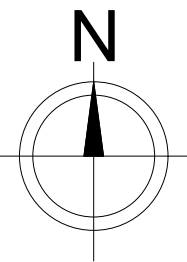


NEW HOME

565 Raiford Rd  
Erwin, NC 28339

SITE PLAN



SITE PLAN

INDEX OF DRAWINGS

- G1 COVER SHEET  
SITE PLAN
- S2 MAIN LEVEL ARCHITECTURAL
- S3 2ND LEVEL ARCHITECTURAL
- S4 ELEVATIONS
- S5 ELEVATIONS
- S6 ROOF PLAN
- S7 FOUNDATION PLAN
- S8 FRAMING PLAN
- S9 ROOF FRAMING PLAN
- S10 DETAILS AND NOTES

SQUARE FOOTAGE

SQUARE FOOTAGE	
HEATED	
MAIN FLOOR	3300 S.F.
TOTAL HEATED	3300 S.F.
UNHEATED	
2ND LEVEL UNFINISHED GARAGE	2422 S.F.
COVERED PATIO	2169 S.F.
COVERED FRONT PORCH	631 S.F.
TOTAL UNHEATED	506 S.F.
TOTAL UNHEATED	3306 S.F.

BUILDING SUMMARY

PIN:  
REID:  
USE: SINGLE FAMILY  
CALCULATED ACRES:

BUILDING DATA:  
TWO STORY  
CONSTRUCTION TYPE:  
PROPOSED: 3300 S.F.  
PROPOSED GARAGE: 2169 S.F.

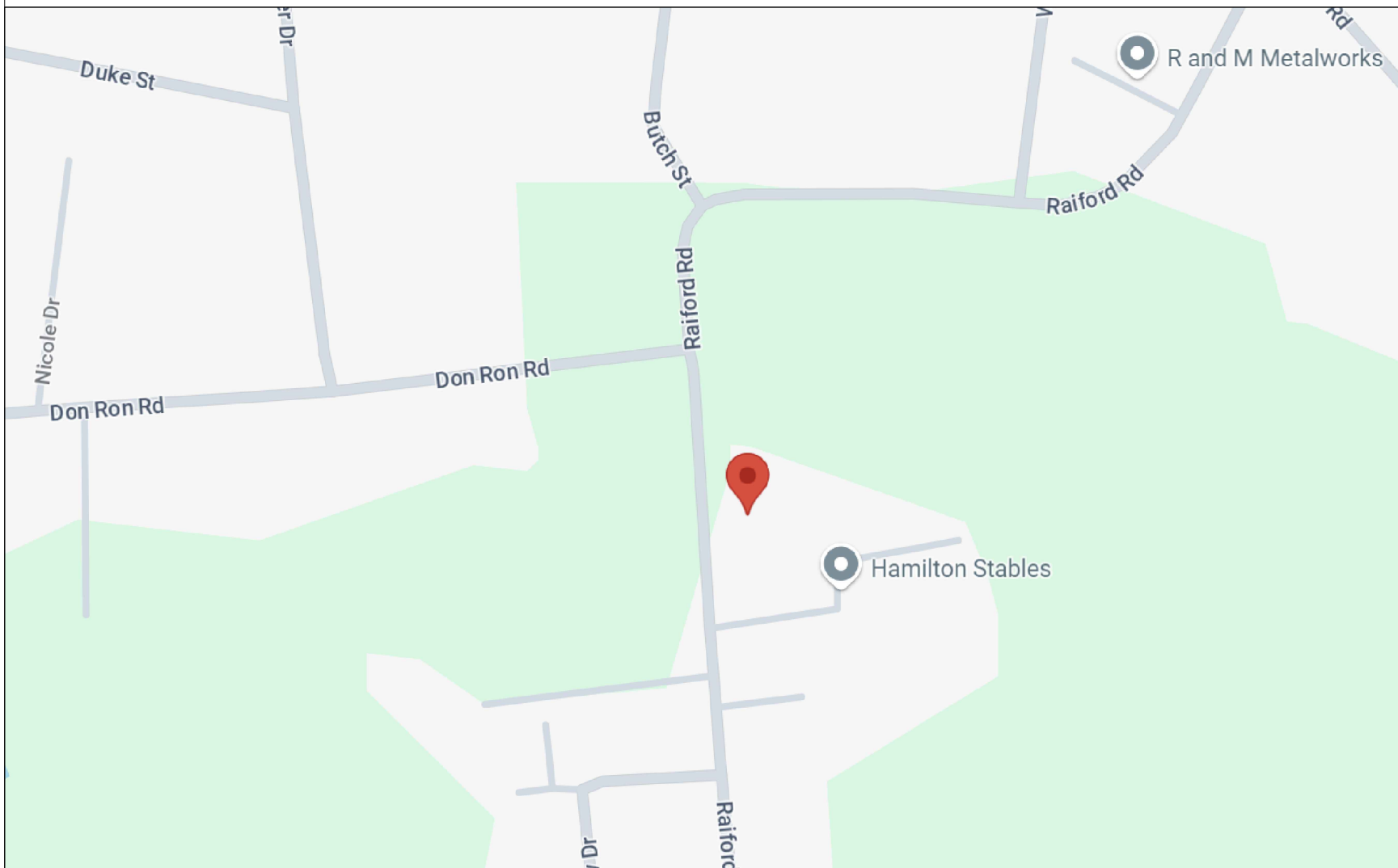
GENERAL NOTES

- HDS ENGINEERING IS NOT RESPONSIBLE FOR SAFETY PROGRAMS, METHODS OR PROCEDURES OF OPERATION OR CONSTRUCTION OF THE DESIGN SHOWN ON THESE DRAWINGS. DRAWINGS ARE FOR USE ON THIS PROJECT ONLY AND ARE NOT INTENDED FOR REUSE WITHOUT WRITTEN APPROVAL FROM HDS ENGINEERING.
- DRAWINGS ARE ALSO NOT TO BE USED IN ANY MANNER THAT WOULD CONSTITUTE A DETRIMENT DIRECTLY OR INDIRECTLY TO HDS ENGINEERING.
- IF THIS DRAWING IS LESS THAN 18"x24" OR 24"x36" IT IS A REDUCED PRINT SCALE ACCORDINGLY.
- CONTRACTOR SHALL VERIFY AND BE RESPONSIBLE FOR ALL DIMENSIONS AND CONDITIONS ON THE JOB, AND HDS ENGINEERING MUST BE NOTIFIED OF ANY VARIATIONS FROM THE DIMENSIONS AND CONDITIONS SHOWN ON THESE DRAWINGS. SHOP DETAILS SHOULD BE SUBMITTED TO HDS ENGINEERING BEFORE PROCEEDING WITH FABRICATION.
- ALL WORK SHALL COMPLY WITH THE CITY AND STATE OF NORTH CAROLINA CODES, AS WELL AS ALL OTHER APPLICABLE MUNICIPAL CODES AND STANDARDS. IN CASE OF CONFLICT BETWEEN REQUIREMENTS, THE MOST RESTRICTIVE SHALL APPLY.
  - THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THE PROJECT CONFORMS TO THE CODES AND REGULATIONS OF ALL APPLICABLE GOVERNING BUILDING AUTHORITIES, THE 2018 NORTH CAROLINA BUILDING CODE, THE INTERNATIONAL BUILDING CODE WITH NORTH CAROLINA AMENDMENTS, AND MANUFACTURERS' RECOMMENDATIONS.
  - THE PURPOSE OF THESE DRAWINGS IS TO SHOW THE INTENT OF THE DESIGN AND CONSTRUCTION PER THE OWNER'S SPECIFICATIONS. WHILE EVERY EFFORT HAS BEEN MADE IN THE PREPARATION OF THESE DOCUMENTS TO AVOID MISTAKES, THE MAKER CANNOT GUARANTEE AGAINST HUMAN ERROR. ANY CHANGES TO THESE DOCUMENTS AFTER THE DATE ON THESE DRAWINGS WILL BE DONE AT THE OWNER'S EXPENSE AND RESPONSIBILITY. IN CASE OF DISCREPANCIES, THE DESIGNER AND ENGINEER SHALL BE IMMEDIATELY CONTACTED.
  - THE CONTRACTOR IS RESPONSIBLE FOR SECURING ALL REQUIRED APPROVALS AND PERMITS FROM THE APPROPRIATE AGENCY AND FOR THE COORDINATION AND COSTS ASSOCIATED WITH CONSTRUCTION AND INSPECTION.
  - THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL CONDITIONS, DIMENSIONS, AND OTHER DETAILS PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL ASSUME ALL RESPONSIBILITY THEREAFTER. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT PROVISIONS ARE MADE AND APPROVED METHODS ARE USED FOR CONSTRUCTION.
  - THE CONTRACTOR SHALL ACCEPT RESPONSIBILITY FOR ANY UNSEEN CONFLICTS OR CONSTRUCTION COMPLEXITIES DISCOVERED DURING CONSTRUCTION NOT DESCRIBED IN THE CONSTRUCTION DOCUMENTS. THEY MUST NOTIFY THE ARCHITECT AND COORDINATE NECESSARY MEANS AND METHODS TO PROCEED

UTILITY NOTES

- THE CONTRACTOR SHALL COORDINATE AND BE RESPONSIBLE FOR ALL UTILITIES (INCLUDING ELECTRICAL, MECHANICAL, PLUMBING, AND GAS) REQUIRED TO CONSTRUCT THIS PROJECT.
- THE CONTRACTOR SHALL INVESTIGATE AND ASSESS THE CONDITION AND CAPABILITIES OF EXISTING UTILITY SERVICES TO ENSURE THEY MEET OR EXCEED THE NEEDS OF THIS PROJECT.
- THE CONTRACTOR SHALL PROPOSE THE MOST ENERGY-EFFICIENT SYSTEMS, SUGGEST UPGRADES AND MODIFICATIONS TO EXISTING SYSTEMS, AND PROVIDE SERVICE LOCATIONS AND RUNS PRIOR TO CONSTRUCTION FOR REVIEW BY THE OWNER (AND/OR OWNER'S REPRESENTATIVES).

SITE KEY MAP

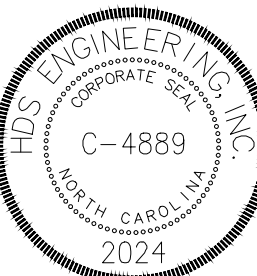


DESIGN CRITERIA

DESIGN CRITERIA			
1	BUILDING CODES	NORTH CAROLINA RESIDENTIAL BUILDING CODE 2018 EDITION	
		MINIMUM DESIGN LOADS FOR BUILDING AND OTHER STRUCTURES, ASCE 7-05	
2	DEAD LOAD	ROOF	10 PSF
		FLOOR	10 PSF
3	LIVE LOAD (NBC 2018, TABLE 4-1)	ROOF	20 PSF
		FLOOR	40 PSF
4	SOIL LOADS (ASCE 7-05 & 2018 NBC)	ALLOWABLE SOIL BEARING PRESSURE	2000 PSF (TABLE 1806.2)
		SUB GRADE MODULUS (k)	100 PCI
		ULTIMATE FRICTION COEFFICIENT	0.25 (TABLE 1806.1)
		UNIT WEIGHT OF SOIL	110 PCF
5	SNOW LOAD (ASCE 7-10)	SNOW IMPORTANCE FACTOR, Is	1.0 (TABLE 7-4)
		GROUND SNOW LOAD, Pg	15 PSF (FIG 7-1)
		SNOW EXPOSURE FACTOR, Ce	1.0 Table (7-2)
		THERMAL FACTOR, Ct	1.0 TABLE (7-3)
		ROOF SLOPE FACTOR, Cs	1.7 (FIG 7-2)
		BALANCED SNOW LOAD, Pf (BAL)	15.5 PSF (EQ. 7-1, SECT. 7.10)
6	WIND LOADS - MAIN WIND FORCE RESISTING SYSTEM (ASCE 7-05)	SLOPED ROOF SNOW LOAD, Ps	15 PSF (EQ. 7-2)
		ANALYSIS PROCEDURE	METHOD II ANALYTICAL
		WIND SPEED, V (3 SECOND GUST)	120 MPH (FIG 6-1)
		WIND IMPORTANCE FACTOR, Iw	1.00 (TABLE 6-1)
		EXPOSURE	B (SEC. 6.5.6.3)
		TOPOGRAPHY FACTOR, Kzt	1.00 (FIG 6-4)
		INTERNAL PRESSURE COEFFICIENT, GCpi	±0.18 (FIG 6-5)
		APPLIED DIRECTIONALITY FACTOR, Kd	0.85 (TABLE 6-4)
		Wx	6.4 KIPS
		Wy	14.8 KIPS
7	SEISMIC LOADS (ASCE 7-10)	ANALYSIS PROCEDURE	EQUIVALENT LATERAL FORCE
		RISK CATEGORY	II (IBC, TABLE 1604.5)
		SEISMIC IMPORTANCE FACTOR, Is	1.0 (TABLE 11.5-1)
		SOIL SITE CLASS	C, SOIL REPORT
		MAPPED SPECTRAL RESPONSE ACCELERATION, Ss	0.198 (FIG 22-1)
		MAPPED SPECTRAL RESPONSE ACCELERATION, Si	0.078 (FIG 22-2)
		LONG PERIOD TRANSITION PERIOD, TI	8 SEC (FIG 22-15)
		SEISMIC FORCE RESISTING SYSTEM	BEARING WALL SYSTEM, LIGHT-FRAMED WALLS SHEATHED IN WOOD PANELS RATED FOR SHEAR (A13, TABLE 12.2-1)
		SEISMIC DESIGN CATEGORY	B (IBC, TABLE 1612.5.6)
		SEISMIC BASE SHEAR Sx	0.51 KIPS
8	8. A PROGRAM OF SPECIAL INSPECTIONS IS NOT REQUIRED FOR THIS PROJECT. PER NORTH CAROLINA STATE BUILDING CODE, 2018 EDITION SECTION 1704.1.2.	SEISMIC BASE SHEAR Sy	0.51 KIPS

TYPICAL ABBREVIATIONS

&	= AND	MECH.	= MECHANICAL
@	= AT	MFR.	= MANUFACTURER
+	= PLUS OR MINUS	MIN.	= MINIMUM
A/E	= ARCHITECT/ENGINEER	N.T.S	= NOT TO SCALE
A.F.	= ABOVE FINISHED FLOOR	O.C	= ON CENTER
A.S.L	= ABOVE SEA LEVEL	O.F.	= OVERFRAME
ARCH.	= ARCHITECTURAL	O.H.D	= OVERHEAD DOOR
B.O.	= BY OTHERS	O.H.C.	= OVERHEAD CABINETS
C.F.S	= COLD-FORMED STEEL	P.A.F.	= POWER ACTUATED FASTENER
CJ	= CEILING JOIST	P.B	= PERIMETER BAND
C.L	= CENTER LINE	PL	= PLATE
C.R.C.	= COLD ROLLED CHANNEL	RAFT.	= RAFTERS
R&S	= CONCRETE MASONRY UNIT	REQ.	= REQUIRED
CONC.	= CONCRETE	R&S	= ROD AND SHELF
CONT.	= CONTINUOUS	R.O.	= ROUGH OPENING
DEFL	= DEFLECTION	S.H.	= SILL HEIGHT
DBL	= DOUBLE	SIM.	= SIMILAR
Ø	= DIAMETER	STL.	= STEEL
DR.	= DOOR	S.W.	= SHEAR WALL
DWG	= DRAWING	STR.	= STRUCTURAL
ELEV.	= ELEVATION	TEMP.	= TEMPORARY
ENGR.	= ENGINEER	T.O.B	= TOP OF BEAM
E.O.S.	= EDGE OF SLAB	T.O.C	= TOP OF CONCRETE
EQ.	= EQUAL	T.O.S	= TOP OF STEEL
E.W.	= EACH WAY	T.S.N	= THE STEEL NETWORK
EXIST.	= EXISTING	TYP.	= TYPICAL
FLR.	= FLOOR	U.N.O	= UNLESS NOTED OTHERWISE
F.J.	= FLOOR JOISTS	VERT	= VERTICAL
GA	= GAUGE	VIF	= VERIFY IN FIELD
HT.	= HEIGHT	V.S.C	= VERTICAL SLIP CLIP
K.B.	= KNEE BRACE	WN.	= WINDOW
MAX	= MAXIMUM	W/	= WITH



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REVISIONS

NO. DATE

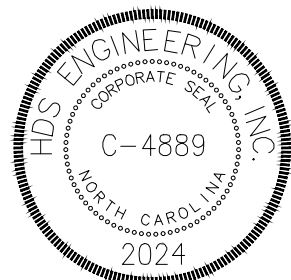
PLAN INFORMATION

PROJECT NO: 25-186  
FILENAME: RAIFORD DR  
CHECKED BY: HDS  
DRAWN BY: K.I.  
DATE: 04-22-2025

CONTENT

COVER SHEET  
SITE PLAN  
INDEX OF DRAWINGS  
SQUARE FOOTAGE  
BUILDING SUMMARY  
SITE KEY MAP  
NOTES  
DESIGN CRITERIA

SHEET



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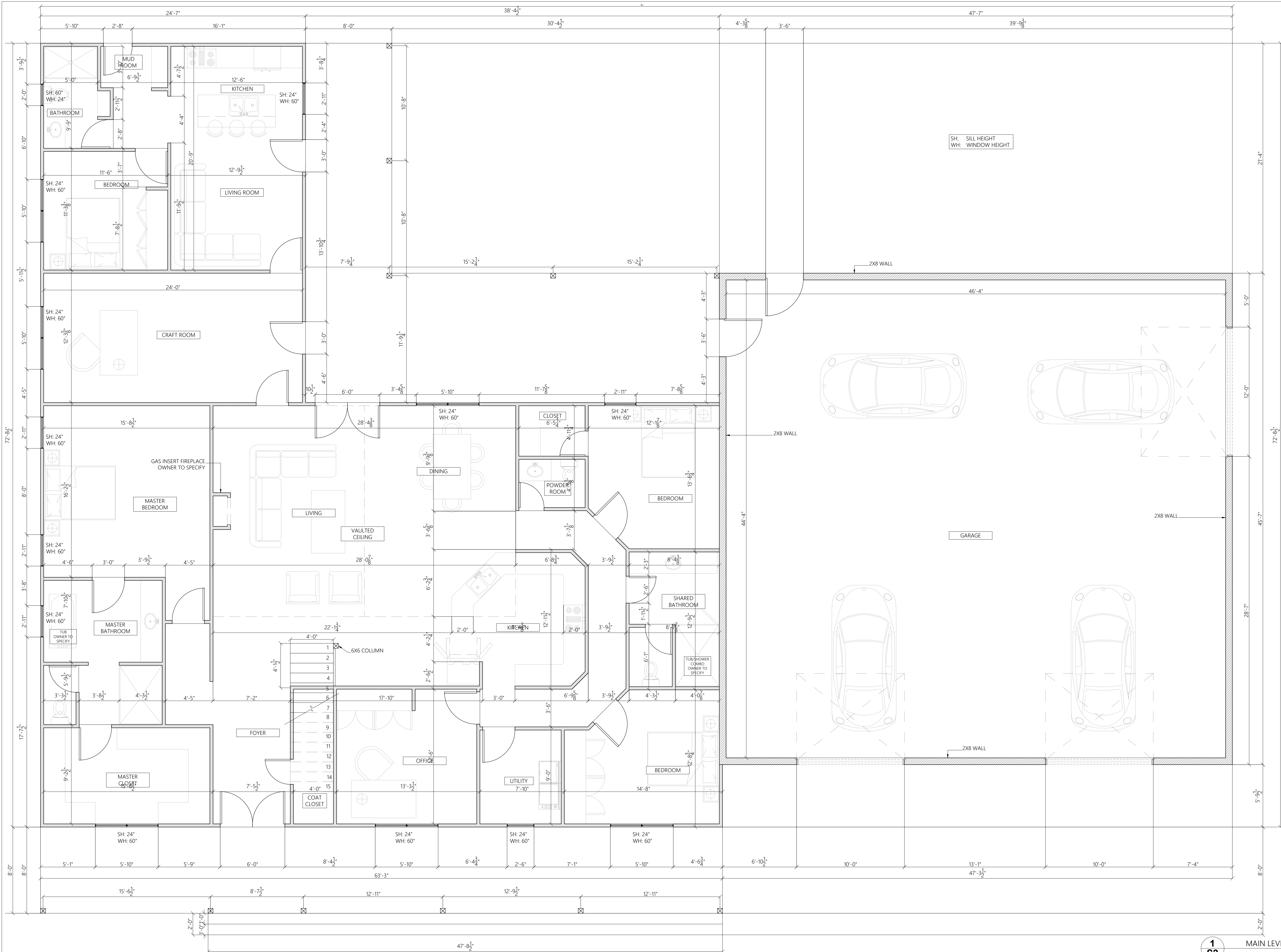
CONTENT

MAIN LEVEL ARCHITECTURAL PLAN

SHEET

S2

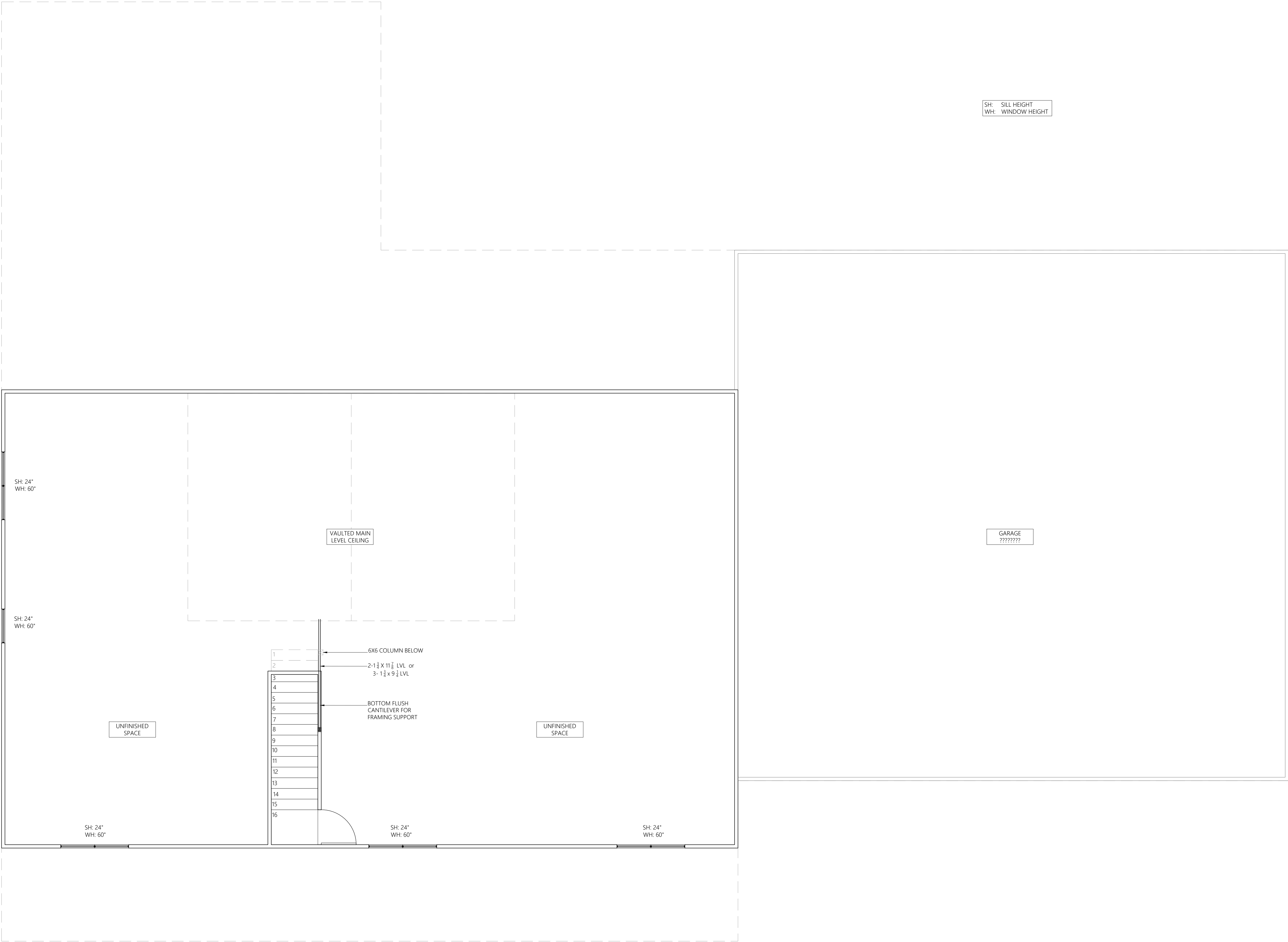
02/10



1  
S2

MAIN LEVEL ARCHITECTURAL PLAN  
SCALE: 1/4" = 1'-0"





SH: SILL HEIGHT  
WH: WINDOW HEIGHT

GARAGE  
????????

VAULTED MAIN  
LEVEL CEILING

UNFINISHED  
SPACE

UNFINISHED  
SPACE

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16

6X6 COLUMN BELOW  
2-1 3/4 X 11 1/2 LVL or  
3-1 3/4 X 9 1/2 LVL

BOTTOM FLUSH  
CANTILEVER FOR  
FRAMING SUPPORT

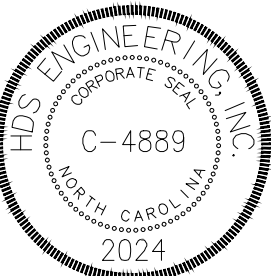
SH: 24"  
WH: 60"

SH: 24"  
WH: 60"

SH: 24"  
WH: 60"

1  
S3

2ND LEVEL ARCHITECTURAL PLAN  
SCALE: 1/4" = 1'-0"



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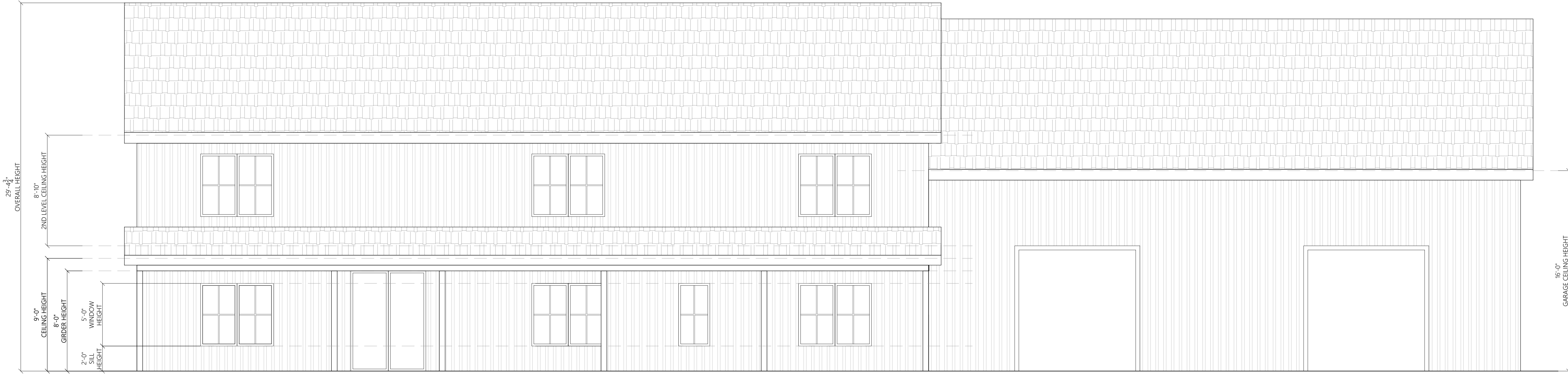
PLAN INFORMATION

PROJECT NO: 25-186  
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DRAWN BY: K.L.  
DATE: 04-22-2025

CONTENT

2ND LEVEL ARCHITECTURAL PLAN

SHEET



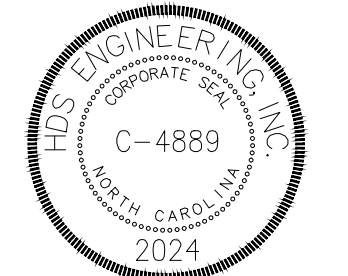
1  
S4

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



2  
S4

LEFT SIDE ELEVATION  
SCALE: 1/4" = 1'-0"



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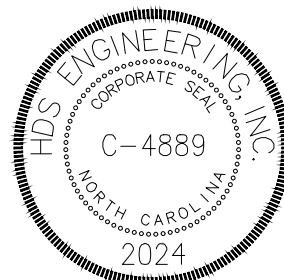
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#### CONTENT

ELEVATIONS

SHEET



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CONTENT

ELEVATIONS

SHEET

S5

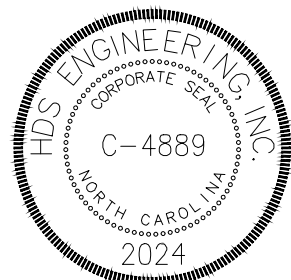
05/10





1  
S6

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



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CONTENT

ROOF PLAN

SHEET





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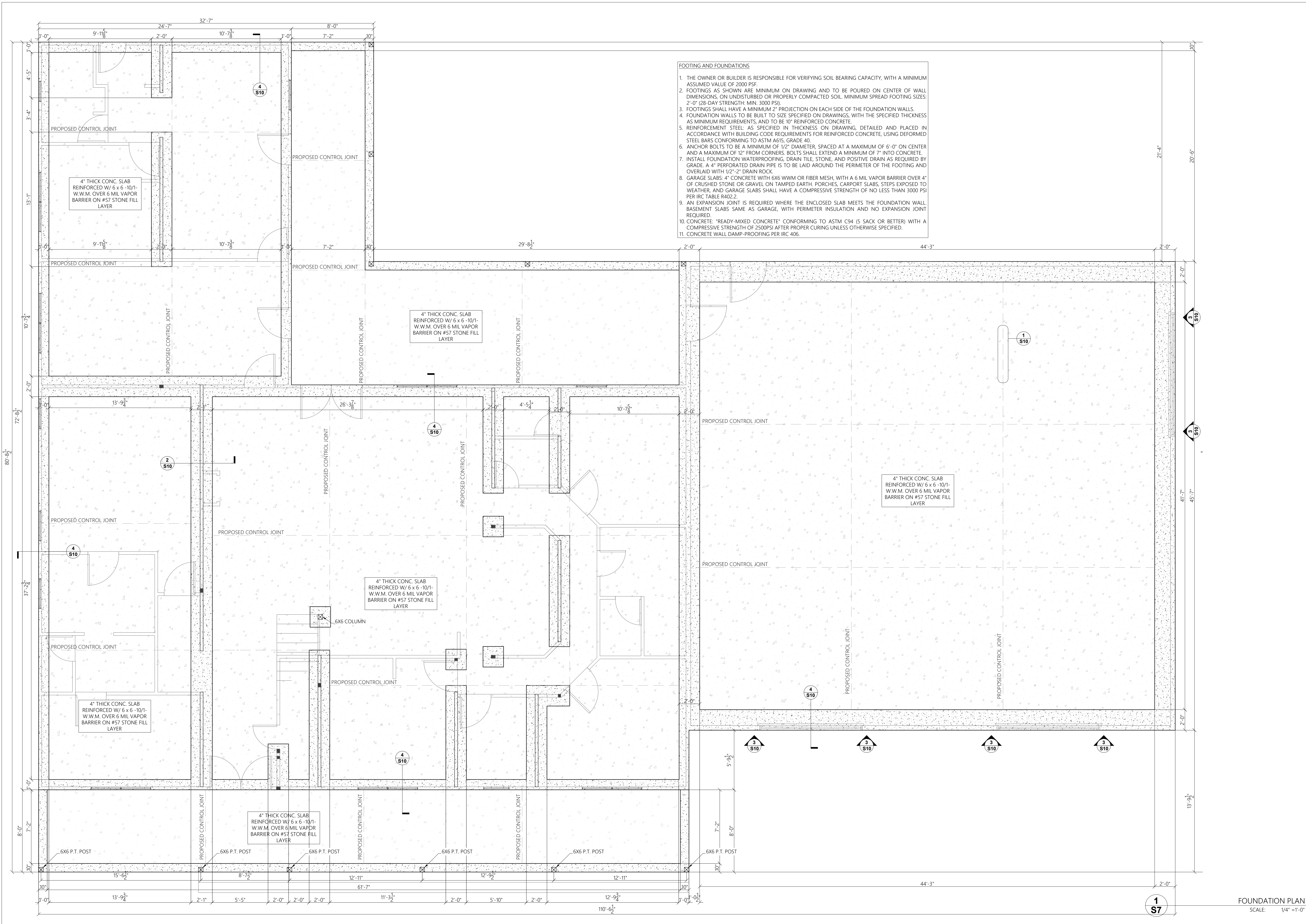
## PLAN INFORMATION

## CONTENT

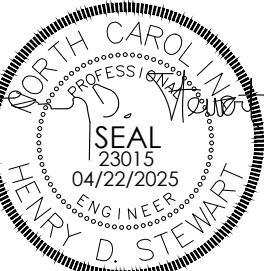
FOUNDATION PLAN

SHEET

S7 07/10







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## PLAN INFORMATION

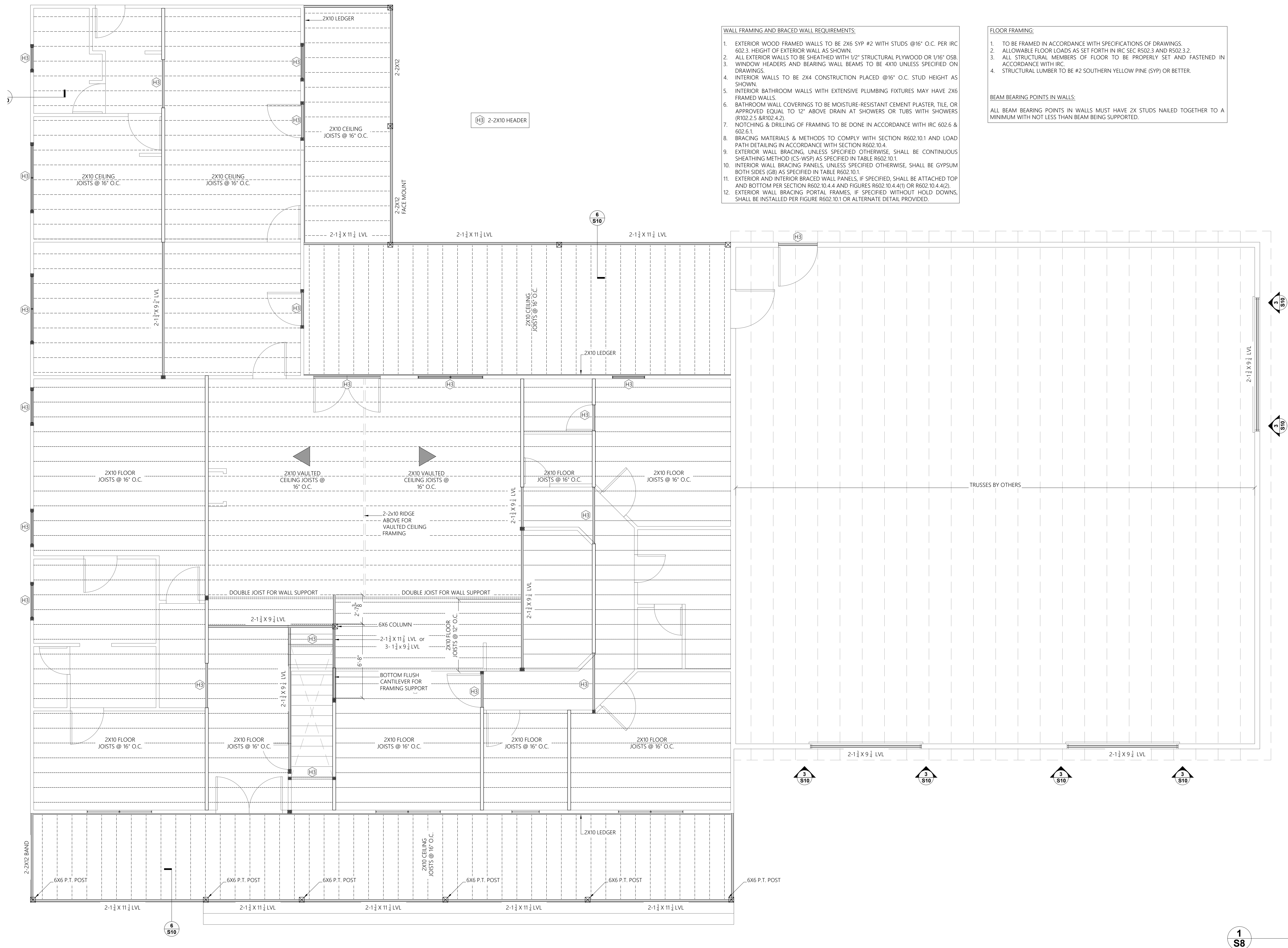
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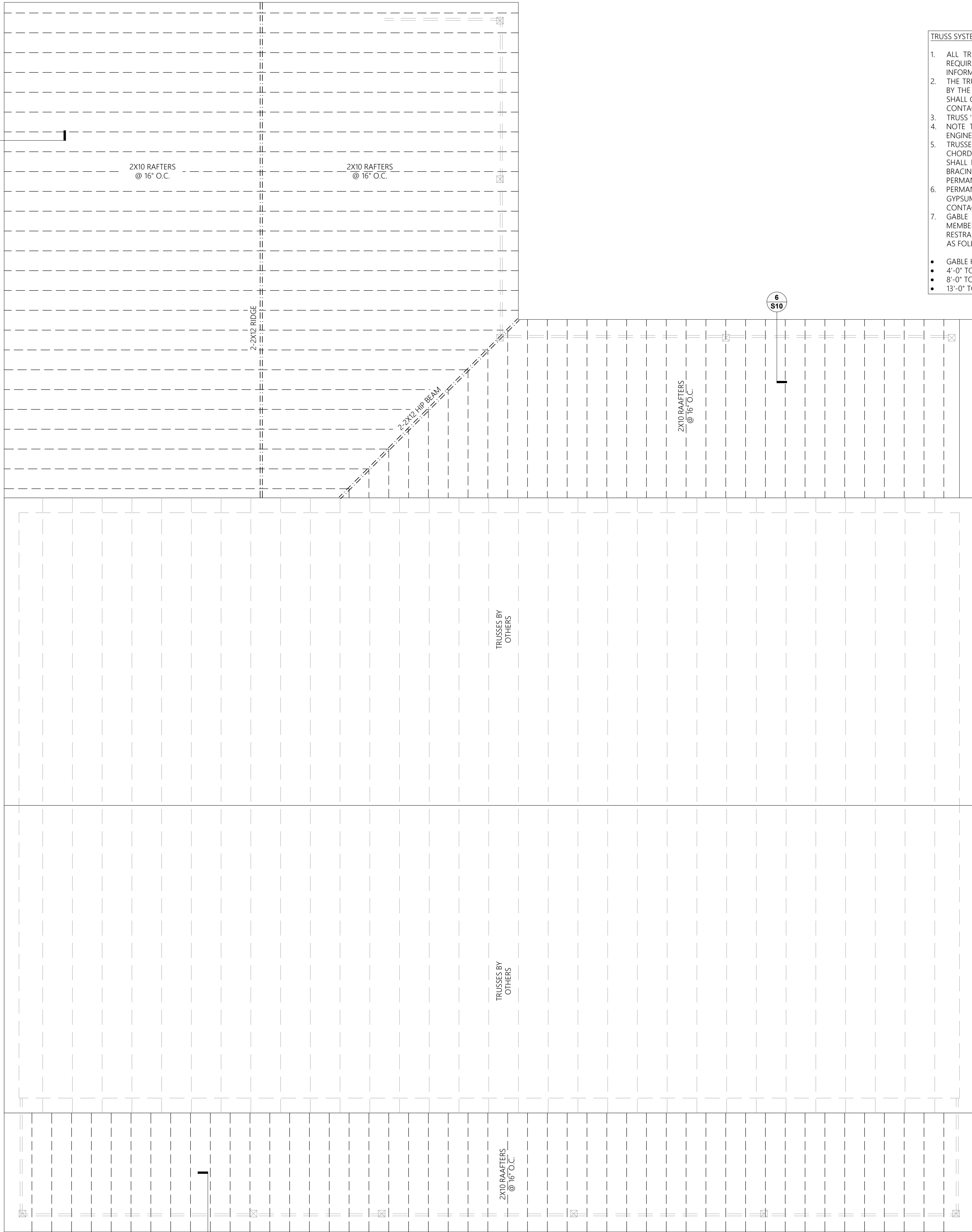
## FRAMING PLAN

SHEET

S8 08/10

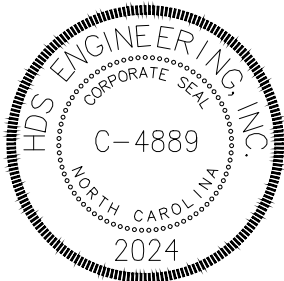






- TRUSS SYSTEM REQUIREMENTS
- ALL TRUSSES SHALL BE HANDLED, STORED, INSTALLED, RESTRAINED, AND BRACED AS REQUIRED PER IRC 2015, NCRS 2018, ANSI/TPI 1-2014, AND BUILDING COMPONENT SAFETY INFORMATION 2018 (BCSI).
  - THE TRUSS LAYOUT IS INDICATED ON THIS PLAN. THE TRUSS PLACEMENT PLAN, PROVIDED BY THE TRUSS MANUFACTURER, INCLUDING DIRECTION, SPAN, AND SUPPORT LOCATIONS, SHALL COINCIDE WITH THE LAYOUT SHOWN ON THIS PLAN. IF DISCREPANCIES ARE FOUND, CONTACT THE ENGINEER OF RECORD IMMEDIATELY.
  - TRUSS PROFILES SHALL BE SEALED BY THE TRUSS MANUFACTURER.
  - NOTE THAT TRUSS PLACEMENT PLANS MAY REQUIRE APPROVAL BY THE STRUCTURAL ENGINEER AS REQUIRED BY THE BUILDING CODE OFFICIAL.
  - TRUSSES REQUIRE PERMANENT BRACING WITHIN ALL OF THE FOLLOWING PLANES: TOP CHORD, BOTTOM CHORD, AND WEB MEMBER. PERMANENT BRACING REQUIREMENTS SHALL BE PER BCSI-B3 2013 / ATTACHED BCSI-B3 SUMMARY SHEET OR THE PERMANENT BRACING PLAN PROVIDED. CONTACT THE ENGINEER OF RECORD TO REQUEST A PERMANENT BRACING PLAN.
  - PERMANENT BRACING ASSUMPTIONS: TOP CHORD - SHEATHING; BOTTOM CHORD - GYPSUM BOARD. IF TOP AND BOTTOM CHORDS ARE NOT CLAD PER ASSUMPTIONS, CONTACT THE ENGINEER OF RECORD IMMEDIATELY.
  - GABLE END FRAME REQUIRES PERMANENT BRACING. IN ADDITION TO PERMANENT WEB MEMBER BRACING SPECIFIED BY THE TRUSS MANUFACTURER, BOTTOM CHORD LATERAL RESTRAINT (BCLR) AND GABLE END/WALL PERMANENT DIAGONAL BRACING ARE REQUIRED AS FOLLOWS:
    - GABLE HEIGHT LESS THAN 4'-0": 2X4 SPACED 8' O.C. - BCLR 8' LONG.
    - 4'-0" TO 8'-0": 2X4 SPACED 6' O.C. - BCLR 8' LONG.
    - 8'-0" TO 13'-0": 2X4 SPACED 4' O.C. - BCLR 8' LONG.
    - 13'-0" TO 18'-0": 2X6 SPACED 4' O.C. - BCLR 10' LONG.

- ROOF FRAMING NOTES:
- DRAWINGS WILL SPECIFY WHETHER TRUSSES OR RAFTER CONSTRUCTION IS TO BE USED.
  - STANDARD SNOW LOAD TO BE VERIFIED PER SIDE ISSUING JURISDICTION PSF TOTAL LOAD, UNLESS SPECIFIED OTHERWISE ON DRAWINGS.
  - ROOF SHEATHING TO BE 1/2" CDX STANDARD.
  - THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE CODES, INCLUDING WATERPROOFING ALL ROOF INTERSECTIONS AND PROVIDING ADEQUATE ROOF VENTILATION AS PER CODE.
  - ALL RIDGE BEAMS, HIP RAFTERS, AND VALLEY RAFTERS TO BE 2" X 10", NO.2 S.Y.P. OR AS REQUIRED BY THE ENGINEER.
  - THE CONTRACTOR TO VERIFY ALL ROOF PITCHES WITH EXTERIOR ELEVATIONS PRIOR TO CONSTRUCTION.
  - PROVIDE 2X4 ATTIC COLLAR TIES AT 48" O.C. AT THE UPPER 1/3 OF THE ATTIC SPACE (U.N.O.).
  - ALL RAFTER SPANS ARE CALCULATED ON SPF #2 (U.N.O.), WITH A MINIMUM SIZE OF 2X8 UNLESS NOTED OTHERWISE. ALIGN ALL RAFTERS OVER STUDS BELOW.
  - RAFTER SIZES SHOWN ARE MINIMUMS TO MEET STRUCTURAL REQUIREMENTS. SIZES MAY BE INCREASED TO PROVIDE MINIMUM INSULATION VALUES OR AIR PASSAGES.
  - USE 2X10 OR FUR DOWN RAFTERS FOR VAULTED AREAS. ATTACH VAULTED RAFTERS WITH HURRICANE CONNECTORS SUCH AS SIMPSON H25A OR EQUIVALENT, TYPICALLY.
  - DOUBLE HIPS MAY BE SPICED WITH A MINIMUM 6'-0" OVERLAP AT THE CENTER. DO NOT SPICE VALLEY BEAMS.
  - FUR RIDGE AS REQUIRED FOR FULL RAFTER CONTACT.
  - DESIGN DEAD LOAD BASED ON 240 LB FIBERGLASS SHINGLES (U.N.O.).



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THE PLANS BY OTHERS. HDS  
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HELD RESPONSIBLE FOR  
CONTRACTOR'S FAILURE TO  
CONFORM TO CONSTRUCTION  
DOCUMENTS, FAILURE TO  
NOTIFY ENGINEER OF KNOWN  
DISCREPANCIES, OR  
CONSTRUCTION MEANS AND  
METHODS.

REVISIONS	
NO.	DATE

PLAN INFORMATION

PROJECT NO: 25-186  
FILENAME: RAIFORD DR  
CHECKED BY: HDS  
DRAWN BY: K.I.  
DATE: 04-22-2025

CONTENT

ROOF FRAMING



GENERAL NOTES

- THESE PLANS ARE INTENDED FOR USE BY A LICENSED GENERAL CONTRACTOR.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT ALL PHASES OF CONSTRUCTION COMPLY WITH ALL BUILDING CODE REQUIREMENTS.
- PRIOR TO CONSTRUCTION, THE GENERAL CONTRACTOR IS TO REVIEW ALL PLANS AND BE RESPONSIBLE FOR VERIFYING ALL DIMENSIONS AND CONDITIONS.
- ANY DISCREPANCIES IN THE PLANS SHOULD BE BROUGHT TO THE ATTENTION OF THE DESIGNER BEFORE CONSTRUCTION BEGINS.
- DO NOT SCALE DRAWINGS. WRITTEN DIMENSIONS TAKE PRECEDENCE OVER SCALED DIMENSIONS.
- PLUMBING AND HVAC PLANS ARE TO BE MANAGED BY THE GENERAL CONTRACTOR UNLESS SPECIFIED OTHERWISE. EACH MUST COMPLY WITH ALL BUILDING CODE REQUIREMENTS.

STRUCTURAL NOTES

- THE ENGINEER WHOSE SEAL APPEARS ON THESE DRAWINGS IS THE STRUCTURAL ENGINEER OF RECORD FOR THIS PROJECT. NO OTHER PARTY MAY MODIFY OR REUSE THESE CONSTRUCTION DOCUMENTS WITHOUT WRITTEN PERMISSION FROM HDS ENGINEERING OR THE STRUCTURAL ENGINEER OF RECORD. THE ENGINEER'S SEAL ONLY APPLIES TO STRUCTURAL COMPONENTS AND SYSTEMS AND DOES NOT CERTIFY THE DIMENSIONAL ACCURACY OF THE ARCHITECTURAL LAYOUT.
- THE ENGINEER SHALL HAVE NO LIABILITY TO THE HOMEOWNER OR OTHERS FOR ACTS OR OMISSIONS OF THE CONTRACTOR/BUILDER OR ANY OTHERS PERFORMING WORK ON THIS PROJECT. THE ENGINEER IS NOT RESPONSIBLE FOR CONSTRUCTION SEQUENCES, METHODS, TECHNIQUES, OR SAFETY REQUIREMENTS IN CONNECTION WITH THE CONSTRUCTION OF THIS STRUCTURE.
- THE CONTRACTOR ASSUMES ALL RESPONSIBILITY FOR DEPICTED OR IMPLIED STRUCTURAL INFORMATION. SHOULD ANY DISCREPANCIES BECOME APPARENT, THE STRUCTURAL ENGINEER OF RECORD MUST BE NOTIFIED IMMEDIATELY BEFORE CONSTRUCTION BEGINS.
- ONLY SEALED DRAWINGS WITH THE LATEST REVISIONS ARE APPLICABLE FOR CONSTRUCTION.
- ALL CONSTRUCTION, WORKMANSHIP, AND MATERIALS SHALL CONFORM TO THE LATEST REQUIREMENTS OF THE '2018 NORTH CAROLINA BUILDING CODE' AND LOCAL REGULATIONS.
- DESIGN LOADS:

STRUCTURAL SYSTEM	L.L.	D.L.	T.L.	STRUCTURAL SYSTEM	L.L.	D.L.	T.L.
FLR (PRIMARY DWELL'G)	40	10	50	ATTICS W/ FIXED STAIRS	40	10	50
FLR (SLEEPING RMS.)	30	10	40	STAIRS	40	5	45
BALCONIES (EXTERIOR)	60	10	70	GUARDRAIL/ HANDRAIL	200		200
DECKS	40	10	50	ROOF SYSTEM	20	10	30
ATTICS W/OUT STOR.	10	10	20	CATHEDRAL	20	15	35
ATTIC'S W/ LIMITED STOR.	20	10	30	INTERIOR PART'N WALL	9		9

SEISMIC DESIGN CATEGORY	DI
SNOW LOAD	25 PSF
SOIL BEARING PRESSURE	2000 PSF
WIND VELOCITY	115 MPH (ULTIMATE)
WIND EXPOSURE	B

- DEFLECTION: FLOOR: MIN L/480, ATTIC WITH CEILING: L/240, ROOF: L/180 - MORE STRINGENT CRITERIA MAY BE USED AT THE ENGINEER'S DISCRETION OR AS REQUESTED.
- ALL GLASS IN DOORS, SIDELIGHTS, AND OTHER HAZARDOUS LOCATIONS TEMPERED GLASS (IRC 308.4)
- DO NOT SCALE DRAWINGS. THE CONTRACTOR SHALL CONTACT THE ARCHITECT FOR ITEMS NOT DIMENSIONED.

FRAMING NOTES:

- ALL FRAMING LUMBER SHALL BE SPF #2 (E = 1,400,000 PSI, FB = 875 PSI), TREATED LUMBER SHALL BE SYP #2 (E =1,400,000 PSI, FB = 975 PSI). STUDS SHALL BE MIN #2 OR STUD GRADE.
- LVL SHALL BE LAMINATED VENEER LUMBER OR PARALLEL STRAND LUMBER (PSL) WITH THE FOLLOWING PROPERTIES: E = 2,000,000 PSI, FB = 2900 PSI, FV = 290 PSI.
- PROVIDE DOUBLE TOP PLATES IN ALL EXTERIOR WALLS. STAGGER JOINTS MIN 24", W/ (4) 16D NAILS.
- WALL BRACING SHALL CONFORM TO R602.10.
- SET ALL JOISTS AND BEAMS WITH NATURAL CAMBER UP. ENDS LAPPED MIN. 6" OVER BEARING SHALL BE SECURELY NAILED TOGETHER. PROVIDE AT MIN. 1-1/2" BEARING FOR ALL JOISTS AND MIN. 3" FOR BEAMS (U.N.O.).
- ALL FRAMING EXPOSED TO CONCRETE OR WEATHER TO BE PRESSURE TREATED. SILLS MIN. 2X6.
- STRUCTURAL MEMBER FASTENING TO CONFORM TO TABLE R602.3 (1) AND (2).
- DOUBLE ALL JOISTS: A) UNDER PARALLEL PARTITIONS; B) OPENING HEADERS/TRIMMERS; C) UNDER TUBS W/ 12" OR GREATER SPAN.
- STUDS SHALL NOT BE CUT FOR PLUMBING/ELECTRICAL/MECHANICAL RUNS WITHOUT STRAPPING AT EACH SIDE PER R602.6. ENGINEER IS NOT RESPONSIBLE FOR FAILURES IN CUT MEMBERS. DO NOT CUT BEAMS OR GRIDERS.
- BALLOON FRAME GABLE END VAULTED WALLS AND ALL WALLS HIGHER THAN 10' W/ 2X4 @12" O.C. OR (2)2X4 @ 16". MULTIPLE UNIT WINDOWS IN WALLS HIGHER THAN 10' TO HAVE MIN. DOUBLE STUD POCKETS, U.N.O.
- INSTALL I-JOISTS PER MANUFACTURER'S SPECIFICATIONS. MIN. I-JOIST BEARING: 1-3/4" AT ENDS, 3-1/2" AT INTERMEDIATE SUPPORTS.
- TRUSS DRAWINGS MUST BE SEALED BY THE TRUSS MANUFACTURER AND REVIEWED BY HDS ENGINEERING. TRUSS DRAWINGS TO DESIGN AND DOCUMENT ALL REQUIRED BEAMS, HANGERS, AND POINT LOAD REACTIONS. TRUSS DESIGN, FABRICATION, AND DOCUMENTATION SHALL MEET ALL REQUIREMENTS OF R502.11.
- ALL POINT LOADS TO BE COLUMNS/BLOCKED DOWN TO FOUNDATION.
- FIREBLOCK TO CONFORM WITH R302.11.
- MINIMUM HEADER SIZE AND SUPPORT

# JACK STUD REQUIREMENTS FOR HEADERS					
SPAN	BEAM*	ROOF/CLG	ROFF/CLG + FLR	ROOF/CLG+2FLR	
4'-0"	2-2X6	2X4	2X4	2-2X4	
4'-6"	2-2X10	2X4	2X4	3-2X4	
6'-8"	2-2X10	2X4	3-2X4	4-2X4	
8'-10"	2-2X12	2-2X4	4-2X4	4-2X4	
10'-0"	SEE PLAN	SEE PLAN	SEE PLAN	SEE PLAN	

CONNECTIONS:

- ALL CONNECTORS ARE SPECIFIED AS SIMPSON, EQUIVALENT LUMBERLOCK CONNECTORS WILL BE SATISFACTORY.
- NAILING SCHEDULE TO BE IN ACCORDANCE WITH TABLE R602.3 (1).

INSULATION SPECIFICATIONS  
2018 NORTH CAROLINA STATE BUILDING CODE: ENERGY CONSERVATION CODE

- MINIMUM INSULATION:
  - CEILING: R-38 INSULATION.
  - VAULTED CEILING: R-38 INSULATION.
  - WALLS ABOVE GRADE: R-15 INSULATION.
  - FLOOR: R-19 INSULATION.
  - SLAB ON GRADE: R-10 INSULATION (ENTIRE SLAB).
- EXTERIOR WALLS AND VAPOR BARRIER:
  - ALL EXTERIOR WALLS ARE TO HAVE EITHER VAPOR BARRIER (A) OR (B) INSTALLED AS PER MANUFACTURER'S SPECIFICATIONS, WITH WINDOW AND JOINT TAPE PER IRC 103 & TABLE IRC 103.3(1).
  - USE TYVEK HOUSE WRAP AND DUPONT FLASHING SYSTEMS FOR ALL WINDOWS AND DOORS. CONSULT THE DUPONT MANUAL AND REPRESENTATIVE FOR INSTALLATION INSTRUCTIONS.

SMOKE ALARM NOTE:

SMOKE ALARMS TO BE INTERCONNECTED OR WIRELESSLY CONNECTED SO THAT THE ACTIVATION OF ONE ALARM ACTIVATES ALL ALARMS IN A DWELLING UNIT.

DUCT CONSTRUCTION:

- DUCTS IN THE GARAGE AND DUCTS PENETRATING THE WALLS OR CEILINGS SEPARATING THE DWELLING FROM THE GARAGE SHALL BE CONSTRUCTED OF A MINIMUM OF NO. 26 GAUGE SHEET STEEL AND HAVE NO OPENINGS INTO THE GARAGE. THIS WOULD ALSO PROHIBIT FILTER ACCESS OPENINGS IN THE RETURN AIR DUCT SYSTEM.

HDS ENGINEERING IS NOT RESPONSIBLE FOR SAFETY PROGRAMS, METHODS OR PROCEDURES OF OPERATION OR CONSTRUCTION OF THE DESIGN SHOWN ON THESE DRAWINGS. DRAWINGS ARE FOR USE ON THIS PROJECT ONLY AND ARE NOT INTENDED FOR REUSE WITHOUT WRITTEN APPROVAL FROM HDS ENGINEERING.

DRAWINGS ARE ALSO NOT TO BE USED IN ANY MANNER THAT WOULD CONSTITUTE A DETRIMENT DIRECTLY OR INDIRECTLY TO HDS ENGINEERING.

IF THIS DRAWING IS LESS THAN 18"x24" OR 24"x36" IT IS A REDUCED PRINT SCALE ACCORDINGLY. CONTRACTOR SHALL VERIFY AND BE RESPONSIBLE FOR ALL DIMENSIONS AND CONDITIONS ON THE JOB. AND HDS ENGINEERING MUST BE NOTIFIED OF ANY VARIATIONS FROM THE DIMENSIONS AND CONDITIONS SHOWN ON THESE DRAWINGS. SHOP DETAILS SHOULD BE SUBMITTED TO HDS ENGINEERING BEFORE PROCEEDING WITH FABRICATION.

FLOOR PLAN NOTES:

- VINYL FRAME WINDOWS TYPICAL. ROUGH OPENINGS MAY VARY, VERIFY ACCORDING TO MANUFACTURER'S SPECIFICATIONS.
- CABINET DESIGN BY OTHERS TO BE VERIFIED WITH ACTUAL FRAMED (AS-BUILT) DIMENSIONS ON SITE.
- FOR ALL BEAM SIZES AND LOCATIONS, REFER TO STRUCTURAL FRAMING PLANS AND ENGINEERING CALCULATIONS DURING CONSTRUCTION.
- SEE STRUCTURAL PLANS, FOUNDATION, FRAMING, AND SHEAR WALL SHEETS FOR ALL SIMPSON HOLD-DOWNS, STRAPS, AND HANGERS.
- PROVIDE TEMPERED GLAZING IN ALL WINDOWS WITH EXPOSED AREAS GREATER THAN 9 SQ. FT. AND IN WINDOWS WITH THE BOTTOM EDGE LESS THAN 18 INCHES ABOVE THE FLOOR.

ENERGY CODE:

COMPLY W/ 2018 NORTH CAROLINA STATE BUILDING CODE: ENERGY CONSERVATION CODE

- ALL WINDOWS & DOORS TO BE SEALED INTO WALL W/ CAULKING & WEATHER STRIPPING.
- ALL FRAMING INTERSECTIONS BETWEEN CONDITIONED TO UNCONDITIONED WALLS & FOUNDATIONS TO BE CAULKED TO STOP LEAKAGE.
- ALL PENETRATIONS FOR PLUMBING, WIRING & DUCTING TO BE SEALED.
- VENTILATION DUCTS SHALL HAVE R-4 INSULATION COVERING.
- PROVIDE 6" INTAKE DUCT WITHIN 4'-0" OF FURNACE PLENUM (DAMPER & TIMER INTEGRATED INTO FURNACE SYSTEM).

FLASHING:

- CONTRACTOR & HOME OWNER TO INSTALL ADEQUATE FLASHING AT ALL WATER INFILTRATION POINTS SUCH AS, BUT NOT LIMITED TO WINDOWS, DOORS, DECKS SKYLIGHTS, CHIMNEYS, VENTS, TRIM BOARDS, BALCONIES AND ROOF VALLEYS.
- WATER PROOF DECKS AND BALCONIES TO BE FLASHED PER MANUF. SPECS FOR WATER PROOF MEMBRANE.
- ALL CAULKING MUST BE INSPECTED & MAINTAINED ANNUALLY BY HOME OWNER USING APPROVED EXTERIOR SIDING CAULK CODES:
  - VALLEY FLASHING -IRC 905.2.8/ IRC 905.4.6 OTHER FLASHING - IRC 905.2.8, 905.3.8, 905.4.6, 905.6.6, 905.7.6, 905.8.8
  - WATERPROOF WEATHER EXPOSED AREAS I.E. DECKS & BALCONIES IRC 103.4, MASONRY - R103.8 AND WINDOWS - R610 AND R103.4

MECHANICAL SPECIFICATIONS:

- THE MAXIMUM LENGTH OF A CLOTHES DRYER DUCT SHALL NOT EXCEED 35 FEET(10.668MM) FROM THE DRYER LOCATION TO THE WALL OR ROOF TERMINATION. THE MAXIMUM LENGTH OF THE DUCT SHALL BE REDUCED 2.5' (165MM) FOR EACH 45-DEGREE (0.8RAD) BEND AND 5'(1524MM) FOR EACH 90-DEGREE (1.6RAD) BEND. THE MAXIMUM LENGTH OF THE EXHAUST DUCT DOES NOT INCLUDE THE TRANSITION DUCT. (M1502.4.5)
- ELEMENTS OF APPLIANCES WHICH CREATE A GLOW, SPARK, OR FLAME SHALL BE LOCATED A MINIMUM OF 18" ABOVE THE GARAGE FLOOR (IMC 304.3)
- EXHAUSTS DUCTS TO BE CONSTRUCTED OF SMOOTH-BORE, NONCOMBUSTIBLE MATERIALS. APPROVED FLEX CONNECTORS NOT EXCEEDING 6FT IN LENGTH MAY BE USED IN CONNECTION WITH DOMESTIC DRYER EXHAUST (IMC 504.6)
- HOT WATER TANKS SHALL BE STRAPPED DOWN TO PREVENT OVERTURN IN AN EARTHQUAKE (UPC 508.2)
- PROVIDES PROTECTION OF GAS BURNING APPLIANCES PER IRC SEC M1301
- EXHAUST AIR FROM BATHROOMS AND TOILET ROOMS SHALL BE EXHAUSTED DIRECTLY OUTDOORS (IMR M1501.2)
- ALL EXHAUST OPENINGS SHALL TERMINATE NOT LESS THAN 3' FROM PROPERTY LINES, OPENINGS AND 10' FROM MECHANICAL AIR INTAKES (UNLESS 3' ABV.)

PLUMBING SPECIFICATIONS:

- PROVIDE PRESSURE RELIEF VALVE FOR HOT WATER TANK DRAIN TO THE OUTSIDE OF THE BUILDING W/ DRAIN END NOT MORE THAN 2' NOR LESS THAN 6" ABOVE THE GROUND, POINTING DOWN (UPC 608.5)
- PROVIDE AN AIR GAP FOR THE DISHWASHER IF PROVIDED (UPC 801.4)
- PROVIDE AN APPROVED BACK FLOW PREVENTION DEVICE AT ALL HOSE BIBBS (UPC 608.4.1)
- PROVIDE A CLEAN-OUT WHERE BUILDING DRAIN AND BUILDING SEWER LINES CONNECT (UPC 119.1)
- EACH HORIZONTAL DRAINAGE PIPE SHALL BE PROVIDED W/ A CLEAN-OUT AT ITS UPPER TERMINAL (UPC 1014)

DUCT SEALING & BLOWER TESTING:

- DUCTS LOCATED OUTSIDE THE CONDITIONED SPACE MUST BE SEALED & TIGHTNESS VERIFIED BY LEAKAGE TESTING PER WSEC SECTION 403.2.2, AND INSULATED TO A MINIMUM OF R-8.
- AIR LEAKAGE TESTING REQUIRED FOR NEW HOUSES. MAXIMUM LEAKAGE ALLOWED PER WSEC 403.2.2.

FURNACE & HOT WATER TANK NOTE:

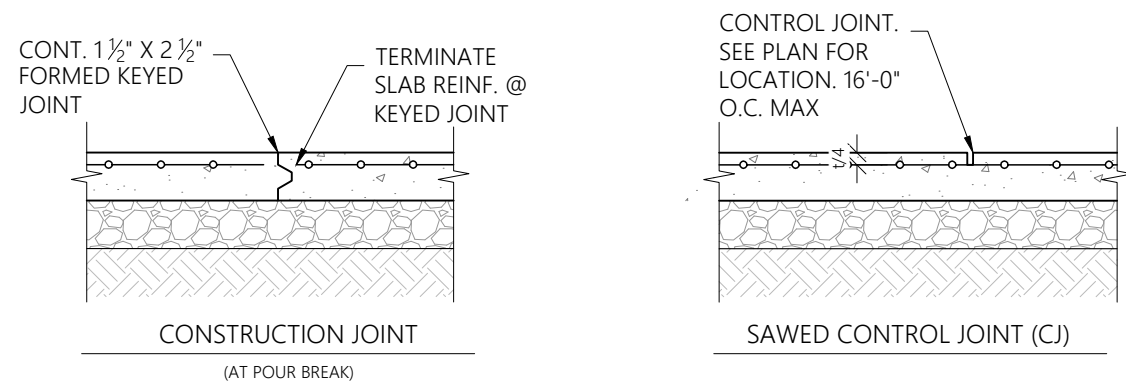
- FURNACE & HOT WATER APPLIANCES SHALL BE DIRECT VENT.
- ALL COMBUSTION AIR TO COME DIRECTLY FROM EXTERIOR.
- 30" CLEAR SPACE IN FRONT OF FURNACE.
- APPLIANCES TO BE FASTENED IN PLACE PER CODE.
- WATER HEATER TO BE INSTALLED A MIN. OF 18" ABV. FLR.
- INSULATION FOR ALL HOT WATER PIPES SHALL HAVE A MIN. THERMAL RESISTANCE OF R-3 WITHIN AND OUTSIDE CONDITIONED SPACE. INS. CAN BE INTERRUPTED WHEN PASSING THROUGH JOISTS, STUDS, & STRUCTURAL MEMBERS, OR WHERE PASSING OTHER PIPING, CONDUIT, OR VENTS, PROVIDED THE INS. IS SECURED TIGHTLY TO EACH OBSTRUCTION.

WHOLE HOUSE VENTILATION SYSTEMS SHOULD COMPLY WITH M1507.3:

- FAN NOISE, WHOLE HOUSE FANS LOCATED 4' OR LESS FROM INTERIOR GRILL SHALL HAVE A SONE RATING OF 1.0 IN. WATER GAUGE.
- OUTDOOR AIR SHALL BE DISTRIBUTED TO EACH HABITABLE SPACE BY INDIVIDUAL OUTDOOR AIR INLETS.
- DOORS SHALL BE UNDERCUT TO A MIN. OF 1/2" ABV. FIN. FLR. COVERING.
- INDIVIDUAL RM. OUTDOOR AIR INLETS SHALL PROVIDE NOT LESS THAN 4 SQ. IN. OF NET FREE AREA OF OPENING FOR EA. HABITABLE SPACE.

AIR LEAKAGE CONTROL & EFFICIENT VENTILATION:

- ACHIEVE A MAXIMUM OF 3.0 AIR CHANGES PER HOUR AS TESTED, AND COMPLY WITH ALL WHOLE HOUSE VENTILATION REQUIREMENTS PER SECTION M1507.3 OF THE IRC.
- UTILIZE HIGH-EFFICIENCY FANS (MAX 0.35 WATTS/CFM) THAT ARE NOT INTERLOCKED WITH THE FURNACE FAN. SYSTEMS USING A FURNACE WITH AN ECM MOTOR AT LOW SPEED IN VENTILATION MODE ARE ALLOWED.
- BUILDING PERMIT DRAWINGS MUST DETAIL THE SELECTED OPTION, THE MAXIMUM TESTED BUILDING AIR LEAKAGE, AND SHOW THE QUALIFIED VENTILATION SYSTEM.

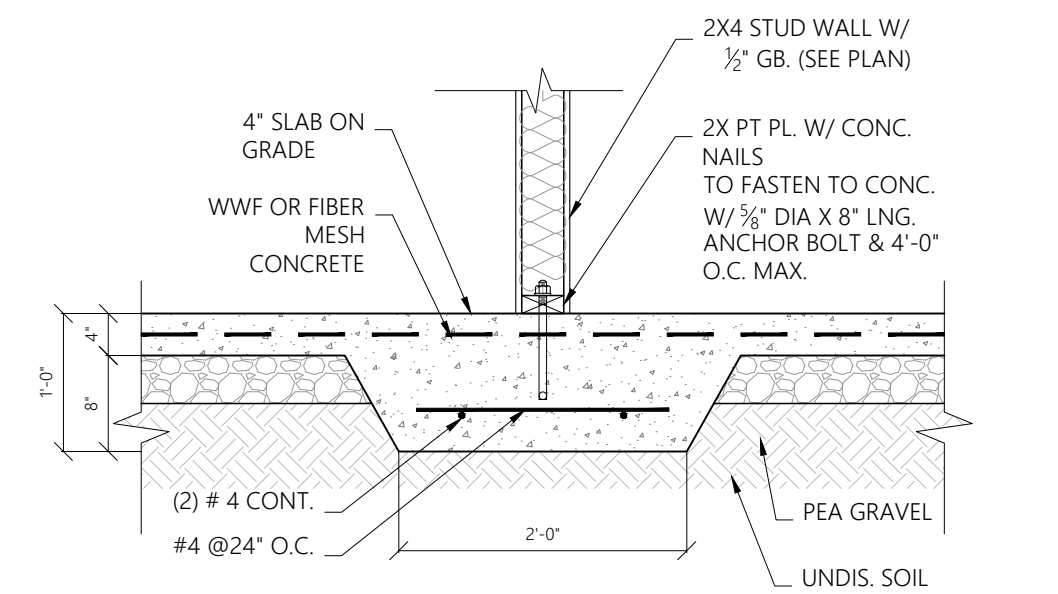


NOTES:  
1) IF CONCRETING IS INTERRUPTED LONG ENOUGH FOR THE PLACED CONCRETE TO HARDEN, PROVIDE A CONSTRUCTION JOINT AS SHOWN ON THIS DETAIL. CONSTRUCTION JOINTS SHALL NOT BE PLACED CLOSER THAN 5'-0" FROM ANY JOINT TO WHICH THEY ARE PARALLEL. THE USE OF ALTERNATIVE CONSTRUCTION JOINTS PER ACI 302.1R-04 MAY BE USED WITH APPROVAL FROM HDS ENGINEERING.

1  
S10

CONTROL JOINT DETAIL

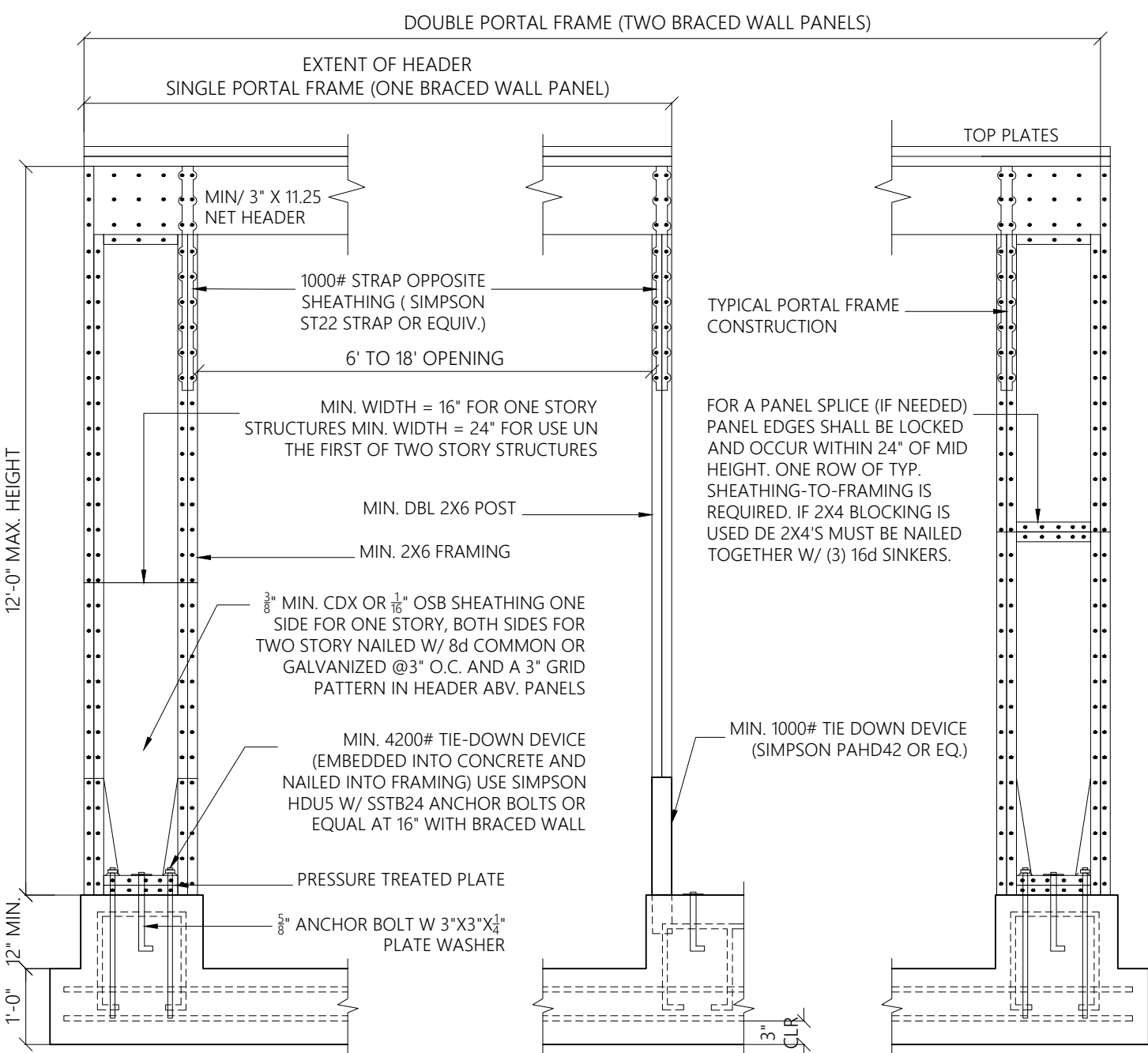
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2  
S10

FOUNDATION DETAIL

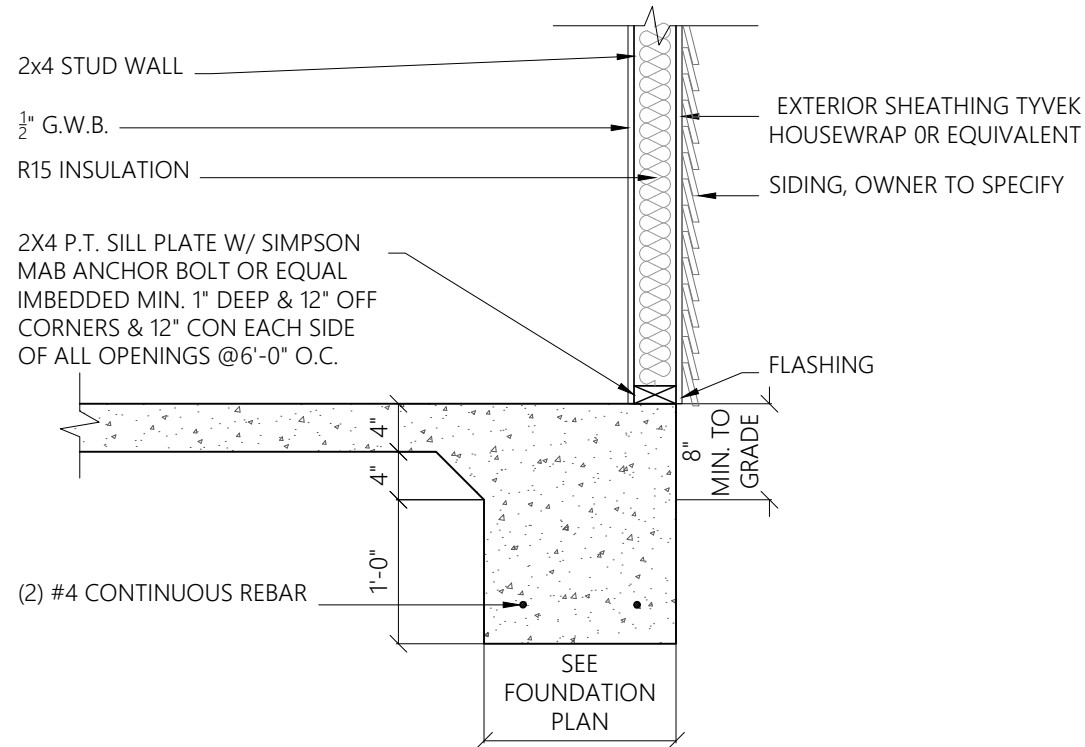
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3  
S10

PORTAL FRAME DETAIL

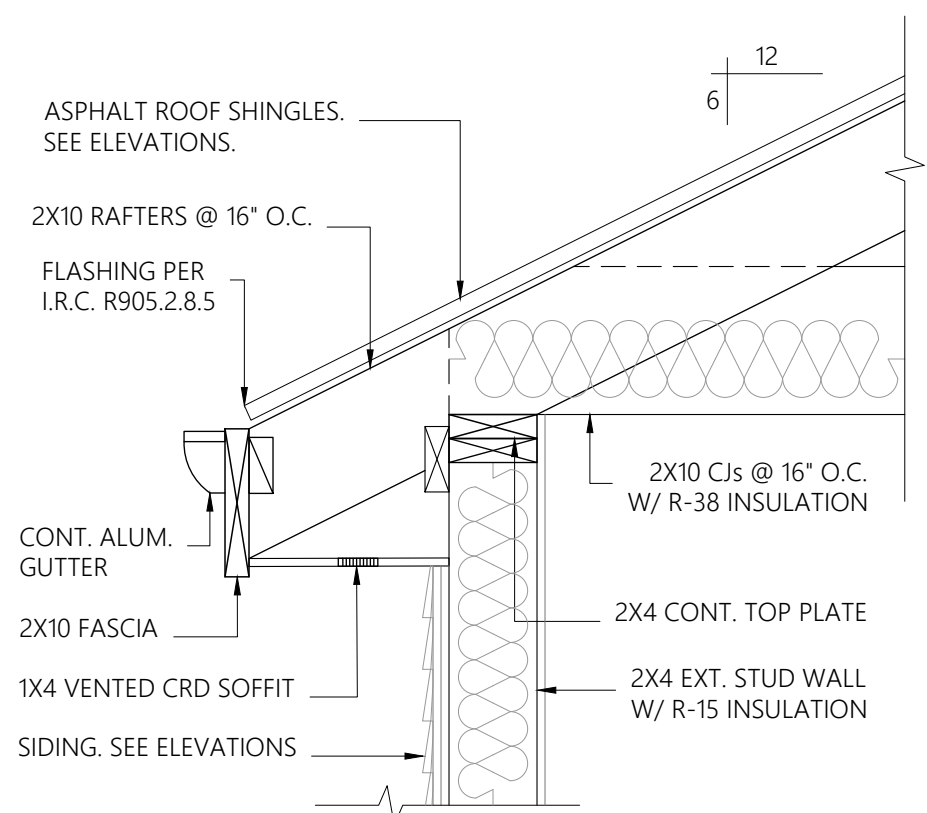
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4  
S10

FOUNDATION DETAIL

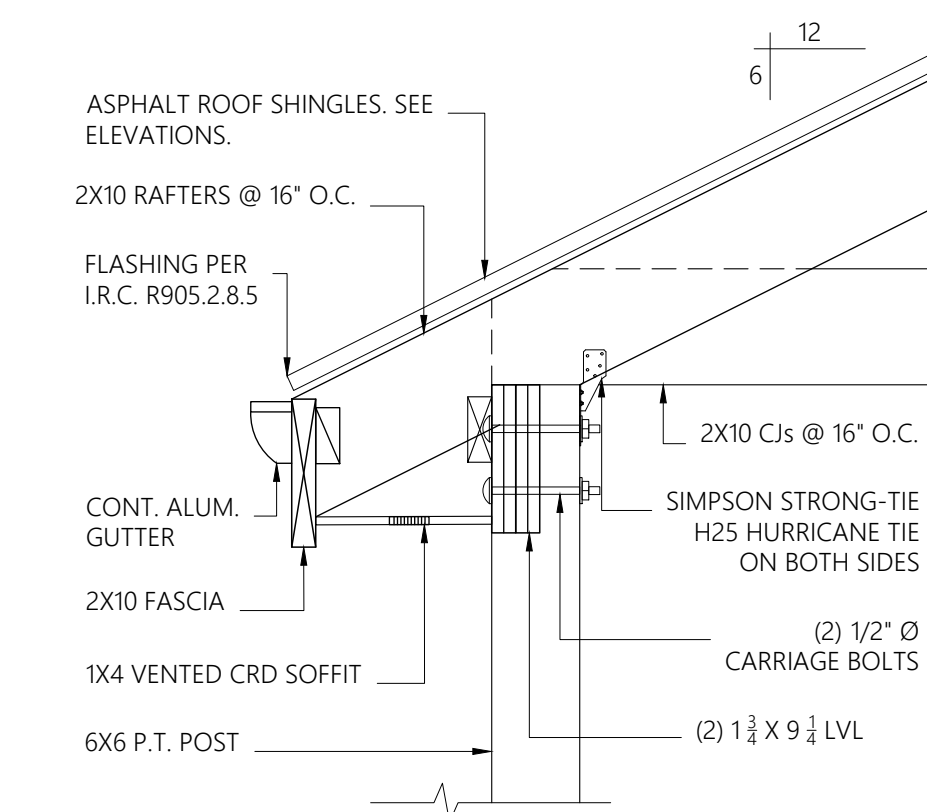
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5  
S10

HOUSE ROOF DETAIL

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

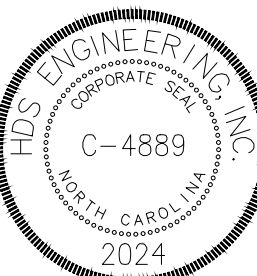


6  
S10

PORCH ROOF DETAIL

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

NOT USED



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REVISIONS

NO. DATE

PLAN INFORMATION

PROJECT NO: 25-186  
FILENAME: RAIFORD DR  
CHECKED BY: HDS  
DRAWN BY: K.I.  
DATE: 04-22-2025

CONTENT

ROOF FRAMING