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THIS PLAN DESIGNED UNDER NORTH CAROLINA RESIDENTIAL CODE 2018 IRC NC (2018 NRC) 1 Kind 119 - 120 mph

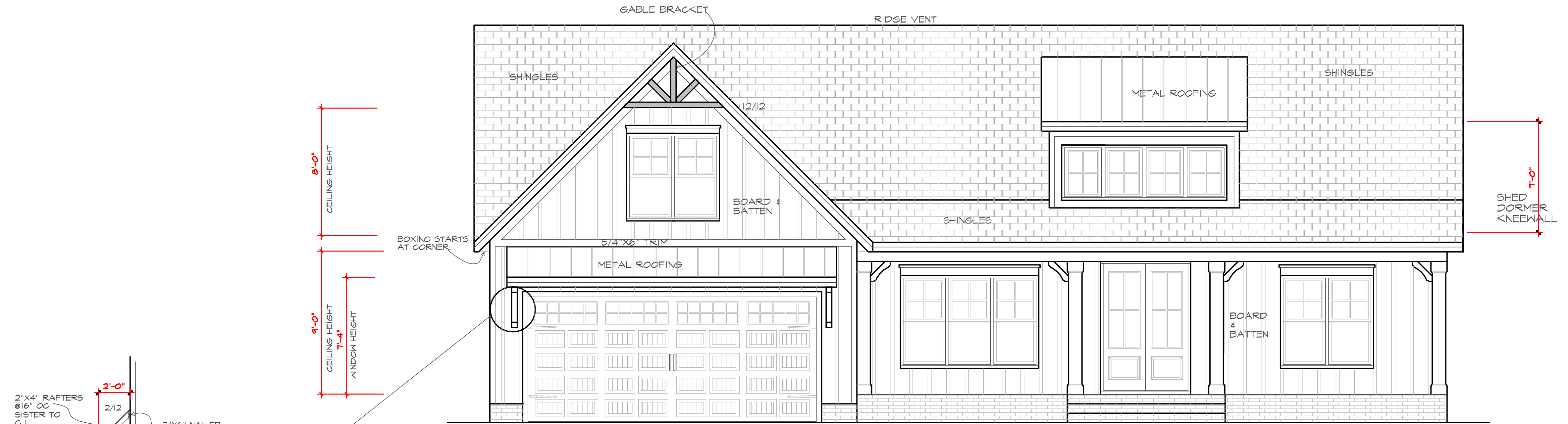
The Front Porch II



DATE 6/29/2022

PROJECT # 210604

MidTown Designs Inc. 1529 Big Falls Dr. Wendell NC 27591 Phone: 919-783-8626 www.midtowndesigns.com

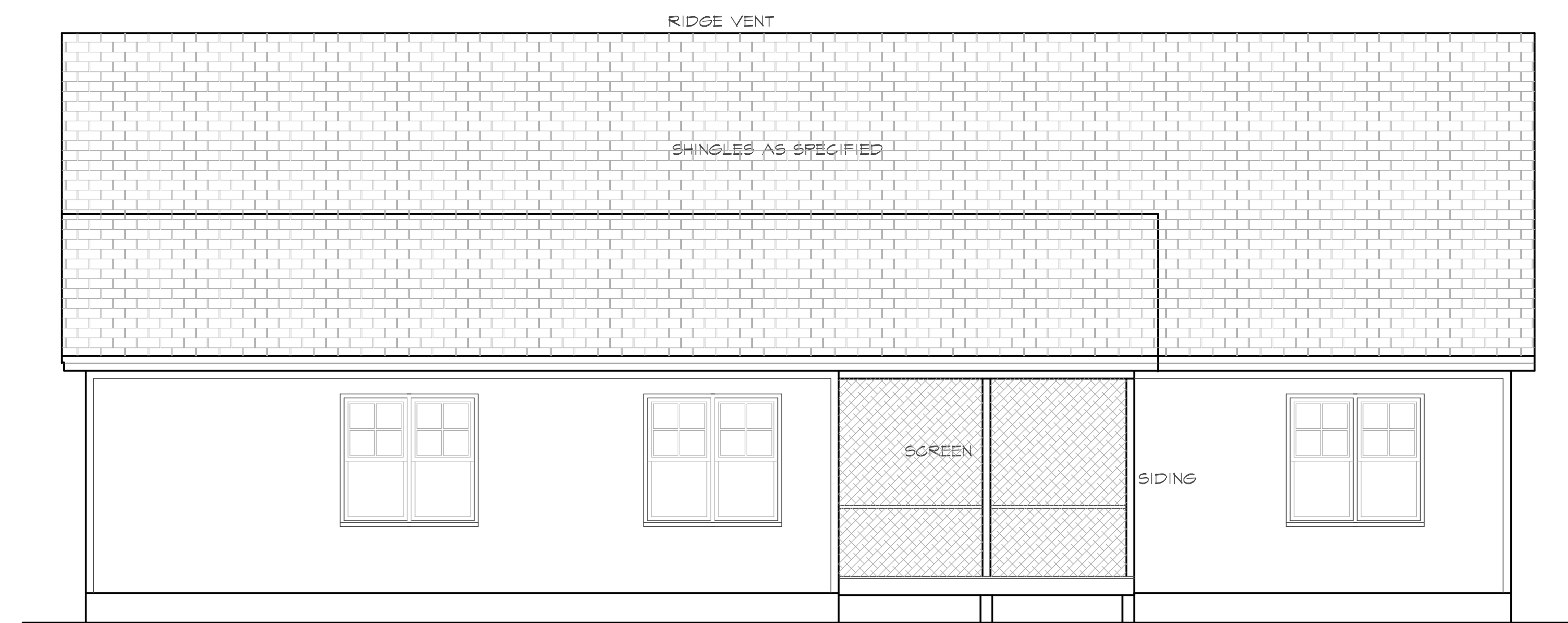


FRONT ELEVATION A

SCALE 1/4" = 1'-0"

ATTIC VENTILATION

THE NET FREE VENTILATING AREA SHALL BE NOT LESS THAN 1 TO 150 OF THE AREA OF THE SPACE VENTILATED EXCEPT THAT THE AREA MAY BE 1 TO 300 PROVIDED AT LEAST 50 PERCENT OF THE REQUIRED VENTILATING AREA IS PROVIDED BY VENTILATORS LOCATED IN THE UPPER PORTION OF THE SPACE TO BE VENTILATED AT LEAST 3 FEET ABOVE THE EAVE OR CORNICE VENTS WITH THE BALANCE OF THE REQUIRED VENTILATION TO BE PROVIDED BY EAVE OR CORNICE VENTS.



REAR ELEVATION

SCALE 1/8" = 1'-0"



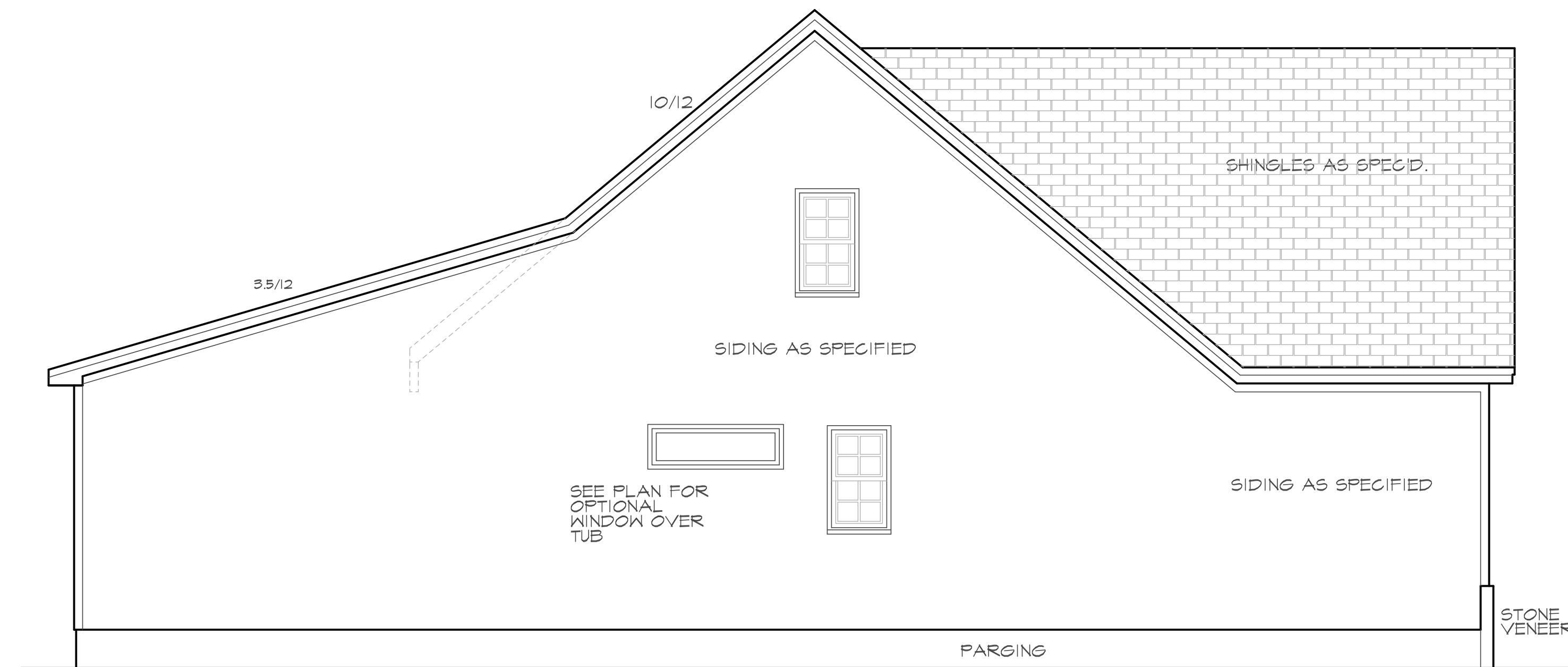
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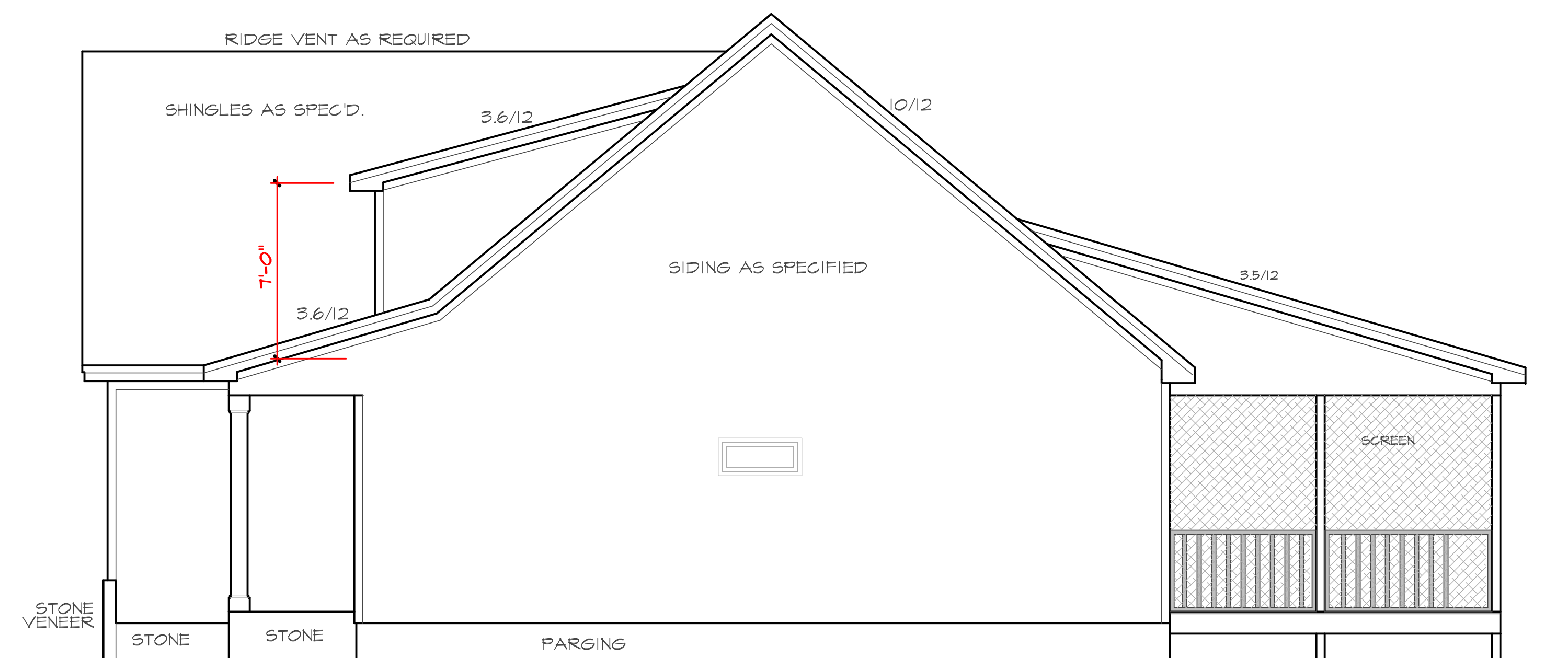
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LEFT SIDE ELEVATION

SCALE 1/8" = 1'0"



RIGHT SIDE ELEVATION

SCALE 1/8" = 1'0"

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The Front Porch II



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DATE 6/28/2022

PROJECT # 210604



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NC (2018 NRC) | Kind: 119 - 120 mph

The Front Porch II



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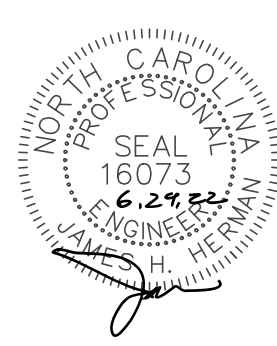
6/28/2022

PROJECT # 210604

STRUCTURAL DESIGN BY:
SOUTHERN ENGINEERS, P.A.
316 BENSON DR., RALEIGH, NC 27609
LICENSE: C-4112, PHONE: 919-818-1071
PROJECT #: 22-1608

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

FOUNDATION VENTING

SECTION R409 UNDER FLOOR SPACE
R409.1 Ventilation. The under-floor space between the bottom of the floor joists and the earth under any building (except space occupied by a basement or cellar) shall be provided with ventilation openings through foundation walls or exterior walls. The minimum net area of ventilation openings shall not be less than 1 square foot for each 150 square feet (13.7 m squared) of under-floor space area. One such ventilating opening shall be within 3 feet (914 mm) of each corner of said building.

CRAWL AREA TO BE VENTED: 1422 SQ. FT.
1422/1500 = .948 NET FREE VENTING AREA REQUIRED

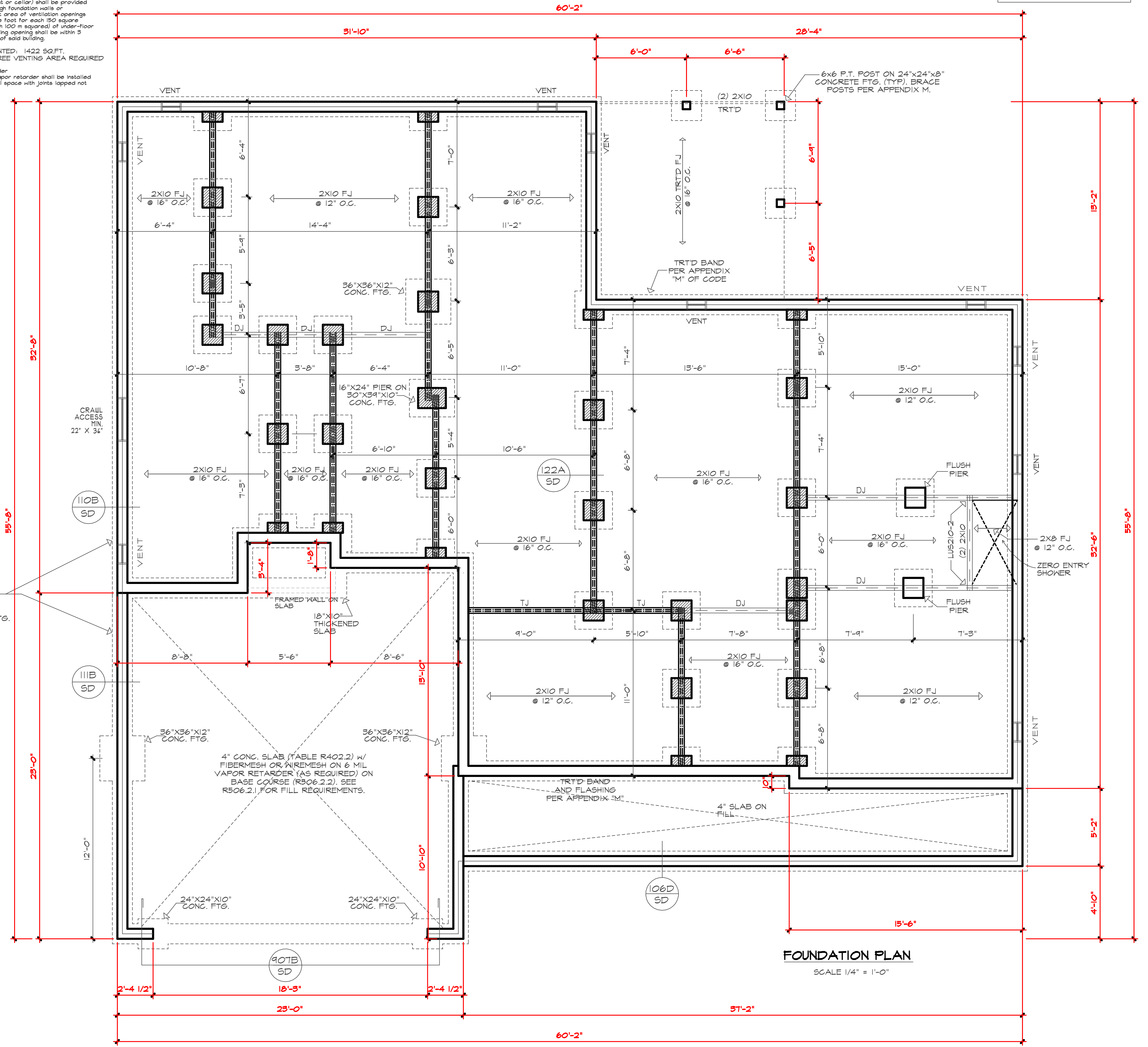
R409.2 Ground Vapor Retarder.
A minimum 6 mil. polyethylene vapor retarder shall be installed to cover all earth in the crawl space with joints lapped not less than 12"

FOUNDATION STRUCTURAL NOTES:

- NC (2018 NRC) | Wind: 119-120 MPH
- (1) 2X10 SYP #2 OR SYP#2 GIRDER, TYPICAL I/O.
 - (2) CONCRETE BLOCK PIER SIZE SHALL BE:

| SIZE | HOLLOW MASONRY | SOLID MASONRY |
|-----------|----------------|-------------------|
| 8" x 16" | UP TO 32" HIGH | UP TO 5'-0" HIGH |
| 12" x 16" | UP TO 48" HIGH | UP TO 9'-0" HIGH |
| 16" x 16" | UP TO 64" HIGH | UP TO 12'-0" HIGH |
| 24" x 24" | UP TO 96" HIGH | UP TO 18'-0" HIGH |

 WITH 30" x 30" x 10" CONCRETE FOOTING, I/O.
 - (3) WALL FOOTING AS FOLLOWS:
 DEPTH: 8" - UP TO 2-1/2 STORY
 10" - 3 STORY
 WIDTH: SIDING (OR EQUAL)
 - 16" - UP TO 2-1/2 STORY
 - 20" - 3 STORY
 BRICK VENEER
 - 16" - 1 STORY
 - 20" - 2 STORY
 - 24" - 3 STORY
- FOR FOUNDATION WALL HEIGHT AND BACKFILL REQUIREMENTS, REFER TO NORTH CAROLINA RESIDENTIAL CODE TABLE R409.1(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) 2X10 SYP#2 OR SYP#2 GIRDER.
 - (5) 175X125 LVL OR LSL GIRDER.
 - (6) 175X125 LVL OR LSL GIRDER.
1. ■ 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.
2. ABBREVIATIONS:
 "S" = SINGLE JOIST
 "DJ" = DOUBLE JOIST
 "TJ" = TRIPLE JOIST



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



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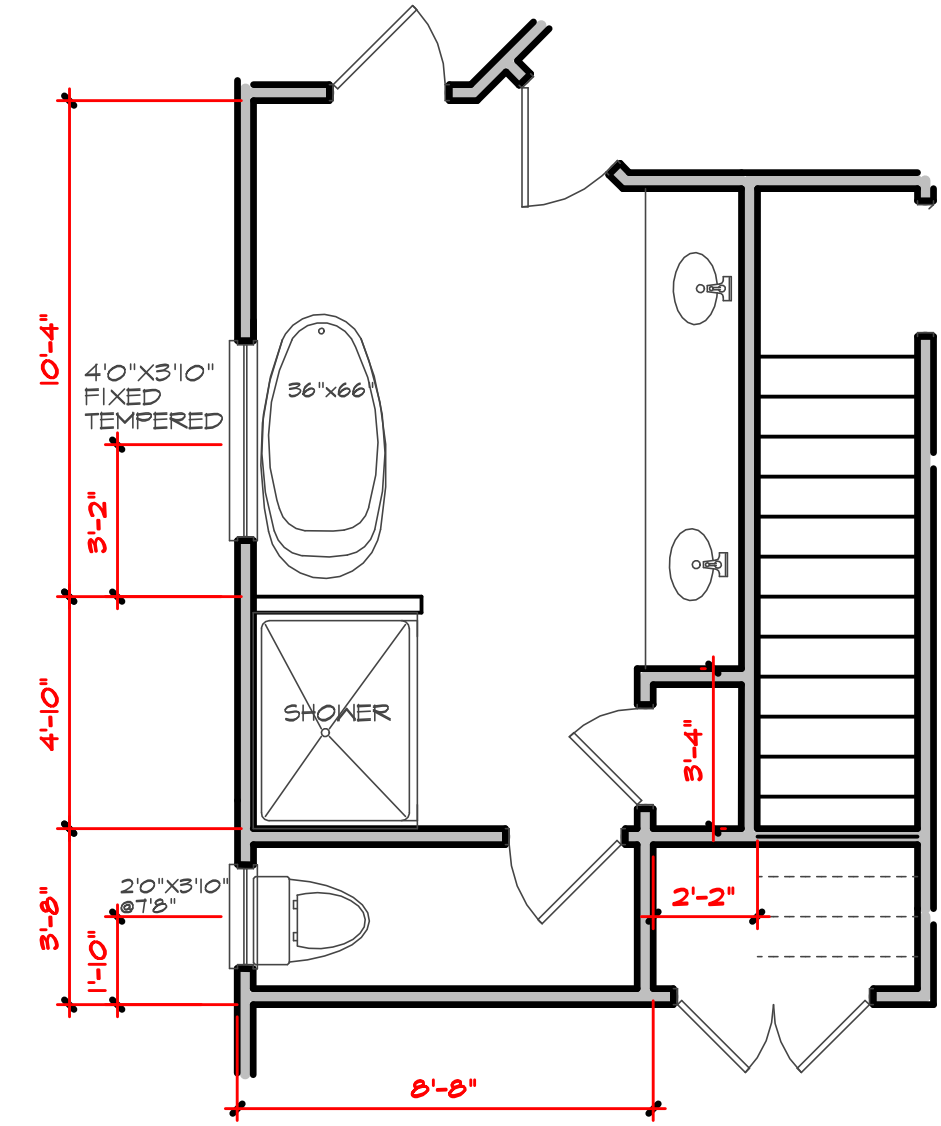
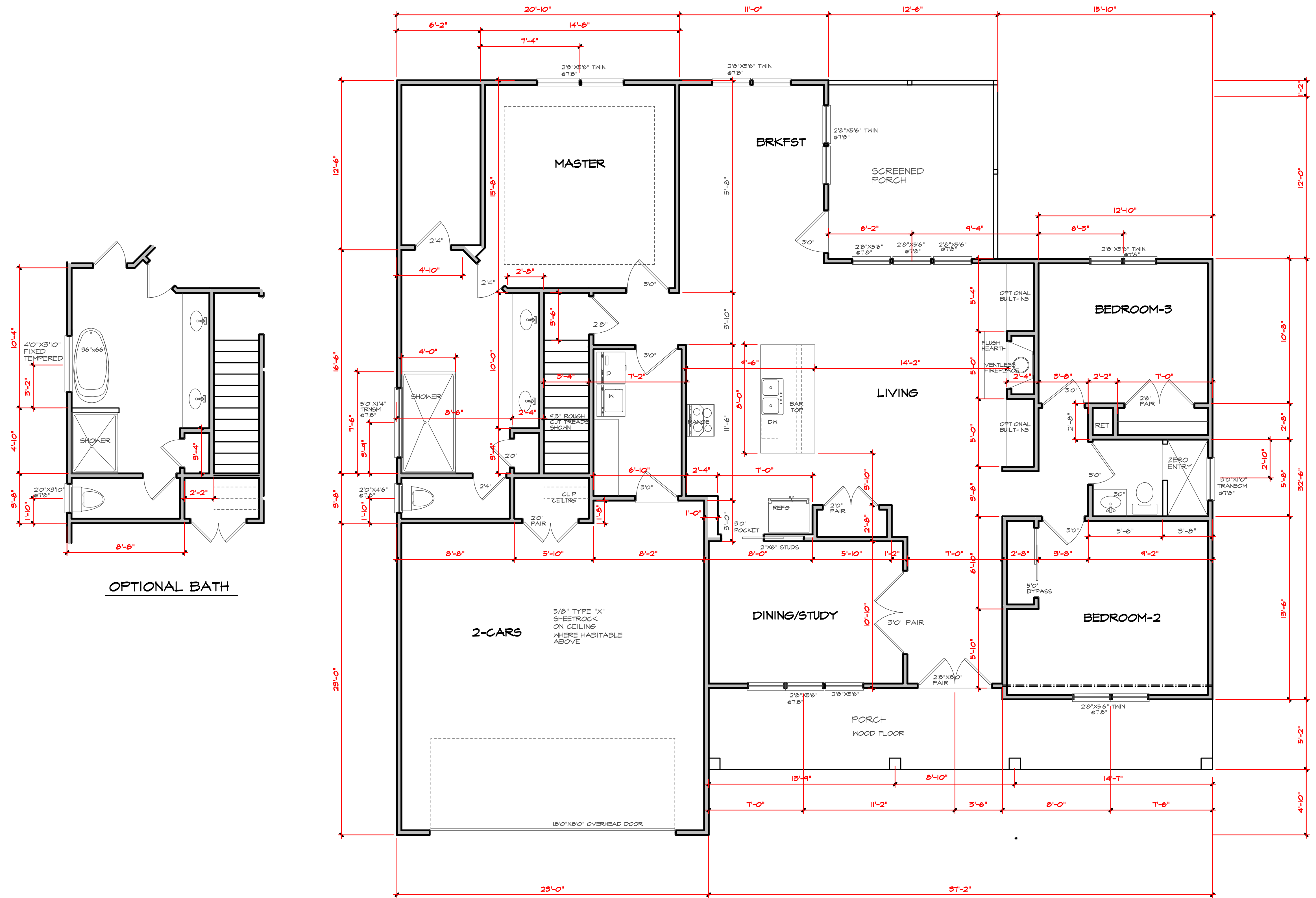
THIS PLAN DESIGNED UNDER NORTH CAROLINA RESIDENTIAL CODE 2018 IRC NC (2018 NRC) 1 Kind 118 - 120 mph

The Front Porch II



6/29/2022 PROJECT # 210604

MidTown Designs Inc. 1529 Big Falls Dr. Wendell NC 27591 Phone: 919-783-8626 www.midtowndesigns.com



OPTIONAL BATH

FIRST FLOOR PLAN

SCALE 1/4" = 1'-0"

NOTE! VERIFY ALL CONDITIONS AND DIMENSIONS BEFORE CONSTRUCTION

| SQUARE FOOTAGE | |
|------------------|---------------|
| FIRST FLOOR | 2029 SQ.FT. |
| OPTIONAL PLYROOM | = 506 SQ.FT. |
| TOTAL W/PLAYROOM | = 2535 SQ.FT. |
| FRONT PORCH | = 210 SQ.FT. |
| REAR PORCH | = 150 SQ.FT. |
| DECK | = 108 SQ.FT. |
| GARAGE | = 551 SQ.FT. |



STRUCTURAL DESIGN BY:
SOUTHERN ENGINEERS, P.A.
3716 BENSON DR., RALEIGH, NC 27609
LICENSE C-4112; PHONE: 919-878-1417
PROJECT #: 22-1608

* Engineer's 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.

REFER TO 'SD' SHEETS FOR STANDARD DETAILS, BRACING DETAILS, AND STRUCTURAL NOTES



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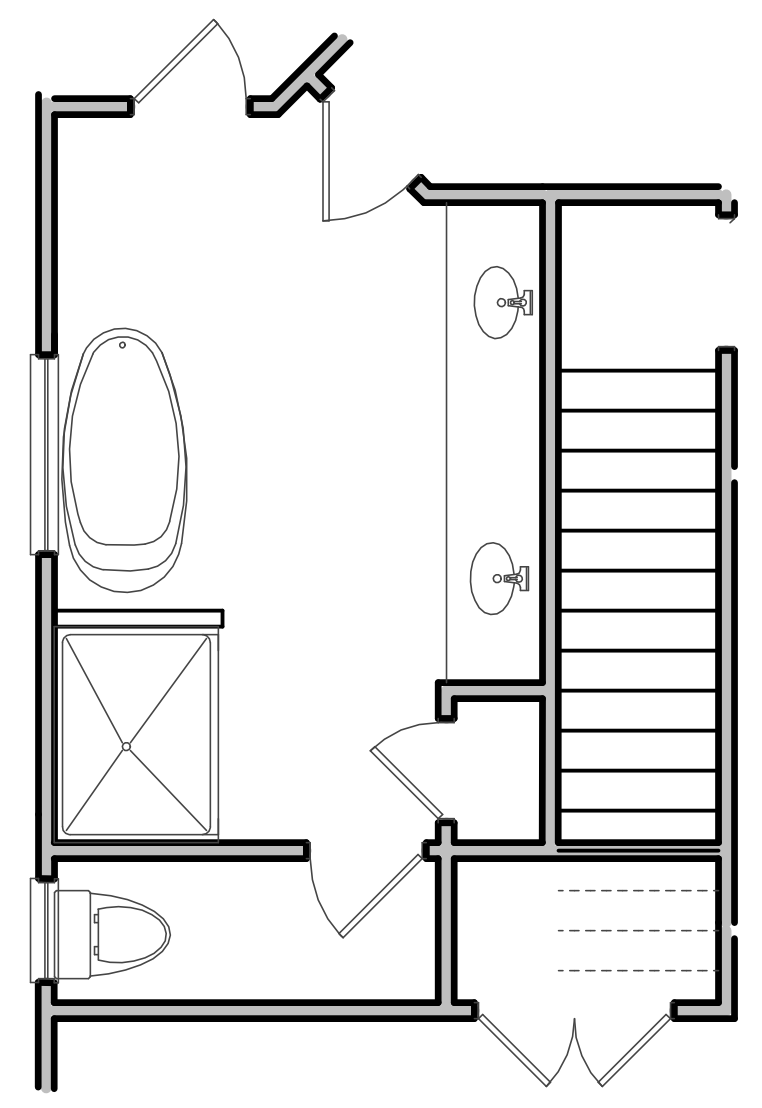
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HEADER/BEAM & COLUMN NOTES

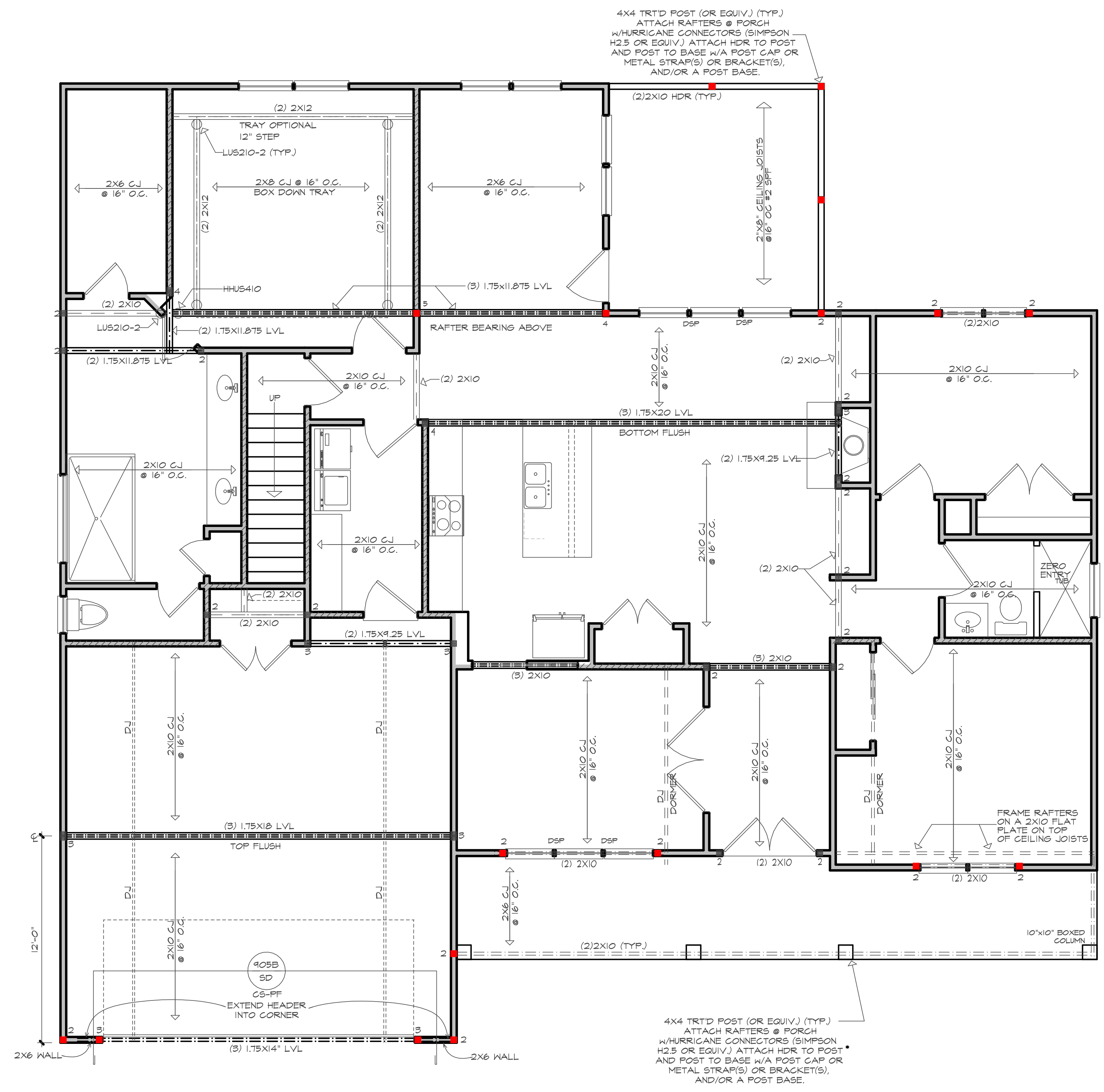
- ALL EXTERIOR AND LOAD BEARING HEADERS SHALL BE MIN. (2) 2X10 (4" WALL) OR (3) 2X10 (4" WALL) WITH (1) SUPPORT STUD, UNLESS NOTED OTHERWISE.
- THE NUMBER SHOWN AT BEAM AND HEADER SUPPORTS INDICATES THE NUMBER OF SUPPORT STUDS REQUIRED IN STUD POCKET OR COLUMN. THE NUMBER OF KING STUDS AT EACH END OF 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



OPTIONAL BATH

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

- BRACING METHOD AND TYPE, CONTINUOUSLY SHEATHED DOUBLE BEARING WALLS PER CODE. WSP SHEATHING BETWEEN 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.
- EXTERIOR WALL SHEATHING: WALLS SHALL BE BRACED BY SHEATHING WALLS ON ALL SIDES WITH WOOD STRUCTURAL PANEL SHEATHING (WSP) EXPOSURE B, 1/4" EXPOSURE C, 15/32". SHEATHING SHALL BE ATTACHED WITH 8d NAILS AT A 6"/12" NAILING PATTERN (1/4" O.C. AT PANEL EDGES AND 12" O.C. AT INTERMEDIATE SUPPORTS). INSTALL BLOCKING AT ALL PANEL EDGES.
- 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 SPICED ACROSS STUDS (CONTINUOUS ACROSS FLOOR SYSTEM) WITH BLOCKING AT PANEL EDGES, MINIMUM 12" BEYOND FLOOR BREAK OR OTHER APPROVED METHOD.
- "HD" = HOLD-DOWN; 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 C527 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 NAIL.
- 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 #4 SCREWS * 1" O.C. ALONG THE EDGES AND AT INTERMEDIATE SUPPORTS.
- INTERIOR BRACED WALL-WOOD STRUCTURAL PANEL: (NOTED AS "IBW-WSP" ON PLANS). ATTACH ONE SIDE WITH 7/8" WSP SHEATHING WITH 8d NAILS AT A 6"/12" NAILING PATTERN (1/4" O.C. AT PANEL EDGES AND 12" O.C. 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 #4 SCREWS * 1" O.C. ALONG THE EDGES AND AT INTERMEDIATE SUPPORTS.



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

| SQUARE FOOTAGE | |
|------------------|---------------|
| FIRST FLOOR | 2029 SQ.FT. |
| OPTIONAL PLYROOM | = 506 SQ.FT. |
| TOTAL W/PLYROOM | = 2535 SQ.FT. |
| FRONT PORCH | = 210 SQ.FT. |
| REAR PORCH | = 150 SQ.FT. |
| DECK | = 108 SQ.FT. |
| GARAGE | = 557 SQ.FT. |

THIS PLAN DESIGNED UNDER NORTH CAROLINA RESIDENTIAL CODE 2018 IRC.

The Front Porch II



DATE: 6/24/2022
PROJECT #: 210604



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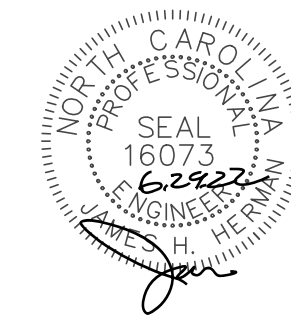
THIS PLAN DESIGNED UNDER NORTH CAROLINA RESIDENTIAL CODE 2018 EDITION (2018 IRC) NC (2018 NRC) Wind: 115 - 120 mph

The Front Porch II



DATE: 6/29/2022 PROJECT #: 210604

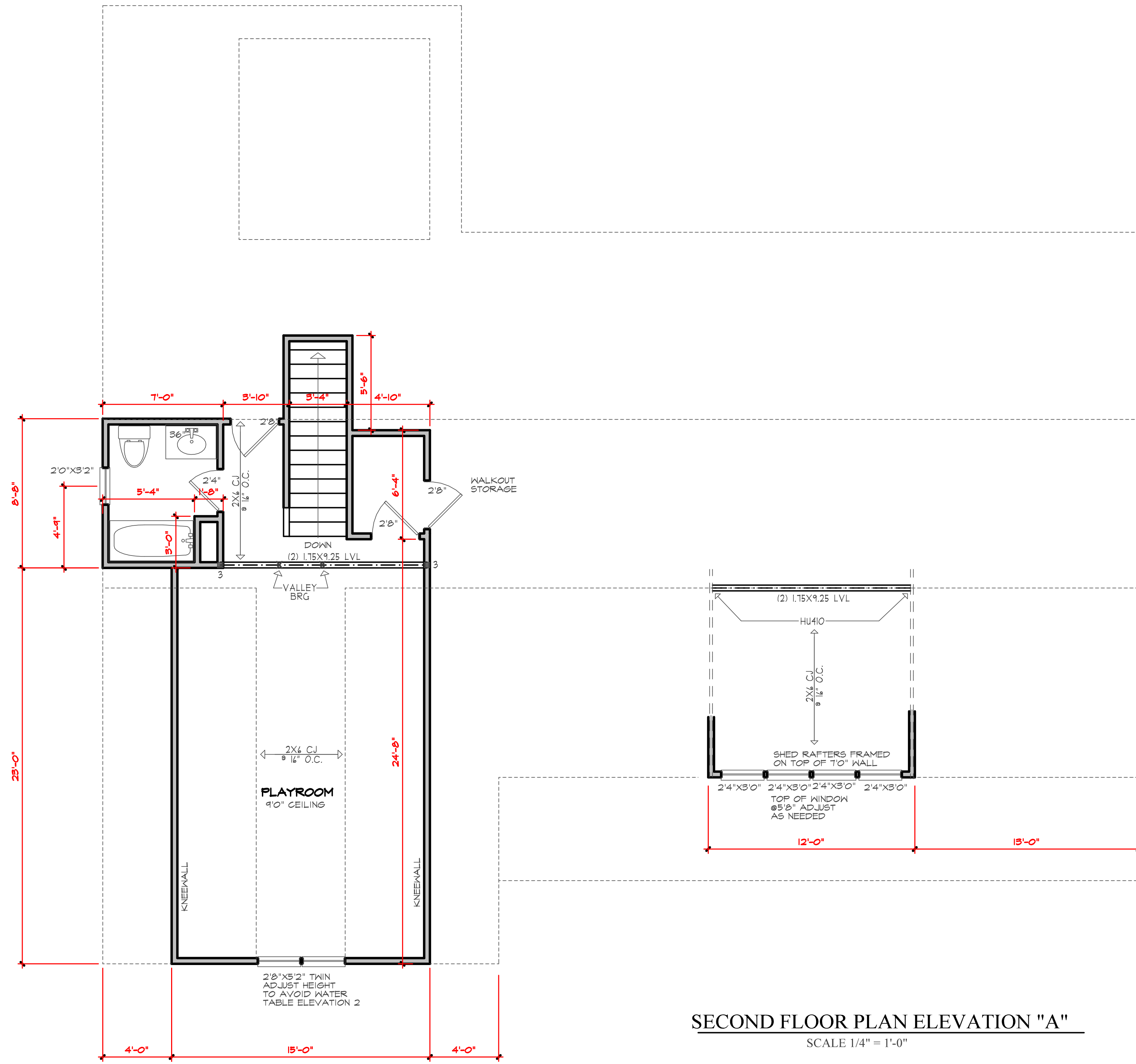
STRUCTURAL DESIGN BY: SOUTHERN ENGINEERS, P.A. 3714 BENSON DR., RALEIGH, NC 27609 LICENSE: C-4112, PHONE: 919-818-1471 PROJECT #: 22-1608



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

HEADER/BEAM & COLUMN NOTES
1. 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.
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: (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

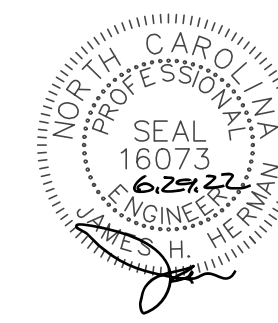
FRAMING NOTES:
NC (2018 NRC); Wind: 115-120 mph
1. BRACING METHOD AND TYPE: CONTINUOUSLY SHEATHED WSP, CS-WSP. NOTE THAT THE WALL BRACING AMOUNT PROVIDED ON THE PLANS (DETAILS AND SPECIFICATIONS) IS GREATER THAN THE AMOUNT OF WALL BRACING REQUIRED BY THE CODE. SEE NOTES BELOW FOR DETAILS AND SPECIFICATIONS FOR WALL BRACING AND WALL FRAMING.
2. EXTERIOR WALL SHEATHING: WALLS SHALL BE BRACED BY SHEATHING WALLS ON ALL STORES WITH WOOD STRUCTURAL PANEL SHEATHING (WSP) (EXPOSURE 1, 7/16", EXPOSURE 2, 5/32"). SHEATHING SHALL BE ATTACHED WITH 8d NAILS AT A 6"/12" NAILING PATTERN (6" O.C. AT PANEL EDGES AND 12" O.C. AT INTERMEDIATE SUPPORTS). INSTALL BLOCKING AT ALL PANEL EDGES.
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.
4. "HD" = HOLD-DOWN (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 C522 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/ (7) 8d NAILS.
5. 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 @ 1' O.C. ALONG THE EDGES AND AT INTERMEDIATE SUPPORTS.
6. INTERIOR BRACED WALL-WOOD STRUCTURAL PANEL: (NOTED AS "IBWSP" ON PLANS). ATTACH ONE SIDE WITH 7/16" WSP SHEATHING WITH 8d NAILS AT A 6"/12" NAILING PATTERN (6" O.C. AT PANEL EDGES AND 12" O.C. 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' O.C. ALONG THE EDGES AND AT INTERMEDIATE SUPPORTS.



SECOND FLOOR PLAN ELEVATION "A" SCALE 1/4" = 1'-0"

ROOF FRAMING NOTES:

- NC (2018 NCRS): 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. 4'-0" OVERLAP AT CENTER
 - ③ (2) 2x10 OR 1.75x11.875 LVL VALLEY, DO NOT SPLICE VALLEYS
 - ④ 1.75x11.875 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 2x4 OR 4x4 FOR SUPPORT POSTS OVER 10'-0" IN HEIGHT)
 - ATTACH VAULTED RAFTERS WITH HURRICANE CLIPS: SIMPSON "H2.5A" OR EQUIVALENT
 - INSTALL RAFTER TIES AND COLLAR TIES PER SECTION R802.3.1 OF THE 2018 NC RESIDENTIAL CODE



STRUCTURAL DESIGN BY:
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3716 BENSON DR., RALEIGH, NC 27609
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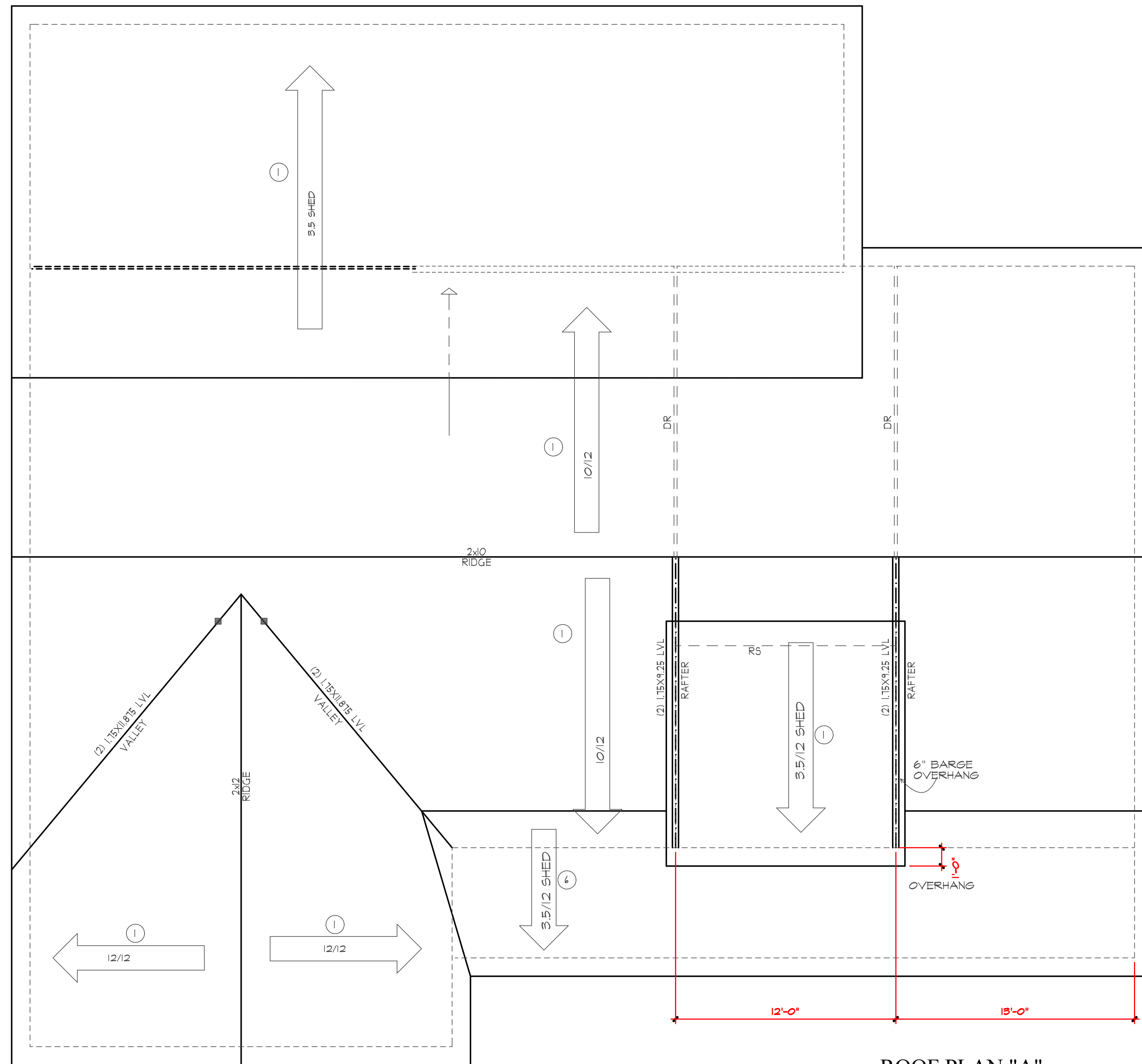


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ROOF PLAN "A"
SCALE 1/4" = 1'-0"

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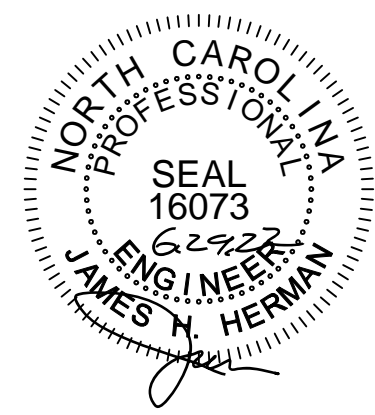
The Front Porch II



DATE: 6/29/2022

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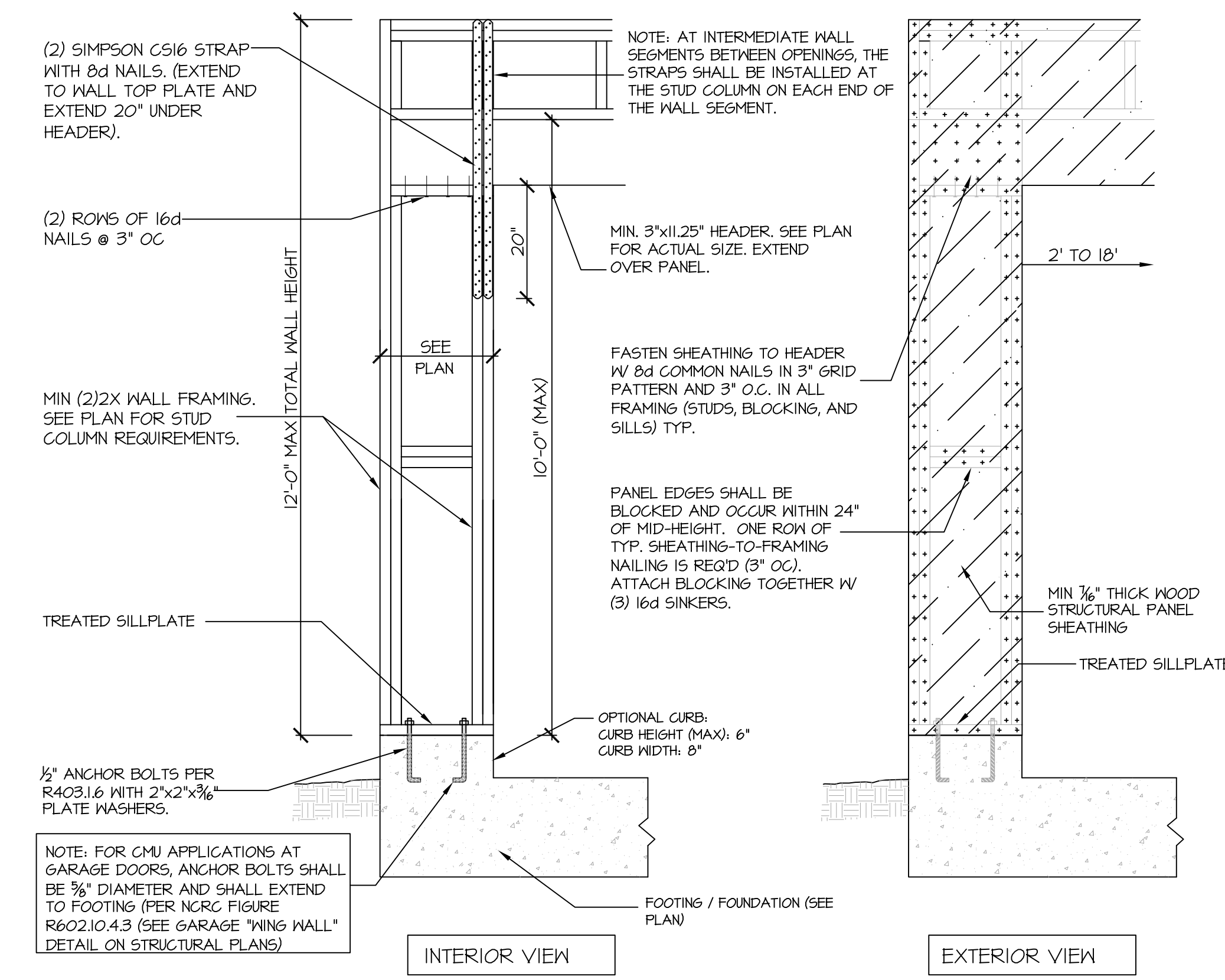
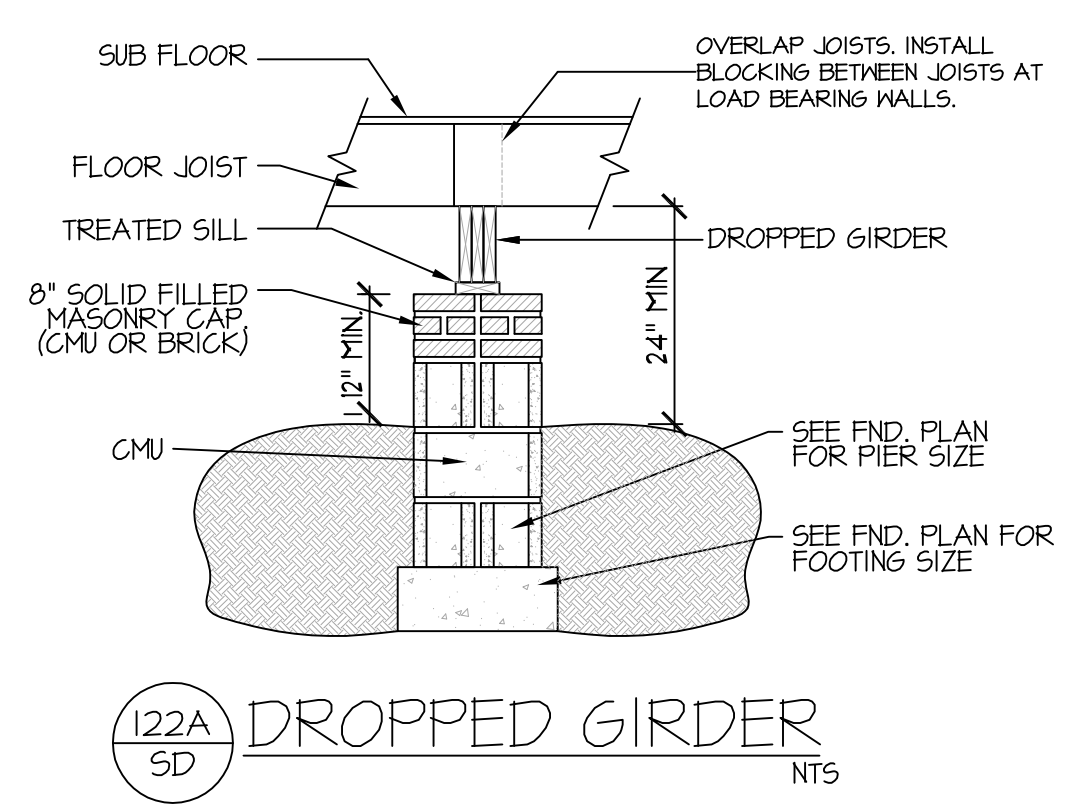
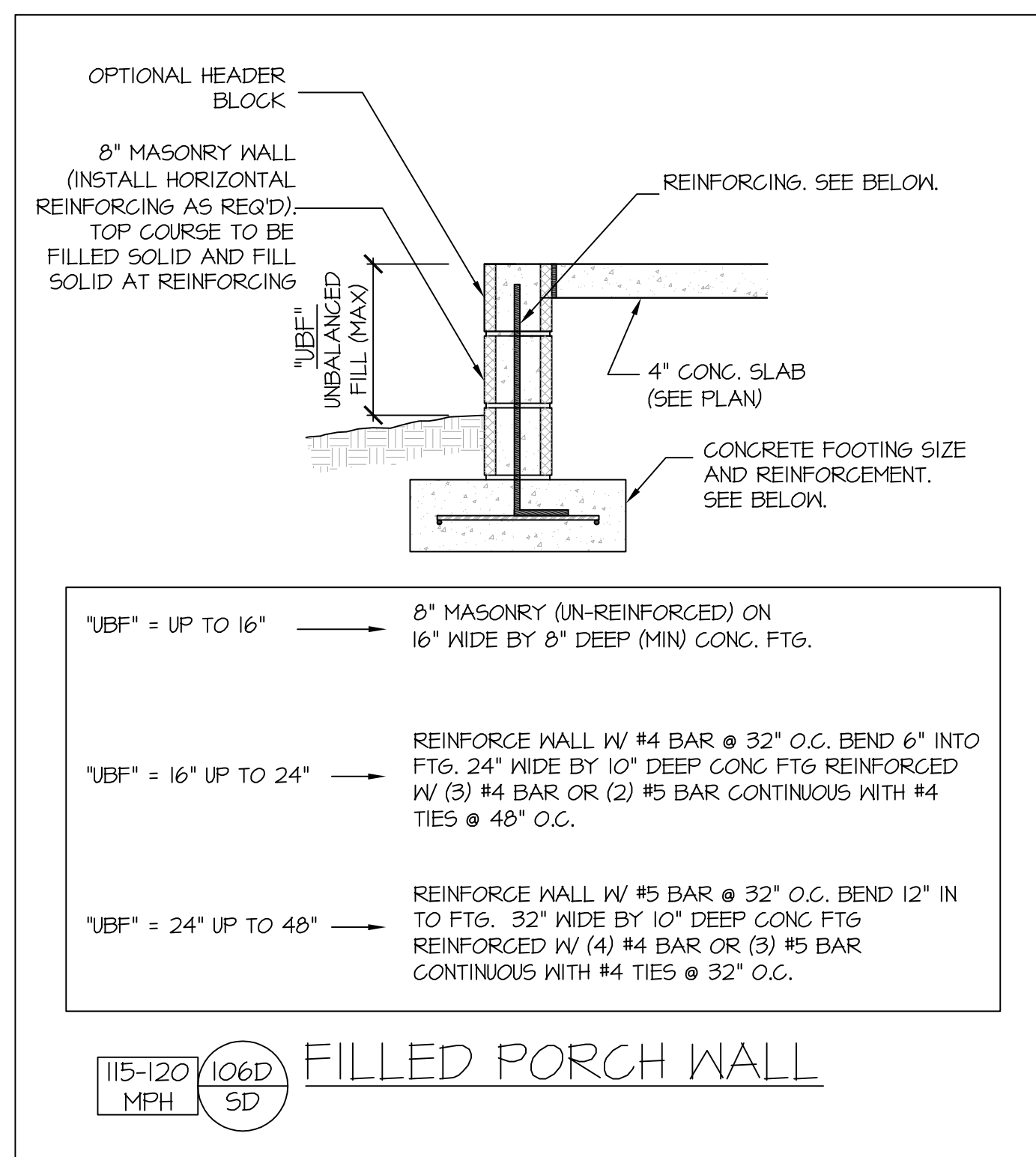


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Southern Engineers, P.A.
3716 Benson Drive, Raleigh, NC 27609
Phone: (919) 878-1617
License: C-4772
www.southernengineers.com

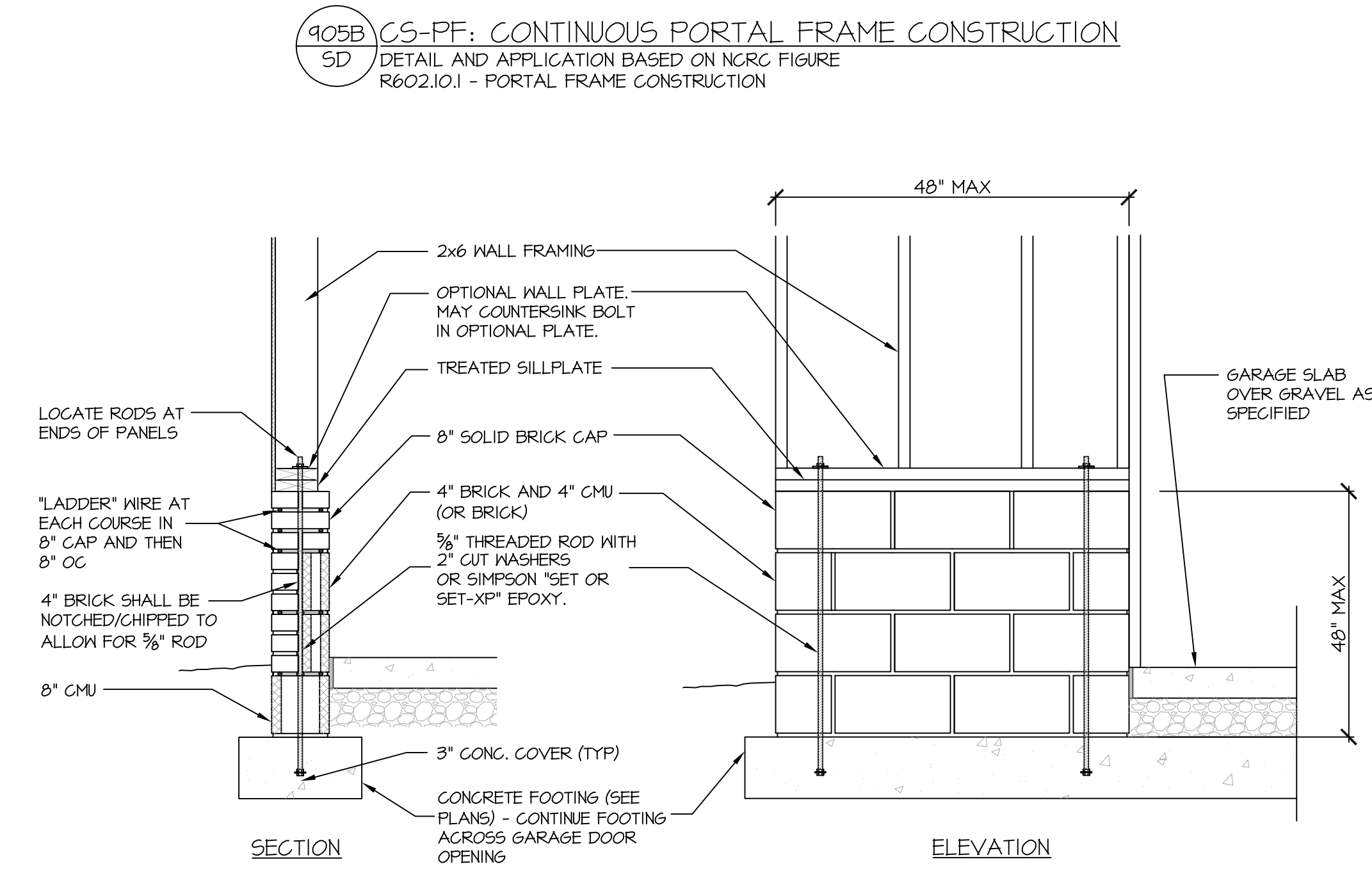
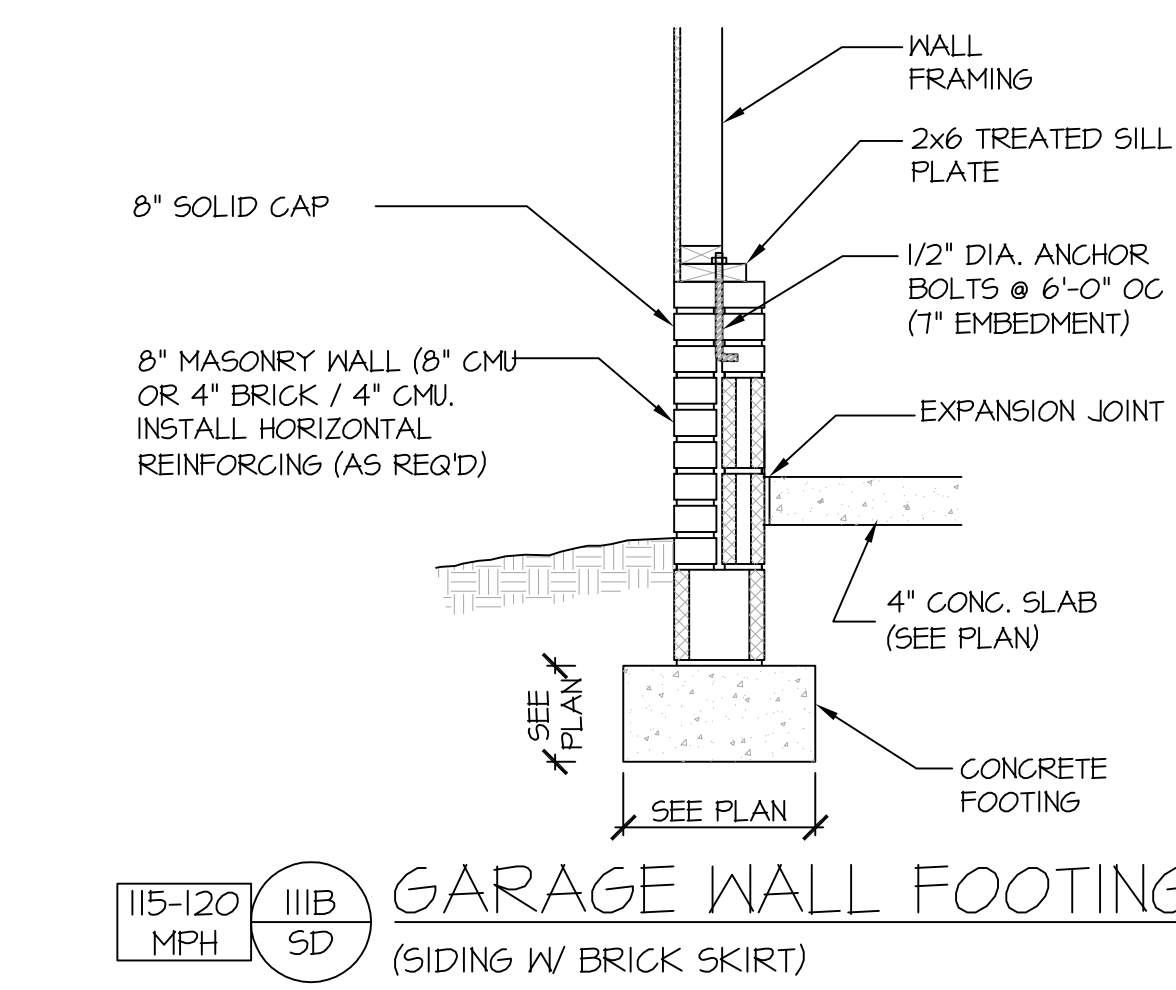
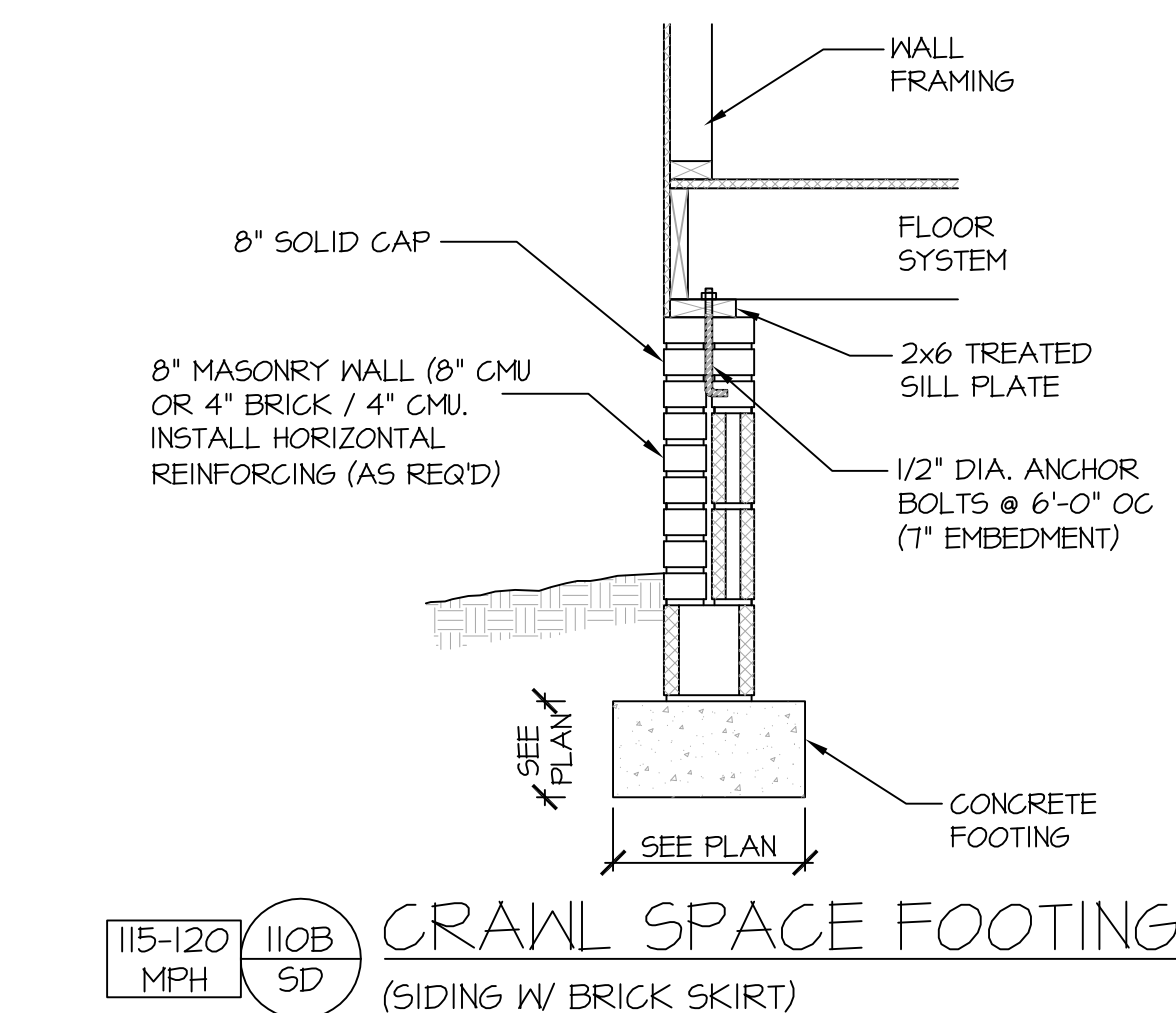
MIDTOWN DESIGNS

The Front Porch II



STRUCTURAL NOTES

- NC (2018 NCRG): 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.
 - 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.
 - 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)
 - WALLS SHALL BE BRACED BY SHEATHING WALLS ON ALL STORIES WITH WOOD STRUCTURAL PANELS. SEE FRAMING NOTES FOR THICKNESS AND NAILING REQUIREMENTS.
 - SEE APPENDIX M (DCA6) FOR EXTERIOR DECK REQUIREMENTS INCLUDING ATTACHMENTS FOR LATERAL LOADS.
 - CONCRETE SHALL HAVE A MINIMUM 28 DAY STRENGTH OF 3000 PSI AND A MAXIMUM SLUMP OF 5 INCHES UNLESS NOTED OTHERWISE (UNO). AIR ENTRAINMENT 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).
 - 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.
 - 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 (Fb(perp) = 425 PSI - MIN).
 - L.V.L. SHALL BE LAMINATED VENEER LUMBER: Fb=2600 PSI, Fv=285 PSI, E=1.4x10⁶ PSI.
 - P.S.L. SHALL BE PARALLEL STRAND LUMBER: Fb=2400 PSI, Fv=240 PSI, E=2.0x10⁶ PSI.
 - L.S.L. SHALL BE LAMINATED STRAND LUMBER: Fb=2250 PSI, Fv=400 PSI, E=1.55x10⁶ PSI. INSTALL ALL CONNECTIONS PER MANUFACTURERS INSTRUCTIONS.
 - 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 MANUFACTURER'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.
 - REBAR SHALL BE DEFORMED STEEL, ASTM615, GRADE 60. LAP ALL REBAR SPLICES 30 BAR DIAMETERS.
 - 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.
 - 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 R103.B.3 LINTELS.



STRUCTURAL NOTES

1) ALL CONSTRUCTION SHALL CONFORM TO THE LATEST REQUIREMENTS OF THE NORTH CAROLINA STATE RESIDENTIAL CODE - 2018 EDITION (2018 IRC), PLUS ALL LOCAL CODES AND REGULATIONS.
ALL MEMBERS SHALL BE FRAMED, ANCHORED, TIED AND BRACED IN ACCORDANCE WITH GOOD CONSTRUCTION PRACTICE AND THE BUILDING CODE.

2) DESIGN LOADS SEE TABLE R301.5

WIND SPEED: (REFER TO TABLE R301.2.4)
VERIFY ZONE BEFORE CONSTRUCTION.

3) WALL BRACING: WALLS SHALL BE BRACED ALONG BRACED WALL LINES ACCORDING TO SECTION R602.10. THE AMOUNT, LOCATION AND CONSTRUCTION OF BRACING SHALL COMPLY WITH R602.10. NOTE THAT THE BRACING SHOWN ON THE PLANS IS BASED ON THE PRESCRIPTIVE BRACING REQUIREMENTS OF THE CODE AND SHALL BE VERIFIED AND/OR APPROVED BY THE CODE OFFICIAL.

4) CONCRETE SHALL HAVE A MINIMUM 28 DAY STRENGTH OF 3000 PSI AND A MAXIMUM SLUMP OF 5 INCHES UNLESS NOTED OTHERWISE (NO). AIR ENTRAINMENT PER TABLE 4.02.2. 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.

5) 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.

6) ALL FRAMING LUMBER SHALL BE SPF #2 (FB = 875 PSI) UNLESS NOTED OTHERWISE (NO). ALL TREATED LUMBER SHALL BE SYP #2 (FB=475 PSI). PLATE MATERIAL MAY BE SPF #3 OR SYP #3 (FC/PERP) = 425 PSI - MIN).

7) ALL WOODEN BEAMS AND HEADERS SHALL HAVE THE FOLLOWING END SUPPORTS: (1) 2X4 STUD COLUMN FOR 6'-0" MAX. BEAM SPAN (NO), (2) 2X4 STUDS FOR BEAM SPAN GREATER THAN 6'-0" (NO).

8) L.V.L. SHALL BE LAMINATED VENEER LUMBER, FB=2600 PSI, FV=285 PSI, E=1,900,000 PSI. P.S.L. SHALL BE PARALLEL STRAND LUMBER, FB=2400 PSI, FV=290 PSI, E=2,000,000 PSI. L.S.L. SHALL BE LAMINATED STRAND LUMBER, FB=2250 PSI, FV=400 PSI, E=1,950,000 PSI. INSTALL ALL CONNECTIONS PER MANUFACTURER'S INSTRUCTIONS.

9) 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 MANUFACTURER'S SPECIFICATIONS.

10) 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 PROVIDED 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.

11) REBAR SHALL BE DEFORMED STEEL, ASTM615, GRADE 60.

12) FLITCH BEAMS SHALL BE BOLTED TOGETHER USING (2) ROWS OF 1/2" DIAMETER BOLTS (ASTM A307) 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.

13) BRICK LINTELS 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" (NO).

14) THE POSITIVE AND NEGATIVE DESIGN PRESSURE FOR DOORS AND WINDOWS SEE R301.2(6).

DWELLING / GARAGE SEPARATION

REFER TO SECTIONS R302.3, R302.6, AND R302.7

WALLS. A minimum 1/2" gypsum board must be installed on all walls supporting floor/ceiling assemblies used for separation required by this section.

CEILINGS. A minimum of 1/2" gypsum must be installed on the underside and exposed sides of all stairways.

OPENING PENETRATIONS. Openings between the garage and residence shall be equipped with solid wood doors not less than 1 3/8 inches (35 mm) in thickness, solid or honeycomb core steel doors not less than 1 3/8 inches (35 mm) thick, or 20-minute fire-rated doors.

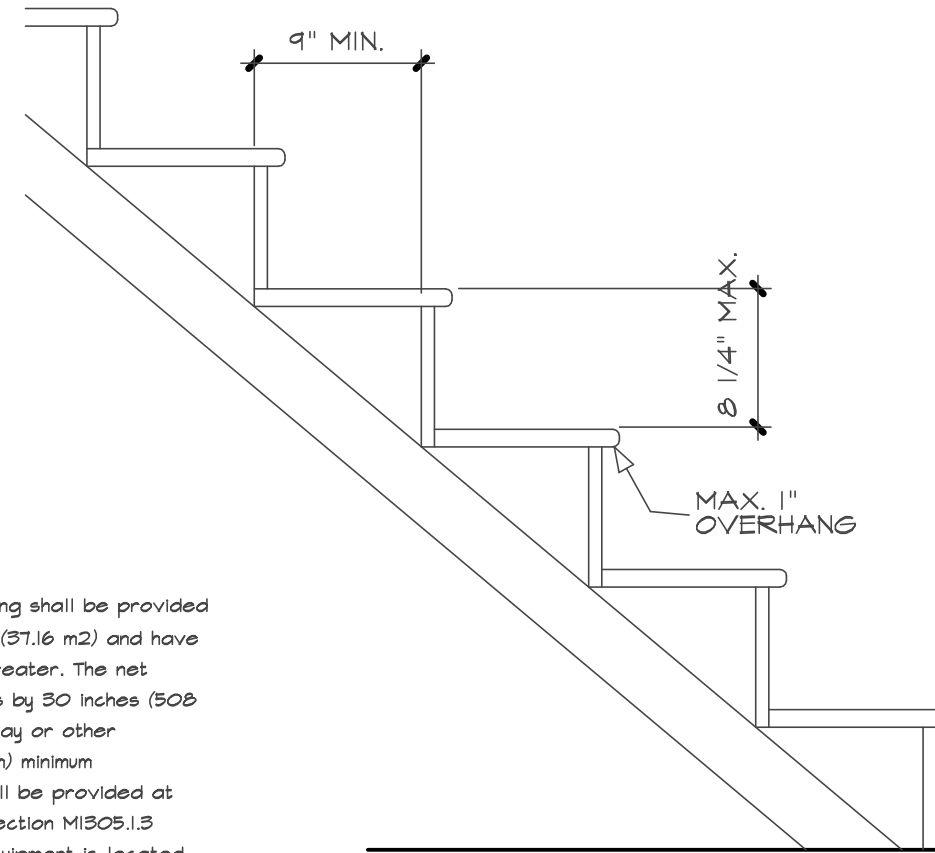
DUCT PENETRATIONS. Ducts in the garage and ducts penetrating the walls or ceilings separating the dwelling from the garage shall be constructed of a minimum No. 26 gage (0.48 mm) sheet steel or other approved material and shall have no openings into the garage.

OTHER PENETRATIONS. Penetrations through the separation required in Section R302.6 shall be protected as required by Section R302.11, Item 4.

ATTIC ACCESS

SECTION R301.1
R301.1 Attic access. An attic access opening shall be provided to attic areas that exceed 400 square feet (37.16 m²) and have a vertical height of 60 inches (1524 mm) or greater. The net clear opening shall not be less than 20 inches by 30 inches (508 mm by 762 mm) and shall be located in a hallway or other readily accessible location. A 30-inch (762 mm) minimum unobstructed headroom in the attic space shall be provided at some point above the access opening. See Section M305.1.3 for access requirements where mechanical equipment is located in attics.

- Exceptions:
1. Concealed areas not located over the main structure including porches, areas behind knee walls, dormers, bay windows, etc. are not required to have access.
 2. Pull down stair treads, stringers, handrails, and hardware may protrude into the net clear opening.

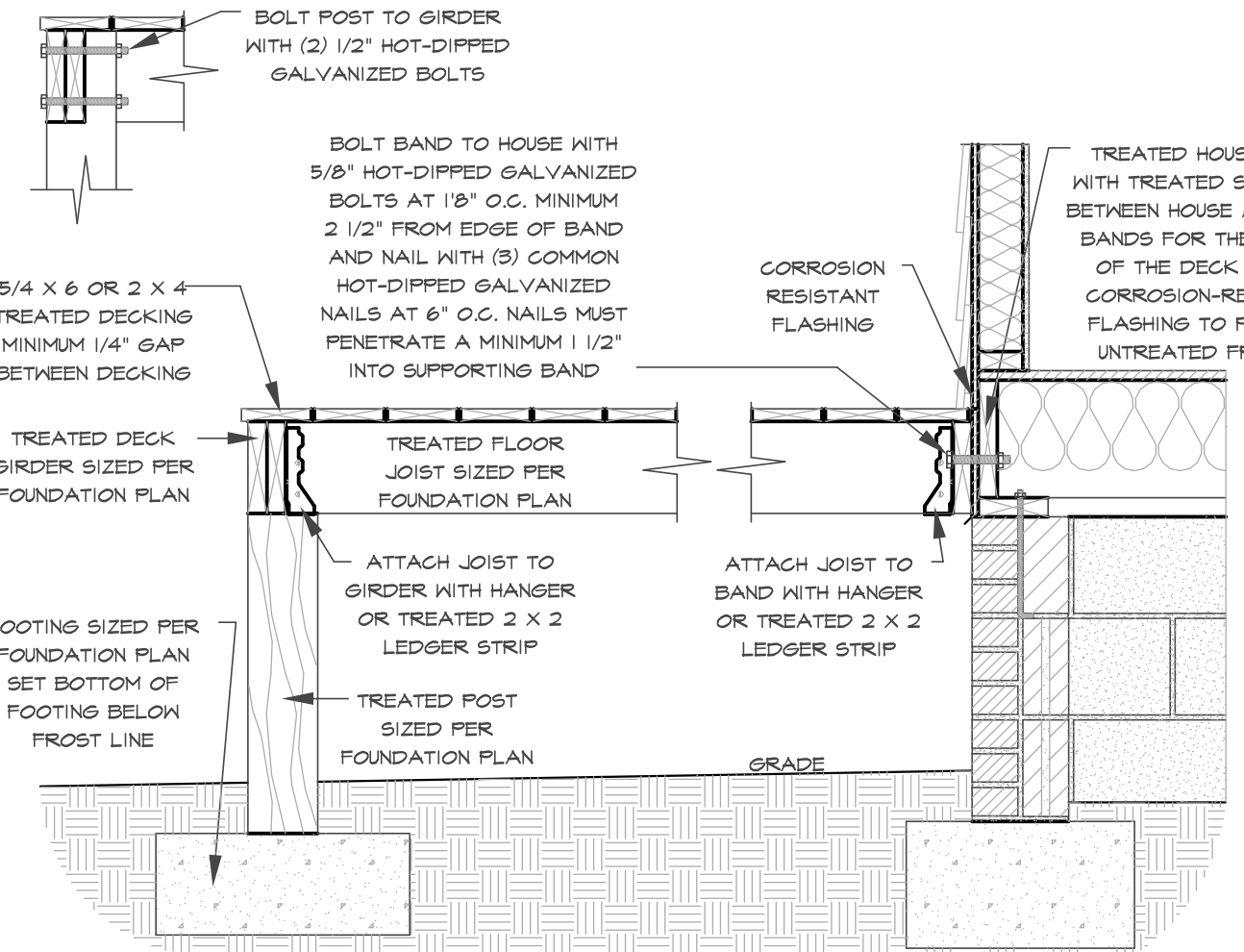
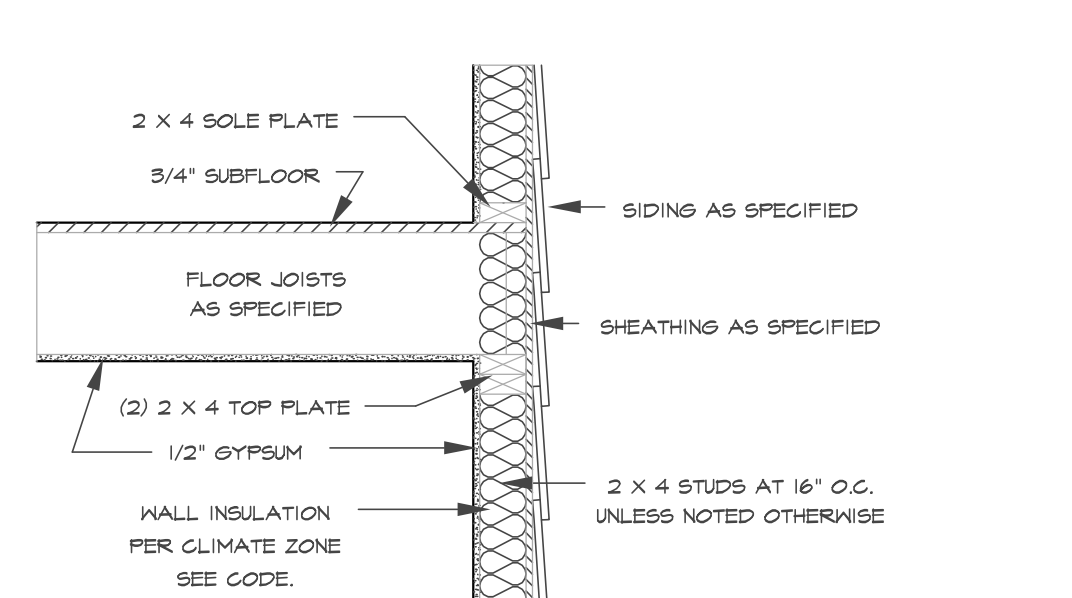
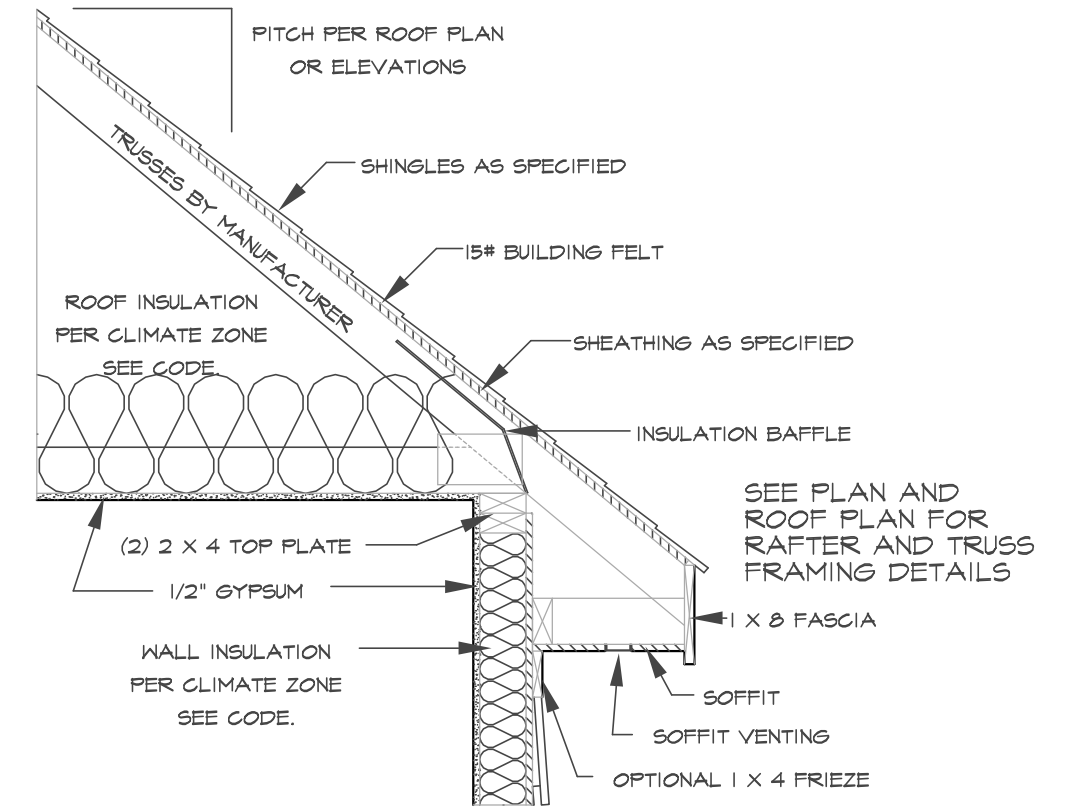


STAIR NOTES:

1. STAIRS RISERS MUST BE UNIFORM AND NOT EXCEED 8 1/4".
2. TREADS SHALL NOT BE LESS THAN 10" DEEP A 1" PROJECTION OVER RISER IS PERMITTED.
3. A MINIMUM OF 6'8" HEADROOM MUST BE MAINTAINED AT ALL PLACES ON STAIR.
4. THE WIDTH OF THE STAIR SHALL BE A MINIMUM OF 3'0". HANDRAIL MAY PROJECT FROM EACH SIDE OF STAIR A DISTANCE OF 3 1/2" INTO THE REQUIRED WIDTH.
5. WINDERS MUST BE A MINIMUM OF 4" IN WIDTH AT 12" FROM THE NARROWEST SIDE. TREAD SHALL BE NO NARROWER THAN 4" AT ANY POINT AND AVERAGE NO LESS THAN 9 INCHES.
6. HANDRAILS SHALL BE NO LESS THAN 34" AND NO MORE THAN 38" ABOVE TREAD NOSING.
7. WINDERS AND SPIRAL STAIRS SHALL HAVE THE HANDRAIL LOCATED ON THE OUTSIDE RADIUS.
8. ALL REQUIRED HANDRAILS SHALL BE CONTINUOUS THE FULL LENGTH OF THE STAIRS.

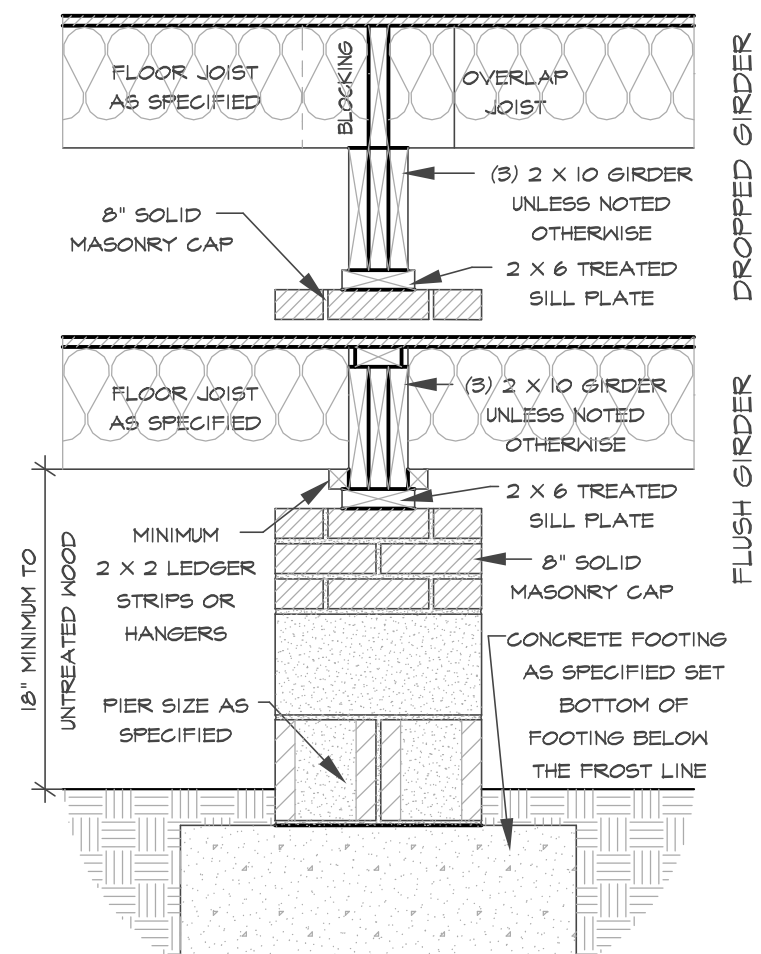
STAIR DETAIL

NO SCALE



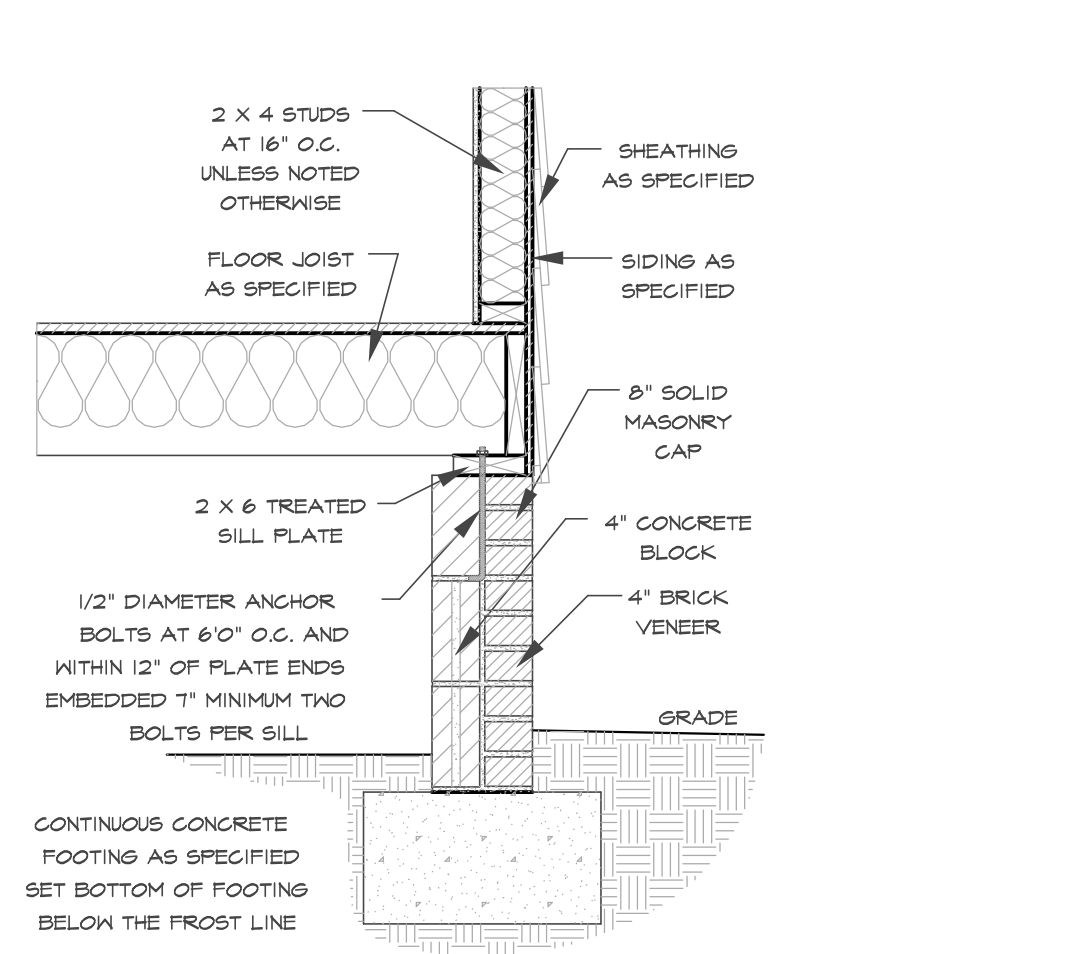
DECK ATTACHMENT DETAIL TO FRAMED WALL

SCALE 3/4" = 1'-0"



DROPPED/ FLUSH PIER

SCALE 3/4" = 1'-0"



TYPICAL WALL SECTION

SCALE 3/4" = 1'-0"

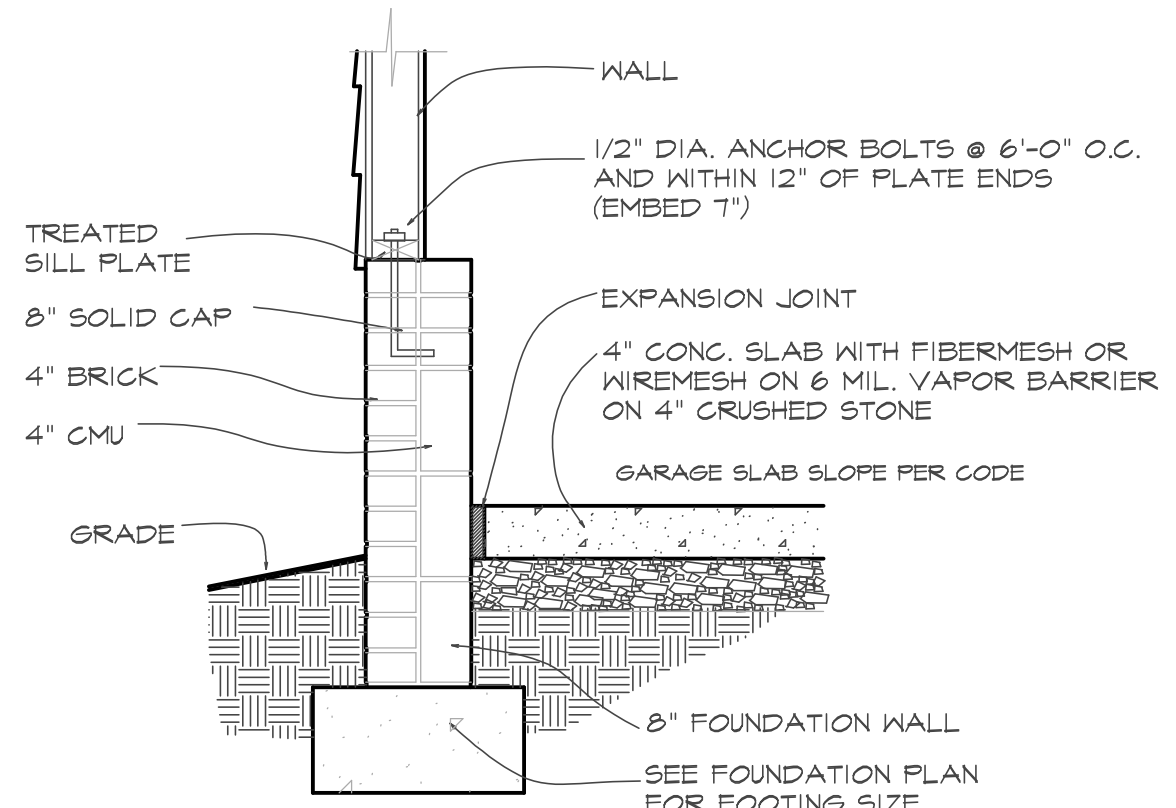
TABLE R602.1.2 INSULATION AND PENETRATION REQUIREMENTS BY COMPONENT*

| CLIMATE ZONE | FENESTRATION U-FACTOR† | SKYLIGHT U-FACTOR† | CEILING U-FACTOR† | CEILING PENETRATION U-FACTOR† | CEILING PENETRATION U-FACTOR† | CEILING PENETRATION U-FACTOR† | CEILING PENETRATION U-FACTOR† | CEILING PENETRATION U-FACTOR† | CEILING PENETRATION U-FACTOR† | CEILING PENETRATION U-FACTOR† |
|--------------|------------------------|--------------------|-------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|
| 3 | 0.35 | 0.55 | 0.30 | 38 or 30x7 | 15 or 15x25 | 5/16 or 5/16x3/4 | 19 | 5/16 | 0 | 5/16 |
| 4 | 0.35 | 0.55 | 0.30 | 38 or 30x7 | 15 or 15x25 | 5/16 or 5/16x3/4 | 19 | 10/16 | 10 | 10/16 |
| 5 | 0.35 | 0.55 | NR | 38 or 30x7 | 15 or 15x25 | 5/16 or 5/16x3/4 | 30 | 10/16 | 10 | 10/16 |

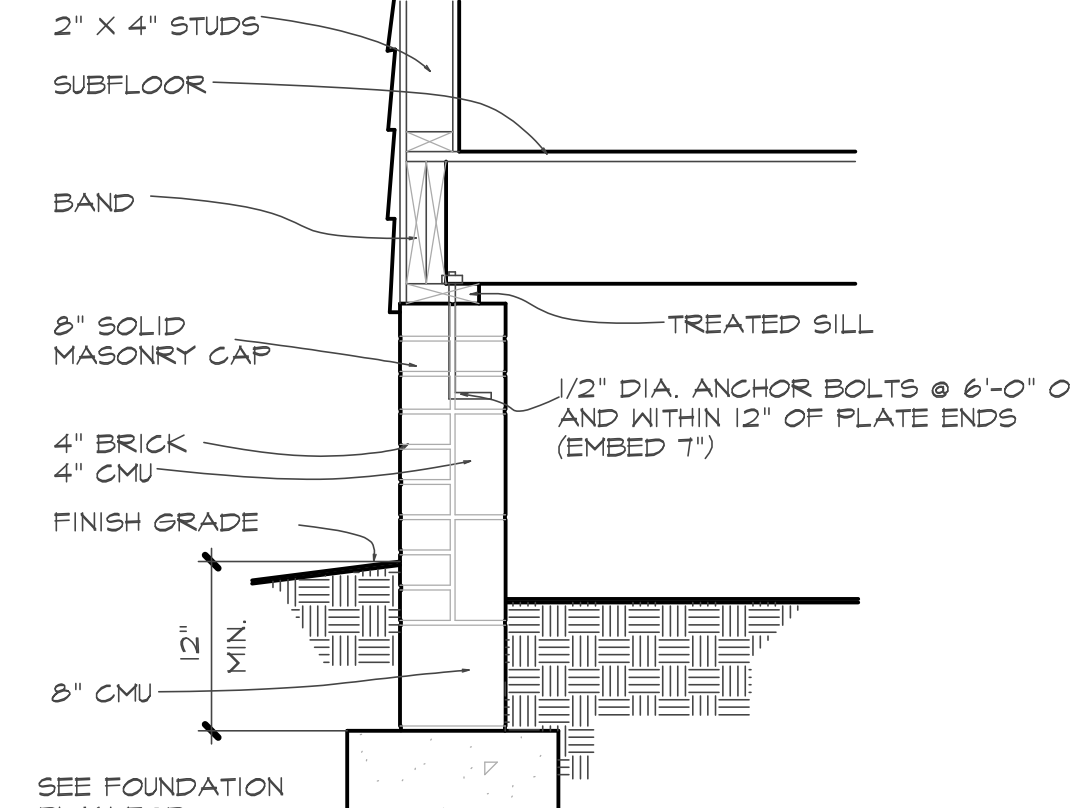
TABLE R602.1.4 EQUIVALENT U-FACTORS*

| CLIMATE ZONE | FENESTRATION U-FACTOR† | SKYLIGHT U-FACTOR† | CEILING U-FACTOR† | CEILING PENETRATION U-FACTOR† | CEILING PENETRATION U-FACTOR† | CEILING PENETRATION U-FACTOR† | CEILING PENETRATION U-FACTOR† | CEILING PENETRATION U-FACTOR† | CEILING PENETRATION U-FACTOR† | CEILING PENETRATION U-FACTOR† |
|--------------|------------------------|--------------------|-------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|
| 3 | 0.35 | 0.55 | 0.30 | 0.030 | 0.027 | 0.141 | 0.047 | 0.097 | 0.136 | |
| 4 | 0.35 | 0.55 | 0.30 | 0.030 | 0.027 | 0.141 | 0.047 | 0.095 | 0.085 | |
| 5 | 0.35 | 0.55 | NR | 0.030 | 0.061 | 0.082 | 0.033 | 0.025 | 0.065 | |

*. Nonpenetration U-factor shall be obtained from measurement, calculation or an approved source.
†. When more than one installation is on the interior, the most wall U-factor shall be a maximum of 0.027 in Climate Zone 3, 0.025 in Climate Zone 4 and 0.024 in Climate Zone 5.
‡. Basement wall U-factor of 0.040 is shown based on location as defined by Figure R301.1 and Table R301.1.
§. A maximum of one glazed fenestration product assembly having U-factor no greater than 0.35 and SHGC no greater than 0.70 shall be permitted to be substituted for minimum code compliant fenestration product assemblies without penalty. When applying this note and making the SHGC check "Via Trade-off" conditions, method to allow, continued use of the software, the applicable fenestration product shall be modeled as meeting the U-factor of 0.35 and the SHGC of 0.70, as applicable. See the fenestration products actual U-factor and actual SHGC shall be noted in the comments section of the software for documentation of modeling of this note. See also the applicable provisions. Compliance for these substitution products shall be verified compared to the allowed substitution maximum U-factor requirement and maximum SHGC requirement, as applicable.



SECTION AT GARAGE SLAB



SECTION AT CRAWL