

**GENERAL NOTES:**

- IT IS THE CONTRACTORS RESPONSIBILITY TO VERIFY THAT ALL DIMENSIONS, ROOF PITCHES, AND SQUARE FOOTAGE ARE CORRECT PRIOR TO CONSTRUCTION. K&A HOME DESIGNS, INC. IS NOT RESPONSIBLE FOR ANY DIMENSIONING, ROOF PITCH, OR SQUARE FOOTAGE ERRORS ONCE CONSTRUCTION BEGINS.
- ALL WALLS SHOWN ON THE FLOOR PLANS ARE DRAWN AT 4" UNLESS NOTED OTHERWISE.
- ALL ANGLED WALL SHOWN ON THE PLANS ARE 45 DEGREES UNLESS NOTED OTHERWISE.
- STUD WALL DESIGN SHALL CONFORM TO ALL NORTH CAROLINA STATE BUILDING CODE REQUIREMENTS.
- DO NOT SCALE PLANS. DRAWING SCALE MAY BE DISTORTED DUE TO COPIER IMPERFECTIONS.
- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH NORTH CAROLINA RESIDENTIAL STATE BUILDING CODE, 2018 EDITION.

**SQUARE FOOTAGE**

HEATED SQUARE FOOTAGE		UNHEATED SQUARE FOOTAGE	
FIRST FLOOR=	1558	GARAGE=	544
SECOND FLOOR=	890	FRONT PORCH=	222
THIRD FLOOR=	N/A	SCREEN PORCH=	218
BASEMENT=	N/A	DECK=	N/A
		STORAGE=	642
<b>TOTAL HEATED=</b>	<b>2479</b>	<b>TOTAL UNHEATED=</b>	<b>1626</b>

**CRAWL SPACE VENTILATION CALCULATIONS**

-VENT LOCATIONS MAY VARY FROM THOSE SHOWN ON THE PLAN BUT SHOULD BE PLACED TO PROVIDE ADEQUATE VENTILATION AT ALL POINTS TO PREVENT DEAD AIR POCKETS.

-100% VAPOR BARRIER MUST BE PROVIDED WITH 12" MIN. LAP JOINTS.

-THE TOTAL AREA OF VENTILATION OPENINGS MAY BE REDUCED TO 1/1500 AS LONG AS REQUIRED OPENINGS ARE PLACED SO AS TO PROVIDE CROSS-VENTILATION OF THE SPACE. THE INSTALLATION OF OPERABLE LOUVERS SHALL NOT BE PROHIBITED. (COMPLY WITH NC CODE MIN. WITH REGARD TO VENT PLACEMENT FROM CORNERS)

N/A SQ. FT. OF CRAWLSPACE/1500

N/A SQ. FT. OF REQUIRED VENTILATION

PROVIDED BY: N/A VENTS AT 0.45 SQ. FT. NET FREE

VENTILATION EACH= N/A SQ. FT. OF VENTILATION

**\*\*FOUNDATION DRAINAGE- WATERPROOFING PER SECTIONS 405 & 406.**

**ATTIC VENTILATION CALCULATIONS**

- CALCULATIONS SHOWN BELOW ARE BASED ON VENTILATORS USED AT LEAST 3 FT. ABOVE THE CORNICE VENTS WITH THE BALANCE OF VENTILATION PROVIDED BY EAVE VENTS.

- CATHEDRAL CEILINGS SHALL HAVE A MIN. 1" CLEARANCE BETWEEN THE BOTTOM OF THE ROOF DECK AND THE INSULATION.

N/A SQ. FT. OF ATTIC/300= N/A

EACH OF INLET AND OUTLET REQUIRED.

**\*WALL AND ROOF CLADDING DESIGN VALUES**

- WALL CLADDING IS DESIGNED FOR A 24.1 SQ. FT. OR GREATER POSITIVE AND NEGATIVE PRESSURE.

- ROOF VALUES BOTH POSITIVE AND NEGATIVE SHALL BE AS FOLLOWS:

45.5 LBS. PER SQ. FT. FOR ROOF PITCHES OF 0/12 TO 2.25/12

34.8 LBS. PER SQ. FT. FOR ROOF PITCHES OF 2.25/12 TO 7/12

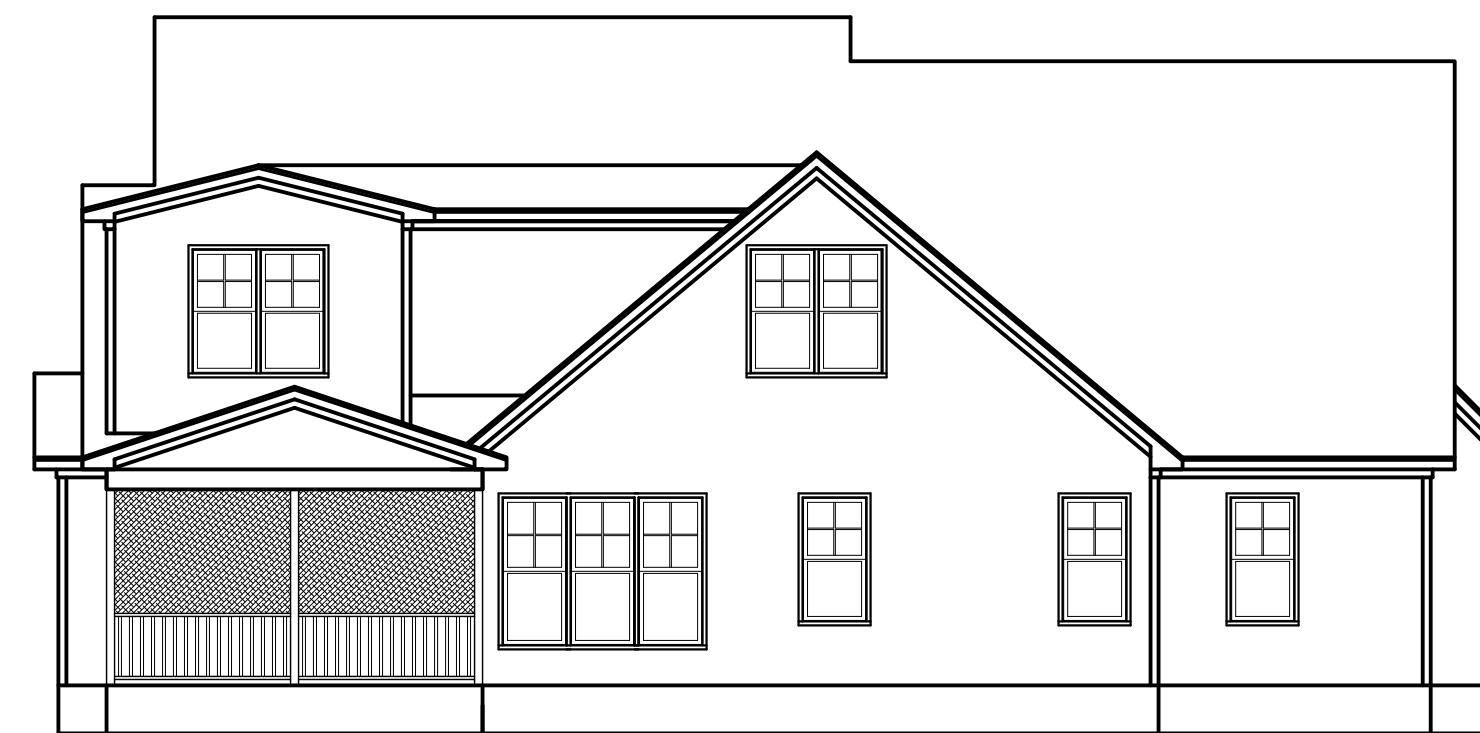
21 LBS. PER SQ. FT. FOR ROOF PITCHES OF 7/12 TO 12/12

**\*\* MEAN ROOF HEIGHT 30' OR LESS**



**FRONT ELEVATION**

1/4" = 1'-0"



**REAR ELEVATION**

1/8" = 1'-0"



**RIGHT ELEVATION**

1/8" = 1'-0"



**LEFT ELEVATION**

1/8" = 1'-0"

Project No.	21-054
Date	3-22-21
Drawn/Design By	KBB
Scale	REFER TO ELEV.

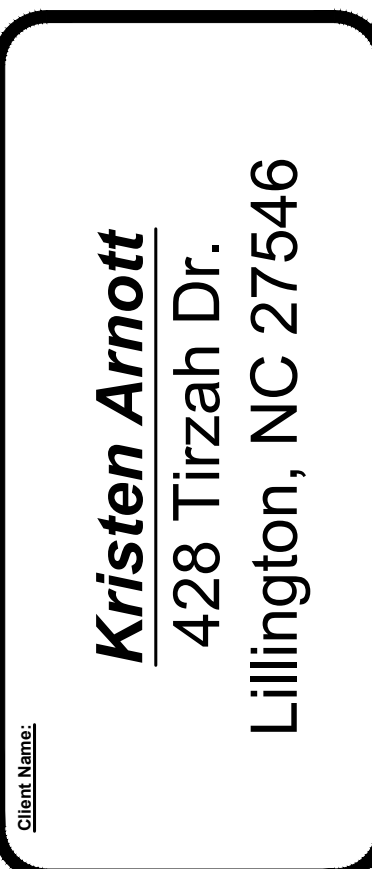
REVISIONS		
No.	Date	Remarks
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Raleigh, NC 27603  
Office: (919) 302-0693



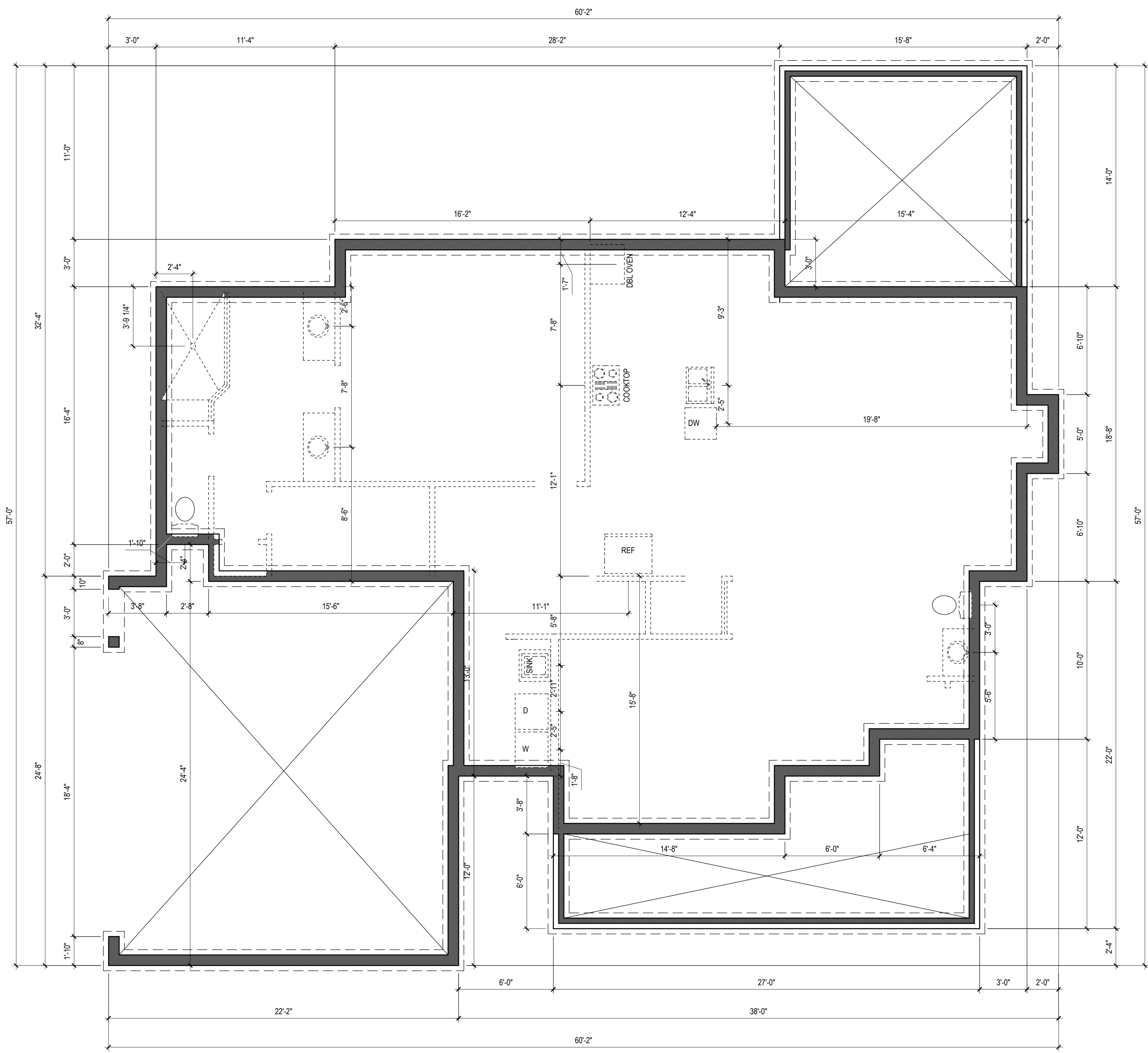
Website: www.KandAHomeDesigns.com

Email: Kent@KandAHomeDesigns.com



ELEVATIONS

Sheet Number	1
	of 3



**FOUNDATION PLAN**  
1/4" = 1'-0"

Project #: 21-054  
Date: 3-22-21  
Drawn/Design By: KBB  
Scale: 1/4" = 1'-0"

REVISIONS		
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Office: (919) 302-0693



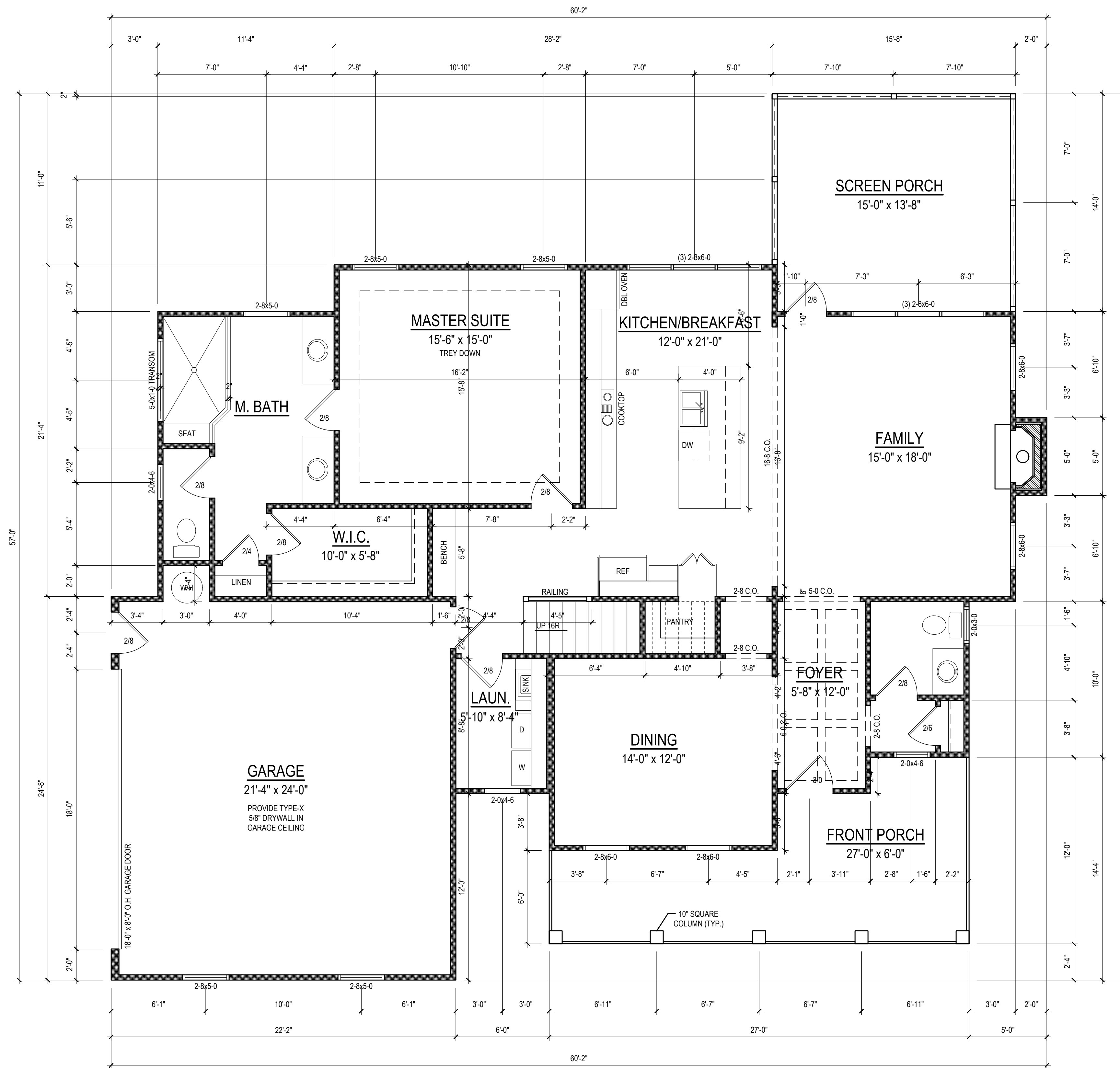
Email: Kent@KandAHomeDesigns.com  
Website: www.KandAHomeDesigns.com

**Project Name:**  
**Arnott Residence**

**Client Name:**  
**Kristen Arnott**  
428 Tirzah Dr.  
Lillington, NC 27546

FIRST FLOOR

**Sheet Number**  
**2**  
of 3



**FIRST FLOOR PLAN**  
 1/4" = 1'-0" CEILING HT. = 9'-0"

Project #:	21-054
Date:	3-22-21
Drawn/Design By:	KBB
Scale:	1/4" = 1'-0"

REVISIONS		
No.	Date	Remarks
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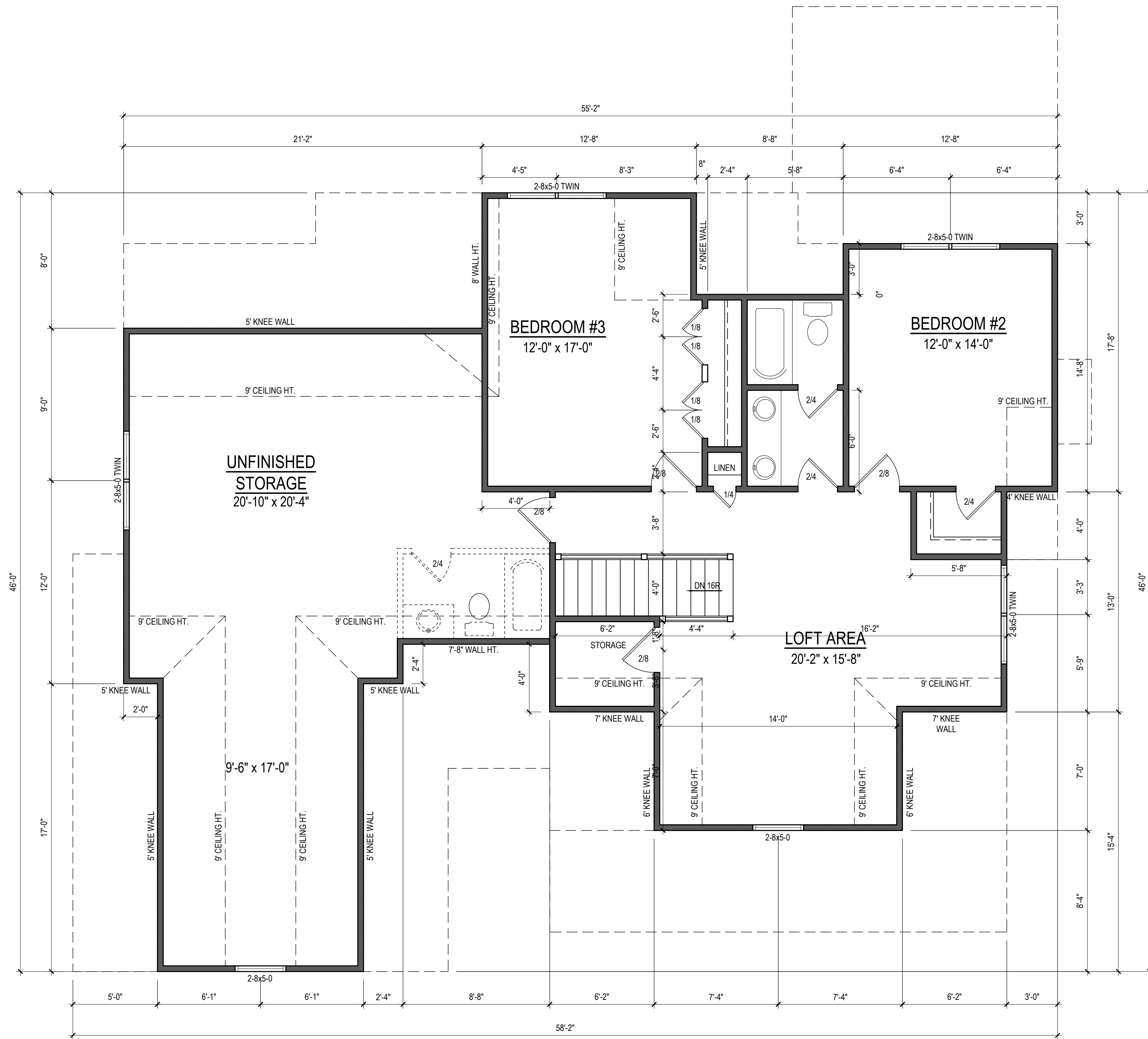
Email: Kent@KandAHomeDesigns.com Website: www.KandAHomeDesigns.com



**Kristen Arnett**  
 428 Tirzah Dr.  
 Lillington, NC 27546

FIRST FLOOR

Sheet Number  
**2**  
 of 3



**SECOND FLOOR PLAN**  
 1/4" = 1'-0" CEILING HT. = 9'-0"

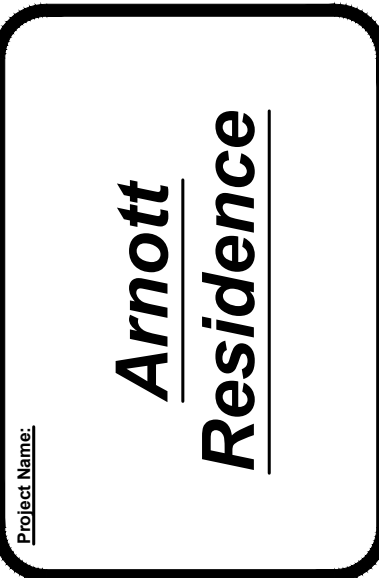
Project No.	21-054
Date	3-22-21
Drawn/Design By.	KBB
Scale	1/4" = 1'-0"

REVISIONS		
No.	Date	Remarks
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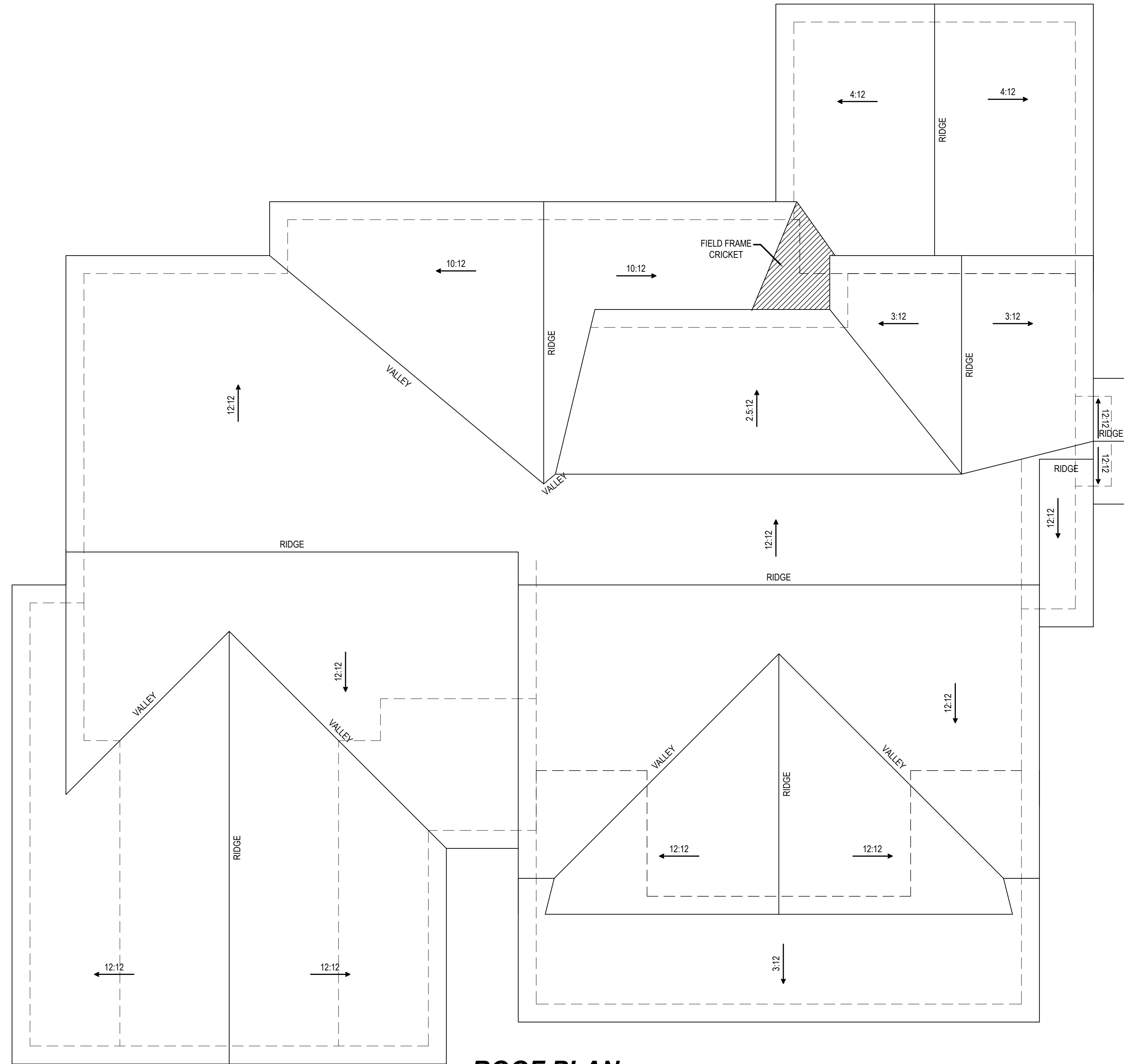
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SECOND FLOOR

Sheet Number  
**3**  
 of 3



**ROOF PLAN**  
1/4" = 1'-0"

Project #: 21-054  
Date: 3-22-21  
Drawn/Design By: KBB  
Scale: 1/4" = 1'-0"

REVISIONS		
No.	Date	Remarks
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2		
3		
4		

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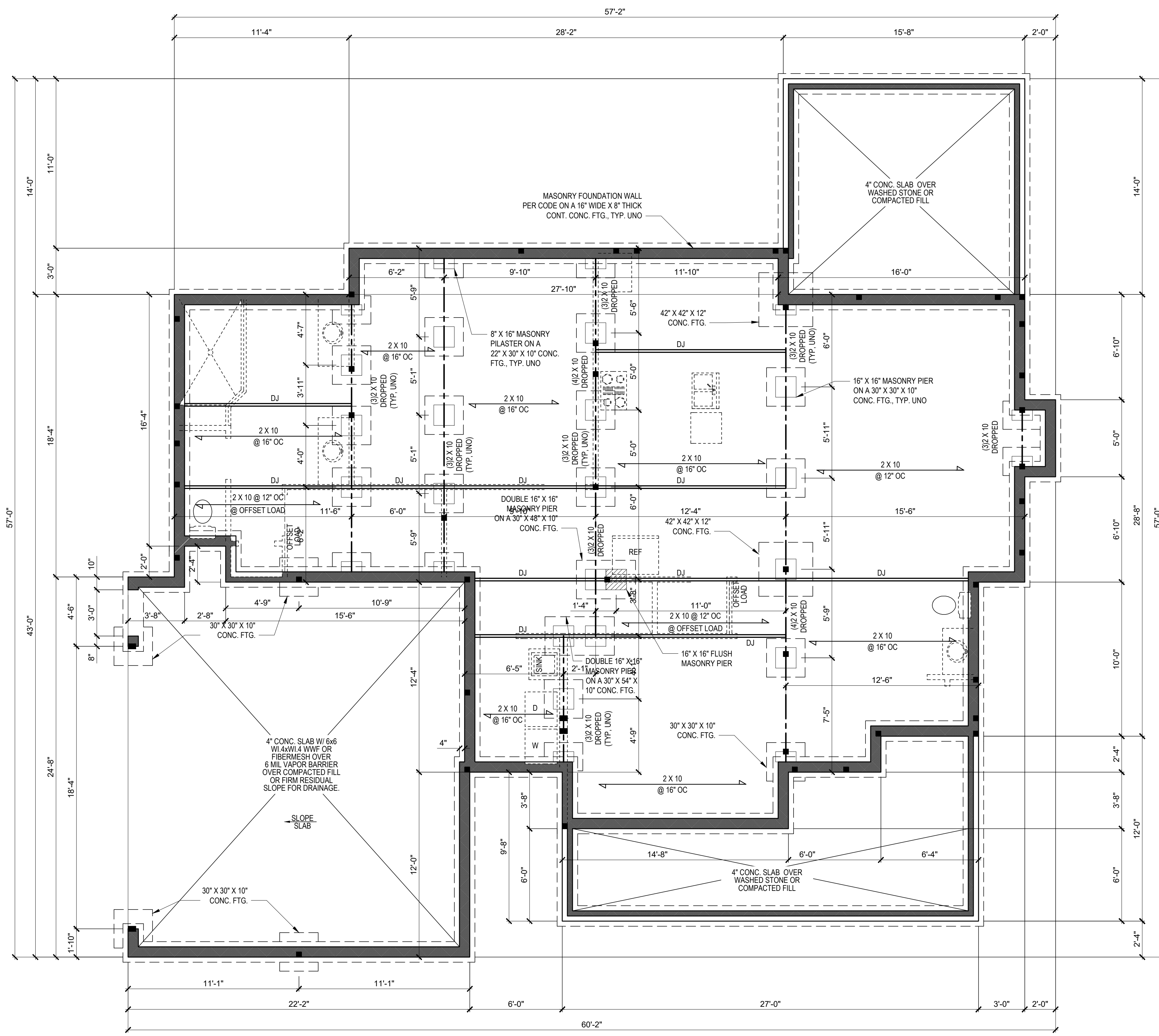
Email: Kent@KandAHomeDesigns.com Website: www.KandAHomeDesigns.com

**Project Name:**  
**Arnott Residence**

**Client Name:**  
**Kristen Arnott**  
428 Tirzah Dr.  
Lillington, NC 27546

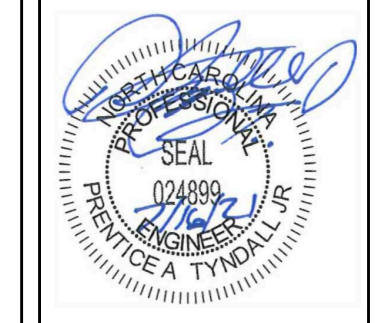
FIRST FLOOR

**Sheet Number**  
**2**  
of 3



**FOUNDATION PLAN**  
 1/4" = 1'-0"

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 919.776.2510 • 919.776.4444  
 www.tynndallengineering.com

Client: **KRISTEN ARNOTT**  
 Project: **ARNOTT RESIDENCE**

**FOUNDATION PLAN**  
**1ST FLOOR FRAMING**

Project #: 2101-010119  
 Date: 03/29/21  
 Drawn/Design By: KFR  
 DWG. Checked By: PAT  
 Scale: SEE PLAN

REVISIONS		
No.	Date	Remarks

Sheet Number  
**S1**  
 1 of 7

FILENAME: \\A:\ESD\DRN\ENR\2021 STRUCTURE PROJECTS\2101-010119 - ARNOTT RESIDENCE - MAIN FROM MAIN\WROREY\2101-010119\LEADW\SMBD.BT RED LAST PLOT.DWG/14/03/2021 1:27 PM

**DESIGN LOADS**

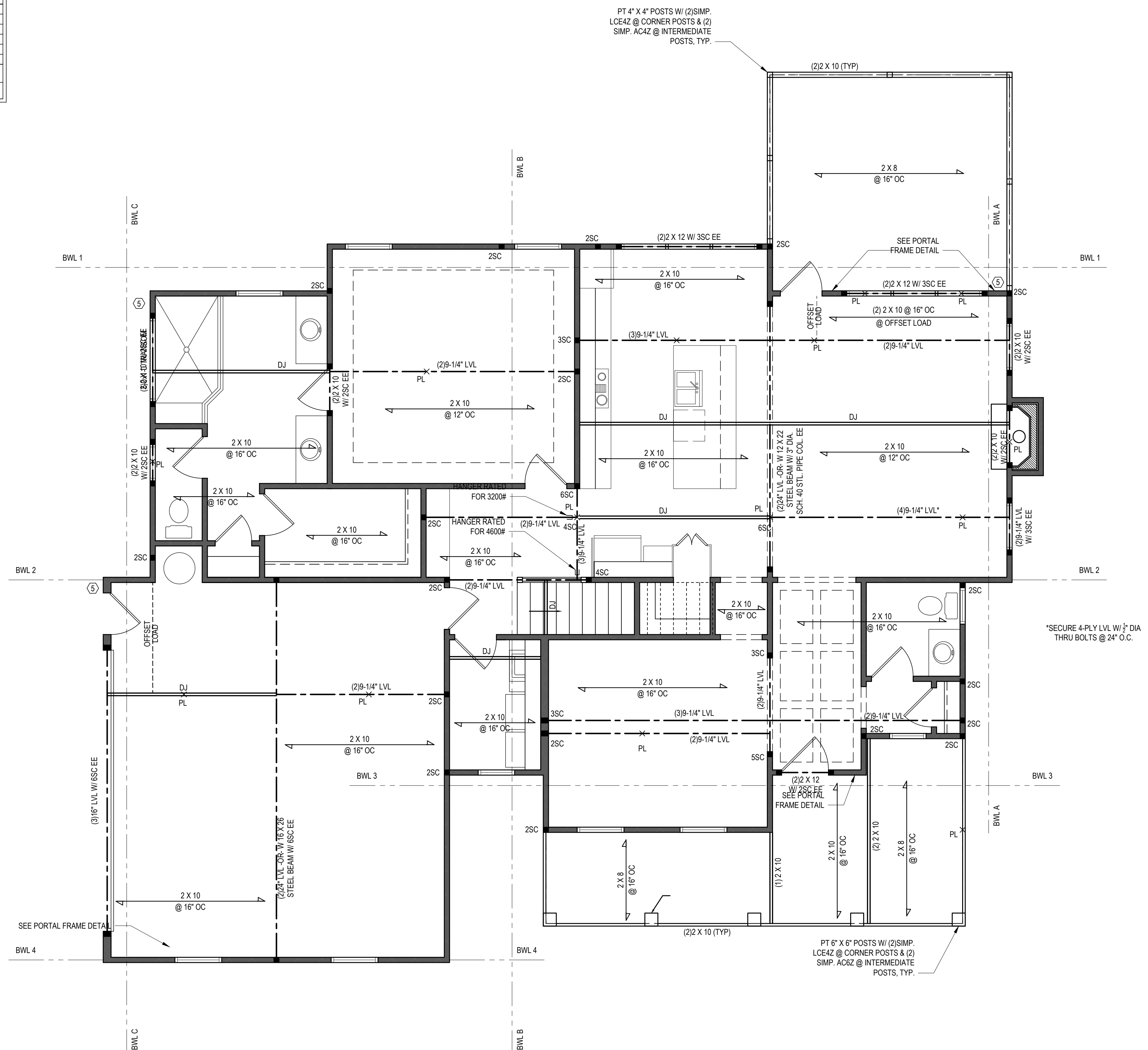
	LIVE LOAD (PSF)	DEAD LOAD (PSF)	DEFLECTION	
			LL	TL
FLOOR (primary)	40	10	L/360	L/240
FLOOR (secondary)	40	10	L/360	L/240
ATTIC (w/ storage)	20	10	L/240	L/180
ATTIC (no access)	10	5	L/240	L/180
EXTERNAL BALCONY	40	10	L/360	L/240
ROOF	20	10	L/240	L/180
ROOF TRUSS	20	20	L/240	L/180
WIND LOAD	BASED ON 120 MPH (EXPOSURE B)			
SEISMIC	BASED ON SEISMIC ZONES A, B & C			

**STRUCTURAL NOTES:**

- ALL CONSTRUCTION SHALL CONFORM TO THE LATEST REQUIREMENTS OF "NORTH CAROLINA STATE 2018 RESIDENTIAL BUILDING CODE", IN ADDITION TO ALL LOCAL CODES AND REGULATIONS.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL DIMENSIONS AND SQUARE FOOTAGE PRIOR TO CONSTRUCTION. TYNDALL ENGINEERING & DESIGN, PA IS NOT RESPONSIBLE FOR DIMENSIONS AND SQUARE FOOTAGE ERRORS ONCE CONSTRUCTION BEGINS.
- ALL LUMBER SHALL BE SYP #2 (UNO)
- ALL LVL LUMBER TO BE 1.75" WIDE NOMINAL EACH SINGLE MEMBER AND Fb = 2600 PSI, E = 1.9M PSI (I.E. LEVEL MICROLAM)
- ALL LVL LUMBER IS TO BE 1.55E (Fb = 2325 PSI)
- ALL LOAD BEARING EXTERIOR WINDOW HEADERS WITH MAXIMUM SPAN OF 5'-6" SHOULD BE A (2) 2x10 w/ (1) 2x4 KING STUD AND (1) 2x4 JACK STUD NAILED TOGETHER w/ (2) 10d @ 8" O.C. PROVIDED THAT THE TOP OF THE WINDOW HEIGHT IS 6'-6". MINIMUM BOTTOM OF THE WINDOW HEIGHT IS 1'-6". OTHERWISE REFER TO TABLE R502.5(1).
- ALL INTERIOR LOAD BEARING HEADERS TO BE (2) 2x10 (U.N.O.) REFER TO TABLE R502.5(1) FOR JACK STUD REQUIREMENTS FOR HEADER SPANS FOR INTERIOR AND EXTERIOR LOAD CONDITIONS (UNO)
- REFER TO 2018 NC BUILDING CODE SECTION R602 FOR CONSTRUCTION OF ALL WALLS OVER 10'-0" IN HEIGHT.
- ALL STRUCTURAL STEEL SHALL BE ASTM A992 GRADE 50 Fy = 50 KSI MIN. (UNO)
- ALL EXTERIOR LUMBER TO BE #2 SYP PT
- ALL CONCRETE, fc = 3000 PSI MIN.
- PRESUMPTIVE BEARING CAPACITY = 2000 PSF
- 1/2" ANCHOR BOLTS SPACED AT MAXIMUM OF 6'-0" O.C. AND NOT MORE THAN 12" FROM THE CORNER. THERE SHALL BE A MINIMUM OF (2) BOLTS PER PLATE SECTION. ANCHOR BOLTS SHALL BE SPACED AT 3'-0" O.C. FOR BASEMENTS. ANCHOR BOLT SHALL EXTEND 7" INTO CONCRETE OR MASONRY.
- PSL COLUMNS DESIGNED WITH MAX. HEIGHT OF 9'-0" (UNO)
- PROVIDE A MINIMUM OF 500# UPLIFT & LATERAL CONNECTION AT TOP AND BOTTOM OF PORCH COLUMNS. (U.N.O.)
- PROVIDE CONTINUOUS SHEATHING PER SECTION 602.10.4 OF THE 2018 IRC.
- MAXIMUM MASONRY PIER HEIGHT SHALL NOT EXCEED FOUR TIMES ITS LEAST HORIZONTAL DIMENSION.
- UPLIFT LOADS GREATER THAN 500# SHALL BE CONTINUOUSLY ANCHORED TO THE FOUNDATION.
- METAL HANGERS SHALL BE SIMPSON OR APPROVED EQUAL.

**STRUCTURAL SHEATHING NOTES**

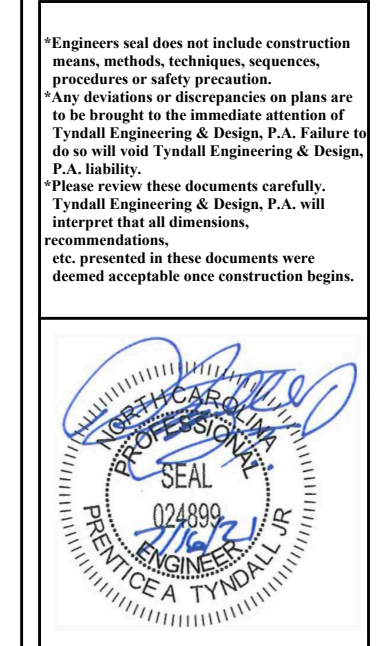
- DESIGNED FOR SEISMIC ZONE A-C AND WIND SPEEDS OF 120 MPH OR LESS.
- WALLS SHALL BE BRACED IN ACCORDANCE WITH SECTION R602.10 OF THE 2018 NCR.
- BRACING REQUIREMENTS SHALL BE PER TABLE R602.10.3. REFER TO SECTION R602.10.4 FOR LOAD PATH DETAILS INCLUDING CONNECTIONS & SUPPORT OF BRACED WALL PANELS.
- REFERENCE FIGURE R602.10.4.3 OF THE 2018 NCR.
- INTERIOR BRACED WALL PANELS (BWP) INDICATED SHALL BE SHEATHED IN ACCORDANCE WITH THE GB METHOD OR WSP METHOD AS PRESCRIBED IN SECTION R602.10.1 (UNO)
  - 1/2" GYPSUM BOARD (GB) MINIMUM LENGTH OF 8'-0" (ISOLATED PANELS) OR 4'-0" (CONTINUOUS SHEATHING). SECURE w/ 5d COOLER NAILS (OR EQUAL PER TABLE R702.3.5) SPACED @ 7" O.C. AT PANEL EDGES, INCLUDING TOP AND BOTTOM PLATES & 7" O.C. AT INTERMEDIATE SUPPORTS
  - 3/8" WOOD STRUCTURAL PANEL (WSP) SECURE w/ 6d COMMON NAILS SPACED AT 6" O.C. AT PANEL EDGES AND 12" O.C. AT INTERMEDIATE SUPPORTS
- EXTERIOR BRACED WALL PANELS (BWP) SHALL BE CONSTRUCTED IN ACCORDANCE WITH CS-WSP METHOD AS PRESCRIBED IN SECTION R602.10.3 (UNO)
- ALL SHEATHABLE SURFACES OF EXTERIOR WALLS (INCLUDING AREAS ABOVE AND BELOW OPENINGS AND GABLE END WALLS) SHALL BE CONTINUOUSLY SHEATHED WITH WOOD STRUCTURAL PANEL (WSP) SHEATHING WITH A MINIMUM THICKNESS OF 3/8". SHEATHING SHALL BE SECURED WITH MINIMUM 6d COMMON NAILS SPACED AT 6" O.C. AT PANEL EDGES AND SPACED AT 12" O.C. AT INTERMEDIATE SUPPORTS. MINIMUM BRACED WALL PANEL LENGTHS WITH CS-WSP METHOD SHALL BE AS FOLLOWS:
  - 24" ADJACENT TO OPENINGS NOT MORE THAN 67% OF WALL HEIGHT
  - 30" ADJACENT TO OPENINGS GREATER THAN 67% AND LESS THAN 85% OF WALL HEIGHT.
  - 48" FOR OPENINGS GREATER THAN 85% OF WALL HEIGHT
- SHEATH INTERIOR & EXTERIOR
  - FOR CS-WSP METHOD, A MINIMUM 24" BRACED WALL PANEL CORNER RETURN SHALL BE PROVIDED AT BOTH ENDS OF A BRACED WALL LINE IN ACCORDANCE WITH FIGURE R602.10.3(4). IN LIEU OF A CORNER RETURN, EITHER A MIN. 48" BRACED WALL PANEL SHALL BE PROVIDED AT THE CORNER OR A HOLD-DOWN DEVICE WITH A MINIMUM UPLIFT DESIGN VALUE OF 800# SHALL BE FASTENED TO THE EDGE OF THE BRACED WALL PANEL CLOSEST TO THE CORNER AND TO THE FOUNDATION OR FRAMING BELOW.
  - MINIMUM 800# HOLD-DOWN DEVICE



**FIRST FLOOR PLAN**  
1/4" = 1'-0" CEILING HT. = 9'-0"

**BRACING PANEL LENGTHS REQUIRED:**  
 BWL A = 4.4 FT  
 BWL B = 19.2 FT  
 BWL C = 4.0 FT  
 BWL 1 = 4.0 FT  
 BWL 2 = 14.2 FT  
 BWL 3 = 4.2 FT  
 BWL 4 = 4.0 FT

**BRACING PANEL LENGTHS PROVIDED:**  
 BWL A = 12.3 FT CS-WSP  
 BWL B = 46.7 FT CS-WSP  
 BWL C = 8.2 FT CS-WSP  
 BWL 1 = 20.7 FT CS-WSP  
 BWL 2 = 39.5 FT CS  
 BWL 3 = 6.0 FT CS-WSP  
 BWL 4 = 16.2 FT CS-WSP



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 Fax: 919.774.4444  
 www.tyndallengineering.com

CLIENT: KRISTEN ARNOTT  
 PROJECT: ARNOTT RESIDENCE

**1ST FLOOR HEADER  
2ND FLOOR FRAMING**

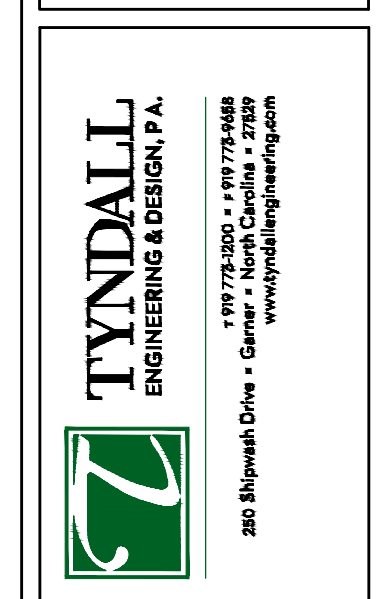
Project #: 2101-010119  
 Date: 03/29/21  
 Drawn/Design By: KFR  
 DWG. Checked By: PAT  
 Scale: SEE PLAN

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No.	Date	Remarks

Sheet Number  
**S2**  
2 of 7

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Client: **KRISTEN ARNOTT**  
 Project: **ARNOTT RESIDENCE**

**2ND FLOOR HEADER**  
**2ND FLR. CLG. FRAMING**

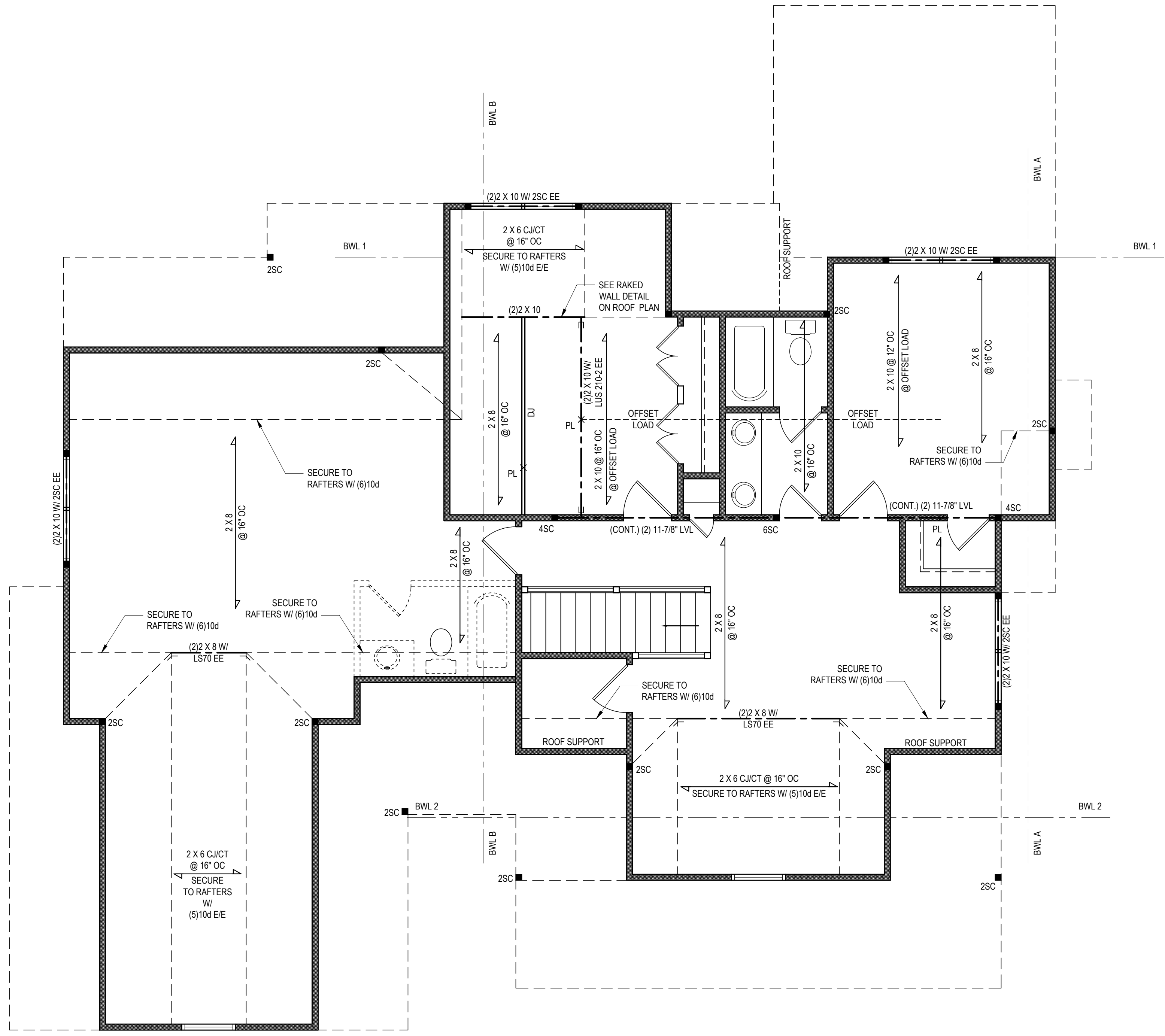
Project #: **2101-010119**  
 Date: **03/29/21**  
 Drawn/Design By: **KFR**  
 DWG. Checked By: **PAT**  
 Scale: **SEE PLAN**

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Sheet Number  
**S3**  
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BRACING PANEL LENGTHS REQUIRED:  
 BWL A = 4.0 FT  
 BWL B = 6.7 FT  
 BWL 1 = 4.0 FT  
 BWL 2 = 4.0 FT

BRACING PANEL LENGTHS PROVIDED:  
 BWL A = 13.0 FT CS-WSP  
 BWL B = 14.3 FT GB  
 BWL 1 = 21.8 FT CS-WSP  
 BWL 2 = 12.0 FT CS-WSP

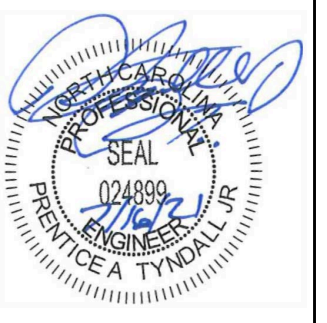


**SECOND FLOOR PLAN**  
 1/4" = 1'-0" CEILING HT. = 9'-0"

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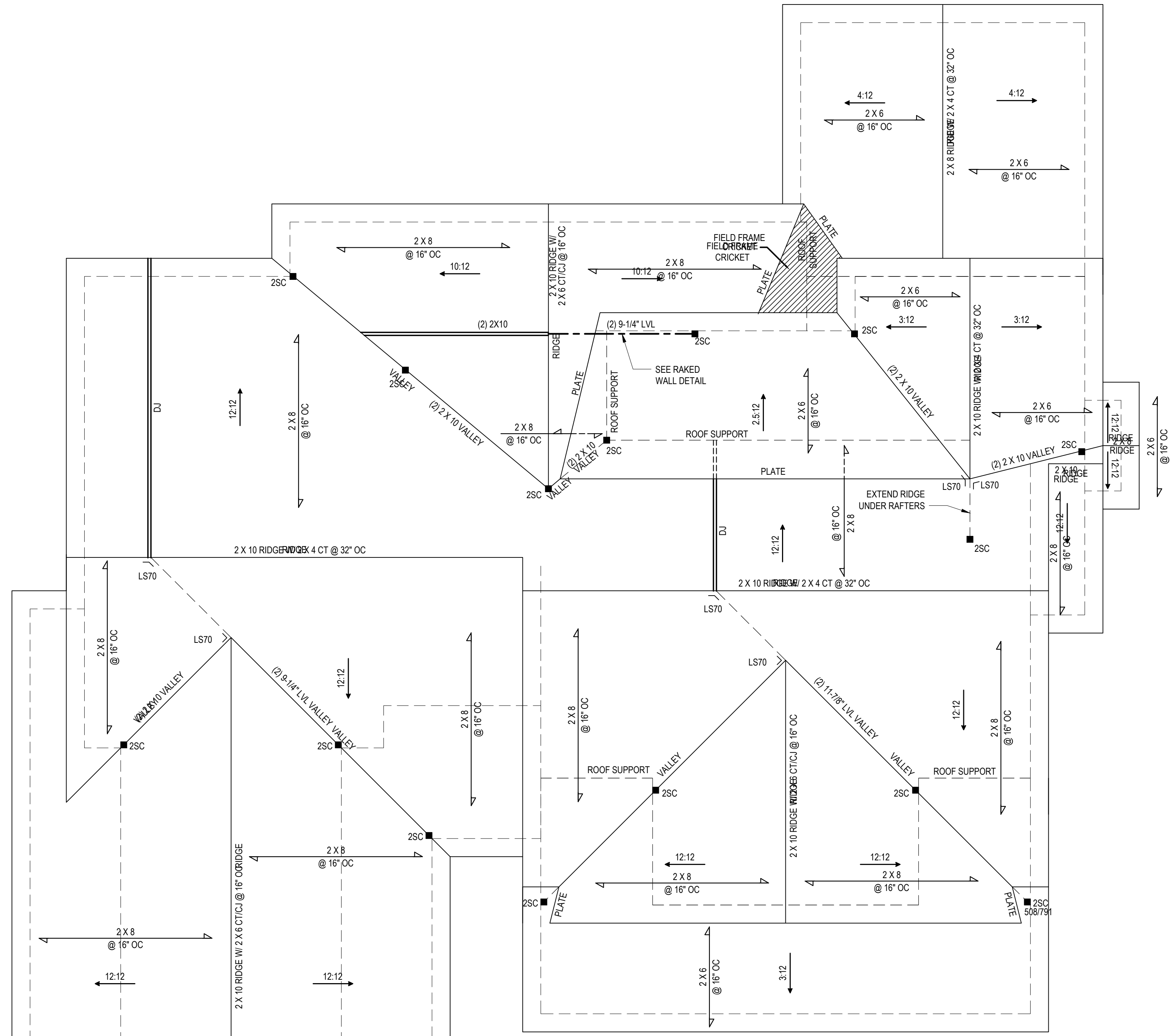
Client: KRISTEN ARNOTT  
Project: ARNOTT RESIDENCE

# ROOF PLAN

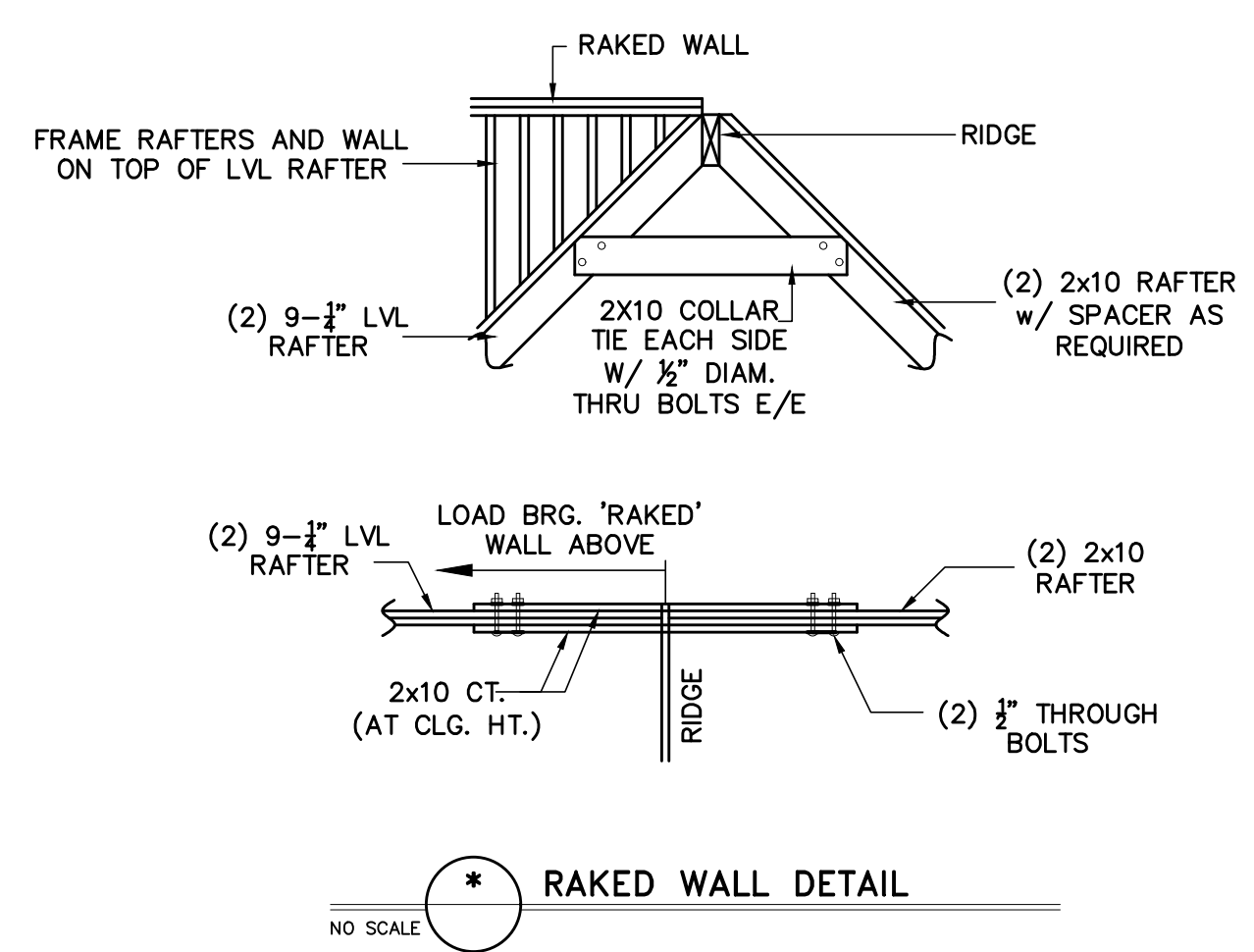
Project #: 2101-010119  
Date: 03/29/21  
Drawn/Design By: KFR  
DWG. Checked By: PAT  
Scale: SEE PLAN

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No.	Date	Remarks

Sheet Number  
**S4**  
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**ROOF PLAN**  
1/4" = 1'-0"



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**STRUCTURAL NOTES**

- ALL CONSTRUCTION SHALL CONFORM TO THE LATEST REQUIREMENTS OF 'NORTH CAROLINA STATE 2018 RESIDENTIAL BUILDING CODE', IN ADDITION TO ALL LOCAL CODES AND REGULATIONS.
- DESIGN LOADS:
 

	LIVE LOAD (PSF)	DEAD LOAD (PSF)	DEFLECTION	
			LL	TL
ALL FLOORS	40	10	L240	L240
ATTIC (w/ walk up stairs)	30	10	L240	L240
ATTIC (pull down access)	20	10	L240	L180
ATTIC (no access)	10	5	L240	L180
EXTERNAL BALCONY	40	10	L360	L240
ROOF	20	10	L240	L180
ROOF TRUSS	20	20	L240	L180
WIND LOAD	BASED ON 120 MPH (EXPOSURE B)			
SEISMIC	SEISMIC ZONES A, B & C			
- MINIMUM ALLOWABLE SOIL BEARING PRESSURE = 2000 PSF
- CONCRETE SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 3000 PSI AND A MAXIMUM SLUMP OF FIVE INCHES UNLESS NOTED OTHERWISE. (U.N.C.)
- MAXIMUM DEPTH OF UNBALANCED FILL AGAINST FOUNDATION WALLS TO BE LESS THAN 4'-0" WITHOUT USING SUFFICIENT WALL BRACING. REFER TO SECTION R602.3 FOR BRACING LIMITATIONS BASED ON WALL HEIGHT, WALL THICKNESS, SOIL TYPE, AND UNBALANCED BACKFILL HEIGHT.
- ALL FRAMING LUMBER SHALL BE SYP #2 (F<sub>b</sub> = 800 PSI, BASED ON D<sub>1</sub>) (U.N.)  
ALL FRAMING LUMBER EXPOSED TO THE ELEMENTS SHALL BE TREATED MATERIAL.  
ALL LVL LUMBER TO BE 1.75" WIDE NOMINAL EACH SINGLE MEMBER AND F<sub>b</sub> = 2000 PSI, E = 1.9M PSI (U.N.O.)  
ALL L.S. LUMBER TO BE 3.5" WIDE NOMINAL EACH SINGLE MEMBER AND F<sub>b</sub> = 2325 PSI, E = 1.8M PSI (U.N.O.)  
ALL PSL LUMBER TO BE 3.5" WIDE NOMINAL EACH SINGLE MEMBER AND F<sub>b</sub> = 2400 PSI, E = 1.8M PSI (U.N.O.)
- ALL LOAD BEARING EXTERIOR HEADERS SHALL BE (2) 2x10 (U.N.O.) REFER TO TABLE R602.7(1) & (2) FOR JACK STUD REQUIREMENTS FOR HEADER SPANS FOR INTERIOR AND EXTERIOR LOAD CONDITIONS UNLESS SPECIFICALLY NOTED ON PLANS.
- ALL STRUCTURAL STEEL W-SHAPES (I-BEAMS) SHALL BE ASTM A992 GRADE 50.  
ALL STEEL ANGLES, PLATES, AND C-CHANNELS SHALL BE ASTM A36.  
ALL STEEL PIPE SHALL BE ASTM A53 GRADE B.
- STEEL BEAMS SHALL BE SUPPORTED AT EACH END WITH A MINIMUM BEARING LENGTH OF 3/4" AND FULL FLANGE WIDTH PROVIDES SOLID BEARING FROM BEAM SUPPORT TO FOUNDATION. BEAMS SHALL BE ATTACHED TO EACH SUPPORT WITH TWO (2) LAG SCREWS (1/2" x 4" LONG). LATERAL SUPPORT IS CONSIDERED ADEQUATE PROVIDED THE JOISTS ARE TOE NAILED TO THE SOLE PLATES, AND THE SOLE PLATES ARE NAILED OR BOLTED TO THE BEAM FLANGES @ 48" O.C.
- PROVIDE ANCHOR BOLT PLACEMENT PER SECTION 403.1.6: 1/2" ANCHOR BOLTS SPACED AT 6'-0" O.C. AND PLACED 12" FROM THE END OF EACH PLATE SECTION. ANCHOR BOLTS SHALL BE SPACED AT 3'-0" O.C. FOR BASEMENTS. ANCHOR BOLT SHALL EXTEND 7" INTO CONCRETE OR MASONRY. THE BOLTS SHALL BE LOCATED IN THE MIDDLE THIRD OF THE WIDTH OF THE PLATE. THERE SHALL BE A MINIMUM TWO ANCHOR BOLTS PER PLATE SECTION.
- FOUNDATION DRAINAGE-DAMP PROOFING OR WATERPROOFING PER SECTION 405 AND 406 OF NC BUILDING CODE.
- WALL AND ROOF CLADDING VALUES:  
WALL CLADDING SHALL BE DESIGNED FOR 28.0 POUNDS PER SQUARE FOOT (LBS/SQFT) OR GREATER POSITIVE AND NEGATIVE PRESSURE.  
ROOF VALUES BOTH POSITIVE AND NEGATIVE SHALL BE AS FOLLOWS:  
39.0 LBS/SQFT FOR ROOF PITCHES 0/12 TO 1/12  
36.0 LBS/SQFT FOR ROOF PITCHES 1/12 TO 2/12  
18.0 LBS/SQFT FOR ROOF PITCHES 2/12 TO 12/12  
MEAN ROOF HEIGHT 3/4" OR LESS
- FOR ROOF SLOPES FROM 2/12 THROUGH 4/12, BUILDER TO INSTALL 2 LAYERS OF 15# FELT PAPER.
- REFER TO SECTION R602.3 FOR FRAMING OF ALL WALLS OVER 10'-0" IN HEIGHT.
- PROVIDE CONTINUOUS SHEATHING PER SECTION 602.10.3 OF THE 2018 NRC.
- UPLIFT LOADS GREATER THAN 500# SHALL BE CONTINUOUSLY ANCHORED TO THE FOUNDATION.
- REFER TO TABLE N1102.1 FOR PRESCRIPTIVE BUILDING ENVELOPE THERMAL COMPONENT CRITERIA.
- PSL COLUMNS DESIGNED WITH MAXIMUM HEIGHT OF 9'-0" (U.N.O.)
- PROVIDE A MINIMUM OF 500# UPLIFT & LATERAL CONNECTION AT TOP AND BOTTOM OF PORCH COLUMNS. (U.N.O.)
- MAXIMUM MASONRY PER HEIGHT SHALL NOT EXCEED FOUR TIMES ITS LEAST HORIZONTAL DIMENSION.
- IT IS THE CONTRACTORS RESPONSIBILITY TO VERIFY ALL DIMENSIONS AND SQUARE FOOTAGE PRIOR TO CONSTRUCTION. TYNDALL ENGINEERING & DESIGN, PA IS NOT RESPONSIBLE FOR DIMENSION OR SQUARE FOOTAGE ERRORS ONCE CONSTRUCTION BEGINS.

**DEFINITIONS FOR COMMON ABBREVIATIONS**

ALT = ALTERNATE	MAX = MAXIMUM
CANT = CANTILEVER	MIN = MINIMUM
CJ = CEILING JOIST	NOM = NOMINAL
CMU = CONCRETE MASONRY UNIT	O.C. = ON CENTER
COL = COLUMN	PL = POINT LOAD
CONC = CONCRETE	PT = PRESSURE TREATED
CONT = CONTINUOUS	REIN = REINFORCED
CT = COLLAR TIE	REQD = REQUIRED
DBL = DOUBLE	RJ = ROOF JOIST
DIA = DIAMETER	RS = ROOF SUPPORT
DJ = DOUBLE JOIST	SC = STUD COLUMN
DR = DOUBLE RAFTER	SCH = SCHEDULE
EA = EACH	SPEC = SPECIFIED
EE = EACH END	THK = THICK
FJ = FLOOR JOIST	TJ = TRIPLE JOIST
FND = FOUNDATION	TRTD = TREATED
FTG = FOOTING	TYP = TYPICAL
GALV = GALVANIZED	UNO = UNLESS NOTED OTHERWISE
HORIZ = HORIZONTAL	W = WIDE FLANGE BEAM
HT = HEIGHT	WVF = WELDED WIRE FABRIC
MANUF = MANUFACTURER	XJ = EXTRA JOIST

**1) MAXIMUM HEIGHT OF DECK SUPPORT POSTS AS FOLLOWS:**

POST SIZE	MAX. POST HEIGHT**
4 x 4	8'-0"
6 x 6	20'-0"
***	OVER 20'-0"

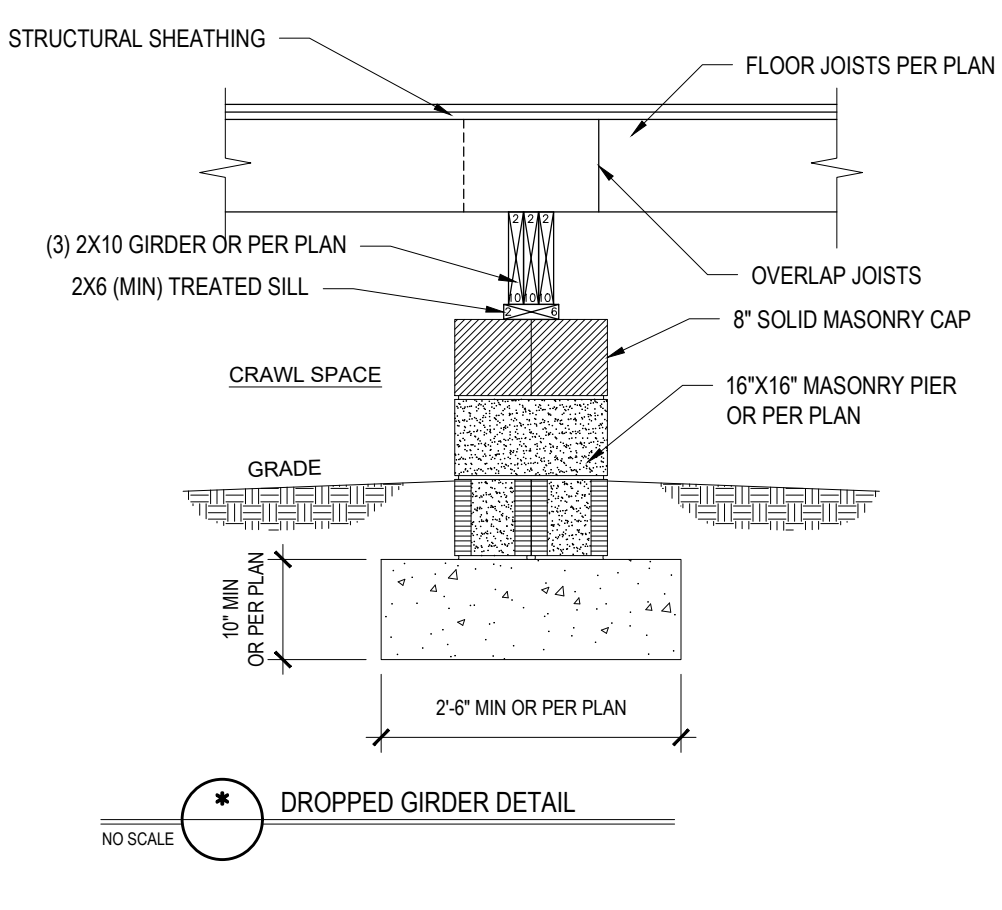
\* THIS TABLE IS BASED ON NO. 2 TREATED SOUTHERN PINE POSTS. MAXIMUM TRIBUTARY AREA IS BASED ON 128 TOTAL SQUARE FEET WHICH MAY BE LOCATED AT DIFFERENT LEVELS.  
\*\* FROM TOP OF FOOTING TO BOTTOM OF GIRDER.  
\*\*\* DECKS WITH POST HEIGHTS OVER 20'-0" SHALL BE DESIGNED AND SEALED BY A PROFESSIONAL ENGINEER OR REGISTERED ARCHITECT.

**2) DECKS SHALL BE BRACED TO PROVIDE LATERAL STABILITY BY ONE OF THESE METHODS:**

- THE DECK FLOOR HEIGHT IS LESS THAN 4'-0" AND THE DECK IS ATTACHED TO THE STRUCTURE IN ACCORDANCE WITH SECTION (4) ABOVE. LATERAL BRACING IS NOT REQUIRED.
- 4 x 4 WOOD KNEE BRACES MAY BE PROVIDED ON EACH COLUMN IN BOTH DIRECTIONS. THE KNEE BRACES SHALL ATTACH TO EACH POST AT A POINT NOT LESS THAN 1/3 OF THE POST LENGTH FROM THE TOP OF THE POST, AND THE BRACES SHALL BE ANGLED BETWEEN 45° AND 60° FROM THE HORIZONTAL. KNEE BRACES SHALL BE BOLTED TO THE POST AND GIRDER WITH ONE 5/8" Ø HOT DIPPED GALVANIZED BOLT AT EACH END OF THE BRACE.
- FOR FREESTANDING DECKS WITHOUT KNEE BRACES OR DIAGONAL BRACING, LATERAL STABILITY MAY BE PROVIDED BY EMBEDDING THE POSTS IN ACCORDANCE WITH THE FOLLOWING.

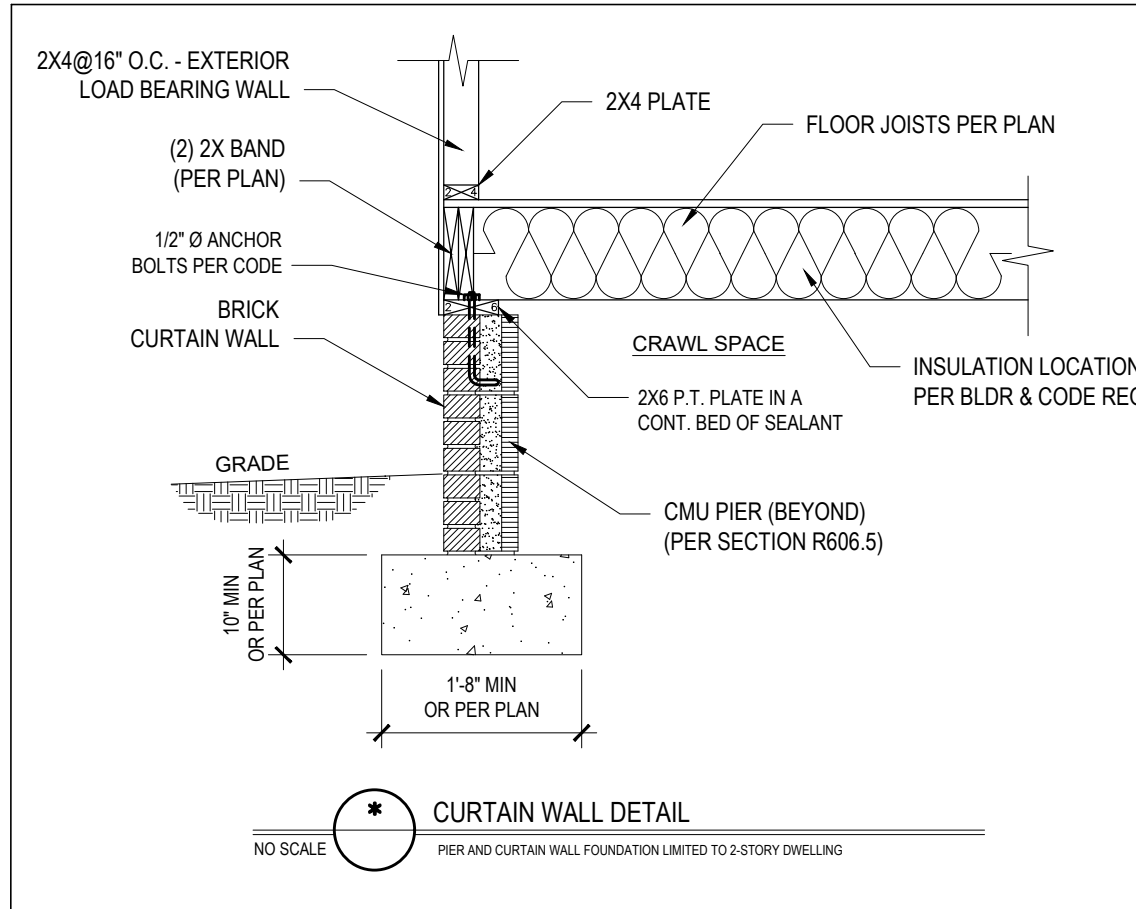
POST SIZE	MAX. TRIBUTARY AREA	MAX. POST HEIGHT	EMBEDMENT DEPTH	CONCRETE DIAMETER
4 x 4	48 SQ. FT.	4'-0"	2'-6"	1'-0"
6 x 6	120 SQ. FT.	6'-0"	3'-6"	1'-8"

- 2 x 6 DIAGONAL VERTICAL CROSS BRACING MAY BE PROVIDED IN TWO (2) PERPENDICULAR DIRECTIONS FOR FREESTANDING DECKS OR PARALLEL TO THE STRUCTURE AT THE EXTERIOR COLUMN LINE FOR ATTACHED DECKS. THE 2 x 6 SHALL BE ATTACHED TO THE POSTS WITH ONE 5/8" Ø HOT DIPPED GALVANIZED BOLT AT EACH END OF EACH BRACING MEMBER.
- FOR EMBEDMENT OF PILES IN COASTAL REGIONS, SEE CHAPTER 46.



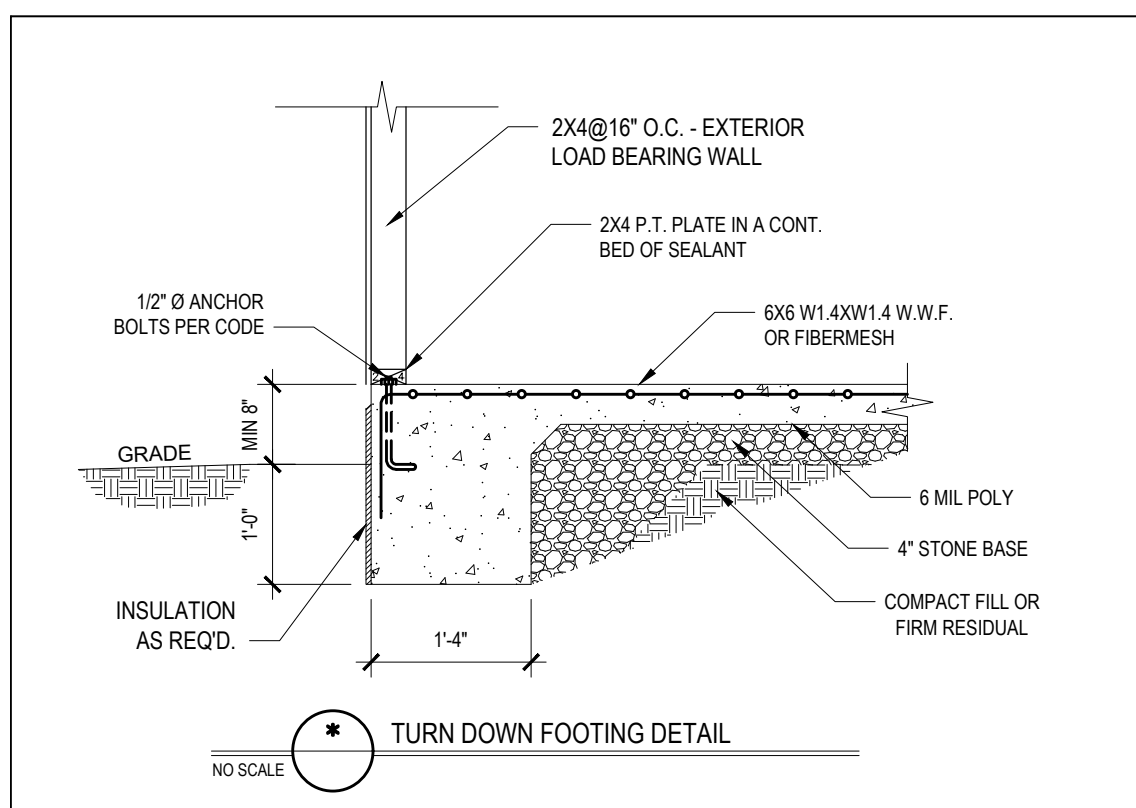
**\* DROPPED GIRDER DETAIL**

NO SCALE



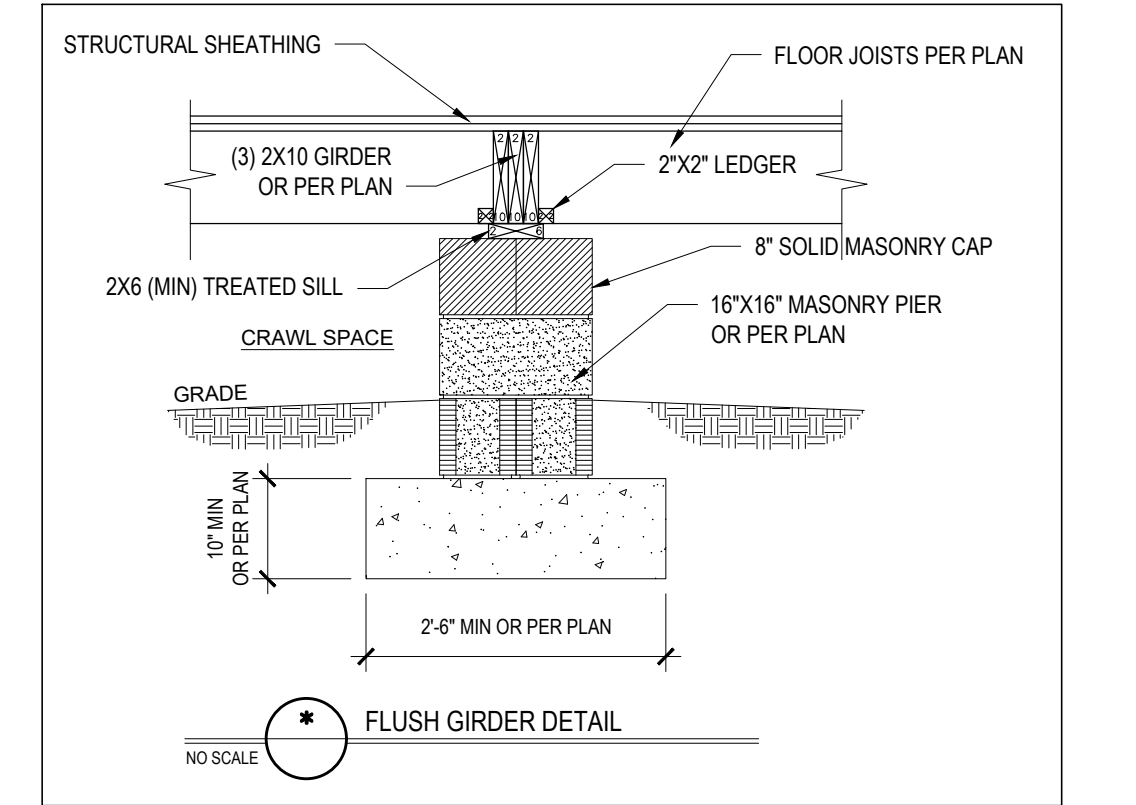
**\* CURTAIN WALL DETAIL**

PER AND CURTAIN WALL FOUNDATION LIMITED TO 2 STORY DWELLING



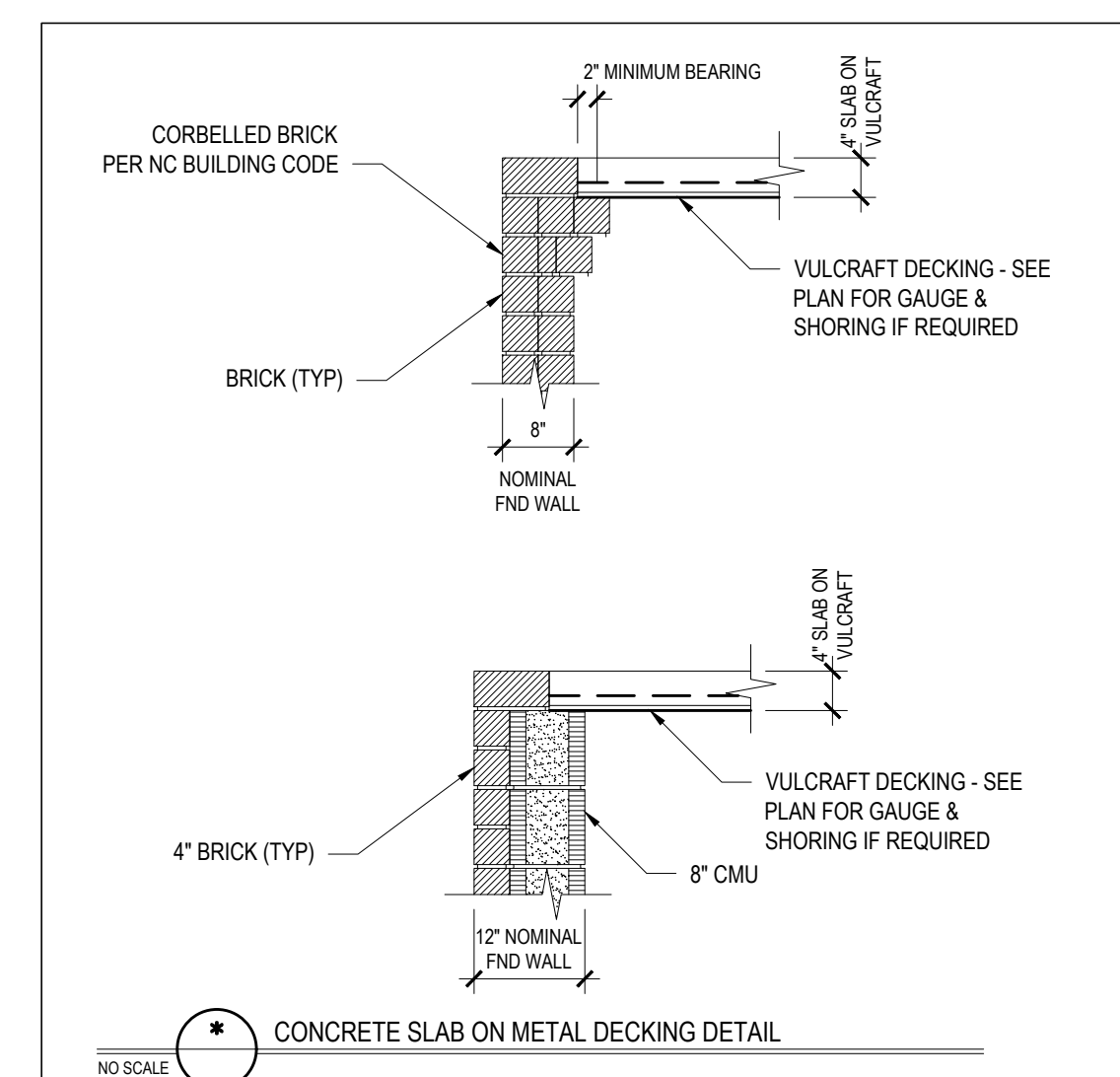
**\* TURN DOWN FOOTING DETAIL**

NO SCALE



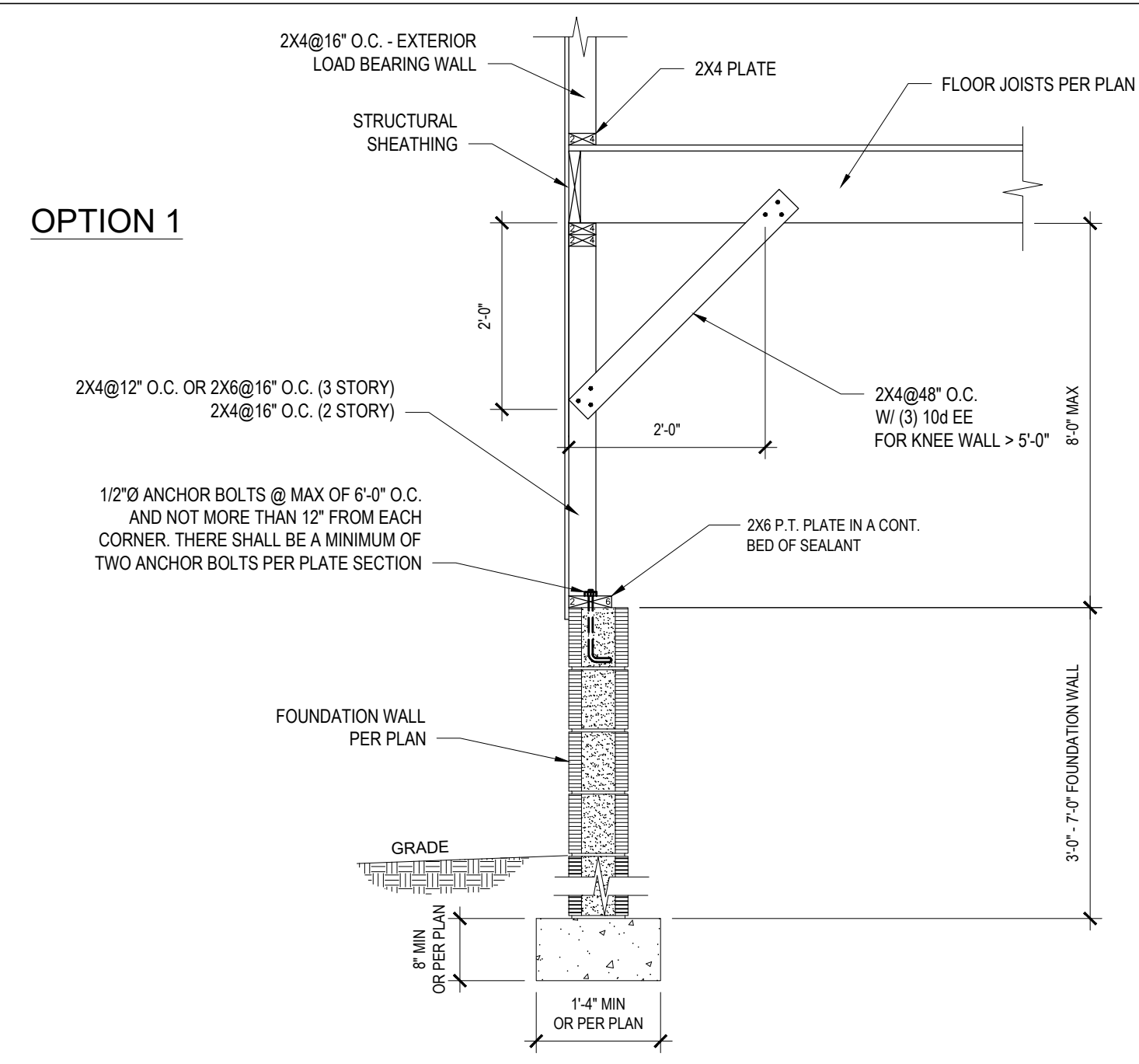
**\* FLUSH GIRDER DETAIL**

NO SCALE

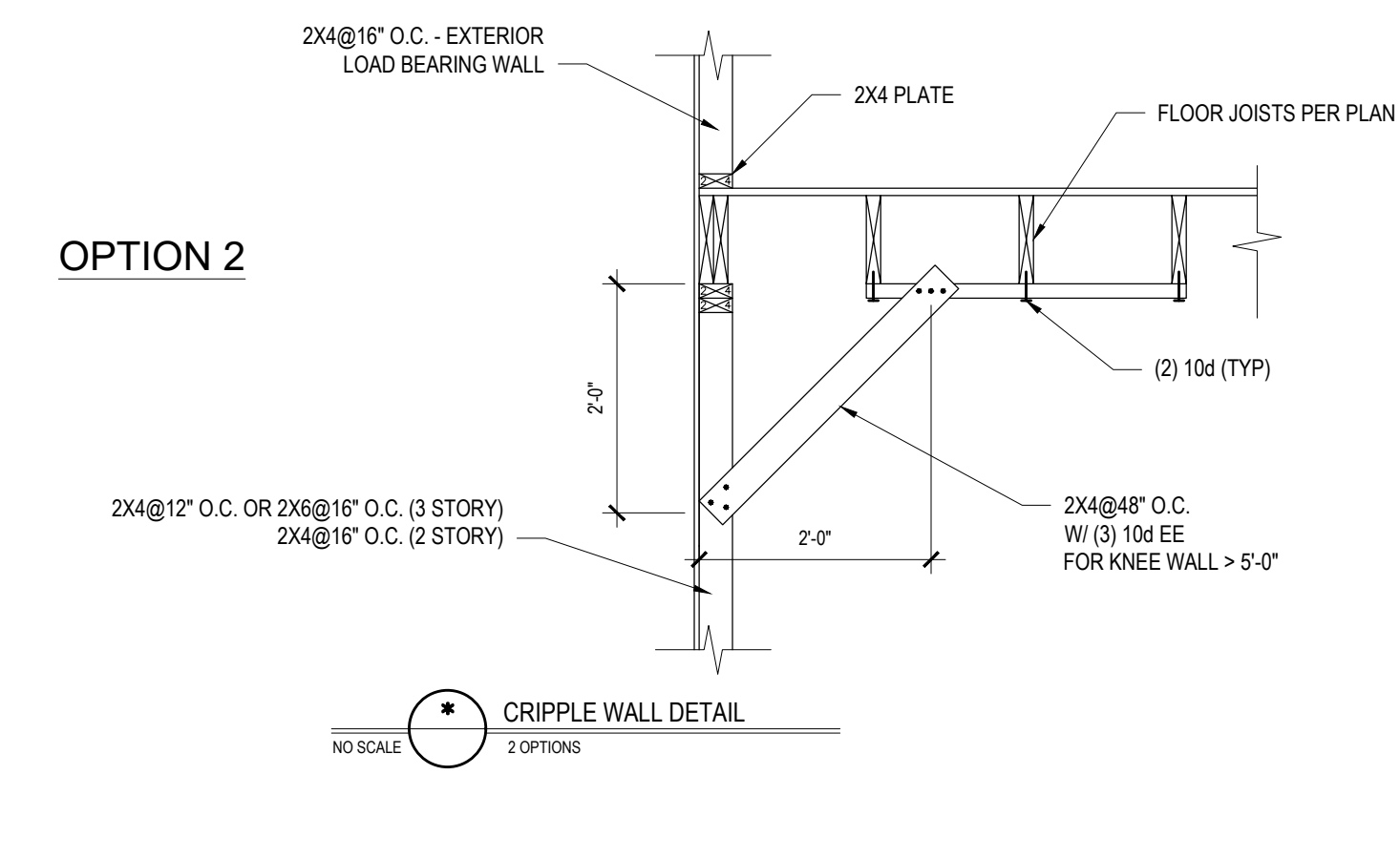


**\* CONCRETE SLAB ON METAL DECKING DETAIL**

NO SCALE



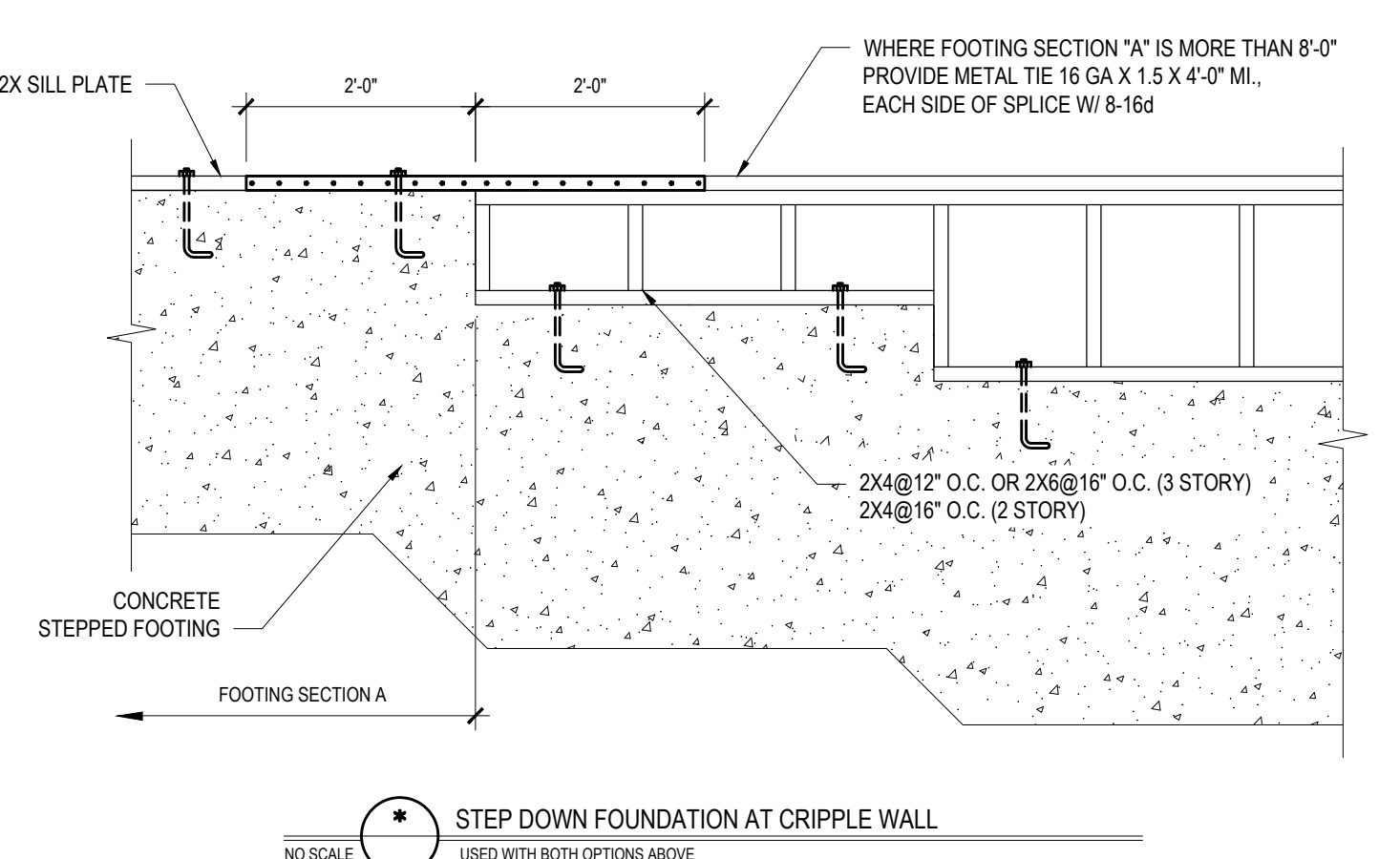
**OPTION 1**



**OPTION 2**

**\* CRIPPLE WALL DETAIL**

NO SCALE

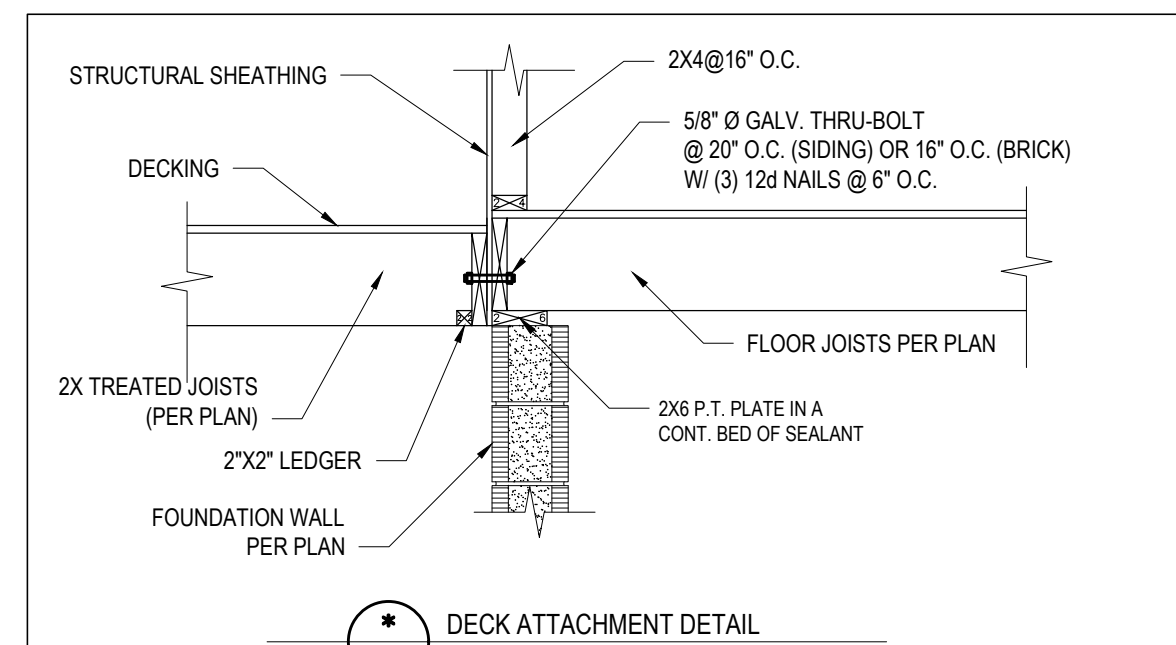


**\* STEP DOWN FOUNDATION AT CRIPPLE WALL**

NO SCALE

WHERE FOOTING SECTION 'A' IS MORE THAN 8'-0" PROVIDE METAL TIE 16 GA X 1.5 X 4'-0" MIN. EACH SIDE OF SPLICE W/ 8-16d

USED WITH BOTH OPTIONS ABOVE. NOTE: WHERE FOOTING SECTION 'A' IS LESS THAN FEET LONG IN A 25 FEET TOTAL LENGTH WALL, PROVIDE BRACING AT CRIPPLE STUD WALL.



**\* DECK ATTACHMENT DETAIL**

NO SCALE

CLIMATE ZONES	FENESTRATION U-FACTOR <sup>a</sup>	SKYLIGHT U-FACTOR <sup>b</sup>	GLAZED FENESTRATION SHGC <sup>c,d,e</sup>	CEILING <sup>f</sup>	WOOD FRAMED WALL <sup>g</sup>	MASS WALL R-VALUE <sup>h</sup>	FLOOR R-VALUE <sup>i</sup>	BASEMENT WALL R-VALUE <sup>j</sup>	SLAB R-VALUE AND DEPTH <sup>k</sup>	CRRAWL SPACE R-VALUE <sup>l</sup>
3	0.35	0.55	0.30	38 or 30 cont <sup>1</sup>	15 or 13 + 2.5 <sup>2</sup>	5/13 or 5/10 cont <sup>3</sup>	19	5/13 <sup>4</sup>	0	5/13
4	0.35	0.55	0.30	38 or 30 cont <sup>1</sup>	15 or 13 + 2.5 <sup>2</sup>	5/13 or 5/10 cont <sup>3</sup>	19	10/15	10	10/15
5	0.35	0.55	NR	38 or 30 cont <sup>1</sup>	19, or 13 + 5 <sup>2</sup> or 13 + 3 <sup>2</sup>	13/17 or 13/12.5 cont <sup>3</sup>	30 <sup>4</sup>	10/15	10	10/15

**TABLE N1102.1 CLIMATE ZONES 3-5**

\* R-VALUES ARE MINIMUM. U-FACTORS AND SHGC ARE MAXIMUMS. WHEN INSULATION IS INSTALLED IN A CAVITY WHICH IS LESS THAN THE LABEL OR DESIGN THICKNESS OF THE INSULATION, THE INSTALLED R-VALUE OF THE INSULATION SHALL NOT BE LESS THAN THE R-VALUE SPECIFIED IN THE TABLE.

<sup>a</sup> FENESTRATION U-FACTOR COLUMN EXCLUDES SKYLIGHTS. THE SOLAR HEAT GAIN COEFFICIENT (SHGC) COLUMN APPLIES TO ALL GLAZED FENESTRATION.

<sup>b</sup> SKYLIGHT U-FACTOR IS CONTINUOUS INSULATION APPLIED ON THE INTERIOR OR EXTERIOR OF THE ROOF OR IN A CAVITY INSULATION AT THE INTERIOR OF THE BASEMENT WALL OR CRAWL SPACE WALL.

<sup>c</sup> FOR MONOLITHIC SLAB INSULATION SHALL BE APPLIED FROM THE INSULATION GAP DOWNWARD TO THE BOTTOM OF THE FOOTING OR MINIMUM 2" BELOW GRADE. WHEN INSULATED, THE INSULATION SHALL EXTEND TO THE BOTTOM OF THE FOUNDATION WALL, OR 2" ABOVE GRADE. R-10 SHALL BE ADDED TO THE REQUIRED SLAB EDGE R-VALUES FOR HEATED SLABS.

<sup>d</sup> SELECT:

<sup>e</sup> BASEMENT WALL INSULATION IS NOT REQUIRED IN WINTERHEATING LOCATIONS AS DEFINED BY EQUATION N1102.1.7 AND TABLE N1102.1.7.

<sup>f</sup> OR INSULATION EQUIVALENT TO FILL THE FRAMING CAVITY. 10" MINIMUM.

<sup>g</sup> THE FIRST VALUE IS CAVITY INSULATION. THE SECOND VALUE IS CONTINUOUS INSULATION. 10" 1/4" MEANS R-13 CAVITY INSULATION PLUS R-10 INSULATED SHEATHING. 15" 0" MEANS R-15 CAVITY INSULATION. PLUS R-3 INSULATED SHEATHING. EXTERIOR SHEATHING COVERS 25% OR LESS OF THE EXTERIOR. INSULATED SHEATHING IS NOT REQUIRED WHERE THE STRUCTURAL SHEATHING IS USED. EXTERIOR SHEATHING COVERS MORE THAN 25% PRESENT. IF THE EXTERIOR SHALL BE SHEATHED WITH INSULATION, SHEATHING IS AT LEAST 1/2" 1/2" MEANS R-13 CAVITY INSULATION PLUS R-3 SHEATHING.

<sup>h</sup> FOR MASS WALLS THE SECOND R-VALUE APPLIES WHEN MORE THAN HALF THE INSULATION IS ON THE INTERIOR MASS WALL.

<sup>i</sup> IN ADDITION TO THE EXEMPTION IN SECTION N1102.3.3, A MAXIMUM OF TWO GLAZED FENESTRATION PRODUCT ASSEMBLIES HAVING A U-FACTOR NO GREATER THAN 0.35 SHALL BE PERMITTED TO BE SUBSTITUTED FOR MINIMUM CODE COMPLIANT FENESTRATION PRODUCT ASSEMBLIES WITHOUT PENALTY.

<sup>j</sup> IN ADDITION TO THE EXEMPTION IN SECTION N1102.3.3, A MAXIMUM OF TWO GLAZED FENESTRATION PRODUCT ASSEMBLIES HAVING A SHGC NO GREATER THAN 0.35 SHALL BE PERMITTED TO BE SUBSTITUTED FOR MINIMUM CODE COMPLIANT FENESTRATION PRODUCT ASSEMBLIES WITHOUT PENALTY.

<sup>k</sup> R-10 SHALL BE ADDED TO THE REQUIRED INSULATION REQUIREMENT WHEREVER THE FULL HEIGHT OF AN INSULATION EXTENDS OVER THE WALL TOP PLATE OR THE EXTERIOR FINISH.

<sup>l</sup> TABLE VALUE REQUIRED EXCEPT FOR ROOF EDGE WHERE THE SPACE IS LIMITED BY THE PITCH OF THE ROOF. THERE THE INSULATION MUST FILL THE SPACE UP TO THE AIR BATTLE.

<sup>m</sup> 1" IS PERFORMED AS 2" COMPRESSED AND NOTED IN A FOOTING. 2" IS FRAMING CAVITY IS DEEMED TO COMPLY. INSULATION BATTES W/ R-10 OR HIGHER COMPRESSION AND INSTALLED IN A WALL IS NOT PERMITTED TO COMPLY.

<sup>n</sup> BASEMENT WALL MEETING THE MINIMUM MASS WALL SPECIFIC HEAT CONTENT REQUIREMENT MAY USE THE MASS WALL R-VALUE AS THE MINIMUM REQUIREMENT.

- SQ. FT. OF CRAWL SPACE / 150 = - SQ. FT. OF REOD VENTILATION WITHOUT CROSS VENTILATION  
- SQ. FT. OF VENTILATION REQD / 0.45 SQ.FT. PER VENT = - VENTS REQD

-OR-

- SQ. FT. OF CRAWL SPACE / 1500 = - SQ. FT. OF REOD VENTILATION WITH CROSS VENTILATION  
- SQ. FT. OF VENTILATION REQD / 0.45 SQ.FT. PER VENT = - VENTS REQD



**\* CRAWL SPACE VENTILATION CALCULATION**

NO SCALE

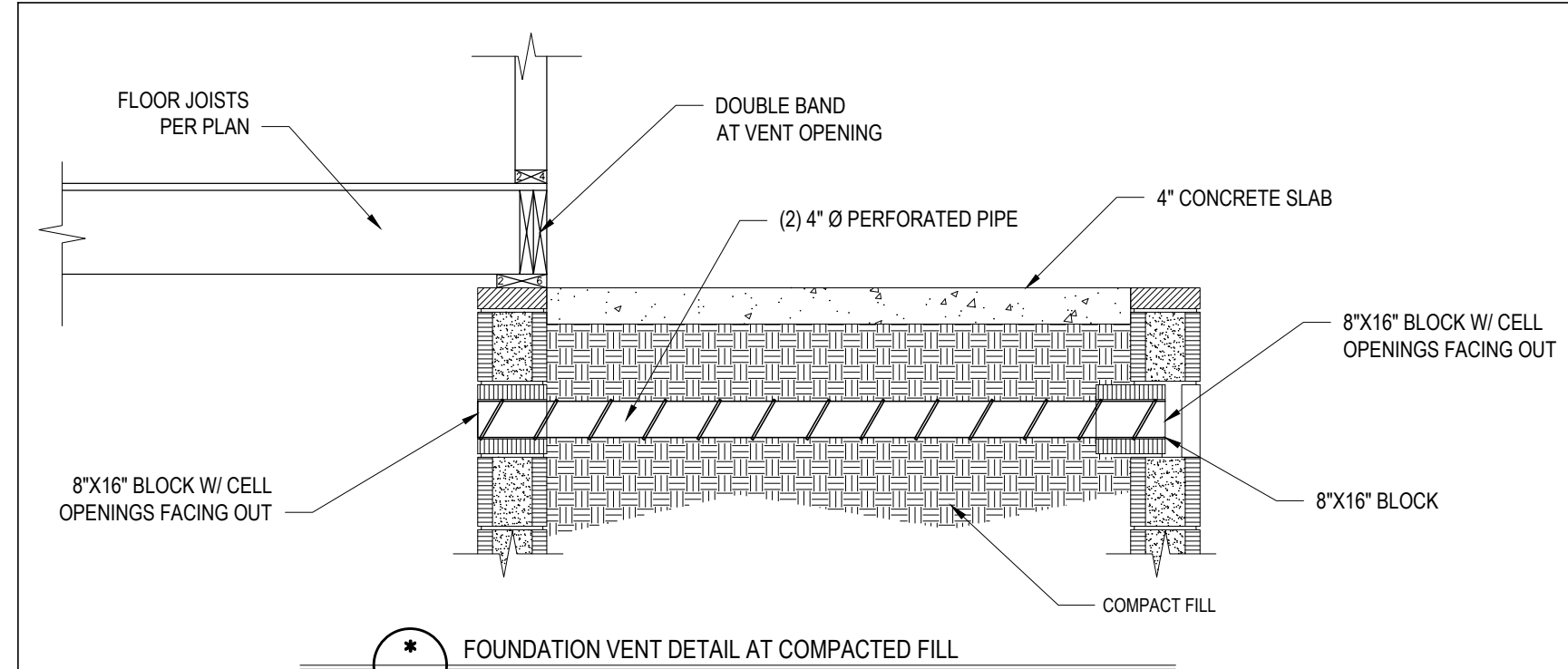
- SQ. FT. OF ATTIC / 300 = - SQ. FT. INLETS/OUTLETS REQUIRED

1) CALCULATION BASED ON VENTILATION USED AT LEAST 9" ABOVE THE CORNER VENTS WITH THE BALANCE OF VENTILATION PROVIDED BY OTHER VENTS.

2) CORNER VENTS SHALL HAVE A 1" MINIMUM CLEARANCE BETWEEN THE BOTTOM OF THE ROOF DECK AND THE INSULATION.

**\* ATTIC VENTILATION CALCULATION**

NO SCALE



**\* FOUNDATION VENT DETAIL AT COMPACTED FILL**

NO SCALE

Engineers and designers are not responsible for construction errors, omissions, or safety precautions. Any deviations or discrepancies on plans are to be brought to the attention of Tyndall Engineering & Design, P.A. in writing as soon as possible. Please review these documents carefully. Tyndall Engineering & Design, P.A. will interpret that all dimensions, recommendations, etc. presented in these documents were deemed acceptable once construction begins.

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**KRISTEN ARNOTT**  
ARCHITECT  
ARNOTT RESIDENCE

**STANDARD DETAILS**

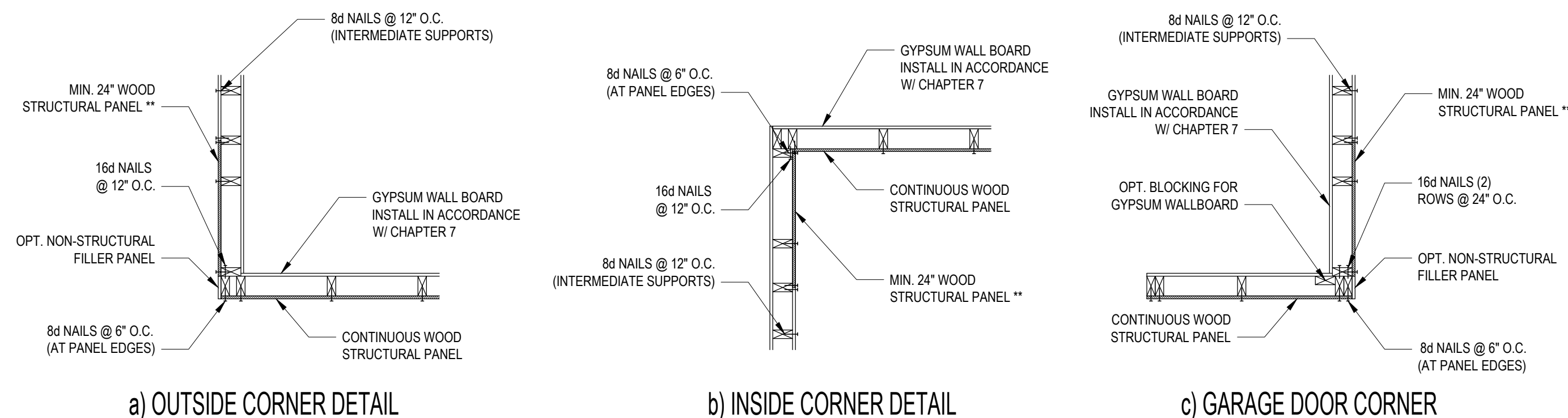
Project #: 2101-010119  
Date: 03/29/21  
Drawn/Design By: KFR  
DWG. Checked By: PAT  
Scale: SEE PLAN

No.	Date	Remarks

Sheet Number **D1**

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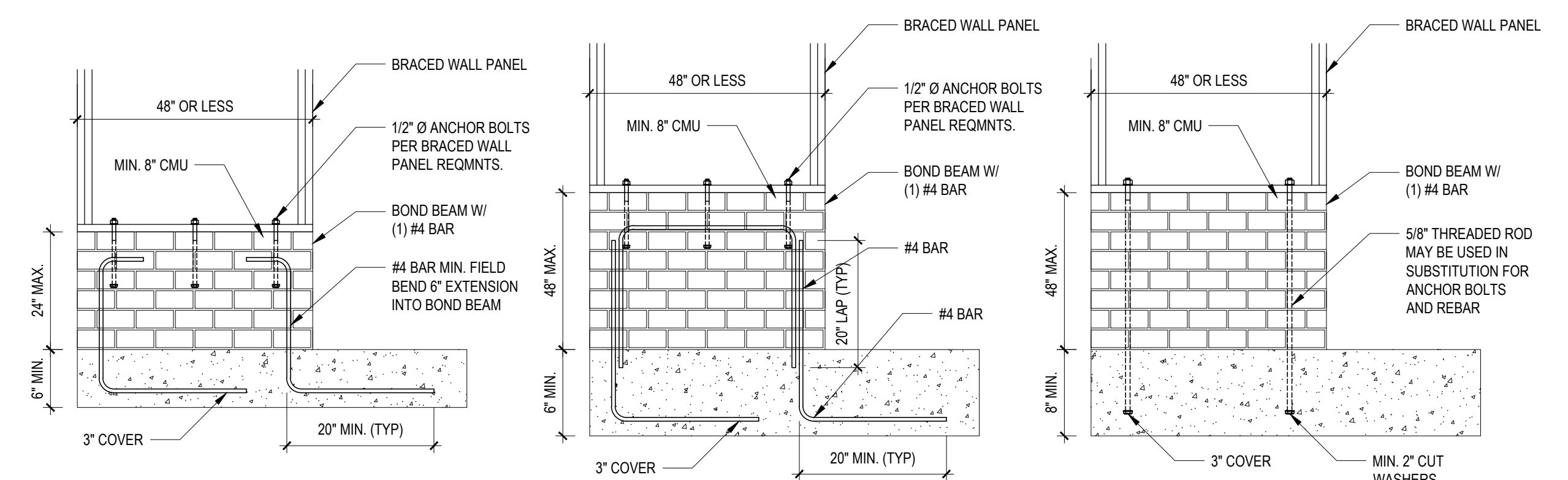
**B1: TYPICAL EXTERIOR CORNER FRAMING FOR CONTINUOUS SHEATHING**  
NO SCALE

- STRUCTURAL SHEATHING NOTES**
- DESIGNED FOR SEISMIC ZONE A-C AND WIND SPEEDS OF 120 MPH OR LESS.
  - WALLS SHALL BE BRACED IN ACCORDANCE WITH SECTION R602.10.3 OF THE 2018 NCR.
  - BRACING REQUIREMENTS SHALL BE PER TABLE R602.10.3. REFER TO SECTION R602.10.4 FOR LOAD PATH DETAILS INCLUDING CONNECTIONS & SUPPORT OF BRACED WALL PANELS.
  - REFERENCE FIGURE R602.10.4.3 OF THE 2018 NCR.
  - INTERIOR BRACED WALL PANELS (BWP) INDICATED SHALL BE SHEATHED IN ACCORDANCE WITH THE GB METHOD OR WSP METHOD AS PRESCRIBED IN SECTION R602.10.1 (UNO).
  - 12\"/>

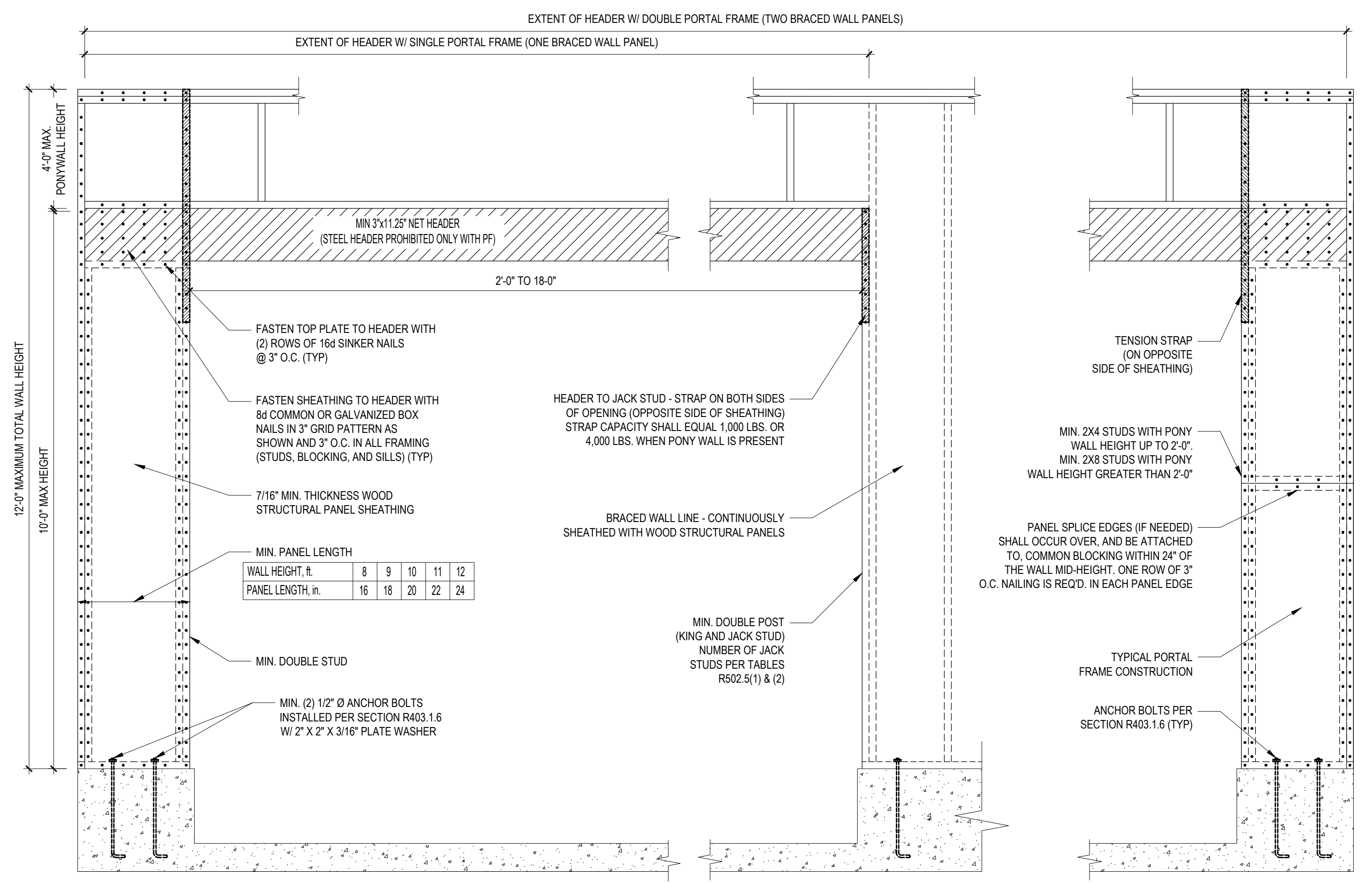
**REQUIRED BRACED WALL PANEL CONNECTIONS**

METHOD	MATERIAL	MIN. THICKNESS	REQUIRED CONNECTION	
			@ PANEL EDGES	@ INTERMEDIATE SUPPORTS
CS-WSP	WOOD STRUCTURAL PANEL	3/8"	6d COMMON NAILS @ 6" O.C.	6d COMMON NAILS @ 12" O.C.
GB	GYPSUM BOARD	1/2"	5d COOLER NAIL** @ 7" O.C.	5d COOLER NAIL** @ 7" O.C.
WSP	WOOD STRUCTURAL PANEL	3/8"	6d COMMON NAILS @ 6" O.C.	6d COMMON NAILS @ 12" O.C.

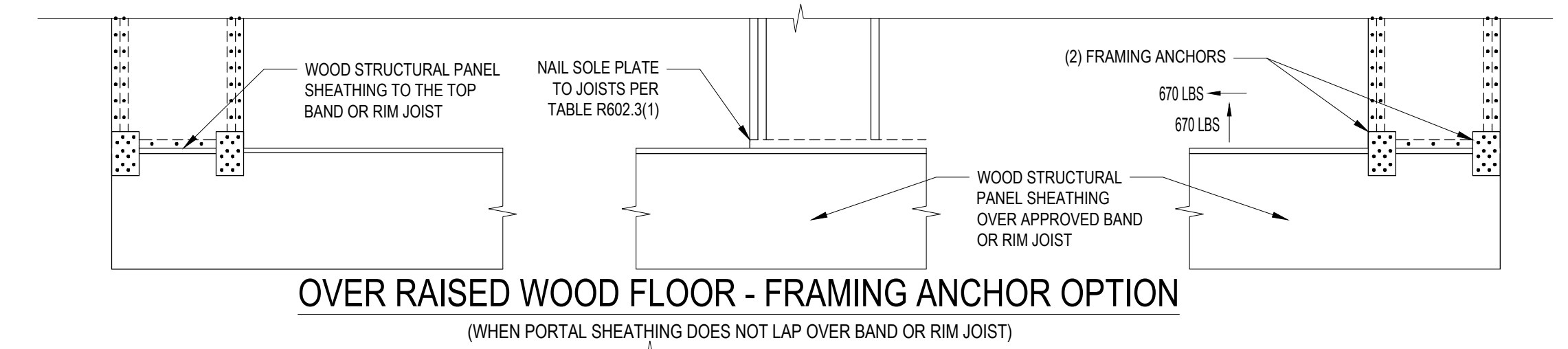
\*\*OR EQUIVALENT PER TABLE R702.3.5  
**B3: BRACE WALL PANEL CONNECTIONS**  
NO SCALE



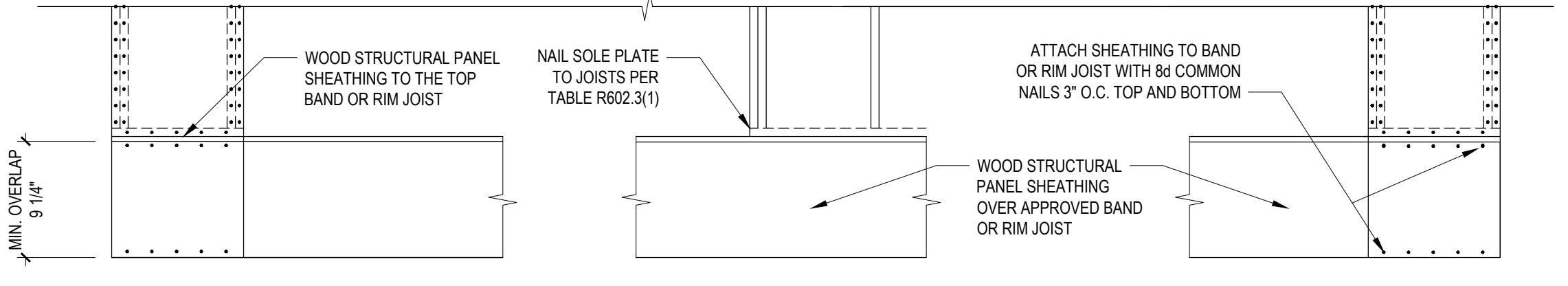
**B4: MASONRY STEM WALL SUPPORTING BRACED WALL PANELS**  
FIGURE R602.10.4.3 OF THE 2018 NCR  
NOTE: GROUT BOND BEAMS AND ALL CELLS WHICH CONTAIN REBAR, THREADED RODS AND ANCHOR BOLTS



**OVER CONCRETE OR MASONRY BLOCK FOUNDATION**



**OVER RAISED WOOD FLOOR - FRAMING ANCHOR OPTION**  
(WHEN PORTAL SHEATHING DOES NOT LAP OVER BAND OR RIM JOIST)



**OVER RAISED WOOD FLOOR - OVERLAP OPTION**  
(WHEN PORTAL SHEATHING LAPS OVER BAND OR RIM JOIST)

**B2: METHOD CS-PF: CONTINUOUSLY SHEATHED PORTAL FRAME**  
FIGURE R602.10.1

\*Engineers and designers do not include construction means, methods, techniques, sequences, procedures or safety precautions.  
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CLIENT: KRISTEN ARNOTT  
PROJECT: ARNOTT RESIDENCE

**SHEATHING DETAILS**

Project #: 2101-010119  
Date: 03/29/21  
Drawn/Design By: KFR  
DWG. Checked By: PAT  
Scale: SEE PLAN

**REVISIONS**

No.	Date	Remarks

Sheet Number  
**D3**  
7 of 7

FILENAME: \\ESDORINL\ENR\2021 STRUCTURE PROJECTS\2101-010119 - ARNOTT RESIDENCE - MAIN\FROM MAIN\ARNOTT\2101-010119-LEAD\DWG SHED BY RED LAST PLOT.DWG/16/03/2021 1:27 PM