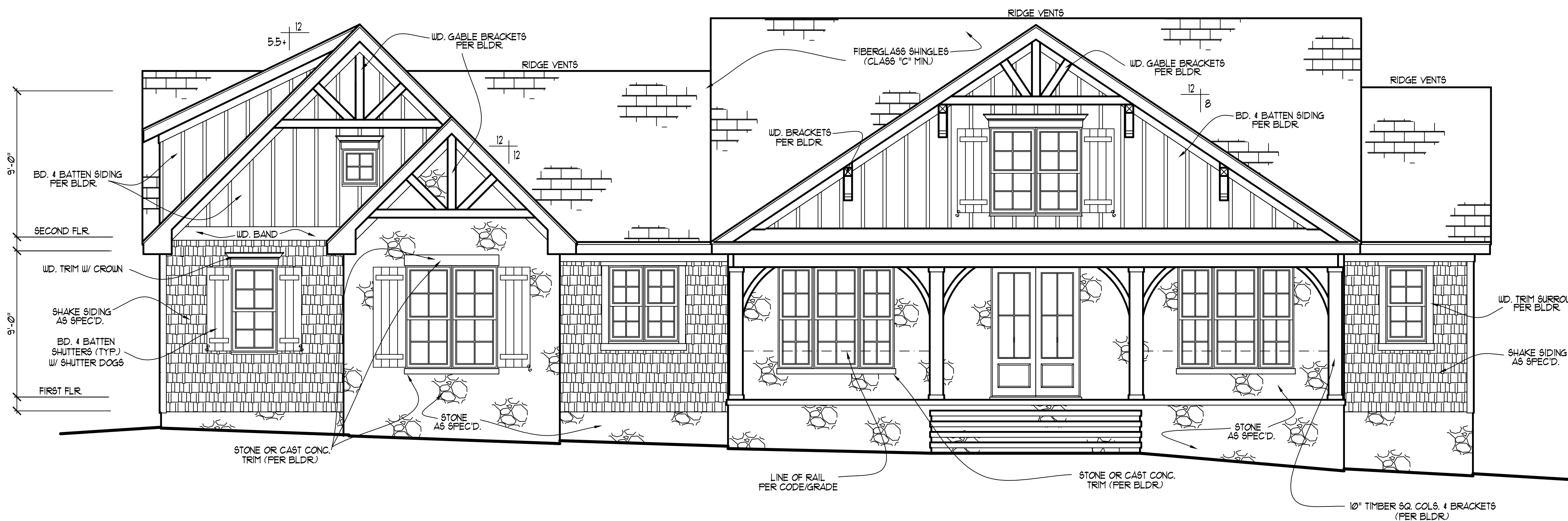


**REAR ELEVATION**

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



**FRONT ELEVATION**

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

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**ATTIC VENTILATION**  
 00000 = 00000 sq. ft. REQ'D.  
 300  
 ( ) - BASE / VENTS =  
 ( ) - BASE / VENTS =  
 (148) - RIDGE VENT @ 9 sq.in./ft. = 9.25 SQ. FT.  
 TOTAL = 9.25 SQ. FT.  
 \*\* PROVIDE CONTINUOUS SOFFIT VENT SURROUND TO EQUAL OR EXCEED 123 SQ. FT.  
 \*\*\* (OPT) PROVIDE THERMOSTATICALLY CONTROLLED POWER VENT TO EQUAL OR EXCEED 123 SQ. FT.

**CODE INFORMATION**  
 \* ZONE: (CHECK ONE)  
 ZONE 1  
 ZONE 2  
 ZONE 3  
 \* GLAZING U-FACTOR  
 \* R-VALUES  
 CEILING R-43  
 WALL R-19  
 FLOOR R-19  
 BSMT. WALL  
 SLAB PERIMETER  
 CRAWL SPACE WALL  
 \* MEAN ROOF HEIGHT 18'-5"  
 \* WALL AND ROOF CLADDING DESIGN VALUE:  
 (MEAN ROOF HGT. 30 FT. OR LESS)  
 CRAWL SPACE WALL  
 WALLS +18.0, -24.1  
 ROOF PITCH 0/12 TO 2/25/12 +10.0, -45.4  
 ROOF PITCH 2/25/12 TO 1/12 +10.4, -34.8  
 ROOF PITCH 1/12 TO 12/12 +16.5, -21.0  
 EXPOSURE ADJUSTMENT X

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**STRONG BUILT HOMES**  
**ROSSNER RESIDENCE**

DRAWN BY: TUG  
 DATE: 10-8-19  
 FILE NAME: SB-15-2195  
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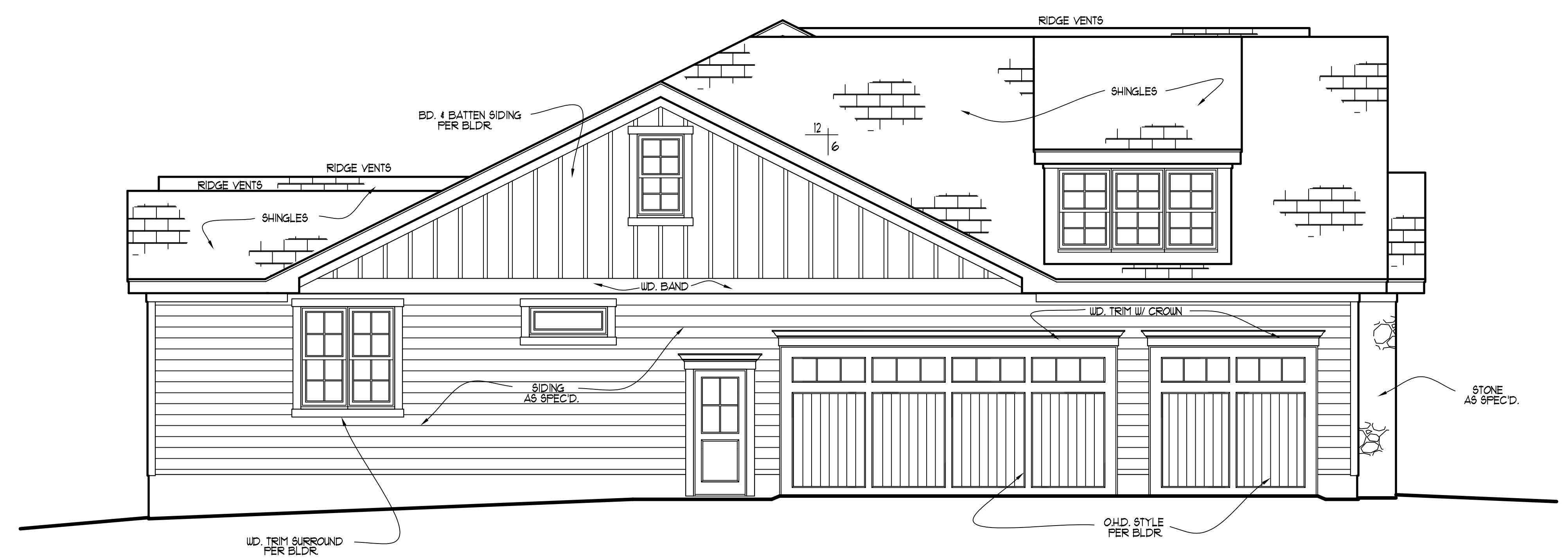
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PAGE NUMBER:  
 1 of 8

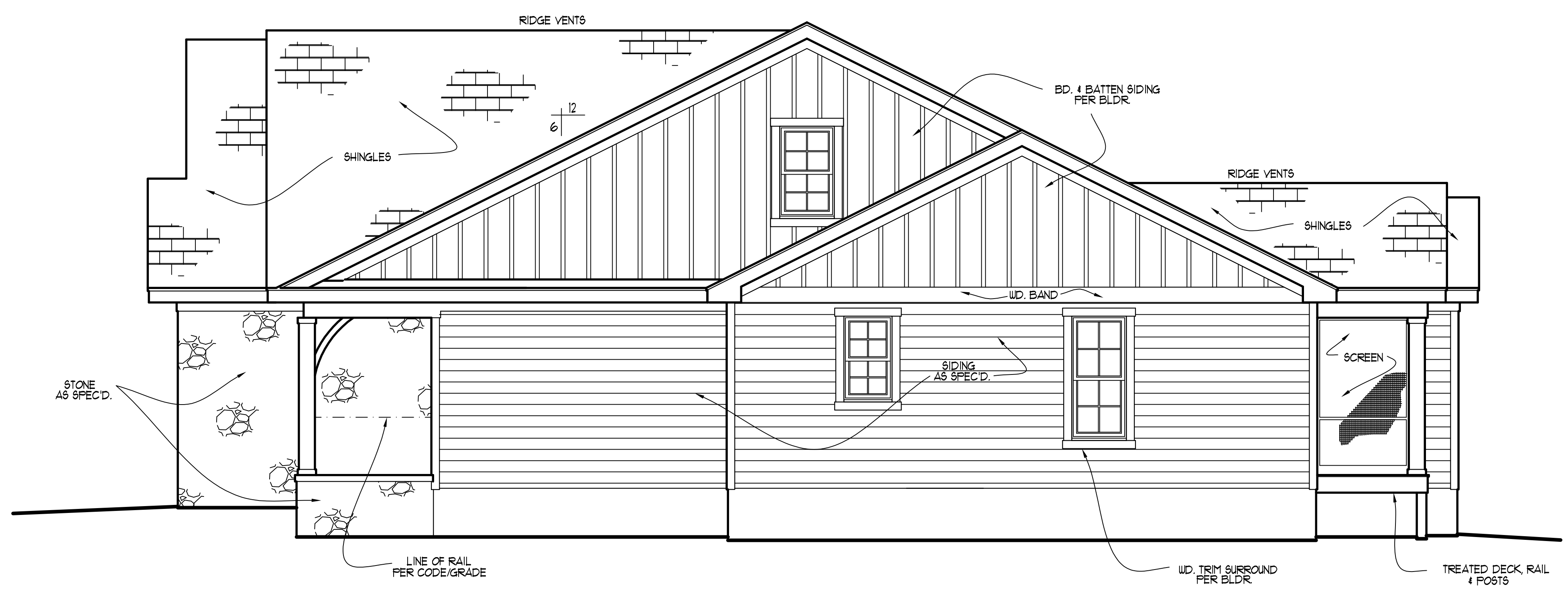
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**LEFT ELEVATION**  
 SCALE: -----1/4" = 1'-0"



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

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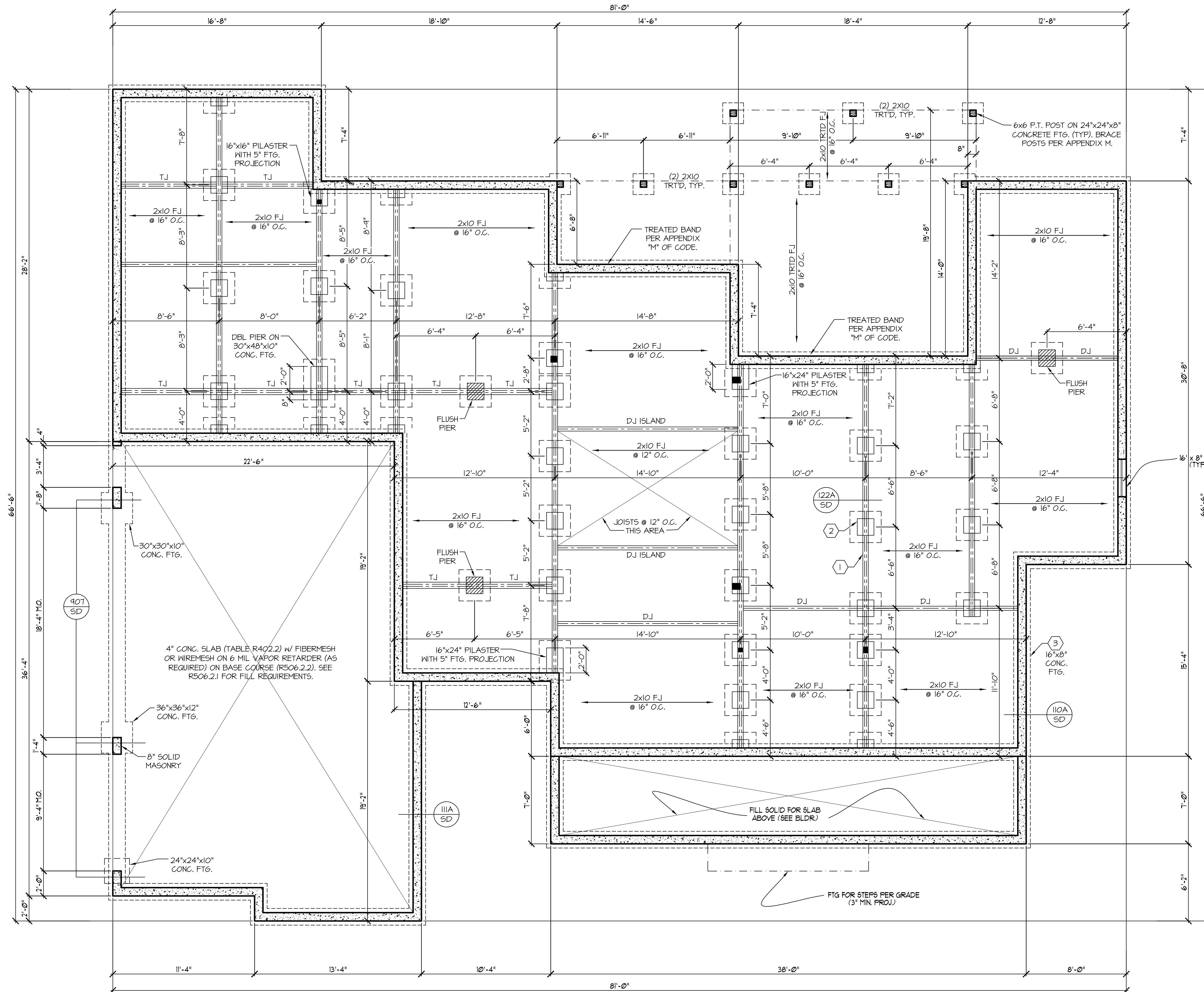
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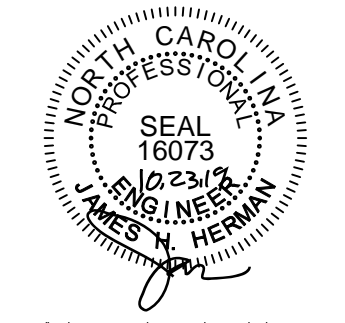
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**FOUNDATION NOTES**

- 1) PROVIDE DBL. BAND @ EXTERIOR WALLS PARALLEL TO FLOOR JOISTS
- 2) ALL 1/2 PIERS TO BE TIED INTO FND. WALL (BONDED)
- 3) PROVIDE 1/2" ANCHOR BOLTS @ EXT. WALLS W/ 1" EMBEDMENT @ 6'-0" CNTRS. AND 12" FROM CORNERS
- 4) CRAWL SPACE TO BE A 'SEALED' CRAWL SPACE. (SEE BUILDER FOR REQUIREMENTS.)



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 SOUTHERN ENGINEERS, P.A.  
 3716 BENSON DRIVE RALEIGH, NC 27609  
 LICENSE: C-1287, PHONE: 919-878-1617  
 PROJECT #: 14-2247

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- 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.

**FOUNDATION STRUCTURAL NOTES**  
 NC (2018 NCRG); Wind: 115-120 mph - CRAWL

1. (3)2x10 SYP#2 OR SPF#2 GIRDER, TYPICAL UNO.
2. CONCRETE BLOCK PIER SIZE SHALL BE:  
 SIZE HOLLOW SOLID  
 •• 8x16 UP TO 32" UP TO 5'-0"  
 •• 12x16 UP TO 48" UP TO 9'-0"  
 •• 16x16 UP TO 64" UP TO 12'-0"  
 •• 24x24 UP TO 96"  
 WITH 30" x 30" x 10" CONCRETE FOOTING, UNO.
3. WALL FOOTING AS FOLLOWS  
 •• DEPTH: 8" - UP TO 2 STORY  
 10" - 3 STORY  
 •• WIDTH:  
 SIDING: 16" - 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 R404.1J (1 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. (4) 2x10 SPF #2 OR SYP #2 GIRDER
5. (2) 1.75x9.25 LVL OR L5L GIRDER
6. (3) 1.75x9.25 LVL OR L5L GIRDER

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

8. ABBREVIATIONS:  
 • "SJ" = SINGLE JOIST  
 • "DJ" = DOUBLE JOIST  
 • "TJ" = TRIPLE JOIST

9. ADJUST SUBFLOOR THICKNESS OR JOIST SPACING AS REQ'D FOR FLOOR FINISH MATERIALS.

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

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**STRONG BUILT HOMES**  
**ROSSNER RESIDENCE**

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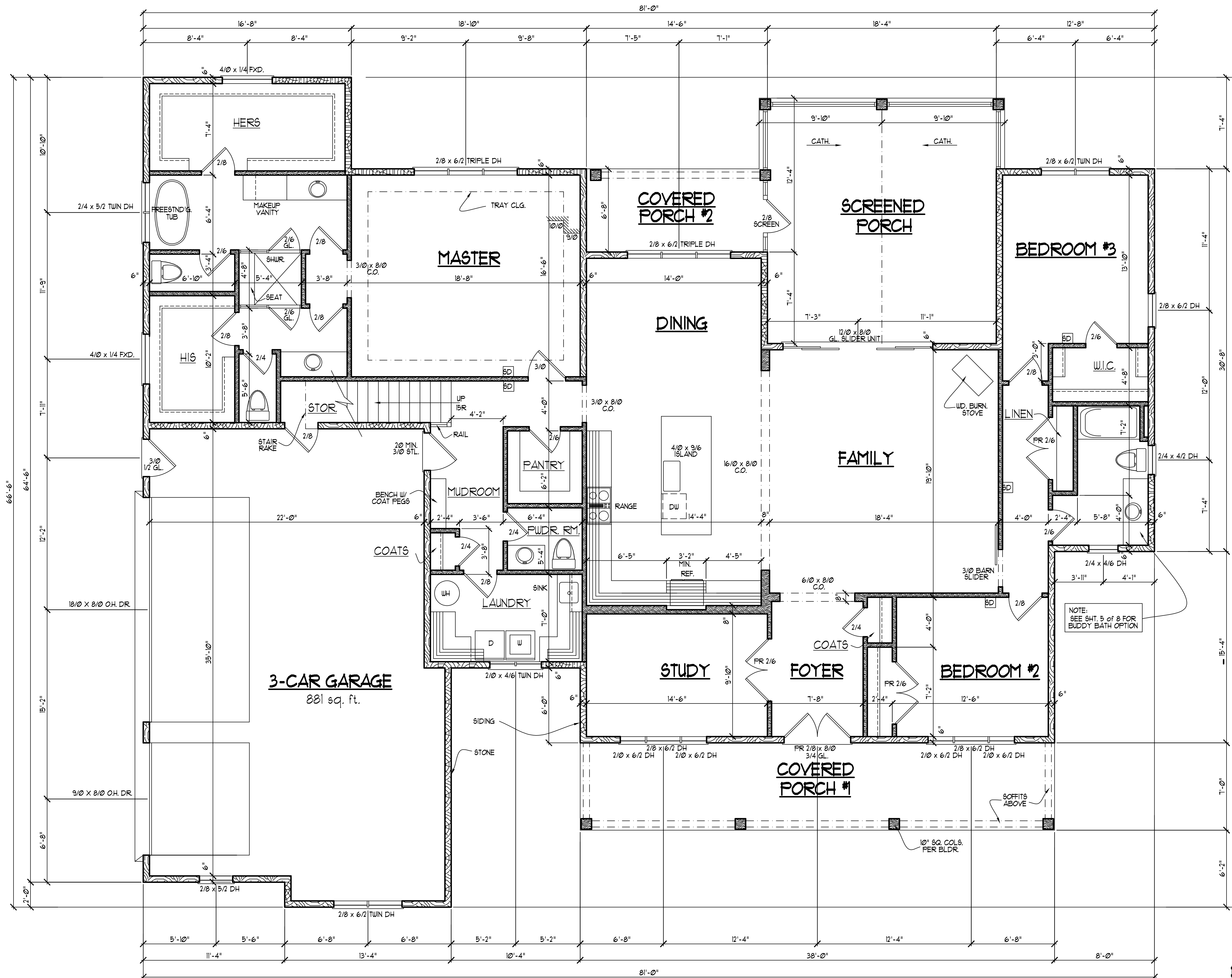
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- FIRST FLOOR NOTES:**
- 1) 9'-0" CLG. HGT. (TYP.) UNO.
  - 2) SET WINDOWS @ 8'-0" AFF. (TYP.) UNO. (VERIFY)
  - 3) STAIRS: UP 15 RISERS @ 8" (+) (TYP.) (VERIFY W/ FLR. SYSTEM.)
  - 4) PROVIDE 5/8" TYPE 'X' GYPSUM @ GARAGE CEILING ADJACENT TO HTD. SPACES. PROVIDE 1/2" GYPSUM @ GARAGE WALLS ADJACENT TO HTD. SPACES.
  - 5) ALL WALLS FIGURED AT 4" WIDTHS FOR STUDS, 9" WIDTHS FOR STUD/BRICK (TYP.) UNO.
  - 6) VERIFY ROUGH OPNG'S, SPECS. FOR CODE REQUIREMENTS WITH WINDOW MANUF.
- 1) SD = SMOKE DETECTOR  
 2) INT. DOORS TO BE 2'-0" H. (VERIFY W/ BLDGR.)

**SQUARE FOOTAGE**

	HTD.	UNHTD.
• BSMT.		
• FIRST FLR.	2131	881
• SECOND FLR.	64	2512
• ATTIC (3rd. FLR.)		
<b>TOTAL</b>	<b>2195</b>	<b>3453</b>
MISC.		
• COVERED PORCH #1		266
• COVERED PORCH #2		92
• SCREENED PORCH		313

**WNDW. FALL PROTECTION NOTES:**

SEE CODE SECTIONS R612 THRU R614 FOR WINDOW FALL PROTECTION DEVICE REQUIREMENTS IF WINDOW SILL IS LESS THAN 24" ABV. FLR. WITH A 6'-0" OR GREATER DISTANCE TO A SURFACE OUTSIDE AND BELOW THE WINDOW.

**WALL LEGEND:**

	2x4 STUD WALLS
	2x6 STUD WALLS

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**STRONG BUILT HOMES**  
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 4 of 8

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

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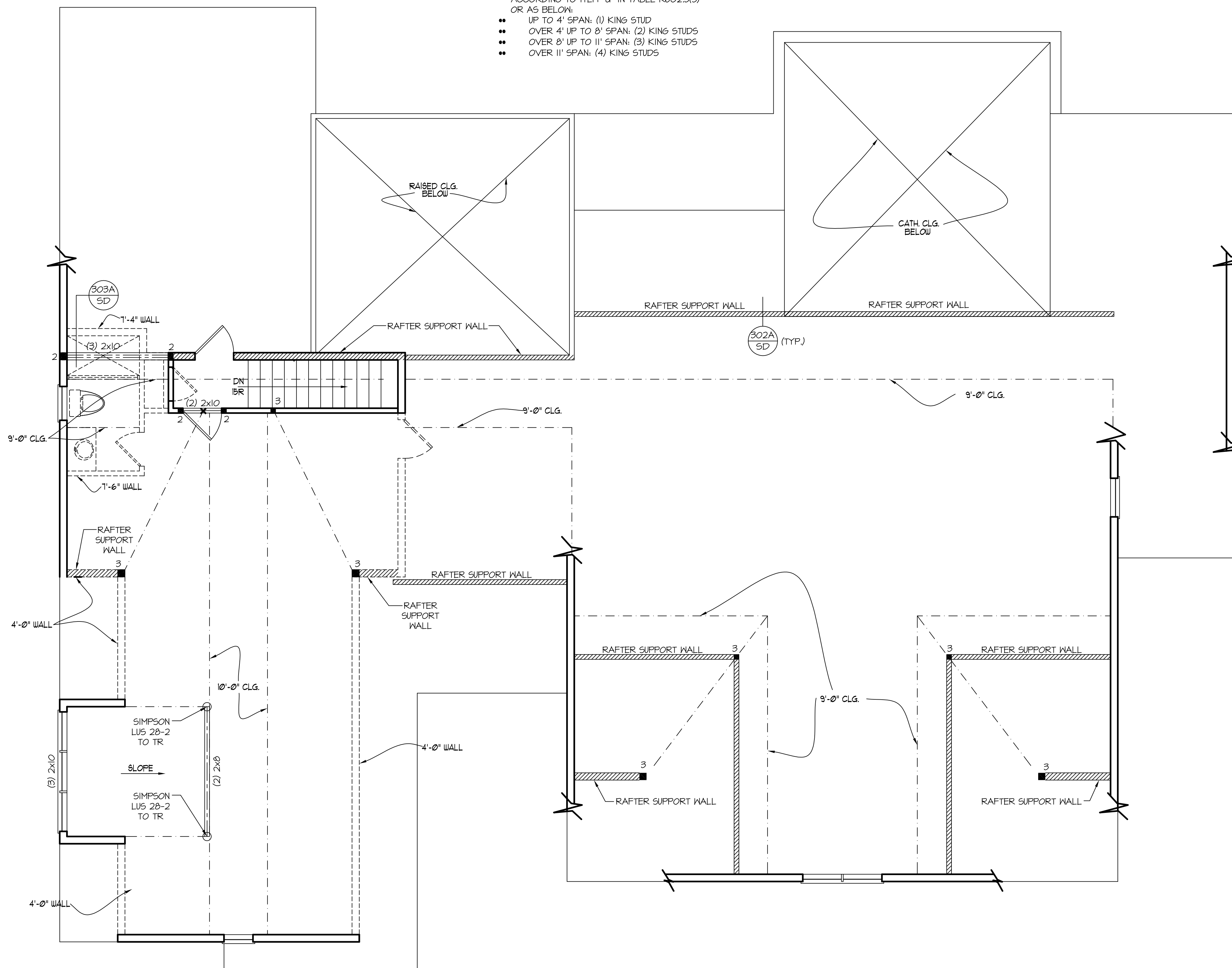




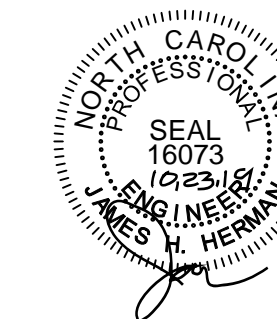


**HEADER/BEAM & COLUMN NOTES**

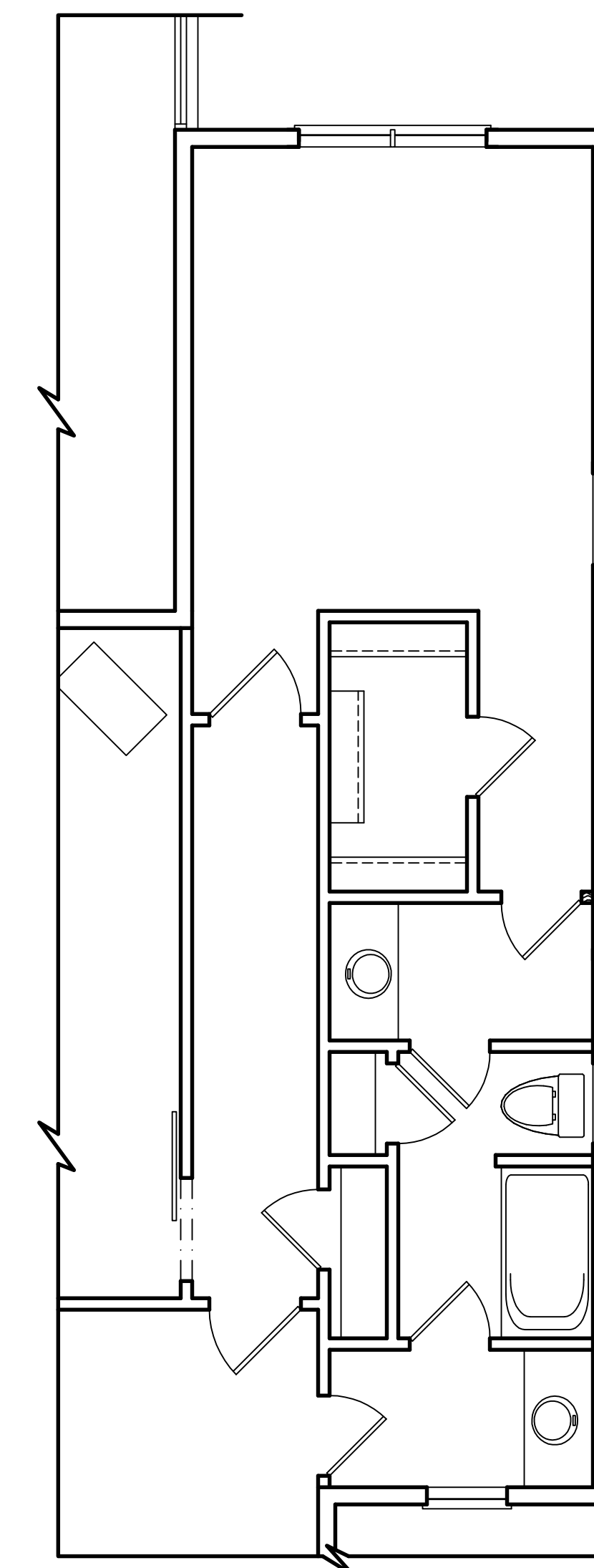
- ALL EXTERIOR AND LOAD BEARING HEADERS SHALL BE MIN. (2)2x10 (4" WALL) OR (3)2x10 (6" WALL) WITH (1) SUPPORT STUD, UNLESS NOTED OTHERWISE.
- THE NUMBER SHOWN AT BEAM AND HEADER SUPPORTS INDICATES THE NUMBER OF SUPPORT STUDS REQUIRED IN STUD POCKET OR COLUMN. THE NUMBER OF KING STUDS AT EACH END OF HEADERS IN EXTERIOR WALLS SHALL BE ACCORDING TO ITEM "d" IN TABLE R602.3(5) OR AS BELOW:
  - UP TO 4' SPAN: (1) KING STUD
  - OVER 4' UP TO 8' SPAN: (2) KING STUDS
  - OVER 8' UP TO 11' SPAN: (3) KING STUDS
  - OVER 11' SPAN: (4) KING STUDS



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**(OPT.) BUDDY BATH**

**SECOND FLOOR CEILING STRUCTURAL PLAN**  
 SCALE: ..... 1/4" = 1'-0" 9'-0" CLG. HGT.

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- ROOF FRAMING NOTES:**
- 1) ALL ROOF PITCHES TO BE 6/12 (TYP.) UNO.
  - 2) PROVIDE 2x4 COLLAR BEAMS EVERY OTHER RAFTER (TYP.)
  - 3) PROVIDE "HURRICANE CLIPS" AT ALL VALLEYS AND OPPOSING DBL. RAFTERS
  - 4) PROVIDE DBL. HEADERS AND TRIMMERS AT ALL ROOF OPENINGS (EX: DORMERS, SKYLIGHTS, CHIMNEYS ETC.)
  - 5) 2x6 RAFTERS @ CATH. OR VAULTED CLGS. TO BE FURRED DOWN 2" OR USE 2x10 RAFTERS (VERIFY BRNG. HGT.) FOR PROPER INSULATION PER CODE
  - 6) VERIFY ALL RAFTER BRNG. HGTS. BEFORE CONSTR. HAS BEGUN

**NOTE:**  
 FRAME 8/12 RAFTERS ON A 35" KNEEWALL & 12/12 RAFTERS ON A 15" KNEEWALL TO ALIGN SOFFITS WITH 6/12 SOFFITS. (VERIFY W/ BUILDER.)



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**ROOF FRAMING NOTES:**  
 NC (2018 NRCG): Wind: 115-120 mph

- ① 2x8 RAFTERS @ 16" O.C. WITH 2x10 RIDGE, UNO.
  - ② (2) 2x10 OR 1.75x11.875 LVL HIP. (2) 2x10 HIPs MAY BE SPLICED WITH A MIN. 6'-0" OVERLAP AT CENTER
  - ③ (2) 2x10 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
  - "TR" = TRIPLE RAFTER
  - "RS" = ROOF SUPPORT
  - "■" = (3) STUD OR 4x4 POST FOR ROOF SUPPORT (USE 2x6 STUDS OR 6x6 POST FOR SUPPORT OVER 10'-0" IN HEIGHT)
  - ATTACH VAULTED RAFTERS WITH HURRICANE CLIPS; SIMPSON "H-25A" OR EQUIVALENT. TIES TO BE INSTALLED ON THE OUTSIDE FACE OF FRAMING.
  - INSTALL RAFTER TIES AND COLLAR TIES PER SECTION R802.3.1 OF THE 2018 NC RESIDENTIAL CODE.

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

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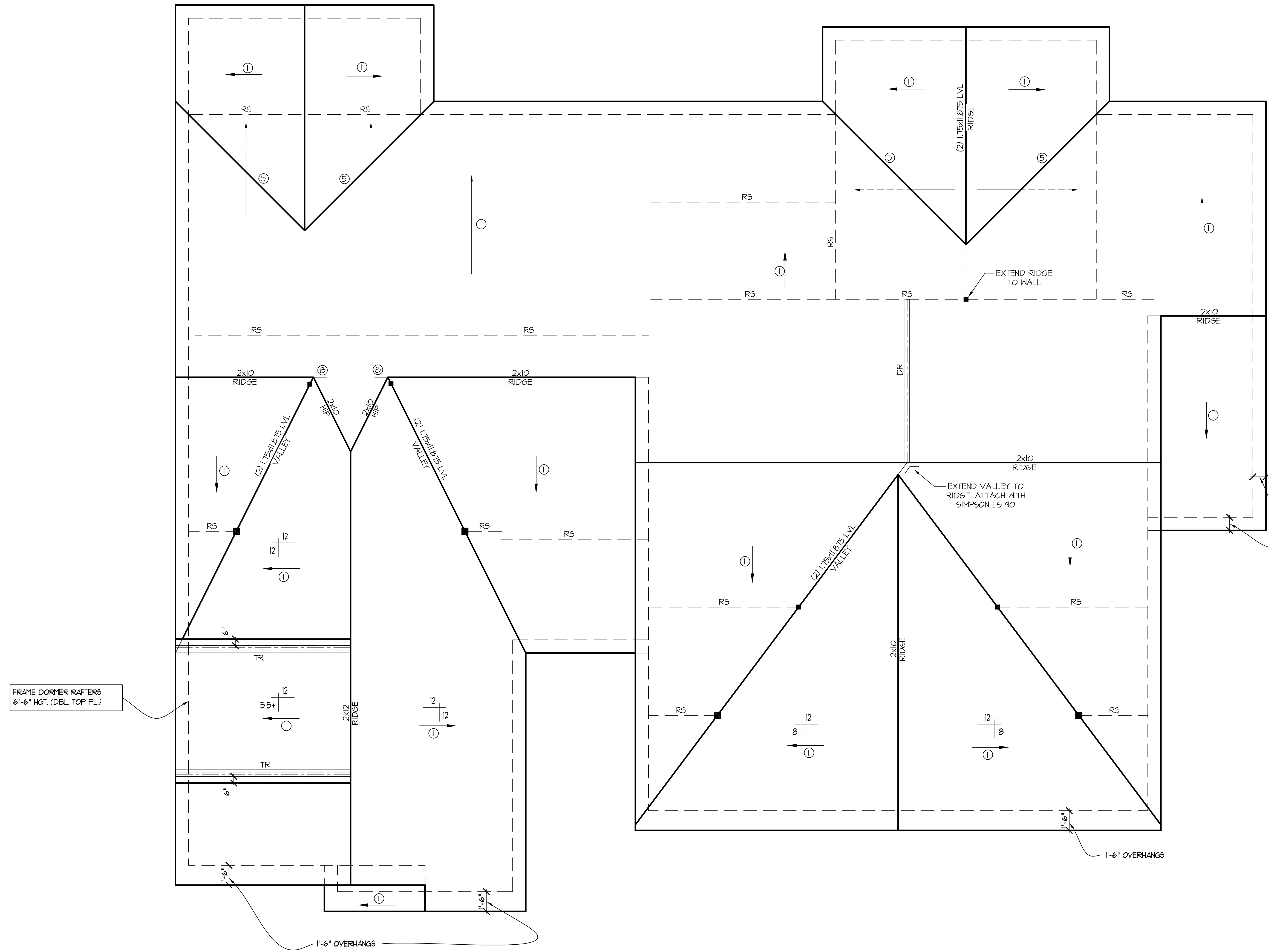
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**STRUCTURAL NOTES**

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

1. 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 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, 10 PSF, L/360)
- SLEEPING ROOMS: (30 PSF, 10 PSF, L/360)
- ATTIC WITH PERMANENT STAIR: (40 PSF, 10 PSF, L/360)
- ATTIC WITHOUT PERMANENT STAIR: (20 PSF, 10 PSF, L/360)
- ATTIC WITHOUT STORAGE: (10 PSF, 10 PSF, L/240)
- STAIRS: (40 PSF, 10 PSF, L/360)
- EXTERIOR BALCONIES: (60 PSF, 10 PSF, L/360)
- DECKS: (40 PSF, 10 PSF, L/360)
- GUARDRAILS AND HANDRAILS: (200 LBS)
- PASSENGER VEHICLE GARAGES: (50 PSF, 10 PSF, L/360)
- FIRE ESCAPES: (40 PSF, 10 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 LATERAL LOADS.

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 1/3. (I.E. 4" CONCRETE SLABS SHALL HAVE 1/4" 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 (Fcp/erp) = 425 PSI - MIN.

9. L.V.L. SHALL BE LAMINATED VENEER LUMBER: Fb=2600 PSI, Fv=285 PSI, E=1.9x10<sup>6</sup> PSI.  
 9.1. P.S.L. SHALL BE PARALLEL STRAND LUMBER: Fb=2400 PSI, Fv=240 PSI, E=2.0x10<sup>6</sup> PSI.  
 9.2. L.S.L. SHALL BE LAMINATED STRAND LUMBER: Fb=2250 PSI, Fv=400 PSI, E=1.55x10<sup>6</sup> PSI.  
 INSTALL ALL CONNECTIONS PER MANUFACTURER'S INSTRUCTIONS.

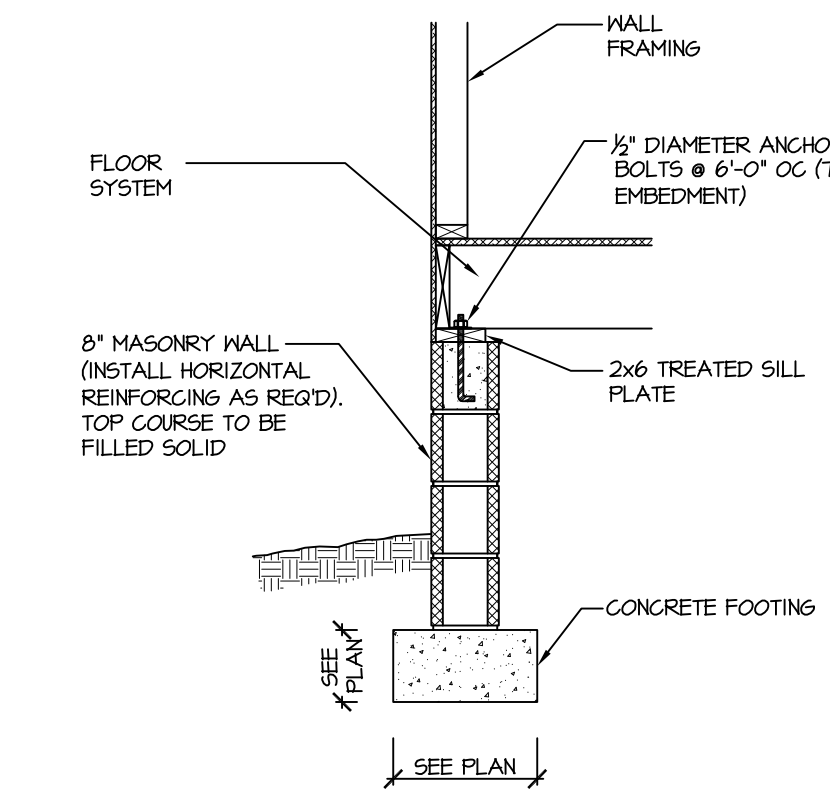
10. ALL ROOF TRUSSES AND I-JOIST LAYOUTS SHALL BE PREPARED IN ACCORDANCE WITH THE SEALED STRUCTURAL DRAWINGS. TRUSSES AND I-JOISTS SHALL BE INSTALLED ACCORDING TO THE MANUFACTURER'S SPECIFICATIONS. ANY CHANGE IN TRUSS OR I-JOIST LAYOUT SHALL BE COORDINATED WITH SOUTHERN ENGINEERS.

11. ALL STRUCTURAL STEEL SHALL BE ASTM A-36. STEEL BEAMS SHALL BE SUPPORTED AT EACH END WITH A MINIMUM BEARING LENGTH OF 3 1/2" 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. LAP ALL REBAR SPLICES 30 BAR DIAMETERS.

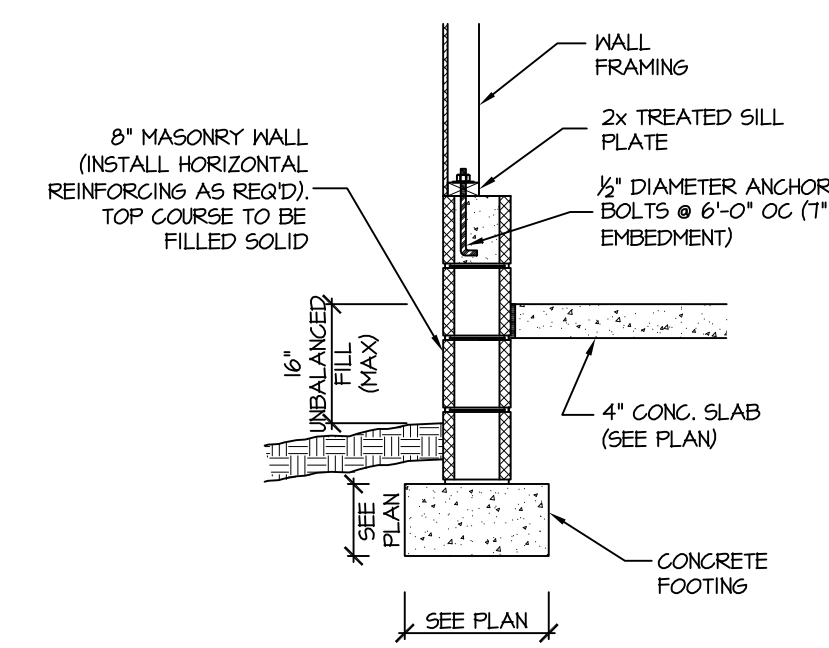
12. REBAR SHALL BE DEFORMED STEEL, ASTM#615, GRADE 60.

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.

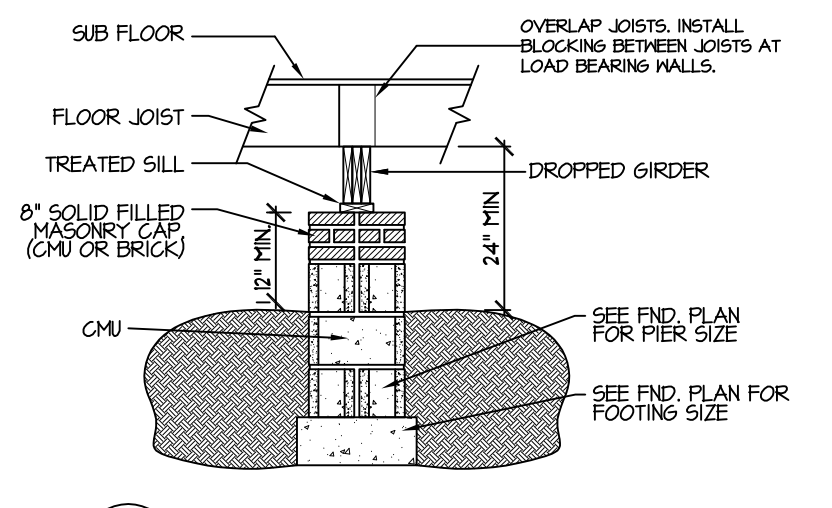
14. BRICK LINTELS (WHEN REQUIRED) SHALL BE 3 1/2"x3 1/2"x1/4" STEEL ANGLE FOR UP TO 6'-0" SPAN AND 6"x4"x5/16" STEEL ANGLE WITH 6" LEG VERTICAL FOR SPANS UP TO 4'-0". SEE PLANS FOR SPANS OVER 4'-0". SEE ALSO SECTION R703.1.3 LINTELS.



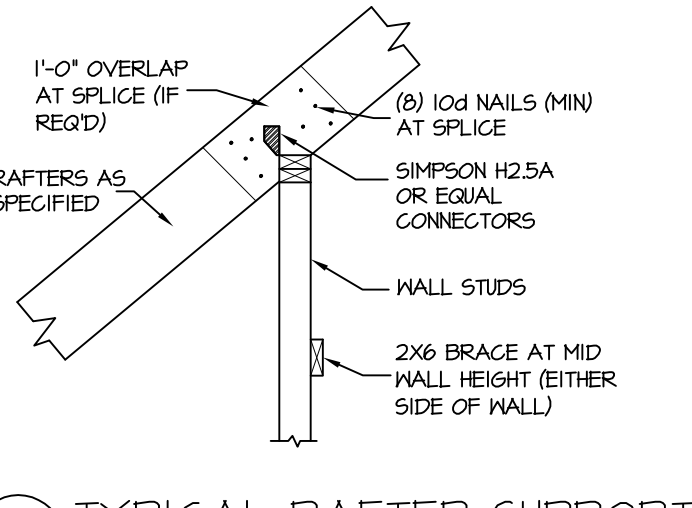
115-120 MPH 110A SD CRAWL SPACE FOOTING (SIDING OR EQUAL)



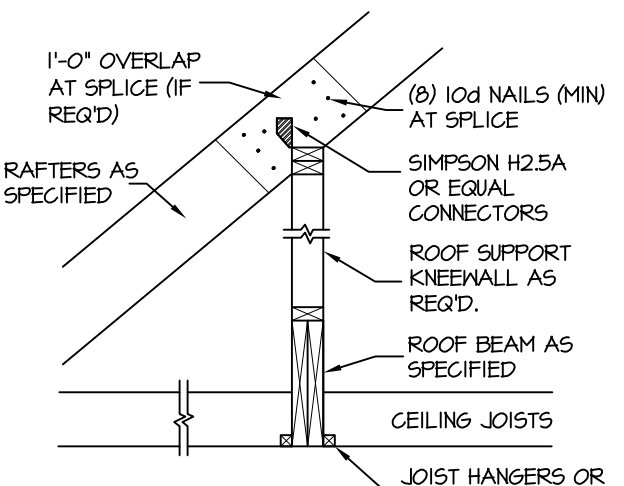
115-120 MPH 111A SD GARAGE WALL FOOTING (SIDING OR EQUAL)



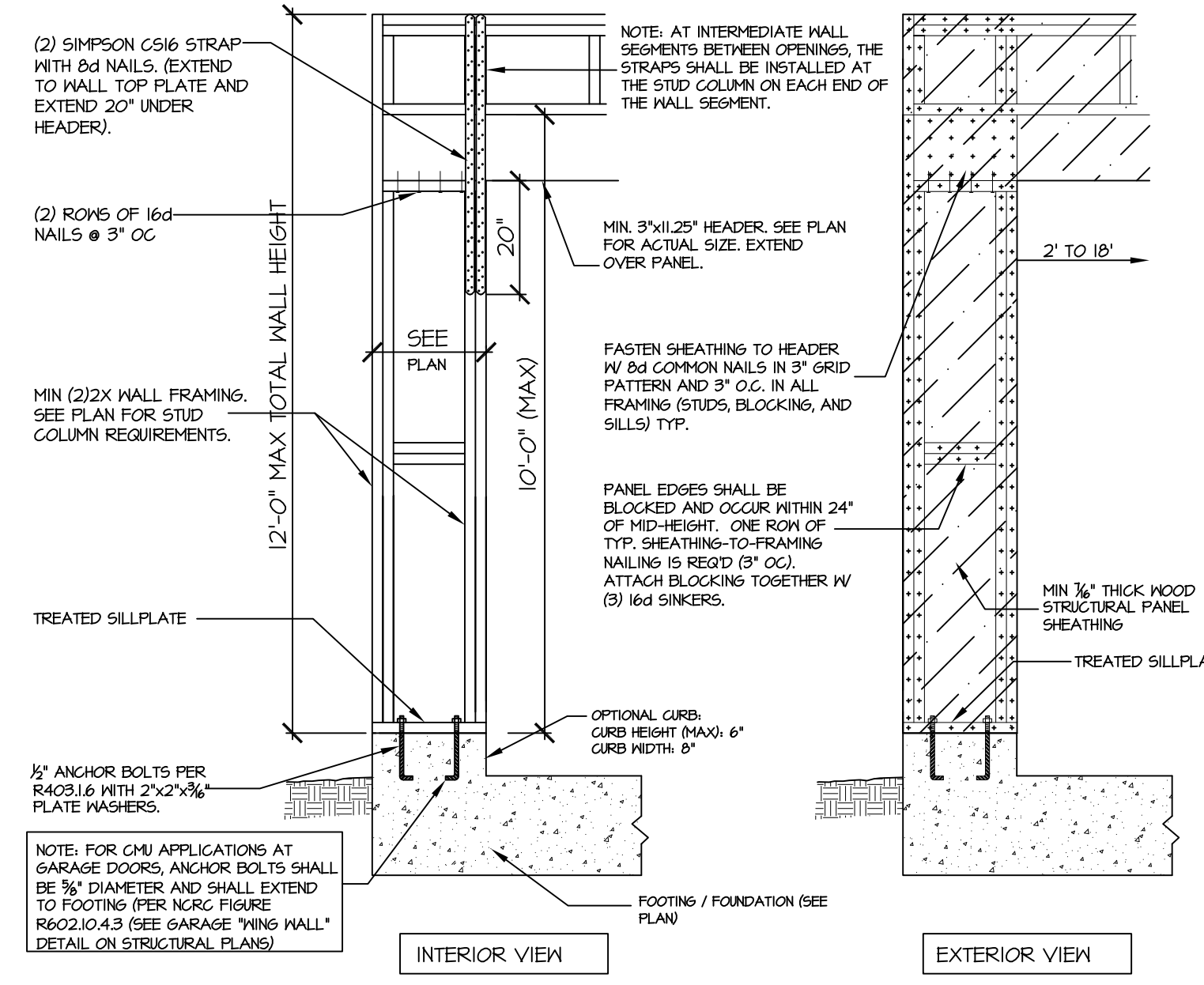
122A SD DROPPED GIRDER NTS



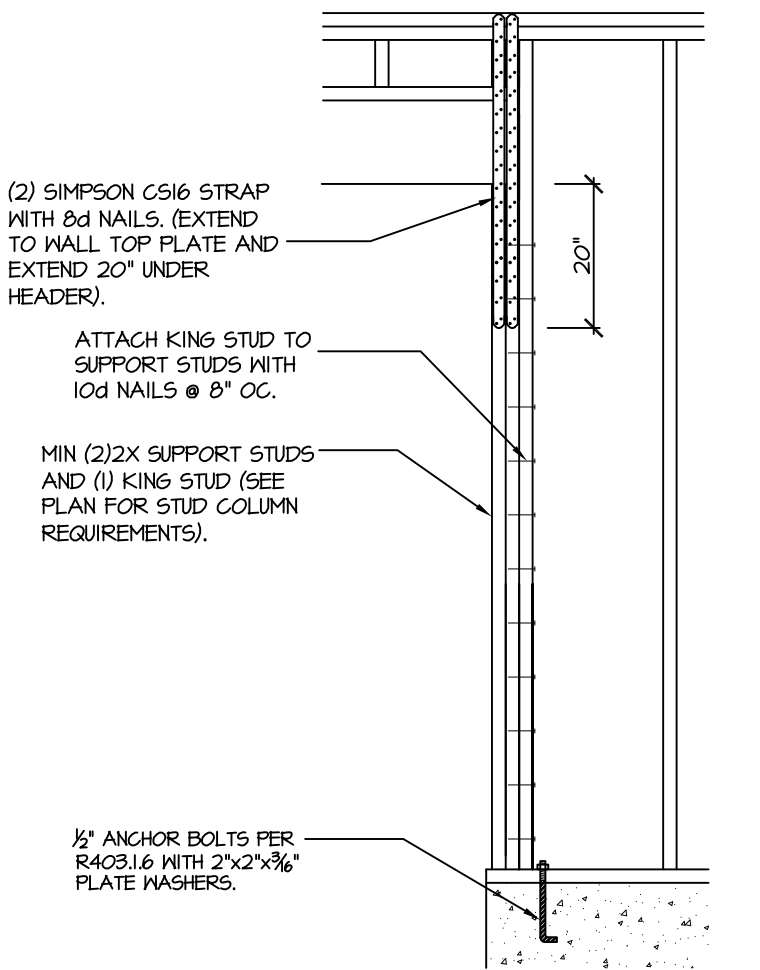
302A SD TYPICAL RAFTER SUPPORT ON ATTIC KNEEWALL NTS.



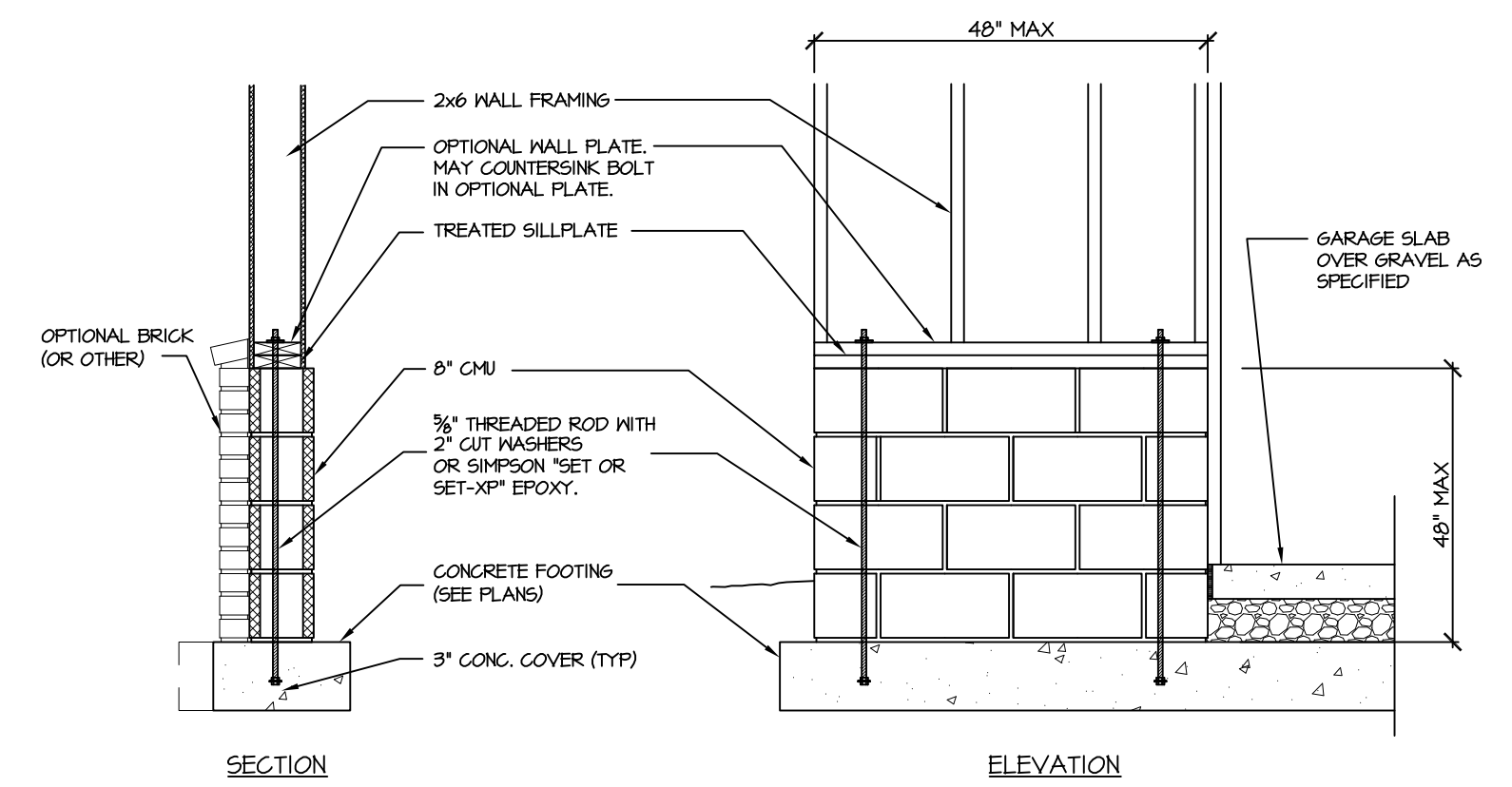
303A SD ROOF BEAM NTS.



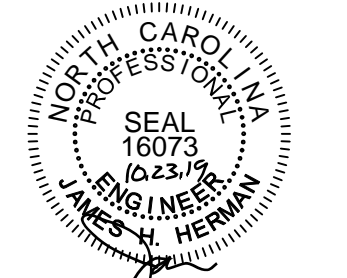
905 SD CS-PF: CONTINUOUS PORTAL FRAME CONSTRUCTION DETAIL AND APPLICATION BASED ON NCRG FIGURE R602.10.1 - PORTAL FRAME CONSTRUCTION



906 SD CS-PF: END CONDITION DETAIL (FOR USE WITH SINGLE CS-PF CONDITION) DETAIL AND APPLICATION BASED ON NCRG FIGURE R602.10.1 - PORTAL FRAME CONSTRUCTION



907 SD GARAGE 'WING WALL' REINFORCING PER IRC FIGURE R602.10.4.3



STRUCTURAL DESIGN BY:  
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 PROJECT #: 19-2247

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