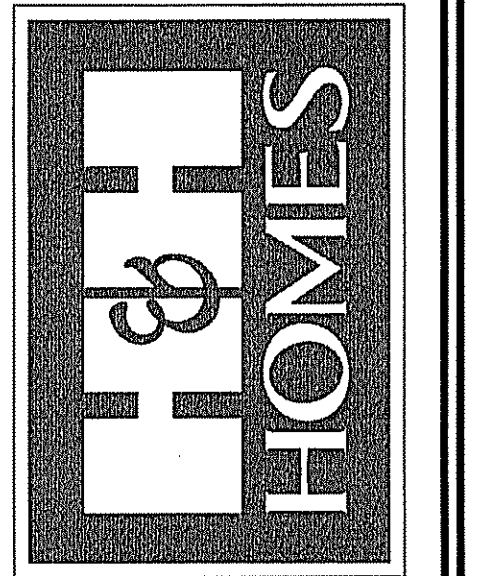


**RENAISSANCE**  
RESIDENTIAL DESIGN, INC.  
4810 GLENMIST CT. | RALEIGH, NC 27612  
(919) 649-4128  
WWW.RRDCAROLINA.COM

"The art of transforming your vision into reality."  
RENAISSANCE RESIDENTIAL DESIGN, INC. RESERVES THE RIGHT TO MAKE MODIFICATIONS TO FLOOR PLANS, DIMENSIONS, MATERIALS, AND SPECIFICATIONS WITHOUT NOTICE. THESE DRAWINGS ARE FOR THE PURPOSE OF CONVEYING AN ARCHITECTURAL CONCEPT ONLY.

RENAISSANCE RESIDENTIAL DESIGN, INC. HEREBY EXPRESSLY RESERVES ITS COMMON LAW COPYRIGHT AND OTHER PROPERTY RIGHTS IN THESE PLANS. THESE PLANS AND DRAWINGS ARE NOT TO BE REPRODUCED, CHANGED, OR COPIED IN ANY FORM OR MANNER WITHOUT FIRST OBTAINING THE EXPRESS WRITTEN CONSENT OF RENAISSANCE RESIDENTIAL DESIGN, INC. NOR ARE THEY TO BE ASSIGNED TO ANY THIRD PARTY WITHOUT FIRST OBTAINING SAID WRITTEN PERMISSION AND CONSENT.

**J.S. THOMPSON**  
**ENGINEERING, INC.**  
606 WADE AVE., SUITE 104  
RALEIGH, NC 27605  
PHONE: (919) 789-9919  
FAX: (919) 789-9921  
N.C. LICENSE NO. C-1733

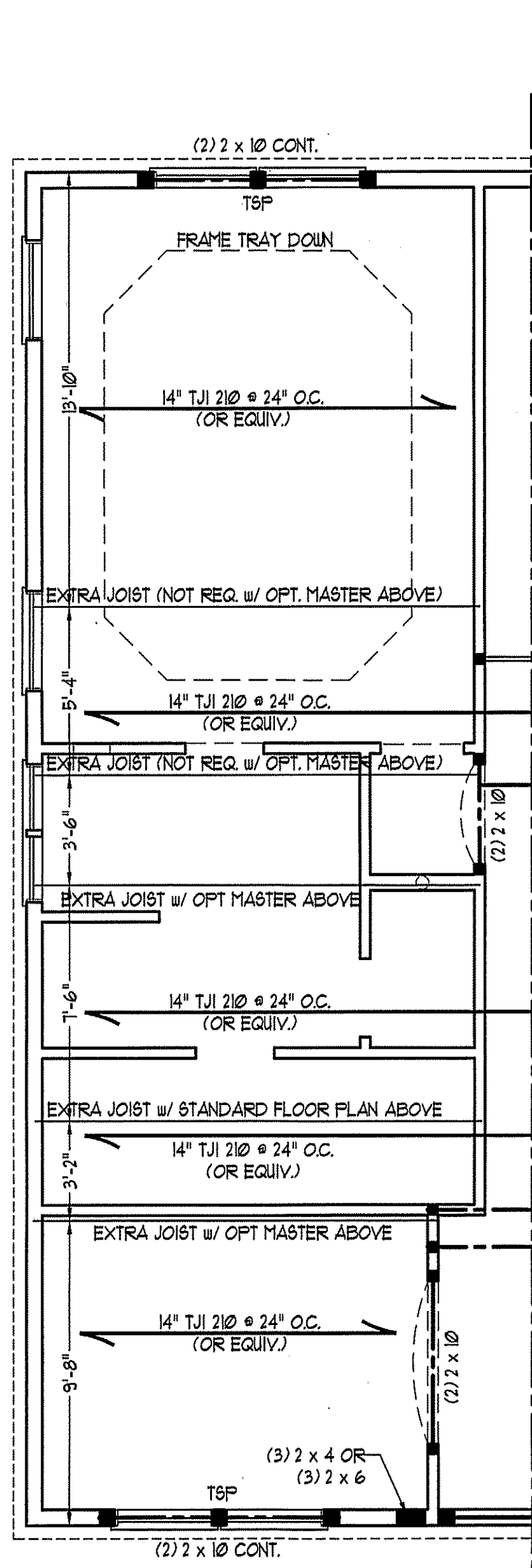
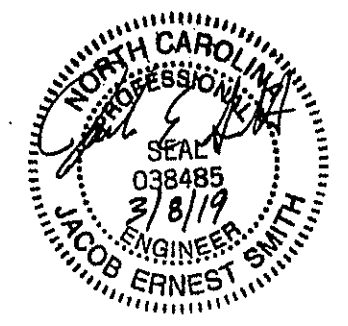


PRICES, PROMOTIONS, INCENTIVES, FEATURES, OPTIONS, FLOOR PLANS, ELEVATIONS, DESIGN NOTATIONS, AND DIMENSIONS ARE ESTIMATED AND MAY VARY IN ACTUAL CONSTRUCTION. ACTUAL LOCATION OF HOUSE ON LOT WILL BE DETERMINED BY THE SITE PLAN AND PLOT PLAN. CONCEPTS, FLOOR PLANS, AND THE COPYRIGHTED PROPERTY OF H&H HOMES. ANY USE, REPRODUCTION, ADAPTATION, OR DISPLAY OF THE PLANS IS STRICTLY PROHIBITED. SEE NEW HOME SALES CONSULTANT FOR CURRENT DETAILS. COPYRIGHT ©2019 H&H HOMES

JACKSON

DATE: FEBRUARY 27, 2019  
REV.:  
SCALE: 1/4"=1'-0"  
DRAWN BY: WG  
ENGINEERED BY: WLF  
REVIEWED BY: JES

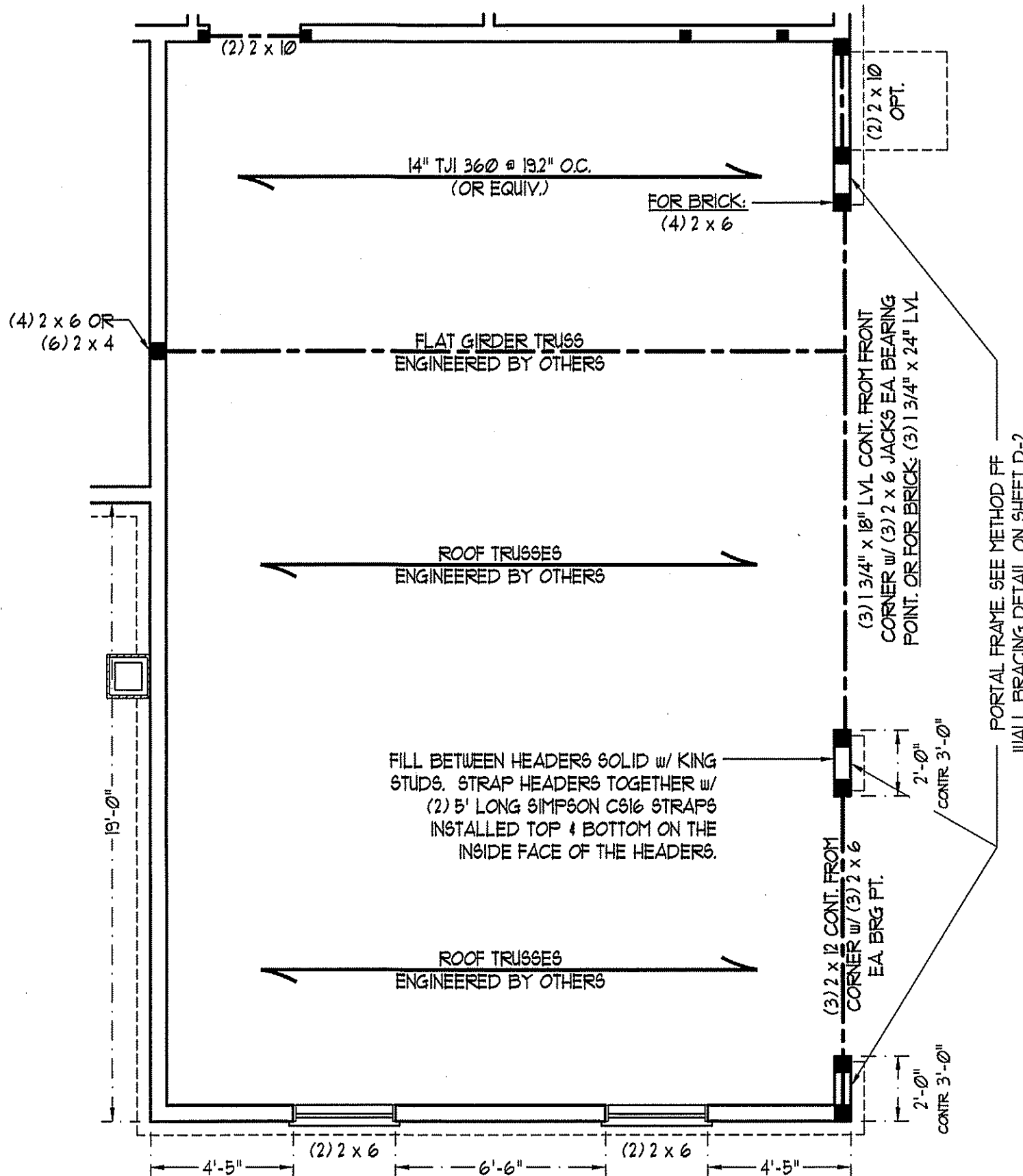
SECOND FLOOR  
FRAMING PLAN  
S-2.1



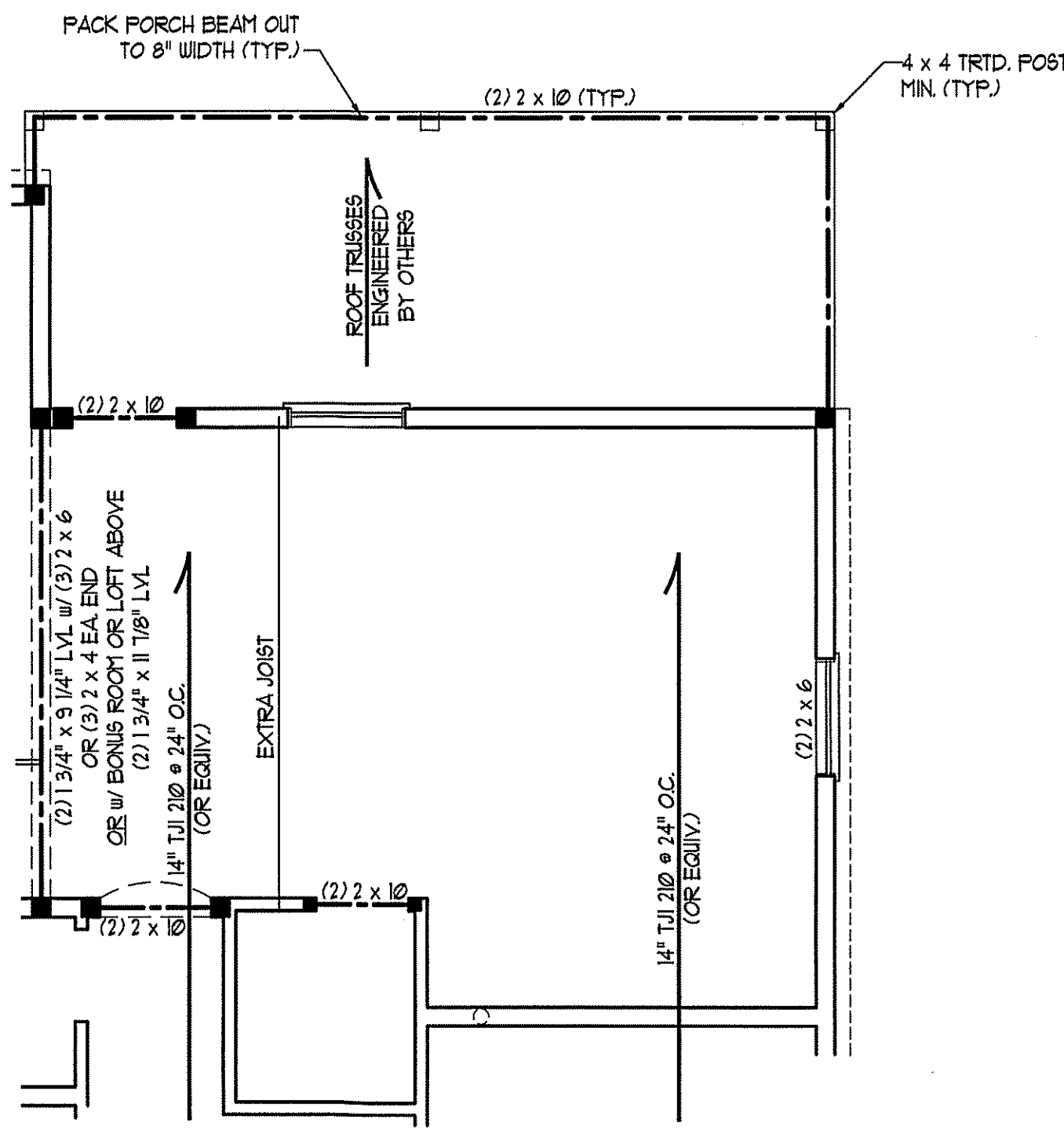
NO STRUCTURAL CHANGES

MASTER BATH  
OPTION - 1  
(WALK-IN SHOWER)

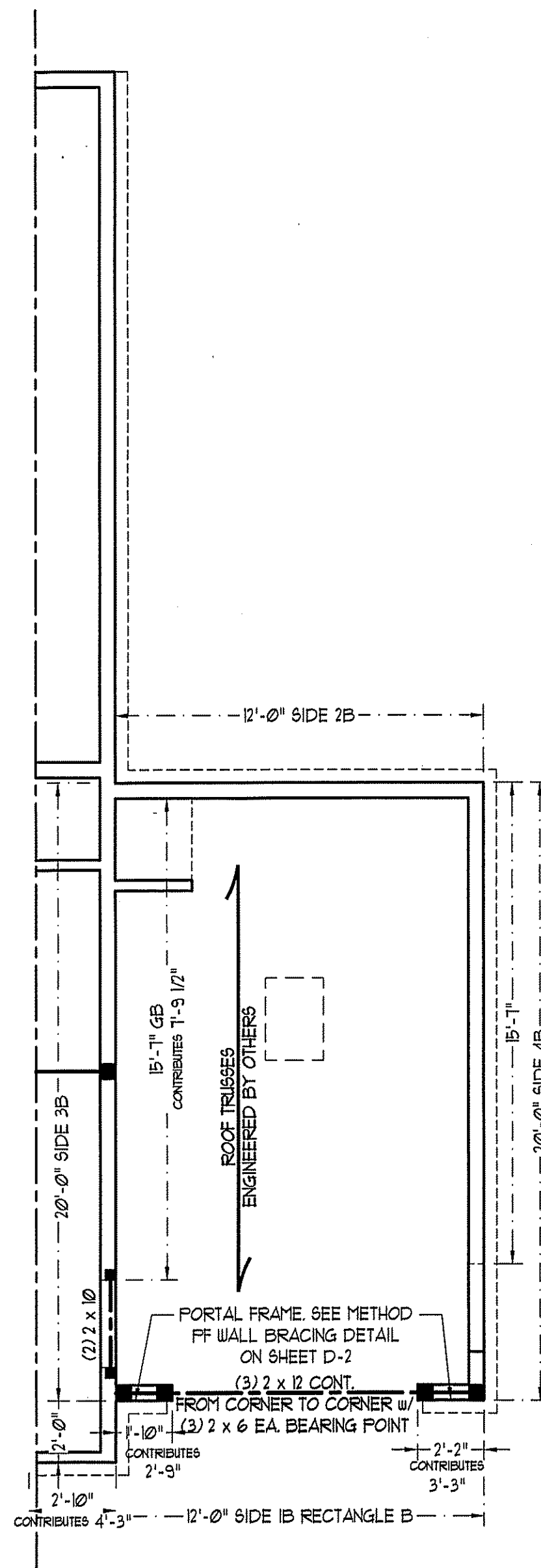
STUDY OPTION W/  
SMALLER MASTER SUITE



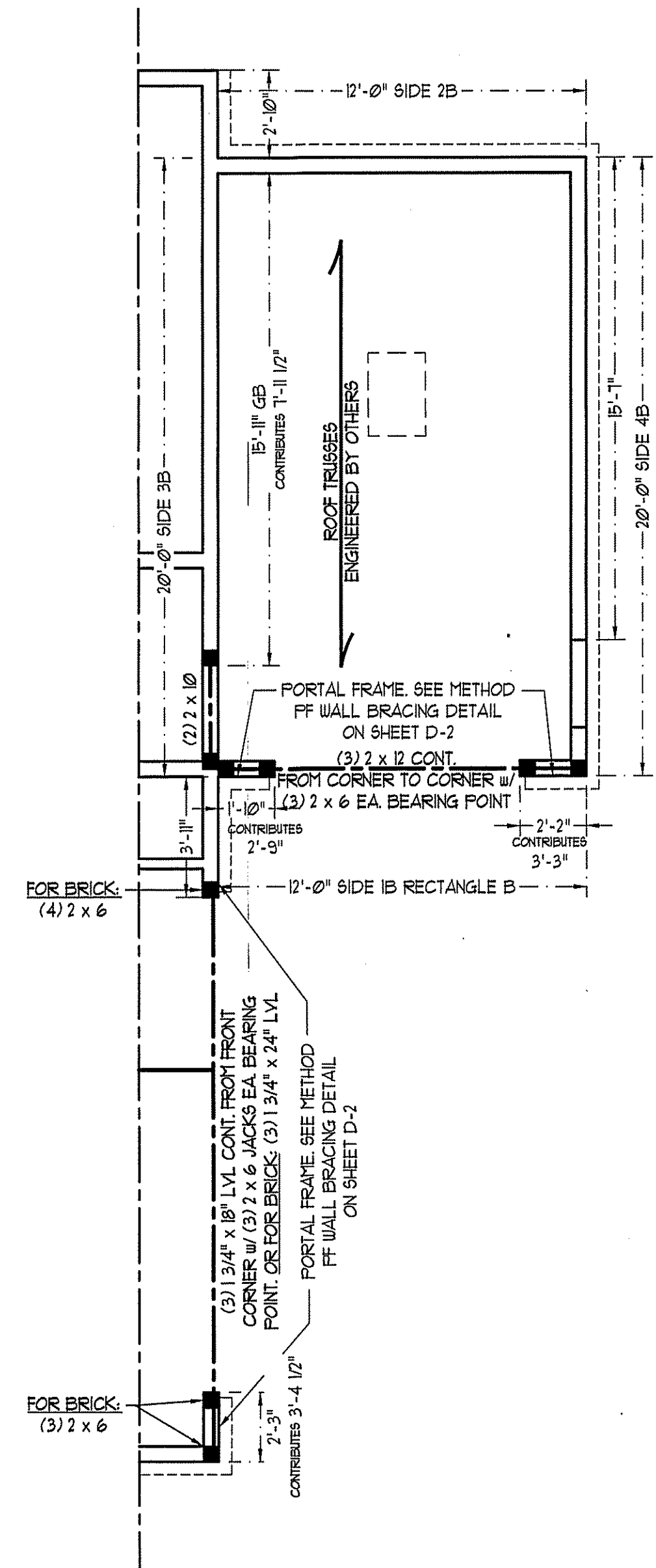
3-CAR GARAGE OPTION



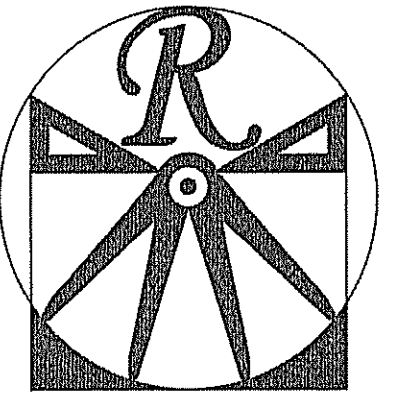
KITCHEN OPTION



1-CAR GARAGE OPTION W/  
FRONT LOAD GARAGE



1-CAR GARAGE OPTION W/  
SIDE LOAD GARAGE



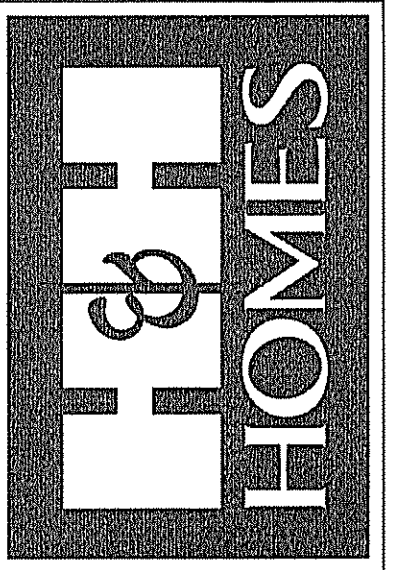
**RENAISSANCE**  
RESIDENTIAL DESIGN, INC.  
4810 GLENMIST CT. | RALEIGH, NC 27612  
(919) 649-4128  
WWW.RRDCAROLINA.COM

"The art of transforming your vision into reality."

RENAISSANCE RESIDENTIAL DESIGN, INC. HEREBY EXPRESSLY RESERVES ITS COMMON LAW COPYRIGHT AND OTHER PROPERTY RIGHTS IN THESE PLANS. THESE PLANS AND DRAWINGS ARE NOT TO BE REPRODUCED, CHANGED, OR COPIED IN ANY FORM OR MANNER WITHOUT FIRST OBTAINING THE EXPRESS WRITTEN CONSENT OF RENAISSANCE RESIDENTIAL DESIGN, INC. NOR ARE THEY TO BE ASSIGNED TO ANY THIRD PARTY WITHOUT FIRST OBTAINING SAID WRITTEN PERMISSION AND CONSENT.

RENAISSANCE RESIDENTIAL DESIGN, INC. HEREBY EXPRESSLY RESERVES ITS COMMON LAW COPYRIGHT AND OTHER PROPERTY RIGHTS IN THESE PLANS. THESE PLANS AND DRAWINGS ARE NOT TO BE REPRODUCED, CHANGED, OR COPIED IN ANY FORM OR MANNER WITHOUT FIRST OBTAINING THE EXPRESS WRITTEN CONSENT OF RENAISSANCE RESIDENTIAL DESIGN, INC. NOR ARE THEY TO BE ASSIGNED TO ANY THIRD PARTY WITHOUT FIRST OBTAINING SAID WRITTEN PERMISSION AND CONSENT.

**J.S. THOMPSON**  
ENGINEERING, INC.  
600 W. WADE AVE., SUITE 104  
RALEIGH, NC 27605  
PHONE: (919) 789-9919  
FAX: (919) 789-9921  
N.C. LICENSE NO.: C-1733



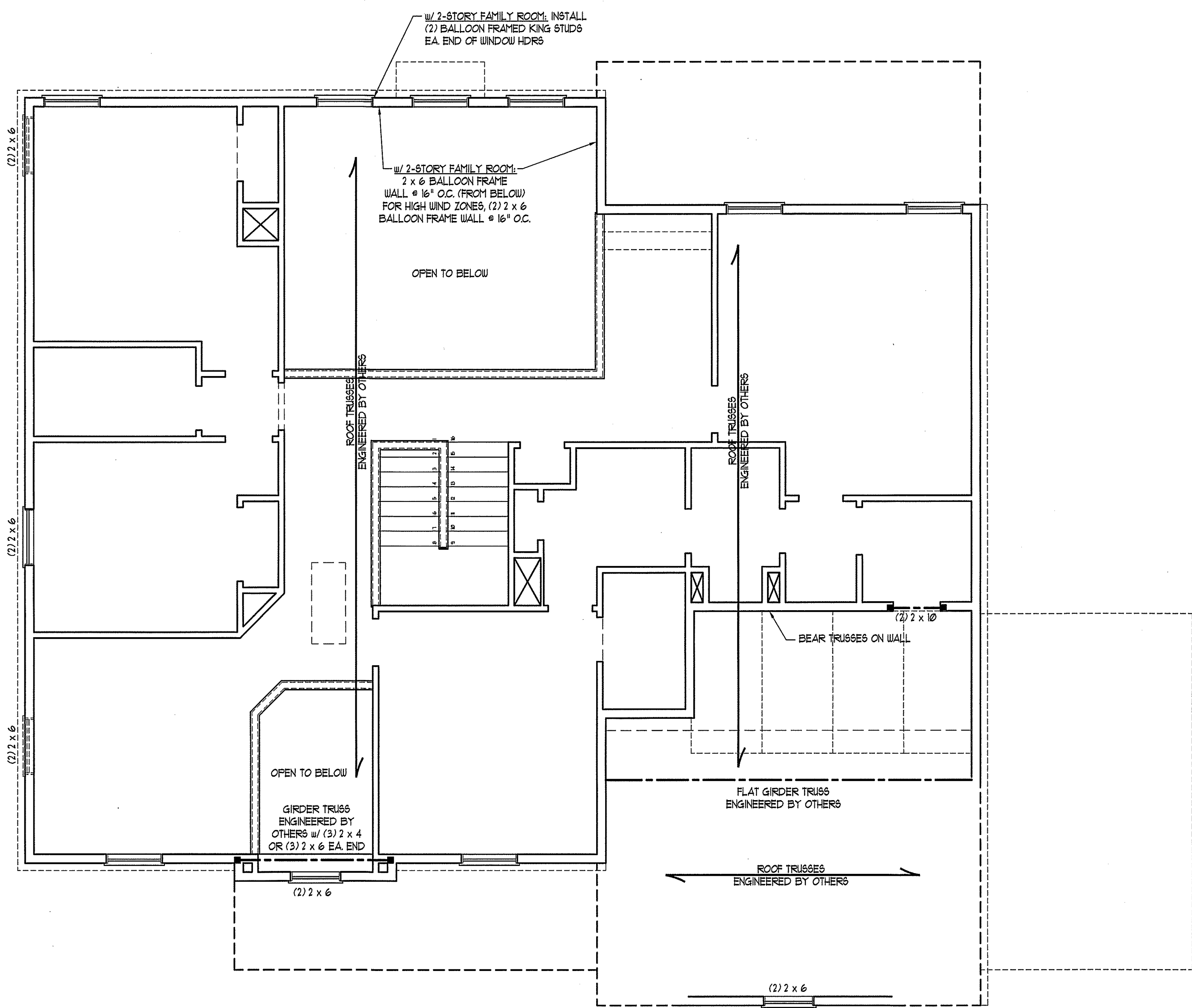
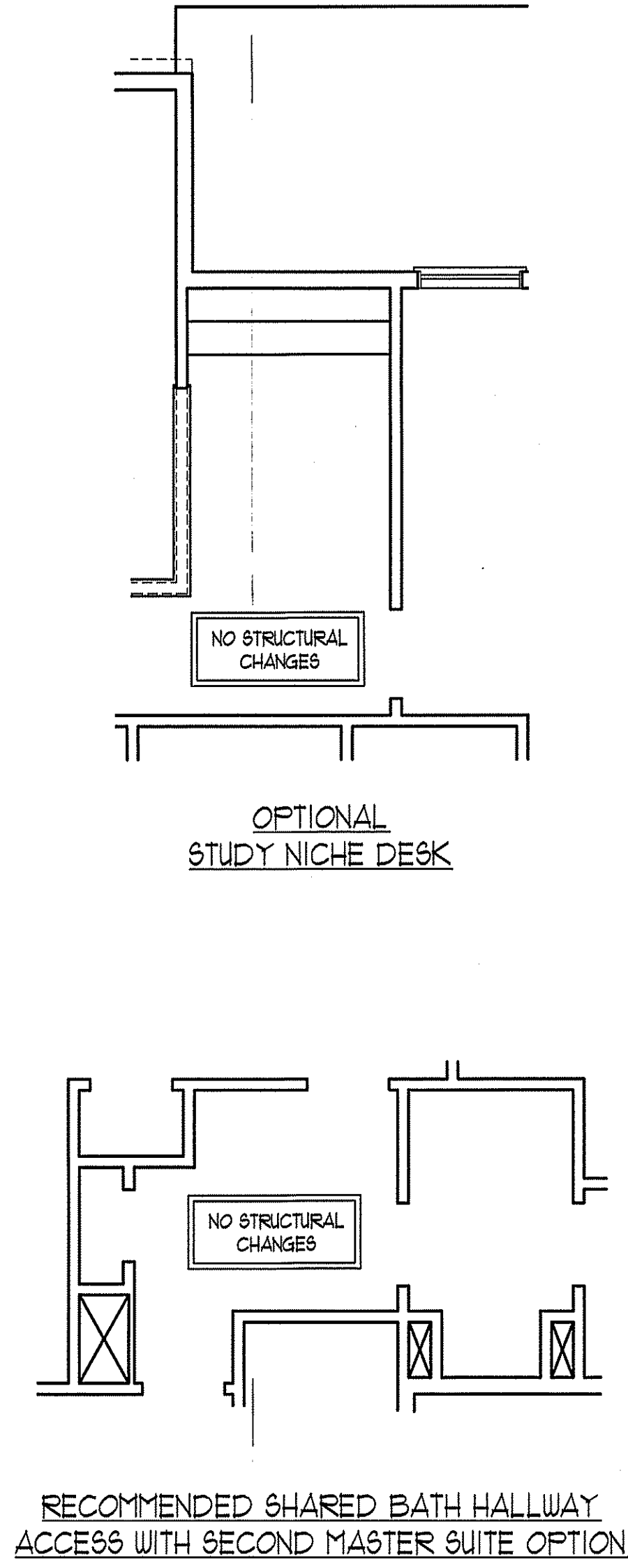
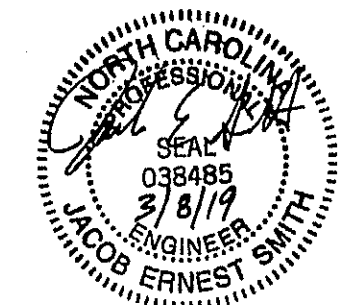
PRICES, PROMOTIONS, INCENTIVES, FEATURES, MATERIALS AND DIMENSIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE. SQUARE FOOTAGE AND DIMENSIONS ARE ESTIMATED AND MAY VARY IN ACTUAL CONSTRUCTION. ACTUAL POSITION OF HOUSE ON LOT, FLOOR PLANS AND ELEVATION RENDERINGS ARE ARTIST CONCEPTIONS. FLOOR PLANS ARE THE COPYRIGHTED PROPERTY OF H&H HOMES. ANY USE, REPRODUCTION, ADAPTATION OR MODIFICATION OF THESE PLANS WITHOUT WRITTEN PERMISSION IS STRICTLY PROHIBITED. CURRENT DETAILS. COPYRIGHT © 2019 H&H HOMES

JACKSON

DATE: FEBRUARY 27, 2019  
REV.:  
SCALE: 1/4"=1'-0"  
DRAWN BY: WG  
ENGINEERED BY: WLF  
REVIEWED BY: JES

CEILING  
FRAMING PLAN

S-3



**BRACED WALL DESIGN NOTES:**

- BRACED WALL DESIGN PER SECTION R602.10 OF THE NRC 2018 EDITION.
- CS-WSP REFERS TO "CONTINUOUS SHEATHING - WOOD STRUCTURAL PANELS" CONTRACTOR IS TO INSTALL 1/8" OSB ON ALL EXTERIOR WALLS ATTACHED W/ 8d NAILS SPACED 6" O.C. ALONG PANEL EDGES AND 12" O.C. IN THE FIELD.
- GB REFERS TO "GYPSUM BOARD" CONTRACTOR IS TO INSTALL 1/2" (MIN) GYPSUM WALL BOARD WHERE NOTED ON THE PLANS. FASTEN GB WITH 1 1/4" SCREWS OR 1 5/8" NAILS SPACED 1" O.C. ALONG PANEL EDGES AND IN THE FIELD INCLUDING TOP AND BOTTOM FLATES.
- BRACED WALL DESIGN APPLIED IN WIND ZONES UP TO 150 MPH. FOR HIGH WIND ZONES, BRACE WALLS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH CHAPTER 45 OF THE NRC 2018 EDITION.
- SEE NOTES AND DETAIL SHEETS FOR ADDITIONAL BRACED WALL INFORMATION.

**NOTE:**

- PER SECTION R602.10.3.2 OF THE 2018 NRC, THE AMOUNT OF BRACING ON THE SECOND FLOOR EXCEEDS THE AMOUNT REQUIRED FOR THE FIRST FLOOR AND NO BRACED WALL ANALYSIS IS REQUIRED.
- SHEATH ALL EXTERIOR WALLS WITH 1/8" OSB SHEATHING ATTACHED WITH 8d NAILS AT 6" O.C. ALONG PANEL EDGES AND 12" O.C. IN THE FIELD.

**\*NOTE: ALL EXTERIOR WALLS AND ATTIC WALLS ARE TO BE 2 x 6 @ 16" O.C. (UNO). 2 x 4 @ 16" O.C. EXTERIOR WALLS MAY BE CONSTRUCTED IN LIEU OF 2 x 6 WALLS (UNO). ALL INTERIOR LOAD BEARING WALLS ARE TO BE 2 x 4 @ 16" O.C. (UNO) AND NON-LOAD BEARING INTERIOR WALLS ARE TO BE 2 x 4 @ 24" O.C. (UNO).**

**STRUCTURAL NOTES:**

- ALL FRAMING LUMBER TO BE #2 SPF (UNO).
- ALL LOAD BEARING HEADERS TO BE (2) 2 x 10 (UNO).
- WINDOW AND DOOR HEADERS TO BE SUPPORTED W/ (1) JACK STUD AND (1) KING STUD EA. END (UNO). SEE TABLE R602.15 FOR ADDITIONAL KING STUD REQUIREMENTS.
- FOR HIGH WIND ZONES, ALL EXTERIOR WALLS TO BE SHEATHED WITH 1/8" OSB SHEATHING WITH JOINTS BLOCKED AND SECURED WITH 8d NAILS AT 3" O.C. ALONG EDGES AND 6" O.C. IN THE FIELD.
- FOR HIGH WIND ZONES, SECURE ALL EXTERIOR WALL SHEATHING PANELS TO DOUBLE TOP FLATES, BANDS, JOISTS, AND GIRDERS WITH (2) ROWS OF 8d NAILS STAGGERED AT 3" O.C. PANELS SHALL EXTEND 12" BEYOND CONSTRUCTION JOINTS AND SHALL OVERLAP GIRDERS AND DOUBLE SILL FLATES THEIR FULL DEPTH.
- SQUARES DENOTE POINT LOADS WHICH REQUIRE SOLID BLOCKING TO GIRDER OR FOUNDATION. ALL SQUARES TO BE (2) STUDS (UNO).
- REFER TO NOTES AND DETAIL SHEETS FOR ADDITIONAL STRUCTURAL INFORMATION.

NOTE: TSP DENOTES TRIPLE STUD POCKET

TABLE R602.15  
MINIMUM NUMBER OF FULL HEIGHT STUDS AT EACH END OF HEADERS IN EXTERIOR WALLS

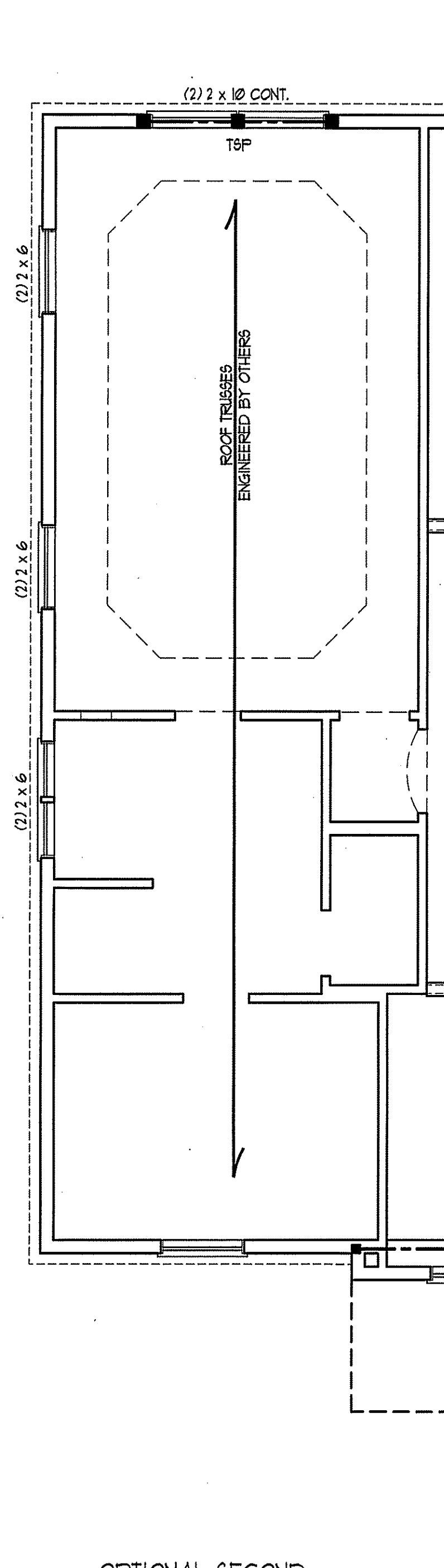
HEADER SPAN (FEET)	MAXIMUM STUD SPACING (INCHES) (PER TABLE R602.3/5)	
	16	24
UP TO 3'	1	1
4'	2	1
8'	3	2
12'	5	3
16'	6	4

**LINTEL SCHEDULE FOR BRICK/NATURAL STONE SUPPORT**

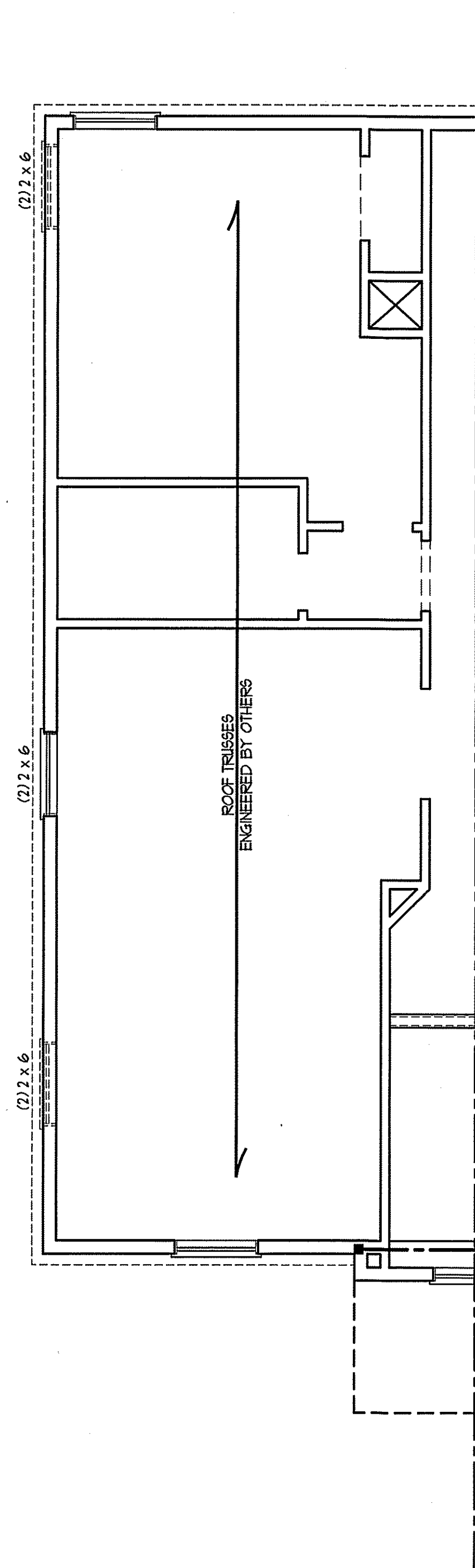
LENGTH (FT.)	SIZE OF LINTEL
UP TO 4 FT.	L 3 1/2 x 3 1/2 x 1/4
4-8	L 5 x 3 1/2 x 5/16 LLV
8 AND GREATER	L 6 x 4 x 5/16 LLV

**BRICK SUPPORT NOTES:**

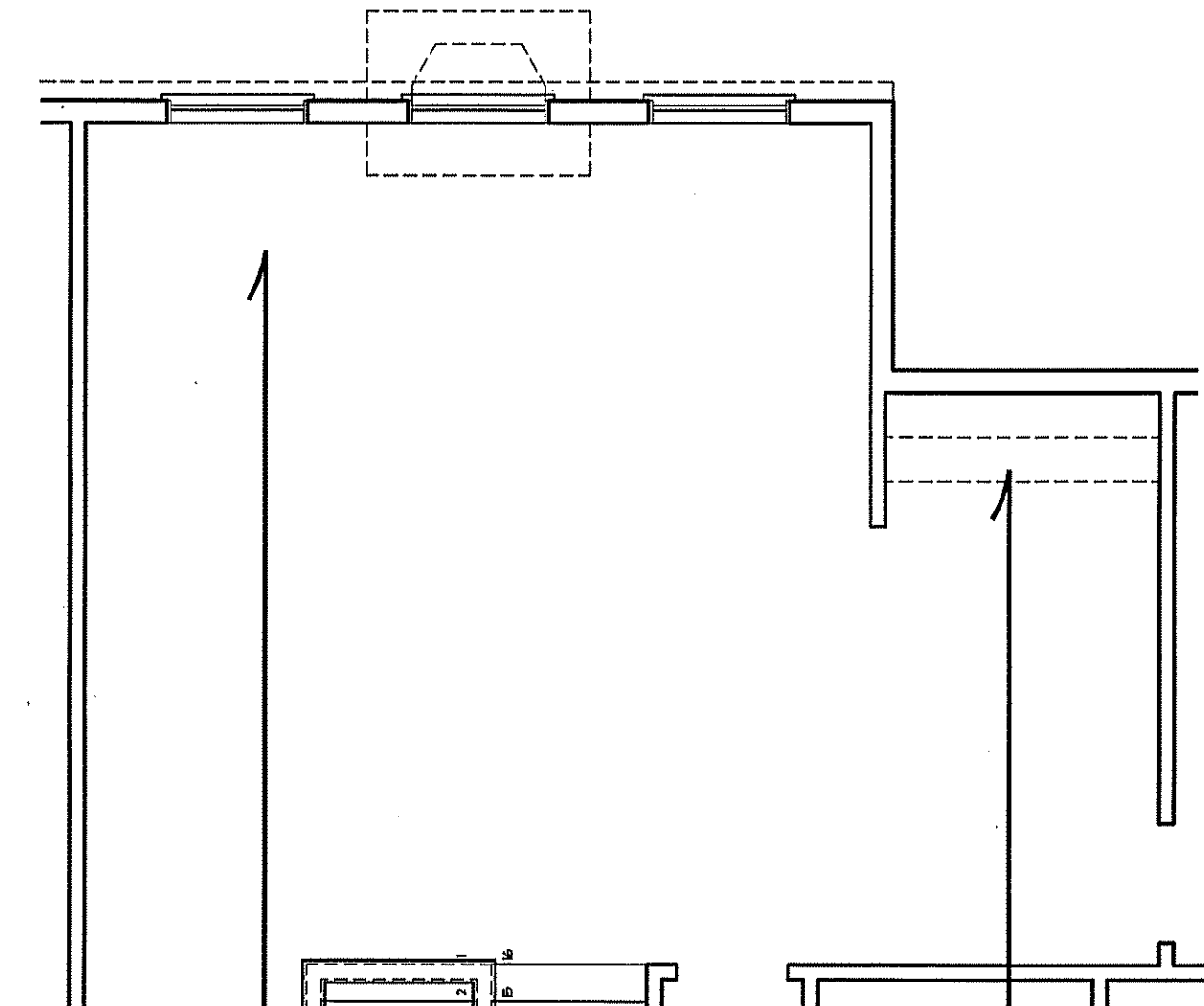
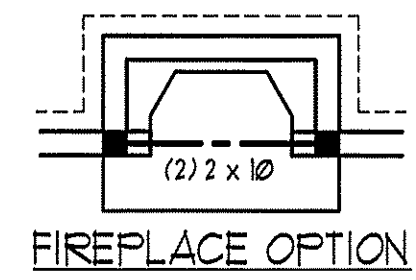
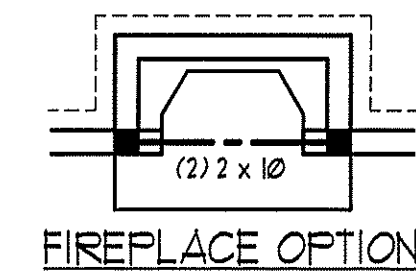
- LINTEL SCHEDULE APPLIES TO ALL OPENINGS IN BRICK VENEER (UNO). SEE ARCH DRGS. FOR SIZE AND LOCATION OF OPENINGS.
- (LLV) = LONG LEG VERTICAL
- LENGTH = CLEAR OPENING
- EMBED ALL ANGLE IRONS MIN. 4" EACH SIDE INTO VENEER TO PROVIDE BEARING.
- FOR ALL HEADERS 8'-0" AND GREATER IN LENGTH, ATTACH STEEL ANGLE TO HEADER W/ 1/2" LAG SCREWS @ 12" O.C. STAGGERED.
- FOR ALL BRICK SUPPORT @ ROOF LINES, FASTEN (2) 2 x 10 BLOCKING BETWEEN STUDS W/ (4) 12d NAILS PER FLY. FASTEN A 6" x 4" x 5/16" STEEL ANGLE TO (2) 2 x 10 BLOCKING W/ (2) 1/2" LAG SCREWS @ 12" O.C. STAGGERED. SEE SECTION R103.8.21 OF THE 2018 NRC FOR ADDITIONAL BRICK SUPPORT INFORMATION.
- PRECAST REINFORCED CONCRETE LINTELS ENGINEERED BY OTHERS MAY BE USED IN LIEU OF STEEL LINTELS.



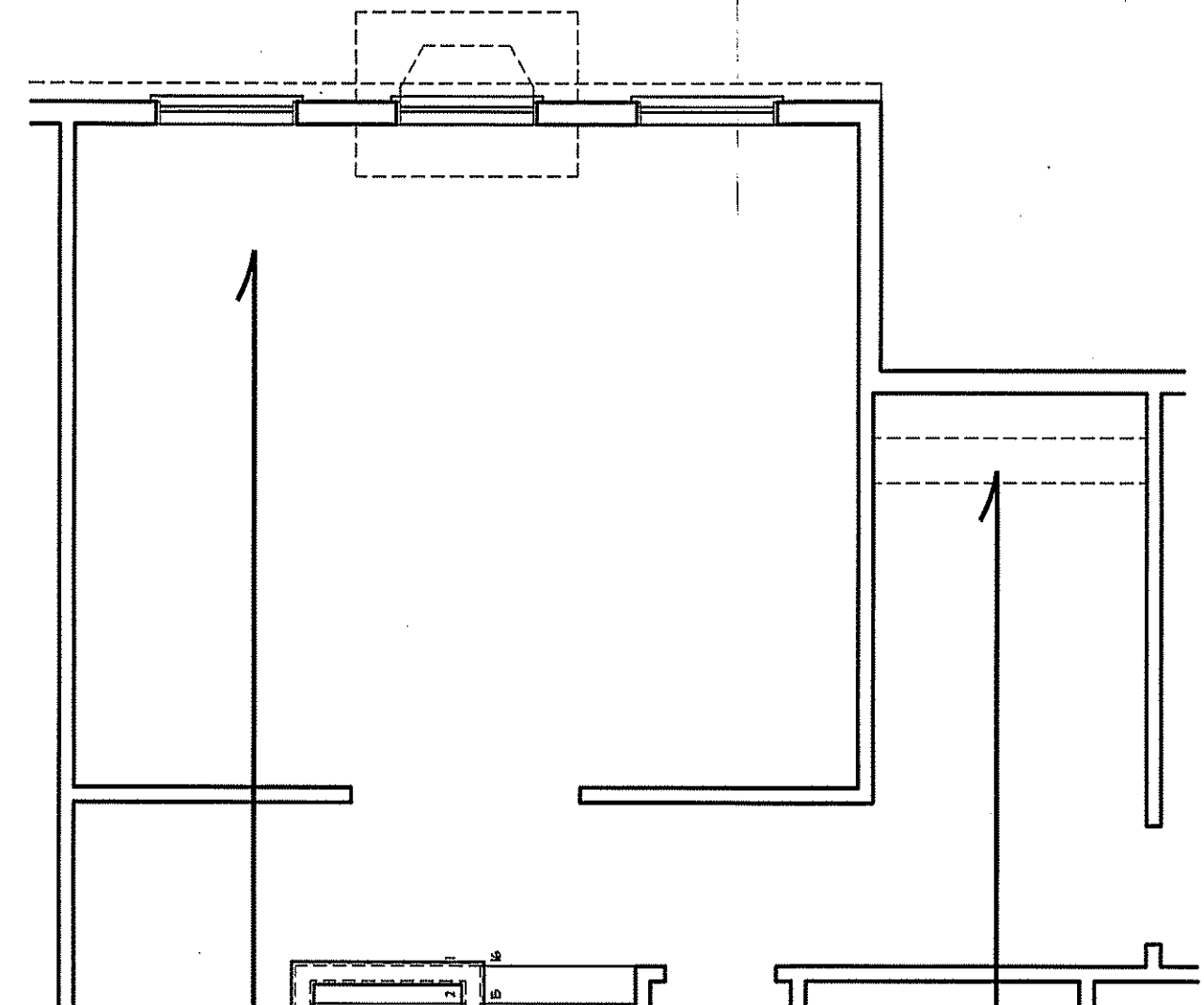
OPTIONAL SECOND MASTER SUITE



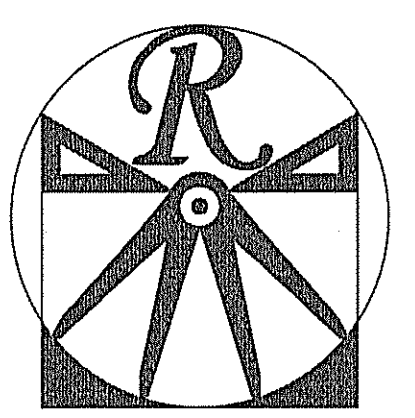
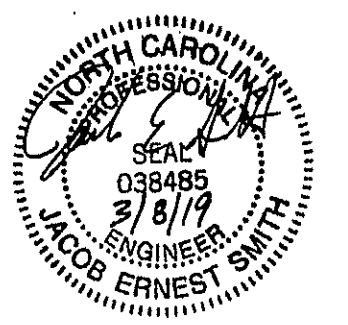
OPTIONAL MEDIA ROOM



OPTIONAL LOFT  
(ADD 214 SQ. FT.)



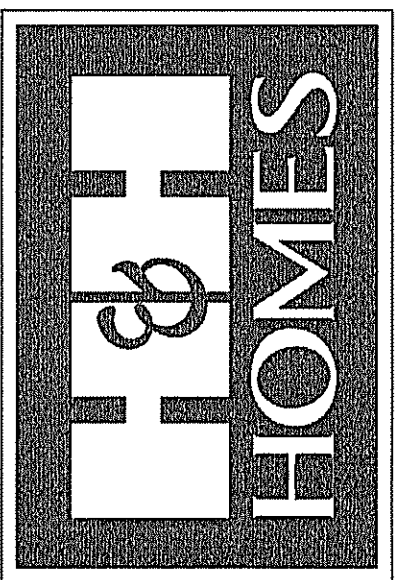
OPTIONAL BONUS ROOM  
(ADD 214 SQ. FT.)



**RENAISSANCE**  
RESIDENTIAL DESIGN, INC.  
4610 GLENMIST CT. | RALEIGH, NC 27612  
(919) 646-4128  
WWW.RRDCAROLINA.COM  
"The art of transforming your vision into reality."

RENAISSANCE RESIDENTIAL DESIGN, INC. RESERVES THE RIGHT TO MAKE MODIFICATIONS TO FLOOR PLANS, DIMENSIONS, MATERIALS, AND SPECIFICATIONS WITHOUT NOTICE. THESE DRAWINGS ARE FOR THE PURPOSE OF CONVEYING AN ARCHITECTURAL CONCEPT ONLY.  
RENAISSANCE RESIDENTIAL DESIGN, INC. HEREBY EXPRESSLY RESERVES ITS COMMON LAW COPYRIGHT AND OTHER PROPERTY RIGHTS IN THESE PLANS. THESE PLANS AND DRAWINGS ARE NOT TO BE REPRODUCED, CHANGED, OR COPIED IN ANY FORM OR MANNER WITHOUT FIRST OBTAINING THE EXPRESS WRITTEN CONSENT OF RENAISSANCE RESIDENTIAL DESIGN, INC. NOR ARE THEY TO BE ASSIGNED TO ANY THIRD PARTY WITHOUT FIRST OBTAINING SAID WRITTEN PERMISSION AND CONSENT.

**J.S. THOMPSON**  
ENGINEERING, INC.  
606 WADE AVE., SUITE 104  
RALEIGH, NC 27605  
PHONE: (919) 789-9919  
FAX: (919) 789-9921  
N.C. LICENSE NO.: 01733



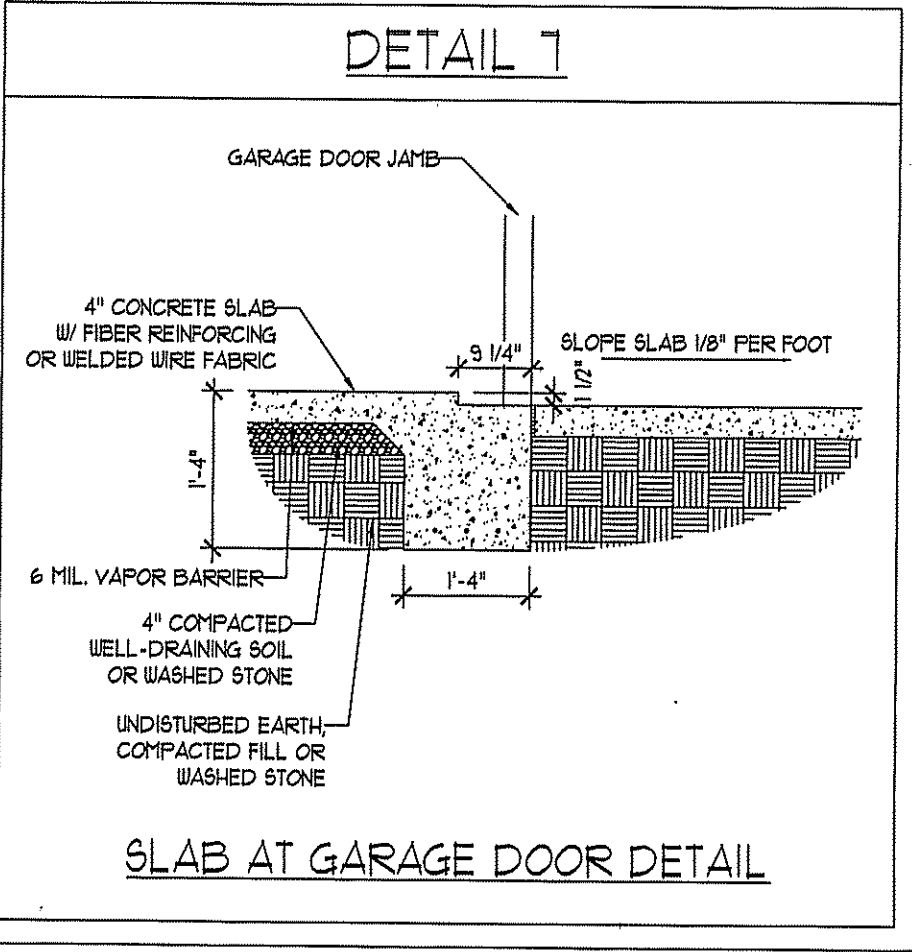
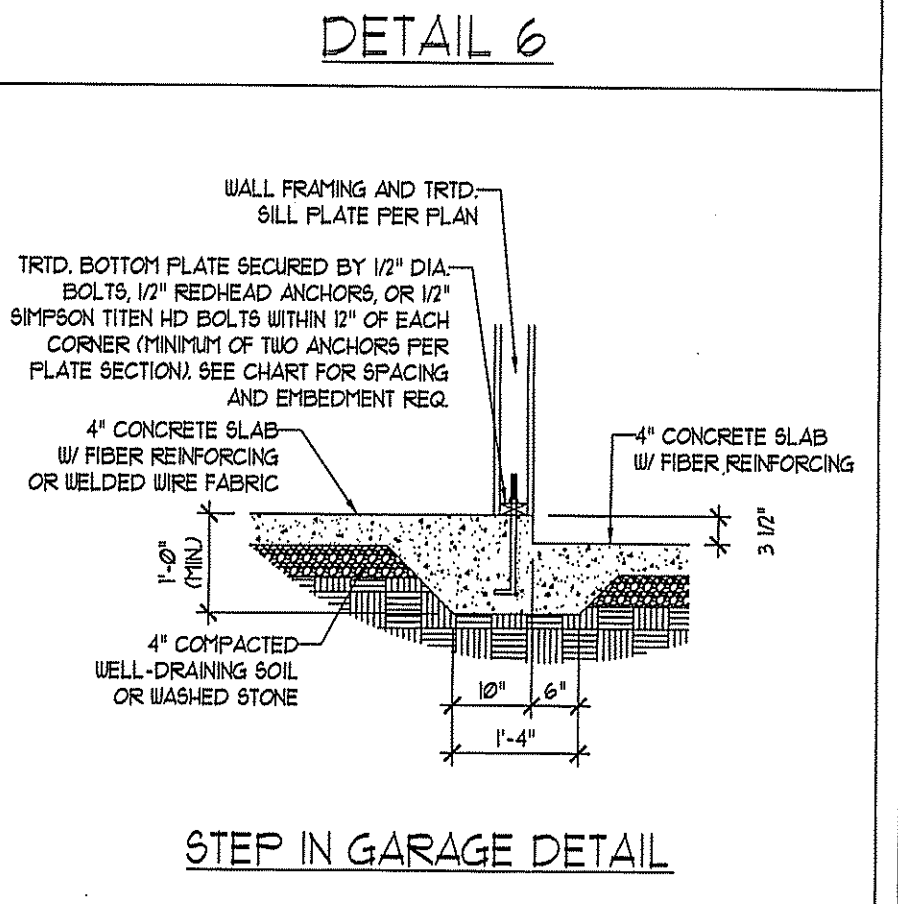
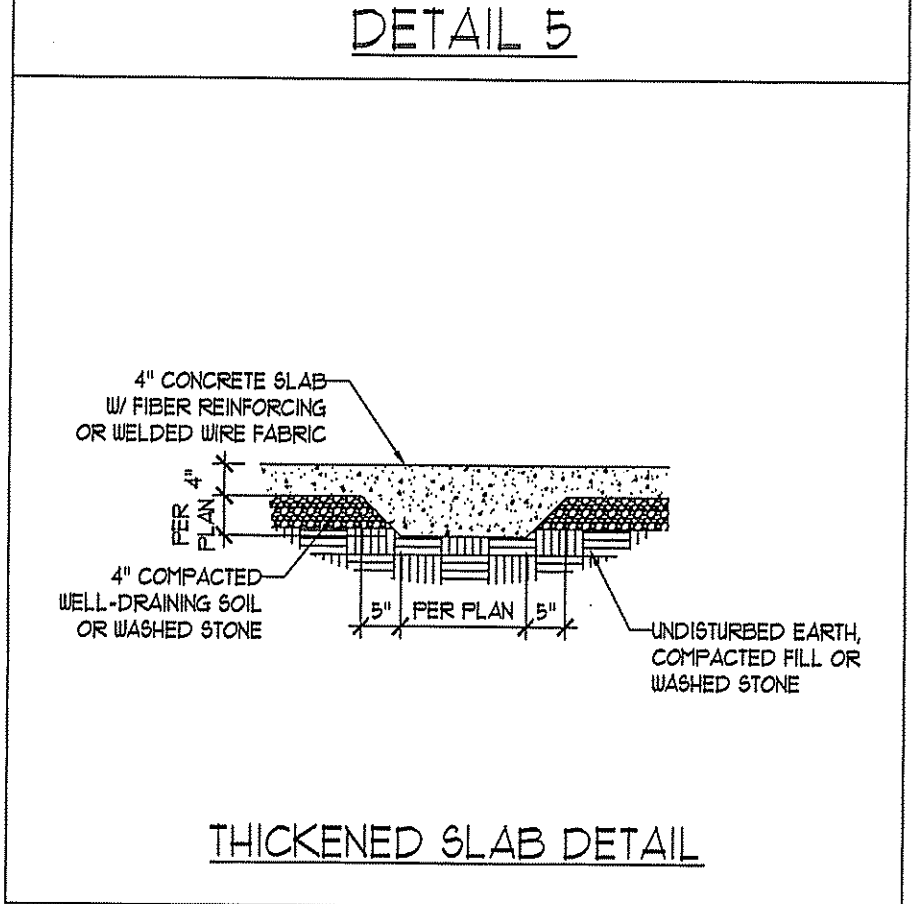
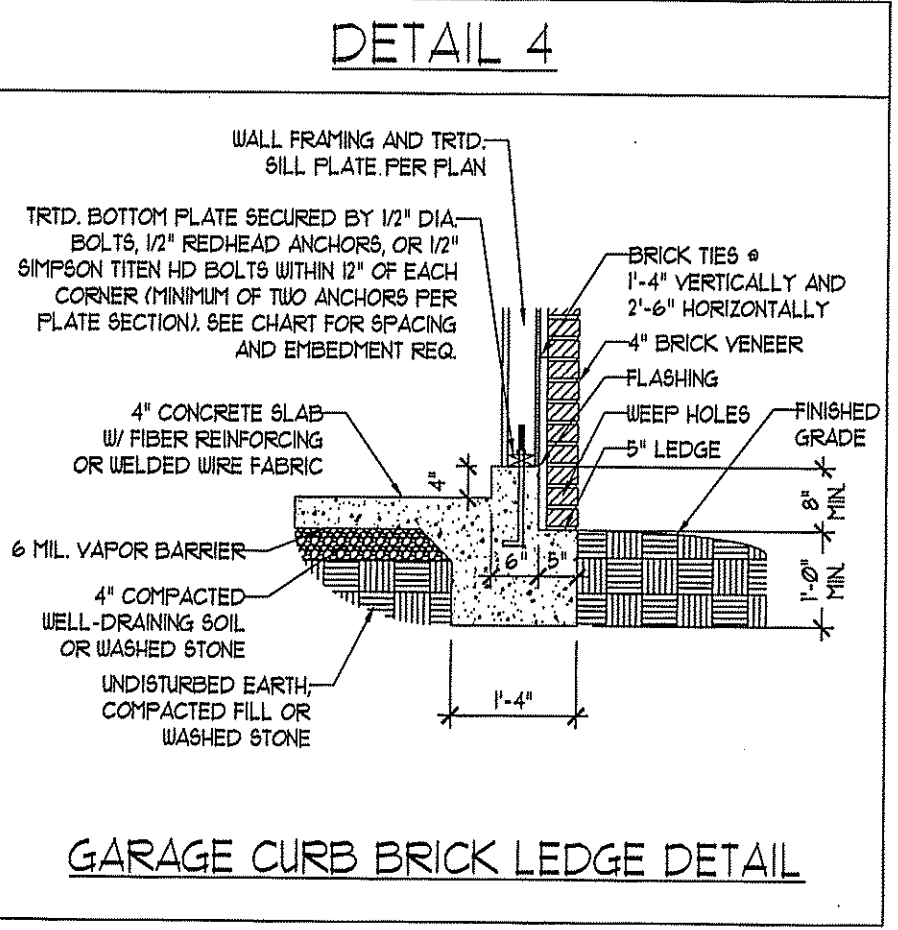
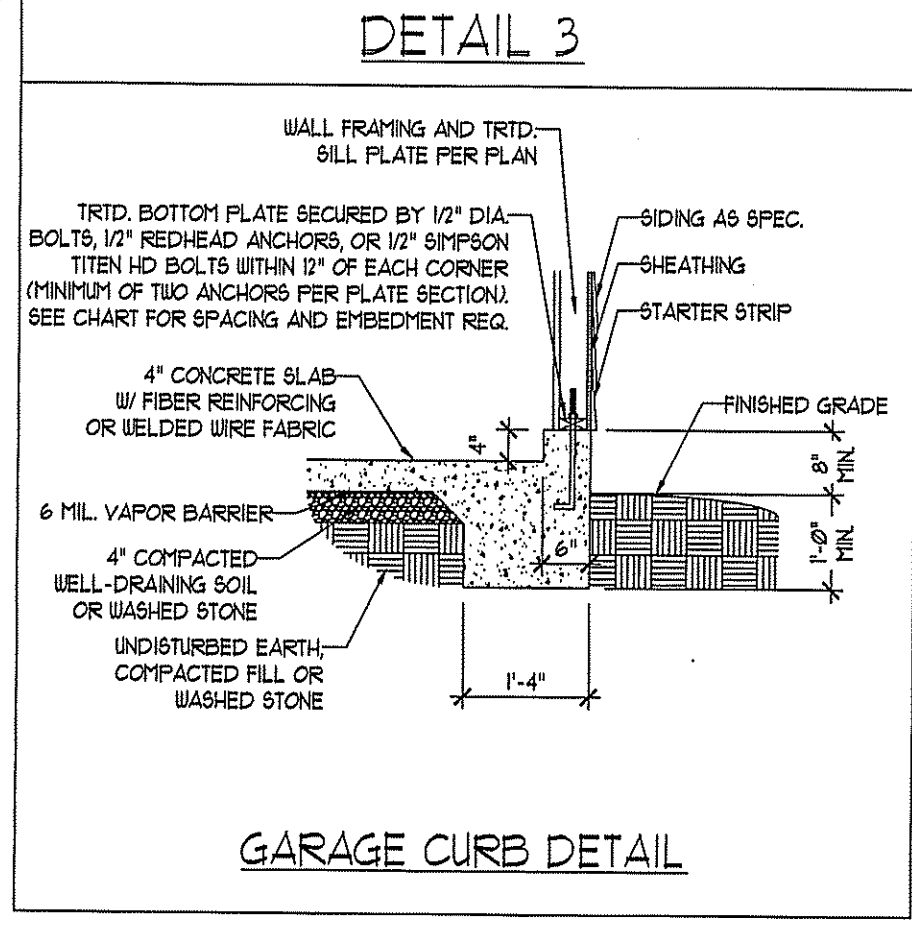
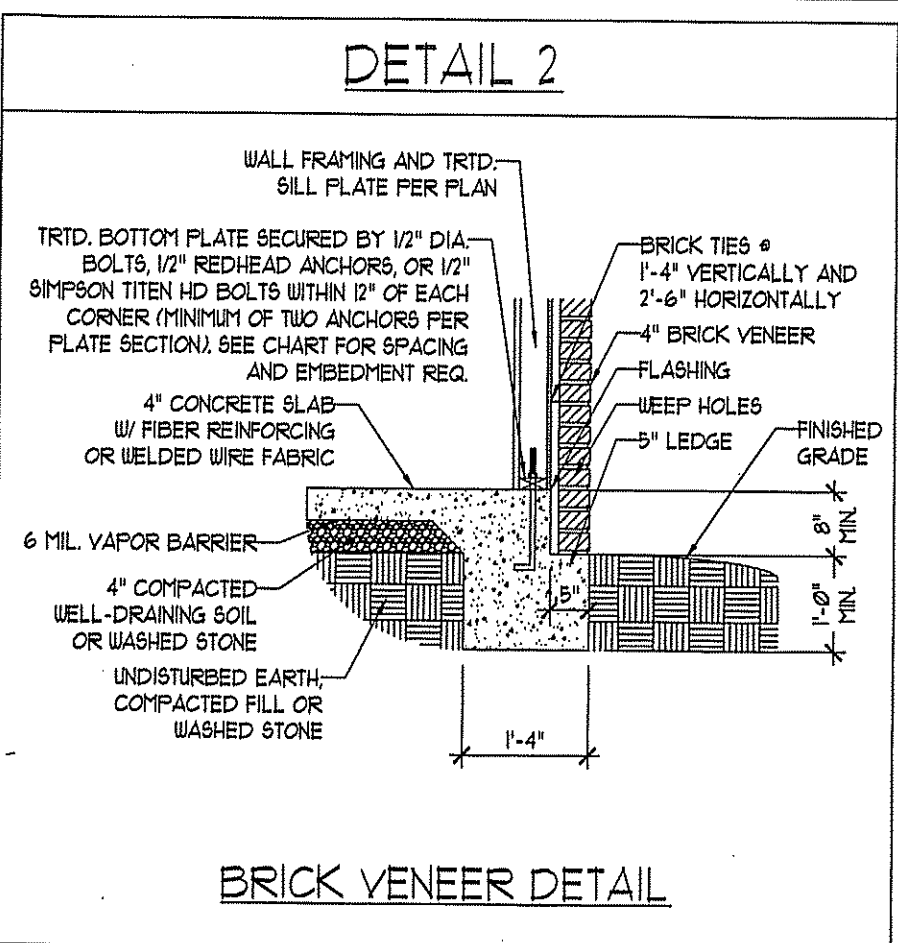
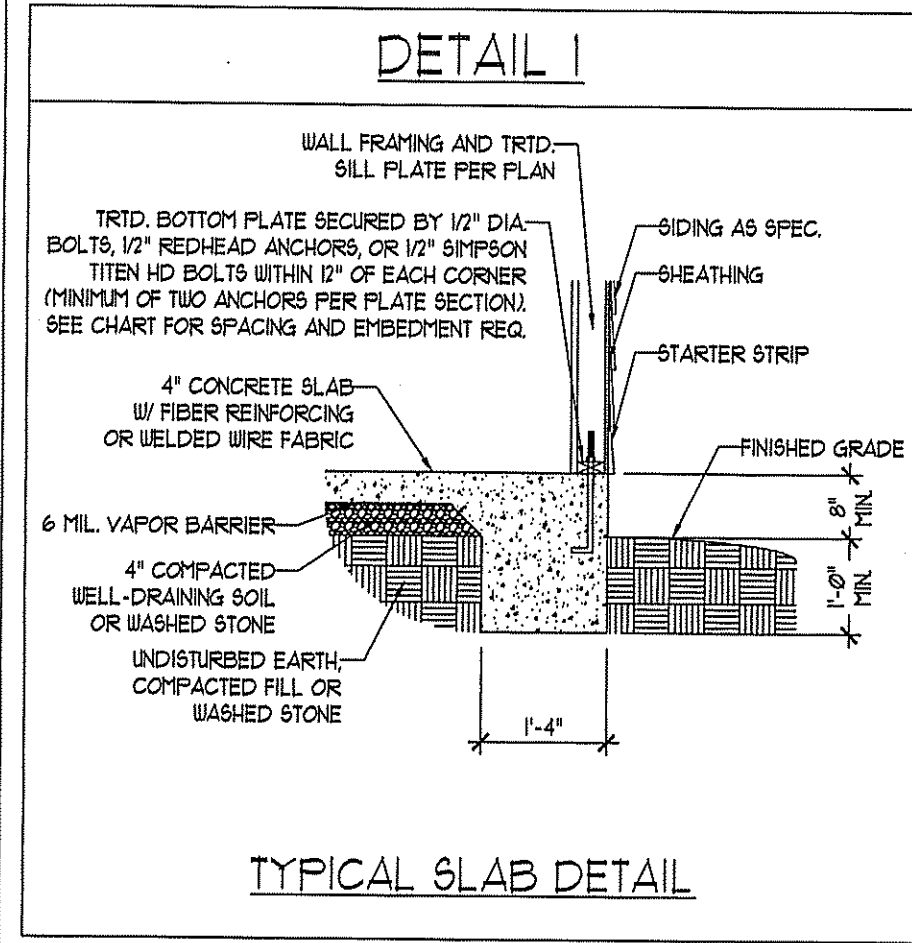
PRICES, PROMOTIONS, INCENTIVES, FEATURES, OPTIONS, FLOOR PLANS, ELEVATIONS, DESIGNS, MATERIALS, FINISHES, AND DIMENSIONS ARE ESTIMATED AND MAY VARY IN ACTUAL CONSTRUCTION. ACTUAL POSITION OF HOUSE ON LOT WILL BE DETERMINED BY THE SURVEY AND PLOT PLAN. CONCEPTS OF FLOOR PLANS ARE THE COPYRIGHTED PROPERTY OF H&H HOMES. ANY USE, REPRODUCTION, ADAPTATION, OR DISSEMINATION OF THESE PLANS IS STRICTLY PROHIBITED. SEE NEW HOME SALES CONSULTANT FOR CURRENT DETAILS. COPYRIGHT © 2019 H&H HOMES

JACKSON

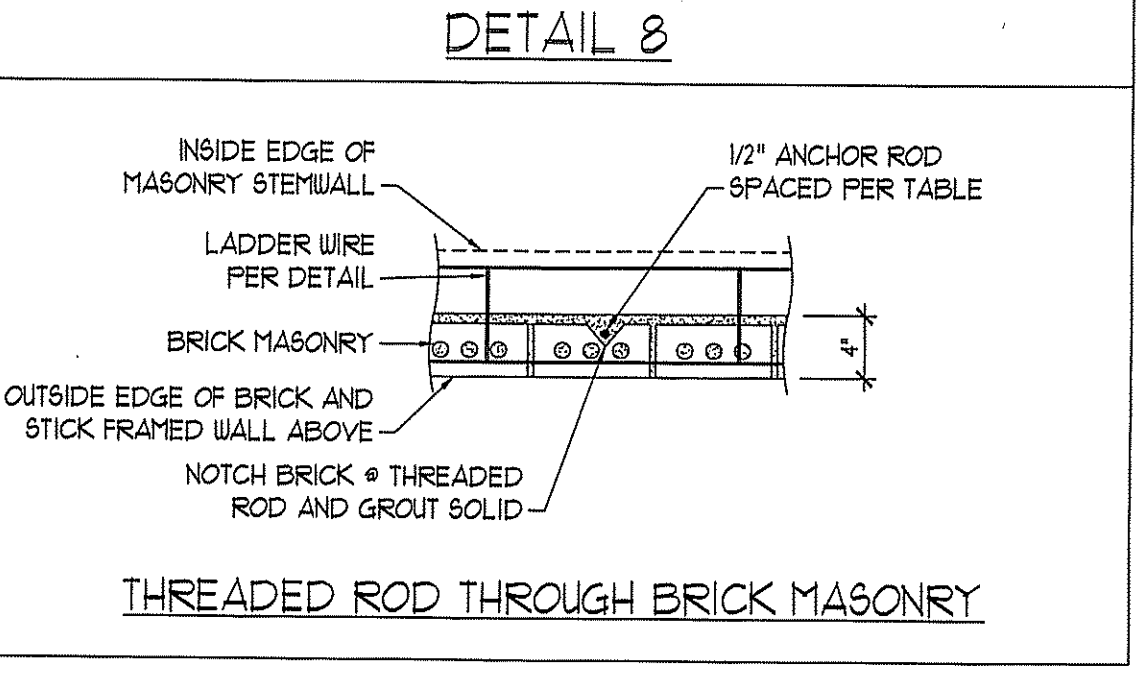
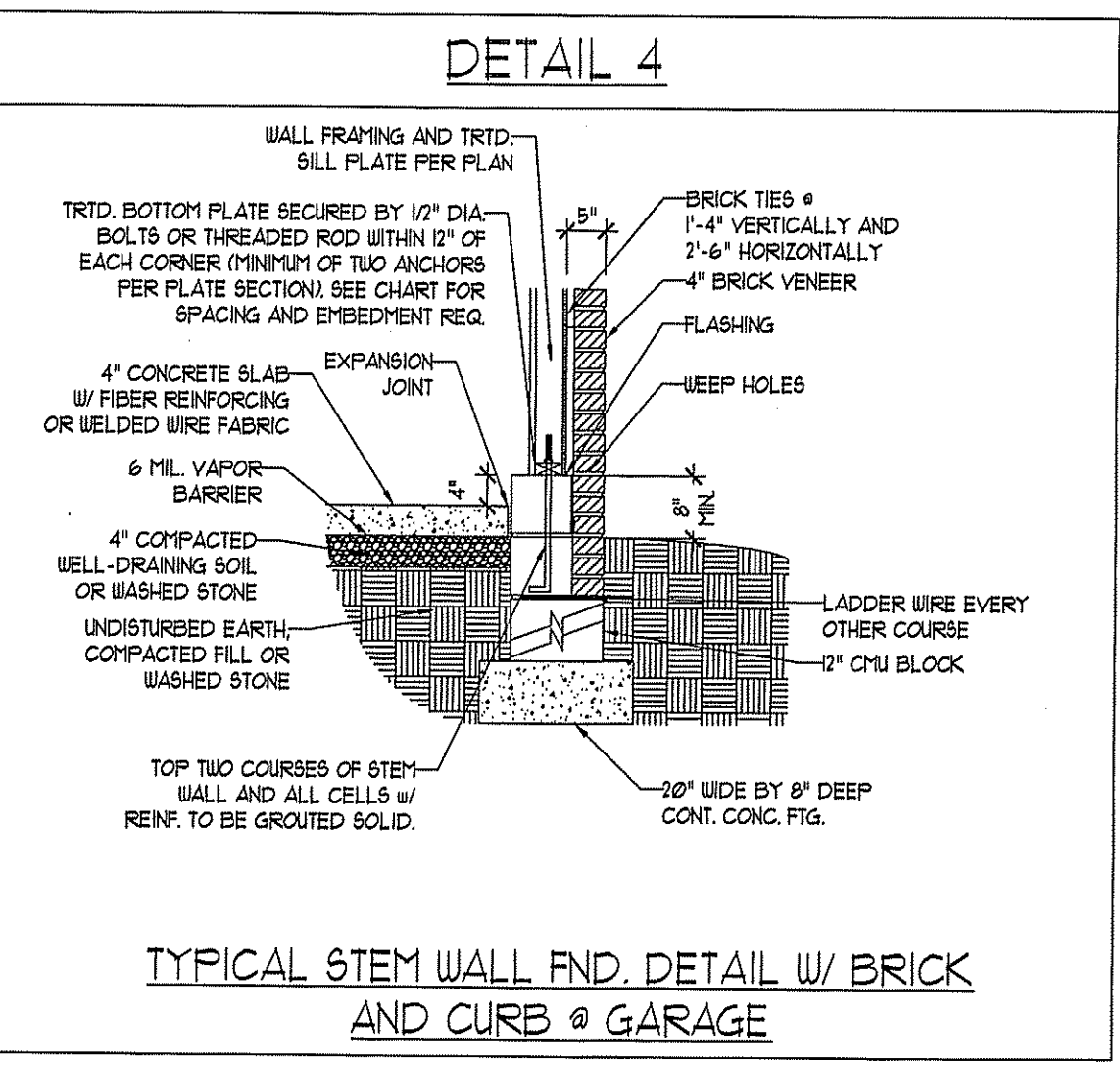
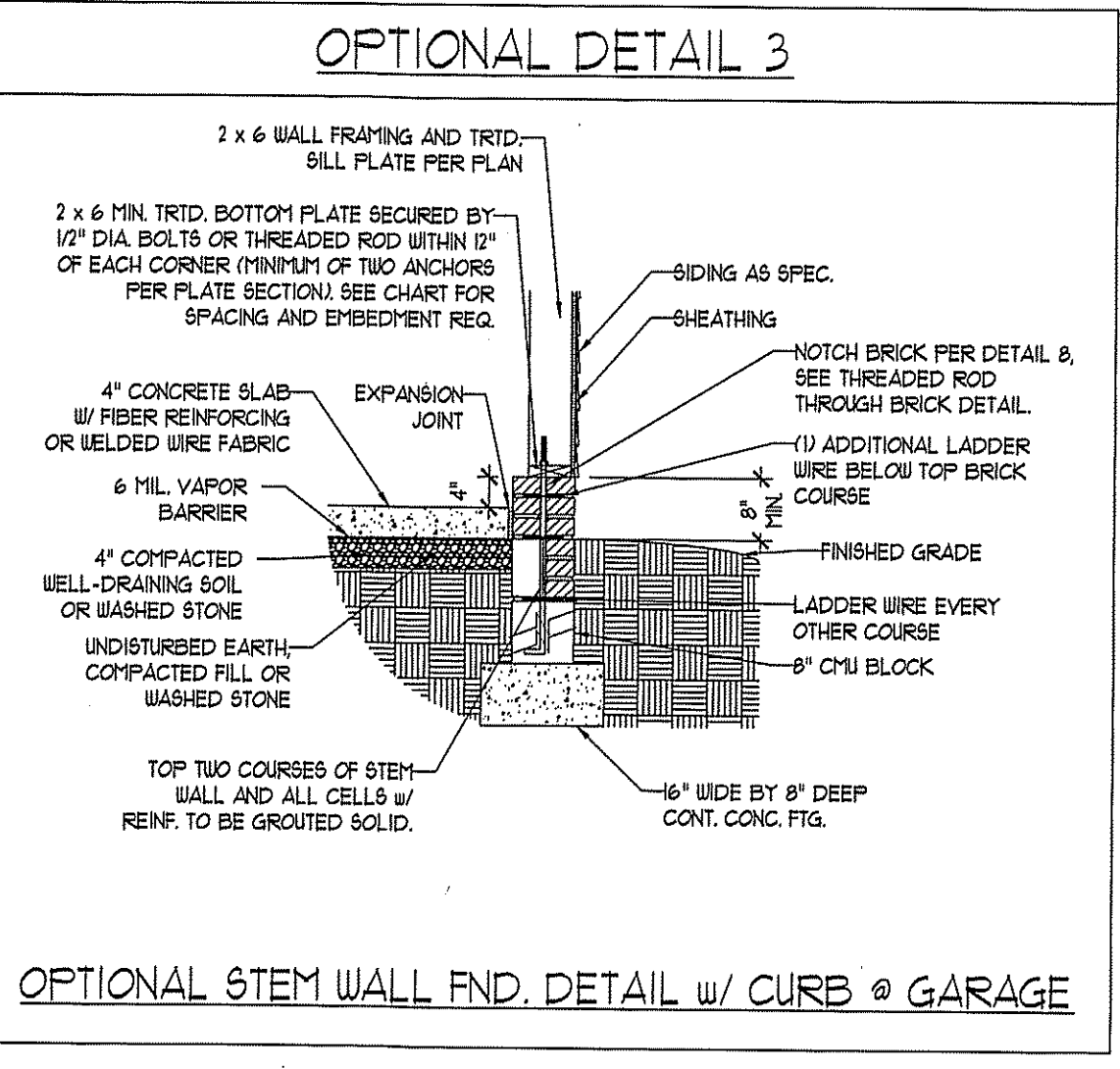
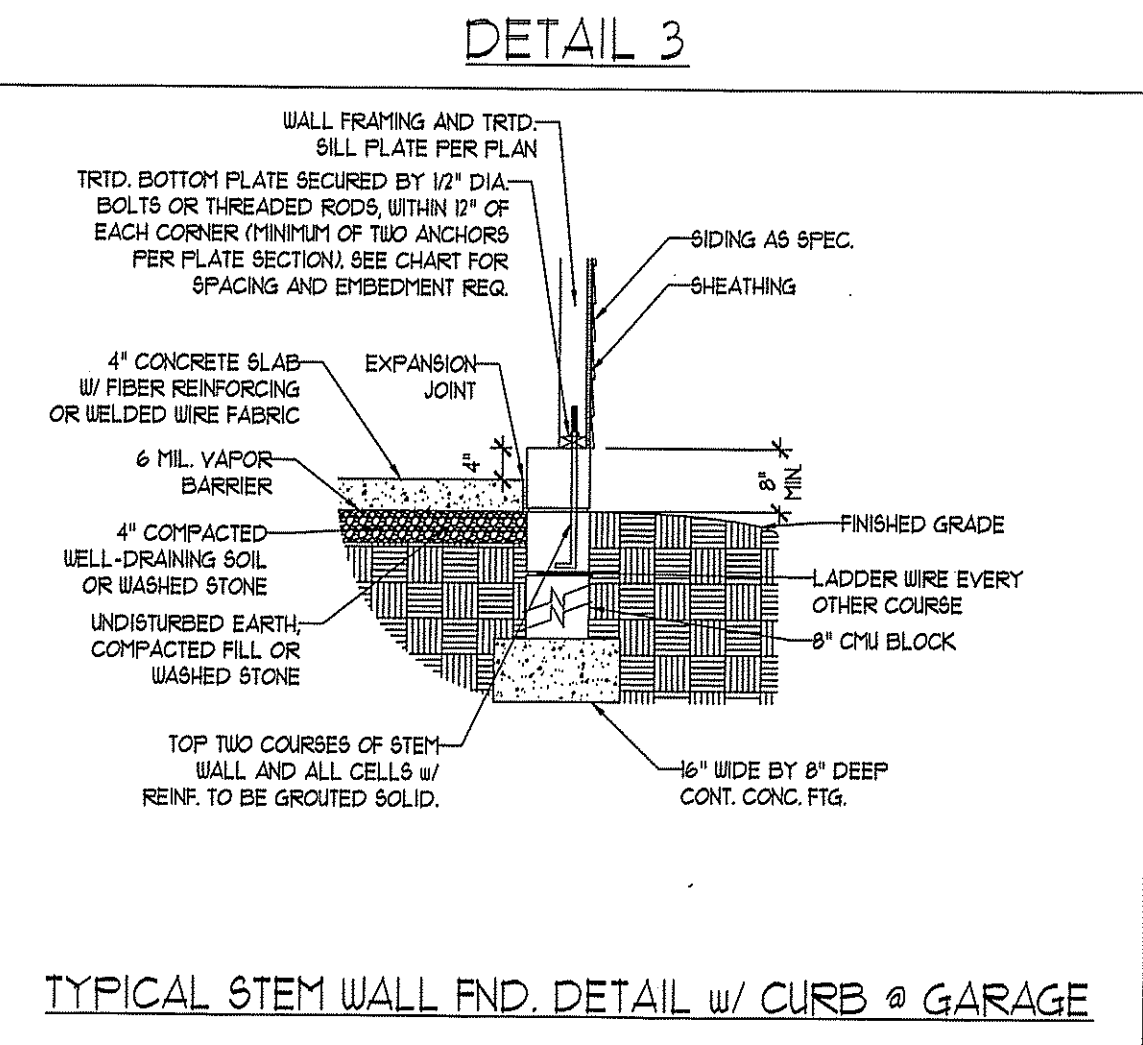
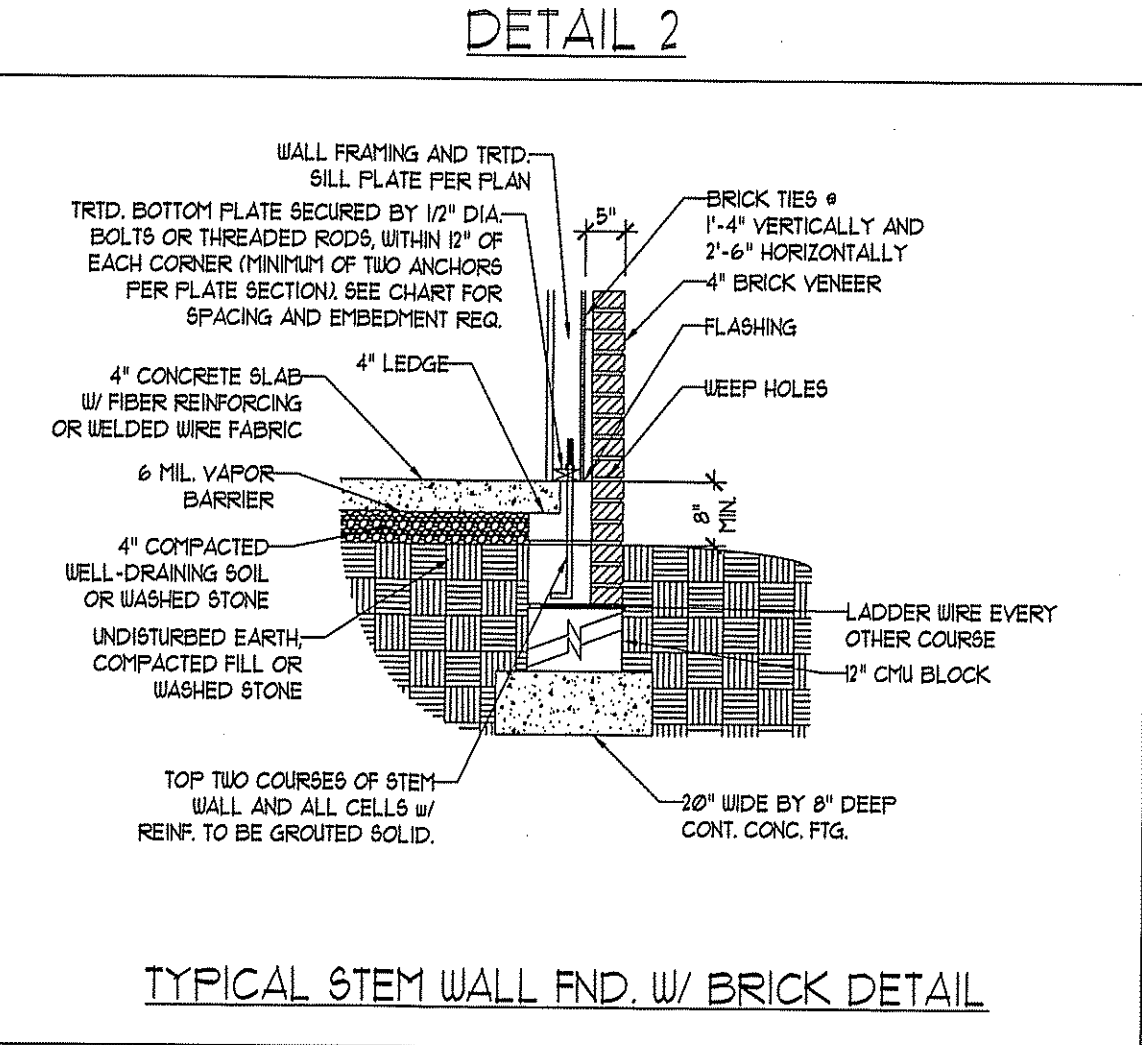
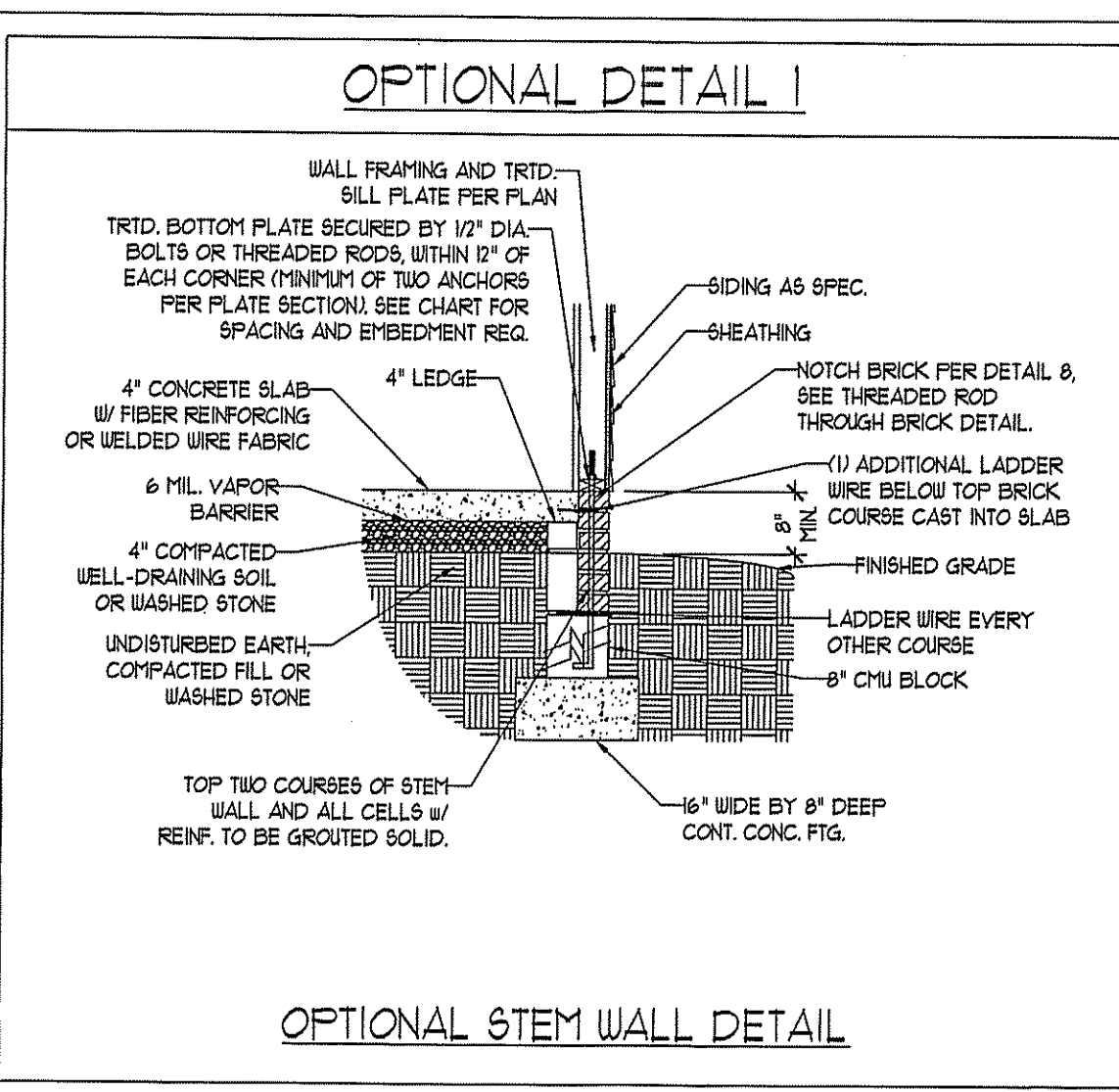
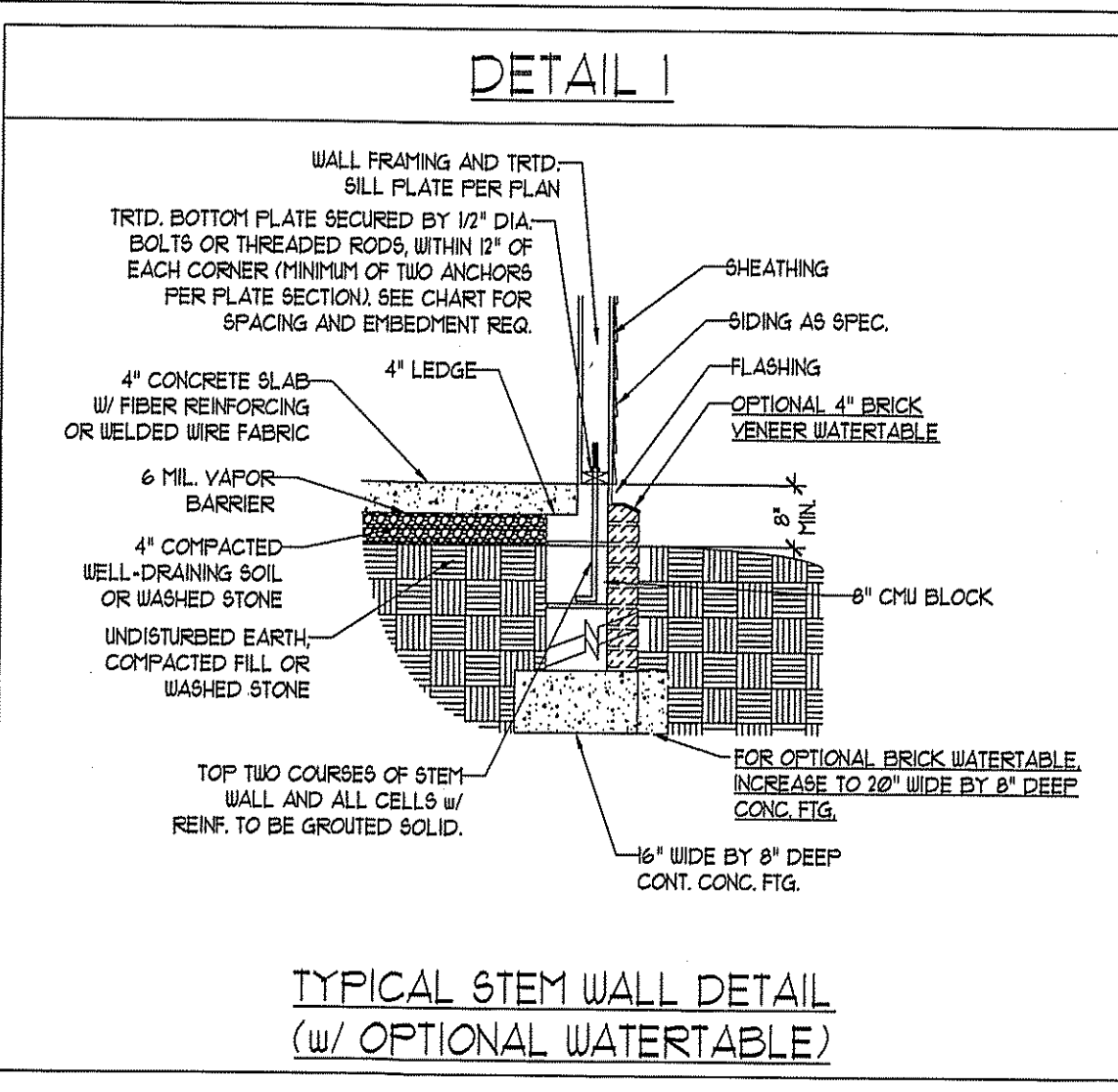
DATE: FEBRUARY 27, 2019  
REV.:  
SCALE: 1/4"=1'-0"  
DRAWN BY: WG  
ENGINEERED BY: WLF  
REVIEWED BY: JES

CEILING FRAMING PLAN  
S-3.1

### MONOLITHIC SLAB DETAILS



### STEMWALL DETAILS



### MASONRY STEMWALL SPECIFICATIONS

WALL HEIGHT (FEET)	MASONRY WALL TYPE			
	8" CMU	4" BRICK AND 4" CMU	4" BRICK AND 8" CMU	12" CMU
2 AND BELOW	UNGROUTED	GROUT SOLID	UNGROUTED	UNGROUTED
3	UNGROUTED	GROUT SOLID	UNGROUTED	UNGROUTED
4	GROUT SOLID w/ #4 REBAR @ 36" O.C.	NOT APPLICABLE	GROUT SOLID w/ #4 REBAR @ 36" O.C.	GROUT SOLID w/ #4 REBAR @ 64" O.C.
5	GROUT SOLID w/ #4 REBAR @ 36" O.C.	NOT APPLICABLE	GROUT SOLID w/ #4 REBAR @ 36" O.C.	GROUT SOLID w/ #4 REBAR @ 64" O.C.
6	GROUT SOLID w/ #4 REBAR @ 24" O.C.	NOT APPLICABLE	GROUT SOLID w/ #4 REBAR @ 24" O.C.	GROUT SOLID w/ #4 REBAR @ 64" O.C.
7 AND GREATER	ENGINEERED DESIGN BASED ON SITE CONDITIONS			

#### STRUCTURAL NOTES:

- WALL HEIGHT MEASURED FROM TOP OF FOOTING TO TOP OF THE WALL.
- TIE MULTIPLE WYTHES TOGETHER WITH LADDER WIRE AT 16" O.C. VERTICALLY.
- CHART APPLICABLE FOR HOUSE FOUNDATION ONLY. CONSULT ENGINEER FOR DESIGN OF GARAGE FOUNDATION NOT COMMON TO HOUSE.
- BACKFILL OF CLEAN #57 / #61 WASHED STONE IS ALLOWABLE.
- BACKFILL OF WELL DRAINED OR SAND - GRAVEL MIXTURE SOILS (45 POUNDS PER CUBIC FOOT BELOW GRADE) CLASSIFIED AS GROUP 1 ACCORDING TO UNIFIED SOILS CLASSIFICATION SYSTEM IN ACCORDANCE WITH TABLE R402.1 OF THE 2018 INTERNATIONAL RESIDENTIAL CODE ARE ALLOWABLE.
- PREP SLAB PER R502.2.1 AND R502.2.2 BASE OF THE 2018 INTERNATIONAL RESIDENTIAL CODE. MINIMUM 24" LAP SPLICE LENGTH.
- LOCATE REBAR IN CENTER OF FOUNDATION WALL.
- WHERE REQUIRED, FILL BLOCK SOLID WITH TYPE "S" MORTAR OR 3000 PSI GROUT. USE OF "LOW LIFT GROUTING" METHOD REQUIRED WHEN FILLING WALLS WITH GROUT AT HEIGHTS OF 5' AND GREATER.

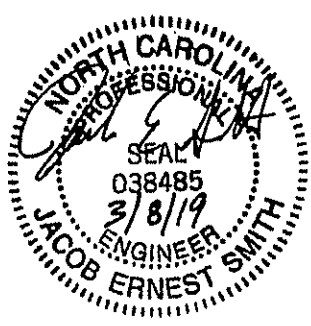
### ANCHOR SPACING AND EMBEDMENT

WIND ZONE	120 MPH	130 MPH
SPACING	6'-0" O.C.	4'-0" O.C.
EMBEDMENT	1"	15" INTO MASONRY 7" INTO CONCRETE

**J.S. THOMPSON ENGINEERING, INC.**  
606 WADE AVE., SUITE 104 RALEIGH, NC 27605  
PHONE: (919) 789-9919 FAX: (919) 789-9921  
N.C. LICENSE NO.: C-1733

120 MPH - 130 MPH ULTIMATE DESIGN WIND SPEED  
FOUNDATION DETAILS

DATE: NOVEMBER 14, 2018  
SCALE: NTS  
DRAWN BY: JST  
ENGINEERED BY: JES



D-1  
FOUNDATION DETAILS

**GENERAL NOTES**

- ENGINEER'S SEAL APPLIES ONLY TO STRUCTURAL COMPONENTS INCLUDING ROOF RAFTERS, HIPS, VALLEYS, RIDGES, FLOORS, WALLS, BEAMS, HEADERS, COLUMNS, CANTILEVERS, OFFSET LOAD BEARING WALLS, PIERS, GIRDER SYSTEM AND FOOTING. ENGINEER'S SEAL DOES NOT CERTIFY DIMENSIONAL ACCURACY OF ARCHITECTURAL LAYOUT INCLUDING ROOF. ENGINEER'S SEAL DOES NOT APPLY TO I-JOIST OR FLOOR/ROOF TRUSS LAYOUT DESIGN AND ACCURACY.
- ALL CONSTRUCTION SHALL CONFORM TO THE LATEST REQUIREMENTS OF THE NORTH CAROLINA RESIDENTIAL CODE (NRC), 2018 EDITION, 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 SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE CONSTRUCTION WORK. NOR WILL THE ENGINEER BE RESPONSIBLE FOR THE CONTRACTORS FAILURE TO CARRY OUT THE CONSTRUCTION WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
- STRUCTURAL DESIGN BASED ON THE PROVISIONS OF THE NRC, 2018 EDITION (R301.4 - R301.7)
 

DESIGN CRITERIA:	LIVE LOAD (PSF)	DEAD LOAD (PSF)	DEFLECTION (IN)
ATTIC WITH LIMITED STORAGE	20	10	L/240 (L/360 w/ BRITTLE FINISHES)
ATTIC WITHOUT STORAGE	10	10	L/360
DECKS	40	10	L/360
EXTERIOR BALCONIES	40	10	L/360
FIRE ESCAPES	40	10	L/360
HANDRAILS/GUARDRAILS	200 LB OR 50 (PLF)	10	L/360
PASSENGER VEHICLE GARAGE	50	10	L/360
ROOMS OTHER THAN SLEEPING ROOM	40	10	L/360
SLEEPING ROOMS	30	10	L/360
STAIRS	40	10	L/360
WIND LOAD	(BASED ON TABLE R301.2(4) WIND ZONE AND EXPOSURE)		
GROUND SNOW LOAD: P <sub>g</sub>	20 (PSF)		

  - I-JOIST SYSTEMS DESIGNED WITH 12 PSF DEAD LOAD AND DEFLECTION (IN) OF L/480
  - FLOOR TRUSS SYSTEMS DESIGNED WITH 15 PSF DEAD LOAD
- FOR 15 AND 20 MPH WIND ZONES, FOUNDATION ANCHORAGE IS TO COMPLY WITH SECTION R403.1.6 OF THE NRC, 2018 EDITION. FOR 20 MPH, 40 MPH, AND 50 MPH WIND ZONES, FOUNDATION ANCHORAGE IS TO COMPLY WITH SECTION 4904 OF THE NRC, 2018 EDITION.
- ENERGY EFFICIENCY COMPLIANCE AND INSULATION VALUES OF THE BUILDING TO BE IN ACCORDANCE WITH CHAPTER II OF THE NRC, 2018 EDITION.

**FOOTING AND FOUNDATION NOTES**

- FOUNDATION DESIGN BASED ON A MINIMUM ALLOWABLE BEARING CAPACITY OF 2000 PSF. CONTACT GEOTECHNICAL ENGINEER IF BEARING CAPACITY IS NOT ACHIEVED.
- FOR ALL CONCRETE SLABS AND FOOTINGS, THE AREA WITHIN THE PERIMETER OF THE BUILDING ENVELOPE SHALL HAVE ALL VEGETATION, TOP SOIL AND FOREIGN MATERIAL REMOVED. FILL MATERIAL SHALL BE FREE OF VEGETATION AND FOREIGN MATERIAL. THE FILL SHALL BE COMPACTED TO ASSURE UNIFORM SUPPORT OF THE SLAB, AND EXCEPT WHERE APPROVED, THE FILL DEPTHS SHALL NOT EXCEED 24" FOR CLEAN SAND OR GRAVEL. A 4" THICK BASED COURSE CONSISTING OF CLEAN GRADED SAND OR GRAVEL SHALL BE PLACED. A BASE COURSE IS NOT REQUIRED WHERE A CONCRETE SLAB IS INSTALLED ON WELL-DRAINED OR SAND-GRAVEL MIXTURE SOILS CLASSIFIED AS GROUP I, ACCORDING TO THE UNITED SOIL CLASSIFICATION SYSTEM IN ACCORDANCE WITH TABLE R403.1 OF THE NRC, 2018 EDITION.
- PROPERLY DEWATER EXCAVATION PRIOR TO POURING CONCRETE WHEN BOTTOM OF CONCRETE SLAB IS AT OR BELOW WATER TABLE. IF APPLICABLE, 3/4" - 1" DEEP CONTROL JOINTS ARE TO BE SAUED WITHIN 4 TO 12 HOURS OF CONCRETE FINISHING AND WALL LOCATIONS HAVE BEEN MARKED. ADJUST WHERE NECESSARY.
- CONCRETE SHALL CONFORM TO SECTION R402.2 OF THE NRC, 2018 EDITION. CONCRETE REINFORCING STEEL TO BE ASTM A615 GRADE 60, WELDED WIRE FABRIC TO BE ASTM A995. MAINTAIN A MINIMUM CONCRETE COVER AROUND REINFORCING STEEL OF 3" IN FOOTINGS AND 1 1/2" IN SLABS. FOR POURED CONCRETE WALLS, CONCRETE COVER FOR REINFORCING STEEL MEASURED FROM THE INSIDE FACE OF THE WALL SHALL NOT BE LESS THAN 3/4". CONCRETE COVER FOR REINFORCING STEEL MEASURED FROM THE OUTSIDE FACE OF THE WALL SHALL NOT BE LESS THAN 1 1/2" FOR 1/2" BARS OR SMALLER, AND NOT LESS THAN 2" FOR 3/4" BARS OR LARGER.
- MASONRY UNITS TO CONFORM TO ACE 530/ASCE 5/TMS 402. MORTAR SHALL CONFORM TO ASTM C270.
- THE UNSUPPORTED HEIGHT OF MASONRY PIERS SHALL NOT EXCEED FOUR TIMES THEIR LEAST DIMENSION FOR UNFILLED HOLLOW CONCRETE MASONRY UNITS AND TEN TIMES THEIR LEAST DIMENSION FOR SOLID OR SOLID FILLED PIERS. PIERS MAY BE FILLED SOLID WITH CONCRETE OR TYPE M OR S MORTAR. PIERS AND WALLS SHALL BE CAPPED WITH 8" OF SOLID MASONRY.
- THE CENTER OF EACH OF THE PIERS SHALL BEAR IN THE MIDDLE THIRD OF ITS RESPECTIVE FOOTING. EACH GIRDER SHALL BEAR IN THE MIDDLE THIRD OF THE PIERS.
- ALL CONCRETE AND MASONRY FOUNDATION WALLS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH THE PROVISIONS OF SECTION R404 OF THE NRC, 2018 EDITION OR IN ACCORDANCE WITH ACI 318, ACI 332, NCMIA TR68-A OR ACE 530/ASCE 5/TMS 402. MASONRY FOUNDATION WALLS ARE TO BE REINFORCED PER TABLE R404.1(1), R404.1(2), R404.1(3), OR R404.1(4) OF THE NRC, 2018 EDITION. CONCRETE FOUNDATION WALLS ARE TO BE REINFORCED PER TABLE R404.1(5) OF THE NRC, 2018 EDITION. STEP CONCRETE FOUNDATION WALLS TO 2 x 6 FRAMED WALLS AT 16" O.C. WHERE GRADE PERMITS (UNO).

This sealed page is to be used in conjunction with a full plan set engineered by J.S. Thompson Engineering, Inc. only. Use of this individual sealed page within architectural pages or shop drawings by others is a punishable offense under N.C. Statute § 89C-23

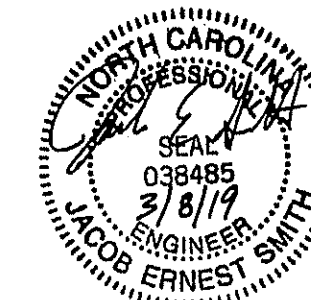
**FRAMING NOTES**

- ALL FRAMING LUMBER SHALL BE #2 SFF MINIMUM (F<sub>b</sub> = 875 PSF, F<sub>v</sub> = 375 PSF, E = 1600000 PSF) UNLESS NOTED OTHERWISE (UNO). ALL TREATED LUMBER SHALL BE #2 SYP MINIMUM (F<sub>b</sub> = 975 PSF, F<sub>v</sub> = 175 PSF, E = 1600000 PSF) UNLESS NOTED OTHERWISE (UNO).
- LAMINATED VENEER LUMBER (LVL) SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES: F<sub>b</sub> = 2600 PSF, F<sub>v</sub> = 285 PSF, E = 1920000 PSF. LAMINATED STRAND LUMBER (LSL) SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES: F<sub>b</sub> = 2325 PSF, F<sub>v</sub> = 310 PSF, E = 1550000 PSF. PARALLEL STRAND LUMBER (PSL) UP TO 1" DEPTH SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES: F<sub>c</sub> = 2500 PSF, E = 1900000 PSF. PARALLEL STRAND LUMBER (PSL) MORE THAN 1" DEPTH SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES: F<sub>c</sub> = 2300 PSF, E = 2000000 PSF. INSTALL ALL CONNECTIONS PER MANUFACTURER'S SPECIFICATIONS.
- STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING ASTM SPECIFICATIONS
 

A. W AND WT SHAPES:	ASTM A992
B. CHANNELS AND ANGLES:	ASTM A36
C. PLATES AND BARS:	ASTM A36
D. HOLLOW STRUCTURAL SECTIONS:	ASTM A500 GRADE B
E. STEEL PIPE:	ASTM A53, GRADE B, TYPE E OR S
- STEEL BEAMS SHALL BE SUPPORTED AT EACH END WITH A MINIMUM BEARING LENGTH OF 3 1/2" AND FULL FLANGE WIDTH (UNO). PROVIDE SOLID BEARING FROM BEAM SUPPORT TO FOUNDATION. BEAMS SHALL BE ATTACHED AT THE BOTTOM FLANGE TO EACH SUPPORT AS FOLLOWS (UNO):
 

A. WOOD FRAMING	(2) 1/2" DIA. x 4" LONG LAG SCREWS
B. CONCRETE	(2) 1/2" DIA. x 4" WEDGE ANCHORS
C. MASONRY (FULLY GROUTED)	(2) 1/2" DIA. x 4" LONG SIMPSON TITEN HD ANCHORS

LATERAL SUPPORT IS CONSIDERED ADEQUATE PROVIDING THE JOISTS ARE TOE NAILED TO THE 2x NAILER ON TOP OF THE STEEL BEAM, AND THE 2x NAILER IS SECURED TO THE TOP OF THE STEEL BEAM w/ (2) ROWS OF SELF TAPPING SCREWS @ 16" O.C. OR (2) ROWS OF 1/2" DIAMETER BOLTS @ 16" O.C. IF 1/2" BOLTS ARE USED TO FASTEN THE NAILER, THE STEEL BEAM SHALL BE FABRICATED w/ (2) ROWS OF 9/16" DIAMETER HOLES @ 16" O.C.
- SQUARES DENOTE POINT LOADS WHICH REQUIRE SOLID BLOCKING TO GIRDER OR FOUNDATION. SHADED SQUARES DENOTE POINT LOADS FROM ABOVE WHICH REQUIRE SOLID BLOCKING TO SUPPORTING MEMBER BELOW.
- ALL LOAD BEARING HEADERS TO CONFORM TO TABLE R602.1(1) AND R602.1(2) OF THE NRC, 2018 EDITION OR BE (2) 2 x 6 WITH (1) JACK AND (1) KING STUD EACH END (UNO), WHICHEVER IS GREATER. ALL HEADERS TO BE SECURED TO EACH JACK STUD WITH (4) 8d NAILS. ALL BEAMS TO BE SUPPORTED WITH (2) STUDS AT EACH BEARING POINT (UNO). INSTALL KING STUDS PER SECTION R602.15 OF THE NORTH CAROLINA RESIDENTIAL CODE, 2018 EDITION.
- ALL BEAMS, HEADERS, OR GIRDER TRUSSES PARALLEL TO WALL ARE TO BEAR FULLY ON (1) JACK OR (2) STUDS MINIMUM OR THE NUMBER OF JACKS OR STUDS NOTED. ALL BEAMS OR GIRDER TRUSSES PERPENDICULAR TO WALL AND SUPPORTED BY (3) STUDS OR LESS ARE TO HAVE 1 1/2" MINIMUM BEARING (UNO). ALL BEAMS OR GIRDER TRUSSES PERPENDICULAR TO WALL AND SUPPORTED BY MORE THAN (3) STUDS OR OTHER NOTED COLUMN ARE TO BEAR FULLY ON SUPPORT COLUMN FOR ENTIRE WALL DEPTH (UNO). BEAM ENDS THAT BUTT INTO ONE ANOTHER ARE TO EACH BEAR EQUAL LENGTHS (UNO).
- FLITCH BEAMS SHALL BE BOLTED TOGETHER USING 1/2" DIAMETER BOLTS (ASTM A307) WITH WASHERS PLACED AT THREADED END OF BOLT. BOLTS SHALL BE SPACED AT 24" CENTERS (MAXIMUM), AND STAGGERED AT TOP AND BOTTOM OF BEAM (2" EDGE DISTANCE), WITH (2) BOLTS LOCATED AT 6" FROM EACH END (UNO).
- ALL I-JOIST OR TRUSS LAYOUTS ARE TO BE IN COMPLIANCE WITH THE OVERALL DESIGN SPECIFIED ON THE PLANS. ALL DEVIATIONS ARE TO BE BROUGHT TO THE ATTENTION OF THE ENGINEER OF RECORD PRIOR TO INSTALLATION.
- BRACED WALL PANELS SHALL BE CONSTRUCTED ACCORDING TO THE NORTH CAROLINA RESIDENTIAL CODE 2018 EDITION WALL BRACING CRITERIA. THE AMOUNT, LENGTH, AND LOCATION OF BRACING SHALL COMPLY WITH ALL APPLICABLE TABLES IN SECTION R602.10.
- PROVIDE DOUBLE JOIST UNDER ALL WALLS PARALLEL TO FLOOR JOISTS. PROVIDE SUPPORT UNDER ALL WALLS PARALLEL TO FLOOR TRUSSES OR I-JOISTS PER MANUFACTURER'S SPECIFICATIONS. INSTALL BLOCKING BETWEEN JOISTS OR TRUSSES FOR POINT LOAD SUPPORT FOR ALL POINT LOADS ALONG OFFSET LOAD LINES.
- FOR ALL HEADERS SUPPORTING BRICK VENEER THAT ARE LESS THAN 8'-0" IN LENGTH, REST A 6" x 4" x 5/16" STEEL ANGLE WITH 6" MINIMUM EMBEDMENT AT SIDES FOR BRICK SUPPORT (UNO). FOR ALL HEADERS 8'-0" AND GREATER IN LENGTH, BOLT A 6" x 4" x 5/16" STEEL ANGLE TO HEADER WITH 1/2" LAG SCREWS AT 12" O.C. STAGGERED FOR BRICK SUPPORT. FOR ALL BRICK SUPPORT AT ROOF LINES, BOLT A 6" x 4" x 5/16" STEEL ANGLE TO (2) 2 x 10 BLOCKING INSTALLED w/ (4) 12d NAILS EA. PLY BETWEEN WALL STUDS WITH (2) ROWS OF 1/2" LAG SCREWS AT 12" O.C. STAGGERED AND IN ACCORDANCE WITH SECTION R103.8(2) OF THE NRC, 2018 EDITION.
- FOR STICK FRAMED ROOFS, CIRCLES DENOTE (3) 2 x 4 POSTS FOR ROOF MEMBER SUPPORT. HIP SPLICES ARE TO BE SPACED A MINIMUM OF 8'-0". FASTEN MEMBERS WITH THREE ROWS OF 12d NAILS AT 16" O.C. FRAME DORMER WALLS ON TOP OF DOUBLE OR TRIPLE RAFTERS AS SHOWN (UNO).
- FOR TRUSSED ROOFS, FRAME DORMER WALLS ON TOP OF 2 x 4 LADDER FRAMING AT 24" O.C. BETWEEN ADJACENT ROOF TRUSSES. STICK FRAME OVER-FRAMED ROOF SECTIONS WITH 2 x 8 RIDGES, 2 x 6 RAFTERS AT 16" O.C. AND FLAT 2 x 10 VALLEYS (UNO).
- ALL 4 x 4 AND 6 x 6 POSTS TO BE INSTALLED WITH 100 LB CAPACITY UPLIFT CONNECTORS TOP AND BOTTOM (UNO). POSTS MAY BE SECURED USING ONE SIMPSON H6 OR L750 UPLIFT CONNECTOR FASTENED TO THE BAND AT THE BOTTOM AND THE BEAM AT THE TOP OF EACH POST. ONE 16" SECTION OF SIMPSON C916 COIL STRAPPING WITH (8) 8d HDG NAILS AT EACH END MAY BE USED IN LIEU OF EACH TWIN STRAP IF DESIRED. FOR MASONRY OR CONCRETE FOUNDATION USE SIMPSON POST BASE.



**J.S. THOMPSON  
ENGINEERING, INC.**  
606 WADE AVE., SUITE 104 RALEIGH, NC 27605  
PHONE: (919) 789-9919 FAX: (919) 789-9921  
N.C. LICENSE NO.: C-1723

120 MPH - 130 MPH ULTIMATE DESIGN WIND SPEED  
STANDARD STRUCTURAL NOTES

DATE: NOVEMBER 14, 2018  
SCALE: 1/4" = 1'-0"  
DRAWN BY: JES  
ENGINEERED BY: JST

S-0  
STRUCTURAL  
NOTES

### MONOLITHIC SLAB DETAILS

#### DETAIL 1

**TYPICAL SLAB DETAIL**

#### DETAIL 2

**BRICK VENEER DETAIL**

#### DETAIL 3

**GARAGE CURB DETAIL**

#### DETAIL 4

**GARAGE CURB BRICK LEDGE DETAIL**

#### DETAIL 5

**THICKENED SLAB DETAIL**

#### DETAIL 6

**STEP IN GARAGE DETAIL**

#### DETAIL 7

**SLAB AT GARAGE DOOR DETAIL**

### STEM WALL DETAILS

#### DETAIL 1

**TYPICAL STEM WALL DETAIL (w/ OPTIONAL WATERTABLE)**

#### OPTIONAL DETAIL 1

**OPTIONAL STEM WALL DETAIL**

#### DETAIL 2

**TYPICAL STEM WALL FND. w/ BRICK DETAIL**

#### DETAIL 3

**TYPICAL STEM WALL FND. DETAIL w/ CURB @ GARAGE**

#### OPTIONAL DETAIL 3

**OPTIONAL STEM WALL FND. DETAIL w/ CURB @ GARAGE**

#### DETAIL 4

**TYPICAL STEM WALL FND. DETAIL w/ BRICK AND CURB @ GARAGE**

#### DETAIL 8

**THREADED ROD THROUGH BRICK MASONRY**

### MASONRY STEM WALL SPECIFICATIONS

WALL HEIGHT (FEET)	MASONRY WALL TYPE			
	8" CMU	4" BRICK AND 4" CMU	4" BRICK AND 8" CMU	12" CMU
2 AND BELOW	UNGROUTED	GROUT SOLID	UNGROUTED	UNGROUTED
3	UNGROUTED	GROUT SOLID	UNGROUTED	UNGROUTED
4	GROUT SOLID	GROUT SOLID w/ #4 REBAR @ 36" O.C.	GROUT SOLID	GROUT SOLID w/ #4 REBAR @ 64" O.C.
5	GROUT SOLID w/ #4 REBAR @ 36" O.C.	NOT APPLICABLE	GROUT SOLID w/ #4 REBAR @ 36" O.C.	GROUT SOLID w/ #4 REBAR @ 64" O.C.
6	GROUT SOLID w/ #4 REBAR @ 24" O.C.	NOT APPLICABLE	GROUT SOLID w/ #4 REBAR @ 24" O.C.	GROUT SOLID w/ #4 REBAR @ 64" O.C.
7 AND GREATER	ENGINEERED DESIGN BASED ON SITE CONDITIONS			

#### STRUCTURAL NOTES:

- WALL HEIGHT MEASURED FROM TOP OF FOOTING TO TOP OF THE WALL.
- THE MULTIPLE WYTHES TOGETHER WITH LADDER WIRE AT 16" O.C. VERTICALLY.
- CHART APPLICABLE FOR HOUSE FOUNDATION ONLY; CONSULT ENGINEER FOR DESIGN OF GARAGE FOUNDATION NOT COMMON TO HOUSE.
- BACKFILL OF CLEAN #51 / #51 WASHED STONE IS ALLOWABLE.
- BACKFILL OF WELL DRAINED OR SAND - GRAVEL MIXTURE SOILS (45 PSF/FT BELOW GRADE) CLASSIFIED AS GROUP 1 ACCORDING TO UNIFIED SOILS CLASSIFICATION SYSTEM IN ACCORDANCE WITH TABLE 8402.1 OF THE 2018 INTERNATIONAL RESIDENTIAL CODE ARE ALLOWABLE.
- PREP SLAB PER R202.1 AND R202.2.2 BASE OF THE 2018 INTERNATIONAL RESIDENTIAL CODE. MINIMUM 24" LAP SPlice LENGTH.
- LOCATE REBAR IN CENTER OF FOUNDATION WALL.
- WHERE REQUIRED, FILL BLOCK SOLID WITH TYPE "S" MORTAR OR 3000 PSI GROUT. USE OF "LOW LIFT GROUTING" METHOD REQUIRED WHEN FILLING WALLS WITH GROUT AT HEIGHTS OF 5' AND GREATER.

#### ANCHOR SPACING AND EMBEDMENT - STEM WALL

WIND ZONE	140 MPH	150 MPH
SPACING	1'-9" O.C. w/ DOUBLE SILL PLATE w/ 2" x 2" x 1/8" WASHERS	1'-6" O.C. w/ DOUBLE SILL PLATE w/ 2" x 2" x 1/8" WASHERS
EMBEDMENT	RODS CONTINUOUS FROM FOOTING UP THROUGH SILL PLATE w/ 1" MIN. CONCRETE EMBEDMENT	RODS CONTINUOUS FROM FOOTING UP THROUGH SILL PLATE w/ 1" MIN. CONCRETE EMBEDMENT

#### ANCHOR SPACING AND EMBEDMENT - MONO SLAB

WIND ZONE	140 MPH	150 MPH
SPACING	6'-0" O.C. w/ DBL. SILL PLATE OR 1'-9" O.C. w/ SINGLE SILL PLATE w/ 2" x 2" x 1/8" WASHERS	6'-0" O.C. w/ DBL. SILL PLATE OR 1'-6" O.C. w/ SINGLE SILL PLATE w/ 2" x 2" x 1/8" WASHERS
EMBEDMENT	7"	7"

**J.S. THOMPSON ENGINEERING, INC.**  
 606 WADE AVE., SUITE 104 RALEIGH, NC 27605  
 PHONE: (919) 789-9919 FAX: (919) 789-9921  
 N.C. LICENSE NO.: C-1733

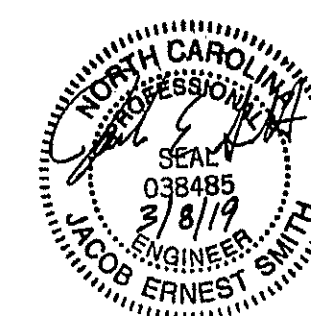
140 MPH - 150 MPH ULTIMATE DESIGN WIND SPEED FOUNDATION DETAILS

DATE: NOVEMBER 14, 2018

SCALE: NTS

DRAWN BY: JST

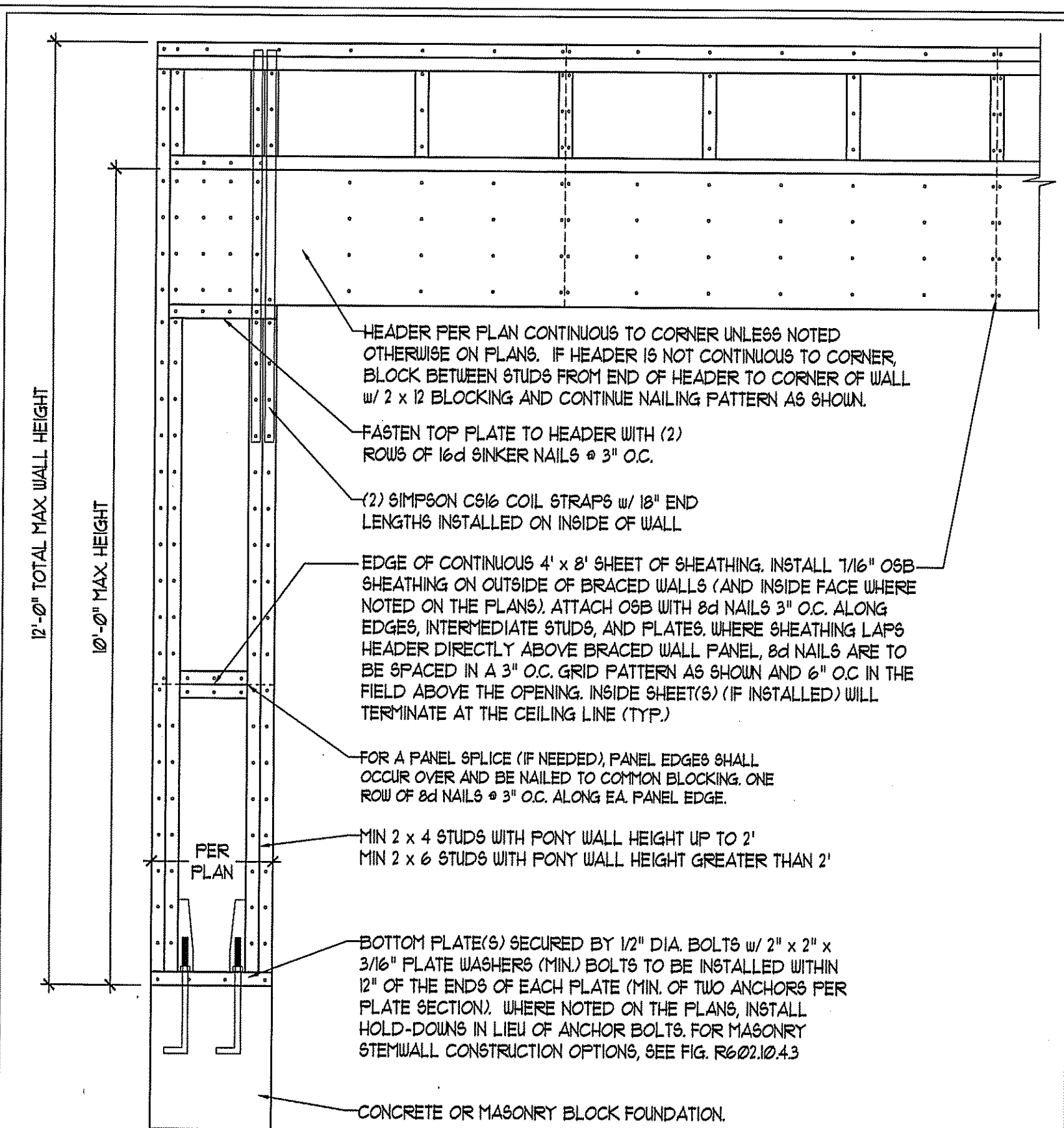
ENGINEERED BY: JES



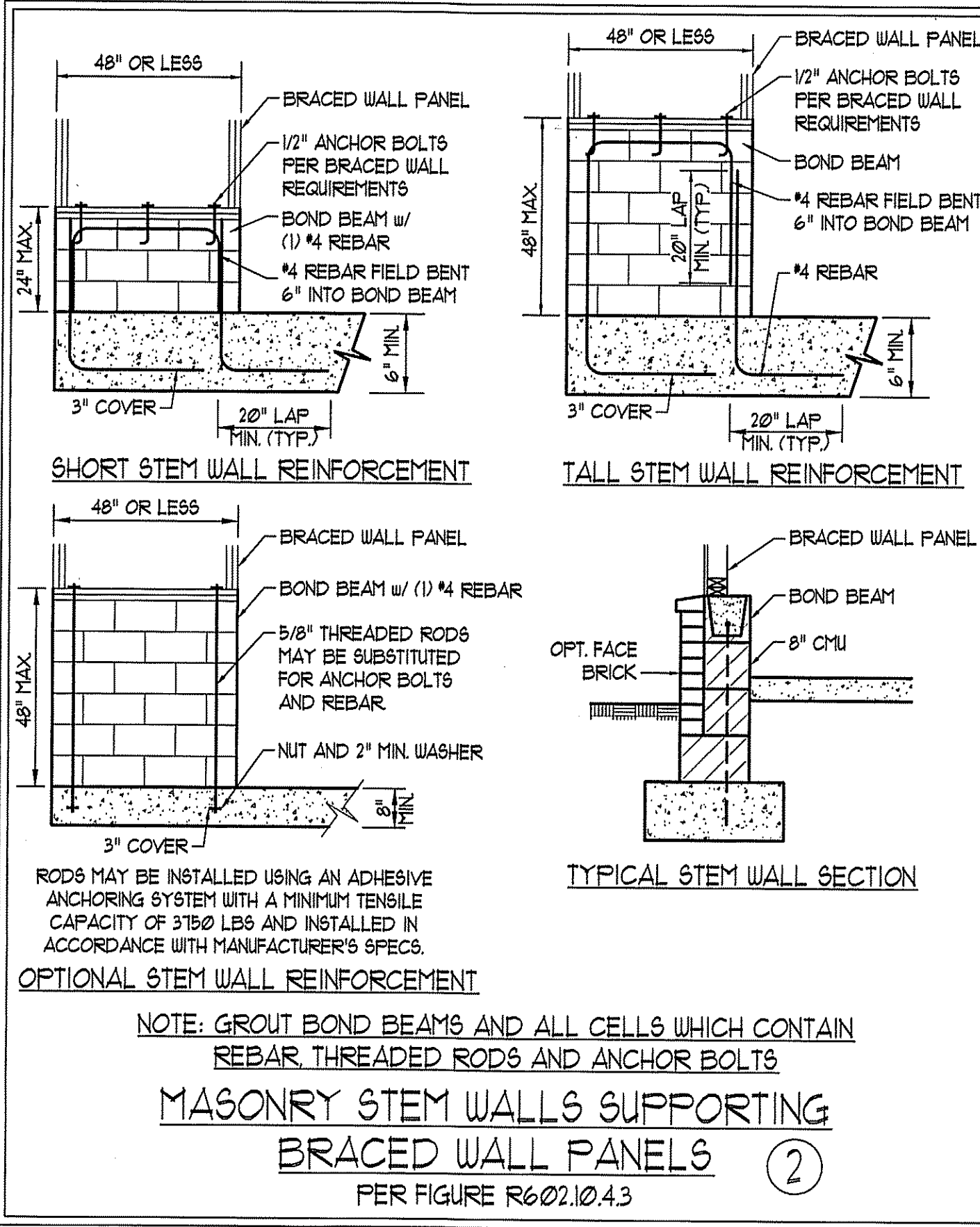
D-1 FOUNDATION DETAILS

**GENERAL WALL BRACING NOTES:**

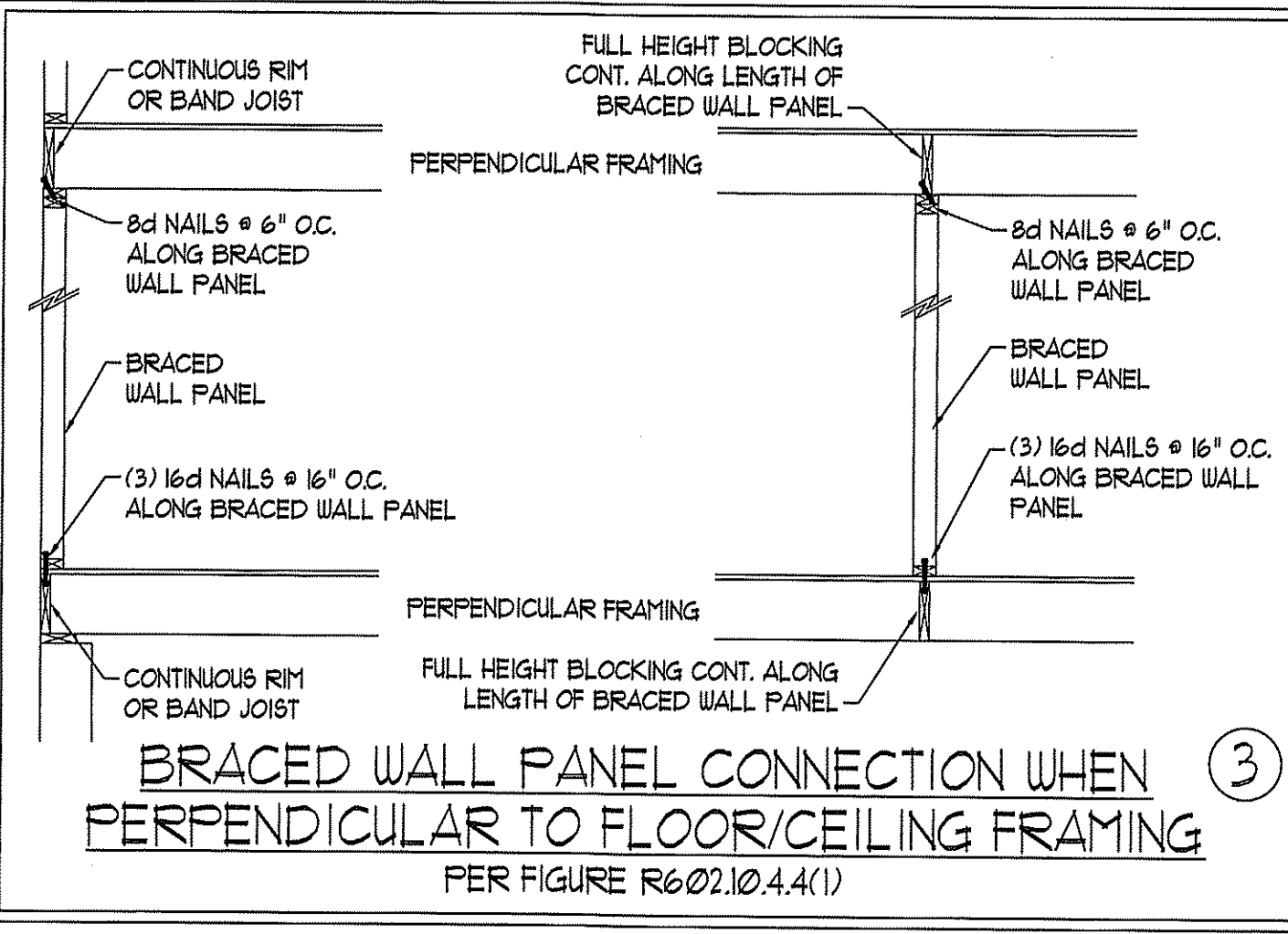
1. WALL BRACING DESIGNED IN ACCORDANCE WITH CHAPTER 6 AND CHAPTER 45 OF THE 2018 NC RESIDENTIAL BUILDING CODE (NRC). TABLES AND FIGURES REFERENCED ARE FROM THE 2018 NRC.
2. SEE THIS SHEET FOR GENERAL DETAILS. REFER TO THE 2018 NRC FOR ADDITIONAL INFORMATION AS NEEDED.
3. SEE STRUCTURAL SHEETS FOR BRACED WALL LOCATIONS, DIMENSIONS, HOLD DOWN TYPE AND LOCATIONS, AND ANY SPECIAL NOTES OR REQUIREMENTS.
4. ALL EXTERIOR WALLS ARE TO BE SHEATHED WITH 1/2" OSB WITH BLOCKING AT ALL SHEATHING JOINTS AND 8d NAILS AT 3" O.C. ALONG EDGES AND 6" O.C. IN THE FIELD UNLESS NOTED OTHERWISE.
5. SECURE ALL EXTERIOR WALL SHEATHING PANELS TO DOUBLE TOP PLATES, BAND JOISTS, AND GIRDERS WITH (2) ROWS OF 8d NAILS STAGGERED AT 3" O.C. PANELS SHALL EXTEND 12" BEYOND CONSTRUCTION JOINTS AND SHALL OVERLAP GIRDERS AND SILL PLATES THEIR FULL DEPTH.
6. ALL EXTERIOR WALLS TO BE SHEATHED ON INSIDE FACE WITH 1/2" GYPSUM BOARD PER TABLE R602.3.5 (UNO).



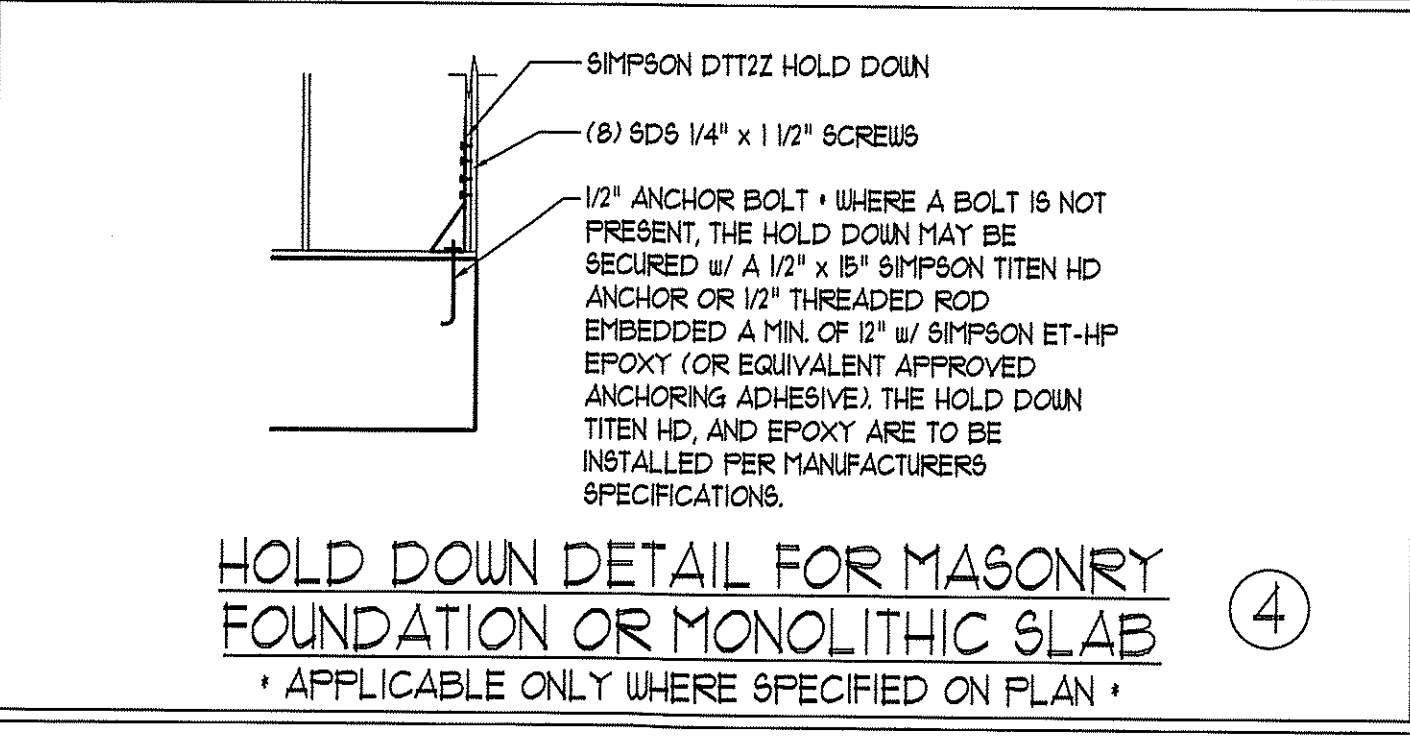
**METHOD PF-PORTAL FRAME DETAIL** ①



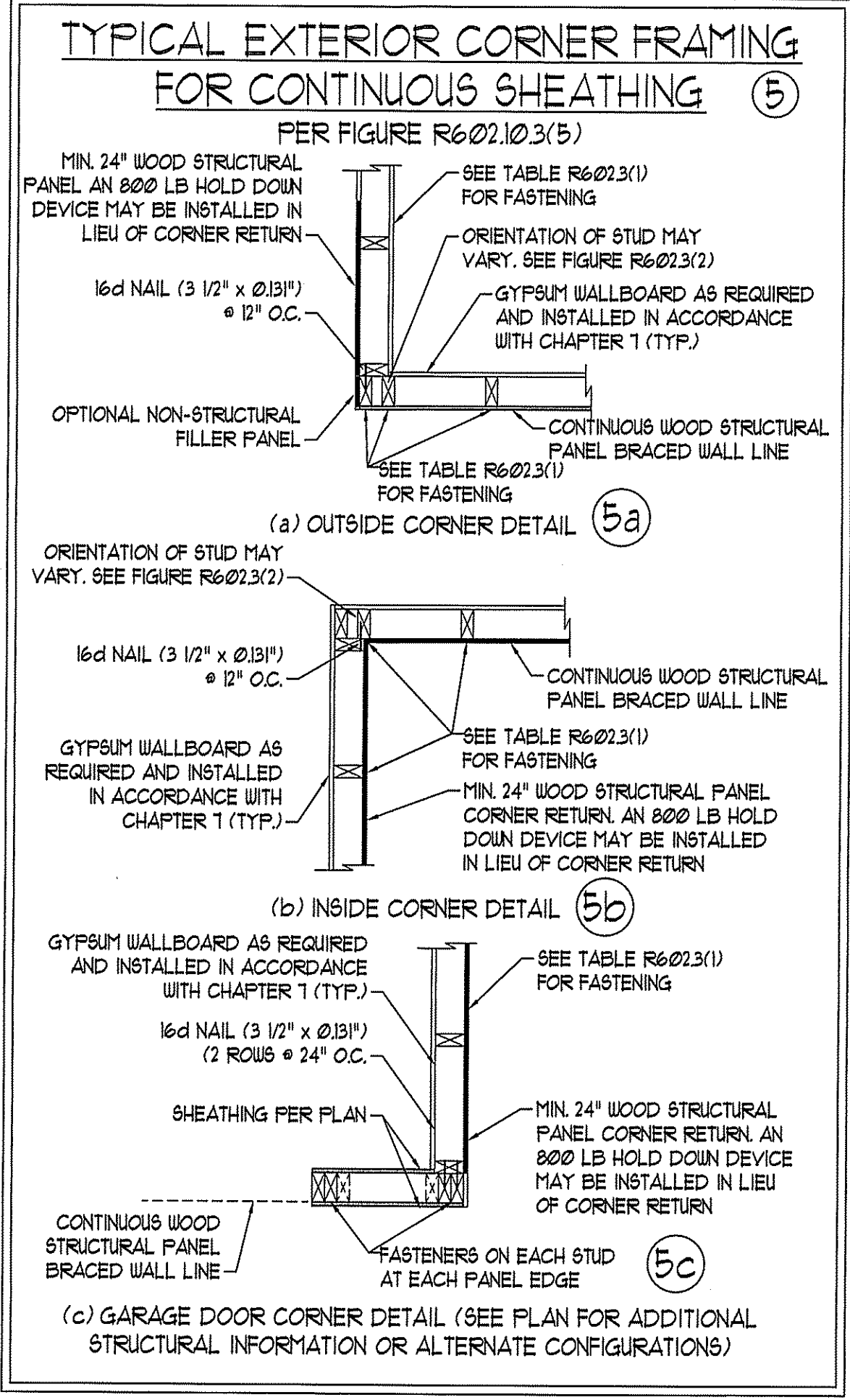
**MASONRY STEM WALLS SUPPORTING BRACED WALL PANELS** ②  
PER FIGURE R602.10.4.3



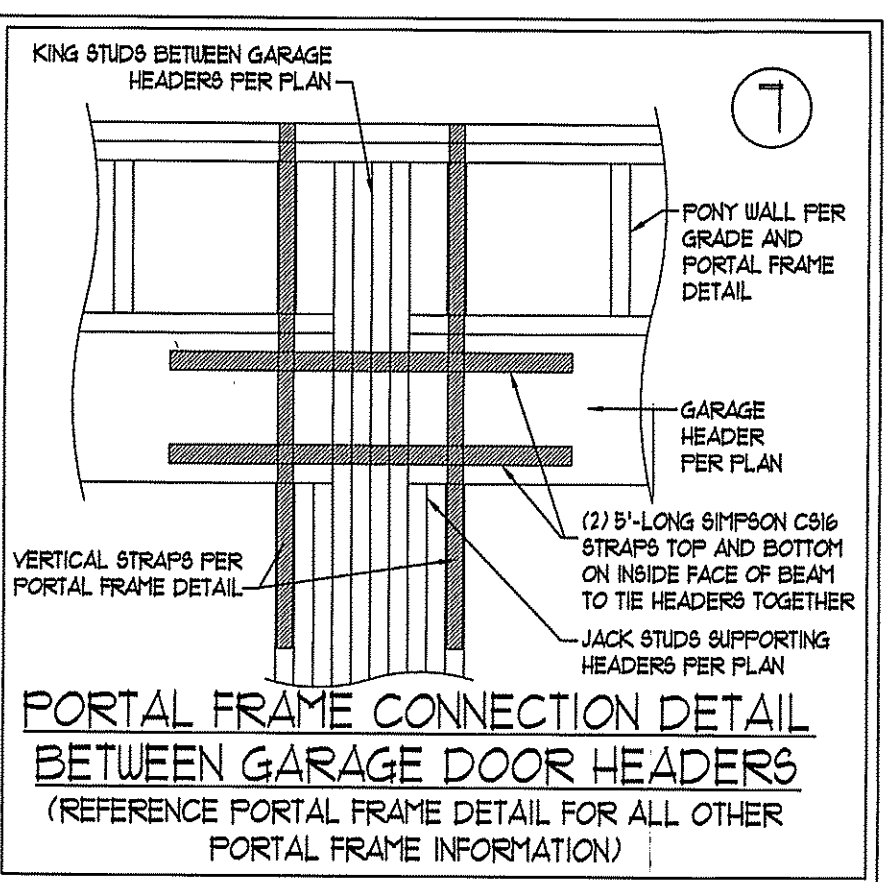
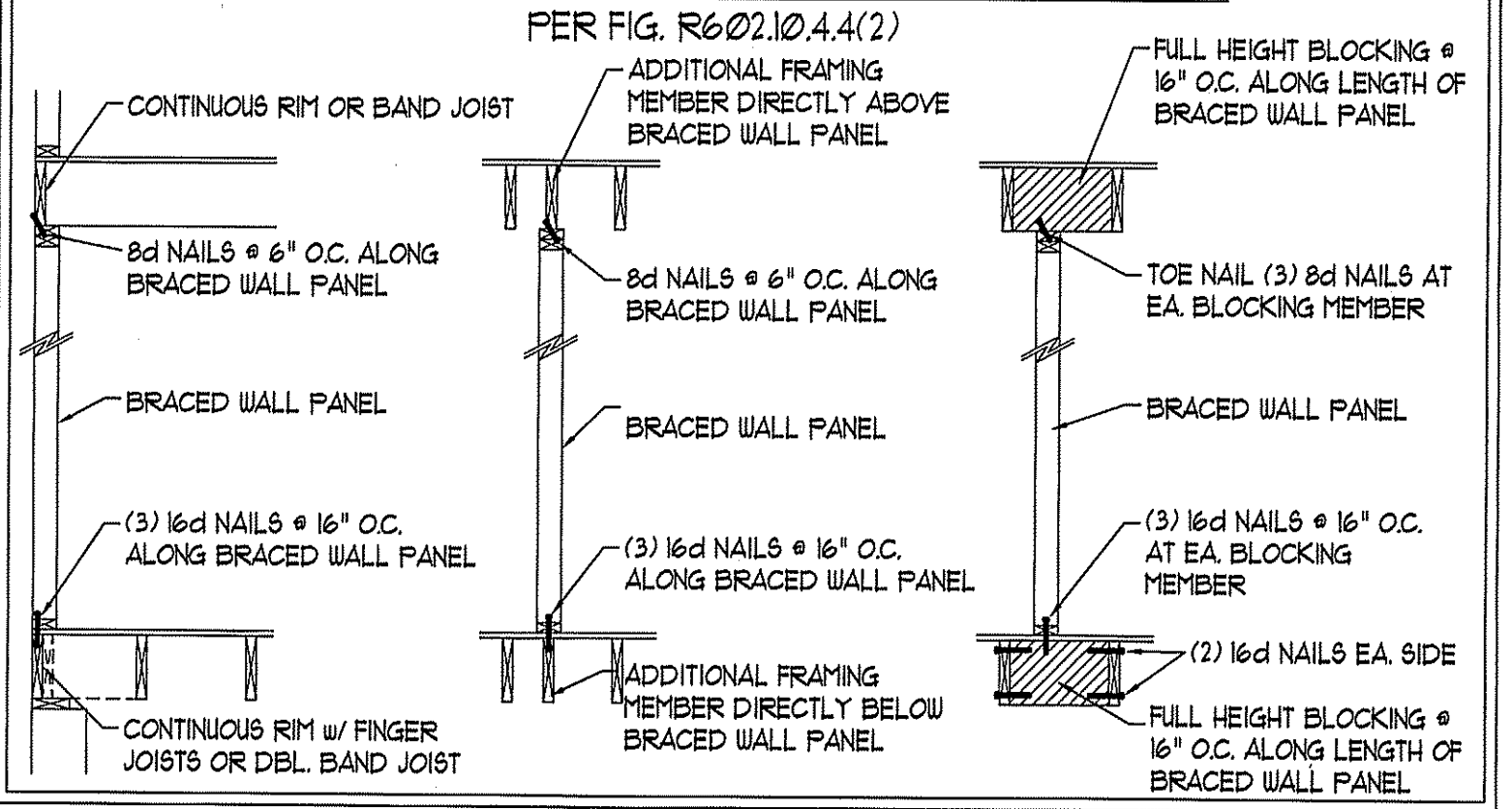
**BRACED WALL PANEL CONNECTION WHEN PERPENDICULAR TO FLOOR/CEILING FRAMING** ③  
PER FIGURE R602.10.4.4(1)



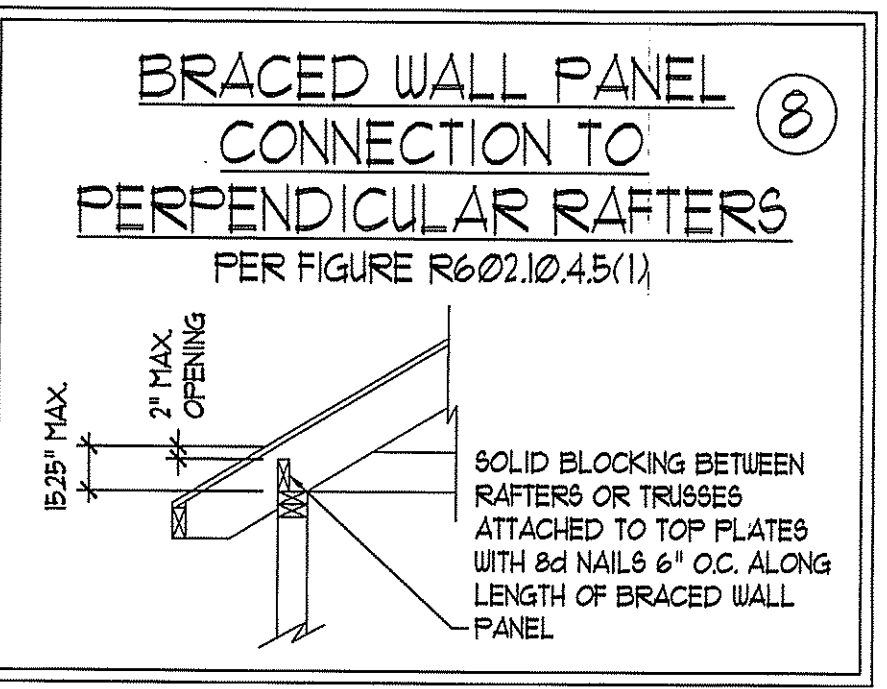
**HOLD DOWN DETAIL FOR MASONRY FOUNDATION OR MONOLITHIC SLAB** ④  
\* APPLICABLE ONLY WHERE SPECIFIED ON PLAN \*



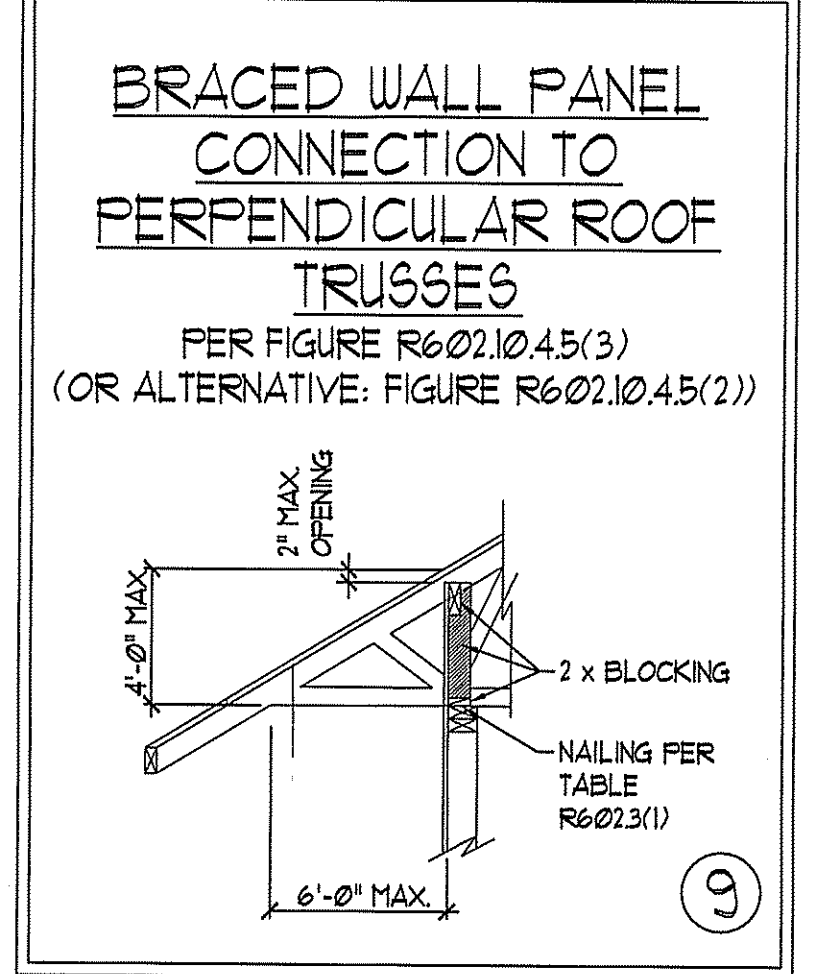
**BRACED WALL PANEL CONNECTION WHEN PARALLEL TO FLOOR/CEILING FRAMING** ⑥  
PER FIG. R602.10.4.4(2)



**PORTAL FRAME CONNECTION DETAIL BETWEEN GARAGE DOOR HEADERS** ⑦  
(REFERENCE PORTAL FRAME DETAIL FOR ALL OTHER PORTAL FRAME INFORMATION)

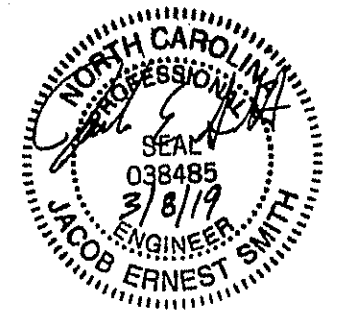


**BRACED WALL PANEL CONNECTION TO PERPENDICULAR RAFTERS** ⑧  
PER FIGURE R602.10.4.5(1)



**BRACED WALL PANEL CONNECTION TO PERPENDICULAR ROOF TRUSSES** ⑨  
PER FIGURE R602.10.4.5(3) (OR ALTERNATIVE: FIGURE R602.10.4.5(2))

This sealed page is to be used in conjunction with a full plan set engineered by J.S. Thompson Engineering, Inc. only. Use of this individual sealed page within architectural pages or shop drawings by others is a punishable offense under N.C. Statute § 89C-23



**J.S. THOMPSON ENGINEERING, INC.**  
606 WADE AVE. SUITE 104 RALEIGH, NC 27605  
PHONE: (919) 789-9919 FAX: (919) 789-9921  
N.C. LICENSE NO.: C-1733

140 MPH - 150 MPH ULTIMATE DESIGN WIND SPEED  
WALL BRACING NOTES AND DETAILS

DATE: NOVEMBER 14, 2018  
SCALE: 1/4" = 1'-0"  
DRAWN BY: JST  
ENGINEERED BY: JST

D-2  
BRACED WALL NOTES AND DETAILS AND PF DETAIL



**GENERAL NOTES**

- ENGINEER'S SEAL APPLIES ONLY TO STRUCTURAL COMPONENTS INCLUDING ROOF RAFTERS, HIPs, VALLEYS, RIDGES, FLOORS, WALLS, BEAMS, HEADERS, COLUMNS, CANTILEVERS, OFFSET LOAD BEARING WALLS, PIERS, GIRDER SYSTEM AND FOOTING. ENGINEER'S SEAL DOES NOT CERTIFY DIMENSIONAL ACCURACY OF ARCHITECTURAL LAYOUT INCLUDING ROOF. ENGINEER'S SEAL DOES NOT APPLY TO I-JOIST OR FLOOR/ROOF TRUSS LAYOUT DESIGN AND ACCURACY.
- ALL CONSTRUCTION SHALL CONFORM TO THE LATEST REQUIREMENTS OF THE NORTH CAROLINA RESIDENTIAL CODE (NCRC), 2018 EDITION, 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 SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE CONSTRUCTION WORK. NOR WILL THE ENGINEER BE RESPONSIBLE FOR THE CONTRACTORS FAILURE TO CARRY OUT THE CONSTRUCTION WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
- STRUCTURAL DESIGN BASED ON THE PROVISIONS OF THE NCRC, 2018 EDITION (R301.4 - R301.7)

DESIGN CRITERIA:	LIVE LOAD (PSF)	DEAD LOAD (PSF)	DEFLECTION (IN)
ATTIC WITH LIMITED STORAGE	20	10	L/240 (L/360 w/ BRITTLE FINISHES)
ATTIC WITHOUT STORAGE	10	10	L/360
DECKS	40	10	L/360
EXTERIOR BALCONIES	40	10	L/360
FIRE ESCAPES	40	10	L/360
HANDRAILS/GUARDRAILS	200 LB OR 50 (PLF)	10	L/360
PASSENGER VEHICLE GARAGE	50	10	L/360
ROOMS OTHER THAN SLEEPING ROOM	40	10	L/360
SLEEPING ROOMS	30	10	L/360
STAIRS	40	10	L/360
WIND LOAD	(BASED ON TABLE R301.2(4) WIND ZONE AND EXPOSURE)		
GROUND SNOW LOAD: P <sub>g</sub>	20 (PSF)		

- I-JOIST SYSTEMS DESIGNED WITH 12 PSF DEAD LOAD AND DEFLECTION (IN) OF L/480
  - FLOOR TRUSS SYSTEMS DESIGNED WITH 15 PSF DEAD LOAD
- FOR 15 AND 120 MPH WIND ZONES, FOUNDATION ANCHORAGE IS TO COMPLY WITH SECTION R402.1.6 OF THE NCRC, 2018 EDITION. FOR 130 MPH, 140 MPH, AND 150 MPH WIND ZONES, FOUNDATION ANCHORAGE IS TO COMPLY WITH SECTION 450.4 OF THE NCRC, 2018 EDITION.
  - ENERGY EFFICIENCY COMPLIANCE AND INSULATION VALUES OF THE BUILDING TO BE IN ACCORDANCE WITH CHAPTER II OF THE NCRC, 2018 EDITION.

**FOOTING AND FOUNDATION NOTES**

- FOUNDATION DESIGN BASED ON A MINIMUM ALLOWABLE BEARING CAPACITY OF 2000 PSF. CONTACT GEOTECHNICAL ENGINEER IF BEARING CAPACITY IS NOT ACHIEVED.
- FOR ALL CONCRETE SLABS AND FOOTINGS, THE AREA WITHIN THE PERIMETER OF THE BUILDING ENVELOPE SHALL HAVE ALL VEGETATION, TOP SOIL, AND FOREIGN MATERIAL REMOVED. FILL MATERIAL SHALL BE FREE OF VEGETATION AND FOREIGN MATERIAL. THE FILL SHALL BE COMPACTED TO ASSURE UNIFORM SUPPORT OF THE SLAB, AND EXCEPT WHERE APPROVED, THE FILL DEPTHS SHALL NOT EXCEED 24" FOR CLEAN SAND OR GRAVEL. A 4" THICK BASED COURSE CONSISTING OF CLEAN GRADED SAND OR GRAVEL SHALL BE PLACED. A BASE COURSE IS NOT REQUIRED WHERE A CONCRETE SLAB IS INSTALLED ON WELL-DRAINED OR SAND-GRAVEL MIXTURE SOILS CLASSIFIED AS GROUP 1, ACCORDING TO THE UNITED SOIL CLASSIFICATION SYSTEM IN ACCORDANCE WITH TABLE R402.1 OF THE NCRC, 2018 EDITION.
- PROPERLY DEWATER EXCAVATION PRIOR TO POURING CONCRETE WHEN BOTTOM OF CONCRETE SLAB IS AT OR BELOW WATER TABLE. IF APPLICABLE, 3/4" - 1" DEEP CONTROL JOINTS ARE TO BE SAILED WITHIN 4 TO 12 HOURS OF CONCRETE FINISHING AND WALL LOCATIONS HAVE BEEN MARKED. ADJUST WHERE NECESSARY.
- CONCRETE SHALL CONFORM TO SECTION R402.2 OF THE NCRC, 2018 EDITION. CONCRETE REINFORCING STEEL TO BE ASTM A615 GRADE 60, WELDED WIRE FABRIC TO BE ASTM A185. MAINTAIN A MINIMUM CONCRETE COVER AROUND REINFORCING STEEL OF 3" IN FOOTINGS AND 1 1/2" IN SLABS. FOR POURED CONCRETE WALLS, CONCRETE COVER FOR REINFORCING STEEL MEASURED FROM THE INSIDE FACE OF THE WALL SHALL NOT BE LESS THAN 3/4". CONCRETE COVER FOR REINFORCING STEEL MEASURED FROM THE OUTSIDE FACE OF THE WALL SHALL NOT BE LESS THAN 1 1/2" FOR #5 BARS OR SMALLER, AND NOT LESS THAN 2" FOR #6 BARS OR LARGER.
- MASONRY UNITS TO CONFORM TO ACE 530/ASCE 5/7/15 402. MORTAR SHALL CONFORM TO ASTM C210.
- THE UNSUPPORTED HEIGHT OF MASONRY PIERS SHALL NOT EXCEED FOUR TIMES THEIR LEAST DIMENSION FOR UNFILLED HOLLOW CONCRETE MASONRY UNITS AND TEN TIMES THEIR LEAST DIMENSION FOR SOLID OR SOLID FILLED PIERS. PIERS MAY BE FILLED SOLID WITH CONCRETE OR TYPE M OR S MORTAR. PIERS AND WALLS SHALL BE CAPPED WITH 8" OF SOLID MASONRY.
- THE CENTER OF EACH OF THE PIERS SHALL BEAR IN THE MIDDLE THIRD OF ITS RESPECTIVE FOOTING. EACH GIRDER SHALL BEAR IN THE MIDDLE THIRD OF THE PIERS.
- ALL CONCRETE AND MASONRY FOUNDATION WALLS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH THE PROVISIONS OF SECTION R404 OF THE NCRC, 2018 EDITION OR IN ACCORDANCE WITH ACI 318, ACI 332, NCHA TR88-A OR ACE 530/ASCE 5/7/15 402. MASONRY FOUNDATION WALLS ARE TO BE REINFORCED PER TABLE R404.1(1), R404.1(2), R404.1(3), OR R404.1(4) OF THE NCRC, 2018 EDITION. CONCRETE FOUNDATION WALLS ARE TO BE REINFORCED PER TABLE R404.1(5) OF THE NCRC, 2018 EDITION. STEEL CONCRETE FOUNDATION WALLS TO 2 x 6 FRAMED WALLS AT 16" O.C. WHERE GRADE PERMITS (UNO).

This sealed page is to be used in conjunction with a full plan set engineered by J.S. Thompson Engineering, Inc. only. Use of this individual sealed page within architectural pages or shop drawings by others is a punishable offense under N.C. Statute § 89C-23

**FRAMING NOTES**

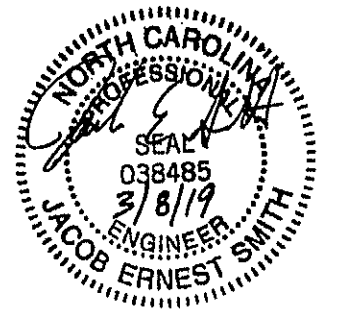
- ALL FRAMING LUMBER SHALL BE #2 SFF MINIMUM (F<sub>b</sub> = 875 FSI, F<sub>v</sub> = 375 FSI, E = 1600000 FSI) UNLESS NOTED OTHERWISE (UNO). ALL TREATED LUMBER SHALL BE #2 S1P MINIMUM (F<sub>b</sub> = 975 FSI, F<sub>v</sub> = 175 FSI, E = 1600000 FSI) UNLESS NOTED OTHERWISE (UNO).
- LAMINATED VENEER LUMBER (LVL) SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES: F<sub>b</sub> = 2600 FSI, F<sub>v</sub> = 285 FSI, E = 1900000 FSI. LAMINATED STRAND LUMBER (LSL) SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES: F<sub>b</sub> = 2325 FSI, F<sub>v</sub> = 310 FSI, E = 1550000 FSI. PARALLEL STRAND LUMBER (PSL) UP TO 1" DEPTH SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES: F<sub>c</sub> = 2500 FSI, E = 1800000 FSI. PARALLEL STRAND LUMBER (PSL) MORE THAN 1" DEPTH SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES: F<sub>c</sub> = 2900 FSI, E = 2000000 FSI. INSTALL ALL CONNECTIONS PER MANUFACTURER'S SPECIFICATIONS.
- STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING ASTM SPECIFICATIONS:
  - A. W AND WT SHAPES: ASTM A992
  - B. CHANNELS AND ANGLES: ASTM A36
  - C. PLATES AND BARS: ASTM A36
  - D. HOLLOW STRUCTURAL SECTIONS: ASTM A500 GRADE B
  - E. STEEL PIPE: ASTM A53, GRADE B, TYPE E OR S

STEEL BEAMS SHALL BE SUPPORTED AT EACH END WITH A MINIMUM BEARING LENGTH OF 3 1/2" AND FULL FLANGE WIDTH (UNO). PROVIDE SOLID BEARING FROM BEAM SUPPORT TO FOUNDATION. BEAMS SHALL BE ATTACHED AT THE BOTTOM FLANGE TO EACH SUPPORT AS FOLLOWS (UNO):

- A. WOOD FRAMING (2) 1/2" DIA. x 4" LONG LAG SCREWS
- B. CONCRETE (2) 1/2" DIA. x 4" WEDGE ANCHORS
- C. MASONRY (FULLY GROUTED) (2) 1/2" DIA. x 4" LONG SIMPSON TITEN HD ANCHORS

LATERAL SUPPORT IS CONSIDERED ADEQUATE PROVIDING THE JOISTS ARE TOE NAILED TO THE 2x NAILER ON TOP OF THE STEEL BEAM, AND THE 2x NAILER IS SECURED TO THE TOP OF THE STEEL BEAM w/ (2) ROWS OF SELF TAPPING SCREWS @ 16" O.C. OR (2) ROWS OF 1/2" DIAMETER BOLTS @ 16" O.C. IF 1/2" BOLTS ARE USED TO FASTEN THE NAILER, THE STEEL BEAM SHALL BE FABRICATED w/ (2) ROWS OF 3/16" DIAMETER HOLES @ 16" O.C.

- SQUARES DENOTE POINT LOADS WHICH REQUIRE SOLID BLOCKING TO GIRDER OR FOUNDATION. SHADED SQUARES DENOTE POINT LOADS FROM ABOVE WHICH REQUIRE SOLID BLOCKING TO SUPPORTING MEMBER BELOW.
- ALL LOAD BEARING HEADERS TO CONFORM TO TABLE R602.1(1) AND R602.1(2) OF THE NCRC, 2018 EDITION OR BE (2) 2 x 6 WITH (1) JACK AND (1) KING STUD EACH END (UNO), WHICHEVER IS GREATER. ALL HEADERS TO BE SECURED TO EACH JACK STUD WITH (4) 8d NAILS. ALL BEAMS TO BE SUPPORTED WITH (2) STUDS AT EACH BEARING POINT (UNO). INSTALL KING STUDS PER SECTION R602.15 OF THE NORTH CAROLINA RESIDENTIAL CODE, 2018 EDITION.
- ALL BEAMS, HEADERS, OR GIRDER TRUSSES PARALLEL TO WALL ARE TO BEAR FULLY ON (1) JACK OR (2) STUDS MINIMUM OR THE NUMBER OF JACKS OR STUDS NOTED. ALL BEAMS OR GIRDER TRUSSES PERPENDICULAR TO WALL AND SUPPORTED BY (3) STUDS OR LESS ARE TO HAVE 1 1/2" MINIMUM BEARING (UNO). ALL BEAMS OR GIRDER TRUSSES PERPENDICULAR TO WALL AND SUPPORTED BY MORE THAN (3) STUDS OR OTHER NOTED COLUMN ARE TO BEAR FULLY ON SUPPORT COLUMN FOR ENTIRE WALL DEPTH (UNO). BEAM ENDS THAT BUTT INTO ONE ANOTHER ARE TO EACH BEAR EQUAL LENGTHS (UNO).
- FLITCH BEAMS SHALL BE BOLTED TOGETHER USING 1/2" DIAMETER BOLTS (ASTM A307) WITH WASHERS PLACED AT THREADED END OF BOLT. BOLTS SHALL BE SPACED AT 24" CENTERS (MAXIMUM), AND STAGGERED AT TOP AND BOTTOM OF BEAM (2" EDGE DISTANCE), WITH (2) BOLTS LOCATED AT 6" FROM EACH END (UNO).
- ALL I-JOIST OR TRUSS LAYOUTS ARE TO BE IN COMPLIANCE WITH THE OVERALL DESIGN SPECIFIED ON THE PLANS. ALL DEVIATIONS ARE TO BE BROUGHT TO THE ATTENTION OF THE ENGINEER OF RECORD PRIOR TO INSTALLATION.
- BRACED WALL PANELS SHALL BE CONSTRUCTED ACCORDING TO THE NORTH CAROLINA RESIDENTIAL CODE 2018 EDITION WALL BRACING CRITERIA. THE AMOUNT, LENGTH, AND LOCATION OF BRACING SHALL COMPLY WITH ALL APPLICABLE TABLES IN SECTION R602.10.
- PROVIDE DOUBLE JOIST UNDER ALL WALLS PARALLEL TO FLOOR JOISTS. PROVIDE SUPPORT UNDER ALL WALLS PARALLEL TO FLOOR TRUSSES OR I-JOISTS PER MANUFACTURER'S SPECIFICATIONS. INSTALL BLOCKING BETWEEN JOISTS OR TRUSSES FOR POINT LOAD SUPPORT FOR ALL POINT LOADS ALONG OFFSET LOAD LINES.
- FOR ALL HEADERS SUPPORTING BRICK VENEER THAT ARE LESS THAN 8'-0" IN LENGTH, REST A 6" x 4" x 5/16" STEEL ANGLE WITH 6" MINIMUM EMBEDMENT AT SIDES FOR BRICK SUPPORT (UNO). FOR ALL HEADERS 8'-0" AND GREATER IN LENGTH, BOLT A 6" x 4" x 5/16" STEEL ANGLE TO HEADER WITH 1/2" LAG SCREWS AT 12" O.C. STAGGERED FOR BRICK SUPPORT. FOR ALL BRICK SUPPORT AT ROOF LINES, BOLT A 6" x 4" x 5/16" STEEL ANGLE TO (2) 2 x 10 BLOCKING INSTALLED w/ (4) 12d NAILS EA. FLY BETWEEN WALL STUDS WITH (2) ROWS OF 1/2" LAG SCREWS AT 12" O.C. STAGGERED AND IN ACCORDANCE WITH SECTION R103.2(1) OF THE NCRC, 2018 EDITION.
- FOR STICK FRAMED ROOFS, CIRCLES DENOTE (3) 2 x 4 POSTS FOR ROOF MEMBER SUPPORT. HIP SPLICES ARE TO BE SPACED A MINIMUM OF 8'-0". FASTEN MEMBERS WITH THREE ROWS OF 12d NAILS AT 16" O.C. FRAME DORMER WALLS ON TOP OF DOUBLE OR TRIPLE RAFTERS AS SHOWN (UNO).
- FOR TRUSSED ROOFS, FRAME DORMER WALLS ON TOP OF 2 x 4 LADDER FRAMING AT 24" O.C. BETWEEN ADJACENT ROOF TRUSSES. STICK FRAME OVER-FRAMED ROOF SECTIONS WITH 2 x 8 RIDGES, 2 x 6 RAFTERS AT 16" O.C. AND FLAT 2 x 10 VALLEYS (UNO).
- ALL 4 x 4 AND 6 x 6 POSTS TO BE INSTALLED WITH 100 LB CAPACITY UPLIFT CONNECTORS TOP AND BOTTOM (UNO). POSTS MAY BE SECURED USING ONE SIMPSON H6 OR L1912 UPLIFT CONNECTOR FASTENED TO THE BAND AT THE BOTTOM AND THE BEAM AT THE TOP OF EACH POST. ONE 1/2" SECTION OF SIMPSON C516 COIL STRAPPING WITH (8) 8d HDG NAILS AT EACH END MAY BE USED IN LIEU OF EACH TWIST STRAP IF DESIRED. FOR MASONRY OR CONCRETE FOUNDATION USE SIMPSON POST BASE.



**J.S. THOMPSON ENGINEERING, INC.**  
 606 WADE AVE., SUITE 104 RALEIGH, NC 27605  
 PHONE: (919) 789-9919 FAX: (919) 789-9921  
 N.C. LICENSE NO.: C-1723

140 MPH - 150 MPH ULTIMATE DESIGN WIND SPEED  
 STANDARD STRUCTURAL NOTES

DATE: NOVEMBER 14, 2018  
 SCALE: 1/4" = 1'-0"  
 DRAWN BY: JES  
 ENGINEERED BY: JST

S-0  
 STRUCTURAL NOTES