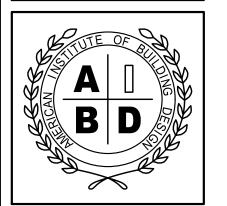
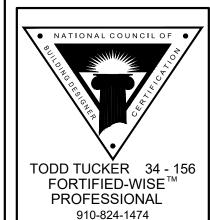


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NT ELEVATION / DA"

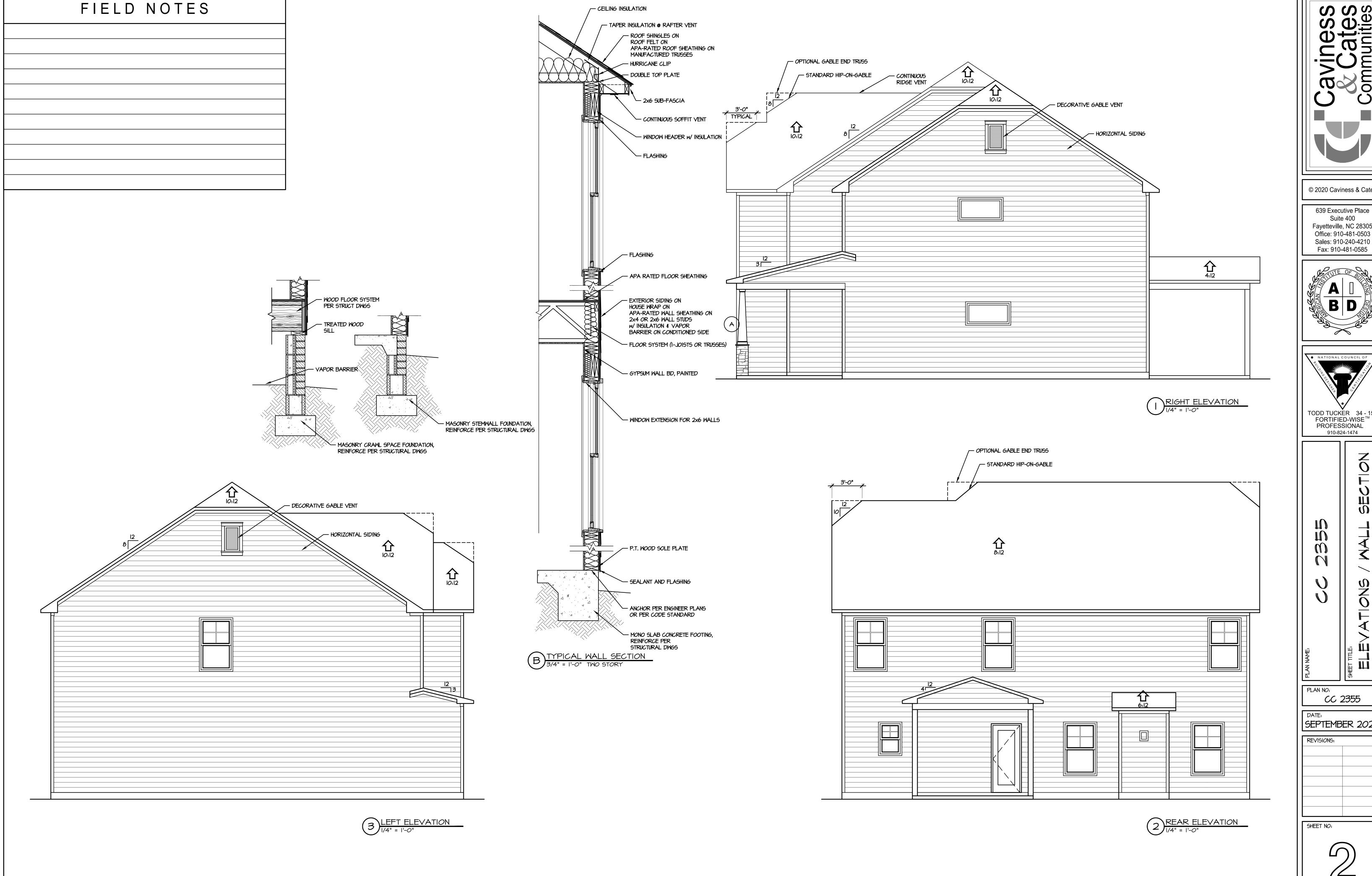
PLAN NO: *CC* 2355

DATE:
SEPTEMBER 2020

REVISIONS:

SHEET NO:

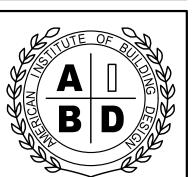
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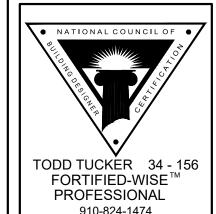


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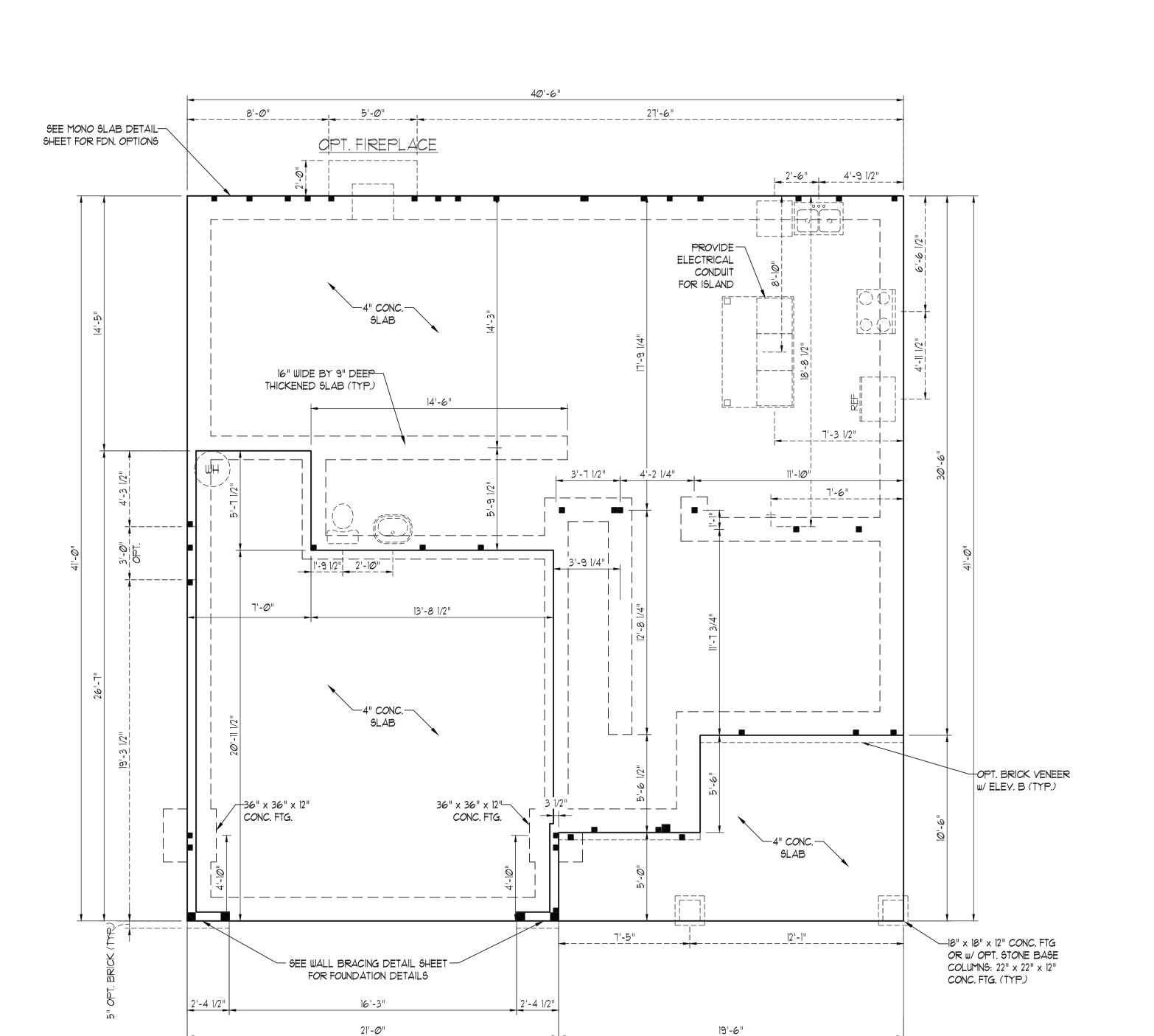
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CC 2355

SEPTEMBER 2020



40'-6"

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

ENGINEER'S SEAL APPLIES ONLY TO STRUCTURAL COMPONENTS. ENGINEER'S

SEAL DOES NOT CERTIFY DIMENSIONAL ACCURACY OR ARCHITECTURAL LAYOUT INCLUDING ROOF SYSTEM.
STRUCTURAL DESIGN PER NORTH CAROLINA RESIDENTIAL CODE, 2018 EDITION WITH SPECIAL CONSIDERATION TO CHAPTER 45 ("HIGH WIND ZONES" FOR 150 MPH WINDS).

3. BUILDER IS TO PROVIDE FRAMING
CONNECTIONS AS REQUIRED BY CHAPTER
45 ("HIGH WIND ZONES" FOR 150 MPH
WINDS) OF THE NORTH CAROLINA
RESIDENTIAL CODE, 2018 EDITION.
4. FOUNDATION ANCHORAGE TO COMPLY WITH
SECTION 4504 OF THE NORTH CAROLINA
RESIDENTIAL CODE, 2018 EDITION.

5. MEAN ROOF HEIGHT IS LESS THAN 30 FEET.
6. WALL CLADDING DESIGNED FOR +24.3 PSF
AND -32 PSF (+/- INDICATE POSITIVE /
NEGATIVE PRESSURE (TYP).
1. ROOF CLADDING DESIGNED FOR +22.2 PSF

AND -28 PSF FOR ROOF PITCHES 1/12 TO 12/12 AND +14 PSF AND -51 PSF FOR ROOF PITCHED 225/12 TO 1/12.

8. 1/16" OSB SHEATHING IS REQUIRED ON ALL

8. 1/16" OSB SHEATHING IS REQUIRED ON AL EXTERIOR WALLS.

9. WALLS TO BE BRACED IN ACCORDANCE WITH SECTION R602.10 OF THE NORTH CAROLINA RESIDENTIAL CODE, 2018

EDITION AND AS NOTED ON PLANS.

10. ENERGY EFFICIENCY COMPLIANCE AND INSULATION VALUES OF THE BUILDING TO BE IN ACCORDANCE WITH CHAPTER II OF THE NCRC, 2018 EDITION.

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

#### I. ENGINEER'S SEAL APPLIES ONLY TO STRUCTURAL COMPONENTS. ENGINEER'S SEAL DOES NOT CERTIFY DIMENSIONAL ACCURACY OR ARCHITECTURAL LAYOUT

ACCURACY OR ARCHITECTURAL LAYOUT INCLUDING ROOF SYSTEM.

2. STRUCTURAL DESIGN PER NORTH CAROLINA RESIDENTIAL CODE, 2018 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 T" INTO MASONRY OR CONCRETE. LOCATE BOLT WITHIN MIDDLE THIRD OF PLATE WIDTH.

4. MEAN ROOF HEIGHT IS LESS THAN 30 FEET.

5. EXTERIOR WALLS DESIGNED FOR 120 MPH WINDS.
6. WALL CLADDING DESIGNED FOR +15.5 PSF

6. WALL CLADDING DESIGNED FOR +15.5 PSF AND -20 PSF (+/- INDICATE POSITIVE / NEGATIVE PRESSURE (TYP).
1. ROOF CLADDING DESIGNED FOR +14.2 PSF AND -18 PSF FOR ROOF PITCHES 1/12 TO 12/12 AND +10 PSF AND -36 PSF FOR ROOF

PITCHED 2.25/12 TO 1/12.

8. INSTALL 1/16" OSB SHEATHING ON ALL EXTERIOR WALLS OF ALL STORIES IN ACCORDANCE WITH SECTION R602.10.3 OF THE NCRC, 2018 EDITION. SEE THE WALL BRACING NOTES AND DETAILS SHEET FOR MORE INFORMATION

MORE INFORMATION.

3. ENERGY EFFICIENCY COMPLIANCE AND INSULATION VALUES OF THE BUILDING TO BE IN ACCORDANCE WITH CHAPTER II OF THE NCRC, 2018 EDITION.

10. REFER TO NOTES AND DETAIL SHEETS FOR ADDITIONAL STRUCTURAL INFORMATION.

CAVINESS & C.



DATE: AUGUST 10, 2021

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

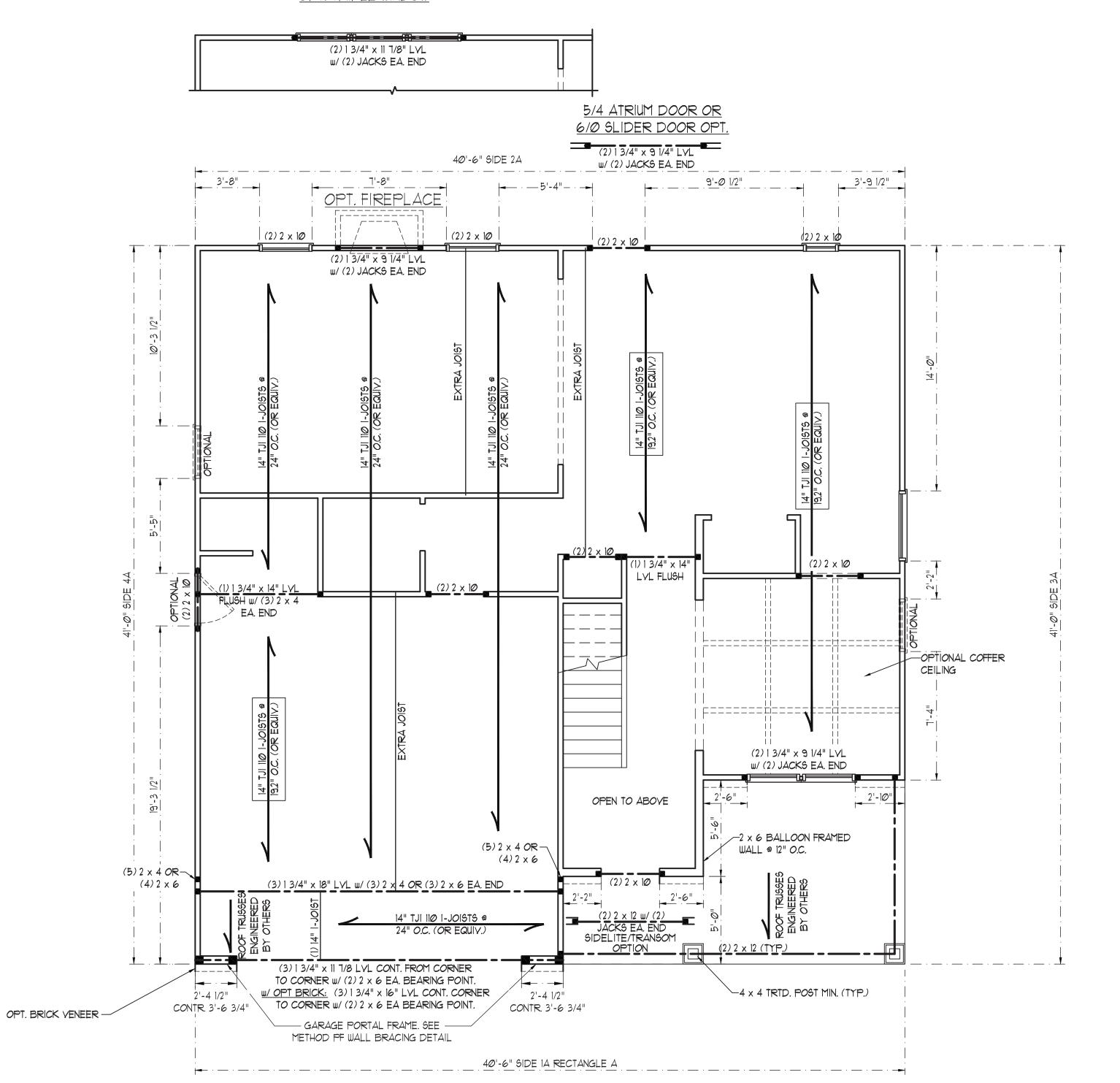
DRAWN BY: TT

ENGINEERED BY: JAG

S-1b

MONO SLAB
FOUNDATION PLAN

#### OPT. TRIPLE WINDOW



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

#### BRACED WALL DESIGN NOTES:

BRACED WALL DESIGN PER SECTION R602.10 OF THE NCRC 2018 EDITION.

CS-WSP REFERS TO "CONTINUOUS SHEATHING - WOOD STRUCTURAL PANELS" CONTRACTOR IS TO INSTALL 1/16" 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 PLATES.

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.

SEE NOTES AND DETAIL SHEETS FOR ADDITIONAL BRACED WALL INFORMATION.

BRACED WALL DESIGN

RECTANGLE A SIDE IA (FRONT LOAD) METHOD: CS-WSP/PF TOTAL REQUIRED LENGTH: 11.86' TOTAL PROVIDED LENGTH: 15.0' SIDE 2A METHOD: CS-WSP TOTAL REQUIRED LENGTH: 11.86' TOTAL PROVIDED LENGTH: 26.83' SIDE 3A METHOD: CS-WSP TOTAL REQUIRED LENGTH: 11.73' TOTAL PROVIDED LENGTH: 34.0' SIDE 4A (SIDE LOAD) METHOD: CS-WSP/PF TOTAL REQUIRED LENGTH: 11.73'

TOTAL PROVIDED LENGTH: 17.42'

#### BRICK SUPPORT NOTES:

LENGTH (FT.)

UP TO 4 FT.

8 AND GREATER

- LINTEL SCHEDULE APPLIES TO ALL OPENINGS IN BRICK VENEER (UNO), SEE ARCH DWGS. FOR SIZE AND LOCATION OF OPENINGS.
- (LLV) = LONG LEG VERTICAL
- LENGTH = CLEAR OPENING 4. EMBED ALL ANGLE IRONS MIN. 4" EACH SIDE INTO VENEER TO PROVIDE BEARING. 5. FOR ALL HEADERS 8'-0" AND GREATER IN LENGTH, ATTACH STEEL ANGLE TO
- HEADER W/ 1/2" LAG SCREWS @ 12" O.C. STAGGERED. 6. FOR ALL BRICK SUPPORT @ ROOF LINES, FASTEN (2) 2 x 10 BLOCKING BETWEEN STUDS w/ (4) 12d NAILS PER PLY. FASTEN
- $A 6" \times 4" \times 5/16"$  STEEL ANGLE TO (2) 2  $\times$ 10 BLOCKING w/ (2) 1/2" LAG SCREWS @ 12" O.C. STAGGERED. SEE SECTION R703.8.2.1 OF THE 2018 NCRC FOR ADDITIONAL BRICK SUPPORT INFORMATION.
- PRECAST REINFORCED CONCRETE LINTELS ENGINEERED BY OTHERS MAY BE USED IN LIEU OF STEEL LINTELS.

NOTE: BCI 45005-1.8 JOISTS MAY BE INSTALLED IN LIEU OF TJI 110 JOISTS AT THE DEPTH AND SPACING INDICATED ON THE PLAN

TABLE R602.7.5 MINIMUM NUMBER OF FULL HEIGHT STUDS AT EACH END OF HEADERS IN EXTERIOR WALLS

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		
"-	5 6	3 4		

### STRUCTURAL NOTES:

- ALL FRAMING LUMBER TO BE SPF #2 (UNO). ALL
- TREATED LUMBER TO BE SYP \*2 (UNO.) ALL LOAD BEARING HEADERS TO BE (2) 2 x 6 SPF \*2 OR SYP \*2 (KILN DRIED) (UNO). 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 (UNO.). SEE TABLE R602.7.5 FOR ADDITIONAL KING STUD REQUIREMENTS.
- SQUARES DENOTE POINT LOADS WHICH REQUIRE SOLID BLOCKING TO GIRDER OR FOUNDATION. ALL SQUARES TO BE (2) STUDS (UNO.)
- FOR HIGH WIND ZONES, ALL EXTERIOR WALLS TO BE SHEATHED WITH 1/16" 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 PLATES, 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 PLATES THEIR FULL DEPTH.
- SPECIFIED SIMPSON STRONG-TIE PRODUCTS MAY BE SUBSTITUTED WITH THOSE MANUFACTURED BY USP STRUCTURAL CONNECTORS PROVIDED THAT THE LOAD CAPACITY AND FUNCTION IS EQUIVALENT.
- 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) (UNO). ALL 4 x 4 AND 6 x 6 POSTS TO BE INSTALLED WITH 100 LB CAPACITY UPLIFT CONNECTORS AT TOP AND BOTTOM (UNO.)
- . 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
- 10. REFER TO NOTES AND DETAIL SHEETS FOR ADDITIONAL STRUCTURAL INFORMATION.

DATE: AUGUST 10, 2021

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

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DRAWN BY: TT

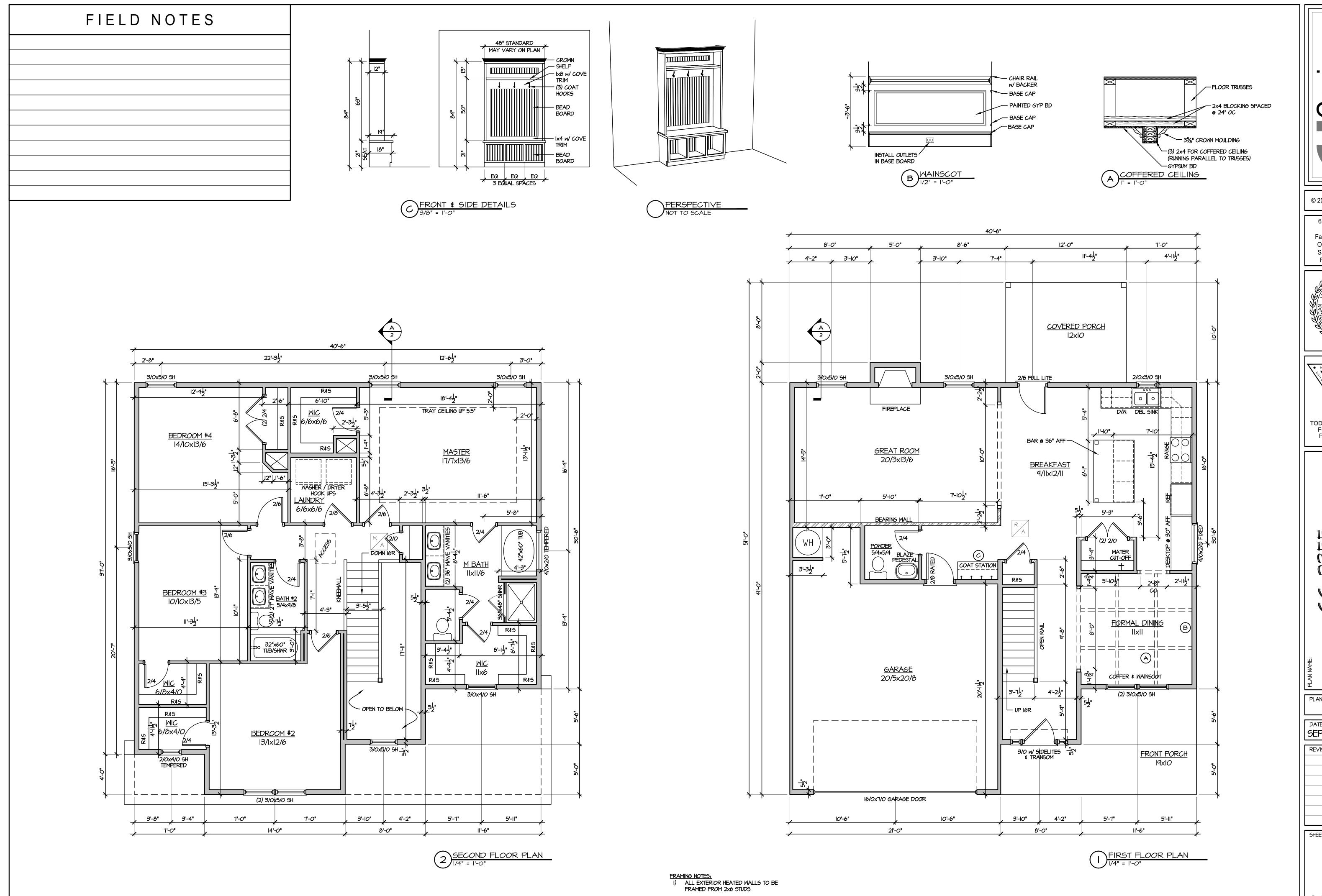
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SHEET: 4 OF: 16 SECOND FLOOR FRAMING PLAN

8/10/2021

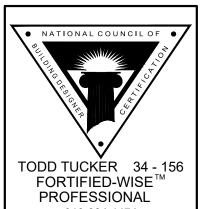
LINTEL SCHEDULE FOR BRICK/NATURAL STONE SUPPORT SIZE OF LINTEL L 3 1/2 x 3 1/2 x 1/4 L 5 x 3 1/2 x 5/16 LLV L 6 x 4 x 5/16 LLV



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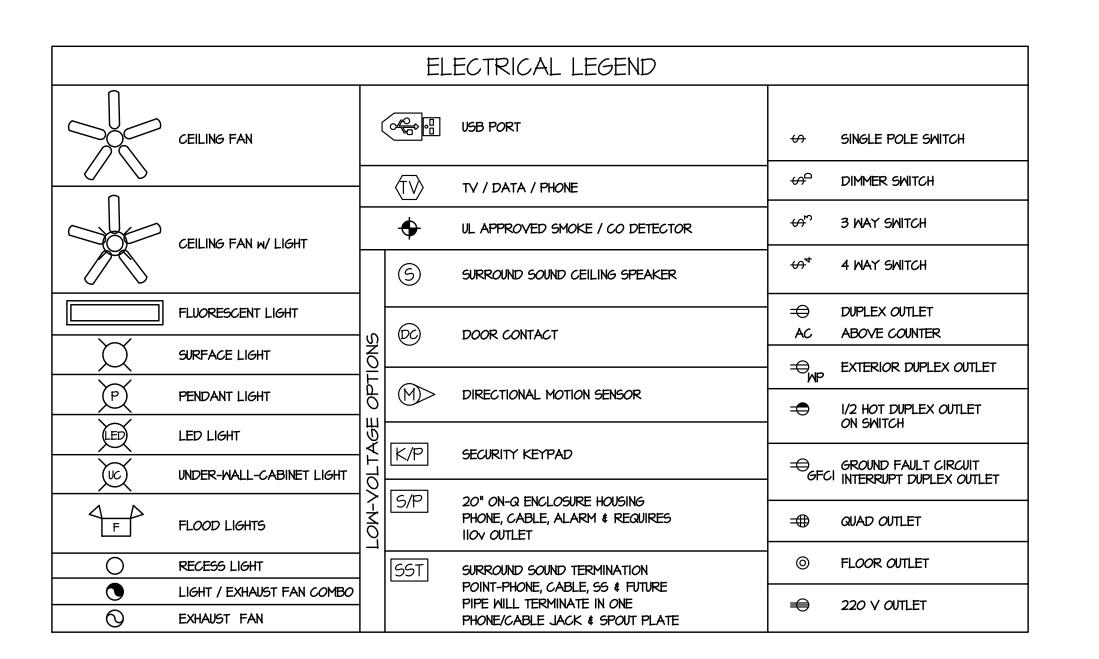
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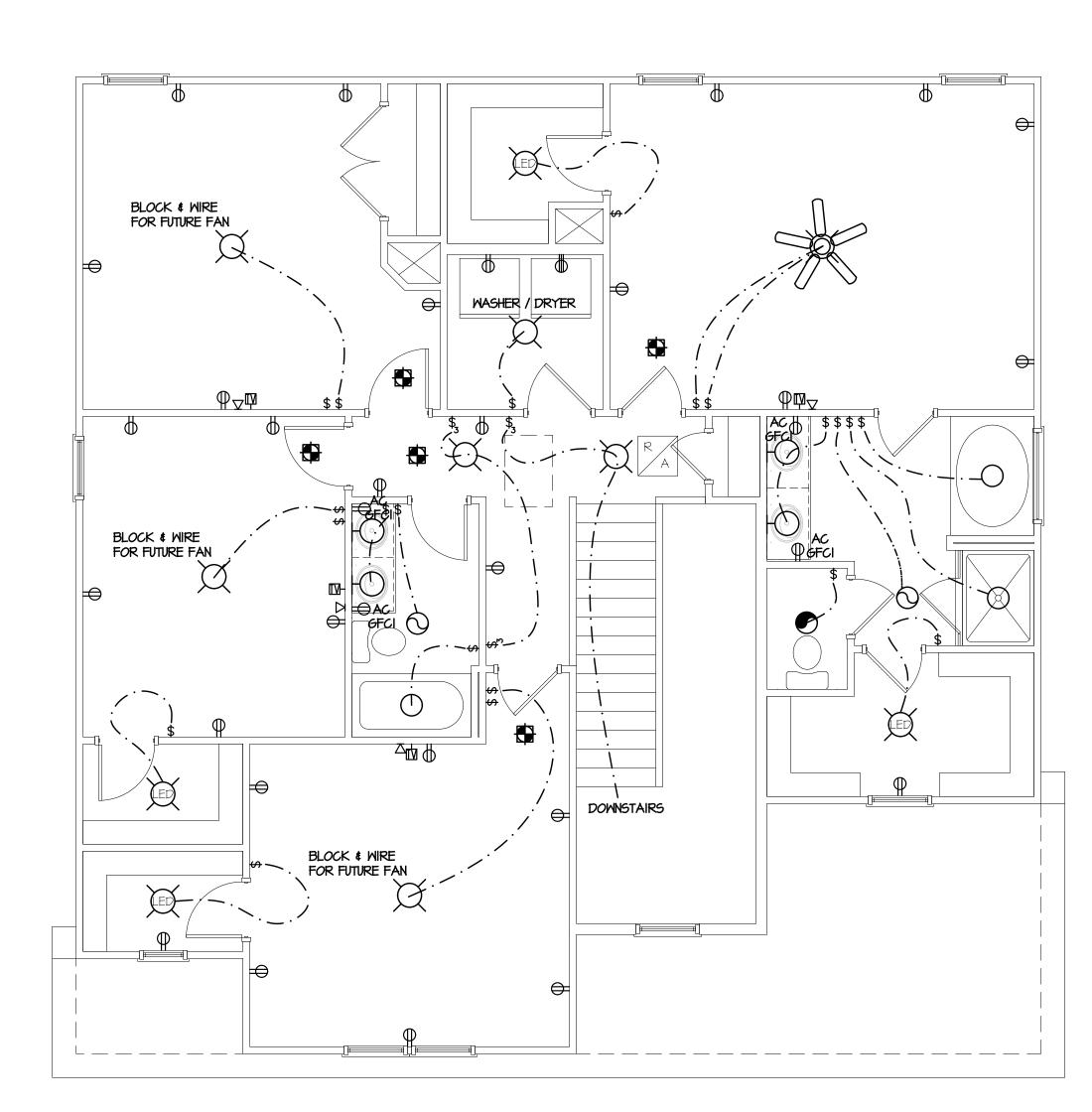
PLAN NO: CC 2355

SEPTEMBER 2020

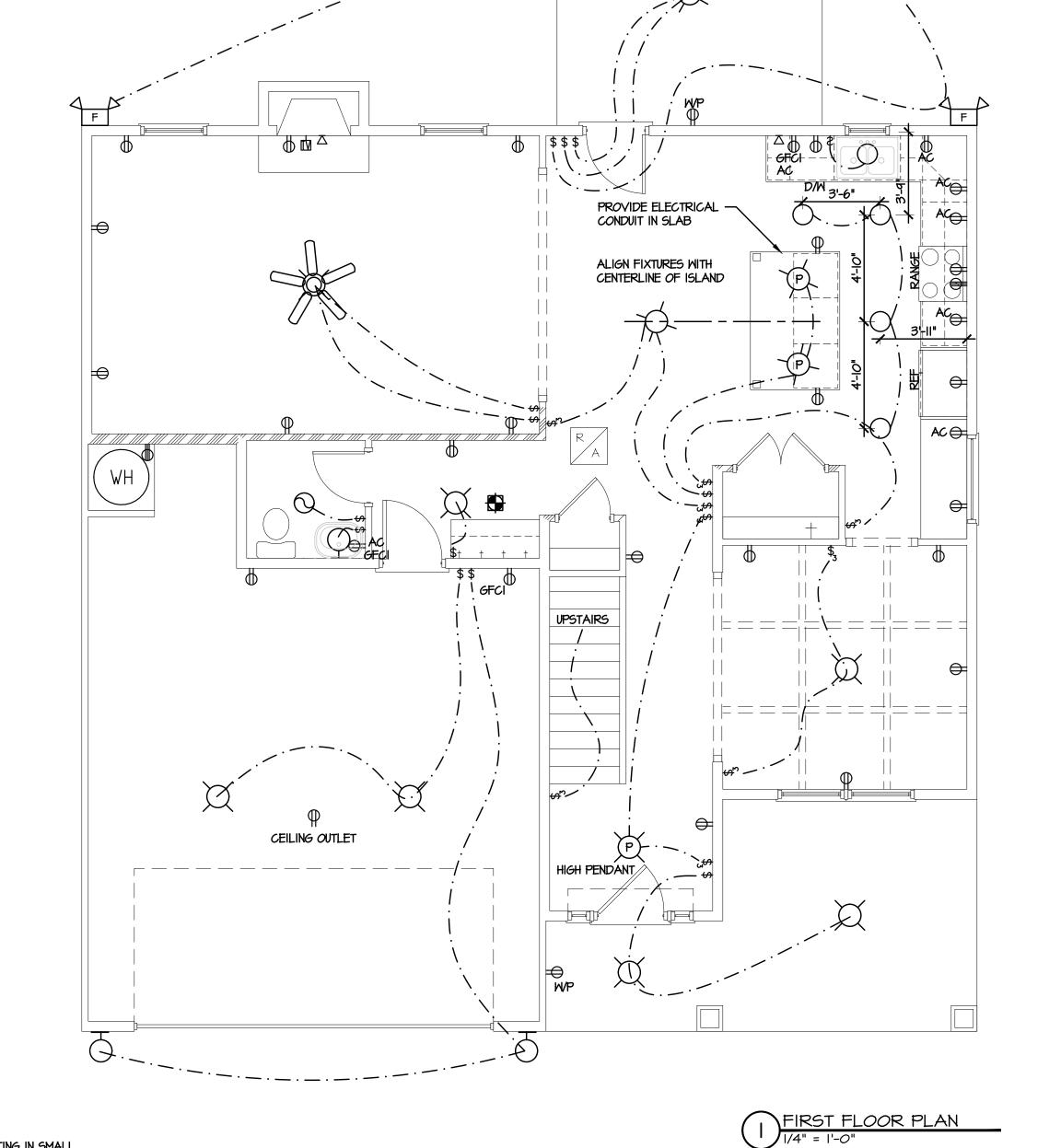
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SHEET NO:







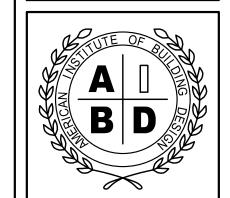


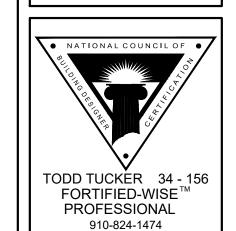
BLOCK & WIRE FOR FUTURE FAN

ELECTRICAL NOTES:
INSTALL LOW-WATTAGE LED LIGHTING IN SMALL
CLOSETS PER 2017 NEC ARTICLE 410.2 & ARTICLE
410.16

**Jess ates** Inities © 2020 Caviness & Cates

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PLAN NO: CC 2355

SEPTEMBER 2020

REVISIONS:

SHEET NO:



DATE: AUGUST 10, 2021

SCALE: 1/4" = 1'.0"

DRAWN BY: TT

ENGINEERED BY: JAG

SHEET: 5 OF: 16

S-3

ATTIC FLOOR
FRAMING PLAN

\*NOTE: ALL EXTERIOR WALLS AND ATTIC WALLS ARE TO BE 2 x 4 @ 16" O.C. MIN. (UNO). 2 x 6 @ 24" O.C. EXTERIOR WALLS MAY BE CONSTRUCTED IN LIEU OF 2 x 4 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" 0.C. (UNO). BRACED WALL DESIGN NOTES: BRACED WALL DESIGN PER SECTION R602.10 OF THE NCRC 2018 EDITION. 2. C5-WSP REFERS TO "CONTINUOUS SHEATHING - WOOD STRUCTURAL PANELS" CONTRACTOR IS TO INSTALL 1/16" 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 7" O.C. ALONG PANEL EDGES AND IN THE FIELD INCLUDING TOP AND BOTTOM PLATES.

#### NOTE:

8/10/2021

WALL INFORMATION.

- 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 7/16" OSB SHEATHING ATTACHED WITH 8d NAILS AT 6" O.C. ALONG PANEL EDGES AND 12" O.C. IN THE FIELD.

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. SEE NOTES AND DETAIL SHEETS FOR ADDITIONAL BRACED

## STRUCTURAL NOTES:

- 1. ALL FRAMING LUMBER TO BE #2 SPF (UNO).
- ALL LOAD BEARING HEADERS TO BE
   (2) 2 x 6 (UNO).
   WINDOW AND DOOR HEADERS TO BE
   SUPPORTED w/ (1) JACK STUD AND (1)
   KING STUD EA. END (UNO.). SEE TABLE
- R602.7.5 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. FOR HIGH WIND ZONES, ALL EXTERIOR WALLS TO BE SHEATHED WITH 1/16"

  OSB SHEATHING WITH JOINTS

  BLOCKED AND SECURED WITH 8d

  NAILS AT 3" O.C. ALONG EDGES AND

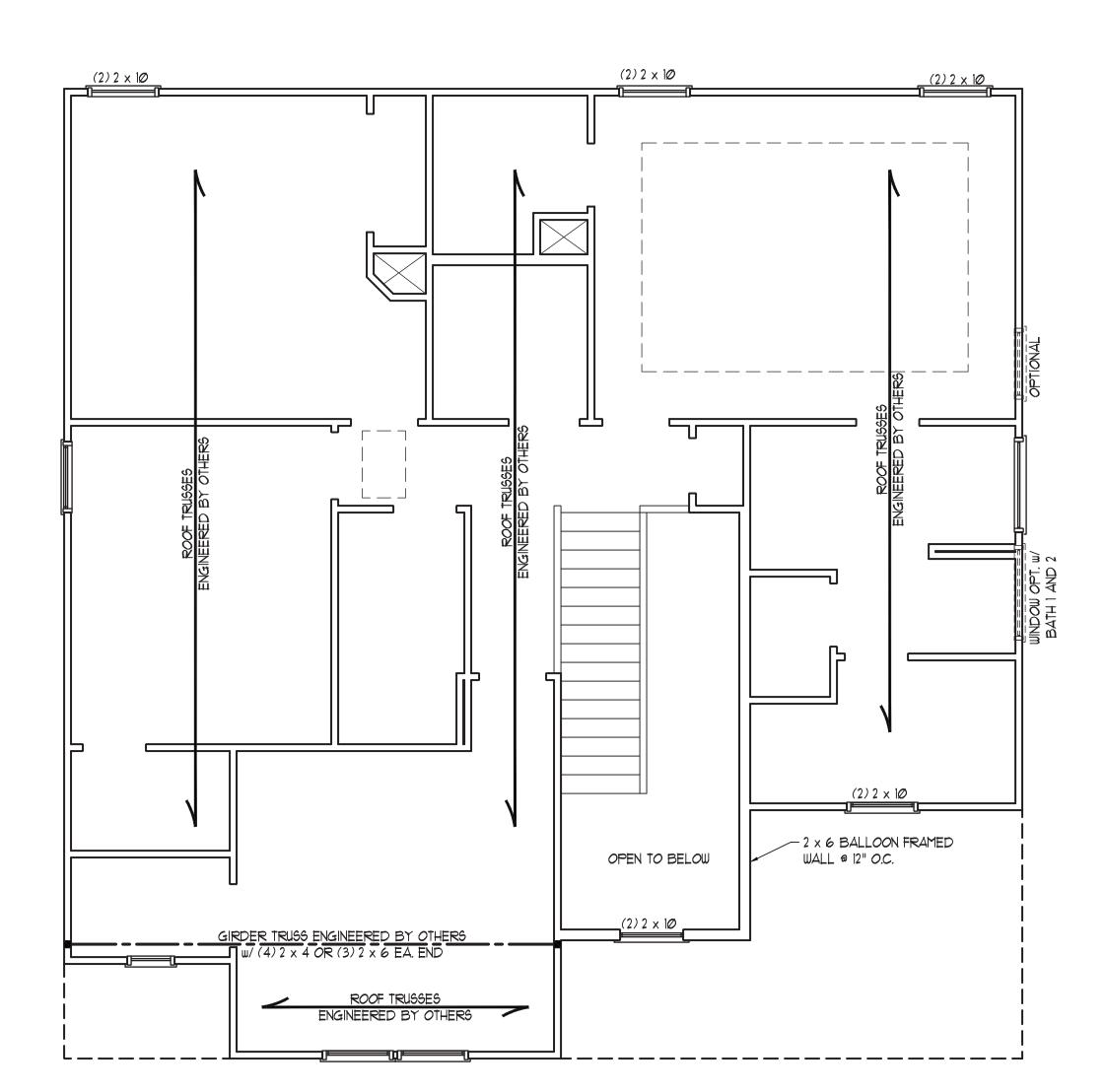
  6" O.C. IN THE FIELD.
- 6. FOR HIGH WIND ZONES, SECURE ALL EXTERIOR WALL SHEATHING PANELS TO DOUBLE TOP PLATES, BANDS, JOISTS, AND GIRDERS WITH (2) ROWS OF 8d NAILS STAGGERED AT 3" O.C. PANELS SHALL EXTEND 12" BEYOND CONSTRUCTION JOINTS AND SHALL OVERLAP GIRDERS AND DOUBLE SILL PLATES THEIR FULL DEPTH.

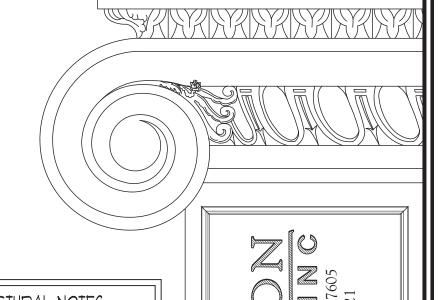
  1. SPECIFIED SIMPSON STRONG-TIE
- PRODUCTS MAY BE SUBSTITUTED WITH
  THOSE MANUFACTURED BY USP
  STRUCTURAL CONNECTORS PROVIDED
  THAT THE LOAD CAPACITY AND
  FUNCTION IS EQUIVALENT.

  8. REFER TO NOTES AND DETAIL SHEETS
  FOR ADDITIONAL STRUCTURAL
  INFORMATION.

# TABLE R602.7.5 MINIMUM NUMBER OF FULL HEIGHT STUDS AT EACH END OF HEADERS IN EXTERIOR WALLS

, <u></u>		(12) (10) (40) (22)
HEADER SPAN (FEET)	MAXIMUM STUD SPACING (INCHES (PER TABLE R6023(5)	
	16	24
UP TO 3'	1	1
4'	2	1
8'	3	2
12'	5	3
16'	6	4





#### STRUCTURAL NOTES:

- ALL FRAMING LUMBER TO BE #2 SPF (UNO).
- FRAME DORMER WALLS ON TOP OF DOUBLE OR TRIPLE RAFTERS.
- STICK FRAME OVER-FRAMED ROOF SECTIONS W/ 2 x 8 RIDGES, 2 x 6 RAFTERS @ 16" O.C. AND FLAT 2 × 10 VALLEYS OR USE VALLEY TRUSSES.
- 4. FASTEN FLAT VALLEYS TO RAFTERS OR TRUSSES WITH SIMPSON H2.5A 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.

2 x 6 RAFTERS— @ 16" O.C.

OPT. FIREPLACE

**\***----

GIRDER TRUSS
ENGINEERED BY OTHERS

SOOF TRUSSES
ENGINEERED BY OTHERS

\_\_\_\_\_\_\_

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\_\_\_\_\_\_

- REFER TO SECTION R802.11 OF THE 2018 NCRC FOR REQUIRED UPLIFT RESISTANCE AT RAFTERS AND
- 6. REFER TO NOTES AND DETAIL SHEETS FOR ADDITIONAL STRUCTURAL INFORMATION.

355 & C N N

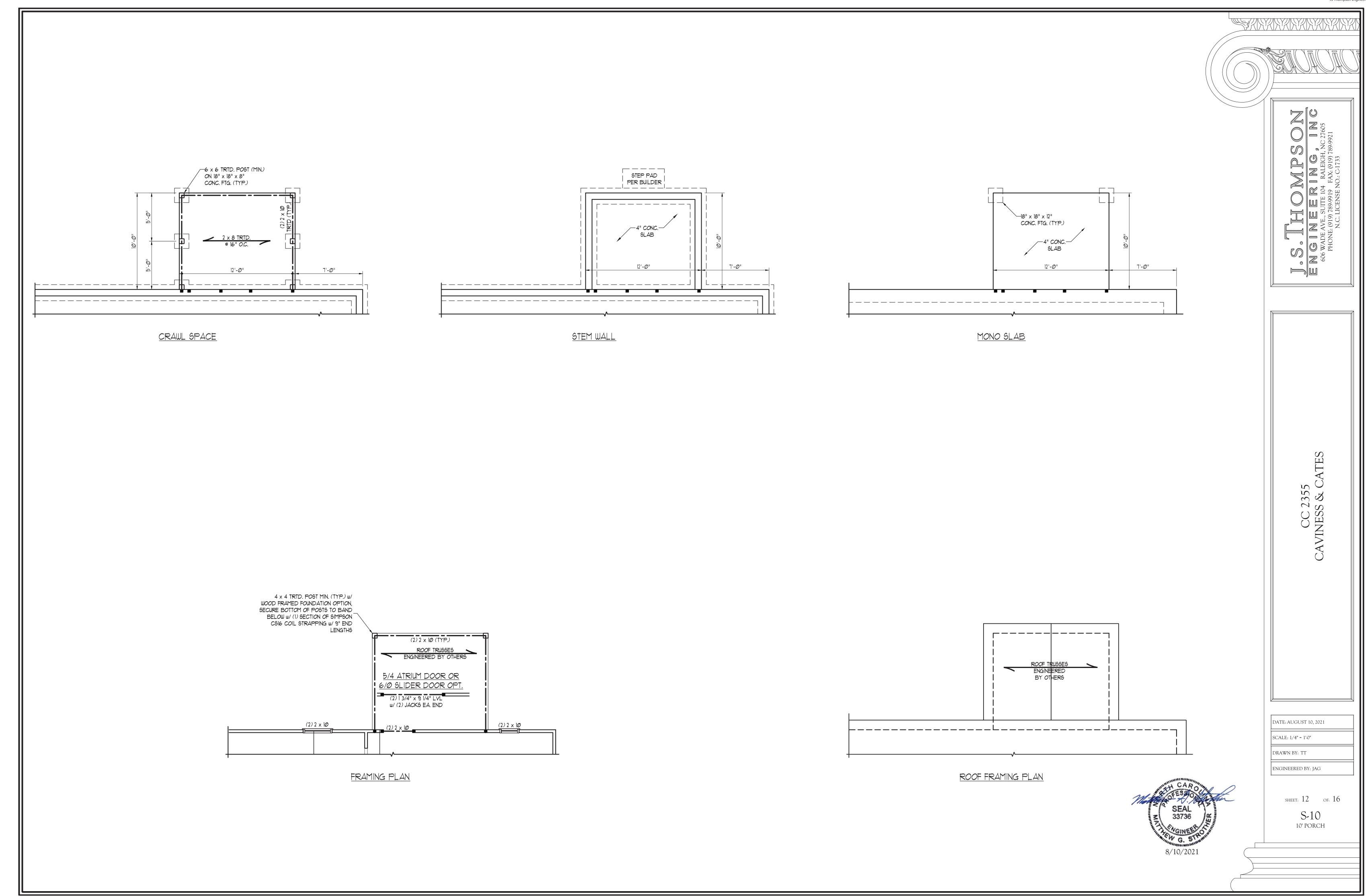


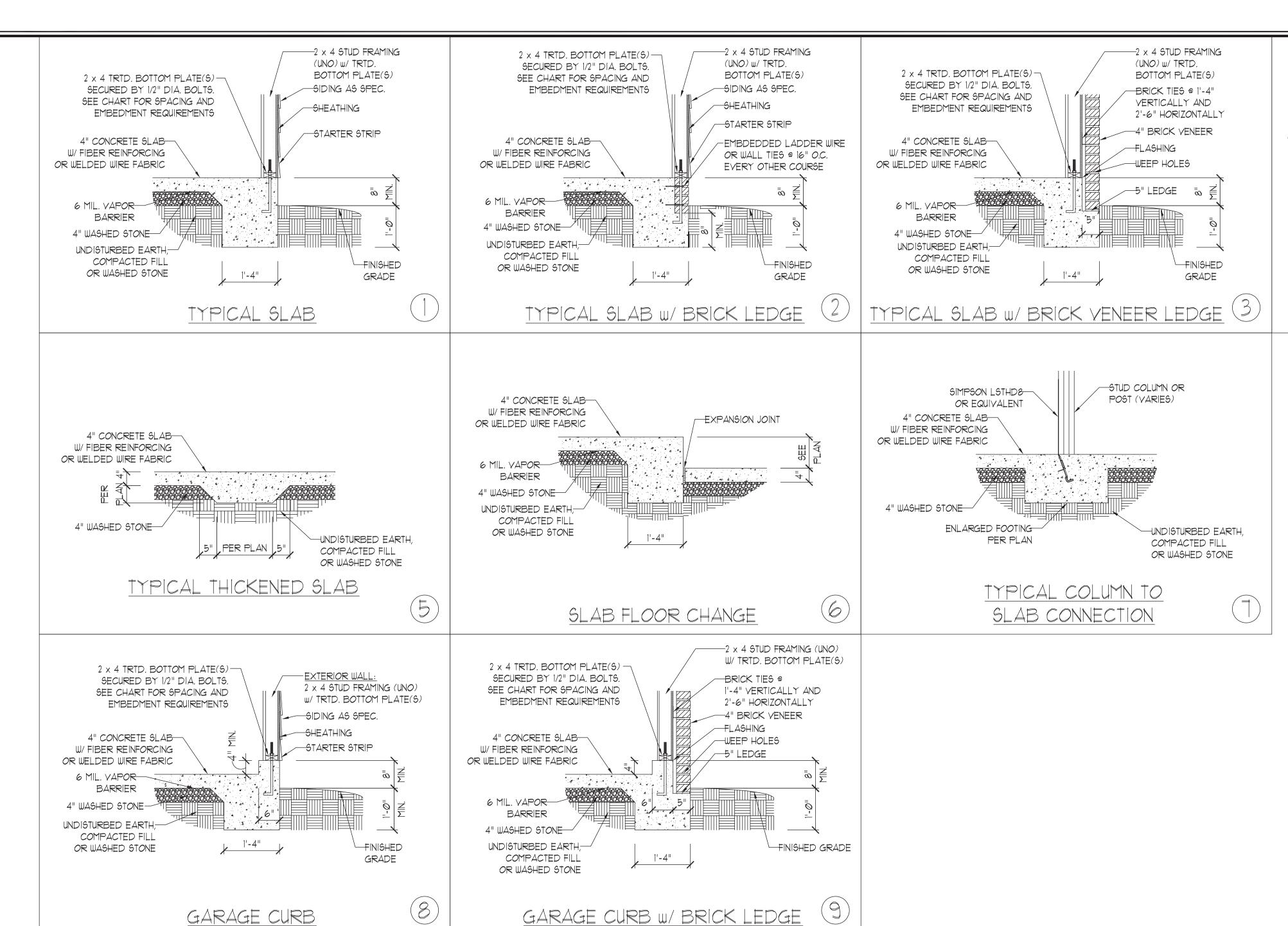
DATE: AUGUST 10, 2021 SCALE: 1/4" = 1'-0"

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ENGINEERED BY: JAG

SHEET: 6 OF: 16 ROOF FRAMING PLAN





GARAGE CURB W/ BRICK LEDGE

1'-4"

SLAB AT GARAGE DOOR

GARAGE DOOR JAMB

A . A . A . A . A . A . A . A . A

4" CONCRETE SLAB

W/ FIBER REINFORCING

OR WELDED WIRE FABRIC

6 MIL. VAPOR BARRIER

4" WASHED STONE

UNDISTURBED EARTH,-

COMPACTED FILL OR

7" INTO CONCRETE

WASHED STONE

-TREATED POST PER PLAN 4" CONCRETE SLAB POST BASE PER PLAN W/ FIBER REINFORCING OR WELDED WIRE FABRIC -FINISHED GRADE 4" WASHED STONE UNDISTURBED EARTH, COMPACTED FILL OR WASHED STONE PORCH/SCREEN PORCH

SLAB ETAIL MONOLITHIC S FOUNDATION DE

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

**DETAILS** 

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under N.C. Statute § 89C-23

FOUNDATION

NOTE: WIND ZONE 120 MPH 130 MPH 6'-0" O.C. 4'-Ø" O.C. INSTALL MIN. (2) ANCHORS PER INSTALL MIN. (2) ANCHORS PER SPACING PLATE SECTION AND (1) PLATE SECTION AND (1) ANCHOR WITHIN 12" OF CORNERS ANCHOR WITHIN 12" OF CORNERS 15" INTO MASONRY EMBEDMENT 7"

ANCHOR SPACING AND EMBEDMENT

 $-2 \times 4$  TRTD. BOTTOM PLATE(5)

EMBEDMENT REQUIREMENTS

SECURED BY 1/2" DIA. BOLTS. SEE CHART FOR SPACING AND

-4" CONCRETE \$LAB w/ FIBER REINFORCING OR

WELDED WIRE FABRIC

GARAGE CURB

STEP IN GARAGE

2 x 4 STUD FRAMING (UNO) W/ TRTD.

BOTTOM PLATE(S)

UNDISTURBED EARTH, 6" 6" 6" 6" 6" 6" 6" 6"

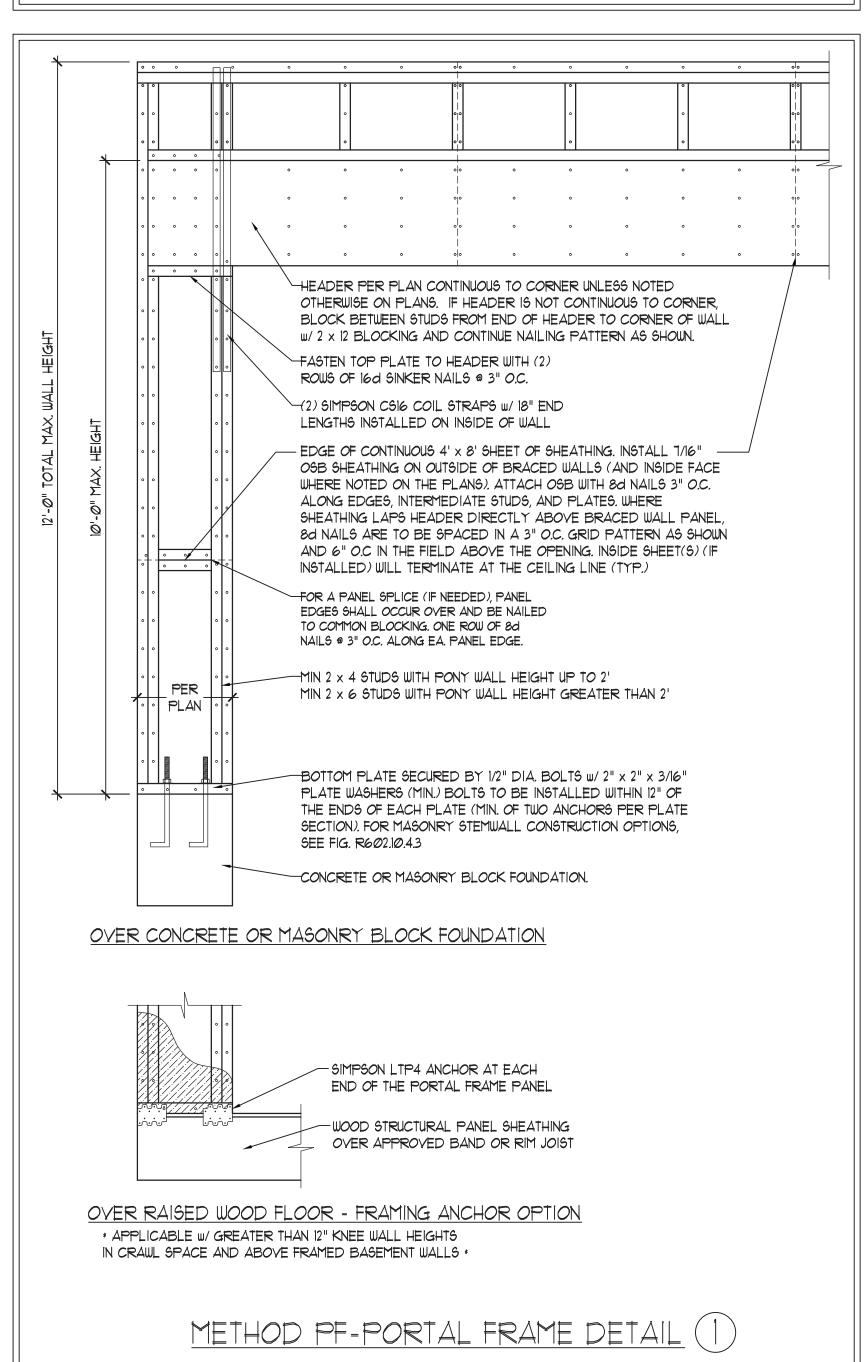
4" CONCRETE-SLAB W/ FIBER REINFORCING

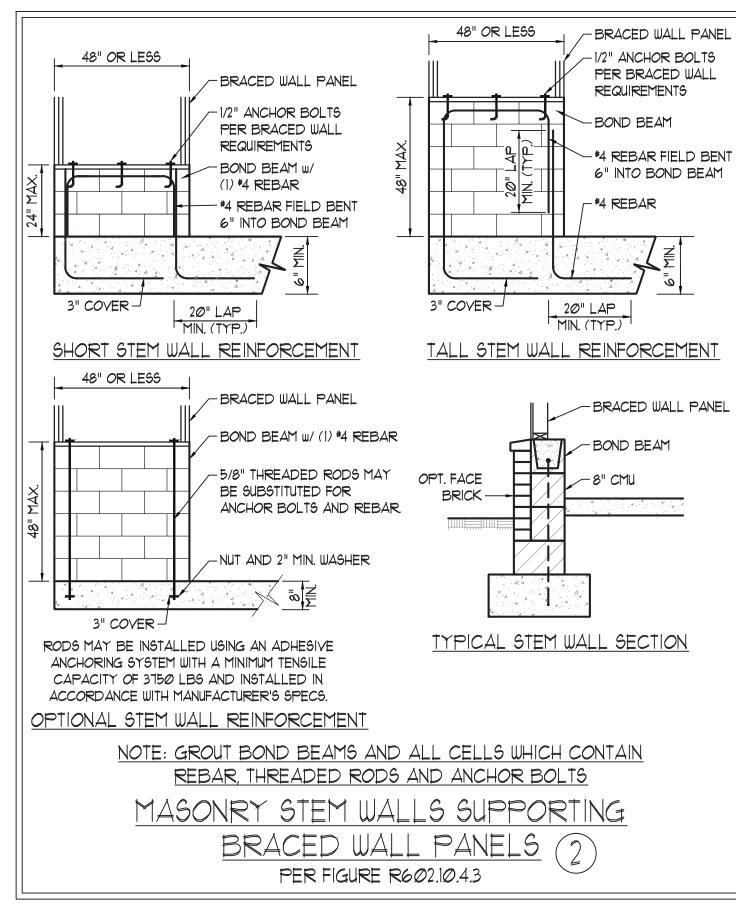
4" WASHED STONE

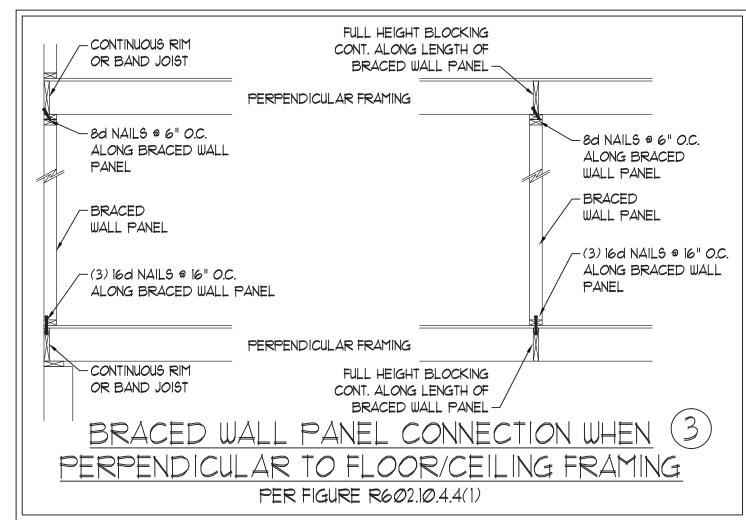
THREADED ROD WITH EPOXY, SIMPSON TITEN HD, OR APPROVED ANCHORS SPACED AS REQUIRED TO PROVIDE EQUIVALENT ANCHORAGE TO 1/2" DIAMETER ANCHOR BOLTS MAY BE USED IN LIEU OF 1/2" ANCHOR BOLTS.

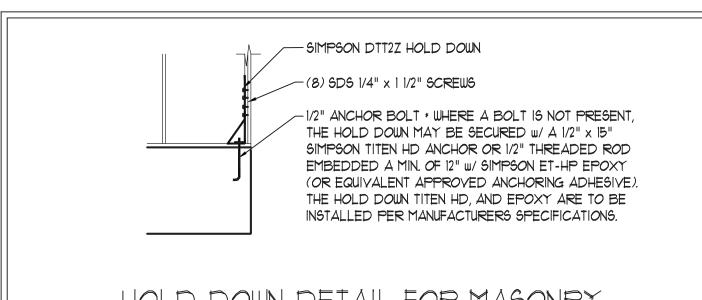
SLOPE SLAB 1/8" PER FOOT

- WALL BRACING DESIGNED IN ACCORDANCE WITH CHAPTER 6 OF THE 2018 NC RESIDENTIAL BUILDING CODE (NCRC). TABLES AND FIGURES REFERENCED ARE FROM THE 2018 NCRC.
- SEE THIS SHEET FOR GENERAL DETAILS. REFER TO THE 2018 NCRC FOR ADDITIONAL INFORMATION AS NEEDED SEE STRUCTURAL SHEETS FOR BRACED WALL LOCATIONS, DIMENSIONS, HOLD DOWN TYPE AND LOCATIONS, BRACED WALL LINE KEY WITH WALL DESIGN SUMMARY OF REQUIRED/PROVIDED TOTALS FOR EACH WALL LINE AND ANY SPECIAL NOTES
- 4. ALL EXTERIOR WALLS ARE TO BE SHEATHED WITH CS-WSP IN ACCORDANCE WITH SECTION R602.10.3 UNLESS NOTED OTHERWISE.
- ALL EXTERIOR AND INTERIOR WALLS TO HAVE 1/2" GYPSUM INSTALLED. WHEN NOT USING METHOD "GB", GYPSUM TO BE FASTENED PER TABLE R7/02.3.5. METHOD GB TO BE FASTENED PER TABLE R6/02.10.1
- 5. CS-WSP REFERS TO THE "CONTINUOUS SHEATHING WOOD STRUCTURAL PANELS" WALL BRACING METHOD. 7/16" OSB SHEATHING IS TO BE INSTALLED ON ALL EXTERIOR WALLS ATTACHED w/ 6d COMMON NAILS OR 8d (2 1/2" LONG x Ø.113" DIAMETER) NAILS SPACED 6" O.C. ALONG PANEL EDGES AND 12" O.C. IN THE FIELD (U.N.O.)
- GB 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 5/8" NAILS SPACED T" O.C. ALONG PANEL EDGES INCLUDING TOP AND BOTTOM PLATES AND INTERMEDIATE SUPPORTS (U.N.O.). VERIFY ALL FASTENER OPTIONS FOR 1/2" AND 5/8" GYPSUM PRIOR TO CONSTRUCTION. FOR INTERIOR FASTENER OPTIONS SEE TABLE RT02.3.5. FOR EXTERIOR FASTENER OPTIONS SEE TABLE R602.3(1). EXTERIOR GB TO BE INSTALLED VERTICALLY.
- REQUIRED BRACED WALL LENGTH FOR EACH SIDE OF THE CIRCUMSCRIBED RECTANGLE ARE INTERPOLATED PER TABLE R602. 10.3. METHOD C5-WSP CONTRIBUTES ITS ACTUAL LENGTH, METHOD GB CONTRIBUTES .5 ITS ACTUAL LENGTH, AND METHOD PF CONTRIBUTES 1.5 TIMES ITS ACTUAL LENGTH.





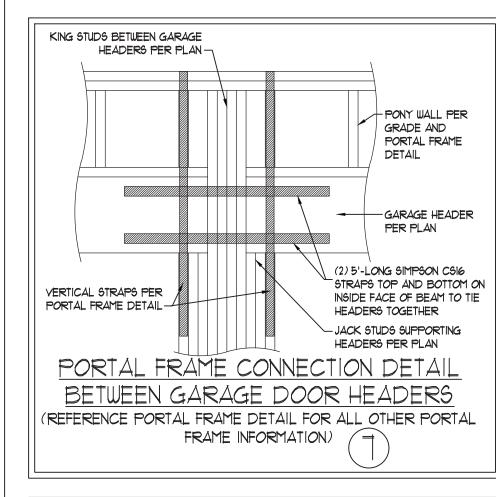


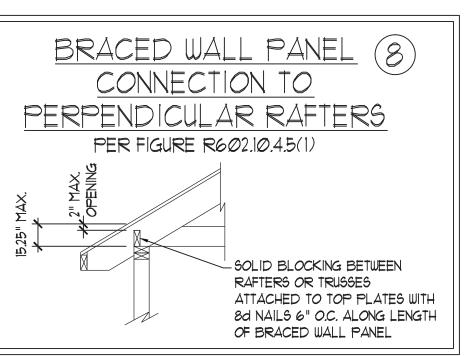


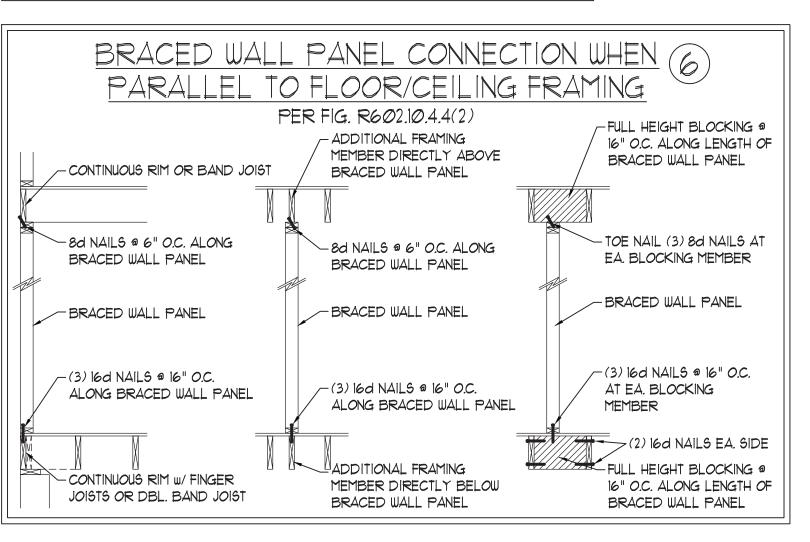
HOLD DOWN DETAIL FOR MASONRY FOUNDATION OR MONOLITHIC SLAB \* APPLICABLE ONLY WHERE SPECIFIED ON PLAN \*

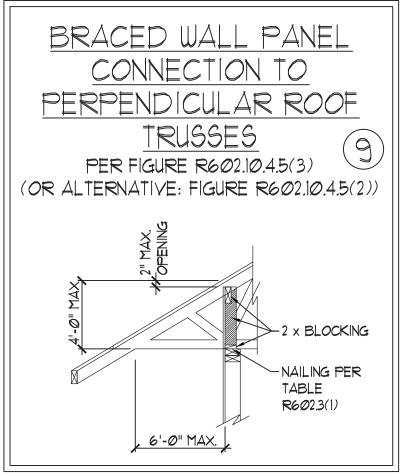
TYPICAL EXTERIOR CORNER FRAMING FOR CONTINUOUS SHEATHING (5) PER FIGURE R602.10.3(5) MIN. 24" WOOD STRUCTURAL SEE TABLE R602.3(1) PANEL AN 800 LB HOLD DOWN FOR FASTENING DEVICE MAY BE INSTALLED IN LIEU OF CORNER RETURN--ORIENTATION OF STUD MAY VARY. SEE FIGURE R602.3(2) 16d NAIL (3 1/2" x Ø.131") -GYPSUM WALLBOARD AS REQUIRED a 12" O.C. -AND INSTALLED IN ACCORDANCE WITH CHAPTER 1 (TYP.) OPTIONAL NON-STRUCTURAL — CONTINUOUS WOOD STRUCTURAL FILLER PANEL PANEL BRACED WALL LINE SEE TABLE R602.3(1) FOR FASTENING (a) OUTSIDE CORNER DETAIL (5a)ORIENTATION OF STUD MAY VARY. SEE FIGURE R602.3(2)-16d NAIL (3 1/2" x Ø.131") -CONTINUOUS WOOD STRUCTURAL a 12" O.C. PANEL BRACED WALL LINE -SEE TABLE R6*0*2.3(1) GYPSUM WALLBOARD AS FOR FASTENING REQUIRED AND INSTALLED MIN. 24" WOOD STRUCTURAL PANEL IN ACCORDANCE WITH CORNER RETURN. AN 800 LB HOLD CHAPTER 1 (TYP.)-DOWN DEVICE MAY BE INSTALLED IN LIEU OF CORNER RETURN (b) INSIDE CORNER DETAIL (5b) GYPSUM WALLBOARD AS REQUIRED - SEE TABLE R602.3(1) AND INSTALLED IN ACCORDANCE FOR FASTENING WITH CHAPTER 1 (TYP.)-16d NAIL (3 1/2" x Ø.131") (2 ROWS @ 24" O.C. -—MIN. 24" WOOD STRUCTURAL SHEATHING PER PLAN -PANEL CORNER RETURN. AN 800 LB HOLD DOWN DEVICE MAY BE INSTALLED IN LIEU OF CORNER RETURN CONTINUOUS WOOD STRUCTURAL PANEL FASTENERS ON EACH STUD 50 BRACED WALL LINE -(c) GARAGE DOOR CORNER DETAIL (SEE PLAN FOR ADDITIONAL

STRUCTURAL INFORMATION OR ALTERNATE CONFIGURATIONS)









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DATE: OCTOBER 30, 2018

SCALE: 1/4" = 1'-0" DRAWN BY: JST

ENGINEERED BY: JST

BRACED WALL NOTES AND DETAILS AND PF DETAIL

## FRAMING NOTES

1. 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 1-JOIST OR FLOOR/ROOF TRUSS LAYOUT DESIGN AND ACCURACY.

GENERAL NOTES

- 2. 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.
- 3. 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	3Ø	10	L/360	
STAIRS	40	10	L/360	
WIND LOAD	(BASED ON TABLE R3Ø1.2(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
- 4. FOR 115 AND 120 MPH WIND ZONES, FOUNDATION ANCHORAGE 15 TO COMPLY WITH SECTION R403.1.6 OF THE NCRC, 2018 EDITION. FOR 130 MPH, 140 MPH, AND 150 MPH WIND ZONES, FOUNDATION ANCHORAGE 15 TO COMPLY WITH SECTION 4504 OF THE NCRC, 2018 EDITION.
- 5. 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

- 1. FOUNDATION DESIGN BASED ON A MINIMUM ALLOWABLE BEARING CAPACITY OF 2000 PSF. CONTACT GEOTECHNICAL ENGINEER IF BEARING CAPACITY IS NOT ACHIEVED.
- 2. 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 R405.1 OF THE NCRC, 2018 EDITION.
- 3. PROPERLY DEWATER EXCAVATION PRIOR TO POURING CONCRETE WHEN BOTTOM OF CONCRETE SLAB IS AT OR BELOW WATER TABLE. IF APPLICABLE, 3/4" I" DEEP CONTROL JOINTS ARE TO BE SAWED WITHIN 4 TO 12 HOURS OF CONCRETE FINISHING AND WALL LOCATIONS HAVE BEEN MARKED. ADJUST WHERE NECESSARY.
- 4. 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.
- 5. MASONRY UNITS TO CONFORM TO ACE 530/ASCE 5/TMS 402. MORTAR SHALL COMFORM TO ASTM C270.
- 6. 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. PERS MAY BE FILLED SOLID WITH CONCRETE OR TYPE M OR S MORTAR PIERS AND WALLS SHALL BE CAPPED WITH 8" OF SOLID MASONRY.
- 1. 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.
- 8. 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, NCMA TR68-A OR ACE 530/ASCE 5/TMS 402. MASONRY FOUNDATION WALLS ARE TO BE REINFORCED PER TABLE R404.1.1(1), R404.1.1(2), R404.1.1(3), OR R404.1.1(4) OF THE NCRC, 2018 EDITION. CONCRETE FOUNDATION WALLS ARE TO BE REINFORCED PER TABLE R404.1.1(5) OF THE NCRC, 2018 EDITION. STEP CONCRETE FOUNDATION WALLS TO 2 x 6 FRAMED WALLS AT 16" O.C. WHERE GRADE PERMITS (UNO).

1. ALL FRAMING LUMBER SHALL BE \*2 SPF MINIMUM (Fb = 875 PSI, Fv = 375 PSI, E = 1600000 PSI) UNLESS NOTED OTHERWISE (UNO). ALL TREATED LUMBER SHALL BE \*2 SYP MINIMUM (Fb = 975 PSI, Fv = 175 PSI, E = 1600000 PSI) UNLESS NOTED OTHERWISE (UNO).

2. LAMINATED VENEER LUMBER (LVL) SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES: Fb = 2600 PSI, Fv = 285 PSI, E = 1900000 PSI.

LAMINATED STRAND LUMBER (LSL) SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES: Fb = 2325 PSI, Fv = 310 PSI, E = 1550000 PSI.

PARALLEL STRAND LUMBER (PSL) UP TO 1" DEPTH SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES: Fc = 2500 PSI, E = 18000000 PSI.

PARALLEL STRAND LUMBER (PSL) MORE THAN 1" DEPTH SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES: Fc = 2900 PSI, E = 20000000 PSI. INSTALL ALL CONNECTIONS PER MANUFACTURER'S SPECIFICATIONS.

3. 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

4. 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:

B. CONCRETE

C. MASONRY (FULLY GROUTED)

(2) 1/2" DIA. x 4" WEDGE ANCHORS

(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.

- 5. 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.
- 6. ALL LOAD BEARING HEADERS TO CONFORM TO TABLE R602.7(1) AND R602.7(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 R602.7.5 OF THE NORTH CAROLINA RESIDENTIAL CODE, 2018 EDITION.
- 1. 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 I I/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).
- 8. FLITCH BEAMS SHALL BE BOLTED TOGETHER USING 1/2" DIAMETER BOLTS (ASTM A3ØT) 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).
- 9. 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.
- IØ. 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.
- 11. PROVIDE DOUBLE JOIST UNDER ALL WALLS PARALLEL TO FLOOR JOISTS. PROVIDE SUPPORT UNDER ALL WALLS PARALLEL TO FLOOR TRUSSES OR 1-JOISTS PER MANUFACTURER'S SPECIFICATIONS. INSTALL BLOCKING BETWEEN JOISTS OR TRUSSES FOR POINT LOAD SUPPORT FOR ALL POINT LOADS ALONG OFFSET LOAD LINES.
- 12. 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 (UN.O). 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 RT03.8.2.1 OF THE NCRC, 2018 EDITION.
- 13. 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'-Ø". 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).
- 14. FOR TRUSSED ROOFS: FRAME DORMER WALLS ON TOP OF  $2 \times 4$  LADDER FRAMING AT 24" O.C. BETWEEN ADJACENT ROOF TRUSSES. STICK FRAME OVER-FRAMED ROOF SECTIONS WITH  $2 \times 8$  RIDGES,  $2 \times 6$  RAFTERS AT 16" O.C. AND FLAT  $2 \times 10$  VALLEYS (UNO).
- 15. 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 LTG12 UPLIFT CONNECTOR FASTENED TO THE BAND AT THE BOTTOM AND THE BEAM AT THE TOP OF EACH POST. ONE 16" SECTION OF SIMPSON CS16 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.

FRUCTURAL NOT

DATE: OCTOBER 29, 2018

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