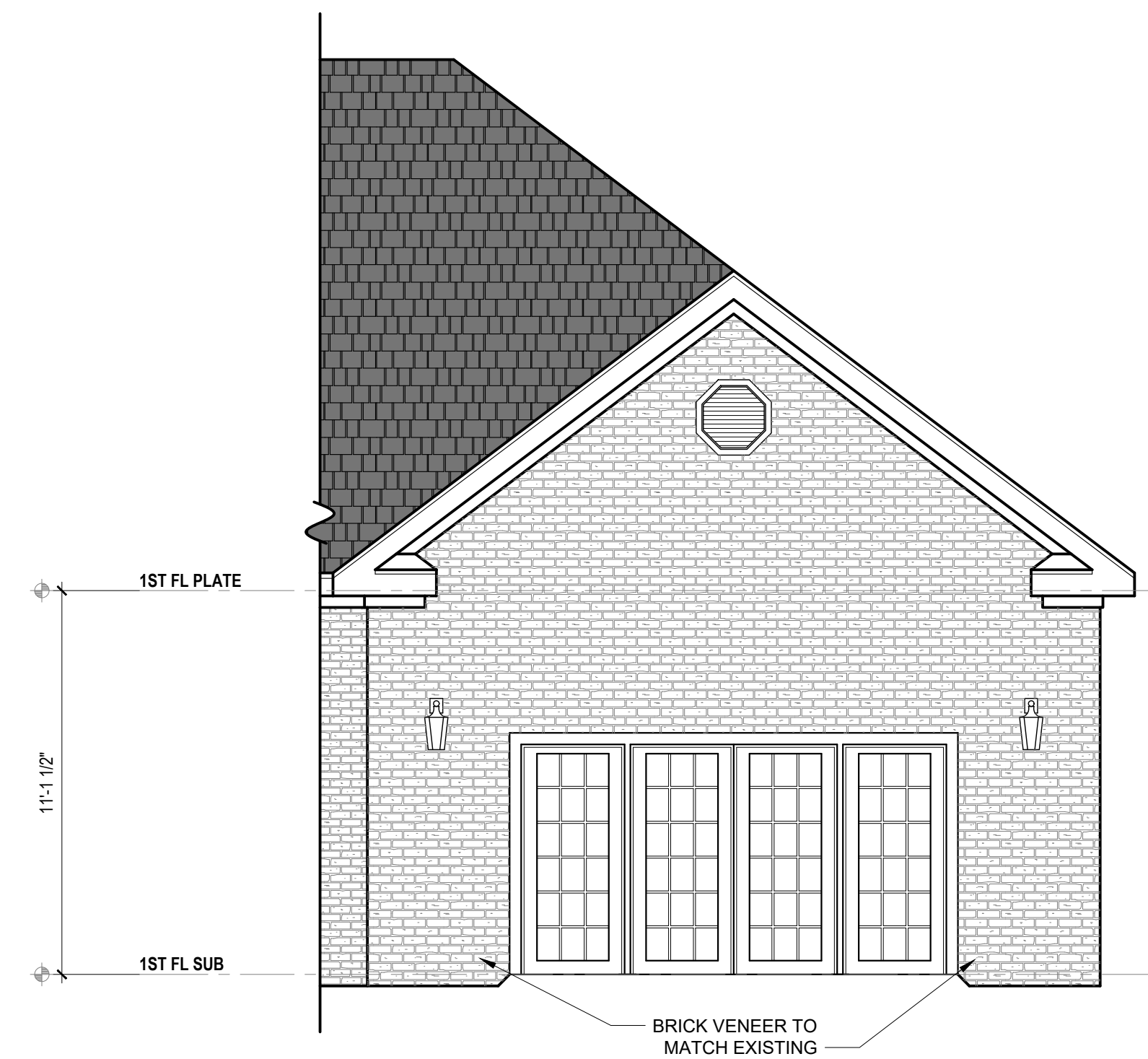


HUMPHREY GARAGE REMODEL



FRONT ELEVATION

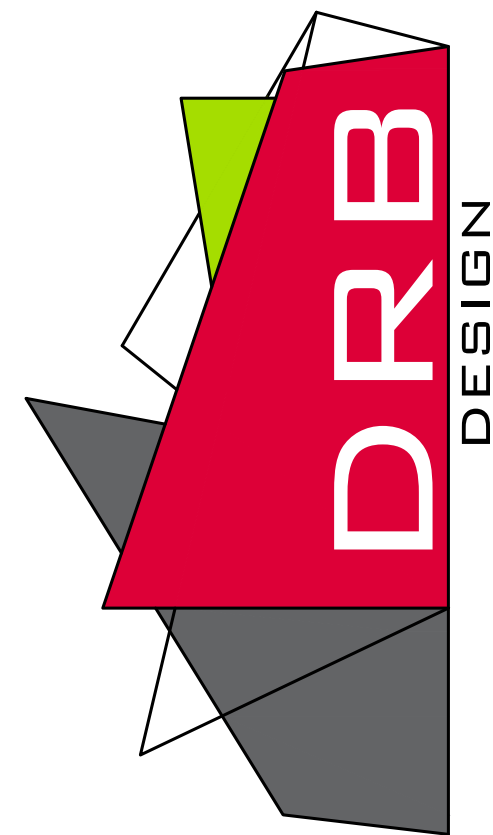
1/4" = 1'-0"

1. DRB DESIGN assumes no liability for any home constructed from this plan.
2. All construction shall conform to the latest requirements of "North Carolina State 2018 residential building code", in addition to all local codes and regulations.
3. Should these plans require structural calculations for permitting the contractor shall be required to obtain the services of a structural engineer after notifying DRB DESIGN that such services are required.
4. Release of these plans requires further cooperation among the owner, his/her contractor, and DRB DESIGN.
5. Design and construction are complex and, although the designer performed his services with due care and diligence, perfection is not a guarantee.
6. Communication is imperfect and every contingency cannot be anticipated.
7. Any ambiguity or discrepancy discovered by the use of these plans shall be reported immediately to DRB DESIGN. Failure to notify the DRB DESIGN compounds misunderstandings and increases construction costs.
8. A failure to cooperate by a simple notice to DRB DESIGN shall relieve the designer from any and all responsibilities for all consequences.
9. Changes made to these plans without the consent of the designer are unauthorized and shall relieve DRB DESIGN of responsibility for any and all consequences arising out of such changes.
10. Written dimensions on these plans always have precedence over scaled dimensions.
11. It is the contractor's responsibility to verify and be responsible for all dimensions and square footage prior to construction, as well as conditions on the job site. DRB DESIGN is not responsible for dimension and square footage errors once construction has begun.
12. DRB DESIGN must be notified of any variations from the dimensions and conditions shown on these drawings.

PROJECT#
DRB2201-0414
DATE
01/09/2023
DRAWN/DESIGNED BY
NW
CHECKED BY
DRB
SCALE
1/4" = 1'-0"

WEBSITE
drbhomedesign.com

PROJECT NAME
HUMPHREY
GARAGE

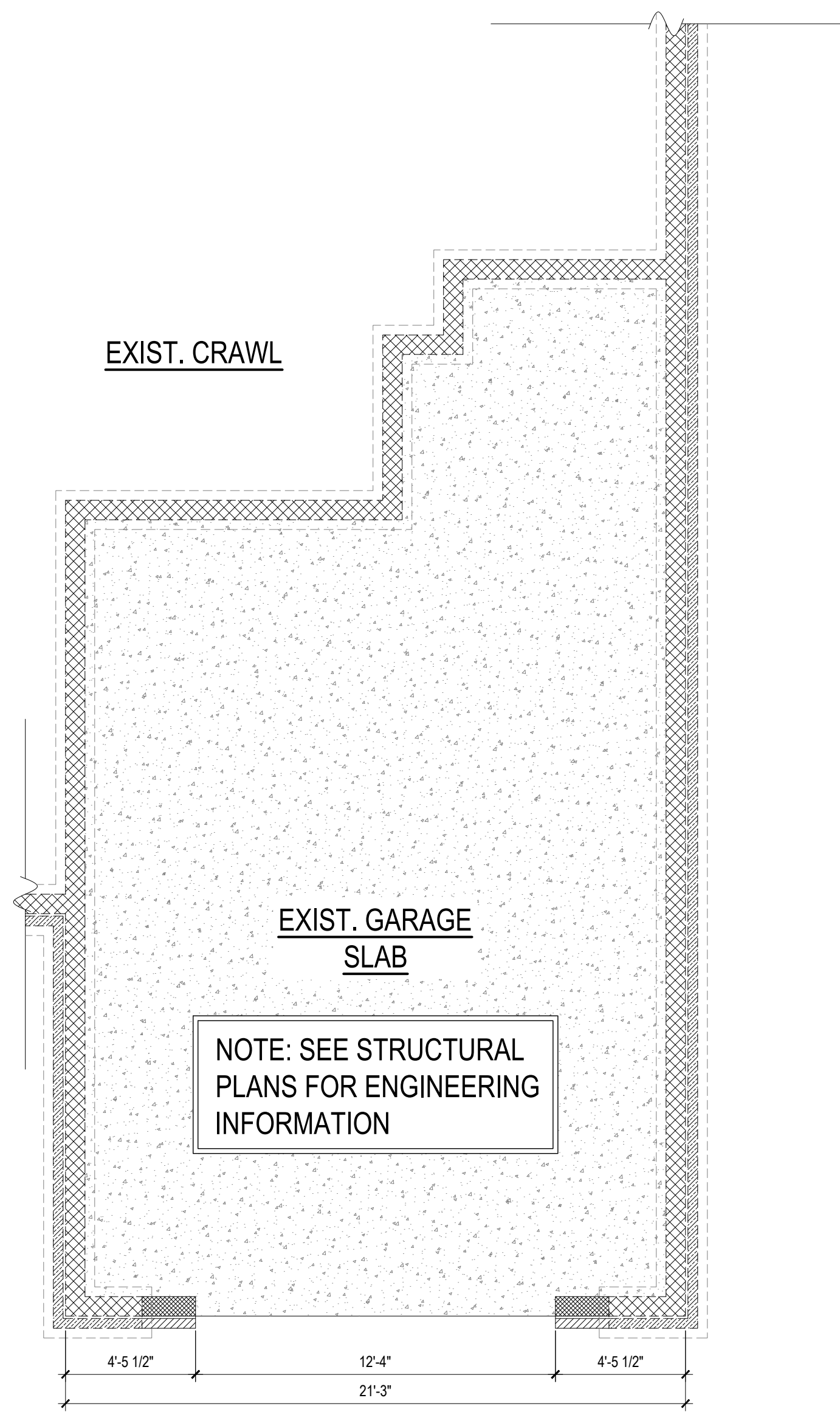


drbdesign@drbhomedesign.com 919.631.5979
250 Shipwash Dr Suite 105 Garner, NC 27529

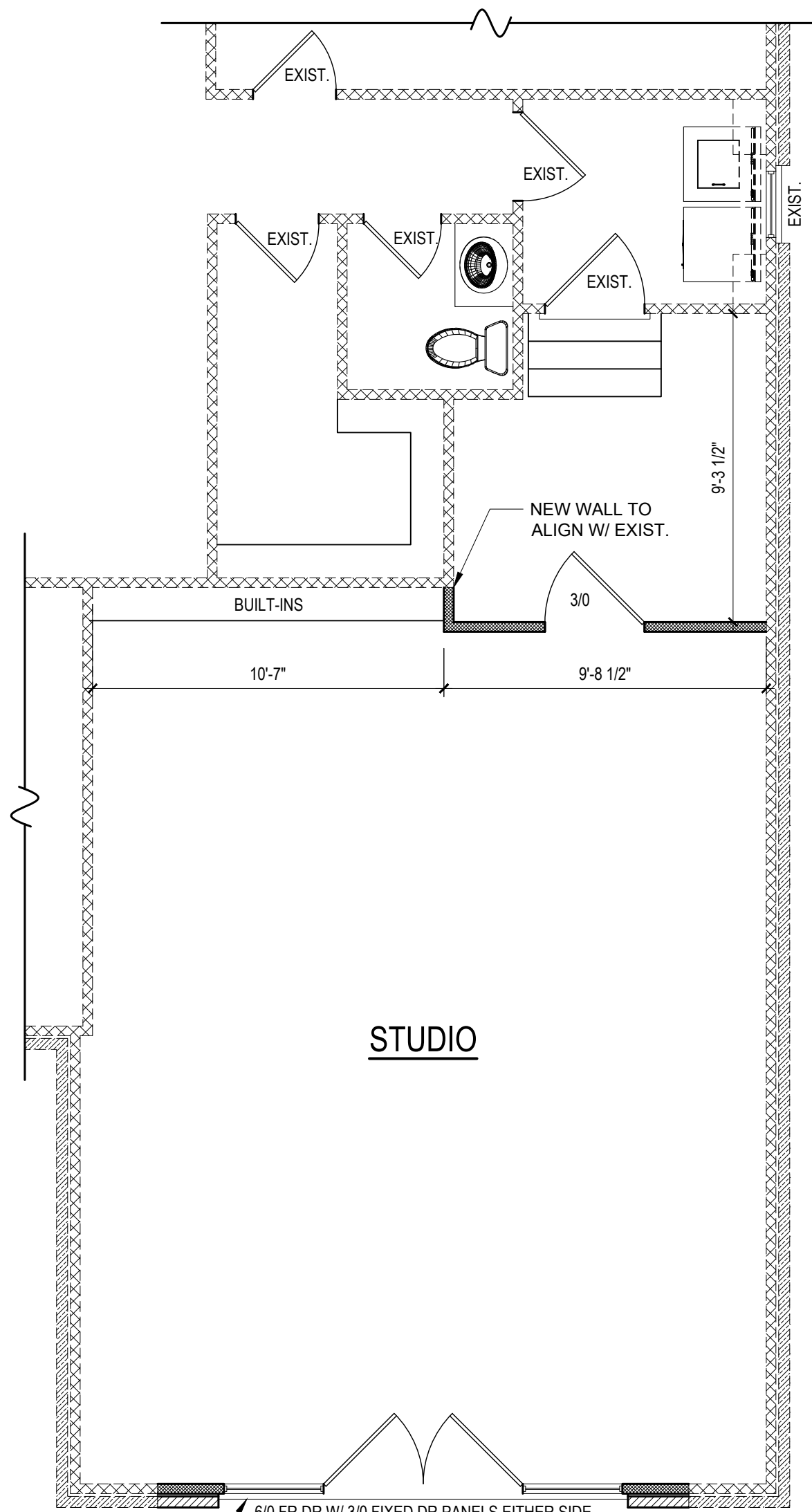
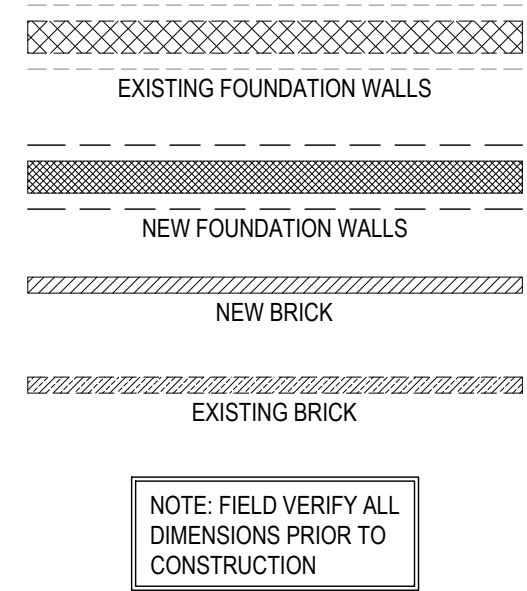
CLIENT NAME
Marie Humphrey
176 Tar Kiln Trl.
Fuquay-Varina, NC 27526
mewscats@aol.com
(919) 710-5888

SHEET NAME
ELEVATIONS

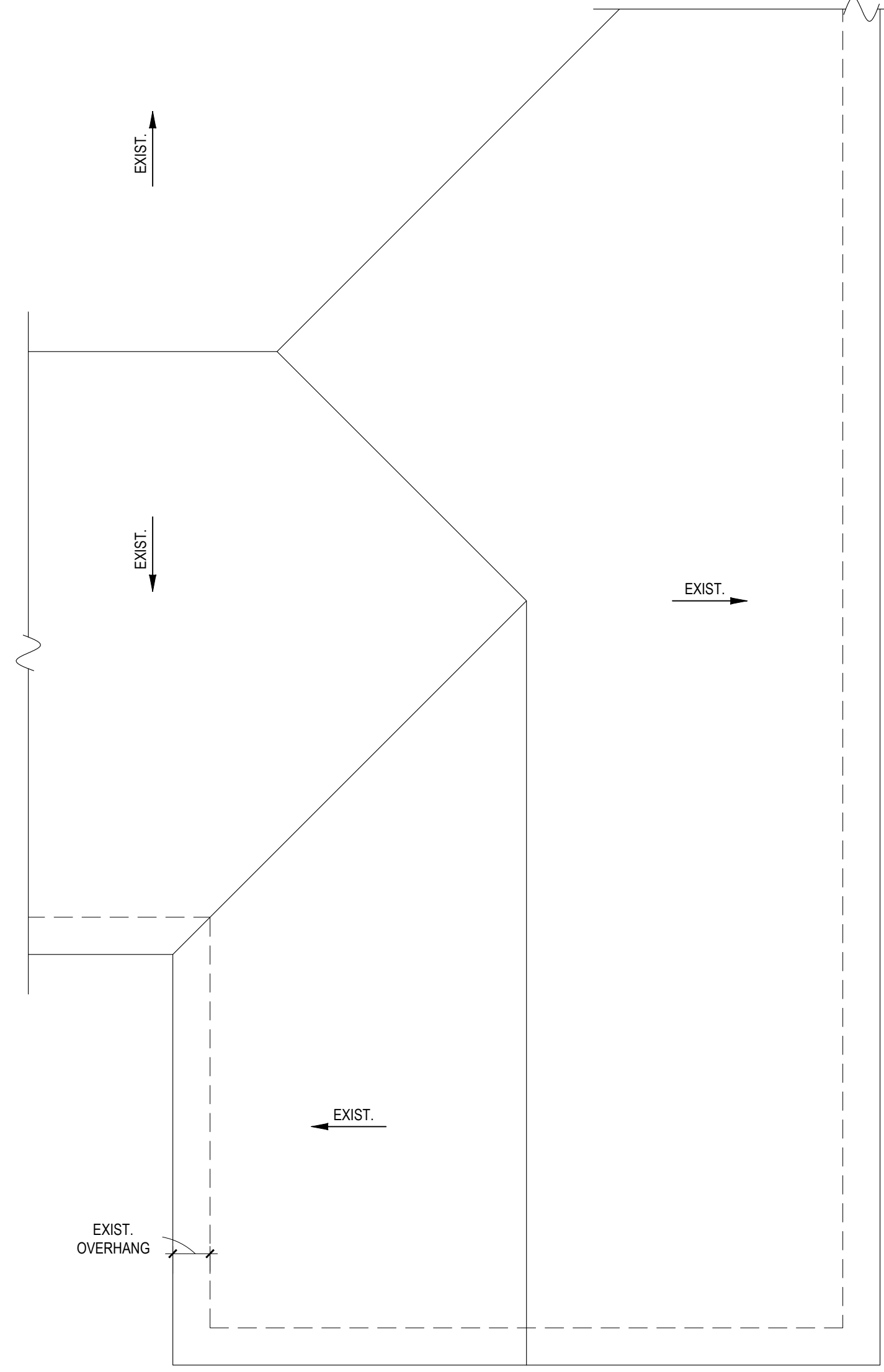
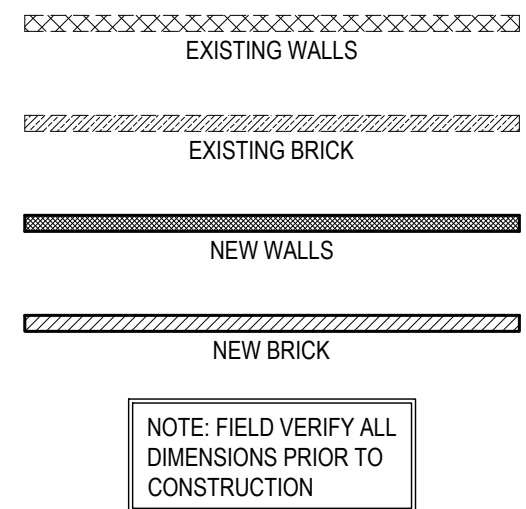
SHEET #
1
of 5



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



FIRST FLOOR PLAN
1/4" = 1'-0" CLG HGT. = EXIST.

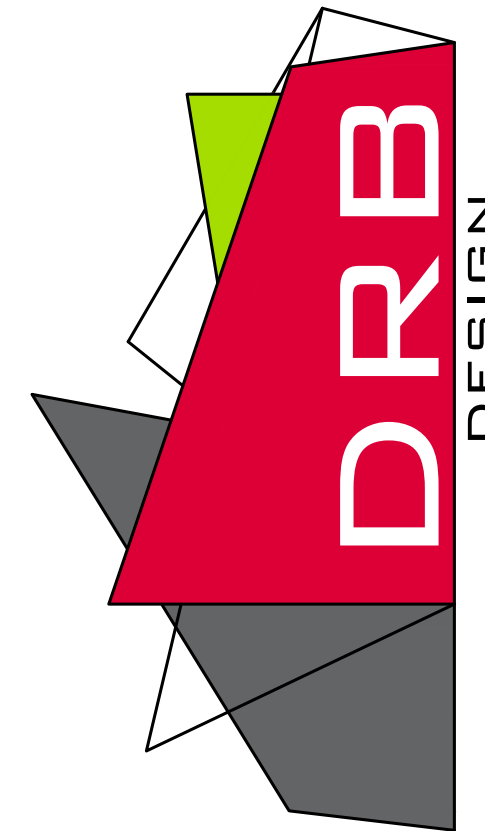


ROOF PLAN
1/4" = 1'-0"

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PROJECT #
DRB2201-0414
DATE
01/09/2023
DRAWN/DESIGNED BY
NW
CHECKED BY
DRB
SCALE
1/4" = 1'-0"

PROJECT NAME
HUMPHREY
GARAGE
WEBSITE
drbhomedesign.com



drbdesign@drbhomedesign.com 919.631.5979
250 Shipwash Dr Suite 105 Garner, NC 27529

CLIENT NAME
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SHEET NAME
PLANS

SHEET #
2
of 5

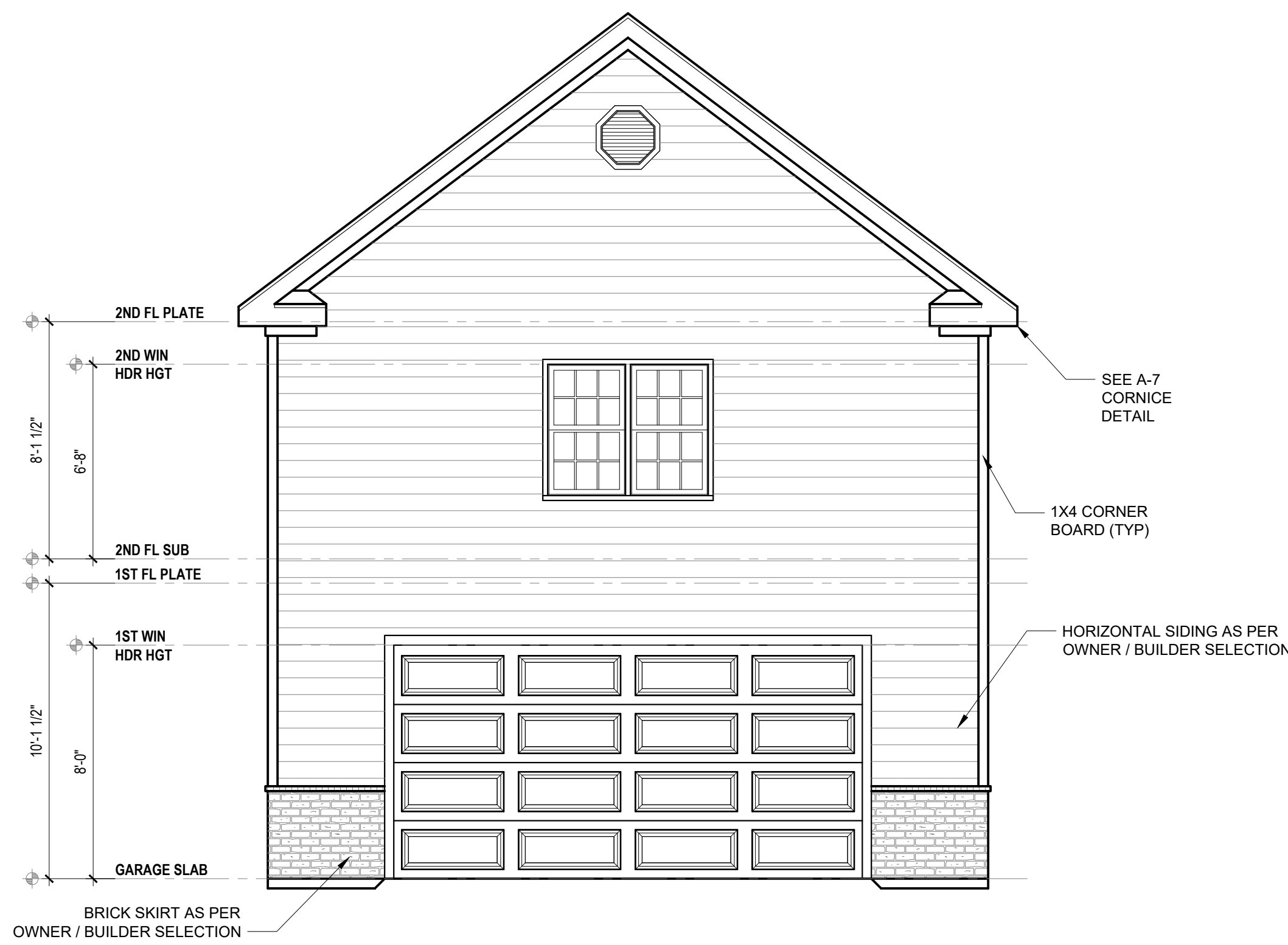
HUMPHREY DETACHED GARAGE

PROJECT#
DRB2201-0414
DATE
01/09/2023
DRAWN/DESIGNED BY
NW
CHECKED BY
DRB
SCALE
1/4" = 1'-0"

WEBSITE
drbhomedesign.com

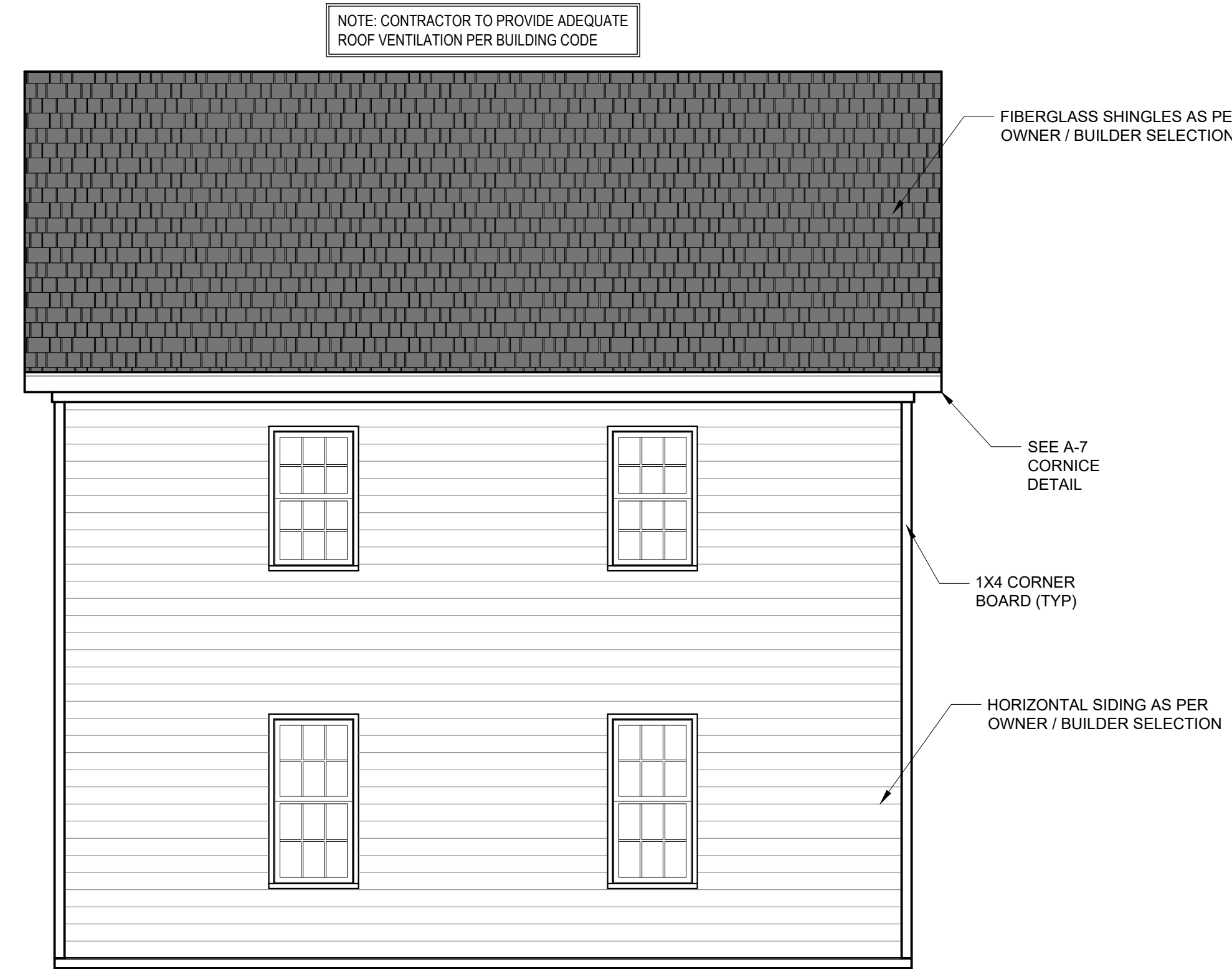
PROJECT NAME
HUMPHREY GARAGE

DESIGN
drbdesign@drbhomedesign.com 919.631.5979
250 Shipwash Dr Suite 105 Garner, NC 27529



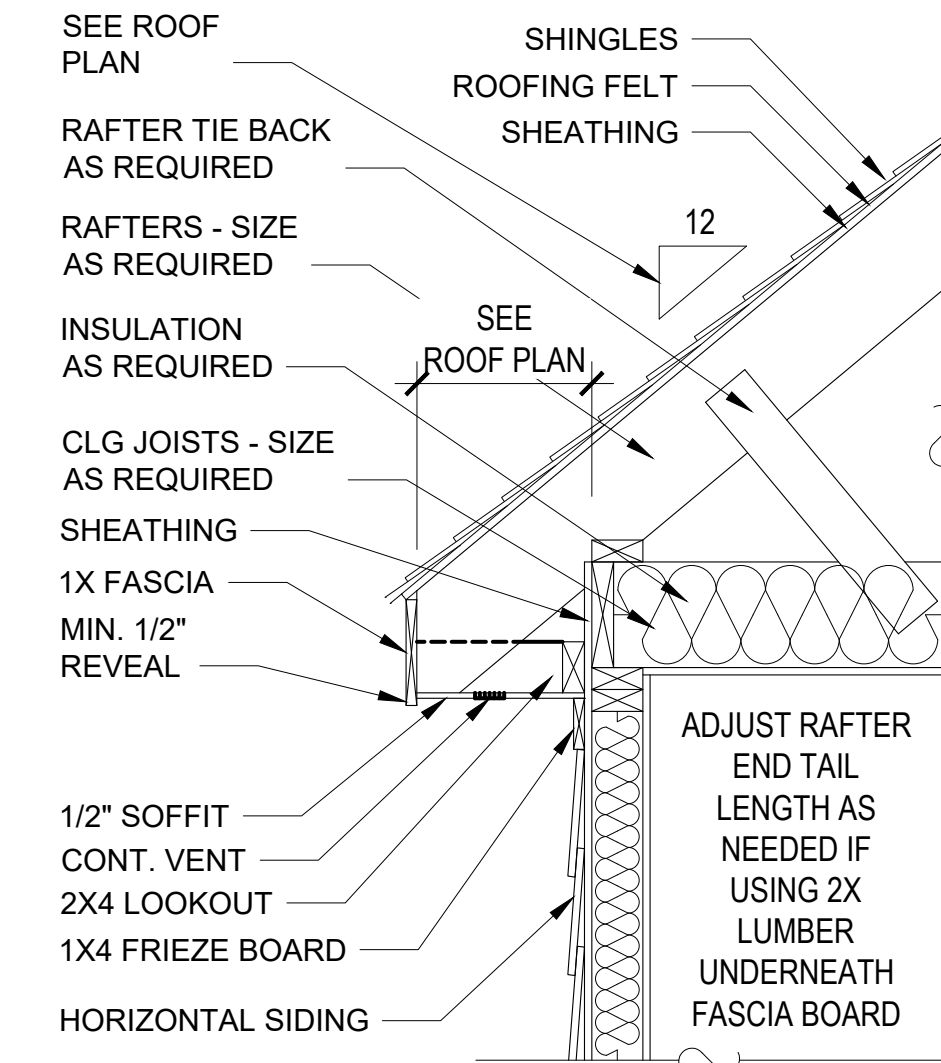
FRONT ELEVATION

1/4" = 1'-0"



RIGHT ELEVATION

1/4" = 1'-0"



A-7 CORNICE DETAIL

NTS

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SHEET NAME
ELEVATIONS

SHEET #
3

of 5

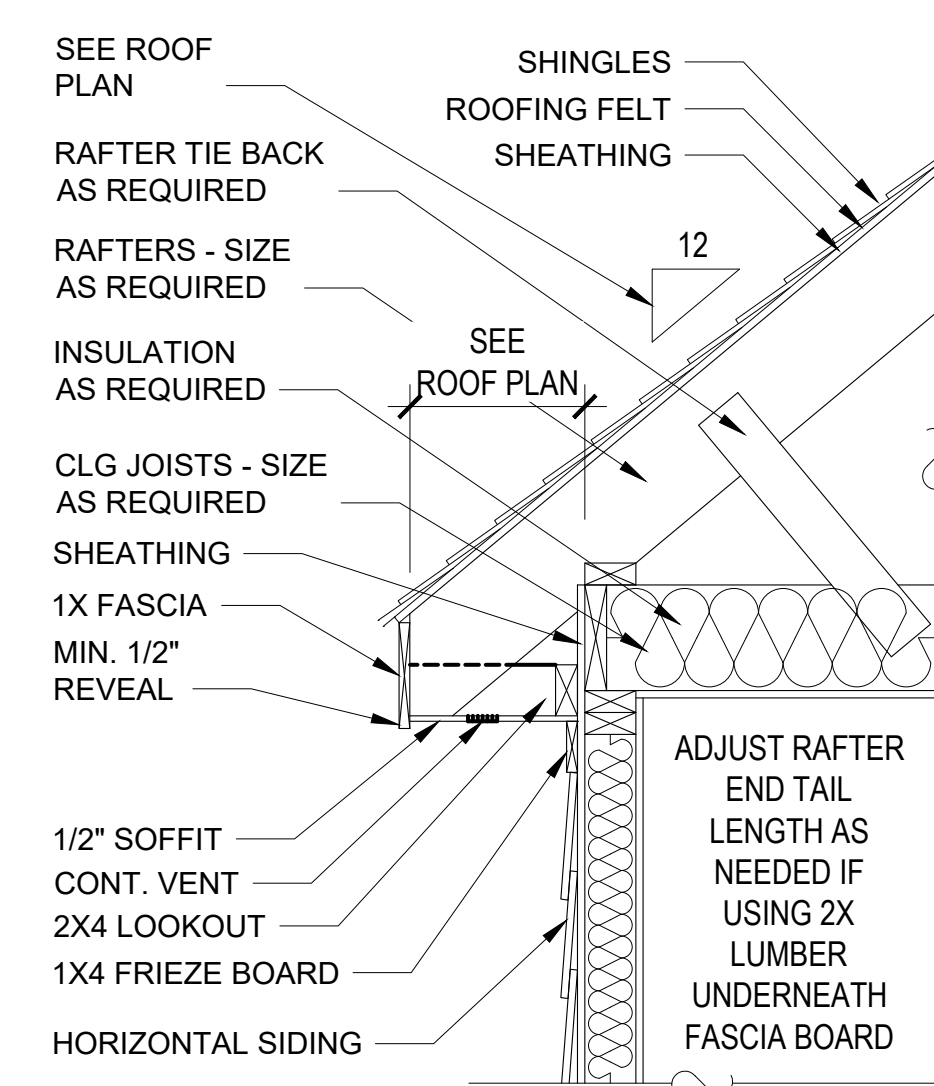
HUMPHREY DETACHED GARAGE

PROJECT#
DRB2201-0414
DATE
01/09/2023
DRAWN/DESIGNED BY
NW
CHECKED BY
DRB
SCALE
1/4" = 1'-0"

PROJECT NAME
HUMPHREY GARAGE
URL
drbhomedesign.com

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176 Tar Kiln Trl.
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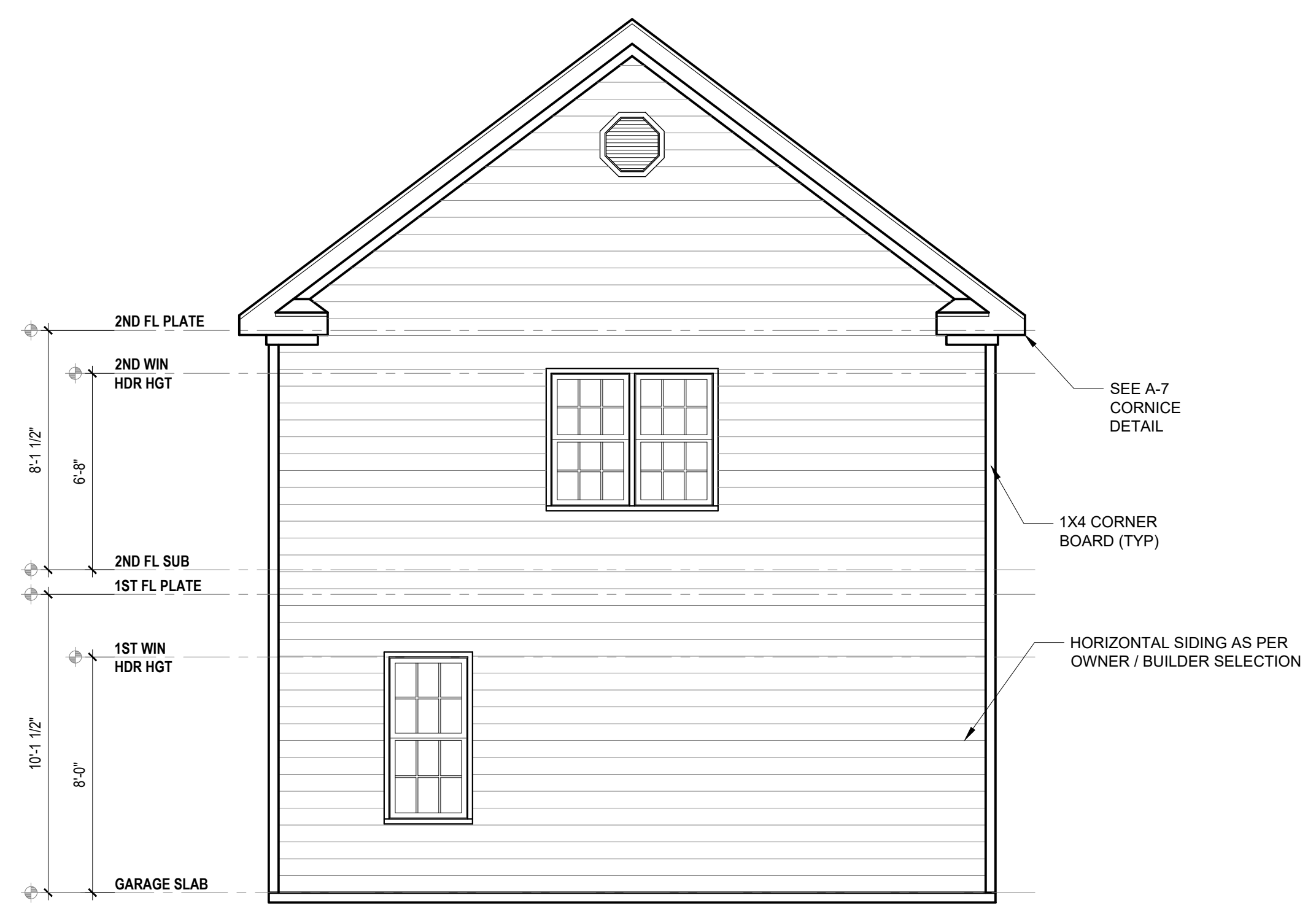
SHEET NAME
ELEVATIONS
SHEET #
4
of 5



A-7 CORNICE DETAIL
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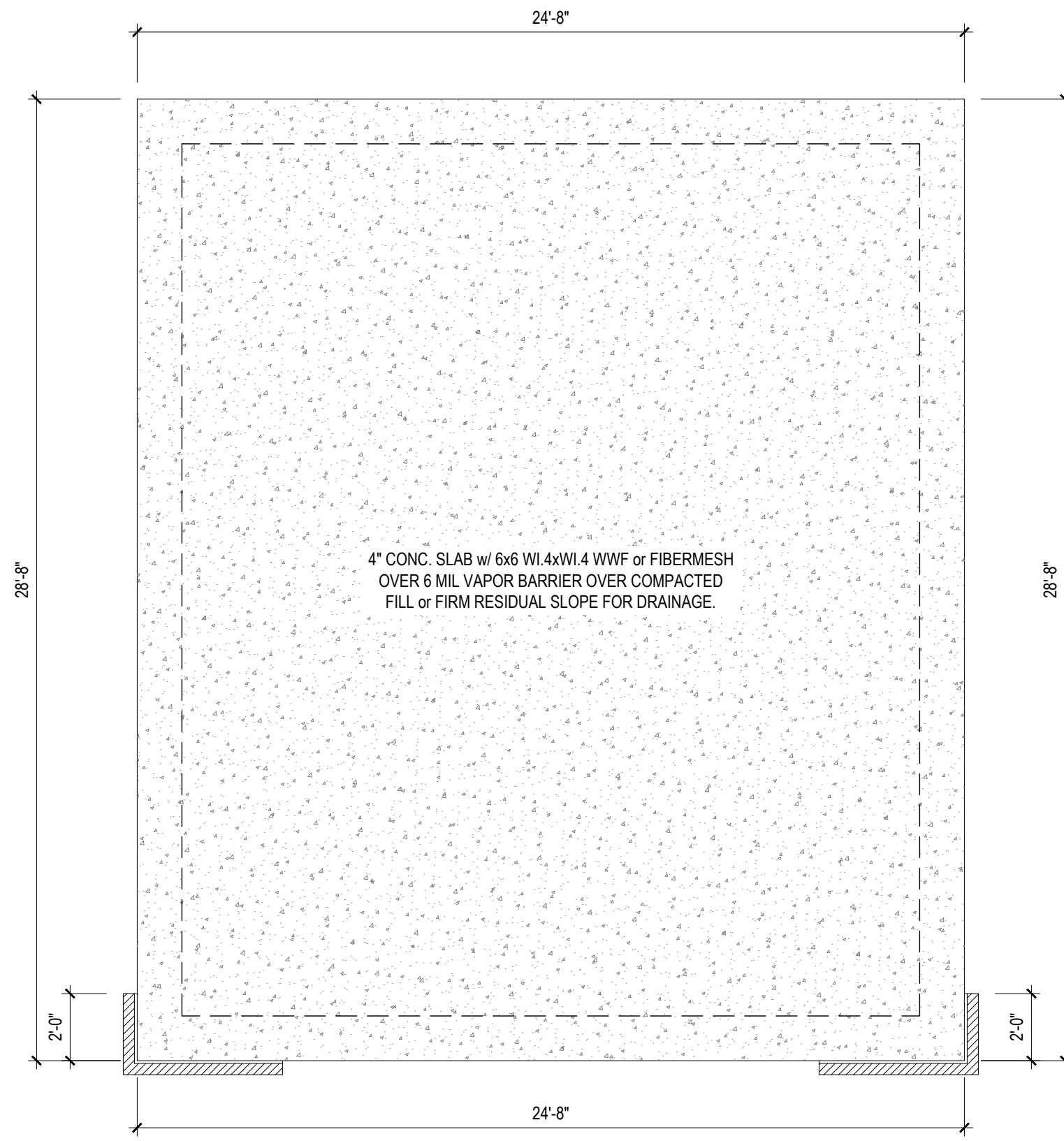
NOTE: CONTRACTOR TO PROVIDE ADEQUATE ROOF VENTILATION PER BUILDING CODE



REAR ELEVATION
1/4" = 1'-0"

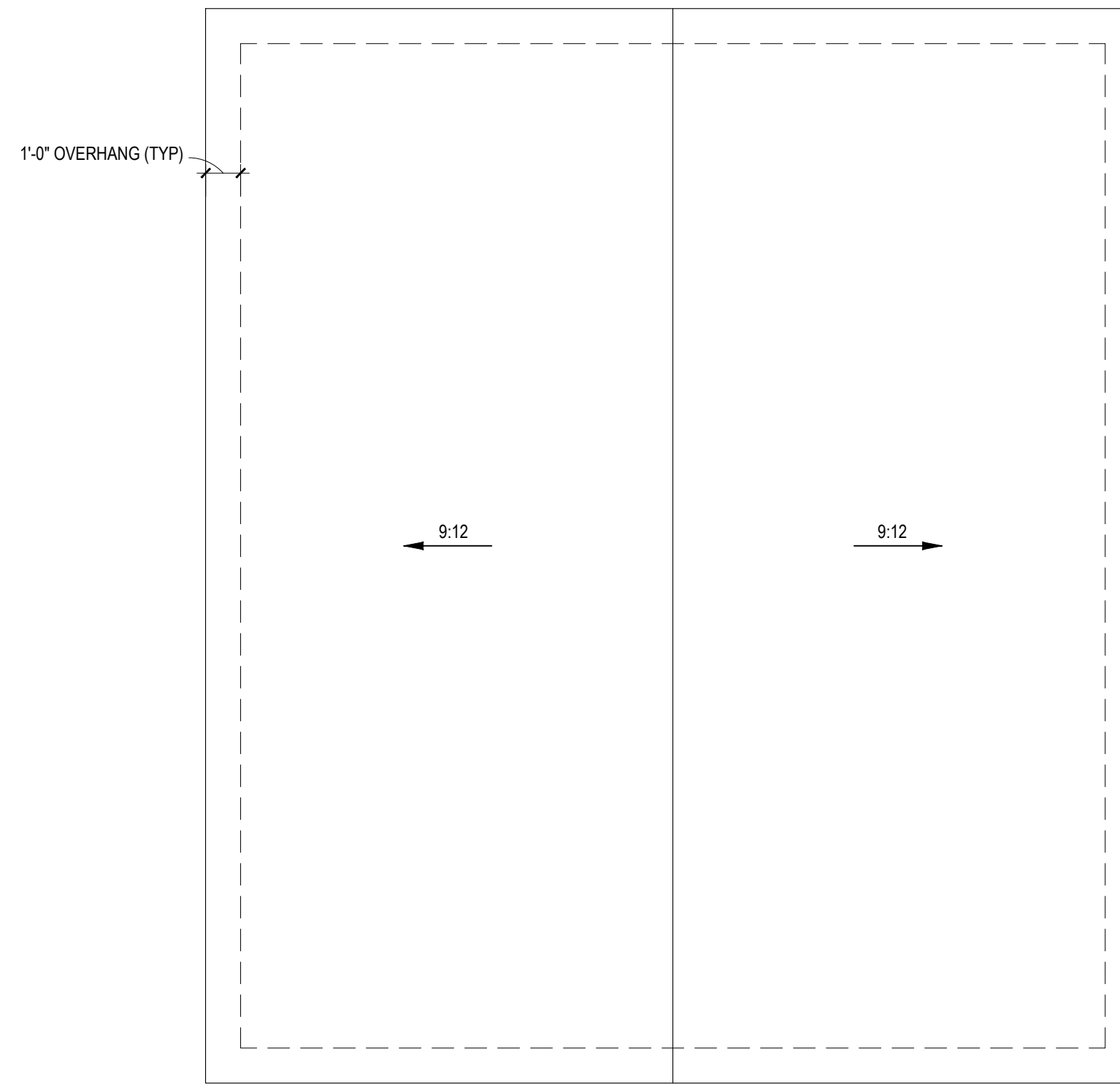


LEFT ELEVATION
1/4" = 1'-0"

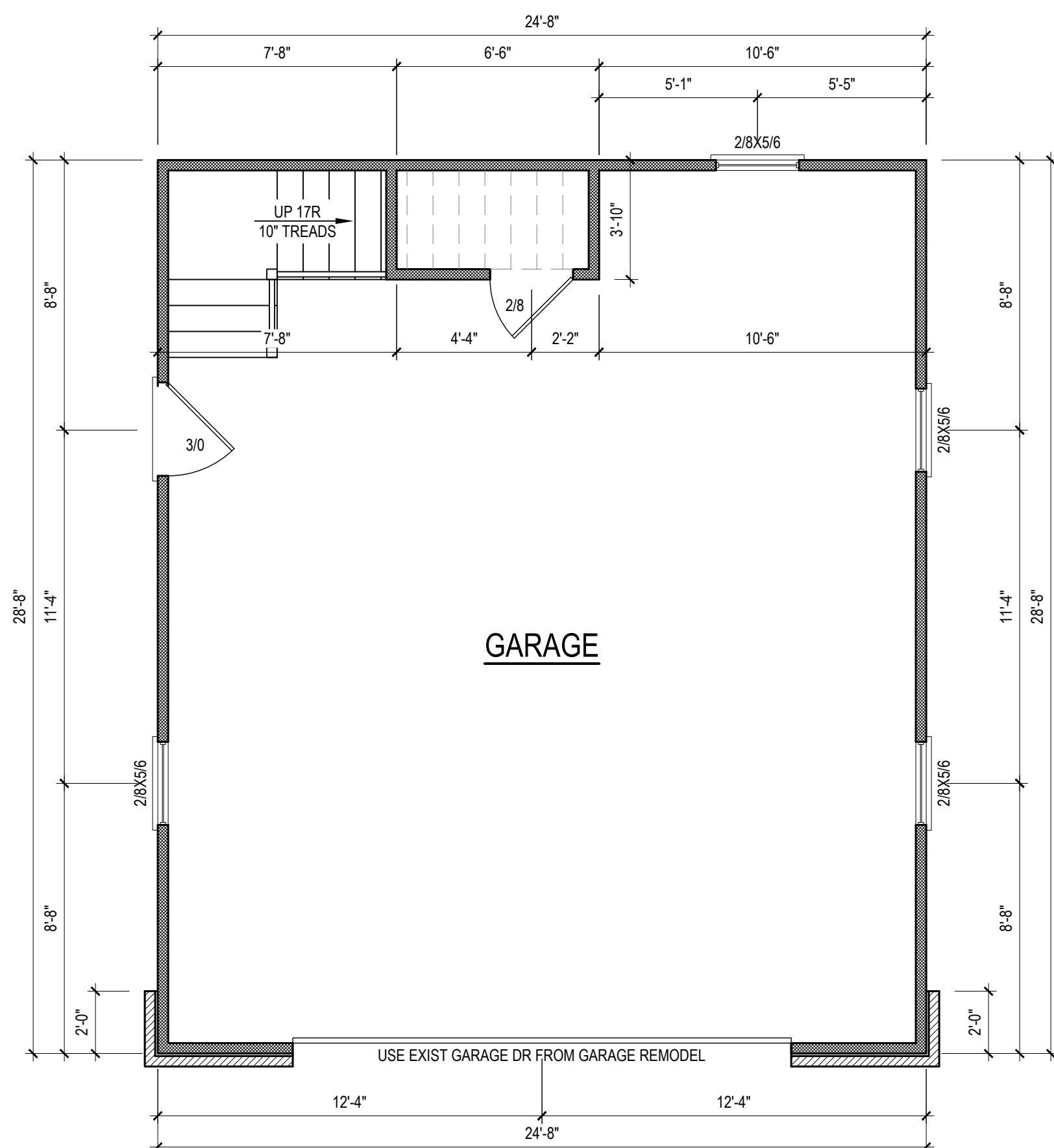


FOUNDATION PLAN
1/4" = 1'-0"

NOTE: SEE STRUCTURAL PLANS FOR ENGINEERING INFORMATION



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



FIRST FLOOR PLAN
1/4" = 1'-0" CEILING HGT. = 10'-0"

| UNHTD. SQUARE FOOTAGE | |
|-----------------------|-------------|
| Garage | 707 |
| Storage | 654 |
| TOTAL UNHEATED | 1361 |
| TOTAL SQ FT | 1361 |

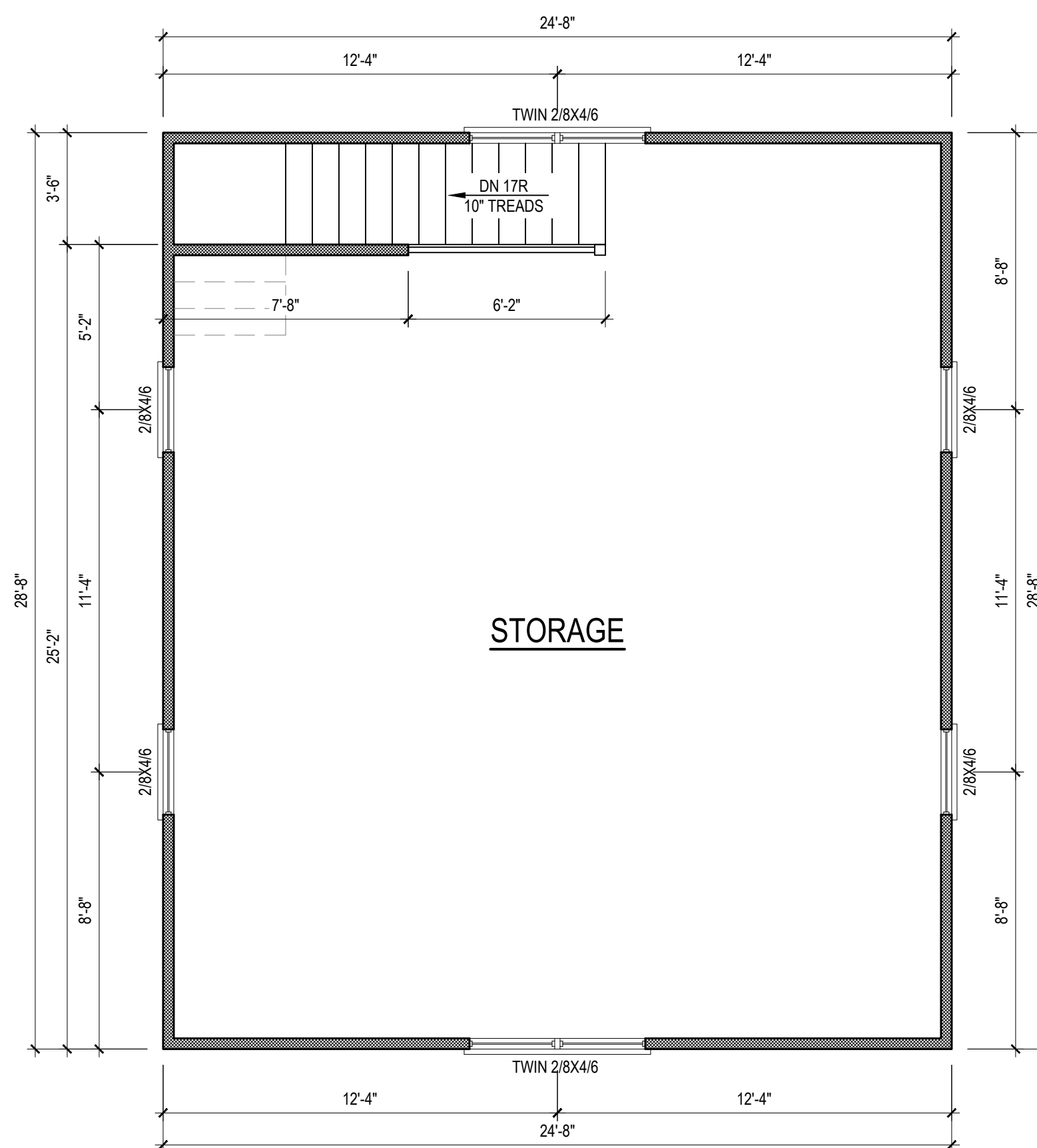
NOTE: SEE ELEVATIONS FOR WINDOW HDR HGTS

NOTE: ALL DOORS ARE 8'-0" TALL UNO

NOTE: ALL EXTERIOR WALLS ARE NOMINAL 4" UNO

NOTE: ALL INTERIOR WALLS ARE NOMINAL 4" UNO

NOTE: ALL DIMENSIONS ARE FRAME TO FRAME



SECOND FLOOR PLAN
1/4" = 1'-0" CEILING HGT. = 8'-0"

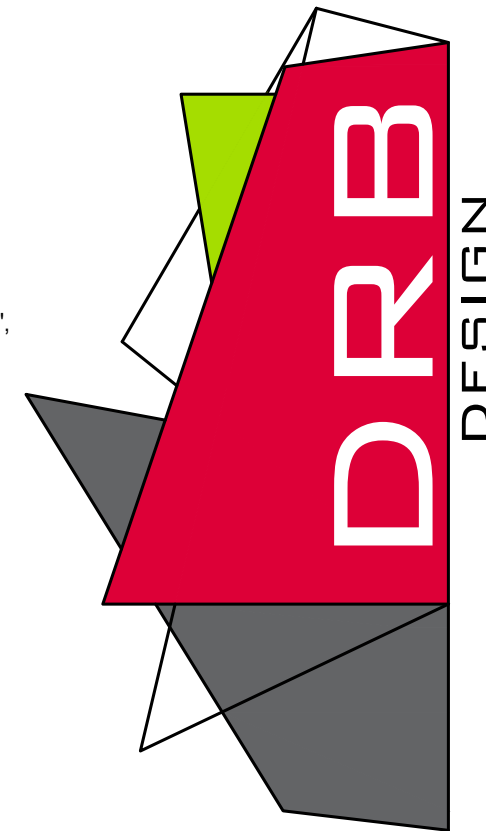
NOTE: SEE ELEVATIONS FOR WINDOW HDR HGTS

NOTE: ALL EXTERIOR WALLS ARE NOMINAL 4" UNO

NOTE: ALL INTERIOR WALLS ARE NOMINAL 4" UNO

NOTE: ALL DIMENSIONS ARE FRAME TO FRAME

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PROJECT#
DRB2201-0414
DATE
01/09/2023
DRAWN/DESIGNED BY
NW
CHECKED BY
DRB
SCALE
1/4" = 1'-0"

WEBSITE
drbhomedesign.com

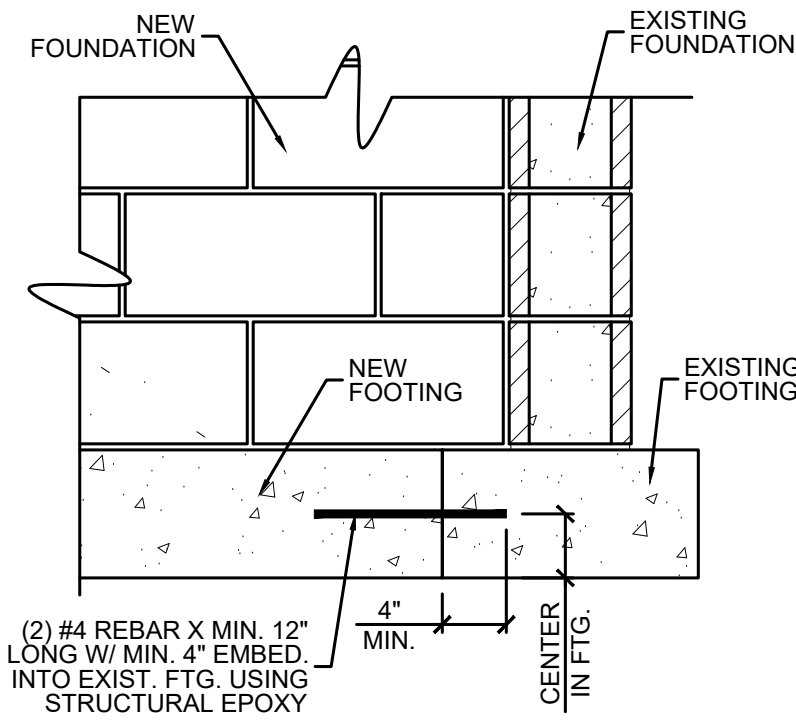
PROJECT NAME
HUMPHREY GARAGE

drbdesign@drbhomedesign.com 919.631.5979
250 Shipwash Dr Suite 105 Garner, NC 27529

CUSTOMER NAME
Marie Humphrey
176 Tar Kiln Trl.
Fuquay-Varina, NC 27526
mewscats@aol.com
(919) 710-5888

SHEET NAME
PLANS

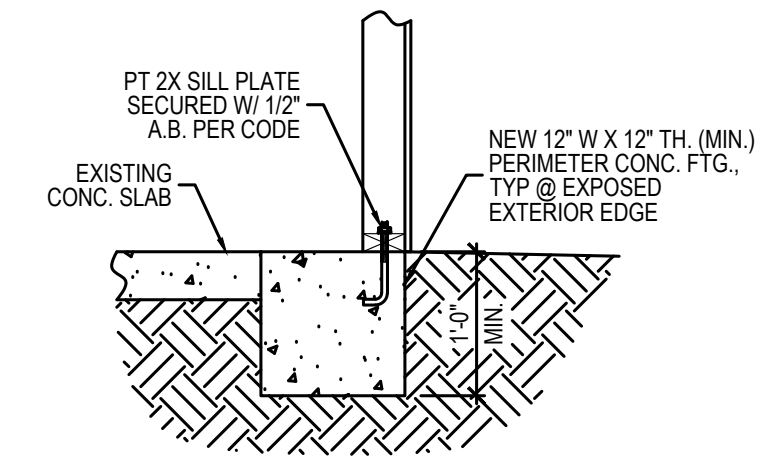
SHEET #
5



(2) #4 REBAR X MIN. 12" LONG W/ MIN. 4" EMBED. INTO EXIST. FTG. USING STRUCTURAL EPOXY

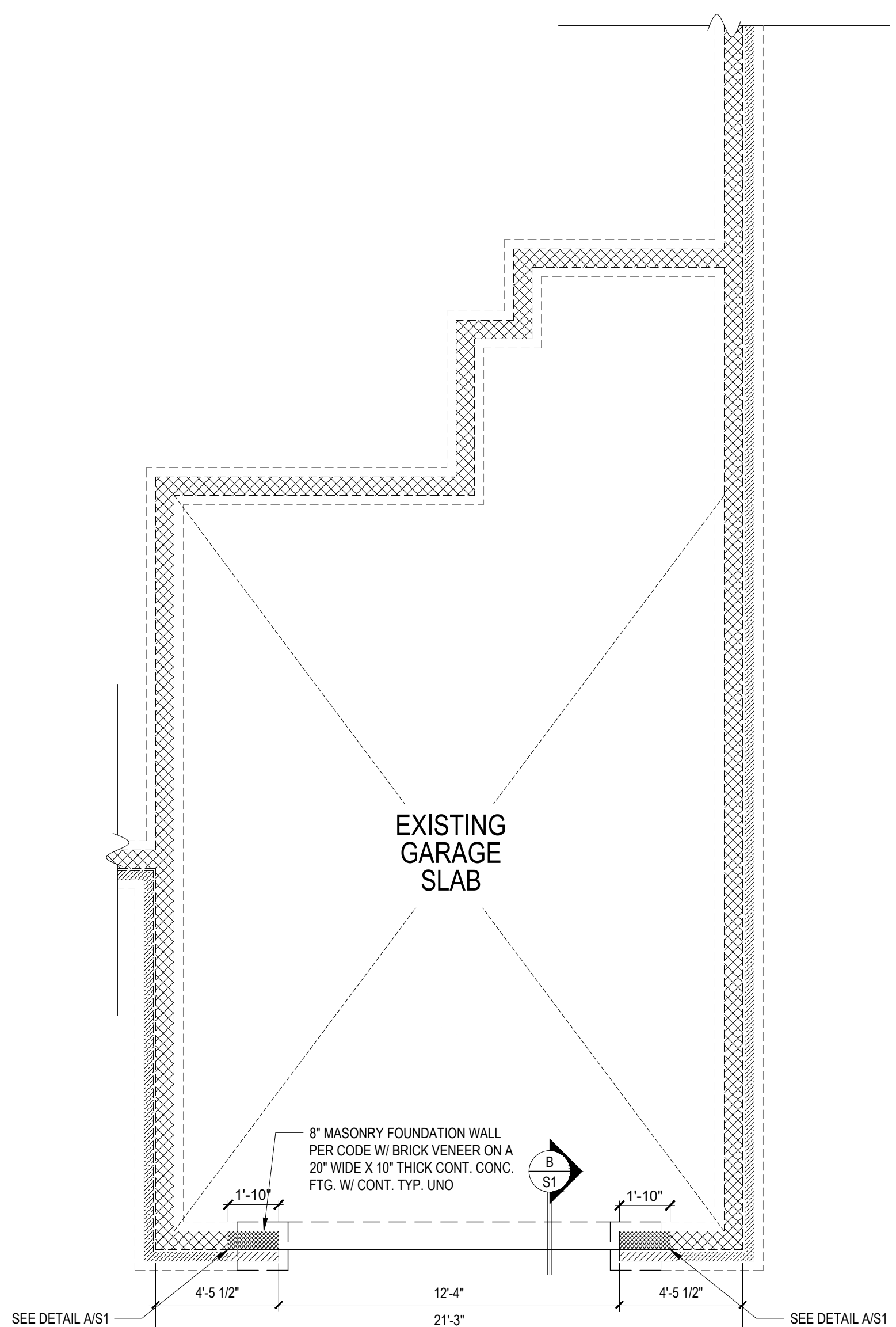
A NEW TO EXISTING

SCALE: 1" = 1'-0"



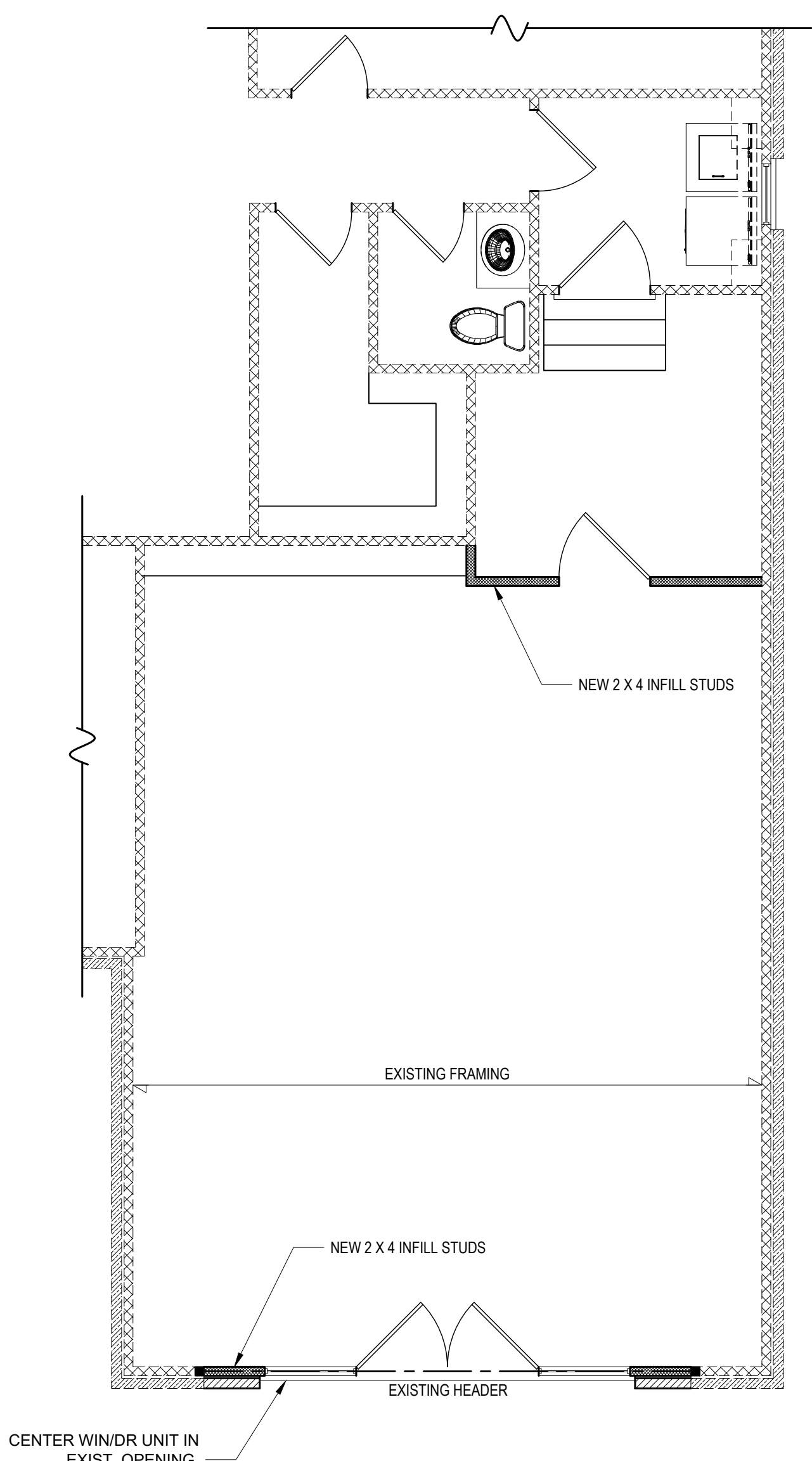
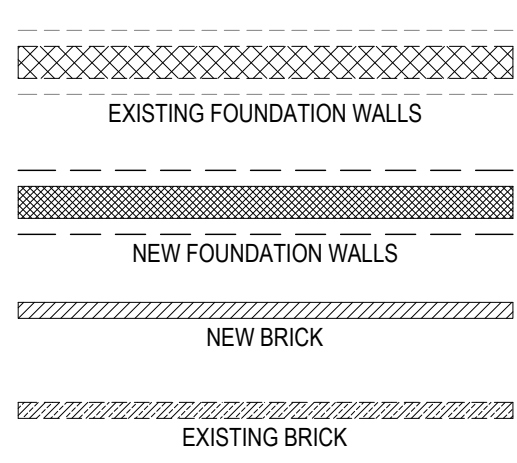
B PERIMETER FOOTING DETAIL

SCALE: 3/4\"/>



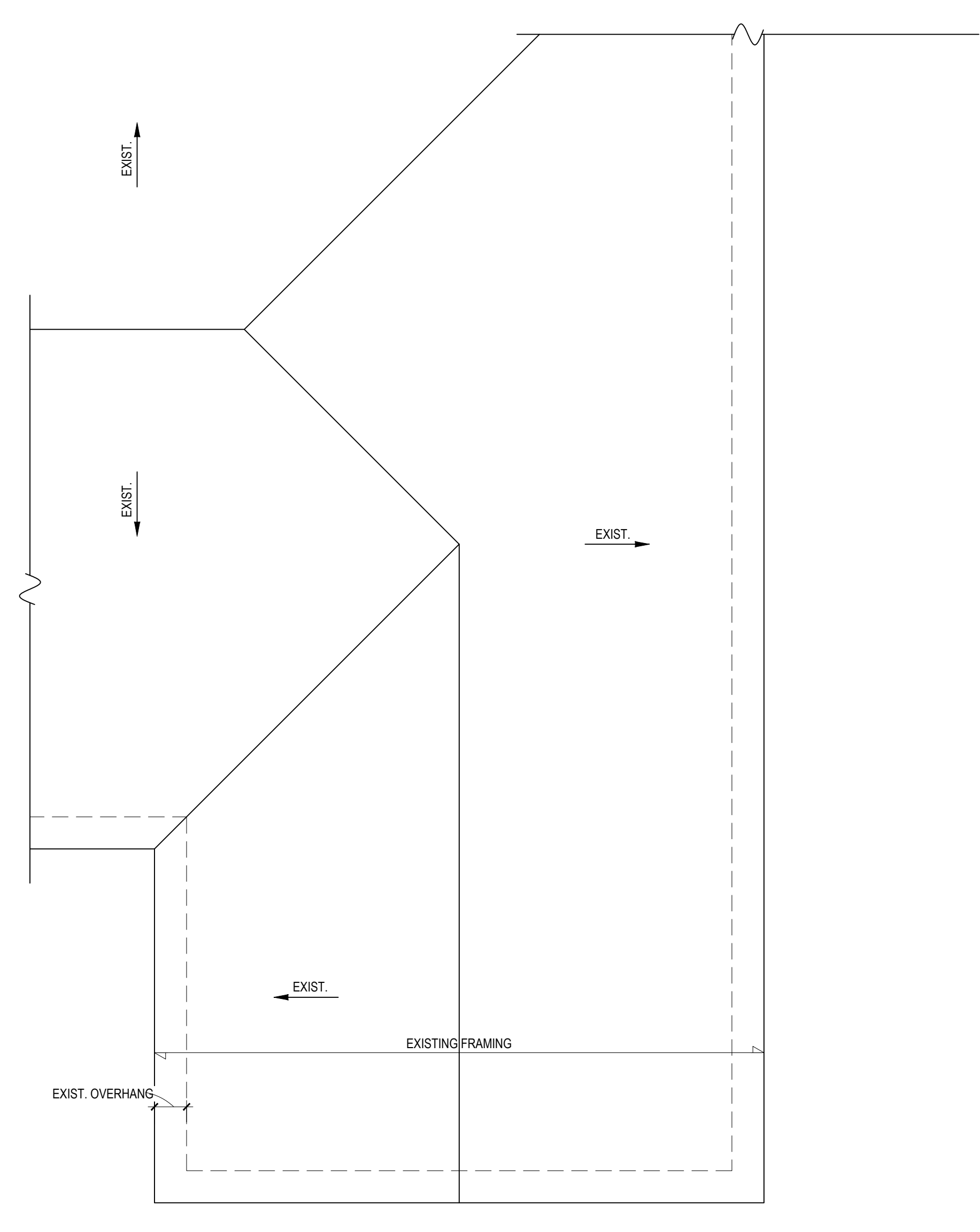
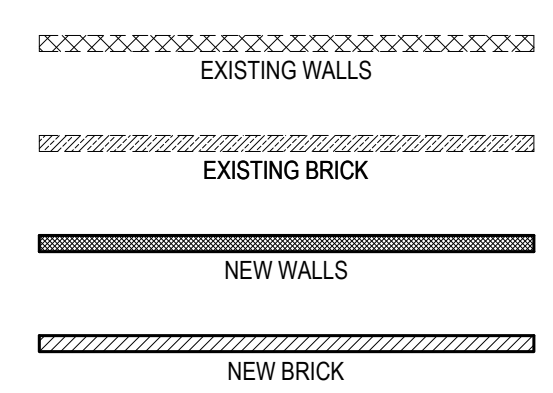
FOUNDATION PLAN

1/4" = 1'-0"



FIRST FLOOR PLAN

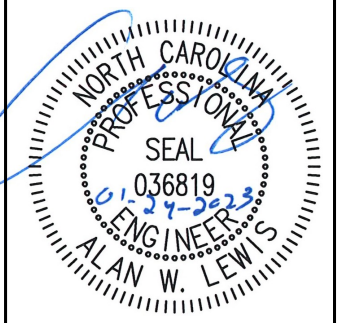
1/4" = 1'-0" CLG HGT. = EXIST.



ROOF PLAN

1/4" = 1'-0"

*Engineers seal does not include construction means, methods, techniques, sequences, procedures or safety precautions.
 Any deviations or discrepancies on plans are to be brought to the immediate attention of Tyn dall Engineering & Design, P.A. Failure to do so will void Tyn dall Engineering & Design, P.A. liability.
 *Please review these documents carefully. Tyn dall Engineering & Design, P.A. will interpret that all dimensions, recommendations, etc. presented in these documents were deemed acceptable once construction begins.



TYNDALL
 ENGINEERING & DESIGN, P.A.
 200 Blinnwood Drive • Garner, North Carolina • 27828
 919.775.5200 • 919.775.4444
 www.tyndallengineering.com

Client: **MARIE HUMPHREY**
 Project: **HUMPHREY GARAGE**

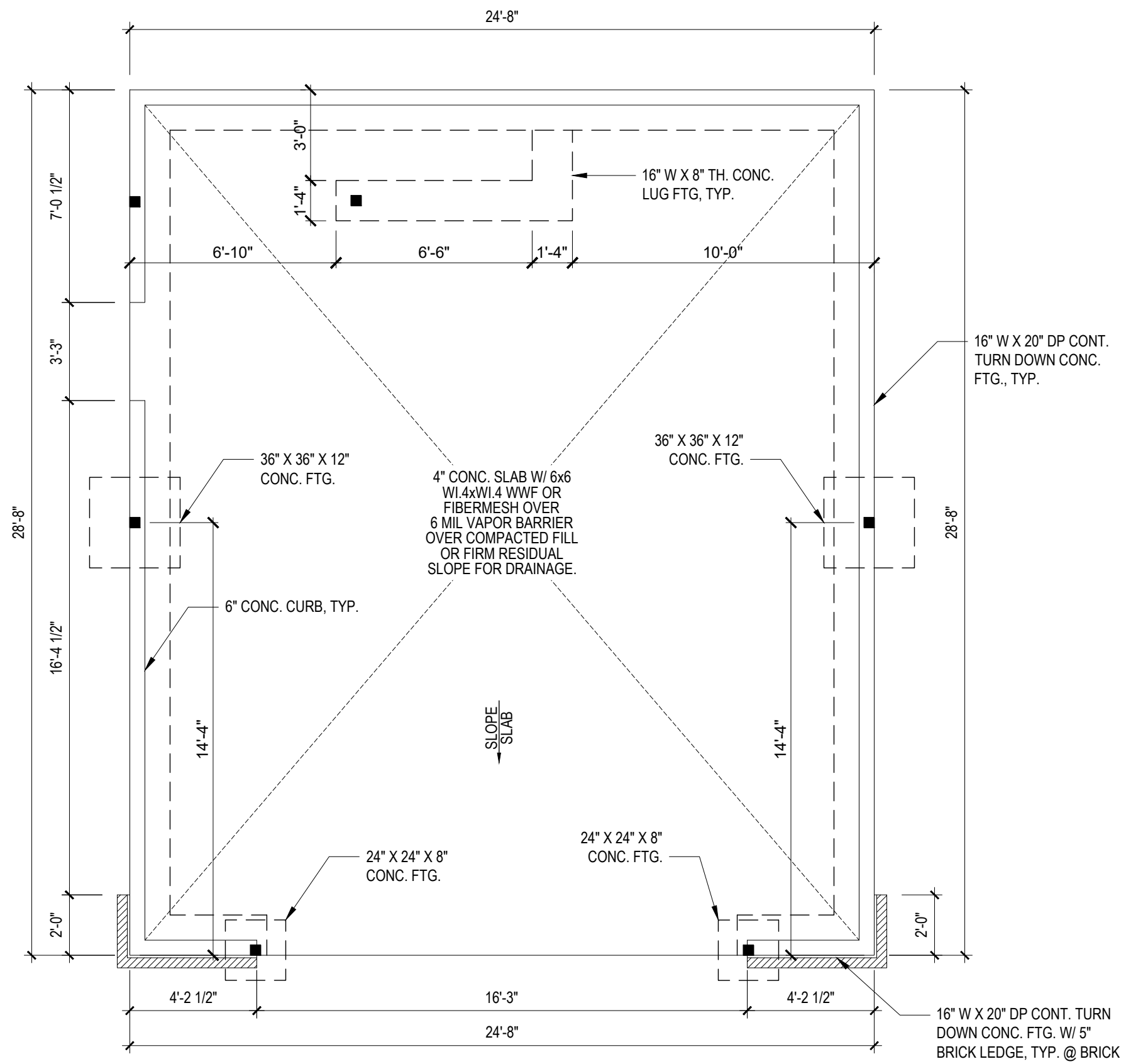
**GARAGE REMODEL
 FRAMING PLANS**

Project #: DRB2201-0414
 Date: 01/24/23
 Engineered by: AM
 DWG. Checked By: AWL
 Scale: SEE PLAN

| REVISIONS | | |
|-----------|------|---------|
| No. | Date | Remarks |
| | | |
| | | |
| | | |

Sheet Number
S1
 1 of 5

FILENAME: Z:\PROJ\DRB_2023\DRB2201-0414\MARIE_HUMPHREY\DOCS\DRB2201-0414_LEWIS_S1.DWG; DATE: 01/24/2023 12:14 PM; PLOT DATE: 01/24/2023 12:14 PM; PLOT SCALE: 1/4" = 1'-0"



FOUNDATION PLAN

1/4" = 1'-0"

DESIGN LOADS

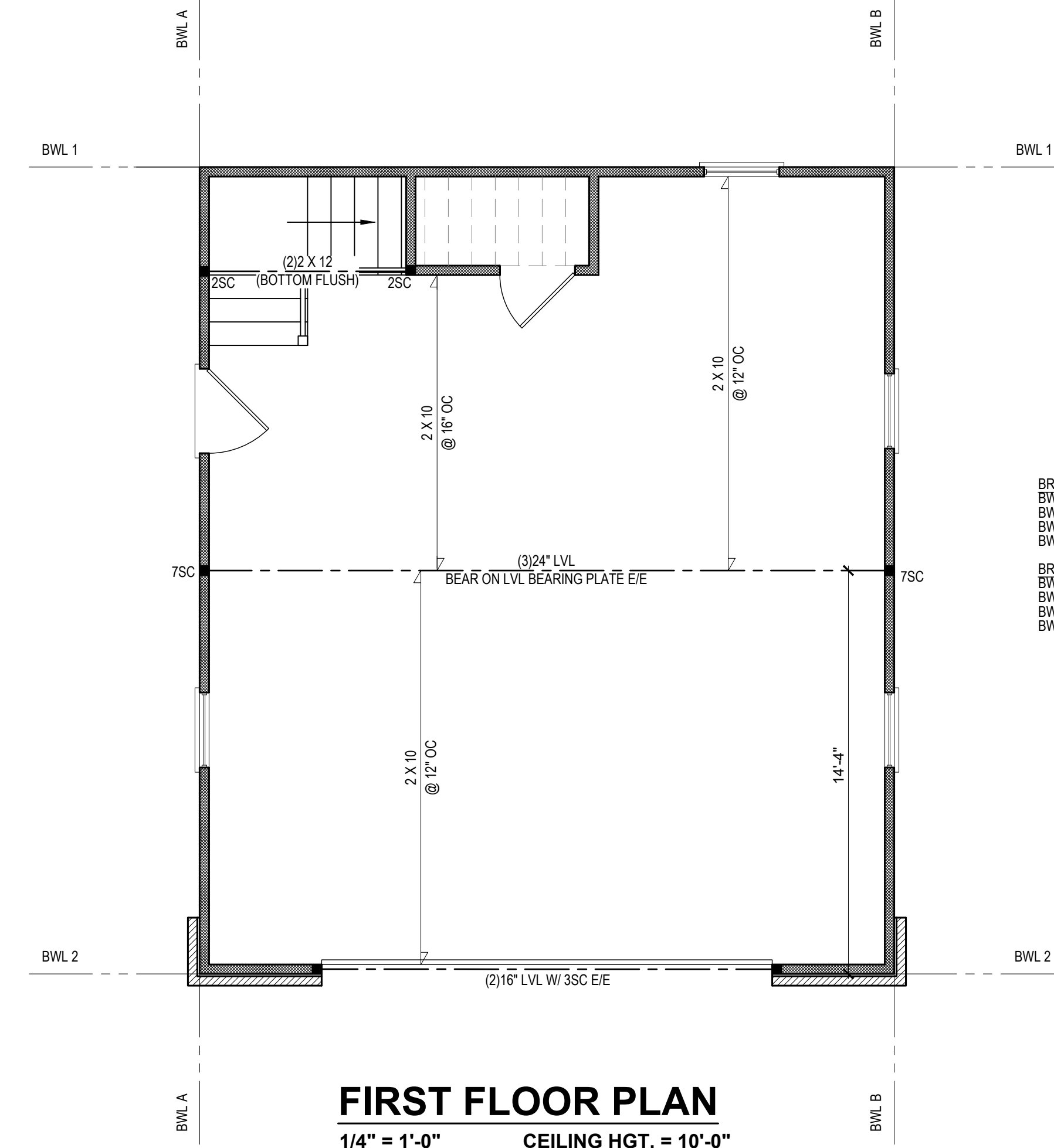
| | LIVE LOAD (PSF) | DEAD LOAD (PSF) | DEFLECTION | |
|--------------------|---------------------------------|-----------------|------------|-------|
| | | | LL | TL |
| FLOOR (primary) | 40 | 10 | L/360 | L/240 |
| FLOOR (secondary) | 40 | 10 | L/360 | L/240 |
| ATTIC (w/ storage) | 20 | 10 | L/240 | 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, P.A. 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 F_b = 2600 PSI, E = 1.9M PSI (I.E. LEVEL MICROLAM)
- ALL LVL LUMBER IS TO BE 1.55E (F_b = 2325 PSI)
- ALL LOAD BEARING EXTERIOR WINDOW HEADERS ARE TO BE (2) 2x10 w/ (1) 2x4 JACK STUD (U.N.O.) AND KING STUDS PER TABLE R602.7.5, AND TOGETHER W/ (2) 10d NAILS @ 8" O.C., PROVIDED THAT THE TOP OF THE WINDOW HEIGHT IS 6'-8". MINIMUM BOTTOM OF THE WINDOW HEIGHT IS 1'-6". OTHERWISE REFER TO TABLES R602.7(1) AND R602.7(2)
- ALL INTERIOR LOAD BEARING HEADERS TO BE (2) 2x10 (U.N.O.) REFER TO TABLES R602.7(1) AND R602.7(2) 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 F_y = 50 KSI MIN. (UNO)
- ALL EXTERIOR LUMBER TO BE #2 SYP PT
- ALL CONCRETE, f_c = 3000 PSI MIN.
- PRESUMPTIVE BEARING CAPACITY = 2000 PSF
- 12"Ø 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 NRC.
- 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.
 - ① REFERENCE FIGURE R602.10.4.3 OF THE 2018 NRC.
- 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)
 - ② 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 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.
 - ⑤ MINIMUM 800# HOLD-DOWN DEVICE

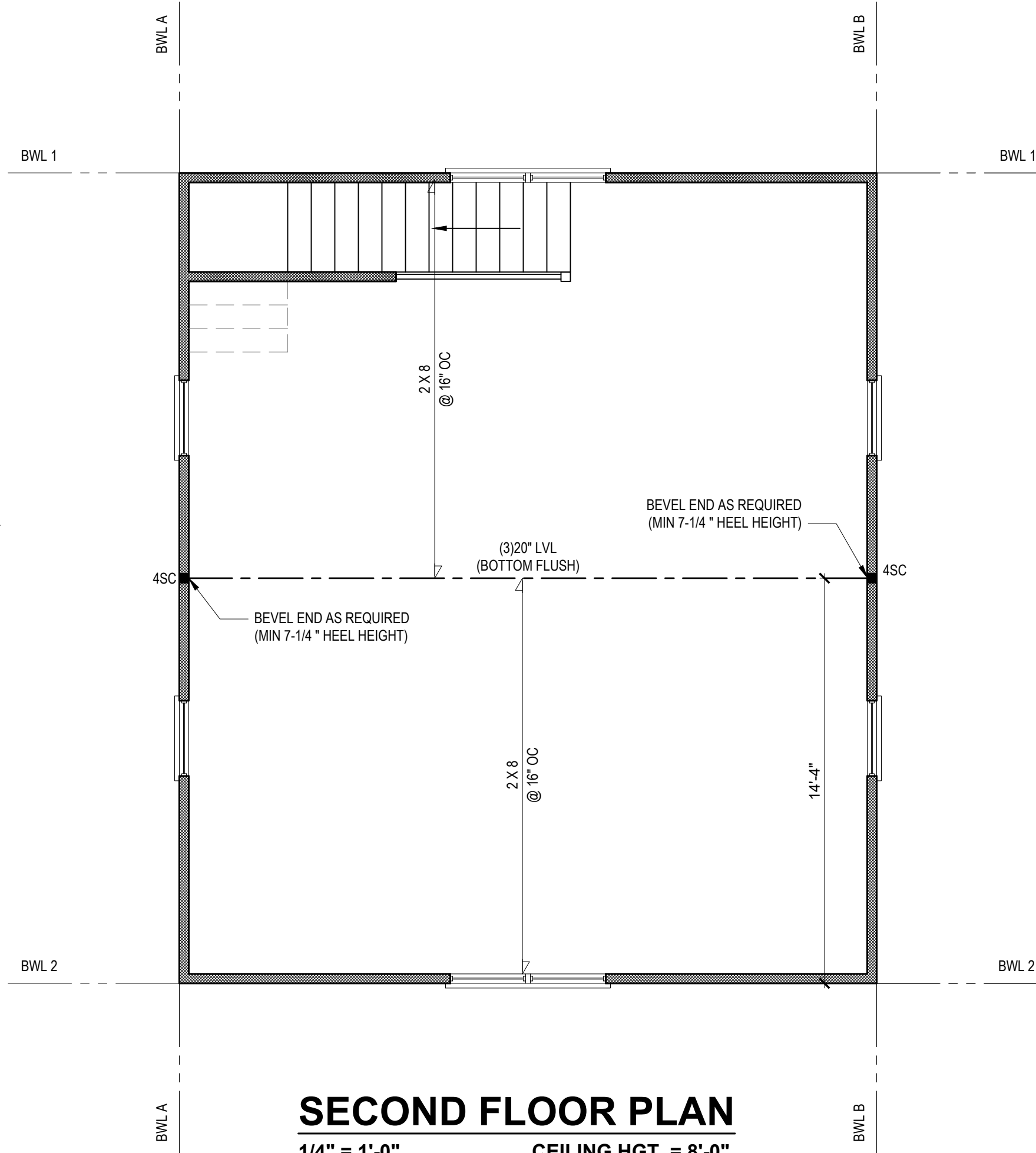


FIRST FLOOR PLAN

1/4" = 1'-0" CEILING HGT. = 10'-0"

BRACING PANEL LENGTHS REQUIRED:
 BWL A = 6.2 FT
 BWL B = 6.2 FT
 BWL 1 = 7.3 FT
 BWL 2 = 7.3 FT

BRACING PANEL LENGTHS PROVIDED:
 BWL A = 23.33 FT CS-WSP
 BWL B = 23.33 FT CS-WSP
 BWL 1 = 23.0 FT CS-WSP
 BWL 2 = 6.67 FT CS-WSP

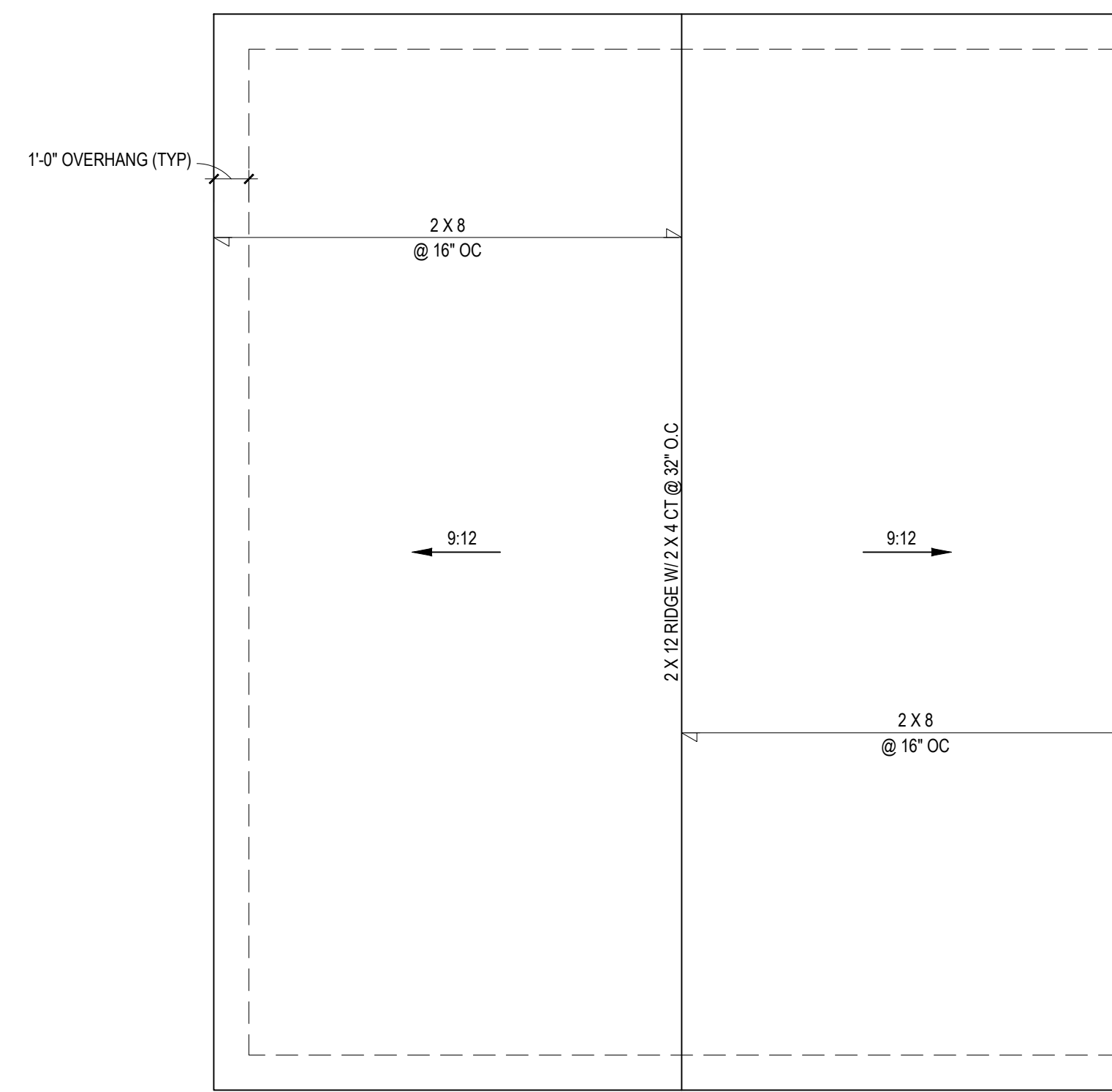


SECOND FLOOR PLAN

1/4" = 1'-0" CEILING HGT. = 8'-0"

BRACING PANEL LENGTHS REQUIRED:
 BWL A = 2.7 FT
 BWL B = 2.7 FT
 BWL 1 = 3.0 FT
 BWL 2 = 3.0 FT

BRACING PANEL LENGTHS PROVIDED:
 BWL A = 23.33 FT CS-WSP
 BWL B = 23.33 FT CS-WSP
 BWL 1 = 19.17 FT CS-WSP
 BWL 2 = 19.17 FT CS-WSP



ROOF PLAN

1/4" = 1'-0"

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MARIE HUMPHREY
 HUMPHEY GARAGE

GARAGE FRAMING PLANS

Project #: DRB2201-0414
 Date: 01/24/23
 Engineer: AM
 DWG. Checked By: AWL
 Scale: SEE PLAN

REVISIONS

| No. | Date | Remarks |
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Sheet Number **S2**
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STRUCTURAL NOTES

1) ALL CONSTRUCTION SHALL CONFORM TO THE LATEST REQUIREMENTS OF "NORTH CAROLINA STATE 2018 RESIDENTIAL BUILDING CODE", IN ADDITION TO ALL LOCAL CODES AND REGULATIONS.

2) DESIGN LOADS:

| | LIVE LOAD (PSF) | DEAD LOAD (PSF) | DEFLECTION | |
|---------------------------|-------------------------------|-----------------|------------|-------|
| | | | LL | TL |
| ALL FLOORS | 40 | 10 | L/360 | L/240 |
| ATTIC (w/ walk up stairs) | 30 | 10 | L/360 | L/240 |
| ATTIC (pull down access) | 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 | SEISMIC ZONES A, B & C | | | |

3) MINIMUM ALLOWABLE SOIL BEARING PRESSURE = 2000 PSF

4) CONCRETE SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 3000 PSI AND A MAXIMUM SLUMP OF FIVE INCHES UNLESS NOTED OTHERWISE. (U.N.O.)

5) MAXIMUM DEPTH OF UNBALANCED FILL AGAINST FOUNDATION WALLS TO BE LESS THAN 4'-0" WITHOUT USING SUFFICIENT WALL BRACING. REFER TO SECTION R404 OF 2018 NC BUILDING CODE FOR BACKFILL LIMITATIONS BASED ON WALL HEIGHT, WALL THICKNESS, SOIL TYPE, AND UNBALANCED BACKFILL HEIGHT.

6) ALL FRAMING LUMBER SHALL BE SYP #2 (F_b = 800 PSI). BASED ON 2x10 UNO. 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_b = 2600 PSI, E = 1.9M PSI (U.N.O.) ALL LSL LUMBER TO BE 3.5" WIDE NOMINAL EACH SINGLE MEMBER AND F_b = 2325 PSI, E = 1.6M PSI (U.N.O.) ALL PSL LUMBER TO BE 3.5" WIDE NOMINAL EACH SINGLE MEMBER AND F_b = 2400 PSI, E = 1.8M PSI (U.N.O.)

7) ALL LOAD BEARING EXTERIOR HEADERS SHALL BE AT (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.

8) 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.

9) STEEL BEAMS SHALL BE SUPPORTED AT EACH END WITH A MINIMUM BEARING LENGTH OF 3'-1/2" AND FULL FLANGE WIDTH. PROVIDE SOLID BEARING FROM BEAM SUPPORT TO FOUNDATION. BEAMS SHALL BE ATTACHED TO EACH SUPPORT WITH TWO (2) LAG SCREWS (1/2"Ø 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.

10) PROVIDE ANCHOR BOLT PLACEMENT PER SECTION 403.1.6. 1/2"Ø 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.

11) FOUNDATION DRAINAGE-DAMP PROOFING OR WATERPROOFING PER SECTION 405 AND 406 OF NC BUILDING CODE.

12) 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 6/12
18.0 LBS/SQFT FOR ROOF PITCHES 6/12 TO 12/12
**MEAN ROOF HEIGHT 30'-0" OR LESS

13) FOR ROOF SLOPES FROM 2/12 THROUGH 4/12, BUILDER TO INSTALL 2 LAYERS OF 15# FELT PAPER.

14) REFER TO SECTION R602.3 FOR FRAMING OF ALL WALLS OVER 10'-0" IN HEIGHT.

15) PROVIDE CONTINUOUS SHEATHING PER SECTION 602.10.3 OF THE 2018 NCR.

16) UPLIFT LOADS GREATER THAN 500# SHALL BE CONTINUOUSLY ANCHORED TO THE FOUNDATION.

17) REFER TO TABLE N1102.1 FOR PRESCRIPTIVE BUILDING ENVELOPE THERMAL COMPONENT CRITERIA.

18) PSL COLUMNS DESIGNED WITH MAXIMUM HEIGHT OF 9'-0" (U.N.O.)

19) PROVIDE A MINIMUM OF 500# UPLIFT & LATERAL CONNECTION AT TOP AND BOTTOM OF PORCH COLUMNS. (U.N.O.)

20) MAXIMUM MASONRY PEIR HEIGHT SHALL NOT EXCEED FOUR TIMES ITS LEAST HORIZONTAL DIMENSION.

21) 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 | REINF = 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 | WWF = 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:

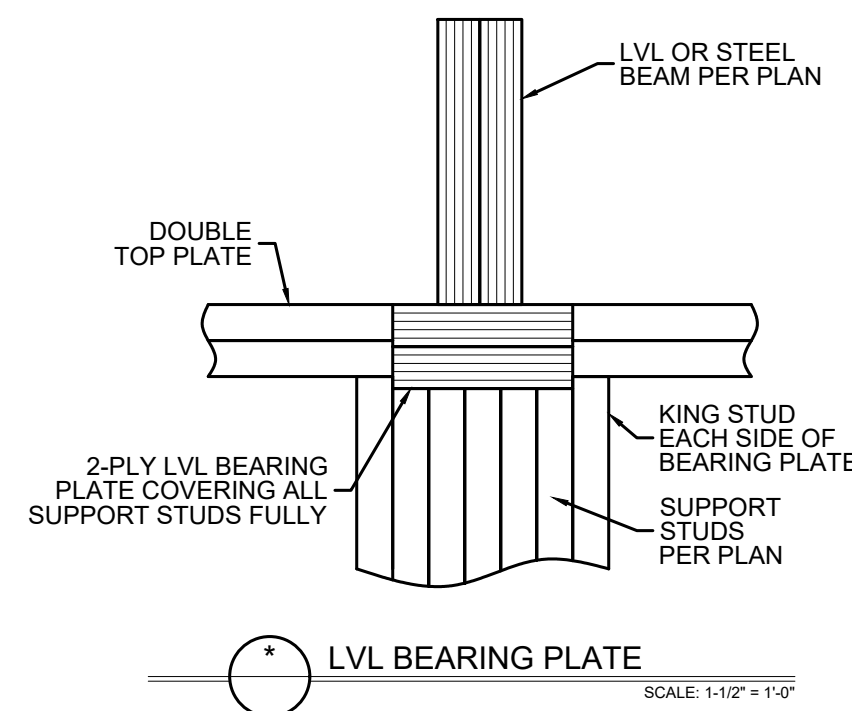
| POST SIZE | MAX. TRIBUTARY AREA | MAX. POST HEIGHT | EMBEDMENT DEPTH | CONCRETE DIAMETER |
|-----------|---------------------|------------------|-----------------|-------------------|
| 4 x 4 | 48 SQ. FT. | 4'-0" | 2'-6" | 1'-0" |
| 6 x 6 | 120 SQ. FT. | 6'-0" | 3'-6" | 1'-8" |

- 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 6s 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.

708 SQ. FT. OF ATTIC / 300 = 2.36 SQ. FT. INLETS/OUTLETS REQUIRED

- CALCULATION BASED ON VENTILATORS USED AT LEAST 3'-0" ABOVE THE COMBIE VENTS WITH THE BALANCE OF VENTILATION PROVIDED BY LEAVE VENTS.
- CATHERAL CEILINGS SHALL HAVE A 1" MINIMUM CLEARANCE BETWEEN THE BOTTOM OF THE ROOF DECK AND THE INSULATION.

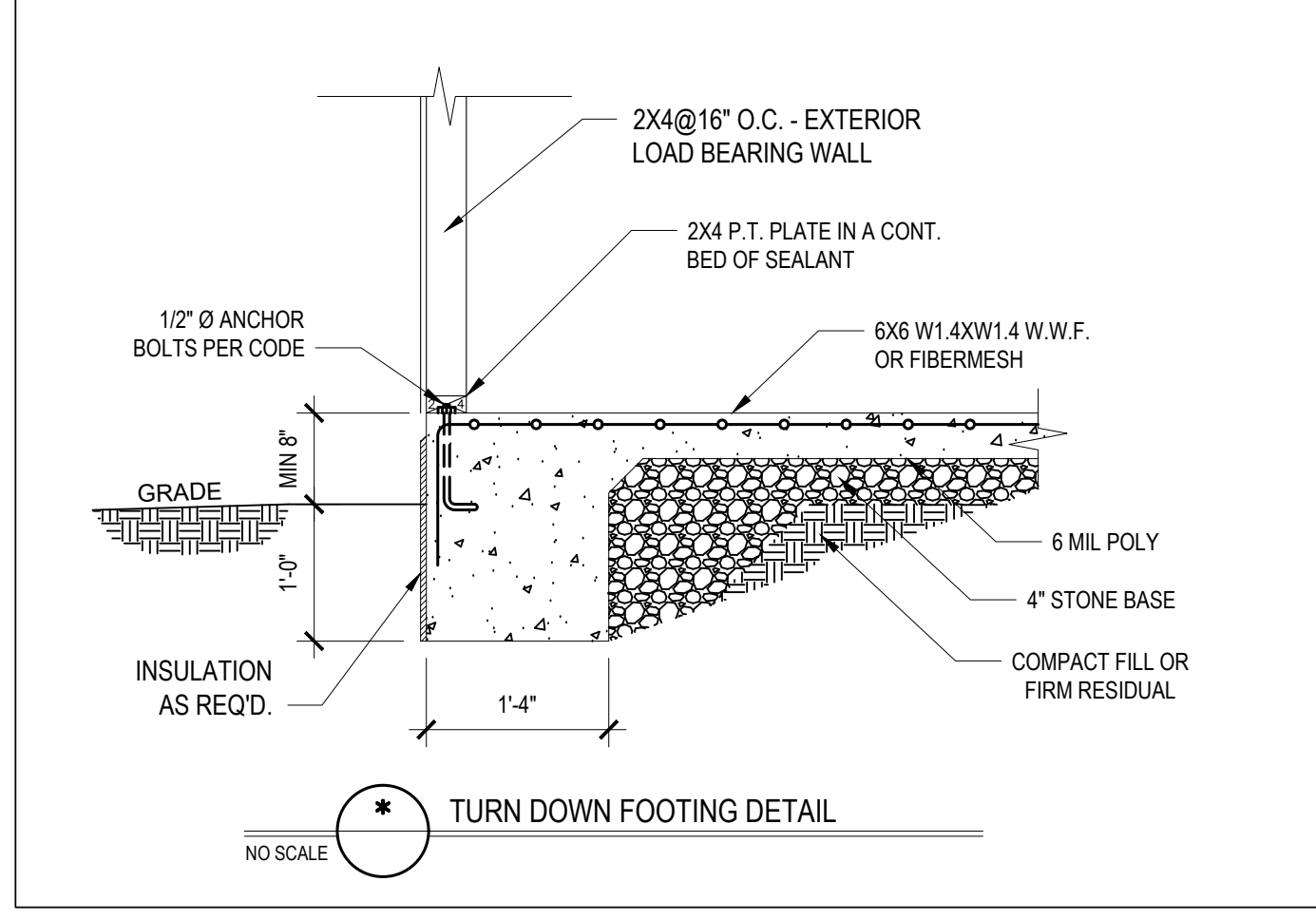
NO SCALE * ATTIC VENTILATION CALCULATION



| CLIMATE ZONES | FENESTRATION U-FACTOR ^{b,j} | SKYLIGHT U-FACTOR ^b | GLAZED FENESTRATION SHGC ^{b,k} | CEILING R-VALUE ^m | WOOD FRAMED WALL R-VALUE ⁿ | MASS WALL R-VALUE ⁱ | FLOOR R-VALUE | BASEMENT WALL R-VALUE ^{o,q} | SLAB R-VALUE AND DEPTH ^s | CRAWL SPACE WALL R-VALUE ^c |
|---------------|--------------------------------------|--------------------------------|---|------------------------------|---------------------------------------|------------------------------------|-----------------|--------------------------------------|-------------------------------------|---------------------------------------|
| 3 | 0.35 | 0.55 | 0.30 | 38 or 30 cont ^l | 15 or 13 + 2.5 ^h | 5/13 or 5/10 cont ^l | 19 | 5/13 ^l | 0 | 5/13 |
| 4 | 0.35 | 0.55 | 0.30 | 38 or 30 cont ^l | 15 or 13 + 2.5 ^h | 5/13 or 5/10 cont ^l | 19 | 10/15 | 10 | 10/15 |
| 5 | 0.35 | 0.55 | NR | 38 or 30 cont ^l | 19, or 13 + 5 ^h or 15 + 3 | 13/17 or 13/12.5 cont ^l | 30 ^d | 10/15 | 10 | 10/19 |

* TABLE N1102.1 CLIMATE ZONES 3-5
NO SCALE

a. 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 VALUE OF THE INSULATION SHALL NOT BE LESS THAN THE R-VALUE SPECIFIED IN THE TABLE.
b. THE FENESTRATION U-FACTOR COLUMN EXCLUDES SKYLIGHTS. THE SOLAR HEAT GAIN COEFFICIENT (SHGC) COLUMN APPLIES TO ALL GLAZED FENESTRATION.
c. "0"19" MEANS R-19 CONTINUOUS INSULATED SHEATHING ON THE INTERIOR OR EXTERIOR OF THE HOME OR R-19 CAVITY INSULATION AT THE INTERIOR OF THE BASEMENT WALL OR CRAWL SPACE WALL.
d. FOR MONOLITHIC SLABS, INSULATION SHALL BE APPLIED FROM THE INSPECTOR'S SIDE (DOWNWARD) TO THE BOTTOM OF THE FOOTING OR A MAXIMUM OF 2" BELOW GRADE WHOICHEVER IS LESS. FOR FLOATING SLABS, INSULATION SHALL EXTEND TO THE BOTTOM OF THE FOUNDATION WALL OR 2", WHOICHEVER IS LESS. R-6 SHALL BE ADDED TO THE REQUIRED SLAB EDGE R-VALUES FOR HEATED SLABS.
e. DELETED.
f. BASEMENT WALL INSULATION IS NOT REQUIRED IN WARM-HUMID LOCATIONS AS DEFINED BY EQUATION N1101.7 AND TABLE N1101.7.
g. OR INSULATION SUFFICIENT TO FILL THE FRAMING CAVITY. R-19 MINIMUM.
h. THE FIRST VALUE IS CAVITY INSULATION. THE SECOND VALUE IS CONTINUOUS INSULATION. 60 "13+5" MEANS R-13 CAVITY INSULATION PLUS R-5 INSULATED SHEATHING. 10+7 MEANS R-10 CAVITY INSULATION PLUS R-7 INSULATED SHEATHING. IF STRUCTURAL SHEATHING COVERS 25% OR LESS OF THE EXTERIOR, INSULATING SHEATHING IS NOT REQUIRED WHERE THE STRUCTURAL SHEATHING IS USED. IF STRUCTURAL SHEATHING COVERS MORE THAN 25 PERCENT OF THE EXTERIOR, SHALL BE SUPPLEMENTED WITH INSULATED SHEATHING OF AT LEAST R-2. "13 + 2.5" MEANS R-13 CAVITY INSULATION PLUS R-2.5 SHEATHING.
i. FOR MASS WALLS, THE SECOND R-VALUE APPLIES WHEN MORE THAN HALF THE INSULATION IS ON THE INTERIOR MASS WALL.
j. 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 0.58 SHALL BE PERMITTED TO BE SUBSTITUTED FOR MINIMUM CODE COMPLIANT FENESTRATION PRODUCT ASSEMBLIES WITHOUT PENALTY.
k. IN ADDITION TO THE EXEMPTION IN SECTION N1102.3.3, A MAXIMUM OF TWO GLAZED FENESTRATION PRODUCT ASSEMBLIES HAVING A SHGC NO GREATER THAN 0.70 SHALL BE PERMITTED TO BE SUBSTITUTED FOR MINIMUM CODE COMPLIANT FENESTRATION PRODUCT ASSEMBLIES WITHOUT PENALTY.
l. R-30 SHALL BE DEEMED TO SATISFY THE CEILING INSULATION REQUIREMENT WHEREVER THE FULL HEIGHT OF UNCOMPRESSED R-30 INSULATION EXTENDS OVER THE WALL TOP PLATE AT THE JAVES. OTHERWISE, R-38 INSULATION IS REQUIRED WHERE ADEQUATE CLEARANCE EXISTS OR INSULATION MUST EXTEND TO EITHER THE INSULATION NAUPLC OR WITHIN 1 INCH OF THE ATTIC ROOF DECK.
m. 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 RAFTERS.
n. R-19 FIBERGLASS BATTIS COMPRESSED AND INSTALLED IN A NOMINAL 2 + 6 FRAMING CAVITY IS DEEMED TO COMPLY. FIBERGLASS BATTIS RATED R-19 OR HIGHER COMPRESSED AND INSTALLED IN A 2x6 WALL IS NOT PERMITTED TO COMPLY.
o. BASEMENT WALL MEETING THE MINIMUM MASS WALL SPECIFIC HEAT CONTENT REQUIREMENT MAY USE THE MASS WALL R-VALUE AS THE MINIMUM REQUIREMENT.



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CLIENT: MARIE HUMPHREY
PROJECT: HUMPHREY GARAGE

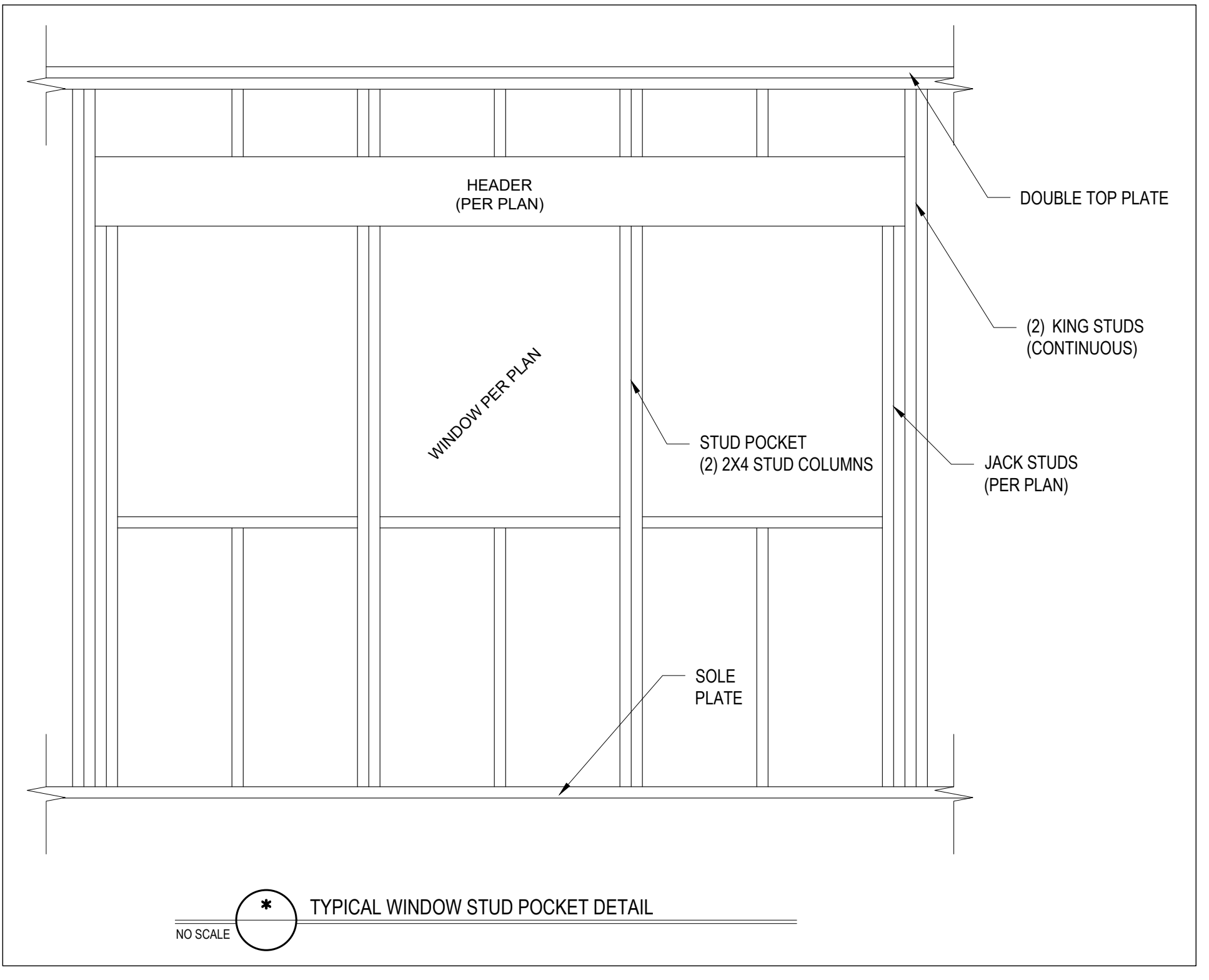
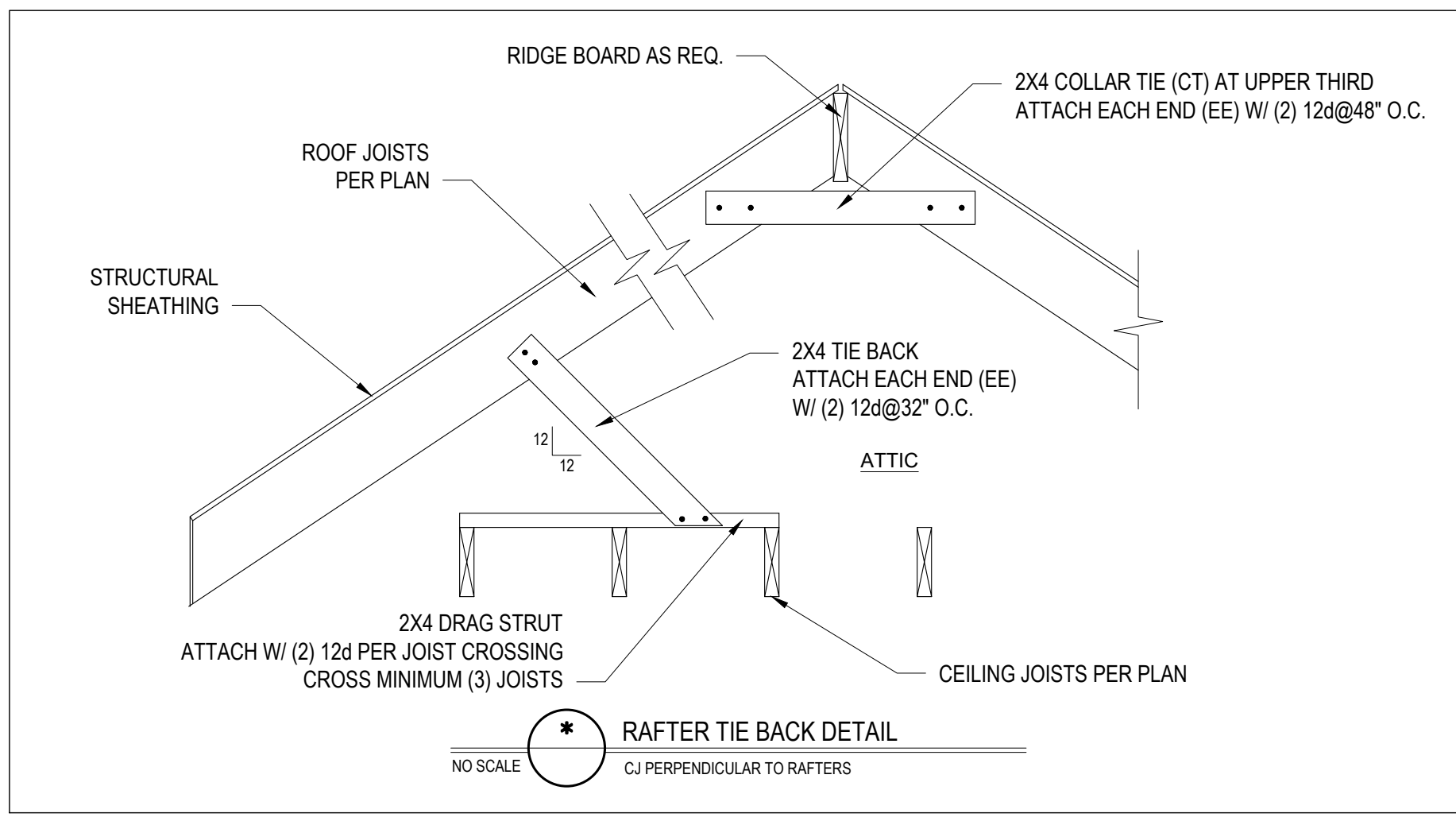
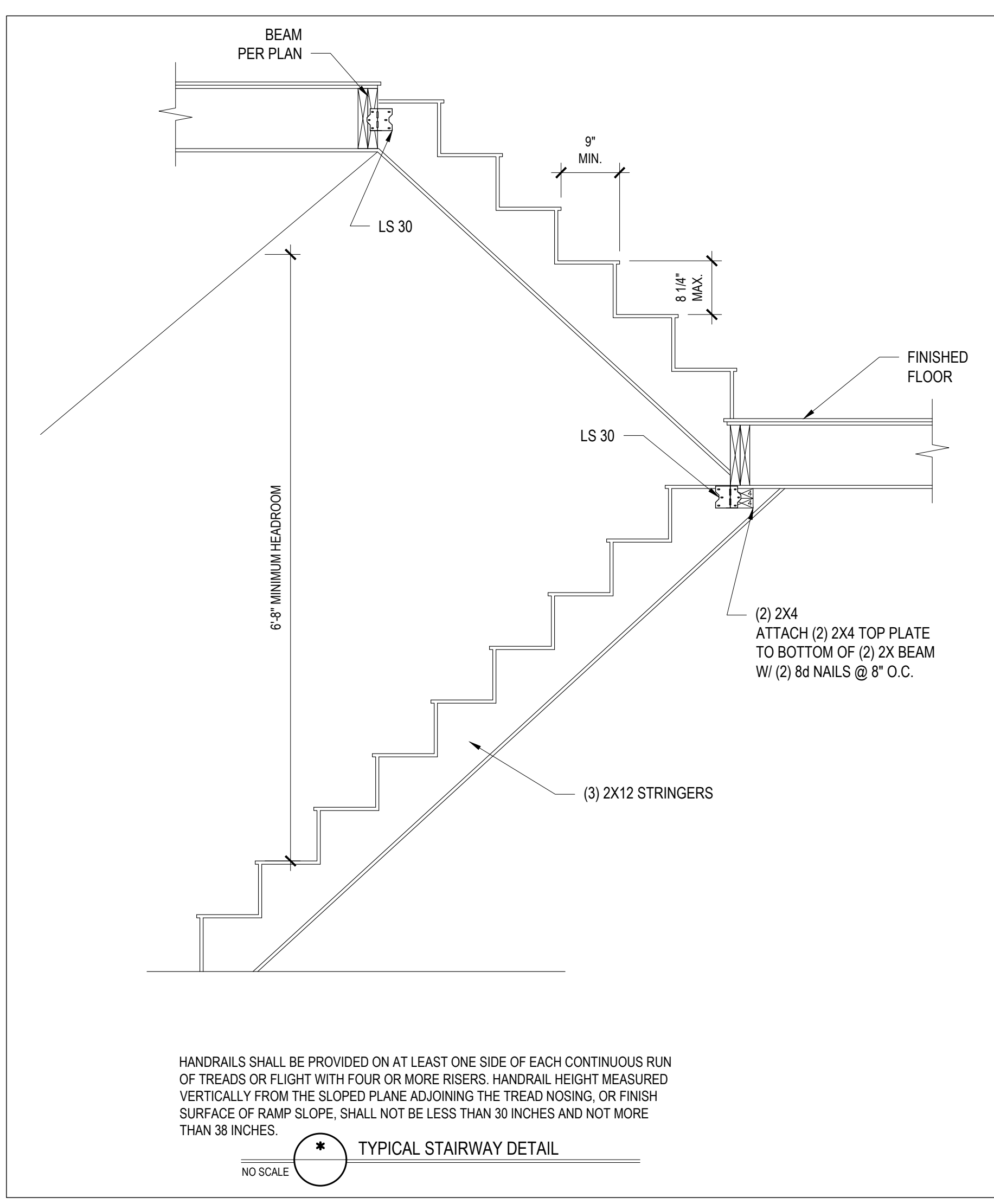
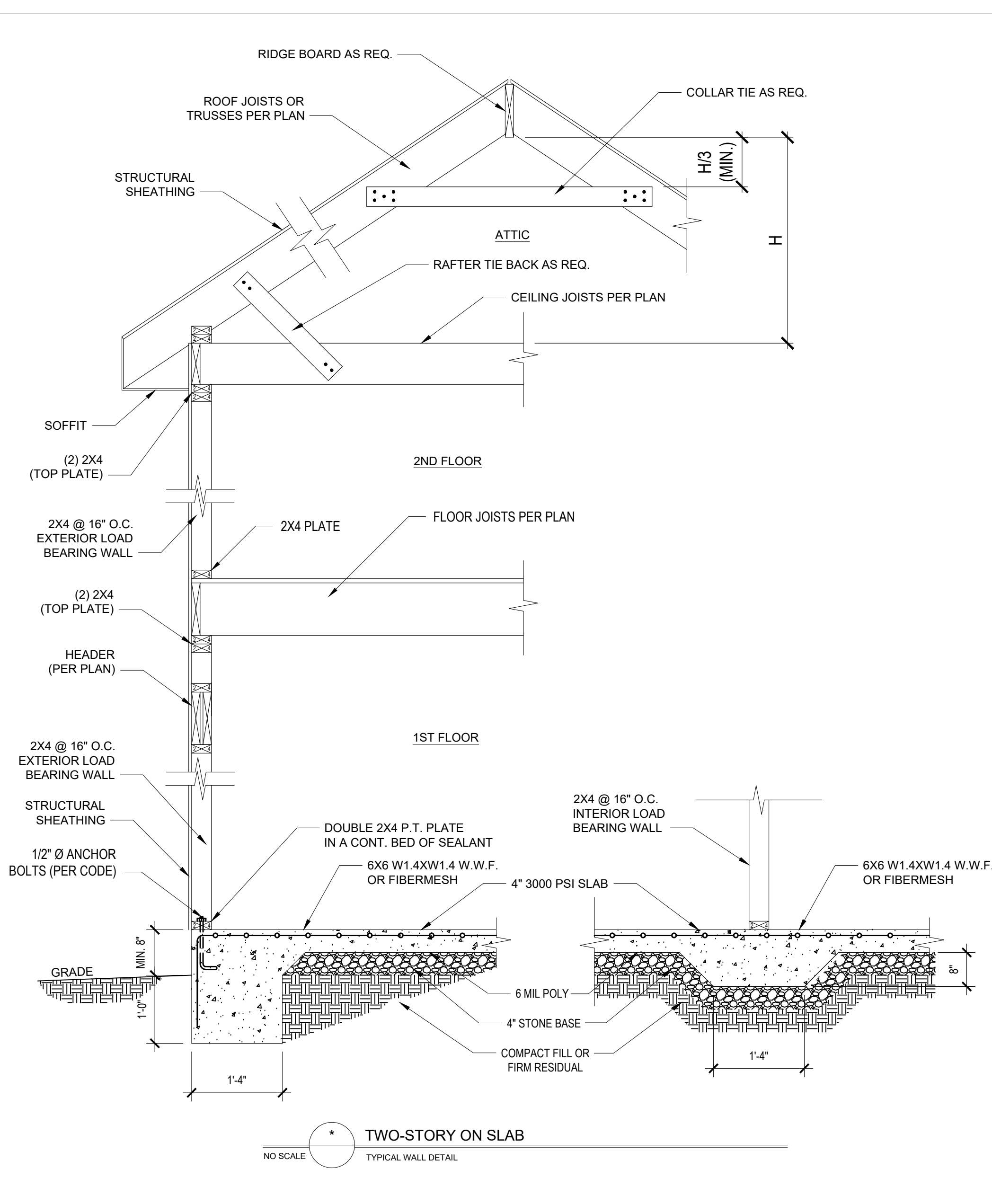
STANDARD DETAILS

Project #: DRB2201-0414
Date: 01/24/23
Engineered By: AM
DWG. Checked By: AWL
Scale: SEE PLAN

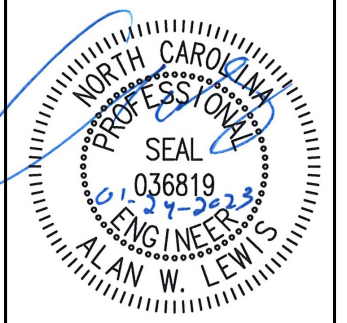
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CLIENT: **MARIE HUMPHREY**
PROJECT: **HUMPHREY GARAGE**

STANDARD DETAILS

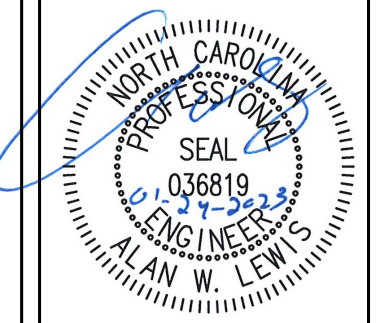
Project #: DRB2201-0414
Date: 01/24/23
Engineered by: AM
DWG. Checked By: AWL
Scale: SEE PLAN

| REVISIONS | | |
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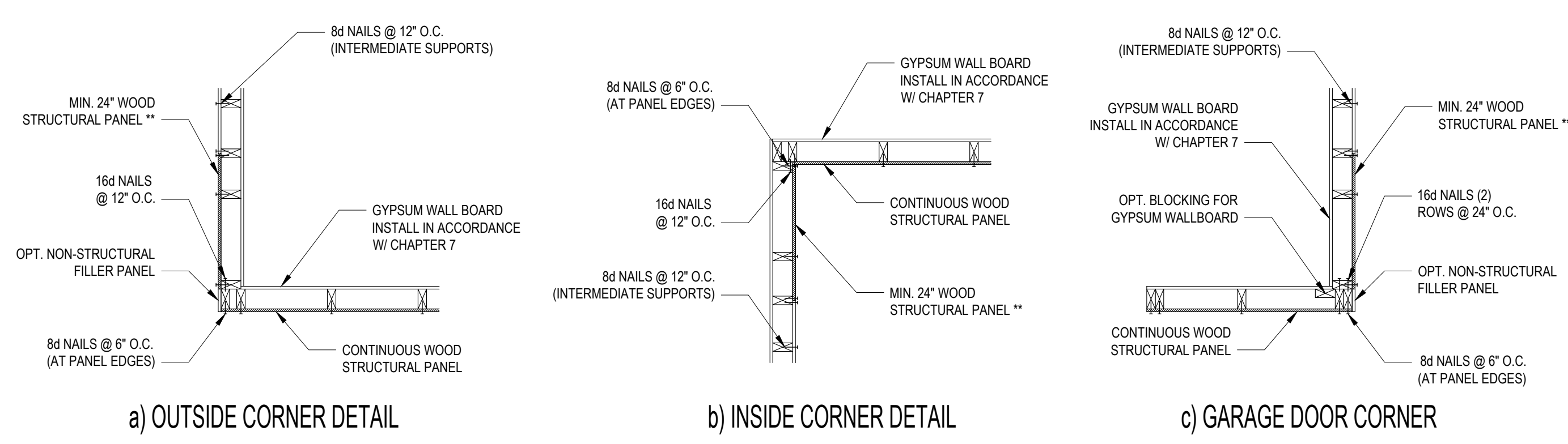
Client: **MARIE HUMPHREY**
 Project: **HUMPHREY GARAGE**

SHEATHING DETAILS

Project #: **DRB2201-0414**
 Date: **01/24/23**
 Engineer: **AM**
 DWG. Checked By: **AWL**
 Scale: **SEE PLAN**

| REVISIONS | | |
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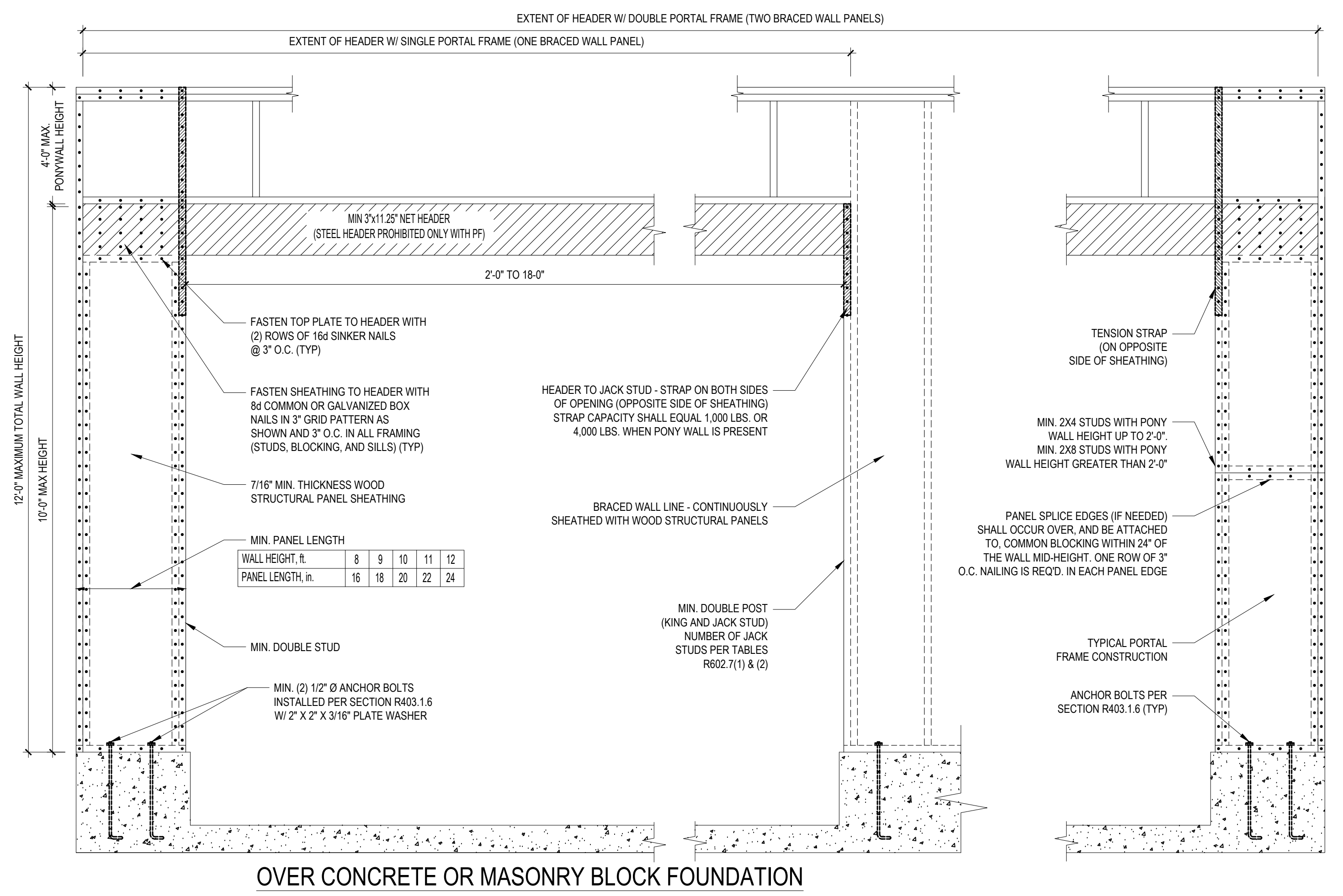


B1: TYPICAL EXTERIOR CORNER FRAMING FOR CONTINUOUS SHEATHING
 NO SCALE

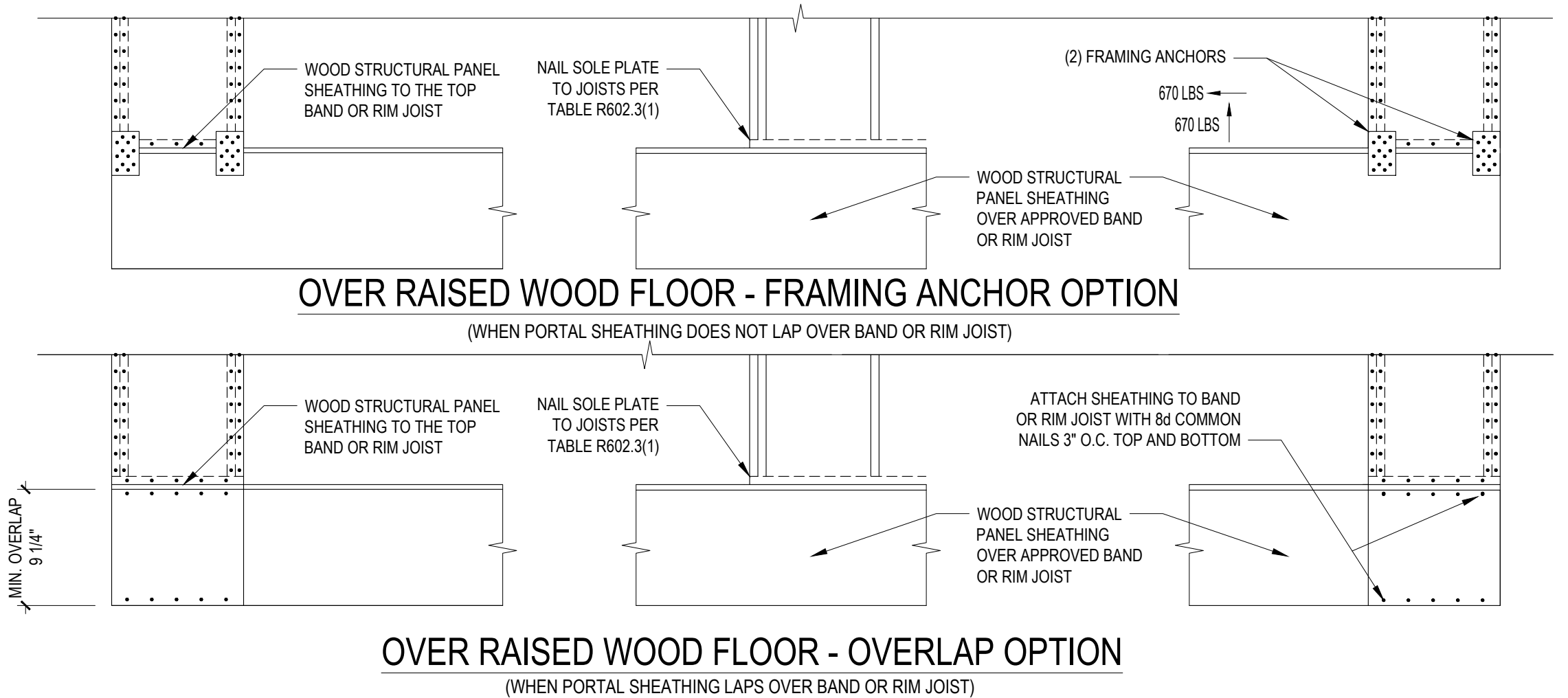
- STRUCTURAL SHEATHING NOTES**
- DESIGNED FOR SEISMIC ZONE A-C AND WIND SPEEDS OF 120 MPH OR LESS.
 - WALLS SHALL BE BRACED IN ACCORDANCE WITH SECTION R602.10.3 OF THE 2018 NCR.
 - BRACING REQUIREMENTS SHALL BE PER TABLE R602.10.3. REFER TO SECTION R602.10.4 FOR LOAD PATH DETAILS INCLUDING CONNECTIONS & 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" GYPSUM BOARD (GB) MINIMUM LENGTH OF 8'-0" (ISOLATED PANELS) OR 4'-0" (CONTINUOUS SHEATHING).
 - 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 AND 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 R602.10.3.14. IN LIEU OF A CORNER RETURN EITHER A MINIMUM 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 CORNER AND TO THE FOUNDATION OR FRAMING BELOW.
 - MINIMUM 800# HOLD-DOWN DEVICE.

| 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. |

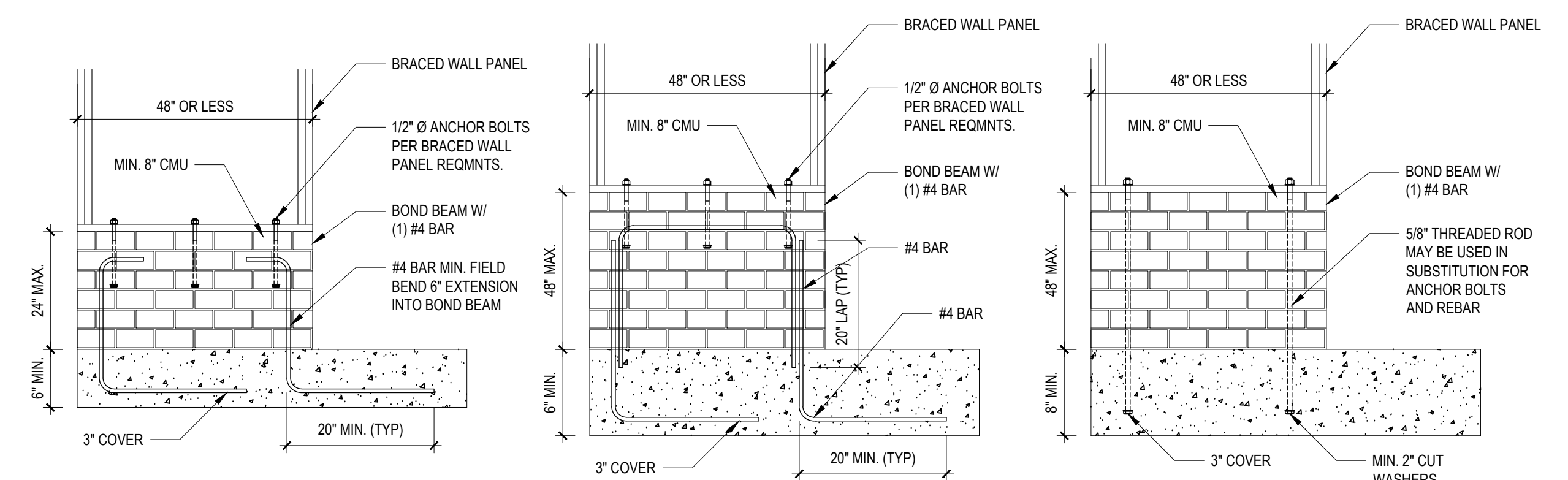
**OR EQUIVALENT PER TABLE R702.3.5
B3: BRACE WALL PANEL CONNECTIONS
 NO SCALE



B2: METHOD PF: PORTAL FRAME CONSTRUCTION
 FIGURE R602.10.1



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

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