


Front Elevation  
Scale: 1/4" = 1'-0"

NOTICE TO CONTRACTOR  
All construction must comply with current NC Building Codes and is subject to field inspection and verification.

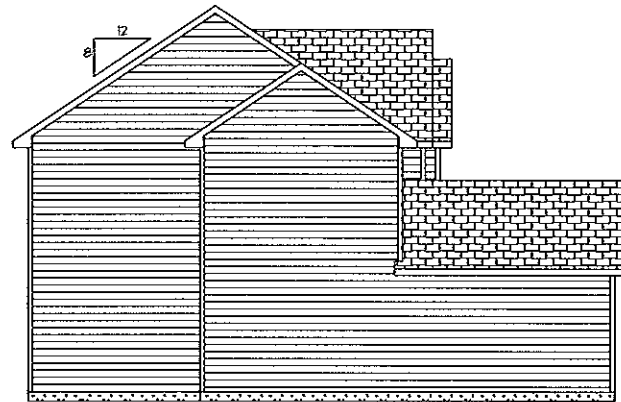
**APPROVED**  
Limited building only review  
Permit holder responsible for full compliance with the code.

09/30/2021

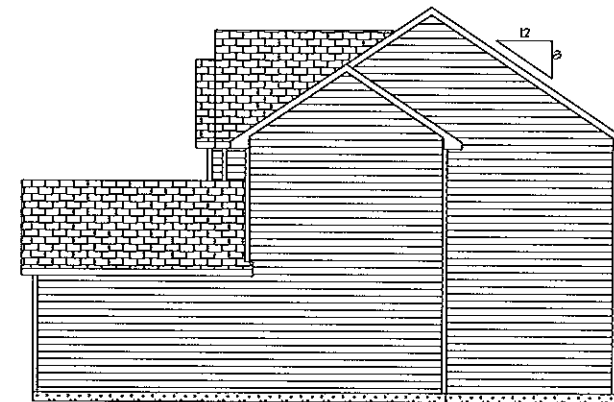




Rear Elevation  
Scale: 1/8" = 1'-0"



Left Elevation  
Scale: 1/8" = 1'-0"



Right Elevation  
Scale: 1/8" = 1'-0"

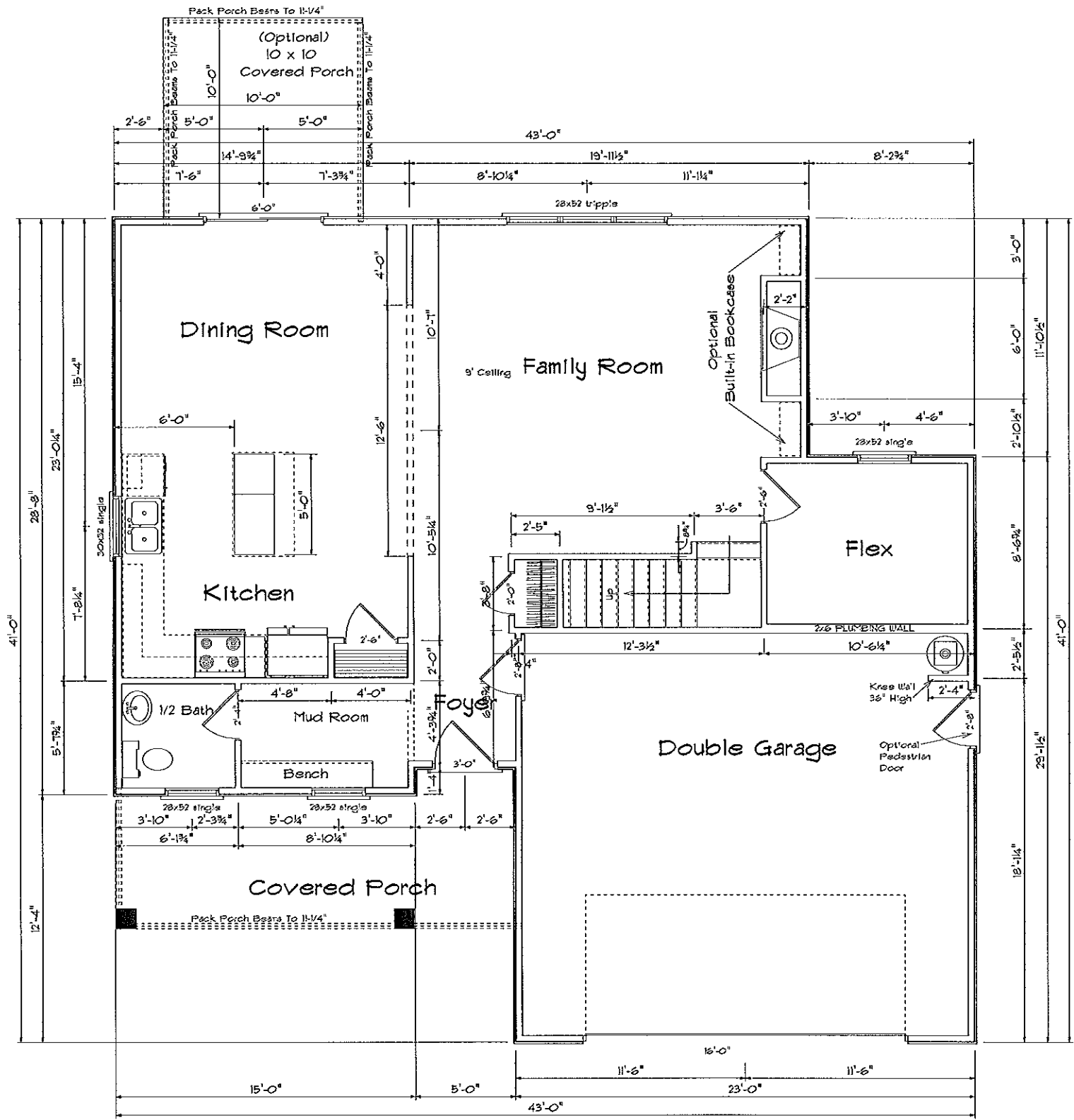
Sheet #1  
DATE  
12/15/2020

Elevations  
B

The Magnolia

JSJ Builders, Inc.  
1195 Roberson Street  
Fayetteville, NC 28305  
(910)438-0796





First Floor Plan

**ATTIC VENTILATION**

1031 SQ.FT. OF ATTIC / 150 = 6.91 SQ.FT.  
 TOTAL NET FREE VENTILATING AREA.

VENTILATION MAY BE REDUCED 50% PROVIDED AT LEAST 50 PERCENT AND NOT MORE THAN 20 PERCENT OF THE REQUIRED VENTILATING AREA IS PROVIDED BY VENTILATORS LOCATED IN THE UPPER PORTION OF THE SPACE TO BE VENTILATED AT LEAST 3'-0" ABOVE EAVE OR CORNICE VENTS WITH THE BALANCE OF THE REQUIRED VENTILATION PROVIDED BY EAVE OR CORNICE VENTS.

**Areas**

First Floor	955
Second Floor	1031
*****	
Total Heated	1992
Garage	479
Front Porch	137
Opt. Rear Porch	120

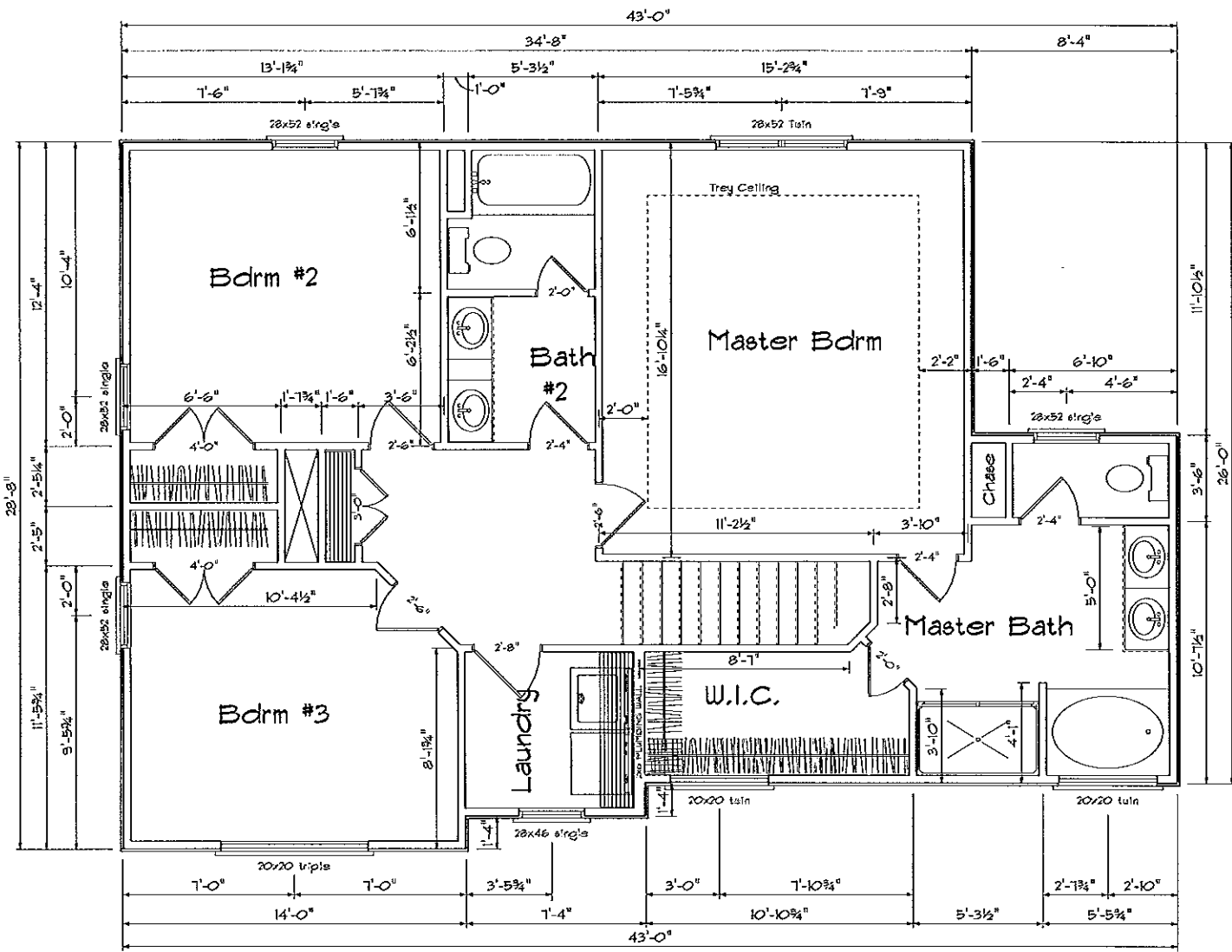
Sheet #2  
 DATE  
 12/15/2020

First Floor Plan  
 2x4 Walls

The Magnolia

JSJ Builders, Inc.  
 135 Rebecca Street  
 Fayetteville, NC 28305  
 (910)438-0796





Second Floor Plan

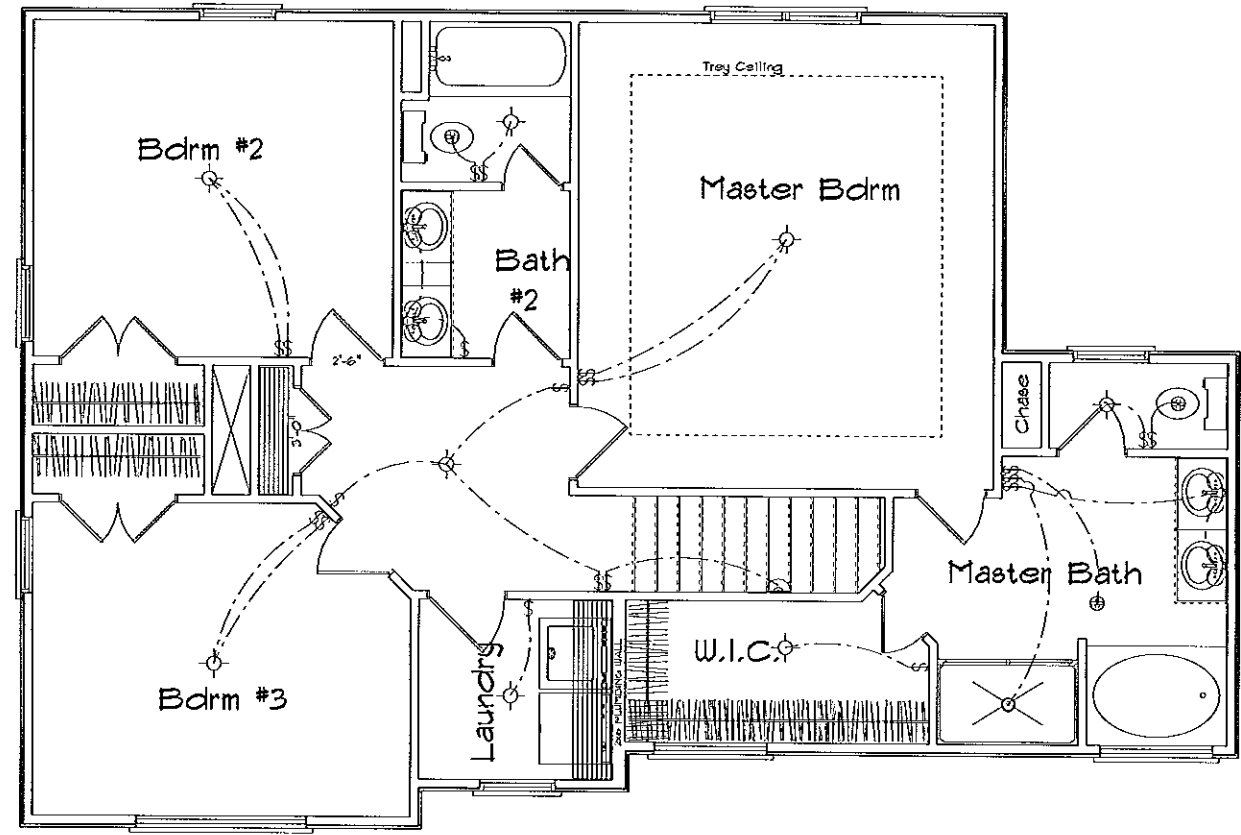
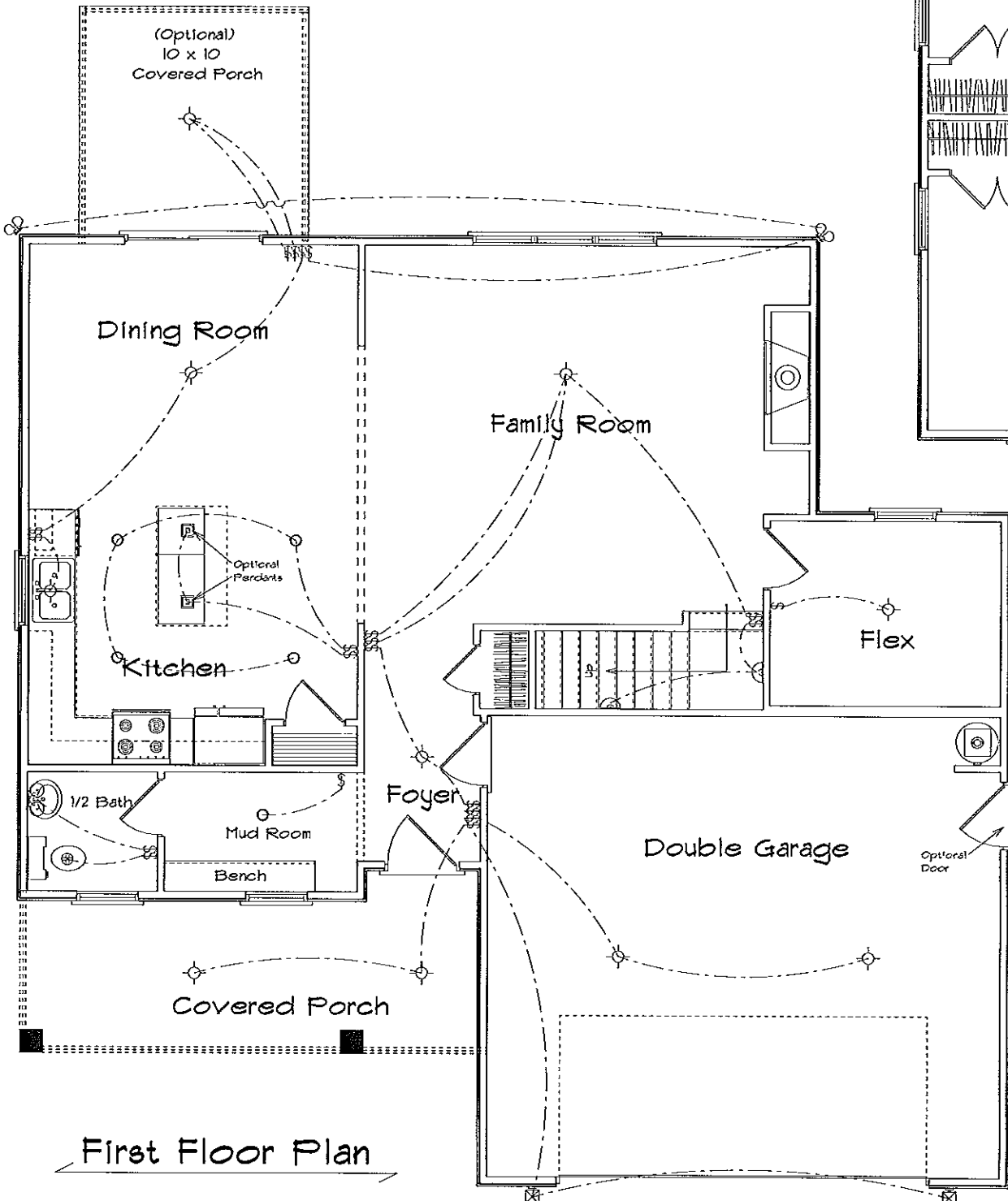
Sheet #3  
DATE  
12/15/2020

Second Floor Plan  
2x4 Walls

The Magnolia

JSJ Builders, Inc.  
135 Robeson Street  
Fayetteville, NC 28305  
(910)438-0796





Sheet #5

DATE  
12/15/2020

Electrical Plan

The Magnolia

JSJ Builders, Inc.  
 1135 Robeson Street  
 Fayetteville, NC 28305  
 (910)432-0796



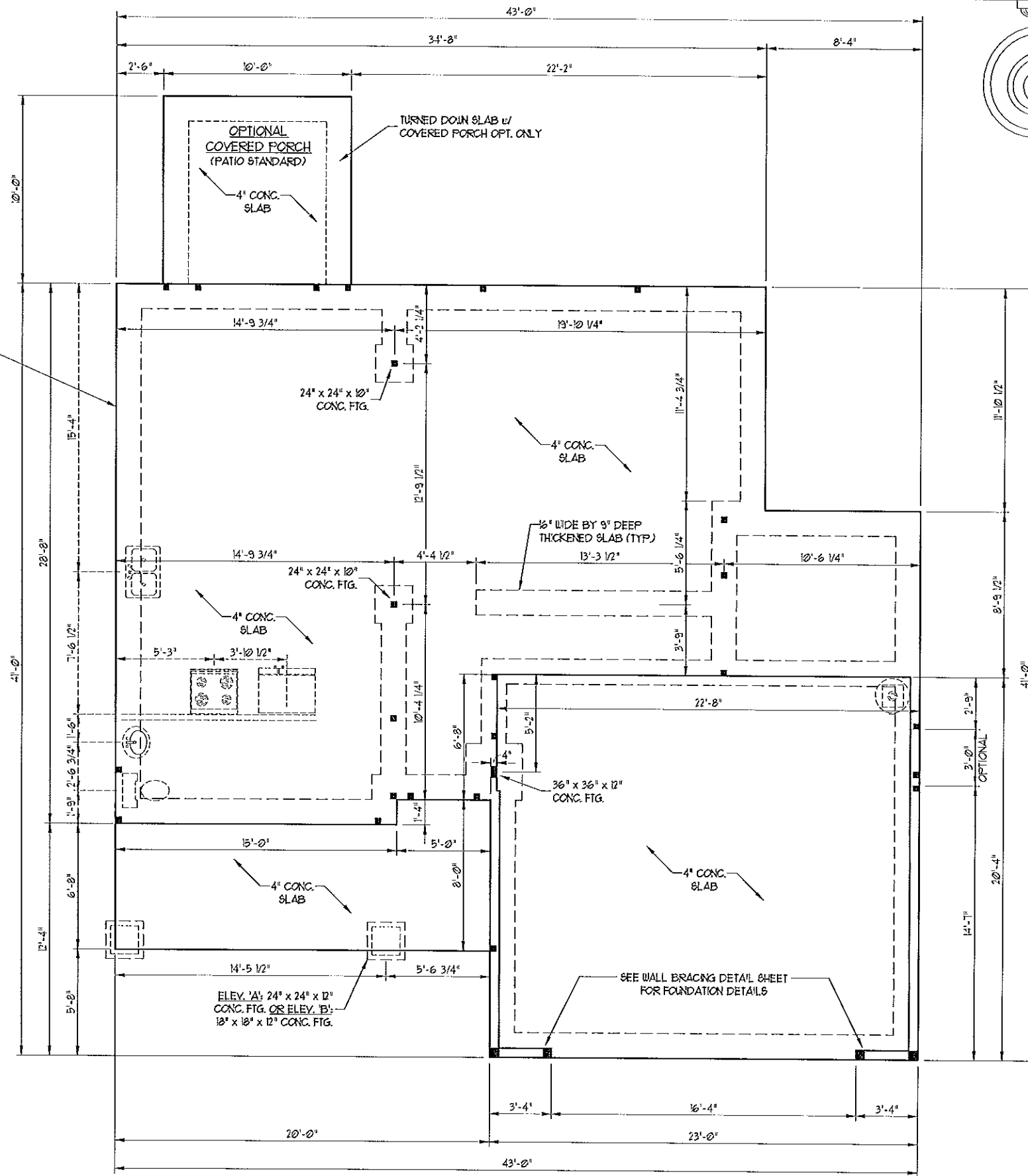
**120 MPH ULTIMATE DESIGN WIND SPEED NOTES FOR LESS THAN 30' MEAN ROOF HEIGHT:**

1. ENGINEER'S SEAL APPLIES ONLY TO STRUCTURAL COMPONENTS. ENGINEER'S SEAL DOES NOT CERTIFY DIMENSIONAL ACCURACY OR ARCHITECTURAL LAYOUT INCLUDING ROOF SYSTEM.
2. STRUCTURAL DESIGN PER NORTH CAROLINA RESIDENTIAL CODE, 2020 EDITION.
3. INSTALL 1/2" ANCHOR BOLTS 6"-0" O.C. AND WITHIN 1'-0" FROM END OF EACH CORNER. ANCHOR BOLTS MUST EXTEND A MINIMUM OF 1" INTO MASONRY OR CONCRETE. LOCATE BOLT WITHIN MIDDLE THIRD OF FLUTE WIDTH.
4. MEAN ROOF HEIGHT IS LESS THAN 30 FEET.
5. EXTERIOR WALLS DESIGNED FOR 120 MPH WINDS.
6. WALL CLADDING DESIGNED FOR +32 PSF AND -24 PSF (-/- INDICATE POSITIVE / NEGATIVE PRESSURE (TYP)).
7. ROOF CLADDING DESIGNED FOR +6.1 PSF AND -31 PSF FOR ROOF PITCHES 1/2 TO 1/12 AND +25 PSF AND -43 PSF FOR ROOF PITCHES 2 1/2 TO 12.
8. INSTALL 1/2" OSB SHEATHING ON ALL EXTERIOR WALLS OF ALL STORES IN ACCORDANCE WITH SECTION R602.103 OF THE NRC, 2020 EDITION. SEE THE WALL BRACING NOTES AND DETAILS SHEET FOR MORE INFORMATION.
9. ENERGY EFFICIENCY COMPLIANCE AND INSULATION VALUES OF THE BUILDING TO BE IN ACCORDANCE WITH CHAPTER 8 OF THE NRC, 2020 EDITION.
10. REFER TO NOTES AND DETAIL SHEETS FOR ADDITIONAL STRUCTURAL INFORMATION.

**120 MPH ULTIMATE DESIGN WIND SPEED NOTES FOR LESS THAN 30' MEAN ROOF HEIGHT:**

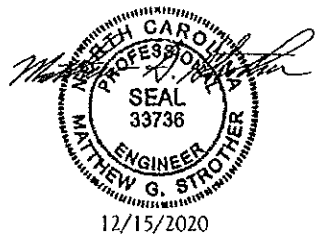
1. ENGINEER'S SEAL APPLIES ONLY TO STRUCTURAL COMPONENTS. ENGINEER'S SEAL DOES NOT CERTIFY DIMENSIONAL ACCURACY OR ARCHITECTURAL LAYOUT INCLUDING ROOF SYSTEM.
2. STRUCTURAL DESIGN PER NORTH CAROLINA RESIDENTIAL CODE, 2020 EDITION.
3. INSTALL 1/2" ANCHOR BOLTS 6"-0" O.C. AND WITHIN 1'-0" FROM END OF EACH CORNER. ANCHOR BOLTS MUST EXTEND A MINIMUM OF 1" INTO MASONRY OR CONCRETE. LOCATE BOLT WITHIN MIDDLE THIRD OF FLUTE WIDTH.
4. MEAN ROOF HEIGHT IS LESS THAN 30 FEET.
5. EXTERIOR WALLS DESIGNED FOR 120 MPH WINDS.
6. WALL CLADDING DESIGNED FOR +35 PSF AND -20 PSF (-/- INDICATE POSITIVE / NEGATIVE PRESSURE (TYP)).
7. ROOF CLADDING DESIGNED FOR +42 PSF AND -8 PSF FOR ROOF PITCHES 1/2 TO 1/12 AND +20 PSF AND -36 PSF FOR ROOF PITCHES 2 1/2 TO 12.
8. INSTALL 1/2" OSB SHEATHING ON ALL EXTERIOR WALLS OF ALL STORES IN ACCORDANCE WITH SECTION R602.103 OF THE NRC, 2020 EDITION. SEE THE WALL BRACING NOTES AND DETAILS SHEET FOR MORE INFORMATION.
9. ENERGY EFFICIENCY COMPLIANCE AND INSULATION VALUES OF THE BUILDING TO BE IN ACCORDANCE WITH CHAPTER 8 OF THE NRC, 2020 EDITION.
10. REFER TO NOTES AND DETAIL SHEETS FOR ADDITIONAL STRUCTURAL INFORMATION.

SEE MONOLITHIC SLAB DETAIL SHEET FOR FND. OPTIONS.



**J.S. THOMPSON ENGINEERING, INC.**  
 666 WADE AVE., SUITE 104 DALEBORO, NC 27605  
 PHONE: (919) 789-9919 FAX: (919) 789-9921  
 N.C. LICENSE NO. C1133

THE MAGNOLIA  
 JSJ BUILDERS



DATE: DECEMBER 15, 2020  
 SCALE: 1/4" = 1'-0"  
 DRAWN BY: JSJ BUILDERS  
 ENGINEERED BY: WTB

part 2 of 6  
**S-1b**  
 MONO SLAB  
 FOUNDATION PLAN

**BRACED WALL DESIGN**

- SIDE 1A**  
 METHOD: CS-WSP/FF  
 TOTAL REQUIRED LENGTH: 10.6'  
 TOTAL PROVIDED LENGTH: 20.33'
- SIDE 2A**  
 METHOD: CS-WSP  
 TOTAL REQUIRED LENGTH: 10.6'  
 TOTAL PROVIDED LENGTH: 26.33'
- SIDE 3A**  
 METHOD: CS-WSP  
 TOTAL REQUIRED LENGTH: 11.0'  
 TOTAL PROVIDED LENGTH: 38.08'
- SIDE 4A**  
 METHOD: CS-WSP  
 TOTAL REQUIRED LENGTH: 11.0'  
 TOTAL PROVIDED LENGTH: 39.33'

**BRACED WALL DESIGN NOTES:**

- BRACED WALL DESIGN PER SECTION R602.10 OF THE NCRC 2003 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 120 MPH. FOR HIGH WIND ZONES, BRACE WALLS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH CHAPTER 45 OF THE NCRC 2003 EDITION.
- SEE NOTES AND DETAIL SHEETS FOR ADDITIONAL BRACED WALL INFORMATION.

**STRUCTURAL NOTES:**

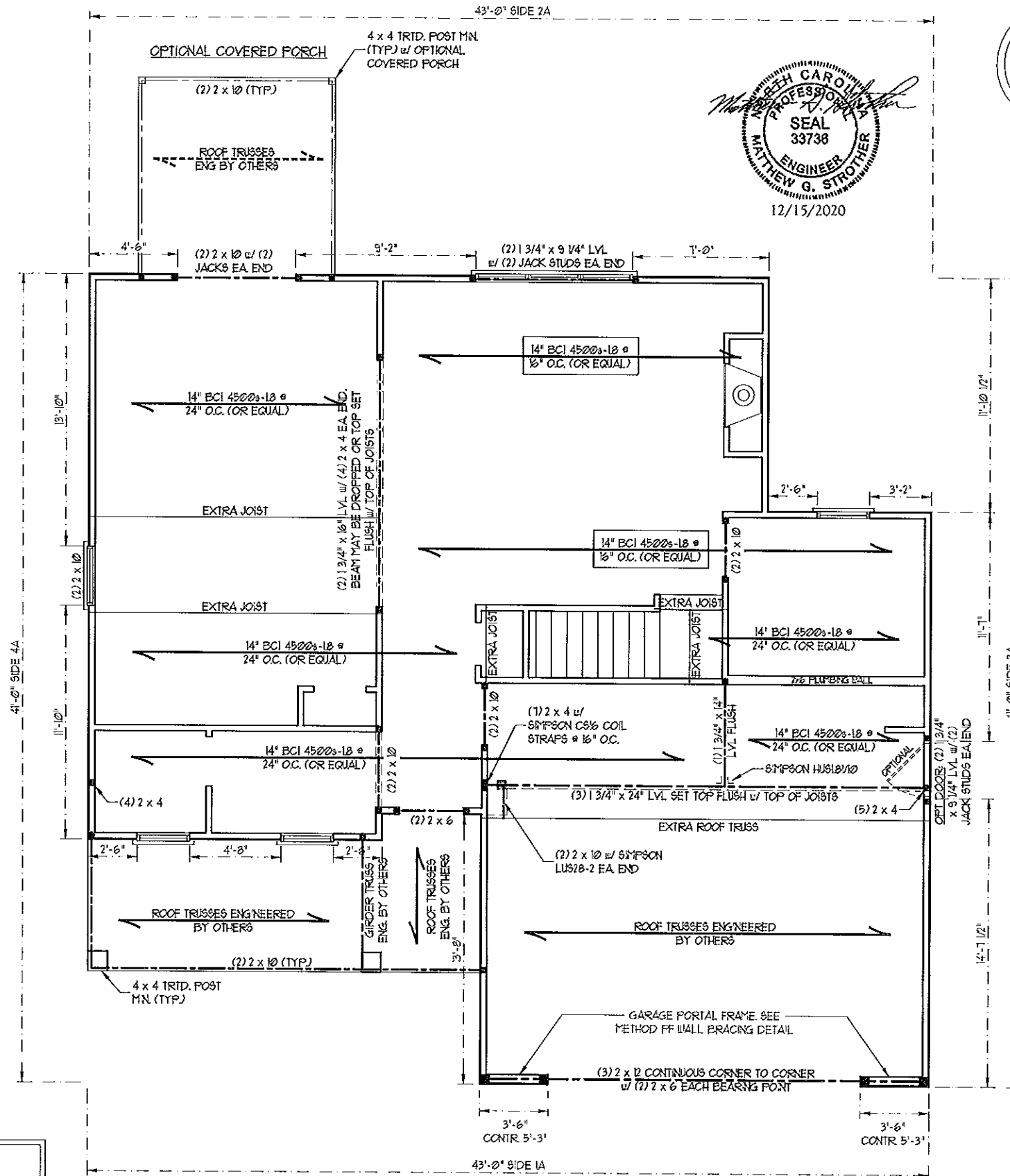
- ALL FRAMING LUMBER TO BE SFF #2 (INO). ALL TREATED LUMBER TO BE SYP #2 (INO)
- ALL LOAD BEARING HEADERS TO BE (2) 2 x 6 SFF #2 OR SYP #2 (KILN DRIED) (INO). HEADERS HAVE BEEN DESIGNED BASED ON CALCULATED LOADS. CODE TABLES HAVE NOT BEEN USED.
- INSTALL AN EXTRA JOIST UNDER WALLS PARALLEL TO FLOOR JOISTS WHERE NOTED ON THE PLANS.
- WINDOW AND DOOR HEADERS TO BE SUPPORTED w/ (1) JACK STUD AND (1) KING STUD EA. END (INO). SEE TABLE R602.15 FOR ADDITIONAL KING STUD REQUIREMENTS.
- SQUARES DENOTE POINT LOADS WHICH REQUIRE SOLID BLOCKING TO GIRDER OR FOUNDATION. ALL SQUARES TO BE (2) STUDS (INO)
- ALL 4 x 4 POSTS SHALL BE ANCHORED TO SLABS w/ SIMPSON ABU44 POST BASES (OR EQUAL) AND 6 x 6 POSTS w/ ABU66 POST BASES (OR EQUAL) (INO). ALL 4 x 4 AND 6 x 6 POSTS TO BE INSTALLED WITH 100 LB CAPACITY UPLIFT CONNECTORS AT TOP (INO)
- FOR FIBERGLASS, ALUMINUM, OR COLUMN ENG. BY OTHERS, SECURE TO SLAB w/ (2) METAL ANGLES USING 2" CONC. SCREWS. FASTEN ANGLES TO COLUMNS w/ 1/4" THROUGH BOLTS w/ NUTS AND WASHERS. LOCATE ANGLES ON OPPOSITE SIDES OF COLUMN. THROUGH BOLTS MUST BE INSTALLED PRIOR TO SETTING COLUMN.
- REFER TO NOTES AND DETAIL SHEETS FOR ADDITIONAL STRUCTURAL INFORMATION.

**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

**NOTE:**

TJ 10 I-JOISTS MAY BE INSTALLED IN LIEU OF BCI 4500s-18 JOISTS AT THE DEPTH AND SPACING INDICATED ON THE PLANS.



**J.S. THOMPSON ENGINEERING, INC.**  
 660 WADSWORTH AVENUE, SUITE 104 RALEIGH, NC 27605  
 PHONE: (919) 780-9922 FAX: (919) 780-9921  
 N.C. LICENSE NO.: C-1133

THE MAGNOLIA JSJ BUILDERS

DATE: DECEMBER 15, 2020  
 SCALE: 1/4" = 1'-0"  
 DRAWN BY: JSJ BUILDERS  
 ENGINEERED BY: WTB

SHEET 4 OF 6  
**S-2**  
 SECOND FLOOR FRAMING PLAN

**BRACED WALL DESIGN NOTES:**

1. BRACED WALL DESIGN PER SECTION R602.10 OF THE NCRC 2018 EDITION.
2. CS-WSP REFERS TO "CONTINUOUS SHEATHING - WOOD STRUCTURAL PANELS" CONTRACTOR IS TO INSTALL 1/8" OSB ON ALL EXTERIOR WALLS ATTACHED w/ 2d NAILS SPACED 6" O.C. ALONG PANEL EDGES AND 12" O.C. IN THE FIELD.
3. 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 PLATES.
4. BRACED WALL DESIGN APPLIED IN WIND ZONES UP TO 130 MPH. FOR HIGH WIND ZONES, BRACE WALLS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH CHAPTER 45 OF THE NCRC 2018 EDITION.
5. SEE NOTES AND DETAIL SHEETS FOR ADDITIONAL BRACED WALL INFORMATION.

**NOTE:**

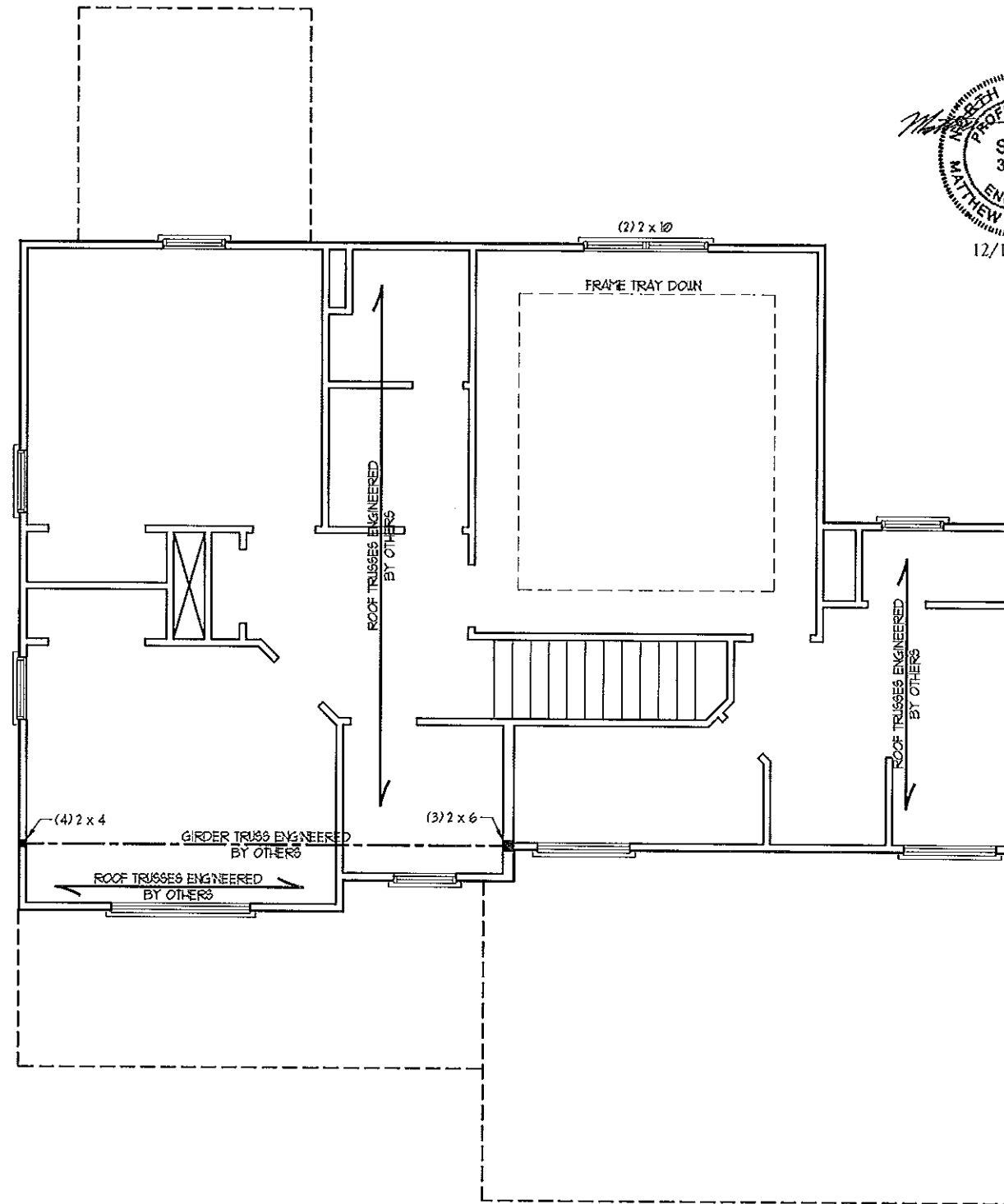
1. PER SECTION R602.10.3.2 OF THE 2018 NCRC, THE AMOUNT OF BRACING ON THE SECOND FLOOR EXCEEDS THE AMOUNT REQUIRED FOR THE FIRST FLOOR AND NO BRACED WALL ANALYSIS IS REQUIRED.
2. SHEATH ALL EXTERIOR WALLS WITH 1/8" OSB SHEATHING ATTACHED WITH 2d NAILS AT 6" O.C. ALONG PANEL EDGES AND 12" O.C. IN THE FIELD.

**STRUCTURAL NOTES:**

1. ALL FRAMING LUMBER TO BE #2 SPF (UNO).
2. ALL LOAD BEARING HEADERS TO BE (2) 2 x 6 (UNO).
3. 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.
4. SQUARES DENOTE POINT LOADS WHICH REQUIRE SOLID BLOCKING TO GIRDER OR FOUNDATION. SQUARES TO BE (2) STUDS (UNO).
5. REFER TO NOTES AND DETAIL SHEETS FOR ADDITIONAL STRUCTURAL INFORMATION.

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 R602.15)	
	16	24
UP TO 3'	1	1
4'	2	1
8'	3	2
12'	5	3
16'	6	4



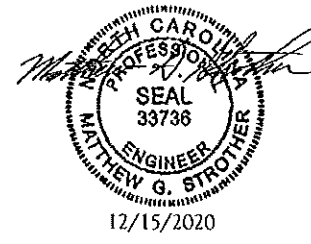
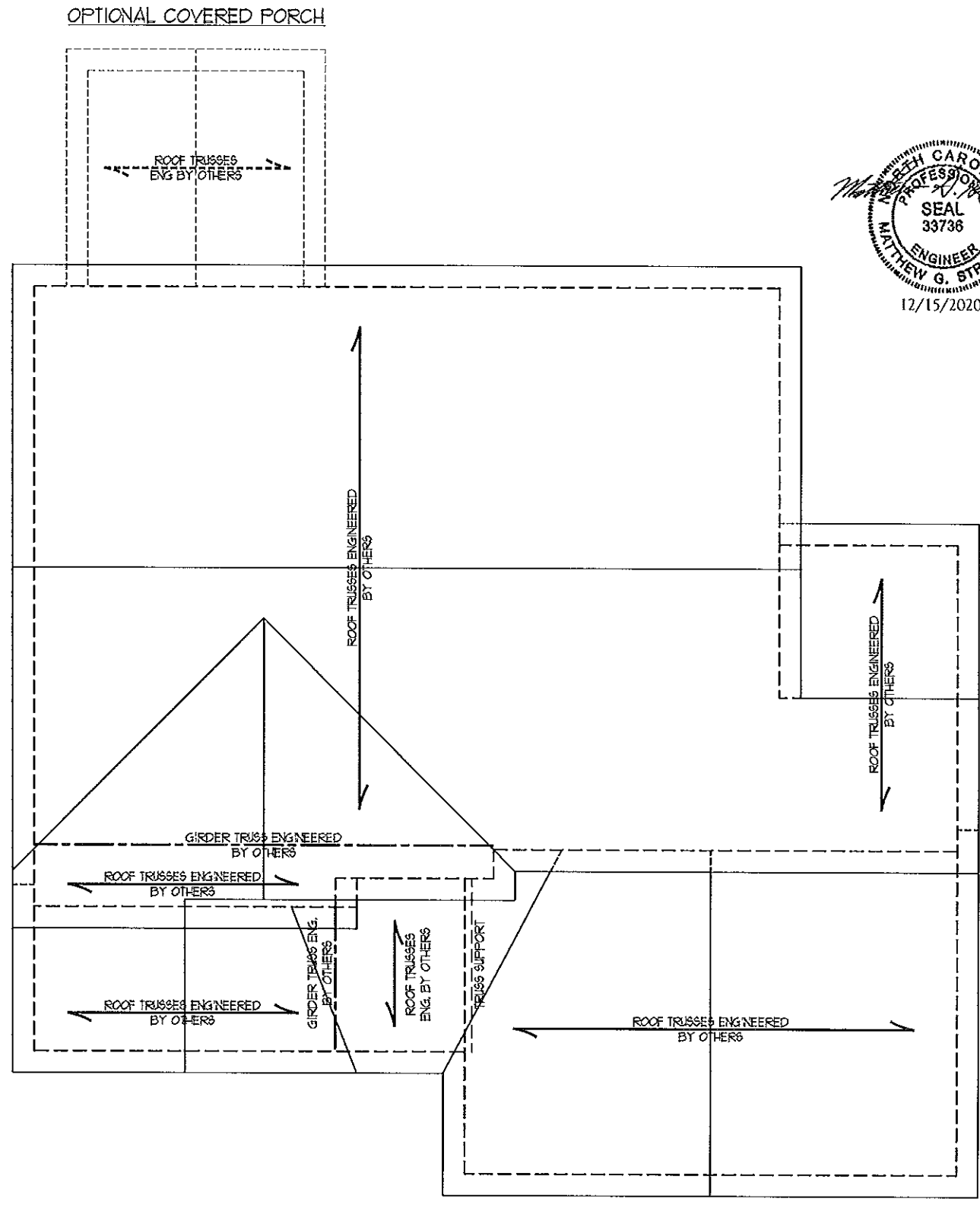
**J.S. THOMPSON ENGINEERING, INC.**  
 666 WARE AVE, SUITE 104 RALEIGH, NC 27605  
 PHONE: (919) 786-9918 FAX: (919) 786-9921  
 N.C. LICENSE NO.: 04123

THE MAGNOLIA  
 JSJ BUILDERS

DATE: DECEMBER 15, 2020  
 SCALE: 1/4" = 1'-0"  
 DRAWN BY: JSJ BUILDERS  
 ENGINEERED BY: WTB

SHEET 5 OF 6  
**S-3**  
 ATTIC FLOOR  
 FRAMING PLAN

- STRUCTURAL NOTES:**
1. ALL FRAMING LUMBER TO BE #2 SPF (UNO).
  2. CIRCLES DENOTE (3) 2 x 4 POSTS FOR ROOF SUPPORT.
  3. FRAME DORMER WALLS ON TOP OF DOUBLE OR TRIPLE RAFTERS.
  4. HIP SPLICES ARE TO BE SPACED A MIN. OF 8'-0". FASTEN MEMBERS WITH THREE ROWS OF 12d NAILS @ 16" O.C. (TYP)
  5. STICK FRAME OVER-FRAMED ROOF SECTIONS W/ 2 x 8 RIDGES, 2 x 6 RAFTERS @ 16" O.C. AND FLAT 2 x 10 VALLEYS OR USE VALLEY TRUSSES.
  6. FASTEN FLAT VALLEYS TO RAFTERS OR TRUSSES WITH SYMPSON H25A HURRICANE TIES @ 32" O.C. MAX. PASS HURRICANE TIES THROUGH NOTCH IN ROOF SHEATHING. EACH RAFTER IS TO BE FASTENED TO THE FLAT VALLEY WITH A MIN. OF (6) 12d TOE NAILS.
  7. REFER TO SECTION R20211 OF THE 2018 NIRC FOR REQUIRED UPLIFT RESISTANCE AT RAFTERS AND TRUSSES.
  8. REFER TO NOTES AND DETAIL SHEETS FOR ADDITIONAL STRUCTURAL INFORMATION.



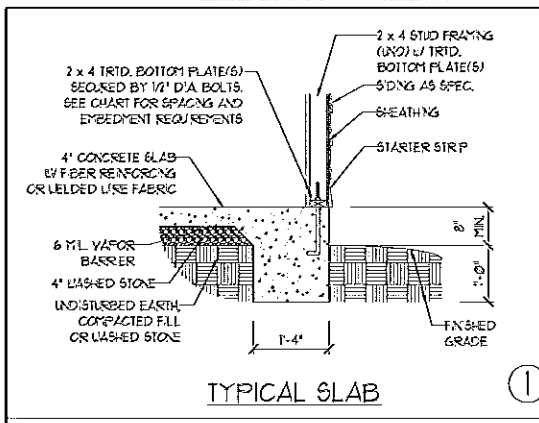
**J.S. THOMPSON ENGINEERING, INC.**  
 606 WADSWORTH SUITE 100 RALEIGH, NC 27605  
 PHONE: (919) 789-9919 FAX: (919) 789-9921  
 N.C. LICENSE NO.: C-1173

THE MAGNOLIA  
 JSJ BUILDERS

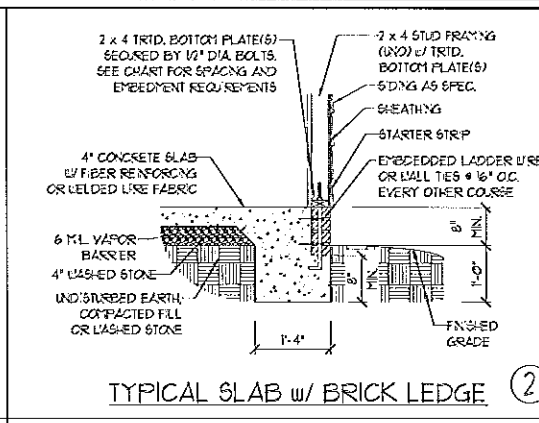
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 SCALE: 1/4" = 1'-0"  
 DRAWN BY: JSJ BUILDERS  
 ENGINEERED BY: WTB

SHEET: 6 OF 6  
 S4  
 ROOF FRAMING  
 PLAN

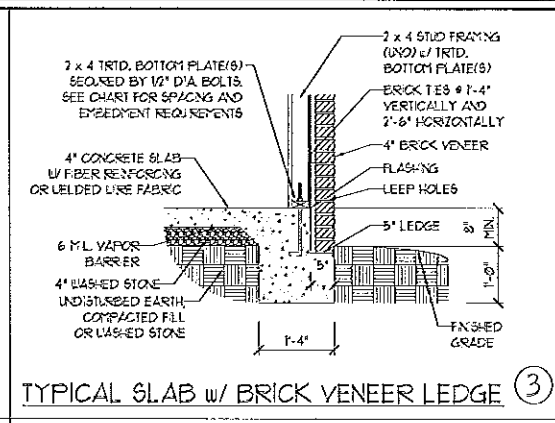




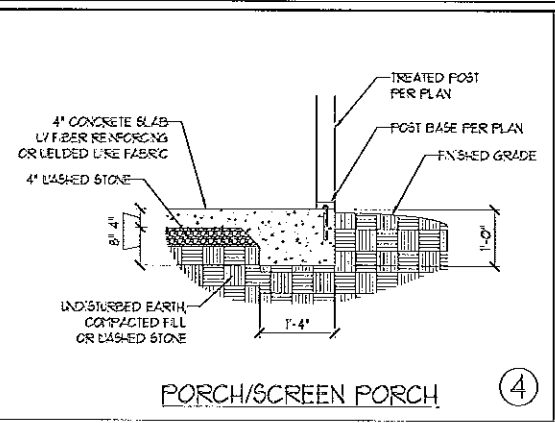
TYPICAL SLAB ①



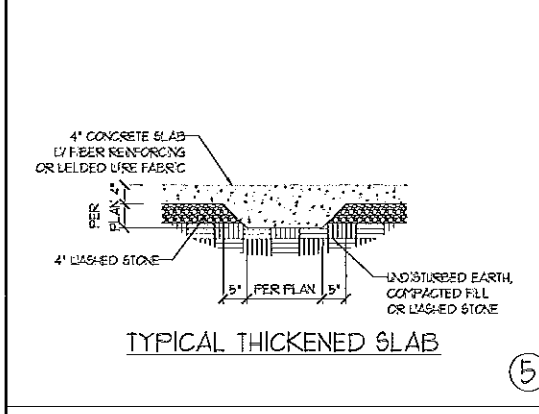
TYPICAL SLAB w/ BRICK LEDGE ②



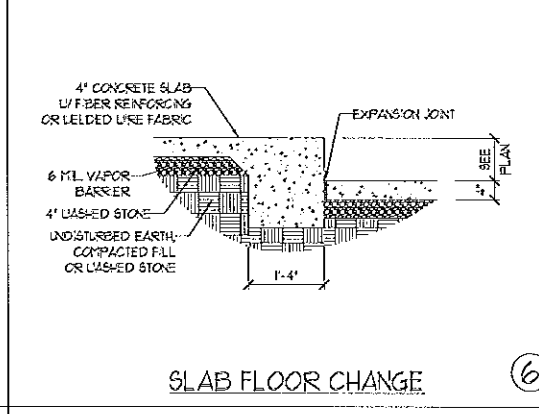
TYPICAL SLAB w/ BRICK VENEER LEDGE ③



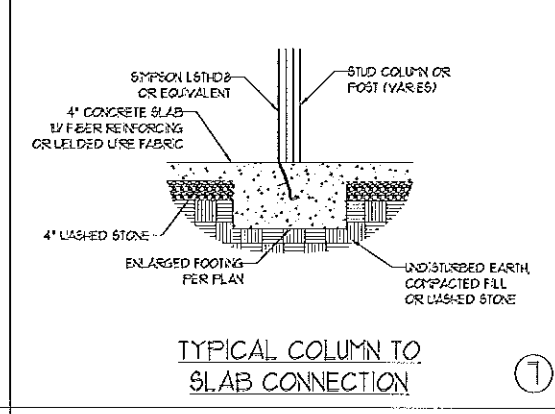
PORCH/SCREEN PORCH ④



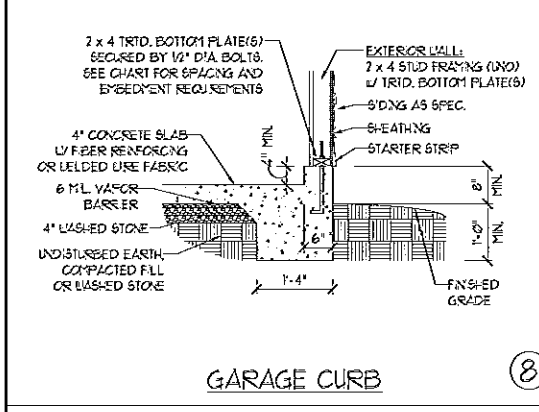
TYPICAL THICKENED SLAB ⑤



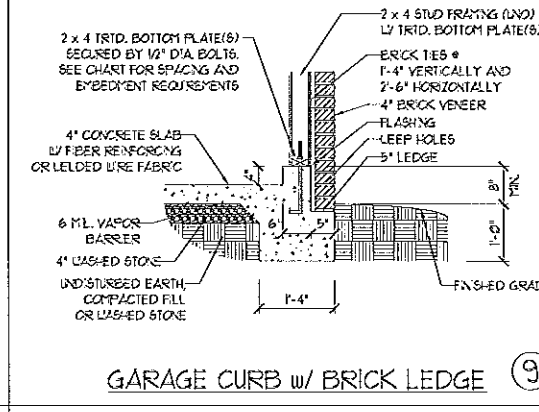
SLAB FLOOR CHANGE ⑥



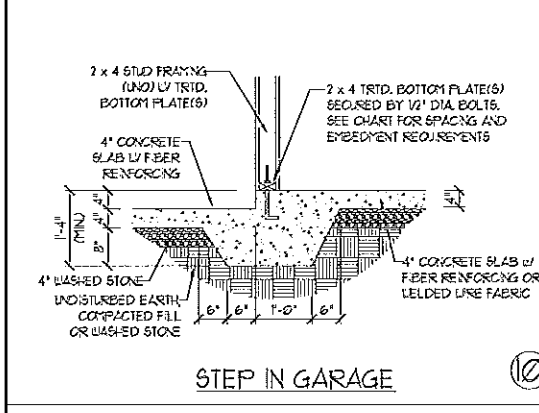
TYPICAL COLUMN TO SLAB CONNECTION ⑦



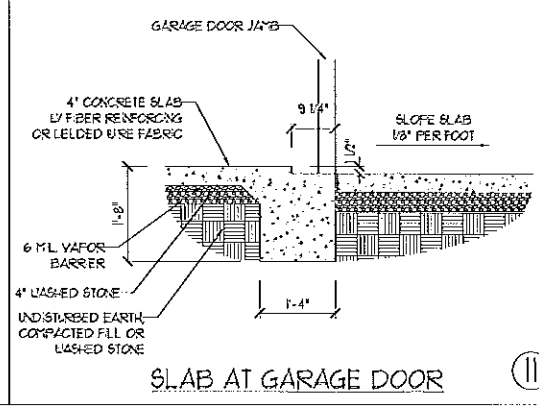
GARAGE CURB ⑧



GARAGE CURB w/ BRICK LEDGE ⑨

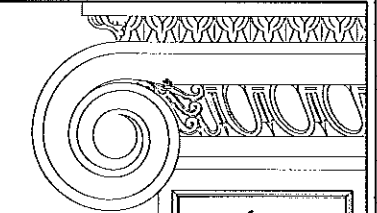


STEP IN GARAGE ⑩



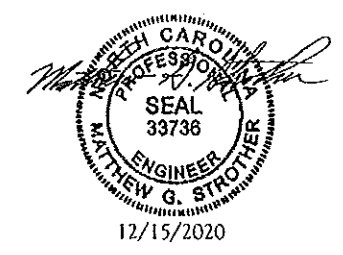
SLAB AT GARAGE DOOR ⑪

ANCHOR SPACING AND EMBEDMENT			NOTE: THREADED ROD WITH EPOXY, SIMPSON TITEN HD, OR APPROVED ANCHORS SPACED AS REQUIRED TO PROVIDE EQUIVALENT ANCHORAGE TO 1/2\"/>
WIND ZONE	120 MPH	130 MPH	
SPACING	6'-0\"/>		
EMBEDMENT	1\"/>		



**J.S. THOMPSON ENGINEERING, INC.**  
 606 WADE AVE., SUITE 104 RALEIGH, NC 27605  
 PHONE (919) 780-9119 FAX (919) 780-9221  
 N.C. LICENSE NO. 01133

MONOLITHIC SLAB FOUNDATION DETAILS



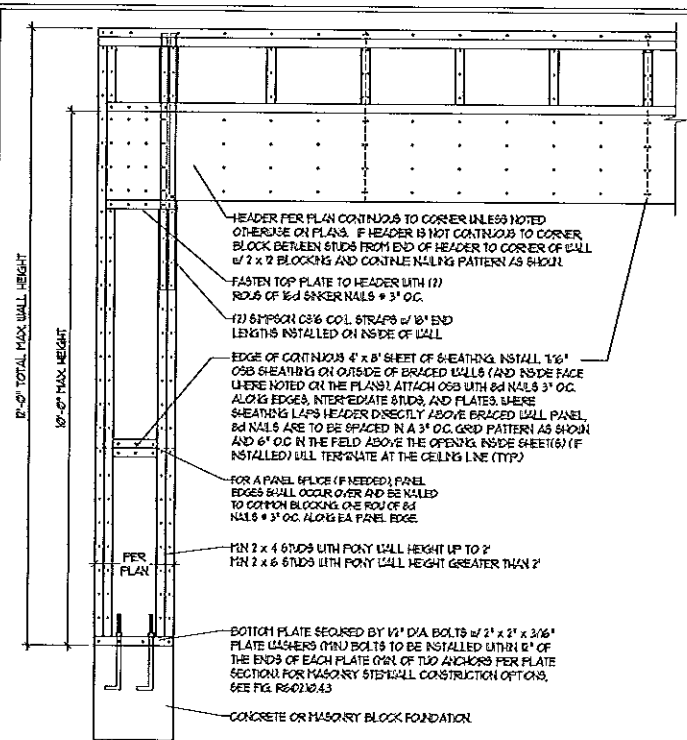
This sealed page is to be used in conjunction with a full plan set engineered by J.S. Thompson Engineering, Inc. only. Use of this individual sealed page within architectural pages or shop drawings by others is a punishable offense under N.C. Statute § 89C-23

DATE: NOVEMBER 1, 2018
SCALE: NTS
DRAWN BY: JT
ENGINEERED BY: JT

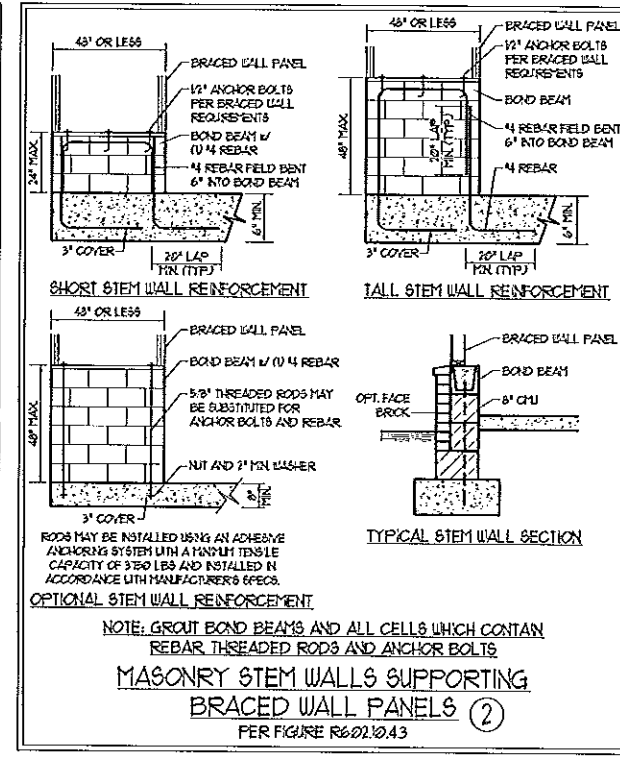
FOUNDATION DETAILS

**GENERAL WALL BRACING NOTES:**

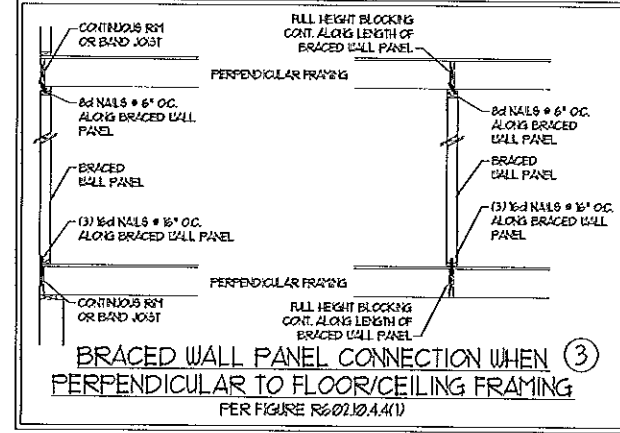
1. WALL BRACING DESIGNED IN ACCORDANCE WITH CHAPTER 6 OF THE 2018 NC RESIDENTIAL BUILDING CODE (NRC). TABLES AND FIGURES REFERENCED ARE FROM THE 2018 NRC.
2. SEE THIS SHEET FOR GENERAL DETAILS. REFER TO THE 2018 NRC FOR ADDITIONAL INFORMATION AS NEEDED.
3. BRACED EXTERIOR WALLS SUPPORTING ROOF TRUSSES AND RAFTERS, INCLUDING STORES BELOW THE TOP FLOOR, HAVE BEEN DESIGNED PER R602.35. (1) WALL SHEATHING AND FASTENERS HAVE BEEN DESIGNED TO RESIST COMBINED UPLIFT AND SHEAR FORCES IN ACCORDANCE WITH ACCEPTED ENGINEERING PRACTICE.
4. SEE STRUCTURAL SHEETS FOR BRACED WALL LOCATIONS, DIMENSIONS, HOLD DOWN TYPE AND LOCATIONS, BRACED WALL LINE KEY WITH DESIGN SUMMARY OF REQUIRED PROVIDED TOTALS FOR EACH WALL LINE AND ANY SPECIAL NOTES OR REQUIREMENTS.
5. ALL EXTERIOR WALLS ARE TO BE SHEATHED WITH CS-50P IN ACCORDANCE WITH SECTION R602.10.3 UNLESS NOTED OTHERWISE.
6. ALL EXTERIOR AND INTERIOR WALLS TO HAVE 1/2" GYPSUM INSTALLED. WHEN NOT USING METHOD 'G8', GYPSUM TO BE FASTENED PER TABLE R602.10.3. METHOD 'G8' TO BE FASTENED PER TABLE R602.10.3.
7. CS-50P REFERS TO THE 'CONTINUOUS SHEATHING - WOOD STRUCTURAL PANELS' WALL BRACING METHOD. 1/2" OSB SHEATHING IS TO BE INSTALLED ON ALL EXTERIOR WALLS ATTACHED W/ 6d COMMON NAILS OR 8d (2 1/2" LONG x 0.13" DIA) INTERIOR NAILS SPACED 6" OC ALONG PANEL EDGES AND 12" OC IN THE FIELD (N.O.).
8. G8 REFERS TO THE 'GYPSUM BOARD' WALL BRACING METHOD. 1/2" (MIN) GYPSUM WALL BOARD IS TO BE INSTALLED ON BOTH SIDES OF THE BRACED WALL. FASTENED WITH 1 1/4" SCREWS OR 1 1/8" NAILS SPACED 12" OC ALONG PANEL EDGES INCLUDING TOP AND BOTTOM PLATES AND INTERMEDIATE SUPPORTS (N.O.). VERIFY ALL FASTENER OPTIONS FOR 1/2" AND 5/8" GYPSUM PRIOR TO CONSTRUCTION. FOR INTERIOR FASTENER OPTIONS SEE TABLE R602.10.3. FOR EXTERIOR FASTENER OPTIONS SEE TABLE R602.10.3. EXTERIOR G8 TO BE INSTALLED VERTICALLY.
9. REQUIRED BRACED WALL LENGTH FOR EACH SIDE OF THE CIRCUMSCRIBED RECTANGLE ARE INTERPOLATED PER TABLE R602.10.3. METHOD CS-50P CONTRIBUTES ITS ACTUAL LENGTH. METHOD G8 CONTRIBUTES 5/8 ITS ACTUAL LENGTH. AND METHOD PF CONTRIBUTES 1/3 ITS ACTUAL LENGTH.



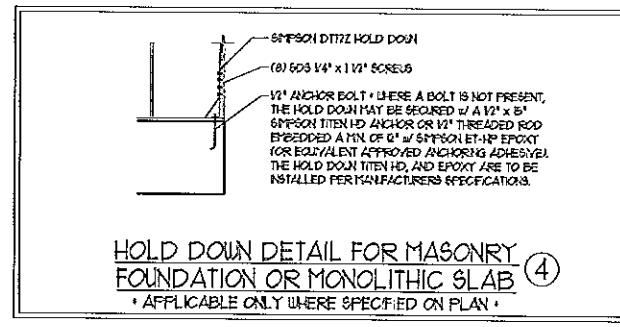
**METHOD PF-PORTAL FRAME DETAIL ①**



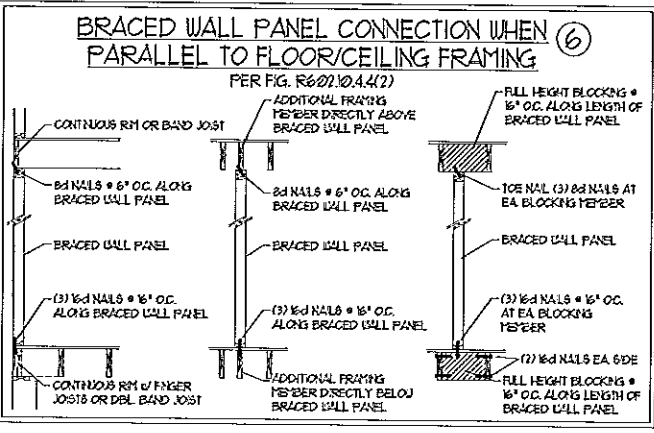
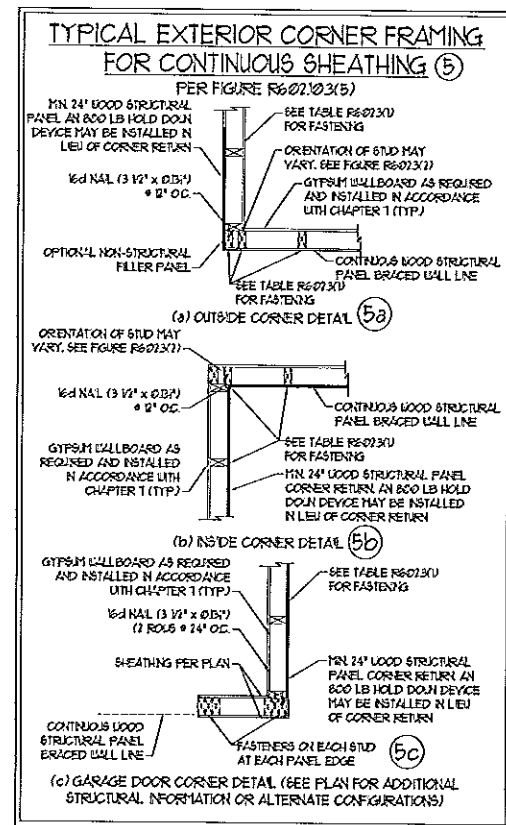
**MASONRY STEM WALLS SUPPORTING BRACED WALL PANELS ②**  
PER FIGURE R602.10.4.3



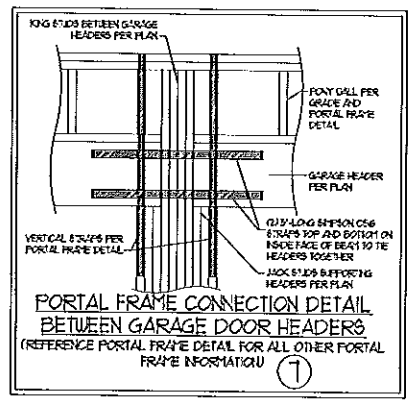
**BRACED WALL PANEL CONNECTION WHEN PERPENDICULAR TO FLOOR/CEILING FRAMING ③**  
PER FIGURE R602.10.4.4(1)



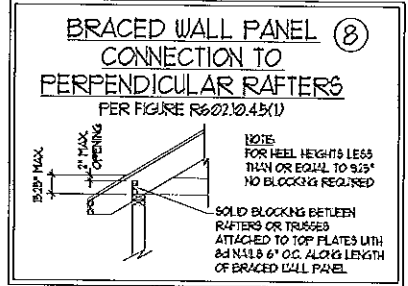
**HOLD DOWN DETAIL FOR MASONRY FOUNDATION OR MONOLITHIC SLAB ④**  
• APPLICABLE ONLY WHERE SPECIFIED ON PLAN •



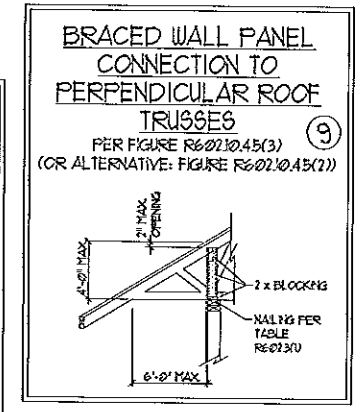
**BRACED WALL PANEL CONNECTION WHEN PARALLEL TO FLOOR/CEILING FRAMING ⑥**



**PORTAL FRAME CONNECTION DETAIL BETWEEN GARAGE DOOR HEADERS ①**  
(REFERENCE PORTAL FRAME DETAIL FOR ALL OTHER PORTAL FRAME INFORMATION)

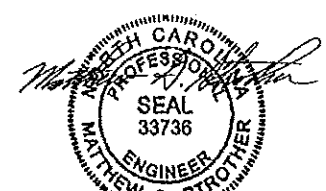


**BRACED WALL PANEL CONNECTION TO PERPENDICULAR RAFTERS ⑧**  
PER FIGURE R602.10.4.5(1)



**BRACED WALL PANEL CONNECTION TO PERPENDICULAR ROOF TRUSSES ⑨**  
PER FIGURE R602.10.4.5(3) (OR ALTERNATIVE: FIGURE R602.10.4.5(7))

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12/15/2020

**J.S. THOMPSON ENGINEERING, INC.**  
600 WADE AVE. SUITE 104 RALEIGH, NC 27605  
PHONE: (919) 788-9919 FAX: (919) 788-9921  
N.C. LICENSE NO. C-1173

WALL BRACING NOTES AND DETAILS

DATE: MAY 15, 2020  
SCALE: 1/4" = 1'-0"  
DRAWN BY: JST  
ENGINEERED BY: JST

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 FOOTINGS. 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 CONTRACTOR'S 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 - R301.1)

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: Pg	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 R403.16 OF THE NCRC, 2018 EDITION. FOR 130 MPH, 140 MPH, AND 150 MPH WIND ZONES, FOUNDATION ANCHORAGE IS TO COMPLY WITH SECTION 4504 OF THE NCRC, 2018 EDITION.
- ENERGY EFFICIENCY COMPLIANCE AND INSULATION VALUES OF THE BUILDING TO BE IN ACCORDANCE WITH CHAPTER 11 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 R405.1 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 SALED 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/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 NCRC, 2018 EDITION OR IN ACCORDANCE WITH ACI 318, ACI 332, NCM1A TR60-A OR ACE 530/ASCE 5/TMS 402. MASONRY FOUNDATION WALLS ARE TO BE REINFORCED PER TABLE R404.1X(1), R404.1X(2), R404.1X(3), OR R404.1X(4) OF THE NCRC, 2018 EDITION. CONCRETE FOUNDATION WALLS ARE TO BE REINFORCED PER TABLE R404.1X(5) OF THE NCRC, 2018 EDITION. STEP CONCRETE FOUNDATION WALLS TO 2 x 6 FRAMED WALLS AT 16" O.C. WHERE GRADE PERMITS (UNO).



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**FRAMING NOTES**

- ALL FRAMING LUMBER SHALL BE #2 GPF MINIMUM (Fb = 875 PSI, Fv = 375 PSI, E = 1,800,000 PSI) UNLESS NOTED OTHERWISE (UNO). ALL TREATED LUMBER SHALL BE #2 SYP MINIMUM (Fb = 975 PSI, Fv = 175 PSI, E = 1,800,000 PSI) UNLESS NOTED OTHERWISE (UNO).
- LAMINATED VENEER LUMBER (LVL) SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES: Fb = 2600 PSI, Fv = 285 PSI, E = 1,800,000 PSI. LAMINATED STRAND LUMBER (LSL) SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES: Fb = 2325 PSI, Fv = 310 PSI, E = 1,800,000 PSI. PARALLEL STRAND LUMBER (PSL) UP TO 1" DEPTH SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES: Fc = 2500 PSI, E = 1,800,000 PSI. PARALLEL STRAND LUMBER (PSL) MORE THAN 1" DEPTH SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES: Fc = 2300 PSI, E = 2,000,000 PSI. 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 BEARINGS 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 R602.1X(1) AND R602.1X(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 EXIT 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 R602.30.
- 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) 1/2" NAILS EA. FLY BETWEEN WALL STUDS WITH (2) ROWS OF 1/2" LAG SCREWS AT 12" O.C. STAGGERED AND IN ACCORDANCE WITH SECTION R703.2(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 10d 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 L1812 UPLIFT CONNECTOR FASTENED TO THE BAND AT THE BOTTOM AND THE BEAM AT THE TOP OF EACH POST. ONE 1/2" SECTION OF SIMPSON C91/2 COIL STRAPPING WITH (8) 8d HDG NAILS AT EACH END MAY BE USED IN LIEU OF EACH TREST 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.: C1733

STANDARD STRUCTURAL NOTES

DATE: OCTOBER 13, 2018  
 SCALE: 1/4" = 1'-0"  
 DRAWN BY: JES  
 ENGINEERED BY: JST

SHEET:  
 STRUCTURAL NOTES