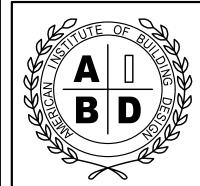
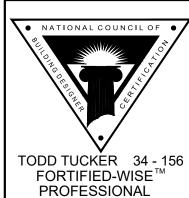


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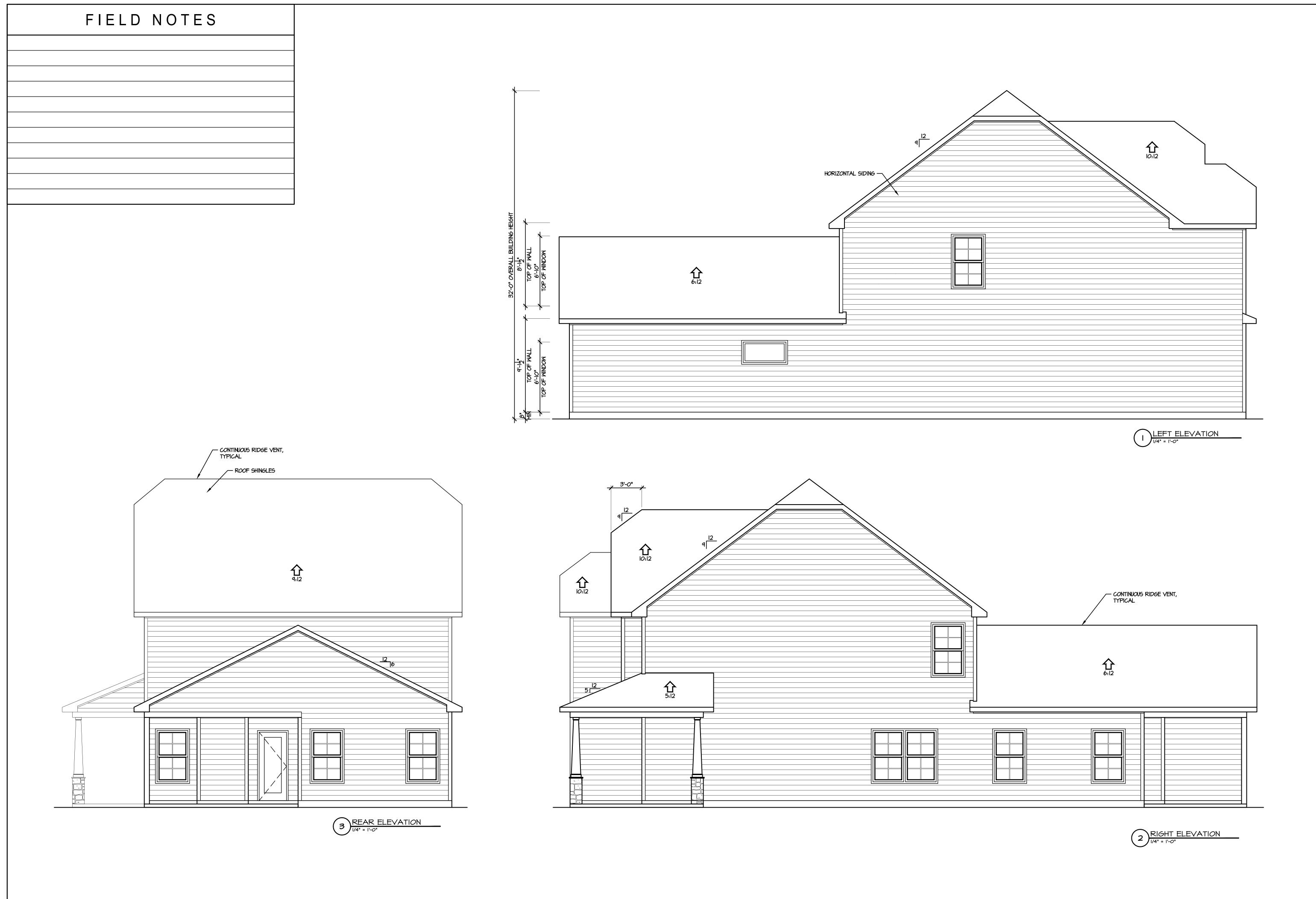
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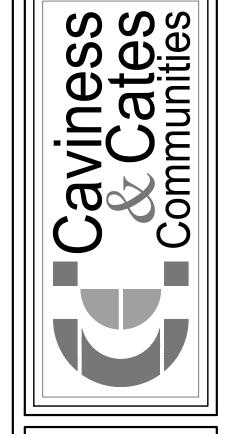
Fayetteville, NC 28305 Office: 910-481-0503 Sales: 910-240-4210 Fax: 910-481-0585





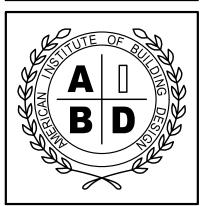
MAY 2020

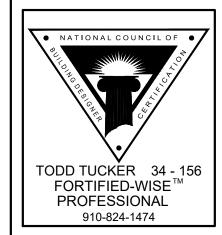




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SHEET TITLE:

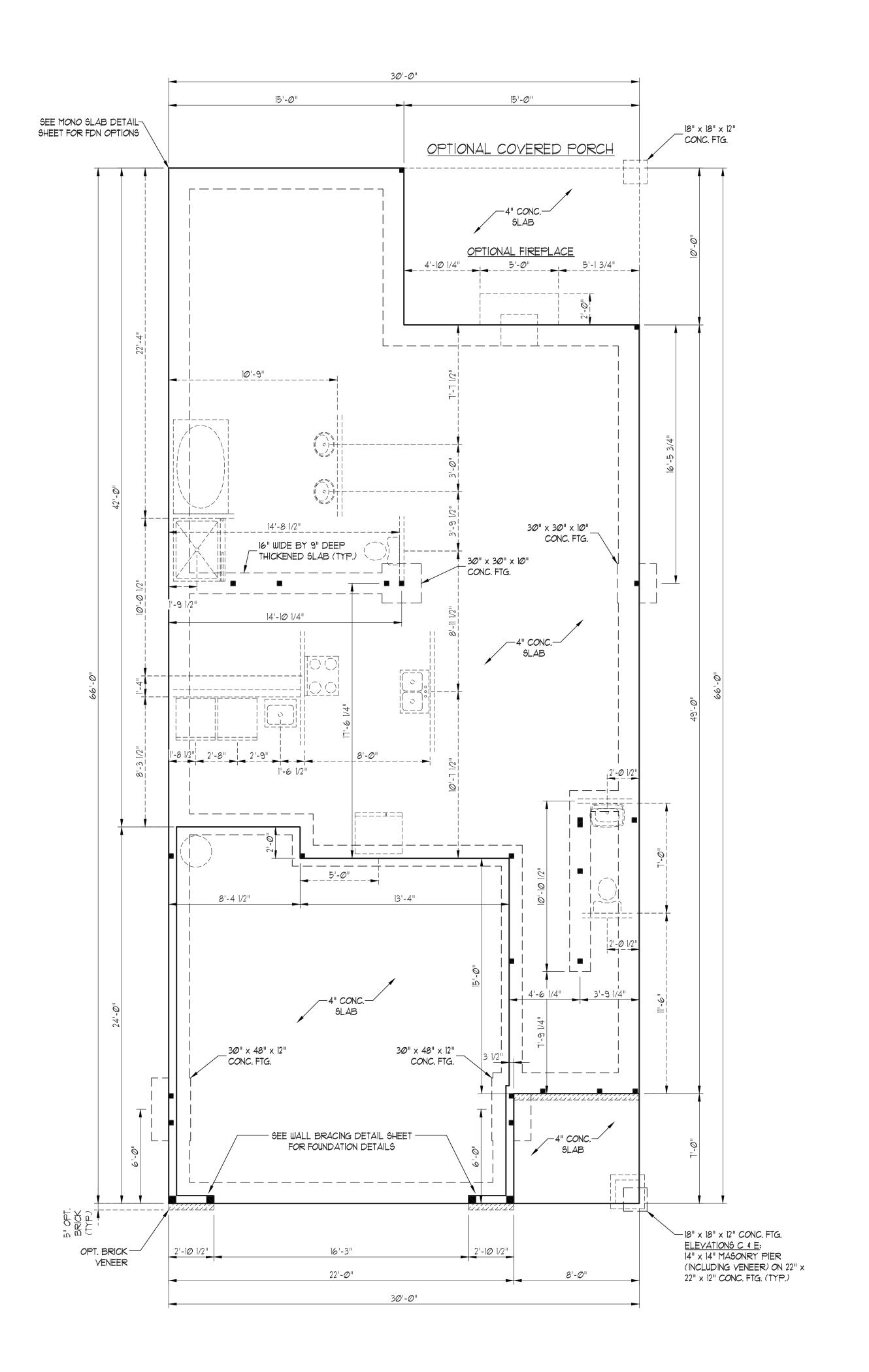
PLAN NO: CC 2308

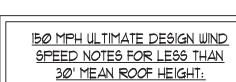
DATE: **MAY 2020** 

REVISIONS:

SHEET NO:

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I. 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, 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 ISØ 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
  EXTERIOR IIIAL IS
- 8. 1/16" OSB SHEATHING IS REQUIRED ON ALL 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 11 OF

THE NCRC, 2018 EDITION.

### 120 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

- 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.
- WINDS.

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

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

DATE: JUNE 11, 2020

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

DRAWN BY: CAVINESS & CATES

ENGINEERED BY: WFB

S-1b

MONO SLAB
FOUNDATION PLAN

SEAL 33736

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ENGERER RALEIGH, NC 27605

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BRACED WALL DESIGN

RECTANGLE A SIDE IA (FRONT LOAD) METHOD: CS-WSP/GB/PF/ENG DESIGN TOTAL REQUIRED LENGTH: 21' TOTAL PROVIDED LENGTH: 22.3'

METHOD: CS-WSP/GB TOTAL REQUIRED LENGTH: 21' TOTAL PROVIDED LENGTH: 22.4' SIDE 3A (SIDE LOAD) METHOD: CS-WSP/PF

TOTAL PROVIDED LENGTH: 56.5' SIDE 4A METHOD: CS-WSP/PF

TOTAL REQUIRED LENGTH: 9.9'

TOTAL REQUIRED LENGTH: 9.9' TOTAL PROVIDED LENGTH: 43.8'

# 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. 5. SEE NOTES AND DETAIL SHEETS FOR ADDITIONAL BRACED WALL INFORMATION.

LINTEL SCHEDULE FOR	
CK/NATURAL STONE SUPPORT	STRUCTURAL

BRICK/NATURAL STONE SUPPORT		
LENGTH (FT.)	<u>SIZE OF LINTEL</u>	
UP TO 4 FT.	L 3 1/2 × 3 1/2 × 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 DWGS. 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 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 RT03.8.2.1 OF THE 2018 NCRC FOR ADDITIONAL
- BRICK SUPPORT INFORMATION. PRECAST REINFORCED CONCRETE LINTELS ENGINEERED BY OTHERS MAY BE USED IN LIEU OF STEEL LINTELS.

BCI 50005-1.8 I-JOISTS MAY BE USED IN LIEU OF TJI 210 JOISTS AT THE DEPTH AND SPACING NOTED ON THE PLAN.

# AL 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
- INSTALL AN EXTRA JOIST UNDER WALLS PARALLEL TO FLOOR JOISTS WHERE NOTED ON THE PLANS.

HAVE NOT BEEN USED.

- 4. 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.)
- 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 (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 COLUMN. 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

7 <b>L</b> 7 <b>L L</b>			
HEADER SPAN (FEET)	MAXIMUM STUD SPACING (INCHES) (PER TABLE R6023(5)		
(1 == 17	16	24	
UP TO 3'	1	1	
4'	2	1	
8'	3	2	
12'	5	3	
16'	6	4	
	•	•	

\*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).

DATE: JUNE 11, 2020

SCALE: 1/4" = 1'-0" DRAWN BY: CAVINESS & CATES

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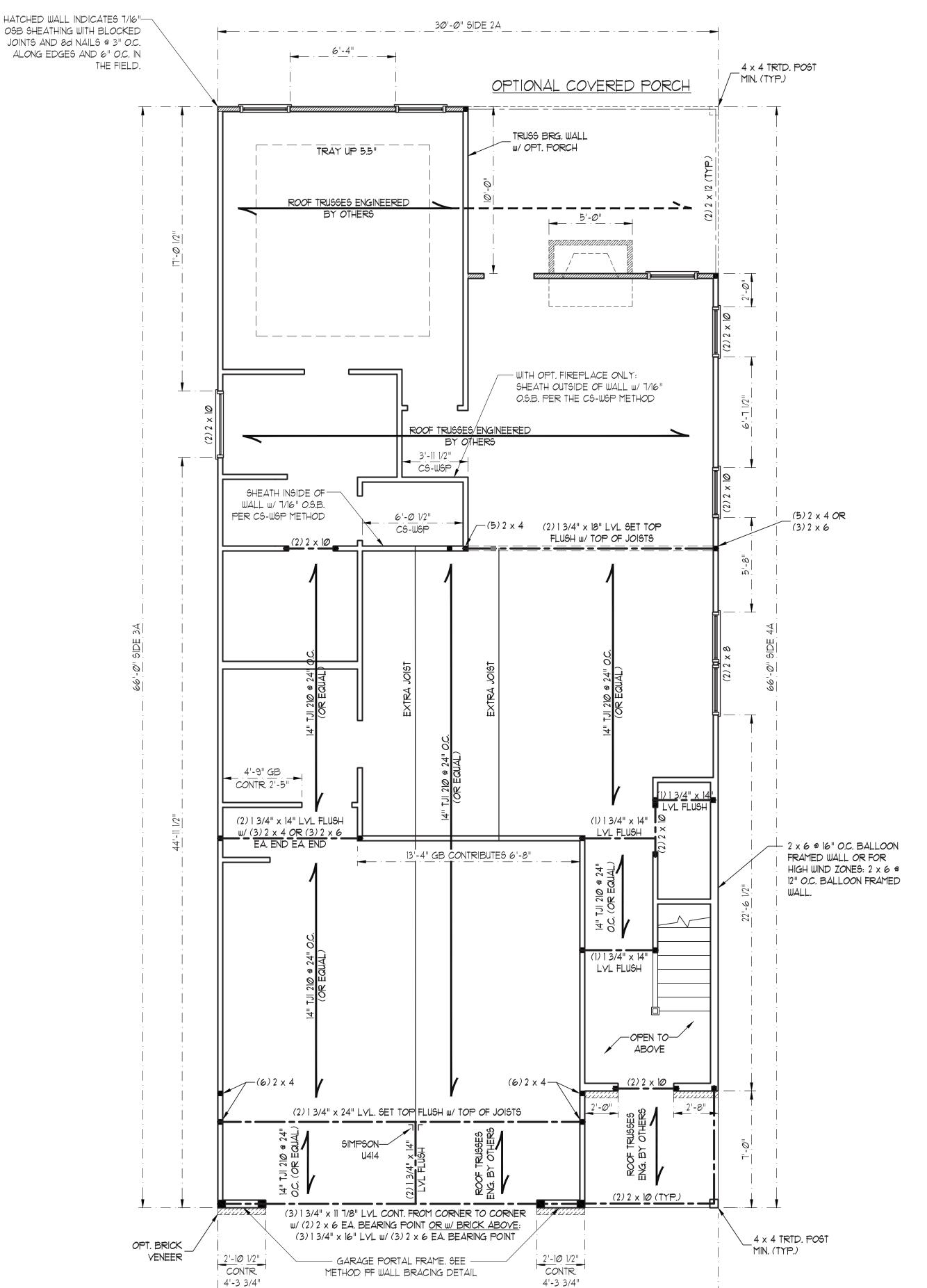
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ENGINEERED BY: WFB

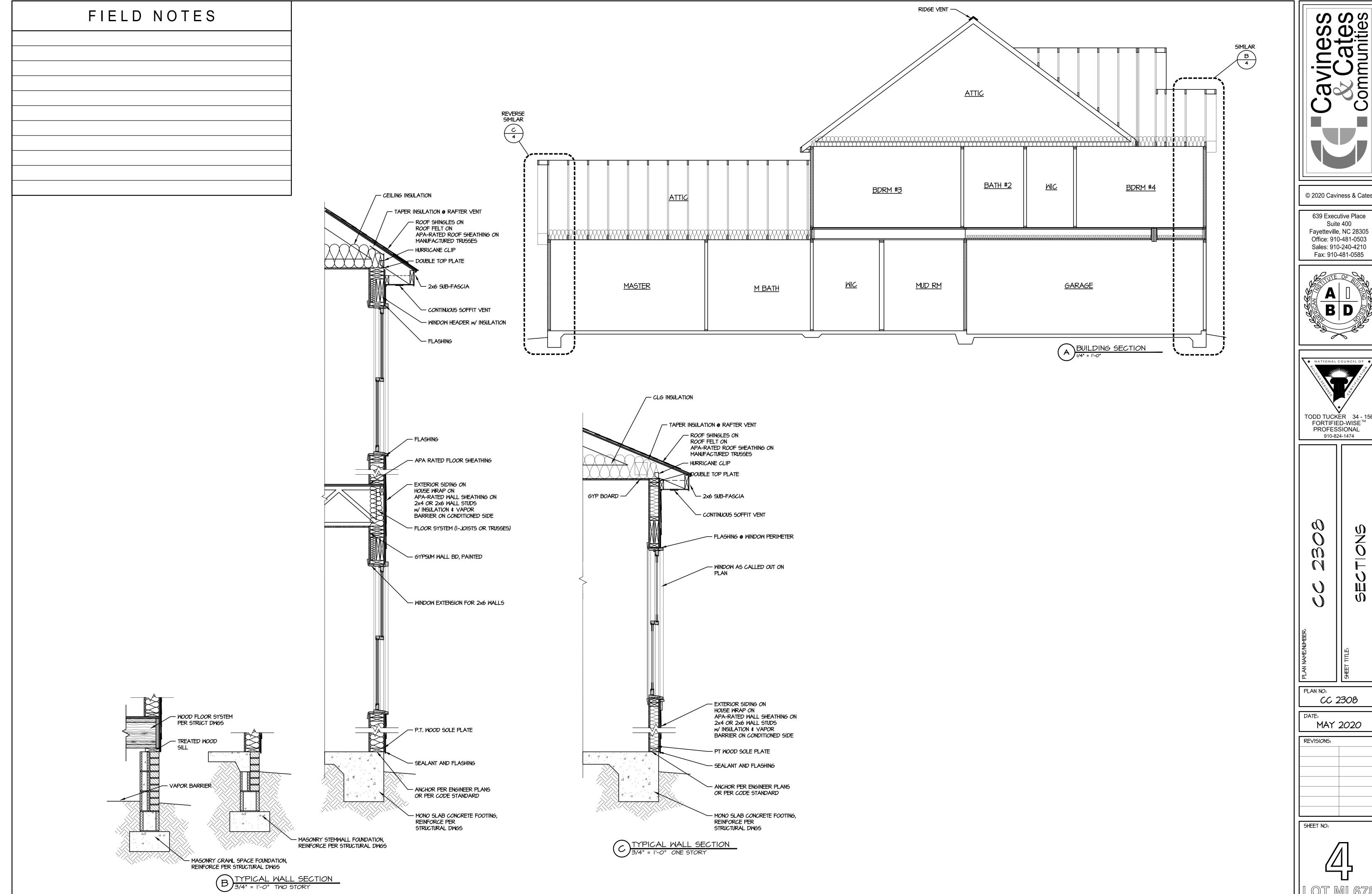
SHEET: 4 OF: 12 SECOND FLOOR FRAMING PLAN





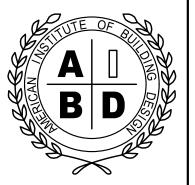
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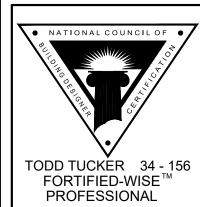
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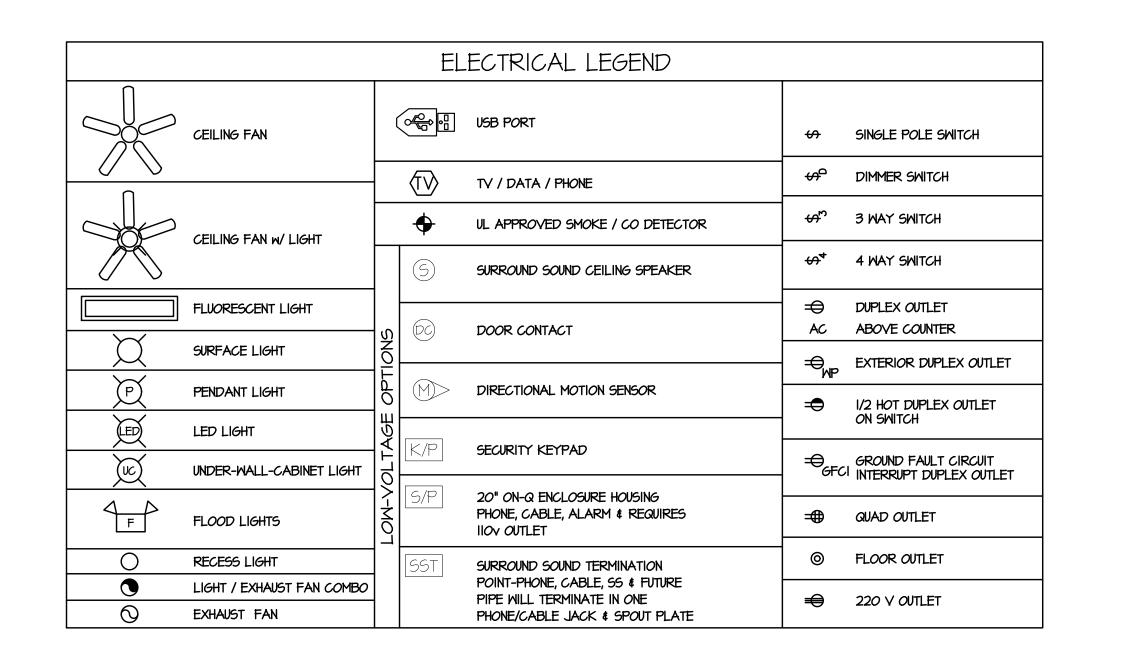


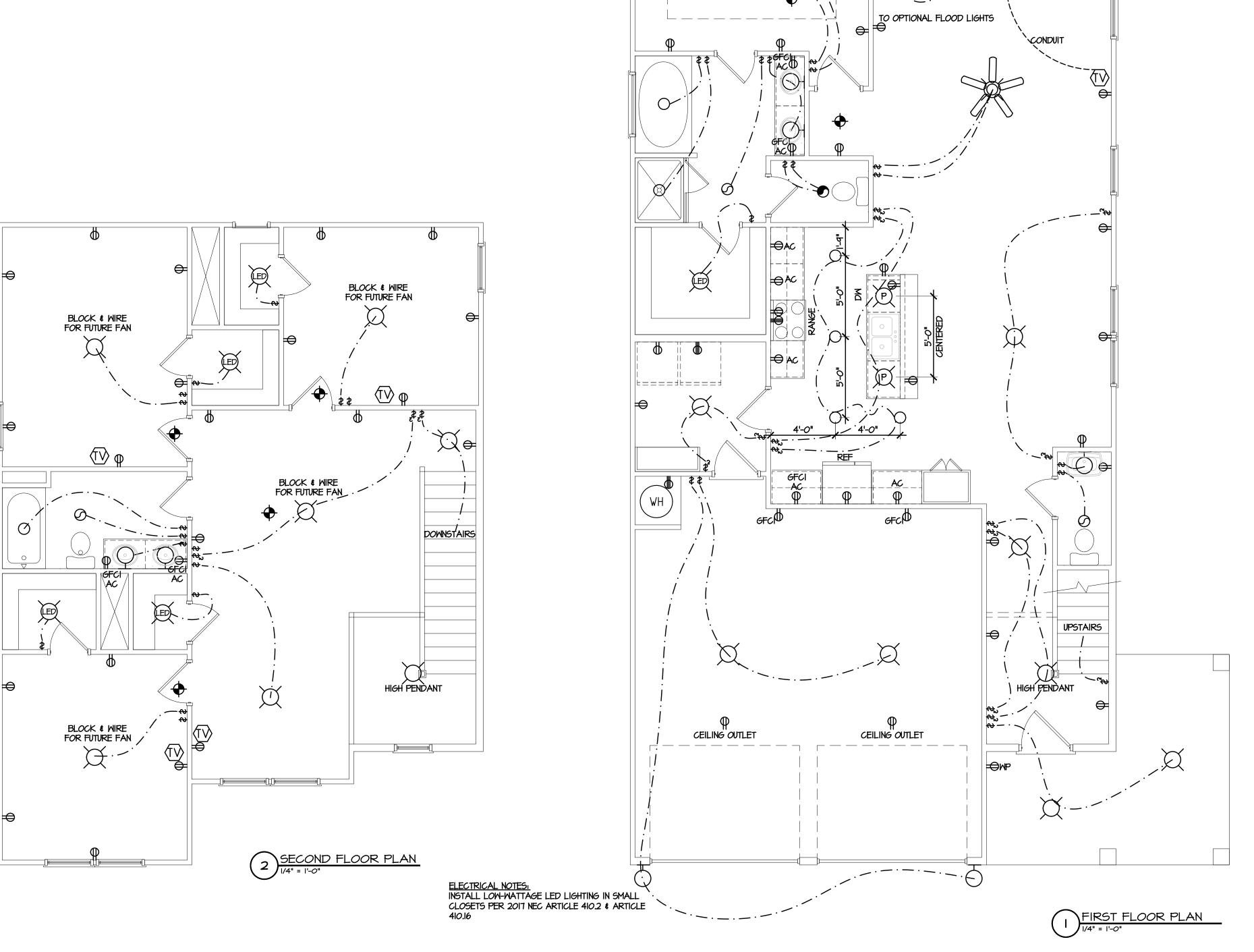
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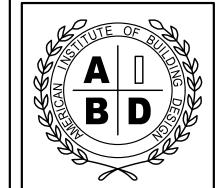


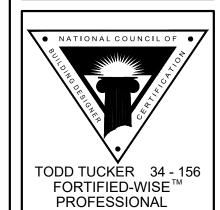


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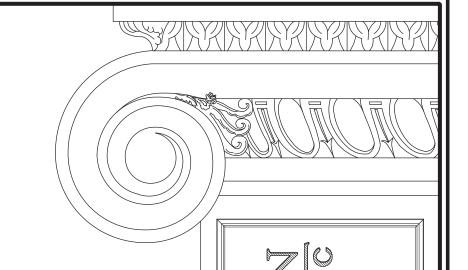
PLAN NO: CC 2308

MAY 2020

REVISIONS:

SHEET NO:

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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 NORC 2018 EDITION.
- 5. SEE NOTES AND DETAIL SHEETS FOR ADDITIONAL BRACED WALL INFORMATION.

NOTE:

L\_\_\_\_\_\_

— 2 x 6 @ 16" O.C. BALLOON FRAMED WALL FROM BELOW. OR FOR HIGH

WIND ZONES: 2 x 6 @ 12" O.C. BALLOON FRAMED

FROM BELOW.

∕--OPEN TO---

BELOW

 $(2) 2 \times 10$ 

GIRDER TRUSS ENG. BY OTHERS

W/ (4) 2 x 4 OR (3) 2 x 6 E.A. END

ROOF TRUSSES ENGINEERED -BY OTHERS

- 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.

STRUCTURAL NOTES:

- ALL FRAMING LUMBER TO BE #2 SPF
- ALL LOAD BEARING HEADERS TO BE
- (2)  $2 \times 6$  (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
- . SQUARES DENOTE POINT LOADS WHICH REQUIRE SOLID BLOCKING TO GIRDER OR FOUNDATION. SQUARES TO BE (2) STUDS (UNO.)

REQUIREMENTS.

- SPECIFIED SIMPSON STRONG-TIE PRODUCTS MAY BE SUBSTITUTED WITH THOSE MANUFACTURED BY USP STRUCTURAL CONNECTORS PROVIDED THAT THE LOAD CAPACITY AND FUNCTION IS EQUIVALENT.
- 6. REFER TO NOTES AND DETAIL SHEETS FOR ADDITIONAL STRUCTURAL INFORMATION.

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

I EACH END OF HEADERS IN EXTERIOR WALL			
JEADER 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: 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).

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

ENGINEERED BY: WFB





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DATE: JUNE 11, 2020

DRAWN BY: CAVINESS & CATES

SHEET: 5 OF: 12 S-3 ATTIC FLOOR FRAMING PLAN

Z:\CAD Drawings\JST-ENG\Caviness and Cates\CC 2308\CC 2308 Structural 6-20.dwg, 6/17/2020 9:11:35 AM, Whitney Faulkner, J.S. Thompson Engineering Inc.

## ATTIC VENT CALCULATION:

1830 SQ. FT. OF ATTIC DIVIDED BY | 150 REQUIRES 12.2 SQ. FT. OF NET FREE VENTILATING AREA (MIN.).

### STRUCTURAL NOTES:

ALL FRAMING LUMBER TO BE #2 SPF (UNO).

CIRCLES DENOTE (3) 2 x 4 POSTS FOR ROOF SUPPORT. 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.

. 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.

REFER TO SECTION R802.11 OF THE 2018 NCRC FOR REQUIRED UPLIFT RESISTANCE AT RAFTERS AND TRUSSES.

REFER TO NOTES AND DETAIL SHEETS FOR ADDITIONAL STRUCTURAL INFORMATION.

. 2308 S & C



SCALE: 1/4" = 1'-0" DRAWN BY: CAVINESS & CATES ENGINEERED BY: WFB

DATE: JUNE 11, 2020

SHEET: 6 OF: 12

ROOF FRAMING PLAN

ROOF TRUSSES ENGINEERED ------ROOF TRUSSES ENGINEERED 

OPTIONAL HIP CLIPS (TYP.)

- SEE WALL BRACING DETAIL SHEET ----FOR FOUNDATION DETAILS

27272

22'-Ø"

CRAWL SPACE & STEM WALL

SEE WALL BRACING DETAIL SHEET FOR FOUNDATION DETAILS

22'-Ø"

MONO SLAB

GARAGE PORTAL FRAME. SEE — METHOD PF WALL BRACING DETAIL

FRAMING PLAN

(3) 2 x 12 CONT. FROM

CORNER (2) 2 x 6 EA.

BRG. PT.

40" x 30" x 10" CONC. FTG.

(3) 2 x 12 CONT. FROM CORNER (2) 2 x 6 EA. BRG. PT.

1'-1"

\_\_24" x 24" x 10" CONC. FTG.

OPTIONAL BRICK-VENEER

OPTIONAL BRICK- | VENEER

OPT. BRICK \_\_ VENEER

FILL BETWEEN HEADERS SOLID W/ —
KING STUDS. STRAP HEADERS
TOGETHER W/ (2) 5' LONG SIMPSON
CSIG STRAPS INSTALLED TOP &
BOTTOM ON THE INSIDE FACE OF
THE HEADERS.

24" x 24" x 10"— CONC. FTG.

-40" x 30" x 10" CONC. FTG.

# TES 2308 S & CA



SHEET: 7 OF: 12

DRAWN BY: CAVINESS & CATES

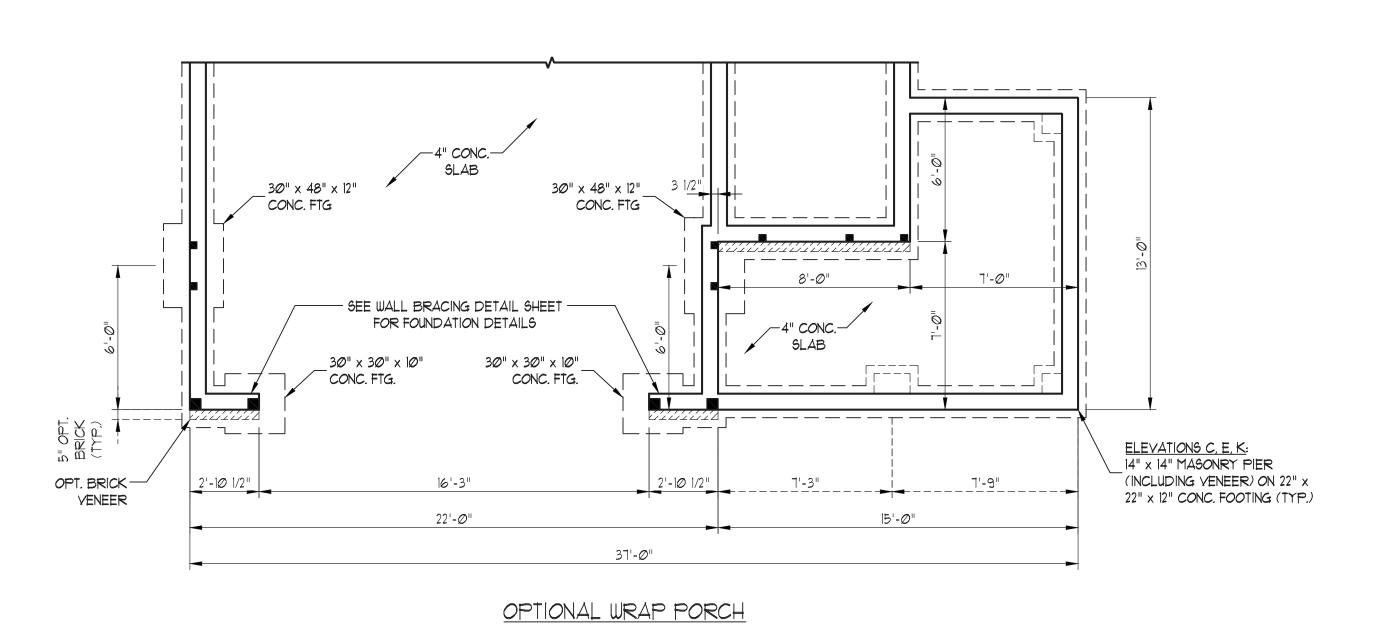
DATE: JUNE 11, 2020

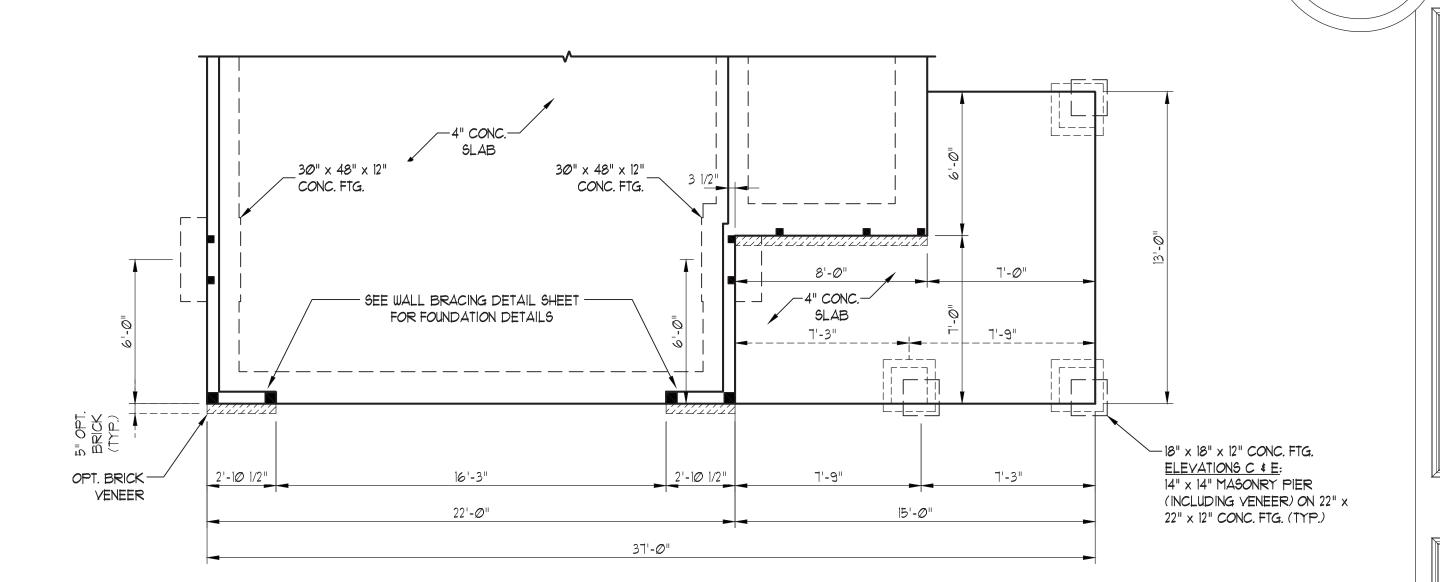
SCALE: 1/4" = 1'-0"

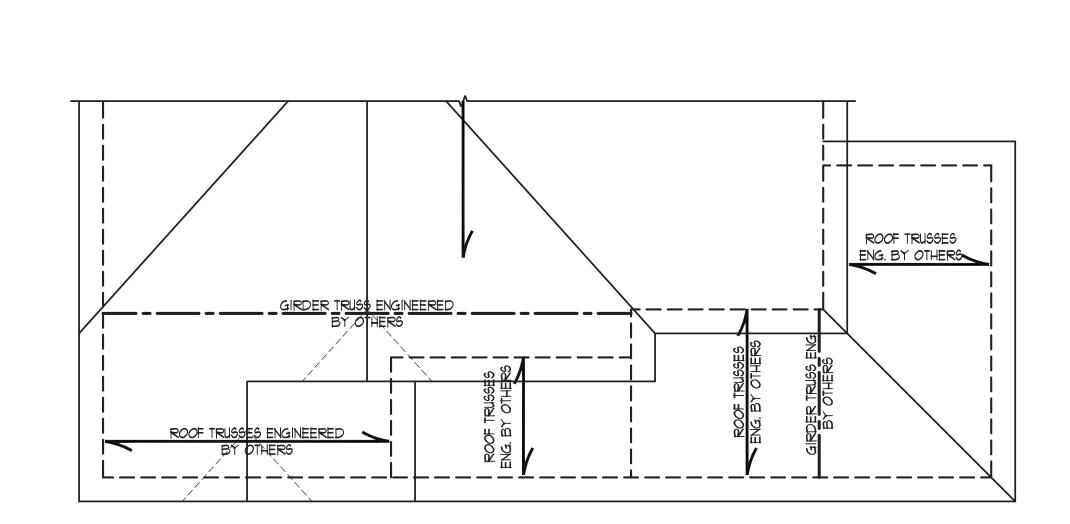
ENGINEERED BY: WFB

S-5 OPTIONAL FRONT LOAD GARAGE

SEE BASE PLAN FOR ADDITIONAL STRUCTURAL NOTES.







OPTIONAL WRAP PORCH

OPTIONAL WRAP PORCH

SEAL 33736 DATE: JUNE 11, 2020

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

DRAWN BY: CAVINESS & CATES

TES

. 2308 S & C

ENGINEERED BY: WFB

SHEET: 12 OF: 12

S-10

OPTIONAL WRAP
PORCH

SEE BASE PLAN FOR ADDITIONAL STRUCTURAL NOTES.

OPEN TO
ABOVE

(6) 2 x 4

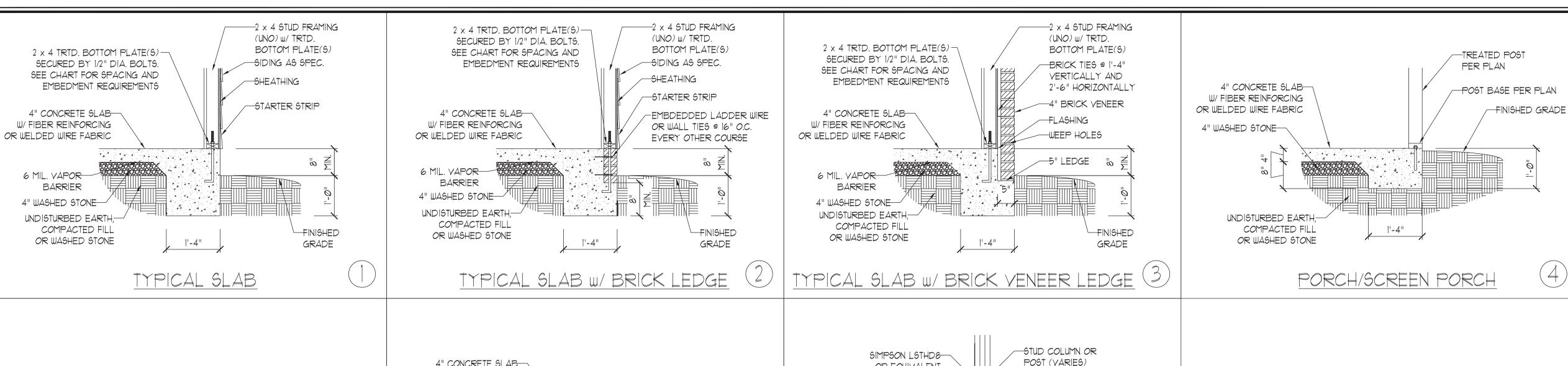
(7) 2 x 10

ROOF TRUSSES
ENGINEERED
BY OTHERS

SIMPSON

S

OPTIONAL WRAP PORCH



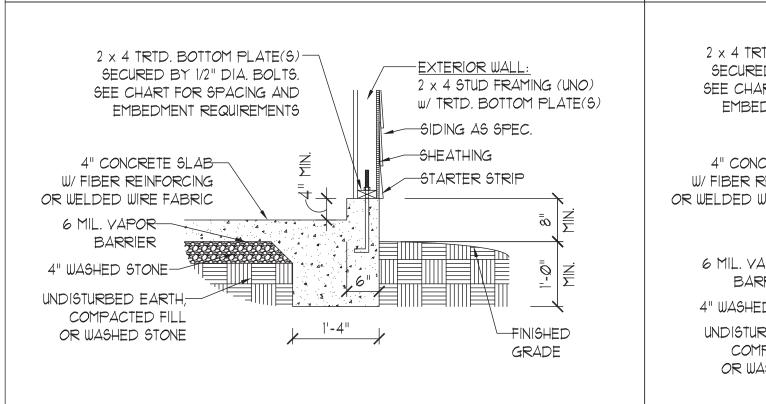
4" CONCRETE SLAB OR EQUIVALENT W/ FIBER REINFORCING 4" CONCRETE SLAB-EXPANSION JOINT OR WELDED WIRE FABRIC W/ FIBER REINFORCING OR WELDED WIRE FABRIC 6 MIL. VAPOR-BARRIER 4" WASHED STONE 4" WASHED STONE UNDISTURBED EARTH,-COMPACTED FILL ENLARGED FOOTING OR WASHED STONE 1'-4" PER PLAN (6)

 $-2 \times 4$  STUD FRAMING (UNO)

POST (VARIES) -UNDISTURBED EARTH, COMPACTED FILL OR WASHED STONE

TYPICAL COLUMN TO SLAB CONNECTION

SLAB ETAIL MONOLITHIC FOUNDATION D



TYPICAL THICKENED SLAB

4" CONCRETE SLAB-

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

BOTTOM PLATE(S)

4" CONCRETE-SLAB W/ FIBER REINFORCING

4" WASHED STONE-

EMBEDMENT

UNDISTURBED EARTH,-

COMPACTED FILL
OR WASHED STONE

W/ FIBER REINFORCING OR WELDED WIRE FABRIC

4" WASHED STONE

8 GARAGE CURB

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

EMBEDMENT REQUIREMENTS

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

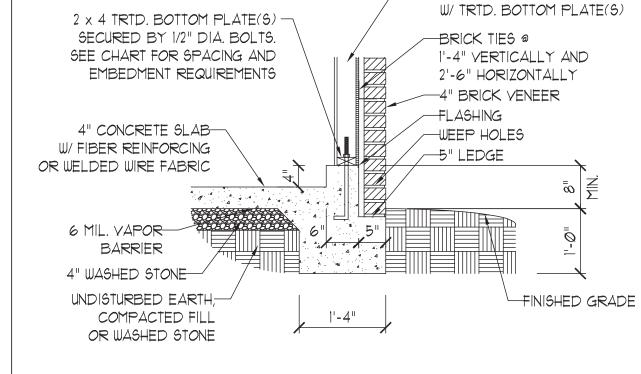
WELDED WIRE FABRIC

7" INTO CONCRETE

-UNDISTURBED EARTH,

COMPACTED FILL

OR WASHED STONE



GARAGE CURB W/ BRICK LEDGE

SLAB FLOOR CHANGE

GARAGE DOOR JAMB— 4" CONCRETE SLAB W/ FIBER REINFORCING SLOPE SLAB OR WELDED WIRE FABRIC 1/8" PER FOOT 4 4 4 4 4 6 MIL. VAPOR BARRIER -4" CONCRETE \$LAB w/ FIBER REINFORCING OR 4" WASHED STONE 1'-4" UNDISTURBED EARTH,— COMPACTED FILL OR WASHED STONE (10)SLAB AT GARAGE DOOR

		STEP IN GARAGE		SLAE
ANCHOR SPACING AND EMBEDMEN			MENT	
	WIND ZONE	120 MPH		130 MPH
	SPACING	6'-0" O.C. INSTALL MIN. (2) ANCHORS PER PLATE SECTION AND (1) ANCHOR WITHIN 12" OF CORNERS	INSTALL M PLATE	4'-0" O.C. IN. (2) ANCHORS PER SECTION AND (1) ITHIN 12" OF CORNERS
	EMRENMENT	711	15"	NTO MASONRY

7"

NOTE: 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.



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

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FOUNDATION DETAILS

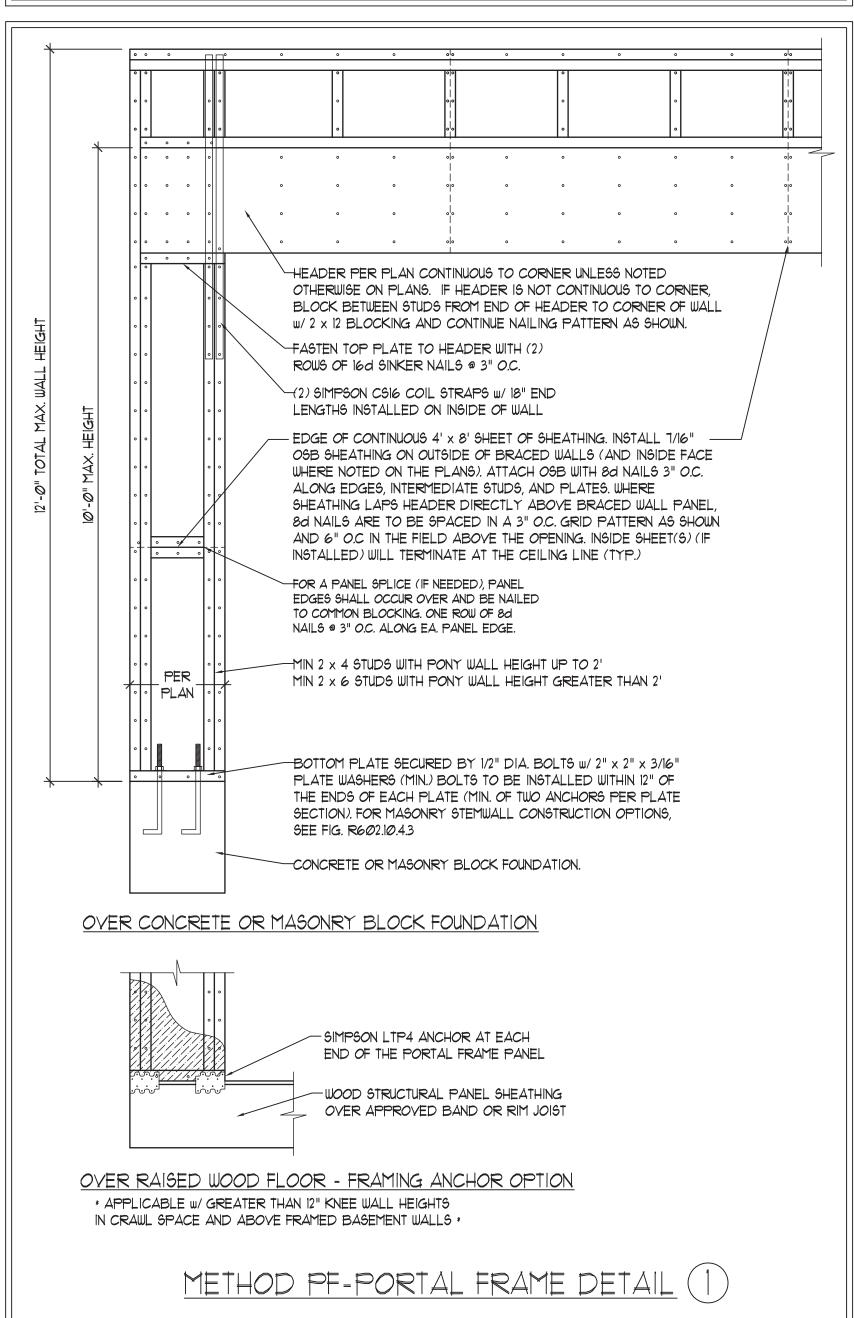
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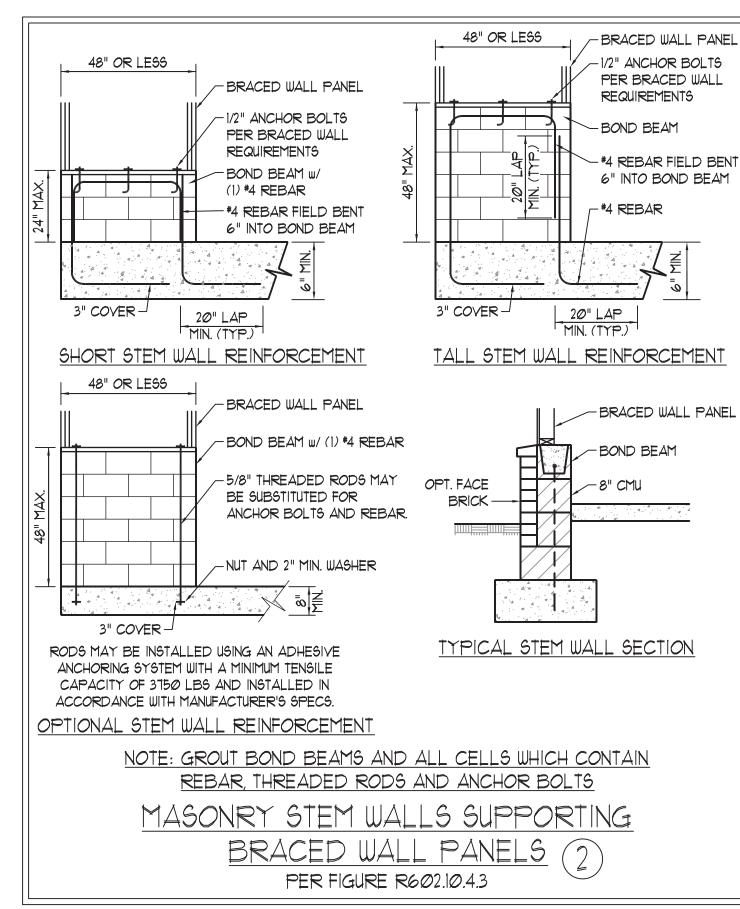
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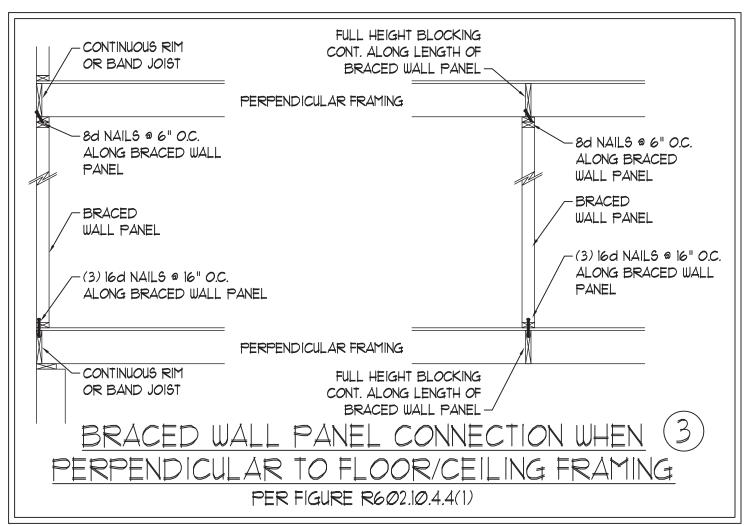
- WALL BRACING DESIGNED IN ACCORDANCE WITH CHAPTER 6 OF THE 2018 NC RESIDENTIAL BUILDING CODE (NCRC). TABLES AND FIGURES REFERENCED ARE FROM THE 2018 NCRC. SEE THIS SHEET FOR GENERAL DETAILS. REFER TO THE 2018 NCRC FOR ADDITIONAL INFORMATION AS NEEDED
- BEEN DESIGNED PER R602.3.5 (3). WALL SHEATHING AND FASTENERS HAVE BEEN DESIGNED TO RESIST COMBINED UPLIFT AND SHEAR FORCES IN ACCORDANCE WITH ACCEPTED ENGINEERED PRACTICE. SEE STRUCTURAL SHEETS FOR BRACED WALL LOCATIONS, DIMENSIONS, HOLD DOWN TYPE AND LOCATIONS, BRACED WALL

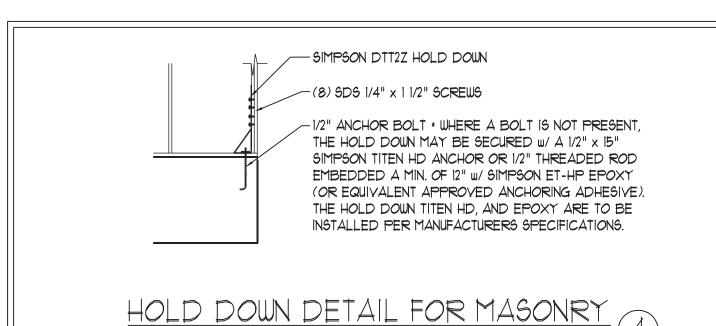
BRACED EXTERIOR WALLS SUPPORTING ROOF TRUSSES AND RAFTERS, INCLUDING STORIES BELOW THE TOP FLOOR, HAVE

- LINE KEY WITH WALL 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-WSP IN ACCORDANCE WITH SECTION R602.10.3 UNLESS NOTED
- 6. ALL EXTERIOR AND INTERIOR WALLS TO HAVE 1/2" GYPSUM INSTALLED. WHEN NOT USING METHOD "GB", GYPSUM TO BE FASTENED PER TABLE R102.3.5. METHOD GB TO BE FASTENED PER TABLE R602.10.1
- CS-WSP REFERS TO THE "CONTINUOUS SHEATHING WOOD STRUCTURAL PANELS" WALL BRACING METHOD. 1/16" 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 1" 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 R7/02.3.5. 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 CS-WSP CONTRIBUTES ITS ACTUAL LENGTH, METHOD GB CONTRIBUTES .5 ITS ACTUAL LENGTH, AND METHOD PF CONTRIBUTES 1.5 TIMES ITS ACTUAL LENGTH.



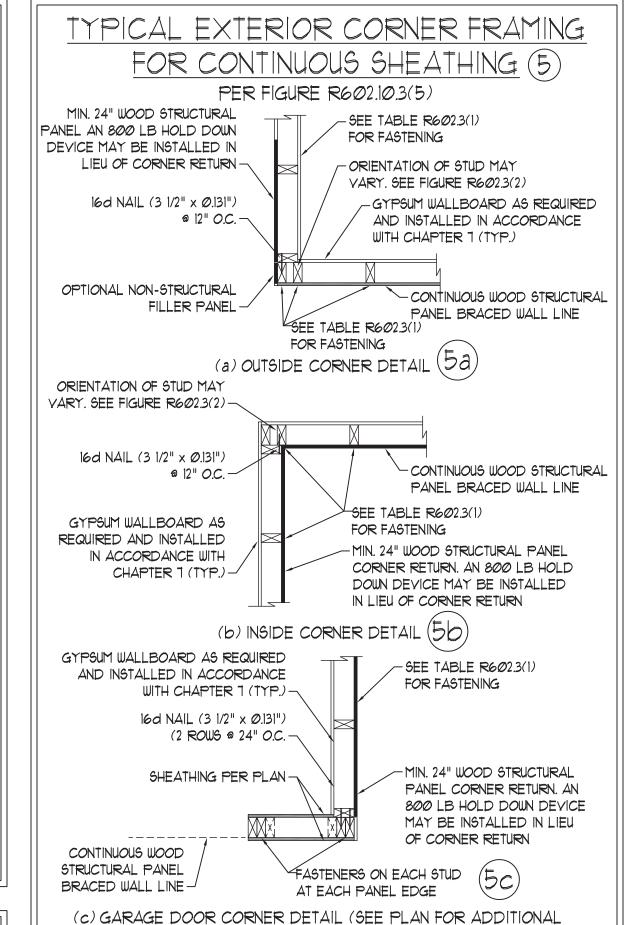




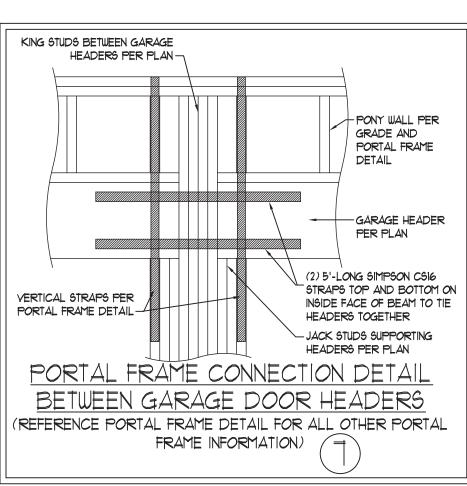


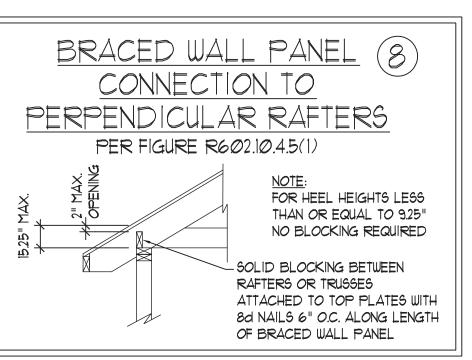
FOUNDATION OR MONOLITHIC SLAB

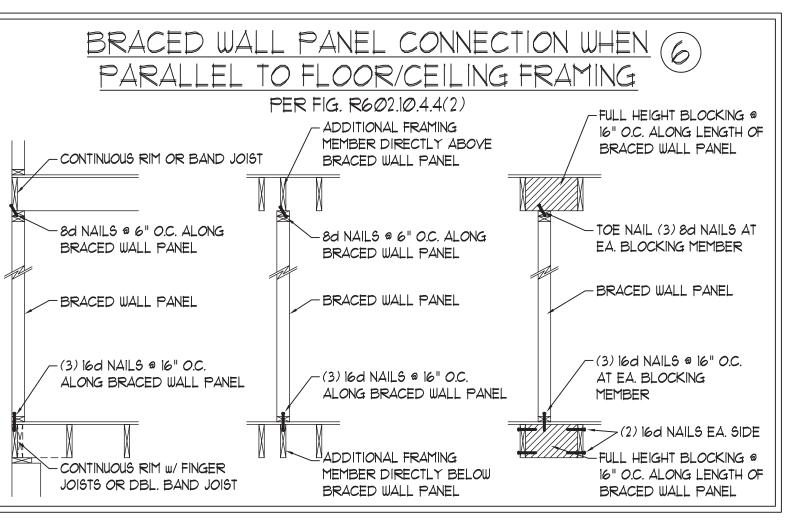
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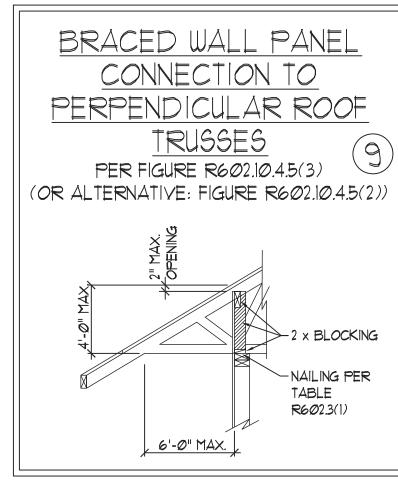


STRUCTURAL INFORMATION OR ALTERNATE CONFIGURATIONS)









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ES

DATE: MAY 18, 2020

DRAWN BY: JST

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

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**BRACED WALL** NOTES AND DETAILS AND PF DETAIL

6/17/2020

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3. STRUCTURAL DESIGN BASED ON THE PROVISIONS OF THE NCRC, 2018 EDITION (R301.4 - R301.7)

LAYOUT DESIGN AND ACCURACY.

WITH THE CONTRACT DOCUMENTS.

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	4Ø	10	L/360
HANDRAILS/GUARDRAILS	200 LB OR 50 (PLF)	10	L/36Ø
PASSENGER VEHICLE GARAGE	5Ø	10	L/36Ø
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)		

GENERAL NOTES

- 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 IS 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" - 1" 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 5 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).

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 = 1800000 PSI. PARALLEL STRAND LUMBER (PSL) MORE THAN 1" DEPTH SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES: Fc = 2900 PSI, E = 2000000 PSI. INSTALL ALL CONNECTIONS PER MANUFACTURER'S SPECIFICATIONS.

3. STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING ASTM SPECIFICATIONS

W AND WT SHAPES: ASTM A992 CHANNELS AND ANGLES: ASTM A36 ASTM A36 PLATES AND BARS: 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 (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.

- 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 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).
- 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 1-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.
- 10. 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 I-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'-Ø" 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'-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).
- 14. 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 YALLEYS (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 HE OR LTS12 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.

33736

DATE: OCTOBER 29, 2018

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

DRAWN BY: JES

ENGINEERED BY: JST

STRUCTURAL NOTES

6/17/2020