

154 Elgin Drive

# HAMEL Model Garage Right

STANDARD WITH OPTIONS

April 10, 2023



ORIGINAL FRONT ELEVATION SKETCH

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REVISIONS:

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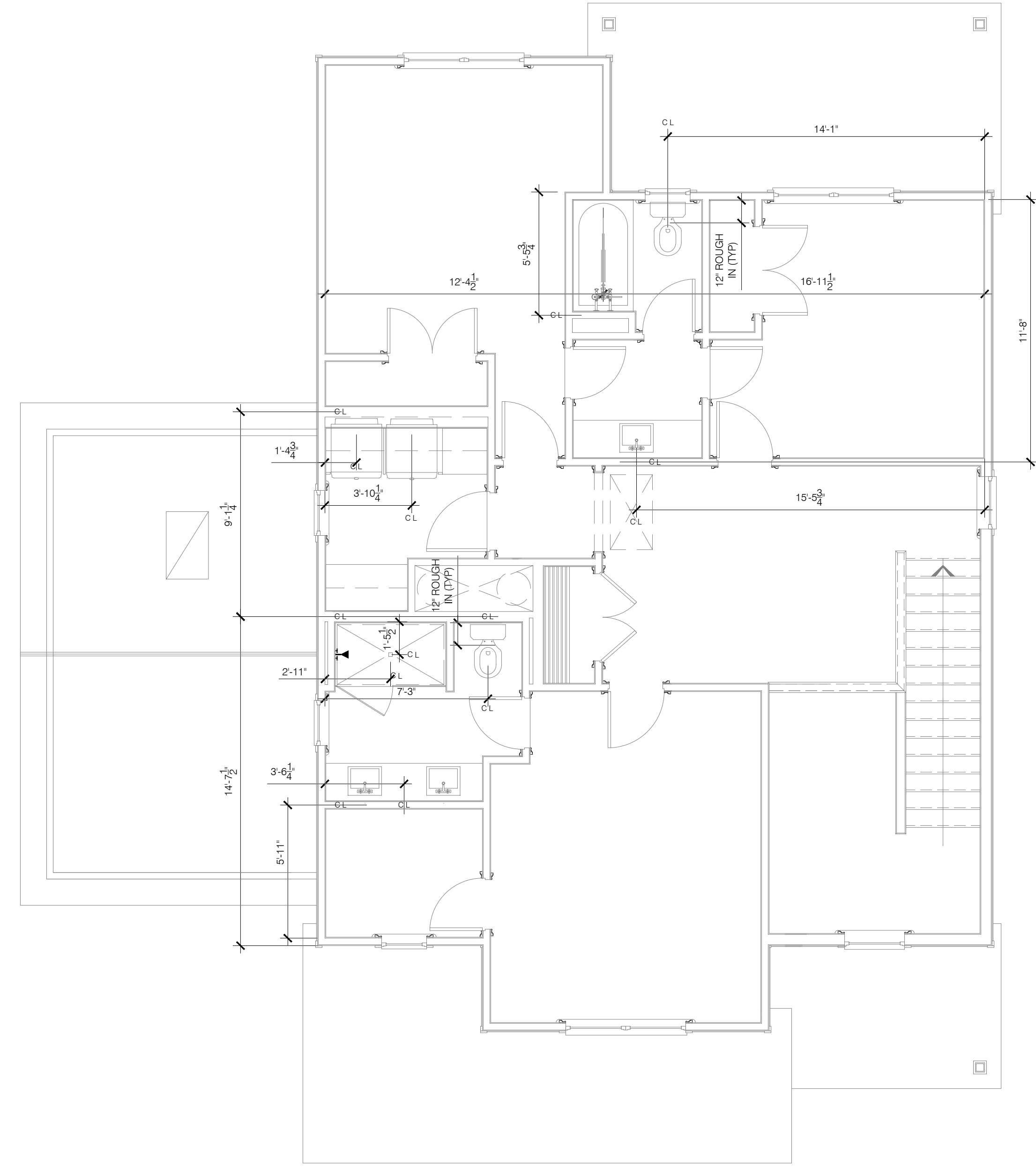
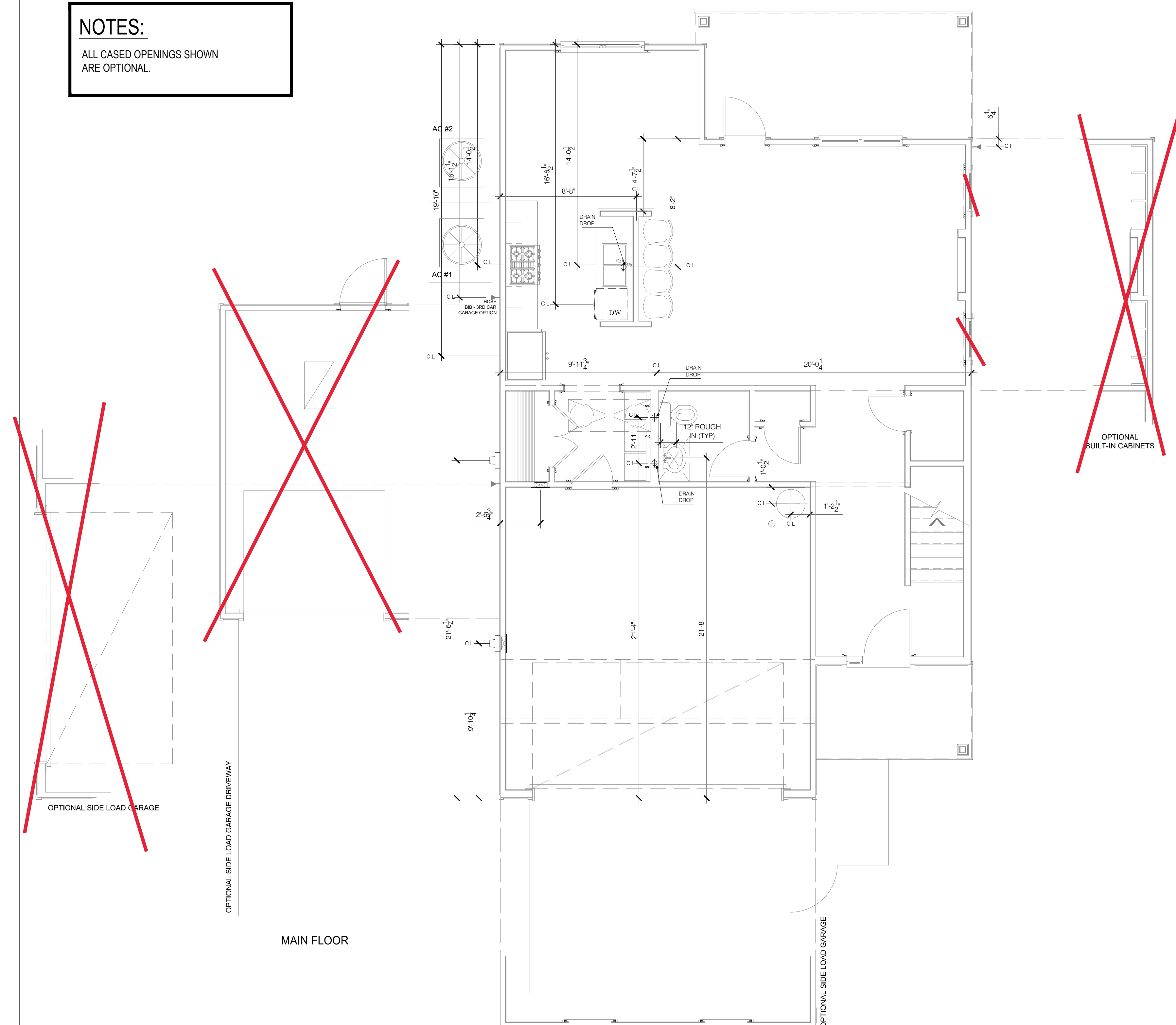
THE HAMEL  
COVER SHEET

154 Elgin Dr

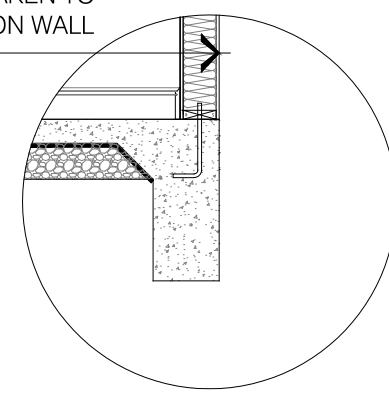
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ENGINEER: NS  
CHECKED BY: NS  
Q.C. BY: NTS  
SCALE:  
SHEET NUMBER#:  
**A0**

**NOTES:**  
ALL CASED OPENINGS SHOWN  
ARE OPTIONAL.

**NOTE:**  
AC RETURN VENTS SHALL NOT BE PLACED WITHIN 10'  
OF AN OPEN COMBUSTION CHAMBER, A DRAFT HOOD OR  
ANOTHER APPLIANCE OR WITHIN 10' OF COOKING APPLIANCES.  
CODE M.1602.2 / 601.5



DIMENSIONS TAKEN TO  
OUTSIDE OF PLY FOUNDATION WALL



PLUMBING FIXTURE LOCATIONS PLANS - WITH OPTIONS  
SCALE: 1/4" = 1'-0"

REVISIONS:  
REV A: 05/04/2023. SIDE LOAD GARAGE ADJUSTED, ADDITIONAL FRONT ELEVATION WINDOWS ADDED.  
REV B: 07/14/2023. LAUNDRY & UPPER FLOOR CHASE REVISED FOR AC DESIGN.  
REV C: 08/01/2023. KITCHEN ISLAND FRAMING ADDED.  
REV D: 09/11/2023. AC CHASES UPDATED TO FIX AC DESIGN ISSUES.  
REV E: 10/31/2023. KITCHEN & ISLAND REVISED.  
REV F: 11/12/24. KITCHEN ISLAND FRAMING ADDED.  
REV G: 11/12/24. KITCHEN ISLAND FRAMING REVISED TO 60" FRAMED KITCHEN ISLAND ADDED.

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THE HAMEL  
PLUMBING FIXTURE LOCATION  
PLANS

DATE: 2023-03-31  
DRAWN BY: NS  
ENGINEER: NS  
CHECKED BY: NS  
Q.C. BY: NS  
SCALE: 1/4" = 1'-0"  
SHEET NUMBER:  
**P1**

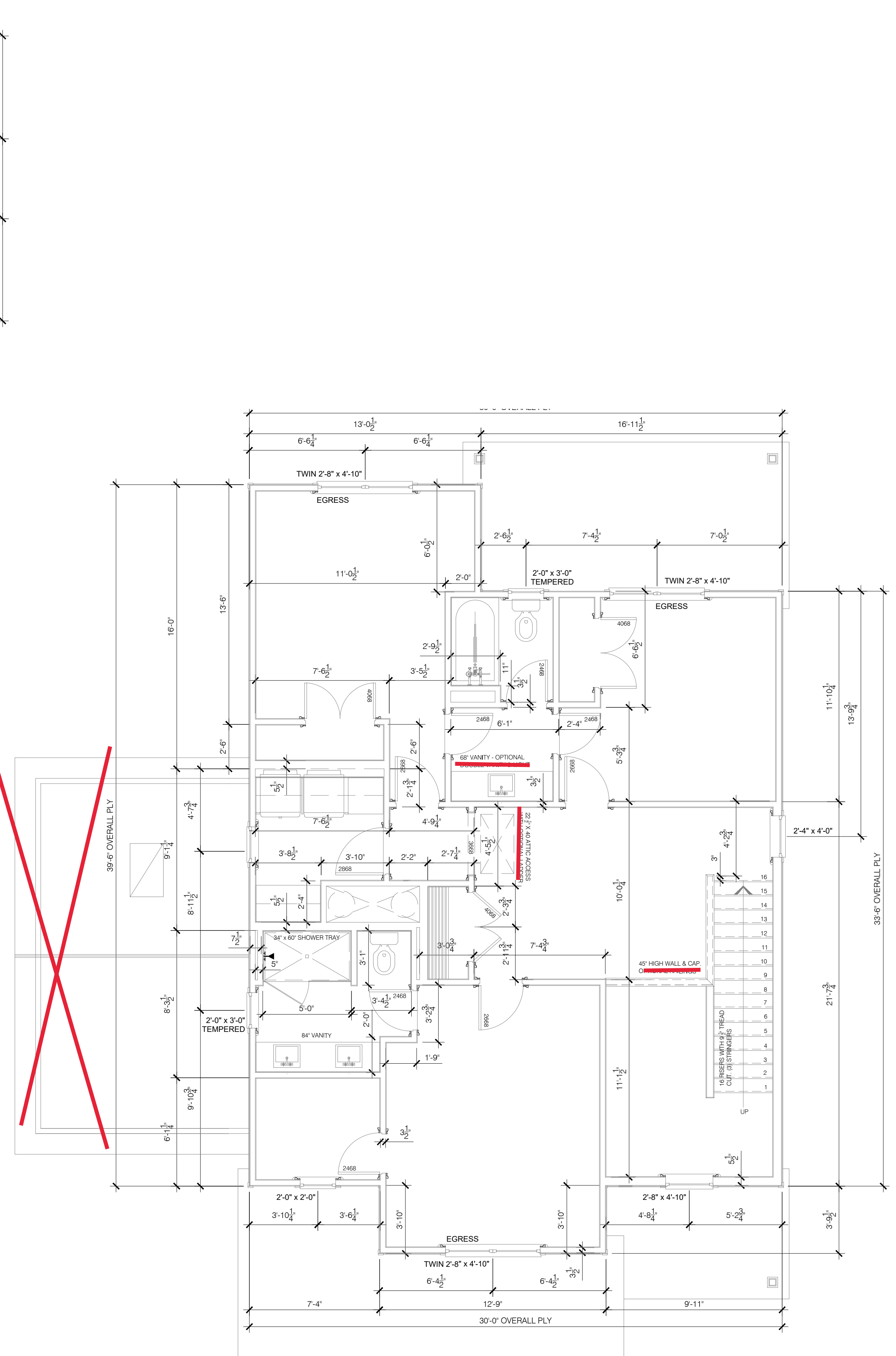
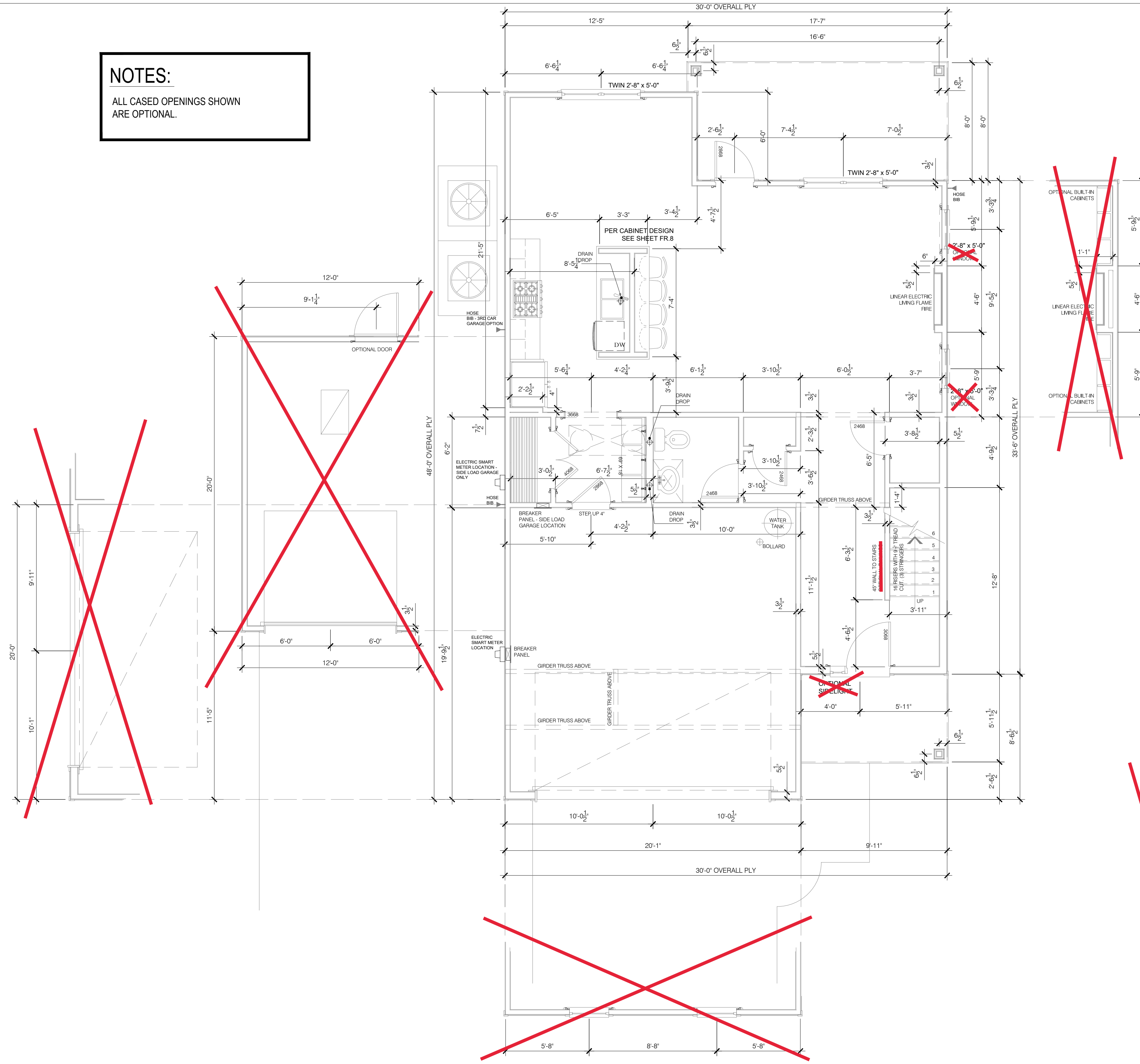
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**NOTES:**

ALL CASED OPENINGS SHOWN ARE OPTIONAL.

NOTE:  
AC RETURN VENTS SHALL NOT BE PLACED WITHIN 10' OF AN OPEN COMBUSTION CHAMBER, A DRAFT HOOD OF ANOTHER APPLIANCE OR WITHIN 10' OF COOKING APPLIANCES. CODE M.1602.2 / 601.5



MAIN FLOOR PLAN - WITH OPTIONS  
SCALE: 1/4" = 1'-0"

UPPER FLOOR PLAN - WITH OPTIONS  
SCALE: 1/4" = 1'-0"

REVISIONS:  
REV A: 05.03.2023. SIDE LOAD GARAGE ADJUSTED, ADDITIONAL FRONT ELEVATION WINDOWS ADDED.  
REV B: 07.14.2023. LAUNDRY & UPPER FLOOR CHASE REVISED FOR AC DESIGN.  
REV C: 08.11.2023. AC CHASSIS UPDATES TO REV AC DESIGN ISSUES.  
REV D: 09.11.2023. AC CHASSIS UPDATES TO REV AC DESIGN ISSUES.  
REV E: 10.31.2023. KITCHEN & ISLAND REVISED.  
REV F: 01.12.24. KITCHEN ISLAND FRAMING ADDED.  
REV G: 02.12.24. KITCHEN ISLAND FRAMING REVISED TO 60" FRAMED KITCHEN ISLAND ADDED.

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**THE HAMEL**  
DIMENSIONED FLOOR PLANS

DATE: 2023-03-31  
DRAWN BY: NS  
ENGINEER: NS  
CHECKED BY: NS  
Q.C. BY: NS  
SCALE: 1/4" = 1'-0"  
SHEET NUMBER#:  
**A1.1**



NOTE:  
 AC RETURN VENTS SHALL NOT BE PLACED WITHIN 10'  
 OF AN OPEN COMBUSTION CHAMBER, A DRAFT HOOD OF  
 ANOTHER APPLIANCE OR WITHIN 10' OF COOKING APPLIANCES,  
 CODE M.1602.2 / 601.5

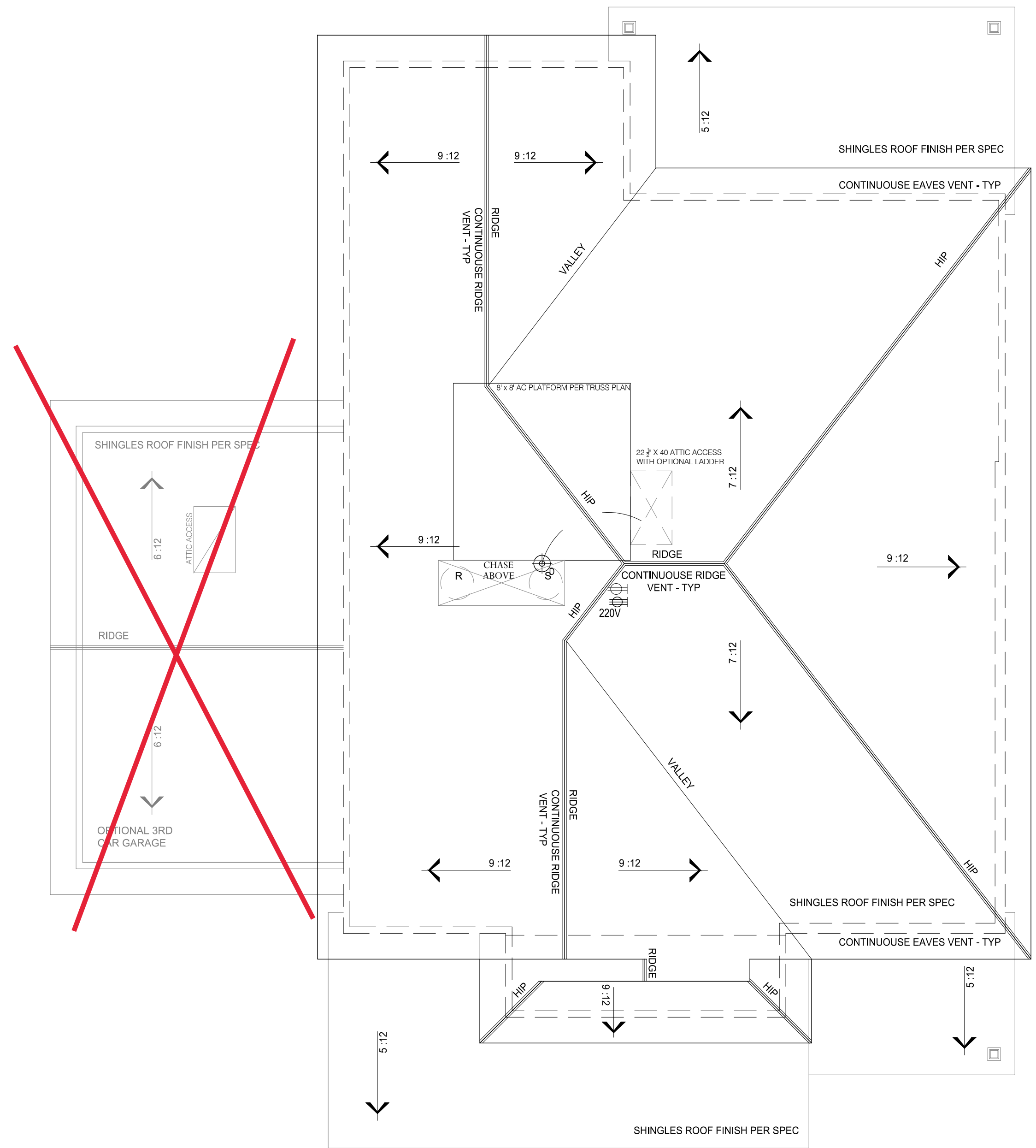
REVISIONS:  
 REV A: 09.11.2023, AC CHASES UPDATED TO FIX AC DESIGN ISSUES

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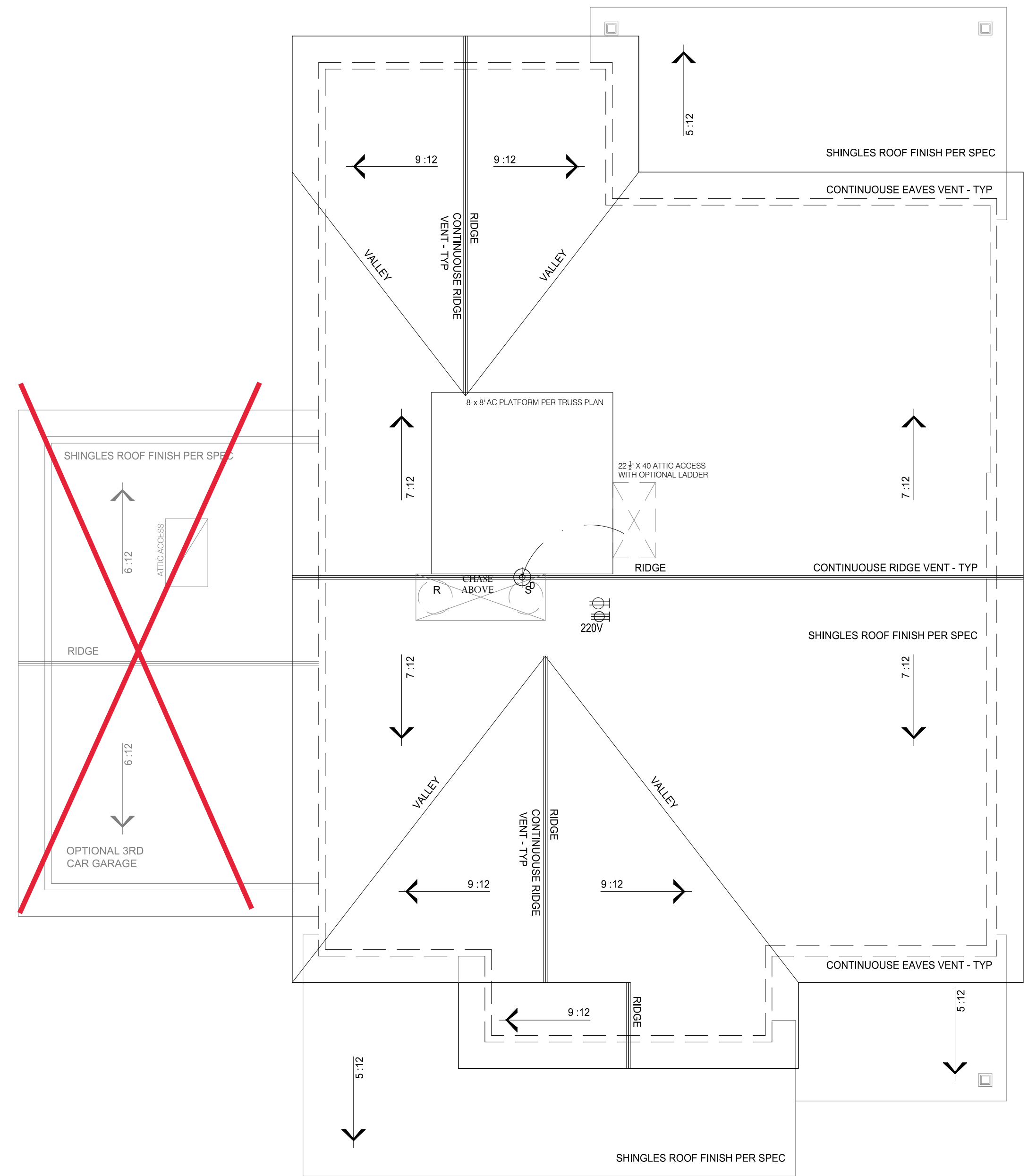
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THE HAMEL  
 ROOF PLAN

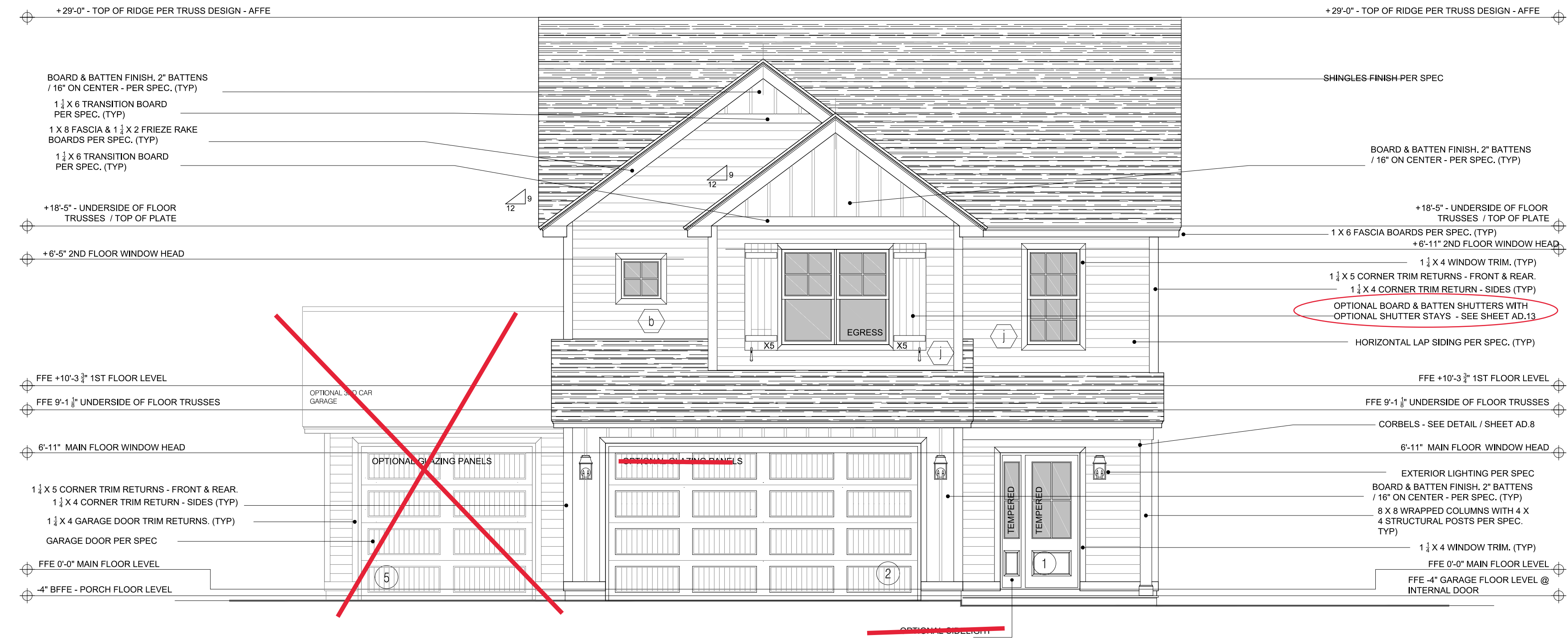
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 ENGINEER: NS  
 CHECKED BY: NS  
 Q.C. BY: NS  
 SCALE: 1/4" = 1'-0"  
 SHEET NUMBER:  
**A1.2**



ROOF PLAN B - PER TRUSS DESIGN  
 SCALE: 1/4" = 1'-0"

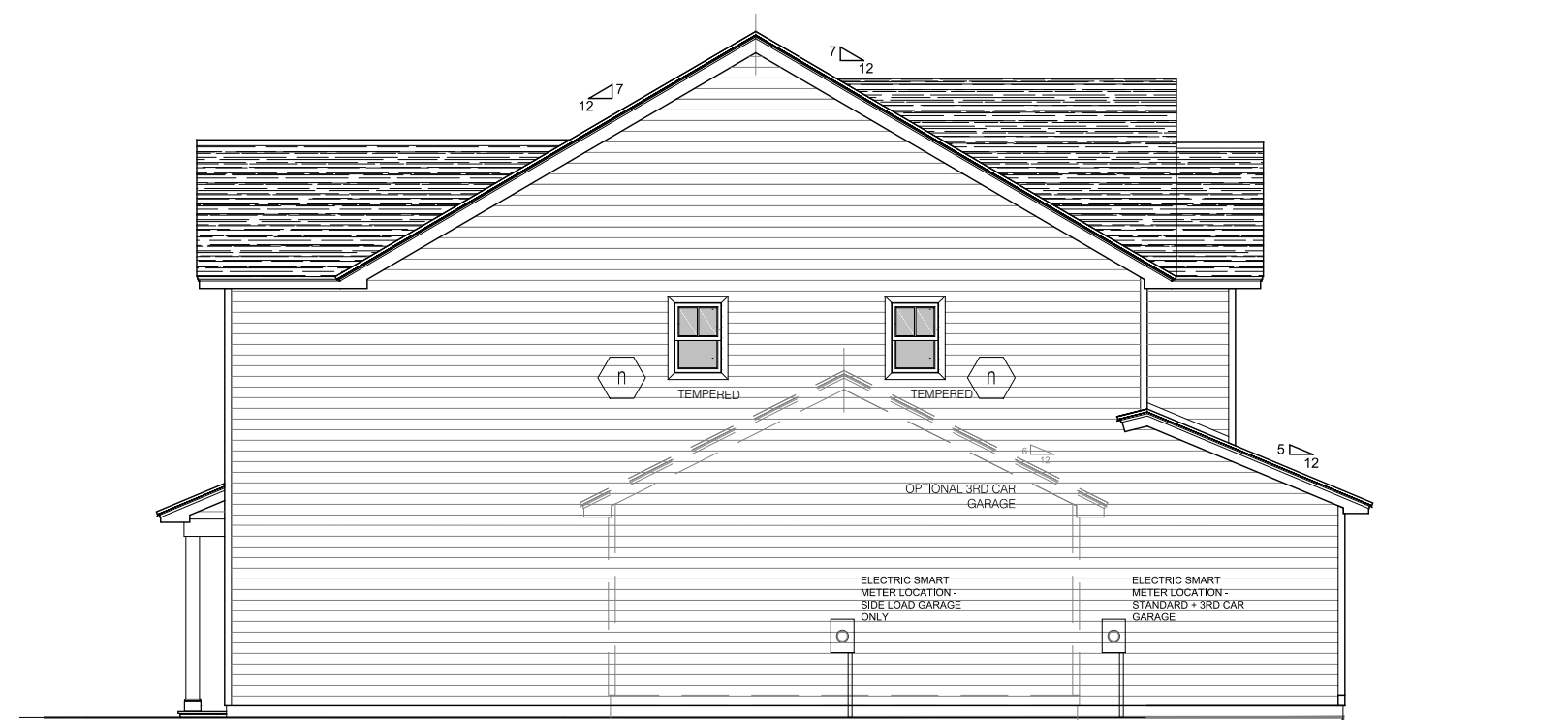


ROOF PLAN A - PER TRUSS DESIGN  
 SCALE: 1/4" = 1'-0"



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

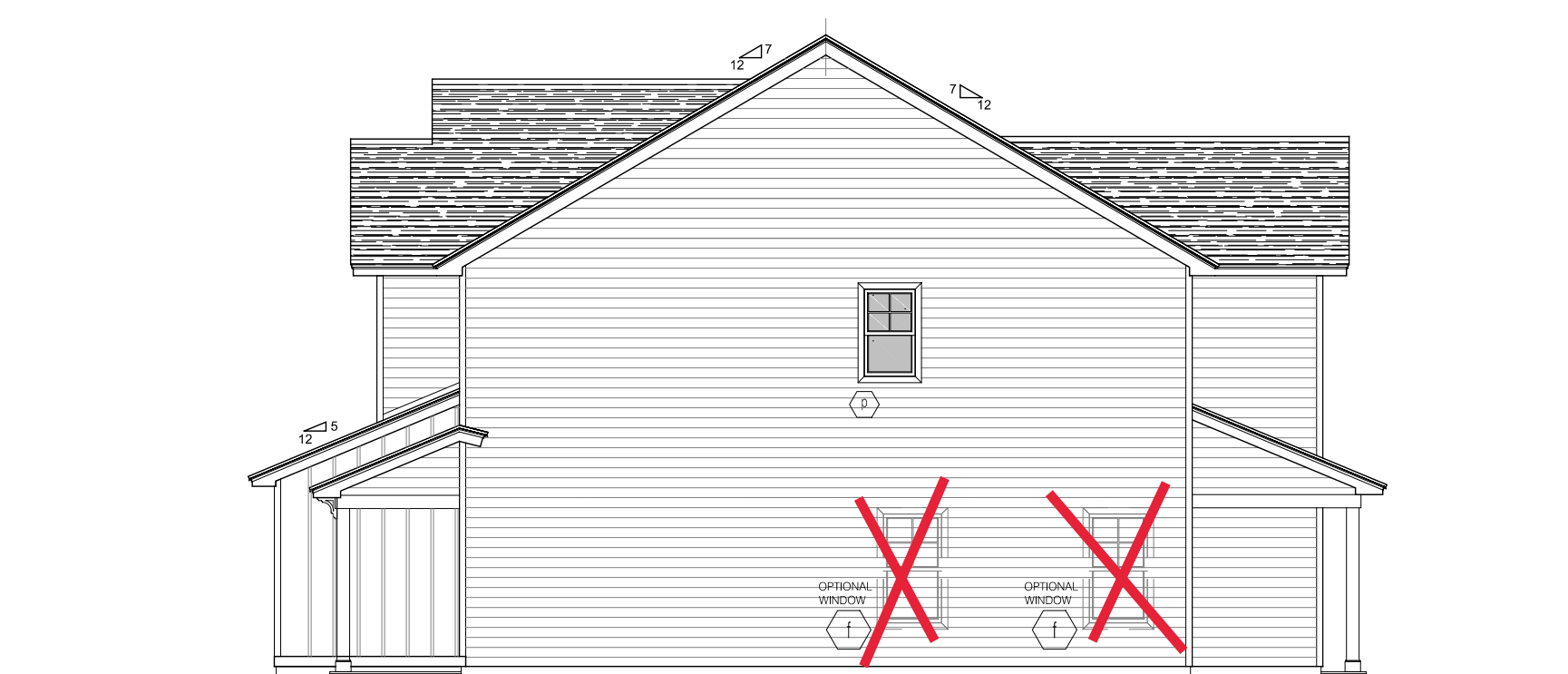
VINYL



LEFT SIDE ELEVATION  
SCALE: 1/8" = 1'-0"



REAR ELEVATION  
SCALE: 1/8" = 1'-0"



RIGHT SIDE ELEVATION  
SCALE: 1/8" = 1'-0"

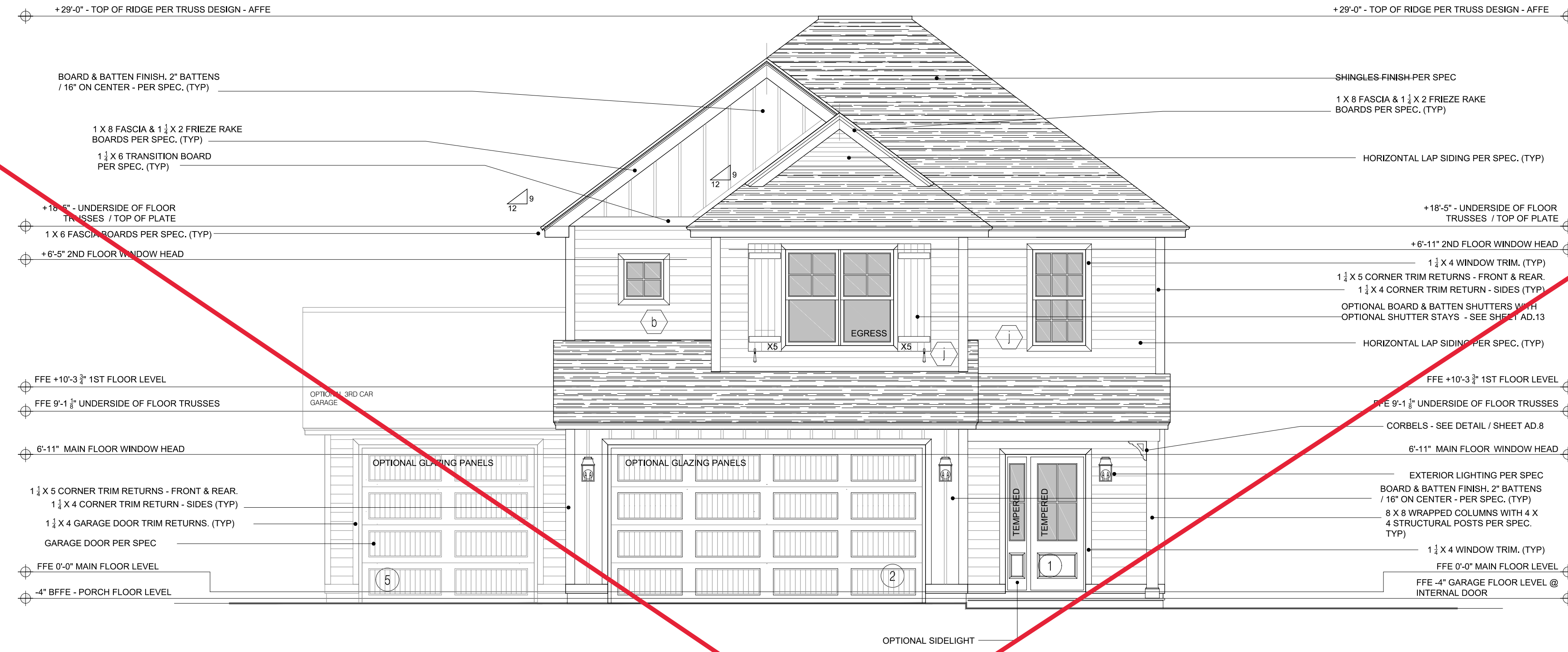
REVISIONS:  
REV A: 07.12.2023. LAUNDRY WINDOW LOCATION REVISED  
REV B: 08.04.2023. ENTRANCE DOOR & SIDELIGHT FLIPPED

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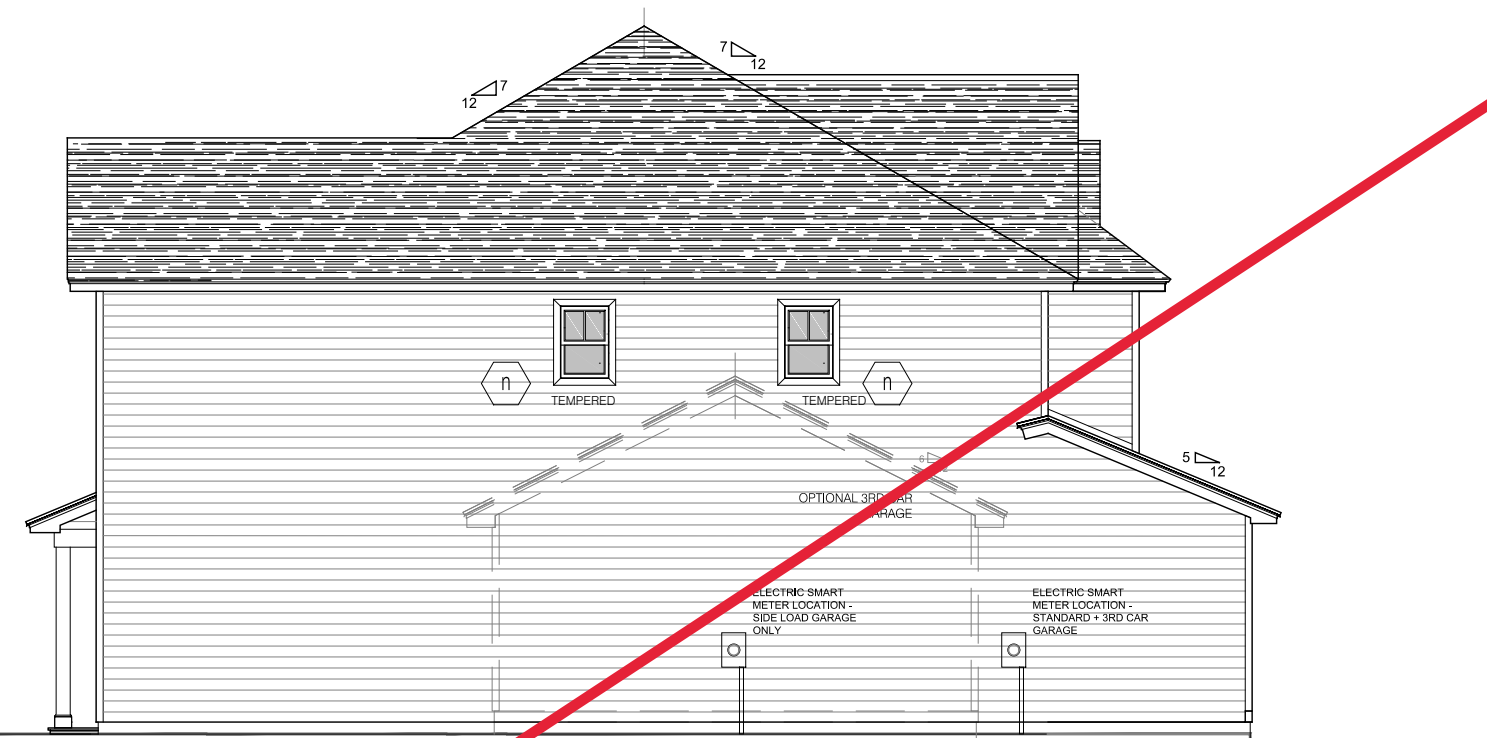
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THE HAMEL  
ALL EXTERNAL ELEVATIONS

DATE: 2023-03-30  
DRAWN BY: NS  
ENGINEER: NS  
CHECKED BY: NS  
Q.C. BY: NS  
SCALE: AS SHOWN  
SHEET NUMBER:  
**A2**



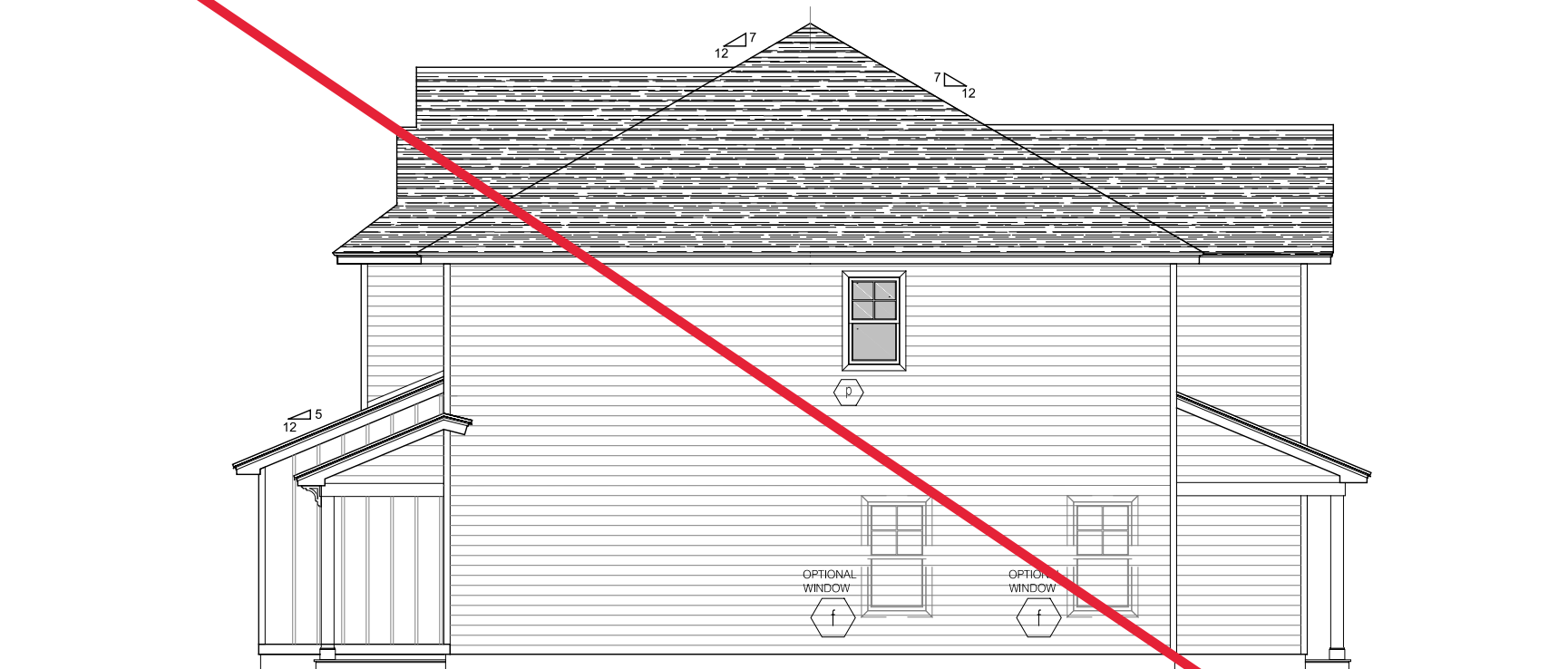
FRONT ELEVATION  
SCALE: 1/4" = 1'-0"



LEFT SIDE ELEVATION  
SCALE: 1/8" = 1'-0"



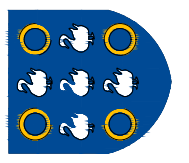
REAR ELEVATION  
SCALE: 1/8" = 1'-0"



RIGHT SIDE ELEVATION  
SCALE: 1/8" = 1'-0"

REVISIONS:  
 REV A: 07.12.2023, LAUNDRY WINDOW LOCATION REVISED  
 REV B: 08.04.2023, ENTRANCE DOOR & SIDELIGHT FLIPPED

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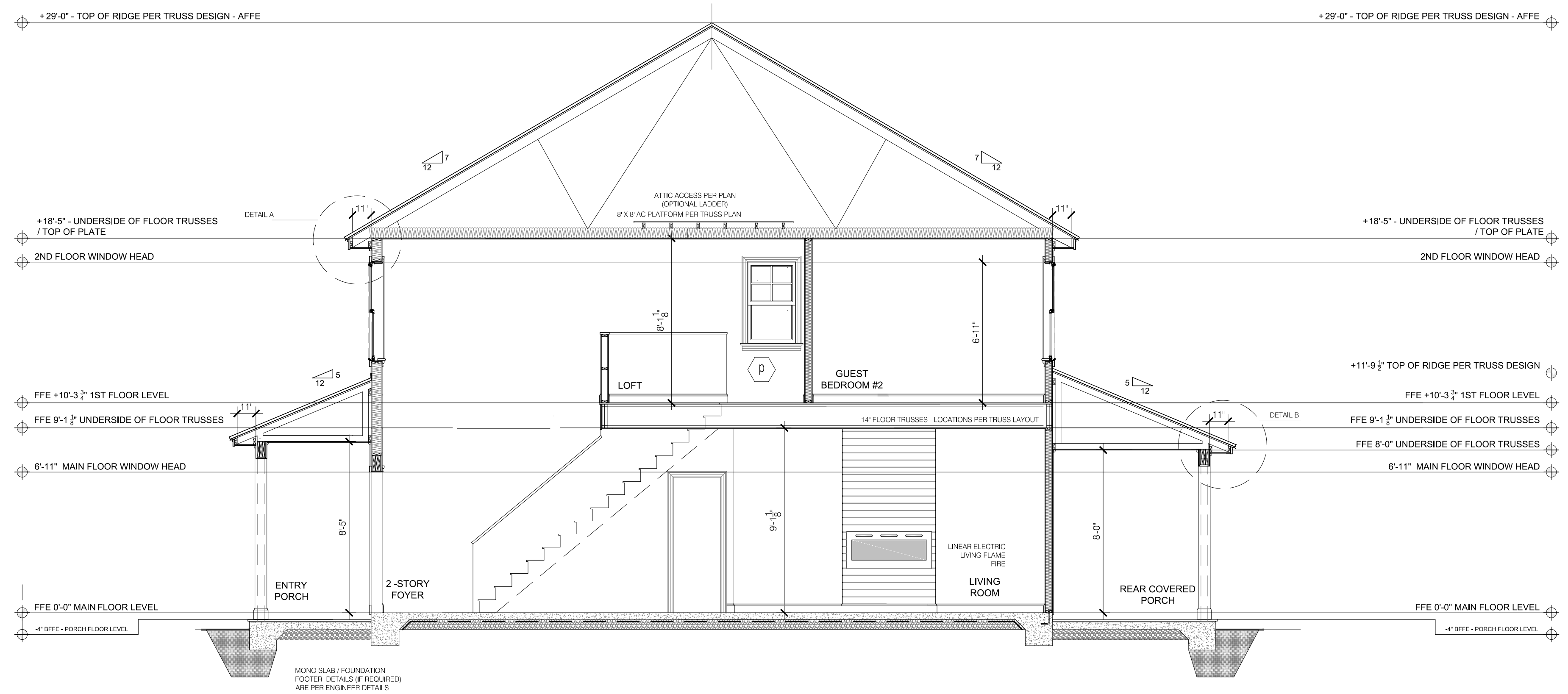
  
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THE HAMEL  
 ALL EXTERNAL ELEVATIONS

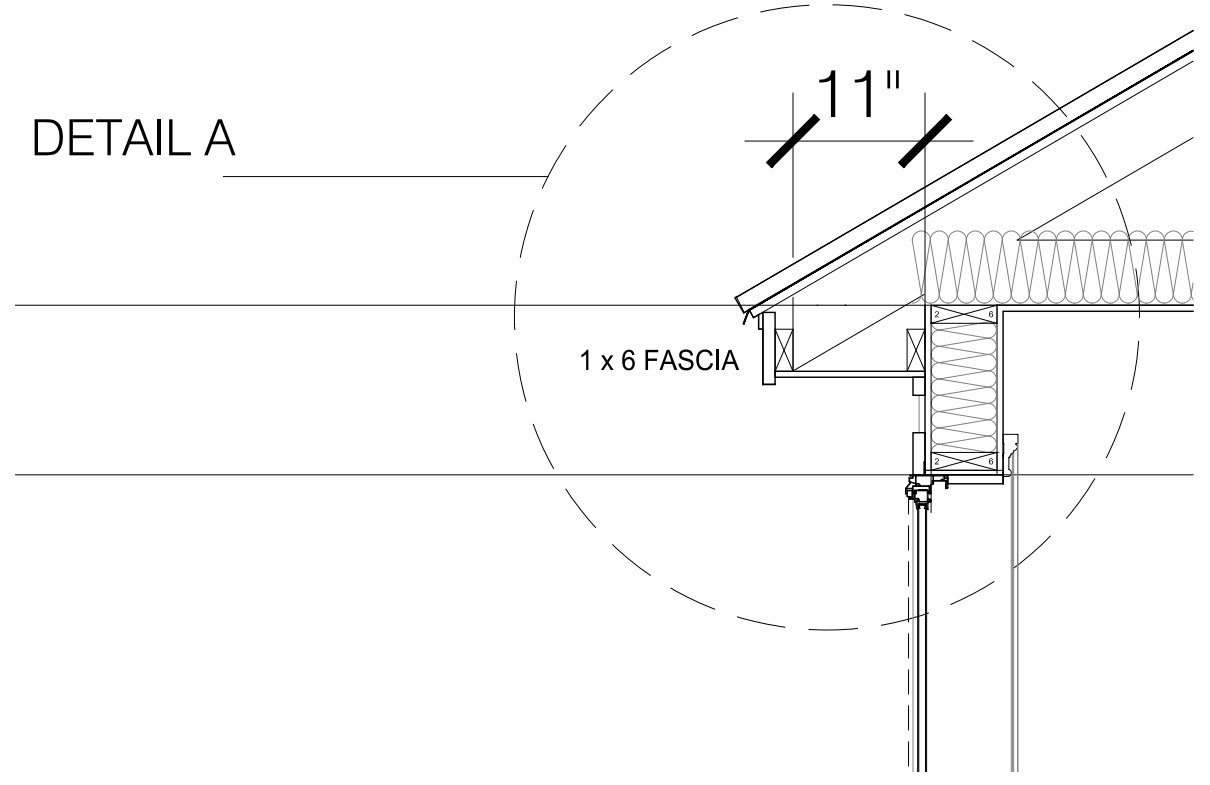
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 D.C.C. BY: AS SHOWN  
 SCALE:  
 SHEET NUMBER:  
**A2.1**

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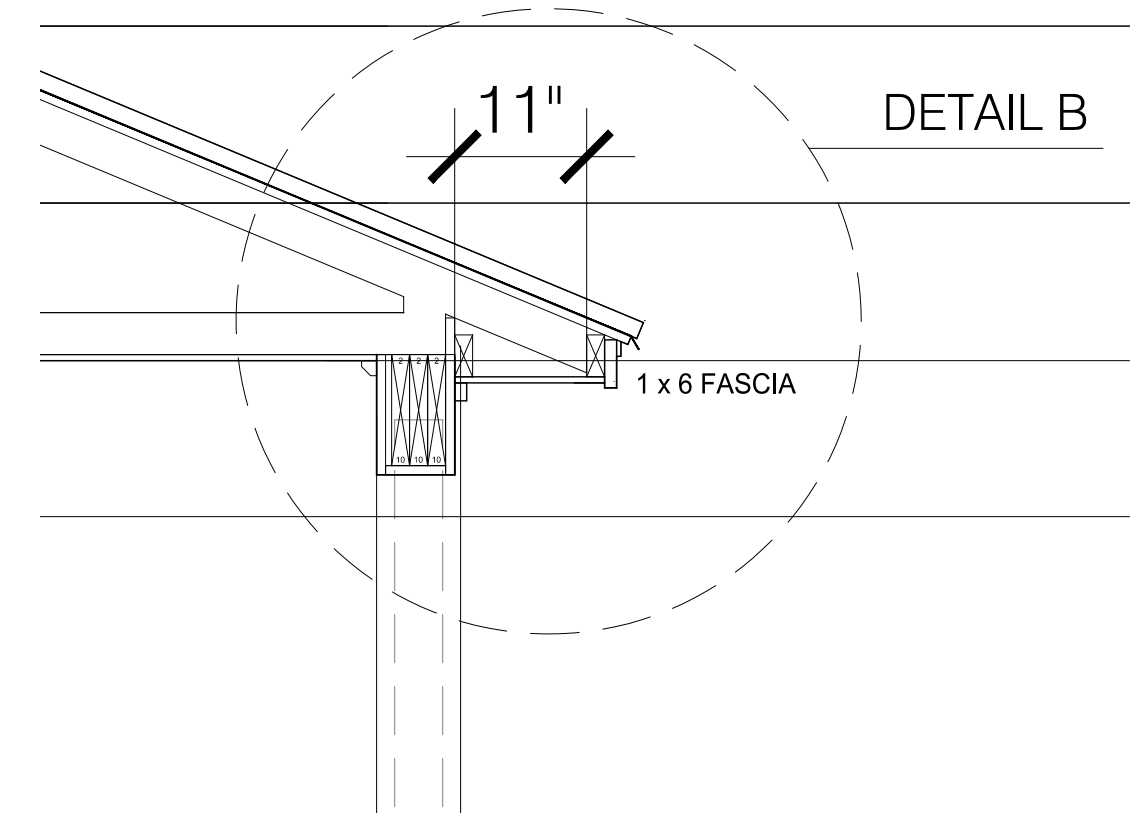




**BUILDING SECTION - 1**  
SCALE: 1/4" = 1'-0"



**DETAIL A**  
SCALE: 3/4" = 1'-0"



**DETAIL B**  
SCALE: 3/4" = 1'-0"

REVISIONS:

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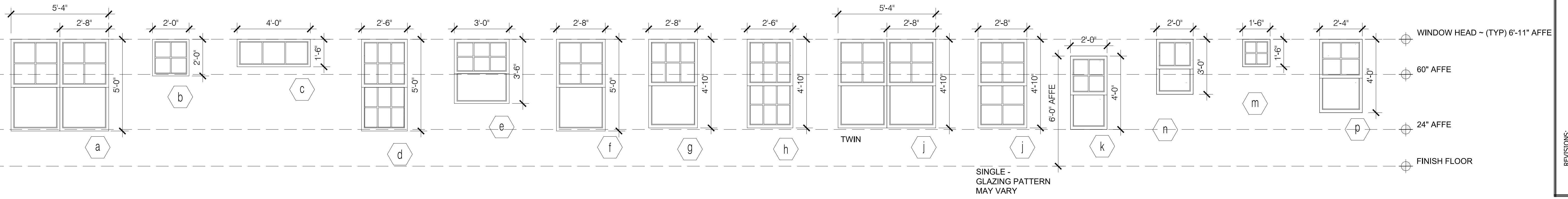
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**THE HAMEL**  
CONSTRUCTION SECTION

DATE: 2023-03-30  
 DRAWN BY: NS  
 ENGINEER: NS  
 CHECKED BY: NS  
 Q.C. BY: NS  
 SCALE: 1/4" = 1'-0"  
 SHEET NUMBER:

**A3**

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**WINDOW & DOOR GLAZING PATTERNS, CODE NOTES**  
SCALE: 3/8" = 1'-0"

NOTES:  
GLAZING IN WET AREAS WHEN A BATH TUB OR SHOWER IS INSTALLED SHALL BE TEMPERED GLASS WHEN THE BOTTOM EXPOSED EDGE OF THE GLAZING IS LESS THAN 60" MEASURED VERTICALLY ABOVE THE FINISHED FLOOR ELEVATION - PER CODE: R308.4.5.

WHERE THE BOTTOM EXPOSED EDGE OF THE GLAZING IS BELOW 24" MEASURED VERTICALLY ABOVE THE FINISHED FLOOR ELEVATION TEMPERED GLASS SHALL COMPLY WITH EITHER - PREVENTATIVE FALL DEVICES SHALL BE INSTALLED OR THE WINDOW OPENING SHALL BE RESTRICTED TO A 4" OPENING DIMENSION NOT ALLOWING A 4" SPHERE TO PASS, PER CODE: R312.2.1.

GLAZING WHERE THE BOTTOM EXPOSED EDGE OF THE GLAZING IS LESS THAN 36" ABOVE THE PLANE OF AN ADJACENT WALKING SURFACE OF STAIRWAYS, LANDING, BETWEEN FLIGHTS AND RAMP SHALL BE CONSIDERED A HAZARDOUS LOCATION, PER CODE: R308.4.6

WHERE GLAZING IS WITHIN 24" OF EITHER SIDE OF A DOOR IN A CLOSED POSITION SHALL BE CONSIDERED A HAZARDOUS LOCATION, PER CODE: R308.4.2

GLAZING ADJACENT TO A LANDING AT THE BOTTOM OF A STAIRWAY WHERE GLAZING IS LESS THAN 36" ABOVE THE LANDING AND WITHIN 60" HORIZONTAL ARC LESS THAN 180 DEGREES FROM THE BOTTOM STAIR NOSING IS CONSIDERED A HAZARDOUS LOCATION, PER CODE: 308.4.7

**GENERAL NOTES:**

- ALL WINDOWS SHALL BE IN DOUBLE GLAZED INSULATED LOW 'E' GLAZING
- ALL HARDWARE TO BE PER CLIENT/ASCOT CORPORATION SELECTIONS
- DETAIL SHOP DRAWINGS FOR ALL WINDOW TYPES SHALL BE APPROVED
- ALL PROFILES TO BE APPROVED BY ASCOT CORPORATION
- WINDOW DIMENSIONS AND GLAZING PATTERN ARE PER NOMINATED VINYL SIZE DOCUMENTATION COLORED VINYL SINGLE HUNG TILT & SLIDE & FIXED WINDOWS
- WINDOWS NOTED AS EGRESS SHALL COMPLY WITH THE RELEVANT BUILDING CODE REFERENCE. ALL WINDOWS SILLS LOWER THAN 24" ABOVE FINISHED FLOOR ELEVATIONS SHALL BE PROVIDED WITH FALL PREVENTATIVE DEVICES OR RESTRICTED TO ONLY ALLOW A 4" DIAMETER SPHERE TO PASS. NO WINDOW SILL SHALL BE HIGHER THAN 72" ABOVE ADJACENT GRADE.
- EGRESS WINDOWS SHALL HAVE A NET OPENING AREA OF NOT LESS THAN 5.0 SQFT (20 X 24) - (NORTH CAROLINA) FOR GRADE FLOOR EGRESS OR 5.7 SQFT TO UPPER EGRESS FLOORS. NO WINDOW SILL SHALL BE HIGHER THAN 44" ABOVE FINISHED FLOOR ELEVATION OR BELOW A MIN OF 24 ABOVE THE FINISHED FLOOR.
- CONTRACTOR/ASCOT CORPORATIONS SUPERINTENDENT SHALL VERIFY ALL MASONRY & FRAME OPENINGS BUILT ON SITE PRIOR TO WINDOW INSTALLATION.
- TEMPERED GLAZING SHALL BE PROVIDED AND INSTALLED WITH CRITICAL HAZARDOUS LOCATIONS PER LOCAL AND STATE CODES, AND AS NOTED ON PLANS AND ELEVATIONS HEREIN, UNLESS OTHERWISE AGREED WITH CODE OFFICIALS.
- GLAZING IN WET AREAS WHEN A BATH TUB OR SHOWER IS INSTALLED SHALL BE TEMPERED GLASS WHEN THE BOTTOM EDGE OF THE GLAZING IS LESS THAN 60" MEASURED VERTICALLY ABOVE THE FINISHED FLOOR ELEVATION - PER CODE: R308.4.5

**GENERAL NOTES**  
SCALE: NTS

EXTERNAL DOOR SCHEDULE		
MARK	SIZE (WxH)	LOCATION
1	3'-0" X 6'-8"	FRONT ENTRANCE - TEMPERED GLASS
1a	*1'-0" X 6'-8"	OPTIONAL FRONT ENTRANCE SIDELIGHT- TEMPERED GLASS
2	16'-0" X 8'-0"	GARAGE DOOR WITH OPTIONAL GLAZING PANELS. *RE-USE FOR SIDE LOAD
3	3'-0" X 6'-8"	REAR PORCH - TEMPERED GLASS
4	*9'-0" X 8'-0"	*OPTIONAL 3RD CAR GARAGE DOOR WITH OPTIONAL GLAZING PANELS
5	3'-0" X 6'-8"	*OPTIONAL 3RD CAR GARAGE DOOR

INTERNAL DOOR SCHEDULE			
SIZE	QUANTITY	DOOR TYPE	NOTES
2'-4" X 6'-8"	8	SINGLE	POWDER, CLOSETS, GUEST BATH, OWNERS W.I.C
2'-6" X 6'-8"	3	SINGLE	GUEST BEDROOMS
2'-8" X 6'-8"	2	SINGLE	GARAGE FIRE DOOR - 20 MINUTE MIN, LAUNDRY
4'-0" X 6'-8"	4 DOOR SETS	BI-SWING PAIRS	BEDROOM CLOSETS, PANTRY, LINEN

WINDOW SCHEDULE					
MARK	RO SIZE (WxH)	WINDOW TYPE	LOCATION	QUANTITIES	NOTES
a	(TWIN)2'-8" X 5'-0"	SINGLE HUNG	LIVING ROOM, DINING ROOM	2	
b	2'-0" X 2'-0"	PICTURE	OWNERS W.I.C	1	
c	NOT USED				
d	NOT USED				
e	NOT USED				
f	*2'-8" X 5'-0"	SINGLE HUNG	*LIVING ROOM & GARAGE	4	*OPTIONAL WINDOWS TO LIVING ROOM & SIDE LOAD GARAGE OPTION
g	NOT USED				
h	NOT USED				
j	2'-8" X 4'-10"	SINGLE HUNG	ALL BEDROOMS, LOFT, 2-STORY FOYER	4 (3)TWINS, (1) SINGLE	(3) EGRESS TO BEDROOMS
k	NOT USED				
m	NOT USED				
n	2'-0" X 3'-0"	SINGLE HUNG	OWNERS BATHROOM, GUEST BATHROOM, LAUNDRY	3	(2) TEMPERED GLASS
p	2'-4" X 4'-0"	SINGLE HUNG	LOFT	1	

**SCHEDULES**  
SCALE: NTS

REVISIONS:  
REV A: 05.04.2023. SIDE LOAD GARAGE ADJUSTED, ADDITIONAL FRONT ELEVATION WINDOWS ADDED  
REV B: 07.14.2023. LINEN DOOR UPDATED TO BI-SWING

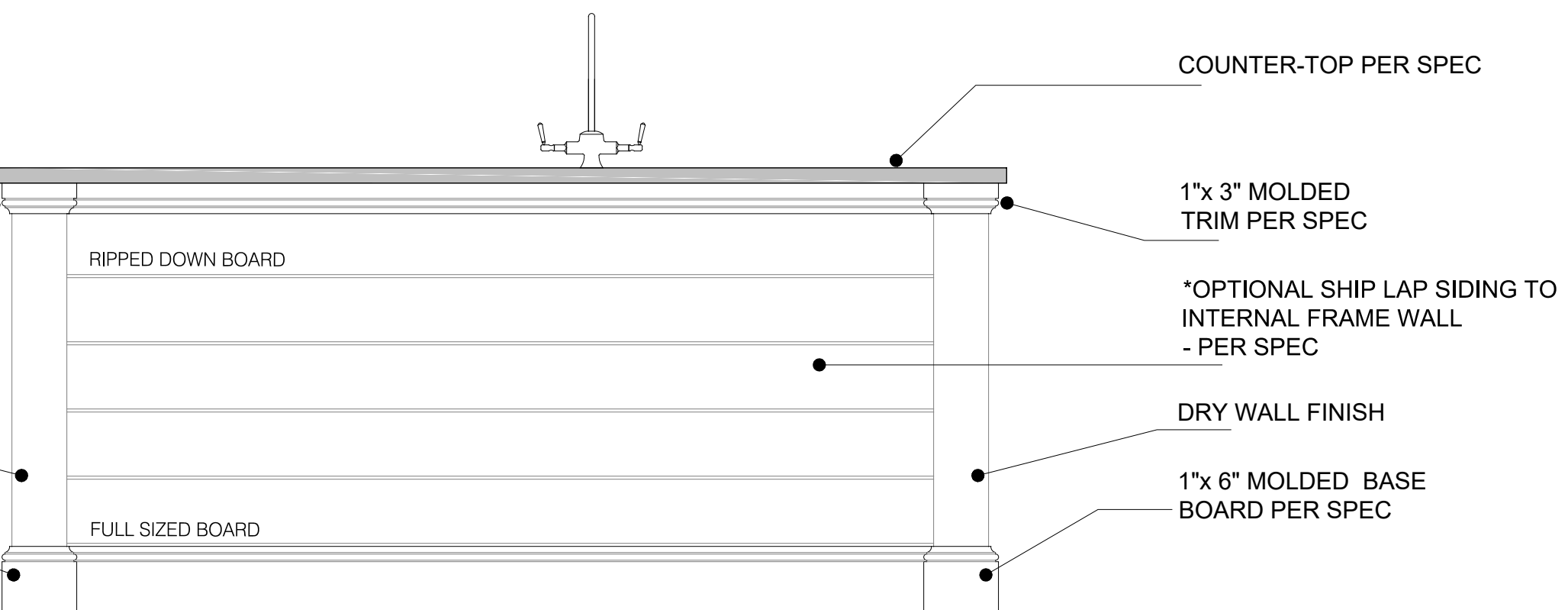
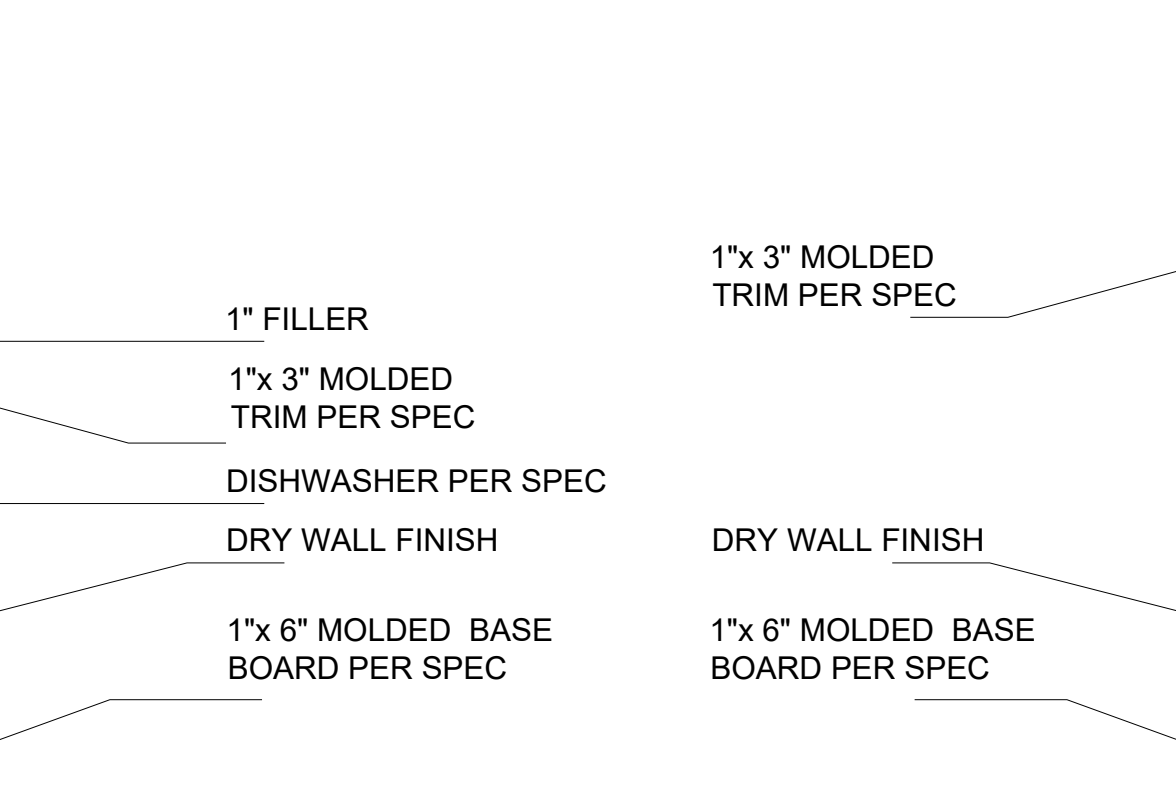
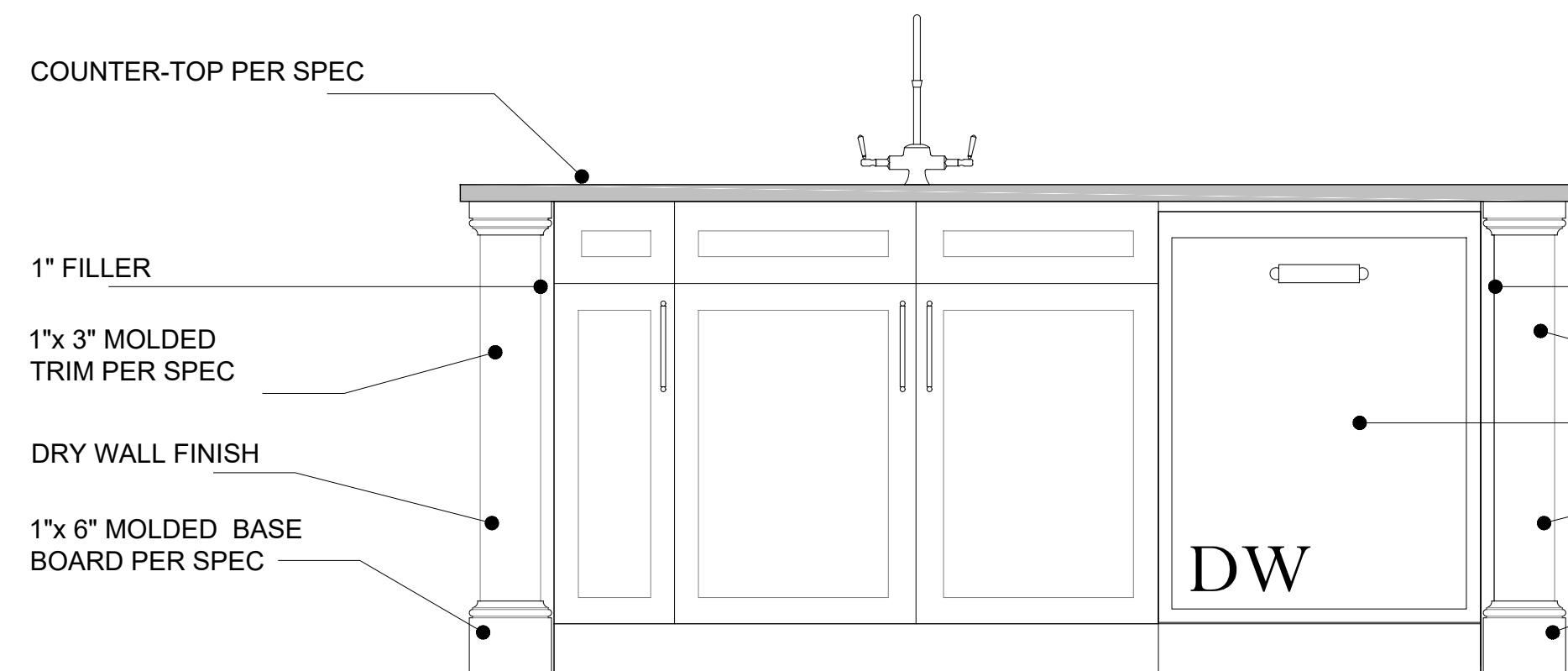
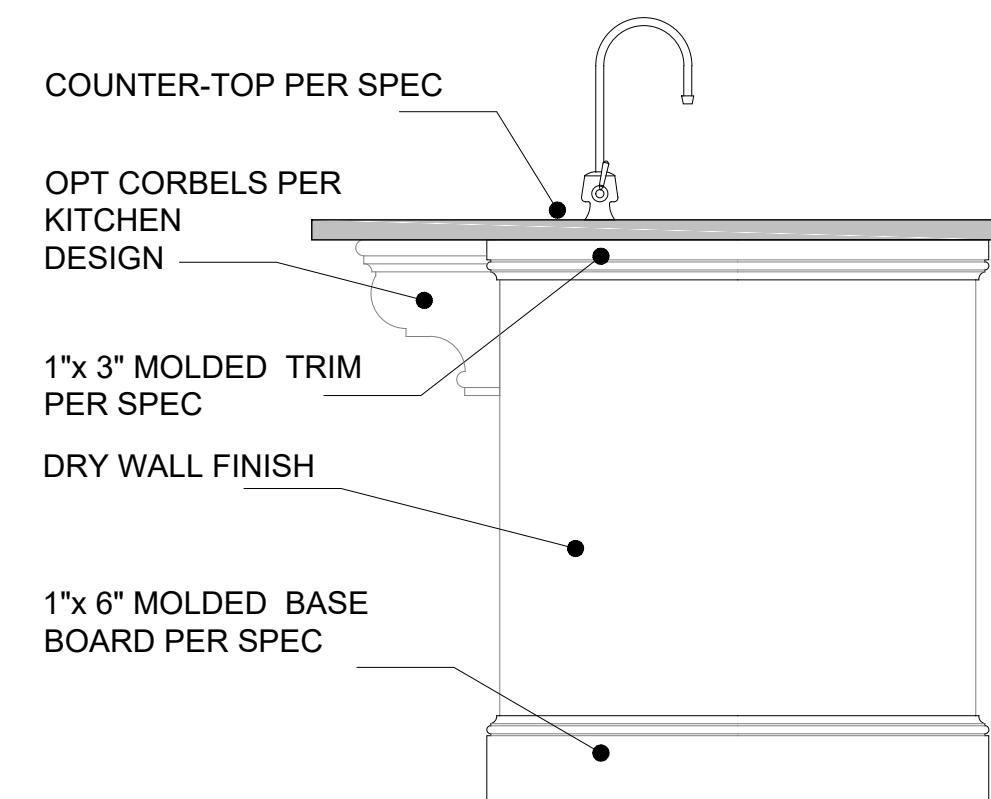
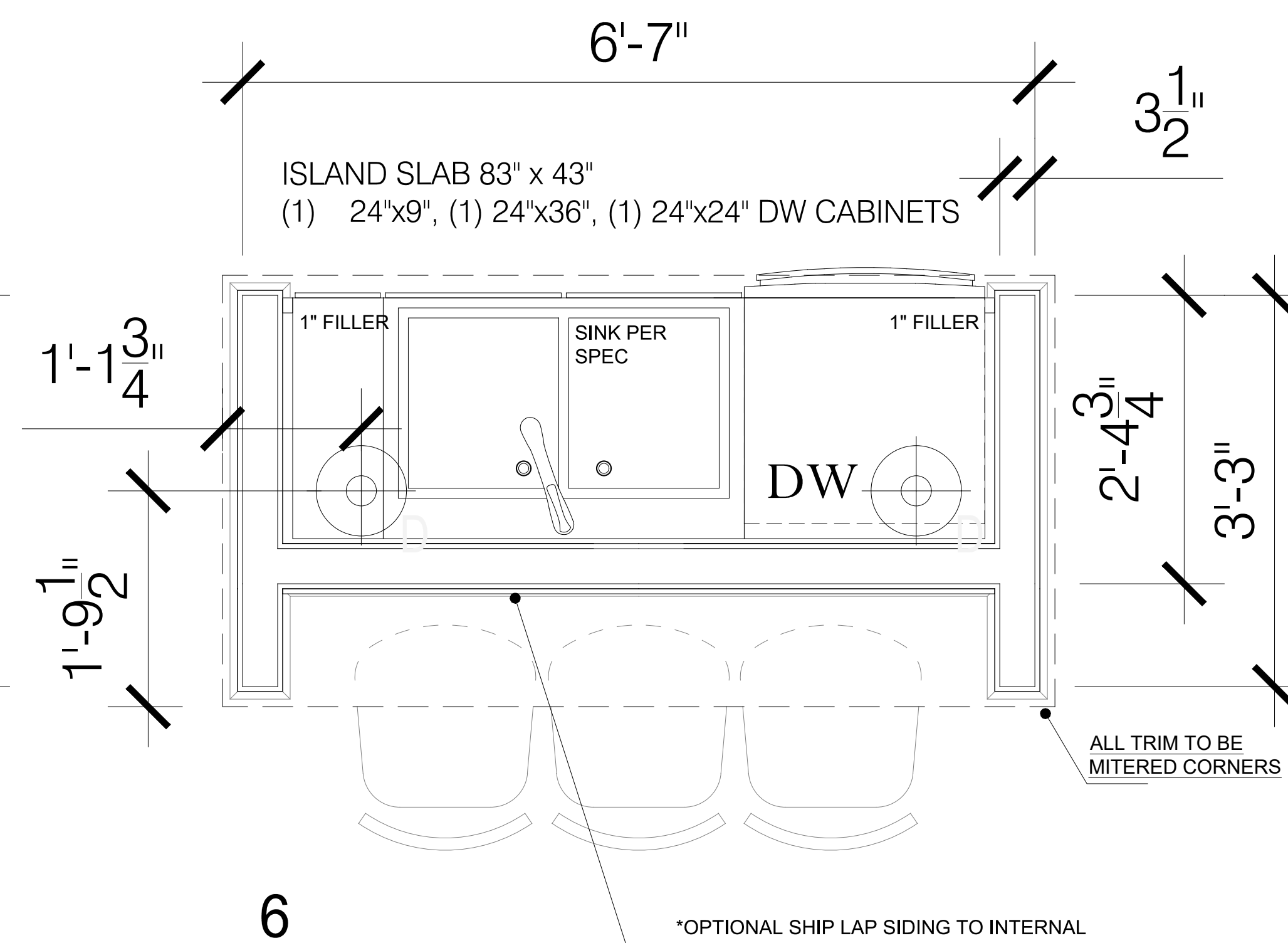
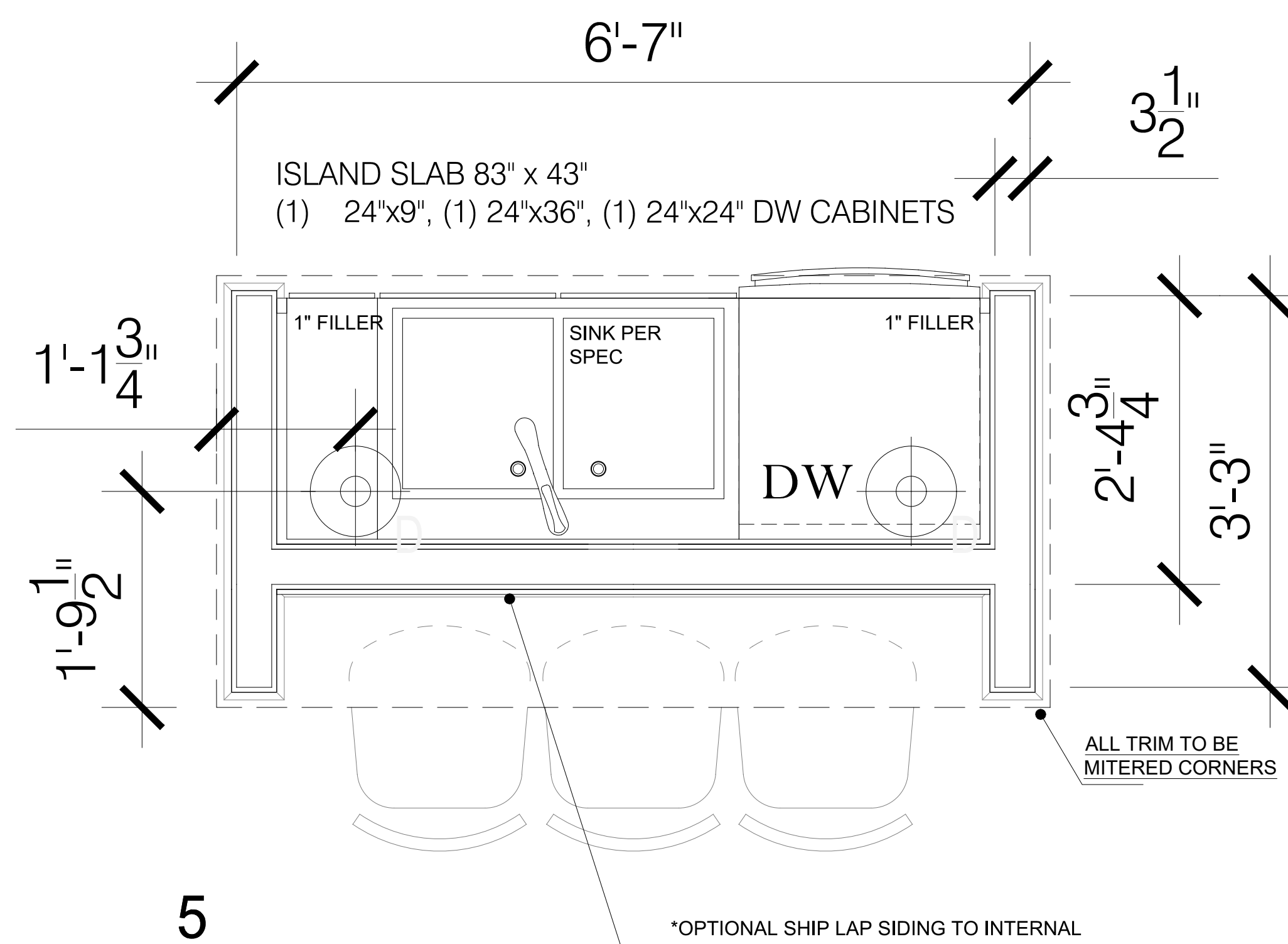
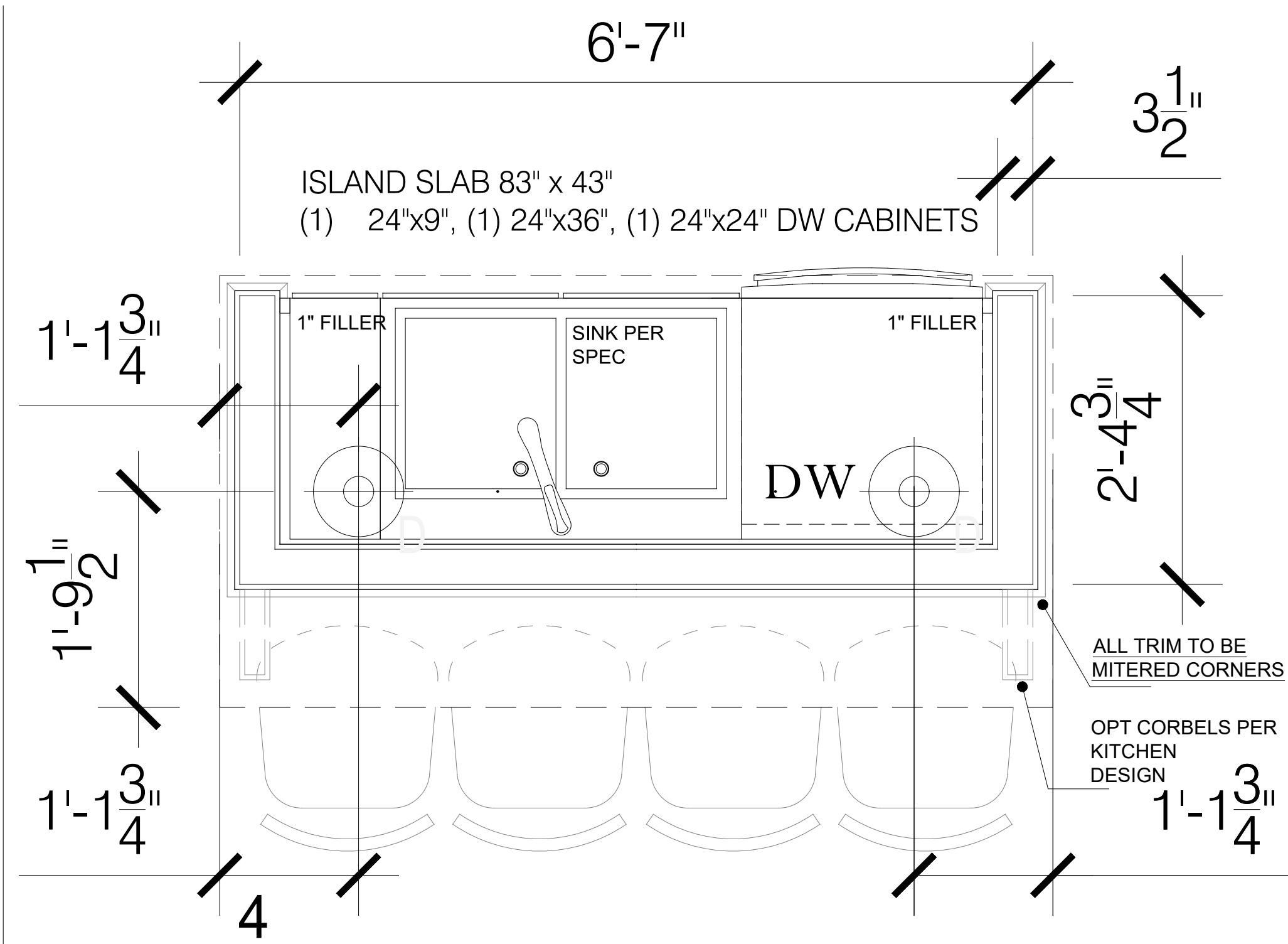
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**THE HAMEL**

WINDOW & DOOR SCHEDULES

DATE: 2023-03-30  
DRAWN BY: NS  
ENGINEER: NS  
CHECKED BY: NS  
Q.C. BY: NTS  
SCALE: NTS  
SHEET NUMBER#:  
**A4**

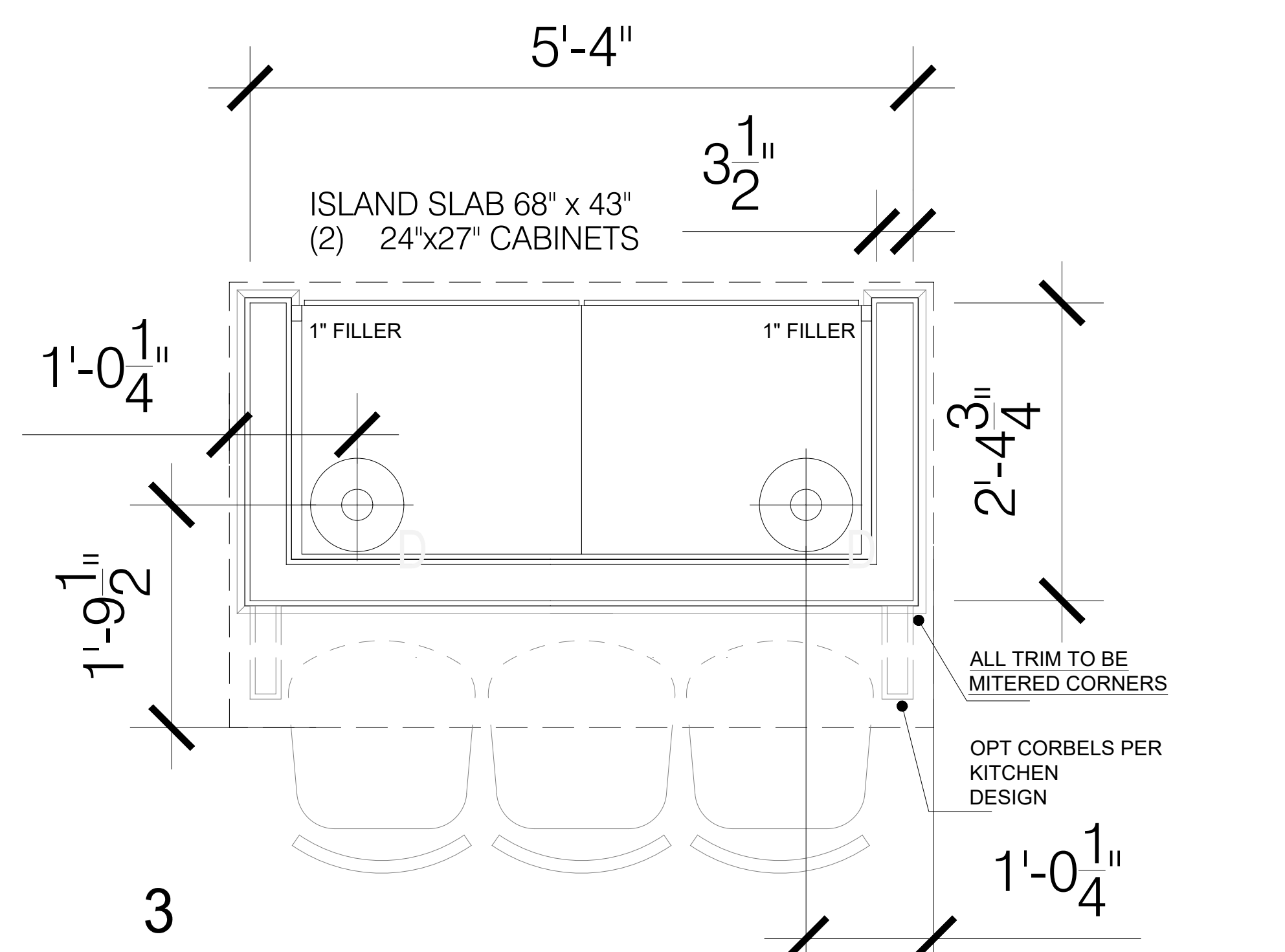
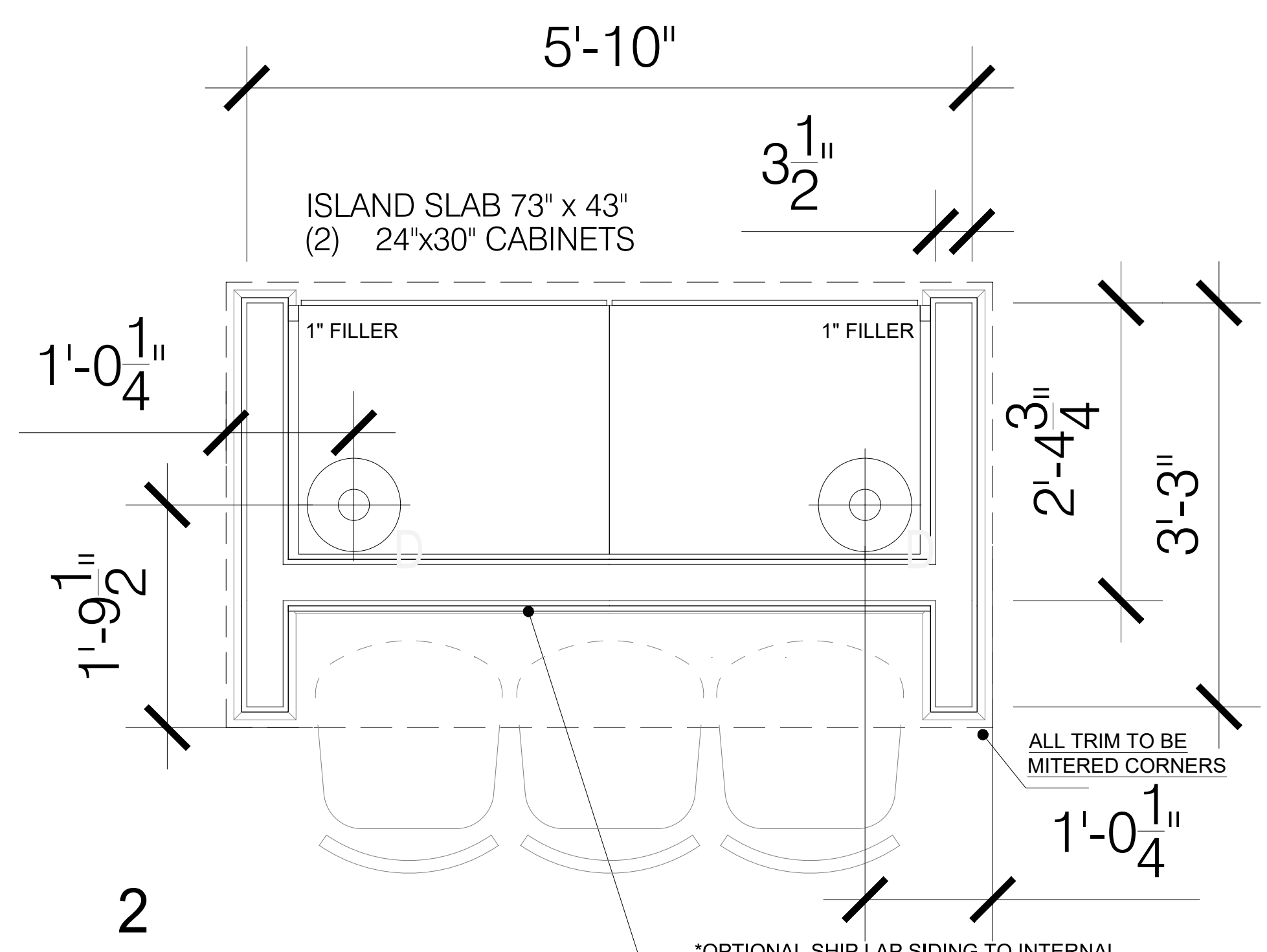
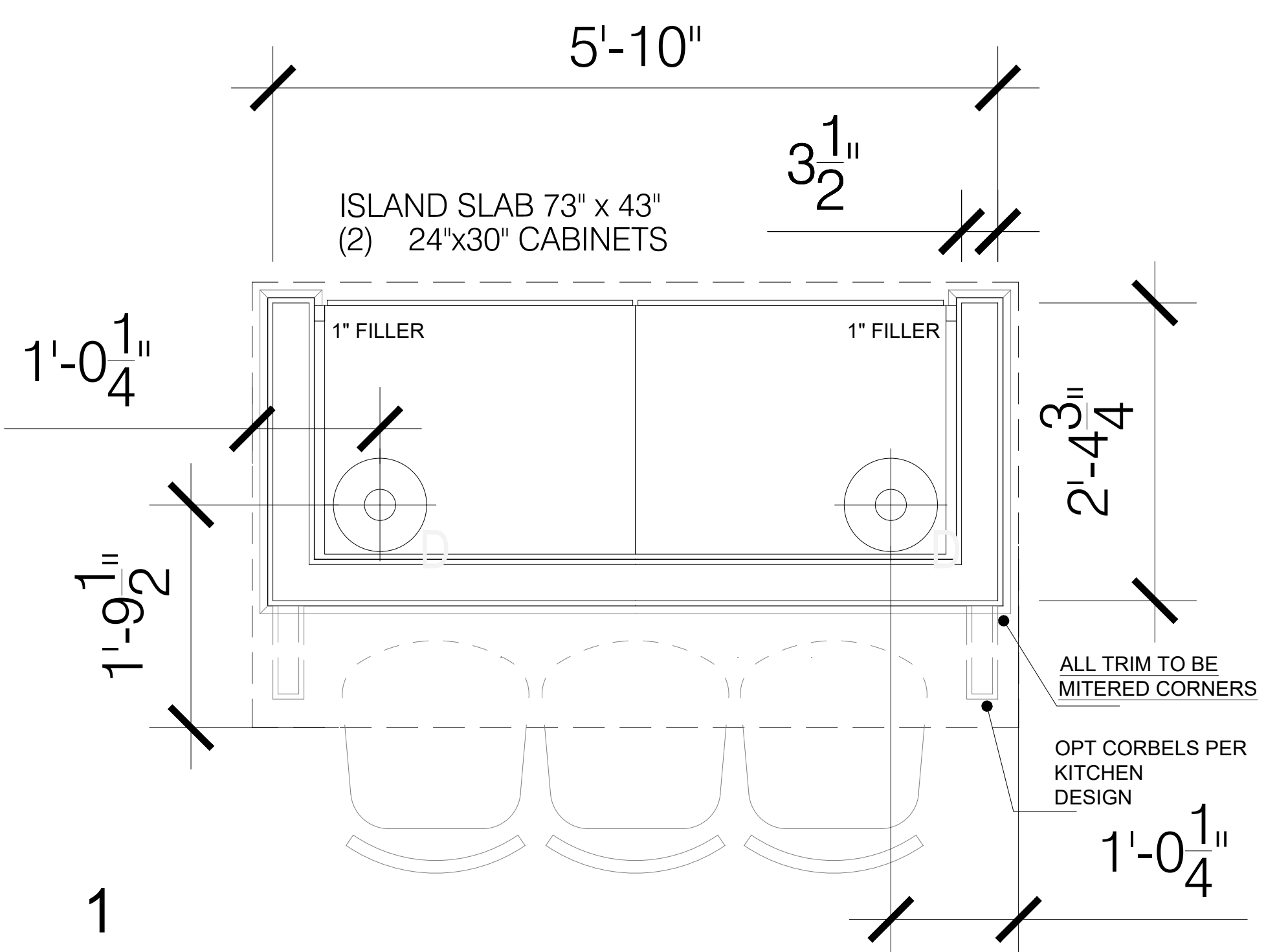


TYP. ISLAND SIDE WALL

TYP. ISLAND SINK-SIDE WALL

TYP. ISLAND BAR STOOL SIDE WALL

FRAMED KITCHEN ISLAND - TYP ELEVATIONS  
SCALE: 1" = 1'-0"



FRAMED KITCHEN ISLAND DESIGN OPTIONS  
SCALE: 1" = 1'-0"

REVISIONS:

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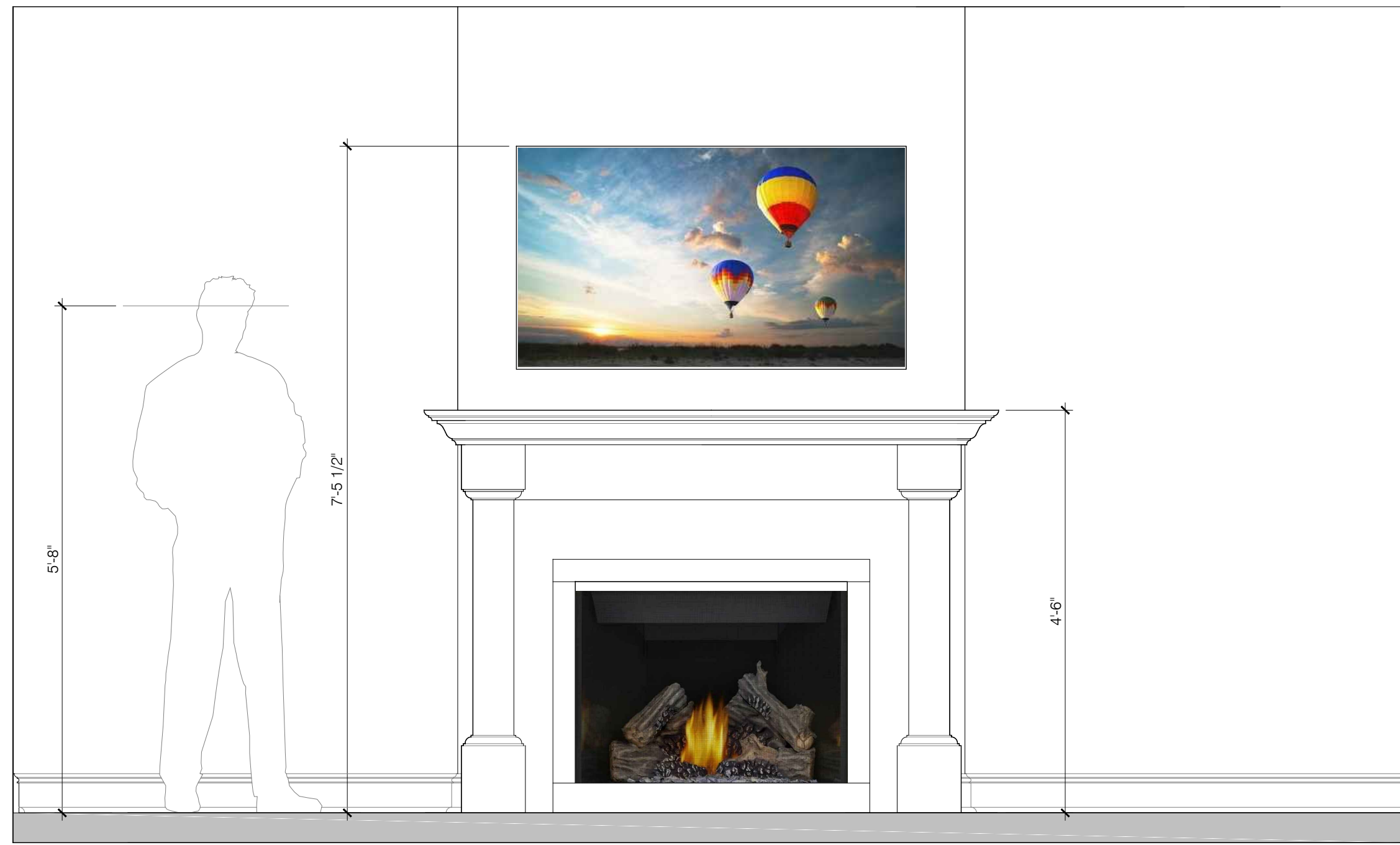
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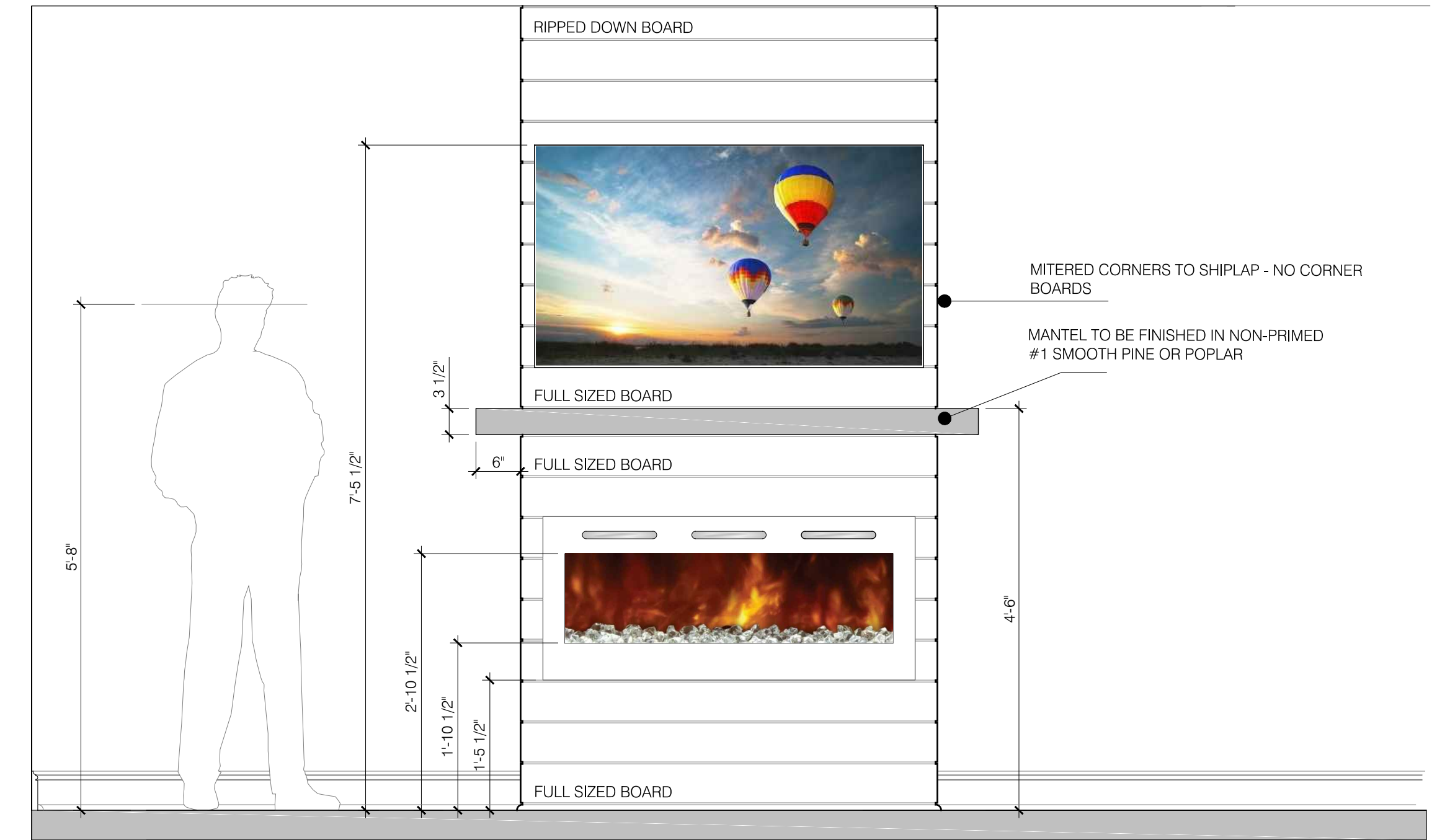
THE HAMEL  
FRAMED KITCHEN ISLAND  
DESIGN OPTIONS

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ENGINEER: [blank]  
CHECKED BY: [blank]  
Q.C. BY: [blank]  
SCALE: AS SHOWN

SHEET NUMBER:  
**FR.8**



AS-BUILT MANTEL  
SCALE: NTS



REVISIONS:

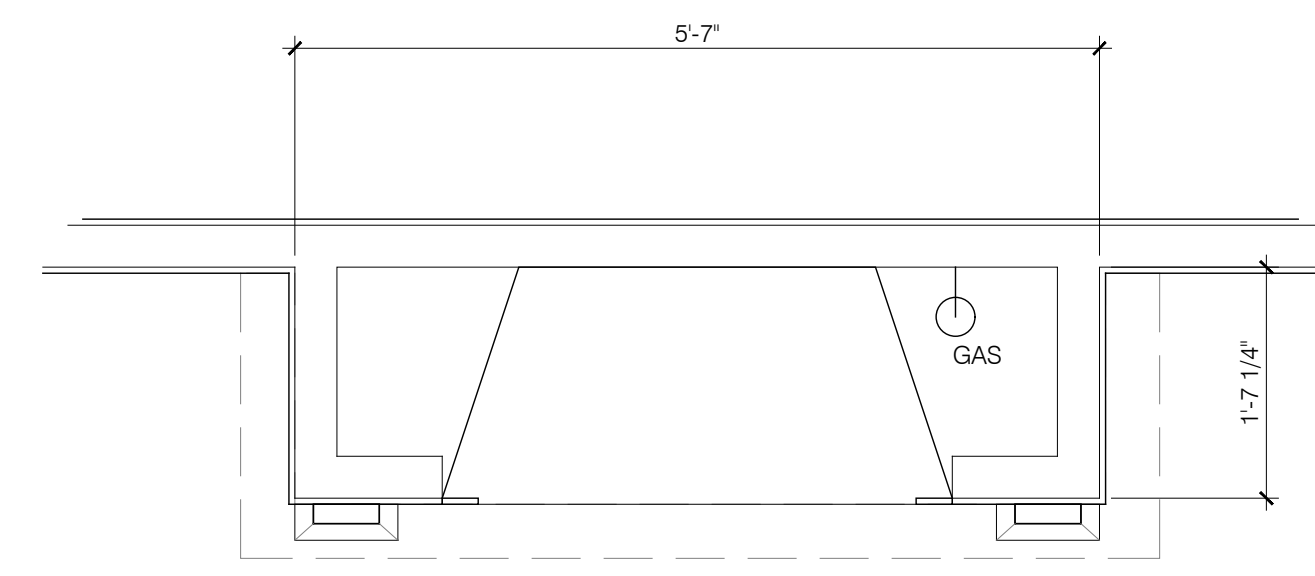
**J.S. THOMPSON**  
ENGINEERING, INC.  
333 E. SIX FORKS RD., SUITE 180  
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PHONE: (919) 789-9919  
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N.C. LICENSE NO.: C-1733

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**THE MANTEL**  
ELECTRIC & GAS FIREPLACES  
MANTEL DETAILS

DATE: 2023-09-01  
DRAWN BY: JST  
ENGINEER: NS  
CHECKED BY: NS  
Q.C. BY: NS  
SCALE: 1/4" = 1'-0"  
SHEET NUMBER: AD.3

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GAS FIREPLACE AND SURROUND  
EXACTA 36 VENT FREE  
FIREBOX - BUF36

OPTION SELECTION #2: GAS FIRE AND FIRE SURROUND  
SCALE: 3/4" = 1'-0"

Specifications Exacta BUF36

**FRAMING DIMENSIONS**

A	B	C	D	E	F
42-1/2"	34-1/4"	19-3/4"	50"	70-3/4"	36"
(1080mm)	(870mm)	(500mm)	(1270mm)	(1785mm)	(915mm)

**CLEARANCES TO COMBUSTIBLES**

**MINIMUM HEARTH DIMENSIONS**

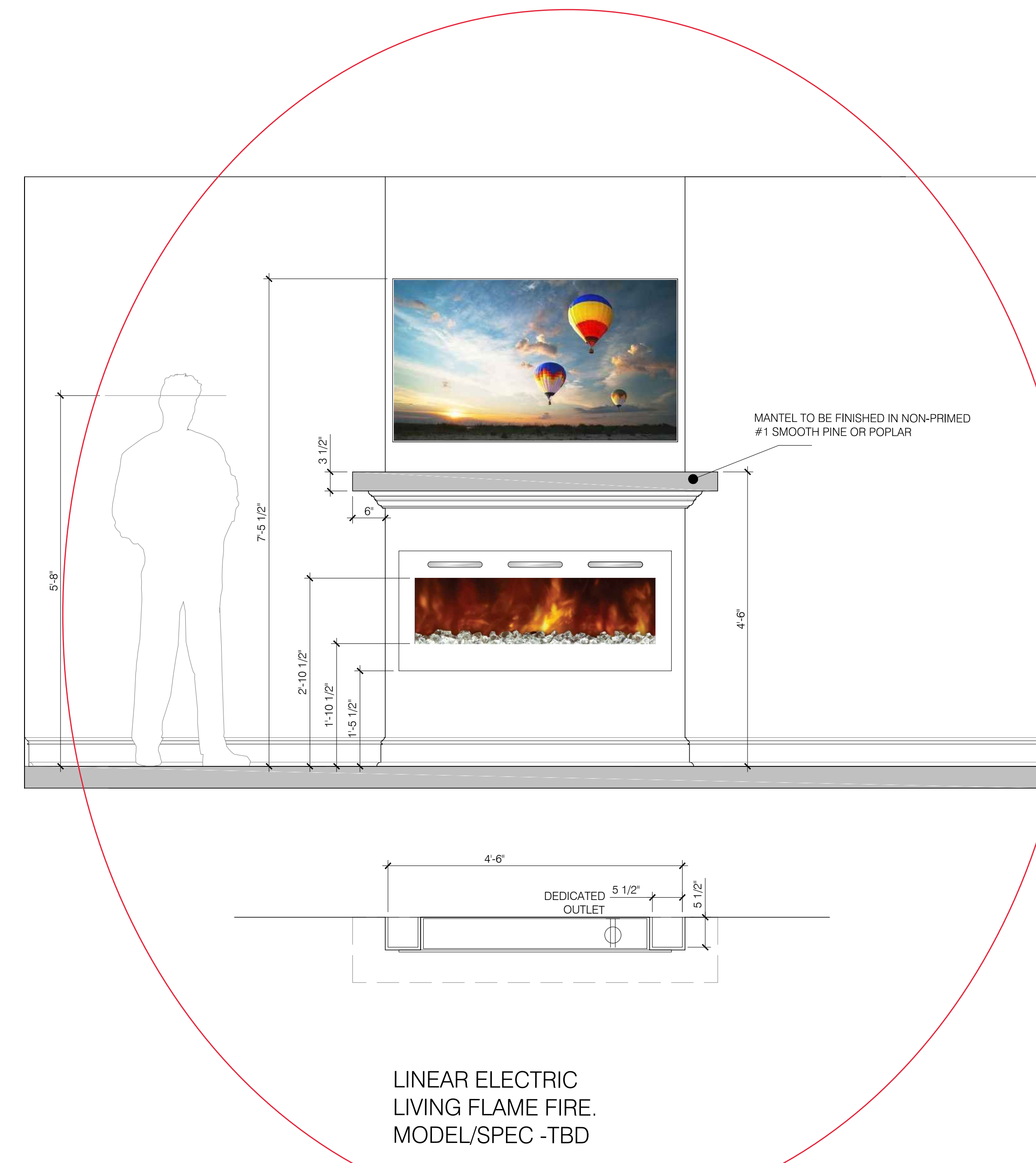
**MANTEL LEG CLEARANCES**

**PROJECT LISTING CODES**

US: ANSI Z223.1 / NFPA 54  
CAN: CSA B141.1  
UK: BS 5400-4.1  
AIA: AIA/CES  
ICC: ICC-ES ESR-1324  
Additional information can be found online at www.monessenfire.com

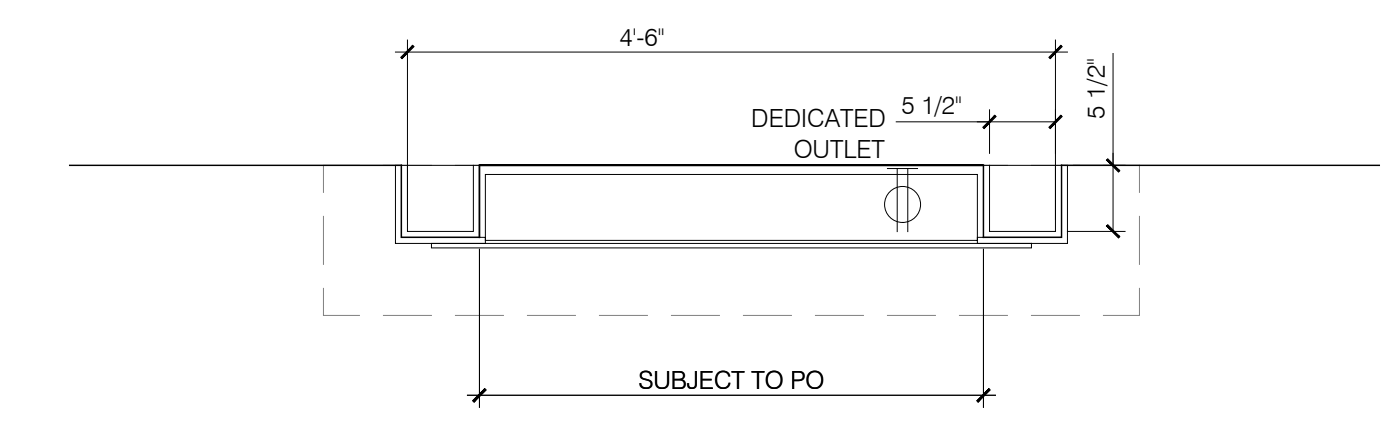
**MONESSEN**  
LOVE AT FIRST LIGHT  
(877) 852-4330 | www.monessenfire.com

EXACTA BUF36 SPEC SHEET #2  
SCALE: NTS



LINEAR ELECTRIC  
LIVING FLAME FIRE.  
MODEL/SPEC - TBD

STANDARD SELECTION: ELECTRIC FIRE AND MANTEL - DRYWALL FINISH  
SCALE: 3/4" = 1'-0"



LINEAR ELECTRIC  
LIVING FLAME FIRE.  
MODEL/SPEC - TBD

OPTION SELECTION #1 ELECTRIC FIRE AND MANTEL - SHIPLAP FINISH  
SCALE: 3/4" = 1'-0"

Specifications Exacta BUF36

**MONESSEN**  
LOVE AT FIRST LIGHT

Please consult the manufacturer's installation manual for all details and requirements before making a final design layout decision.

**Exacta 36**  
Vent Free Gas Firebox

MODEL	FRONT WIDTH		BACK WIDTH		HEIGHT		VIEWING AREA
	Actual	Framing	Actual	Framing	Actual	Framing	
BUF36	42"	42 1/2"	31 1/4"	42 1/2"	34"	34 1/4"	20" x 19 3/4"

**FRONT VIEW**

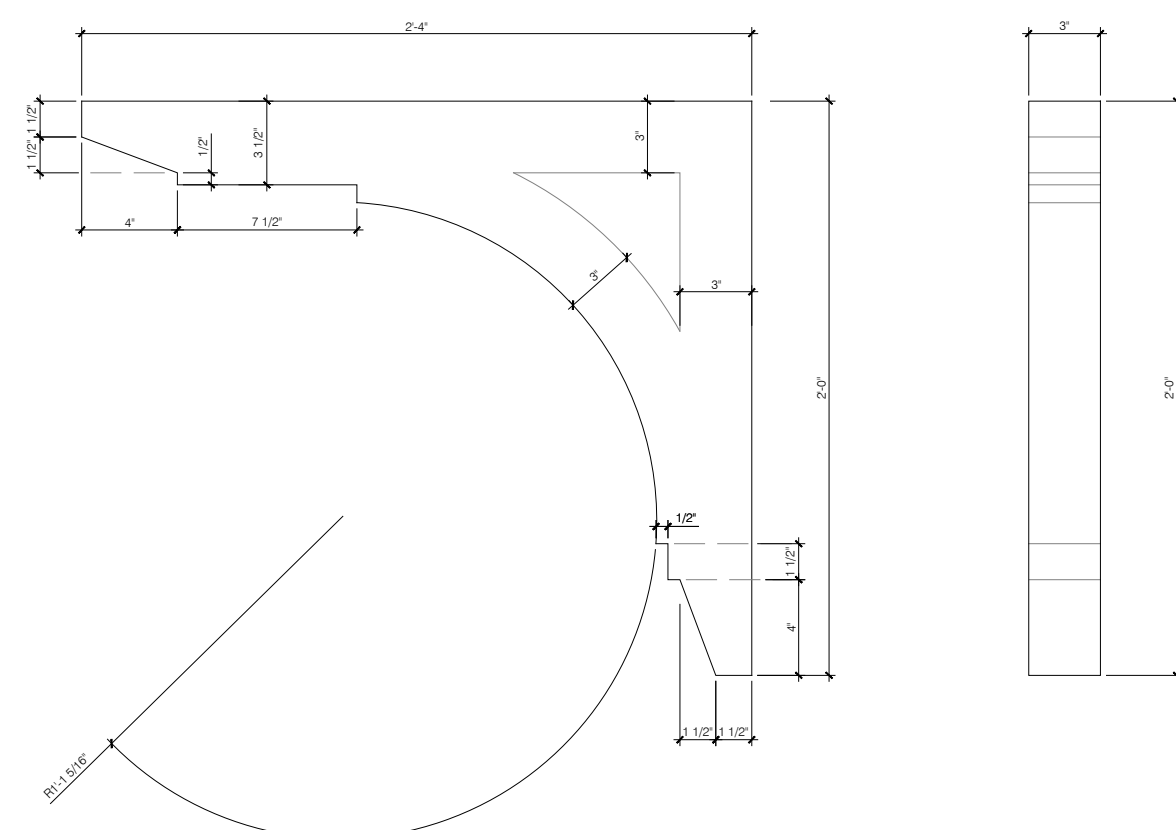
**TOP VIEW**

**LEFT SIDE VIEW**

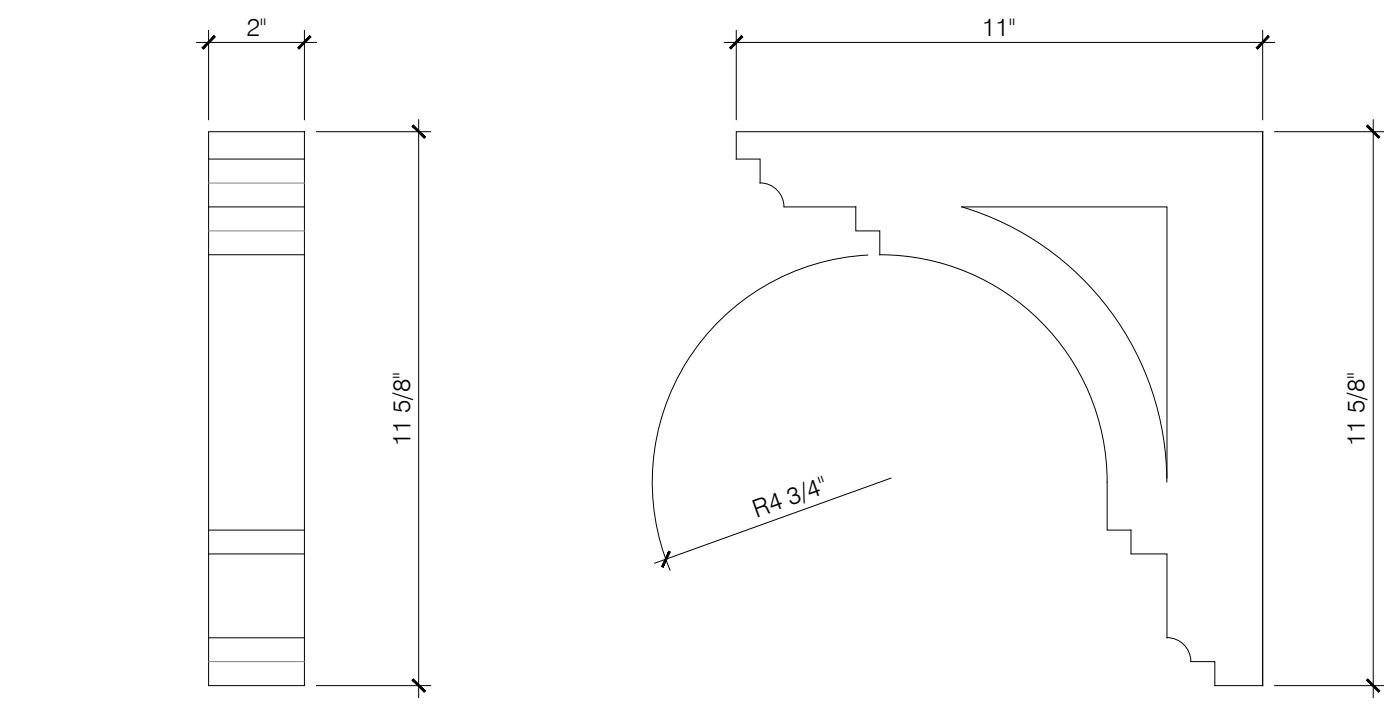
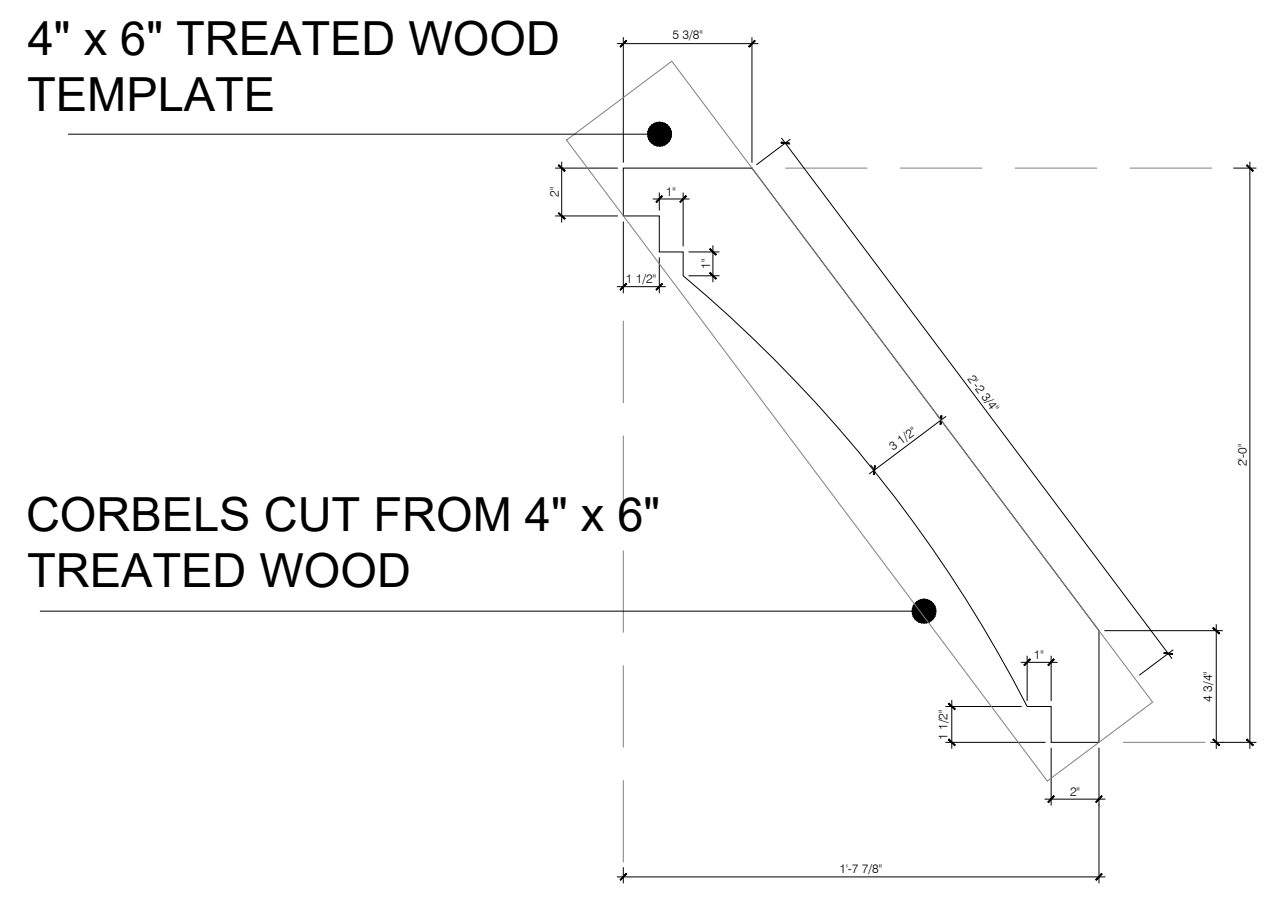
**RIGHT SIDE VIEW**

Additional information can be found online at www.monessenfire.com

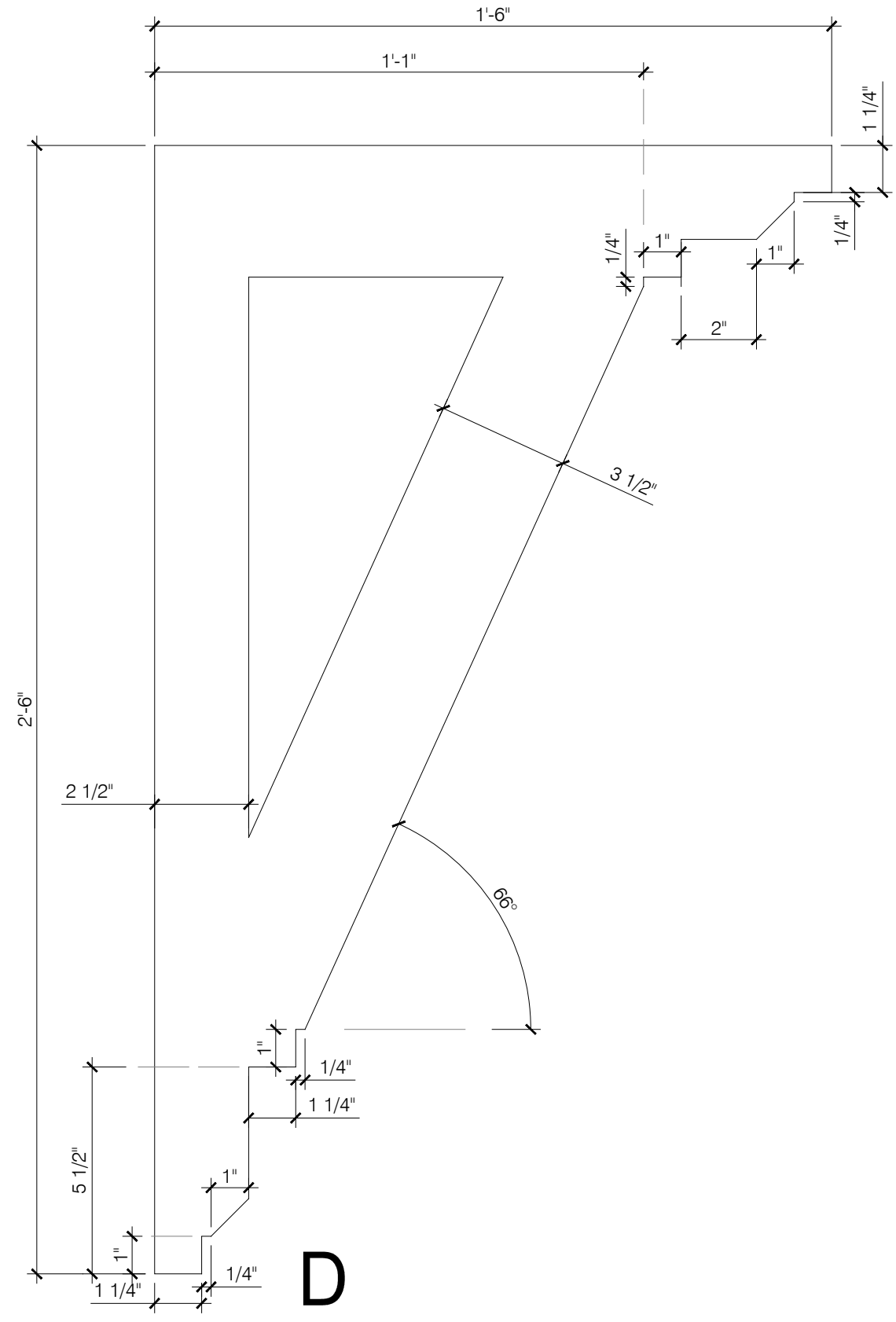
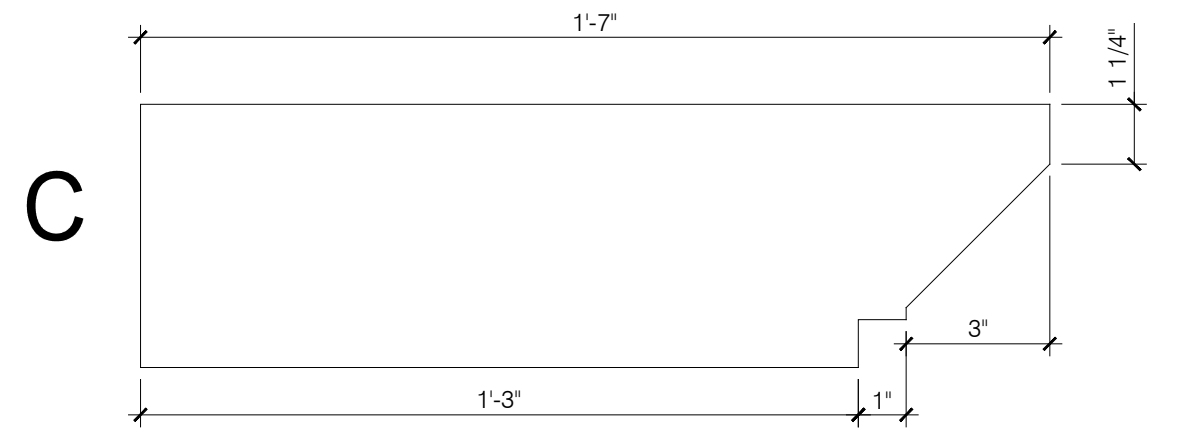
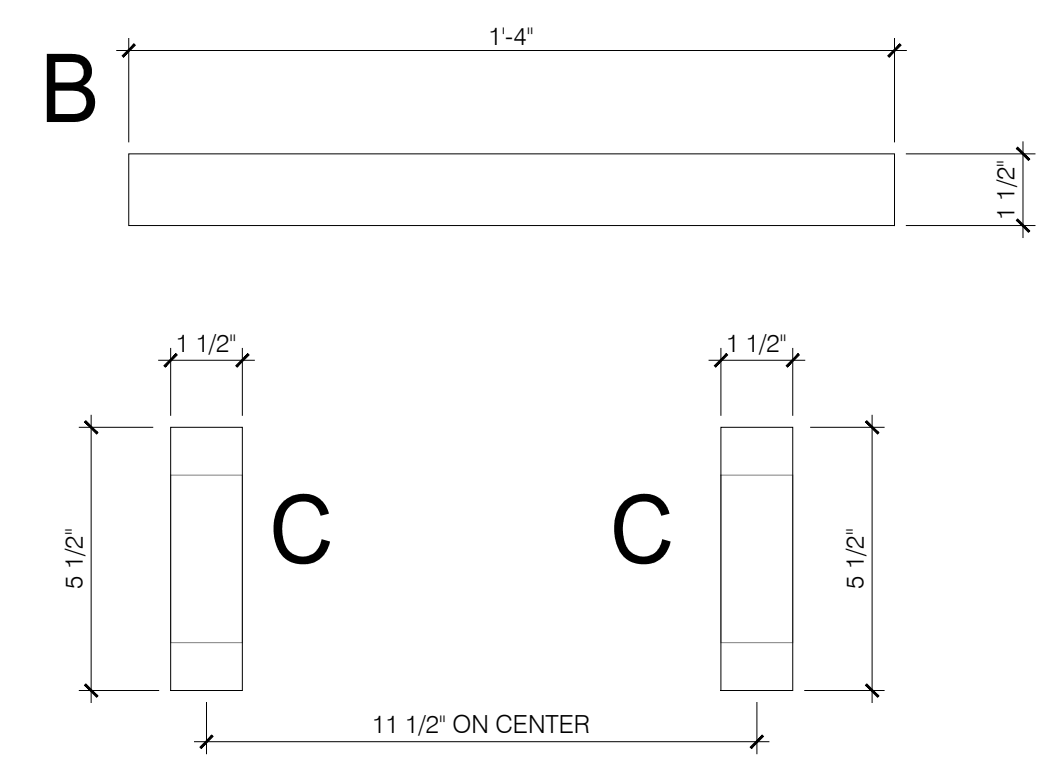
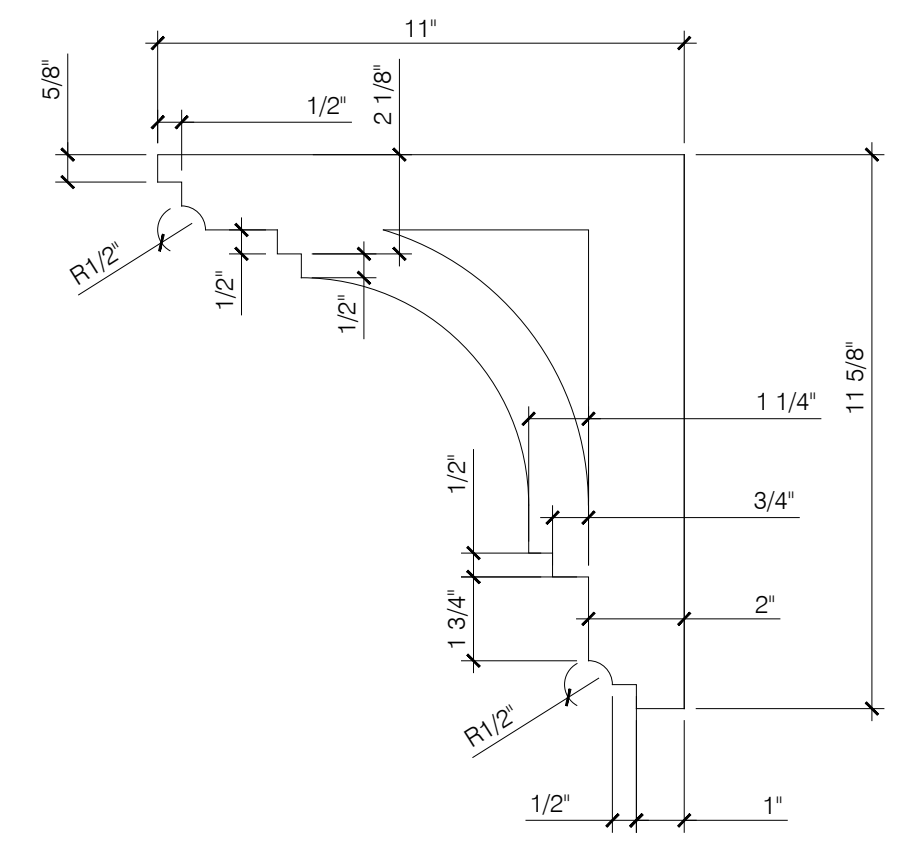
EXACTA BUF36 SPEC SHEET #1  
SCALE: NTS



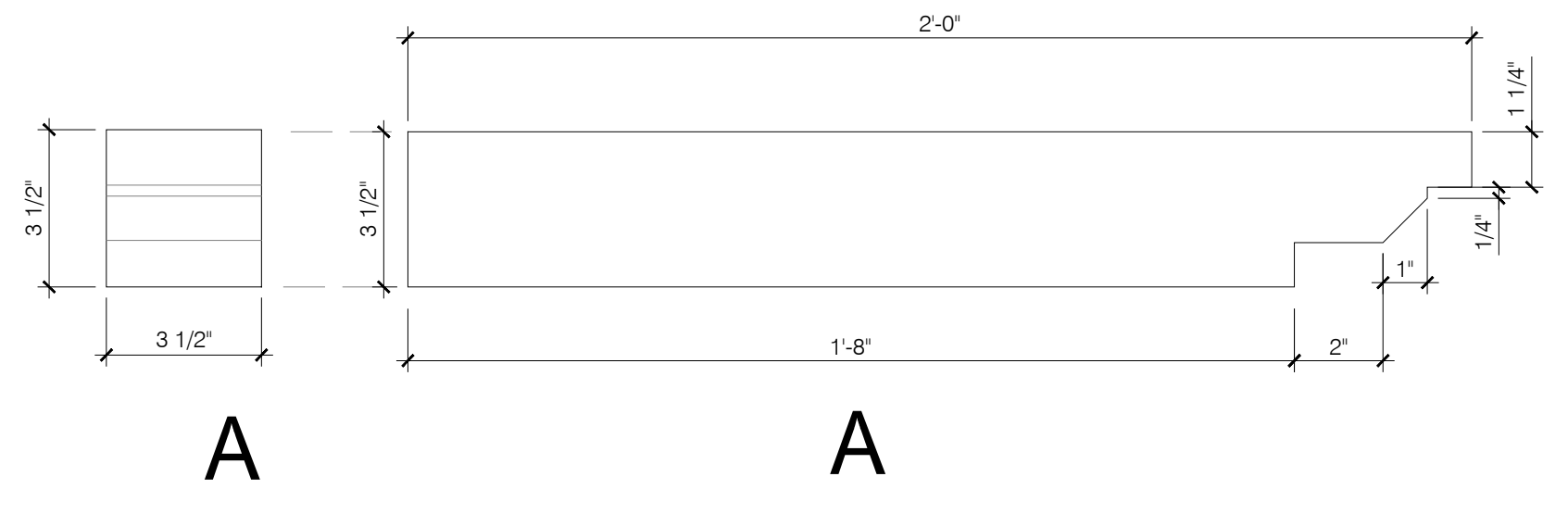
PORCH CORBEL PROFILE DETAILS  
SCALE: 1 1/2" = 1'-0"



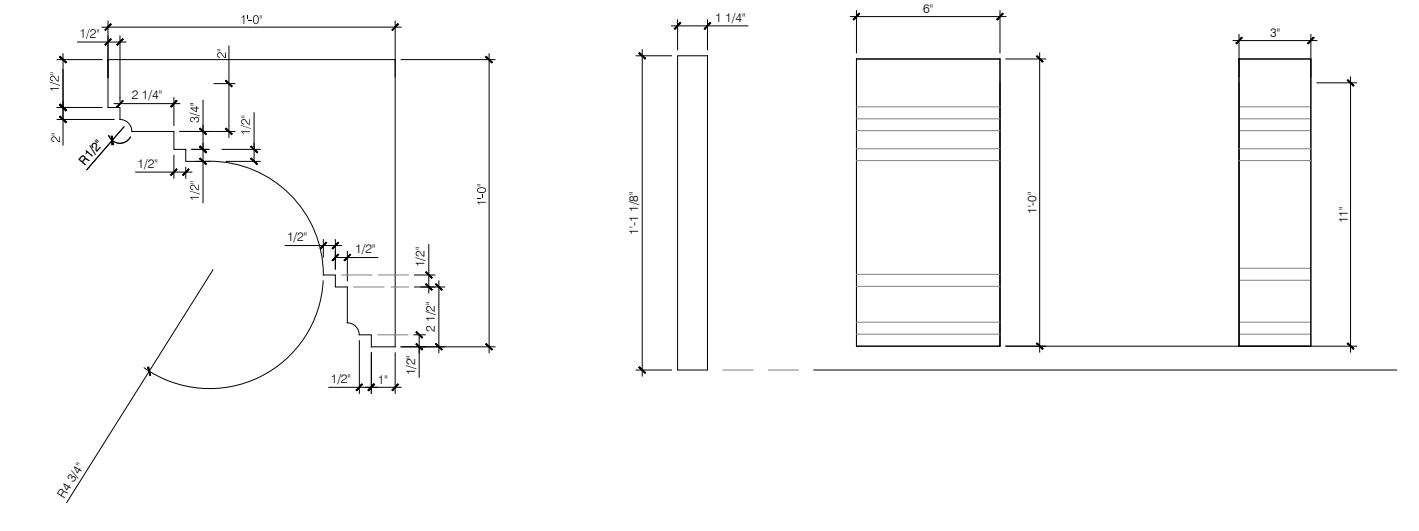
PORCH CORBEL PROFILE DETAILS  
SCALE: 3" = 1'-0"



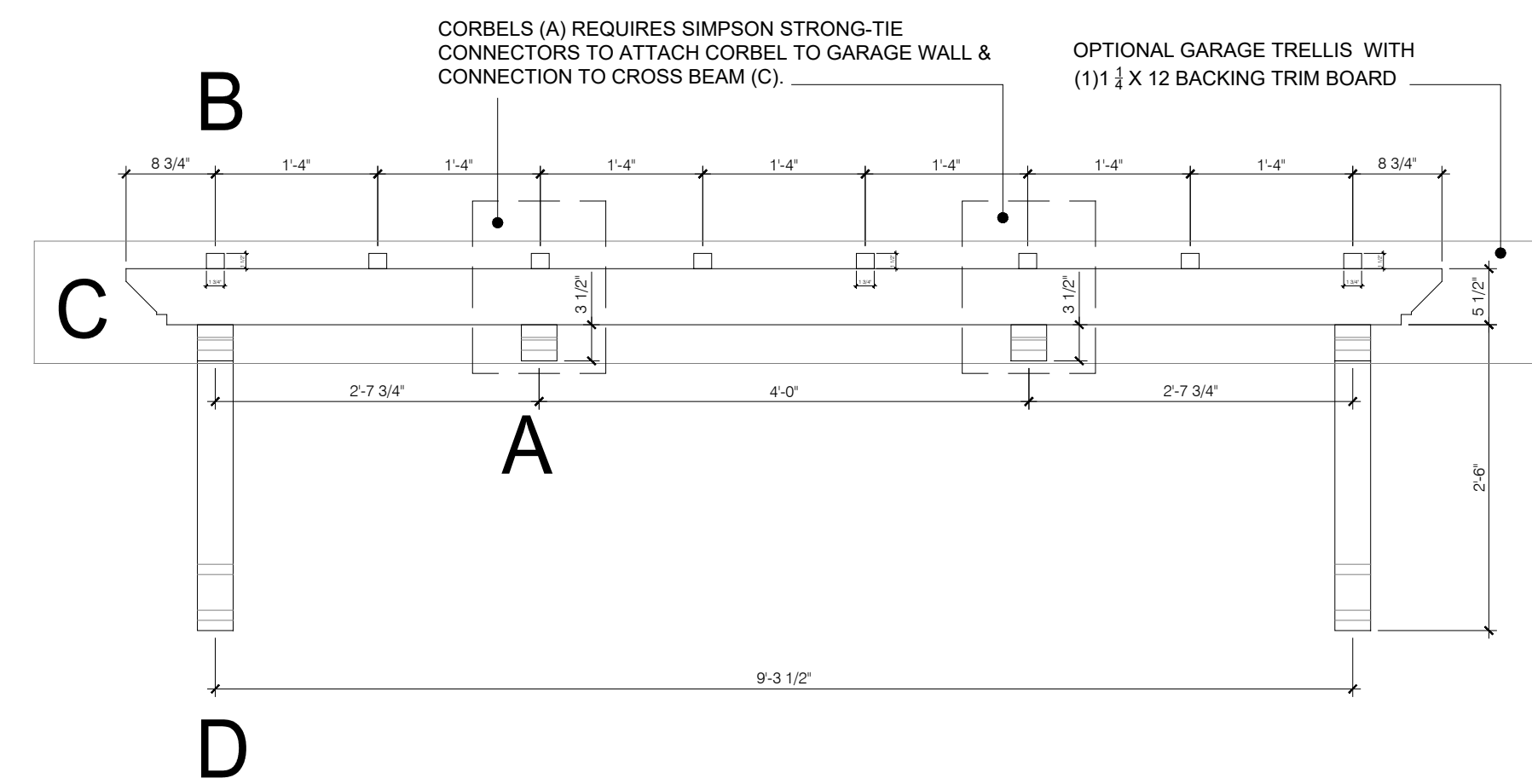
GARAGE EXTERNAL TRELLIS PROFILES  
SCALE: 3" = 1'-0"



GARAGE EXTERNAL TRELLIS DETAILS  
SCALE: 3/4" = 1'-0"



CORNICE MODILLION PROFILE DETAILS  
SCALE: 1 1/2" = 1'-0"



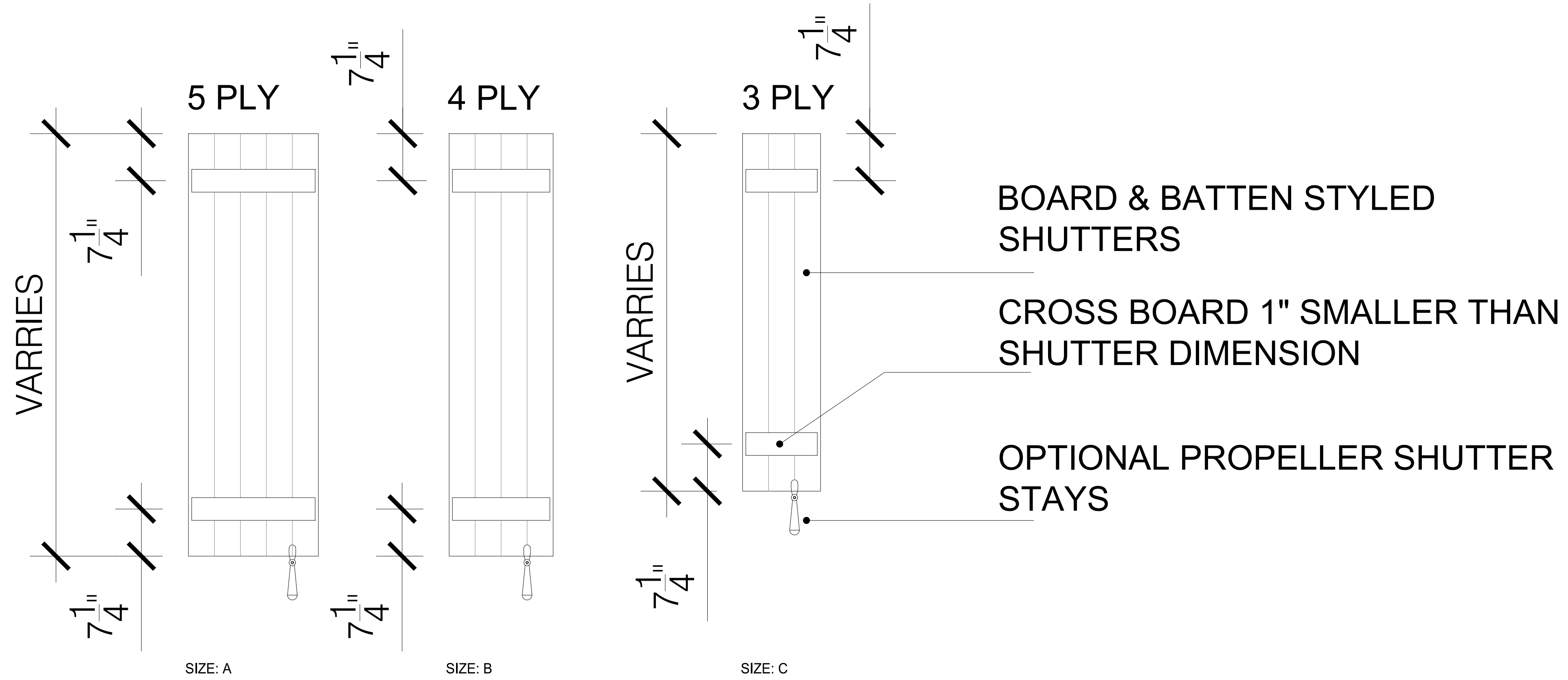
REVISIONS:

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N.C. LICENSE NO. C-1733

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**THE HAMEL**  
EXTERNAL GARAGE TRELLIS, CORBELS, BRACKETS & MODILLION DETAILS

DATE: 2024-01-01  
DRAWN BY: NS  
ENGINEER: JST  
CHECKED BY: NS  
SCALE: AS SHOWN  
SHEET NUMBER:  
**AD.8**



WINDOW SHUTTERS & STAY DETAILS  
SCALE: 1" = 1'-0"

DATE: 2024-01-01  
DRAWN BY: NS  
ENGINEER: JST  
CHECKED BY: NS  
SCALE: AS SHOWN  
SHEET NUMBER#:  
**AD.13**

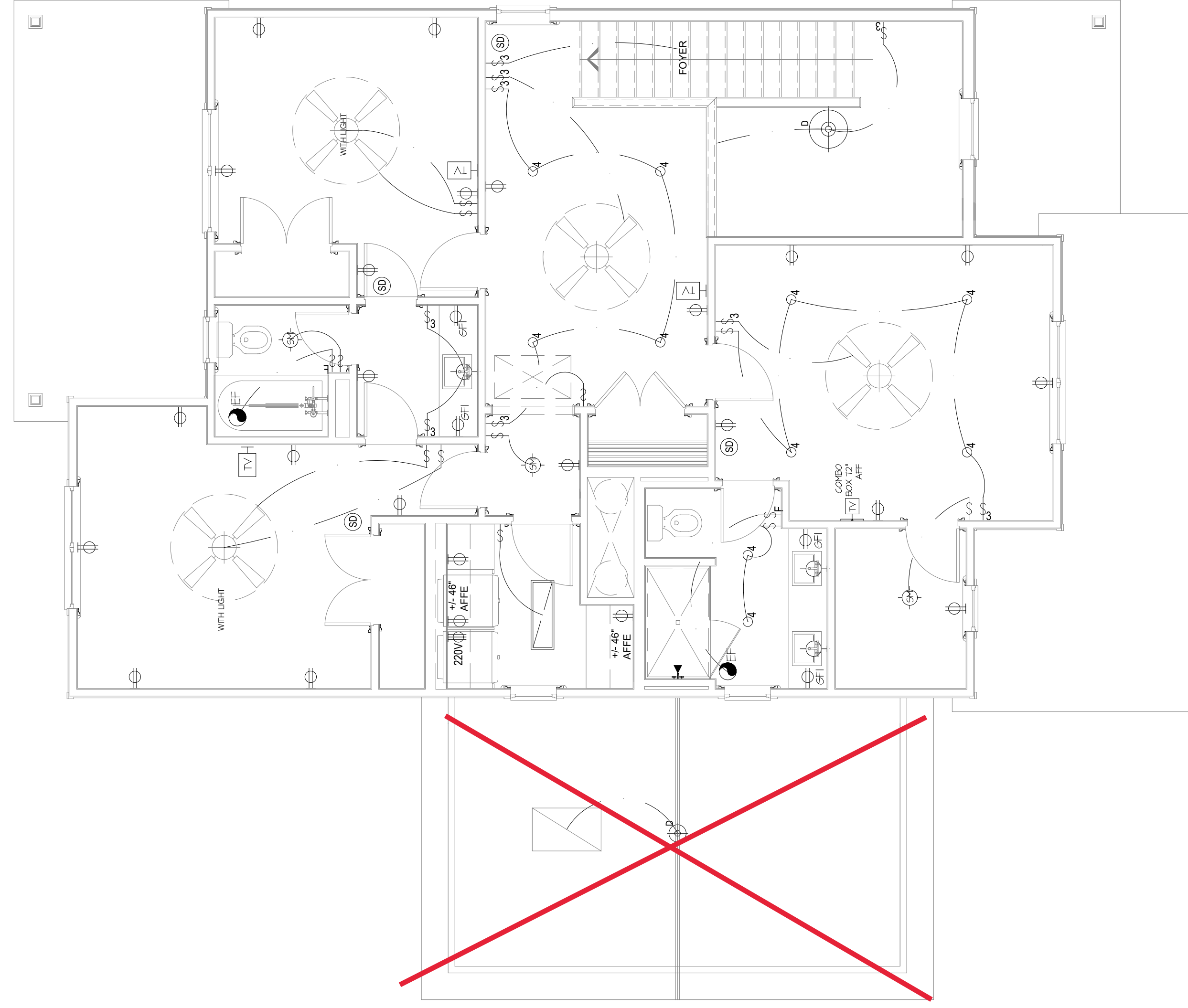
**THE HAMEL**  
WINDOW SHUTTERS & STAY DETAILS

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**J.S. THOMPSON**  
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PHONE: (919) 789-9919  
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N.C. LICENSE NO. C-1733

REVISIONS:

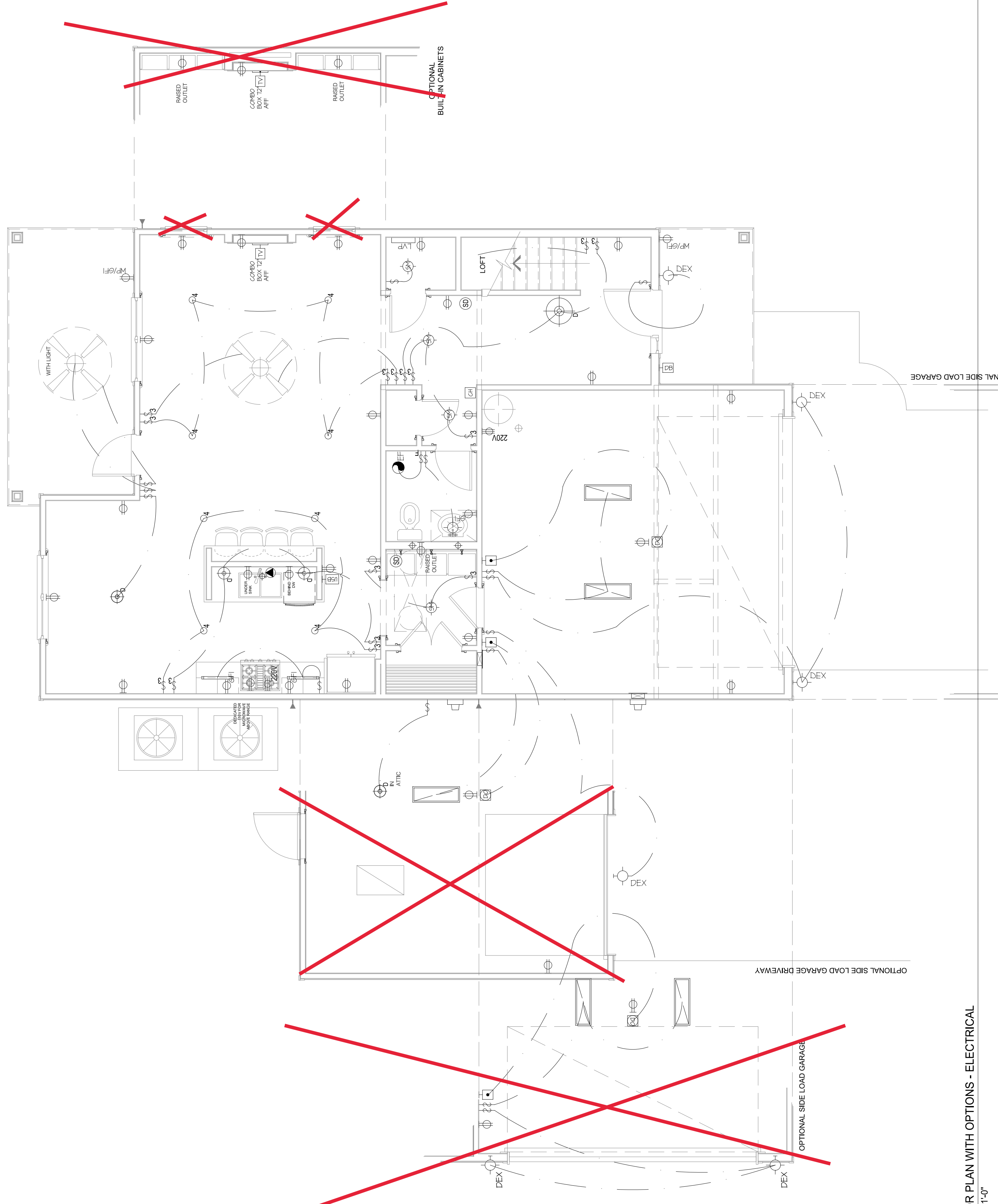
- ELECTRICAL NOTES:**
1. PROVIDE AND INSTALL CERTIFIED SMOKE DETECTORS AS REQUIRED BY NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) AND MEETING THE REQUIREMENTS OF ALL GOVERNING CODES. ALL SMOKE DETECTORS SHALL NOT BE LOCATED WITHIN THREE FEET OF A BATHROOM OR AN AC SUPPLY.
  2. PROVIDE AND INSTALL SMOKE DETECTORS AS REQUIRED BY NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) AND MEETING THE REQUIREMENTS OF ALL GOVERNING CODES. ALL SMOKE DETECTORS SHALL NOT BE LOCATED WITHIN THREE FEET OF A BATHROOM OR AN AC SUPPLY.
  3. HVAC CONTRACTOR TO VERIFY THERMOSTAT LOCATIONS AND MEETING THE REQUIREMENTS OF ALL GOVERNING CODES.
  4. ALL ELECTRICAL PANELS, AC UNITS, ELECTRICAL PANELS, AND WATER HEATERS ARE SUBJECT TO RELOCATION PER FIELD CONDITIONS.
  5. PROJECT WALK-THRU WITH SUPERINTENDENT AND ELECTRICAL CONTRACTOR TO BE SCHEDULED PRIOR TO REFER TO CABINET DRAWINGS AND LIGHTING DETAILS FOR POWER SUB-OUT LOCATIONS FOR BUILT-IN AND CABINET LIGHTING.
  6. ALL ELECTRICAL PANELS AND LOCATIONS AS SHOWN ARE TO BE LAID OUT PER LOCAL AND STATE BUILDING CODES AND ALL ELECTRICAL INSTALLATIONS SHALL BE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE (NEC).
  7. ALL LIGHTING LOCATIONS SHALL BE REVIEWED AND COORDINATED WITH APPROVED FLOOR AND ROOF TRUSS LAYOUTS PRIOR TO INSTALLATION IN THE FIELD.



UPPER FLOOR PLAN WITH OPTIONS - ELECTRICAL  
SCALE: 1/4" = 1'-0"

STANDARD ELECTRICAL & LIGHTING KEY	
WHIP FOR LIGHTING	WIRING CIRCUIT
3" RECESSED INCANDESCENT CEILING LIGHT	WIRING CIRCUIT LOW VOLTAGE
4" RECESSED INCANDESCENT CEILING LIGHT	LIGHTING CONTROL
4" RECESSED LED CEILING CAN LIGHT	WALL SWITCH SINGLE POLE
4" VAPOR PROOF LED RECESSED CAN LIGHT	THREE-WAY SWITCH
JUNCTION BOX REINFORCED CEILING MOUNT	FOUR-WAY SWITCH
CEILING JUNCTION BOX	FAN SWITCH
SURFACE MOUNTED LED CEILING LIGHT	THREE-WAY DIMMER SWITCH
PENDANT LIGHT	DIMMER SWITCH ON SYSTEM
WALL MOUNTED INCANDESCENT LIGHT FIXTURE	SINGLE POLE SWITCH ON SYSTEM
CHANDLER (REINFORCED CEILING MOUNT)	PUSH BUTTON SWITCH (GARAGE DOOR)
DECORATIVE EXTERIOR SCENIC	MOTORIZED SHADE (INTERIOR)
AMBIABLE RECESSED DOWN LIGHT LOW VOLTAGE	MOTORIZED SHUTTERS (EXTERIOR)
LED RECESSED DOWN LIGHT - PHOTO CELL	DOOR BELL
PULX LIGHT	CHIMES
DOUBLE LAMP CEILING LIGHT (CLOSED)	DUPLX OUTLET
TRIPLE LAMP CEILING LIGHT (CLOSED)	GROUND FAULT DUPLEX OUTLET ABOVE COUNTER
JAMB LIGHT FIXTURE	WEATHERPROOF GROUND FAULT DUPLEX OUTLET
TRACK LIGHT FIXTURE	HAIF SWITCHED DUPLEX OUTLET
FLUORESCENT FIXTURE SURFACE MOUNT	DEDICATED OUTLET
CEILING FAN (Add light where indicated)	220V OUTLET
SINGLE FLOOD LIGHT	FLOOR OUTLET
PHOTO CELL DOUBLE FLOOD LIGHT	HAIF SWITCHED FLOOR OUTLET
UC STRIP LIGHT	TELEPHONE DATA FLOOR
STRIP LIGHT ABOVE CABINET	CLOCK BOX WALL
UNDER CABINET LIGHT	RECESSED TV COMBINATION BOX
PLUG MOLD	TV CONNECTION
COVE LIGHTING LINEAR	TELEPHONE DATA WALL
TRANS-OMNER	ELECTRICAL OUTLET / USB COMBO
DEMARCATION BOX	DTV SHOWERS SYSTEM
ELECTRIC METER	KEYPAD SYSTEM CONTROL
ELECTRIC PANEL	KEYPAD FOR ALARM
DISCONNECT SWITCH	HEAT DETECTOR
GAS METER	LIGHT & EXHAUST FAN
WATER METER	EXHAUST FAN
GAS VALVE	LANDSCAPE LIGHTING (POWERSWITCH LE)G
AIR SWITCH	CARBON MONOXIDE SMOKE DETECTOR
PN LIGHT	COMBINATION UNIT
LOW VOLTAGE PANEL	SPEAKER (OPTIONAL)
	GARBAGE DISPOSAL
	ELECTRIC DOOR OPERATOR (GARAGE)

ELECTRICAL SYMBOLS LEGEND  
SCALE: NTS



MAIN FLOOR PLAN WITH OPTIONS - ELECTRICAL  
SCALE: 1/4" = 1'-0"

NOTE: AC RETURN VENTS SHALL NOT BE PLACED WITHIN 10' OF AN OPEN COMBUSTION CHAMBER, A DRAFT HOOD OF ANOTHER APPLIANCE OR WITHIN 10' OF COOKING APPLIANCES. CODE M.1602.2 / 601.5

DATE: 2023-03-31  
DRAWN BY: NS  
ENGINEER: NS  
CHECKED BY: NS  
Q.C. BY: AS SHOWN  
SCALE:  
SHEET NUMBER#:  
**E1**

**THE HAMEL**  
ELECTRICAL - MAIN & UPPER FLOOR PLANS

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REVISIONS:  
REV. 05.09.2023: CAN LIGHT QUANTITY REVISED.  
REV. 07.14.2023: LAUNDRY & UPPER FLOOR CHASE REVISED FOR AC DESIGN.  
REV. C. 08.04.2023: ENTRANCE DOOR & SHELIGHT FLIPPED.  
REV. 08.04.2023: REVISIONS TO ELECTRICAL SYMBOLS FOR AC DESIGN ISSUES.  
REV. E. 03.12.2023: KITCHEN & ISLAND REVISED.  
REV. F. 01.16.24: TUBS AND SHOWER FRAMING REVISED TO 60".  
FRAMED KITCHEN ISLAND ADDED.





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**HAMEL**  
**ASCOT GROUP**

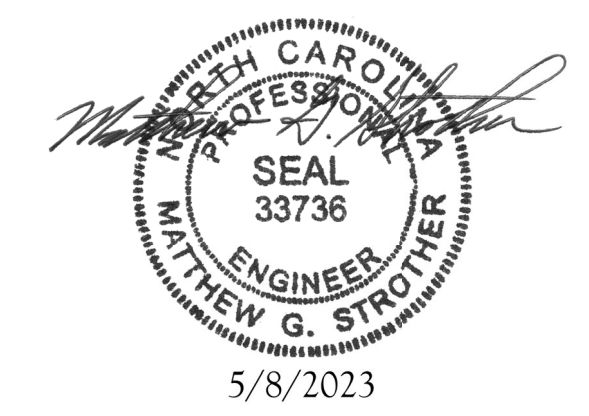
- 120 MPH ULTIMATE DESIGN WIND SPEED**  
 NOTES FOR LESS THAN  
 30' MEAN ROOF HEIGHT:
- ENGINEER'S SEAL APPLIES ONLY TO STRUCTURAL COMPONENTS. ENGINEER'S SEAL DOES NOT CERTIFY DIMENSIONAL ACCURACY OR ARCHITECTURAL LAYOUT INCLUDING ROOF SYSTEM.
  - STRUCTURAL DESIGN PER NORTH CAROLINA RESIDENTIAL CODE, 2018 EDITION.
  - INSTALL 1/2" ANCHOR BOLTS 5'-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.
  - MEAN ROOF HEIGHT IS LESS THAN 30 FEET.
  - EXTERIOR WALLS DESIGNED FOR 120 MPH WINDS.
  - WALL CLADDING DESIGNED FOR +15.5 PSF AND -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 2.25/12 TO 7/12.
  - INSTALL 7/16" OSB SHEATHING ON ALL EXTERIOR WALLS OF ALL STORES IN ACCORDANCE WITH SECTION R602.10.3 OF THE NRC, 2018 EDITION. SEE THE WALL BRACING NOTES AND DETAILS SHEET FOR MORE INFORMATION.
  - ENERGY EFFICIENCY COMPLIANCE AND INSULATION VALUES OF THE BUILDING TO BE IN ACCORDANCE WITH CHAPTER 11 OF THE NRC, 2018 EDITION.
  - REFER TO NOTES AND DETAIL SHEETS FOR ADDITIONAL STRUCTURAL INFORMATION.

- 150 MPH ULTIMATE DESIGN WIND SPEED**  
 NOTES FOR LESS THAN  
 30' MEAN ROOF HEIGHT:
- ENGINEER'S SEAL APPLIES ONLY TO STRUCTURAL COMPONENTS. ENGINEER'S SEAL DOES NOT CERTIFY DIMENSIONAL ACCURACY OR ARCHITECTURAL LAYOUT INCLUDING ROOF SYSTEM.
  - STRUCTURAL DESIGN PER NORTH CAROLINA RESIDENTIAL CODE, 2018 EDITION WITH SPECIAL CONSIDERATION TO CHAPTER 45 ("HIGH WIND ZONES" FOR 150 MPH WINDS).
  - 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.
  - ENERGY EFFICIENCY COMPLIANCE AND INSULATION VALUES OF THE BUILDING TO BE IN ACCORDANCE WITH CHAPTER 11 OF THE NRC, 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

DATE: MAY 8, 2023  
 SCALE: 1/4" = 1'-0"  
 DRAWN BY: NS  
 ENGINEERED BY: WFB



**S-1b**  
 MONO SLAB  
 FOUNDATION PLAN

5/8/2023

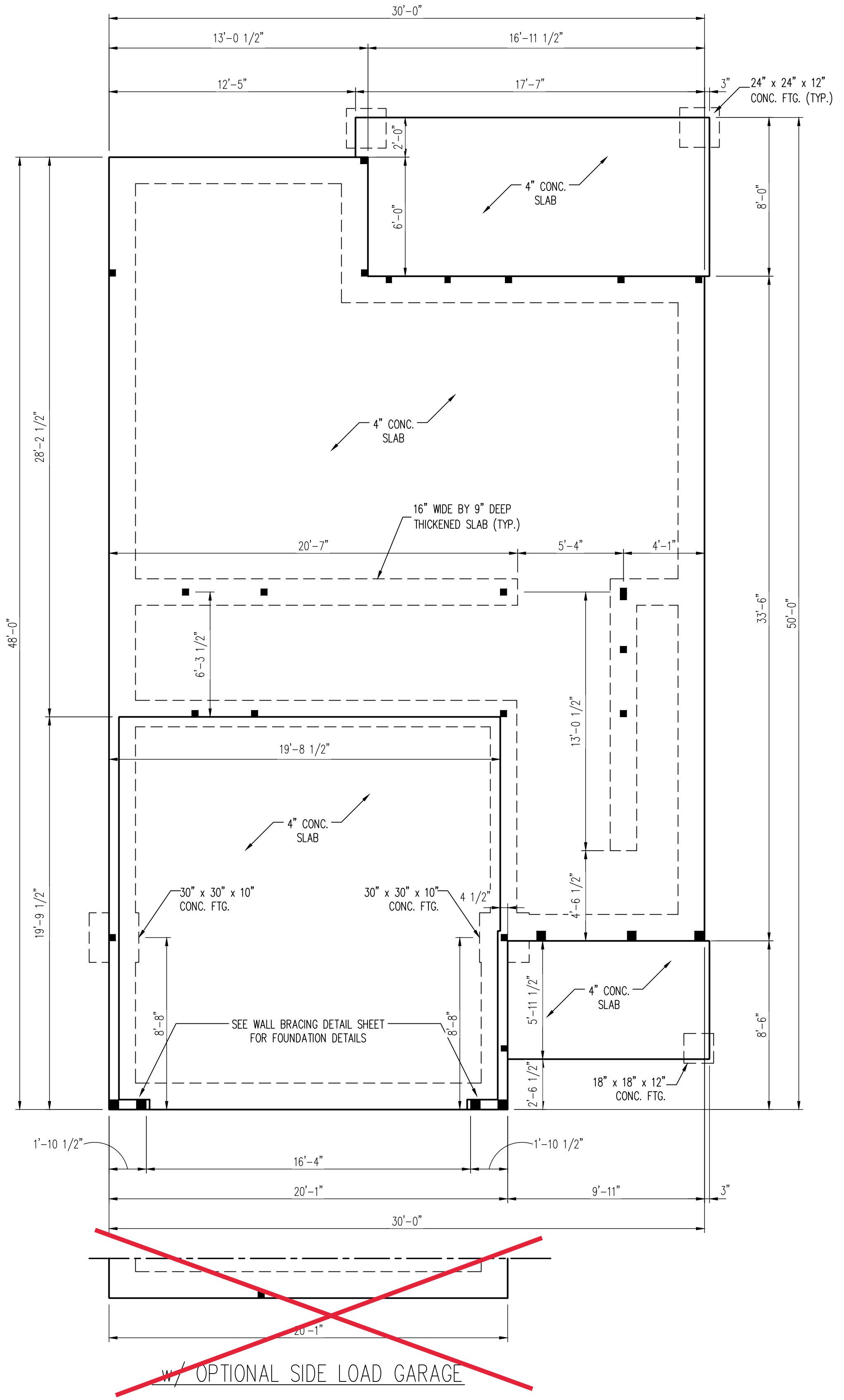
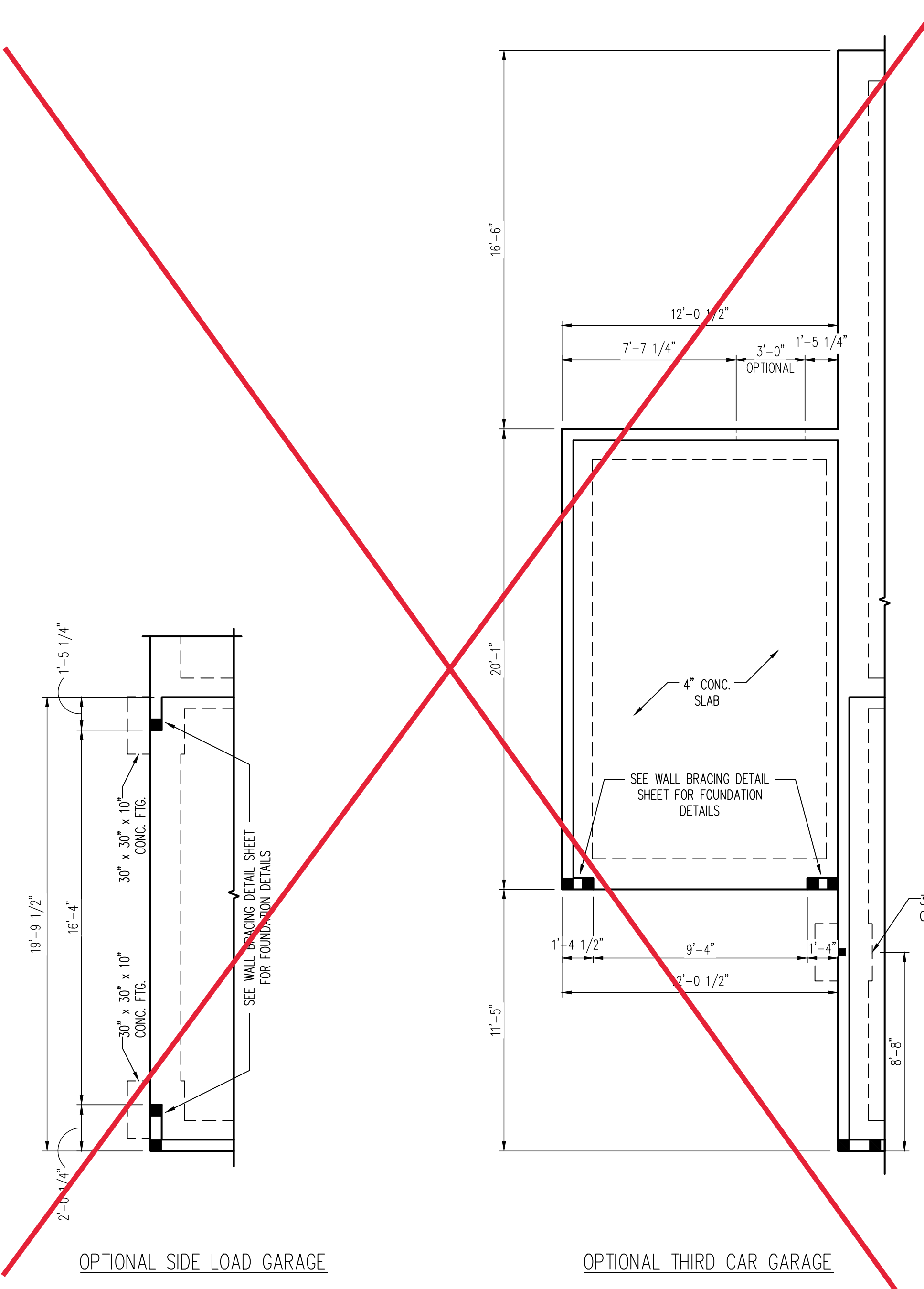


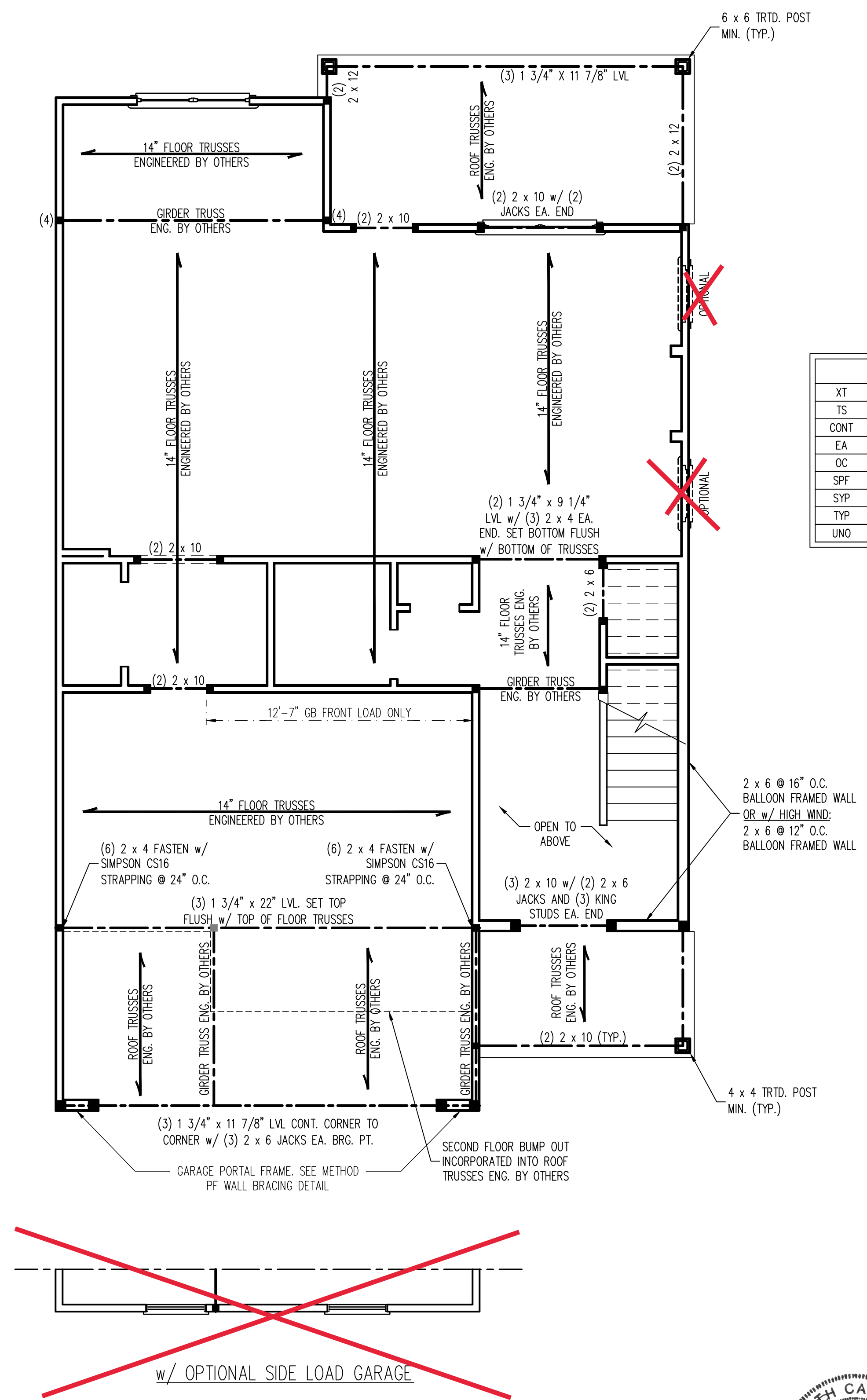
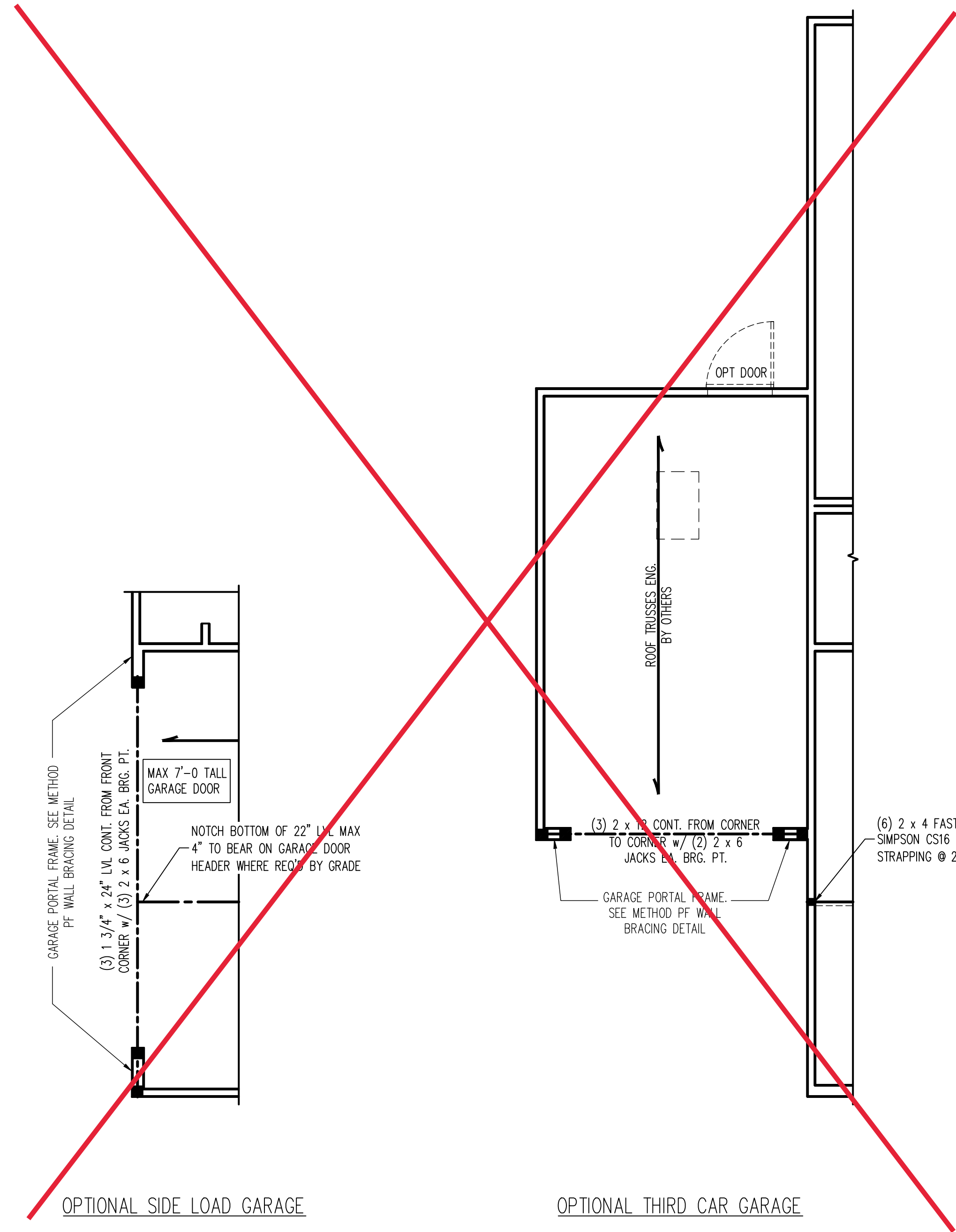
TABLE R602.7.5  
MINIMUM NUMBER OF FULL HEIGHT KING STUDS  
AT EACH END OF HEADERS IN EXTERIOR WALLS

HEADER SPAN (FEET)	MINIMUM NUMBER OF 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:**

- BRACED WALL DESIGN PER SECTION R602.10.5 "WALL BRACING BY ENGINEERED DESIGN" OF THE NCR 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.
- 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 NCR 2018 EDITION.
- 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.
- 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.
- 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 NCR 2018 EDITION.
- SEE NOTES AND DETAIL SHEETS FOR ADDITIONAL BRACED WALL INFORMATION.

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N.C. LICENSE NO.: C-1733

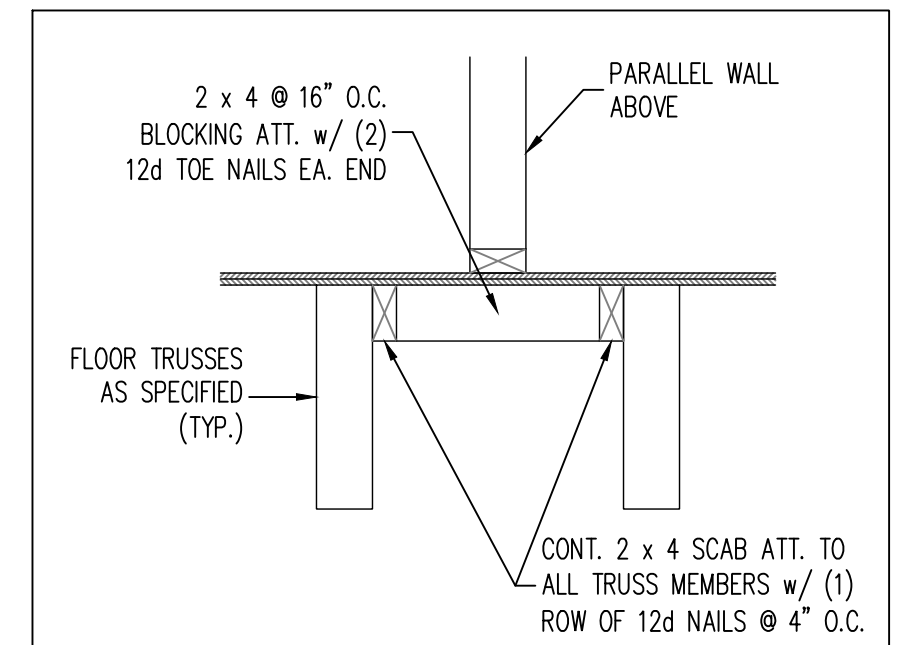


**LEGEND**

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

**STRUCTURAL NOTES:**

- ALL FRAMING LUMBER TO BE SPF #2 (UNO). ALL TREATED LUMBER TO BE SYP #2 (UNO).
- ALL LOAD BEARING HEADERS TO BE (2) 2 x 6 (UNO).
- INSTALL 2 x 4 @ 16" O.C. BLOCKING BETWEEN ADJACENT TRUSSES UNDER WALLS PARALLEL TO FLOOR TRUSSES WHERE WALL LENGTH EXCEEDS 1/3 OF TRUSS SPAN (SEE DETAIL THIS SHEET). TRUSS DESIGNER TO DESIGN ADJACENT TRUSSES FOR ADDITIONAL LOADING FROM WALLS.
- WINDOW AND DOOR HEADERS TO BE SUPPORTED w/ (1) JACK STUD AND (1) KING STUD EA. END (UNO). SEE TABLE R602.7.5 FOR ADDITIONAL KING STUD REQUIREMENTS.
- SQUARES DENOTE POINT LOADS WHICH REQUIRE SOLID BLOCKING TO GIRDER OR FOUNDATION. ALL SQUARES TO BE (2) STUDS (UNO).
- FOR HIGH WIND ZONES, ALL EXTERIOR WALLS TO BE SHEATHED WITH 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.
- 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.
- ALL 4 x 4 POSTS SHALL BE ANCHORED TO SLABS w/ SIMPSON ABU44 POST BASES (OR EQUAL) AND 6 x 6 POSTS w/ ABU66 POST BASES (OR EQUAL) (UNO). ALL 4 x 4 AND 6 x 6 POSTS TO BE INSTALLED WITH 700 LB CAPACITY UPLIFT CONNECTORS AT TOP (UNO).
- FOR FIBERGLASS, ALUMINUM, OR COLUMN ENG. BY OTHERS, SECURE TO SLAB w/ (2) METAL ANGLES USING 2" CONC. SCREWS. FASTEN ANGLES TO COLUMNS w/ 1/4" THROUGH BOLTS w/ NUTS AND WASHERS. LOCATE ANGLES ON OPPOSITE SIDES OF COLUMN. THROUGH BOLTS MUST BE INSTALLED PRIOR TO SETTING COLUMN.
- REFER TO NOTES AND DETAIL SHEETS FOR ADDITIONAL STRUCTURAL INFORMATION.

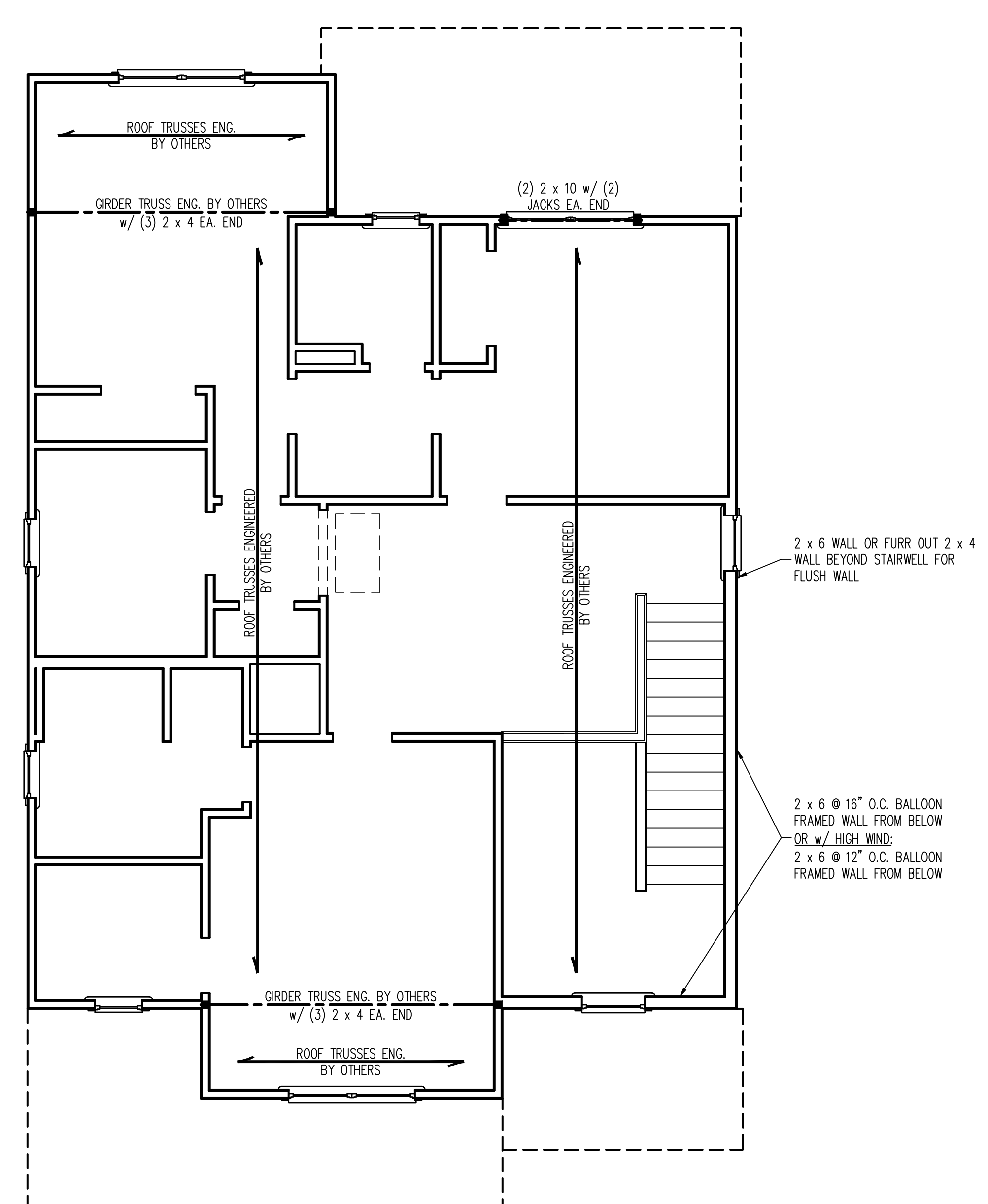


SEAL  
33736  
ENGINEER  
MATTHEW G. STROTHER  
5/8/2023

HAMEL  
ASCOT GROUP

DATE: MAY 8, 2023  
SCALE: 1/4" = 1'-0"  
DRAWN BY: NS  
ENGINEERED BY: WFB

S-2  
SECOND FLOOR  
FRAMING PLAN



**BRACED WALL DESIGN NOTES:**

- 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.
- 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.
- 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.
- 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.
- 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.
- SEE NOTES AND DETAIL SHEETS FOR ADDITIONAL BRACED WALL INFORMATION.

**STRUCTURAL NOTES:**

- ALL FRAMING LUMBER TO BE SPF #2 (UNO). ALL TREATED LUMBER TO BE SYP #2 (UNO).
- ALL LOAD BEARING HEADERS TO BE (2) 2 x 6 (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. ALL SQUARES TO BE (2) STUDS (UNO).
- 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.
- 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 FULL HEIGHT STUDS (KINGS)
UP TO 3'	1
> 3' TO 6'	2
> 6' TO 9'	3
> 9' TO 12'	4
> 12' TO 15'	5

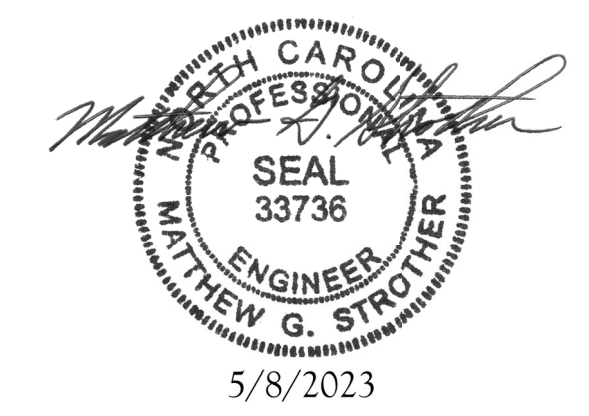
**LEGEND**

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

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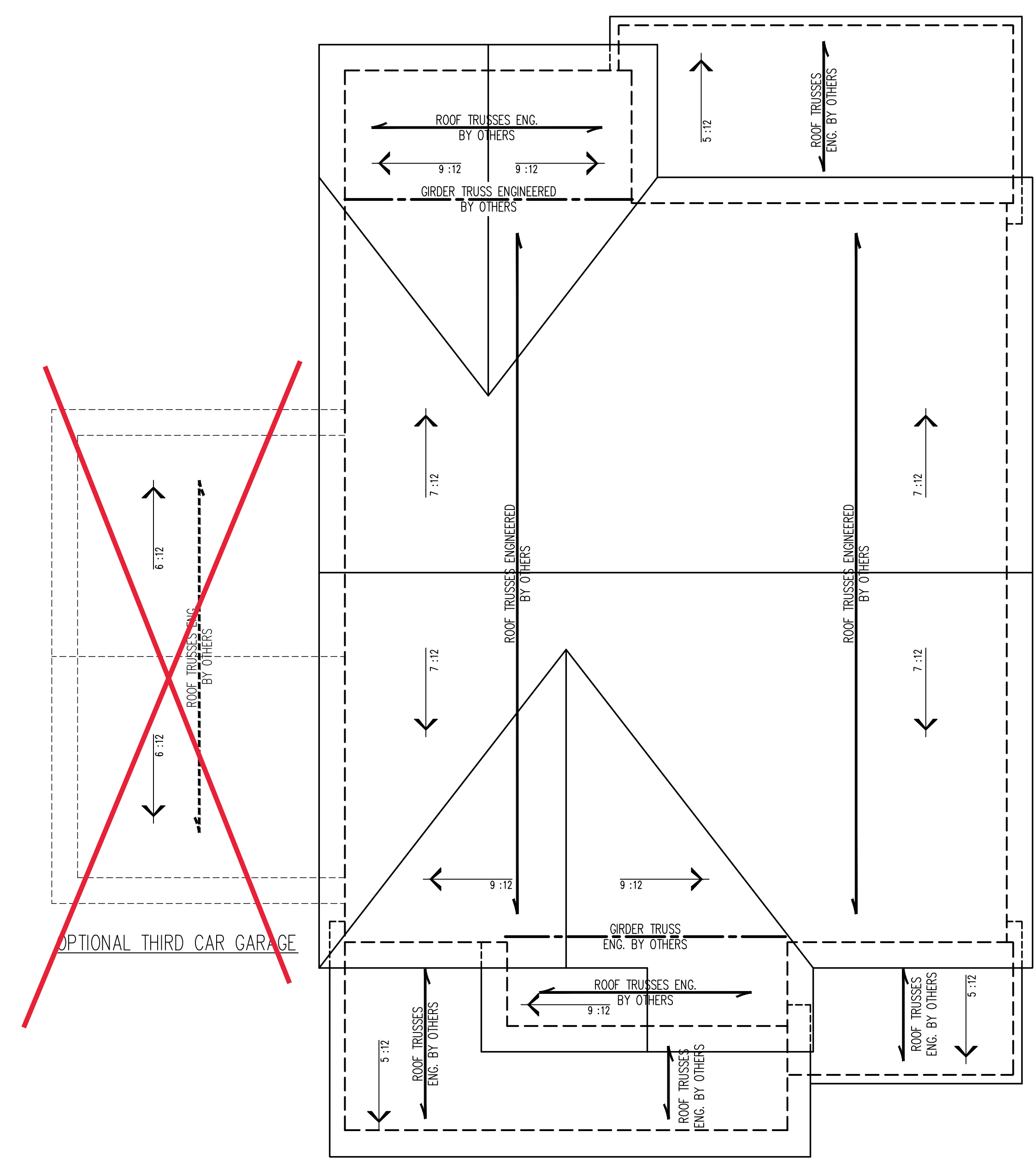
HAMEL  
ASCOT GROUP

DATE: MAY 8, 2023  
SCALE: 1/4" = 1'-0"  
DRAWN BY: NS  
ENGINEERED BY: WFB



5/8/2023

S-3  
ATTIC FLOOR  
FRAMING PLAN



- STRUCTURAL NOTES:**
1. ALL FRAMING LUMBER TO BE #2 SPF (UNO).
  2. CIRCLES DENOTE (3) 2 x 4 POSTS FOR ROOF SUPPORT.
  3. FRAME DORMER WALLS ON TOP OF DOUBLE OR TRIPLE RAFTERS.
  4. HIP SPLICES ARE TO BE SPACED A MIN. OF 8'-0". FASTEN MEMBERS WITH THREE ROWS OF 12d NAILS @ 16" O.C. (TYP.)
  5. STICK FRAME OVER-FRAMED ROOF SECTIONS W/ 2 x 8 RIDGES, 2 x 6 RAFTERS @ 16" O.C. AND FLAT 2 x 10 VALLEYS OR USE VALLEY TRUSSES.
  6. FASTEN FLAT VALLEYS TO RAFTERS OR TRUSSES WITH 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 NRC FOR REQUIRED UPLIFT RESISTANCE AT RAFTERS AND TRUSSES.
  8. 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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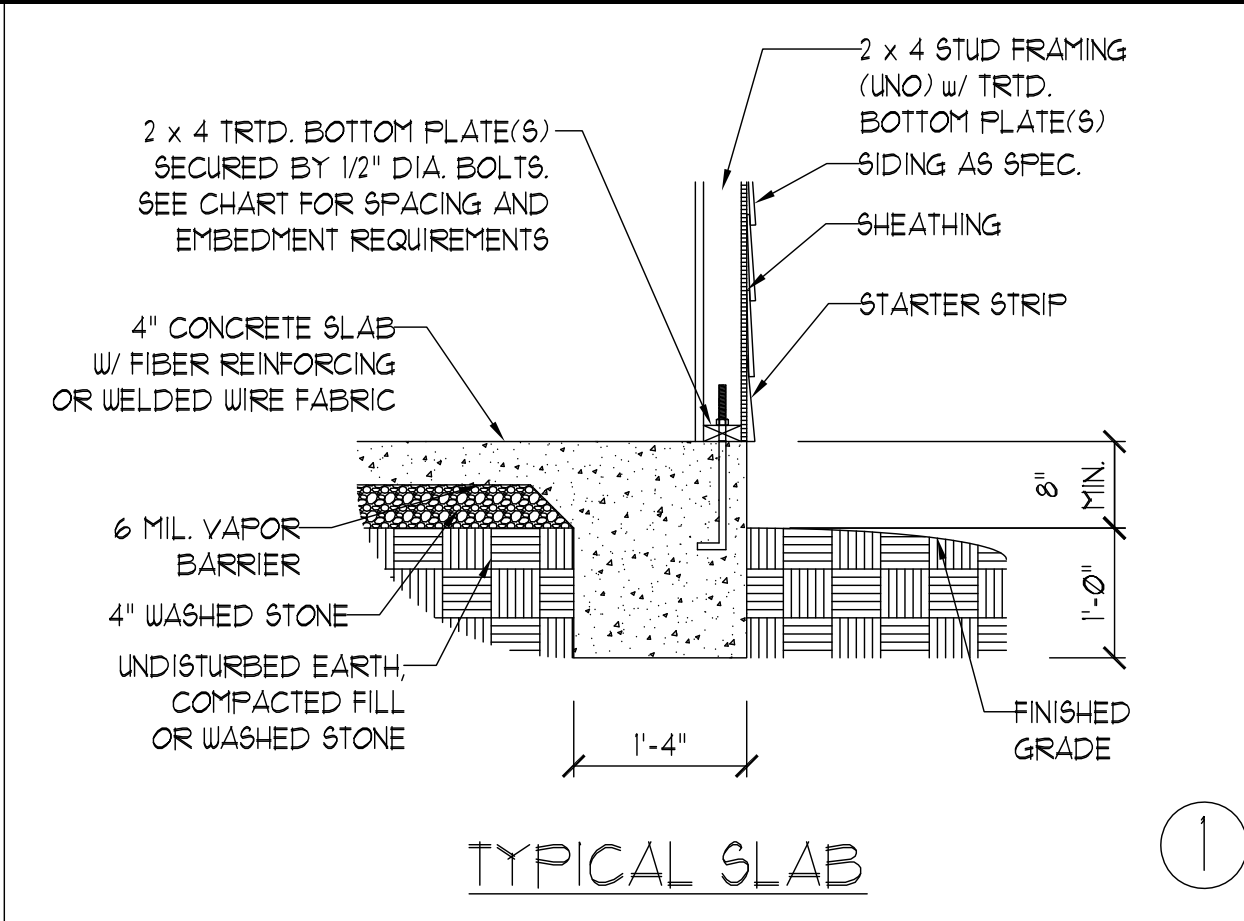
HAMEL  
ASCOT GROUP

DATE: MAY 8, 2023  
 SCALE: 1/4" = 1'-0"  
 DRAWN BY: NS  
 ENGINEERED BY: WFB

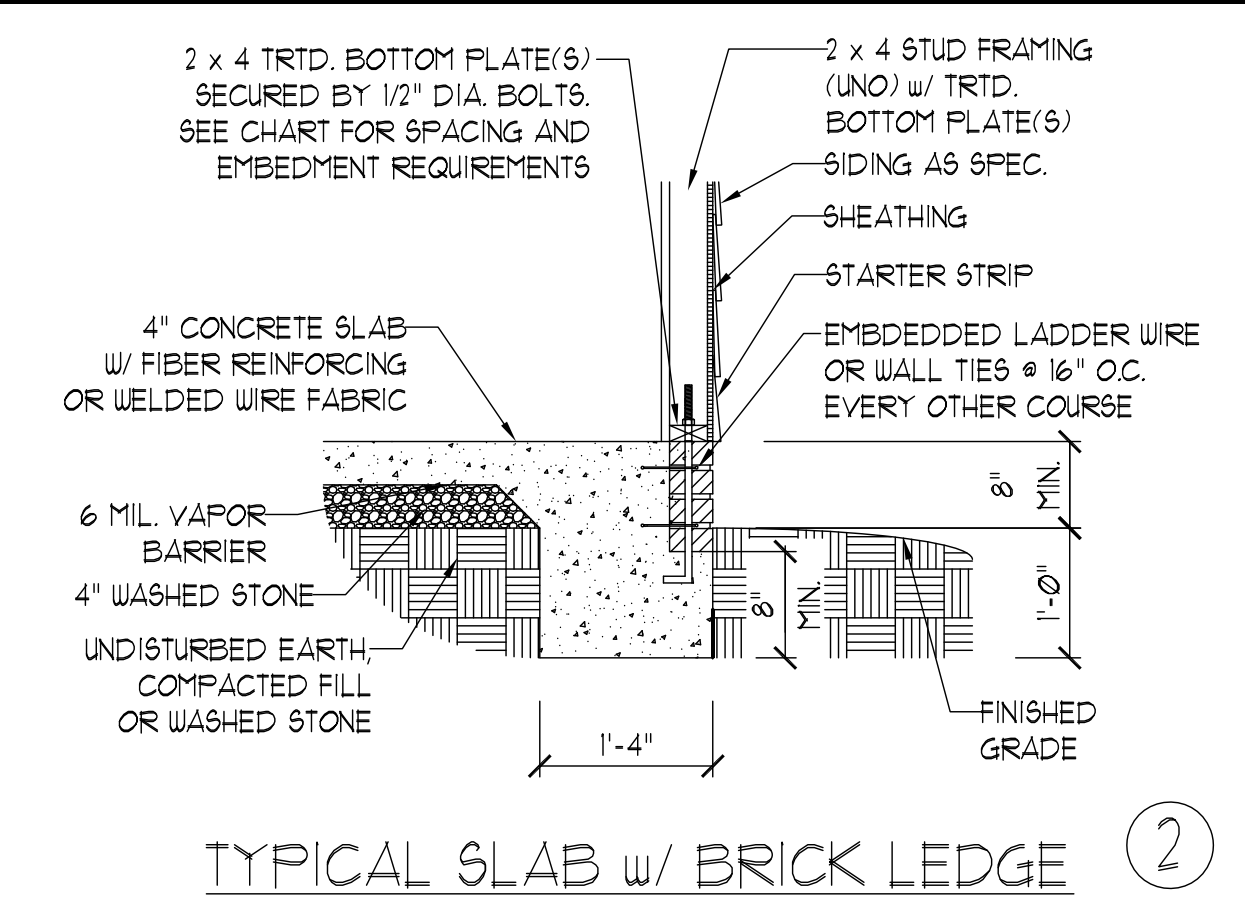


S-4  
ROOF FRAMING  
PLAN

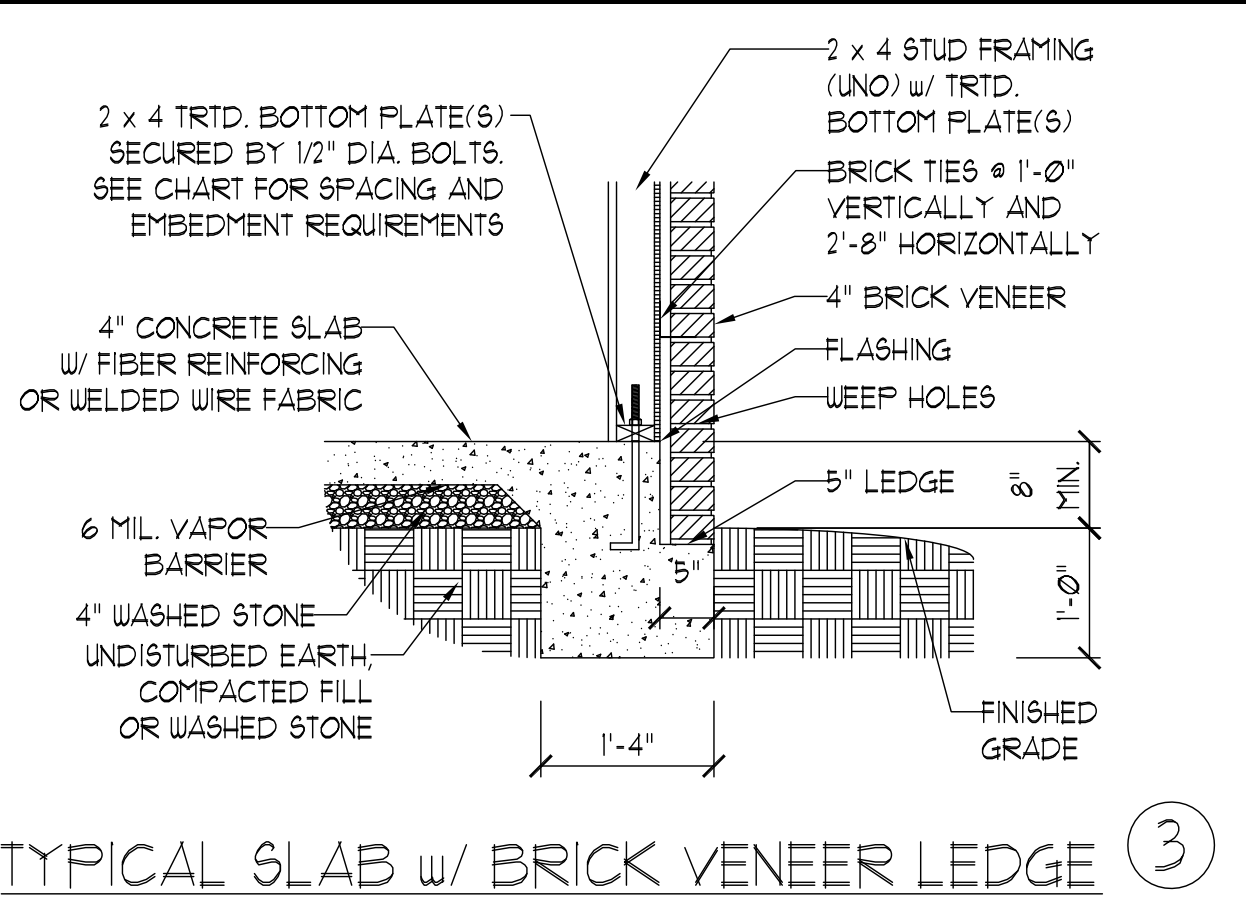
5/8/2023



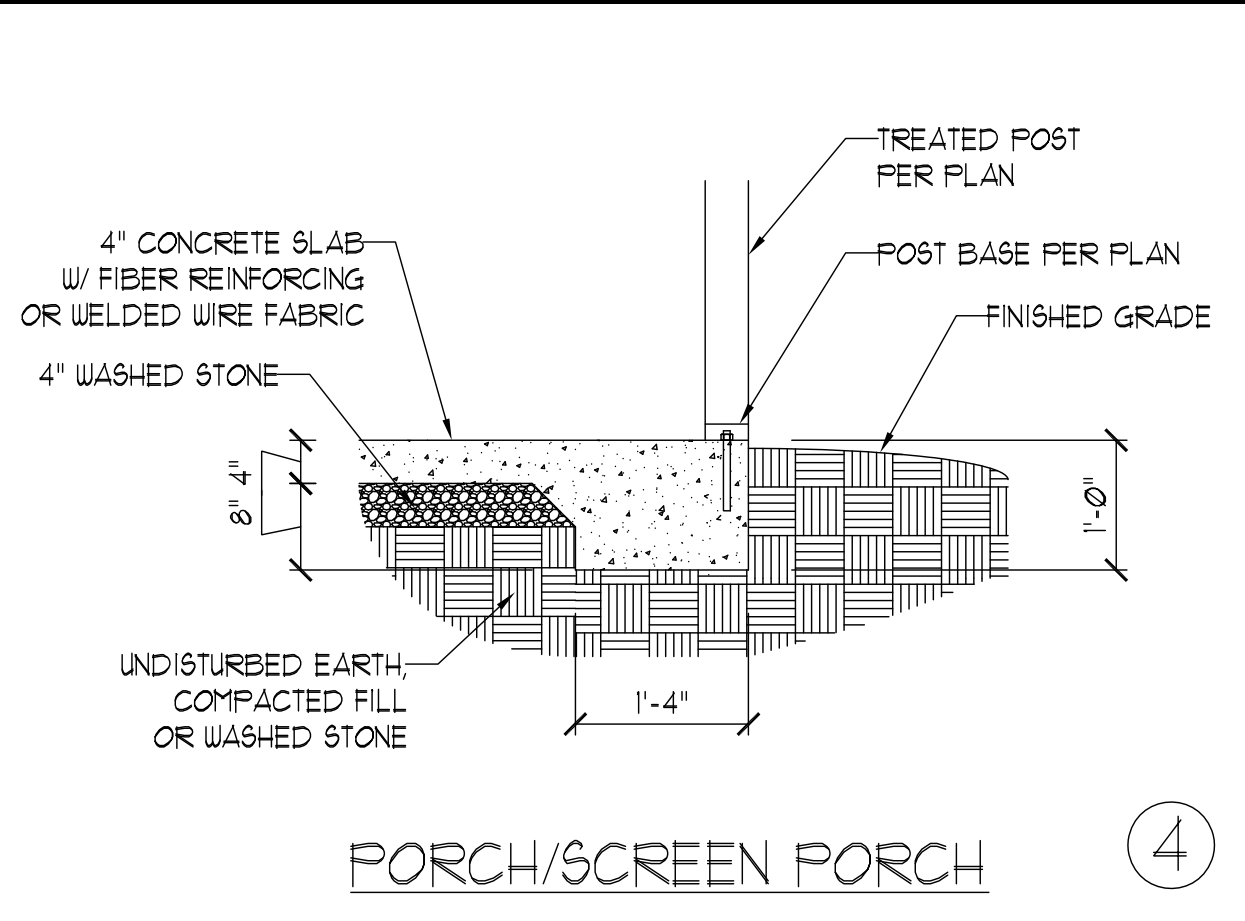
TYPICAL SLAB ①



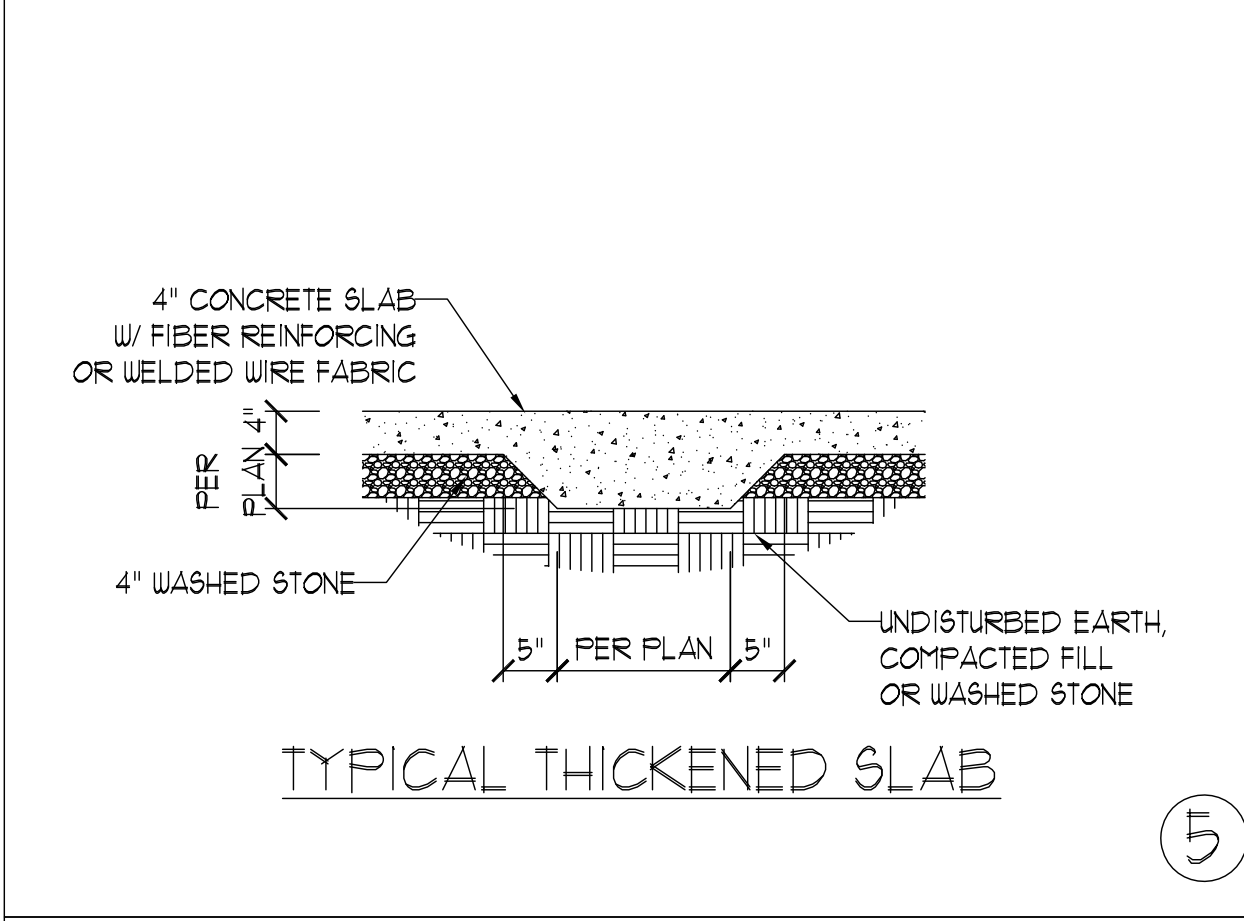
TYPICAL SLAB w/ BRICK LEDGE ②



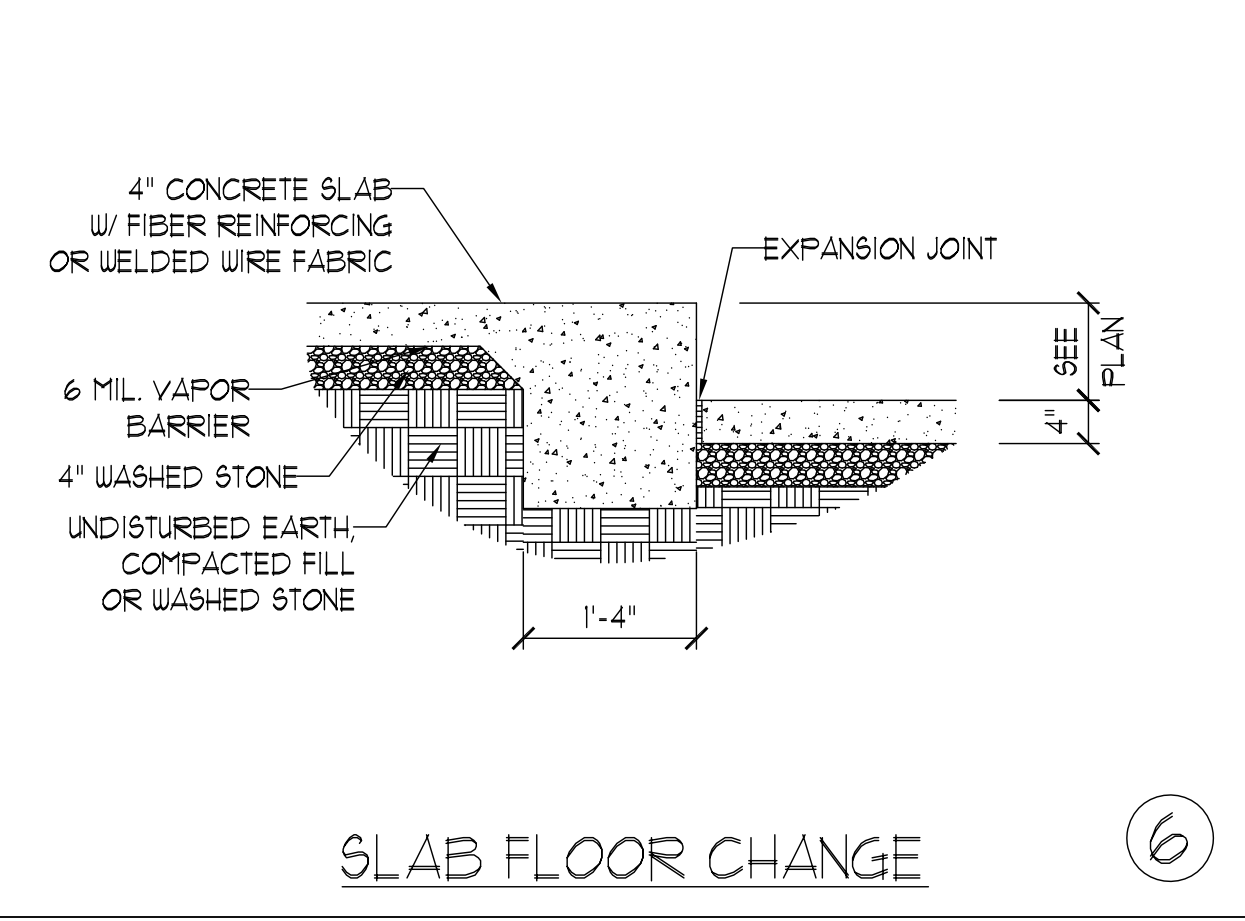
TYPICAL SLAB w/ BRICK VENEER LEDGE ③



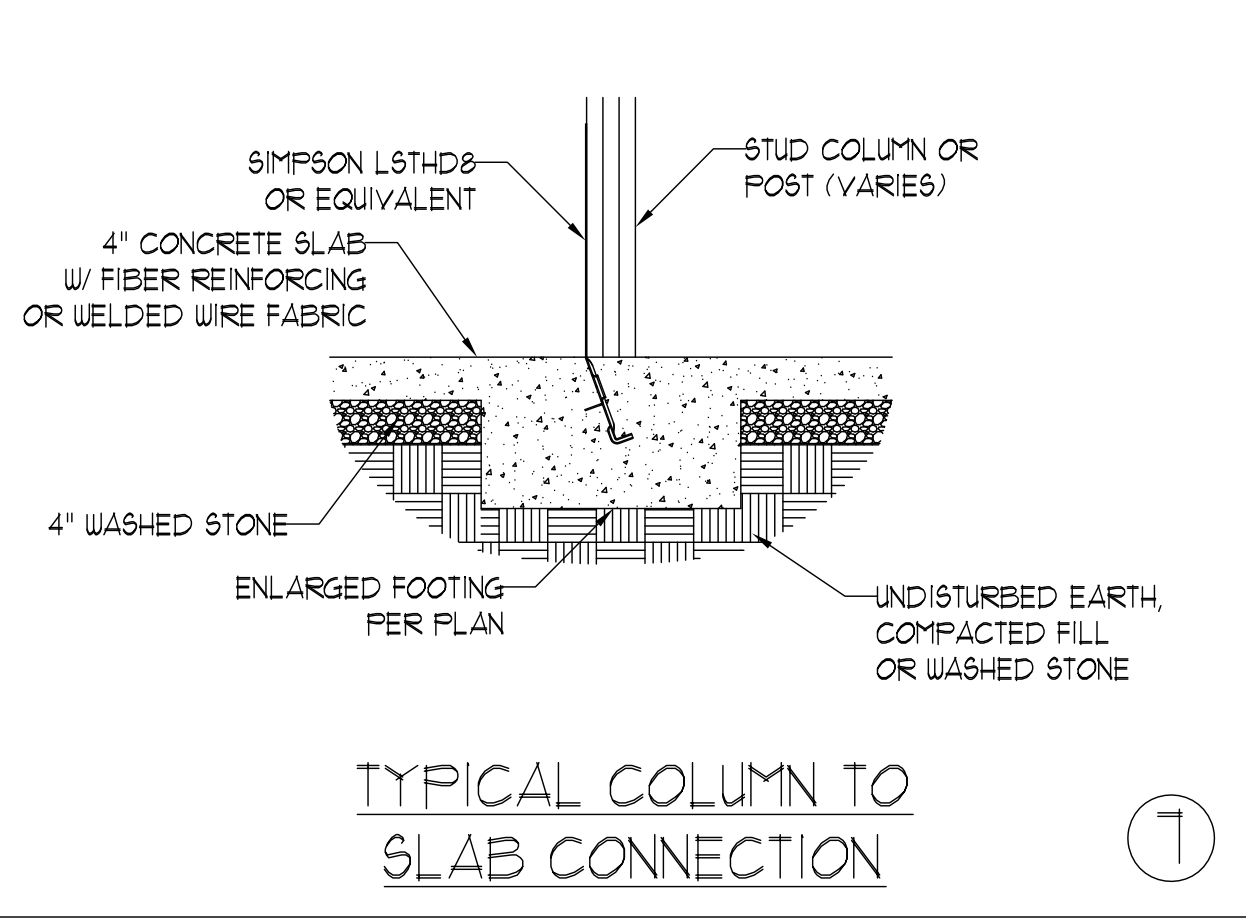
PORCH/SCREEN PORCH ④



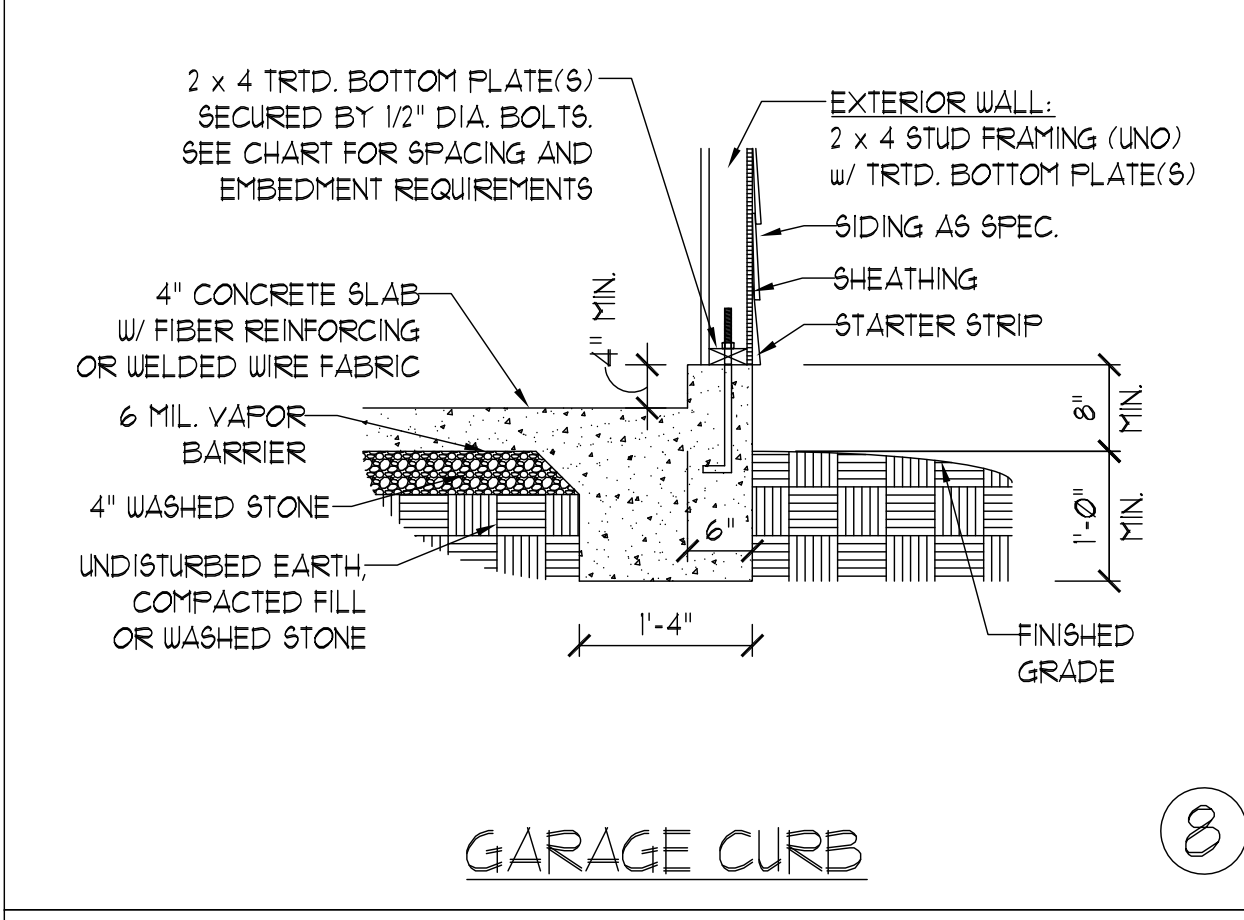
TYPICAL THICKENED SLAB ⑤



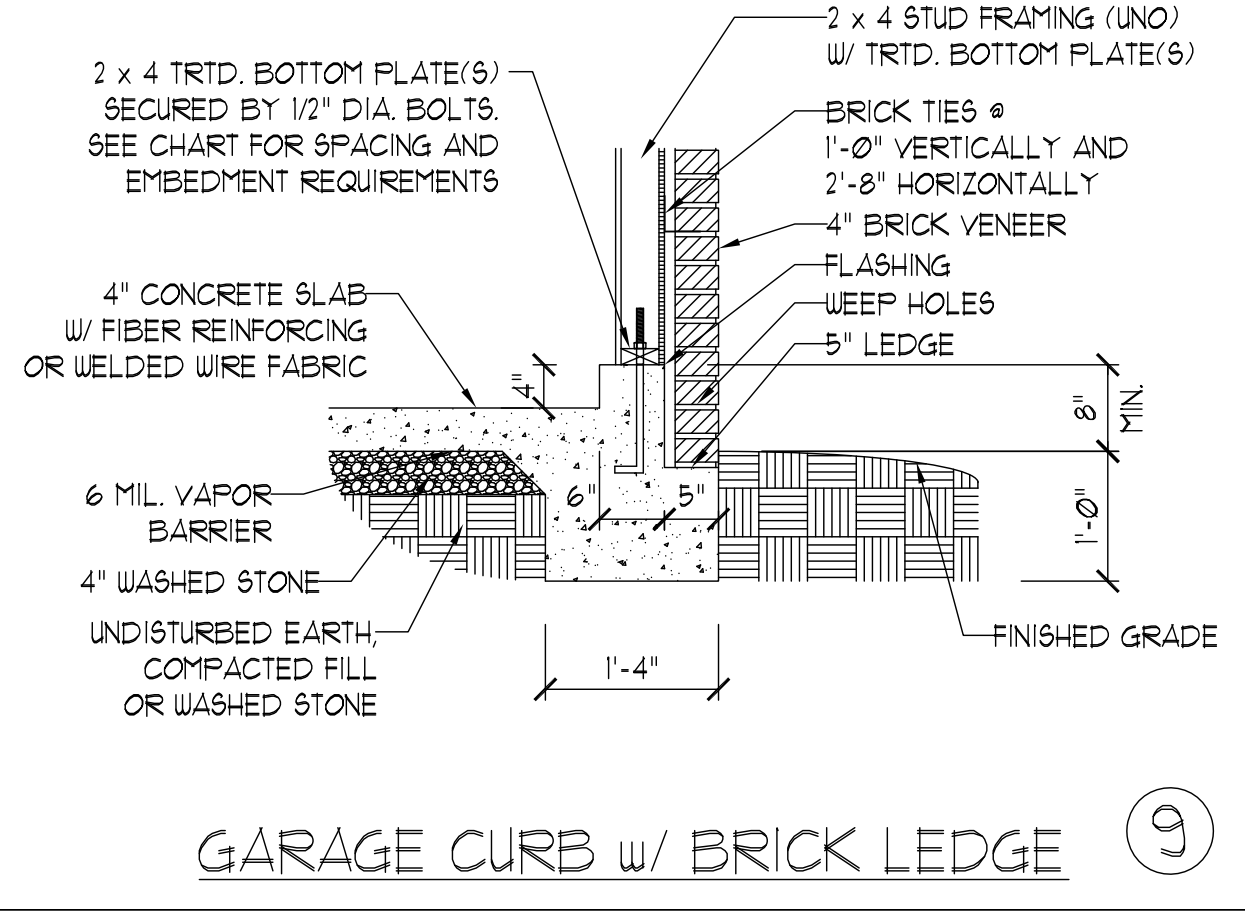
SLAB FLOOR CHANGE ⑥



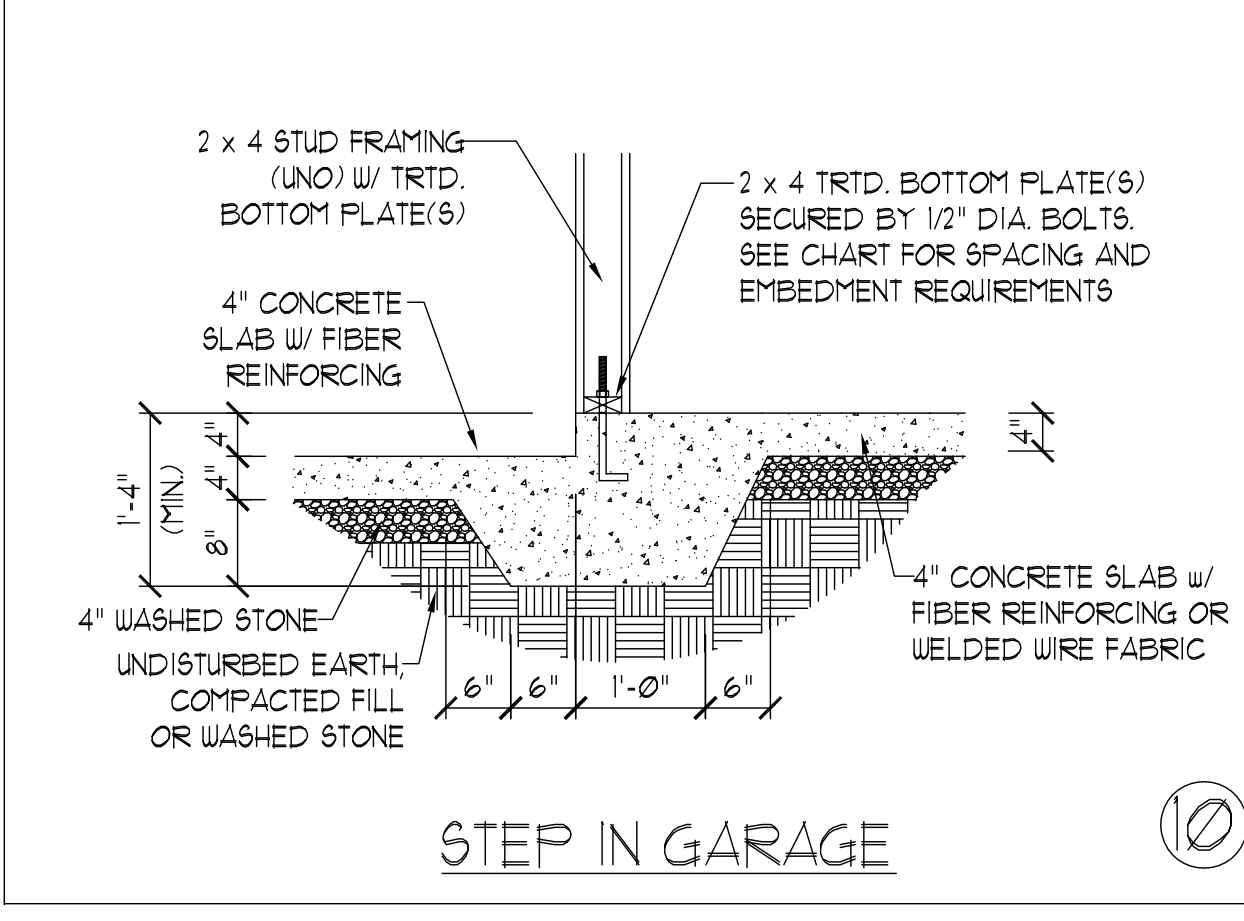
TYPICAL COLUMN TO SLAB CONNECTION ⑦



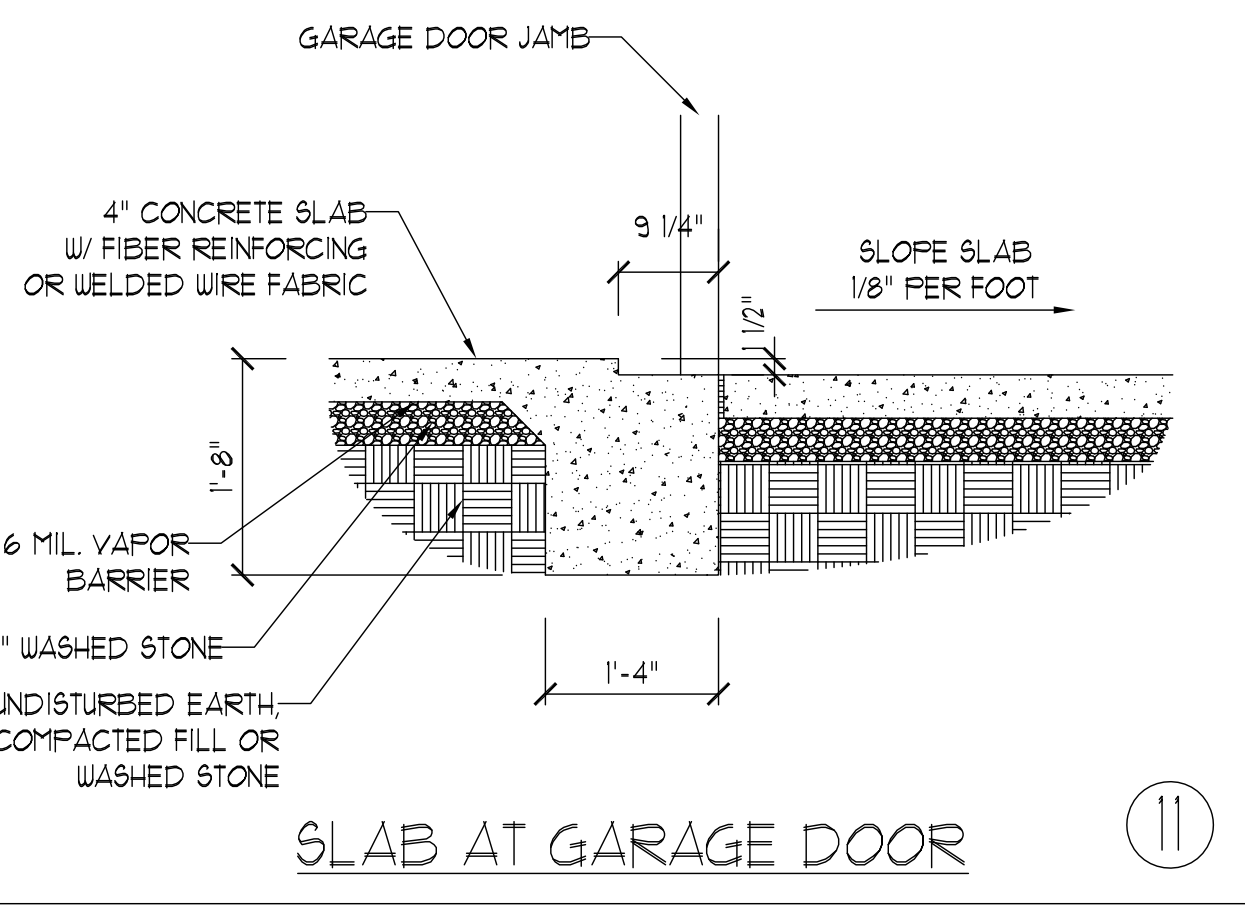
GARAGE CURB ⑧



GARAGE CURB w/ BRICK LEDGE ⑨



STEP IN GARAGE ⑩



SLAB AT GARAGE DOOR ⑪

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

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

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MONOLITHIC SLAB FOUNDATION DETAILS

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

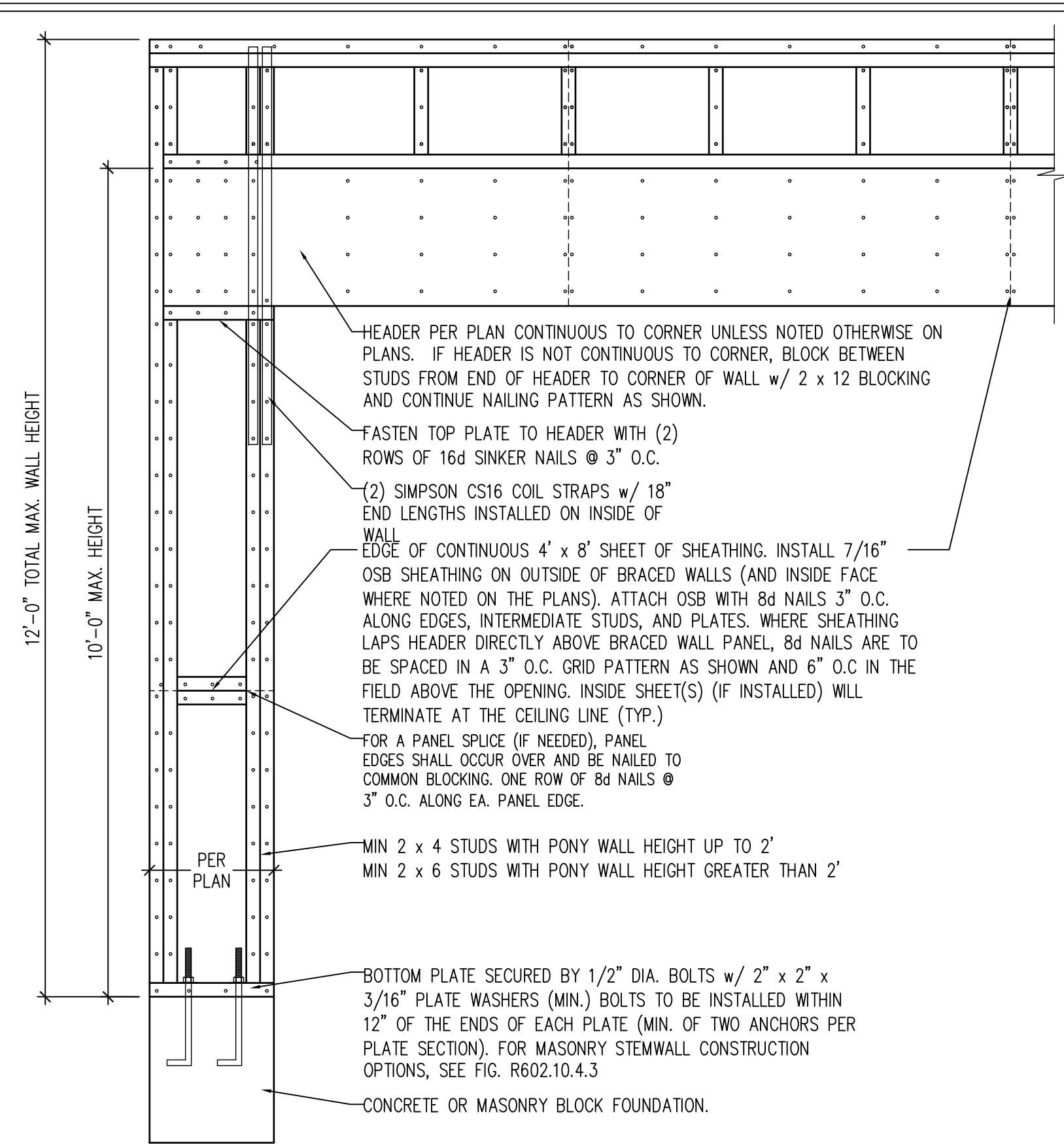
FOUNDATION DETAILS



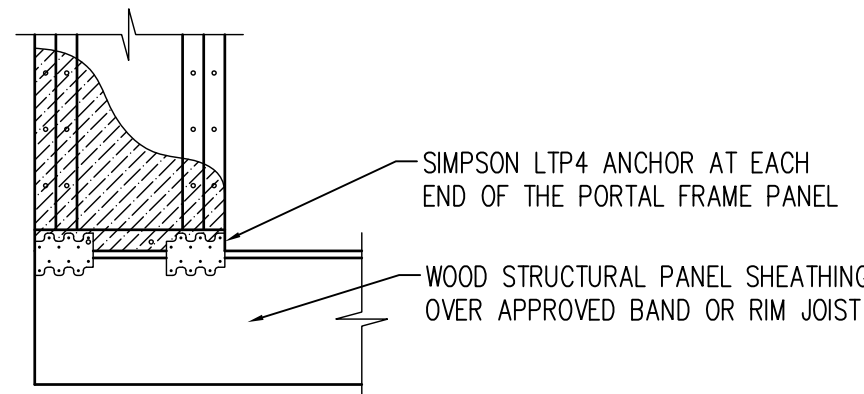
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### GENERAL WALL BRACING NOTES:

1. WALL BRACING DESIGNED IN ACCORDANCE WITH CHAPTER 6 OF THE 2018 NC RESIDENTIAL BUILDING CODE (NRC). TABLES AND FIGURES REFERENCED ARE FROM THE 2018 NRC.
2. SEE THIS SHEET FOR GENERAL DETAILS. REFER TO THE 2018 NRC FOR ADDITIONAL INFORMATION AS NEEDED.
3. BRACED EXTERIOR WALLS SUPPORTING ROOF TRUSSES AND RAFTERS, INCLUDING 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 ENGINEERING PRACTICE.
4. 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.).
8. 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.
9. REQUIRED BRACED WALL LENGTH FOR EACH SIDE OF THE CIRCUMSCRIBED RECTANGLE ARE INTERPOLATED PER TABLE R602.10.3. METHOD CS-WSP CONTRIBUTES ITS ACTUAL LENGTH, METHOD GB CONTRIBUTES .5 ITS ACTUAL LENGTH, AND METHOD PF CONTRIBUTES 1.5 TIMES ITS ACTUAL LENGTH.



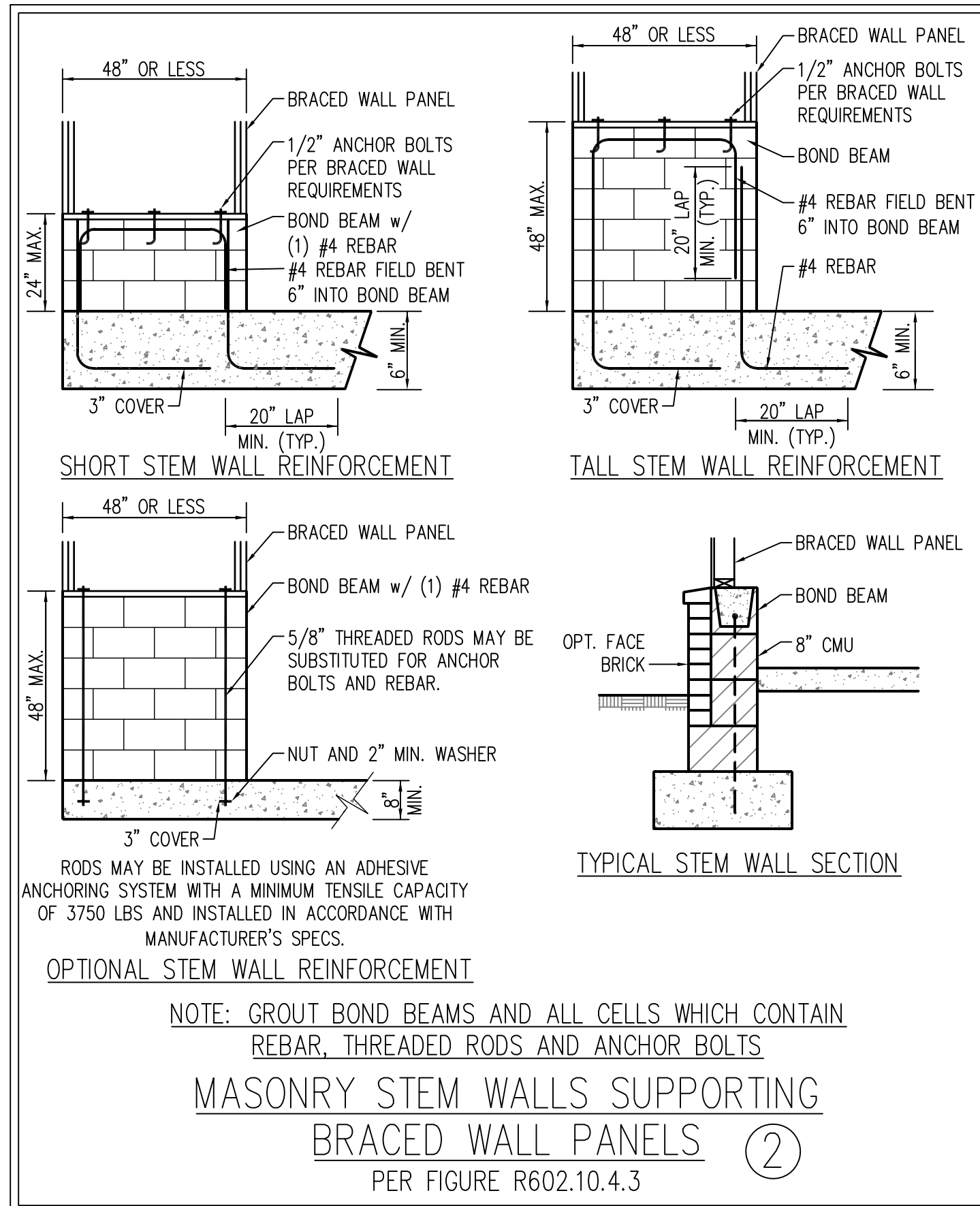
OVER CONCRETE OR MASONRY BLOCK FOUNDATION



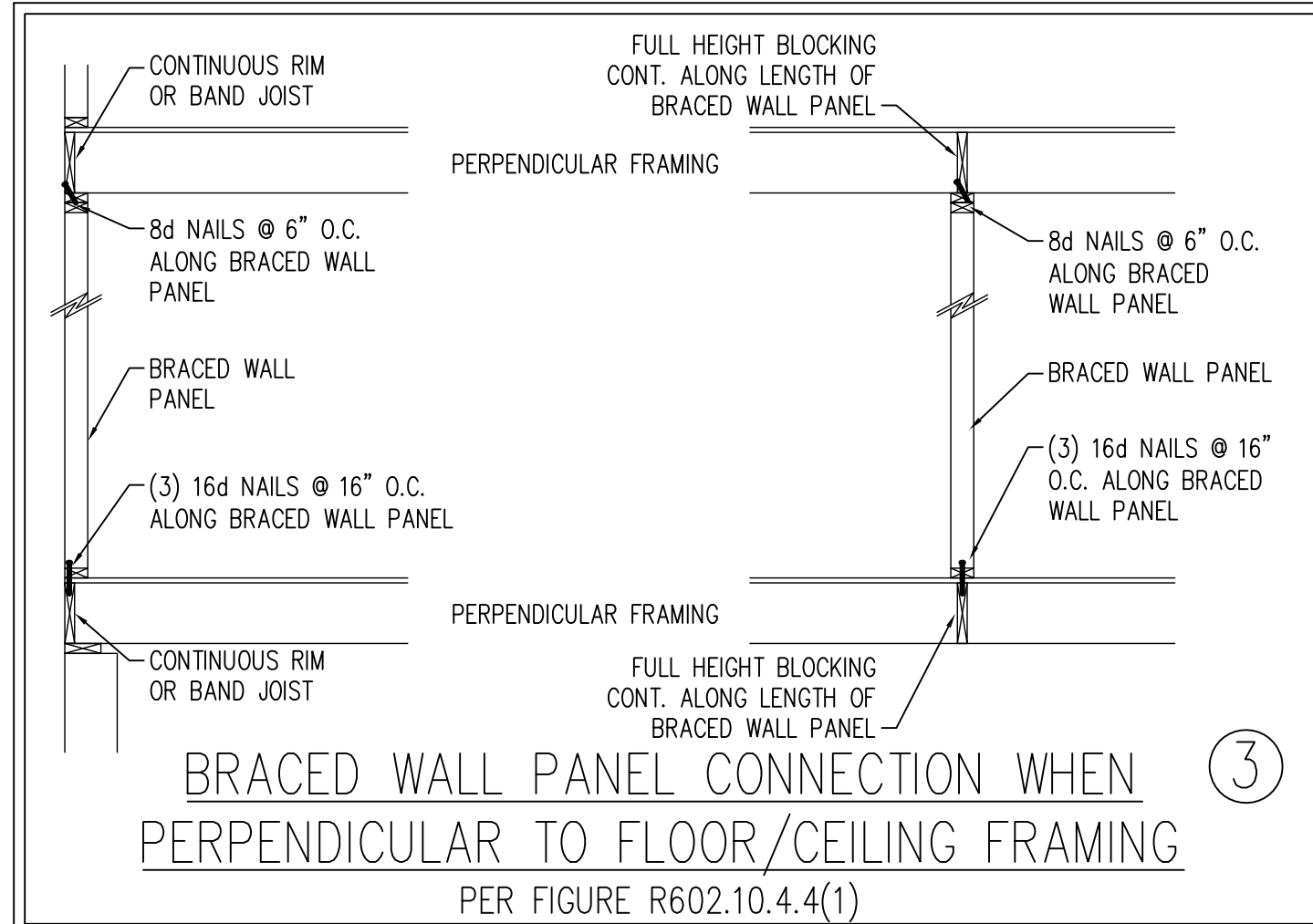
OVER RAISED WOOD FLOOR - FRAMING ANCHOR OPTION

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

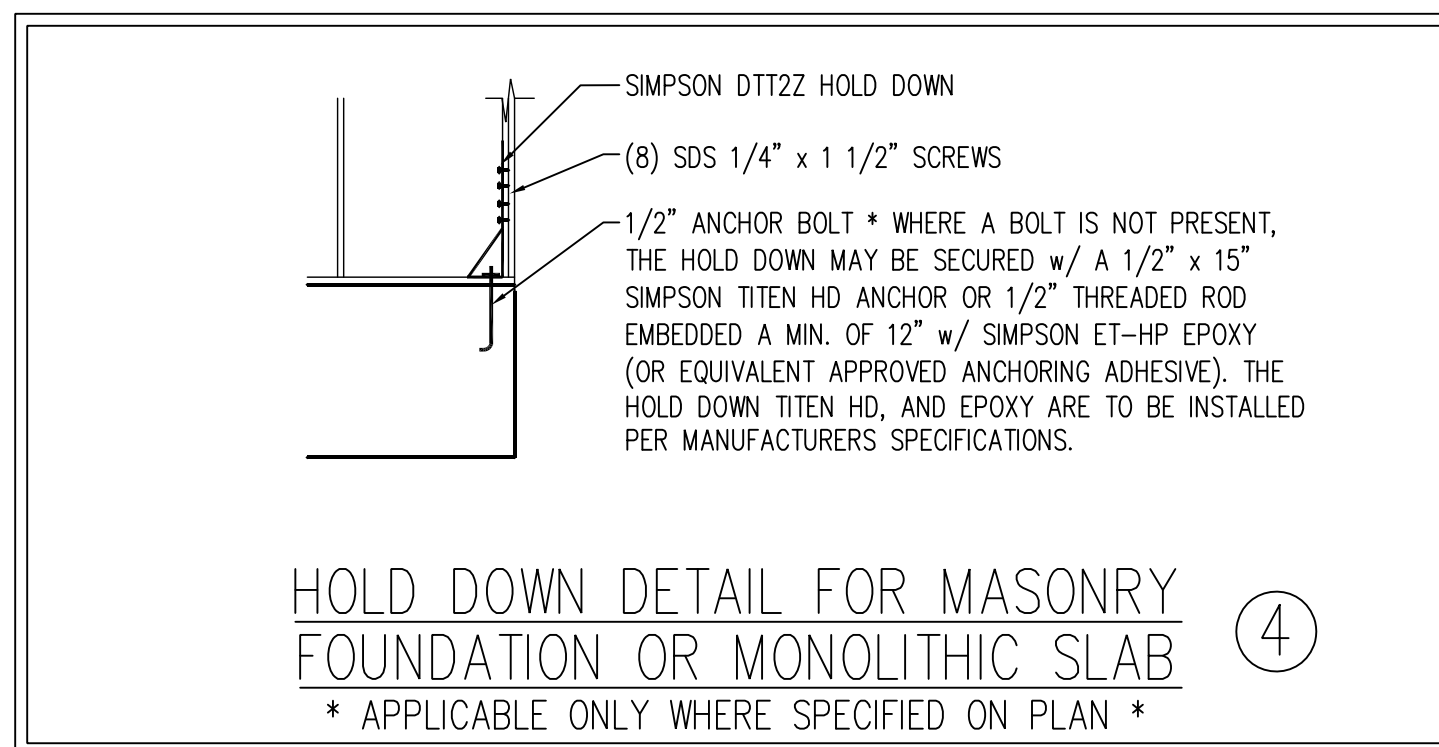
METHOD PF-PORTAL FRAME DETAIL ①



OPTIONAL STEM WALL REINFORCEMENT  
NOTE: GROUT BOND BEAMS AND ALL CELLS WHICH CONTAIN REBAR, THREADED RODS AND ANCHOR BOLTS  
MASONRY STEM WALLS SUPPORTING BRACED WALL PANELS ②  
PER FIGURE R602.10.4.3

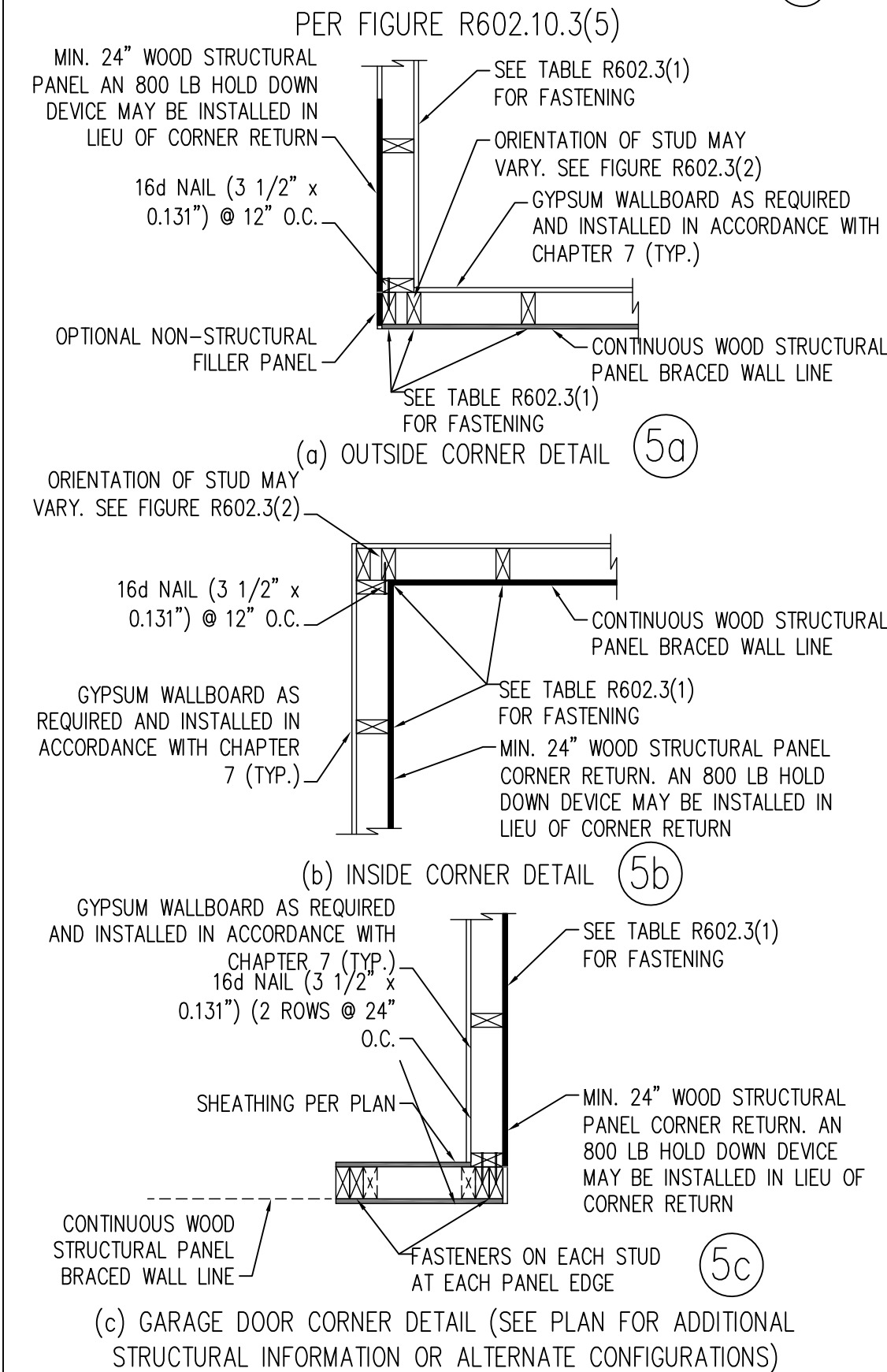


BRACED WALL PANEL CONNECTION WHEN PERPENDICULAR TO FLOOR/CEILING FRAMING ③  
PER FIGURE R602.10.4.4(1)

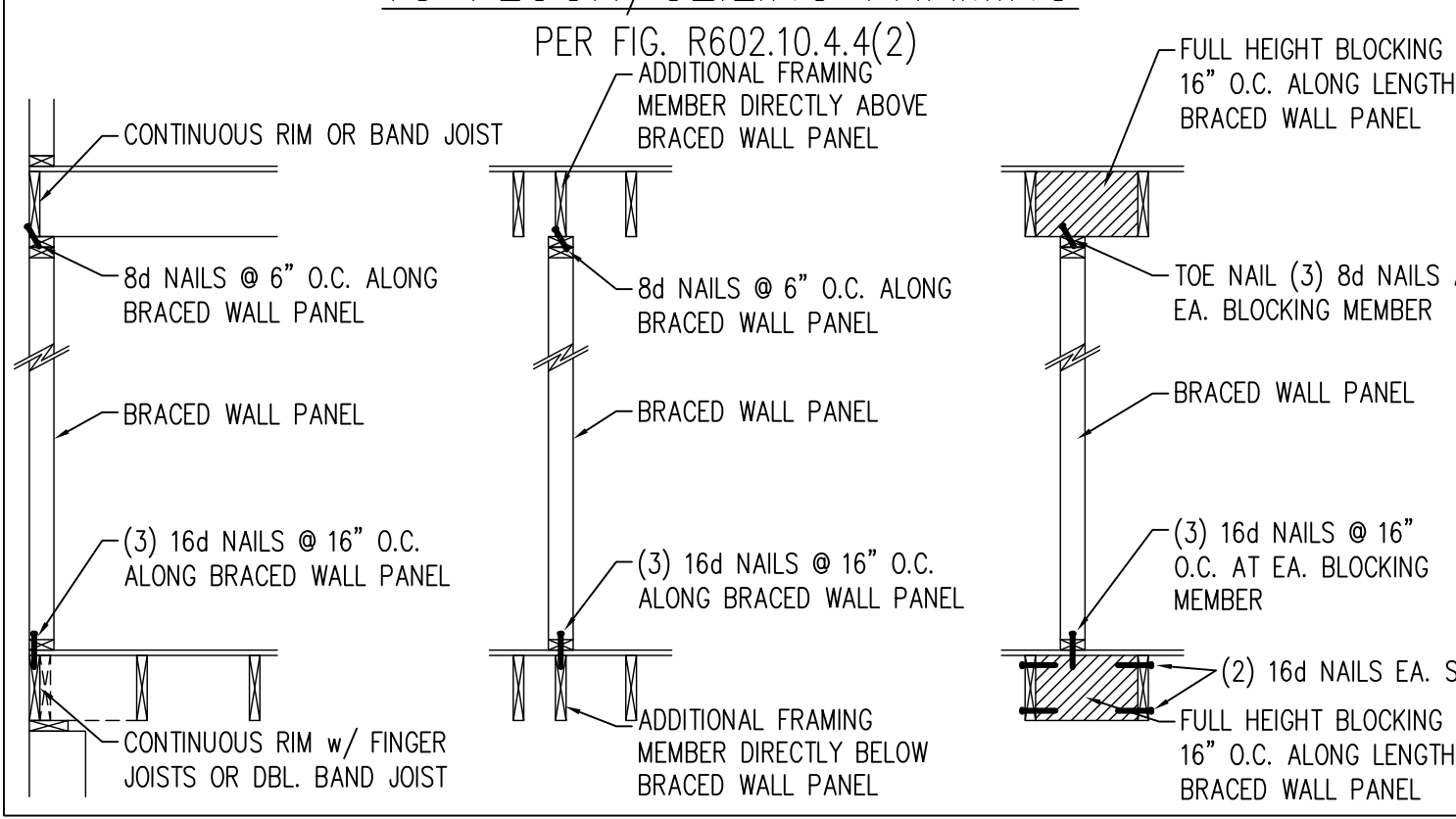


HOLD DOWN DETAIL FOR MASONRY FOUNDATION OR MONOLITHIC SLAB ④  
\* APPLICABLE ONLY WHERE SPECIFIED ON PLAN \*

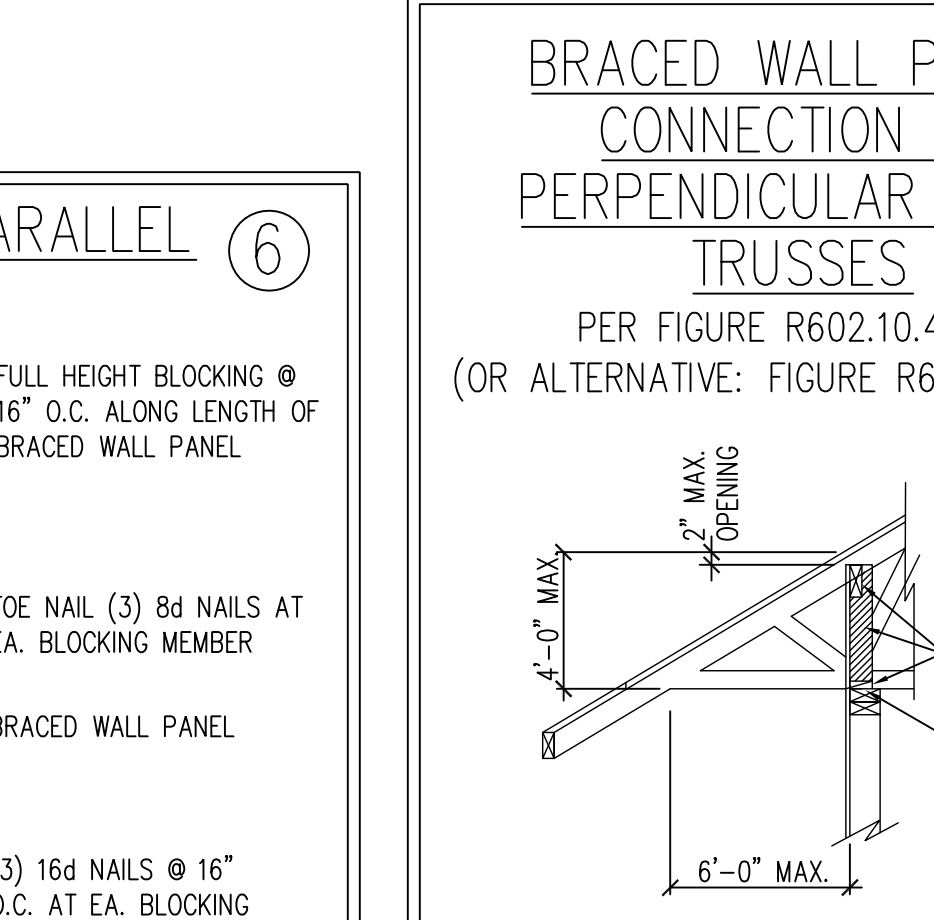
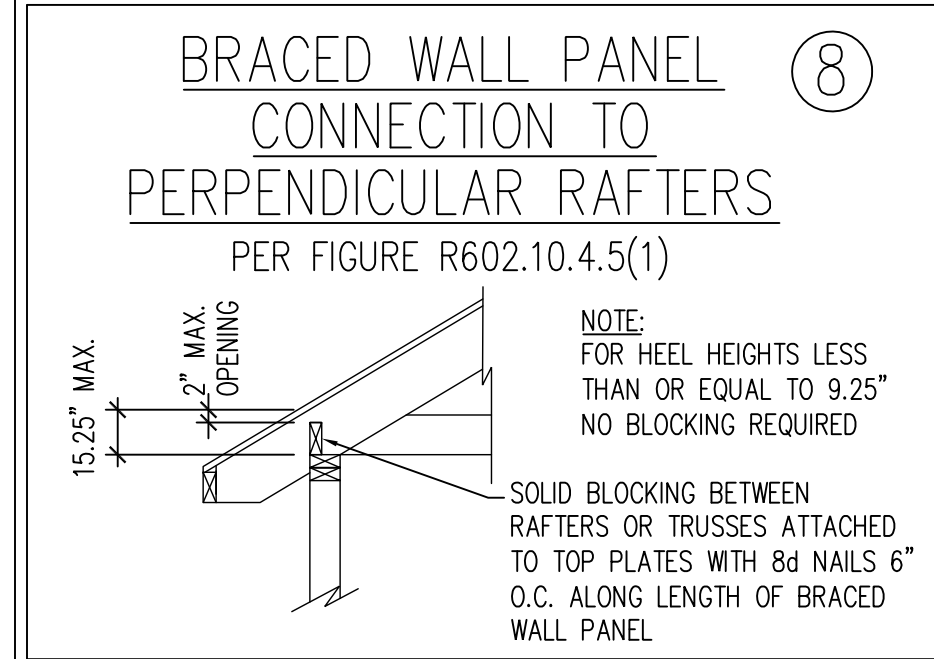
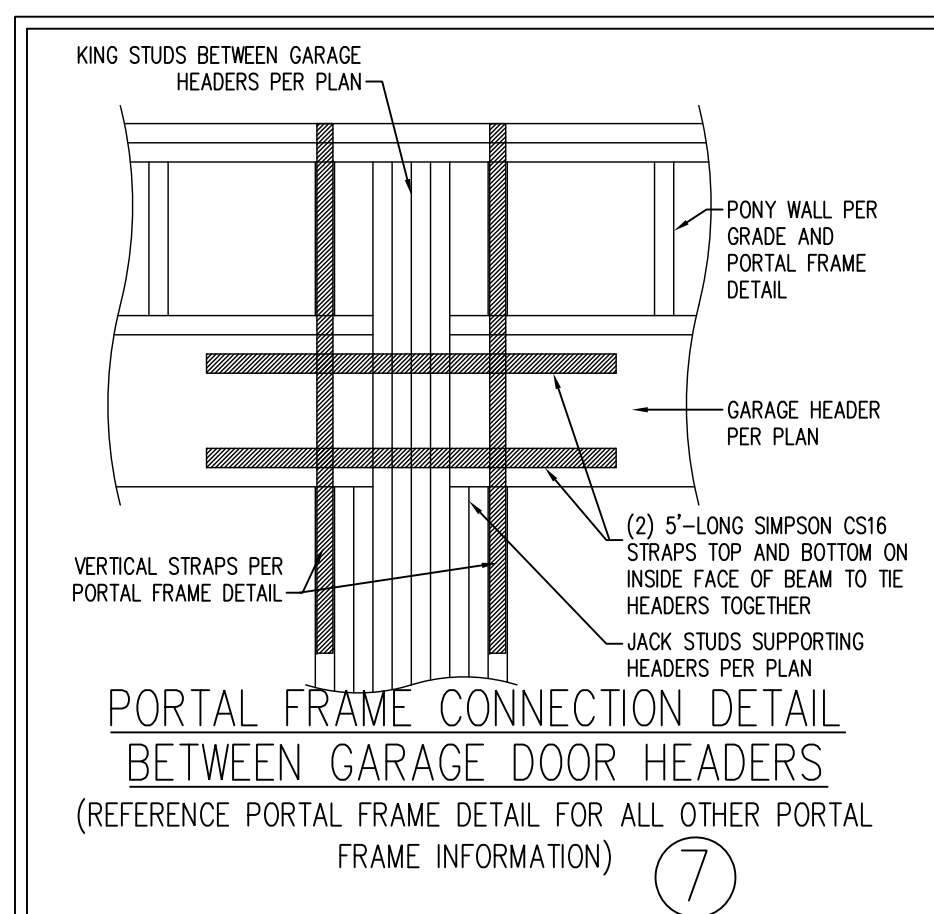
### TYPICAL EXTERIOR CORNER FRAMING FOR CONTINUOUS SHEATHING ⑤



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



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WALL BRACING NOTES AND DETAILS

DATE: AUGUST 30, 2022  
SCALE: 1/4" = 1'-0"  
DRAWN BY: JST  
ENGINEERED BY: JST

SEAL  
33736  
ENGINEER  
MATTHEW G. STRUTTER

5/8/2023

BRACED WALL NOTES AND DETAILS AND PF DETAIL

GENERAL NOTES

- ENGINEER'S SEAL APPLIES ONLY TO STRUCTURAL COMPONENTS INCLUDING ROOF RAFTERS, HIPs, VALLEYS, RIDGES, FLOORS, WALLS, BEAMS, HEADERS, COLUMNS, CANTILEVERS, OFFSET LOAD BEARING WALLS, PIERS, GIRDER SYSTEM AND 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.
- ALL CONSTRUCTION SHALL CONFORM TO THE LATEST REQUIREMENTS OF THE NORTH CAROLINA RESIDENTIAL CODE (NRC), 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.
- STRUCTURAL DESIGN BASED ON THE PROVISIONS OF THE NRC, 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: P <sub>g</sub>	20 (PSF)		

- I-JOIST SYSTEMS DESIGNED WITH 12 PSF DEAD LOAD AND DEFLECTION (IN) OF L/480
- FLOOR TRUSS SYSTEMS DESIGNED WITH 15 PSF DEAD LOAD

- FOR 115 AND 120 MPH WIND ZONES, FOUNDATION ANCHORAGE IS TO COMPLY WITH SECTION R403.1.6 OF THE NRC, 2018 EDITION. FOR 130 MPH, 140 MPH, AND 150 MPH WIND ZONES, FOUNDATION ANCHORAGE IS TO COMPLY WITH SECTION 4504 OF THE NRC, 2018 EDITION.
- ENERGY EFFICIENCY COMPLIANCE AND INSULATION VALUES OF THE BUILDING TO BE IN ACCORDANCE WITH CHAPTER 11 OF THE NRC, 2018 EDITION.

FOOTING AND FOUNDATION NOTES

- FOUNDATION DESIGN BASED ON A MINIMUM ALLOWABLE BEARING CAPACITY OF 2000 PSF. CONTACT GEOTECHNICAL ENGINEER IF BEARING CAPACITY IS NOT ACHIEVED.
- FOR ALL CONCRETE SLABS AND FOOTINGS, THE AREA WITHIN THE PERIMETER OF THE BUILDING ENVELOPE SHALL HAVE ALL VEGETATION, TOP SOIL AND FOREIGN MATERIAL REMOVED. FILL MATERIAL SHALL BE FREE OF VEGETATION AND FOREIGN MATERIAL. THE FILL SHALL BE COMPACTED TO ASSURE UNIFORM SUPPORT OF THE SLAB, AND EXCEPT WHERE APPROVED, THE FILL DEPTHS SHALL NOT EXCEED 24" FOR CLEAN SAND OR GRAVEL. A 4" THICK BASED COURSE CONSISTING OF CLEAN GRADED SAND OR GRAVEL SHALL BE PLACED. A BASE COURSE IS NOT REQUIRED WHERE A CONCRETE SLAB IS INSTALLED ON WELL-DRAINED OR SAND-GRAVEL MIXTURE SOILS CLASSIFIED AS GROUP 1, ACCORDING TO THE UNITED SOIL CLASSIFICATION SYSTEM IN ACCORDANCE WITH TABLE R405.1 OF THE NRC, 2018 EDITION.
- PROPERLY DEWATER EXCAVATION PRIOR TO POURING CONCRETE WHEN BOTTOM OF CONCRETE SLAB IS AT OR BELOW WATER TABLE. IF APPLICABLE, 3/4" - 1" DEEP CONTROL JOINTS ARE TO BE SAWS WITHIN 4 TO 12 HOURS OF CONCRETE FINISHING AND WALL LOCATIONS HAVE BEEN MARKED. ADJUST WHERE NECESSARY.
- CONCRETE SHALL CONFORM TO SECTION R402.2 OF THE NRC, 2018 EDITION. CONCRETE REINFORCING STEEL TO BE ASTM A615 GRADE 60. WELDED WIRE FABRIC TO BE ASTM A185. MAINTAIN A MINIMUM CONCRETE COVER AROUND REINFORCING STEEL OF 3" IN FOOTINGS AND 1 1/2" IN SLABS. FOR POURED CONCRETE WALLS, CONCRETE COVER FOR REINFORCING STEEL MEASURED FROM THE INSIDE FACE OF THE WALL SHALL NOT BE LESS THAN 3/4". CONCRETE COVER FOR REINFORCING STEEL MEASURED FROM THE OUTSIDE FACE OF THE WALL SHALL NOT BE LESS THAN 1 1/2" FOR #5 BARS OR SMALLER, AND NOT LESS THAN 2" FOR #6 BARS OR LARGER.
- MASONRY UNITS TO CONFORM TO ACE 530/ASCE 5/TMS 402. MORTAR SHALL CONFORM TO ASTM C270.
- THE UNSUPPORTED HEIGHT OF MASONRY PIERS SHALL NOT EXCEED FOUR TIMES THEIR LEAST DIMENSION FOR UNFILLED HOLLOW CONCRETE MASONRY UNITS AND TEN TIMES THEIR LEAST DIMENSION FOR SOLID OR SOLID FILLED PIERS. PIERS MAY BE FILLED SOLID WITH CONCRETE OR TYPE M OR S MORTAR. PIERS AND WALLS SHALL BE CAPPED WITH 8" OF SOLID MASONRY.
- THE CENTER OF EACH OF THE PIERS SHALL BEAR IN THE MIDDLE THIRD OF ITS RESPECTIVE FOOTING. EACH GIRDER SHALL BEAR IN THE MIDDLE THIRD OF THE PIERS.
- ALL CONCRETE AND MASONRY FOUNDATION WALLS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH THE PROVISIONS OF SECTION R404 OF THE NRC, 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 NRC, 2018 EDITION. CONCRETE FOUNDATION WALLS ARE TO BE REINFORCED PER TABLE R404.1.1(5) OF THE NRC, 2018 EDITION. STEP CONCRETE FOUNDATION WALLS TO 2 x 6 FRAMED WALLS AT 16" O.C. WHERE GRADE PERMITS (UNO).

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FRAMING NOTES

- ALL FRAMING LUMBER SHALL BE #2 SPF MINIMUM (F<sub>b</sub> = 875 PSI, F<sub>v</sub> = 375 PSI, E = 1600000 PSI) UNLESS NOTED OTHERWISE (UNO). ALL TREATED LUMBER SHALL BE #2 SYP MINIMUM (F<sub>b</sub> = 975 PSI, F<sub>v</sub> = 175 PSI, E = 1600000 PSI) UNLESS NOTED OTHERWISE (UNO).
- LAMINATED VENEER LUMBER (LVL) SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES: F<sub>b</sub> = 2600 PSI, F<sub>v</sub> = 285 PSI, E = 1900000 PSI. LAMINATED STRAND LUMBER (LSL) SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES: F<sub>b</sub> = 2325 PSI, F<sub>v</sub> = 310 PSI, E = 1550000 PSI. PARALLEL STRAND LUMBER (PSL) UP TO 7" DEPTH SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES: F<sub>c</sub> = 2500 PSI, E = 1800000 PSI. PARALLEL STRAND LUMBER (PSL) MORE THAN 7" DEPTH SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES: F<sub>c</sub> = 2900 PSI, E = 2000000 PSI. INSTALL ALL CONNECTIONS PER MANUFACTURER'S SPECIFICATIONS.
- STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING ASTM SPECIFICATIONS
 

A. W AND WT SHAPES:	ASTM A992
B. CHANNELS AND ANGLES:	ASTM A36
C. PLATES AND BARS:	ASTM A36
D. HOLLOW STRUCTURAL SECTIONS:	ASTM A500 GRADE B
E. STEEL PIPE:	ASTM A53, GRADE B, TYPE E OR S
- STEEL BEAMS SHALL BE SUPPORTED AT EACH END WITH A MINIMUM BEARING LENGTH OF 3 1/2" AND FULL FLANGE WIDTH (UNO). PROVIDE SOLID BEARING FROM BEAM SUPPORT TO FOUNDATION. BEAMS SHALL BE ATTACHED AT THE BOTTOM FLANGE TO EACH SUPPORT AS FOLLOWS (UNO):
 

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

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.
- SQUARES DENOTE POINT LOADS WHICH REQUIRE SOLID BLOCKING TO GIRDER OR FOUNDATION. SHADED SQUARES DENOTE POINT LOADS FROM ABOVE WHICH REQUIRE SOLID BLOCKING TO SUPPORTING MEMBER BELOW.
- ALL LOAD BEARING HEADERS TO CONFORM TO TABLE R602.7(1) AND R602.7(2) OF THE NRC, 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.
- 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).
- FLITCH BEAMS SHALL BE BOLTED TOGETHER USING 1/2" DIAMETER BOLTS (ASTM A307) WITH WASHERS PLACED AT THREADED END OF BOLT. BOLTS SHALL BE SPACED AT 24" CENTERS (MAXIMUM), AND STAGGERED AT TOP AND BOTTOM OF BEAM (2" EDGE DISTANCE), WITH (2) BOLTS LOCATED AT 6" FROM EACH END (UNO).
- ALL I-JOIST OR TRUSS LAYOUTS ARE TO BE IN COMPLIANCE WITH THE OVERALL DESIGN SPECIFIED ON THE PLANS. ALL DEVIATIONS ARE TO BE BROUGHT TO THE ATTENTION OF THE ENGINEER OF RECORD PRIOR TO INSTALLATION.
- BRACED WALL PANELS SHALL BE CONSTRUCTED ACCORDING TO THE NORTH CAROLINA RESIDENTIAL CODE 2018 EDITION WALL BRACING CRITERIA. THE AMOUNT, LENGTH, AND LOCATION OF BRACING SHALL COMPLY WITH ALL APPLICABLE TABLES IN SECTION R602.10.
- PROVIDE DOUBLE JOIST UNDER ALL WALLS PARALLEL TO FLOOR JOISTS. PROVIDE SUPPORT UNDER ALL WALLS PARALLEL TO FLOOR TRUSSES OR I-JOISTS PER MANUFACTURER'S SPECIFICATIONS. INSTALL BLOCKING BETWEEN JOISTS OR TRUSSES FOR POINT LOAD SUPPORT FOR ALL POINT LOADS ALONG OFFSET LOAD LINES.
- FOR ALL HEADERS SUPPORTING BRICK VENEER THAT ARE LESS THAN 8'-0" IN LENGTH, REST A 6" x 4" x 5/16" STEEL ANGLE WITH 6" MINIMUM EMBEDMENT AT SIDES FOR BRICK SUPPORT (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 NRC, 2018 EDITION.
- FOR STICK FRAMED ROOFS: CIRCLES DENOTE (3) 2 x 4 POSTS FOR ROOF MEMBER SUPPORT. HIP SPLICES ARE TO BE SPACED A MINIMUM OF 8'-0". FASTEN MEMBERS WITH THREE ROWS OF 12d NAILS AT 16" O.C. FRAME DORMER WALLS ON TOP OF DOUBLE OR TRIPLE RAFTERS AS SHOWN (UNO).
- FOR TRUSSED ROOFS: FRAME DORMER WALLS ON TOP OF 2 x 4 LADDER FRAMING AT 24" O.C. BETWEEN ADJACENT ROOF TRUSSES. STICK FRAME OVER-FRAMED ROOF SECTIONS WITH 2 x 8 RIDGES, 2 x 6 RAFTERS AT 16" O.C. AND FLAT 2 x 10 VALLEYS (UNO).
- ALL 4 x 4 AND 6 x 6 POSTS TO BE INSTALLED WITH 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.

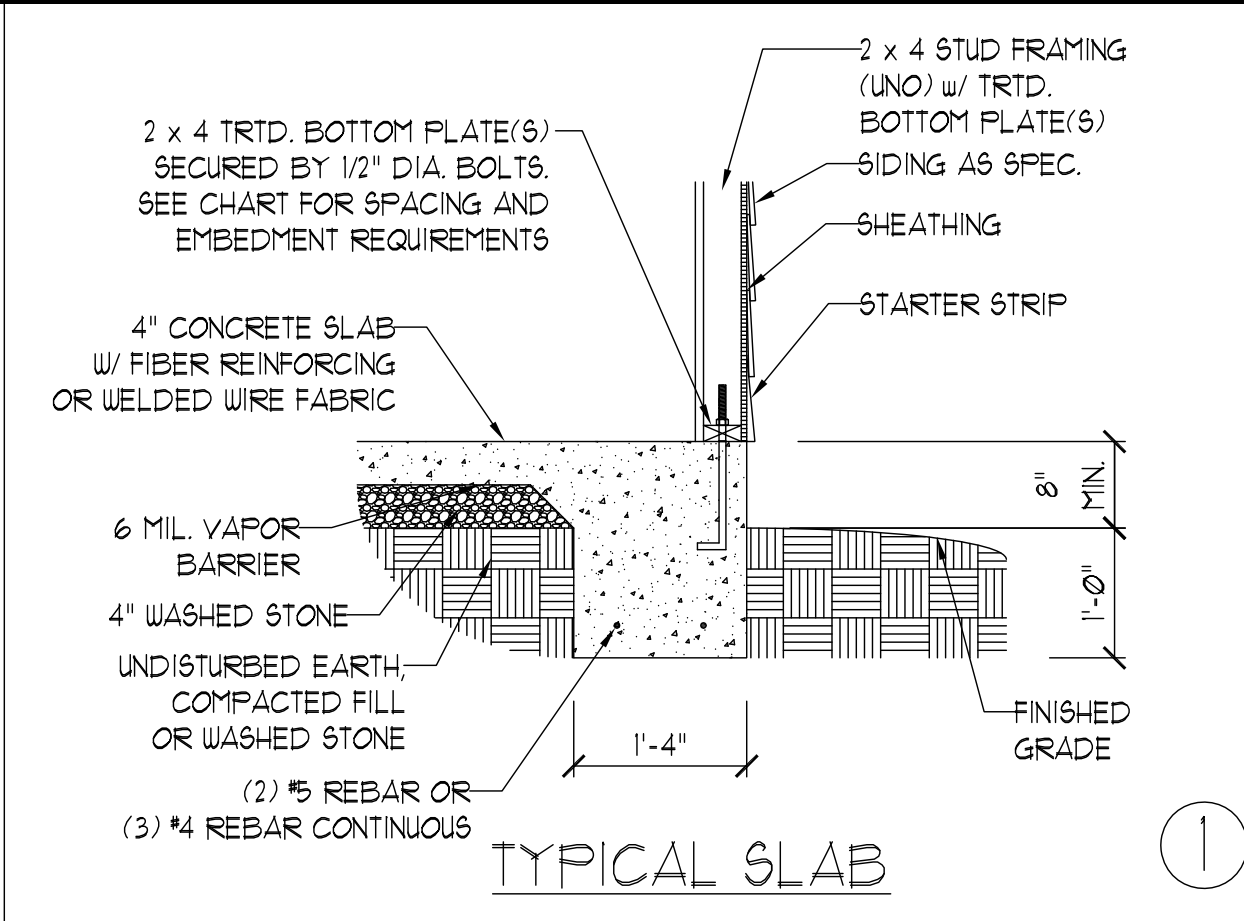
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STANDARD STRUCTURAL NOTES

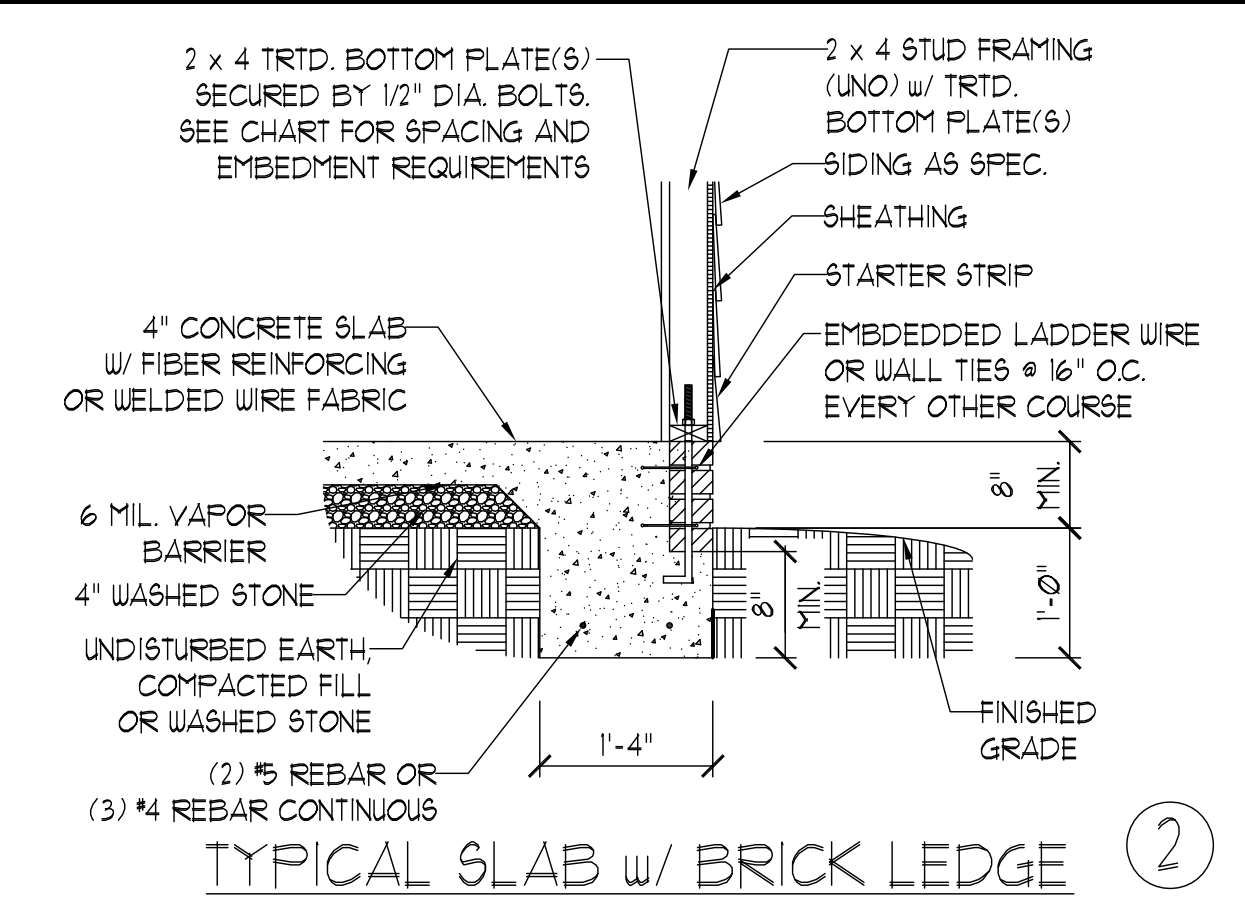
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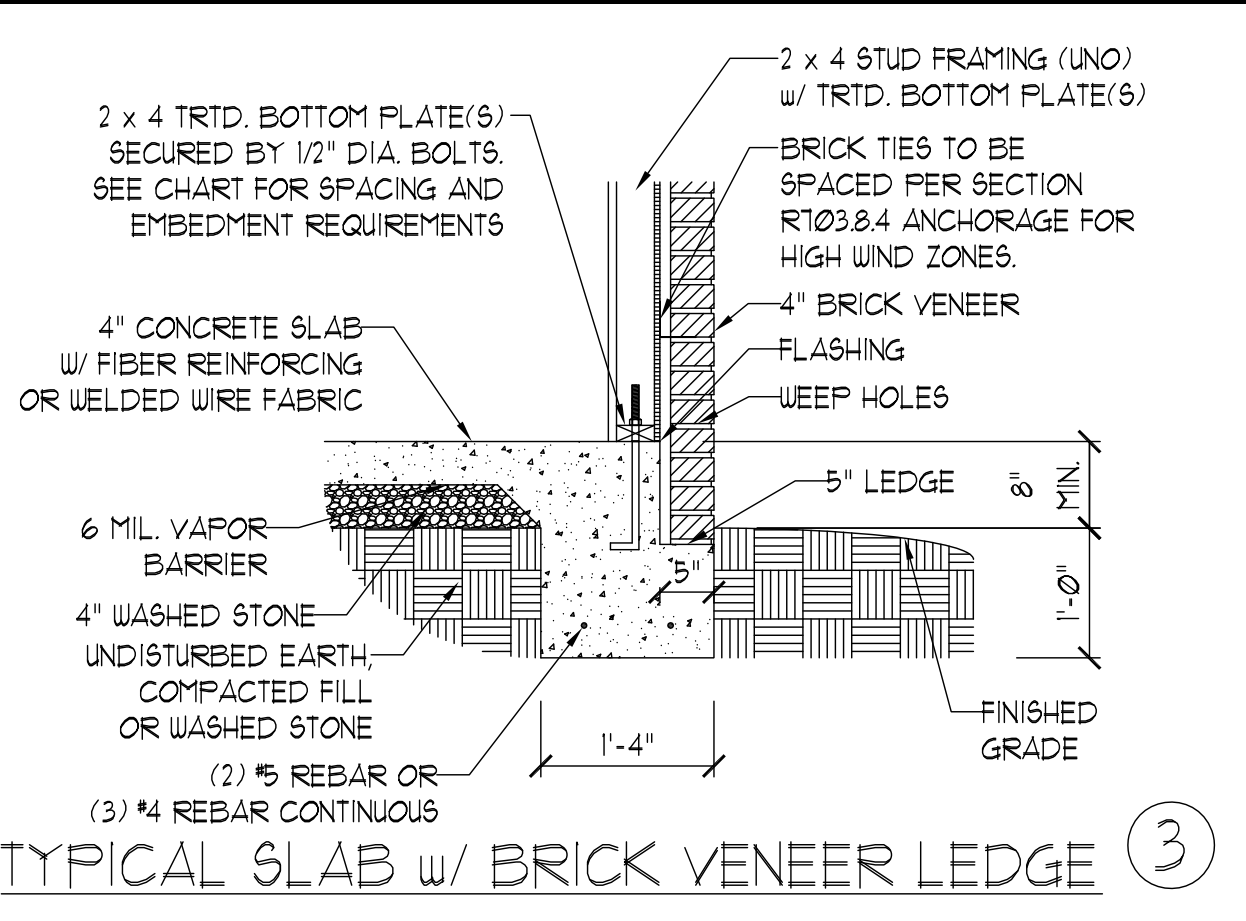
STRUCTURAL NOTES



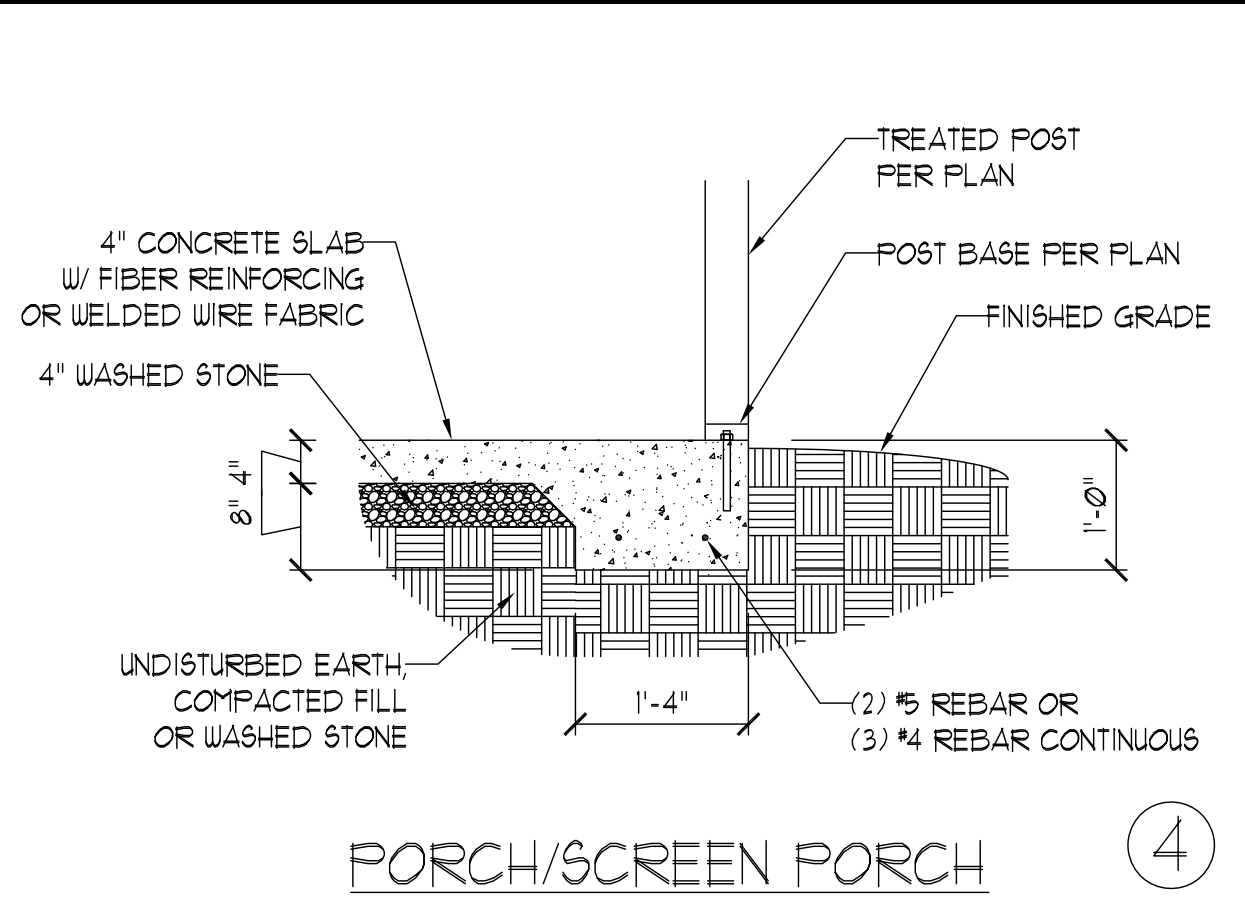
TYPICAL SLAB ①



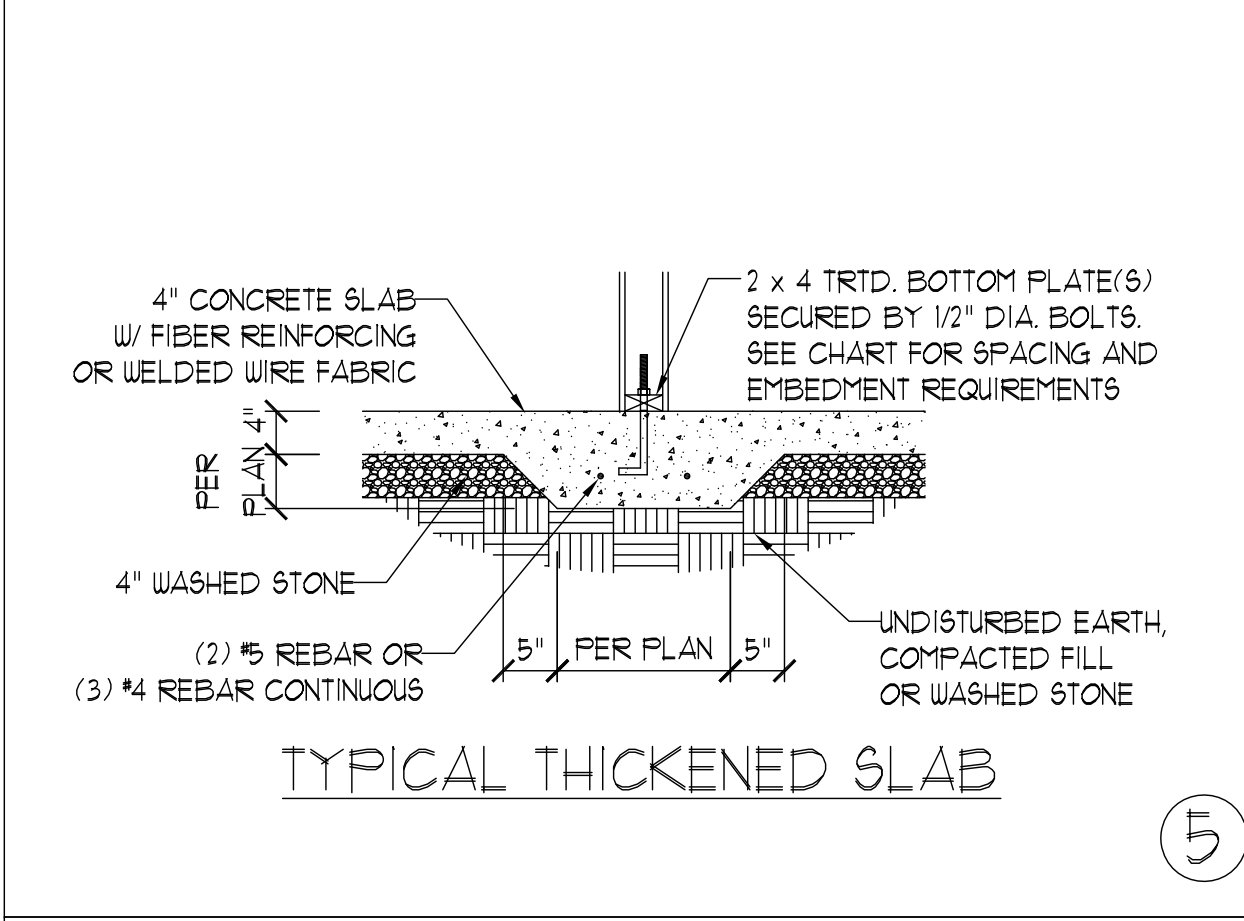
TYPICAL SLAB w/ BRICK LEDGE ②



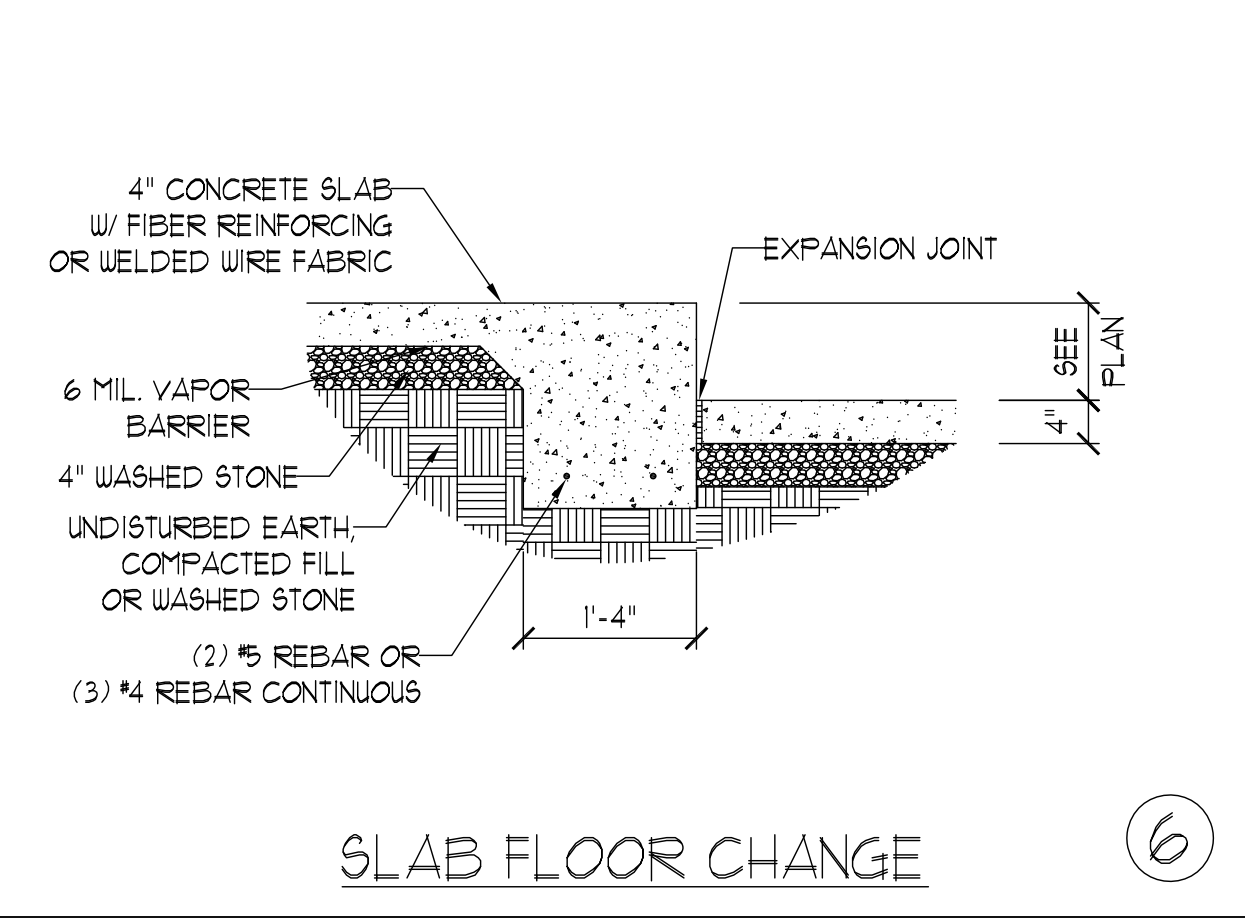
TYPICAL SLAB w/ BRICK VENEER LEDGE ③



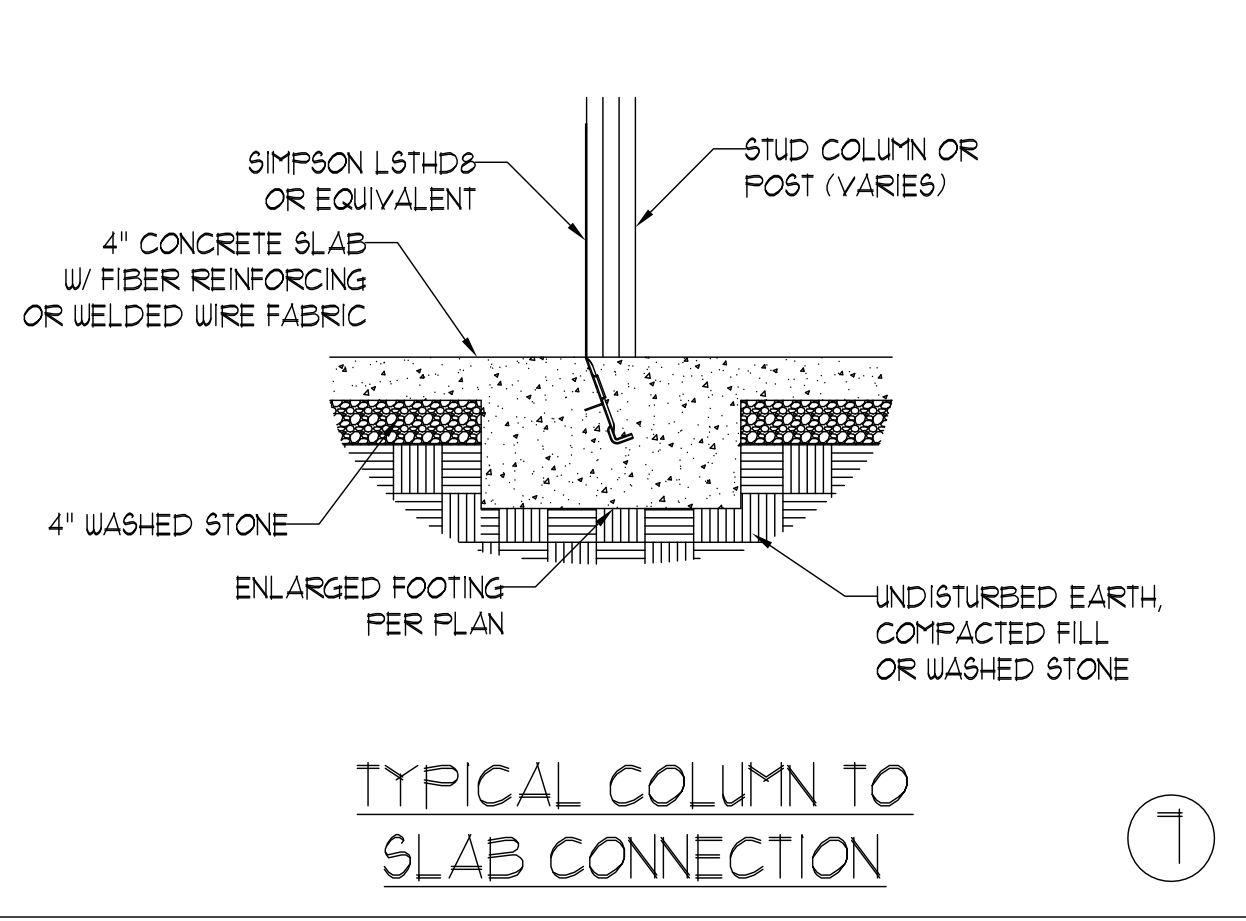
PORCH/SCREEN PORCH ④



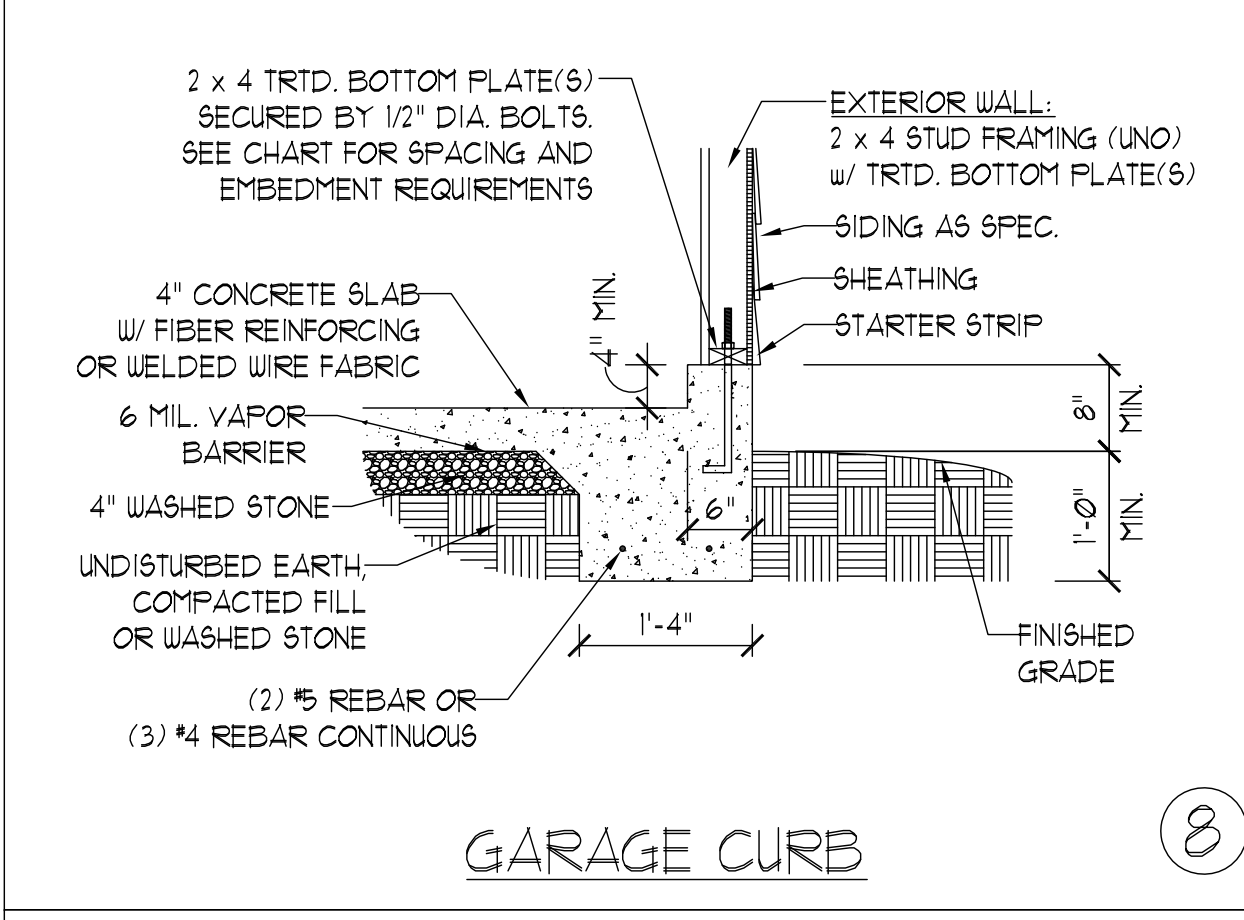
TYPICAL THICKENED SLAB ⑤



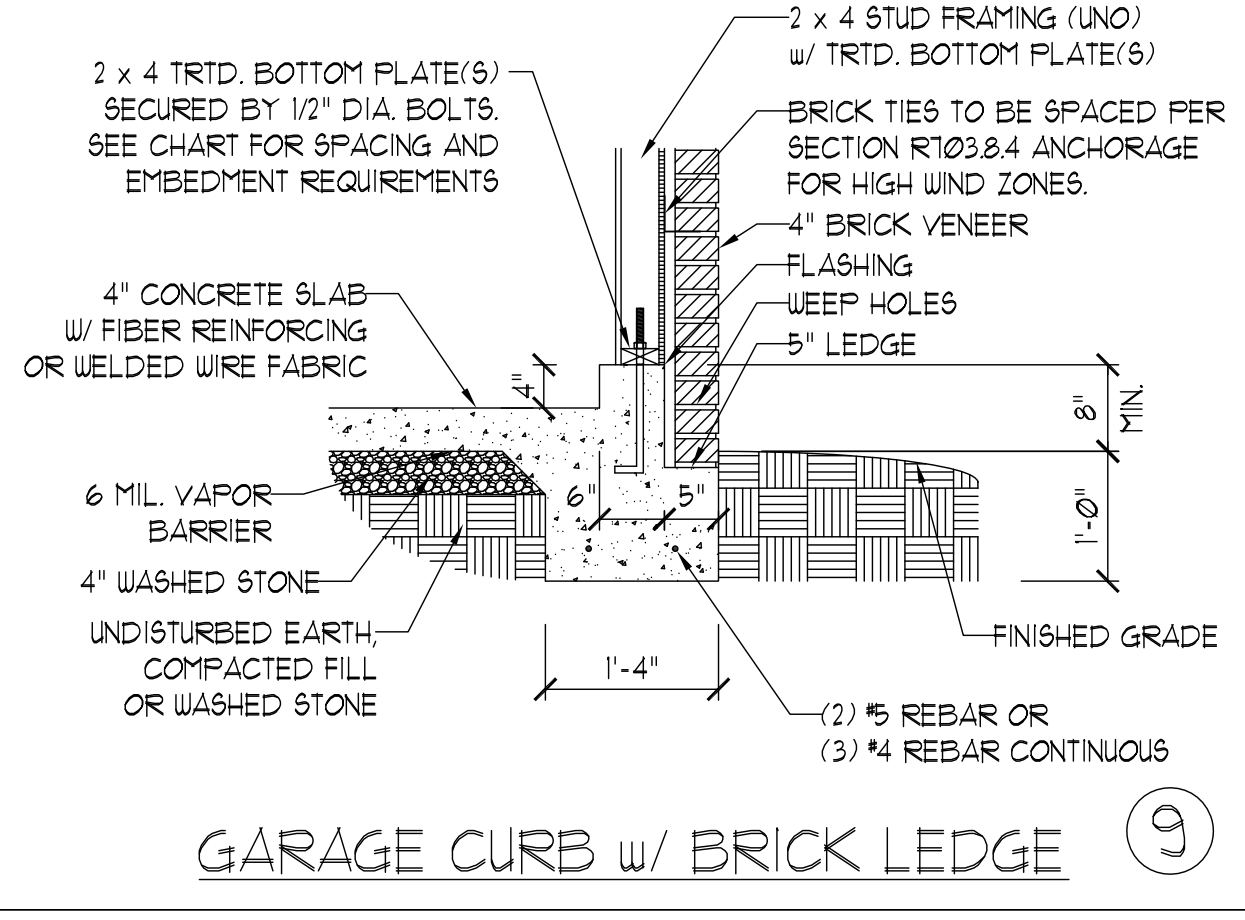
SLAB FLOOR CHANGE ⑥



TYPICAL COLUMN TO SLAB CONNECTION ⑦

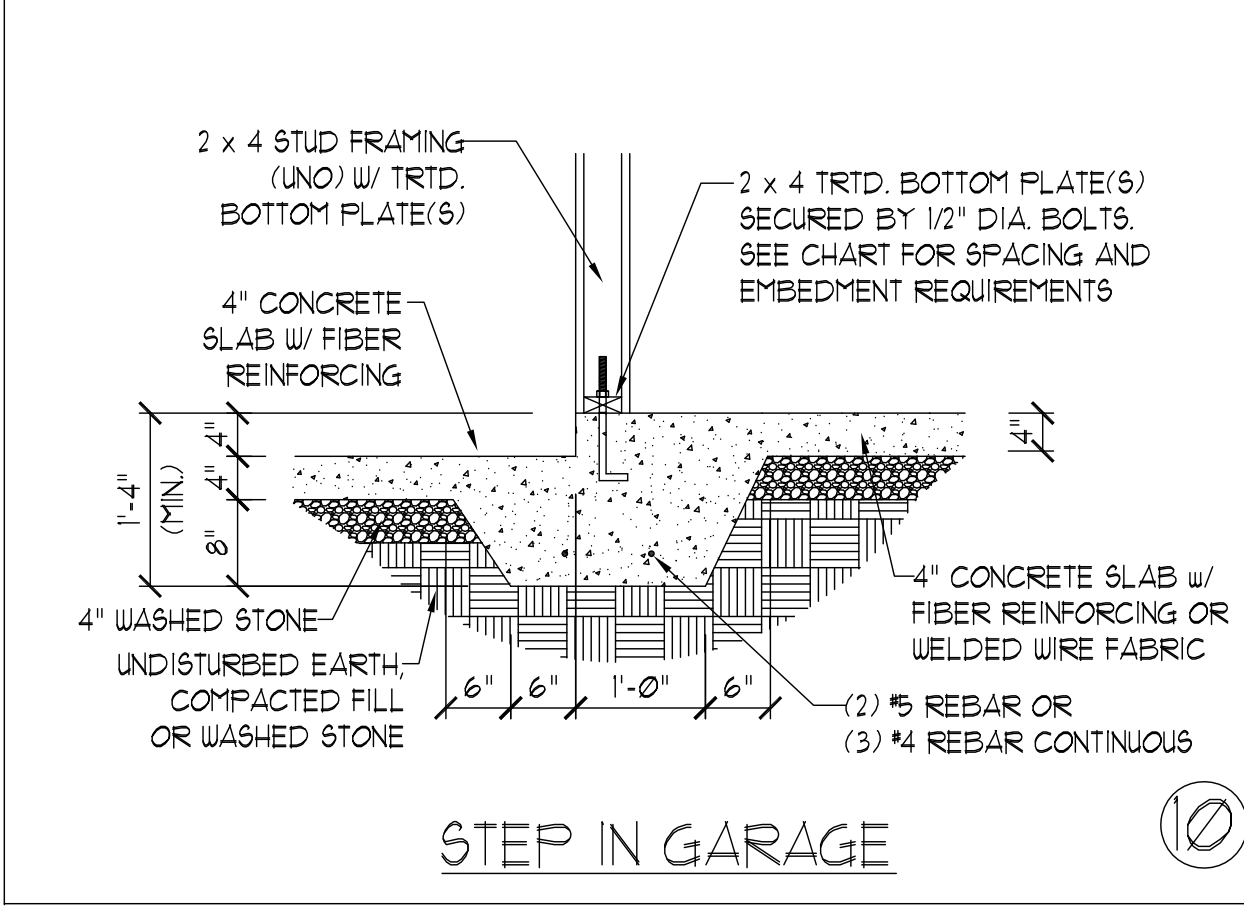


GARAGE CURB ⑧

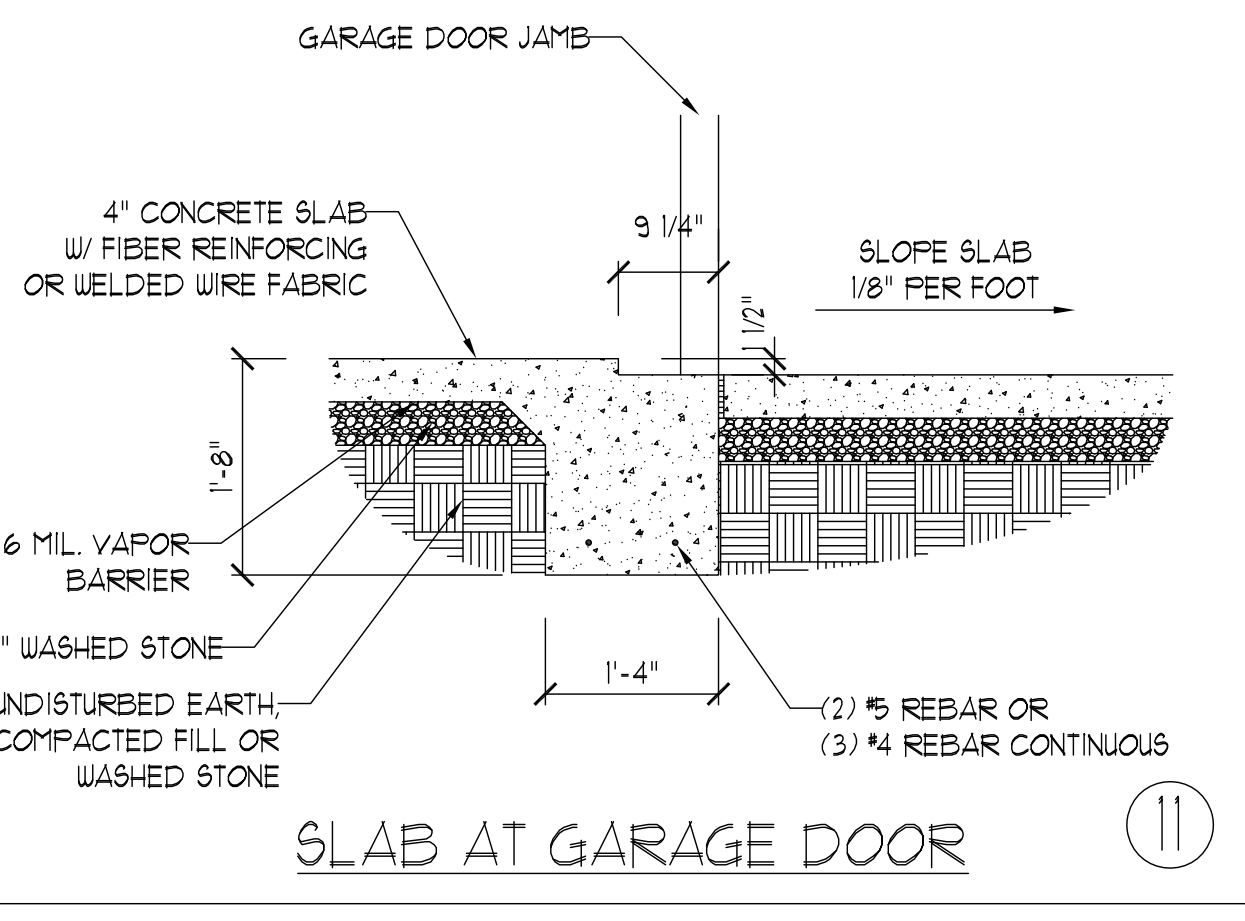


GARAGE CURB w/ BRICK LEDGE ⑨

**NOTE:**  
LOCATE REBAR 3" ABOVE BOTTOM OF FOOTING w/ MIN. 25" LAP SPLICE LENGTH.



STEP IN GARAGE ⑩



SLAB AT GARAGE DOOR ⑪

ANCHOR SPACING AND EMBEDMENT		
WIND ZONE	140 MPH	150 MPH
SPACING	6'-0" O.C. w/ DBL. SILL PLATE OR 1'-9" O.C. w/ SINGLE SILL PLATE w/ 2" x 2" x 1/8" WASHERS INSTALL MIN. (2) ANCHORS PER PLATE SECTION AND (1) ANCHOR WITHIN 12" OF CORNERS	6'-0" O.C. w/ DBL. SILL PLATE OR 1'-6" O.C. w/ SINGLE SILL PLATE w/ 2" x 2" x 1/8" WASHERS INSTALL MIN. (2) ANCHORS PER PLATE SECTION AND (1) ANCHOR WITHIN 12" OF CORNERS
EMBEDMENT	7"	7"

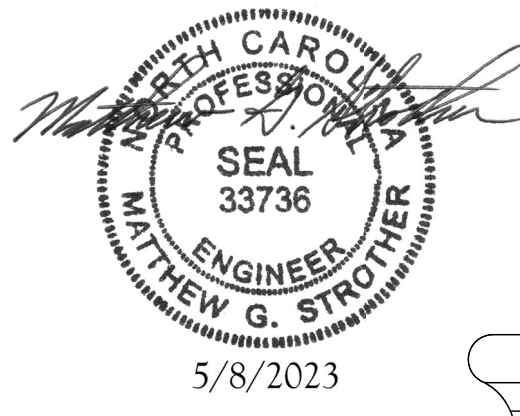
**NOTE:**  
THREADED ROD WITH EPOXY, SIMPSON TITEN HD, OR APPROVED ANCHORS SPACED AS REQUIRED TO PROVIDE EQUIVALENT ANCHORAGE TO 1/2" DIAMETER ANCHOR BOLTS MAY BE USED IN LIEU OF 1/2" ANCHOR BOLTS.

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140 MPH - 150 MPH ULTIMATE DESIGN WIND SPEED  
MONOLITHIC SLAB FOUNDATION DETAILS

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

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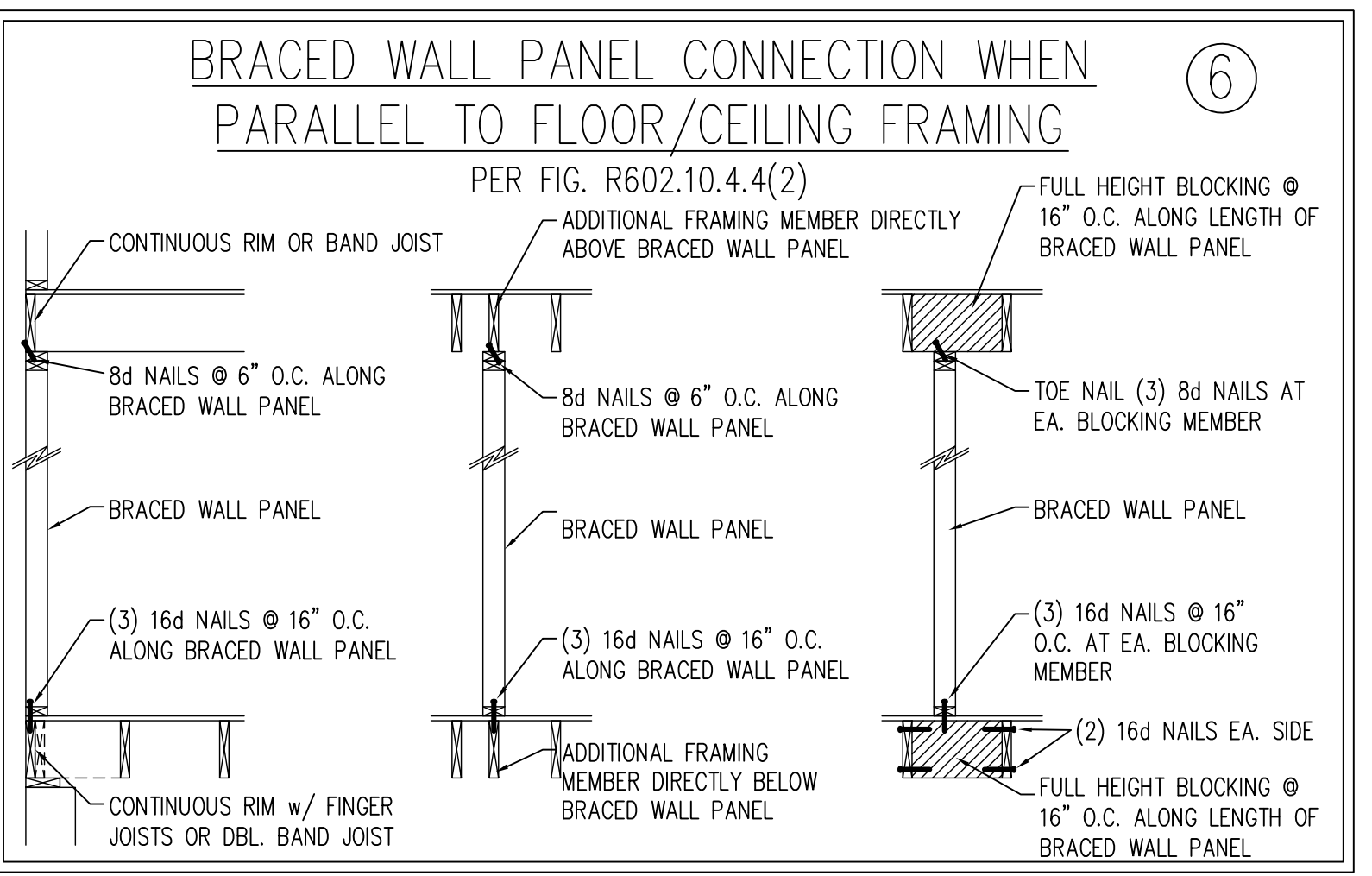
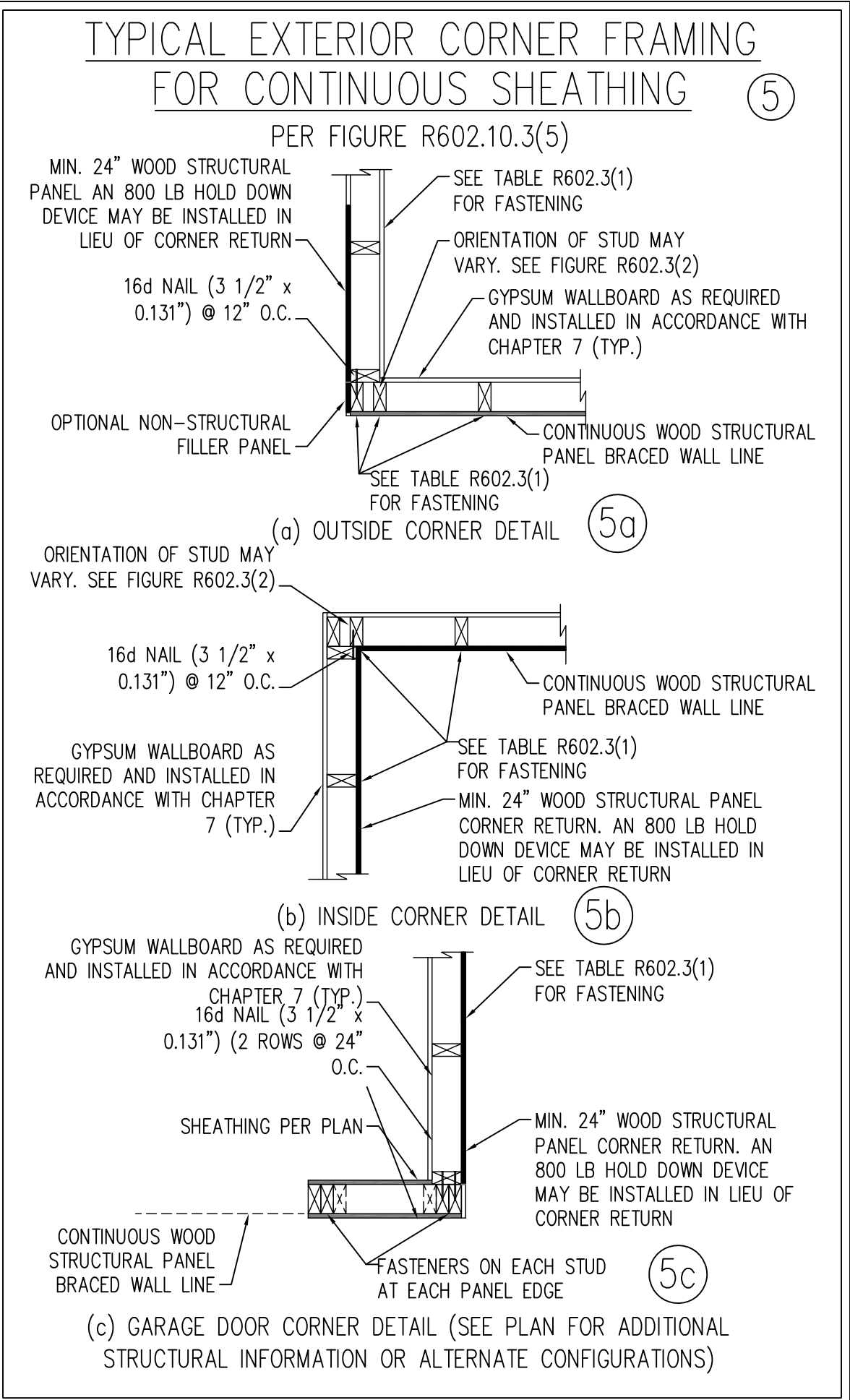
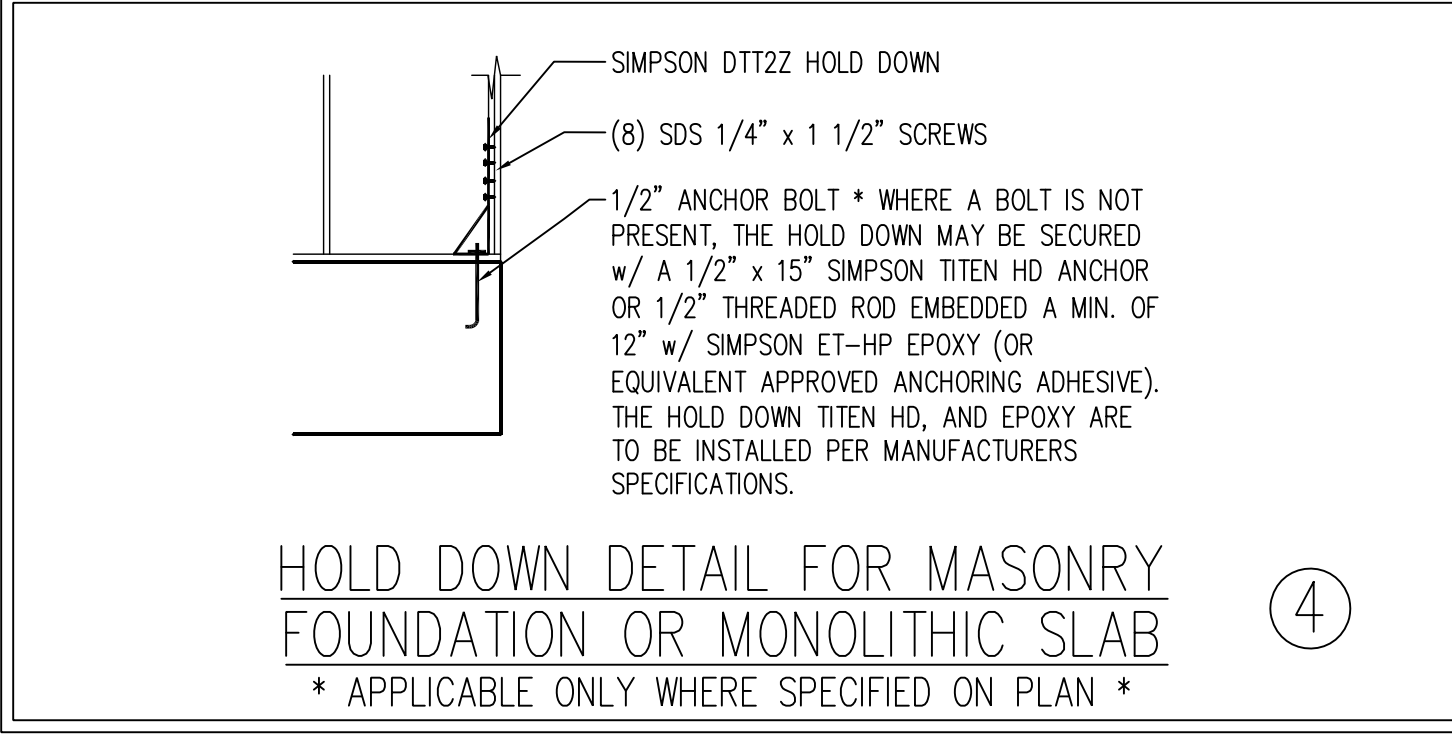
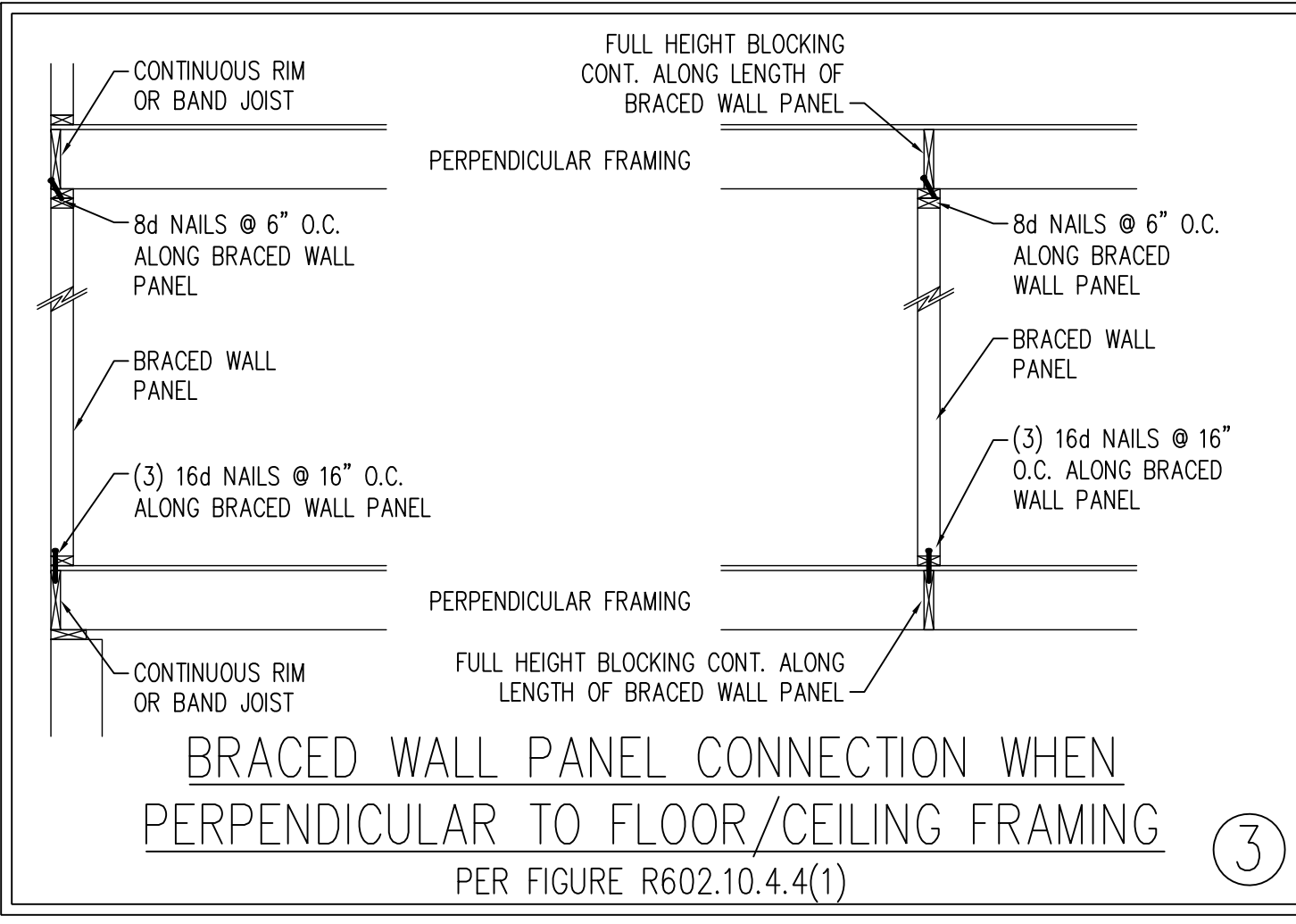
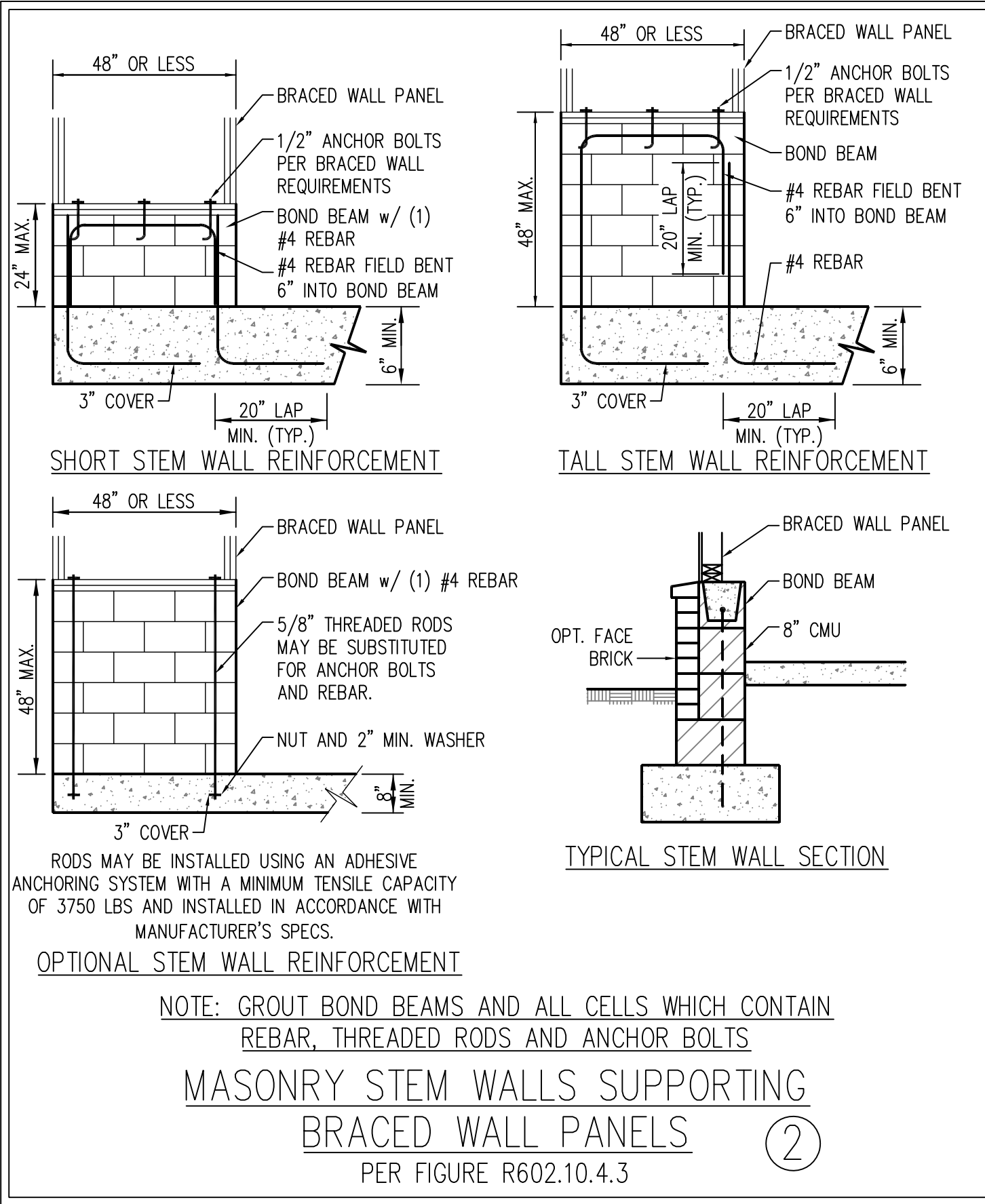
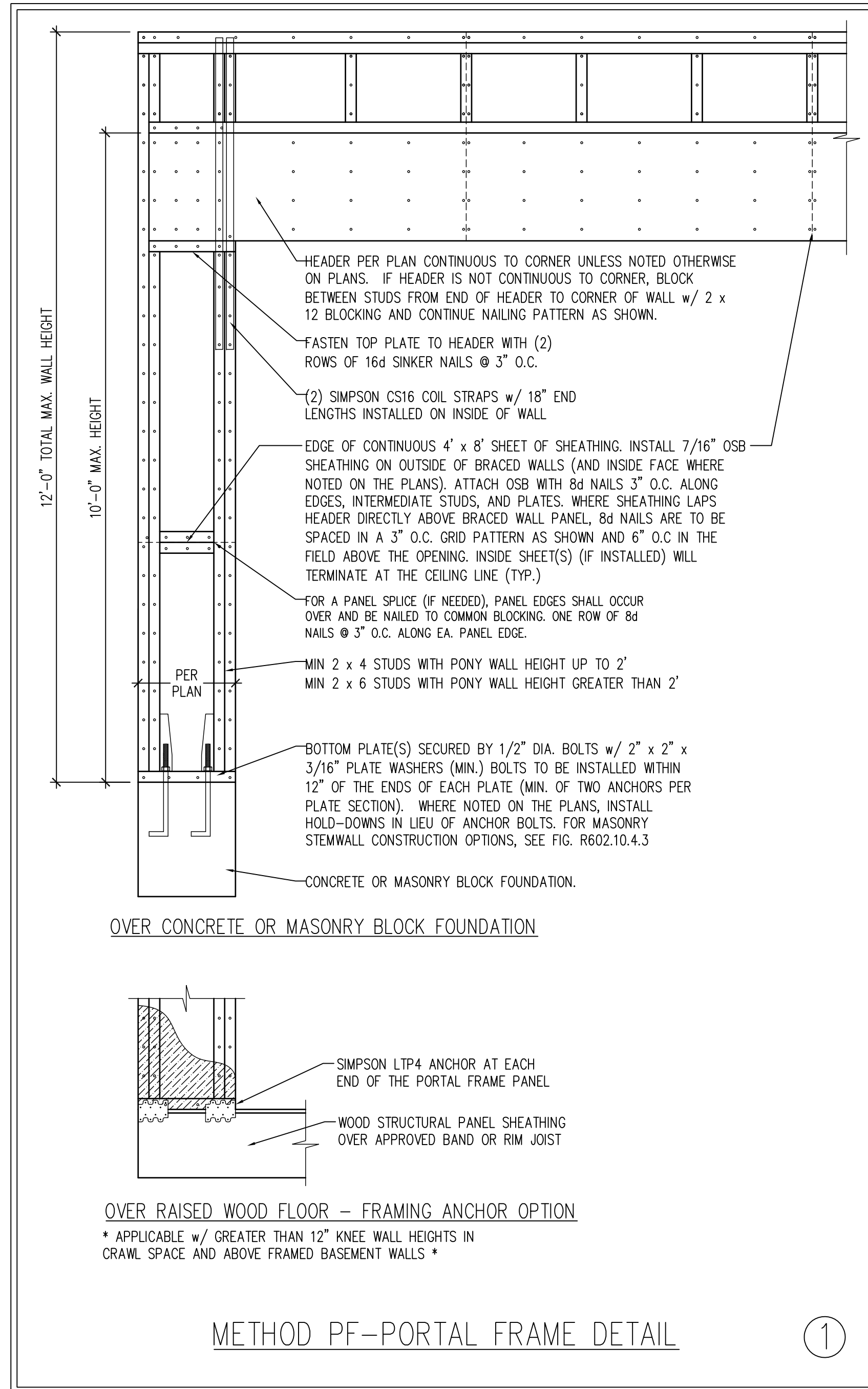


FOUNDATION DETAILS

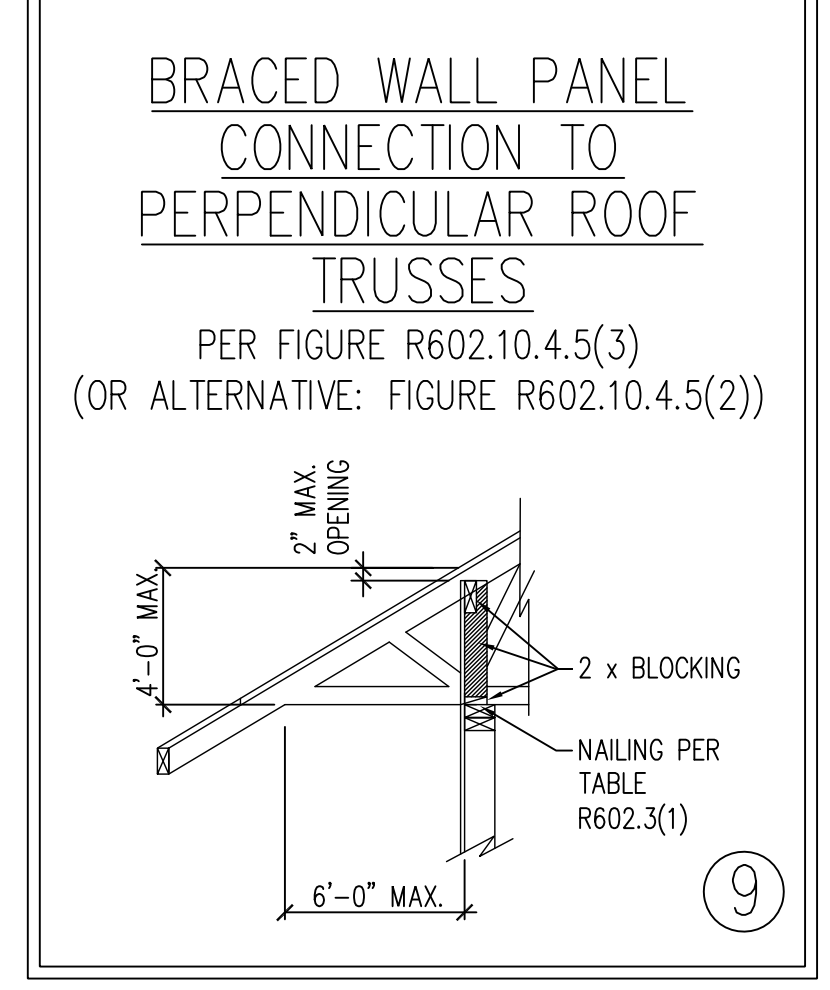
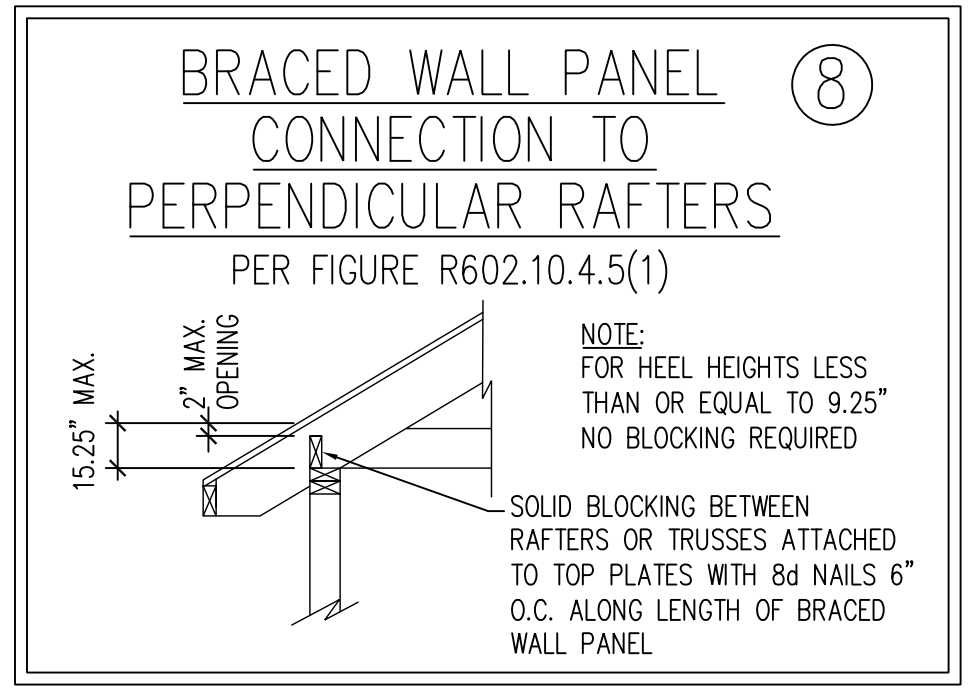
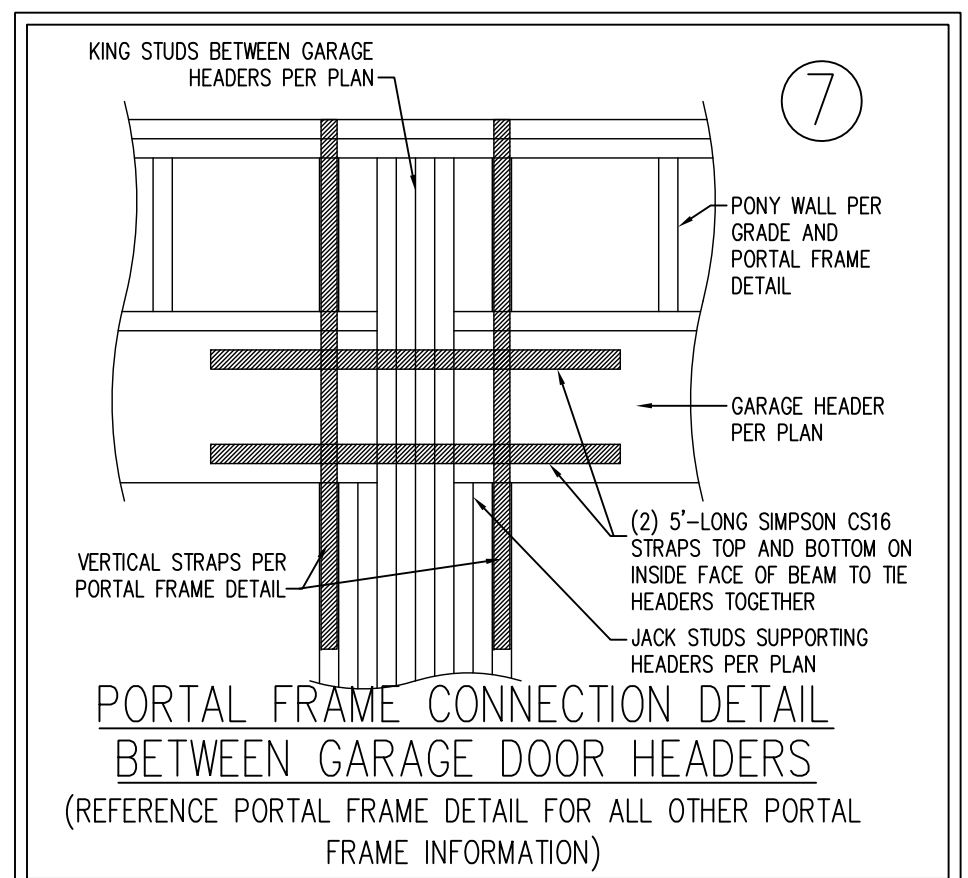


**GENERAL WALL BRACING NOTES:**

1. WALL BRACING DESIGNED IN ACCORDANCE WITH CHAPTER 6 AND CHAPTER 45 OF THE 2018 NC RESIDENTIAL BUILDING CODE (NRC). TABLES AND FIGURES REFERENCED ARE FROM THE 2018 NRC.
2. SEE THIS SHEET FOR GENERAL DETAILS. REFER TO THE 2018 NRC FOR ADDITIONAL INFORMATION AS NEEDED.
3. 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 ORDERS 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).



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140 MPH - 150 MPH ULTIMATE DESIGN WIND SPEED  
WALL BRACING NOTES AND DETAILS

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

SEAL 33736  
ENGINEER  
MATTHEW G. STROTHMER

D-2  
BRACED WALL NOTES AND DETAILS AND PF DETAIL

5/8/2023

GENERAL NOTES

- ENGINEER'S SEAL APPLIES ONLY TO STRUCTURAL COMPONENTS INCLUDING ROOF RAFTERS, HIPPS, 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.
- ALL CONSTRUCTION SHALL CONFORM TO THE LATEST REQUIREMENTS OF THE NORTH CAROLINA RESIDENTIAL CODE (NRC), 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.
- STRUCTURAL DESIGN BASED ON THE PROVISIONS OF THE NRC, 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: P <sub>g</sub>	20 (PSF)		

- I-JOIST SYSTEMS DESIGNED WITH 12 PSF DEAD LOAD AND DEFLECTION (IN) OF L/480
  - FLOOR TRUSS SYSTEMS DESIGNED WITH 15 PSF DEAD LOAD
- FOR 115 AND 120 MPH WIND ZONES, FOUNDATION ANCHORAGE IS TO COMPLY WITH SECTION R403.1.6 OF THE NRC, 2018 EDITION. FOR 130 MPH, 140 MPH, AND 150 MPH WIND ZONES, FOUNDATION ANCHORAGE IS TO COMPLY WITH SECTION 4504 OF THE NRC, 2018 EDITION.
  - ENERGY EFFICIENCY COMPLIANCE AND INSULATION VALUES OF THE BUILDING TO BE IN ACCORDANCE WITH CHAPTER 11 OF THE NRC, 2018 EDITION.

FOOTING AND FOUNDATION NOTES

- FOUNDATION DESIGN BASED ON A MINIMUM ALLOWABLE BEARING CAPACITY OF 2000 PSF. CONTACT GEOTECHNICAL ENGINEER IF BEARING CAPACITY IS NOT ACHIEVED.
- FOR ALL CONCRETE SLABS AND FOOTINGS, THE AREA WITHIN THE PERIMETER OF THE BUILDING ENVELOPE SHALL HAVE ALL VEGETATION, TOP SOIL AND FOREIGN MATERIAL REMOVED. FILL MATERIAL SHALL BE FREE OF VEGETATION AND FOREIGN MATERIAL. THE FILL SHALL BE COMPACTED TO ASSURE UNIFORM SUPPORT OF THE SLAB, AND EXCEPT WHERE APPROVED, THE FILL DEPTHS SHALL NOT EXCEED 24" FOR CLEAN SAND OR GRAVEL. A 4" THICK BASED COURSE CONSISTING OF CLEAN GRADED SAND OR GRAVEL SHALL BE PLACED. A BASE COURSE IS NOT REQUIRED WHERE A CONCRETE SLAB IS INSTALLED ON WELL-DRAINED OR SAND-GRAVEL MIXTURE SOILS CLASSIFIED AS GROUP 1, ACCORDING TO THE UNITED SOIL CLASSIFICATION SYSTEM IN ACCORDANCE WITH TABLE R405.1 OF THE NRC, 2018 EDITION.
- PROPERLY DEWATER EXCAVATION PRIOR TO POURING CONCRETE WHEN BOTTOM OF CONCRETE SLAB IS AT OR BELOW WATER TABLE. IF APPLICABLE, 3/4" - 1" DEEP CONTROL JOINTS ARE TO BE SAWS WITHIN 4 TO 12 HOURS OF CONCRETE FINISHING AND WALL LOCATIONS HAVE BEEN MARKED. ADJUST WHERE NECESSARY.
- CONCRETE SHALL CONFORM TO SECTION R402.2 OF THE NRC, 2018 EDITION. CONCRETE REINFORCING STEEL TO BE ASTM A615 GRADE 60. WELDED WIRE FABRIC TO BE ASTM A185. MAINTAIN A MINIMUM CONCRETE COVER AROUND REINFORCING STEEL OF 3" IN FOOTINGS AND 1 1/2" IN SLABS. FOR POURED CONCRETE WALLS, CONCRETE COVER FOR REINFORCING STEEL MEASURED FROM THE INSIDE FACE OF THE WALL SHALL NOT BE LESS THAN 3/4". CONCRETE COVER FOR REINFORCING STEEL MEASURED FROM THE OUTSIDE FACE OF THE WALL SHALL NOT BE LESS THAN 1 1/2" FOR #5 BARS OR SMALLER, AND NOT LESS THAN 2" FOR #6 BARS OR LARGER.
- MASONRY UNITS TO CONFORM TO ACE 530/ASCE 5/TMS 402. MORTAR SHALL CONFORM TO ASTM C270.
- THE UNSUPPORTED HEIGHT OF MASONRY PIERS SHALL NOT EXCEED FOUR TIMES THEIR LEAST DIMENSION FOR UNFILLED HOLLOW CONCRETE MASONRY UNITS AND TEN TIMES THEIR LEAST DIMENSION FOR SOLID OR SOLID FILLED PIERS. PIERS MAY BE FILLED SOLID WITH CONCRETE OR TYPE M OR S MORTAR. PIERS AND WALLS SHALL BE CAPPED WITH 8" OF SOLID MASONRY.
- THE CENTER OF EACH OF THE PIERS SHALL BEAR IN THE MIDDLE THIRD OF ITS RESPECTIVE FOOTING. EACH GIRDER SHALL BEAR IN THE MIDDLE THIRD OF THE PIERS.
- ALL CONCRETE AND MASONRY FOUNDATION WALLS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH THE PROVISIONS OF SECTION R404 OF THE NRC, 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 NRC, 2018 EDITION. CONCRETE FOUNDATION WALLS ARE TO BE REINFORCED PER TABLE R404.1.1(5) OF THE NRC, 2018 EDITION. STEP CONCRETE FOUNDATION WALLS TO 2 x 6 FRAMED WALLS AT 16" O.C. WHERE GRADE PERMITS (UNO).

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FRAMING NOTES

- ALL FRAMING LUMBER SHALL BE #2 SPF MINIMUM (F<sub>b</sub> = 875 PSI, F<sub>v</sub> = 375 PSI, E = 1600000 PSI) UNLESS NOTED OTHERWISE (UNO). ALL TREATED LUMBER SHALL BE #2 SYP MINIMUM (F<sub>b</sub> = 975 PSI, F<sub>v</sub> = 175 PSI, E = 1600000 PSI) UNLESS NOTED OTHERWISE (UNO).
- LAMINATED VENEER LUMBER (LVL) SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES: F<sub>b</sub> = 2600 PSI, F<sub>v</sub> = 285 PSI, E = 1900000 PSI. LAMINATED STRAND LUMBER (LSL) SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES: F<sub>b</sub> = 2325 PSI, F<sub>v</sub> = 310 PSI, E = 1550000 PSI. PARALLEL STRAND LUMBER (PSL) UP TO 7" DEPTH SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES: F<sub>c</sub> = 2500 PSI, E = 1800000 PSI. PARALLEL STRAND LUMBER (PSL) MORE THAN 7" DEPTH SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES: F<sub>c</sub> = 2900 PSI, E = 2000000 PSI. INSTALL ALL CONNECTIONS PER MANUFACTURER'S SPECIFICATIONS.
- STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING ASTM SPECIFICATIONS
 

A. W AND WT SHAPES:	ASTM A992
B. CHANNELS AND ANGLES:	ASTM A36
C. PLATES AND BARS:	ASTM A36
D. HOLLOW STRUCTURAL SECTIONS:	ASTM A500 GRADE B
E. STEEL PIPE:	ASTM A53, GRADE B, TYPE E OR S
- STEEL BEAMS SHALL BE SUPPORTED AT EACH END WITH A MINIMUM BEARING LENGTH OF 3 1/2" AND FULL FLANGE WIDTH (UNO). PROVIDE SOLID BEARING FROM BEAM SUPPORT TO FOUNDATION. BEAMS SHALL BE ATTACHED AT THE BOTTOM FLANGE TO EACH SUPPORT AS FOLLOWS (UNO):
 

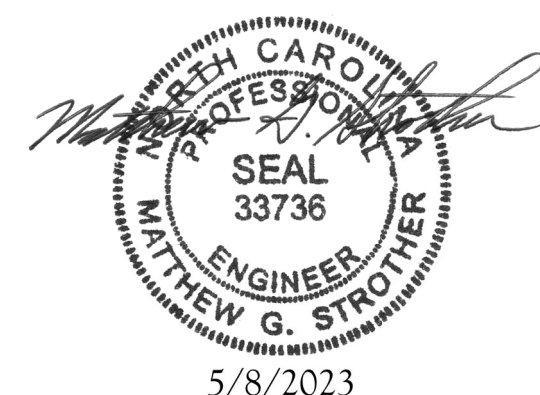
A. WOOD FRAMING	(2) 1/2" DIA. x 4" LONG LAG SCREWS
B. CONCRETE	(2) 1/2" DIA. x 4" WEDGE ANCHORS
C. MASONRY (FULLY GROUTED)	(2) 1/2" DIA. x 4" LONG SIMPSON TITEN HD ANCHORS
D. STEEL PIPE COLUMN	(4) 3/4" DIA. A325 BOLTS OR 3/16" FILLET WELD

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.
- SQUARES DENOTE POINT LOADS WHICH REQUIRE SOLID BLOCKING TO GIRDER OR FOUNDATION. SHADED SQUARES DENOTE POINT LOADS FROM ABOVE WHICH REQUIRE SOLID BLOCKING TO SUPPORTING MEMBER BELOW.
- ALL LOAD BEARING HEADERS TO CONFORM TO TABLE R602.7(1) AND R602.7(2) OF THE NRC, 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.
- 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).
- FLITCH BEAMS SHALL BE BOLTED TOGETHER USING 1/2" DIAMETER BOLTS (ASTM A307) WITH WASHERS PLACED AT THREADED END OF BOLT. BOLTS SHALL BE SPACED AT 24" CENTERS (MAXIMUM), AND STAGGERED AT TOP AND BOTTOM OF BEAM (2" EDGE DISTANCE), WITH (2) BOLTS LOCATED AT 6" FROM EACH END (UNO).
- ALL I-JOIST OR TRUSS LAYOUTS ARE TO BE IN COMPLIANCE WITH THE OVERALL DESIGN SPECIFIED ON THE PLANS. ALL DEVIATIONS ARE TO BE BROUGHT TO THE ATTENTION OF THE ENGINEER OF RECORD PRIOR TO INSTALLATION.
- BRACED WALL PANELS SHALL BE CONSTRUCTED ACCORDING TO THE NORTH CAROLINA RESIDENTIAL CODE 2018 EDITION WALL BRACING CRITERIA. THE AMOUNT, LENGTH, AND LOCATION OF BRACING SHALL COMPLY WITH ALL APPLICABLE TABLES IN SECTION R602.10.
- PROVIDE DOUBLE JOIST UNDER ALL WALLS PARALLEL TO FLOOR JOISTS. PROVIDE SUPPORT UNDER ALL WALLS PARALLEL TO FLOOR TRUSSES OR I-JOISTS PER MANUFACTURER'S SPECIFICATIONS. INSTALL BLOCKING BETWEEN JOISTS OR TRUSSES FOR POINT LOAD SUPPORT FOR ALL POINT LOADS ALONG OFFSET LOAD LINES.
- FOR ALL HEADERS SUPPORTING BRICK VENEER THAT ARE LESS THAN 8'-0" IN LENGTH, REST A 6" x 4" x 5/16" STEEL ANGLE WITH 6" MINIMUM EMBEDMENT AT SIDES FOR BRICK SUPPORT (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 NRC, 2018 EDITION.
- FOR STICK FRAMED ROOFS: CIRCLES DENOTE (3) 2 x 4 POSTS FOR ROOF MEMBER SUPPORT. HIP SPLICES ARE TO BE SPACED A MINIMUM OF 8'-0". FASTEN MEMBERS WITH THREE ROWS OF 12d NAILS AT 16" O.C. FRAME DORMER WALLS ON TOP OF DOUBLE OR TRIPLE RAFTERS AS SHOWN (UNO).
- FOR TRUSSED ROOFS: FRAME DORMER WALLS ON TOP OF 2 x 4 LADDER FRAMING AT 24" O.C. BETWEEN ADJACENT ROOF TRUSSES. STICK FRAME OVER-FRAMED ROOF SECTIONS WITH 2 x 8 RIDGES, 2 x 6 RAFTERS AT 16" O.C. AND FLAT 2 x 10 VALLEYS (UNO).
- ALL 4 x 4 AND 6 x 6 POSTS TO BE INSTALLED WITH 700 LB CAPACITY UPLIFT CONNECTORS TOP AND BOTTOM (UNO). POSTS MAY BE SECURED USING ONE SIMPSON H6 OR L7S12 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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STANDARD STRUCTURAL NOTES

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



STRUCTURAL NOTES