LIST OF ABBREVIATIONS

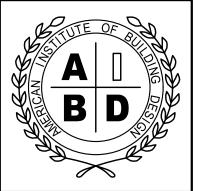
REDLINE NOTES

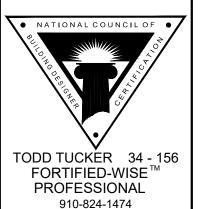
Caviness & Cates Communities

SUMMARY

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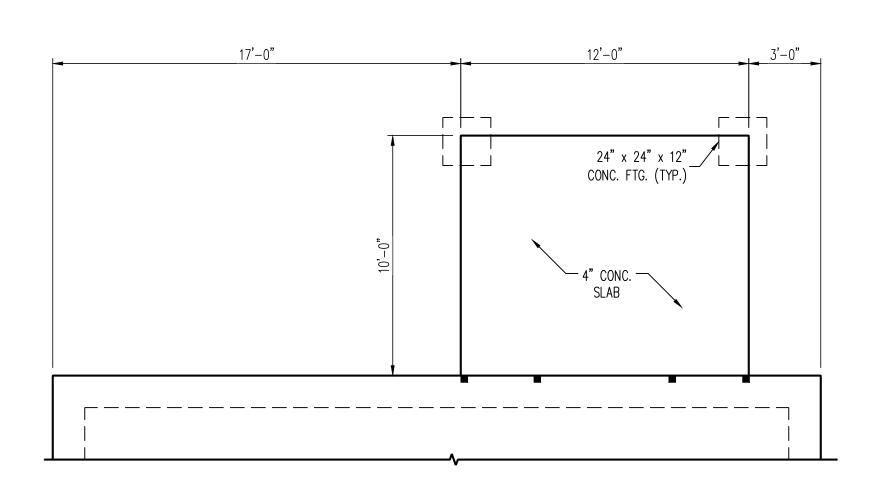
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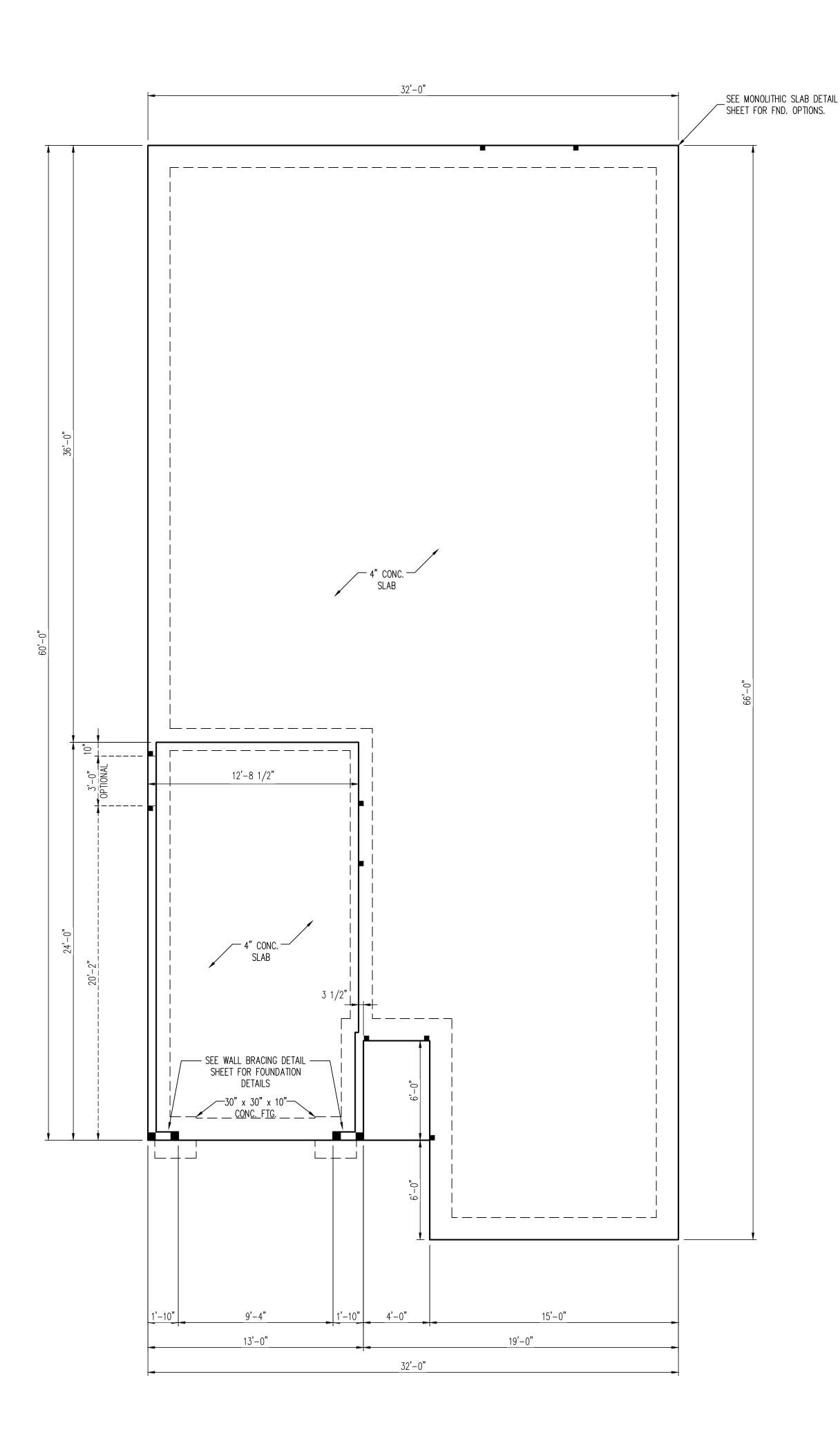
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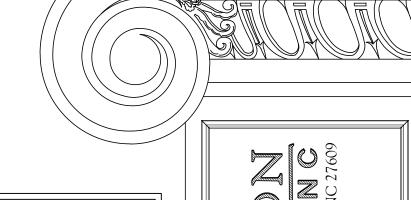
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OPTIONAL COVERED PORCH





150 MPH ULTIMATE DESIGN WIND SPEED

NOTES FOR LESS THAN

30' MEAN ROOF HEIGHT:

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

STRUCTURAL DESIGN PER NORTH CAROLINA 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.
 MEAN ROOF HEIGHT IS LESS THAN 30 FEET.
 WALL CLADDING DESIGNED FOR +24.3 PSF AND -32 PSF (+/- INDICATE POSITIVE / NEGATIVE

PRESSURE (TYP).

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.

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.

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.

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 7"
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 -20

PSF (+/- INDICATE POSITIVE / NEGATIVE PRESSURE (TYP).

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 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.

SEE THE WALL BRACING NOTES AND DETAILS SHEET FOR MORE INFORMATION.

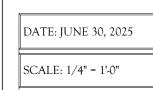
9. ENERGY EFFICIENCY COMPLIANCE AND INSULATION VALUES OF THE BUILDING TO BE IN ACCORDANCE WITH CHAPTER 11 OF THE NCRC, 2018 EDITION.

10. 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 OTHERWIS	



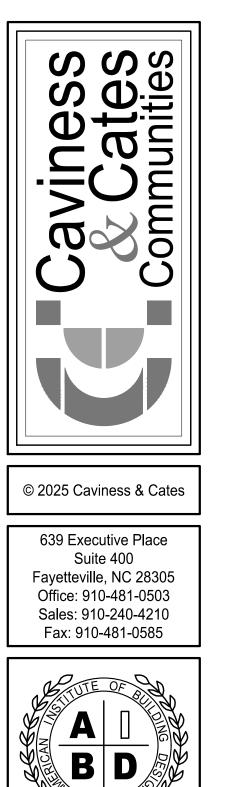


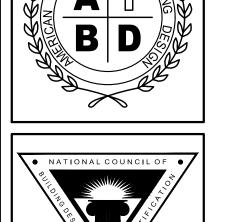
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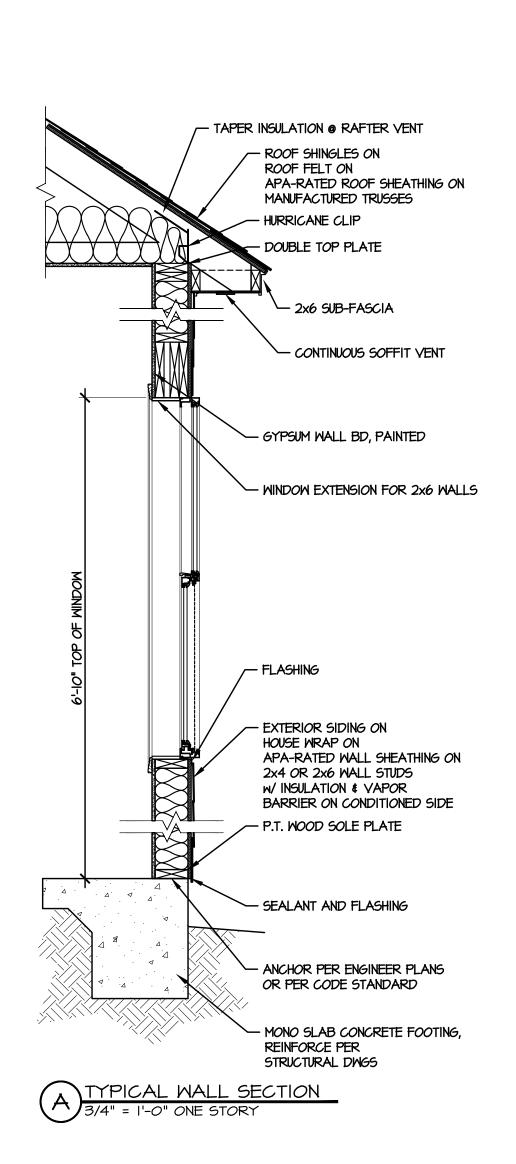
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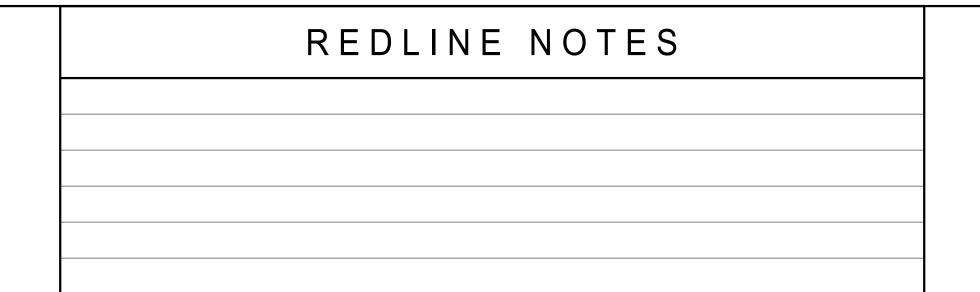
1680 AND

S-1 MONO SLAB FOUNDATION PLAN









ELECTRICAL NOTES:

I. INSTALL LOW-WATTAGE LED LIGHTING IN
SMALL CLOSETS PER 2023 NCEC ARTICLE
410.2 & ARTICLE 410.16

SMOKE DETECTOR NOTES:

I. INSTALL SMOKE DETECTORS ON EVERY LEVEL, IN ALL SLEEPING AND GUEST ROOMS, AND OUTSIDE OF EACH SLEEPING ROOM, NO GREATER THAN 21' FROM ANY DOOR TO A SLEEPING ROOM [2022

NFPA 72, 24.8.I.]

2. WHERE AN INTERIOR FLOOR LEVEL EXCEEDS 1000 SQUARE FEET, SMOKE ALARMS SHALL BE INSTALLED WHERE ALL POINTS FALL WITHIN 30' OF TRAVEL DISTANCE OR ONE SMOKE ALARM PER 500 SQUARE FEET. FOR VAULTED CEILINGS OVER MULTIPLE LEVELS, SMOKE ALARMS IN THE UPPER LEVEL NEAR THE CATHEDRAL SHALL BE CONSIDERED AS PART OF THE LOWER FLOOR PROTECTION [2022 NFPA 72, 24.8.I.3, 24.8.I.3.I and

3. MAINTAIN 120" MIN FROM KITCHEN COOKING APPLIANCES [2022

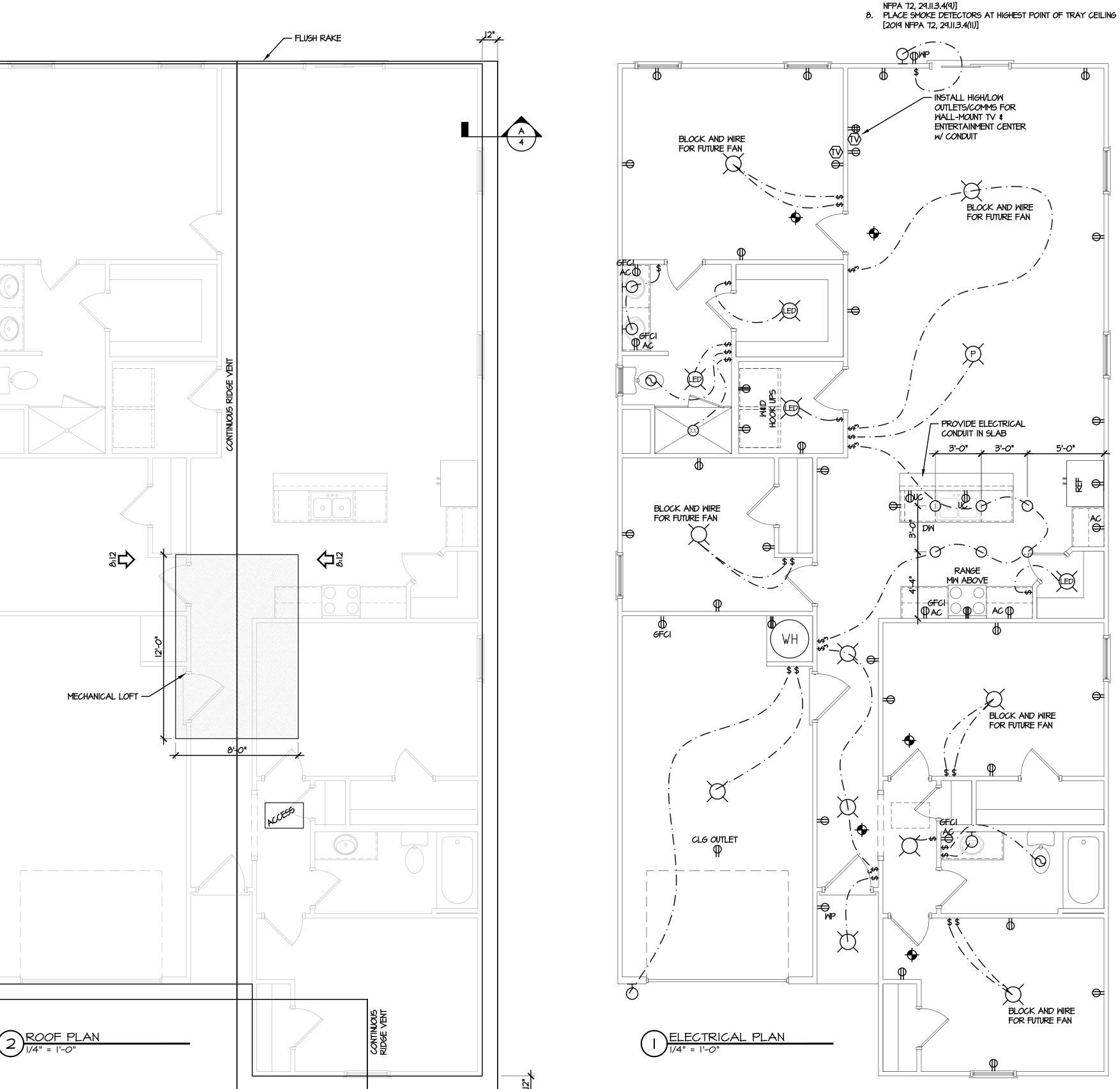
NFPA 72, 29.11.3.4(5)]
4. MAINTAIN 36" MIN FROM A BATHROOM DOOR CONTAINING A TUB

OR SHOWER [2022 NFPA 72, 29.11.3.4(6)]
5. MAINTAIN 36" MIN FROM A SUPPLY REGISTER OF A FORCED HEATING/COOLING SYSTEM AND OUTSIDE OF THE DIRECT AIRFLOW

[2022 NFPA 72, 29.11.3.4(7)]
6. MAINTAIN 36" MIN FROM TIP OF CEILING FAN BLADE [2019 NFPA

T2, 29.11.3.4(8)]

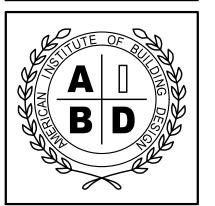
7. WHERE STAIRS LEAD TO AN ABOVE-OCCUPIABLE LEVEL, A SMOKE DETECTOR SHALL BE LOCATED SO THAT RISING SMOKE IN THE STAIRWAY CANNOT BE BLOCKED BY AN INTERVENING DOOR [2019]

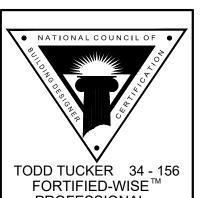




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639 Executive Place
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Fayetteville, NC 28305
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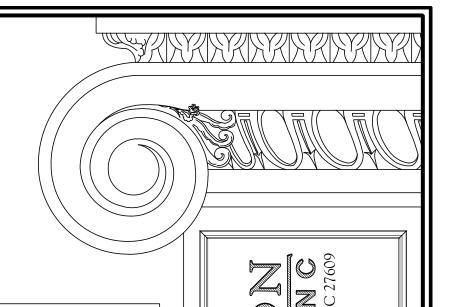
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MAY 2025

REVISIONS:

SHEET NO:

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BRACED WALL DESIGN NOTES:

INFORMATION.

- 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

STRUCTURAL NOTES:

- ALL FRAMING LUMBER TO BE #2 SPF
- 2. ALL LOAD BEARING HEADERS TO BE (2) 2
- x 6 (UNO). . WINDOW AND DOOR HEADERS TO BE SUPPORTED w/ (1) JACK STUD AND (1) KING STUD EA. END (UNO.). SEE TABLE R602.7.5 FOR ADDITIONAL KING STUD REQUIREMENTS.
- . SQUARES DENOTE POINT LOADS WHICH REQUIRE SOLID BLOCKING TO GIRDER OR FOUNDATION. SQUARES TO BE (2) STUDS
- . 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.
- SPECIFIED SIMPSON STRONG—TIE PRODUCTS MAY BE SUBSTITUTED WITH THOSE MANUFACTURED BY USP STRUCTURAL CONNECTORS PROVIDED THAT THE LOAD
- CAPACITY AND FUNCTION IS EQUIVALENT. . REFER TO NOTES AND DETAIL SHEETS FOR ADDITIONAL STRUCTURAL INFORMATION.

MINIMUM NUMBER OF FULL HEIGHT KING STUDS AT EACH END OF HEADERS IN EXTERIOR WALLS IN 150 MPH WIND ZONES

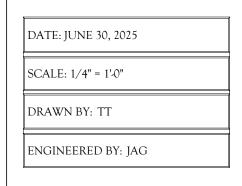
EXTERIOR WALLS IN 130 MPH WIND ZONES			
HEADER SPAN (FEET)	MINIMUM NUMBER OF FULL HEIGHT STUDS (KINGS)		
UP TO 3'	2		
> 3' TO 6'	3		
> 6' TO 9'	4		
> 9' TO 12'	5		
> 12' TO 15'	6		

6/30/2025

TABLE R602.7.5						
MUMINIM	NUMB	ER OF	FULL	HEIGHT	KING	STUDS
AT EACH	END	OF HE	ADERS	IN EXT	ERIOR	WALLS

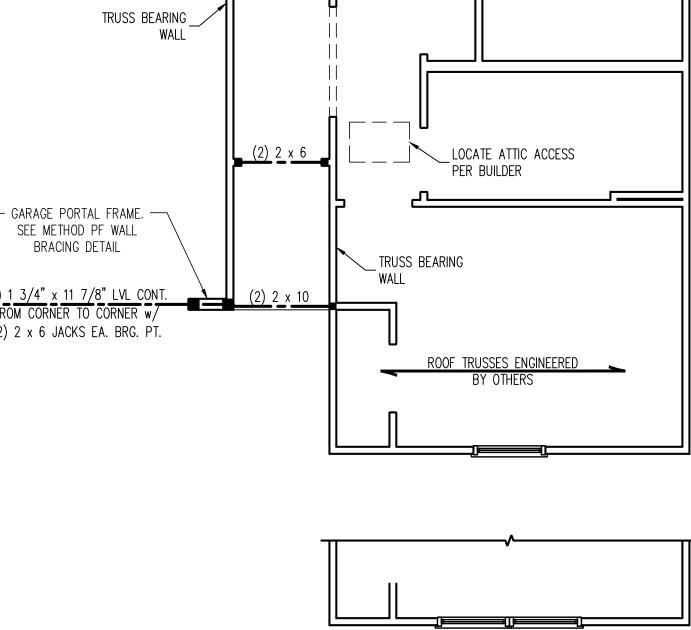
HEADER SPAN (FEET)	MINIMUM NUMBER OF FULL HEIGHT STUDS (KINGS)
UP TO 3'	1
> 3' TO 6'	2
> 6' TO 9'	3
> 9' TO 12'	4
> 12' TO 15'	5

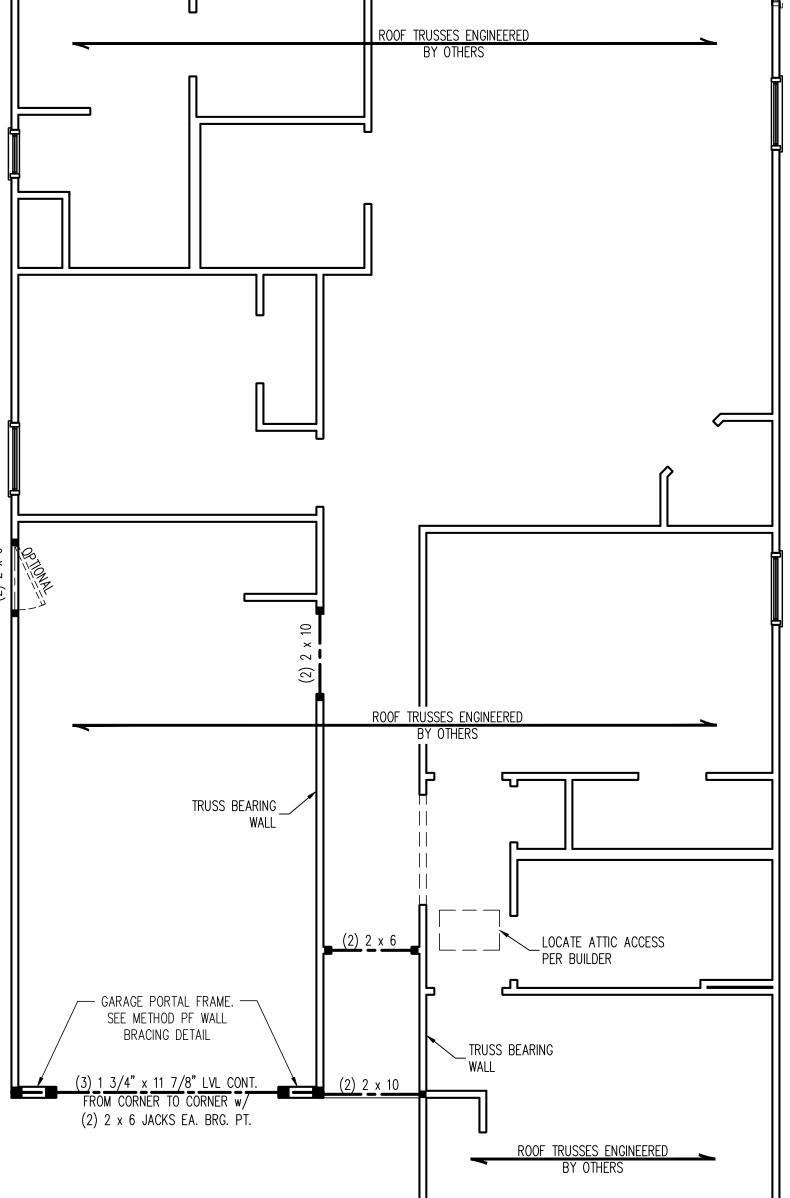
	LEGEND		
CONT	CONTINUOUS		
XJ	EXTRA JOIST		
DJ	DOUBLE JOIST		
TJ	TRIPLE JOIST		
EA	EACH		
()	NUMBER OF STUDS		
DSP	DOUBLE STUD POCKET		
TSP	TRIPLE STUD POCKET		
OC	ON CENTER		
SPF	SPRUCE PINE FIR		
SYP	SOUTHERN YELLOW PINE		
TRTD	PRESSURE TREATED		
TYP	TYPICAL		
UNO	UNLESS NOTED OTHERWISE		



1680 AND







OPT FRAME DOWN TRAY 3.5"

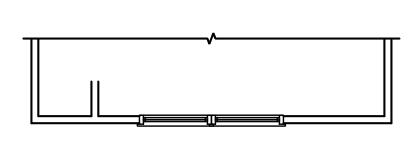
(2) 2 x 10

4 x 4 TRTD. POST

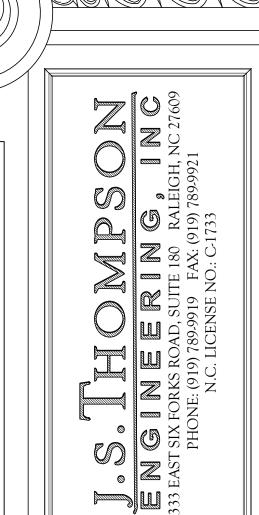
MIN. (TYP.)

(2) 2 x 10 (TYP.)

OPTIONAL COVERED PORCH



OPTIONAL FRONT WINDOWS



STRUCTURAL NOTES:

1. ALL FRAMING LUMBER TO BE #2 SPF (UNO).
2. CIRCLES DENOTE (3) 2 x 4 POSTS FOR ROOF

SUPPORT.

3. FRAME DORMER WALLS ON TOP OF DOUBLE OR

TRIPLE RAFTERS.

4. HIP SPLICES ARE TO BE SPACED A MIN. OF 8'-0". FASTEN MEMBERS WITH THREE ROWS OF

12d NAILS @ 16" O.C. (TYP.)

5. STICK FRAME OVER-FRAMED ROOF SECTIONS W/
2 x 8 RIDGES, 2 x 6 RAFTERS @ 16" O.C. AND
FLAT 2 x 10 VALLEYS OR USE VALLEY TRUSSES.

6. FASTEN FLAT VALLEYS TO RAFTERS OR TRUSSES

WITH 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.

7. 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	



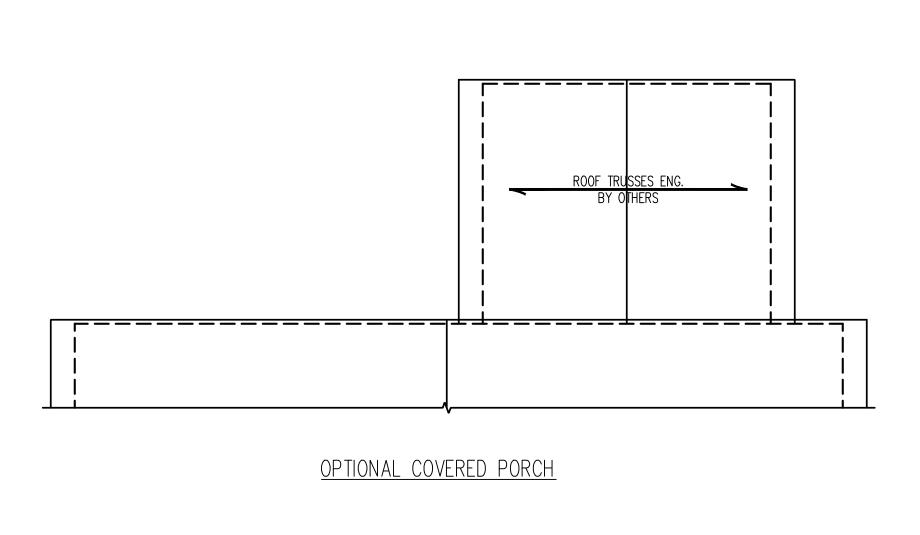
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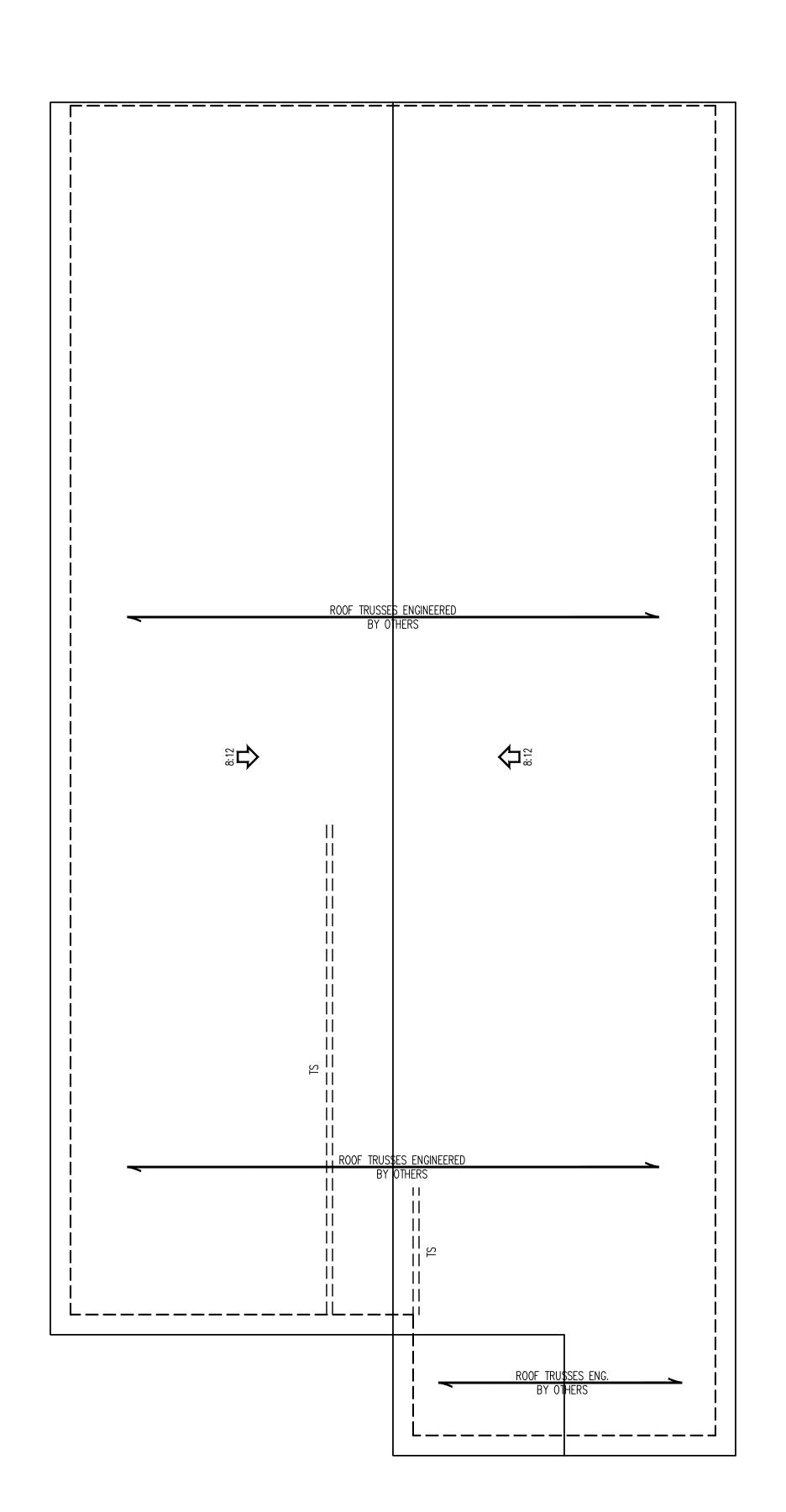
1680 AND

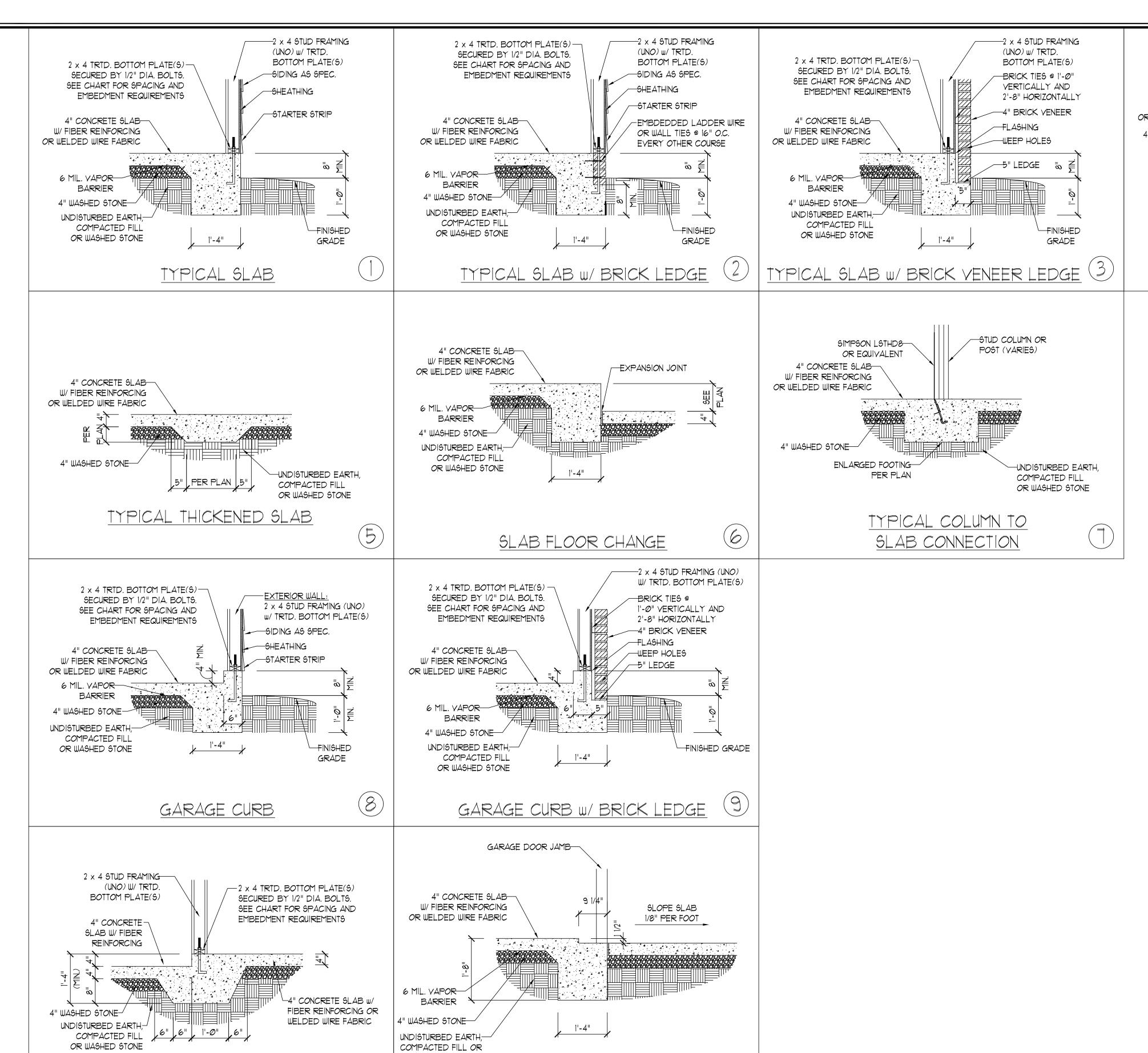
DRAWN BY: TT

ENGINEERED BY: JAG

S-3 ROOF FRAMING PLAN







SLAB AT GARAGE DOOR

THREADED ROD WITH EPOXY,

TO PROVIDE EQUIVALENT

LIEU OF 1/2" ANCHOR BOLTS.

SIMPSON TITEN HD, OR APPROVED

ANCHORS SPACED AS REQUIRED

ANCHOR BOLTS MAY BE USED IN

ANCHORAGE TO 1/2" DIAMETER

NOTE:

UNDISTURBED EARTH,-

COMPACTED FILL OR

130 MPH

4'-Ø" O.C.

INSTALL MIN. (2) ANCHORS PER

PLATE SECTION AND (1)

ANCHOR WITHIN 12" OF CORNERS

15" INTO MASONRY

7" INTO CONCRETE

STEP IN GARAGE

120 MPH

6'-Ø" O.C.

INSTALL MIN. (2) ANCHORS PER

PLATE SECTION AND (1)

ANCHOR WITHIN 12" OF CORNERS

7"

WIND ZONE

SPACING

EMBEDMENT

ANCHOR SPACING AND EMBEDMENT

WASHED STONE

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

SLAB ETAIL MONOLITHIC FOUNDATION D

SEAL 33736

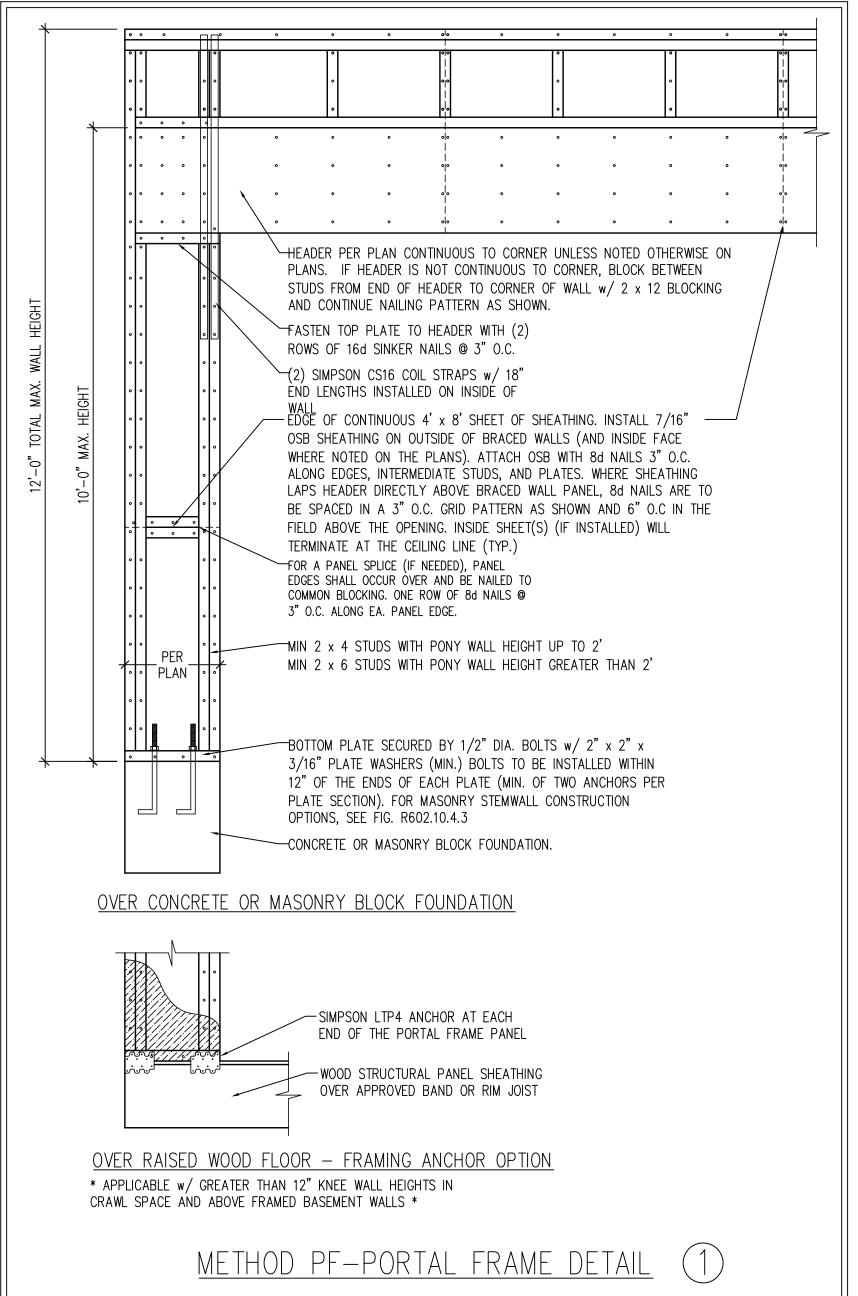
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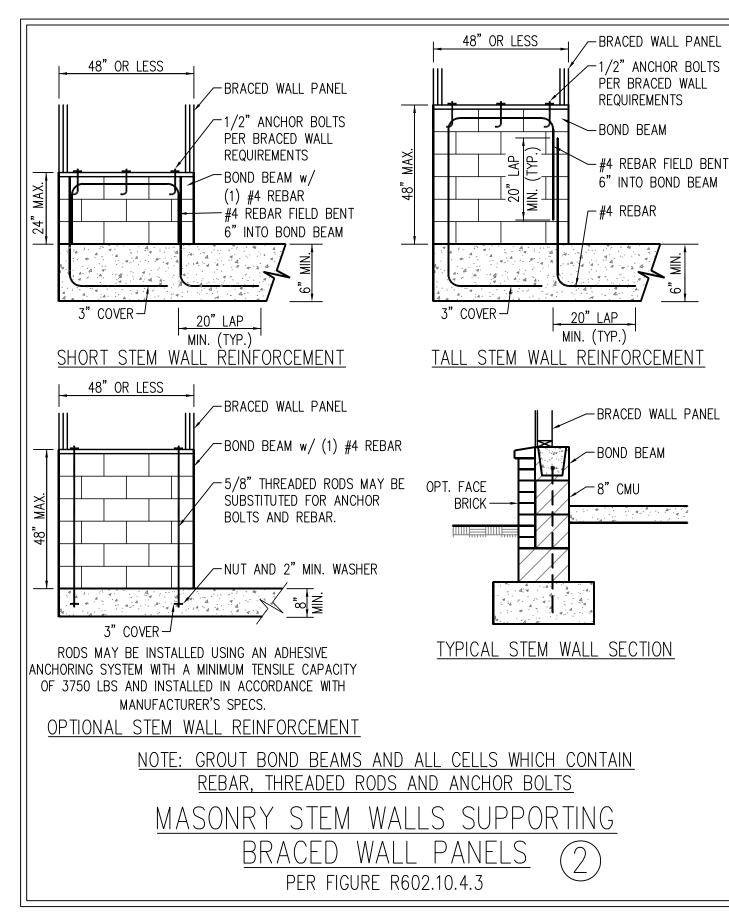
DATE: AUGUST 30, 2022 SCALE: NTS DRAWN BY: JST ENGINEERED BY: JST

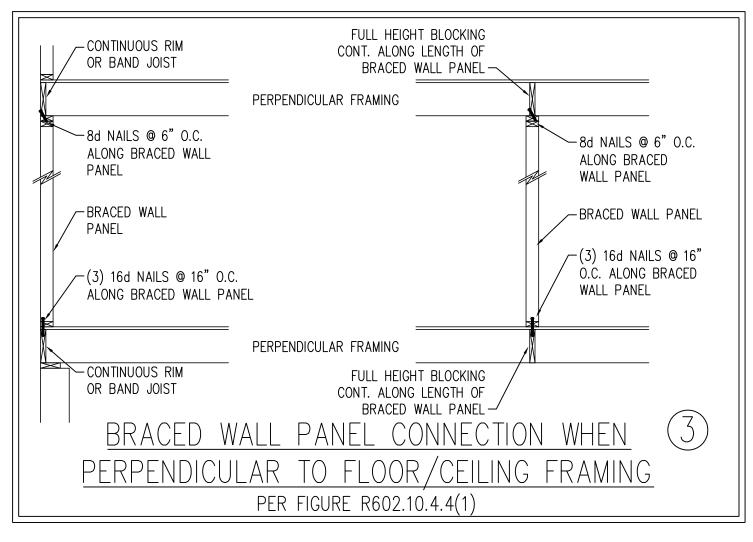
FOUNDATION

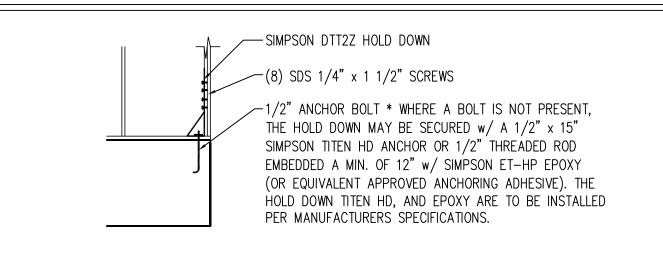
DETAILS

- 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

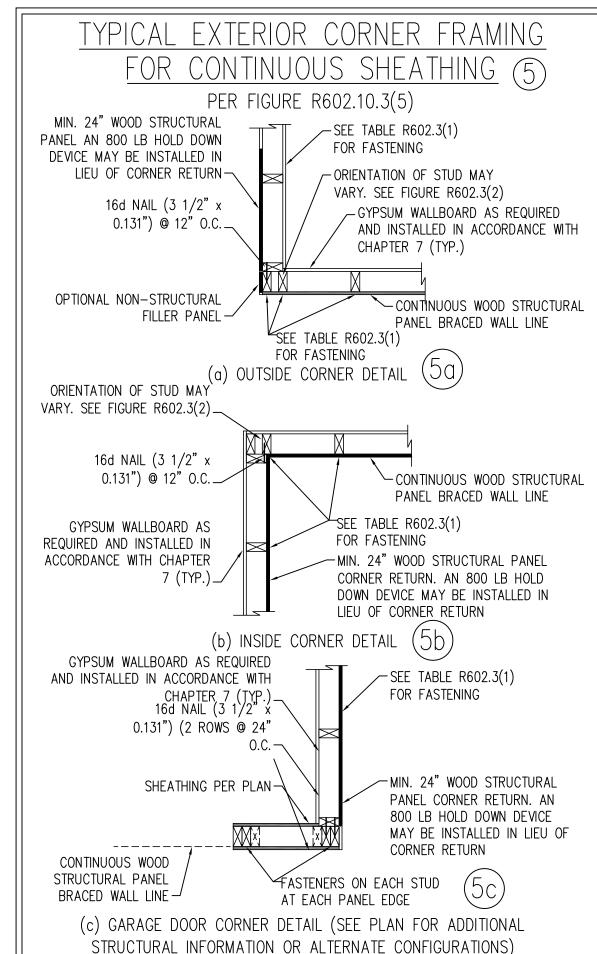


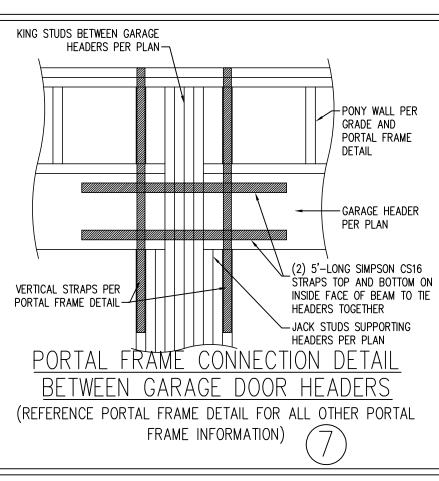


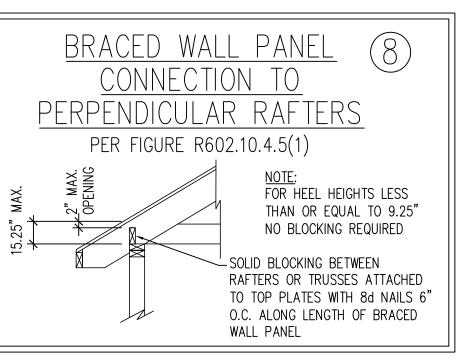


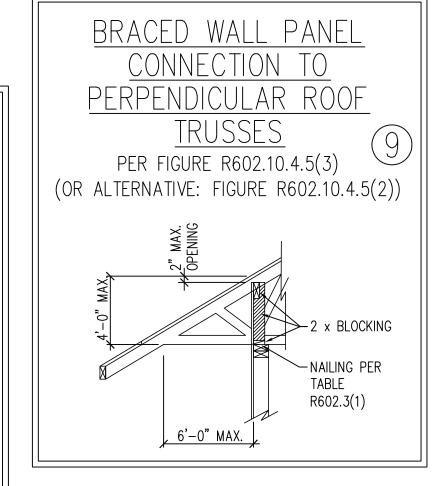


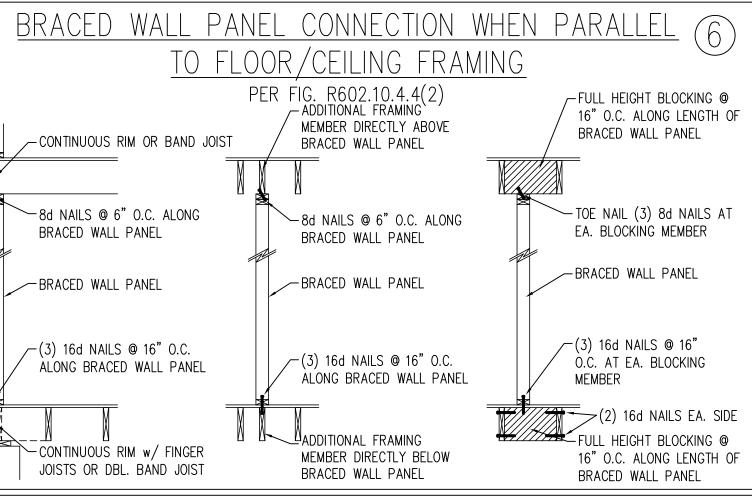
HOLD DOWN DETAIL FOR MASONRY FOUNDATION OR MONOLITHIC SLAB * APPLICABLE ONLY WHERE SPECIFIED ON PLAN *











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BRACING

DATE: AUGUST 30, 2022

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

DRAWN BY: JST

ENGINEERED BY: JST

BRACED WALL NOTES AND DETAILS AND PF DETAIL

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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ENGINEERED BY: JST

STRUCTURAL NOTES