

HAMEL ASCOT GROUP

DATE: OCTOBER 16, 2024

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

DRAWN BY: NS

ENGINEERED BY: WFB

S-1a CRAWL FOUNDATION PLAN

NOTES FOR LESS THAN 30' MEAN ROOF HEIGHT:

- STRUCTURAL DESIGN PER NORTH CAROLINA RESIDENTIAL CODE, 2018 EDITION WITH SPECIAL CONSIDERATION TO CHAPTER 45 ("HIGH WIND ZONES" FOR 150 MPH WINDS).
- AS REQUIRED BY CHAPTER 45 ("HIGH WIND ZONES" FOR 150 MPH WINDS) OF THE NORTH CAROLINA RESIDENTIAL CODE, 2018 EDITION. FOUNDATION ANCHORAGE TO COMPLY WITH SECTION 4504 OF THE NORTH CAROLINA
- -32 PSF (+/- INDICATE POSITIVE / NEGATIVE PRESSURE (TYP). ROOF CLADDING DESIGNED FOR +22.2 PSF AND
- 2.25/12 TO 7/12.
- WALLS TO BE BRACED IN ACCORDANCE WITH SECTION R602.10 OF THE NORTH CAROLINA
- 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

- COMPONENTS. ENGINEER'S SEAL DOES NOT CERTIFY DIMENSIONAL ACCURACY OR
- ARCHITECTURAL LAYOUT INCLUDING ROOF SYSTEM. STRUCTURAL DESIGN PER NORTH CAROLINA RESIDENTIAL CODE, 2018 EDITION.
- INTO MASONRY OR CONCRETE. LOCATE BOLT WITHIN MIDDLE THIRD OF PLATE WIDTH.
- -20 PSF (+/- INDICATE POSITIVE / NEGATIVE PRESSURE (TYP). ROOF CLADDING DESIGNED FOR +14.2 PSF AND -18 PSF FOR ROOF PITCHES 7/12 TO 12/12 AND +10 PSF AND -36 PSF FOR ROOF PITCHED
- 8. INSTALL 7/16" 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
- 9. ENERGY EFFICIENCY COMPLIANCE AND INSULATION VALUES OF THE BUILDING TO BE IN ACCORDANCE WITH CHAPTER 11 OF THE NCRC, 2018 EDITION.
- ADDITIONAL STRUCTURAL INFORMATION.

STRUCTURAL NOTES:

SQUARES DENOTE POINT LOADS WHICH FOUNDATION.

. SHADED PIERS TO BE FILLED SOLID.

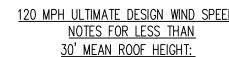
INSTALL LADDER WIRE @ 16" O.C. TO SECURE MULTIPLE WYTHE FOUNDATION WALLS TOGETHER.

LEGEND				
CONT	CONTINUOUS			
XJ	EXTRA JOIST			
DJ	DOUBLE JOIST			
TJ	TRIPLE JOIST			
EA	EACH			
FDN	FOUNDATION			
FTG	FOOTING			
OC	ON CENTER			
SPF	SPRUCE PINE FIR			
SYP	SOUTHERN YELLOW PINE			
TRTD	PRESSURE TREATED			
TYP	TYPICAL			



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

- BUILDER IS TO PROVIDE FRAMING CONNECTIONS
- RESIDENTIAL CODE, 2018 EDITION. MEAN ROOF HEIGHT IS LESS THAN 30 FEET. WALL CLADDING DESIGNED FOR +24.3 PSF AND
- -28 PSF FOR ROOF PITCHES 7/12 TO 12/12 AND +14 PSF AND -57 PSF FOR ROOF PITCHED
- 7/16" OSB SHEATHING IS REQUIRED ON ALL EXTERIOR WALLS.
- RESIDENTIAL CODE, 2018 EDITION AND AS NOTED ON PLANS. D. ENERGY EFFICIENCY COMPLIANCE AND



- ENGINEER'S SEAL APPLIES ONLY TO STRUCTURAL
- INSTALL 1/2" ANCHOR BOLTS 6'-0" O.C. AND

WITHIN 1'-0" FROM END OF EACH CORNER.

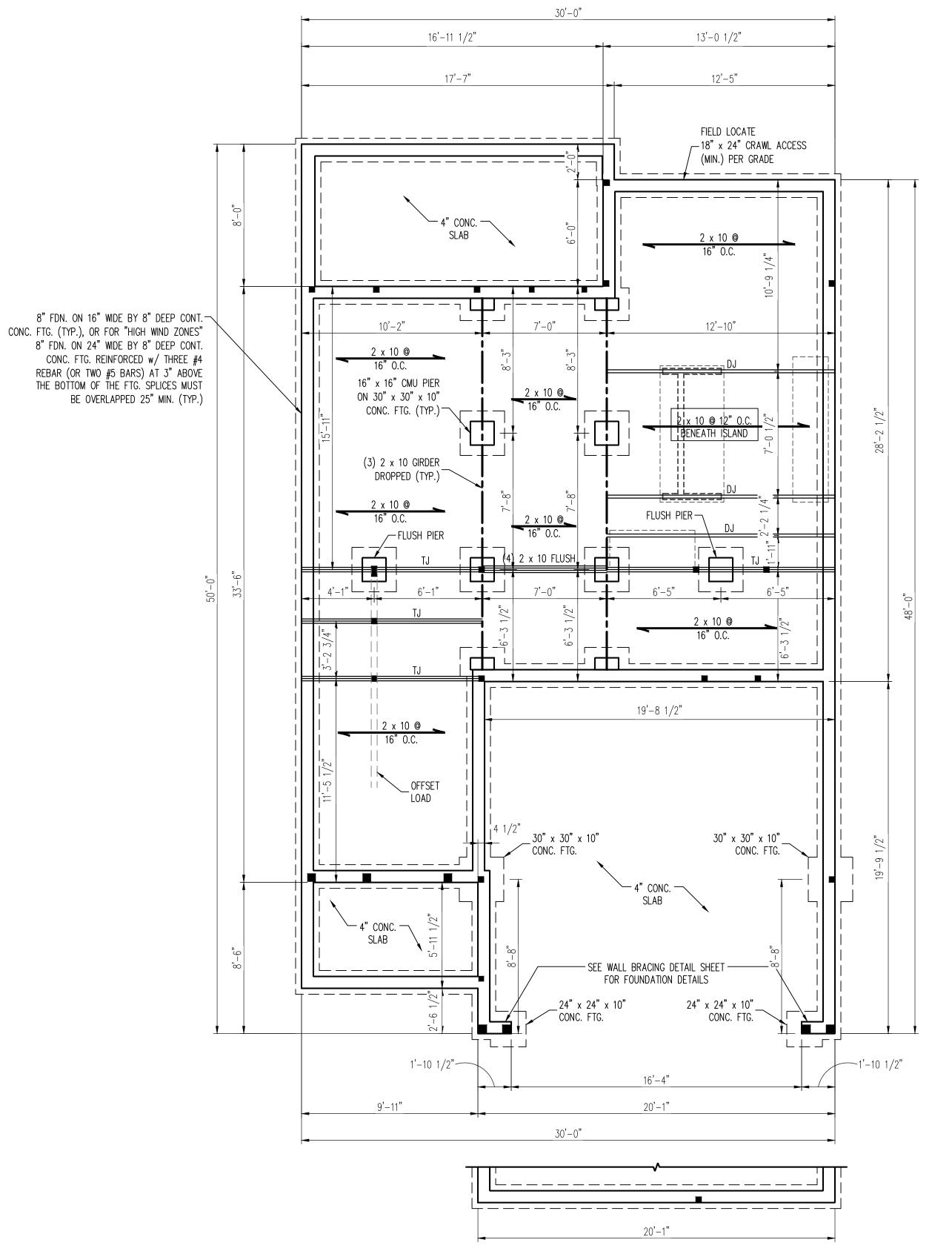
- ANCHOR BOLTS MUST EXTEND A MINIMUM OF 7" 4. MEAN ROOF HEIGHT IS LESS THAN 30 FEET.5. EXTERIOR WALLS DESIGNED FOR 120 MPH WINDS.
- 6. WALL CLADDING DESIGNED FOR +15.5 PSF AND
- 2.25/12 TO 7/12. SHEET FOR MORE INFORMATION.
- 10. REFER TO NOTES AND DETAIL SHEETS FOR



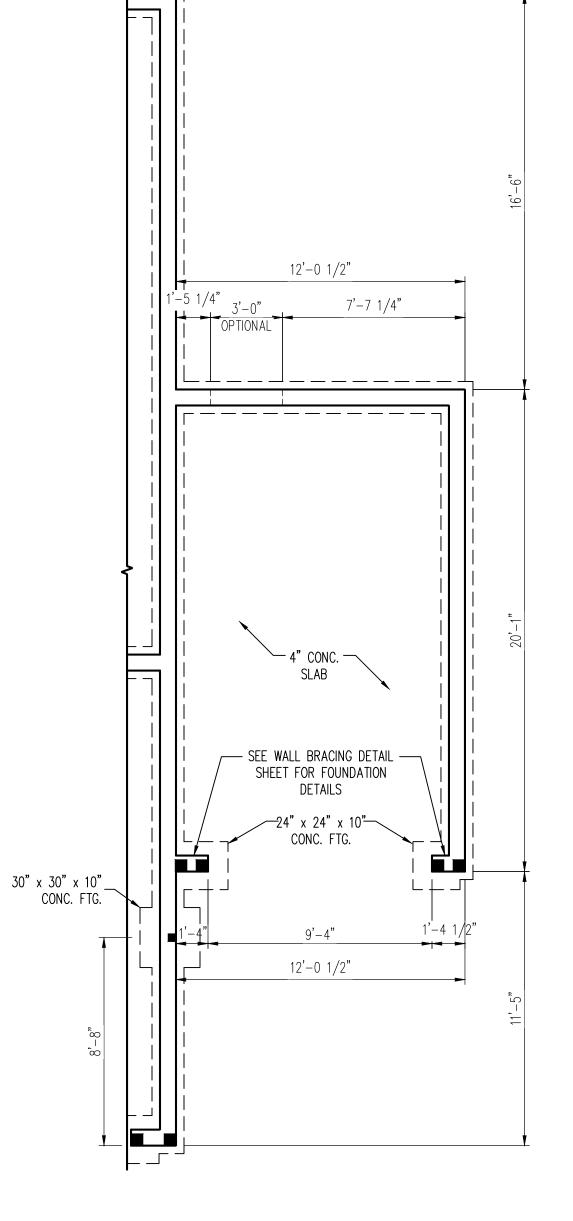
- ALL FRAMING LUMBER TO BE #2 SPF (UNO). ALL TREATED LUMBER TO BE #2
- INSTALL A DOUBLE JOIST UNDER WALLS PARALLEL TO FLOOR JOISTS WHERE NOTED ON THE PLANS.
- REQUIRE SOLID BLOCKING TO GIRDER OR
- REFER TO NOTES AND DETAIL SHEETS FOR
- ADDITIONAL STRUCTURAL INFORMATION.

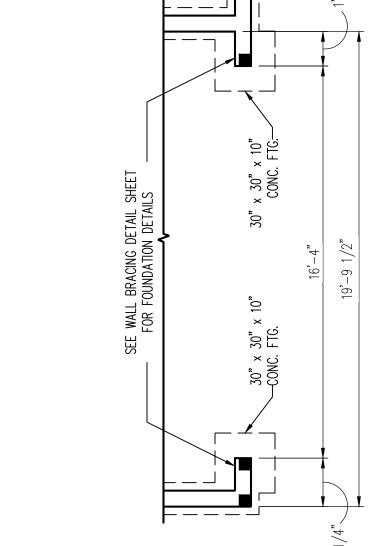
LEGEND			
CONT	CONTINUOUS		
XJ	EXTRA JOIST		
DJ	DOUBLE JOIST		
TJ	TRIPLE JOIST		
EA	EACH		
FDN	FOUNDATION		
FTG	FOOTING		
OC	ON CENTER		
SPF	SPRUCE PINE FIR		
SYP	SOUTHERN YELLOW PINE		
TRTD	PRESSURE TREATED		
TYP	TYPICAL		

UNO UNLESS NOTED OTHERWISE



w/ OPTIONAL SIDE LOAD GARAGE



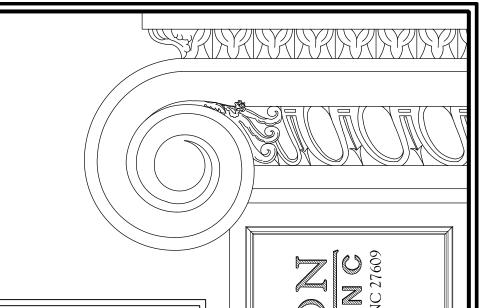


OPTIONAL THIRD CAR GARAGE









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

- 1. ENGINEER'S SEAL APPLIES ONLY TO STRUCTURAL COMPONENTS. ENGINEER'S SEAL DOES NOT CERTIFY DIMENSIONAL ACCURACY OR
- RESIDENTIAL CODE, 2018 EDITION. 3. INSTALL 1/2" ANCHOR BOLTS 6'-0" O.C. AND WITHIN 1'-0" FROM END OF EACH CORNER.
- 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 AND
- 7. ROOF CLADDING DESIGNED FOR +14.2 PSF AND -18 PSF FOR ROOF PITCHES 7/12 TO 12/12 AND +10 PSF AND -36 PSF FOR ROOF PITCHED
- 9. ENERGY EFFICIENCY COMPLIANCE AND INSULATION

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

- ENGINEER'S SEAL APPLIES ONLY TO STRUCTURAL COMPONENTS. ENGINEER'S SEAL DOES NOT CERTIFY DIMENSIONAL ACCURACY OR
- STRUCTURAL DESIGN PER NORTH CAROLINA
- MEAN ROOF HEIGHT IS LESS THAN 30 FEET. WALL CLADDING DESIGNED FOR +24.3 PSF AND
- PRESSURE (TYP).
- WALLS TO BE BRACED IN ACCORDANCE WITH SECTION R602.10 OF THE NORTH CAROLINA RESIDENTIAL CODE, 2018 EDITION AND AS NOTED ON PLANS.
- O. ENERGY EFFICIENCY COMPLIANCE AND INSULATION VALUES OF THE BUILDING TO BE IN ACCORDANCE WITH CHAPTER 11 OF THE NCRC, 2018 EDITION.

LEGEND		
CONT	CONTINUOUS	
XJ	EXTRA JOIST	
DJ	DOUBLE JOIST	
TJ	TRIPLE JOIST	
EA	EACH	
FDN	FOUNDATION	
FTG	FOOTING	
OC	ON CENTER	
SPF	SPRUCE PINE FIR	
SYP	SOUTHERN YELLOW PINE	
TRTD	PRESSURE TREATED	
TYP	TYPICAL	
UNO	UNLESS NOTED OTHERWISE	

- ARCHITECTURAL LAYOUT INCLUDING ROOF SYSTEM. 2. STRUCTURAL DESIGN PER NORTH CAROLINA
- ANCHOR BOLTS MUST EXTEND A MINIMUM OF 7"
- -20 PSF (+/- INDICATE POSITIVE / NEGATIVE PRESSURE (TYP).
- 2.25/12 TO 7/12. 8. INSTALL 7/16" 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.
- VALUES OF THE BUILDING TO BE IN ACCORDANCE WITH CHAPTER 11 OF THE NCRC, 2018 EDITION. 10. REFER TO NOTES AND DETAIL SHEETS FOR ADDITIONAL STRUCTURAL INFORMATION.

- ARCHITECTURAL LAYOUT INCLUDING ROOF
- RESIDENTIAL CODE, 2018 EDITION WITH SPECIAL CONSIDERATION TO CHAPTER 45 ("HIGH WIND ZONES" FOR 150 MPH WINDS).
- 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. FOUNDATION ANCHORAGE TO COMPLY WITH SECTION 4504 OF THE NORTH CAROLINA
- RESIDENTIAL CODE, 2018 EDITION. -32 PSF (+/- INDICATE POSITIVE / NEGATIVE
- ROOF CLADDING DESIGNED FOR +22.2 PSF AND -28 PSF FOR ROOF PITCHES 7/12 TO 12/12 AND +14 PSF AND -57 PSF FOR ROOF PITCHED 2.25/12 TO 7/12.
- 7/16" OSB SHEATHING IS REQUIRED ON ALL EXTERIOR WALLS.

	LEGEND
CONT	CONTINUOUS
XJ	EXTRA JOIST
DJ	DOUBLE JOIST
TJ	TRIPLE JOIST
EA	EACH

DATE: OCTOBER 16, 2024

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

DRAWN BY: NS

ENGINEERED BY: WFB

S-1b MONO SLAB

FOUNDATION PLAN

HAMEL ASCOT GROUP

10/16/2024

16" WIDE BY 9" DEEP THICKENED SLAB (TYP.) 19'-8 1/2" 1 4 1/2" 30" x 30" x 10" CONC. FTG. 30" x 30" x 10"── CONC. FTG. SEE WALL BRACING DETAIL SHEET — FOR FOUNDATION DETAILS __18" x 18" x 12" CONC. FTG. 1'-10 1/2"-16'-4"

9'-11"

20'-1"

w/ OPTIONAL SIDE LOAD GARAGE

30'-0"

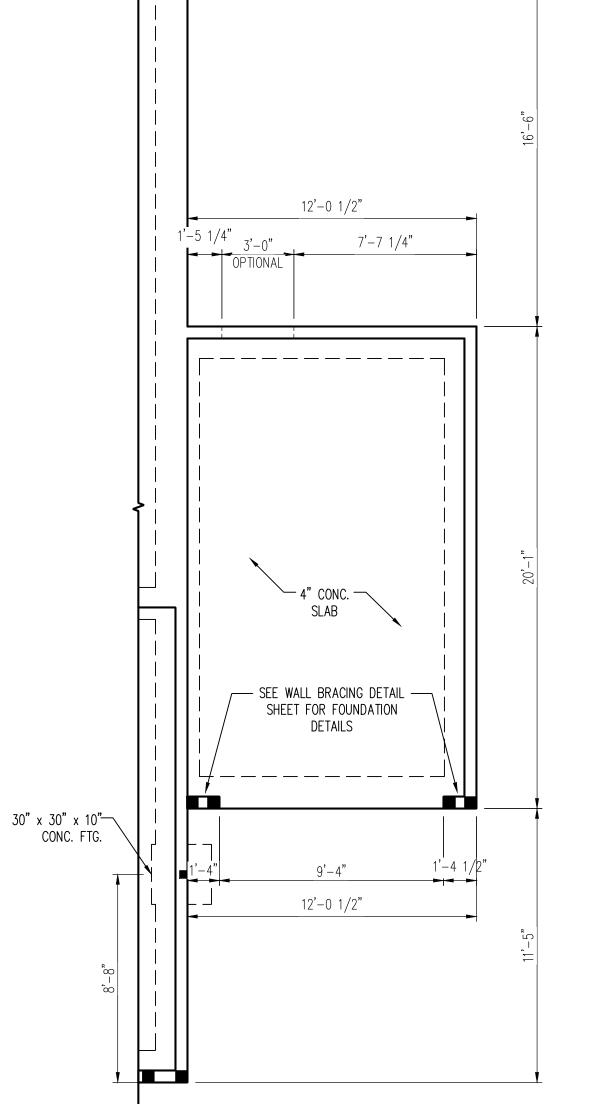
30'-0"___

16'-11 1/2"

17'-7"

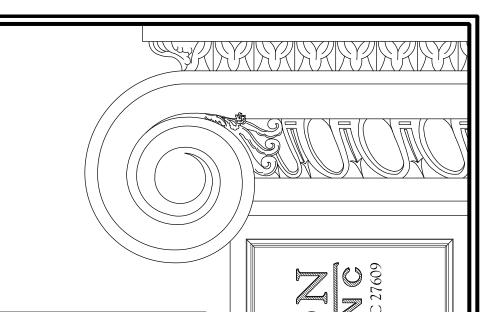
24" x 24" x 12"___ CONC. FTG. (TYP.)

13'-0 1/2"



OPTIONAL THIRD CAR GARAGE

OPTIONAL SIDE LOAD GARAGE



150 MPH ULTIMATE DESIGN WIND SPEED NOTES FOR LESS THAN

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

RESIDENTIAL CODE, 2018 EDITION WITH SPECIAL CONSIDERATION TO CHAPTER 45 ("HIGH WIND

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. FOUNDATION ANCHORAGE TO COMPLY WITH SECTION 4504 OF THE NORTH CAROLINA

WALL CLADDING DESIGNED FOR +24.3 PSF AND PRESSURE (TYP).

AND +14 PSF AND -57 PSF FOR ROOF PITCHED 2.25/12 TO 7/12.

SECTION R602.10 OF THE NORTH CAROLINA RESIDENTIAL CODE, 2018 EDITION AND AS NOTED ON PLANS.

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 INCLUDING ROOF SYSTEM. . STRUCTURAL DESIGN PER NORTH CAROLINA

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 7" MIDDLE THIRD OF PLATE WIDTH.

PSF (+/- INDICATE POSITIVE / NEGATIVE PRESSURE (TYP). 7. ROOF CLADDING DESIGNED FOR +14.2 PSF AND -18

8. INSTALL 7/16" 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

_		
		LEGEND
	CONT	CONTINUOUS
	XJ	EXTRA JOIST
	DJ	DOUBLE JOIST
	TJ	TRIPLE JOIST
	EA	EACH
	FDN	FOUNDATION
	FTG	FOOTING
	OC	ON CENTER
	SPF	SPRUCE PINE FIR
	SYP	SOUTHERN YELLOW PINE
	TRTD	PRESSURE TREATED

UNO UNLESS NOTED OTHERWISE

TYP TYPICAL

<u>30' MEAN ROOF HEIGHT:</u>

STRUCTURAL DESIGN PER NORTH CAROLINA

ZONES" FOR 150 MPH WINDS).

RESIDENTIAL CODE, 2018 EDITION. MEAN ROOF HEIGHT IS LESS THAN 30 FEET.

-32 PSF (+/- INDICATE POSITIVE / NEGATIVE ROOF CLADDING DESIGNED FOR +22.2 PSF AND -28 PSF FOR ROOF PITCHES 7/12 TO 12/12

7/16" OSB SHEATHING IS REQUIRED ON ALL EXTERIOR WALLS.

WALLS TO BE BRACED IN ACCORDANCE WITH

. ENERGY EFFICIENCY COMPLIANCE AND INSULATION VALUES OF THE BUILDING TO BE IN ACCORDANCE WITH CHAPTER 11 OF THE NCRC, 2018 EDITION.

RESIDENTIAL CODE, 2018 EDITION.

INTO MASONRY OR CONCRETE. LOCATE BOLT WITHIN 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 AND -20

PSF FOR ROOF PITCHES 7/12 TO 12/12 AND +10 PSF AND -36 PSF FOR ROOF PITCHED 2.25/12 TO

FOR MORE INFORMATION. 9. ENERGY EFFICIENCY COMPLIANCE AND INSULATION VALUES OF THE BUILDING TO BE IN ACCORDANCE WITH CHAPTER 11 OF THE NCRC, 2018 EDITION. 10. REFER TO NOTES AND DETAIL SHEETS FOR

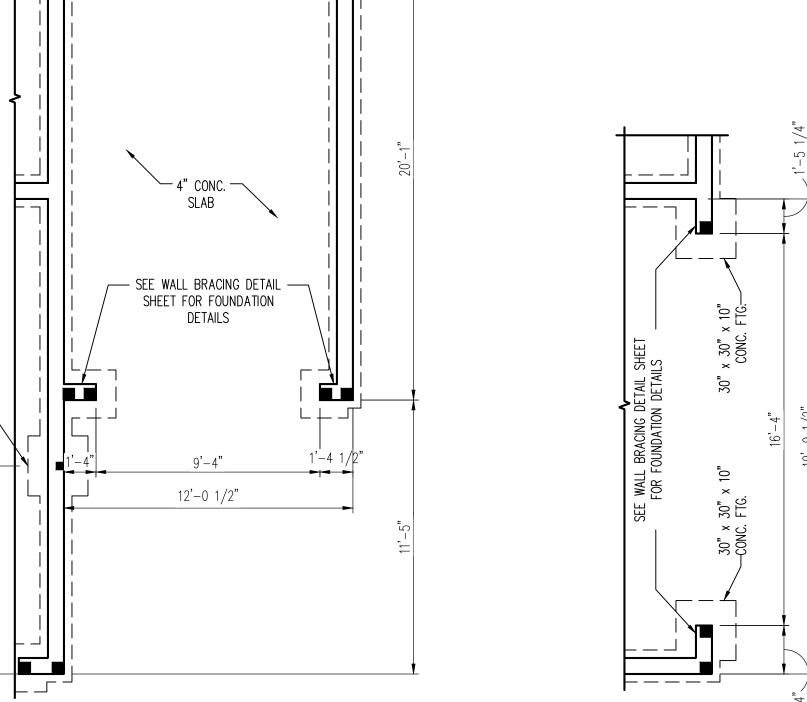
ADDITIONAL STRUCTURAL INFORMATION.

DATE: OCTOBER 16, 2024 SCALE: 1/4" = 1'-0"

DRAWN BY: NS ENGINEERED BY: WFB

> S-1c STEM WALL FOUNDATION PLAN

12'-0 1/2" 7'-7 1/4" SEE WALL BRACING DETAIL -SHEET FOR FOUNDATION DETAILS 30" x 30" x 10"— CONC. FTG. 9'-4" 12'-0 1/2"



OPTIONAL SIDE LOAD GARAGE

OPTIONAL THIRD CAR GARAGE

w/ OPTIONAL SIDE LOAD GARAGE

30'-0"

13'-0 1/2"

16'-11 1/2"

17'-7"

16" WIDE BY 9" DEEP THICKENED SLAB (TYP.)

4 1/2" 30" x 30" x 10" CONC. FTG.

30'-0"

└18" x 18" x 12"

9'-11"

1'-10 1/2"-

CONC. FTG.

19'-8 1/2"

-SEE WALL BRACING DETAIL SHEET-FOR FOUNDATION DETAILS

16'-4"

20'-1"

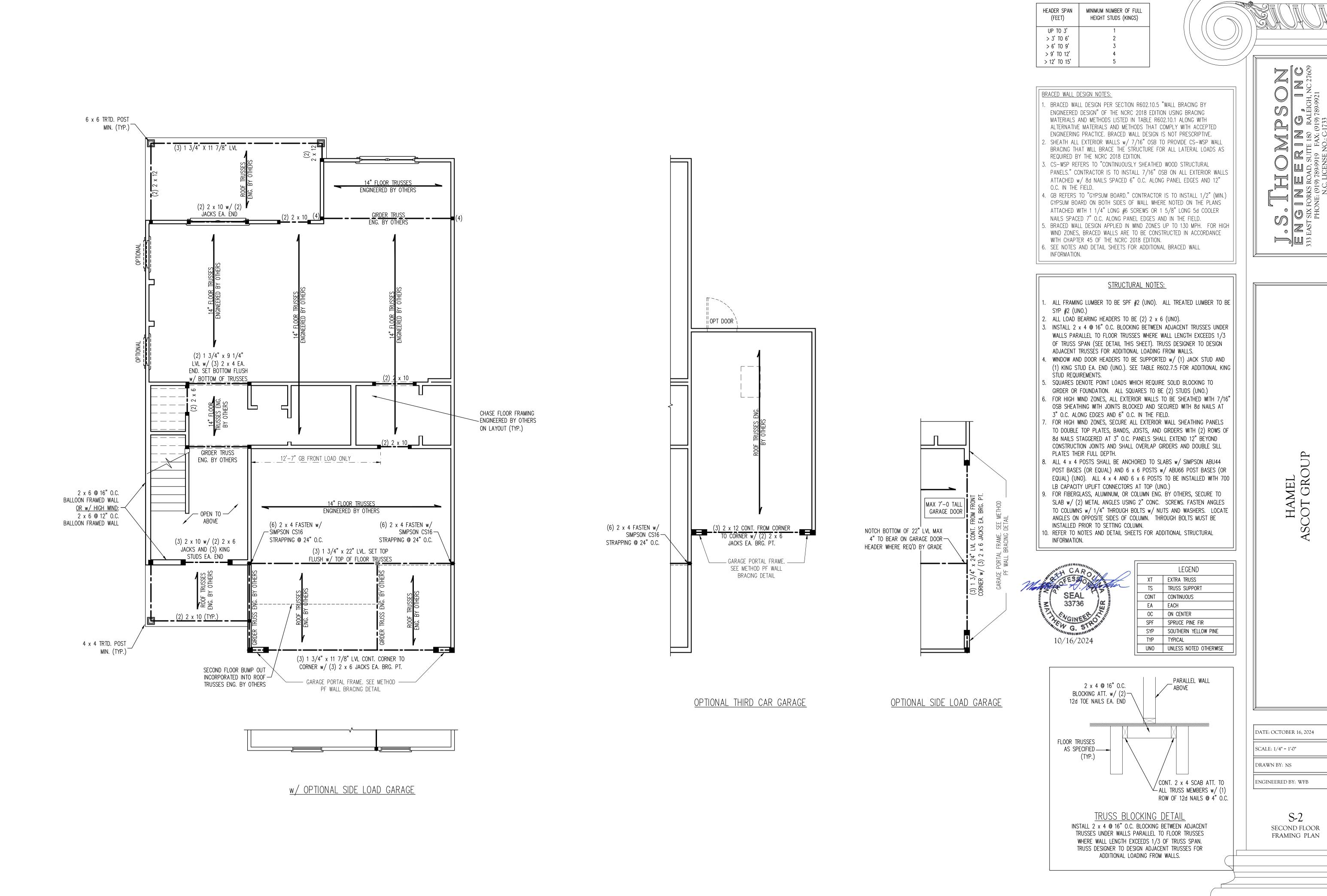
30" x 30" x 10"──

CONC. FTG.

SEE STEMWALL FDN. DETAIL

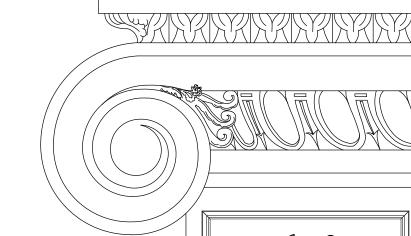
SHEET FOR FND. OPTIONS.

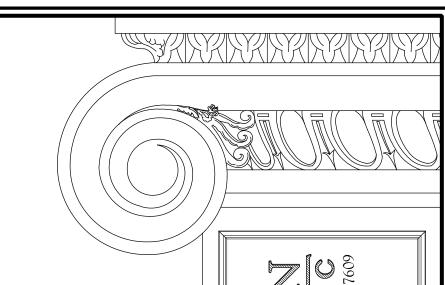
10/16/2024



MINIMUM NUMBER OF FULL HEIGHT KING STUDS AT FACH FND OF HEADERS IN EXTERIOR WALLS

AT EACH END OF	HEADERS IN EXTERIOR WALLS
HEADER SPAN (FEET)	MINIMUM NUMBER OF FULL HEIGHT STUDS (KINGS)
UP TO 3'	1
> 3' TO 6'	2
> 6' TO 9'	3
> 9' TO 12'	4
> 12' TO 15'	5





BRACED WALL DESIGN NOTES:

- 1. BRACED WALL DESIGN PER SECTION R602.10.5 "WALL BRACING BY ENGINEERED DESIGN" OF THE NCRC 2018 EDITION USING BRACING MATERIALS AND METHODS LISTED IN TABLE R602.10.1 ALONG WITH ALTERNATIVE MATERIALS AND METHODS THAT COMPLY WITH ACCEPTED ENGINEERING PRACTICE. BRACED WALL DESIGN IS NOT PRESCRIPTIVE.
- 2. SHEATH ALL EXTERIOR WALLS w/ 7/16" OSB TO PROVIDE CS-WSP WALL BRACING THAT WILL BRACE THE STRUCTURE FOR ALL LATERAL LOADS AS REQUIRED BY THE NCRC 2018 EDITION.
- 3. CS-WSP REFERS TO "CONTINUOUSLY SHEATHED WOOD STRUCTURAL PANELS." CONTRACTOR IS TO INSTALL 7/16" OSB ON ALL EXTERIOR WALLS ATTACHED w/ 8d NAILS SPACED 6" O.C. ALONG PANEL EDGES AND 12" O.C. IN THE FIELD.
 4. GB REFERS TO "GYPSUM BOARD." CONTRACTOR IS TO INSTALL 1/2" (MIN.)
- GYPSUM BOARD ON BOTH SIDES OF WALL WHERE NOTED ON THE PLANS
 ATTACHED WITH 1 1/4" LONG #6 SCREWS OR 1 5/8" LONG 5d COOLER
 NAILS SPACED 7" O.C. ALONG PANEL EDGES AND IN THE FIELD.
 5. BRACED WALL DESIGN APPLIED IN WIND ZONES UP TO 130 MPH. FOR HIGH
- WIND ZONES, BRACED WALLS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH CHAPTER 45 OF THE NCRC 2018 EDITION.
- 6. SEE NOTES AND DETAIL SHEETS FOR ADDITIONAL BRACED WALL INFORMATION.

STRUCTURAL NOTES:

- 1. ALL FRAMING LUMBER TO BE SPF #2 (UNO). ALL TREATED LUMBER TO BE SYP #2 (UNO.)
- 2. ALL LOAD BEARING HEADERS TO BE (2) 2 x 6 (UNO).

 3. WINDOW AND DOOR HEADERS TO BE SUPPORTED w/ (1)
- 3. 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. ALL SQUARES TO BE (2) STUDS (UNO.)
- 5. FOR HIGH WIND ZONES, ALL EXTERIOR WALLS TO BE SHEATHED WITH 7/16" 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.
- REFER TO NOTES AND DETAIL SHEETS FOR ADDITIONAL STRUCTURAL INFORMATION.

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

HEADER SPAN (FEET)	MINIMUM NUMBER OF FULI HEIGHT STUDS (KINGS)
UP TO 3'	1
> 3' TO 6'	2
> 6' TO 9'	3
> 9' TO 12'	4
> 12' TO 15'	5

LEGEND				
XT	EXTRA TRUSS			
TS	TRUSS SUPPORT			
CONT	CONTINUOUS			
EA	EACH			
OC	ON CENTER			
SPF	SPRUCE PINE FIR			
SYP	SOUTHERN YELLOW PINE			
TYP	TYPICAL			
UNO	UNLESS NOTED OTHERWISE			



DATE: OCTOBER 16, 2024

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

DRAWN BY: NS

ENGINEERED BY: WFB

S-3
ATTIC FLOOR
FRAMING PLAN

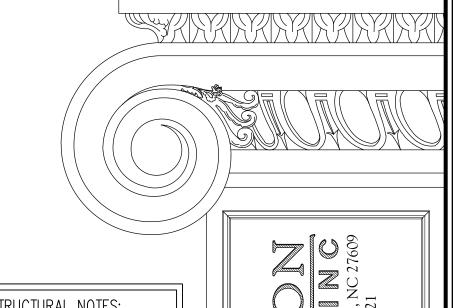
2 x 6 VALL OF PURR OUT 2 x 4

WALL BYOND STRUKEL FOR
BUSH WALL

2 x 6 Q 15T O.C. BALLOON
FRAMED WALL FROM BLOW
CE 4/ HIGH NIGO
2 x 6 Q 15T O.C. BALLOON
FRAMED WALL FROM BLOW
FRAMED WALL FROM BLOW
CONTRACT OF CREATING BLOW
FRAMED WALL FROM BLO

r-----

ROOF TRUSSES ENG.



STRUCTURAL NOTES: ALL FRAMING LUMBER TO BE #2

- SPF (UNO). 2. 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.)

 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.

NOTE: REFER TO ARCHITECTURAL
DRAWINGS FOR ROOF PITCHES, PLATE
HEIGHTS, DIMENSIONS, OVERHANG
WIDTHS, AND ATTIC VENT CALCS.

_			
	LEGEND		
	XT	EXTRA TRUSS	
	TS	TRUSS SUPPORT	
	XR	EXTRA RAFTER	
	RS RAFTER SUPPORT		
	CONT CONTINUOUS		
	EA	EACH	
	OC	ON CENTER	
	SPF	SPRUCE PINE FIR	
	SYP	SOUTHERN YELLOW PINE	
	TYP	TYPICAL	
	UNO	UNLESS NOTED OTHERWISE	

SEAST SIX FORKS ROAD, SUITE 180 PHONE: (919) 789-9919 FAX:

HAMEL SCOT GROUP



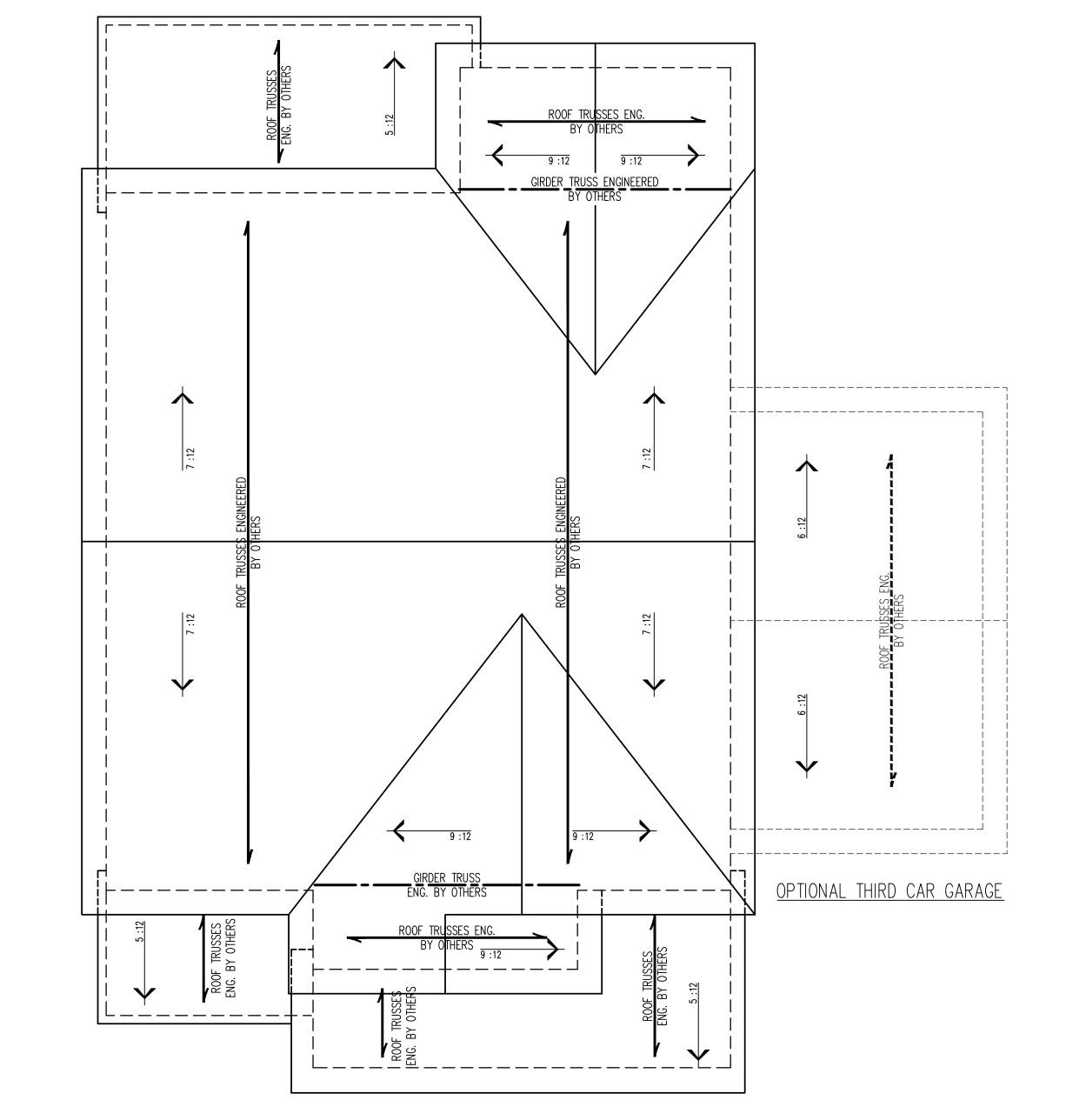
DATE: OCTOBER 16, 2024

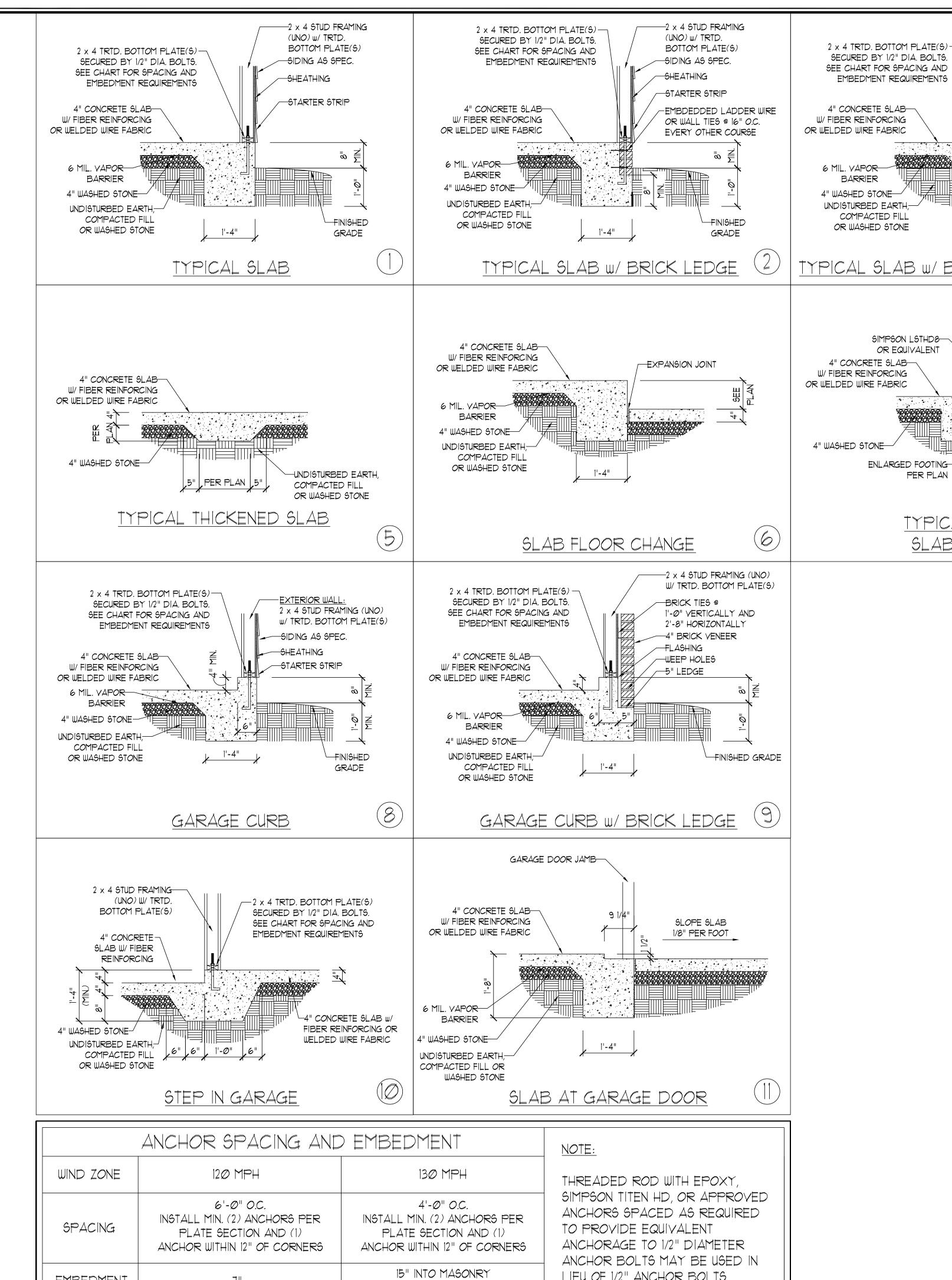
SCALE: 1/4" = 1'-0"

DRAWN BY: NS

ENGINEERED BY: WFB

S-4
ROOF FRAMING



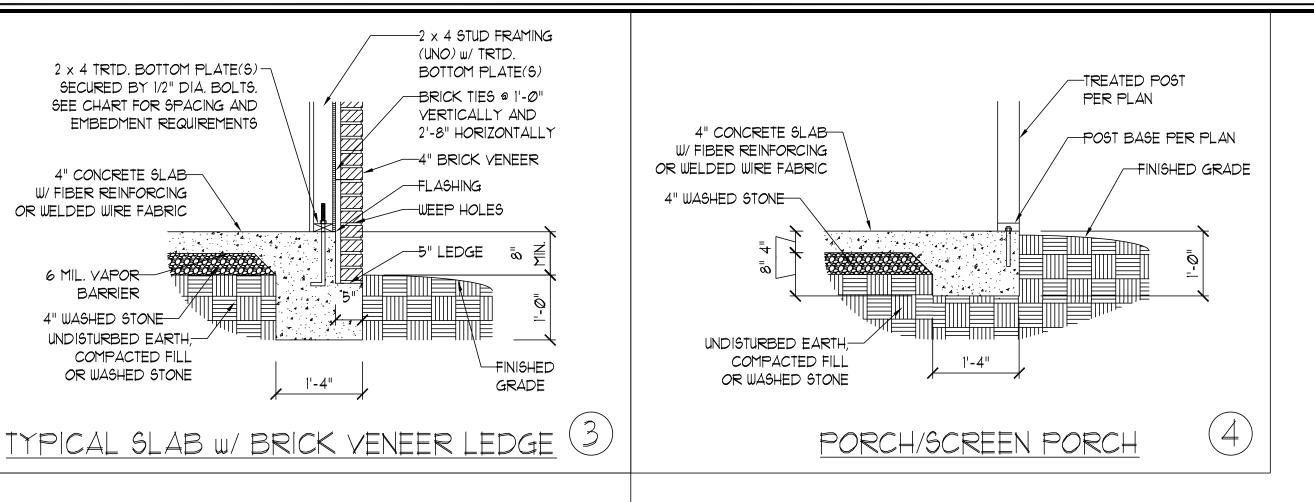


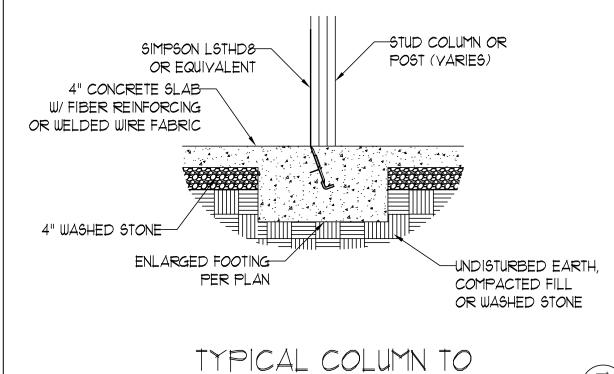
7" INTO CONCRETE

EMBEDMENT

7"

LIEU OF 1/2" ANCHOR BOLTS.





SLAB CONNECTION

SLAB ETAIL MONOLITHIC FOUNDATION D



DATE: AUGUST 30, 2022 SCALE: NTS

DRAWN BY: JST

ENGINEERED BY: JST

FOUNDATION

DETAILS

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10/16/2024

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FOUNDATION

DETAILS

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under N.C. Statute § 89C-23

MASONRY STEMWALL SPECIFICATIONS MASONRY WALL TYPE WALL HEIGHT 4" BRICK AND 4" BRICK AND 8" CMU 12" CMU 2 AND UNGROUTED GROUT SOLID UNGROUTED UNGROUTED BELOW UNGROUTED GROUT SOLID UNGROUTED UNGROUTED GROUT SOLID w/ #4 GROUT SOLID w/ #4 GROUT SOLID GROUT SOLID REBAR @ 64" O.C. REBAR @ 48" O.C. GROUT SOLID w/ #4 GROUT SOLID w/ #4 GROUT SOLID w/ #4 NOT APPLICABLE REBAR @ 36" O.C. REBAR @ 36" O.C. REBAR @ 64" O.C. GROUT SOLID w/ #4 GROUT SOLID w/ #4 GROUT SOLID w/ #4 NOT APPLICABLE 6 REBAR @ 24" O.C. REBAR @ 24" O.C. REBAR @ 64" O.C. 7 AND ENGINEERED DESIGN BASED ON SITE CONDITIONS GREATER

STRUCTURAL NOTES:

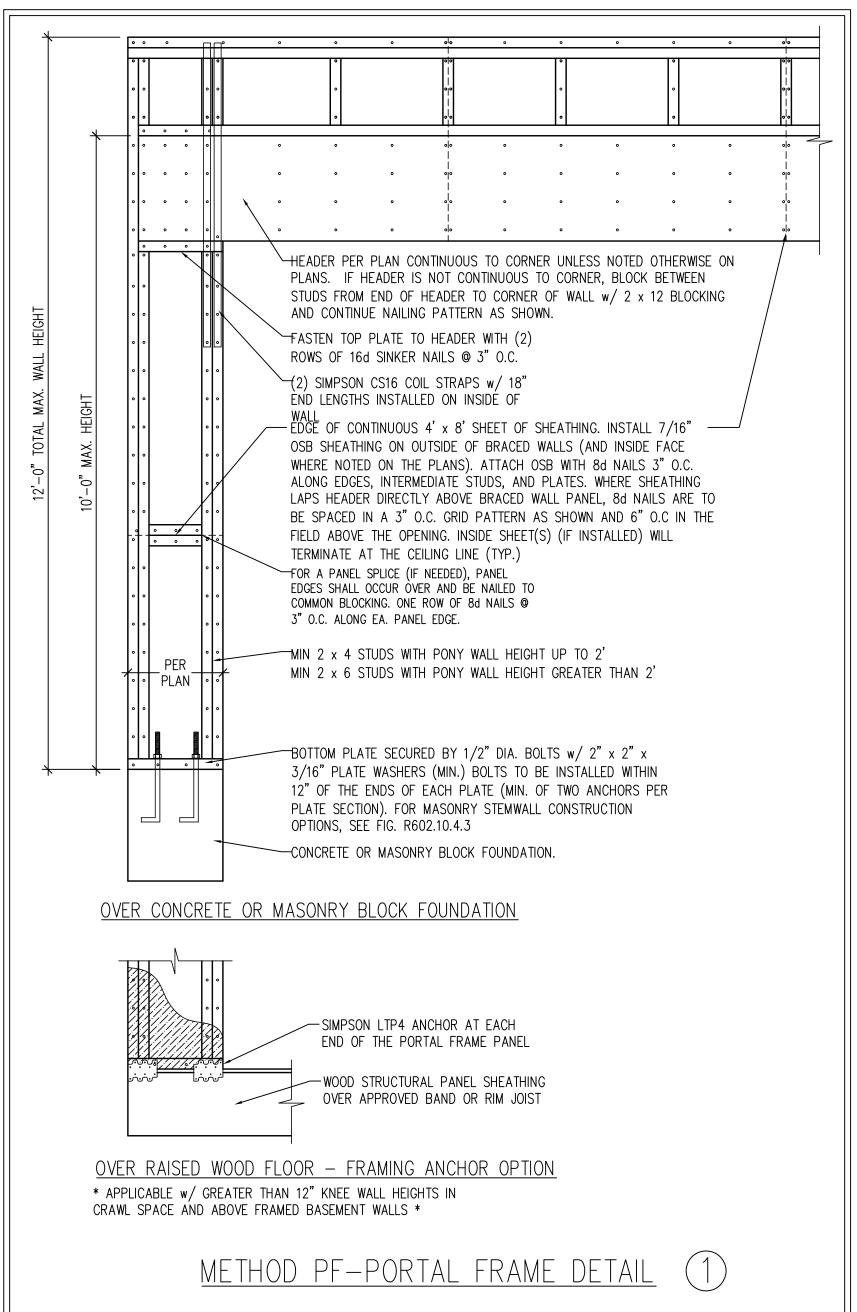
- 1) WALL HEIGHT MEASURED FROM TOP OF FOOTING TO TOP OF THE WALL.
- 2) TIE MULTIPLE WYTHES TOGETHER WITH LADDER WIRE AT 16" O.C. VERTICALLY.
- 3) CHART APPLICABLE FOR HOUSE FOUNDATION ONLY. CONSULT ENGINEER FOR DESIGN OF GARAGE FOUNDATION NOT COMMON TO HOUSE.
- 4) BACKFILL OF CLEAN #57 / #67 WASHED STONE IS ALLOWABLE.
- 5) BACKFILL OF WELL DRAINED OR SAND GRAVEL MIXTURE SOILS (45 PSF/FT BELOW GRADE) CLASSIFIED AS GROUP I ACCORDING TO UNIFIED SOILS CLASSIFICATION SYSTEM IN ACCORDANCE WITH TABLE R405.1 OF THE 2018 NORTH CAROLINA RESIDENTIAL CODE ARE ALLOWABLE.
- 6) PREP SLAB PER <u>R506.2.1</u> AND <u>R506.2.2</u> BASE AND <u>EXCEPTION</u> OF 2018 NORTH CAROLINA RESIDENTIAL CODE.
- 1) MINIMUM 24" LAP SPLICE LENGTH.
- 8) LOCATE REBAR IN CENTER OF FOUNDATION WALL.
- 9) WHERE REQUIRED, FILL BLOCK SOLID WITH TYPE "S" MORTAR OR 3000 PSI GROUT. USE OF "LOW LIFT GROUTING" METHOD REQUIRED WHEN FILLING WALLS WITH GROUT AT HEIGHTS OF 5' AND GREATER.

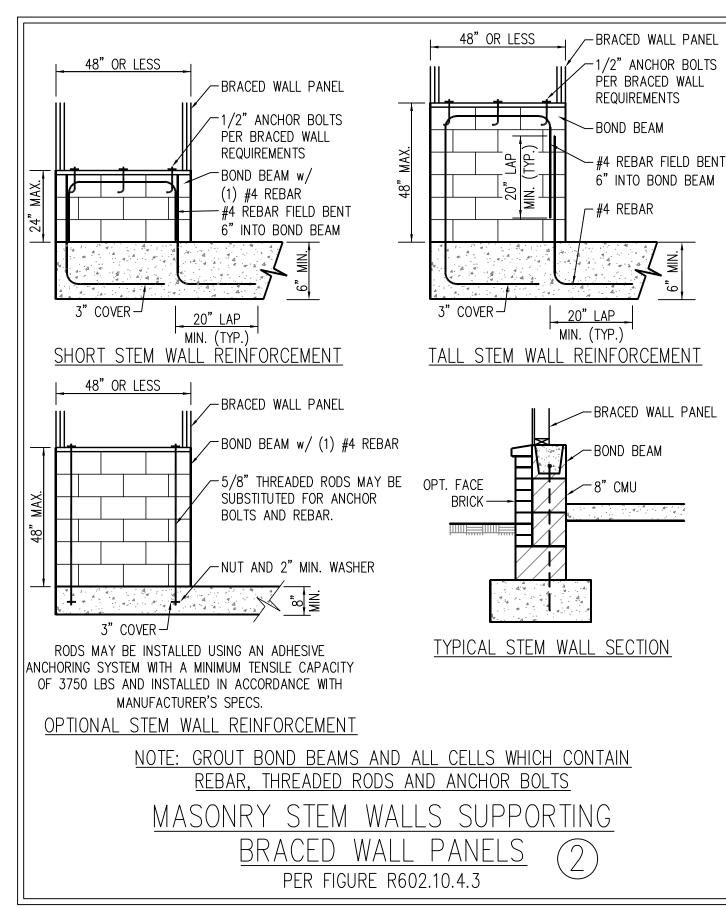
2 x 4 STUD FRAMING (UNO) W/ TRID. BOTTOM PLATE(S) 2 x 4 TRID. BOTTOM PLATE(S) SECURED BY 1/2" DIA BOLTS. SEE CHART FOR SPACING AND EMBEDMENT REQUIREMENTS THICKENED SLAB NOT REQUIRED 4" CONCRETE SLAB W/ FIBER REINFORCING OR WELDED WIRE FABRIC 6 MIL. VAPOR BARRIER 4" WASHED STONE UNDISTURBED EARTH COMPACTED FILL OR WASHED STONE TOP TWO COURSES OF STEM WALL AND ALL CELLS W/ REINFORCEMENT TO BE FILLED SOLID. WALL REINFORCEMENT, SEE CHART FOR SPACING 16" WIDE BY 8" DEEP CONT. CONC. FTG.	2 x 4 STUD FRAMING (UNO) W/ TRID. BOTTOM PLATE(\$) 2 x 4 TRID. BOTTOM PLATE(\$) 2 x 4 TRID. BOTTOM PLATE(\$) 3 SECURED BY 1/2" DIA BOLTS. SEE CHART FOR \$PACING AND EMBEDMENT REQUIREMENTS 4" CONCRETE \$1AB W/ FIBER REINFORCING OR WELDED WIRE FABRIC 6 MIL. VAPOR BARRIER 4" WASHED \$TONE UNDISTURBED EARTH, COMPACTED FILL OR WASHED \$TONE TOP TWO COURSES OF STEM WALL AND ALL CELLS W/ REINFORCEMENT TO BE FILLED SOLID. 5 PRICK TIES & 11-0" VERTICALLY AND 2'-8" HORIZONTALLY 4" BRICK VENEER FLASHING WEEP HOLES FLASHING EVERY OTHER COURSE COMPACTED FILL OR WASHED \$TONE WALL REINFORCEMENT, SEE CHART FOR \$PACING 20" WIDE BY 8" DEEP CONT. CONC. FTG.
STEM WALL FDN. DETAIL (1)	STEM WALL FDN. W/ BRICK AND CURB (2)
2 x 4 STUD FRAMING (UNO) W/ TRTD. BOTTOM PLATE(6) 2 x 4 TRTD. BOTTOM PLATE(5) SECURED BY 1/2" DIA. BOLTS. SEE CHART FOR SPACING AND EMBEDMENT REQUIREMENTS 4" CONCRETE SLAB W/ FIBER REINFORCING OR WELDED WIRE FABRIC 6 MIL. VAPOR BARRIER 4" WASHED STONE UNDISTURBED EARTH, COMPACTED FILL OR WASHED STONE TOP TWO COURSES OF STEM WALL. AND ALL CELLS W/ REINFORCEMENT TO BE FILLED SOLID. BRICK TIES © I'-0" VERTICALLY AND 2"-8" HORIZONTALLY 4" BRICK VENEER FLASHING FLASHING LADDER WIRE EVERYMOTHER COURSE 12" CMU BLOCK TOP TWO COURSES OF STEM WALL. AND ALL CELLS W/ REINFORCEMENT TO BE CHART FOR SPACING 20" WIDE BY 8" DEEP CONT. CONC. FTG.	2 x 4 STUD FRAMING (UNO) W TRID. BOTTOM PLATE(9) SECURED BY 1/2" DIA. BOLT9. SEE CHART FOR SPACING AND EMBEDMENT REQUIREMENTS 4" CONCRETE SLAB W FIBER REINFORCING OR WELDED WIRE FABRIC 6 MIL. VAPOR BARRIER 4" WASHED STONE UNDISTURBED EARTH, COMPACTED FILL OR WASHED STONE TOP TWO COURSES OF STEM WALL AND ALL CELLS W REINFORCEMENT TO BE FILLED SOLID. FOR OPTIONAL 4" BRICK VENEER WATERTABLE WEEP HOLES WEEP HOLES 6" CMU BLOCK CHART FOR SPACING FOR OPTIONAL BRICK WATERTABLE, INCREASE TO 20" WIDE BY 8" DEEP CONCT. CONC. FTG.
STEM WALL FDN. W/ BRICK DETAIL (3)	STEM WALL FDN. W/ OPTIONAL BRICK WATERTABLE DETAIL 4

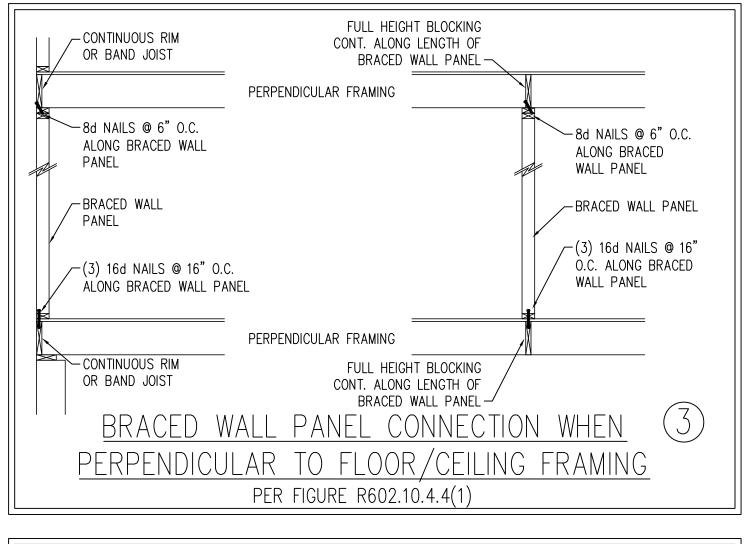
2 x 4 STUD FRAMING (UNO)

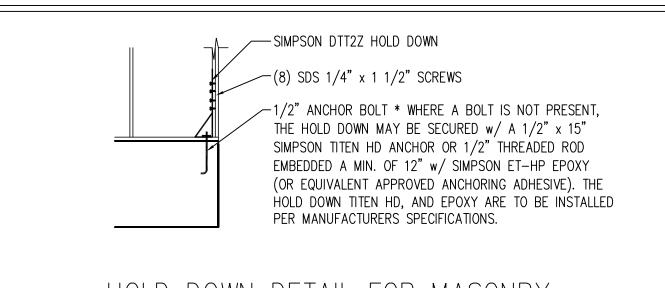
ANCHOR SPACING AND EMBEDMENT			NOTE:
WIND ZONE	120 MPH	130 MPH	THREADED ROD WITH EPOXY,
SPACING	6'-0" O.C. INSTALL MIN. (2) ANCHORS PER PLATE SECTION AND (1) ANCHOR WITHIN 12" OF CORNERS	4'-0" O.C. INSTALL MIN. (2) ANCHORS PER PLATE SECTION AND (1) ANCHOR WITHIN 12" OF CORNERS	SIMPSON TITEN HD, OR APPROVED ANCHORS SPACED AS REQUIRED TO PROVIDE EQUIVALENT ANCHORAGE TO 1/2" DIAMETER ANCHOR BOLTS MAY BE USED IN
EMBEDMENT	7"	15" INTO MASONRY T" INTO CONCRETE	LIEU OF 1/2" ANCHOR BOLTS.

- 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 BRACED EXTERIOR WALLS SUPPORTING ROOF TRUSSES AND RAFTERS, INCLUDING STORIES BELOW THE TOP FLOOR, HAVE 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 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 OTHERWISE.
- 6. ALL EXTERIOR AND INTERIOR WALLS TO HAVE 1/2" GYPSUM INSTALLED. WHEN NOT USING METHOD "GB", GYPSUM TO BE FASTENED PER TABLE R702.3.5. METHOD GB TO BE FASTENED PER TABLE R602.10.1
- 7. 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 0.113" 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 7" 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 R702.3.5. 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

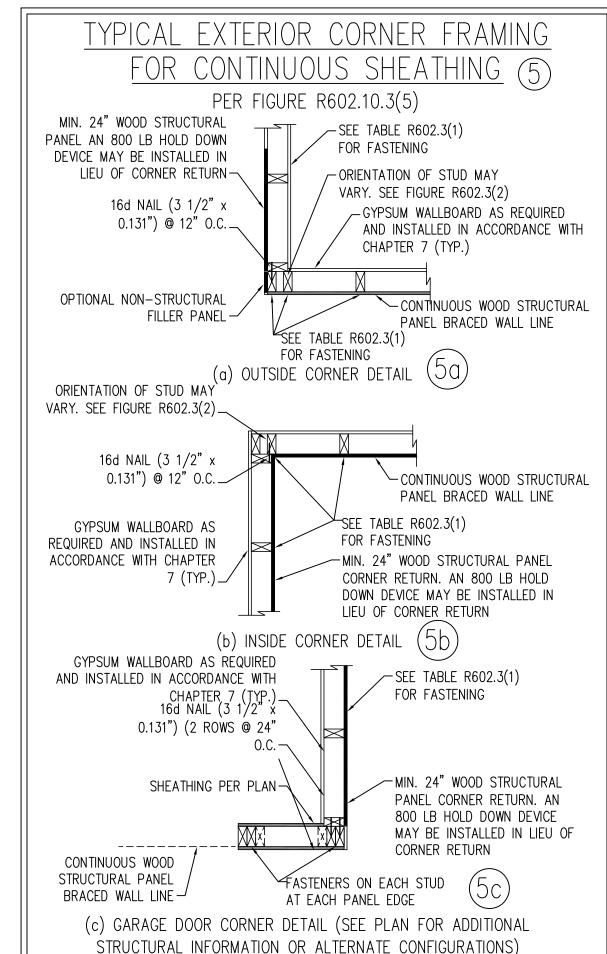








HOLD DOWN DETAIL FOR MASONRY FOUNDATION OR MONOLITHIC SLAB * APPLICABLE ONLY WHERE SPECIFIED ON PLAN *



BRACED WALL PANEL CONNECTION WHEN PARALLEL (6)

MEMBER DIRECTLY ABOVE

-8d NAILS @ 6" O.C. ALONG

√(3) 16d NAILS @ 16" O.C.

ADDITIONAL FRAMING

BRACED WALL PANEL

MEMBER DIRECTLY BELOW

ALONG BRACED WALL PANEL

BRACED WALL PANEL

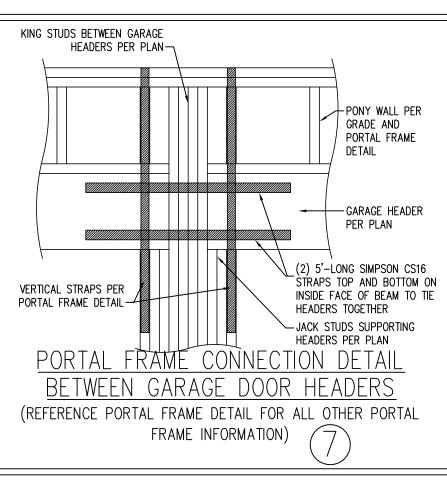
BRACED WALL PANEL

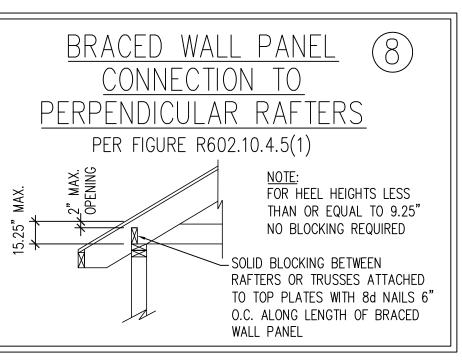
BRACED WALL PANEL

TO FLOOR/CEILING FRAMING

PER FIG. R602.10.4.4(2)

ADDITIONAL FRAMING





FULL HEIGHT BLOCKING @

BRACED WALL PANEL

16" O.C. ALONG LENGTH OF

TOE NAIL (3) 8d NAILS AT

EA. BLOCKING MEMBER

-BRACED WALL PANEL

 \sim (3) 16d NAILS @ 16"

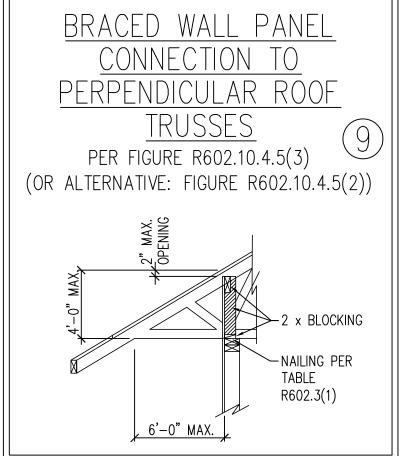
(2) 16d NAILS EA. SIDE

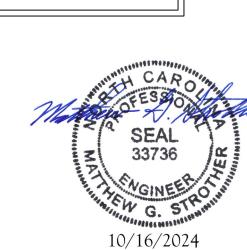
O.C. AT EA. BLOCKING

FULL HEIGHT BLOCKING @

BRACED WALL PANEL

16" O.C. ALONG LENGTH OF







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-CONTINUOUS RIM OR BAND JOIST

8d NAILS @ 6" O.C. ALONG

BRACED WALL PANEL

✓ BRACED WALL PANEL

-(3) 16d NAILS @ 16" O.C.

ALONG BRACED WALL PANEL

CONTINUOUS RIM w/ FINGER

JOISTS OR DBL. BAND JOIST

BRACING

DATE: AUGUST 30, 2022

BRACED WALL NOTES AND DETAILS AND PF DETAIL

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

GENERAL 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 I-JOIST OR FLOOR/ROOF TRUSS LAYOUT DESIGN AND ACCURACY.
- 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	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
- 4. FOR 115 AND 120 MPH WIND ZONES, FOUNDATION ANCHORAGE IS 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 11 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 1, 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.

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- 5. MASONRY UNITS TO CONFORM TO ACE 530/ASCE 5/TMS 402. MORTAR SHALL CONFORM 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.
- 7. 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).

FRAMING NOTES

- 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 7" DEPTH SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES: Fc = 2500 PSI, E =1800000 PSI. PARALLEL STRAND LUMBER (PSL) MORE THAN 7" DEPTH SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES: Fc = 2900 PSI, E = 2000000 PSI. INSTALL ALL CONNECTIONS PER MANUFACTURER'S SPECIFICATIONS.
- STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING ASTM SPECIFICATIONS

W AND WT SHAPES: ASTM A992 CHANNELS AND ANGLES: ASTM A36 PLATES AND BARS: ASTM A36 ASTM A500 GRADE B HOLLOW STRUCTURAL SECTIONS: ASTM A53, GRADE B, TYPE E OR S STEEL PIPE:

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 (2) 1/2" DIA. x 4" WEDGE ANCHORS B. CONCRETE (2) 1/2" DIA. x 4" LONG SIMPSON TITEN HD ANCHORS C. MASONRY (FULLY GROUTED) (4) 3/4" DIA. A325 BOLTS OR 3/16" FILLET WELD D. STEEL PIPE COLUMN

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.
- 7. 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 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).
- 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.
- 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 (U.N.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 R703.8.2.1 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 VALLEYS (UNO).
- 15. ALL 4 x 4 AND 6 x 6 POSTS TO BE INSTALLED WITH 700 LB CAPACITY UPLIFT CONNECTORS TOP AND BOTTOM (UNO.) POSTS MAY BE SECURED USING ONE SIMPSON H6 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.

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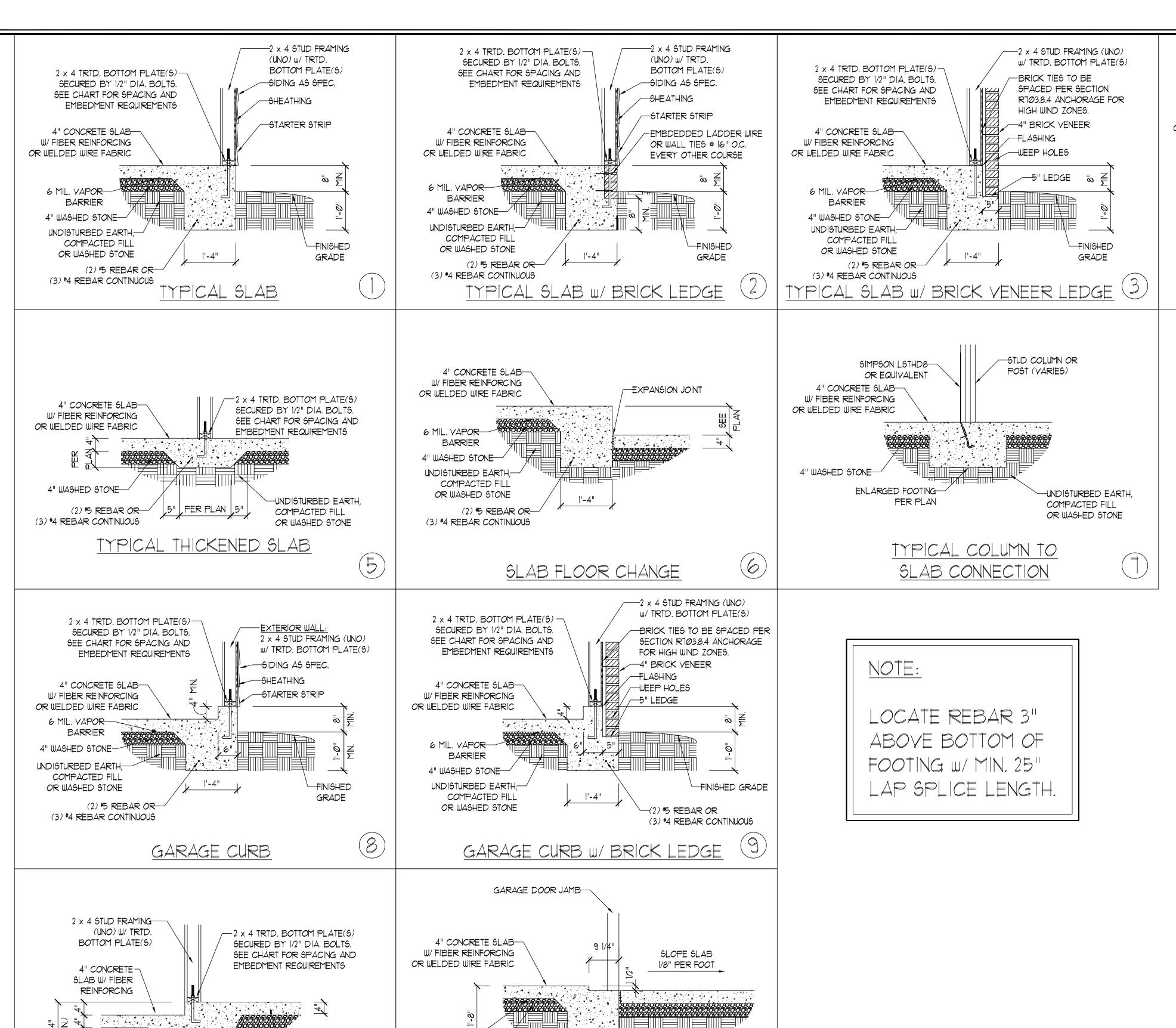
STRUCTURAL

NOTES



10/16/2024

S



1'-4"

SLAB AT GARAGE DOOR

(2) #5 REBAR OR
(3) #4 REBAR CONTINUOUS

ANCHOR SPACING AND EMBEDMENT NOTE: 140 MPH 150 MPH WIND ZONE THREADED ROD WITH EPOXY, 6'-0" O.C. w/ DBL. SILL PLATE OR 1'-9" O.C w/ 6'-0" O.C. w/ DBL. SILL PLATE OR 1'-6" O.C w/ ANCHORS SPACED AS REQUIRED SINGLE SILL PLATE w/ 2" x 2" x 1/8" WASHERS SINGLE SILL PLATE W/ 2" x 2" x 1/8" WASHERS SPACING TO PROVIDE EQUIVALENT INSTALL MIN. (2) ANCHORS PER PLATE SECTION INSTALL MIN. (2) ANCHORS PER PLATE SECTION ANCHORAGE TO 1/2" DIAMETER AND (1) ANCHOR WITHIN 12" OF CORNERS AND (1) ANCHOR WITHIN 12" OF CORNERS ANCHOR BOLTS MAY BE USED IN EMBEDMENT

6 MIL. VAPOR BARRIER

4" WASHED STONE

UNDISTURBED EARTH,-

COMPACTED FILL OR

WASHED STONE

-4" CONCRETE SLAB W/ FIBER REINFORCING OR

WELDED WIRE FABRIC

(3) *4 REBAR CONTINUOUS

-(2) #5 REBAR OR

4" WASHED STONE-

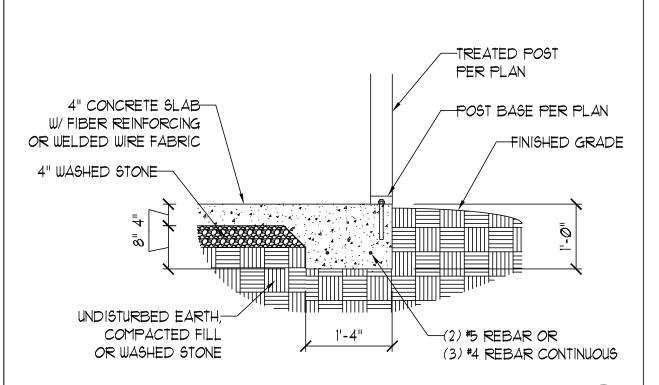
UNDISTURBED EARTH,

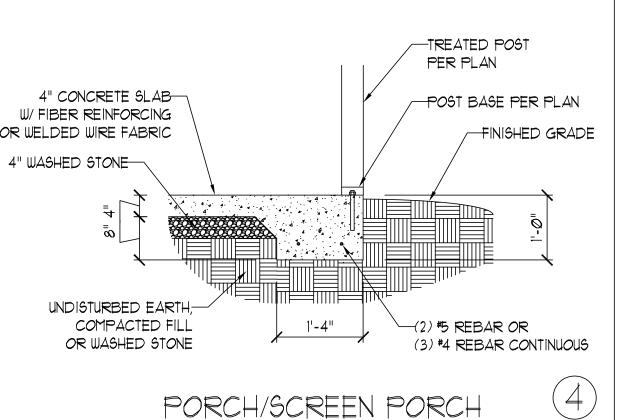
COMPACTED FILL OR WASHED STONE

1'-Ø"

STEP IN GARAGE

SIMPSON TITEN HD, OR APPROVED LIEU OF 1/2" ANCHOR BOLTS.





Z:\CAD Drawings\Details and Notes\Foundation Details\Mono slab foundation details_HIGH WIND_8-22.dwg, 8/30/2022 2:05:13 PM, Craig Amos

SPEED WIND DETA DESIGN V DATION I ULTIMATE I SLAB FOUNI MONOLITHIC S 140

SEAL 33736 10/16/2024

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	DATE: AUGUST 30, 2022
	SCALE: NTS
	1

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> FOUNDATION **DETAILS**

DATE: AUGUST 30, 2022 SCALE: NTS

DRAWN BY: JST

ENGINEERED BY: JST

10/16/2024

FOUNDATION DETAILS

MASONRY STEMWALL SPECIFICATIONS MASONRY WALL TYPE WALL HEIGHT 4" BRICK AND 4" BRICK AND 8" CMU 2 AND UNGROUTED GROUT SOLID UNGROUTED UNGROUTED BELOW UNGROUTED GROUT SOLID UNGROUTED UNGROUTED GROUT SOLID w/ #4 GROUT SOLID w/ #4 GROUT SOLID GROUT SOLID REBAR @ 48" O.C. REBAR @ 64" O.C. GROUT SOLID w/ #4 GROUT SOLID w/ #4 GROUT SOLID w/ #4 NOT APPLICABLE 5 REBAR @ 36" O.C. REBAR @ 36" O.C. REBAR @ 64" O.C. GROUT SOLID w/ #4 GROUT SOLID w/ #4 GROUT SOLID w/ #4 NOT APPLICABLE 6 REBAR @ 24" O.C. REBAR @ 24" O.C. REBAR @ 64" O.C. 7 AND ENGINEERED DESIGN BASED ON SITE CONDITIONS GREATER STRUCTURAL NOTES:

- 1) WALL HEIGHT MEASURED FROM TOP OF FOOTING TO TOP OF THE WALL.
- 2) TIE MULTIPLE WYTHES TOGETHER WITH LADDER WIRE AT 16" O.C. VERTICALLY.
- 3) CHART APPLICABLE FOR HOUSE FOUNDATION ONLY, CONSULT ENGINEER FOR DESIGN OF GARAGE FOUNDATION NOT COMMON TO HOUSE.
- 4) BACKFILL OF CLEAN #51 / #61 WASHED STONE IS ALLOWABLE.
- 5) BACKFILL OF WELL DRAINED OR SAND GRAVEL MIXTURE SOILS (45 PSF/FT BELOW GRADE) CLASSIFIED AS GROUP I ACCORDING TO UNIFIED SOILS CLASSIFICATION SYSTEM IN ACCORDANCE WITH TABLE R405.1 OF THE 2018 NORTH CAROLINA RESIDENTIAL CODE ARE ALLOWABLE.
- 6) PREP SLAB PER <u>R506.2.1</u> AND <u>R506.2.2</u> BASE AND <u>EXCEPTION</u> OF 2018 NORTH CAROLINA RESIDENTIAL CODE.
- 7) MINIMUM 24" LAP SPLICE LENGTH.
- 9) WHERE REQUIRED, FILL BLOCK SOLID WITH TYPE "S" MORTAR OR 3000 PSI GROUT. USE OF "LOW LIFT GROUTING" METHOD REQUIRED WHEN FILLING WALLS WITH GROUT AT HEIGHTS OF 5' AND GREATER.

NOTE:

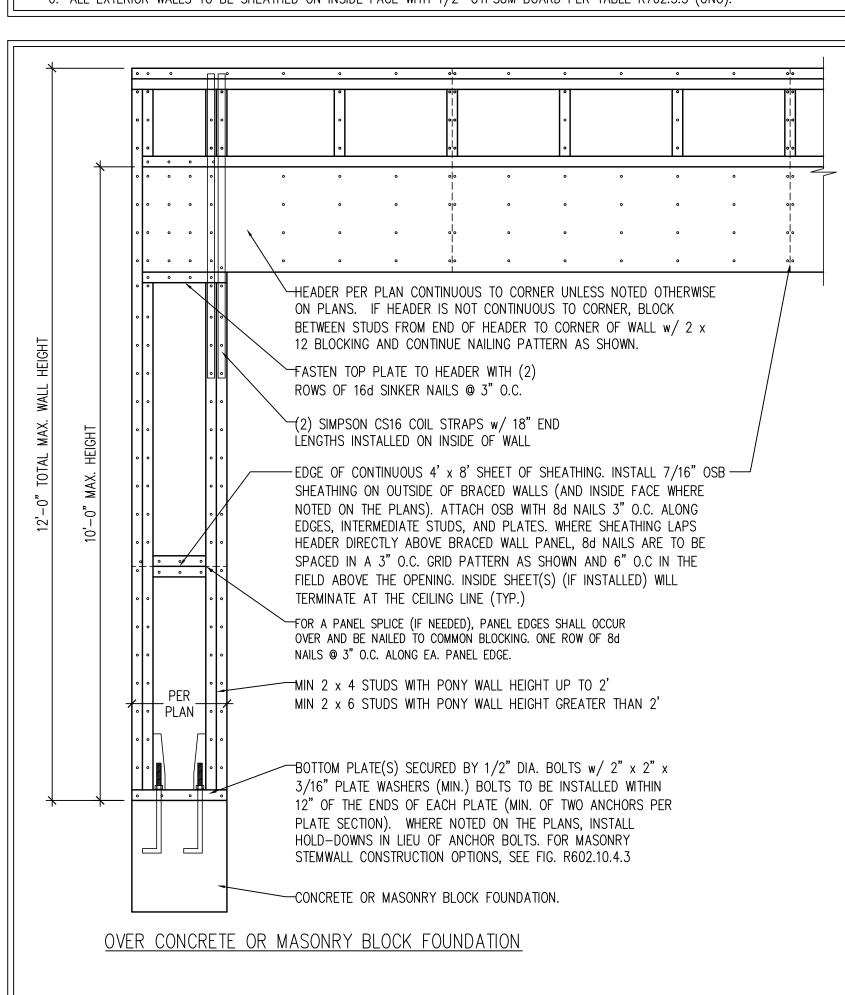
LOCATE REBAR 3" ABOVE BOTTOM OF FOOTING W/MIN. 25" LAP SPLICE LENGTH.

2 × 4 STUD FRAMING (UNO) W TRID, BOTTOM PLATES DBL 2 × 4 TRID, BOTTOM PLATES SECURED BY 1/2" DIA, BOLTS, SEE CHART FOR SPACING AND EMBEDMENT REQUIREMENTS THICKENED SLAB NOT REQUIRED 4" CONCRETE SLAB W FIBER REINFORCING OR WELDED WIRE FABRIC 6 MIL, VAPOR BARRIER 4" WASHED STONE UNDISTURBED EARTH COMPACTED FILL OR WASHED STONE 24" WIDE BY 8" DEEP CONT. 24" WIDE BY 8" DEEP CONT. SEE CHART FOR SPACING AND EMBEDMENT REQ. 10 INDISTURBED ROD CONTINUOUS TO FOOTING. SEE CHART FOR SPACING AND EMBEDMENT REQ.	2 x 4 STUD FRAMING (UNO) W/ TRTD. BOTTOM PLATES DBL 2 x 4 TRTD. BOTTOM PLATES SECURED BY 1/2" DIA. BOLTS. SEE CHART FOR SPACING AND EMBEDMENT REQUIREMENTS 4" CONCRETE SLAB W/ FIBER REINFORCING OR WELDED WIRE FABRIC 6 MIL VAPOR BARRIER 4" WASHED STONE LADDER WIRE EVERY OTHER COURSE 1/2" THREADED ROD CONTINUOUS TO FOOTING. SEE CHART FOR SPACING AND EMBEDMENT REQ.
STEM WALL FDN. DETAIL 1	STEM WALL FDN. W/ BRICK AND CURB 2
2 x 4 STUD FRAMING (UNO) W TRID. BOTTOM PLATES BRICK TIES TO BE SPACED PER SECTION R1038.4 ANCHORAGE FOR HIGH WIND ZONES. SECURED BY 1/2" DIA. BOLTS. SEE CHART FOR SPACING AND EMBEDMENT REQUIREMENTS 4" CONCRETE SLAB W FIBER REINFORCING OR WELDED WIRE FABRIC 6 MIL. VAPOR BARRIER 4" WASHED STONE UNDISTURBED EARTH, COMPACTED FILL OR WASHED STONE 24" WIDE BY 8" DEEP CONT. CONC. FTG. W/ (3) *4 REBAR CONT. OR (2) *5 REBAR CONT. BRICK TIES TO BE SPACED PER SECTION R1038.4 ANCHORAGE FOR HIGH WIND ZONES. 4" BRICK VENEER FLASHING 4" BRICK VENEER FLASHING LADDER WIRE EVERY OTHER COURSE 12" CMU SOLID FILLED STEM WALL RND. 12" THREADED ROD CONTINUOUS TO FOOTING. SEE CHART FOR SPACING AND EMBEDMENT REQ.	2 × 4 STUD FRAMING (UNO) W/ TRTD. BOTTOM PLATES BEL 2 × 4 TRTD. BOTTOM PLATES SECURED BY 1/2" DIA. BOLT9. SEE CHART FOR SPACING AND EMBEDMENT REQUIREMENTS 4" CONCRETE SLAB W/ FIBER REINFORCING OR WELDED WIRE FABRIC 6 MIL. VAPOR BARRIER 4" WASHED STONE UNDISTURBED EARTH COMPACTED FILL OR WASHED STONE 24" WIDE BY 8" DEEP CONT. CONC. FTG. W/ (3) 14 REBAR CONT. OR (2) 15 REBAR CONT. SHEATHING SHEATHING OPTIONAL 4" BRICK YENEER WATERTABLE WEEP HOLES 8" CMU SOLID FILLED STEM WALL FND. 1/2" THREADED ROD CONTINUOUS TO FOOTING. SEE CHART FOR SPACING AND EMBEDMENT REQ.
STEM WALL FDN. W/ BRICK DETAIL (3)	STEM WALL FDN. W/ OPTIONAL BRICK WATERTABLE DETAIL 4

ſ					
	ANCHOR SPACING AND EMBEDMENT			NOTE:	
	WIND ZONE	140 MPH	150 MPH	THREADED ROD WITH EPOXY OR	
	SPACING	1'-9" O.C. W/ DBL. SILL PLATE W/ 2" x 2" x 1/8" WASHERS INSTALL MIN. (2) ANCHORS PER PLATE SECTION AND (1) ANCHOR WITHIN 12" OF CORNERS	1'-6" O.C. W/ DBL. SILL PLATE W/ 2" x 2" x 1/8" WASHERS INSTALL MIN. (2) ANCHORS PER PLATE SECTION AND (1) ANCHOR WITHIN 12" OF CORNERS	APPROVED ANCHORS SPACED AS REQUIRED TO PROVIDE EQUIVALENT ANCHORAGE TO 1/2" DIAMETER ANCHOR BOLTS MAY BE USED IN LIEU OF 1/2" ANCHOR	
	EMBEDMENT	RODS CONTINUOUS FROM FOOTING UP THROUGH SILL PLATE W/ 7" MINIMUM CONCRETE EMBEDMENT	RODS CONTINUOUS FROM FOOTING UP THROUGH SILL PLATE w/ 7" MINIMUM CONCRETE EMBEDMENT	BOLTS.	

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- 1. WALL BRACING DESIGNED IN ACCORDANCE WITH CHAPTER 6 AND CHAPTER 45 OF THE 2018 NC RESIDENTIAL BUILDING CODE (NCRC). TABLES AND FIGURES REFERENCED ARE FROM THE 2018 NCRC. 2. SEE THIS SHEET FOR GENERAL DETAILS. REFER TO THE 2018 NCRC FOR ADDITIONAL INFORMATION AS NEEDED.
- 3. SEE STRUCTURAL SHEETS FOR BRACED WALL LOCATIONS, DIMENSIONS, HOLD DOWN TYPE AND LOCATIONS. AND ANY SPECIAL NOTES OR REQUIREMENTS 4. ALL EXTERIOR WALLS ARE TO BE SHEATHED WITH 7/16" OSB WITH BLOCKING AT ALL SHEATHING JOINTS AND 8d NAILS AT 3"
- O.C. ALONG EDGES AND 6" O.C. IN THE FIELD UNLESS NOTED OTHERWISE 5. SECURE ALL EXTERIOR WALL SHEATHING PANELS TO DOUBLE TOP PLATES, BAND JOISTS, AND GIRDERS WITH (2) ROWS OF 8d NAILS STAGGERED AT 3" O.C.. PANELS SHALL EXTEND 12" BEYOND CONSTRUCTION JOINTS AND SHALL OVERLAP GIRDERS AND
- SILL PLATES THEIR FULL DEPTH. 6. ALL EXTERIOR WALLS TO BE SHEATHED ON INSIDE FACE WITH 1/2" GYPSUM BOARD PER TABLE R702.3.5 (UNO)



SIMPSON LTP4 ANCHOR AT EACH

END OF THE PORTAL FRAME PANEL

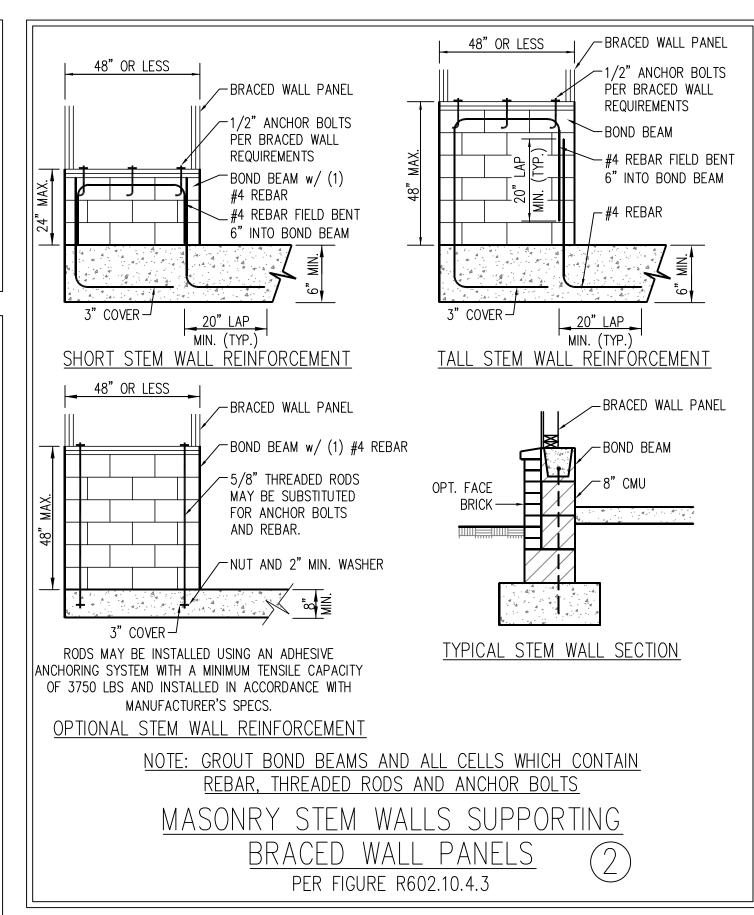
-WOOD STRUCTURAL PANEL SHEATHING

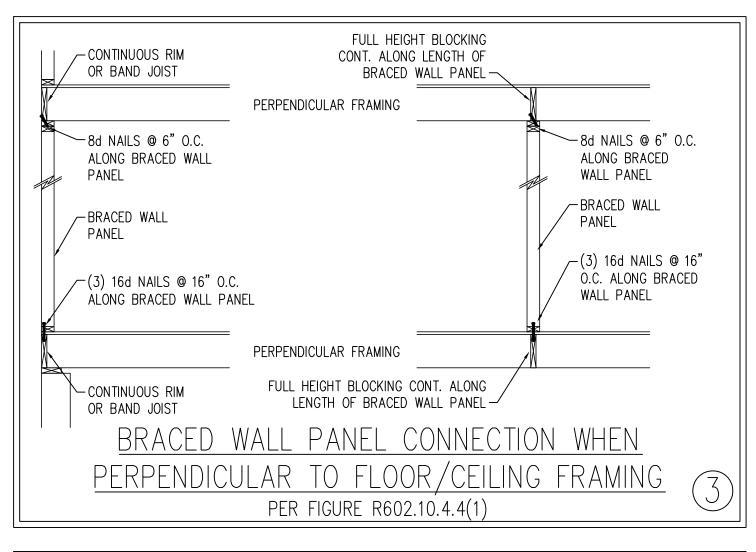
OVER APPROVED BAND OR RIM JOIST

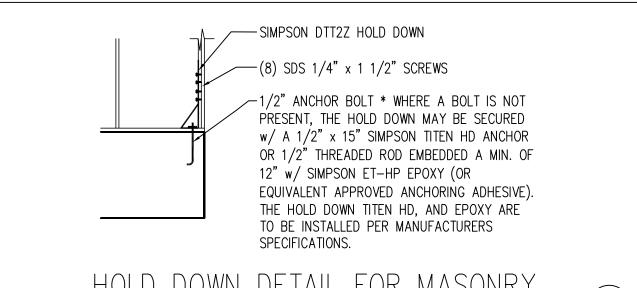
METHOD PF-PORTAL FRAME DETAIL

OVER RAISED WOOD FLOOR — FRAMING ANCHOR OPTION

* APPLICABLE w/ GREATER THAN 12" KNEE WALL HEIGHTS IN CRAWL SPACE AND ABOVE FRAMED BASEMENT WALLS *







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

TYPICAL EXTERIOR CORNER FRAMING FOR CONTINUOUS SHEATHING PER FIGURE R602.10.3(5) MIN. 24" WOOD STRUCTURAL \sim 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 -GYPSUM WALLBOARD AS REQUIRED 0.131") @ 12" O.C._ AND INSTALLED IN ACCORDANCE WITH CHAPTER 7 (TYP.) OPTIONAL NON-STRUCTURAL \sim CONTINUOUS WOOD STRUCTURAL FILLER PANEL -PANEL BRACED WALL LINE SEE TABLE R602.3(1) FOR FASTENING (a) OUTSIDE CORNER DETAIL (50) ORIENTATION OF STUD MAY VARY. SEE FIGURE R602.3(2) 16d NAIL (3 1/2" x 0.131") @ 12" O.C._ -CONTINUOUS WOOD STRUCTURAL PANEL BRACED WALL LINE "SEE TABLE R602.3(1) GYPSUM WALLBOARD AS FOR FASTENING REQUIRED AND INSTALLED IN ACCORDANCE WITH CHAPTER -MIN. 24" WOOD STRUCTURAL PANEL 7 (TYP.)_ CORNER RETURN. AN 800 LB HOLD DOWN DEVICE MAY BE INSTALLED IN LIEU OF CORNER RETURN (b) Inside corner detail (5b)GYPSUM WALLBOARD AS REQUIRED \sim SEE TABLE R602.3(1) AND INSTALLED IN ACCORDANCE WITH FOR FASTENING CHAPTER 7 (TYP.) 16d NAIL (3 1/2" x 0.131") (2 ROWS @ 24" ∕-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 BRACED WALL LINE -AT EACH PANEL EDGE (c) GARAGE DOOR CORNER DETAIL (SEE PLAN FOR ADDITIONAL

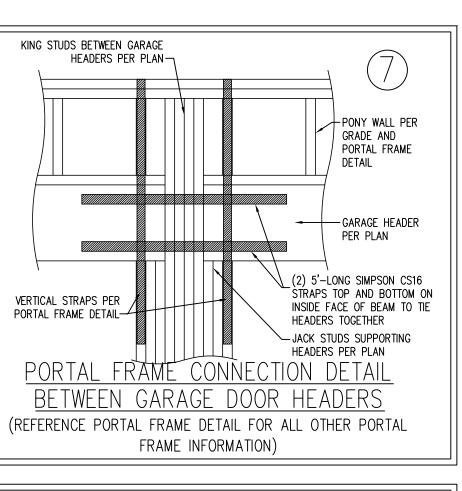
STRUCTURAL INFORMATION OR ALTERNATE CONFIGURATIONS)

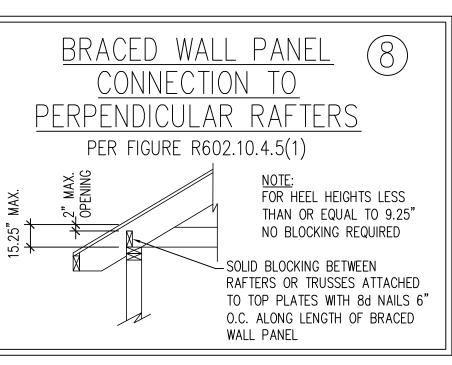
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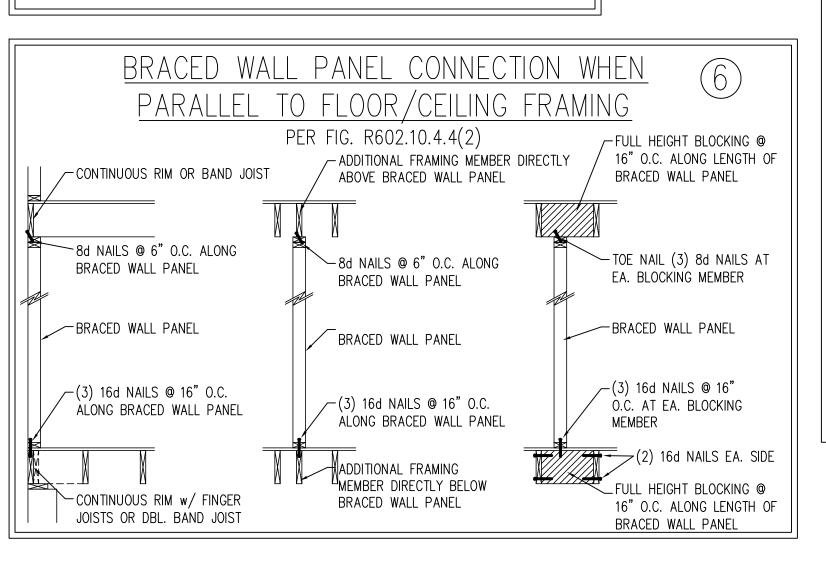
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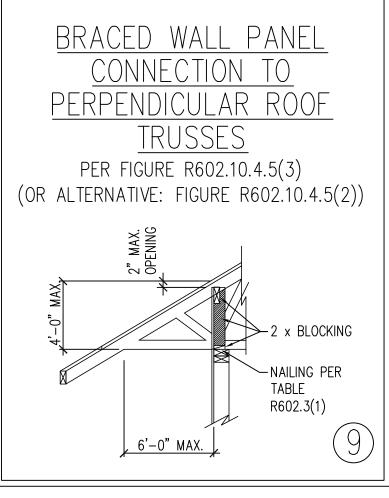
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D-2 BRACED WALL AND PF DETAIL

SPE WIND ETAILS MPH ULTIMATE BRACING NOTES MPH - 150 | WALL | 40

DATE: AUGUST 30, 2022

SCALE: NTS

DRAWN BY: JST ENGINEERED BY: JST

NOTES AND DETAILS

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 I-JOIST OR FLOOR/ROOF TRUSS LAYOUT DESIGN AND
- 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.

GENERAL NOTES

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

ACCURACY.

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	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
- 4. FOR 115 AND 120 MPH WIND ZONES, FOUNDATION ANCHORAGE IS 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 11 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 1, 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.

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- 5. MASONRY UNITS TO CONFORM TO ACE 530/ASCE 5/TMS 402. MORTAR SHALL CONFORM 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.
- 7. 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 7" DEPTH SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES: Fc = 2500 PSI, E =1800000 PSI. PARALLEL STRAND LUMBER (PSL) MORE THAN 7" DEPTH SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES: Fc = 2900 PSI, E = 2000000 PSI. INSTALL ALL CONNECTIONS PER MANUFACTURER'S SPECIFICATIONS.

STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING ASTM SPECIFICATIONS

W AND WT SHAPES: ASTM A992 CHANNELS AND ANGLES: ASTM A36 PLATES AND BARS: ASTM A36 ASTM A500 GRADE B HOLLOW STRUCTURAL SECTIONS: ASTM A53, GRADE B, TYPE E OR S STEEL PIPE:

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 (2) 1/2" DIA. x 4" WEDGE ANCHORS B. CONCRETE (2) 1/2" DIA. x 4" LONG SIMPSON TITEN HD ANCHORS C. MASONRY (FULLY GROUTED) (4) 3/4" DIA. A325 BOLTS OR 3/16" FILLET WELD D. STEEL PIPE COLUMN

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.
- 7. 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 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).
- 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.
- 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 (U.N.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 R703.8.2.1 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 VALLEYS (UNO).
- 15. ALL 4 x 4 AND 6 x 6 POSTS TO BE INSTALLED WITH 700 LB CAPACITY UPLIFT CONNECTORS TOP AND BOTTOM (UNO.) POSTS MAY BE SECURED USING ONE SIMPSON H6 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.

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STRUCTURAL NOTES



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