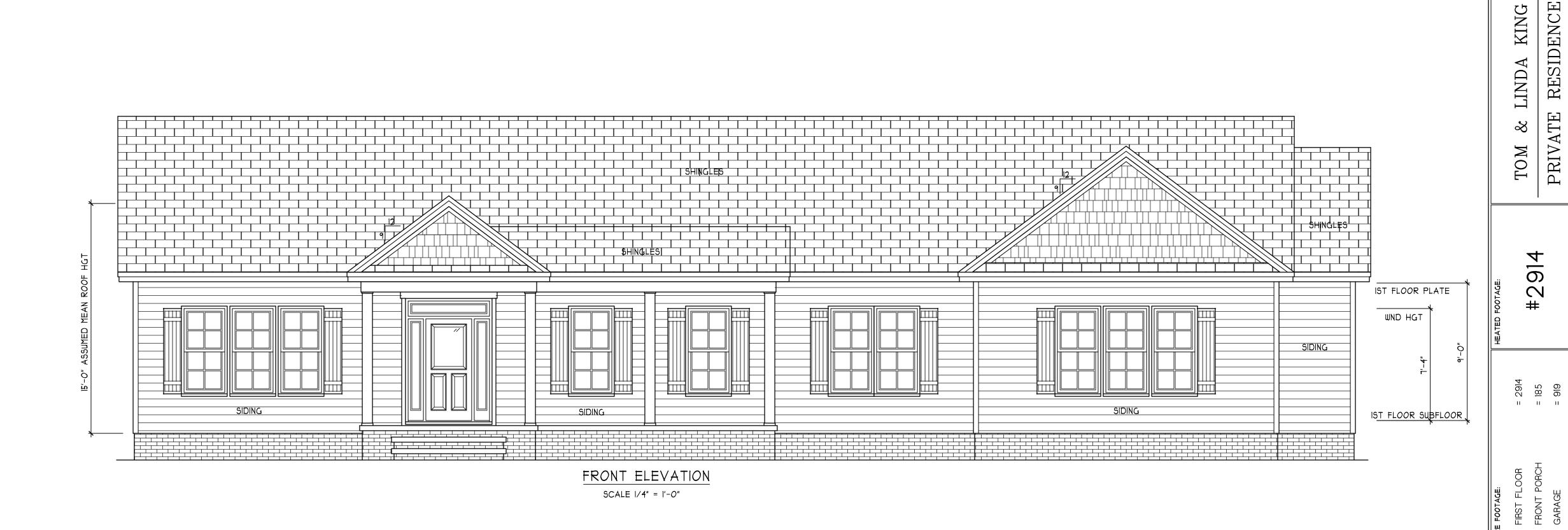
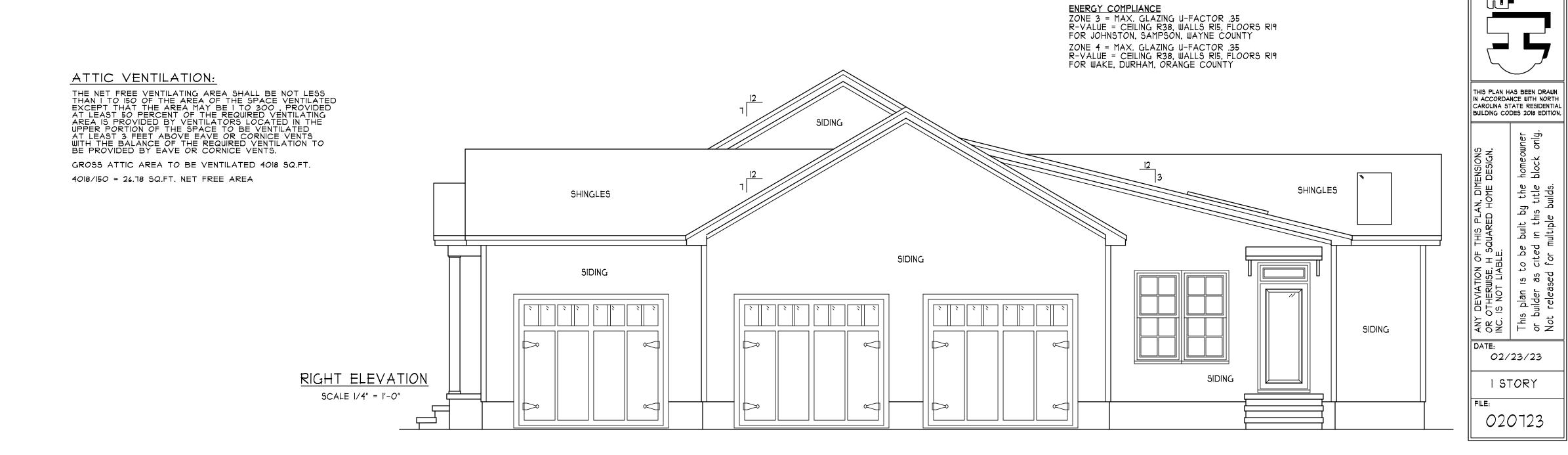


KING







FOUNDATION STRUCTURAL NOTES: NC (2018 NCRC): Wind: 115-120 MPH (1) (3) 2xIO SYP #2 OR SPF#2 GIRDER, TYPICAL UNO. (2) CONCRETE BLOCK PIER SIZE SHALL BE: SOLID MASONRY SIZE HOLLOW MASONRY 8 x 16 UP TO 32" HIGH UP TO 5'-O" HIGH

UP TO 9'-O" HIGH

UP TO 12'-O" HIGH

WITH 30" x 30" x 10" CONCRETE FOOTING, UNO. 3 WALL FOOTING AS FOLLOWS: DEPTH: 8" - UP TO 2-1/2 STORY 10" - 3 STORY

12 x 16 UP TO 48" HIGH

16 x 16 UP TO 64" HIGH

24 x 24 UP TO 96" HIGH

WIDTH: SIDING (OR EQUAL) - 20" - 3 STORY BRICK VENEER

FOR FOUNDATION WALL HEIGHT AND BACKFILL REQUIREMENTS, REFER TO NORTH CAROLINA RESIDENTIAL 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.

EDITION NC RES. CODES

 $\overline{\langle 4 \rangle}$ (4) 2xIO SYP#2 OR SPF#2 GIRDER.

(5) (2) 1.75X9.25 LVL OR LSL GIRDER (6) (3) 1.75×9.25 LVL OR LSL GIRDER

7. " T 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.

STRUCTURAL DESIGN BY: SOUTHERN ENGINEERS, P.A. 3716 BENSON DR., RALEIGH, NC 27609 LICENSE: C-4112, PHONE: 919-818-1611 PROJECT #: 23-1175

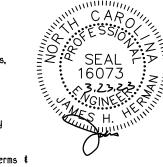
* Engineers seal applies only to structural components on this document. Seal does not include construction means, methods, techniques,

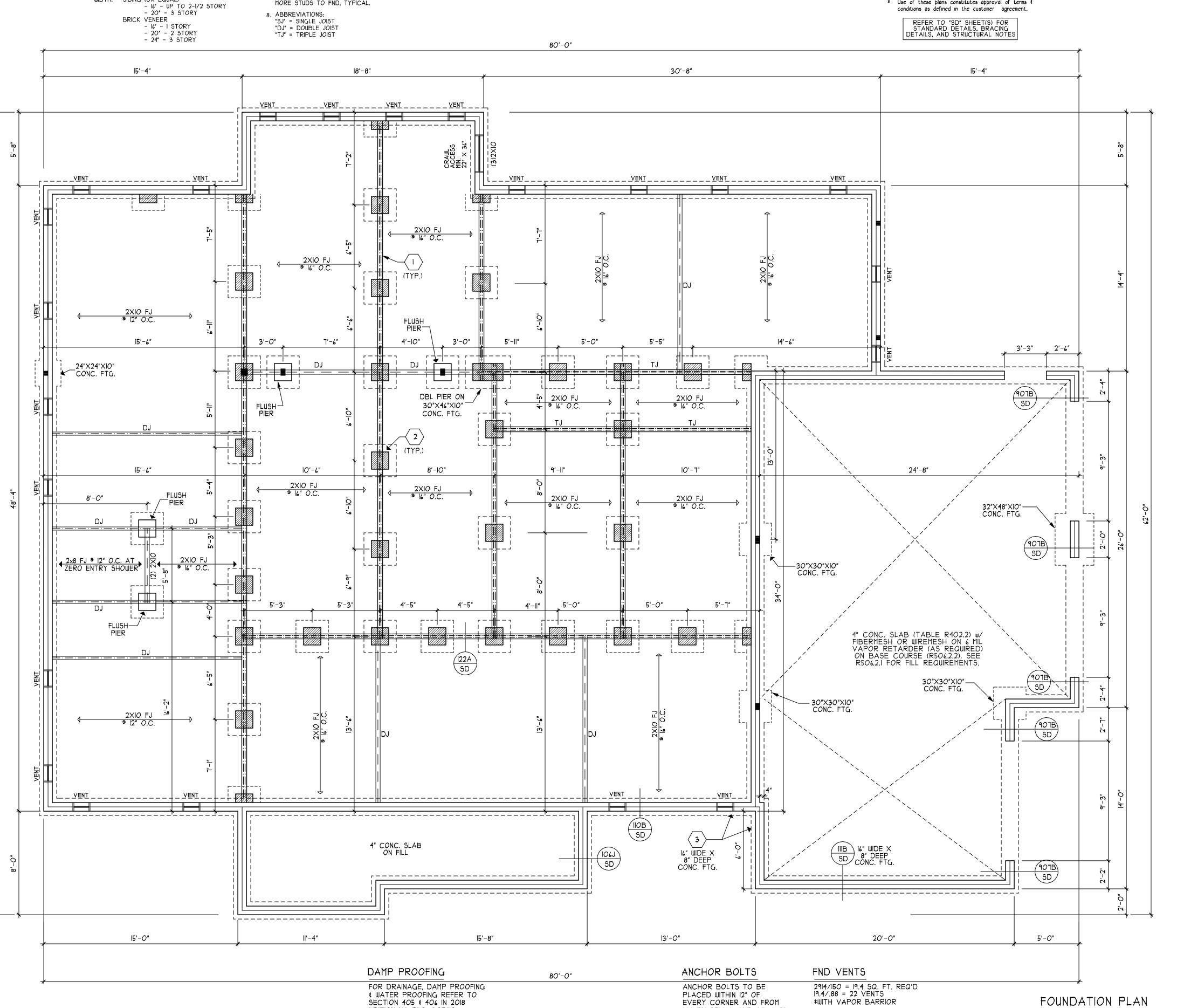
sequences, procedures or safety precautions. * Any deviations or discrepancies on plans are to be brought to the immediate attention of Southern Engineers. Failure

to do so will void Southern Engineer's liability * Seal is valid for a project permitted one

year from date of seal.

* Use of these plans constitutes approval of terms \$ conditions as defined in the customer agreement.

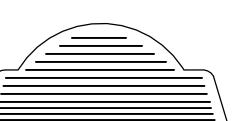




EVERY SPLICE AND AT 6'-0"

O.C. WITH 7" MIN. IN CONC.

*ONE VENT MUST BE WITHIN 3'-O" OF EVERY CRNR.



KING RESIDENCE LIND PRIVATE TOM

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FIRST FLOOR

H SQUARED HOME DESIGN, INC.

THIS PLAN HAS BEEN DRAWN IN ACCORDANCE WITH NORTH CAROLINA STATE RESIDENTIAL BUILDING CODES 2018 EDITION.

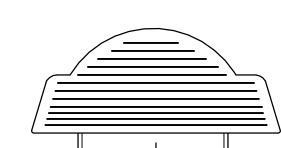
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SCALE 1/4'' = 1'-0''



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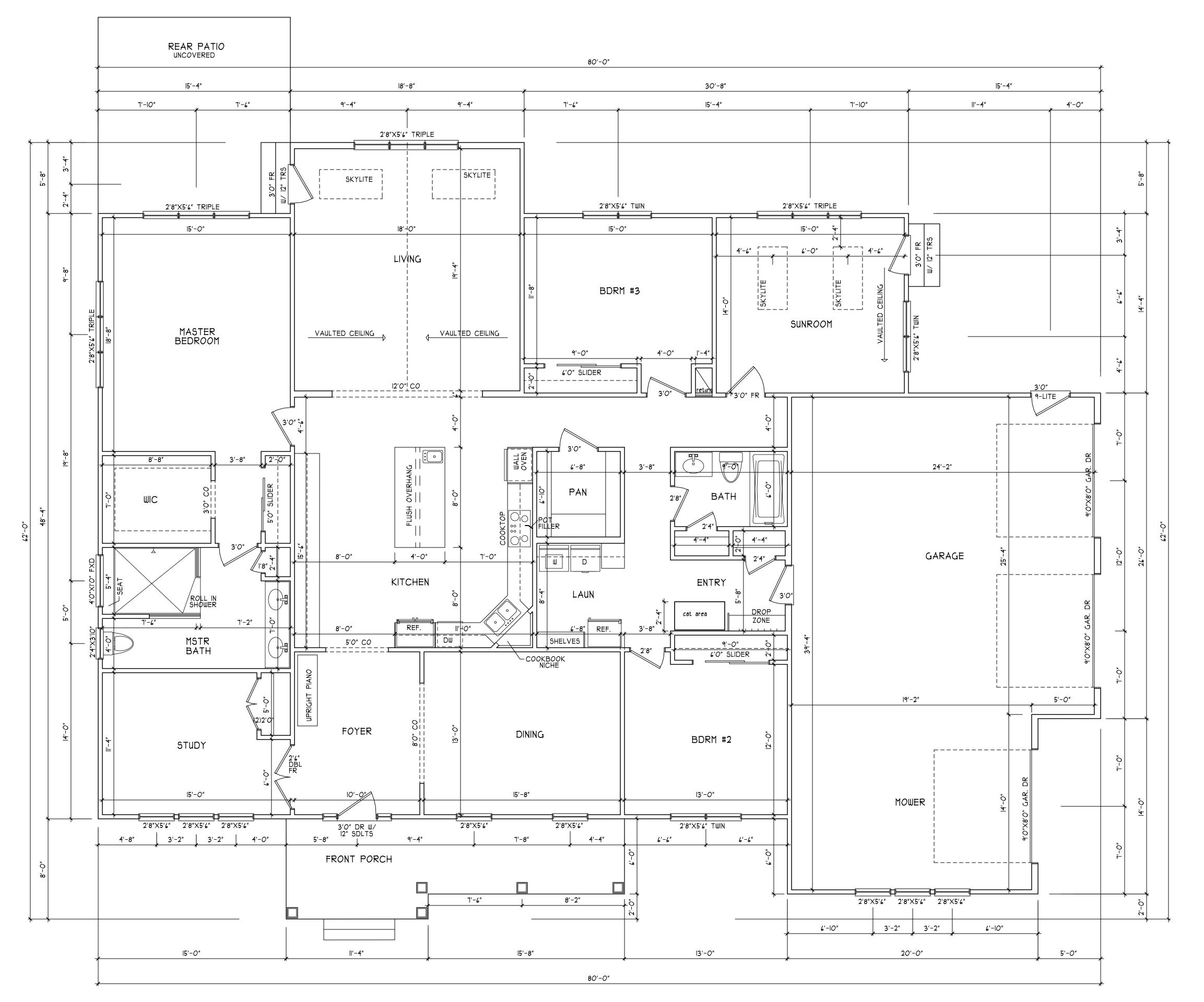
FIRST FLOOR FRONT PORCH GARAGE

H SQUARED HOME DESIGN, INC.

THIS PLAN HAS BEEN DRAWN IN ACCORDANCE WITH NORTH CAROLINA STATE RESIDENTIAL BUILDING CODES 2018 EDITION.

RESIDENCE

PRIVATE

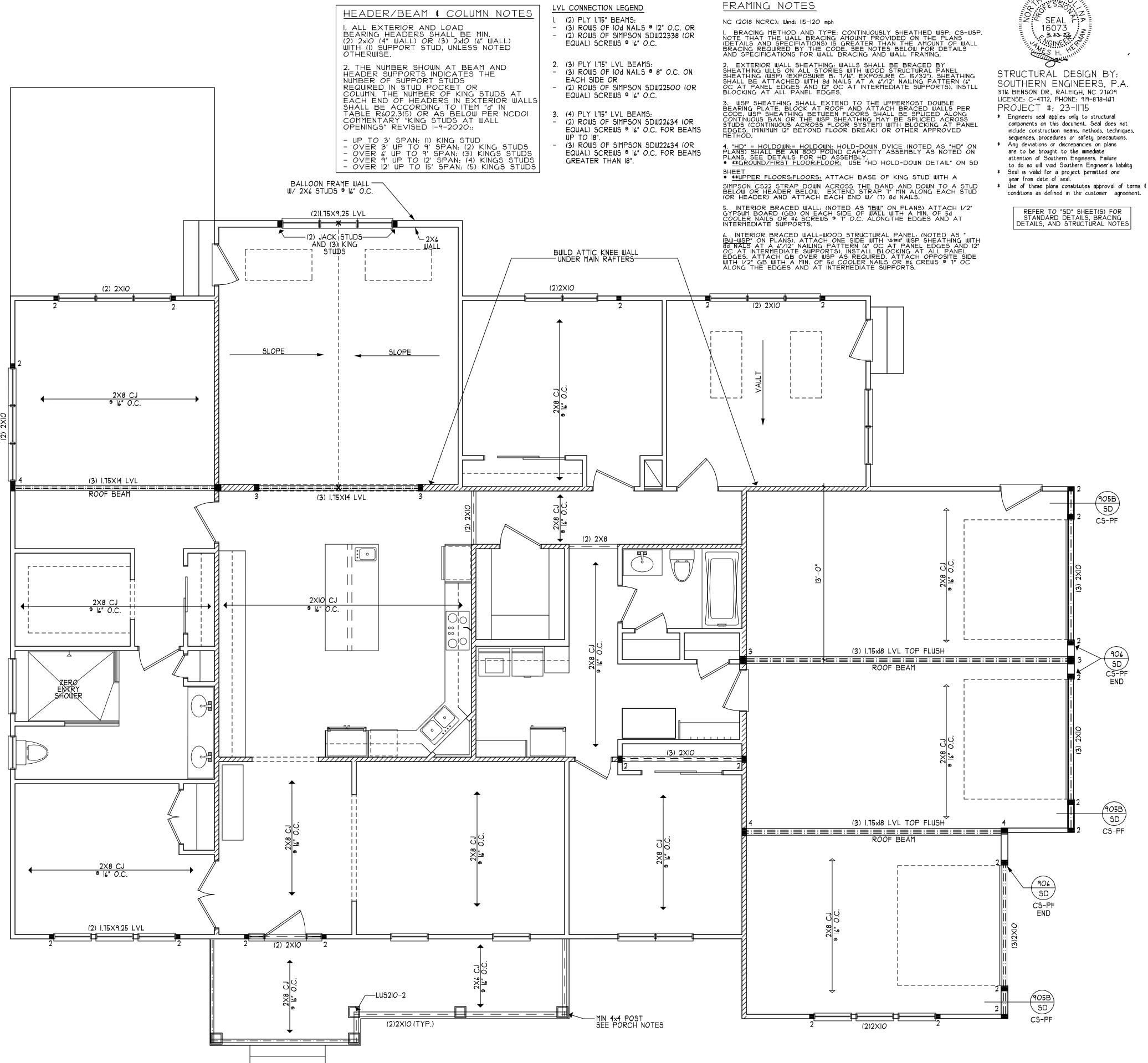


FIRST FLOOR PLAN

SCALE 1/4" = 1'-0"

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FILE: 020723



FIRST FLOOR STRUCTURAL PLAN SCALE 1/4" = 1'-0"



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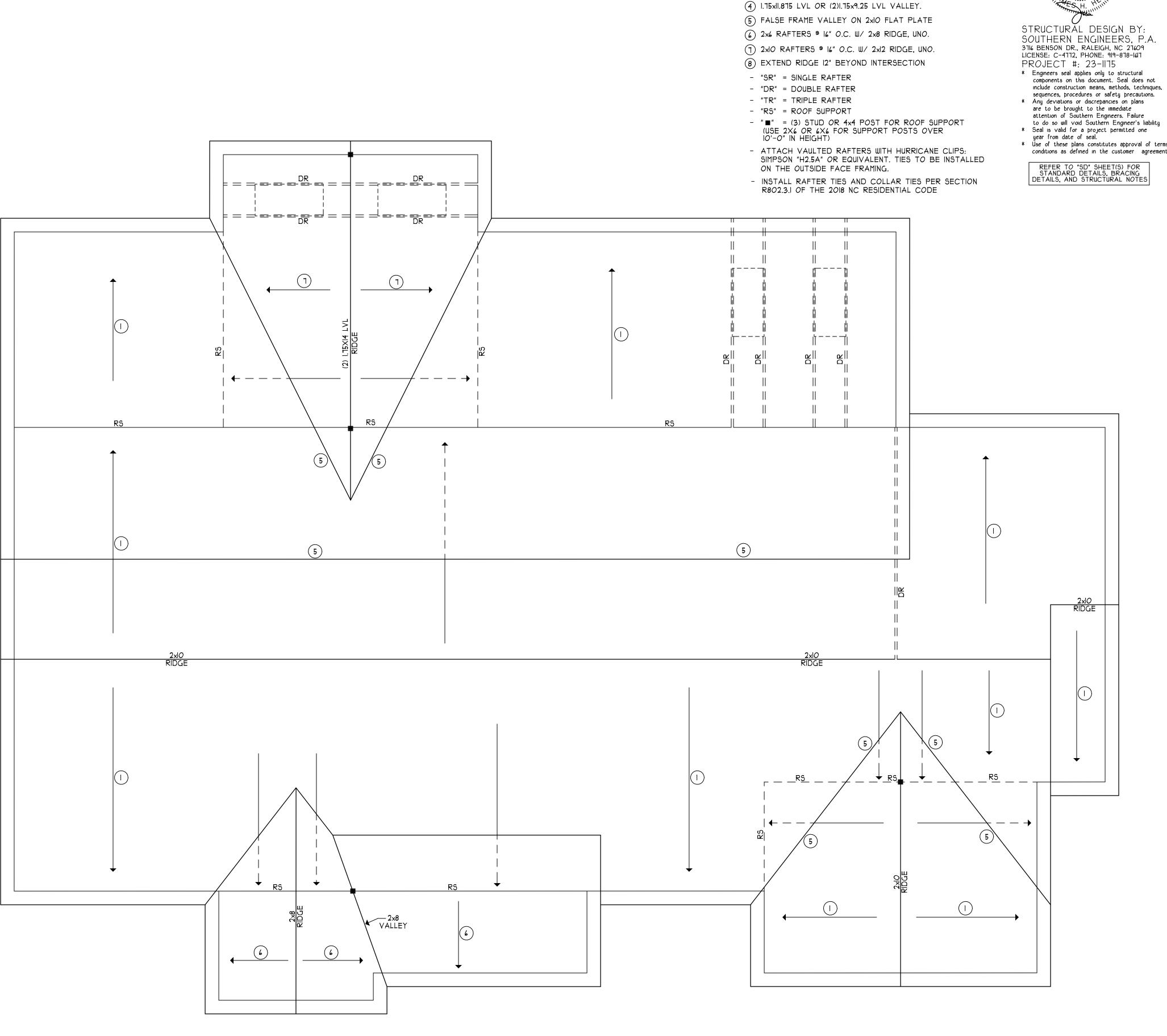
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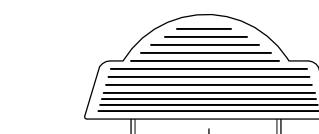
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FIRST FLOOR FRONT PORCH GARAGE

H SQUARED HOME DESIGN, INC.

THIS PLAN HAS BEEN DRAWN IN ACCORDANCE WITH NORTH CAROLINA STATE RESIDENTIAL BUILDING CODES 2018 EDITION.

RESIDENCE

PRIVATE

ROOF FRAMING NOTES: NC (2018 NCRC): Wind: 115-120 MPH

(2) 2xIO OR 1.75x9.25 LVL VALLEY. DO NOT SPLICE VALLEYS

1) 2x8 RAFTERS 9 16" O.C. WITH 2x10 RIDGE, UNO.

(2) 2x10 OR 1.75x11.875 LVL HIP. (2) 2x10 HIPS MAY BE SPLICED WITH A MIN. 6'-0" OVERLAP AT CENTER

STRUCTURAL DESIGN BY:

- * Engineers seal applies only to structural components on this document. Seal does not include construction means, methods, techniques.
- * Use of these plans constitutes approval of terms \$ conditions as defined in the customer agreement.

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

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I STORY

(SIDING W/ BRICK SKIRT)

FRAMING

FLOOR

SYSTEM

-2x6 TREATED

1/2" DIA. ANCHOR

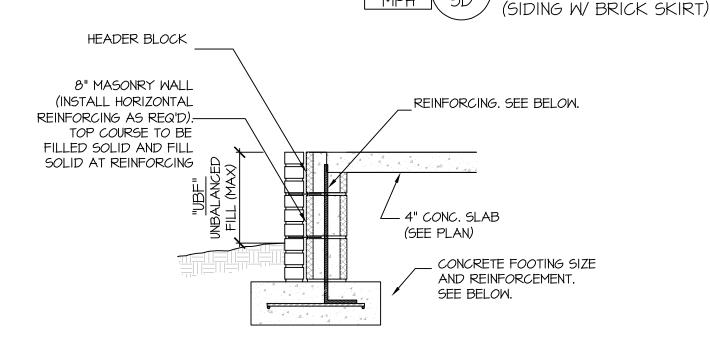
BOLTS @ 6'-0" OC (7" EMBEDMENT)

> -CONCRETE FOOTING

CRAWL SPACE FOOTING

8" CMU

SILL PLATE



8" SOLID CAP —

8" MASONRY WALL (8" CMU

OR 4" BRICK / 4" CMU.

REINFORCING (AS REQ'D)

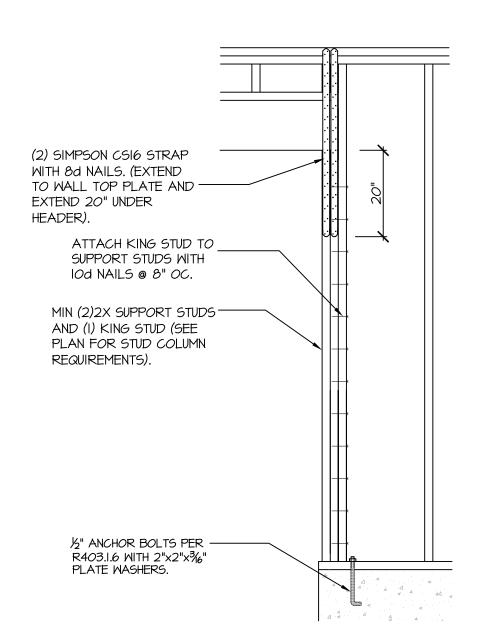
INSTALL HORIZONTAL

8" MASONRY (UN-REINFORCED) ON "UBF" = UP TO 16" 16" WIDE BY 8" DEEP (MIN) CONC. FTG.

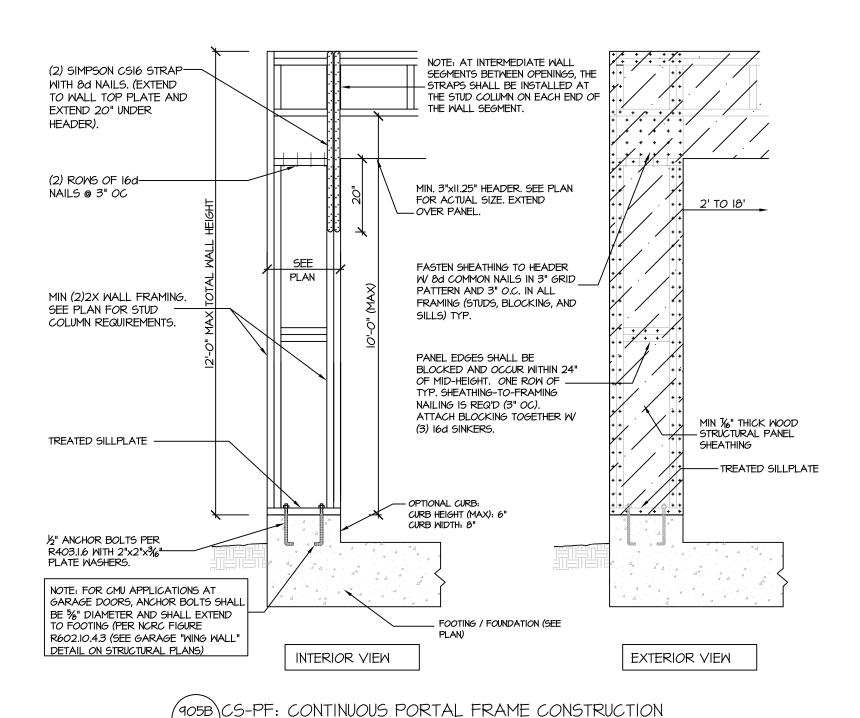
REINFORCE WALL W/ #5 BAR @ 48" O.C. W/ 7.5" BEND "UBF" = 16" UP TO 24" ----INTO FTG. 24" WIDE BY IO" DEEP CONC FTG REINFORCED W/ (3) #4 BAR OR (2) #5 BAR CONTINUOUS WITH #4 TIES @ 48" O.C.

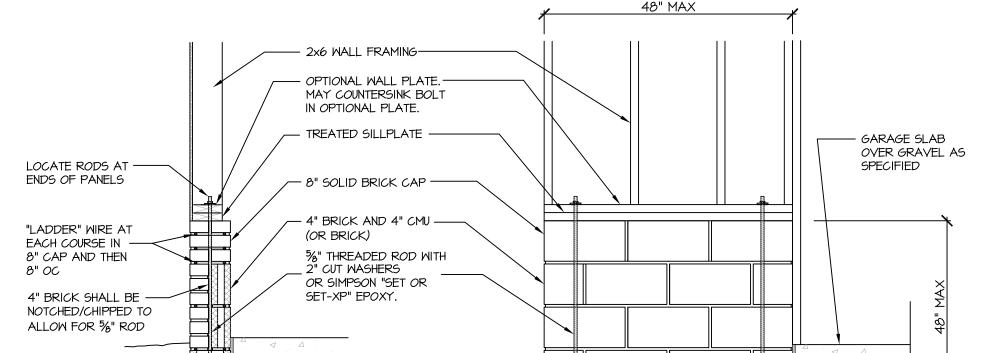
REINFORCE WALL W/ #5 BAR @ 24" O.C. W/ 7.5" BEND "UBF" = 24" UP TO 48" ---INTO FTG. 24" WIDE BY IO" DEEP CONC FTG REINFORCED W/ (3) #4 BAR OR (2) #5 BAR CONTINUOUS WITH #4 TIES @ 24" O.C.

115-120 (106J) MPH SD (BRICK SKIRT)



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





ELEVATION

DETAIL AND APPLICATION BASED ON NORC FIGURE

R602.IO.I - PORTAL FRAME CONSTRUCTION

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

OPENING

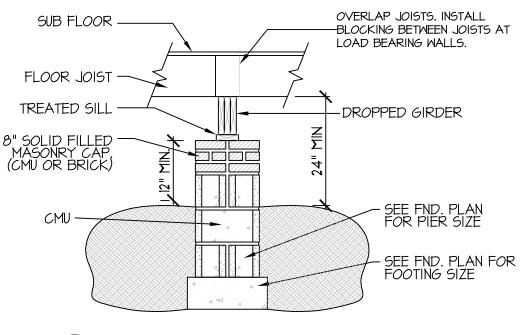
SECTION

3" CONC. COVER (TYP)

CONCRETE FOOTING (SEE

ACROSS GARAGE DOOR

-PLANS) - CONTINUE FOOTING —







STRUCTURAL NOTES

NC (2018 NCRC): Wind: 130 mph

- 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, 10 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)
- EXTERIOR BALCONIES: (60 PSF, 10 PSF, L/360)
- DECKS: (40 PSF, 10 PSF, L/360) GUARDRAILS AND HANDRAILS: (200 LBS)
- PASSSENGER VEHICLE GARAGES: (50 PSF, IO PSF, L/360)
- FIRE ESCAPES: (40 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 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 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=1.9xIO PSI. P.S.L. SHALL BE PARALLEL STRAND LUMBER: Fb=2900 PSI, Fv=290 PSI, E=2.0x10 PSI.
- L.S.L. SHALL BE LAMINATED STRAND LUMBER: Fb=2250 PSI, Fv=400 PSI, E=1.55xI0 PSI, INSTALL ALL CONNECTIONS PER MANUFACTURERS INSTRUCTIONS.
- IO. ALL ROOF TRUSS AND I-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 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.
- 12. REBAR SHALL BE DEFORMED STEEL, ASTM615, GRADE 60. LAP ALL REBAR SPLICES 30 BAR DIAMETERS.
- 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'-O". SEE PLANS FOR SPANS OVER 9'-O". SEE ALSO SECTION R703.8.3 LINTELS.
- 15. PROTECTION OF OPENINGS (R301.2.1.2) AS REQUIRED: GLAZED OPENINGS SHALL BE PROTECTED FROM WINDBORNE DEBRIS PER SECTION R301.2.1.2. NOTE: WOOD STRUCTURAL PANELS WITH MINIMUM THICKNESS OF 1/6" AND MAXIMUM SPAN OF 8'-0" MAY BE USED TO PROTECT THE OPENINGS. THE PANELS SHALL BE CUT AND ATTACHED PER TABLE R301.2.1.2.

PROJECT # 23-1175

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