

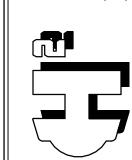
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#2692

HEATHER or JOHNATHAN HALL 165 HEATHERSTONE CT BENSON NC 27504 (919) 207–1403

H SQUARED HOME DESIGN, INC.



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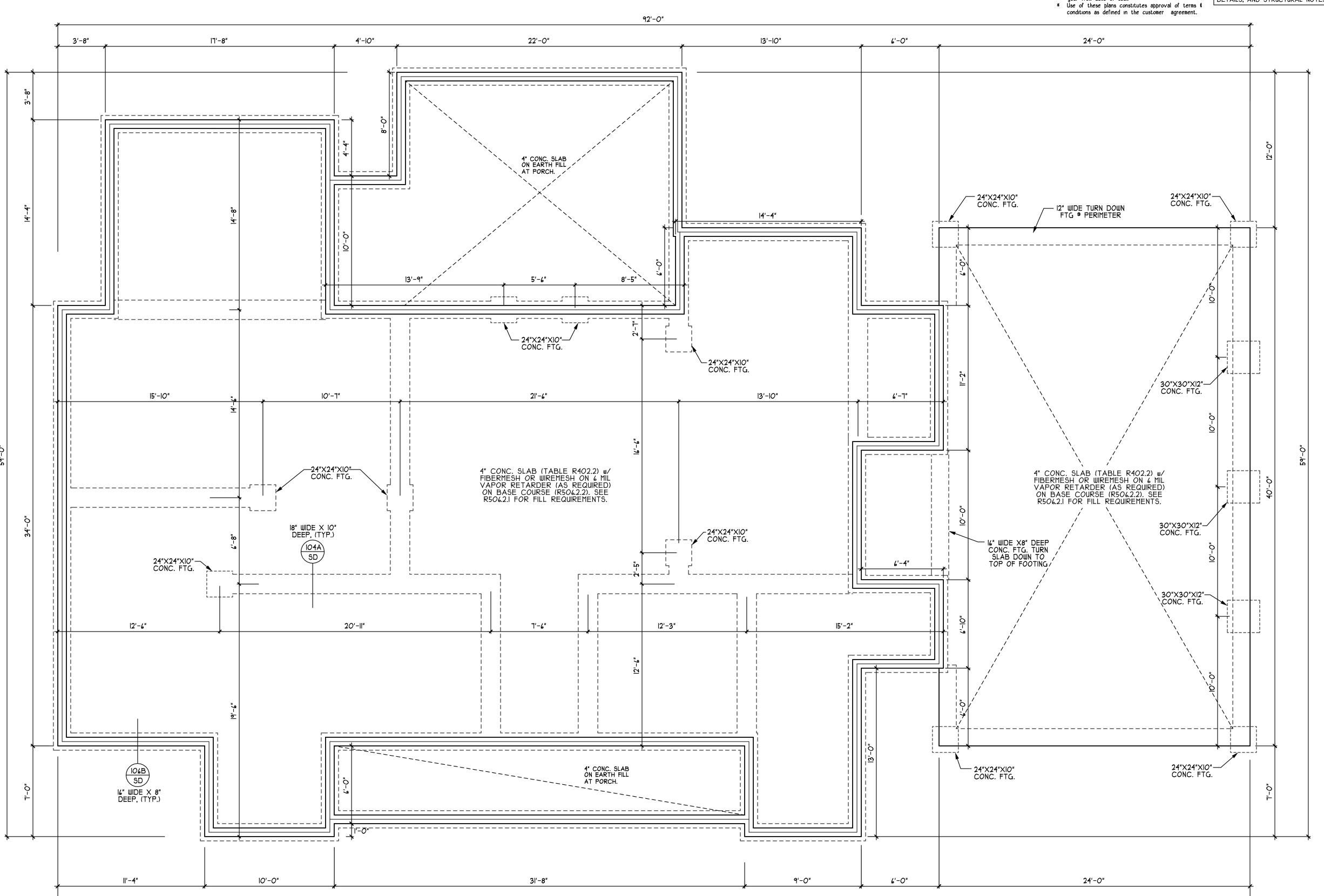
NOTE ASSUMED SOIL BEARING CAPACITY = 2000 PSF CONTRACTOR MUST VERIFY SITE CONDITIONS AND CONTACT SOILS ENGINEER IF MARGINAL OR UNSTABLE SOILS ARE ENCOUNTERED

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

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



92'-0"

ANCHOR BOLTS ANCHOR BOLTS TO BE PLACED WITHIN 12" OF EVERY CORNER AND FROM EVERY SPLICE AND AT 6'-0"

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

DAMP PROOFING FOR DRAINAGE, DAMP PROOFING # WATER PROOFING REFER TO SECTION 405 \$ 406 IN 2018 EDITION NC RES. CODES

RAISED SLAB FND FOUNDATION PLAN SCALE 1/4" = 1'-0"

RESIDENCE EDIE  $\approx$ 

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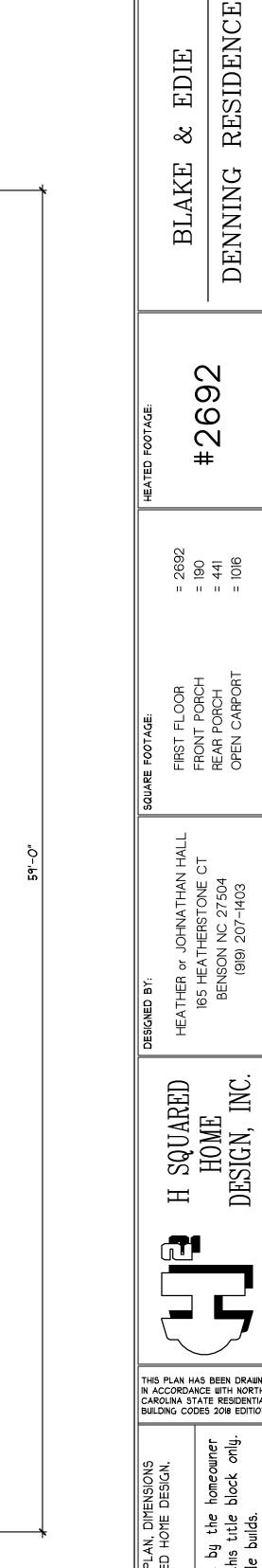
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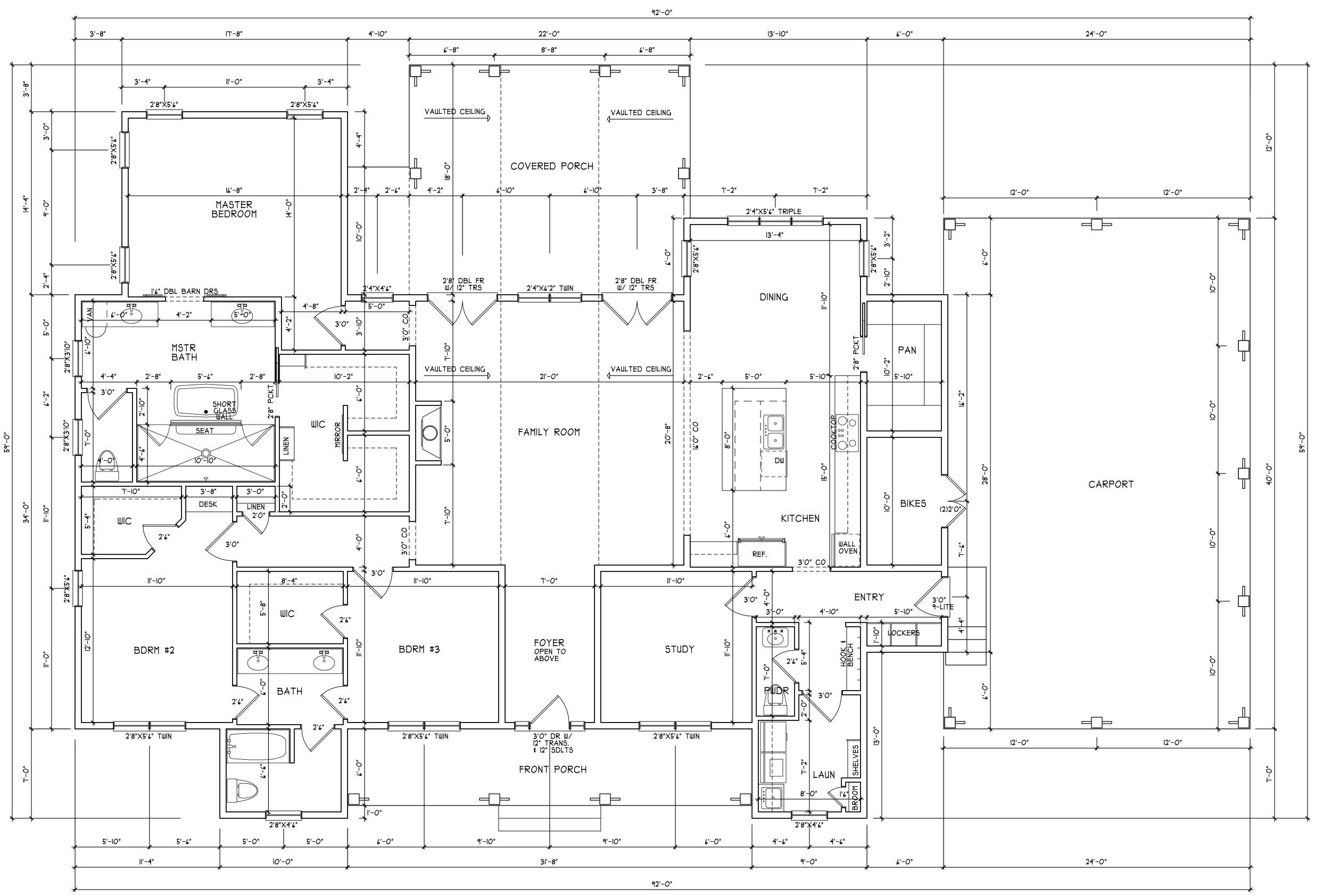
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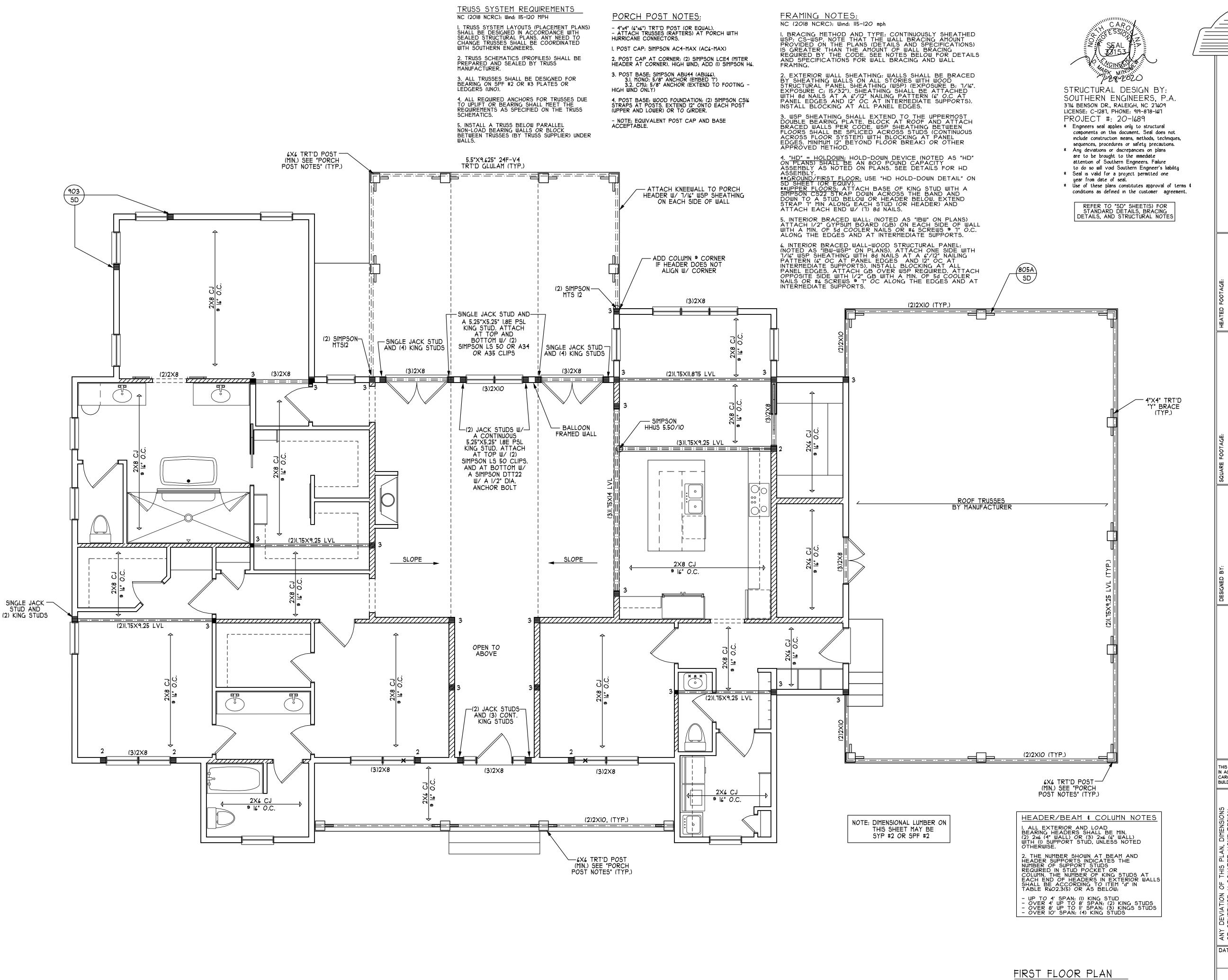
FIRST FLOOR PLAN

SCALE 1/4" = 1'-0"

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SCALE 1/4" = 1'-0"

2. 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: (I) KING STUD - OVER 4' UP TO 8' SPAN: (2) KING STUDS - OVER 8' UP TO II' SPAN: (3) KINGS STUDS - OVER II' SPAN: (4) KING STUDS

STRUCTURAL DESIGN BY: SOUTHERN ENGINEERS, P.A. 3716 BENSON DR., RALEIGH, NC 27609 LICENSE: C-1287, PHONE: 919-878-1617 PROJECT #: 20-1689

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

\* Use of these plans constitutes approval of terms \$ conditions as defined in the customer agreement. 92'-0" 17'-8" 4'-IO" 22'-0" 13'-10" 6'-0" 24'-0" 3'-8" 5.5"X9.625" 24F-V4 TRT'D GLULAM (SUPPORT END ON COLUMNS) VAULTED CEILING VAULTED CEILING **GOVERED PORCH** BELOW 2X6 CJ -SEE IST FLOOR PLAN 10'-6" 10'-6" (3)1.75X9.25 LVL FRAMING NOTES: NC (2018 NCRC): Wind: 115-120 mph ATTACH VAULTED -I. 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 THE CODE. SEE NOTES BELOW FOR DETAILS AND SPECIFICATIONS FOR WALL BRACING AND WALL FRAMING. RAFTERS WITH SIMPSON H2.5A (TYP.) RAFTER SUPPORT VAULTED CEILING VAULTED CEILING 2. EXTERIOR WALL SHEATHING: WALLS SHALL BE BRACED BY SHEATHING WALLS ON ALL STORIES WITH WOOD STRUCTURAL PANEL SHEATHING (WSP) (EXPOSURE B: 1/16". EXPOSURE C: 15/32"). SHEATHING SHALL BE ATTACHED WITH 8d NAILS AT A 6"/12" NAILING PATTERN (6" O.C AT PANEL EDGES AND 12" OC AT INTERMEDIATE SUPPORTS). INSTALL BLOCKING AT ALL PANEL EDGES. 25'-10" 21'-0" FAMILY ROOM 3. WSP SHEATHING SHALL EXTEND TO THE UPPERMOST DOUBLE BEARING PLATE. BLOCK AT ROOF AND ATTACH BRACED WALLS PER CODE. WSP SHEATHING BETWEEN FLOORS SHALL BE SPLICED ACROSS STUDS (CONTINUOUS ACROSS FLOOR SYSTEM) WITH BLOCKING AT PANEL EDGES. MINIMUM 12" BEYOND FLOOR BREAK) OR OTHER APPROVED METHOD. BELOW 4. "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 (OR EQUIV).

\*\*UPPER FLOORS: ATTACH BASE OF KING STUD WITH A SIMPSON CS22 STRAP DOWN ACROSS THE BAND AND DOWN TO A STUD BELOW OR HEADER BELOW. EXTEND STRAP 1" MIN ALONG EACH STUD (OR HEADER) AND ATTACH EACH END W/ (1) 8d NAILS. LIGHT STORAGE IN THIS AREA RAFTER SUPPORT 9, 0 5. 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 ® 1" O.C.
ALONG THE EDGES AND AT INTERMEDIATE SUPPORTS. RAFTER SUPPORT (3)1.75×9.25 LVL RAFTER SUPPORT 6. INTERIOR BRACED WALL-WOOD STRUCTURAL PANEL:
(NOTED AS "IBW-WSP" ON PLANS). ATTACH ONE SIDE WITH
1/16" 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 REQUIRED. ATTACH
OPPOSITE SIDE WITH 1/2" GB WITH A MIN. OF 5d COOLER
NAILS OR #6 SCREWS ® 1" OC ALONG THE EDGES AND AT
INTERMEDIATE SUPPORTS. 2X6 32" C. MAX.) 의약() 2X6 CJ /- MATCH TO LINE ON ROOF 11'-10" 11'-10" 7'-0" 2'8"X4'6", TWIN 7'-9" 8'-5" 8'-5" 6'-0" 24'-0" 21'-0" 32'-4" 8'-8" — (2) JACK STUDS AND — (3) CONT. KING STUDS FROM BELOW

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

> > SECOND FLOOR PLAN

SCALE 1/4" = 1'-0"

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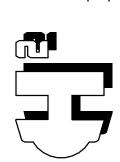
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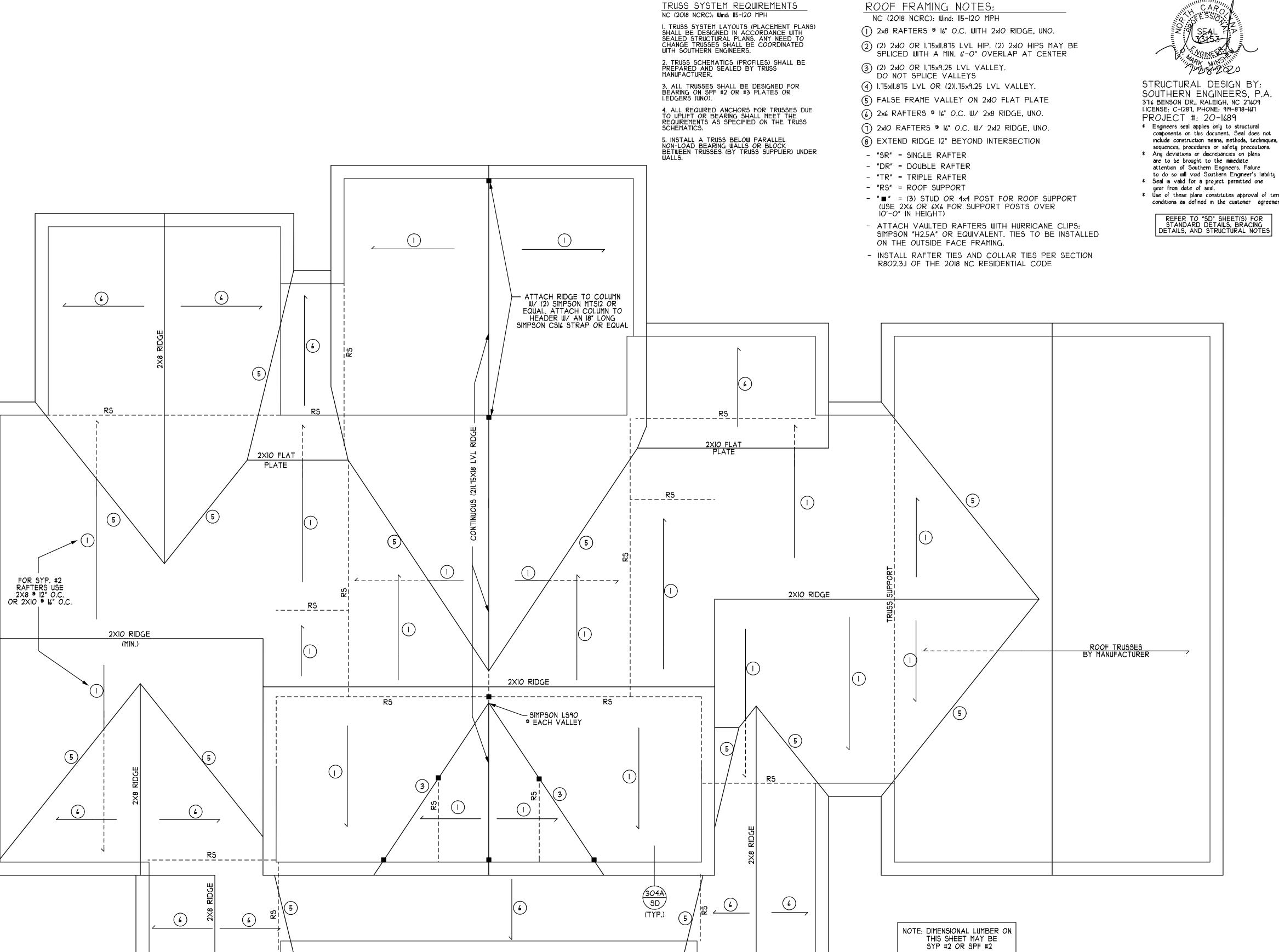
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DATE:

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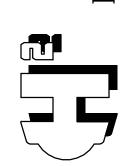
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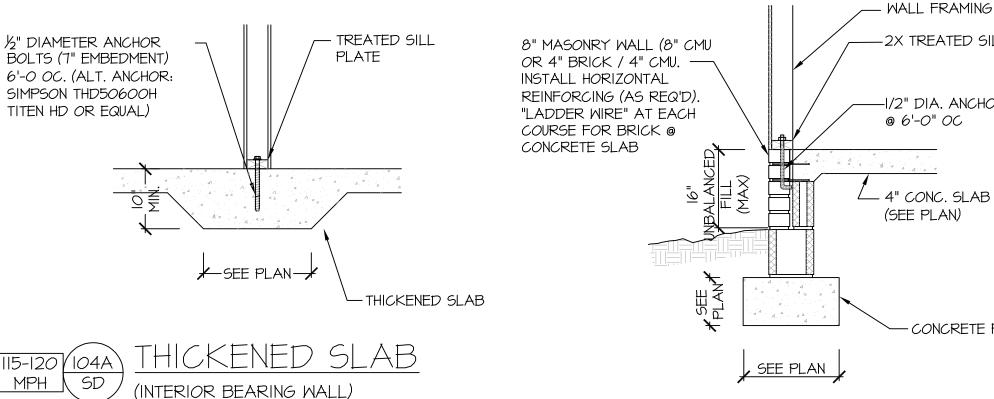
ROOF PLAN SCALE 1/4" = 1'-0"

## STRUCTURAL NOTES

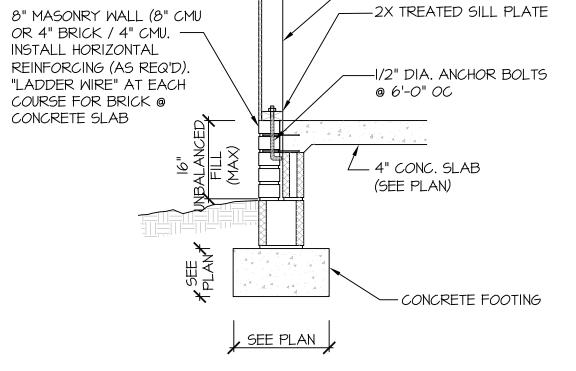
NC (2018 NCRC): Wind: 115-120 mph

- 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, 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, IO PSF, L/360)
- EXTERIOR BALCONIES: (60 PSF, IO PSF, L/360)
- DECKS: (40 PSF, IO 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 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 STRUCTUAL 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 DRAINSURFACE WATER AWAY FROM FOUNDATION WALLS.
- 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) = 425 PSI - MIN).
- 9. L.V.L. SHALL BE LAMINATED VENEER LUMBER: Fb=2600 PSI, Fv=285 PSI, E=1.9x10 PSI. 9.I. P.S.L. SHALL BE PARALLEL STRAND LUMBER: Fb=2900 PSI, Fv=290 PSI, E=2.0x10 PSI. 9.2. L.S.L. SHALL BE LAMINATED STRAND LUMBER: Fb=2250 PSI, Fv=400 PSI, E=1.55xIO 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.
- 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, ASTM615, 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 9'-0". SEE PLANS FOR SPANS OVER 9'-0". SEE ALSO SECTION R703.8.3 LINTELS.



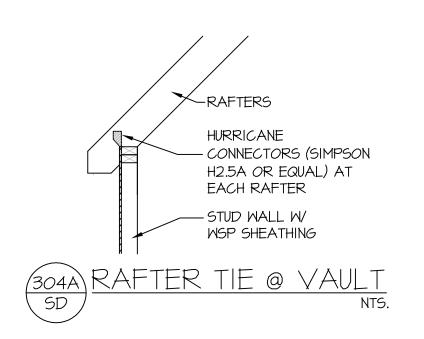


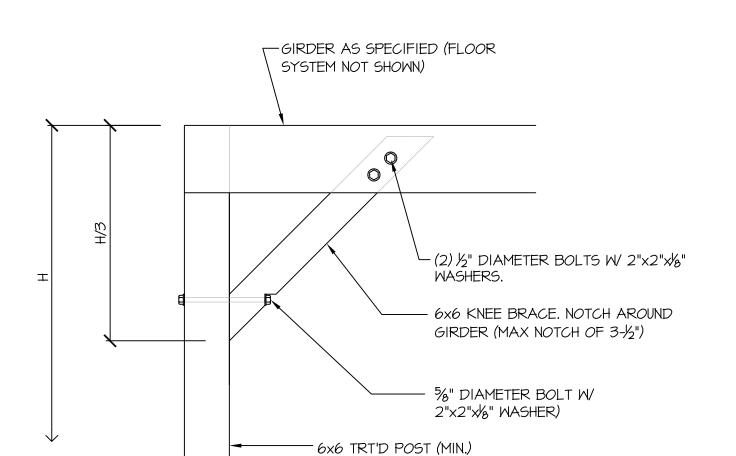
MPH



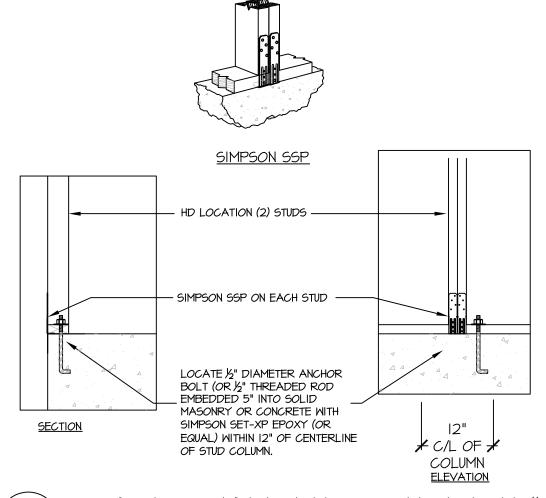
(SIDING W/ BRICK SKIRT)

WALL SLAB FOOTING









BRACED WALL END CONDITION "HD"

NOTE: SIMPSON DTT-IZ IS ACCEPTABLE ALTERNATE NOTE: ALTERNATE HD HOLD-DOWN DEVICES OR SYSTEMS MAY BE USED TO MEET THE CODE REQUIRED 800 LB CAPACITY IN LIEU OF THE ABOVE DETAIL.

## PROJECT # 20-1689

date of seal. & conditions

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