AND CABLE SHALL BE UL LISTED. ALL TERMINATIONS AND DEVICES SHALL BE RATED FOR USE WITH 75°C CONDUCTORS. FINAL CONNECTIONS TO ALL MOTORS AND EQUIPMENT SUBJECT TO VIBRATION OR MOVEMENT SHALL BE MADE WITH STRANDED COPPER CONDUCTORS. CONDUCTORS SHALL BE BY CERRO WIRE, INC, INDUSTRIAL WIRE & CABLE, INC, ENCORE WIRE CORPORATION, OR SOUTHWIRE COMPANY.
8. JOINTS IN SOLID CONDUCTORS SHALL BE SPLICED USING IDEAL "WIRE NUTS", 3M "SCOTCH LOCK", OR T&B "PIGGY" CONNECTORS IN JUNCTION BOXES, OUTLET BOXES, AND LIGHTING FIXTURES. JOINTS IN STRANDED CONDUCTORS SHALL BE SPLICED BY APPROVED MECHANICAL CONNECTORS AND GUM RUBBER TAPE OR FRICTION TAPE. SOLDERLESS MECHANICAL CONNECTORS FOR SPLICES AND TAPS, PROVIDED WITH UL APPROVED INSULATING COVERS, MAY BE USED INSTEAD OF MECHANICAL CONNECTORS PLUS TAPE. IN ALL CASES, CONDUCTORS SHALL BE CONTINUOUS FROM OUTLET TO OUTLET AND NO SPLICING SHALL BE MADE EXCEPT WITHIN OUTLET OR JUNCTION BOXES, TROUGHS, OR GUTTERS. WHERE CONCENTRIC, ECCENTRIC, OR OVERSIZED KNOCKOUTS ARE ENCOUNTERED, A GROUNDING TYPE INSULATED BUSHING SHALL BE PROVIDED.
9. ALL LUMINAIRES SHALL BE LISTED. LUMINAIRES IN WET OR DAMP LOCATIONS SHALL BE MARKED AS SUITABLE FOR THE RESPECTIVE USE. EMERGENCY LIGHTING SHALL BE INSTALLED AS SHOWN. FINAL LOCATIONS OF ALL EXIT AND EMERGENCY LIGHTS SHALL BE VERIFIED WITH THE BUILDING INSPECTOR PRIOR TO INSTALLATION. ALL FLUORESCENT FIXTURES SHALL HAVE ELECTRONIC BALLASTS MEETING ANSI C82.11 FOR ELECTRONIC BALLAST PERFORMANCE. ALL BALLASTS SHALL BE UL LISTED AND MEET FEDERAL AND STATE EFFICIENCY REQUIREMENTS.
10. ALL CONDUIT, FITTINGS, COUPLINGS, AND SUPPORTS SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR. CONDUIT FITTINGS AND COUPLINGS SHALL BE BY APPLETON, RACO, OR O-Z/GEDNEY. COUPLINGS SHALL BE THREADED, SET-SCREW, OR COMPRESSION TYPE. INDENTER OR CRIMP TYPE ARE NOT PERMITTED. CONDUIT FITTINGS AT ALL ELECTRICAL BOXES INCLUDING PULL, JUNCTION, AND OUTLET BOXES, SHALL HAVE INSULATED THROATS TO PREVENT INSULATION SCORING. DIE CAST FITTINGS ARE NOT PERMITTED
11. EMT SHALL BE MANUFACTURED IN ACCORDANCE WITH AMERICAN NATIONAL STANDARDS INSTITUTE-AMERICAN NATIONAL STANDARD FOR STEEL ELECTRICAL METALLIC TUBING (EMT), ANSI C80.3 AND UL 797. RIGID METAL CONDUIT SHALL BE MANUFACTURED IN ACCORDANCE WITH ANSI-AMERICAN NATIONAL STANDARD FOR ELECTRICAL RIGID STEEL CONDUIT (ERSC), ANSI C80.1 AND UL 6. INTERMEDIATE METAL CONDUIT SHALL BE MANUFACTURED IN ACCORDANCE WITH ANSI-AMERICAN NATIONAL STANDARD FOR INTERMEDIATE METAL CONDUIT ANSI C80.6 AND UL 1242.
12. METAL CONDUIT SHALL BE BY ALLIED TUBING & CONDUIT, BECK MANUFACTURING, INC, OR WHEATLAND TUBE COMPANY. FLEXIBLE METAL CONDUIT, LIQUID-TIGHT FLEXIBLE METAL CONDUIT, AND NONMETALLIC CONDUIT SHALL BE BY AFC CABLE SYSTEMS, INC, ELECTRI-FLEX COMPANY, OR INTERNATIONAL METAL HOSE.

METHODS:

1. EC SHALL REVIEW THE MECHANICAL PLANS TO ESTABLISH POINTS OF CONNECTION AND THE EXTENT OF THE ELECTRICAL WORK TO BE PROVIDED IN THE CONTRACT.
2. ALL CIRCUIT BREAKERS FEEDING HVAC EQUIPMENT SHALL BE HACR BREAKERS. ALL BRANCH CIRCUIT CONDUCTORS SHALL BE MINIMUM #12 AWG IN 3/4 in CONDUIT. EACH MULTI-WIRE BRANCH CIRCUIT SHALL BE PROVIDED WITH A MEANS TO SIMULTANEOUSLY DISCONNECT ALL UNGROUNDED CONDUCTORS AT THE SOURCE PER NEC 210.4(B). GROUP ALL CONDUCTORS OF EACH MULTI-WIRE BRANCH CIRCUIT PER 210.4(D) WITH WIRE TIES OR SIMILAR MEANS. DO NOT EXCEED THREE HOMERUNS PER CONDUIT. DO NOT INSTALL ISOLATED GROUND AND NON-ISOLATED GROUND CIRCUITS IN THE SAME CONDUIT. INSTALL CONDUCTORS OF DIFFERENT VOLTAGES IN SEPARATE CONDUITS.
3. COLOR CODE CONDUCTORS PER NEC. FEEDERS SHALL BE IDENTIFIED IN ACCORDANCE WITH NEC 215.12. USE BLACK AND RED FOR PHASES A AND B RESPECTIVELY ON 120/240 VOLT SINGLE-PHASE SYSTEMS AND WHITE FOR THE NEUTRAL. THIS IDENTIFICATION SHALL BE MADE AT EACH POINT WHERE A CONNECTION IS MADE. COLORS SHALL BE FACTORY APPLIED FOR CONDUCTORS #6 AWG AND SMALLER. ALL EQUIPMENT GROUNDING CONDUCTORS SHALL BE GREEN IN COLOR AND MINIMUM #12 AWG. THE EC SHALL PROVIDE PLENUM RATED CABLE FOR ANY ELECTRICAL, TELEPHONE, COMMUNICATION, OR OTHER CABLE THAT ENTERS CEILING RETURN PLENUMS.
4. ALL LIGHT FIXTURES SHALL BE SUPPORTED INDEPENDENTLY OF THE SUSPENDED CEILING. COORDINATE LIGHTING LAYOUT WITH CEILING GRID, MECHANICAL EQUIPMENT, DUCTWORK AND SPRINKLER HEADS AS NECESSARY. SEE REFLECTED CEILING PLAN FOR DETAILS. FLUORESCENT FIXTURES UTILIZING DOUBLE-ENDED LAMPS MUST HAVE A DISCONNECTING MEANS COMPLYING WITH NEC 410.130(G).
5. MOUNT LIGHT SWITCHES AT 48 in AFF. MULTIPLE SWITCHES AT SAME LOCATION SHALL BE UNDER ONE WALL PLATE. VERIFY WALL PLATE COLOR AND MATERIAL WITH THE ARCHITECT/OWNER. INSTALL SWITCHES WITH off POSITION DOWN. ALL SWITCHES SHALL BE HEAVY DUTY, IVORY PLASTIC WITH TOGGLE HANDLE, RATED 120-277V AC, AND COMPLYING WITH NEMA WD 6 AND WD 1. SWITCHES SHALL BE BY COOPER WIRING DEVICES, LEVITON MANUFACTURING, PASS & SEYMOUR, OR HUBBELL. PROVIDE BOX DEVICE PARTITION/DIVIDERS FOR MULTI-GANG BOXES FOR COMPLIANCE WITH NEC 404.8(B).
6. ELECTRICAL CONTRACTOR SHALL PROVIDE FIRE-STOPPING AT ALL ELECTRICAL PENETRATIONS OF RATED FLOORS AND WALLS TO PRESERVE OR RESTORE THE FIRE-RESISTANCE RATING. SEAL PENETRATIONS USING A UL LISTED SYSTEM FOUND IN THE UL DIRECTORY SPECIFIC TO THE UL LISTING OF THE ASSEMBLY BEING PENETRATED. SEE ARCHITECTURAL PLANS FOR UL RATED ASSEMBLIES SPECIFIC TO THIS PROJECT.
7. ELECTRICAL CONTRACTOR SHALL PROVIDE GFCI RECEPTACLES IN KITCHENS, RESTROOMS, OUTDOORS, AND IN SHOP AREAS AS REQUIRED BY NEC. REFRIGERATORS AND WATER COOLERS MUST HAVE A DEDICATED GFCI BREAKER. EACH OUTDOOR HVAC UNIT MUST HAVE A GFCI RECEPTACLE WITHIN 25 FEET FOR SERVICING. GFCI RECEPTACLES SHALL CONFORM TO UL 943 CLASS A AND UL 498 STANDARDS. RECEPTACLES SHALL BE BY COOPER WIRING DEVICES, LEVITON MANUFACTURING, PASS & SEYMOUR, OR HUBBELL. ALL RECEPTACLES SHALL BE 125V RATED, HEAVY DUTY, AND COMPLY WITH NEMA WD 6 AND WD 1.
8. LOCATIONS AND HEIGHTS OF ALL WALL-MOUNTED DEVICES SHALL BE COORDINATED WITH THE ARCHITECT PRIOR TO INSTALLATION.
9. CONCEAL ALL CONDUIT EXCEPT IN MECHANICAL ROOMS OR UNFINISHED AREAS AS NOTED. USE EMT CONDUIT FOR ALL BRANCH CIRCUITS AND FEEDERS INSIDE THE BUILDING. TYPE MC CABLE AND TYPE AC CABLE MAY BE INSTALLED WITHIN WALLS IF ALL NEUTRAL WIRES, ISOLATED GROUND WIRES, AND EQUIPMENT GROUND WIRES AS LISTED ABOVE ARE CONTAINED IN THE CABLE. FLEXIBLE CONNECTIONS TO MOTORS AND OTHER EQUIPMENT SHALL BE MADE USING WEATHERPROOF FLEXIBLE CONDUIT. FOR LAY-IN LIGHT FIXTURES, USE MAXIMUM OF SIX (6) FEET OF FLEXIBLE MC CABLE (OR THE FLEXIBLE CONDUIT PROVIDED BY THE FIXTURE MANUFACTURER). SCHEDULE 40 PVC CONDUIT MAY BE USED FOR THE SECONDARY UNDERGROUND SERVICE, UNDERGROUND TELEPHONE SERVICE, AND BRANCH AND FEEDER CIRCUITS UNDER SLAB OR EXTERIOR TO THE BUILDING. EXPOSED EXTERIOR CONDUIT SHALL BE SCHEDULE 80 PVC. ALL UNDERGROUND RACEWAYS SHALL BE IDENTIFIED WITH UNDERGROUND LINE MARKING TAPE 6-8 in BELOW GRADE DIRECTLY ABOVE THE RACEWAY. PROVIDE PULL WIRE IN EMPTY CONDUITS. UPSIZE CONDUIT FROM MINIMUM SIZE AS NECESSARY FOR LONGER PULLS. UNDERGROUND RACEWAYS THAT STUB INTO THE BOTTOM OF SWITCHBOARDS, OUTDOOR TRANSFORMERS, GENERATORS, ETC., SHALL RISE AT LEAST 2 in ABOVE THE FINISHED SLAB TO PREVENT WATER FROM DRAINING INTO THE RACEWAYS. RACEWAYS THAT PENETRATE EXTERIOR WALLS OR INTERIOR PARTITIONS SEPARATING SPACES THAT WILL BE AT SIGNIFICANTLY DIFFERENT TEMPERATURES SHALL BE SEALED IN ACCORDANCE WITH 300.5(G), 300.7(A), AND 300.50(E) OF THE NEC. ROUTE CONDUIT IN AND UNDER SLAB FROM POINT-TO-POINT. ROUTE EXPOSED CONDUIT AND CONDUIT INSTALLED ABOVE ACCESSIBLE CEILINGS PARALLEL AND PERPENDICULAR TO WALLS. COMPLETELY AND THOROUGHLY SWAB ALL RACEWAYS BEFORE INSTALLING WIRE. PULL ALL CONDUCTORS INTO EACH RACEWAY AT ONE TIME. USE A SUITABLE WIRE PULLING LUBRICANT FOR BUILDING WIRE #4 AWG AND LARGER.
10. CABLES, RACEWAYS, OR BOXES, INSTALLED IN EXPOSED OR CONCEALED LOCATIONS UNDER METAL-CORRUGATED SHEET ROOF DECKING, SHALL BE INSTALLED AND SUPPORTED SO THERE IS NOT LESS THAN 1-1/2 in MEASURED FROM THE LOWEST SURFACE OF THE ROOF DECKING TO THE TOP OF THE CABLE, RACEWAY, OR BOX. A CABLE, RACEWAY, OR BOX SHALL NOT BE INSTALLED IN CONCEALED LOCATIONS IN METAL-CORRUGATED, SHEET DECKING-TYPE ROOF. SEE NEC 300.4(E).
11. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL OUTLET, JUNCTION, PULL BOXES, FITTINGS, AND SUPPORTS. ALL OUTLET AND JUNCTION BOXES SHALL BE GALVANIZED STEEL TYPE BY APPLETON, STEEL CITY, OR RACO. EXTERIOR BOXES SHALL BE TYPE FS. VAPORTITE BOXES SHALL BE TYPE GS. WHERE SURFACE MOUNTED BOXES ARE USED, THOSE BOXES AND THEIR FACEPLATES SHALL HAVE ROUNDED CORNERS. BOXES INSTALLED IN FLOORS SHALL BE RATED FOR THE APPLICATION. MOUNT JUNCTION AND OUTLET BOXES FLUSH WITH FINISH SURFACES UNLESS OTHERWISE NOTED. WHERE MOUNTING HEIGHTS ARE GIVEN, THEY SHALL BE MEASURED FROM THE FINISHED FLOOR TO THE CENTER OF THE BOX. ALL BOXES SHALL BE SIZED PER NEC ARTICLE 314. ALL OUTLET AND JUNCTION BOXES SHALL HAVE A COVER PLATE, PROVIDED BY THE ELECTRICAL CONTRACTOR. OUTLET BOXES IN RATED WALLS SHALL BE INSTALLED IN ACCORDANCE WITH NORTH CAROLINA BUILDING CODE 714.3.2 (MAXIMUM BOX SIZE IS 16 SQUARE in AND MAXIMUM OF SIX (6) BOXES PER 100 SQUARE FEET). INSTALL OUTLET BOXES IN RATED WALLS SUCH THAT OPENINGS OCCUR IN ONE SIDE ONLY WITHIN ANY GIVEN STUD SPACE. ALL CLEARANCES BETWEEN THE OUTLET BOX AND THE GYPSUM BOARD SHALL BE FILLED WITH JOINT COMPOUND OR OTHER APPROVED FIRE STOP MATERIAL. FLUSH MOUNTED JUNCTION BOXES IN ADJACENT ROOMS SHALL NOT BE MOUNTED BACK-TO-BACK. SURFACE MOUNTED FIXTURES SHALL BE FED THROUGH FLUSH MOUNTED 4X4 OCTAGONAL OR SQUARE BOXES.
12. ALL CONDUIT, BOXES, AND ELECTRICAL EQUIPMENT SHALL BE FIRMLY AND SECURELY FASTENED TO OR SUPPORTED FROM THE BUILDING STRUCTURAL MEMBERS OR EMBEDDED IN CONCRETE OR MASONRY. ELECTRICAL SUPPORTS SHALL NOT BE ATTACHED TO DUCTWORK, PIPING, OR THEIR SUPPORTS. HANGERS SHALL BE CATALOG ITEMS COMPATIBLE WITH AND SUITABLE FOR THE INTENDED USE. FOR METAL ROOF DECK INSTALLATIONS, 1 in EMT CONDUIT MAXIMUM AND 4 in JUNCTION BOXES MAXIMUM MAY BE SUPPORTED BY DECKING. THE SUSPENDED CEILING SYSTEM SHALL NOT BE USED FOR THE SUPPORT OF ELECTRICAL RACEWAY SYSTEMS OR SUPPORT OF COMMUNICATIONS OR DATA SYSTEMS WIRING. CONTRACTOR SHALL COMPLY WITH 1613 OF THE NORTH CAROLINA GENERAL CONSTRUCTION BUILDING CODE.
13. WHERE CONDUCTORS ARE RUN IN PARALLEL, THE EC SHALL COMPLY WITH NEC 310.10(G).
14. PROVIDE AN UNDERGROUND PVC CONDUIT SYSTEM FOR TELEPHONE SERVICE WITH PULL WIRES. ELECTRICAL CONTRACTOR SHALL COORDINATE WITH TELEPHONE UTILITY REGARDING ADDITIONAL FACILITIES REQUIRED FOR THE SERVICE INSTALLATION.
15. INSTALL ONE (1) 3/4 in FIRE RETARDANT TREATED PLYWOOD BACKBOARD WHERE INDICATED ON THE DRAWINGS FOR THE USE BY THE TELEPHONE SYSTEM. PROVIDE A 120 VOLT RECEPTACLE ADJACENT TO THE TELEPHONE BOARD. GROUND ALL TELEPHONE AND COMMUNICATIONS CIRCUITS PER NEC 800.
16. ALL TELEPHONE AND COMMUNICATIONS OUTLETS AND RACEWAYS ARE ROUGH-INS ONLY. EACH TELEPHONE AND COMMUNICATIONS OUTLET SHALL BE A 4 in SQUARE BY 2-1/8 in DEEP BOX WITH 3/4 in KNOCK-OUTS AND A 3/4 in CONDUIT STUBBED FROM THE OUTLET BOX TO ABOVE THE CEILING. PROVIDE A NON-METALLIC INSULATING BUSHING ON ALL CONDUITS STUBBED ABOVE THE CEILING. PROVIDE A BLANK COVER PLATE ON ALL OUTLET BOXES.
17. ELECTRICAL CONTRACTOR SHALL INSTALL DISCONNECT SWITCHES IN SIGHT OF ALL HARDWIRED EQUIPMENT AND APPLIANCES OR PROVIDE BREAKERS CAPABLE OF BEING LOCKED IN THE OPEN POSITION PER NEC 422.31. FOR MOTOR DRIVEN APPLIANCES, PROVIDE A DISCONNECTING MEANS PER NEC 422.31 AND 430 PART IX. WHERE AN INDIVIDUAL DISCONNECT SWITCH, CIRCUIT BREAKER, STARTER, ETC, IS SHOWN ON THE PLANS ADJACENT TO ITS LOAD AND NOT LOCATED ON A WALL, PROVIDE NECESSARY MATERIALS AND LABOR TO SUPPORT THE DEVICE.
18. ELECTRICAL CONTRACTOR SHALL FIELD IDENTIFY ALL SWITCH BOARD, PANEL BOARDS, CONTROL PANELS, METER SOCKETS, ETC., TO WARN QUALIFIED PERSONS OF POTENTIAL ELECTRICAL ARC FLASH HAZARDS PER 110.16 OF NEC.
19. ELECTRICAL CONTRACTOR SHALL PROVIDE NAMEPLATES FOR IDENTIFICATION OF ALL EQUIPMENT, SWITCHES, PANELS, ETC. THE NAMEPLATES SHALL BE LAMINATED PHENOLIC PLASTIC, BLACK FRONT, AND BACK WITH WHITE CORE, WHITE ENGRAVED LETTERS (1/4 in MINIMUM) ETCHED INTO THE WHITE CORE. ELECTRICAL CONTRACTOR SHALL PROVIDE A TYPE WRITTEN DIRECTORY CARD THAT ACCURATELY IDENTIFIES CIRCUITS INSIDE EACH PANEL. HANDWRITTEN LABELS ARE NOT ACCEPTABLE.
20. IN ACCORDANCE WITH SECTION F510 OF THE NC FIRE PREVENTION CODE, TESTING WILL BE REQUIRED TO DETERMINE SATISFACTORY FIRST RESPONDER RADIO SIGNAL STRENGTH INSIDE EACH BUILDINGS ON SITE. TESTING WILL NEED TO EITHER BE COMPLETED BY A COUNTY FIRE INSPECTOR (OBTAIN BY REQUESTING A COURTESY INSPECTION) OR A CERTIFIED 3RD PARTY. TESTING SHALL TAKE PLACE AT BOTH 80% PROJECT COMPLETION AND AGAIN AT 100% COMPLETION. IF UNACCEPTABLE SIGNAL DEGRADATION IS PRESENT AT EITHER 80% OR 100% INSPECTION, THEN AN ACCEPTABLE BOOSTER SYSTEM SHALL BE ADDED TO THE BUILDING DESIGN AT THAT TIME.

ELECTRICAL NOTES | 5

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NORTH CAROLINA PROFESSIONAL SEAL 17304 M. W. KILIAN
02/16/2024 SEAL

KILIAN ENGINEERING, INC. CORPORATE SEAL NORTH CAROLINA
SEAL

CONSTRUCTION
CAITLIN CROSSING POOL HOUSE
LILLINGTON, NC

REVISION:

NO.	DATE	DESCRIPTION

ISSUED:

NO.	DATE	DESCRIPTION
0	02/16/2024	ISSUED FOR PERMITTING

DRAWN BY: BSL
CHECKED BY: MWK/REW

ELECTRICAL NOTES

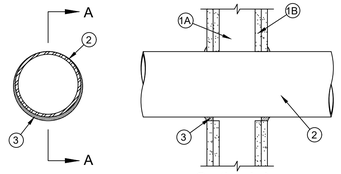
SHEET NO.
E1

PROJECT NO: 240124

Classified by
Underwriters Laboratories, Inc.
to ASTM/UL1479 (ASTM E814)

System No. W-L-1088

F Ratings - 1 & 2 Hr. (See Item 1)
T Rating - 0 Hr.



Section A-A

1. Wall Assembly - The 1 or 2 hr. fire-rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner described in the individual U300, U400 or V400 Series Wall and Partition Design in the UL Fire Resistance Directory and shall include the following construction features:

   A. Studs - Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. (51 by 102 mm) lumber spaced 16 in. (406 mm) O.C. with nom 2 by 4 in. (51 by 102 mm) lumber end plates and cross braces. Steel studs to be min. 3-1/2 in. (89 mm) wide and spaced max 24 in. (610 mm) O.C.

   B. Gypsum Board* - 5/8 in. (16 mm) thick, 4 ft (1.2 m) wide with square or tapered edges. The gypsum board type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual U300, U400 or V400 Series Design in the UL Fire Resistance Directory. Max diam of opening is 6-3/4 in. (171 mm).

   The hourly F Rating of the firestop system is equal to the hourly fire rating of the wall assembly in which it is installed.

2. Through Penetrant - One metallic pipe, tubing or conduit to be installed either concentrically or eccentrically within the firestop system. The annular space between pipes, tubing or conduits and periphery of opening shall be min 0 in. (point contact) to max 5/8 in. (16 mm). Pipe, tubing or conduit to be rigidly supported on both sides of wall assembly. The following types and sizes of metallic pipes, tubing or conduits may be used:

   A. Steel Pipe - Nom 6 in. (152 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe.

   B. Iron Pipe - Nom 6 in. (152 mm) diam (or smaller) cast or ductile iron pipe.

   C. Copper Tubing - Nom 6 in. (152 mm) diam (or smaller) Type M (or heavier) copper tubing.

   D. Copper Pipe - Nom 6 in. (152 mm) diam (or smaller) Regular (or heavier) copper pipe.

   E. Conduit - Nom 4 in. (102 mm) diam (or smaller) steel electrical metallic tubing, nom 4 in. (102 mm) diam (or smaller) galv steel conduit or nom 1 in. (25 mm) diam (or smaller) flexible steel conduit.

3. Fill, Void or Cavity Material* - Sealant - Min 5/8 in. (16 mm) thickness of fill material within annulus, flush with both surfaces of wall. Additional fill material installed such that a min 1/4 in. (6 mm) thick crown is formed around the penetrating item lapping 1/2 in. (13 mm) beyond the periphery of the opening.

   SPECIFIED TECHNOLOGIES INC - SpecSeal LC 150 Sealant, SpecSeal LE600 Sealant

   * Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

STI

Specified Technologies Inc. 210 Evans Way Somerville, NJ 08876

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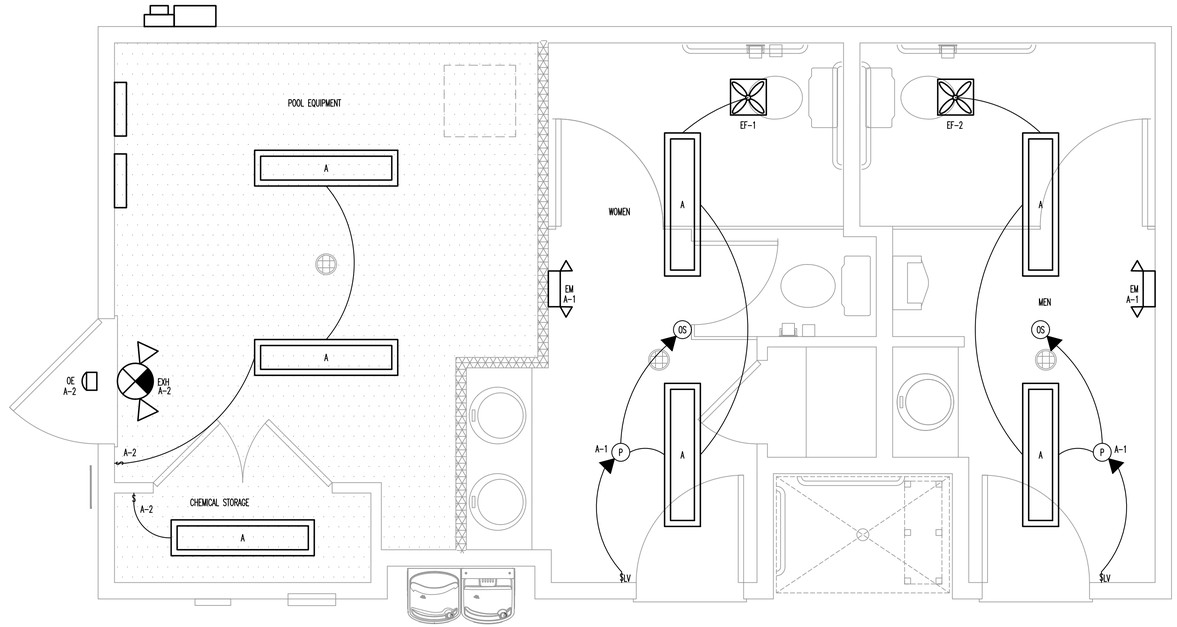
1 HOUR FIRE PENETRATION DETAIL | 1

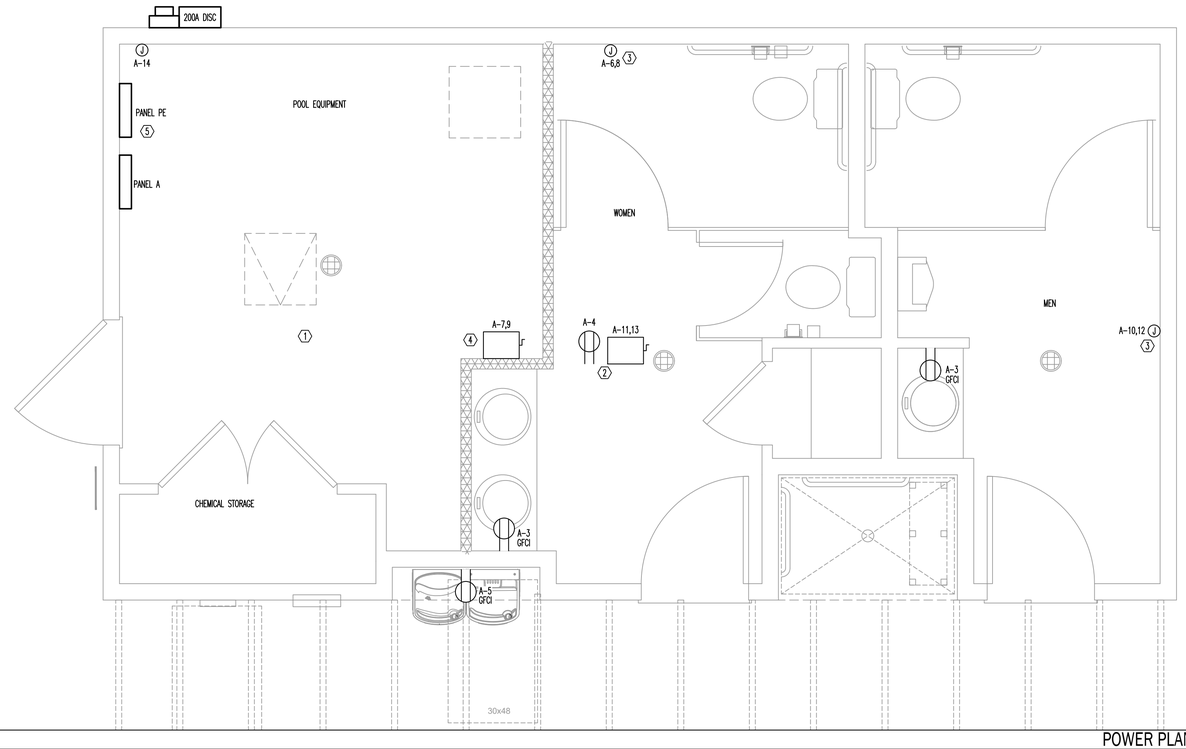


– 1 HOUR RATED WALLS

LIGHTING PLAN - SCALE: 1/2" = 1' | 2

POWER PLAN HEX NOTES

1. POOL EQUIPMENT ROOM PANEL AND POWER CONNECTIONS PROVIDED BY POOL CONTRACTOR.
2. DISCONNECT AND SERVICE RECEPT IN ATTIC FOR WH-1
3. JUNCTION BOX IN WALL FOR RESTROOM HEATER. EC TO VERIFY MOUNTING HEIGHT WITH DEVICE REQUIREMENTS
4. DISCONNECT FOR UH-1 IN POOL EQUIPMENT ROOM. EC TO VERIFY MOUNTING HEIGHT PRIOR TO INSTALLATION.
5. PANEL PE PROVIDED BY POOL CONTRACTORS TO BE INSTALLED FOR POOL EQUIPMENT.



POWER PLAN - SCALE: 1/2" = 1' | 3

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NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 17304 MARK W. KILIAN
02/16/2024 SEAL

KILIAN ENGINEERING, INC. CORPORATE SEAL NORTH CAROLINA
SEAL

CONSTRUCTION

CAITLIN CROSSING POOL HOUSE

LILLINGTON, NC

REVISION:

DESCRIPTION	DATE

ISSUED:

DESCRIPTION	DATE
ISSUED FOR PERMITTING	02.16.2024

DRAWN BY: BSL
CHECKED BY: MWK /REW

LIGHTING AND POWER PLAN

SHEET NO.

E2

PROJECT NO: 240124