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ATTIC VENTILATION

2457 = 8.19 sq. ft. REQD. 3*00* BASE, / VENTS = * () -BASE, / VENTS = * (92') - RIDGE VENT @ 9 sq.in./ft. = 5.75 sq. ft. TOTAL = 5.75 sq. ft.

** PROVIDE CONTINUOUS SOFFIT VENT SUUROUND TO EQUAL OR EXCEED <u>4.09 sq. ft.</u> *** (OPT.) PROVIDE THEMOSTATICALLY CONTROLLED POWER VENT TO EQUAL OR EXCEED 4.09 SQ. FT.

CODE INFORMATION

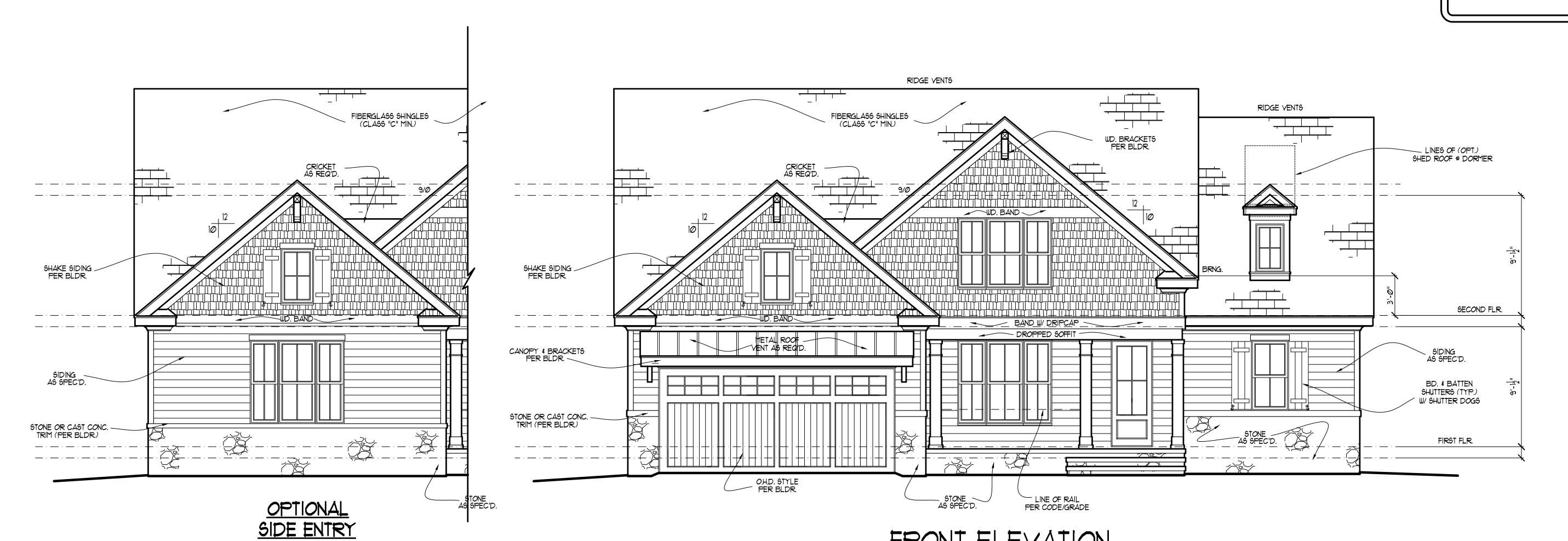
ZONE 7 ZONE 8 ZONE * GLAZING U-FACTOR * R-VALUES CEILING R-38 FLOOR BSMNT, WALL SLAB PERIMETER

* ZONE: (CHECK ONE)

CRAWL SPACE WALL MEAN ROOF HEIGHT 20'-5"

WALL AND ROOF CLADDING DESIGN VALUE: (MEAN ROOF HGT. 30 ft. OR LESS) CRAWL SPACE WALL

+18.0, -24.1 ROOF PITCH 0/12 TO 2.25/12 +10.0, -45.4 ROOF PITCH 2.25/12 TO 7/12 +10.4,-34.8 ROOF PITCH 7/12 TO 12/12 +16.5,-21.0 EXPOSURE ADJUSTMENT



FRONT ELEVATION

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

THESE PLANS MEET THE REQUIREMENTS OF THE INTERNATIONAL RESIDENTIAL CODE '2015' AND THE NORTH CAROLINA RESIDENTIAL CODE '2018' EDITION.

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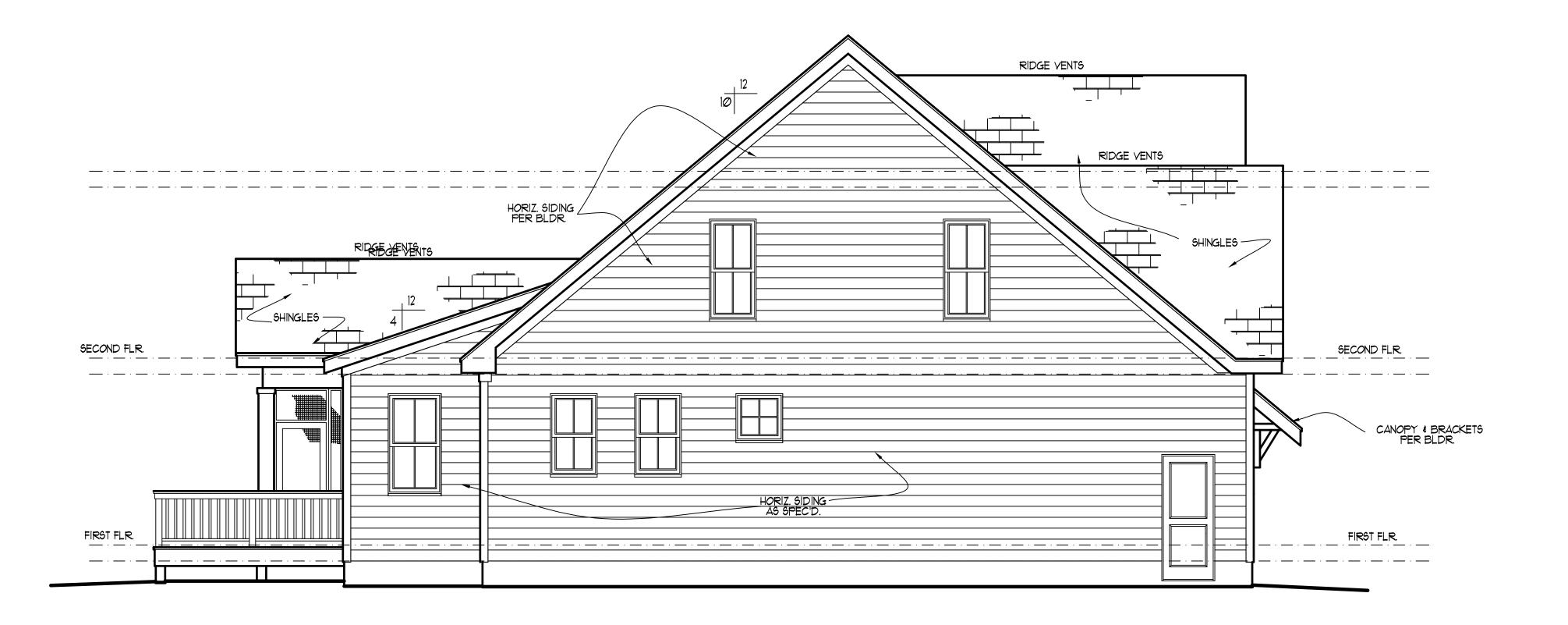
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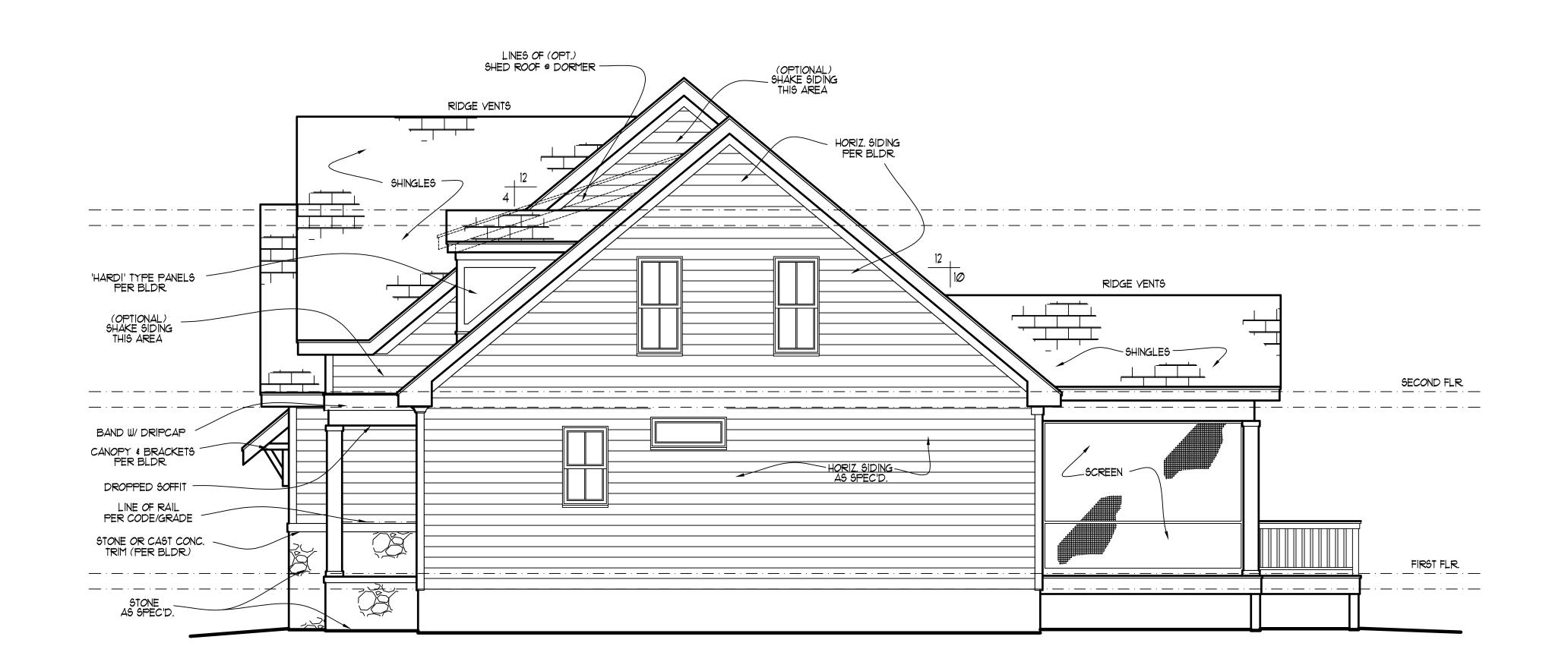
FILE NAME: **5H-2-2884** REVISIONS 5-1-21 TWG PLAN 6-16-22 TWG PLAN 8-4-23 TWG PLAN

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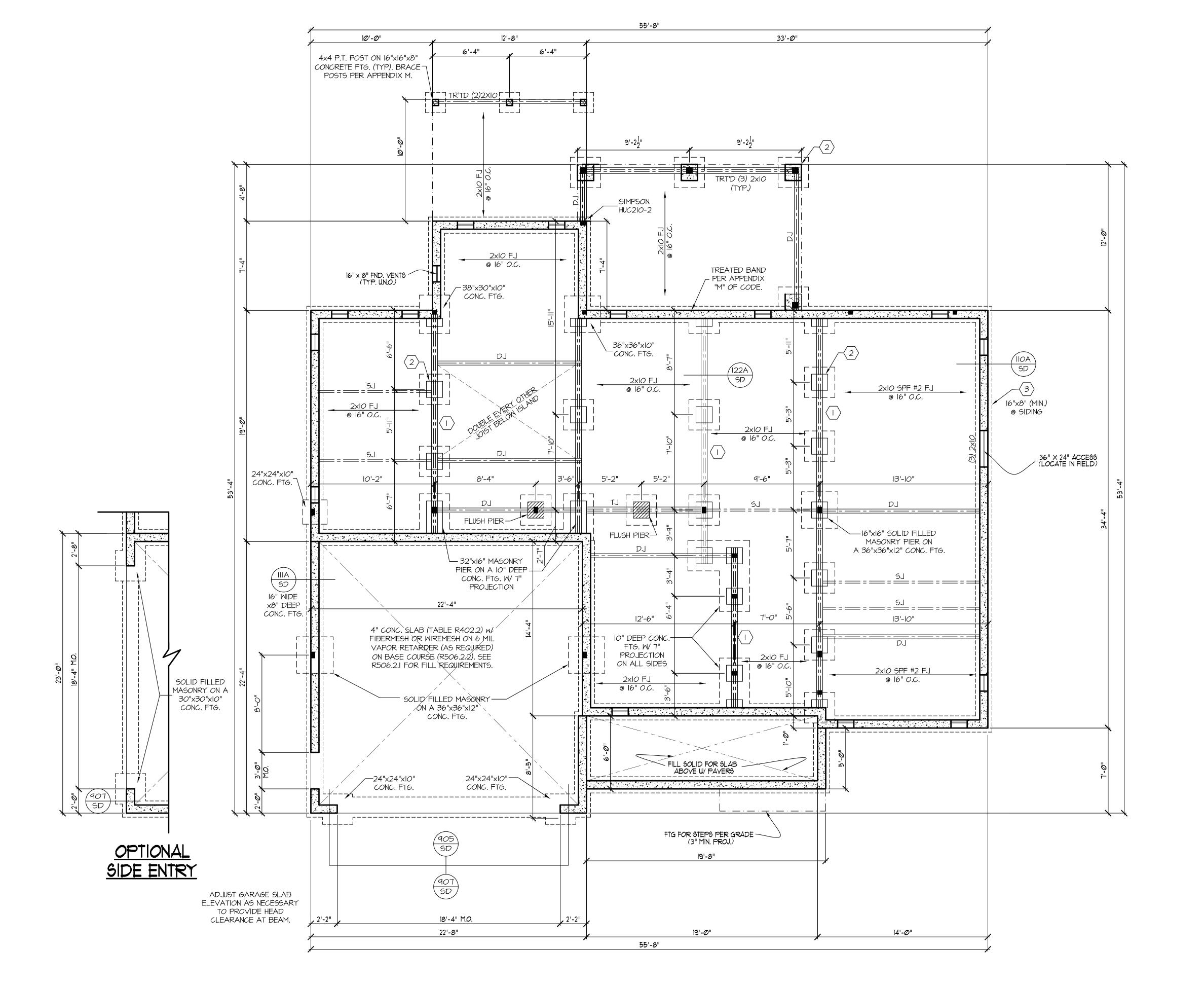
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FND. VENTILATION

1642 = 10.94 sq. ft. REQUIRED*

100

1642 = 1.0 sql. ft. REQUIRED*

WITH APPROVED VAPOR RETARDER MATERIAL AND OPENINGS PLACED FOR CROSS VENTILATION

* ONE VENTILATION OPENING SHALL BE WITHIN 3 FEET OF EACH CORNER OF THE BUILDING

FOUNDATION STRUCTURAL NOTES

NC (2018 NCRC): Wind: 115-120 mph - CRAWL

 $\langle \overline{I}. \rangle$ (3)2xIO SYP#2 OR SPF#2 GIRDER, TYPICAL UNO.

CONCRETE BLOCK PIER SIZE SHALL BE:

SIZE HOLLOW SOLID

AVIA IIB TO 32" IIB TO 5

9 51ZE HOLLOW 50LID
9 8x16 UP TO 32" UP TO 5'-0"
9 12x16 UP TO 48" UP TO 9'-0"
9 16x16 UP TO 64" UP TO 12'-0"

24x24 UP TO 96"
 WITH 30" x 30" x IO" CONCRETE FOOTING, UNO.

(3) WALL FOOTING AS FOLLOWS● DEPTH: 8" - UP TO 2 STORY

IO" - 3 STORY <u>WIDTH:</u> SIDING: I6" - UP TO 2 STORY

20" - 3 STORY BRICK: 16" - 1 STORY 20" - 2 STORY 24" - 3 STORY

• FOR FOUNDATION WALL HEIGHT AND BACKFILL REQUIREMENTS, REFER TO CODE TABLE R404.I.I (I THRU 4) NOTE: ASSUMED SOIL BEARING CAPACITY = 2000 PSF. CONTRACTOR MUST VERIFY SITE CONDITIONS AND CONTACT SOILS ENGINEER IF MARGINAL OR UNSTABLE SOILS ARE ENCOUNTERED.

(4) 2xIO SPF #2 OR SYP #2 GIRDER

(5) (2) 1.75x9.25 LVL OR LSL GIRDER

(3) 1.75x9.25 LVL OR LSL GIRDER

7. "" DESIGNATES A SIGNIFICANT POINT LOAD TO HAVE SOLID BLOCKING TO PIER. SOLID BLOCK ALL BEAM BEARING POINTS NOTED TO HAVE THREE OR MORE STUDS TO FND, TYPICAL.

8. ABBREVIATIONS:

"SJ" = SINGLE JOIST"D !" = DOUBLE JOIST

"DJ" = DOUBLE JOIST"TJ" = TRIPLE JOIST

9. ADJUST SUBFLOOR THICKNESS OR JOIST SPACING

AS REQ'D FOR FLOOR FINISH MATERIALS.

FRAMING NOTE: ALL DIMENSIONAL LUMBER ON THIS SHEET MAY BE SPF #2 OR SYP #2, UNLESS SPECIFICALLY NOTED OTHERWISE.

REFER TO "SD" SHEET(S) FOR STANDARD DETAILS, BRACING DETAILS AND STRUCTURAL NOTES.

STRUCTURAL DESIGN BY:
SOUTHERN ENGINEERS, P.A.
3716 BENSON DRIVE RALEIGH, NC 27609
LICENSE: C-4772, PHONE: 919-878-1617
PROJECT #: 23-1746

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Seal is valid for a project permitted within one year from date of seal.

 Its of these plans constitutes approval of terms.

 Use of these plans constitutes approval of terms and conditions as defined in the customer agreement.

FOUNDATION PLAN SCALE: ----- V4"=1"-0"

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OO NEWAKE LAKM KOAD NORTH CAROLINA 27511 -9115 FAX; (919) 481-697

CARY, NORTH CA (919) 481-9115 FAX

GARNOW

MURPHY

TTON FARMS

DRAWN BY: TWG DATE: 2-26-19

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FILE NAME: SH-2-2884
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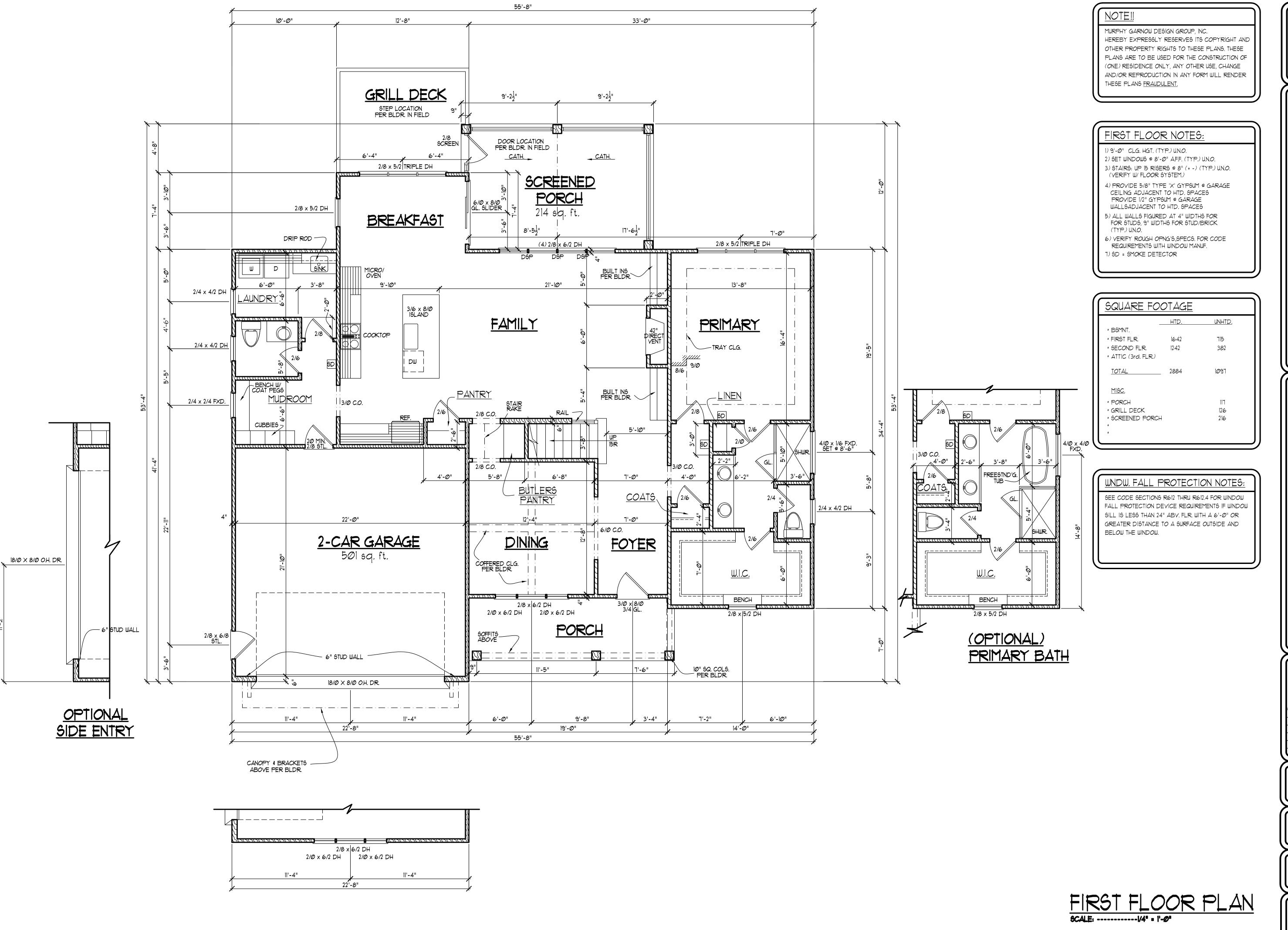
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GARNOW DESIGN GROUP, IN

) KILDAIRE FARM ROAD)PRTH CAROLINA 27511 15 FAX; (919) 481-697(

MURPHY G

COTTON FARMS

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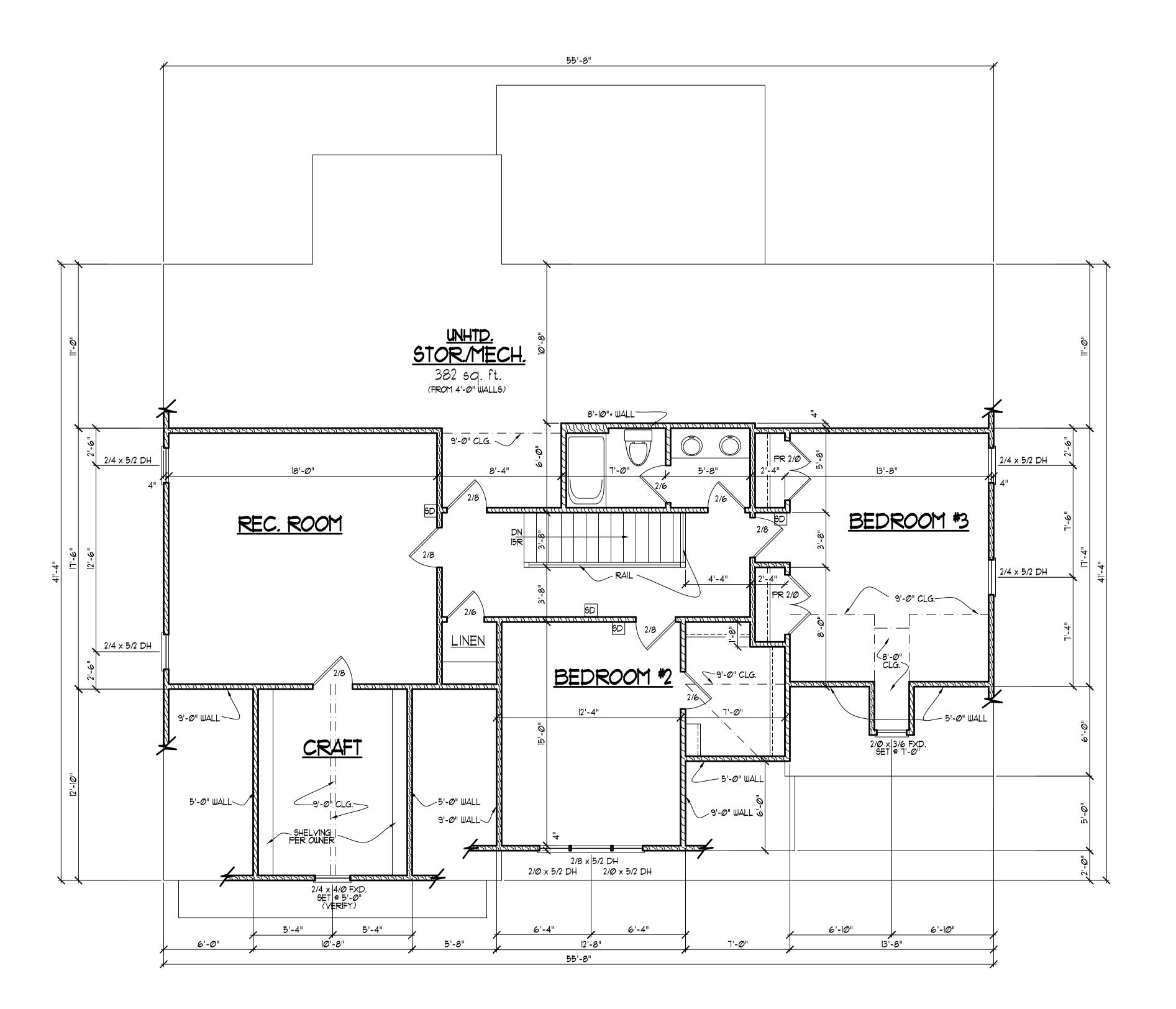
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SECOND FLOOR NOTES:

1) 9'-0" CLG. HGT. (TYP.) U.N.O.

2) SET WINDOWS @ 7'-4' A.F.F. (TYP.) U.N.O.

3) STAIRS: N/A (VERIFY ATTIC ACCESS W/ BLDR.)

4) ALL WALLS FIGURED AT 4" WIDTHS FOR FOR STUDS, 9" WIDTHS FOR STUD/BRICK (TYP.) U.N.O.

5) VERIFY ROUGH OPNG'S,SPECS. FOR CODE REQUIREMENTS WITH WINDOW MANUF.

6) SD = SMOKE DETECTOR

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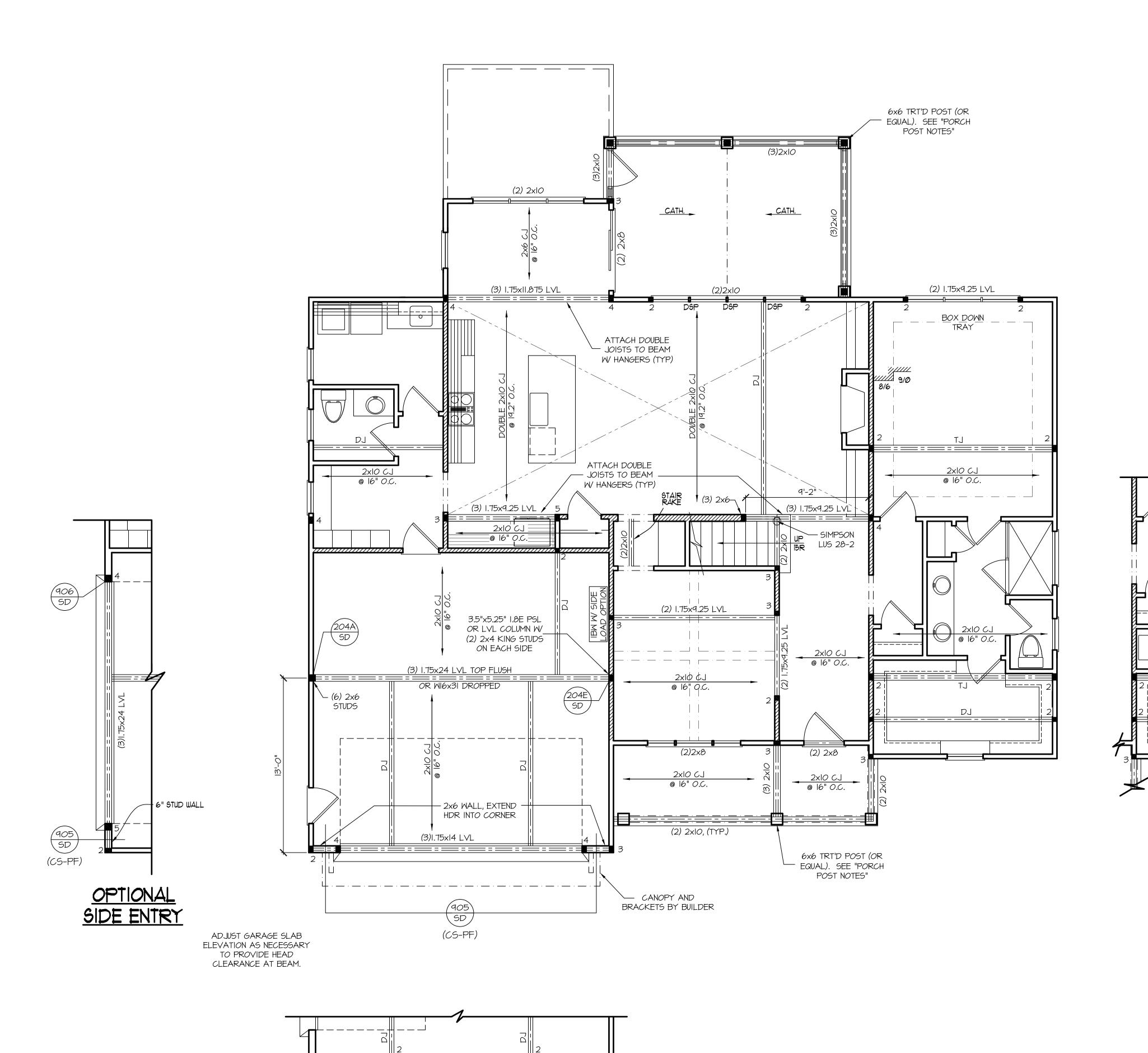
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SECOND FLOOR PLAN

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



(2)2x10

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PORCH POST NOTES:

4X4 (6x6) TRT'D POST (OR EQUAL). ATTACH TRUSSES (RAFTERS) AT PORCH WITH HURRICANE CONNECTORS. POST CAP: SIMPSON AC4-MAX (AC6-MAX)

POST CAP AT CORNER: (2) SIMPSON LCE4 (MITER HEADER AT CORNER). HIGH WIND; ADD (1) SIMPSON H6.

. <u>POST BASE</u>: SIMPSON ABU44 (ABU66). 3.1. <u>MONO:</u> %" ANCHOR (EMBED 7") 3.2. <u>CMU</u>: %" ANCHOR (EXTEND TO FOOTING -

HIGH WIND ONLY) POST BASE: WOOD FOUNDATION: (2) SIMPSON CSI6 STRAPS AT POSTS. EXTEND 12" ONTO EACH POST (UPPER AND LOWER) OR TO GIRDER.

NOTE: THE ABOVE CONNECTORS ARE SUGGESTIONS. EQUIVALENT CONNECTORS THAT MEET THE REQUIREMENTS OF THE NO RESIDENTIAL BUILDING CODE, LOCAL CODES, AND/OR ARE APPROVED BY THE BUILDING INSPECTOR MAY BE SUBSTITUTED.

(OPTIONAL)

PRIMARY BATH

FRAMING NOTES

NC (2018 NCRC): Wind: 115-120 mph

BRACING METHOD AND TYPE: CONTINUOUSLY SHEATHED WSP: CS-WSP. NOTE THAT THE WALL BRACING AMOUNT PROVIDED ON THE PLANS (DETAILS AND SPECIFICATIONS) IS GREATER THAN THE AMOUNT OF WALL BRACING REQUIRED BY SECTION R602.10 OF THE CODE. SEE NOTES BELOW FOR DETAILS AND SPECIFICATIONS FOR WALL BRACING AND WALL FRAMING.

ATTACHED WITH 8d NAILS AT A 6"/I2" NAILING PATTERN (6" OC AT PANEL EDGES AND 12" OC AT INTERMEDIATE SUPPORTS). INSTALL BLOCKING AT ALL PANEL EDGES.

WSP SHEATHING SHALL EXTEND TO THE UPPERMOST DOUBLE BEARING PLATE. BLOCK AT ROOF PER SECTION R602.10.4.5 AND ATTACH BRACED WALLS PER CODE. WSP SHEATHING BETWEEN FLOORS SHALL BE SPLICED ALONG CONTINUOUS BAND OR THE WSP SHEATHING MAY BE SPLICED ACROSS STUDS (CONTINUOUS ACROSS FLOOR SYSTEM) WITH BLOCKING AT PANEL EDGES. (MINIMUM 12" BEYOND FLOOR BREAK) OR OTHER APPROVED METHOD.

"HD" = HOLDOWN: HOLD-DOWN DEVICE (NOTED AS "HD" ON PLANS) SHALL BE AN 800 POUND CAPACITY ASSEMBLY AS NOTED ON PLANS. SEE DETAILS FOR HD ASSEMBLY. **GROUND/FIRST FLOOR: USE "HD HOLD-DOWN DETAIL" ON SD SHEET

**UPPER FLOORS: ATTACH BASE OF KING STUD WITH A SIMPSON CS20 OR CSHP20 STRAP DOWN ACROSS THE BAND AND DOWN TO A STUD (OR HEADER) AND ATTACH EACH END W/ (7) 8d NAILS.

INTERIOR BRACED WALL: (NOTED AS "IBW" ON PLANS) ATTACH I/2" GYPSUM BOARD (GB) ON EACH SIDE OF WALL WITH A MIN. OF 5d COOLER NAILS OR #6 SCREWS @ 7" O.C. ALONG THE EDGES AND AT INTERMEDIATE SUPPORTS. SEE SECTION R602.10.4.4 OF THE CODE.

INTERIOR BRACED WALL-WOOD STRUCTURAL PANEL: (NOTED AS "IBW-WSP" ON PLANS). ATTACH ONE SIDE WITH 1/6" WSP SHEATHING WITH 8d NAILS AT A 6"/12" NAILING PATTERN (6" OC AT PANEL EDGES AND 12" OC AT INTERMEDIATE SUPPORTS). INSTALL BLOCKING AT ALL PANEL EDGES. ATTACH GB OVER WSP AS REQUIRED. ATTACH OPPOSITE SIDE WITH I/2" GB WITH A MIN. OF 5d COOLER NAILS OR #6 SCREWS @ 7" OC ALONG THE EDGES AND AT INTERMEDIATE SUPPORTS. SEE SECTION R602.10.4.4 OF THE CODE.

> ALL EXTERIOR AND LOAD BEARING HEADERS OTHERWISE.

THE NUMBER SHOWN AT BEAM AND HEADER SUPPORTS INDICATES THE NUMBER OF SUPPORT STUDS REQUIRED IN STUD POCKET OR COLUMN. THE NUMBER OF KING STUDS AT EACH END OF HEADERS IN EXTERIOR WALLS SHALL BE ACCORDING TO ITEM "d" IN TABLE R602.3(5) OR AS BELOW PER NCDOI COMMENTARY "KING

OVER 3' UP TO 6' SPAN: (2) KING STUDS

OVER 6' UP TO 9' SPAN: (3) KING STUDS OVER 9' UP TO 12' SPAN: (4) KING STUDS

FRAMING NOTE: ALL DIMENSIONAL LUMBER ON THIS SHEET MAY BE SPF #2 OR SYP #2,

REFER TO "SD" SHEET(S) FOR STANDARD DETAILS, BRACING DETAILS AND STRUCTURAL NOTES.

STRUCTURAL DESIGN BY: SOUTHERN ENGINEERS, P.A. 3716 BENSON DRIVE RALEIGH, NC 27609 LICENSE: C-4772, PHONE: 919-878-1617 PROJECT #: 23-1746

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FIRST FLOOR CEILING STRUCTURAL PLAN SCALE: ----- 1/4" • 1'-0"

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EXTERIOR WALL SHEATHING: WALLS SHALL BE BRACED BY SHEATHING WALLS ON ALL STORIES WITH WOOD STRUCTURAL PANEL SHEATHING (MSP) (EXPOSURE B: 7/16". EXPOSURE C: 15/32"). SHEATHING SHALL BE

STUD BELOW OR HEADER BELOW. EXTEND STRAP 7" MIN ALONG EACH

HEADER/BEAM & COLUMN NOTES

SHALL BE MIN. (2)2x6 (4" WALL) OR (3)2x6 (6" WALL) WITH (I) SUPPORT STUD, UNLESS NOTED

STUDS AT WALL OPENINGS" REVISED 1-9-2020:

•• UP TO 3' SPAN: (I) KING STUD

•• OVER 12' UP TO 15' SPAN: (5) KING STUDS

UNLESS SPECIFICALLY NOTED OTHERWISE.

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FRAMING NOTES

NC (2018 NCRC): Wind: 115-120 mph

BRACING METHOD AND TYPE: CONTINUOUSLY SHEATHED WSP: CS-WSP. NOTE THAT THE WALL BRACING AMOUNT PROVIDED ON THE PLANS (DETAILS AND SPECIFICATIONS) IS GREATER THAN THE AMOUNT OF WALL BRACING REQUIRED BY SECTION R602.10 OF THE CODE. SEE NOTES BELOW FOR DETAILS AND SPECIFICATIONS FOR WALL BRACING AND WALL FRAMING.

- EXTERIOR WALL SHEATHING: WALLS SHALL BE BRACED BY SHEATHING WALLS ON ALL STORIES WITH WOOD STRUCTURAL PANEL SHEATHING (MSP) (EXPOSURE B: 7/16". EXPOSURE C: 15/32"). SHEATHING SHALL BE ATTACHED WITH 8d NAILS AT A 6"/12" NAILING PATTERN (6" OC AT PANEL EDGES AND 12" OC AT INTERMEDIATE SUPPORTS). INSTALL BLOCKING AT ALL PANEL EDGES.
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- "HD" = HOLDOWN: HOLD-DOWN DEVICE (NOTED AS "HD" ON PLANS) SHALL BE AN 800 POUND CAPACITY ASSEMBLY AS NOTED ON PLANS. SEE DETAILS FOR HD ASSEMBLY. **GROUND/FIRST FLOOR: USE "HD HOLD-DOWN DETAIL" ON SD SHEET
- **UPPER FLOORS: ATTACH BASE OF KING STUD WITH A SIMPSON CS20 OR CSHP20 STRAP DOWN ACROSS THE BAND AND DOWN TO A STUD BELOW OR HEADER BELOW. EXTEND STRAP 7" MIN ALONG EACH STUD (OR HEADER) AND ATTACH EACH END W/ (7) 8d NAILS.
- INTERIOR BRACED WALL: (NOTED AS "IBW" ON PLANS) ATTACH 1/2" GYPSUM BOARD (GB) ON EACH SIDE OF WALL WITH A MIN. OF 5d COOLER NAILS OR #6 SCREWS @ 7" O.C. ALONG THE EDGES AND AT INTERMEDIATE SUPPORTS. SEE SECTION R602.10.4.4 OF THE CODE.
- INTERIOR BRACED WALL-WOOD STRUCTURAL PANEL: (NOTED AS "IBW-WSP" ON PLANS). ATTACH ONE SIDE WITH 1/6" WSP SHEATHING WITH 8d NAILS AT A 6"/12" NAILING PATTERN (6" OC AT PANEL EDGES AND 12" OC AT INTERMEDIATE SUPPORTS). INSTALL BLOCKING AT ALL PANEL EDGES. ATTACH GB OVER WSP AS REQUIRED. ATTACH OPPOSITE SIDE WITH I/2" GB WITH A MIN. OF 5d COOLER NAILS OR #6 SCREWS @ 7" OC ALONG THE EDGES AND AT INTERMEDIATE SUPPORTS. SEE SECTION R602.10.4.4 OF THE CODE.

HEADER/BEAM & COLUMN NOTES

- ALL EXTERIOR AND LOAD BEARING HEADERS SHALL BE MIN. (2)2x6 (4" WALL) OR (3)2x6 (6" WALL) WITH (I) SUPPORT STUD, UNLESS NOTED OTHERWISE.
- THE NUMBER SHOWN AT BEAM AND HEADER SUPPORTS INDICATES THE NUMBER OF SUPPORT STUDS REQUIRED IN STUD POCKET OR COLUMN. THE NUMBER OF KING STUDS AT EACH END OF HEADERS IN EXTERIOR WALLS SHALL BE ACCORDING TO ITEM "d" IN TABLE R602.3(5) OR AS BELOW PER NCDOI COMMENTARY "KING STUDS AT WALL OPENINGS" REVISED 1-9-2020:
- •• UP TO 3' SPAN: (I) KING STUD • OVER 3' UP TO 6' SPAN: (2) KING STUDS
- OVER 6' UP TO 9' SPAN: (3) KING STUDS OVER 9' UP TO 12' SPAN: (4) KING STUDS

•• OVER 12' UP TO 15' SPAN: (5) KING STUDS

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REFER TO "SD" SHEET(S) FOR STANDARD DETAILS, BRACING DETAILS AND STRUCTURAL NOTES.

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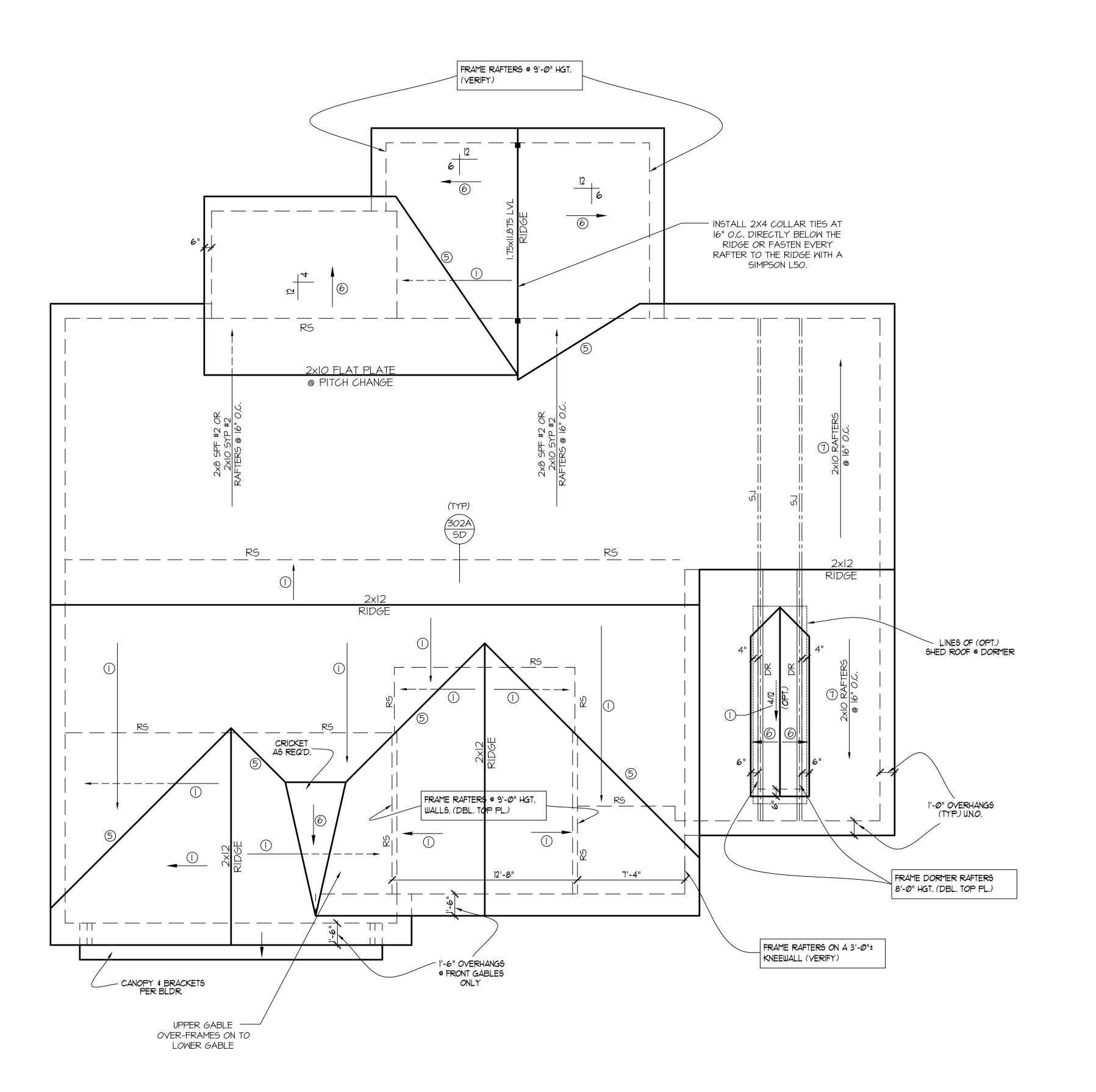
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ROOF FRAMING NOTES:

- 1) ALLROOF PITCHES TO BE 10/12 (TYP.) UN.O.
 2) PROVIDE 2x4 COLLAR BEAMS EVERYOTHER RAFTER (TYP.)
- 3) PROVIDE "HURRICANE CLIPS" AT ALL VALLEYS AND OPPPOSING DBL. RAFTERS
- 4) PROVIDE DBL. HEADERS ABD TRIMMERS AT ALL ROOF OPENINGS (EX: DORMERS, SKYLIGHTS, CHIMNEYS, ETC.)
- 5) 2x8 RAFTERS @ CATH. OR VAULTED CLGS. TO BE FURRED DOWN OR USE DEEPER RAFTERS (VERIFY BRNG. HGT.) FOR PROPER INSULATION PER CODE
- 6) VERIFY ALL RAFTER BRNG. HGTS. BEFORE CONSTR. HAS BEGUN

ROOF FRAMING NOTES:

- NC (2018 NCRC): Wind: 115-120 mph
- 1. 2x8 RAFTERS @ 16" O.C. WITH 2x10 RIDGE, UNO.
- (2) 2xIO OR 1.75xII.875 LVL HIP. (2) 2xIO HIPS MAY BE SPLICED WITH A MIN. 6'-O" OVERLAP AT CENTER
- (2) 2xIO OR 1.75x9.25 LVL VALLEY. DO NOT SPLICE VALLEYS
- (4) 1.75x11.875 LVL OR (2)1.75x9.25 LVL VALLEY(5) FALSE FRAME VALLEY ON 2x10 FLAT PLATE
- (6) 2x6 RAFTERS @ 16" O.C. W 2x8 RIDGE, UNO.
- 7. 2x10 RAFTERS @ 16" O.C. W/ 2x12 RIDGE, UNO.
- 8) EXTEND RIDGE 12" BEYOND INTERSECTION
- "SR" = SINGLE RAFTER"DR" = DOUBLE RAFTER
- "DR" = DOUBLE RAFTER"TR" = TRIPLE RAFTER
- "IR" = IRIPLE RAFTER"RS" = ROOF SUPPORT
- "■" = (3) STUD OR 4x4 POST FOR ROOF SUPPORT (USE 2x6 STUDS OR 6x6 POST FOR SUPPORT OVER 10'-0" IN
- ATTACH VAULTED RAFTERS WITH HURRICANE CLIPS:
 SIMPSON "H-2.5A" OR EQUIVALENT. TIES TO BE INSTALLED
- ON THE OUTSIDE FACE OF FRAMING.
 INSTALL RAFTER TIES AND COLLAR TIES PER SECTION R802.3.I OF THE 2018 NC RESIDENTIAL CODE.

FRAMING NOTE: ALL DIMENSIONAL LUMBER
ON THIS SHEET MAY BE SPF #2 OR SYP #2

UNLESS SPECIFICALLY NOTED OTHERWISE.

REFER TO "SD" SHEET(S) FOR STANDARD DETAILS, BRACING DETAILS AND STRUCTURAL NOTES.

STRUCTURAL DESIGN BY:
SOUTHERN ENGINEERS, P.A.
3716 BENSON DRIVE RALEIGH, NC 27609
LICENSE: C-4772, PHONE: 919-878-1617
PROJECT #: 23-1746

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 Any deviations or discrepancies on plans are to be
- Any deviations or discrepancies on plans are to be brought to the immediate attention of Southern Engineers. Failure to do so will void Southern Engineer's liability.
- Seal is valid for a project permitted within one year from date of seal.
 Use of these plans constitutes approval of terms and conditions as defined in the customer agreement.



THESE PLANS MEET THE REQUIREMENTS OF THE NORTH CAROLINA RESIDENTIAL CODE '2018' EDITION. ALL DIMENSIONS, SITE
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CARY, NORTH CAROLINA 319) 481-9115 FAX; (919)

OTTON FARMS LOT #42

DRAWN BY: TWG

DATE: **2-26-19** FILE NAME: **5H-2-2884**

REVISIONS 5-7-21 TWG PLAN 4-20-22 TWG PLAN 8-4-23 TWG PLAN

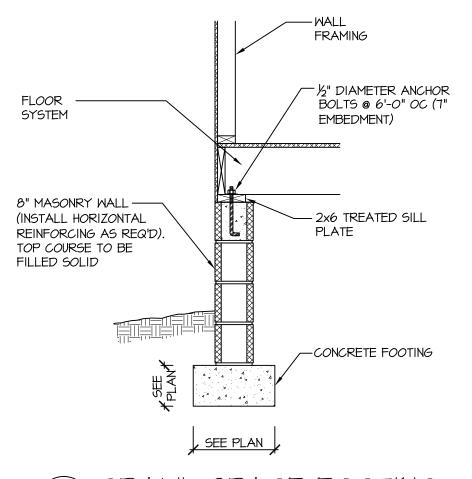
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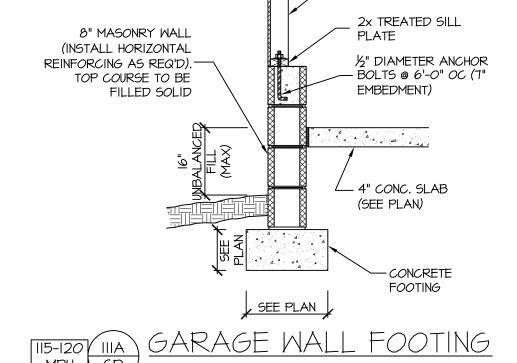
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HOUSE NUMBER:

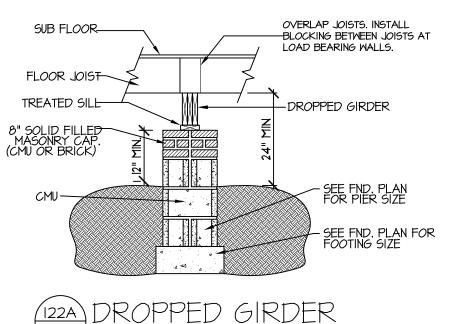
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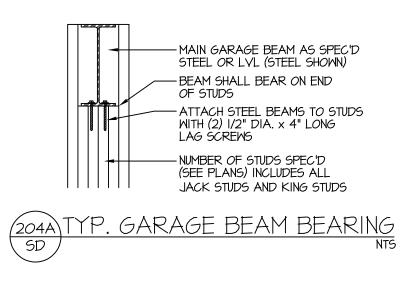
3 of 8



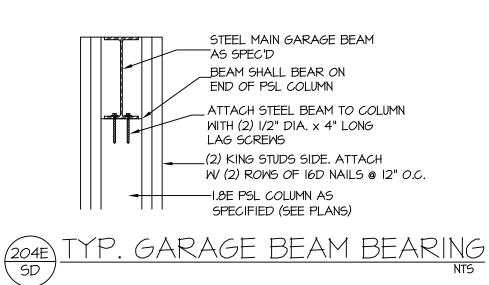


FRAMING









HEADER).

TREATED SILLPLATE -

½" ANCHOR BOLTS PER

R403.1.6 WITH 2"x2"x36"-PLATE WASHERS.

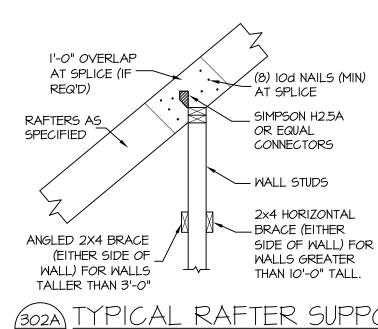
NOTE: FOR CMU APPLICATIONS AT GARAGE DOORS, ANCHOR BOLTS SHALL

TO FOOTING (PER NCRC FIGURE

DETAIL ON STRUCTURAL PLANS)

BE %" DIAMETER AND SHALL EXTEND

R602.10.4.3 (SEE GARAGE "WING WALL"





MIN 1/6" THICK WOOD
STRUCTURAL PANEL

- TREATED SILLPLATE

SHEATHING

EXTERIOR VIEW

-EXTEND SHEATHING TO

SILL PLATE (DO NOT

8d NAILS @ 3" OC TOP

AND BOTTOM

SPLICE)

MSP OVERLAP OPTION

PANEL EDGES SHALL BE BLOCKED AND OCCUR WITHIN 24" OF MID-HEIGHT. ONE ROW OF TYP. SHEATHING-TO-FRAMING NAILING IS REQ'D (3" OC). ATTACH BLOCKING TOGETHER W

FOOTING / FOUNDATION (SEE

CS-PF - OVER WOOD FLOOR

CS-PF: CONTINUOUS PORTAL FRAME CONSTRUCTION

(3) 16d SINKERS.

- OPTIONAL CURB: CURB HEIGHT (MAX): 6"

INTERIOR VIEW

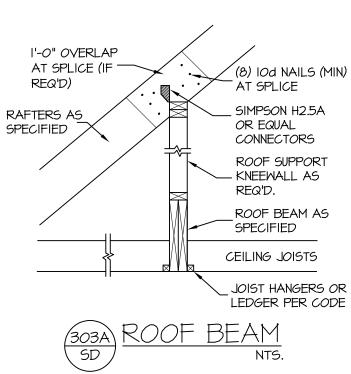
FRAMING ANCHOR OPTION

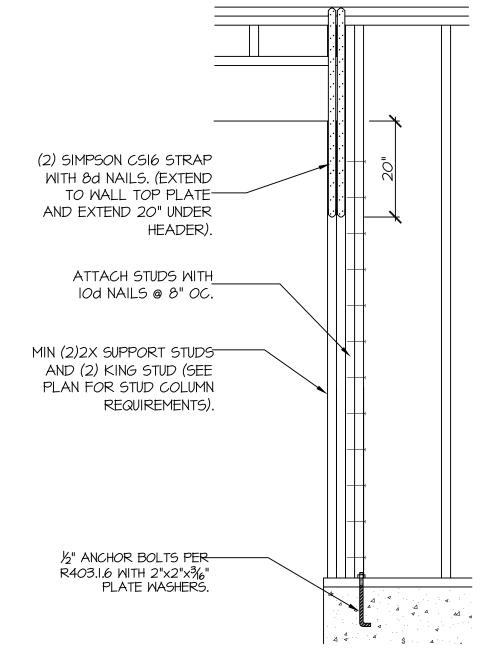
DETAIL AND APPLICATION BASED ON NORC FIGURE

R602.IO.I - PORTAL FRAME CONSTRUCTION

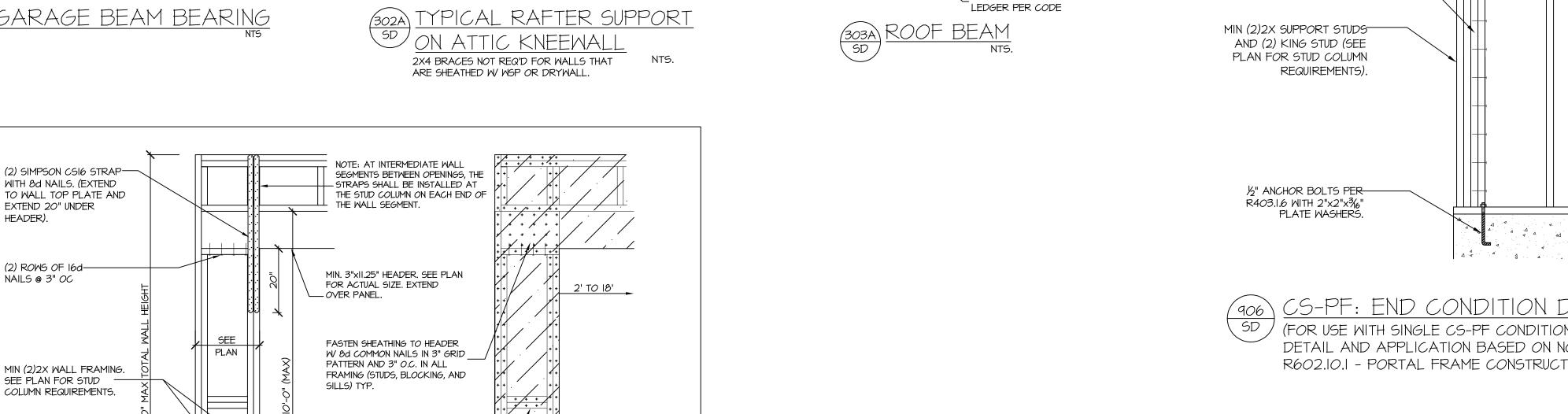
SIMPSON LTP4 FRAMING

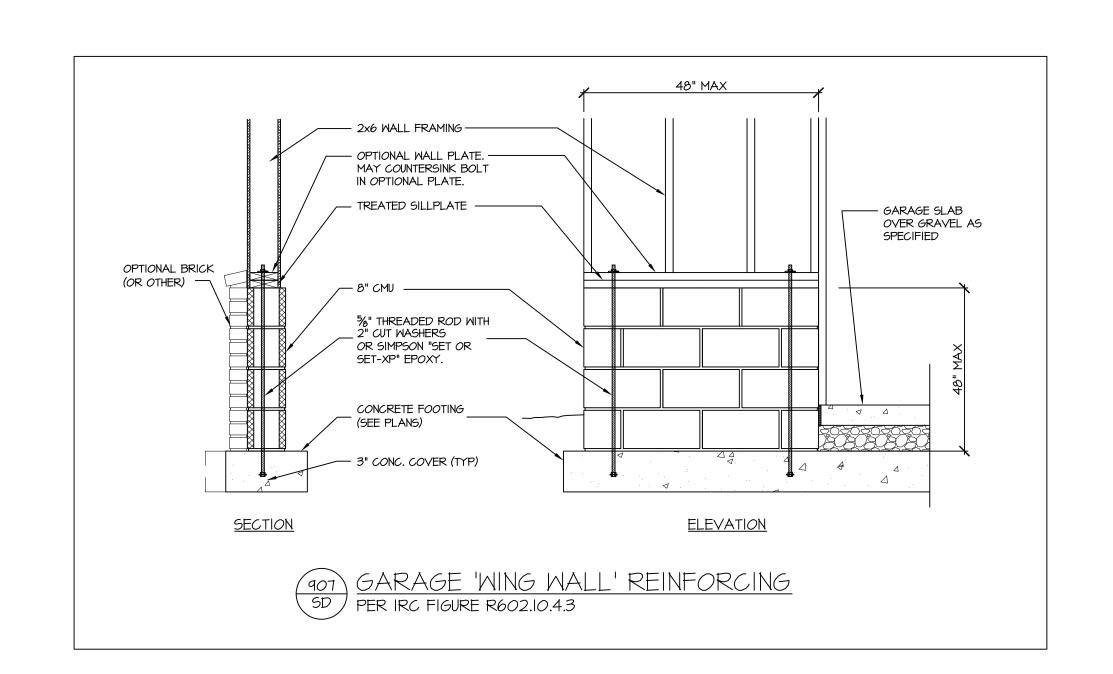
ANCHOR





CS-PF: END CONDITION DETAIL (FOR USE WITH SINGLE CS-PF CONDITION) DETAIL AND APPLICATION BASED ON NORC FIGURE R602.IO.I - PORTAL FRAME CONSTRUCTION





STRUCTURAL NOTES NC (2018 NCRC): Wind: 115-120 mph

I. ENGINEER'S SEAL APPLIES ONLY TO STRUCTURAL COMPONENTS INCLUDING ROOF RAFTERS, HIPS, VALLEYS, RIDGES, FLOORS, WALLS, BEAMS AND HEADERS, COLUMNS, CANTILEVERS, OFFSET LOAD BEARING WALLS, PIER & GIRDER SYSTEM, FOOTING, AND PILING SYSTEM. ENGINEER'S SEAL DOES NOT CERTIFY DIMENSIONAL ACCURACY OR ARCHITECTURAL LAYOUT INCLUDING ROOF SYSTEM. ALL REQUIREMENTS FOR PROFESSIONAL CERTIFICATION SHALL BE PROVIDED BY THE APPROPRIATE PROFESSIONAL. SOUTHERN ENGINEERS, P.A. CERTIFIES ONLY THE STRUCTURAL COMPONENTS AS SPECIFICALLY STATED.

2. ALL CONSTRUCTION SHALL CONFORM TO THE LATEST REQUIREMENTS OF THE 2018 NC RESIDENTIAL CODE, PLUS ALL LOCAL CODES AND REGULATIONS. THE STRUCTURAL ENGINEER IS NOT RESPONSIBLE FOR, AND WILL NOT HAVE CONTROL OF, CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES, OR FOR SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE CONSTRUCTION WORK, NOR WILL THE ENGINEER BE RESPONSIBLE FOR THE CONTRACTOR'S FAILURE TO CARRY OUT THE CONSTRUCTION WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. "CONSTRUCTION REVIEW" SERVICES ARE NOT PART OF OUR CONTRACT. ALL MEMBERS SHALL BE FRAMED ANCHORED, TIED AND BRACED IN ACCORDANCE WITH GOOD CONSTRUCTION PRACTICE AND THE BUILDING CODE.

3. DESIGN LOADS (LISTED AS: LIVE LOAD, DEAD LOAD, DEFLECTION)

- ROOMS OTHER THAN SLEEPING ROOMS: (40 PSF, IO PSF, L/360)
- SLEEPING ROOMS: (30 PSF, IO PSF, L/360)
- ATTIC WITH PERMANENT STAIR: (40 PSF, IO PSF, L/360) ATTIC WITHOUT PERMANENT STAIR: (20 PSF, IO PSF, L/360)
- ATTIC WITHOUT STORAGE: (10 PSF, 10 PSF, L/240)
- STAIRS: (40 PSF, I0 PSF, L/360)

LATERAL LOADS.

- DECKS AND EXTERIOR BALCONIES: (40 PSF, IO PSF, L/360)
- PASSENGER VEHICLE GARAGES: (50 PSF, IO PSF, L/360)
- SNOW: (20 PSF) 4. WALLS SHALL BE BRACED BY SHEATHING WALLS ON ALL STORIES WITH WOOD STRUCTURAL
- PANELS. SEE FRAMING NOTES FOR THICKNESS AND NAILING REQUIREMENTS. 5. SEE APPENDIX M (DCA6) FOR EXTERIOR DECK REQUIREMENTS INCLUDING ATTACHMENTS FOR
- 6. CONCRETE SHALL HAVE A MINIMUM 28 DAY STRENGTH OF 3000 PSI AND A MAXIMUM SLUMP OF 5 INCHES UNLESS NOTED OTHERWISE (UNO). AIR ENTRAINED PER TABLE 402.2. ALL CONCRETE SHALL BE PROPORTIONED, MIXED, HANDLED, SAMPLED, TESTED, AND PLACED IN ACCORDANCE WITH ACI STANDARDS. ALL SAMPLES FOR PUMPING SHALL BE TAKEN FROM THE EXIT END OF THE PUMP. CONTROL JOINTS IN SLABS SHALL BE SPACED ON A GRID OF +-30 TIMES THE DEPTH (D). CONTROL JOINTS SHALL BE SAWCUT TO A DEPTH OF I/D. (I.E. 4" CONCRETE SLABS SHALL HAVE 4" DEEP CONTROL JOINTS SAWCUT IN SLAB ON A +-10'-0" x +-10'-0" GRID).
- 7. ALLOWABLE SOIL BEARING PRESSURE ASSUMED TO BE 2000 PSF. THE CONTRACTOR MUST CONTACT A GEOTECHNICAL ENGINEER AND THE STRUCTURAL ENGINEER IF UNSATISFACTORY SUBSURFACE CONDITIONS ARE ENCOUNTERED. THE SURFACE AREA ADJACENT TO THE FOUNDATION WALL SHALL BE PROVIDED WITH ADEQUATE DRAINAGE, AND SHALL BE GRADED SO AS TO DRAIN SURFACE WATER AWAY FROM FOUNDATION WALLS.
- 8. ALL FRAMING LUMBER SHALL BE SPF #2 (Fb = 875 PSI) UNLESS NOTED OTHERWISE (UNO). ALL TREATED LUMBER SHALL BE SYP # 2. PLATE MATERIAL MAY BE SPF # 3 OR SYP #3 (Fc(perp) =
- 9. L.V.L. SHALL BE LAMINATED VENEER LUMBER: Fb=2600 PSI, Fv=285 PSI, E=I.9xI0 PSI. 9.I. P.S.L. SHALL BE PARALLEL STRAND LUMBER: Fb=2900 PSI, Fv=290 PSI, E=2.0x10 PSI. 4.2. L.S.L. SHALL BE LAMINATED STRAND LUMBER: Fb=2250 PSI, Fv=400 PSI, E=1.55xI0 PSI. INSTALL ALL CONNECTIONS PER MANUFACTURERS INSTRUCTIONS.
- 10. ALL ROOF TRUSS AND 1-JOIST LAYOUTS SHALL BE PREPARED IN ACCORDANCE WITH THE SEALED STRUCTURAL DRAWINGS. TRUSSES AND I-JOISTS SHALL BE INSTALLED ACCORDING TO THE MANUFACTURE'S SPECIFICATIONS. ANY CHANGE IN TRUSS OR I-JOIST LAYOUT SHALL BE COORDINATED WITH SOUTHERN ENGINEERS.
- II. ALL STRUCTURAL STEEL SHALL BE ASTM A-36. STEEL BEAMS SHALL BE SUPPORTED AT EACH END WITH A MINIMUM BEARING LENGTH OF 3 I/2" INCHES AND FULL FLANGE WIDTH. PROVIDE SOLID BEARING FROM BEAM SUPPORT TO FOUNDATION. BEAMS SHALL BE ATTACHED TO EACH SUPPORT WITH TWO LAG SCREWS (1/2" DIAMETER x 4" LONG). LATERAL SUPPORT IS CONSIDERED ADEQUATE PROVIDING THE JOIST ARE TOE NAILED TO THE SOLE PLATE, AND SOLE PLATE IS NAILED OR BOLTED TO THE BEAM FLANGE @ 48" O.C. ALL STEEL TUBING SHALL BE ASTM A500.
- 12. REBAR SHALL BE DEFORMED STEEL, ASTM615, GRADE 60. LAP ALL REBAR SPLICES 30 BAR
- 13. FLITCH BEAMS SHALL BE BOLTED TOGETHER USING (2) ROWS OF 1/2" DIAMETER BOLTS (ASTM A325) WITH WASHERS PLACED UNDER THE THREADED END OF BOLT. BOLTS SHALL BE SPACED AT 24" O.C. (MAX), AND STAGGERED AT THE TOP AND BOTTOM OF BEAM (2" EDGE DISTANCE), WITH 2 BOLTS LOCATED AT 6" FROM EACH END.
- 14. BRICK LINTELS (WHEN REQUIRED) SHALL BE 3 1/2"x3 1/2"x1/4" STEEL ANGLE FOR UP TO 6'-0" SPAN AND 6"x4"x5/16" STEEL ANGLE WITH 6" LEG VERTICAL FOR SPANS UP TO 9'-0". SEE PLANS FOR SPANS OVER 9'-0". SEE ALSO SECTION R703.8.3 LINTELS.
- 15. METAL CONNECTORS REFERENCED ON PLANS CORRESPOND TO SIMPSON STRONG-TIE BRAND. CONNECTORS OF EQUAL OR BETTER CAPACITY ARE ACCEPTABLE. CORROSION RESISTANCE PER CODE AND AS RECOMMENDED BY MANUFACTURER.

Engineers. Failure to do so will void Southern

STRUCTURAL DESIGN BY: SOUTHERN ENGINEERS, P.A. 3716 BENSON DRIVE RALEIGH, NC 27609 LICENSE: C-4772, PHONE: 919-878-1617

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DRAWN BY: **TWG** 2-26-19

FILE NAME: **SH-2-2884**

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HOUSE NAME:

HOUSE NUMBER: