

ABBREVIATIONS

A/C	AIR CONDITIONING	INSUL	INSULATION
ABV.	ABOVE	INT.	INTERIOR
APP.	ABOVE FINISHED FLOOR	JST.	JOIST
ALT.	ALTERNATE	KIT.	KITCHEN
APPROX.	APPROXIMATE	LTL	LINTEL
ASF	ABOVE SUB-FLOOR	LVR.	LOUVER
B&B	BOARD & BATTEN	MECH.	MECHANICAL
BLDG.	BUILDING	MFR.	MANUFACTURER
BLK	BLOCK	NTS	NOT TO SCALE
BMT.	BEAM	OC	ON CENTER
BSMNT.	BASEMENT	OFB.	OUTSIDE FACE OF STUD
CO	CASED OPENING	OH.	OVERHEAD
CAB.	CABINET	OPNG.	OPENING
CJ	CEILING JOIST	PT.	PRESSURE TREATED
CLG.	CEILING	RAF.	RETURN AIR FILTER GRILL
CML	CONCRETE MASONRY UNIT	RAD.	RADIUS
COL.	COLUMN	REC.	RECREATION
CONC.	CONCRETE	REG.	REGISTER
CONT.	CONTINUOUS	REQ'D.	REQUIRED
CSMNT.	CASEMENT	REV.	REVISION
DH.	DOUBLE HUNG	RFG.	ROOFING
DIAG.	DIAGONAL	RH.	ROOF
DIM.	DIMENSION	RO	ROUGH OPENING
DN.	DOWN	SCRN.	SCREEN
DN.	DOWN	SQFT.	SQUARE FOOT
DW.	DISHWASHER	SHV.S.	SHELVES
DUR.	DRAWER	SHT.	SHEET
ELEV.	ELEVATOR	SPEC'D.	SPECIFIED
EXT.	EXTERIOR	STD.	STANDARD
FFE	FINISHED FLOOR ELEVATION	STOR.	STORAGE
FLOOR	FLOOR	T&G	TONGUE IN GROOVE
FND.	FOUNDATION	T&B	TOWEL BAR
FRPL.	FIREPLACE	TPL.	TOP OF PLATE
FTG.	FOOTING	TYP.	TYPICAL
H/C	HANDICAP	UNF.	UNFINISHED
HB.	HOSE BIB	VERT.	VERTICAL
HDR.	HEADER	WD.	WOOD
HORIZ.	HORIZONTAL	WH	WATER HEATER
HT.	HEIGHT	W.C.	WALK-IN CLOSET
HVAC	HEATING, VENTILATION & A/C	WP	WATERPROOFING
HU	HOT WATER	WUM	WELDED WIRE MESH

RESIDENCE FOR DISABLED VET.

164 HORSE PATH LANE, HOLLY SPRINGS, NC 27540



FRONT ELEVATION

NOT TO SCALE

AREA CALCULATION

LIVING SPACE	
FIRST FLOOR:	3000 SQFT
NON-LIVING SPACE	
BASEMENT:	1063 SQFT
GARAGE:	155 SQFT
FRONT PORCH:	426 SQFT
REAR PORCH:	344 SQFT
TOTAL NON-LIVING:	3394 SQFT

SQUARE FOOTAGE IS CALCULATED FROM EXTERIOR CORNER TO EXTERIOR CORNER, INCLUDING WALLS. BRICK VENEER IS INCLUDED IN ALL FINAL SQUARE FOOTAGE CALCULATIONS. STAIRWAYS ARE COUNTED ON EACH FLOOR.

THESE PLANS, NOTES AND DETAILS ARE DESIGNED TO MEET THE REQUIREMENTS OF THE 2018 NC RESIDENTIAL BUILDING CODE.

DESIGN LOADS

FLOOR LIVE LOAD (SLEEPING)	30 PSF
FLOOR LIVE LOAD (ALL OTHERS)	40 PSF
DECKS	40 PSF
BALCONIES	60 PSF
ATTIC DEAD LOAD (NO STOR.)	10 PSF
ATTIC LIVE LOAD (STORAGE)	20 PSF
ATTIC W/STAIRS (DEVELOPABLE)	40 PSF

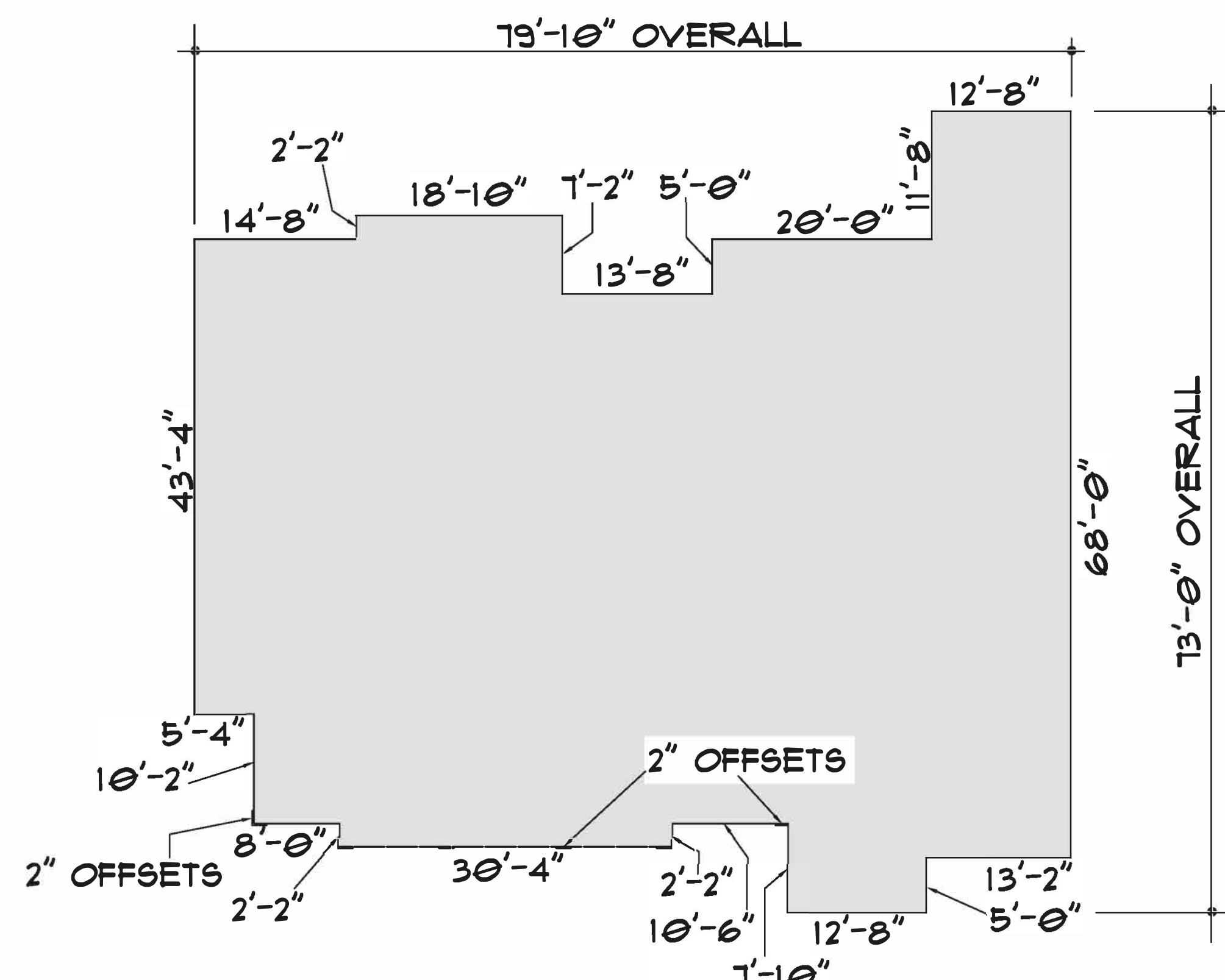
MINIMUM VALUES FOR ENERGY COMPLIANCE

CEILING:	R-38
WALLS:	R-15
FLOORS:	R-15
BASEMENT WALLS:	R-1
GRAVEL SPACE WALLS:	R-9
SLAB PERIMETER # 24" DEEP:	R-4
MAX. GLAZING U-FACTOR:	0.35
DESIGNED FOR:	WIND ZONE OF 120 MPH

COMPONENT & CLADDING DESIGNED FOR THE FOLLOWING LOADS

	MEAN ROOF HEIGHT			
	UP TO 30'	30'-1" TO 35'	35'-1" TO 40'	40'-1" TO 45'
ZONE 1	16.5, -18.0	11.3, -19.9	18.0, -19.6	18.5, -20.2
ZONE 2	16.5, -21.0	11.3, -22.1	18.0, -22.9	18.5, -23.5
ZONE 3	16.5, -21.0	11.3, -22.1	18.0, -22.9	18.5, -23.5
ZONE 4	18.0, -19.5	18.9, -20.5	19.6, -21.3	20.2, -21.8
ZONE 5	18.0, -24.1	18.9, -25.3	19.6, -26.3	20.2, -27.0

SEE NC BUILDING CODE FOR LOCATION OF ZONES
PLUS AND MINUS SIGNS SIGNIFY PRESSURES ACTING TOWARDS AND AWAY FROM THE BUILDING SURFACES



BUILDING FOOTPRINT

GENERAL NOTES:

- 1) ALL NOTES ARE APPLICABLE UNLESS NOTED OTHERWISE (UNO)
- 2) THESE PLANS ARE DESIGNED TO BE USED BY A LICENSED GENERAL CONTRACTOR
- 3) DO NOT SCALE DRAWINGS. WRITTEN DIMENSIONS TAKE PRECEDENCE OVER SCALED DIMENSIONS
- 4) ALL THESE PLANS ARE TO BE HANDLED BY THE GENERAL CONTRACTOR UNLESS NOTED OTHERWISE
- 5) ENGINEER'S INFORMATION AND NOTES TAKE PRECEDENCE OVER TRD'S PLANS AND NOTES

GENERAL CONTRACTOR:

- 1) PRIOR TO CONSTRUCTION, REVIEW ALL PLANS VERIFYING DIMENSIONS AND CONDITIONS, LOCAL CODES, ENERGY TYPES AND SITE CONDITIONS.
- 2) PRIOR TO CONSTRUCTION, REVIEW ALL LISTED WINDOW SIZES AND COMPARE WITH ELEVATION DRAWINGS TO INSURE ACCURACY. REVIEW ALL WINDOWS AND DOOR OPENINGS FOR CLEARANCE AND ACCURACY.
- 3) INSURE ALL PHASES OF CONSTRUCTION COMPLY WITH BUILDING CODES IN THE AREA THE HOME IS TO BE BUILT
- 4) CONSULT WITH LOCAL ENGINEER FOR STRUCTURAL DESIGN
- 5) ANY DISCREPANCY IN THE PLANS IS TO BE BROUGHT TO THE ATTENTION OF TRD FOR CORRECTION PRIOR TO CONSTRUCTION. ONCE CONSTRUCTION BEGINS, THE CONTRACTOR ASSUMES ALL RESPONSIBILITY
- 6) IF AN UNSPECIFIED PRODUCT CAUSES AN ERROR IN THE PLAN OR DURING CONSTRUCTION, IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO MAKE ADJUSTMENTS AS REQUIRED.

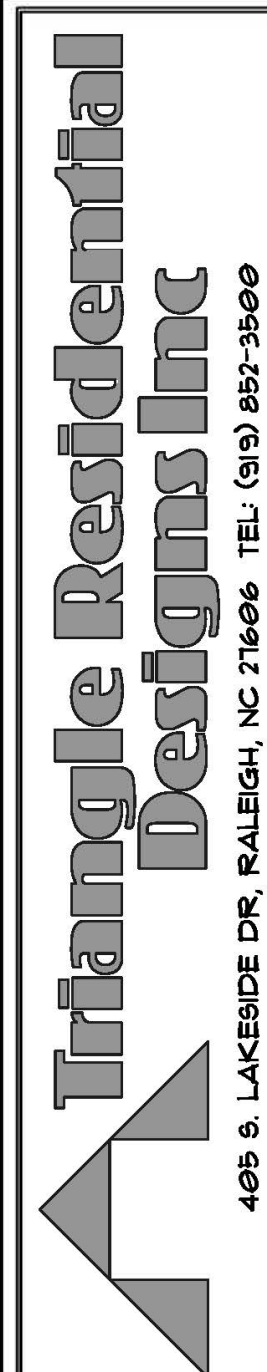
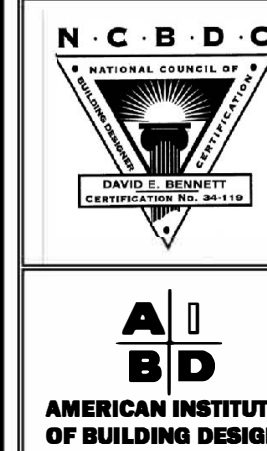
NON-EXCLUSIVE LICENSING & LIABILITY:

- 1) THE PURCHASER OF THIS PLAN HAS BEEN GRANTED A NON-EXCLUSIVE, NON-TRANSFERABLE LICENSE TO USE THIS COPYRIGHTED PLAN TO BUILD ONE HOME
- 2) THE PLANS ARE NOT TO BE REPRODUCED, WHOLE OR IN PART, OR RESOLD, WITHOUT WRITTEN CONSENT FROM TRD.
- 3) THE LIABILITY OF TRD IN CONNECTION WITH THIS PLAN AND THE HOME BUILT THEREFROM IS LIMITED TO THE TOTAL FEES PAID BY THE PURCHASER OF THE PLAN.
- 4) TRD ASSUMES NO LIABILITY FOR ALTERATIONS TO THE PLANS, FIELD MODIFICATIONS OF THE PLANS OR STRUCTURAL COMPONENTS. THEY ARE THE SOLE RESPONSIBILITY OF THE GENERAL CONTRACTOR

INDEX TO SHEETS

SHEET 1	COVER SHEET
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SHEET 3	LEFT & REAR SIDE ELEVATIONS
SHEET 4	FOUNDATION/MASONRY PLAN
SHEET 5	BASEMENT FLOOR PLAN
SHEET 6	FIRST FLOOR PLAN
SHEET 7	ROOF PLAN
SHEET 8 1-3	STRUCTURAL SHEETS
SHEET D 1	STANDARD DETAIL SHEET

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PROJECT ADDRESS:
164 HORSE PATH LANE
HOLLY SPRINGS, NC 27540
HARRETT COUNTY

CLIENT:
PROJECT:
RESIDENCE

DRAWN BY:
DEB, LDB

DATE:
SEPT 20, 2024

REVISED:

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 2) THESE PLANS ARE DESIGNED TO BE USED BY A LICENSED GENERAL CONTRACTOR
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TRIANGLE RESIDENTIAL DESIGNS:
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 2) THE LIABILITY OF TRD IN CONNECTION WITH THIS PLAN AND THE HOME BUILT THEREFROM IS LIMITED TO THE TOTAL FEE PAID BY THE PURCHASER OF THE PLAN.
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DESIGN LOADS

FLOOR LIVE LOAD (SLEEPING) 30 PSF
 FLOOR LIVE LOAD (ALL OTHERS) 40 PSF
 DECKS 40PSF
 BALCONIES 60PSF
 ATTIC DEAD LOAD (NO STOR.) 10 PSF
 ATTIC LIVE LOAD (STORAGE) 20 PSF
 ATTIC W/STAIRS (DEVELOPABLE) 40 PSF

MINIMUM VALUES FOR ENERGY COMPLIANCE

CEILING: R-13
 WALL: R-13
 FLOOR: R-19
 BASEMENT WALL: R-1
 CRAWL SPACE WALL: R-9
 SLAB PERIMETER # 24" DEEP: R-4
 MAX. GLAZING U-FACTOR # 0.35
 ZONE 4



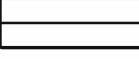


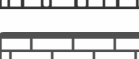

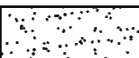

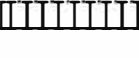

COMPONENT & CLADDING DESIGNED FOR THE FOLLOWING LOADS

	MEAN ROOF HEIGHT			
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SEE NC BUILDING CODE FOR LOCATION OF ZONES

PLUS AND MINUS SIGNS SIGNIFY PRESSURES ACTING TOWARDS AND AWAY FROM THE BUILDING SURFACES

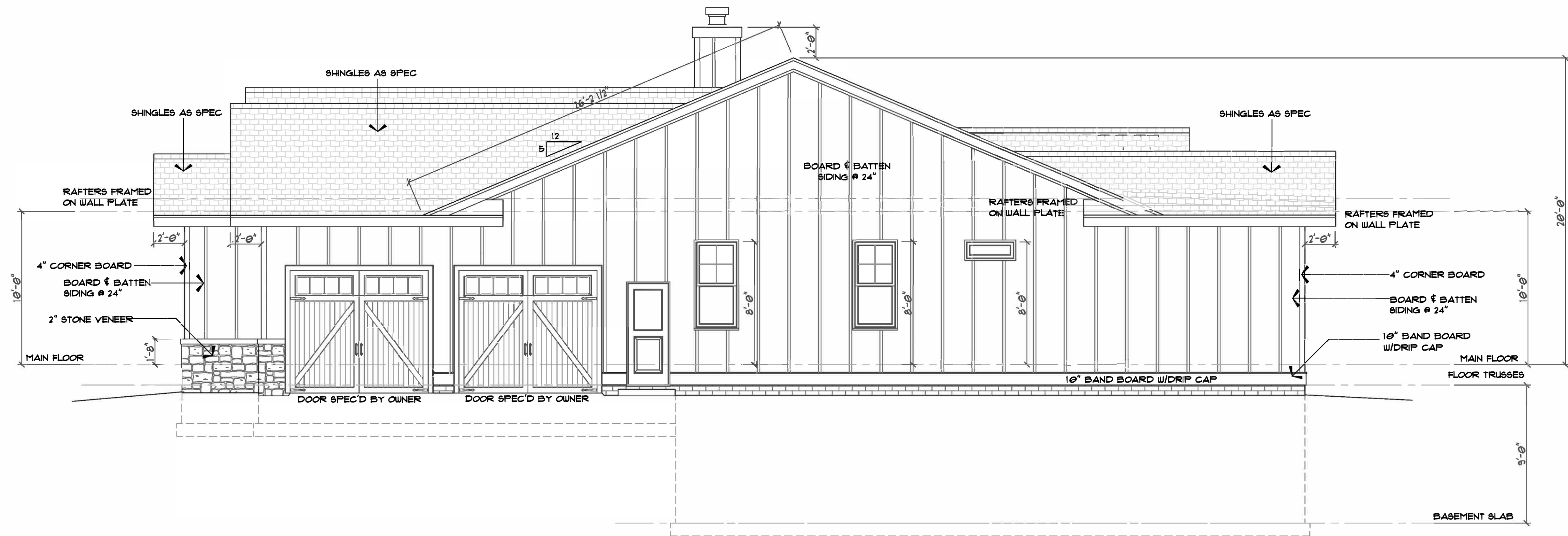
EXTERIOR MATERIALS

-  ROOF SHINGLES
-  METAL ROOF
-  HORIZONTAL SIDING
-  BOARD & BATTEN SIDING
-  VERTICAL SIDING
-  SHAKE SIDING
-  BRICK
-  STONE
-  STUCCO OR PARGING
-  SCREEN
-  BRICK ROWLOCK OR SOLDIER



FRONT ELEVATION (SOUTH)

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

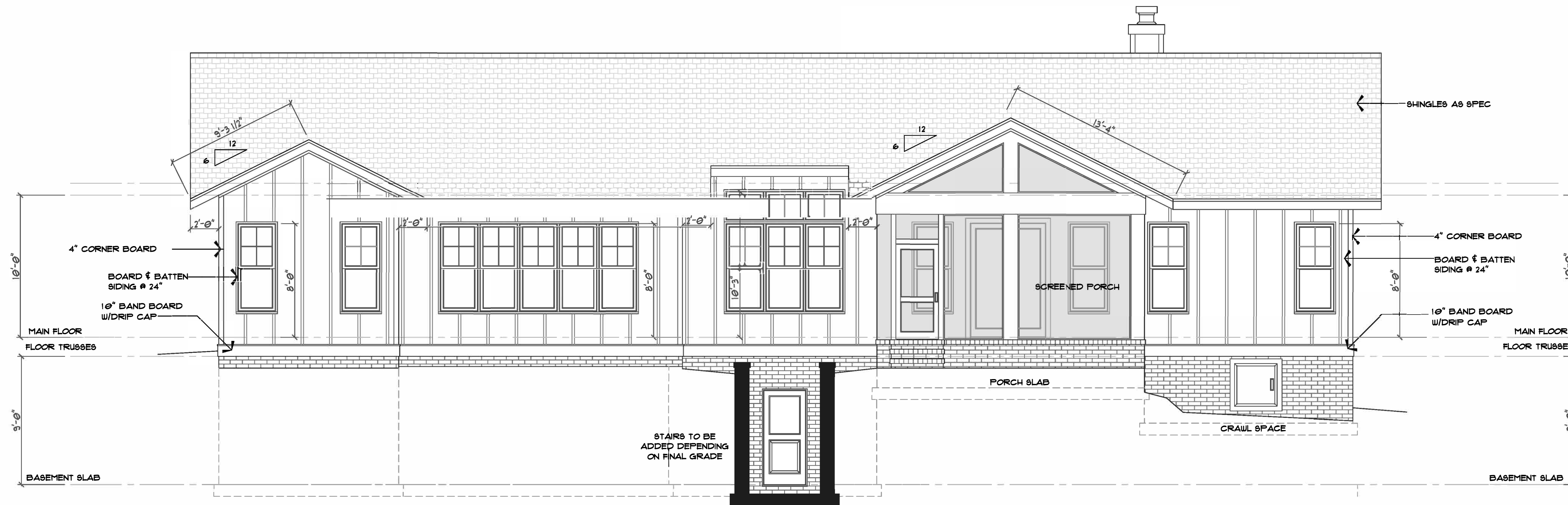


RIGHT SIDE ELEVATION (EAST)

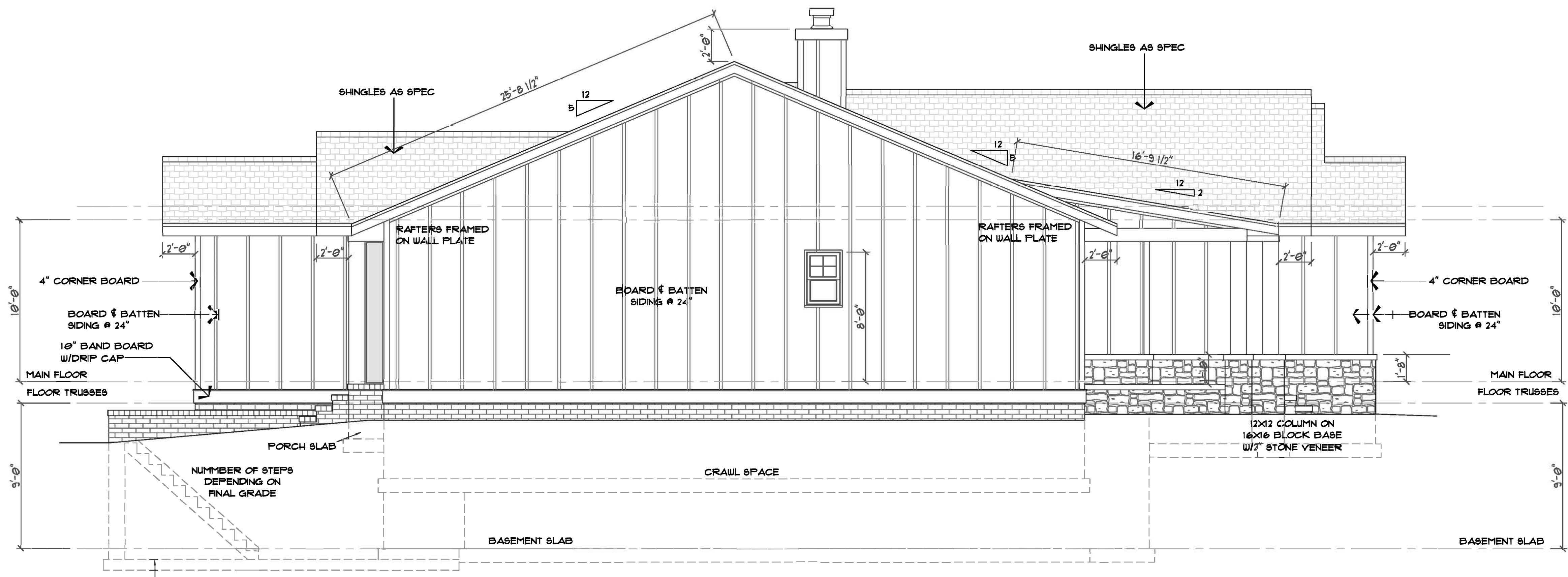
SCALE: 1/4"=1'-0"

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5	SECOND FLOOR PLAN
6	ROOF PLAN
SI-2	STRUCTURAL ENGINEERING PLANS
DI-2	DETAIL SHEETS

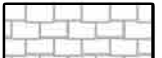

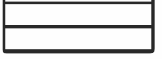
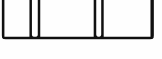
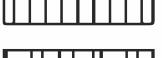
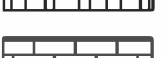

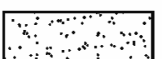





REAR ELEVATION (NORTH)
 SCALE: 1/4"=1'-0"



LEFT SIDE ELEVATION (WEST)
 SCALE: 1/4"=1'-0"

EXTERIOR MATERIALS

-  ROOF SHINGLES
-  METAL ROOF
-  HORIZONTAL SIDING
-  BOARD & BATTEN SIDING
-  VERTICAL SIDING
-  SHAKE SIDING
-  BRICK
-  STONE
-  STUCCO OR PARGING
-  SCREEN
-  BRICK ROWLOCK OR SOLDIER

FOUNDATION NOTES

- 1) CRAWL SPACE IS TO BE LEVEL & CLEAN OF CONSTRUCTION DEBRIS, VEGETATION AND ANY ORGANIC MATERIAL.
- 2) ONE VENT MUST BE WITHIN 3' OF EACH CORNER OF THE BUILDING.
- 3) VENT LOCATIONS TO BE DETERMINED ON SITE WITH REGARD TO GRADE AND FLOOR FRAMING.

FOOTINGS

- 1) FOOTING PROJECTIONS SHALL BE AT LEAST 2" AND SHALL NOT EXCEED THE THICKNESS OF THE FOOTING.
- 2) THE TOP SURFACE OF FOOTINGS SHALL BE LEVEL WITH MASONRY UNITS WITH FULL MORTAR JOINTS. BOTTOM SURFACE OF FOOTINGS MAY SLOPE NO MORE THAN 10%.
- 3) FINISHED GRADE OF THE UNDER FLOOR SURFACE MAY BE LOCATED AT THE BOTTOM OF THE FOOTINGS.
- 4) MINIMUM 8" WALL FOOTING TO BE NO LESS THAN 16" X 8"
- 5) MINIMUM CONCRETE FOOTING STRENGTH = 3000 PSI

DRAINAGE

- 1) INSTALL AROUND FOUNDATION DRAIN TILES, GRAVEL OR CRUSHED STONE DRAINS, PERFORATED PIPES OR OTHER APPROVED SYSTEM AS REQUIRED BY GRADE.
- 2) FOUNDATION DRAINAGE MAY BE OMITTED WHEN THE INTERIOR GRADE IS LESS THAN 12" BELOW THE EXTERIOR GRADE.
- 3) DRAIN SURFACE WATER AWAY FROM FOUNDATION WALLS AT A MINIMUM OF 6" WITHIN THE FIRST 10'.

WATERPROOFING:

- 1) FOUNDATION WALLS, WHERE THE OUTSIDE GRADE IS HIGHER THAN THE INSIDE GRADE, SHALL BE DAMPROOFED FROM THE TOP OF THE FOOTING TO THE FINISHED GRADE. USE CODE APPROVED METHOD.

ANCHORAGE

- 1) THE WOOD SOLE PLATE AT EXTERIOR WALLS ON MONOLITHIC SLABS AND WOOD SILL PLATE SHALL BE ANCHORED TO THE FOUNDATION WITH ANCHOR BOLTS SPACED A MAXIMUM OF 6'-0" ON CENTER AND LOCATED WITHIN 12" FROM THE ENDS OF EACH PLATE SECTION. BOLTS SHALL BE AT LEAST 1/2" IN DIAMETER AND SHALL EXTEND A MINIMUM OF 1" INTO MASONRY OR CONCRETE.
- 2) BOLTS MAY BE REPLACED BY ANCHOR STRAIPS, SPACED AS REQUIRED TO PROVIDE EQUIVALENT ANCHORAGE.
- 3) INTERIOR BEARING WALL SOLE PLATES ON MONOLITHIC SLABS SHALL BE ANCHORED WITH APPROVED FASTENERS.

FOUNDATION WALLS

- 1) VERTICAL REINFORCEMENT OF MASONRY WALLS SHALL BE TIED TO THE HORIZONTAL REINFORCEMENT OF THE FOOTINGS.
- 2) FOUNDATION WALL IS TO BE 8" CONC. BLOCK OR 8" BRICK & BLOCK ON CONTINUOUS CONCRETE FOOTING.
- 3) FOUNDATION WALL IS TO HAVE A SOLID 8" MASONRY CAP.
- 4) WALL HEIGHT ABOVE FINISHED SHALL BE 4" WHERE MASONRY VENEER IS USED AND 6" ELSEWHERE.
- 5) WALL SUPPORTING OVER 4' OF UNBALANCED BACKFILL MUST BE BRACED TO PREVENT DAMAGE BY THE BACKFILL.
- 6) CAVITY WALL OR MASONRY VENEER CONSTRUCTION MAY BE SUPPORTED ON AN 8" FOUNDATION WALL, PROVIDED THE WALL IS CORBELED WITH SOLID MASONRY TO THE WIDTH OF THE WALL SYSTEM ABOVE. THE TOTAL HORIZONTAL PROJECTION OF THE CORBEL SHALL NOT EXCEED 2" WITH INDIVIDUAL CORBELS PROJECTING NOT MORE THAN 1/3 THE THICKNESS OF THE UNIT OR 1/2 THE HEIGHT OF THE UNIT. THE TOP COURSE OF ALL CORBELS SHALL BE A HEADER COURSE.
- 7) VENTS ARE INTENDED TO BE 16" X 8" ALUMINUM.

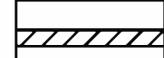
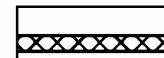


ANCHOR BOLTS

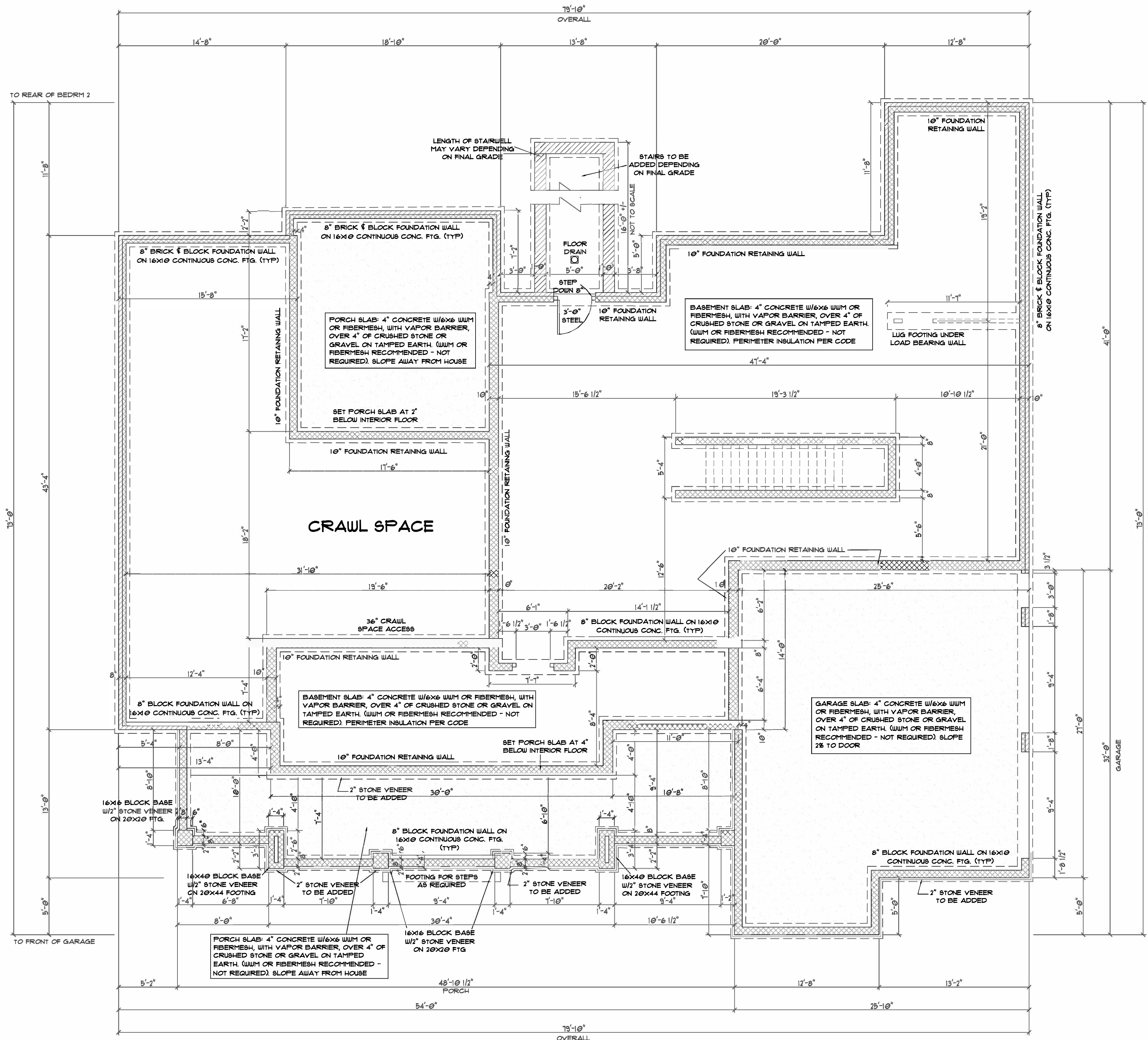
- 1) 1/2" DIA X 10" ANCHOR BOLTS W/ 1" MIN EMBEDMENT @ 6'-0" OC AND 12" FROM EACH PLATE SPLICE AND CORNER.

CONCRETE SLAB FLOORS

- 1) CONCRETE SLAB ON GROUND FLOORS SHALL BE A MINIMUM OF 3-1/2" THICK.
- 2) FILL MATERIAL SHALL BE COMPACTED TO ASSURE UNIFORM SUPPORT OF SLAB.
- 3) FILL SHALL NOT EXCEED 24" FOR CLEAN SAND OR GRAVEL AND 8" FOR EARTH.
- 4) GARAGE SLABS SHALL BE 4" CONC. W/ 6X6 W/M OR FIBERMESH, WITH VAPOR BARRIER, OVER 4" OF CRUSHED STONE OR GRAVEL ON TAMPED EARTH. (W/M OR FIBERMESH RECOMMENDED - NOT REQUIRED)
- 5) GARAGE SLAB SHALL BE SLOPED TO FACILITATE THE MOVEMENT OF LIQUIDS TO A DRAIN OR TOWARD THE MAIN VEHICLE ENTRYWAY.
- 6) BASEMENT SLABS: SAME AS GARAGE SLABS BUT WITH PERIMETER INSULATION PER CODE.
- 7) ELEVATED GARAGE FLOOR SHALL BE CAPABLE OF SUPPORTING A 2,000# LOAD OVER A 20-SQUARE-INCH AREA WITH A LIVE LOAD OF 50 PSF
- 8) EXPANSION JOINT REQUIRED WHERE ENCLOSED SLAB MEETS FOUNDATION WALL.

FOUNDATION MATERIALS LEGEND

-  BRICK
-  CONCRETE BLOCK
-  CONCRETE FOOTING
-  CONCRETE



FOUNDATION/MASONRY PLAN

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

FLOOR PLAN NOTES

- 1) ALL JOIST SPANS ARE CALCULATED USING #2 GRADE SPRUCE PINE FIR.
- 2) JOIST SIZES ARE SHOWN AT MINIMUM TO MEET STRUCTURAL REQUIREMENTS. SIZES MAY BE INCREASED TO PROVIDE MINIMUM INSULATION VALUES OR AIR PASSAGES.
- 3) PROVIDE DOUBLE FLOOR JOISTS AT ALL NON LOAD BEARING PARTITION WALLS RUNNING PARALLEL TO FLOOR JOISTS. ALSO UNDER ALL BOOKCASES, CABINETS, TUBS AND WASHING MACHINES (RECOMMENDED - NOT REQUIRED).
- 4) FLOOR JOISTS MUST BEAR 1/8" MIN. ON WOOD OR METAL AND 3" MIN. ON MASONRY OR CONCRETE.
- 5) PROVIDE 1"x4" CROSS-BRACING OR SOLID BLOCKING BETWEEN FLOOR JOISTS AT 6'-0" O.C. MAX. (RECOMMENDED BUT NOT REQUIRED.)
- 6) ALL EXTERIOR AND LOAD BEARING HEADERS ARE TO BE 2"x6".
- 7) MINIMUM LVL DESIGN STRENGTH: E=2.0 x 2 MILLION PSI, FB=2800 PSI, FC=265 PSI.
- 8) ALL LVL BEAMS TO HAVE 3 STUDS EACH END.
- 9) LOAD BEARING HEADER JACKS MUST REST ON DOUBLE JOISTS - SUPPLY EXTRA JOISTS AS REQUIRED.
- 10) DRAFTSTOPPING AND FIREBLOCKING AS REQUIRED PER CODE.
- 11) DESIGN FOR WOOD FLOOR TRUSSES MUST BE PREPARED BY A REGISTERED DESIGN PROFESSIONAL.

WOOD WALL CONSTRUCTION

- 1) ALL STUDS ARE TO BE #3 GRADE STANDARD OR STUD GRADE LUMBER - #2 GRADE RECOMMENDED BUT NOT REQUIRED.
- 2) ALL INTERIOR LOAD-BEARING WALLS SHALL BE CONSTRUCTED, FRAMED & FIREBLOCKED AS REQUIRED FOR EXTERIOR WALLS.
- 3) WALLS ARE 2X4 STUDS @ 16" O.C.
- 4) ALL OPEN AREA, TWO STORY WALLS ARE TO BE BALLOON FRAMED, 2X6 STUDS AT 12" O.C.
- 5) DRAFTSTOPPING AND FIREBLOCKING REQUIRED AS PER CODE.
- 6) ALL OPEN AREA, TWO STORY WALLS ARE TO BE BALLOON FRAMED, 2X6 STUDS AT 12" O.C.
- 7) WINDOWS SHOULD BE RATED FOR 25PSI.

STAIRWAYS

- 1) STAIRWAYS SHALL BE A MINIMUM 3'-0" WIDE.
- 2) HANDRAILS SHALL NOT PROJECT MORE THAN 4.5" ON EITHER SIDE.
- 3) MINIMUM CLEAR WIDTH OF THE STAIRWAY AT AND BELOW THE HANDRAIL SHALL NOT BE LESS THAN 31.5" WHERE THE HANDRAIL IS INSTALLED ON ONE SIDE AND 21" WHERE HANDRAILS ARE ON BOTH SIDES.
- 4) STAIRS NOT REQUIRED FOR EGRESS MAY BE AS NARROW AS 26".
- 5) MAXIMUM RISER HEIGHT SHALL BE 8-1/4" AND THE MINIMUM TREAD DEPTH SHALL BE 9".
- 6) NOSING SHALL BE 3/4" MINIMUM AND 1-1/4" MAXIMUM.
- 7) MINIMUM HEADROOM IN ALL PARTS OF THE STAIR SHALL NOT BE LESS THAN 6'-8".
- 8) UNDERS MUST, AT A POINT NOT MORE THAN 12" FROM THE SIDE WHERE THE TREADS ARE NARROWER, BE LESS THAN 9" AND THE MINIMUM WIDTH OF ANY TREAD IS NOT LESS THAN 4".
- 9) SPIRAL STAIRS MUST BE 26" WIDE MINIMUM AND TREADS MUST BE 1-1/2" AT 12" FROM THE NARROW EDGE. ALL TREADS MUST BE IDENTICAL WITH A MAXIMUM RISE OF 9-1/2". MINIMUM HEADROOM OF 6'-8" REQUIRED.
- 10) CIRCULAR STAIRS MUST, AT A POINT NOT MORE THAN 12" FROM THE SIDE WHERE THE TREADS ARE NARROWER, BE LESS THAN 9" AND THE MINIMUM WIDTH OF ANY TREAD IS NOT LESS THAN 6".

HANDRAIL AND GUARDS

- 1) HANDRAILS SHALL HAVE A MINIMUM HEIGHT OF 34" AND A MAXIMUM HEIGHT OF 38".
- 2) PORCHES, BALCONIES OR RAISED FLOORS OVER 30" ABOVE FLOOR OR GRADE SHALL HAVE GUARD RAILS NO LESS THAN 36" HIGH.
- 3) STAIRS THAT HAVE A RISE OF 30" ABOVE THE FLOOR SHALL HAVE HANDRAILS OF 30" HIGH.
- 4) GUARDS ON OPEN SIDES OF STAIRWAYS, RAISED FLOORS, BALCONIES AND PORCHES SHALL HAVE INTERMEDIATE RAILS OR ORNAMENTAL CLOSURES OF LESS THAN 4" TO REJECT A 4" SPHERE.

CAVITY ACCESS

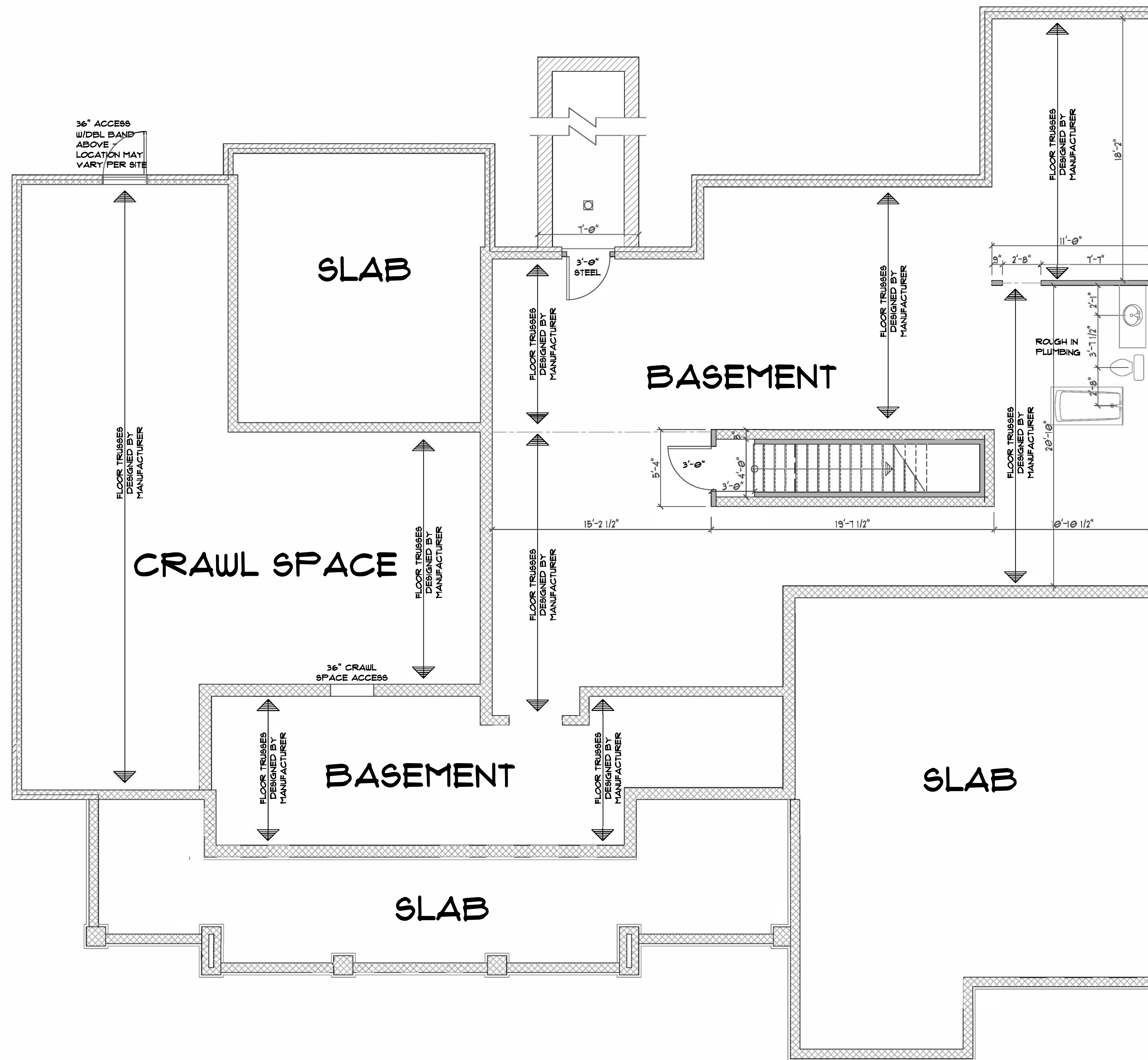
- 1) MIN. CRAWL SPACE ACCESS IS 18"(W) x 24"(H) W/DBL BAND ABOVE PLACE AT BEST LOCATION WITH REFERENCE TO GRADE.
- 2) ACCESS MAKE BE INCREASED IF MECHANICAL EQUIPMENT IS LOCATED UNDER FLOORS - SEE NC MECHANICAL CODE FOR REQUIREMENTS.
- 3) ATTIC ACCESS SHALL BE 22"x 30" MINIMUM.

GLAZING

- 1) ALL HABITABLE ROOMS SHALL HAVE A GLAZING AREA OF NOT LESS THAN 8% OF THE FLOOR AREA.
- 2) WINDOWS SHALL HAVE A MINIMUM DESIGN REQUIREMENT OF 25MPH AND U-1.0.
- 3) VERIFY WINDOW EGRESS WITH WINDOW MANUFACTURER.

EMERGENCY ESCAPE

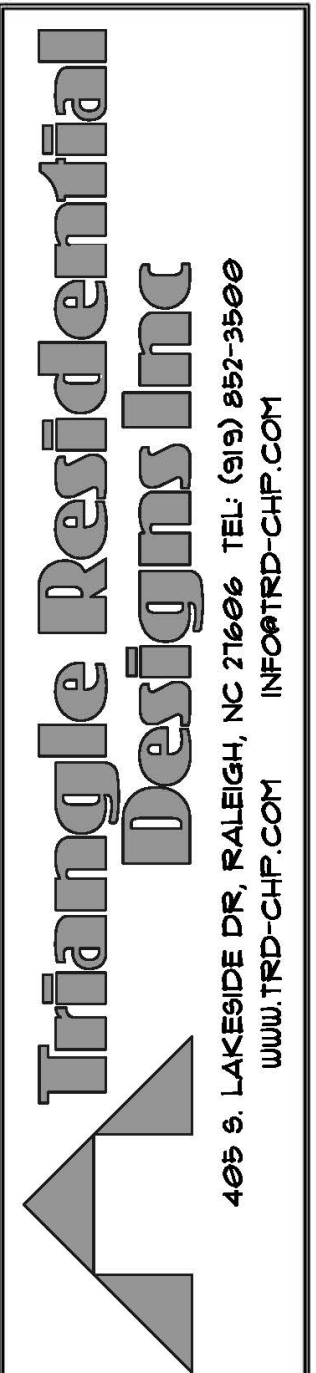
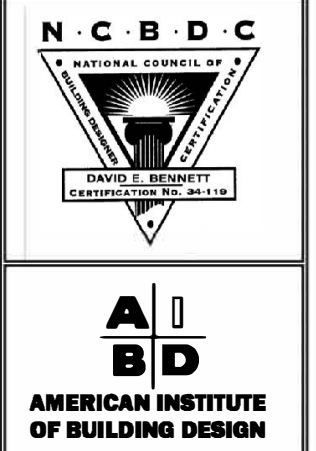
- 1) OPENINGS PROVIDED AS MEANS OF ESCAPE CANNOT HAVE A RILL HEIGHT OF MORE THAN 44" ABOVE THE FLOOR.
- 2) ESCAPE OPENINGS SHALL HAVE A MINIMUM NET CLEAR OPENING OF 4 SQ. FT. THE MINIMUM CLEAR OPENING HEIGHT IS 27" AND THE WIDTH IS 20".
- 3) ESCAPE OPENING SHALL HAVE A TOTAL GLASS AREA OF NOT LESS THAN 5 SQ. FT. FOR A GROUND WINDOW AND 5.7 SQ. FT. FOR AN UPPER STORY WINDOW.
- 4) REQUIRED EXIT DOORS SHALL BE NO LESS THAN 3'-0" x 6'-8".



BASEMENT FLOOR PLAN

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

3'-0" CEILING ON THIS FLOOR



PROJECT ADDRESS:
164 HORSE PATH LANE
HOLLY SPRINGS, NC 27549
HARNETT COUNTY

CLIENT:
PROJECT:
RESIDENCE

DRAWN BY:
DEB, LDB

DATE:
SEPT 20, 2024

REVISED:

SHEET
3 OF
1

FLOOR PLAN NOTES

- 1) ALL JOIST SPANS ARE CALCULATED USING #2 GRADE SPRUCE PINE FIR.
- 2) JOIST SIZES ARE SHOWN AT MINIMUM TO MEET STRUCTURAL REQUIREMENTS. SIZES MAY BE INCREASED TO PROVIDE MINIMUM INSULATION VALUES OR AIR PASSAGES.
- 3) PROVIDE DOUBLE FLOOR JOISTS AT ALL NON LOAD BEARING PARTITION WALLS RUNNING PARALLEL TO FLOOR JOISTS. ALSO UNDER ALL BOOKCASES, CABINETS, TUBS AND WASHING MACHINES (RECOMMENDED - NOT REQUIRED).
- 4) FLOOR JOISTS MUST BEAR 15" MIN ON WOOD OR METAL AND 3" MIN ON MASONRY OR CONCRETE.
- 5) PROVIDE 1"x4" CROSS-BRACING OR SOLID BLOCKING BETWEEN FLOOR JOISTS AT 6'-0" O.C. MAX (RECOMMENDED BUT NOT REQUIRED).
- 6) ALL EXTERIOR AND LOAD BEARING HEADERS ARE TO BE 2"x4" @.
- 7) MINIMUM LVL DESIGN STRENGTH: E=2.0 x 2 MILLION PSI, FB=2800 PSI, FX=280 PSI.
- 8) ALL LVL BEAMS TO HAVE 3 STUDS EACH END.
- 9) LOAD BEARING HEADER JACKS MUST REST ON DOUBLE JOISTS - SUPPLY EXTRA JOISTS AS REQUIRED.
- 10) DRAFTSTOPPING AND FIREBLOCKING AS REQUIRED PER CODE.
- 11) DESIGNS FOR WOOD FLOOR TRUSSES MUST BE PREPARED BY A REGISTERED DESIGN PROFESSIONAL.

WOOD WALL CONSTRUCTION

- 1) ALL STUDS ARE TO BE #3 GRADE STANDARD OR STUD GRADE LUMBER - #2 GRADE RECOMMENDED BUT NOT REQUIRED.
- 2) ALL INTERIOR LOAD-BEARING WALLS SHALL BE CONSTRUCTED, FRAMED & FIREBLOCKED AS SPECIFIED FOR EXTERIOR WALLS.
- 3) WALLS ARE 2X4 STUDS @ 16" O.C.
- 4) ALL OPEN AREA, TWO STORY WALLS ARE TO BE BALLOON FRAMED, 2"x6" STUDS AT 12" O.C.
- 5) DRAFTSTOPPING AND FIREBLOCKING REQUIRED AS PER CODE.
- 6) ALL OPEN AREA, TWO STORY WALLS ARE TO BE BALLOON FRAMED, 2"x6" STUDS AT 12" O.C.
- 7) WINDOWS SHOULD BE RATED FOR 25PSF.

GARAGE DOOR WALL CONSTRUCTION

- ONLY FOR GARAGE DOOR WALLS THAT DO NOT MEET BRACING REQUIREMENTS OF THE NC 2001 RESIDENTIAL BUILDING CODE.
- 1) PLACE (2) 1/2" DIAM ANCHOR BOLTS AT OUTSIDE QUARTER OF THESE PANELS. EXTEND #4 STEEL REINFORCING VERTICALLY, LAPPING THE ANCHOR BOLT A MINIMUM OF 4" AND EXTENDING TO THE FOOTING WITH A 4" MINIMUM HORIZONTAL LEG INTO THE FOOTING. THE FOOTING MUST BE REINFORCED WITH (1) #4 BAR TOP AND BOTTOM IN THIS AREA. SECURE WALL TO ANCHOR BOLTS WITH BRONZE "STRONG TIE" L731, HT16, HT12, HT12S OR TENSION TIE WITH 1800# MINIMUM CAPACITY.
 - 2) FULLY FACE GARAGE WALL WITH 7/16" OSB OR 1/2" CDX NAILED PER TABLE R602.50 AND BLOCKED AT ALL WOOD STRUCTURAL PANEL SHEATHING EDGES.

GARAGE

- 1) DOOR FROM GARAGE TO HOUSE MUST BE 1-3/8" THICK SOLID WOOD OR SOLID OR HONEYCOMBED CORE STEEL DOORS OR 20 MIN. FIRE RATED.
- 2) GARAGE SHALL BE SEPARATED FROM THE RESIDENCE AND ITS ATTIC AREA BY NOT LESS THAN 1/2" GYPSUM BOARD APPLIED TO THE GARAGE SIDE.

STAIRWAYS

- 1) STAIRWAYS SHALL BE A MINIMUM 3'-0" WIDE.
- 2) HANDRAILS SHALL NOT PROJECT MORE THAN 45" ON EITHER SIDE.
- 3) MINIMUM CLEAR WIDTH OF THE STAIRWAY AT AND BELOW THE HANDRAIL SHALL NOT BE LESS THAN 31.5" WHERE THE HANDRAIL IS INSTALLED ON ONE SIDE AND 21" WHERE HANDRAILS ARE ON BOTH SIDES.
- 4) STAIRS NOT REQUIRED FOR EGRESS MAY BE AS NARROW AS 26" 5) MAXIMUM RISER HEIGHT SHALL BE 8-1/4" AND THE MINIMUM TREAD DEPTH SHALL BE 11".
- 6) NOSING SHALL BE 3/4" MINIMUM AND 1-1/4" MAXIMUM.
- 7) MINIMUM HEADROOM IN ALL PARTS OF THE STAIR SHALL NOT BE LESS THAN 6'-8".
- 8) UNDERS MUST, AT A POINT NOT MORE THAN 12" FROM THE SIDE WHERE THE TREADS ARE NARROWER, BE LESS THAN 4" AND THE MINIMUM WIDTH OF ANY TREAD IS NOT LESS THAN 4".
- 9) SPIRAL STAIRS MUST BE 26" WIDE MINIMUM AND TREADS MUST BE 7-1/2" AT 12" FROM THE NARROW EDGE. ALL TREADS MUST BE IDENTICAL WITH A MAXIMUM RISE OF 9-1/2". MINIMUM HEADROOM OF 6'-8" REQUIRED.
- 10) CIRCULAR STAIRS MUST, AT A POINT NOT MORE THAN 12" FROM THE SIDE WHERE THE TREADS ARE NARROWER, BE LESS THAN 4" AND THE MINIMUM WIDTH OF ANY TREAD IS NOT LESS THAN 6".

HANDRAIL AND GUARDS

- 1) HANDRAILS SHALL HAVE A MINIMUM HEIGHT OF 34" AND A MAXIMUM HEIGHT OF 38".
- 2) PORCHES, BALCONIES OR RAISED FLOORS OVER 36" ABOVE FLOOR OR GRADE SHALL HAVE GUARD RAILS NO LESS THAN 36" HIGH.
- 3) STAIRS THAT HAVE A RISE OF 36" ABOVE THE FLOOR SHALL HAVE HANDRAILS OF 36" HIGH.
- 4) GUARDS ON OPEN SIDES OF STAIRWAYS, RAISED FLOORS, BALCONIES AND PORCHES SHALL HAVE INTERMEDIATE RAILS OR ORNAMENTAL CLOSURES OF LESS THAN 4" TO REJECT A 4" SPHERE.

CAVITY ACCESS

- 1) MIN. CRAWL SPACE ACCESS IS 18"(W) x 24"(H) W/DBL BAND ABOVE PLACE AT BEST LOCATION WITH REFERENCE TO GRADE.
- 2) ACCESS HAKES BE INCREASED IF MECHANICAL EQUIPMENT IS LOCATED UNDER FLOORS - SEE NC MECHANICAL CODE FOR REQUIREMENTS.
- 3) ATTIC ACCESS SHALL BE 22" x 36" MINIMUM.

GLAZING

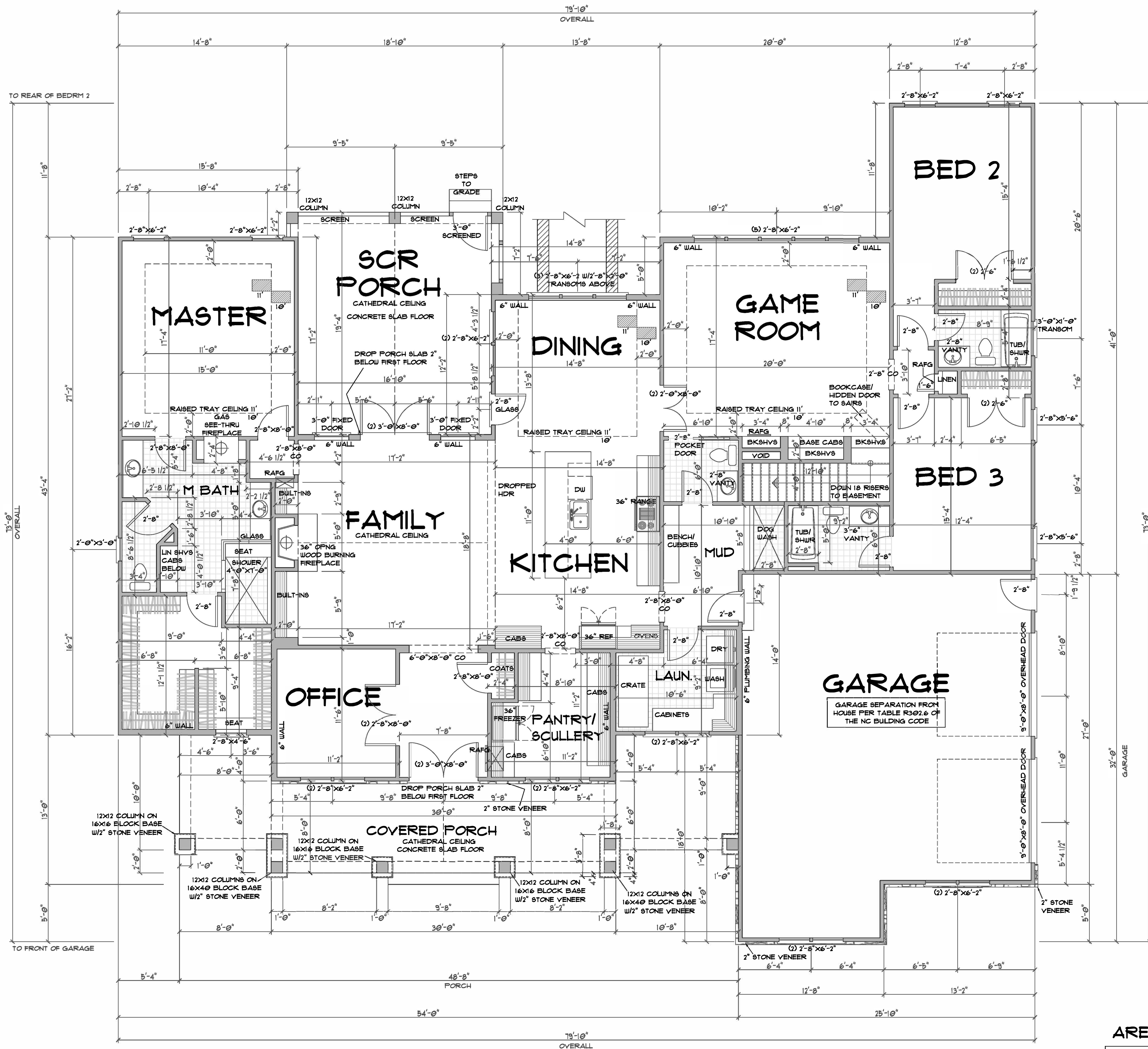
- 1) ALL HABITABLE ROOMS SHALL HAVE A GLAZING AREA OF NOT LESS THAN 8% OF THE FLOOR AREA.
- 2) WINDOWS SHALL HAVE A MINIMUM DESIGN REQUIREMENT OF 20DPM AND U-1.0.
- 3) VERIFY WINDOW EGRESS WITH WINDOW MANUFACTURER.

EMERGENCY ESCAPE

- 1) OPENINGS PROVIDED AS MEANS OF ESCAPE CANNOT HAVE A RILL HEIGHT OF MORE THAN 44" ABOVE THE FLOOR.
- 2) ESCAPE OPENINGS SHALL HAVE A MINIMUM NET CLEAR OPENING OF 4 SQ. FT. THE MINIMUM CLEAR OPENING HEIGHT IS 22" AND THE WIDTH IS 20".
- 3) ESCAPE OPENING SHALL HAVE A TOTAL GLASS AREA OF NOT LESS THAN 5 SQ. FT. FOR A GROUND WINDOW AND 5.7 SQ. FT. FOR AN UPPER STORY WINDOW.
- 4) REQUIRED EXIT DOORS SHALL BE NO LESS THAN 3'-0" x 6'-8".

DECK NOTES

- 1) WHEN THE DECK IS ATTACHED TO THE STRUCTURE, THE STRUCTURE SHALL HAVE A TREATED WOOD BAND FOR THE LENGTH OF THE DECK, OR CORROSION RESISTANT FLASHING SHALL BE USED TO PREVENT MOISTURE FROM COMING IN CONTACT WITH THE UNTREATED FRAMING FOR THE STRUCTURE.
- 2) THE DECK AND STRUCTURE BANDS SHALL BE CONSTRUCTED IN CONTACT WITH EACH OTHER, EXCEPT ON BRICK VENEER STRUCTURES AND WHERE PLYWOOD SHEATHING IS REQUIRED AND PROPERLY FLASHED.
- 3) SIDING SHALL NOT BE INSTALLED BETWEEN THE STRUCTURE AND THE DECK BAND.
- 4) IF ATTACHED TO A BRICK STRUCTURE, NEITHER THE FLASHING NOR A TREATED BAND FOR THE STRUCTURE IS REQUIRED. THE TREATED DECK BAND SHALL BE CONSTRUCTED IN CONTACT WITH THE BRICK VENEER.
- 5) GIRDERS SHALL BEAR DIRECTLY ON POSTS OR BE CONNECTED TO THE SIDES OF THE POSTS WITH 2-5/8" HOT DIPPED GALVANIZED BOLTS.
- 6) FLOOR DECKING SHALL BE #2 GRADE TREATED SOUTHERN PINE OR EQUIVALENT, MINIMUM FLOOR DECKING THICKNESS FOR JOISTS AT 16" O.C. IS 1 1/2".
- 7) DECKS MAY NOT BE ATTACHED TO CANTILEVERED FLOOR SYSTEMS.
- 8) ALL JOIST SPANS ARE CALCULATED USING #2 GRADE SPRUCE PINE FIR.
- 9) JOIST SIZES ARE SHOWN AT MINIMUM TO MEET STRUCTURAL REQUIREMENTS. SIZES MAY BE INCREASED.
- 10) DECKS OVER 4'-0" ABOVE GRADE SHALL BE BRACED AS PER CODE APPENDIX M.



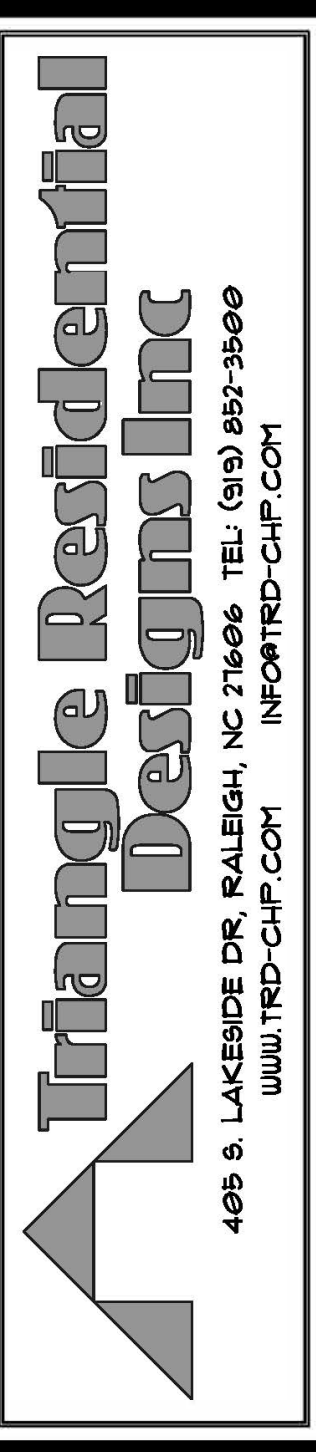
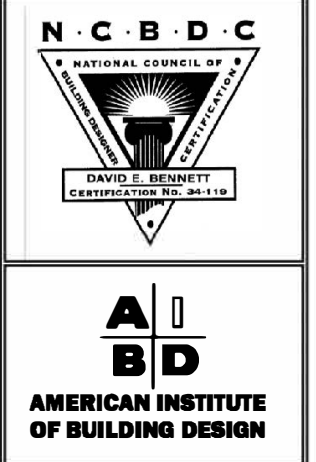
MAIN LEVEL FLOOR PLAN

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

10'-0" CEILING ON THIS FLOOR

AREA CALCULATION

FIRST FLOOR:	3008 SQFT
BASEMENT:	1869 SQFT
GARAGE:	755 SQFT
FRONT PORCH:	426 SQFT
REAR PORCH:	344 SQFT
TOTAL NON-LIVING:	3394 SQFT



PROJECT ADDRESS:
164 HOBBS PATH LAKE
HOLLY SPRINGS, NC 27840
HARRIETT COUNTY

CLIENT:
REBECE

DRAWN BY:
DEB, LDB

DATE:
SEPT 20, 2024

REVISION:

SHEET
6 OF 7

ROOF NOTES FOR 2/12 TO 4/12 ROOF PITCH
(AS PER 2018 NC BUILDING CODE)

R905.2.2 SLOPE
ASPHALT SHINGLES SHALL BE USED ONLY ON ROOF SLOPES OF TWO UNITS VERTICAL IN 12 UNITS HORIZONTAL (2/12) OR GREATER. FOR ROOF SLOPES FROM TWO UNITS VERTICAL IN 12 UNITS HORIZONTAL (2/12) UP TO FOUR UNITS VERTICAL IN 12 UNITS HORIZONTAL (4/12), DOUBLE UNDERLAYMENT APPLICATION IS REQUIRED IN ACCORDANCE WITH SECTION R905.2.1

R905.2.1 UNDERLAYMENT APPLICATION
FOR ROOF SLOPES FROM TWO UNITS VERTICAL IN 12 UNITS HORIZONTAL (2/12 SLOPE), UP TO FOUR UNITS VERTICAL IN 12 UNITS HORIZONTAL (3/12 SLOPE), UNDERLAYMENT SHALL BE TWO LAYERS APPLIED IN THE FOLLOWING MANNER: APPLY A 19-INCH (483 MM) STRIP OF UNDERLAYMENT FELT PARALLEL TO AND STARTING AT THE EAVES, FASTENED SUFFICIENTLY TO HOLD IN PLACE. STARTING AT THE EAVE, APPLY 36-INCH-WIDE (914 MM) SHEETS OF UNDERLAYMENT, OVERLAPPING SUCCESSIVE SHEET 13 INCHES (483 MM), AND FASTENED SUFFICIENTLY TO HOLD IN PLACE. DISTORTIONS IN THE UNDERLAYMENT SHALL NOT INTERFERE WITH THE ABILITY OF THE SHINGLES TO SEAL. FOR ROOF SLOPES OF FOUR UNITS VERTICAL IN 12 UNITS HORIZONTAL (3/12 SLOPE) OR GREATER, UNDERLAYMENT SHALL BE ONE LAYER APPLIED IN THE FOLLOWING MANNER: UNDERLAYMENT SHALL BE APPLIED SINGLE FASHION, PARALLEL TO AND STARTING FROM THE EAVE AND LAPPED 2 INCHES (51 MM), FASTENED SUFFICIENTLY TO HOLD IN PLACE. DISTORTIONS IN THE UNDERLAYMENT SHALL NOT INTERFERE WITH THE ABILITY OF THE SHINGLES TO SEAL. END LAP'S SHALL BE OFFSET BY 6 FEET (1826 MM).

ROOF NOTES

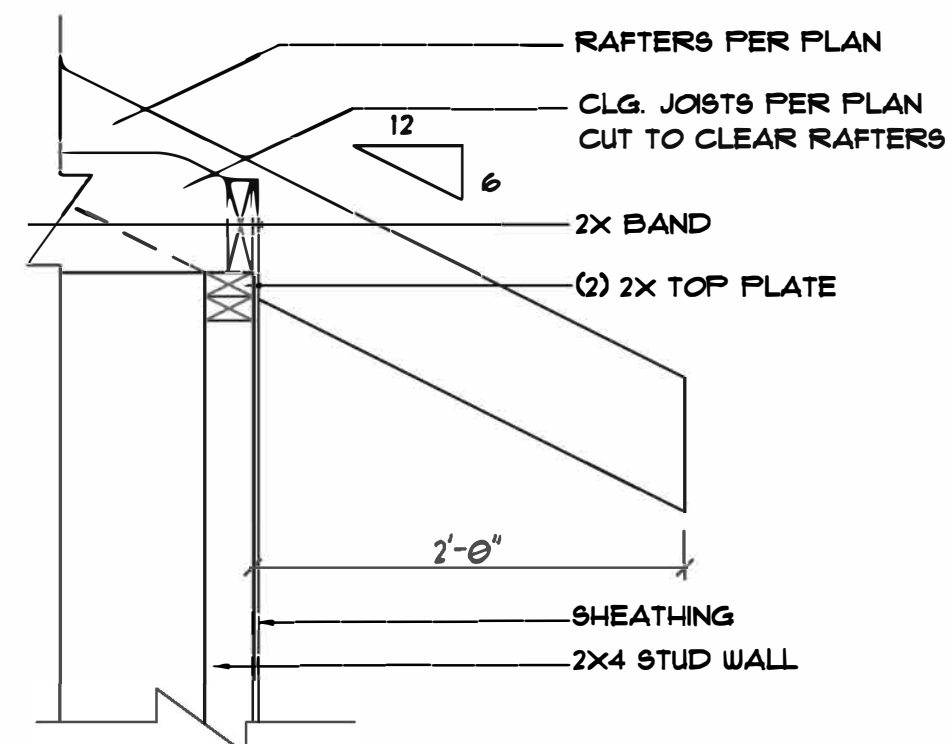
- 1) RAFTER SIZES ARE SHOWN AT MINIMUM STRUCTURAL REQUIREMENTS. SIZES MAY BE INCREASED TO PROVIDE MINIMUM INSULATION VALUES OR AIR PASSAGES.
- 2) RAFTER SPANS ARE CALCULATED ON #2 GRADE SPRUCE PINE FIR.
- 3) RAFTERS SHALL BE FRAMED TO RIDGE BOARD OR TO EACH OTHER WITH A GUSSET PLATE.
- 4) RIDGE BOARDS SHALL BE AT LEAST 1" NOMINAL THICKNESS AND NOT LESS IN DEPTH THAN THE CUT END OF THE RAFTER.
- 5) OPPOSING RAFTERS AT THE RIDGE MUST ALIGN WITHIN THE THICKNESS OF THE RIDGE.
- 6) IF CLG JOISTS ARE NOT PARALLEL TO RAFTERS, SUBFLOORING OR METAL TIES SHALL BE ATTACHED TO RAFTERS ENDS TO SUPPLY A CONTINUOUS TIE ACROSS THE BUILDING OR RAFTERS SHALL BE ATTACHED TO 1"x4" CROSSIES.
- 7) ATTACH 1"x6" OR 2"x4" COLLAR TIES IN THE UPPER THIRD OF THE ROOF TO EVERY THIRD PAIR OF RAFTERS, NOT TO EXCEED 4'-0" O.C.
- 8) ALL DORMERS SHALL HAVE DOUBLE HEADERS AND TRIMMERS.
- 9) TRUSS ROOF DRAWINGS SHALL BE PREPARED BY A REGISTERED DESIGN PROFESSIONAL.
- 10) SHINGLED ROOFS WITH PITCHES 2/12 TO 4/12 SHALL HAVE DOUBLE UNDERLAYMENT.
- 11) A CRICKET OR SADDLE IS REQUIRED FOR CHIMNEYS OVER 30" WIDE. THE COVERING SHALL BE METAL OR THE SAME MATERIAL AS THE ROOF COVERING.

ATTIC VENTILATION CALCULATION
(AS PER 2018 NORTH CAROLINA RESIDENTIAL CODE)

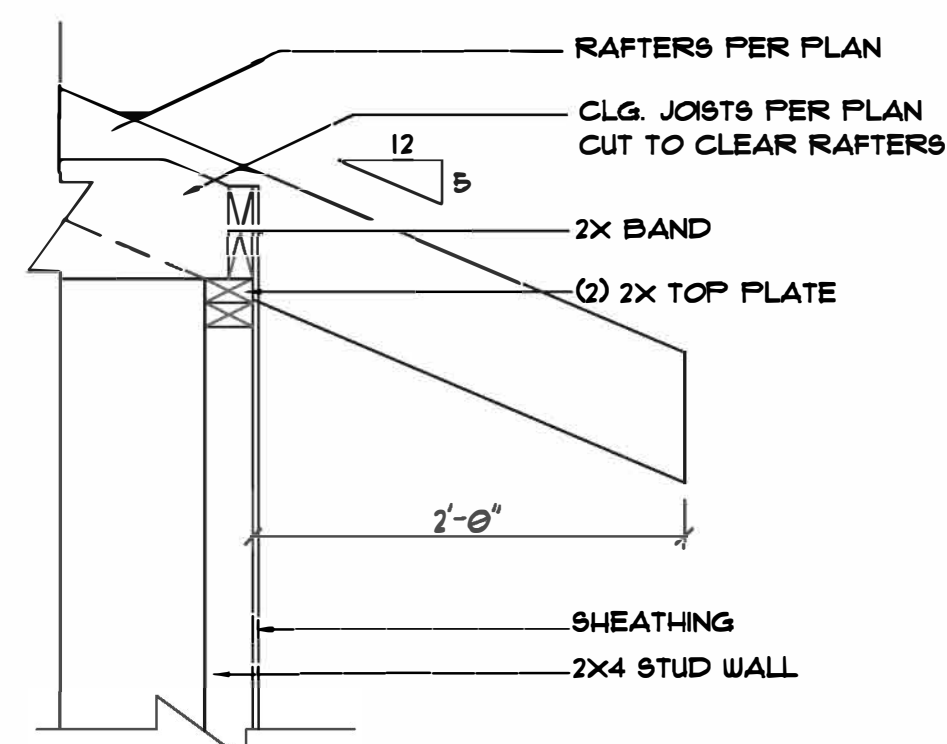
4524 SQFT. OF ATTIC/50% REQUIRES = 3016 SQFT. OF FREE VENT = 15.8 SQFT. IN/15.8 SQFT. OUT.

- EAVES TO HAVE 2" CONTINUOUS EAVE/SOFFIT VENT
- IF ROOF VENTING IS INADEQUATE, SUPPLEMENT WITH POWER ROOF VENTILATORS.
- VENTILATION REQUIREMENT MAY BE REDUCED TO 1/3 OF 50% IF PROVIDED AT LEAST 50% AND NOT MORE THAN 80% OF THE REQUIRED VENTILATING AREA IS PROVIDED BY VENTILATORS LOCATED IN THE UPPER PORTION OF THE SPACE TO BE VENTILATED, AT LEAST THREE (3) FEET ABOVE THE EAVE OR CORNICE VENTS, AND WITH THE BALANCE OF THE VENTILATION TO BE PROVIDED BY THE EAVE AND CORNICE VENTS.

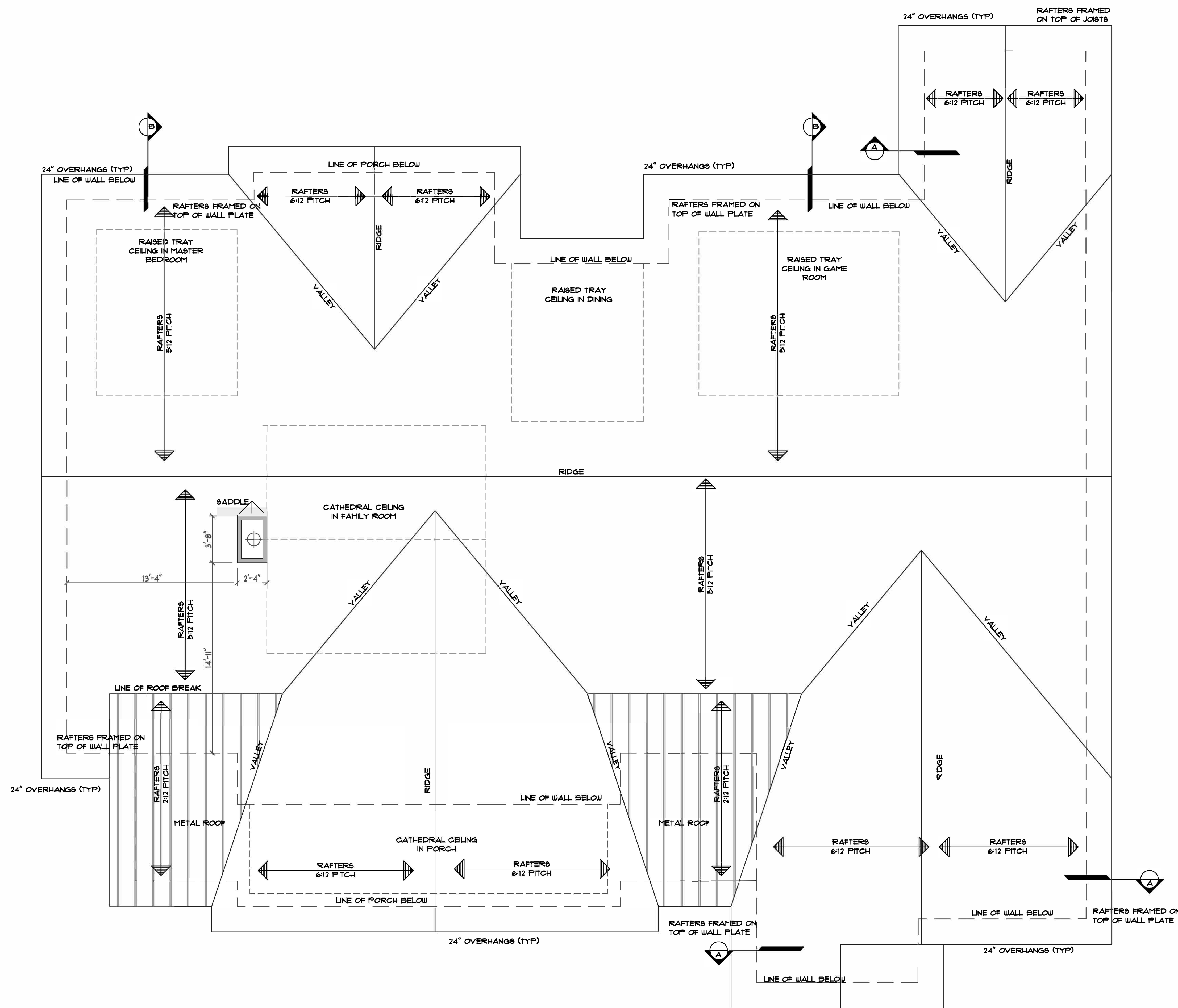
NOTE: REFER TO SECTION 806 (ROOF VENTILATION) OF THE NC STATE RESIDENTIAL CODE



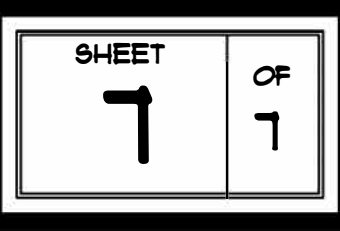
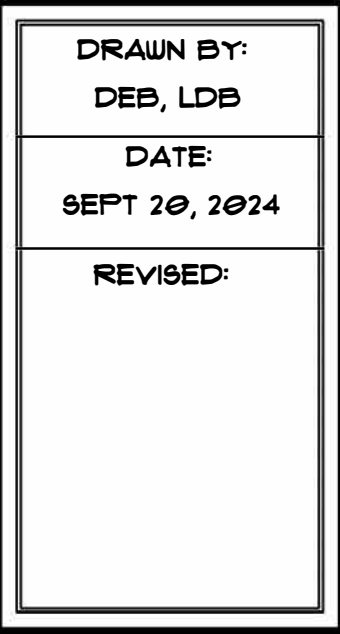
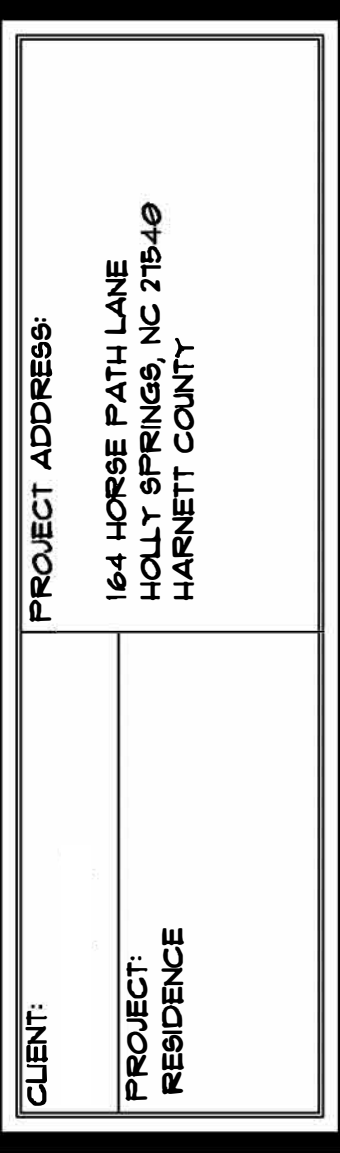
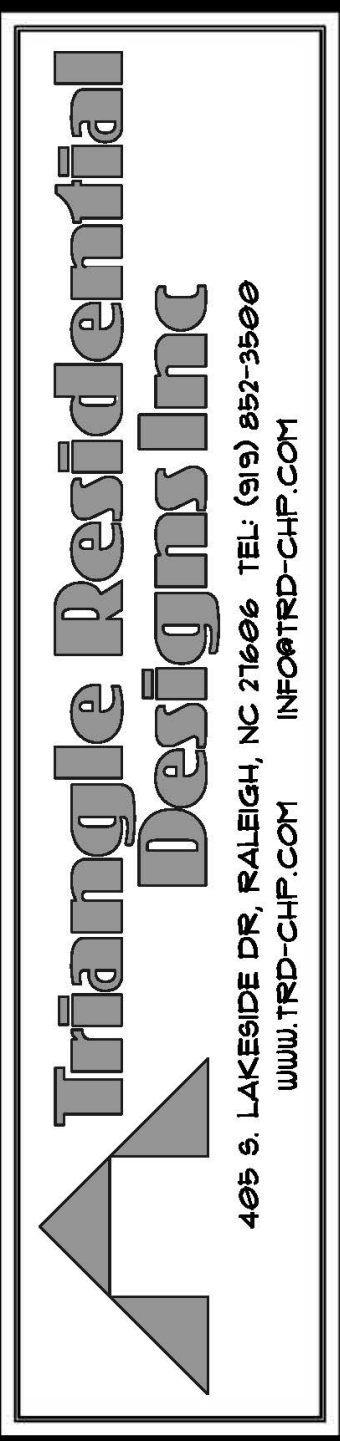
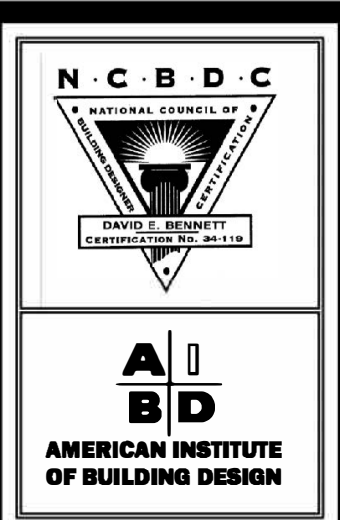
ROOF FRAMING DETAIL "A"
RAFTERS FRAMED ON TOP OF JOISTS
NO SCALE

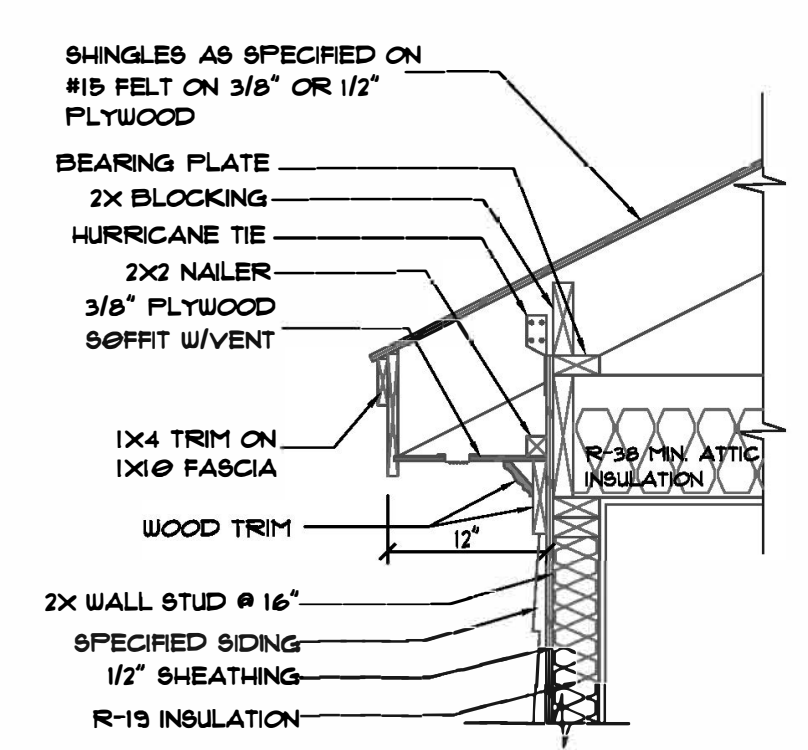


ROOF FRAMING DETAIL "B"
RAFTERS FRAMED ON TOP OF JOISTS
NO SCALE

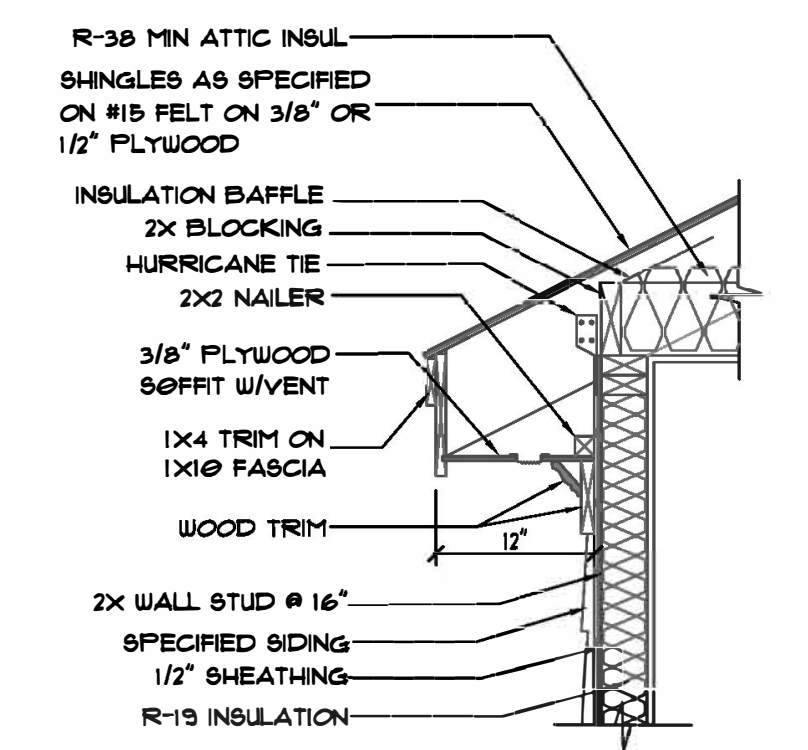


ROOF PLAN
SCALE: 1/4"=1'-0"

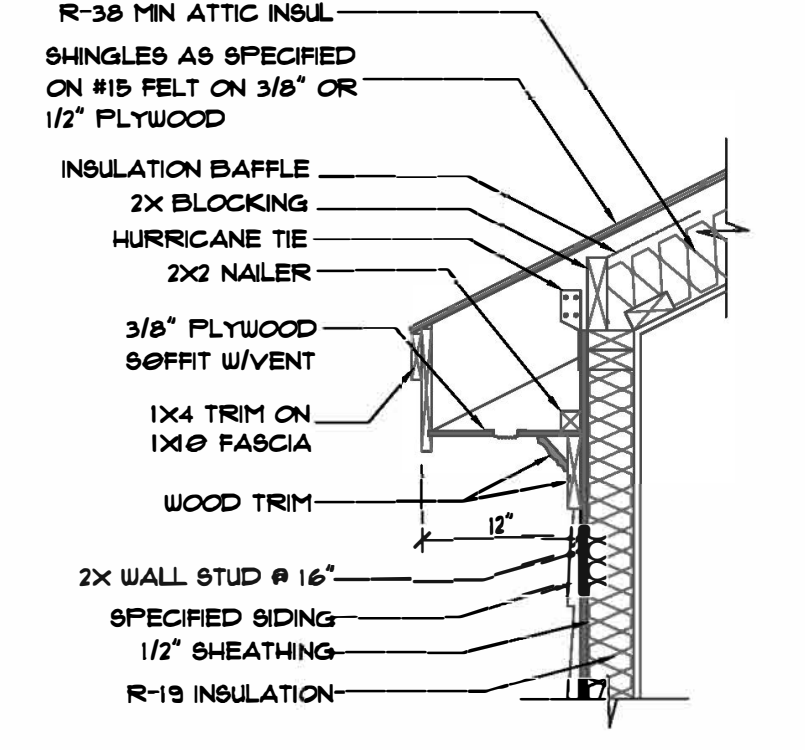




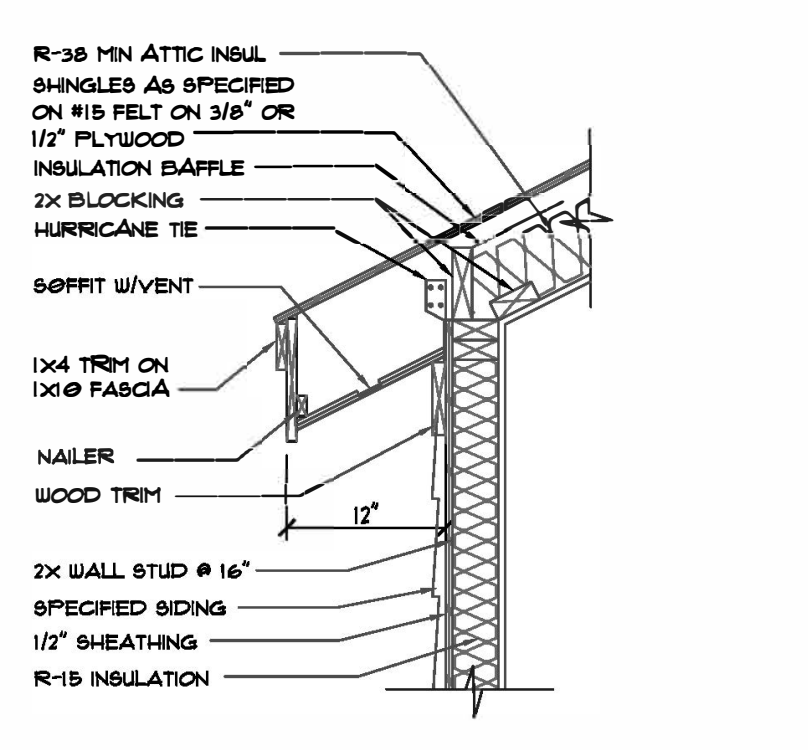
RAFTERS FRAMED ON TOP OF JOISTS



RAFTERS FRAMED ON DBL TOP PLATE

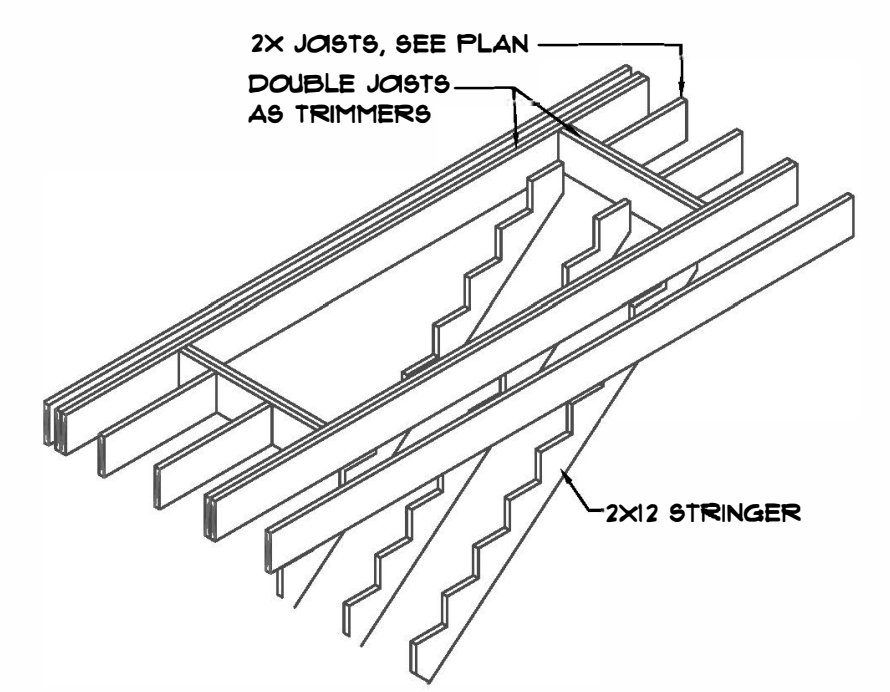


RAFTERS FRAMED W/SLOPED CLG

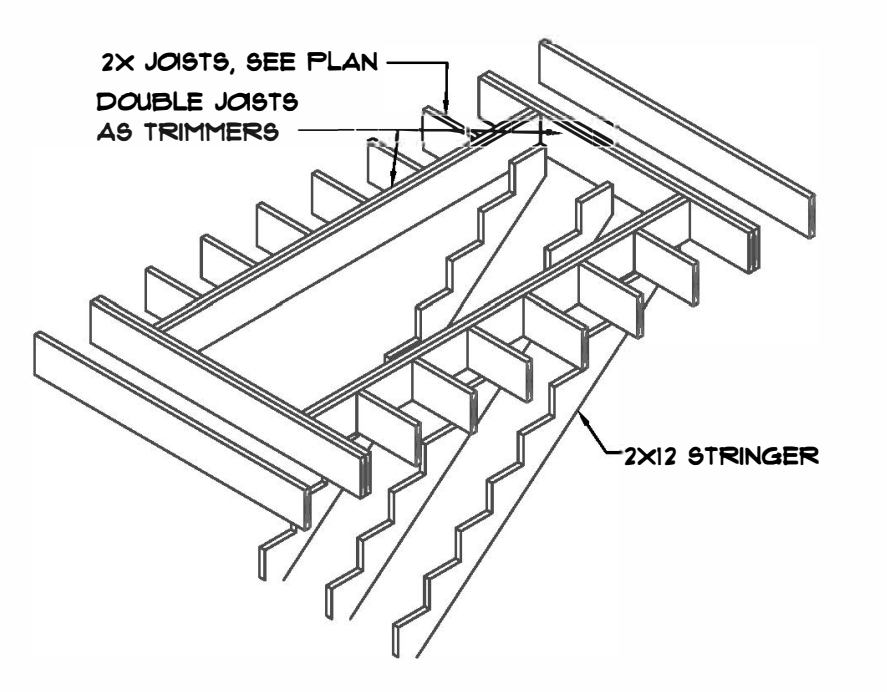


RAFTERS W/SLOPED SOFFIT

FIELD VERIFY ALL STAIR DIMENSIONS AND CONDITIONS PRIOR TO BUILDING THE STAIRS



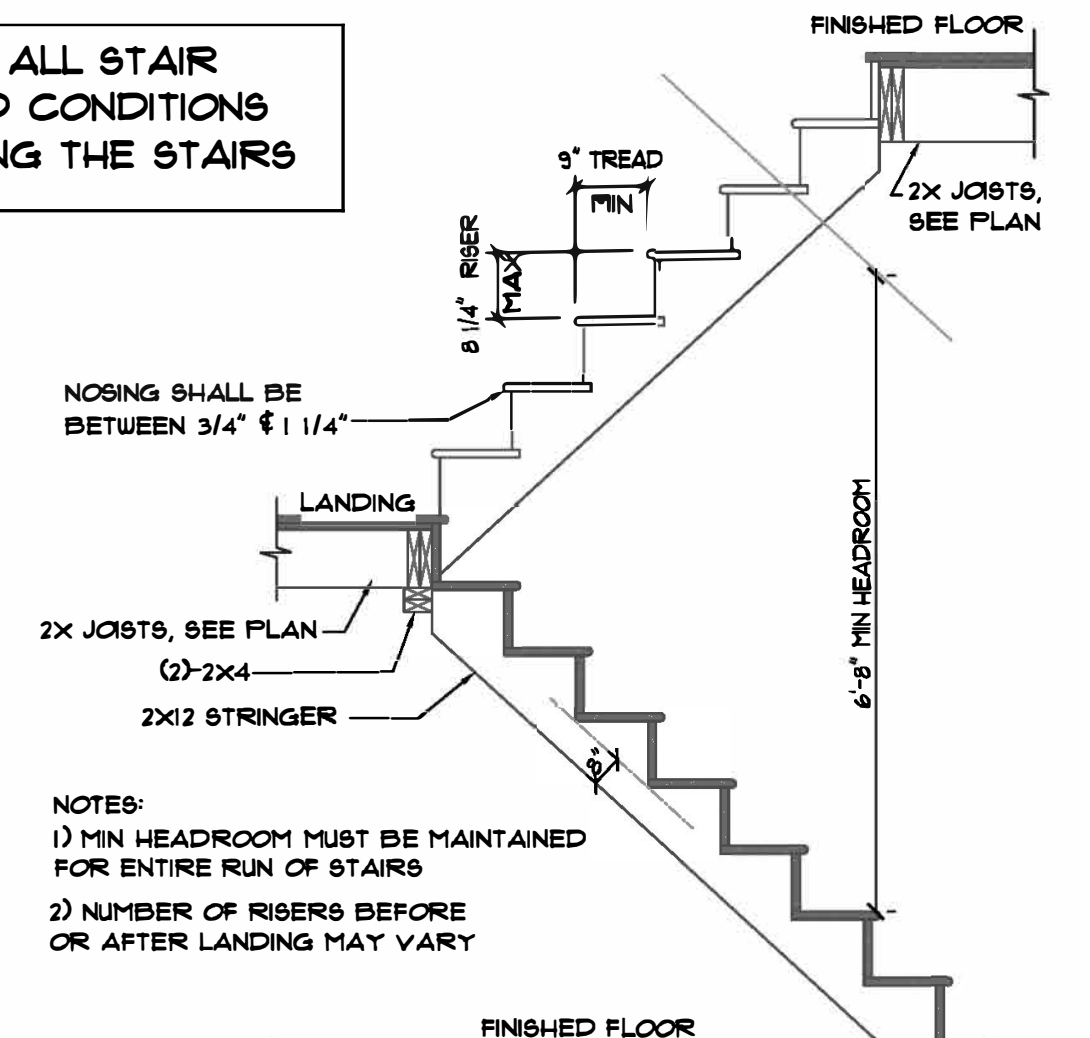
STAIR FRAMING W/PARALLEL JSTS



STAIR FRAMING W/PERPENDICULAR JSTS

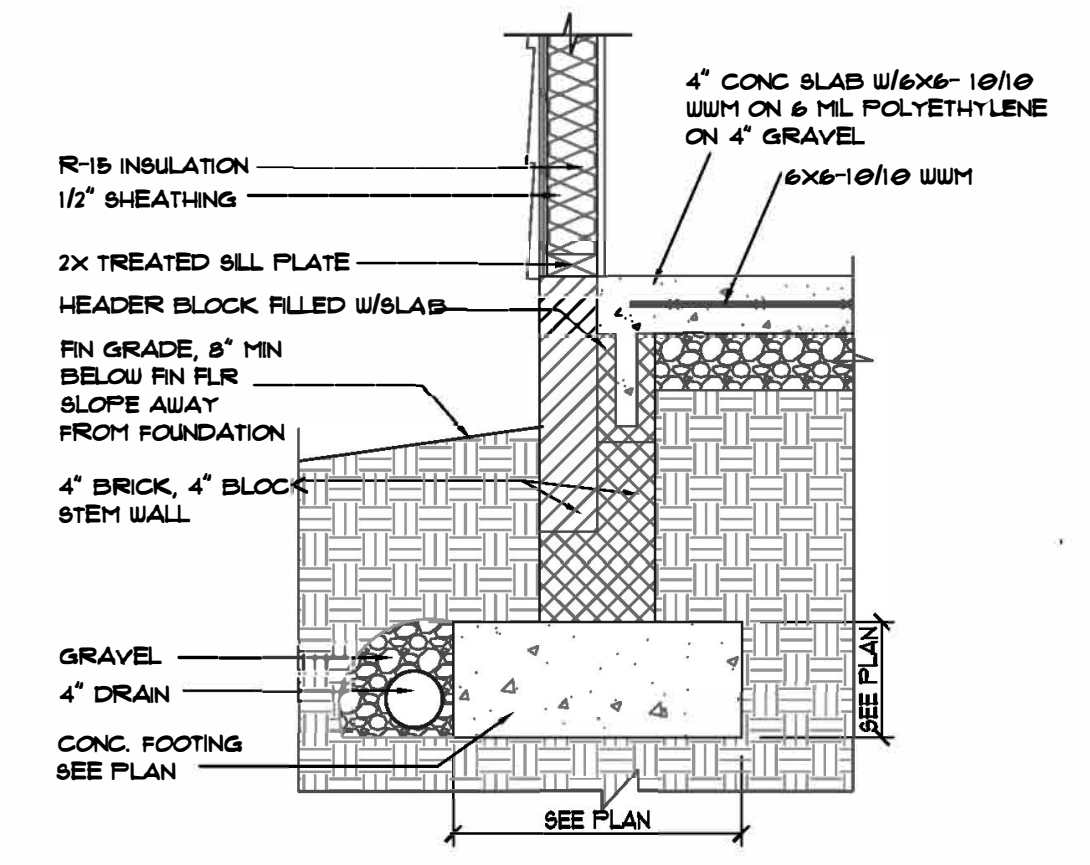
STAIR FRAMING DETAILS

FIELD VERIFY ALL STAIR DIMENSIONS AND CONDITIONS PRIOR TO BUILDING THE STAIRS

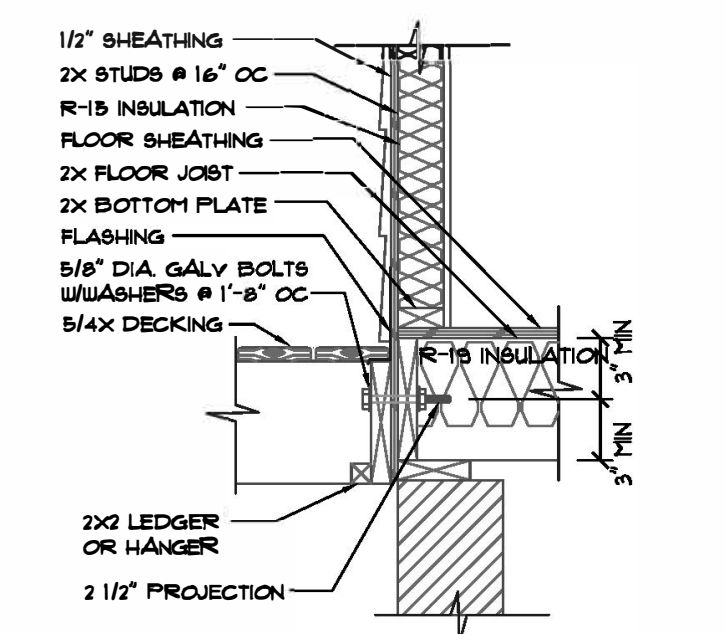


STAIR SECTION

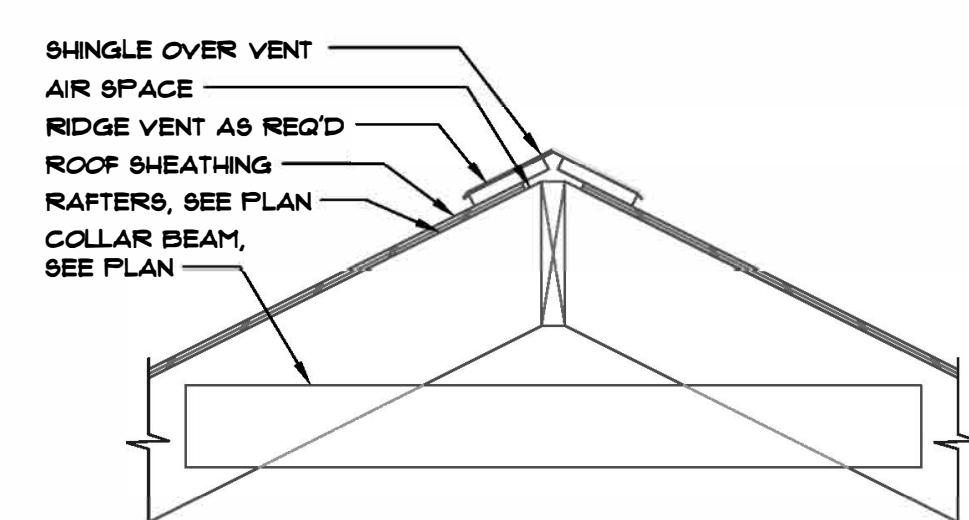
NOTES:
 1) MIN HEADROOM MUST BE MAINTAINED FOR ENTIRE RUN OF STAIRS
 2) NUMBER OF RISERS BEFORE OR AFTER LANDING MAY VARY



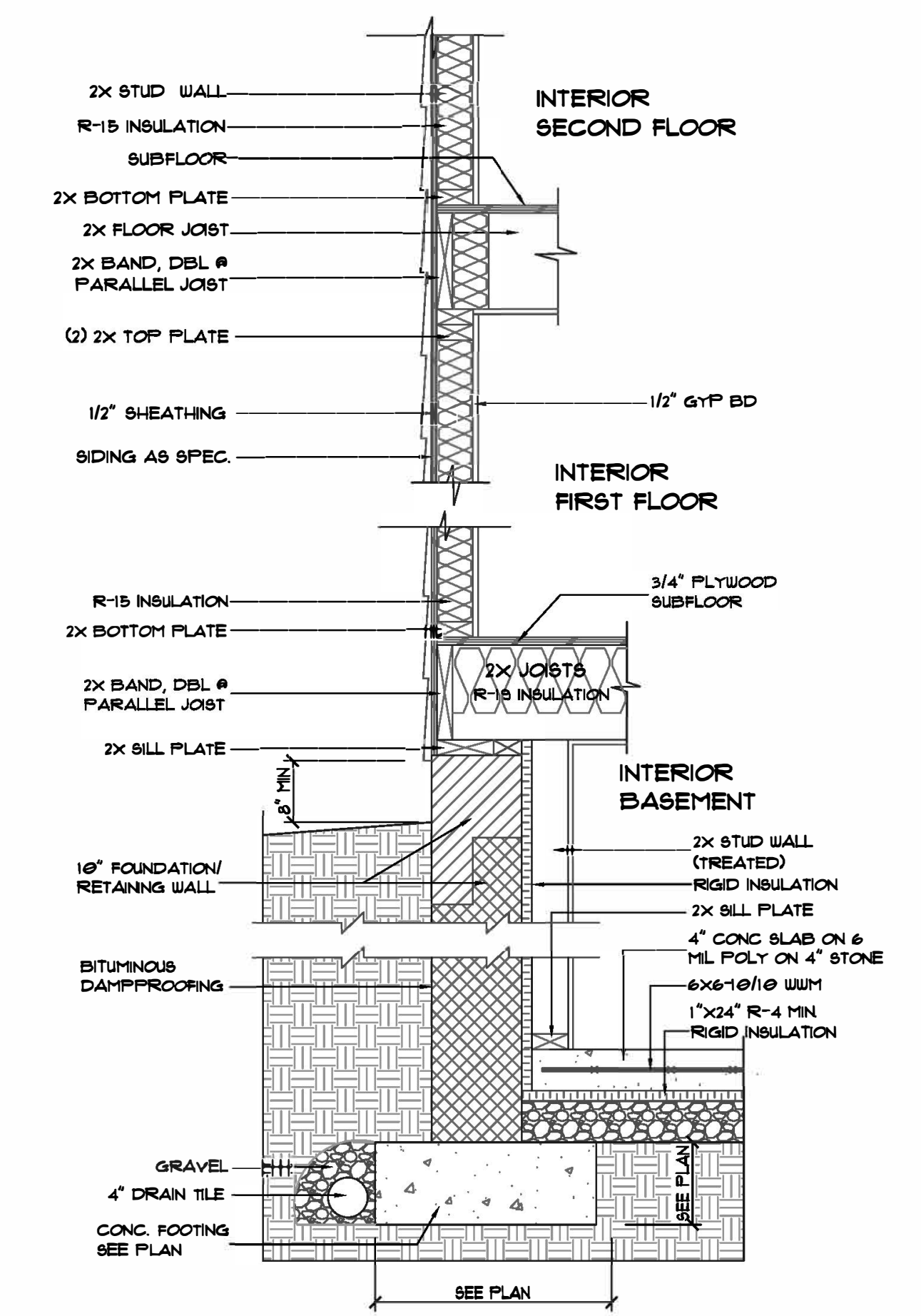
GARAGE SLAB W/SIDING



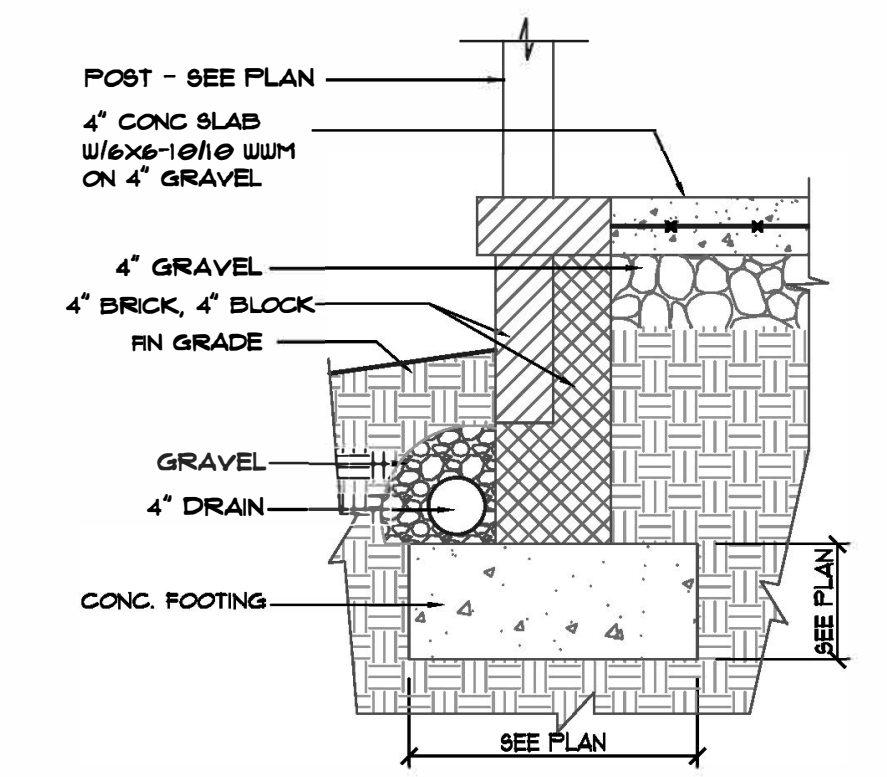
DECK ATTACHMENT



COLLAR BEAM DETAIL



BASEMENT W/DRAIN



PORCH SLAB

NOTES:
 • THESE PLANS, NOTES AND DETAILS ARE DESIGNED TO MEET THE REQUIREMENTS OF THE 2018 NC RESIDENTIAL BUILDING CODE.
 • ALL NOTES ARE APPLICABLE UNLESS NOTED OTHERWISE (UNO)
 • THIS DETAIL SHEET IS TO BE USED ONLY IN CONJUNCTION WITH PLANS CREATED BY TRIANGLE RESIDENTIAL DESIGNS
 • SEALED ENGINEER'S DRAWINGS TAKE PRECEDENCE OVER TRD'S STANDARD DETAILS NOTES

STANDARD CONSTRUCTION DETAILS & NOTES

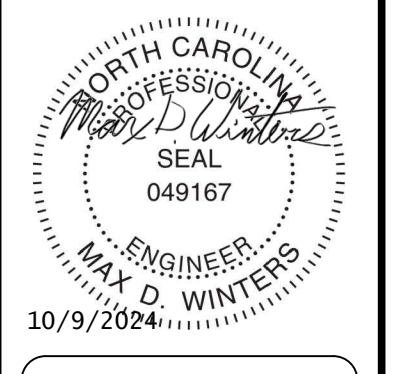
COPYRIGHT 2023 DAVID BENNETT & TRIANGLE RESIDENTIAL DESIGNS. ALL RIGHTS RESERVED. DO NOT REPRODUCE WITHOUT PERMISSION.



DATE: OCTOBER 09, 2024
SCALE: 1/4" = 1'-0"
DRAWN BY: MDA
ENGINEERED BY: JBA
REVIEWED BY: JBA

SPECTRA ENGINEERING AND DESIGN, PLLC
P.O. BOX 31625
RALEIGH, NORTH CAROLINA 27621
TEL: (919) 728-7841
LICENSE NO. NC P-0946 VA 0000462

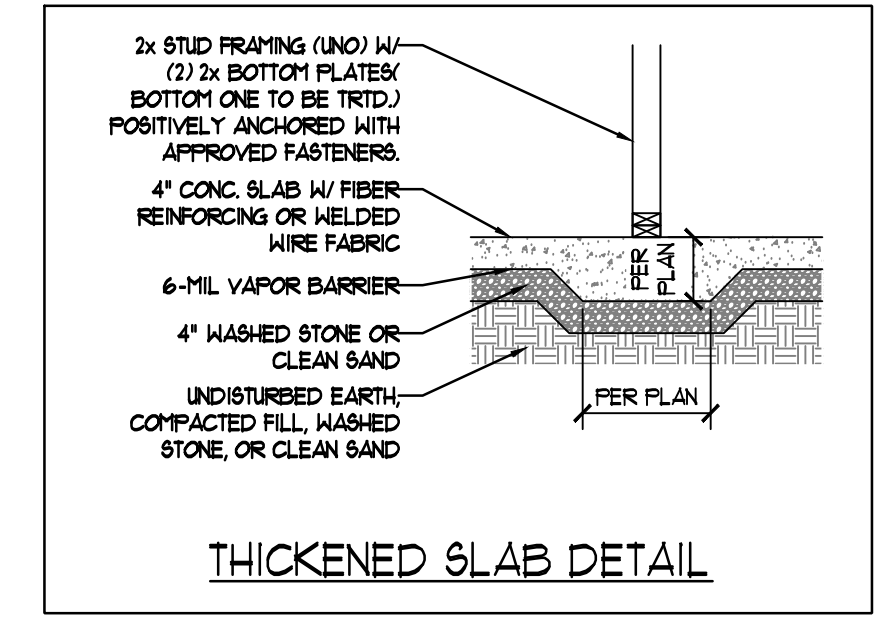
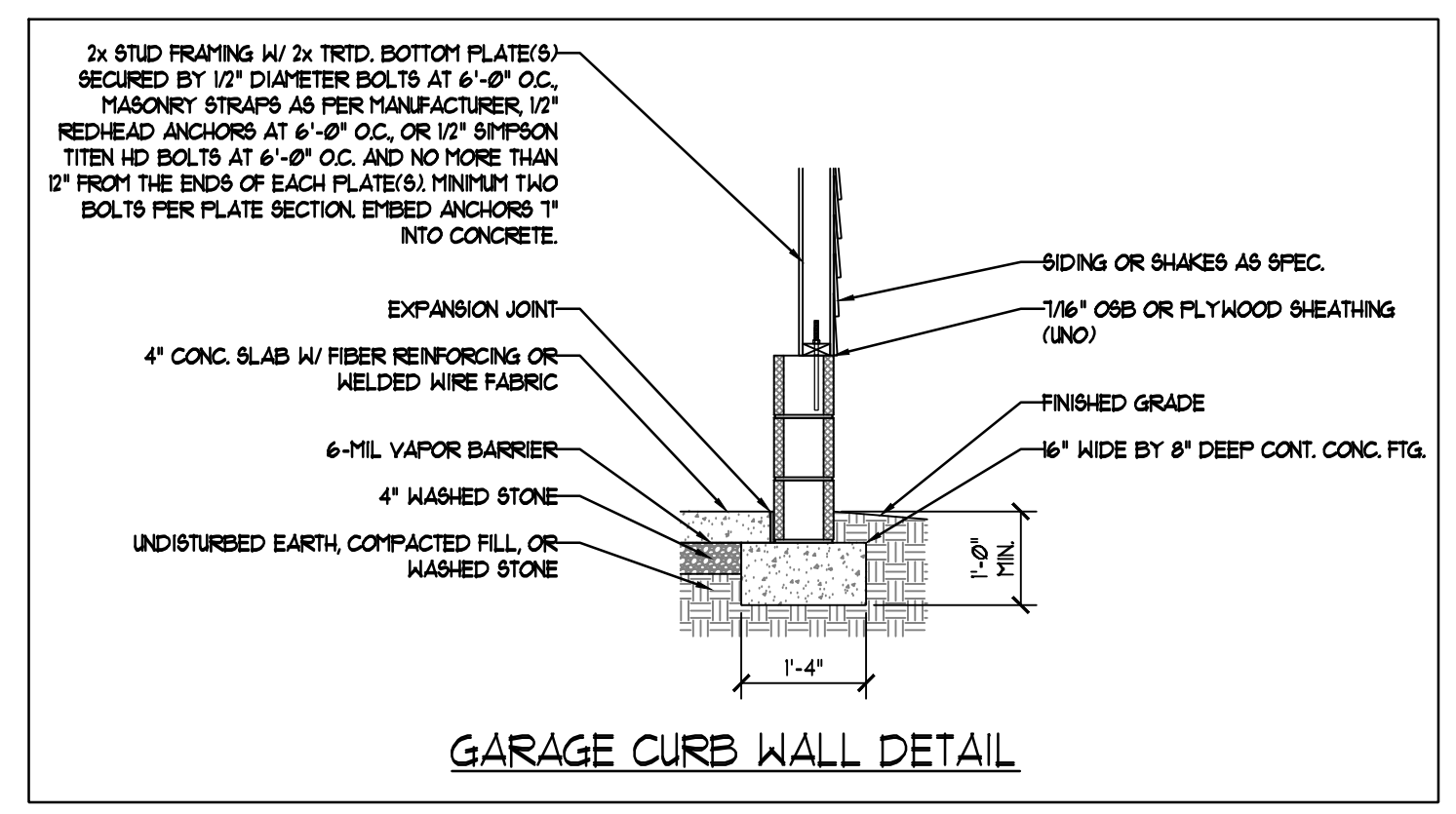
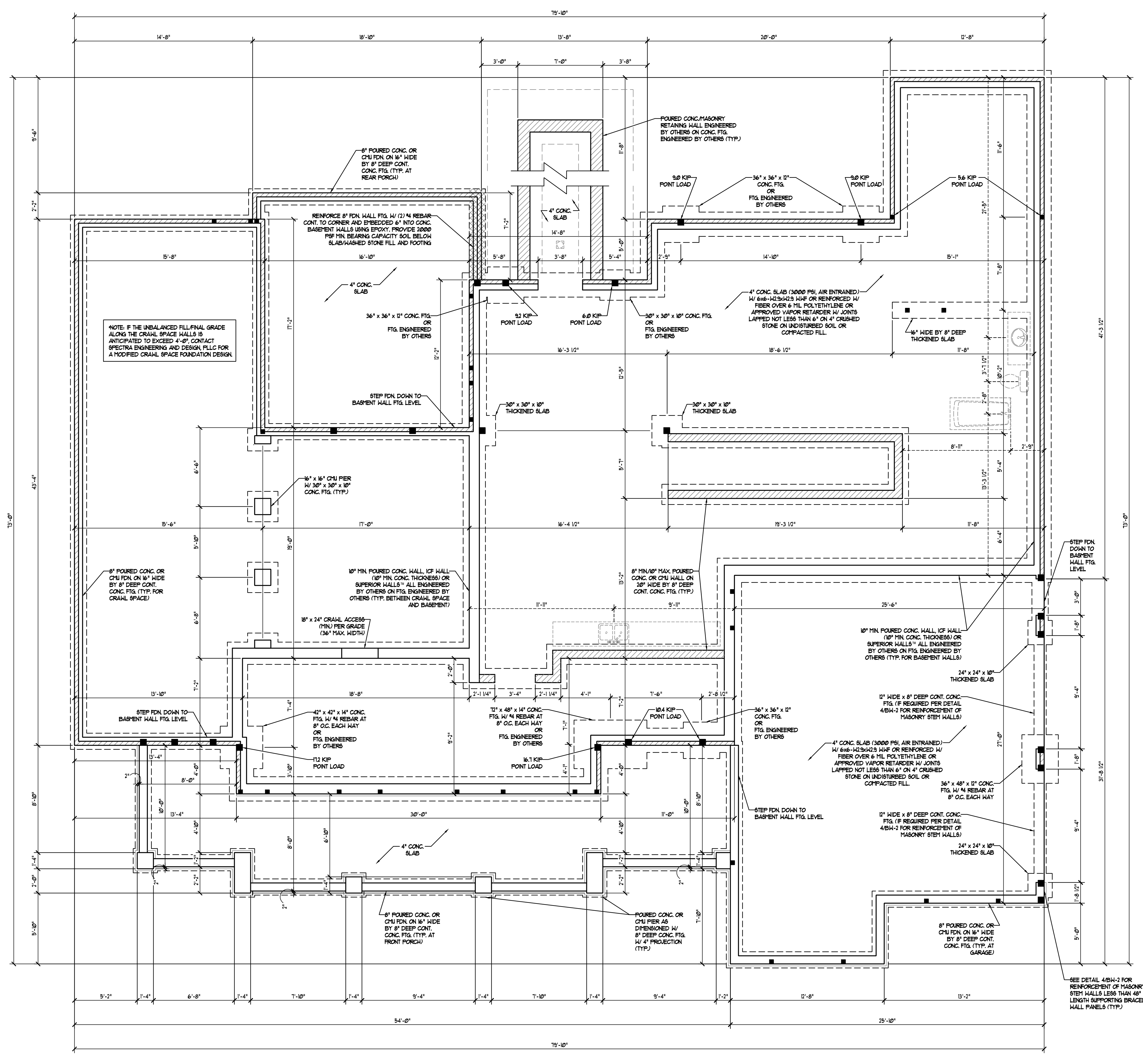
164 HORSE PATH LANE
HOLLY SPRINGS, NORTH CAROLINA
DESIGNER: TRIANGLE RESIDENTIAL DESIGNS, INC.



FOUNDATION PLAN
S-1
SHEET 1 OF 4

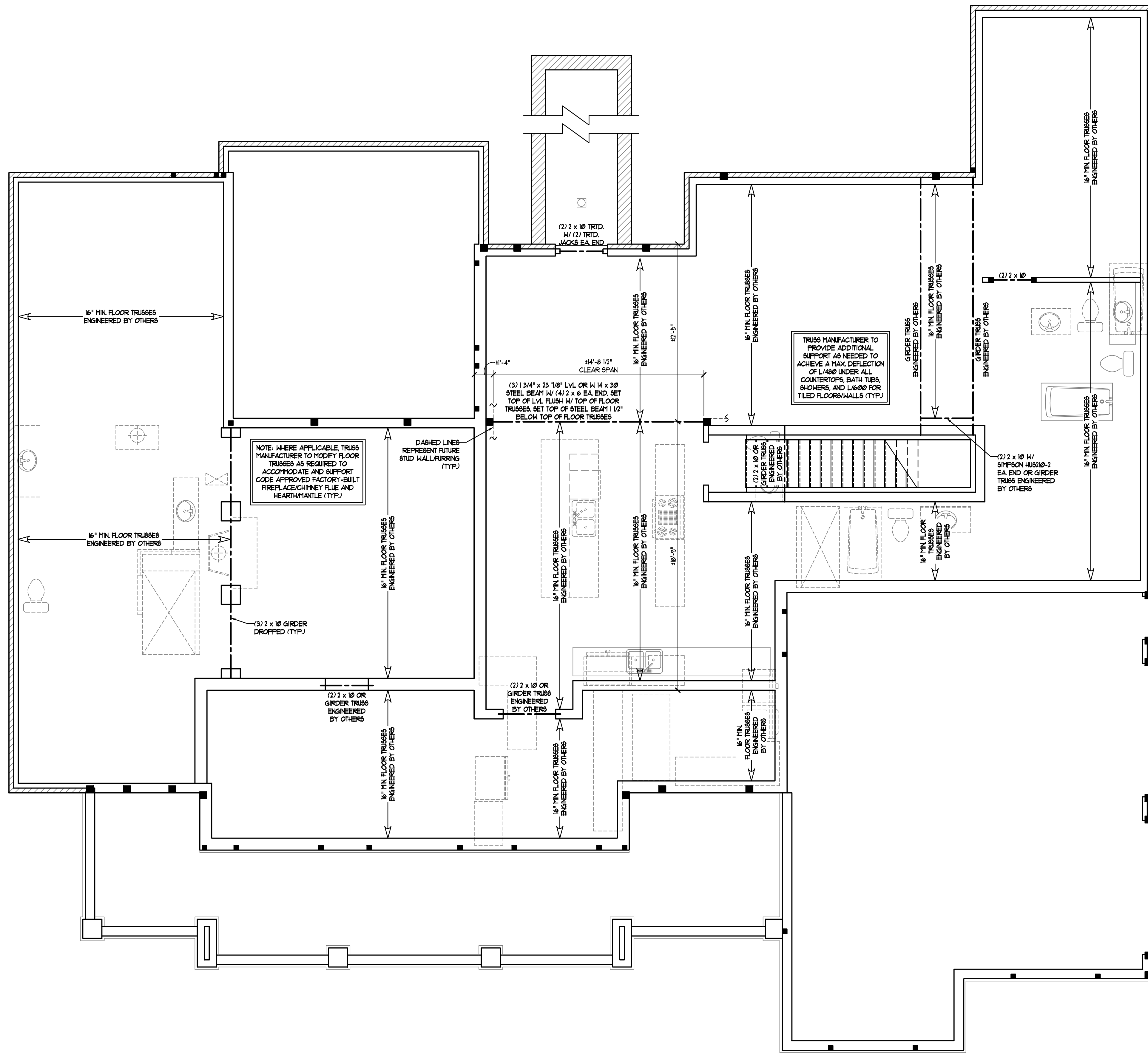
CRAWL SPACE VENTILATION CALCULATION
1000 SQ. FT. OF CRAWL SPACE DIVIDED BY 80 EQUALS 12.5 SQ. FT. OF NET AREA REQUIRED PER 1000 OF THE NCRC, 2005 EDITION. INSTALL 6 MIL POLY TO COVER ENTIRE CRAWL SPACE PER R409.2.
EXCEPTION: 1000 SQ. FT. OF CRAWL SPACE DIVIDED BY 800 EQUALS 12.5 SQ. FT. OF NET AREA REQUIRED WHERE THE REQUIRED OPENINGS ARE LOCATED 30 AS TO PROVIDE CROSS-VENTILATION OF THE CRAWL SPACE.
REFER TO SECTION R409 OF THE NCRC FOR CLOSED CRAWL SPACES.

NOTE: DARK SHADED SQUARES INDICATE POINT LOADS FROM ABOVE WHICH REQUIRE SOLID BLOCKING DOWN TO THE GIRDER, FLUSH PER OR FOUNDATION WALL BELOW UNLESS NOTED OTHERWISE. MINIMUM BLOCKING IS TO BE PROVIDED BY EITHER (1) 2 x 10 VERTICAL SQUASH BLOCKS ON TOP OF THE GIRDERS; (2) 1 x 8" VERTICAL SQUASH BLOCKS ON EA. SIDE OF SINGLE JOISTS; (1) 2 x 10 VERTICAL SQUASH BLOCK ON EA. SIDE OF DOUBLE JOISTS; (2) 2 x 10 VERTICAL SQUASH BLOCKS BESIDE THE PERIMETER BAND OR BY INSTALLING THE SAME SIZE AND NUMBER OF 2x BLOCKS AS THE SIZE AND NUMBER OF STUDS IN THE SUPPORTED STUD COLUMN ABOVE, WHICHEVER IS APPLICABLE (TYP).



- STRUCTURAL NOTES:**
- 1) REFER TO STANDARD STRUCTURAL NOTES AND WALL BRACING DETAILS PAGES FOR ADDITIONAL STRUCTURAL INFORMATION.
 - 2) WALL BRACING DESIGN AS PER THE INTERNATIONAL RESIDENTIAL CODE, 2005 EDITION.
 - 3) POURED CONCRETE BASEMENT WALLS ARE TO BE INSTALLED AS PER THE REQUIREMENTS IN SECTION R409 OF THE NORTH CAROLINA RESIDENTIAL CODE, 2005 EDITION AND ARE TO BE VERTICALLY REINFORCED PER TABLE R404(1)(1) AND HORIZONTALLY REINFORCED PER TABLE R404(2)(1). EACH VERTICAL REBAR IS TO INCLUDE A 30 DEGREE BEND AND 4" HOOK AS PER FIGURE R404(3) INTO THE CONTINUOUS CONCRETE FOOTING. REBAR LAP SPLICES ARE TO BE 30" FOR #4 REBAR, 36" FOR #5 REBAR, AND 45" FOR #6 REBAR.
 - 4) ALL SOLID-FILLED CMU CELLS ARE TO BE FILLED W/ TYPE S MORTAR OR 3000 PSI CONCRETE.
 - 5) REBAR LAP SPLICES ARE TO BE 30" FOR #4 REBAR, 36" FOR #5 REBAR, AND 45" FOR #6 REBAR OR THE LARGER MINIMUM LAP SPLICE LENGTH WHERE TWO DIFFERENT SIZE REBARS MEET.
 - 6) CONCRETE SHALL BE 3000 PSI.
 - 7) REBAR SHALL HAVE 3" MIN. CONCRETE COVER.
 - 8) THE FIRST FLOOR FRAMING AND BASEMENT CONCRETE SLAB SHALL BE INSTALLED AND THE BASEMENT WALLS ALLOWED TO CURE FOR A MINIMUM OF 1 DAYS BEFORE THE BACKFILL IS INSTALLED. THE BACKFILL SHALL BE INSTALLED IN SUCH A MANNER THAT NO ADDITIONAL LOAD IS EXERTED ON THE BASEMENT WALLS DURING INSTALLATION. COMPACTOR OF BACKFILL IT IS RECOMMENDED THAT THE BACKFILL BE INSTALLED IN 2' LIFTS AND CAREFULLY TAMPED.
 - 9) ALL POINT LOADS GREATER THAN 3.0 KIPS SUPPORTED BY SUPERIOR WALLS HAVE BEEN LABELED WITH THEIR RESPECTIVE REACTION.

ENGINEER'S SEAL IS VALID UP TO ONE YEAR OF SEAL DATE.



NOTE: WHERE APPLICABLE TRUSS MANUFACTURER TO MODIFY FLOOR TRUSSES AS REQUIRED TO ACCOMMODATE AND SUPPORT CODE APPROVED FACTORY-BUILT FIREPLACE/CHIMNEY FLUE AND HEARTH/MANTLE (TYP.)

(3) 1 3/4" x 23 7/8" LVL OR 14 x 14 x 30 STEEL BEAM 1/4" (4) 2 x 6 EA. END SET TOP OF LVL FLUSH W/ TOP OF FLOOR TRUSSES. SET TOP OF STEEL BEAM 1 1/2" BELOW TOP OF FLOOR TRUSSES.

TRUSS MANUFACTURER TO PROVIDE ADDITIONAL SUPPORT AS NEEDED TO ACHIEVE A MAX DEFLECTION OF L/480 UNDER ALL COUNTERTOPS, BATH TUBS, SINKS, AND LANDO FOR TILED FLOORS/HALLS (TYP.)

STRUCTURAL NOTES:
1) REFER TO STANDARD STRUCTURAL NOTES AND WALL BRACING DETAILS PAGES FOR ADDITIONAL STRUCTURAL INFORMATION.
2) WALL BRACING DESIGN AS PER THE INTERNATIONAL RESIDENTIAL CODE, 2018 EDITION.





DATE: OCTOBER 09, 2024
 SCALE: 1/4" = 1'-0"
 DRAWN BY: MDA
 ENGINEERED BY: MDA
 REVIEWED BY: JBA

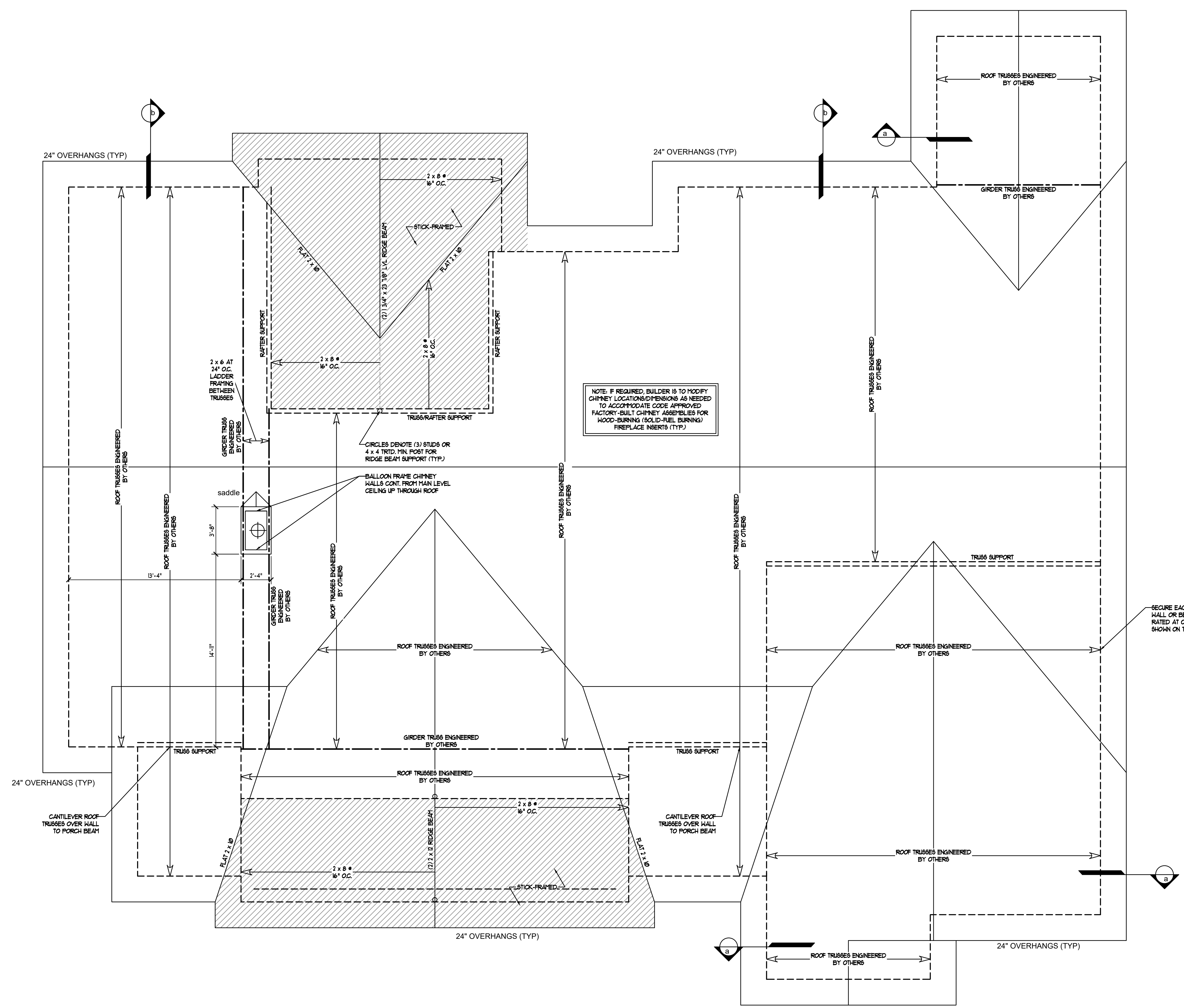
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 RALEIGH, NORTH CAROLINA 27621
 TEL: (919) 728-7841
 LICENSE NO. NC P-09416 VA 0000467

164 HORSE PATH LANE
 HOLLY SPRINGS, NORTH CAROLINA
 DESIGNER: TRIANGLE RESIDENTIAL DESIGNS, INC.

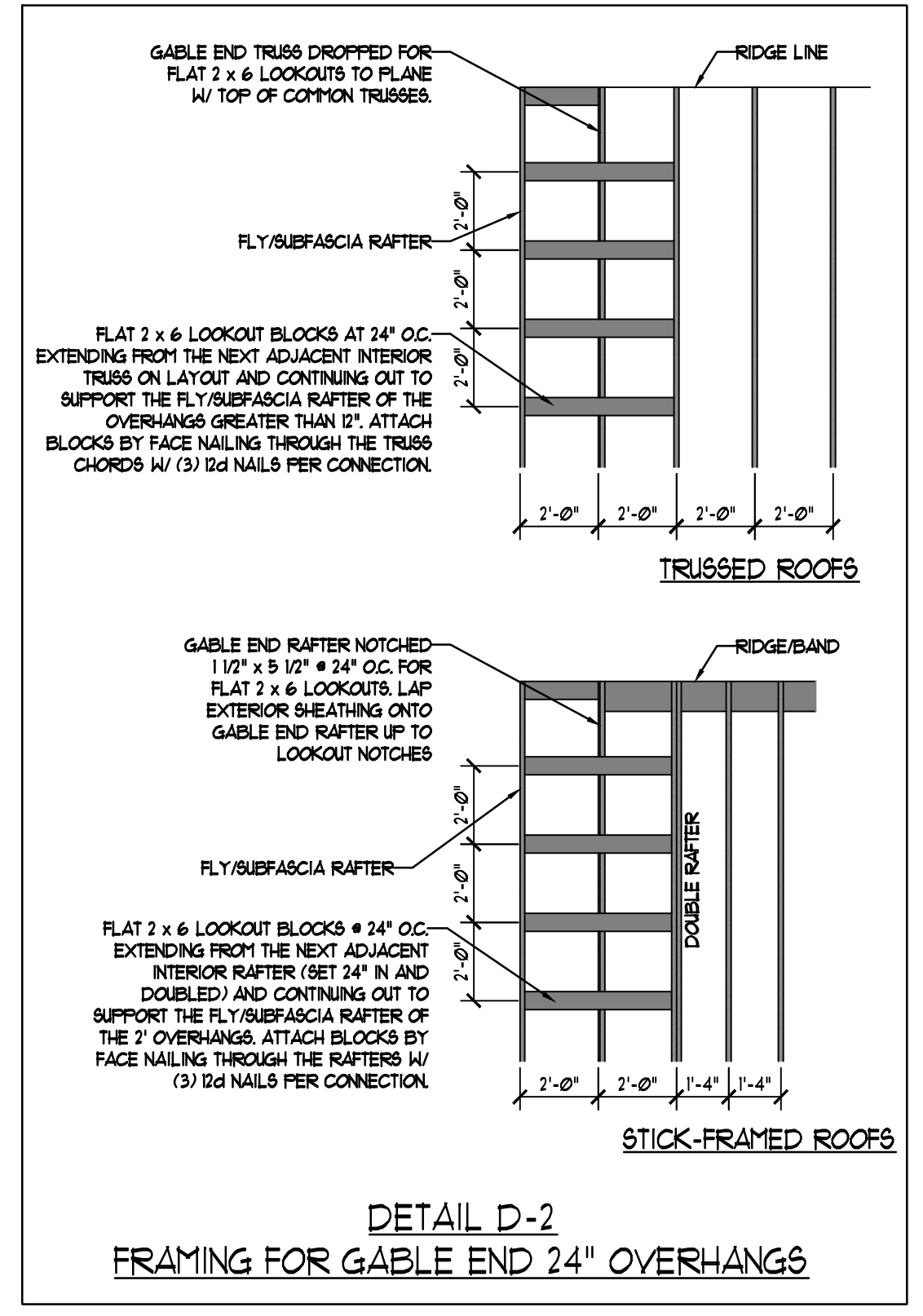
PROFESSIONAL SEAL
 SEAL
 049167
 MAX D. WINTERS
 ENGINEER
 10/9/2024

ROOF PLAN
 S-4
 SHEET 4 OF 4

ATTIC VENT CALCULATION:
 4825 SQ. FT. OF NEW ATTIC DIVIDED BY 50
 REQUIRES 3011 SQ. FT. MINIMUM OF TOTAL
 NET FREE VENTILATING AREA.
 SEE SECTION R906.2 OF THE NCRC, 2018
 EDITION FOR ALTERNATIVES AND
 EXCEPTIONS.



NOTE: IF REQUIRED, BUILDER IS TO MODIFY CHIMNEY LOCATIONS/DIMENSIONS AS NEEDED TO ACCOMMODATE CODE APPROVED FACTORY-BUILT CHIMNEY ASSEMBLIES FOR WOOD-BURNING (SOLID-FUEL BURNING) FIREPLACE INSERTS (TYP.)

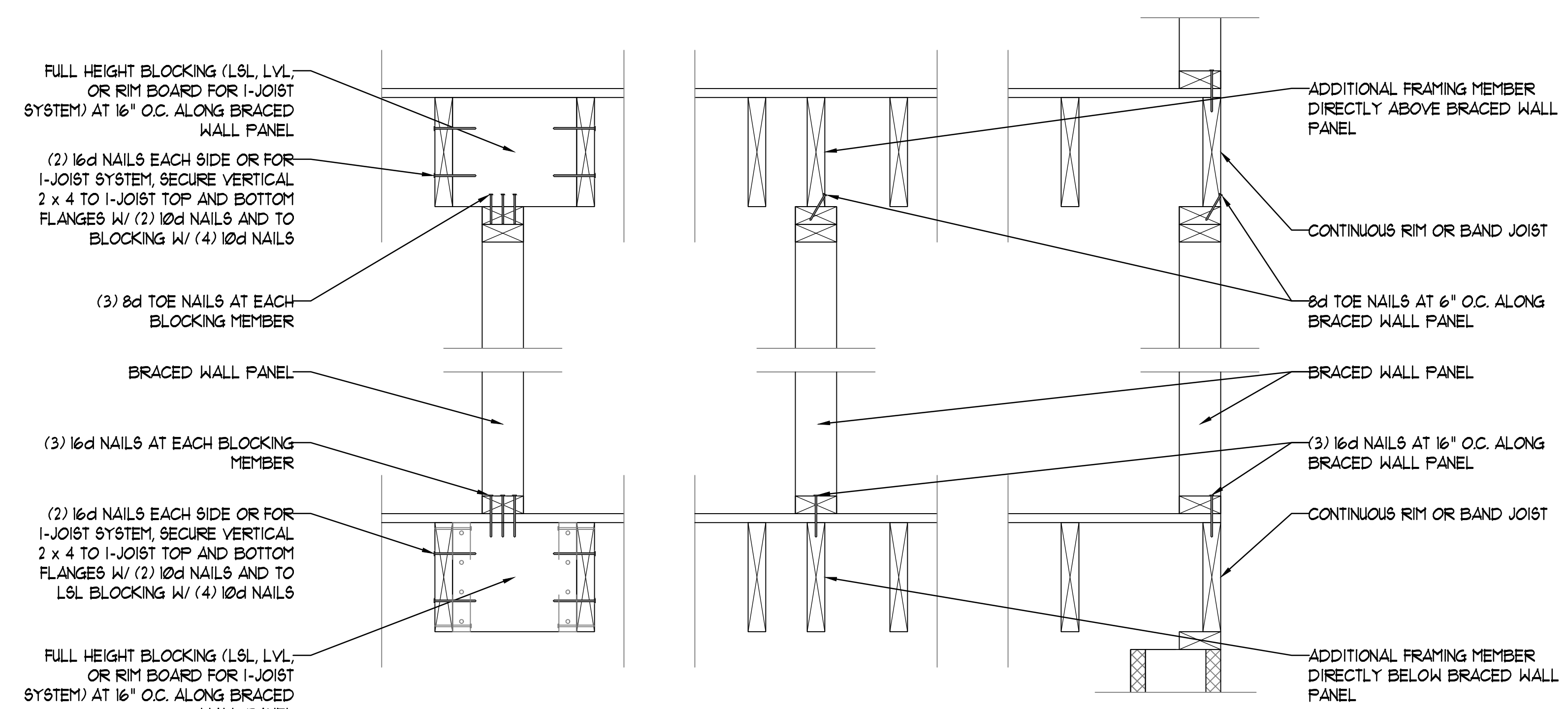


STRUCTURAL NOTES:
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 2) HALL BRACING DESIGN AS PER THE INTERNATIONAL RESIDENTIAL CODE, 2018 EDITION.

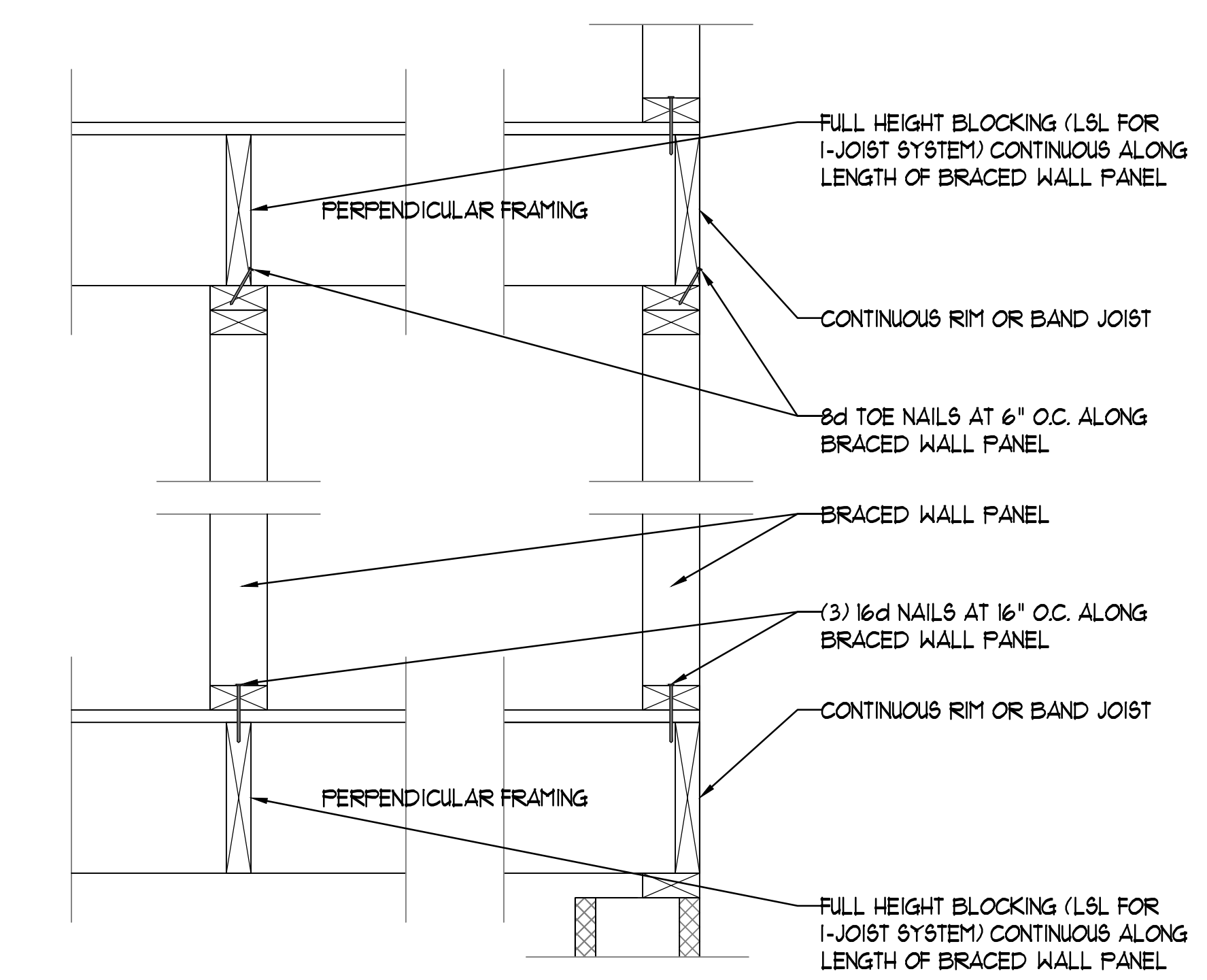


DATE: JULY 10, 2024
 SCALE: NTS
 DRAWN BY: T&Z
 ENGINEERED BY: T&Z
 REVIEWED BY: T&Z

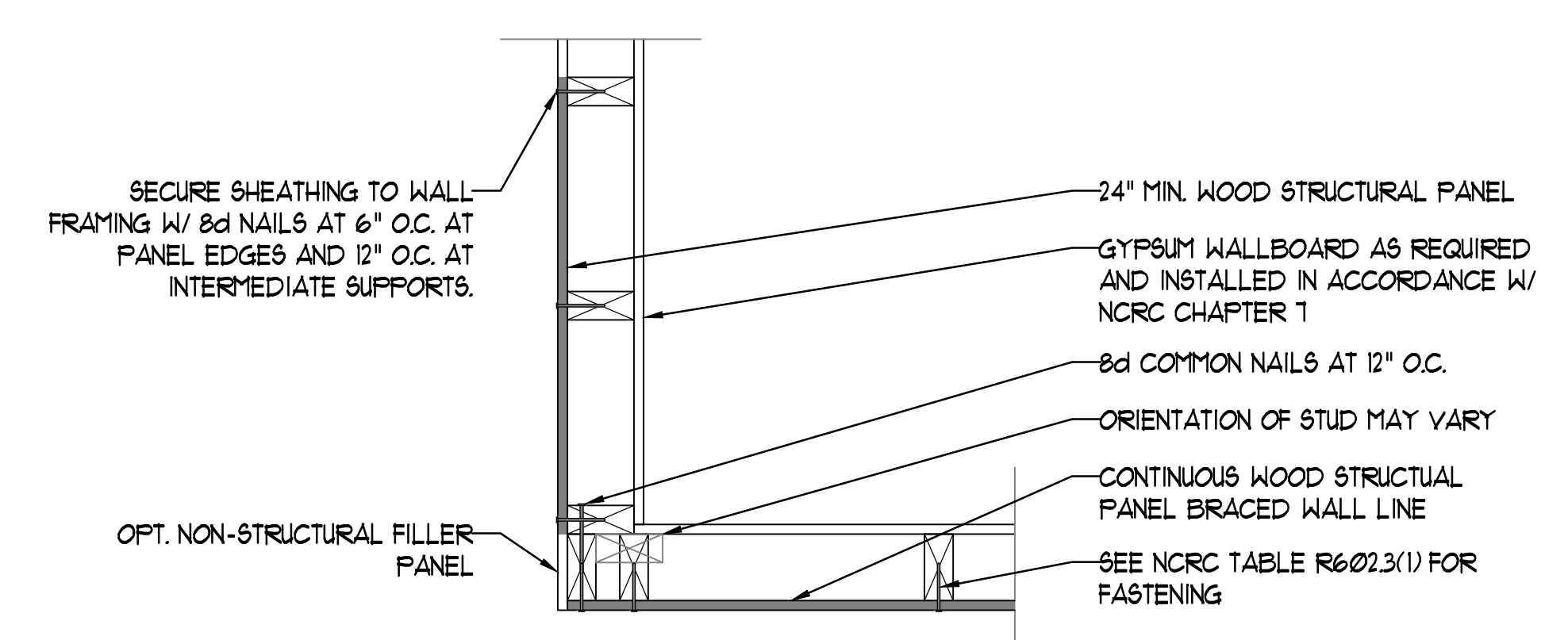
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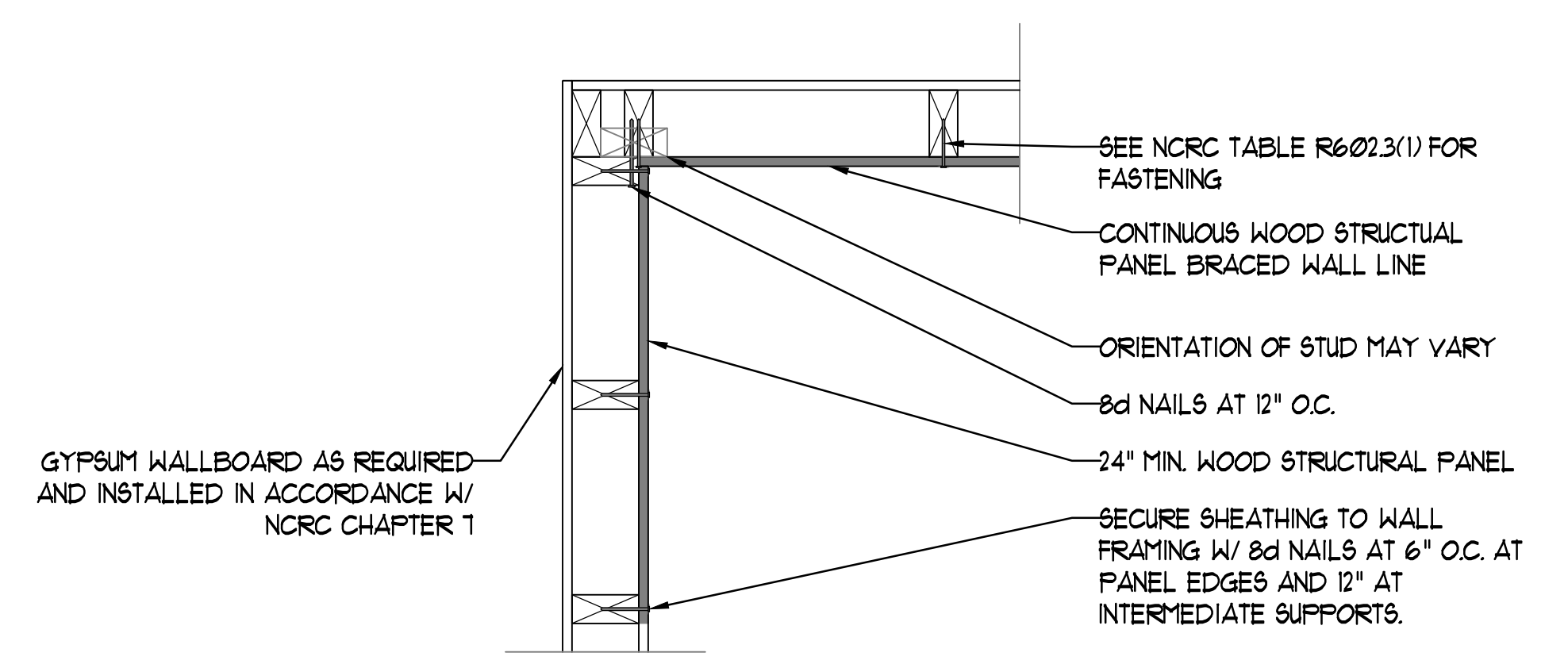
1 BRACED WALL PANEL CONNECTION WHEN PARALLEL TO FLOOR/CEILING FRAMING



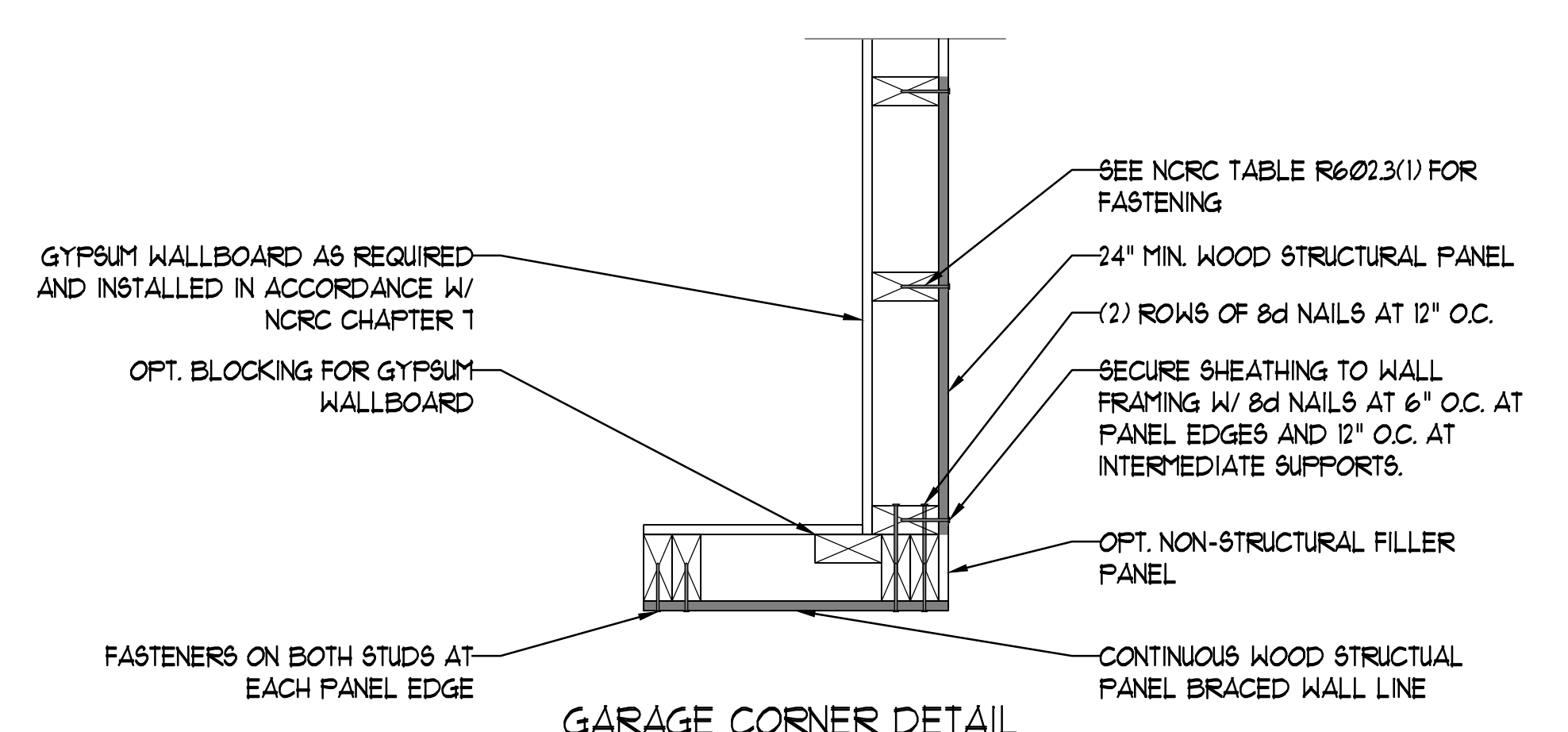
2 BRACED WALL PANEL CONNECTION WHEN PERPENDICULAR TO FLOOR/CEILING FRAMING



OUTSIDE CORNER DETAIL

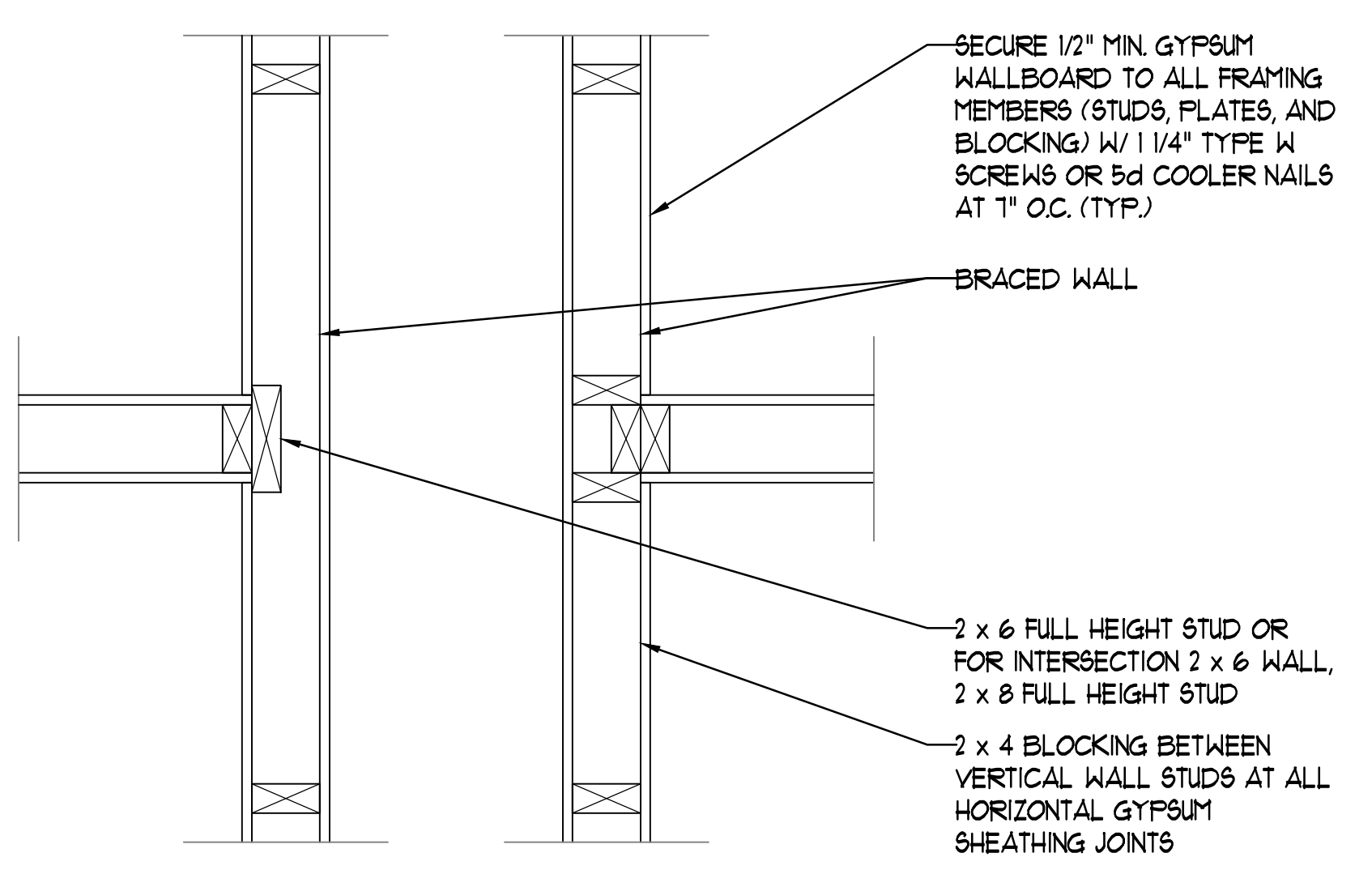


INSIDE CORNER DETAIL



GARAGE CORNER DETAIL

3 TYPICAL EXTERIOR CORNER FRAMING FOR CONTINUOUS SHEATHING



T-PLATE WALL INTERSECTION

3-STUD WALL INTERSECTION

4 METHOD GB (1) AND GB (2) INTERSECTION DETAILS

BRACED WALL PANEL SCHEDULE			
ABBREVIATIONS	PANEL TYPE	MATERIAL	FASTENERS
WSP	INTERMITTENT WOOD STRUCTURAL PANEL	1/16" OSB/ FLYWOOD (UNO)	6d OR 8d COMMON NAILS AT 6" O.C. AT PANEL EDGES AND 12" O.C. AT INTERMEDIATE SUPPORTS
GB (1)	INTERMITTENT GYPSUM BOARD (SHEATHING ON ONE FACE OF WALL)	1/2" GYPSUM	1 1/2" GALV. ROOFING NAILS, 6d COMMON NAILS, OR 1 1/4" TYPE W DRYWALL SCREWS AT 1" O.C. AT PANEL EDGES INCLUDING TOP AND BOTTOM PLATES AND INTERMEDIATE SUPPORTS
GB (2)	INTERMITTENT GYPSUM BOARD (SHEATHING ON BOTH FACES OF WALL)	1/2" GYPSUM	1 1/2" GALV. ROOFING NAILS, 6d COMMON NAILS, OR 1 1/4" TYPE W DRYWALL SCREWS AT 1" O.C. AT PANEL EDGES INCLUDING TOP AND BOTTOM PLATES AND INTERMEDIATE SUPPORTS
GB (3)	INTERMITTENT GYPSUM BOARD (SHEATHING ON BOTH FACES OF WALL)	1/2" GYPSUM	1 1/2" GALV. ROOFING NAILS, 6d COMMON NAILS, OR 1 1/4" TYPE W DRYWALL SCREWS AT 4" O.C. AT PANEL EDGES INCLUDING TOP AND BOTTOM PLATES AND INTERMEDIATE SUPPORTS
LIB	LET-IN-BRACING	1 x 4 WOOD OR SIMPSON CS16 STRAP	WOOD: (2) 8d NAILS PER STUD INCLUDING TOP AND BOTTOM PLATE. METAL: (1) STRAP EACH DIRECTION, (2) 16d NAILS PER STUD INCLUDING TOP AND BOTTOM PLATE, (20) 16d NAILS MIN. PER STRAP
CS-WSP	CONTINUOUS SHEATHED WOOD STRUCTURAL PANEL	1/16" OSB/ FLYWOOD (UNO)	6d OR 8d COMMON NAILS AT 6" O.C. AT PANEL EDGES AND 12" O.C. AT INTERMEDIATE SUPPORTS
CS-G	CONT. SHEATHED WOOD STRUCTURAL PANEL ADJACENT TO GARAGE	1/16" OSB/ FLYWOOD (UNO)	6d OR 8d COMMON NAILS AT 6" O.C. AT PANEL EDGES AND 12" O.C. AT INTERMEDIATE SUPPORTS
CS-FF	CONTINUOUS PORTAL FRAME	1/16" OSB/ FLYWOOD (UNO)	SEE METHOD CS-FF ON PAGE BW-3
CS-EBW1	CONTINUOUS SHEATHED WOOD STRUCTURAL PANEL	1/16" OSB/ FLYWOOD (UNO)	6d OR 8d COMMON NAILS AT 4" O.C. AT PANEL EDGES AND 8" O.C. AT INTERMEDIATE SUPPORTS
CS-EBW2	CONTINUOUS SHEATHED WOOD STRUCTURAL PANEL	1/16" OSB/ FLYWOOD (UNO)	6d OR 8d COMMON NAILS AT 3" O.C. AT PANEL EDGES AND 6" O.C. AT INTERMEDIATE SUPPORTS

NOTES:
 1) ALL BRACED WALL PANELS SHALL HAVE 2x BLOCKING BETWEEN WALL STUDS AT ALL HORIZONTAL SHEET EDGES.
 2) PROVIDE NAILING/BLOCKING ABOVE AND BELOW ALL BRACED WALL PANELS PER DETAIL 1/BW-1 AND 2/BW-1.
 3) ALL EXTERIOR WALLS OF THE HOUSE ARE TO BE SHEATHED W/ 1/16" OSB OR 5/32" PLYWOOD SECURED PER IRC TABLE R602.3(1) (NCR TABLE R602.3(1)). WALL CORNER SHEATHING IS TO BE SECURED AS PER DETAIL 3/BW-1.
 4) GB (1) AND GB (2) WALL PANELS SHALL BE SECURED AS PER DETAIL 4/BW-1.
 5) BRACED WALL PANELS ARE PROVIDED AS PER THE INTERNATIONAL RESIDENTIAL CODE, 2015 EDITION, SECTION R602.10. PANEL LENGTHS SHOWN ON PLANS ARE THE MIN. LENGTH REQUIRED.
 6) ALL METHODS SHALL HAVE A GYPSUM BOARD FINISH (OR EQUIVALENT) APPLIED TO THE INSIDE FACE OF THE BRACED WALL PANEL.

WALL BRACING DETAILS



10/9/2024

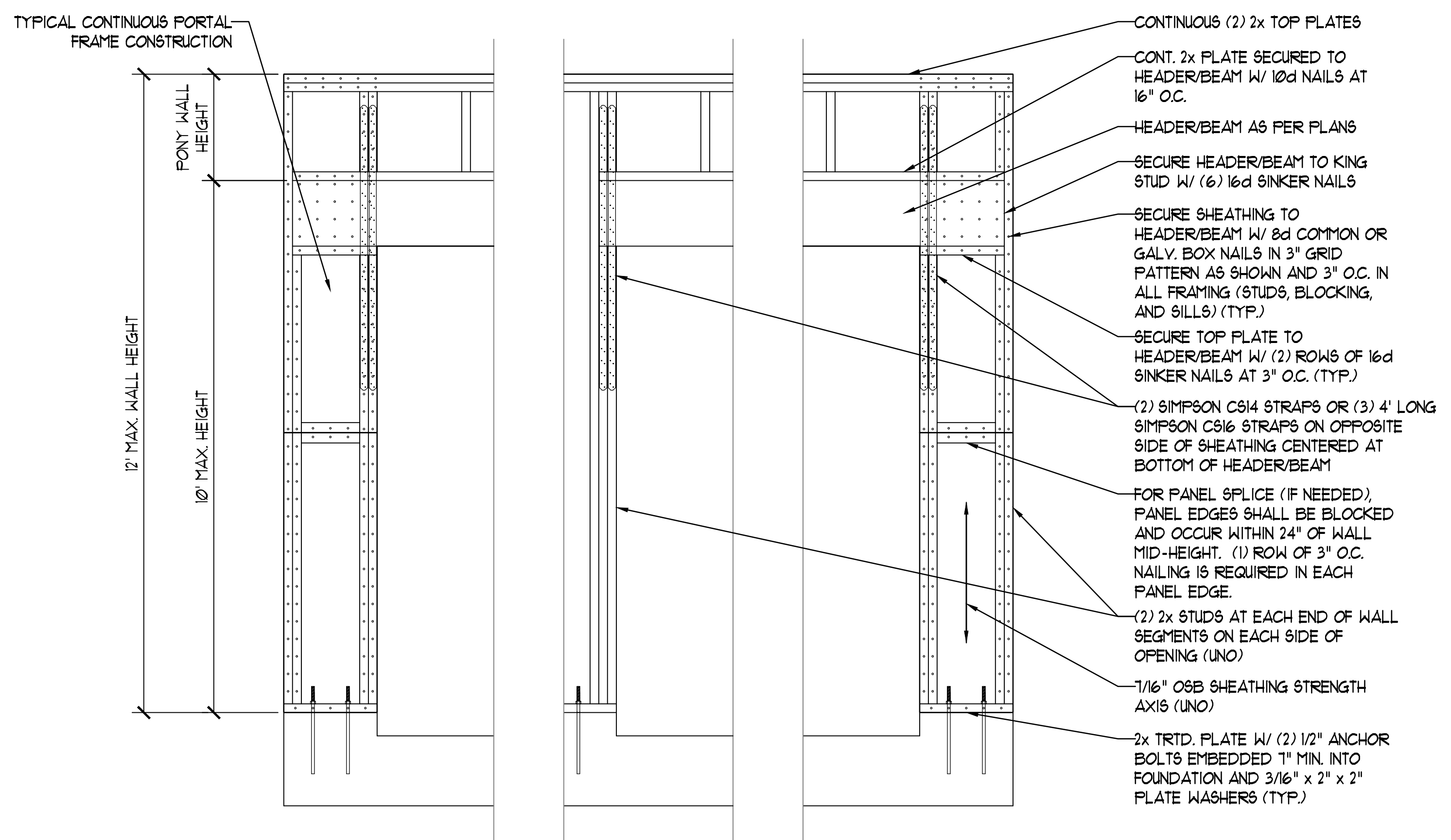
DETAILS
 BW-1
 SHEET x OF x



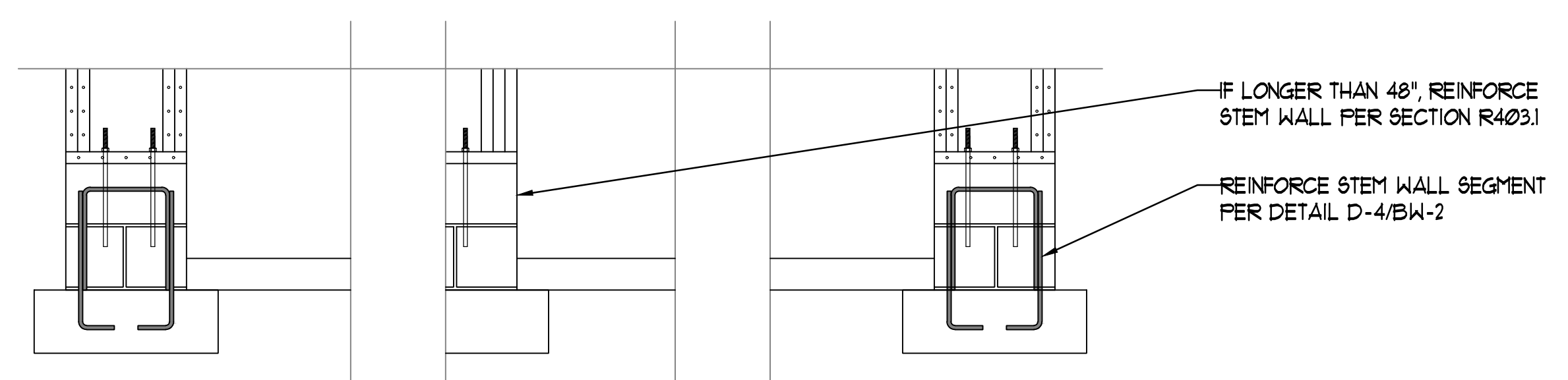
DATE: JULY 10, 2024
 SCALE: NTS
 DRAWN BY: T&Z
 ENGINEERED BY: T&Z
 REVIEWED BY: T&Z

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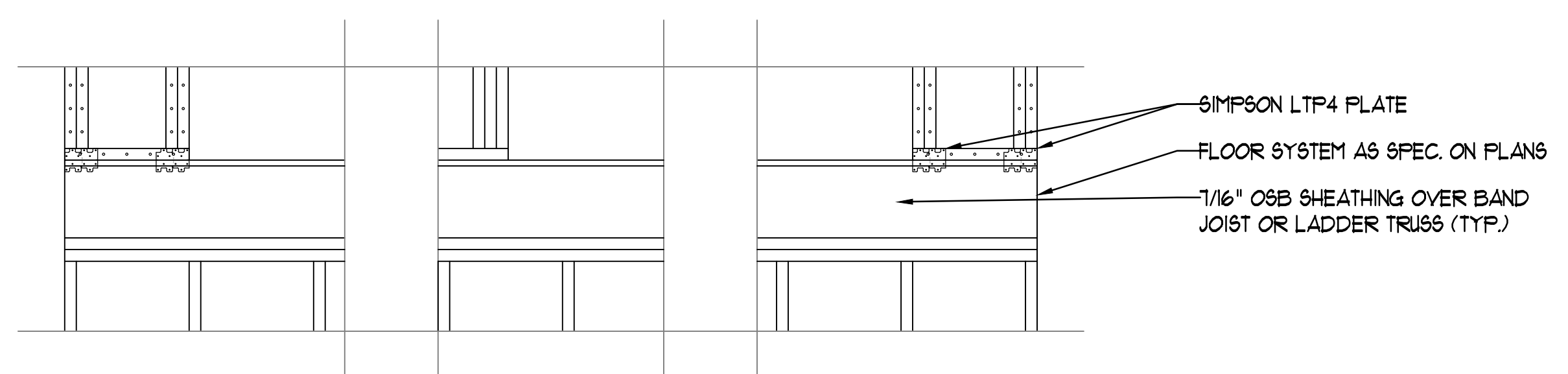
WALL BRACING DETAILS



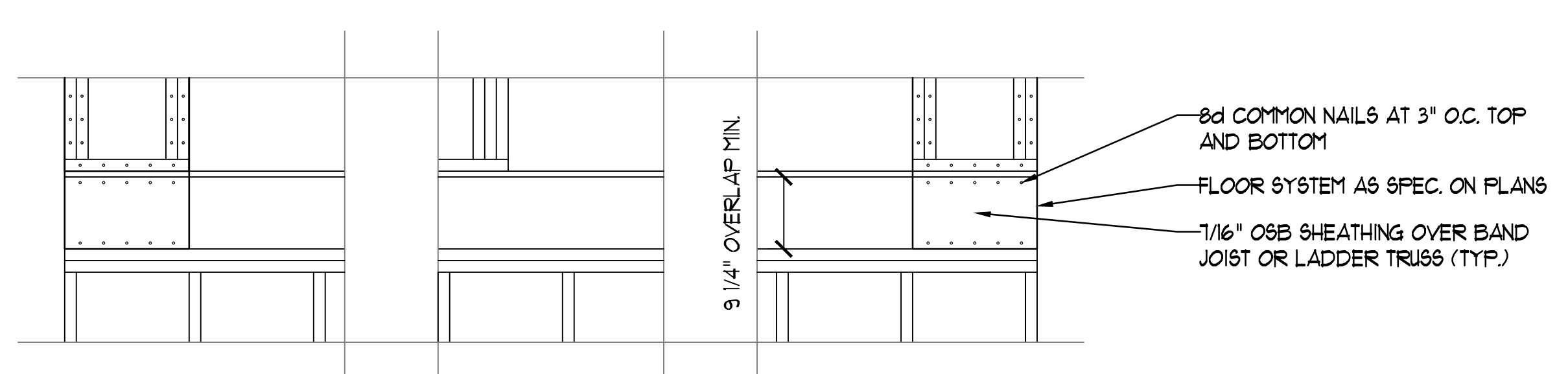
WITH MONOLITHIC SLAB FOUNDATION



ON STEM WALL OR CRAWL SPACE FOUNDATION



OVER RAISED WOOD FLOOR OR SECOND FLOOR - FRAMING ANCHOR OPTION



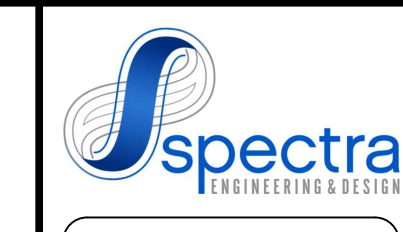
OVER RAISED WOOD FLOOR OR SECOND FLOOR - WOOD STRUCTURAL PANEL OPTION

1 METHOD CS-PF: CONTINUOUS PORTAL FRAME PANEL CONSTRUCTION



10/9/2024

DETAILS
 BW-3
 SHEET x OF x



DATE: JULY 10, 2024
SCALE:
DRAWN BY: TBJ
ENGINEERED BY: TBJ
REVIEWED BY: TBJ

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STANDARD STRUCTURAL NOTES

DISCLAIMER - 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 CONTRACTOR'S FAILURE TO CARRY OUT THE CONSTRUCTION WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. ENGINEER'S SEAL APPLIES ONLY TO STRUCTURAL COMPONENTS INCLUDING ROOF RAFTERS, HIP, 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 OR ARCHITECTURAL LAYOUT INCLUDING ROOF. ENGINEER'S SEAL DOES NOT APPLY TO I-JOIST OR FLOOR/ROOF TRUSS LAYOUT DESIGN AND ANCHORAGE.

STRUCTURAL DESIGN - STRUCTURAL DESIGN AS PER NRC, INCLUDING CHAPTER 45 FOR CONSTRUCTION IN 130, 140, AND 150 MPH WIND ZONES. DESIGN LOADS ARE AS FOLLOWS:

LIVE LOAD (PSF)	DEFLECTION (LL)
ATTIC WITH LIMITED STORAGE	20 L/340
ATTIC WITHOUT STORAGE	10 L/360
DECKS	40 L/360
EXTERIOR BALCONIES	60 L/360
FIRE ESCAPES	40 L/360
GUARDRAILS AND HANDRAILS	200 L/360
PASSENGER VEHICLE GARAGES	50 L/360
ROOMS OTHER THAN SLEEPING ROOMS	40 L/360
SLEEPING ROOMS	30 L/360
STAIRS	40 L/360
SNOW	20 L/360

WIND LOAD (BASED ON "WALL AND ROOF CLADDING DESIGN LOADS" TABLE, WIND ZONE, MEAN ROOF HEIGHT AND EXPOSURE)
- STICK FRAMED SYSTEMS ARE DESIGNED WITH 10 PSF DEAD LOAD.
- I-JOIST SYSTEMS ARE DESIGNED WITH 12 PSF DEAD LOAD.
- FLOOR TRUSS SYSTEMS ARE DESIGNED WITH 15 PSF DEAD LOAD.

HIGH WIND ZONES - CONSTRUCTION IN 130, 140, AND 150 MPH WIND ZONES SHALL BE IN ACCORDANCE WITH CHAPTER 45 OF THE NRC. CONSTRUCTION IN THE COASTAL AND FLOOD PLAINS SHALL BE IN ACCORDANCE WITH CHAPTER 46 OF THE NRC.

CONCRETE FOOTING AND SLAB PREPARATION - 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 AND 8" FOR EARTH. A 4" THICK BASE COURSE CONSISTING OF CLEAN GRADED SAND, GRAVEL, OR CRUSHED BLAST-FURNACE SLAG PASSING A 2" SIEVE SHALL BE PLACED ON THE PREPARED SUBGRADE WHEN THE SLAB IS BELOW GRADE. A BASE COURSE IS NOT REQUIRED WHEN 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 R402.1 OF THE NRC. PROPERLY DEWATER EXCAVATION PRIOR TO POURING CONCRETE WHEN BOTTOM OF CONCRETE SLAB IS AT OR BELOW WATER TABLE.

SOIL BEARING CAPACITY - THE ALLOWABLE MINIMUM BEARING CAPACITY FOR SOIL IS ASSUMED TO BE 3000 PSF. CONTACT GEOTECHNICAL ENGINEER IF BEARING CAPACITY IS NOT ACHIEVED.

CONCRETE - CONCRETE SHALL CONFORM TO SECTION R402.2 OF THE NRC. CONCRETE REINFORCING STEEL TO BE ASTM A615 GRADE 60. WELDED WIRE FABRIC TO BE ASTM A105. 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.

CONCRETE CONTROL JOINTS - IF APPLICABLE, CONTROL JOINTS ARE TO BE SAIED TO A DEPTH OF 25% OF SLAB THICKNESS WITHIN 4 TO 12 HOURS OF CONCRETE FINISHING. CONTROL JOINTS SHOULD BE SPACED NO MORE THAN 12'-0" APART AND SECTIONS SHOULD BE RECTANGULAR WITH SIDE RATIOS NO GREATER THAN 15 LONG TO 1 WIDE.

MASONRY - MASONRY UNITS TO CONFORM TO ACE 530/ASCE 5/TMS 402. MORTAR SHALL CONFORM TO ASTM C210. REINFORCING STEEL TO BE ASTM A615 GRADE 60.

REBAR LAP SPLICES - REINFORCEMENT SHALL BE THE LONGEST LENGTHS PRACTICAL OR BE LAP SPICED 30" MINIMUM FOR #4 REBAR, 38" MINIMUM FOR #5 REBAR, 45" MINIMUM FOR #6 REBAR, OR THE MINIMUM REQUIRED LAP SPlice LENGTH OF THE SMALLER BAR AS PER FIGURE R602.5.4(1) OF THE NRC.

CONCRETE AND MASONRY FOUNDATION WALLS - ALL CONCRETE AND MASONRY FOUNDATION WALLS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH THE PROVISIONS OF SECTION R404 OF THE NRC OR IN ACCORDANCE WITH ACI 318, ACI 332, NCM 1 TR68-A OR ACE 530/ASCE 5/TMS 402. MASONRY FOUNDATION WALLS ARE TO BE REINFORCED PER TABLE R404.1(1) THROUGH R404.1(4) OF THE NRC. CONCRETE FOUNDATION WALLS ARE TO BE REINFORCED PER TABLE R404.1(1) THROUGH R404.1(5) OF THE NRC. PRECAST CONCRETE FOUNDATION WALLS ARE TO CONFORM TO SECTION R404.5 OF THE NRC. STEP CONCRETE FOUNDATION WALLS TO 2 x 6 FRAMED WALLS AT 16" O.C. WHERE GRADE PERMITS (UNO).

PIERS - THE UNSUPPORTED HEIGHT OF MASONRY PIERS SHALL NOT EXCEED 10 TIMES THEIR LEAST DIMENSION. WHEN STRUCTURAL CLAY TILE HOLLOW CONCRETE MASONRY UNITS ARE USED FOR ISOLATED PIERS TO SUPPORT BEAMS AND GIRDERS, THE CELLULAR SPACES SHALL BE FILLED SOLIDLY WITH CONCRETE OR TYPE M OR S MORTAR EXCEPT UNFILLED HOLLOW PIERS MAY BE USED IF THEIR UNSUPPORTED HEIGHT IS NOT MORE THAN FOUR TIMES THEIR LEAST DIMENSION. HOLLOW PIERS SHALL BE CAPPED WITH 4" OF SOLID MASONRY OR CONCRETE FOR ONE STORY AND 8" OF SOLID MASONRY OR CONCRETE FOR TWO STORY AND TWO AND ONE-HALF STORY OR SHALL HAVE CAVITIES OF THE TOP COURSE FILLED WITH CONCRETE OR GROUT OR OTHER APPROVED METHODS. SHADED OR NOTED PIERS ARE TO BE FILLED SOLID WITH CONCRETE OR GROUT OR OTHER APPROVED METHOD.

PIER/GIRDER LOCATION - THE CENTER OF EACH PIER SHALL BEAR IN THE MIDDLE THIRD OF ITS RESPECTIVE FOOTING. EACH GIRDER SHALL BEAR IN THE MIDDLE THIRD OF EACH PIER.

FOUNDATION ANCHORAGE - FOR 15, 120, AND 130 MPH WIND ZONES, THE WOOD SOLE PLATE AT EXTERIOR WALLS ON MONOLITHIC SLABS, WOOD SOLE PLATES OF BRACED WALL PANELS AT BUILDING INTERIORS ON MONOLITHIC SLAB, AND ALL WOOD SILL PLATES SHALL BE ANCHORED TO THE FOUNDATION WITH ANCHOR BOLTS SPACED A MAXIMUM OF 6'-0" O.C. (4'-0" O.C. FOR 130 MPH WIND ZONE) AND NOT MORE THAN 12" FROM THE CORNER. THERE SHALL BE A MINIMUM OF TWO BOLTS PER PLATE SECTION. BOLTS SHALL BE AT LEAST 1/2" IN DIAMETER AND SHALL EXTEND A MINIMUM OF 1" INTO MASONRY OR CONCRETE (15" INTO MASONRY FOR 130 MPH WIND ZONE). BOLTS SHALL BE LOCATED IN THE MIDDLE THIRD OF THE WIDTH OF THE PLATE. INTERIOR BEARING WALL SOLE PLATES ON MONOLITHIC SLAB FOUNDATIONS NOT PART OF A BRACED WALL PANEL SHALL BE POSITIVELY ANCHORED WITH APPROVED FASTENERS. FOR 140 MPH AND 150 MPH WIND ZONES, FOUNDATION ANCHORAGE IS TO COMPLY WITH SECTION 4504 OF THE NRC.

FRAMING LUMBER - ALL FRAMING LUMBER SHALL BE #2 SYP MINIMUM (Fb = 150 PSI, Fv = 175 PSI, E = 1400000 PSI) UNLESS NOTED OTHERWISE (UNO). ALL TREATED LUMBER SHALL BE #2 SYP MINIMUM (Fb = 150 PSI, Fv = 175 PSI, E = 1400000 PSI) UNLESS NOTED OTHERWISE (UNO).

ENGINEERED LUMBER - LAMINATED VENEER LUMBER (LVL) SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES: Fb = 2600 PSI, Fv = 285 PSI, E = 1900000 PSI. LAMINATED STRAND LUMBER (LSL) SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES: Fb = 2325 PSI, Fv = 525 PSI, E = 1550000 PSI. PARALLEL STRAND LUMBER (PSL) UP TO 7" DEPTH SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES: Fb = 3500 PSI, E = 1800000 PSI. PARALLEL STRAND LUMBER (PSL) MORE THAN 7" DEPTH SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES: Fb = 2900 PSI, E = 1200000 PSI. INSTALL ALL CONNECTIONS PER MANUFACTURER'S SPECIFICATIONS.

STEEL BEAMS - ALL STRUCTURAL STEEL SHALL BE ASTM A36. 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 TO EACH SUPPORT WITH TWO LAG SCREWS (1/2" DIAMETER X 4" LONG). LATERAL SUPPORT IS CONSIDERED ADEQUATE PROVIDED THE JOISTS ARE TOE NAILED TO THE 2x NAILER ON TOP OF THE STEEL BEAM, AND THE 2x NAILER IS SECURED TO THE BEAM FLANGE OR THE TOP OF THE STEEL BEAM IS INSTALLED WITHIN 1 1/2" OF THE TOP OF THE JOISTS.

POINT LOADS - 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.

LOAD BEARING HEADERS - ALL LOAD BEARING HEADERS ARE TO CONFORM TO TABLE R602.1(1), R602.1(2) AND R602.1(3) OR BE (2) 2 x 10 WITH (1) JACK AND (1) KING STUD EACH END (UNO), WHICHEVER IS GREATER. ALL HEADERS ARE TO BE SECURED TO EACH JACK STUD WITH (4) 8d NAILS. ALL BEAMS ARE TO BE SUPPORTED WITH (2) STUDS AT EACH BEARING POINT (UNO).

BEAM BEARING - ALL BEAMS, HEADERS, OR GIRDER TRUSSES PARALLEL TO BEARING 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 (2) STUDS OR LESS ARE TO HAVE 1 1/2" MINIMUM BEARINGS (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).

STEEL FLITCH PLATE BEAM - STEEL FLITCH PLATE 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 6" FROM EACH END (UNO).

I-JOIST/TRUSS LAYOUTS - ALL I-JOIST OR TRUSS LAYOUTS ARE TO BE IN COMPLIANCE WITH THE OVERALL DESIGN SPECIFICATIONS ON THE PLANS. ALL DEVIATIONS ARE TO BE BROUGHT TO THE ATTENTION OF THE ENGINEER OF RECORD PRIOR TO INSTALLATION.

WALL BRACING - BRACED WALL PANELS SHALL BE CONSTRUCTED ACCORDING TO SECTION R602.10 OF THE INTERNATIONAL RESIDENTIAL CODE, 2018 EDITION. THE LENGTH OF BRACING IN EACH BRACED WALL LINE SHALL COMPLY WITH TABLE R602.10.3(1) OR R602.10.3(3) OF THE INTERNATIONAL RESIDENTIAL CODE, 2018 EDITION, WHICHEVER IS GREATER. REFER TO WALL BRACING DETAILS WHEN PROVIDED.

UPLIFT CONNECTIONS - SECURE ALL RAFTERS TO EXTERIOR WALL OR SUPPORTING BEAM WITH SIMPSON H2.54 HURRICANE TIE, EQUIVALENT CONNECTOR OR ALTERNATE CONNECTION CONFORMING TO THE NRC. SECURE EACH ROOF TRUSS TO EXTERIOR WALL OR SUPPORTING BEAM WITH UPLIFT CONNECTOR RATED AT OR ABOVE UPLIFT LOAD SHOWN ON TRUSS PROFILE. INSTALL ALL RAFTER/ROOF TRUSS-TO-WALL CONNECTORS DIRECTLY TO WALL FRAMING THROUGH EXTERIOR SHEATHING. WHERE CONNECTORS ARE INSTALLED TO INSIDE FACE OF TOP PLATES, INSTALL UPLIFT CONNECTOR SECURING RAFTER/ROOF TRUSS DIRECTLY TO WALL STUD BELOW OR INSTALL ADDITIONAL EQUIVALENT CONNECTOR SECURING THE TOP PLATE TO THE WALL STUD.

SECURE ALL BEAMS SUPPORTING ROOF TRUSSES OR RAFTERS TO THEIR RESPECTIVE BEARING SUPPORT MEMBERS WITH (1) SIMPSON C916 STRAP PER CONNECTION LAPPING 14" MIN. ONTO EACH FRAMING MEMBER OR (2) SIMPSON MTS12 THIST STRAPS (TYP. UNLESS NOTED OTHERWISE.)

BRACED WALL PANELS LOCATED AT EXTERIOR WALLS SUPPORTING RAFTERS OR ROOF TRUSSES, INCLUDING STORIES BELOW TOP STORY, SHALL BE CONSTRUCTED TO RESIST UPLIFT FORCES CONTINUOUS FROM ROOF TO FOUNDATION. EXTERIOR SHEATHING SHALL SECURE STORY ABOVE AND BELOW FLOOR BAND BY LAPPING ONTO OR ACROSS BAND. WHERE EXTERIOR SHEATHING IS INSTALLED WITH HORIZONTAL JOINT SPLICE AT THE TOP AND/OR BOTTOM OF THE FLOOR BANDS, SECURE EXTERIOR SHEATHING AND/OR BAND ACROSS SPLICE AT THE BRACED WALL PANELS WITH SIMPSON LTP4 FRAMING PLATES AT 24" O.C. MAX. OR SIMPSON C916 COL STRAPS AT 48" O.C. MAX. (TWO STRAPS MIN. PER BRACED WALL PANEL) LAPPING THE WALL FRAMING 14" MIN.

WALLS PARALLEL TO JOISTS - PROVIDE DOUBLE JOIST UNDER ALL WALLS PARALLEL TO FLOOR JOISTS. DOUBLE JOISTS SEPARATED TO PERMIT THE INSTALLATION OF PIPING OR VENTS SHALL BE FULL DEPTH SOLID BLOCKED WITH LUMBER NOT LESS THAN 2" SPACED NOT MORE THAN 4'-0" O.C. 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.

BRICK SUPPORT - 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 4" MINIMUM EMBEDMENT AT SIDES FOR BRICK SUPPORT. 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 x 10 BLOCKING INSTALLED BETWEEN WALL STUDS WITH 1/2" LAG SCREWS AT 12" O.C. STAGGERED AND IN ACCORDANCE WITH SECTION R103.2.2 OF THE 2018 NRC.

ROOF MEMBER SUPPORT - FOR STICK FRAMED ROOFS, CIRCLES DENOTE (3) 2 x 4 POSTS FOR ROOF MEMBER SUPPORT.

HIP SPLICES - HIP SPLICES ARE TO BE SPACED A MINIMUM OF 8'-0". FASTEN MEMBERS WITH THREE ROWS OF 12d NAILS AT 16" O.C.

DORMER FRAMING - FRAME DORMER WALLS ON TOP OF DOUBLE OR TRIPLE RAFTERS AS SHOWN (UNO). 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).

DECKS - ALL DECK FRAMING, LATERAL BRACING, GUARDRAIL CONSTRUCTION, ATTACHMENT TO THE HOUSE STRUCTURE AND THE CONNECTIONS WITHIN THE DECK FRAMING ARE TO COMPLY WITH APPENDIX M OF THE NRC.

ENERGY EFFICIENCY - ENERGY EFFICIENCY COMPLIANCE TO BE IN ACCORDANCE WITH CHAPTER 11 OF THE NRC. THE BUILDING THERMAL ENVELOPE SHALL MEET THE REQUIREMENTS OF TABLE N102.12 BASED ON THE CLIMATE ZONE SPECIFIED.

WIND ZONE AND CLIMATE ZONE BY COUNTY

COUNTY	WIND ZONE (MPH)/ CLIMATE ZONE	COUNTY	WIND ZONE (MPH)/ CLIMATE ZONE
ALMANCE	15 / 4	JOHNSTON	120 / 3
ALEXANDER	15 / 4	JONES	140 / 3
ALLEGHANY	5MR / 5	LEE	15 / 4
ANSON	15 / 3	LENOIR	130 / 3
ASHE	5MR / 5	LINCOLN	15 / 4
AVERY	5MR / 5	MACON	15 / 4
BEAUFORT	130 / 3	MADISON	5MR / 4
BERTIE ^a	120/130 / 4	MARTIN ^b	120/130 / 3
BLADEN ^c	130/140 / 3	MCDONNELL	15 / 4
BRUNSWICK ^c	140/150 / 3-WHC	MECKLENBURG	15 / 3
BUNCOMBE	5MR / 4	MITCHELL	5MR / 5
BURKE	15 / 4	MONTGOMERY	15 / 3
CASARETUS	15 / 3	MOORE	15 / 3
CALDWELL	15 / 4	NASH	15 / 4
CAMDEN	130 / 3	NEW HANOVER ^d	140/150 / 3-WHC
CARTERET	150 / 3-WHC	NORTHAMPTON	15 / 4
CASHWELL	15 / 4	ONSLOW ^e	130/140/150 / 3-WHC
CATAWBA	15 / 4	ORANGE	15 / 4
CHATHAM	15 / 4	PAMLICO	140 / 3
CHEROKEE	15 / 4	PASQUOTANK	130 / 3
CHOWAN	130 / 3	PERDUE ^f	130/140/150 / 3-WHC
CLAY	15 / 4	PERQUIMANS	130 / 3
CLEVELAND	15 / 4	PERSON	15 / 4
COLUMBUS	140 / 3-WHC	PITT	130 / 3
CRANE	140 / 3	FOLK	15 / 4
CURRITUCK ^g	120/130 / 3	RANDOLPH	15 / 3
DARE ^h	130 / 3	RICHMOND	120 / 3
DAVIDSON	130/140 / 3	ROBEESON	130 / 3
DAVIE	15 / 3	ROCKINGHAM	15 / 4
DUPLIN	15 / 4	ROWAN	15 / 3
DURHAM	130 / 3	RUTHERFORD	15 / 4
EDGEcombe	15 / 3	SAMPSON	130 / 3
FORSYTH	15 / 4	SCOTLAND	120 / 3
FRANKLIN	15 / 4	STANLY	15 / 3
GASTON	15 / 3	STOKES	15 / 4
GATES	120 / 3	SURRY	15 / 4
GRAHAM	5MR / 4	SWAIN	5MR / 4
GRANVILLE	15 / 4	TRANSYLVANIA	15 / 4
GREENE	130 / 3	TYRRELL	130 / 3
GUILFORD	15 / 4	UNION	15 / 3
HALIFAX	15 / 4	VANCE	15 / 4
HARNETT	15 / 4	WAKE	15 / 4
HAYWOOD	5MR / 4	WARREN	15 / 4
HENDERSON	15 / 4	WASHINGTON	130 / 3
HERFORD	15 / 4	WATAUGA	5MR / 5
Hoke	120 / 3	WAYNE	130 / 3
HYDE ⁱ	130/140 / 3	WILKES	15 / 4
IREDELL	15 / 4	WILSON	120 / 3
JACKSON	5MR / 4	YADKIN	15 / 4
		YANCEY	5MR / 5

-5MR DESIGNATES "SPECIAL MOUNTAIN REGION"
-WHC DESIGNATES "HARMY-HUMID COUNTY"
a. 120 MPH ZONE WEST OF HWY 17, 130 MPH ZONE EAST OF HWY 17.
b. 130 MPH ZONE WEST OF HWY 101, 130 MPH ZONE EAST OF HWY 101.
c. 140 MPH ZONE WEST OF HWY 17, 150 MPH ZONE EAST OF HWY 17, 150 MPH ZONE ON BALD HEAD ISLAND.
d. 120 MPH ZONE WEST OF I-95, 130 MPH ZONE EAST OF I-95.
e. 130 MPH ZONE WEST OF US ROUTE 264, 140 MPH ZONE EAST OF US ROUTE 264.
f. 130 MPH ZONE WEST OF US ROUTE 264, 140 MPH ZONE EAST OF US ROUTE 264.
g. 120 MPH ZONE WEST OF HWY 17, 130 MPH ZONE EAST OF HWY 17.
h. 140 MPH ZONE WEST OF HWY 17, 150 MPH ZONE EAST OF HWY 17.
i. 130 MPH ZONE WEST OF HWY 17, 140 MPH ZONE EAST OF HWY 17 TO THE INTRACOASTAL WATERWAY, 150 MPH ZONE EAST OF THE INTRACOASTAL WATERWAY.
j. 140 MPH ZONE IN THE TOWNSHIP OF TOPSAIL WEST OF THE INTRACOASTAL WATERWAY, 150 MPH ZONE EAST OF THE INTRACOASTAL WATERWAY, 130 MPH ZONE IN THE REMAINDER OF THE COUNTY.

WALL AND ROOF CLADDING DESIGN LOADS (POSITIVE AND NEGATIVE PSF)

WIND ZONE (MPH)	MEAN ROOF HEIGHT (FT)	ROOF CLADDING (PSF) BY ROOF PITCH			WALL CLADDING (PSF)
		0 < X < 25	25 < X < 7	7 < X < 12	
15	< 30	10.0, -36.0	10.0, -33.0	13.1, -16.0	14.3, -19.0
	30 < h < 35	10.5, -37.8	10.5, -34.7	13.8, -16.8	15.0, -20.0
	35 < h < 40	10.9, -39.2	10.9, -36.0	14.3, -17.4	15.6, -20.7
	40 < h < 45	11.2, -40.3	11.2, -37.0	14.7, -17.9	16.0, -21.3
120	< 30	10.0, -39.0	10.0, -36.0	14.2, -18.0	15.5, -20.0
	30 < h < 35	10.5, -41.0	10.5, -36.5	14.9, -18.9	16.3, -21.0
	35 < h < 40	10.9, -42.5	10.9, -37.9	15.5, -19.6	16.9, -21.8
	40 < h < 45	11.2, -43.7	11.2, -39.0	15.9, -20.2	17.4, -22.4
130	< 30	10.0, -46.0	10.5, -43.0	16.7, -21.0	18.2, -24.0
	30 < h < 35	10.5, -48.3	11.0, -45.2	17.5, -22.1	19.1, -25.2
	35 < h < 40	10.9, -50.1	11.4, -46.9	18.2, -22.9	19.8, -26.2
	40 < h < 45	11.2, -51.5	11.8, -48.2	18.7, -23.5	20.4, -26.9
140	< 30	10.0, 53.0	12.2, -49.0	19.4, -24.0	21.2, -28.0
	30 < h < 35	10.5, -55.7	12.8, -51.5	20.4, -25.2	22.3, -29.4
	35 < h < 40	10.9, -57.8	13.3, -53.4	21.1, -26.2	23.1, -30.5
	40 < h < 45	11.2, -59.4	13.7, -54.9	21.7, -26.9	23.7, -31.4
150	< 30	9.9, -61.0	14.0, -57.0	22.2, -28.0	24.3, -32.0
	30 < h < 35	10.4, -64.1	14.7, -59.9	23.3, -29.4	25.5, -33.6
	35 < h < 40	10.8, -66.5	15.3, -62.1	24.2, -30.5	26.5, -34.9
	40 < h < 45	11.1, -68.3	15.7, -63.8	24.9, -31.4	27.2, -35.8

TABLE N102.12 INSULATION AND FENESTRATION REQUIREMENTS BY COMPONENT^a

CLIMATE ZONE	FENESTRATION U-FACTOR ^{b, j}	SKYLIGHT ^b U-FACTOR	GLAZED FENESTRATION SHGC ^{b, k}	CEILING R-VALUE ^l	WOOD FRAME WALL R-VALUE ^m	MASS WALL R-VALUE ⁿ	FLOOR R-VALUE	BASEMENT WALLS ^o R-VALUE	SLAB ^d R-VALUE AND DEPTH	CRAWL SPACE ^e WALL R-VALUE
3	0.35	0.55	0.30	38 OR 30 CI	15 OR 13.25 ^h	5/13 OR 5/10 CI	19	5/13 ^f	0	5/13
4	0.35	0.55	0.30	38 OR 30 CI	15 OR 13.25 ^h	5/13 OR 5/10 CI	19	10/13	10 ^d	10/13
5	0.35	0.55	NR	38 OR 30 CI	15, 13.25 ^h OR 13 ^h	13/17 OR 13/12.5 CI	30 ^g	10/13	10 ^d	10/13

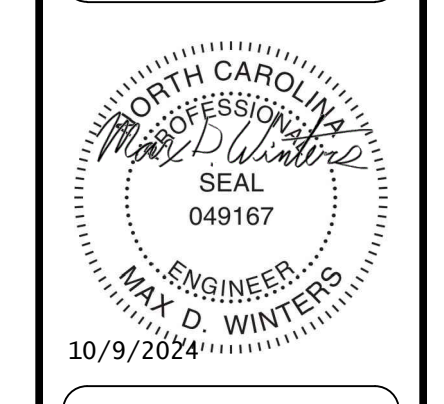
a. R-VALUES ARE MINIMUMS. U-FACTORS AND SHGC ARE MAXIMUMS. WHEN INSULATION IS INSTALLED IN A CAVITY WHICH IS LESS THAN THE LABEL OR DESIGN THICKNESS OF THE INSULATION, THE INSTALLED R-VALUE OF THE INSULATION SHALL NOT BE LESS THAN THE R-VALUE SPECIFIED IN THE TABLE.
b. THE FENESTRATION U-FACTOR COLUMN EXCLUDES SKYLIGHTS. THE SHGC COLUMN APPLIES TO ALL GLAZED FENESTRATION.
c. "10/15" MEANS R-10 CONTINUOUS INSULATED SHEATHING ON THE INTERIOR OR EXTERIOR OF THE HOME OR R-15 CAVITY INSULATION AT THE INTERIOR OF THE BASEMENT WALL OR CRAWL SPACE WALL.
d. R-5 SHALL BE ADDED TO THE REQUIRED SLAB EDGE R-VALUES FOR HEATED SLABS. FOR MONOLITHIC SLABS, INSULATION SHALL BE APPLIED FROM THE INSPECTION GAP DOWNWARD TO THE BOTTOM OF THE FOOTING OR A MAXIMUM OF 24" BELOW GRADE, WHICHEVER IS LESS. FOR FLOATING SLABS, INSULATION SHALL EXTEND TO EITHER THE INSULATION BAFFLE OR WALL OR 24", WHICHEVER IS LESS. (SEE APPENDIX O)
e. DELETED
f. BASEMENT WALL INSULATION IS NOT REQUIRED IN HARMY-HUMID LOCATIONS AS DEFINED BY FIGURE N101.1 AND TABLE N101.1.
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, SO "13-5" MEANS R-13 CAVITY INSULATION PLUS R-5 CONTINUOUS INSULATION. IF STRUCTURAL SHEATHING COVERS 25% OR LESS OF THE EXTERIOR, INSULATING SHEATHING IS NOT REQUIRED WHERE STRUCTURAL SHEATHING IS USED. IF STRUCTURAL SHEATHING COVERS MORE THAN 25% OF EXTERIOR, STRUCTURAL SHEATHING SHALL BE SUPPLEMENTED WITH INSULATED SHEATHING OF AT LEAST R-2.
i. THE SECOND R-VALUE APPLIES WHEN MORE THAN HALF THE INSULATION IS ON THE INTERIOR OF THE MASS WALL.
j. IN ADDITION TO THE EXEMPTION IN SECTION N102.3.3, A MAXIMUM OF TWO GLAZED FENESTRATION PRODUCT ASSEMBLIES HAVING A U-FACTOR NO GREATER THAN 0.55 SHALL BE PERMITTED TO BE SUBSTITUTED FOR MINIMUM CODE COMPLIANT FENESTRATION PRODUCT ASSEMBLIES WITHOUT PENALTY.
k. IN ADDITION TO THE EXEMPTION IN SECTION N102.3.3, A MAXIMUM OF TWO GLAZED FENESTRATION PRODUCT ASSEMBLIES HAVING A SHGC NO GREATER THAN 0.10 SHALL BE PERMITTED TO BE SUBSTITUTED FOR MINIMUM CODE COMPLIANT FENESTRATION PRODUCT ASSEMBLIES WITHOUT PENALTY.



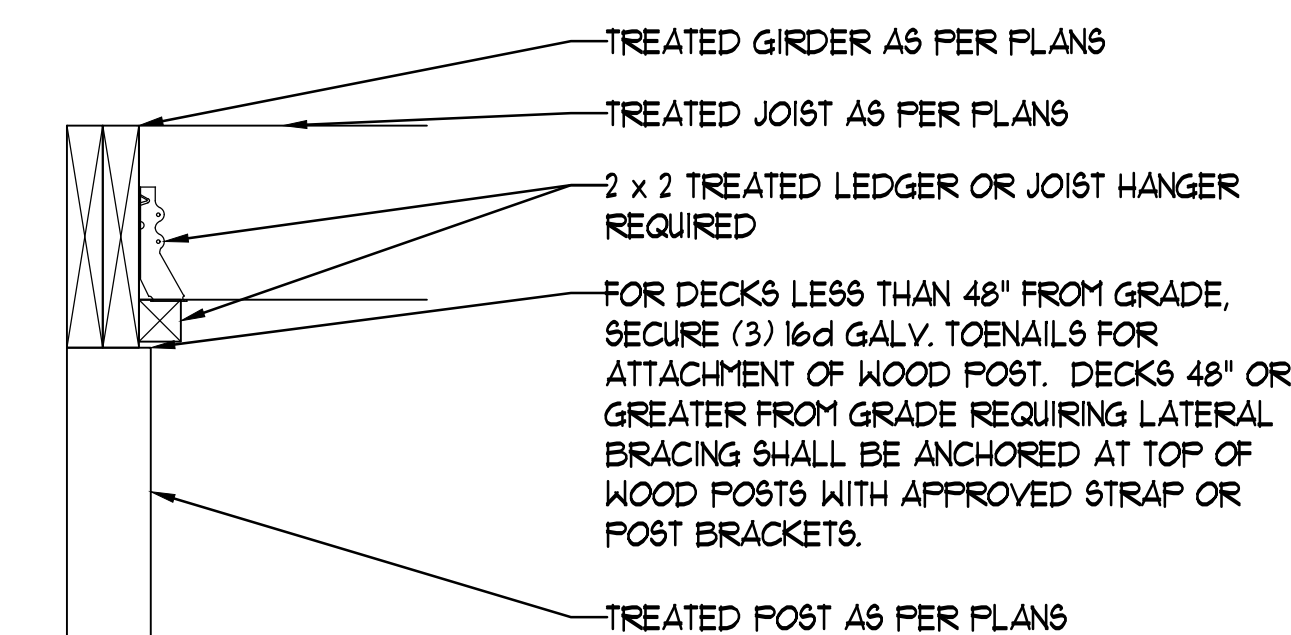
DATE: JULY 10, 2024
 SCALE:
 DRAWN BY: TBJ
 ENGINEERED BY: TBJ
 REVIEWED BY: TBJ

SPECTRA ENGINEERING AND DESIGN, PLLC
 P.O. BOX 37625
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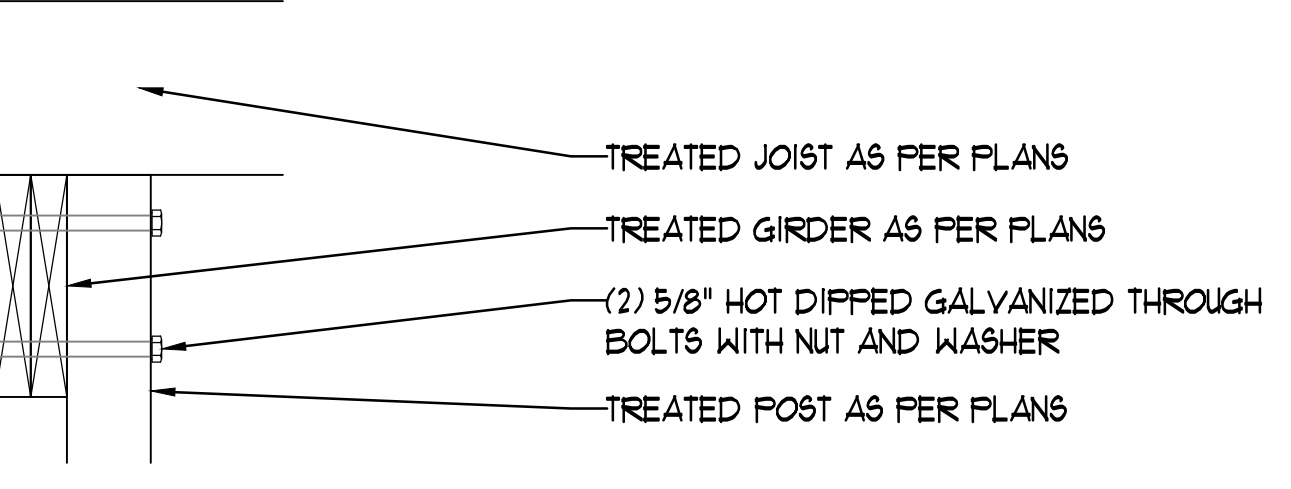
STANDARD STRUCTURAL NOTES



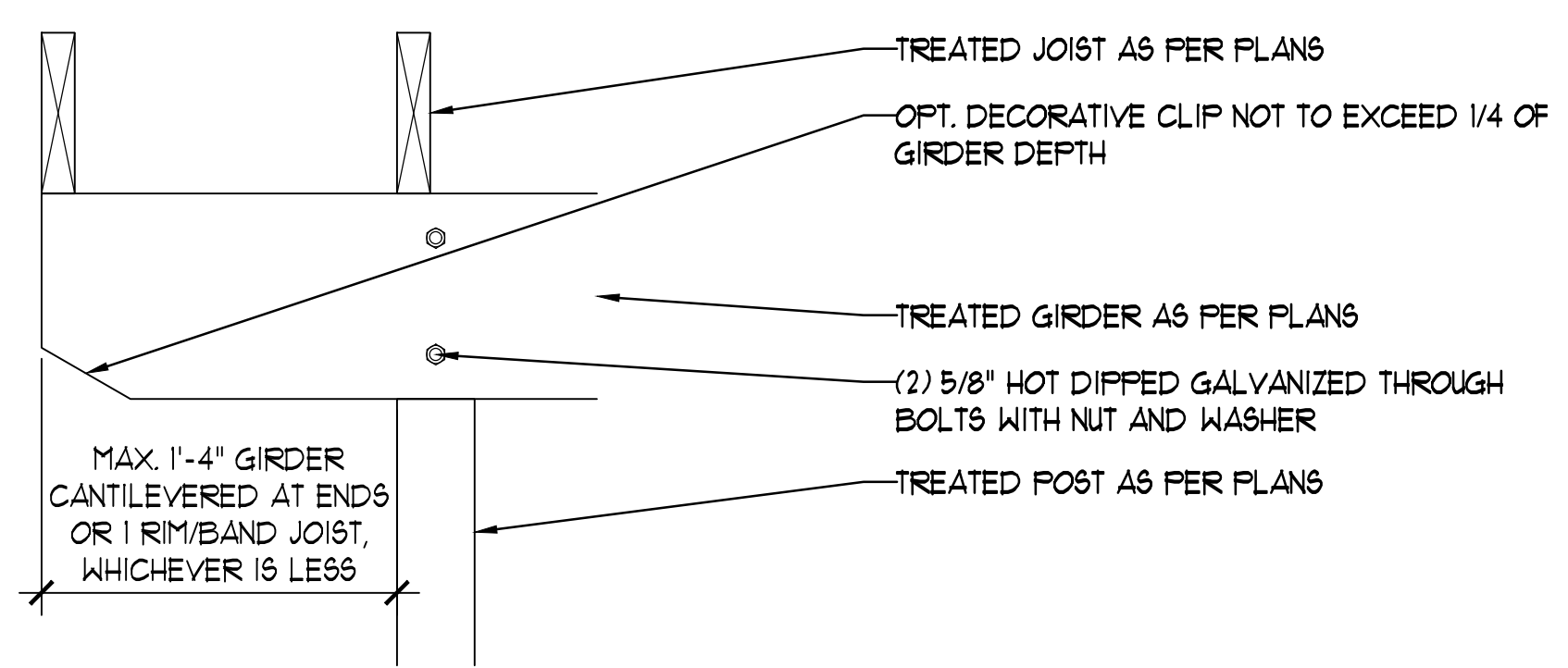
10/9/2024
 DECK DETAILS
 SN-2
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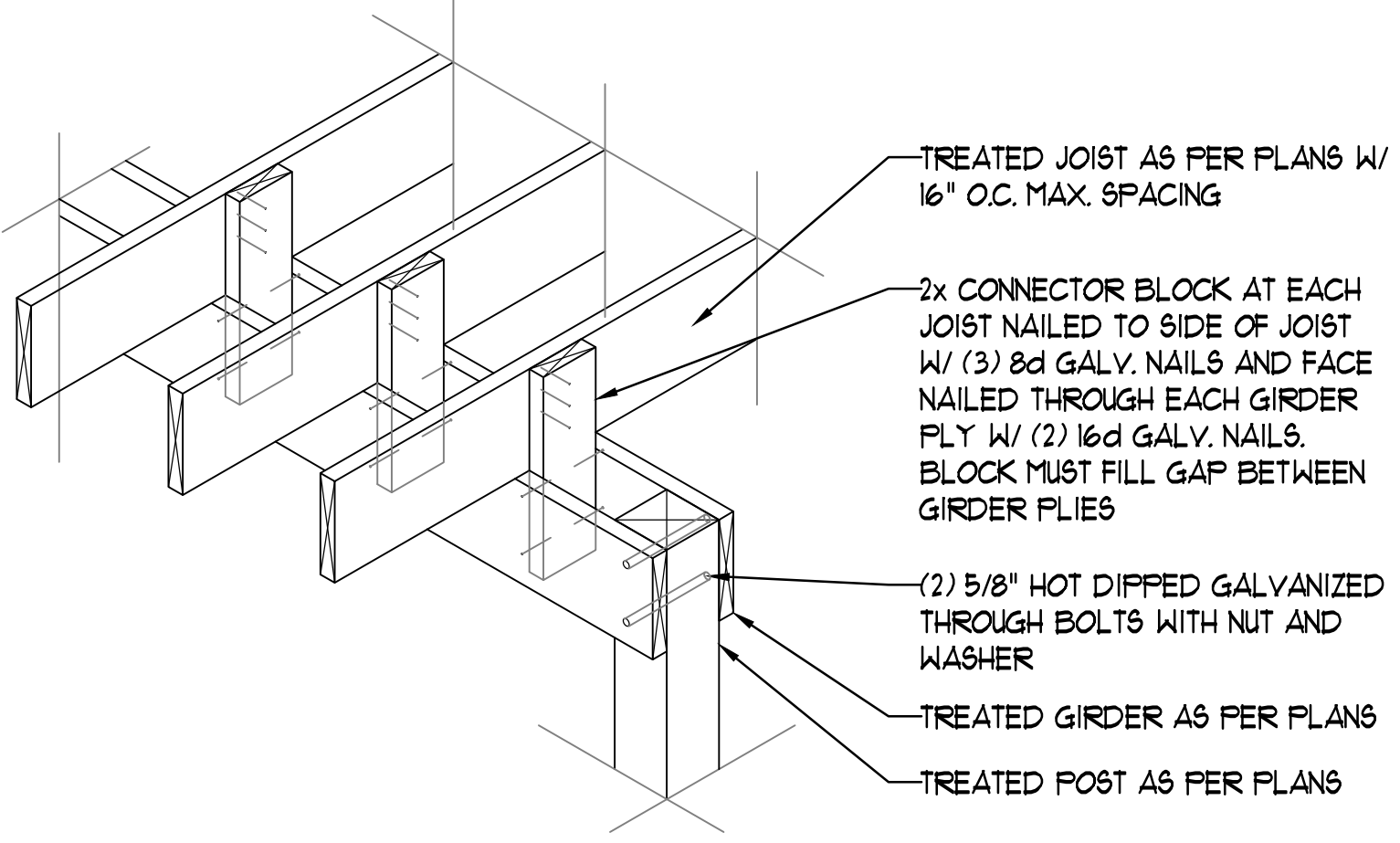
1 TOP MOUNT/FLUSH GIRDER DETAIL
 (FIGURE AM105.1(1) OF THE 2018 NCRC)



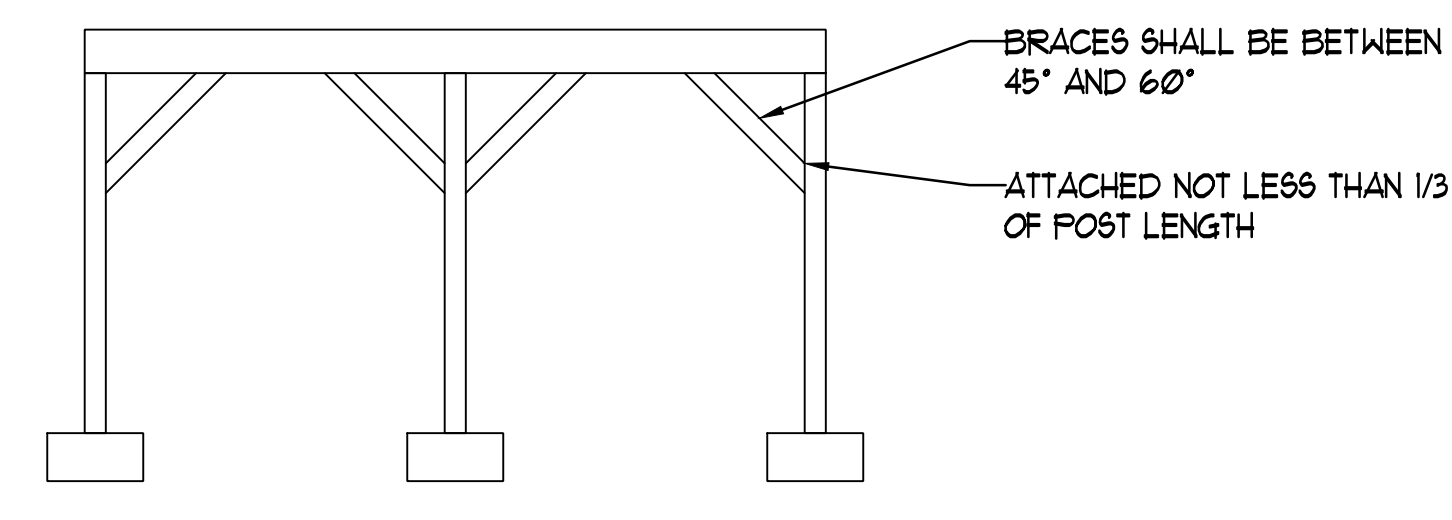
2 SIDE MOUNT DROPPED GIRDER DETAIL
 (FIGURE AM105.1(2) OF THE 2018 NCRC)



3 CANTILEVERED DROPPED GIRDER DETAIL
 (FIGURE AM105.1(4) OF THE 2018 NCRC)
 -CANTILEVERED GIRDER LIMITED TO FLOOR LOADS ONLY. ROOF LOADS PROHIBITED ON CANTILEVERED GIRDER APPLICATION

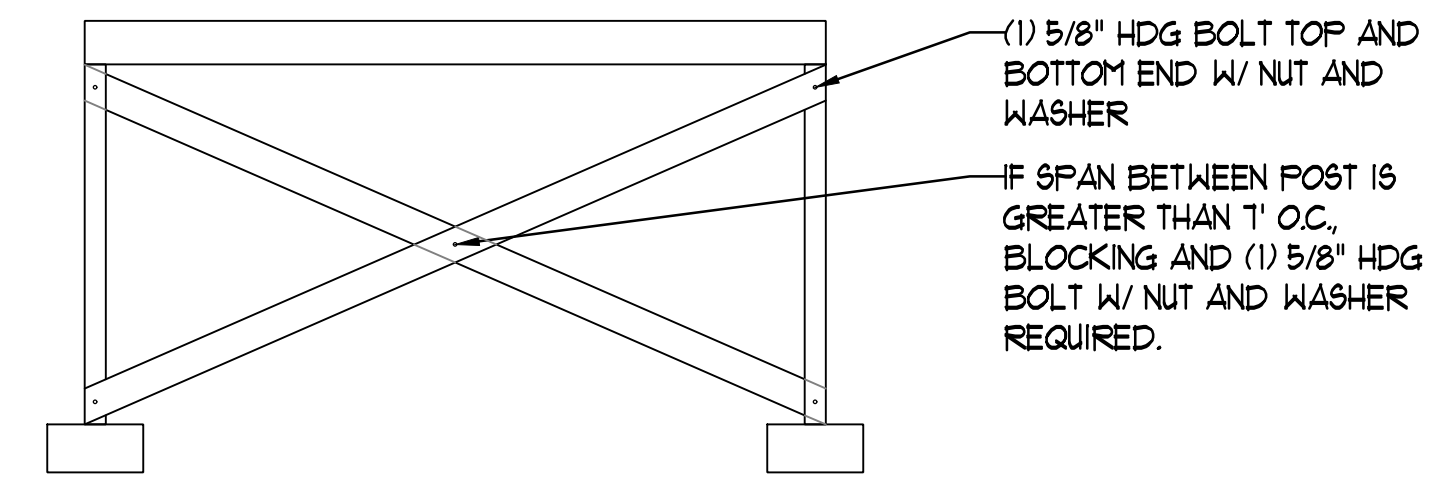


4 SPLIT GIRDER DETAIL
 (FIGURE AM105.1(3) OF THE 2018 NCRC)
 -SPLIT GIRDER LIMITED TO FLOOR LOADS ONLY AND CANTILEVER GIRDER ENDS ALLOWED PER FIGURE AM105.1(4)

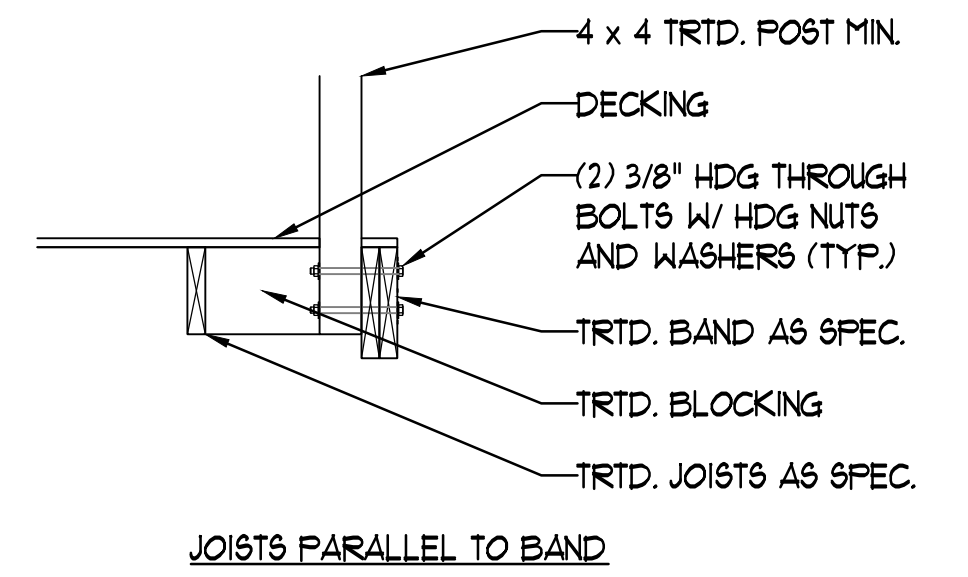


5 WOOD KNEE BRACING DETAIL
 (FIGURE AM109.1(2) OF THE 2018 NCRC)

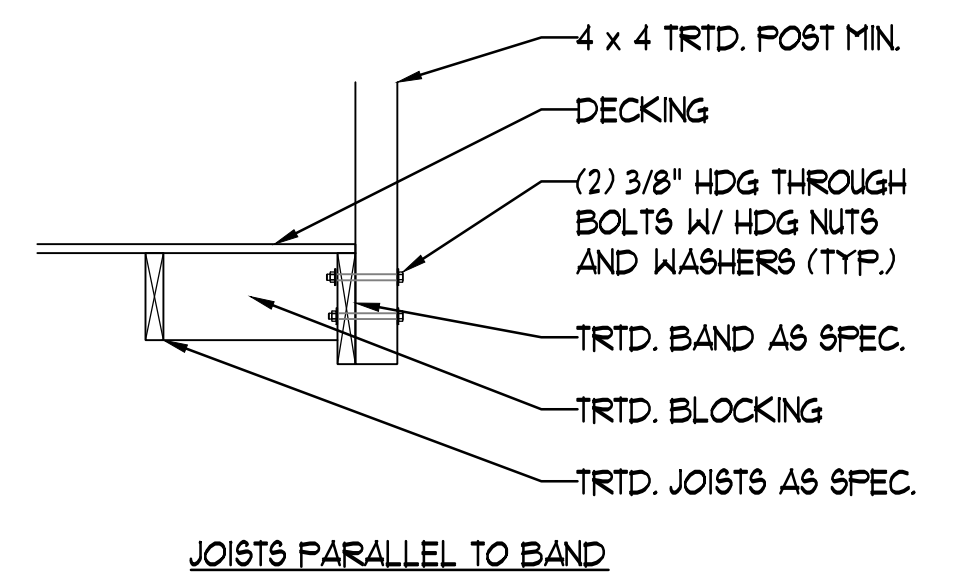
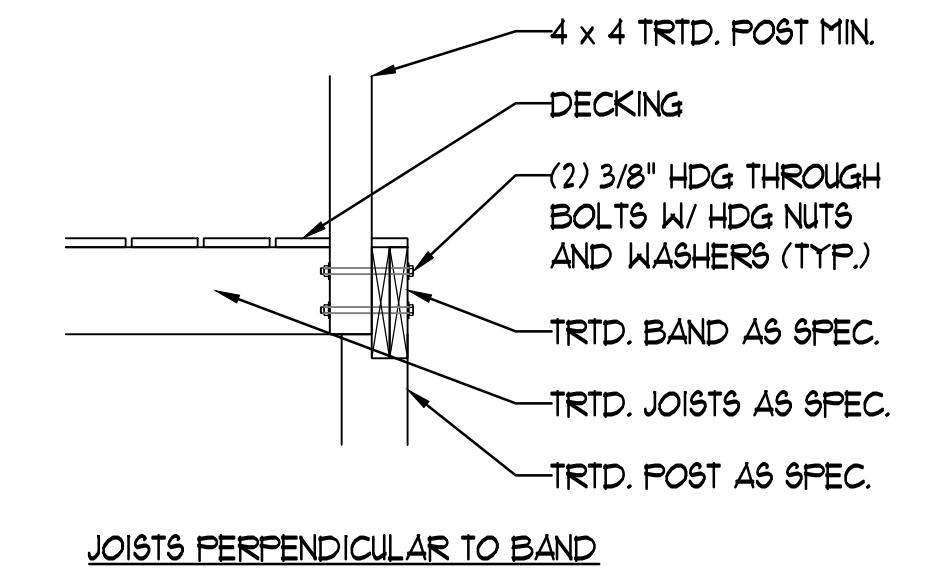
- 1) FREE STANDING DECKS REQUIRING BRACING SHALL BE INSTALLED IN BOTH DIRECTIONS OF EACH POST.
- 2) DECKS ATTACHED TO STRUCTURE REQUIRE DIAGONAL BRACING ONLY AT OUTSIDE GIRDER LINE PARALLEL WITH STRUCTURE.



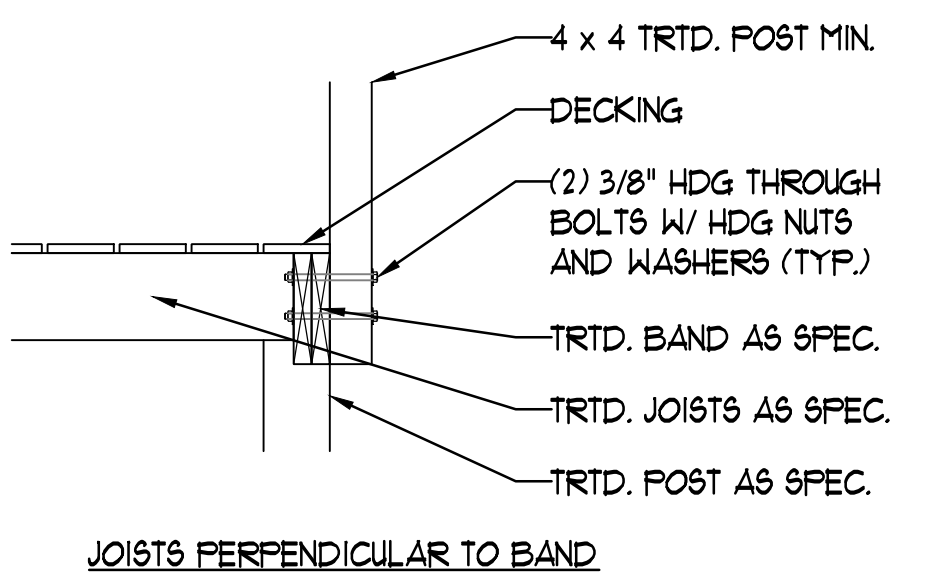
6 DIAGONAL VERTICAL CROSS BRACING DETAIL
 (FIGURE AM109.1(4) OF THE 2018 NCRC)



7 DECK GUARDRAIL POST ATTACHMENT TO INSIDE OF BAND DETAIL



8 DECK GUARDRAIL POST ATTACHMENT TO OUTSIDE OF BAND DETAIL



RAIL POSTS - CANNOT EXCEED 8' O.C. SPACING AND SHALL BE ATTACHED W/ (2) 3/8" GALV. BOLTS W/ NUT AND WASHER TO OUTER BANDS AS PER DETAILS 7 OR 8 OR AS PER MANUFACTURER'S SPECIFICATIONS.

STAIR HANDRAIL - HEIGHT BETWEEN 34"-38" IN ACCORDANCE W/ R311.1.1 AND R312.1. OPENINGS ON SIDE OF STAIRS REQUIRING GUARDS SHALL NOT ALLOW A SPHERE W/ 4 3/8" DIAMETER TO PASS IN ACCORDANCE W/ R312.1.3, EXCEPTION 2.

STAIR TREADS AND RISERS - PER R311.1.5.1 (8 1/4" MAX. RISER) AND R311.1.5.2 (9" MIN. TREAD DEPTH). STAIRWAYS 36" MIN. WIDTH PER R311.1 (RAIL PROJECTIONS ALLOWED).

RISER OPENINGS - STAIRS W/ A 30" OR MORE VERTICAL RISE MUST HAVE SOLID RISERS OR OPENING RESTRICTED TO PREVENT A 4" DIAMETER SPHERE FROM PASSING PER R311.1.5.1.

GUARDS - AT A 36" MIN. HEIGHT REQUIRED IN ACCORDANCE W/ R312.1.2 W/ 30" DROP AND OPENING LIMITS PER R312.1.3. TOP RAIL AND POST TO SUPPORT 200 LBS W/ INFILL TO MEET 50 LBS IN ACCORDANCE W/ TABLE R301.5 AND FOOTNOTES.

DECKING - PER AM101 FOR #2 GYP. AND ATTACHED W/ (2) 8d GALV. NAILS AT EACH JOIST OR APPROVED SCREWS. OTHER MATERIALS PER MANUFACTURER'S INSTALLATION BASED UPON JOISTS O.C. SPACING. ALTERNATE MATERIAL ATTACHED PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.

DECKS ARE TO BE CONSTRUCTED AS PER APPENDIX M OF THE 2018 NORTH CAROLINA RESIDENTIAL CODE (NCRC)

DECK ATTACHMENT - AS PER SECTION AM104 OF THE 2018 NCRC, WHEN A DECK SHALL BE SUPPORTED AT THE STRUCTURE BY ATTACHING THE DECK TO THE STRUCTURE. SECURE DECK TO STRUCTURE AS PER TABLE AM104.1(1), TABLE AM104.1(2), METHOD 3 OR METHOD 4 BELOW:

TABLE AM104.1(1)
 ALL STRUCTURES EXCEPT BRICK VENEER STRUCTURES

FASTENERS	8' MAX. JOIST SPAN ^a	16' MAX. JOIST SPAN ^a
5/8" HDG BOLTS W/ NUT AND WASHER ^b	1 @ 3'-6" O.C.	1 @ 1'-8" O.C.
AND	AND	AND
12d COMMON HDG NAILS ^c	2 @ 8" O.C.	3 @ 6" O.C.
OR		
SELF-DRILLING SCREW FASTENER ^d	12" O.C. STAGGERED	6" O.C. STAGGERED

- ATTACHMENT INTERPOLATION BETWEEN 8' AND 16' JOISTS SPAN IS ALLOWED.
- MIN. EDGE DISTANCE FOR BOLTS IS 2 1/2".
- NAILS MUST PENETRATE THE SUPPORTING STRUCTURE BAND A MIN. OF 1 1/2".
- SELF-DRILLING SCREW FASTENER HAVING A MINIMUM SHANK DIAMETER OF 0.195" AND A LENGTH LONG ENOUGH TO PENETRATE THROUGH THE SUPPORTING STRUCTURE BAND. THE STRUCTURE BAND SHALL HAVE A MINIMUM DEPTH OF 1 1/8". SCREW SHALL BE EVALUATED BY AN APPROVED TESTING AGENCY FOR ALLOWABLE SHEAR LOAD FOR 5YP TO 5YP LUMBER OF 250 LBS. AND SHALL HAVE A CORROSION-RESISTANT FINISH EQUIVALENT TO HOT DIP GALVANIZED. MINIMUM EDGE DISTANCE FOR SCREWS IS 1 1/8". A MAXIMUM OF 1/2" THICK WOOD STRUCTURAL PANEL IS PERMITTED TO BE LOCATED BETWEEN THE DECK LEDGER AND THE STRUCTURE BAND.

TABLE AM104.1(2)
 BRICK VENEER STRUCTURES

FASTENERS	8' MAX. JOIST SPAN ^a	16' MAX. JOIST SPAN ^a
5/8" HDG BOLTS W/ NUT AND WASHER ^b	1 @ 2'-4" O.C.	1 @ 1'-4" O.C.

- ATTACHMENT INTERPOLATION BETWEEN 8' AND 16' JOISTS SPAN IS ALLOWED.
- MIN. EDGE DISTANCE FOR BOLTS IS 2 1/2"

METHOD 3 IF THE DECK BAND IS SUPPORTED BY A MIN. OF 1/2" MASONRY LEDGE ALONG THE FOUNDATION WALL, SECURE DECK TO STRUCTURE W/ 5/8" HDG BOLTS W/ WASHERS SPACED AT 48" O.C.

METHOD 4 JOIST HANGERS OR OTHER MEANS OF ATTACHMENT MAY BE CONNECTED TO HOUSE BAND AND SHALL BE PROPERLY FLASHED.

DECK BRACING - AS PER SECTION AM109 OF THE 2018 NCRC, THE DECK SHALL BE Laterally Braced as per one of the following:

- WHEN THE DISTANCE FROM THE TOP OF THE DECK FLOOR TO THE FINISHED GRADE IS LESS THAN 4'-0" AND THE DECK IS ATTACHED TO THE STRUCTURE IN ACCORDANCE WITH SECTION AM104 LISTED ABOVE, LATERAL BRACING IS NOT REQUIRED. LATERAL BRACING IS NOT REQUIRED FOR FREE STANDING DECKS WITH A DECK FLOOR HEIGHT OF 30" OR LESS ABOVE FINISHED GRADE.
- 4 x 4 TREATED 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 THE GIRDER/DOUBLE BAND W/ (1) 5/8" HDG BOLT WITH NUT AND WASHER AT BOTH ENDS OF THE BRACE PER DETAIL 5.
- FOR FREE STANDING DECKS WITHOUT KNEE BRACES OR DIAGONAL BRACING, LATERAL STABILITY MAY BE PROVIDED BY EMBEDDING THE POST IN ACCORDANCE WITH TABLE AM109.1.3. DECKS ATTACHED TO STRUCTURE CAN ALSO BE BRACED ON EXTERIOR GIRDER LINE W/ EMBEDMENT OPTION.

TABLE AM109.1.3

POST SIZE	MAX. TRIBUTARY AREA	MAX. POST HEIGHT ^a	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"

- FROM TOP OF FOOTING TO TOP OF DECKING
- 2 x 6 DIAGONAL VERTICAL CROSS BRACING MAY BE PROVIDED IN TWO PERPENDICULAR DIRECTIONS FOR FREE STANDING DECKS OR PARALLEL TO THE STRUCTURE AT THE EXTERIOR COLUMN LINE FOR ATTACHED DECKS. THE 2 x 6'S SHALL BE ATTACHED TO THE POSTS W/ (1) 5/8" HDG BOLT W/ NUT AND WASHER AT EACH END OF EACH BRACING MEMBER PER DETAIL 6.
- FOR EMBEDMENT OF PILES IN COASTAL REGIONS, SEE CHAPTER 46.