TDB

RBPR-077357-2022

PLANS DESIGNED TO THE 2018 NORTH CAROLINA RESIDENTIAL CODE

PLANS DESIGNED FOR MIN. 115 MPH 3 SECOND GUST (89 MPH FASTEST WIND), EXPOSURE B

ANCHOR BOLTS TO BE MIN. 1/2" DIAMETER & SHALL EXTEND A MINIMUM OF 7" INTO MASONRY OR CONCRETE. ANCHOR BOLTS TO BE NO MORE THAN 6' O.C. AND WITHIN 12" OF THE CORNER.

MEAN ROOF HEIGHT = < 30'-0"

COMPONENT & CLADDING FOR THESE PLANS SHALL BE DESIGNED TO MEET SECTION R301.2.1, TABLE R301.2(2) AND R301.2(6) ADJUSTED FOR MEAN ROOF HEIGHT AND EXPOSURE.

MINIMUM VALUES FOR ENERGY COMPLIANCE:

ZONE 4 MAX GLAZING U-FACTOR = 0.35 CEILING R-38 WALLS R-15 FLOORS R-19, SLABS R-10

WAKE COUNTY NORTH CAROLINA

PLANS APPROVED BY
WAKE COUNTY N.C. P.D.I.

THIS APPROVAL ENCOMPASSES BUILDING CONSTRUCTION, OCCUPANCY, USE AND YARD SPACES. IT IS NOT A PERMIT NOR SHALL IT BE CONSTRUED TO PERMIT ANY VIOLATION OF COUNTY, STATE OR FEDERAL LAWS.

Terry Biegger Building Review

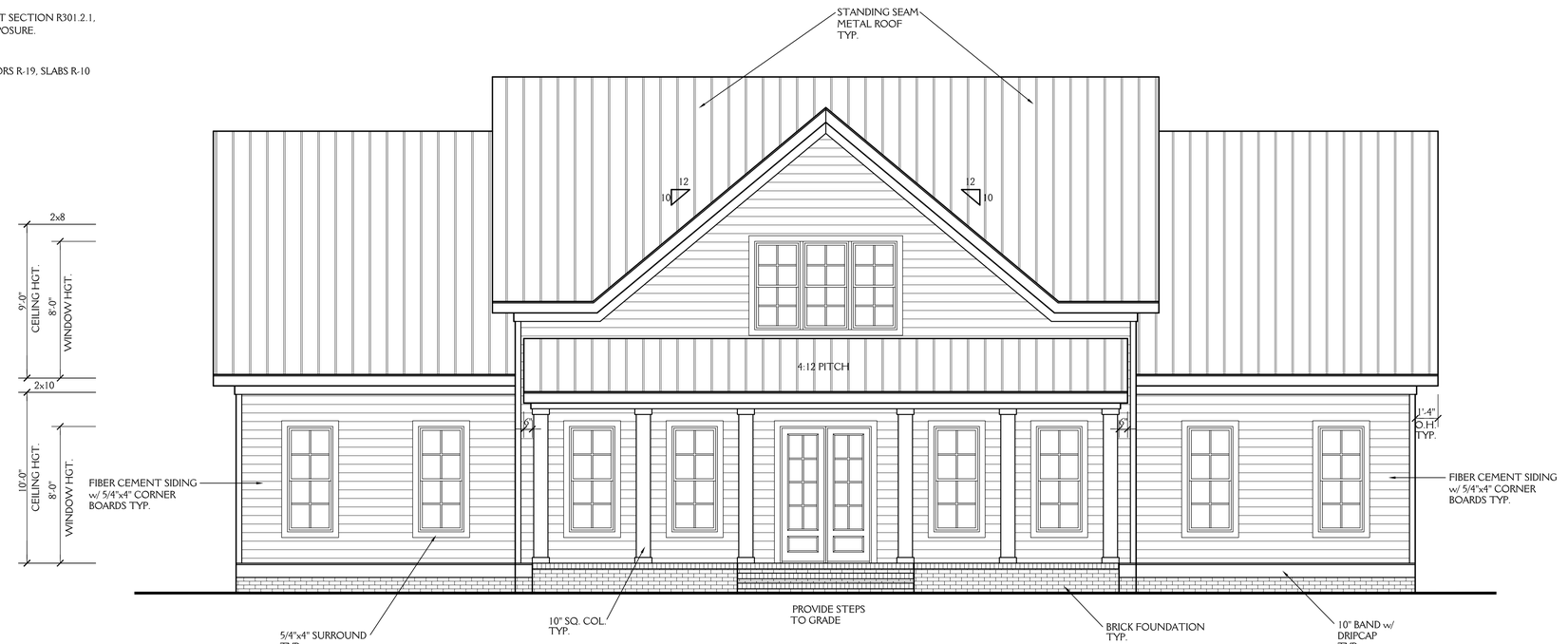
BUILDING INSPECTOR / PLANS EXAMINER

04/06/2022

Contractor is required to provide field building inspector engineered floor truss design package and layout at framing inspection.

NOTE:

ALL DIMENSIONS ARE TO BE VERIFIED BY OWNER/BUILDER BEFORE CONSTRUCTION BEGINS. ONCE CONSTRUCTION HAS BEGUN, DESIGNER IS RELEASED FROM ANY AND ALL LIABILITY ASSOCIATED WITH THE CONSTRUCTION OF THIS CUSTOM RESIDENCE. THIS PLAN IS DESIGNED UNDER THE 2018 NORTH CAROLINA RESIDENTIAL CODE



FRONT ELEVATION

SCALE 1/4"=1'-0"

REAR ELEVATION

SCALE 1/4"=1'-0"

J&W CUSTOM HOMES

MARSHBURN RESIDENCE
947 MARSHBURN RD
WENDELL NC

DRAWN BY: JD | DATE: 2-24-22

REVISIONS:

SHEET 1 OF 5

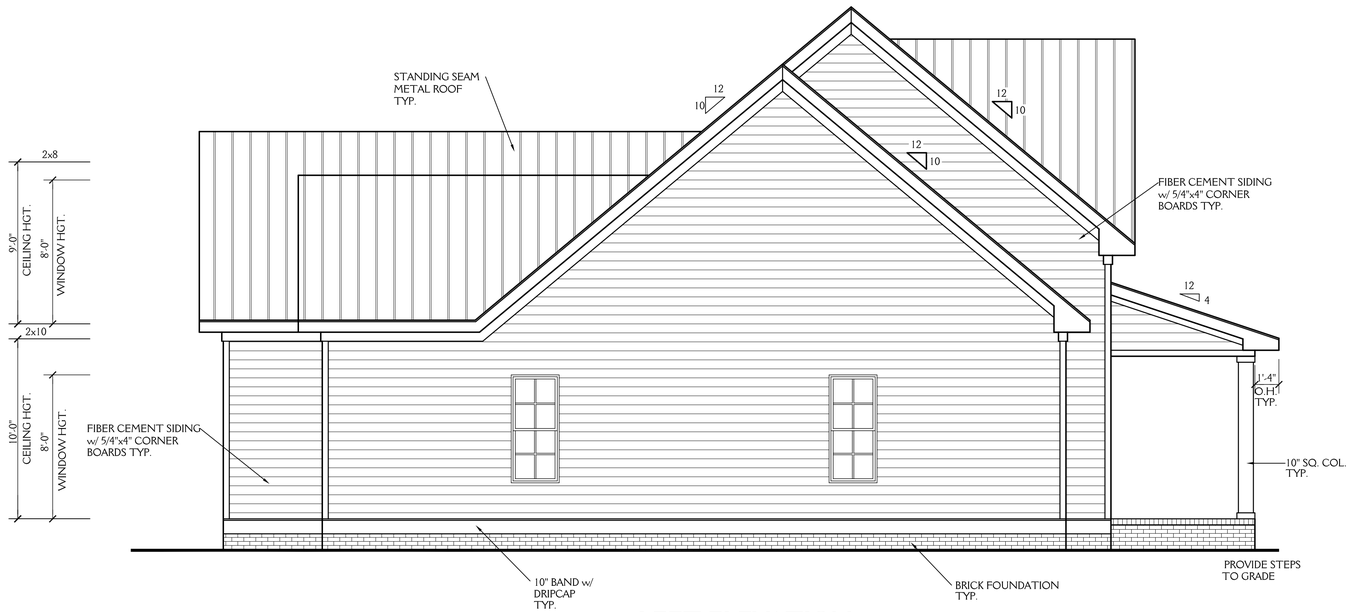
PROJECT NO. 2202

TDB

RBPR-077357-2022

NOTE:

ALL DIMENSIONS ARE TO BE VERIFIED BY OWNER/BUILDER BEFORE CONSTRUCTION BEGINS. ONCE CONSTRUCTION HAS BEGUN, DESIGNER IS RELEASED FROM ANY AND ALL LIABILITY ASSOCIATED WITH THE CONSTRUCTION OF THIS CUSTOM RESIDENCE. THIS PLAN IS DESIGNED UNDER THE 2018 NORTH CAROLINA RESIDENTIAL CODE



LEFT ELEVATION

SCALE 1/4"=1'-0"

RIGHT ELEVATION

SCALE 1/4"=1'-0"

J&W CUSTOM HOMES

MARSHBURN RESIDENCE
947 MARSHBURN RD
WENDELL NC

SHEET 2 OF 5

DRAWN BY: JD

DATE: 2-24-22

REVISIONS:

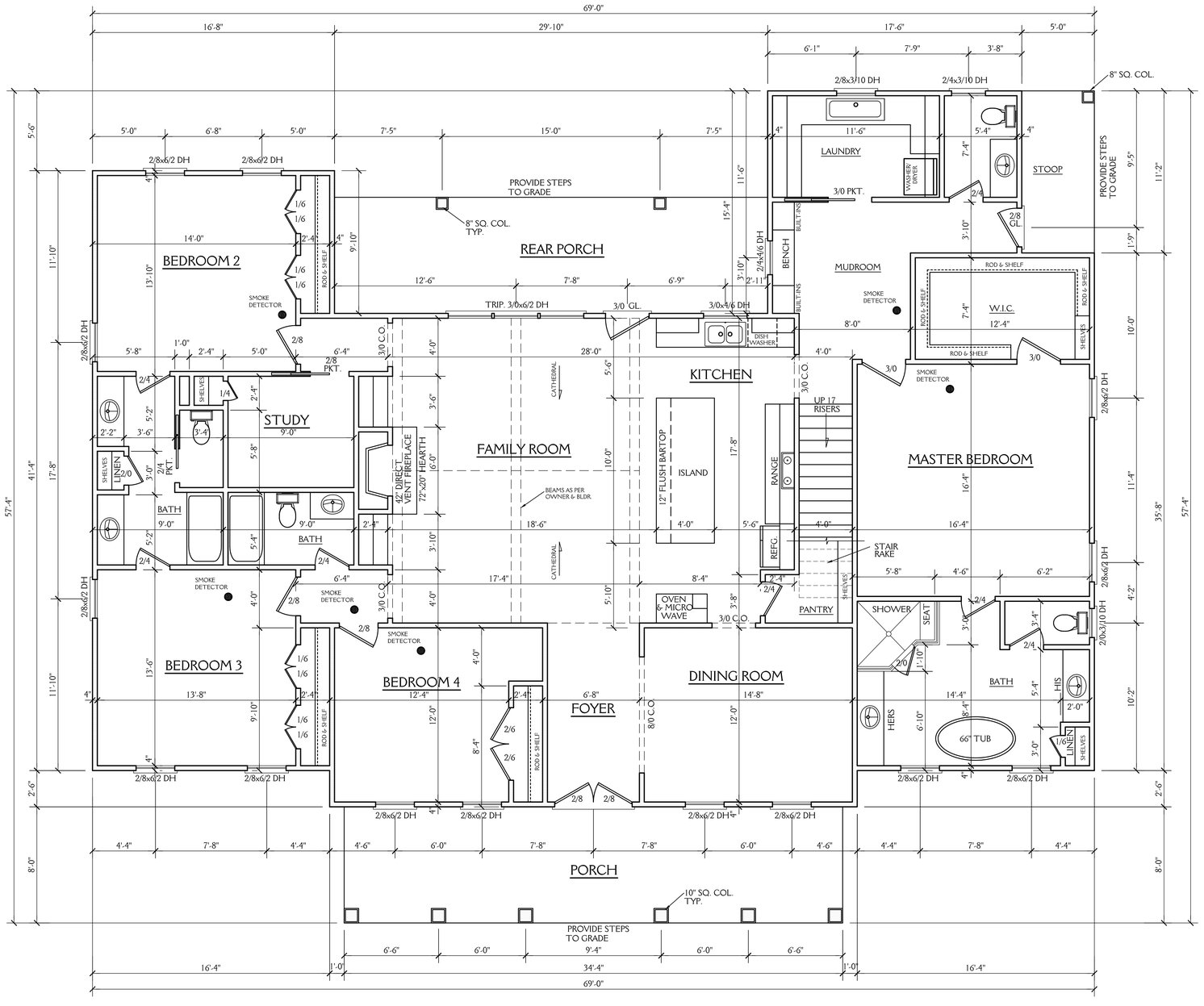
PROJECT NO. 2202

TDB

RBPR-077357-2022

NOTE:

ALL DIMENSIONS ARE TO BE VERIFIED BY OWNER/BUILDER BEFORE CONSTRUCTION BEGINS. ONCE CONSTRUCTION HAS BEGUN, DESIGNER IS RELEASED FROM ANY AND ALL LIABILITY ASSOCIATED WITH THE CONSTRUCTION OF THIS CUSTOM RESIDENCE. THIS PLAN IS DESIGNED UNDER THE 2018 NORTH CAROLINA RESIDENTIAL CODE



NOTES:

CONSTRUCTION TO MEET OR EXCEED ALL REQUIREMENTS OF THE 2018 NC RESIDENTIAL BUILDING CODE

1. SEE SECTION R310 OF THE 2018 NC RESIDENTIAL BUILDING CODE FOR ALL EMERGENCY ESCAPE & RESCUE OPENING REQUIREMENTS.
   SEE SECTION R303 OF THE 2018 NC RESIDENTIAL BUILDING CODE FOR LIGHT & VENTILATION REQUIREMENTS.
   SEE SECTION R310.1 & R311 OF THE 2018 NC RESIDENTIAL BUILDING CODE EGRESS REQUIREMENTS.
2. BUILDER & WINDOW SALESMAN TO CONFIRM THAT WINDOWS CHOSEN MEET ALL REQUIREMENTS OF SECTION R310 OF THE 2018 NC RESIDENTIAL BUILDING CODE.
3. SEE SECTION R308.4 OF THE 2018 NC RESIDENTIAL BLDG. CODE FOR GLAZING REQUIREMENTS IN HAZARDOUS LOCATIONS
4. PROVIDE FALL PROTECTION AT WINDOWS AS REQUIRED BY 2018 NC RESIDENTIAL BUILDING CODE
5. ALL GLASS TO HAVE A U FACTOR OF 0.32 OR BETTER AND SHGC OF .30 OR BETTER.
6. SEE CHAPTER 11 OF THE 2018 NC RESIDENTIAL BUILDING CODE FOR ALL ENERGY CONSERVATION REQUIREMENTS
7. SEE SECTION R302.5 & R302.6 OF THE 2018 NC RESIDENTIAL BLDG. CODE FOR DWELLING/ GARAGE FIRE SEPARATION REQUIREMENTS
8. SEE APPENDIX M OF THE 2018 NC RESIDENTIAL BUILDING CODE FOR ALL DECK CONSTRUCTION REQUIREMENTS
9. PROVIDE CARBON MONOXIDE DETECTORS AS PER SECTION R315 OF THE 2018 NC RESIDENTIAL BUILDING CODE
10. PROVIDE CRAWLSPACE ACCESS AS PER SECTION 408.8 OF THE 2018 NC RESIDENTIAL BUILDING CODE LOCATION T.B.D. IN FIELD BY BUILDER.
11. PROVIDE FOUNDATION DRAINAGE AS PER CODE. SEE SECTIONS 405, 801.3 & 401.3 OF THE 2018 NC RESIDENTIAL BUILDING CODE.
12. SEE SECTION R311.7 OF THE 2018 NC RESIDENTIAL BUILDING CODE FOR ALL STAIRWAY REQUIREMENTS.
    SEE SECTION R312 OF THE 2018 NC RESIDENTIAL BUILDING CODE FOR ALL GUARD RAIL & HAND RAIL REQUIREMENTS.
13. SEE SECTION R307 OF THE 2018 NC RESIDENTIAL BUILDING CODE FOR ALL BATH FIXTURE CLEARANCES.
14. SEE CHAPTER 10 OF THE NC RESIDENTIAL BUILDING CODE FOR ALL FIREPLACE & CHIMNEY CLEARANCES & REQUIREMENTS.
15. ALL ANGLES WALLS ARE 45° U.N.O.

ABBREVIATIONS

C.O. : CASED OPENING	CANT. : CANTILEVER
D.W. : DISHWASHER	TYP. : TYPICAL
W.I.C. : WALK IN CLOSET	CLG. : CEILING
SHWR. : SHOWER	HGT. : HEIGHT
DN. : DOWN	COL. : COLUMN
	TRANS. : TRANSOM

2717 SQ FT HTD (1ST FLOOR)	239 SQ FT (REAR PORCH)
299 SQ FT HTD (2ND FLOOR)	56 SQ FT (STOOP)
3016 SQ FT HTD TOTAL	275 SQ FT (PORCH)
	570 UNHEATED TOTAL

FIRST FLOOR PLAN

SCALE 1/4"= 1'-0"
10'-0" CLG. HGT.
SET WINDOWS AT 8'-0" AFF
NOTE: ALL DOORS AND C.O. 8'-0" HGT.

J&W CUSTOM HOMES

MARSHBURN RESIDENCE
947 MARSHBURN RD
WENDELL NC

DRAWN BY: JD | DATE: 2-24-22

REVISIONS:

SHEET 3 OF 5

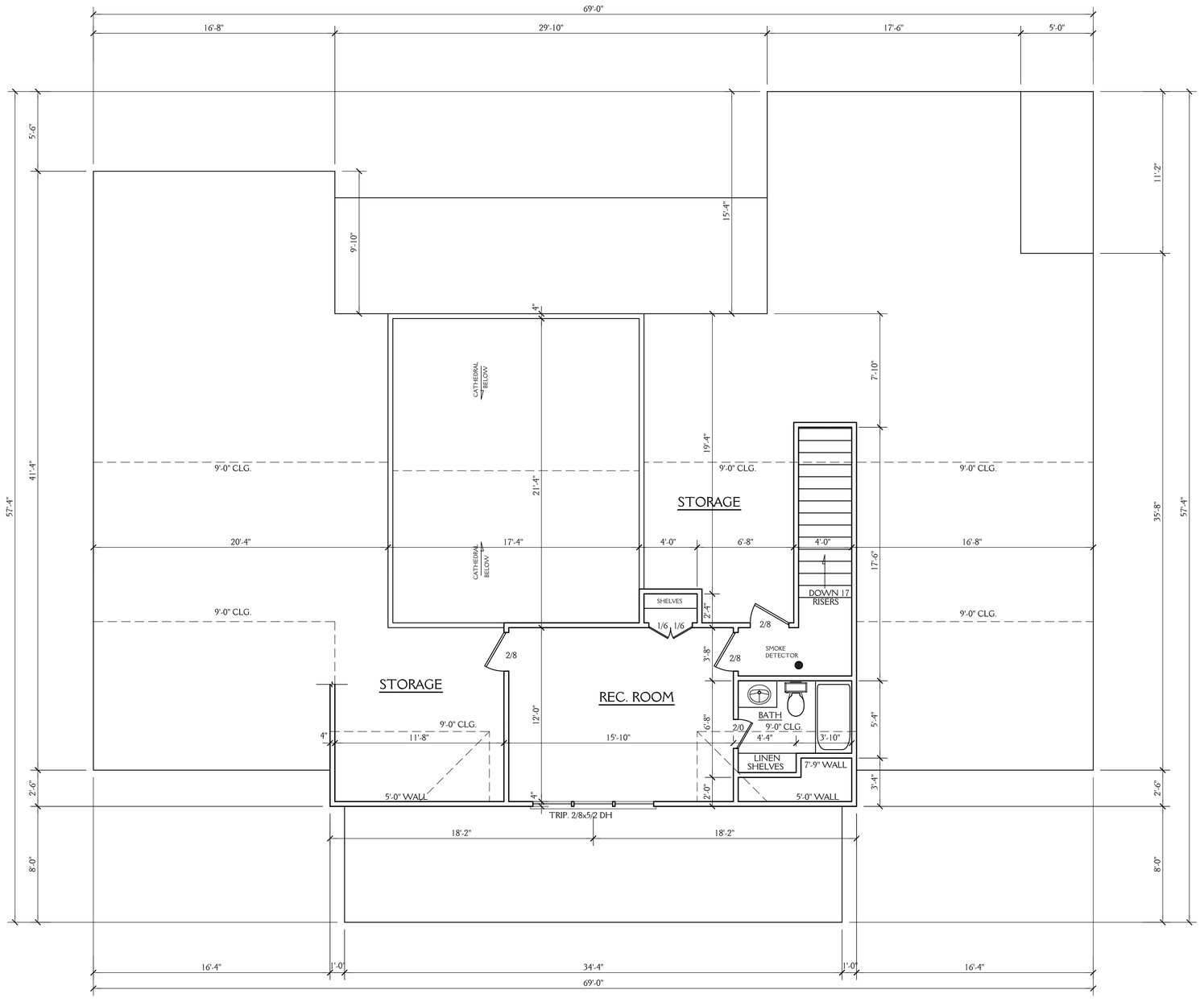
PROJECT NO. 2202

TDB

RBPR-077357-2022

NOTE:

ALL DIMENSIONS ARE TO BE VERIFIED BY OWNER/BUILDER BEFORE CONSTRUCTION BEGINS. ONCE CONSTRUCTION HAS BEGUN, DESIGNER IS RELEASED FROM ANY AND ALL LIABILITY ASSOCIATED WITH THE CONSTRUCTION OF THIS CUSTOM RESIDENCE.
THIS PLAN IS DESIGNED UNDER THE 2018 NORTH CAROLINA RESIDENTIAL CODE



SECOND FLOOR PLAN

SCALE 1/4"=1'-0"
9'-0" CLG. HGT.
SET WINDOWS AT 8'-0" AFF U.N.O.

J&W CUSTOM HOMES

MARSHBURN RESIDENCE
947 MARSHBURN RD
WENDELL NC

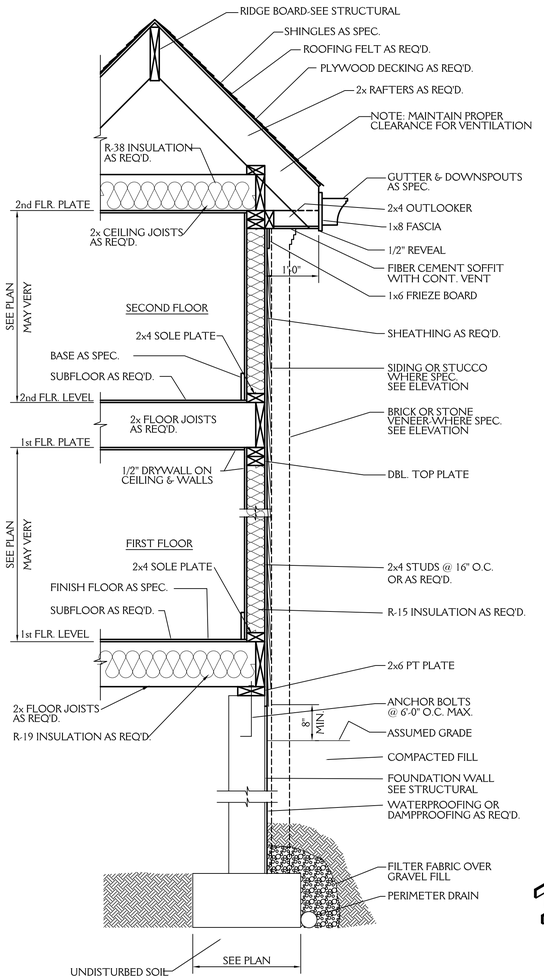
DRAWN BY: JD
DATE: 2-24-22
REVISIONS:

SHEET 4 OF 5

PROJECT NO. 2202

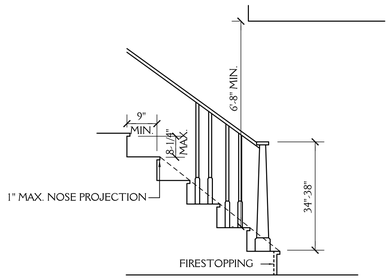
TDB

RBPR-077357-2022



TYPICAL WALL SECTION

3/4"=1'-0"



STAIR DETAIL

SCALE: NTS

ROOF VENT CALCS

3287 SQ.FT. /150 =21.91 SQ.FT. REQ'D

BUILDER TO PROVIDE APPROPRIATE VENTILATION AS REQUIRED BY CODE

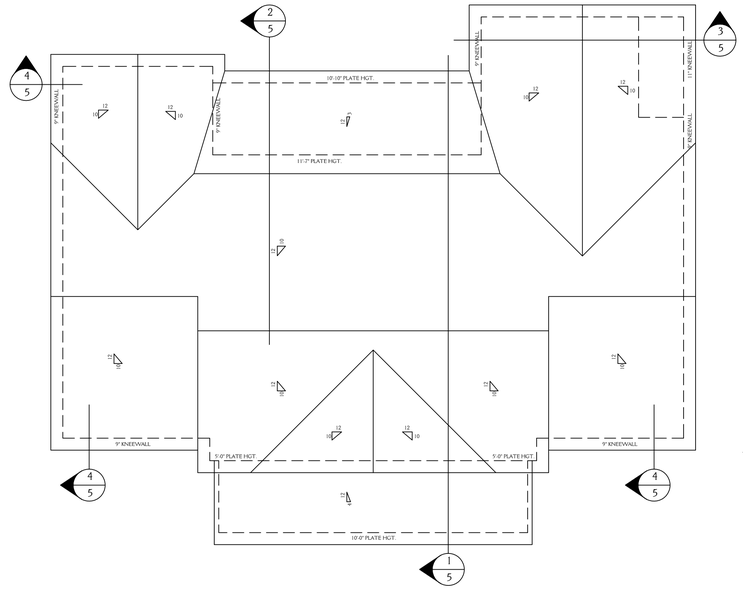
SEE SECTION R806 OF THE 2018 NC RESIDENTIAL BLDG. CODE

FND VENT CALCS

2548 SQ.FT. / 150 =16.99 SQ.FT. REQ'D

BUILDER TO PROVIDE APPROPRIATE VENTILATION AS REQUIRED BY CODE

SEE SECTION R408 OF THE 2018 NC RESIDENTIAL BLDG. CODE

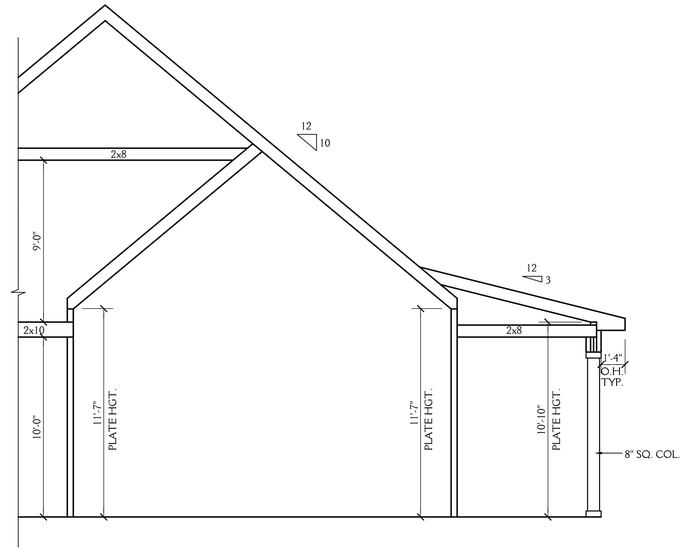


ROOF PLAN

SCALE 1/8"=1'-0"

NOTE:

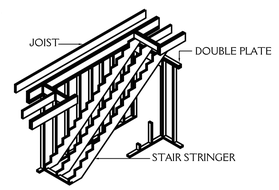
ALL DIMENSIONS ARE TO BE VERIFIED BY OWNER/BUILDER BEFORE CONSTRUCTION BEGINS. ONCE CONSTRUCTION HAS BEGUN, DESIGNER IS RELEASED FROM ANY AND ALL LIABILITY ASSOCIATED WITH THE CONSTRUCTION OF THIS CUSTOM RESIDENCE. THIS PLAN IS DESIGNED UNDER THE 2018 NORTH CAROLINA RESIDENTIAL CODE



2/5 SCHEMATIC SECTION

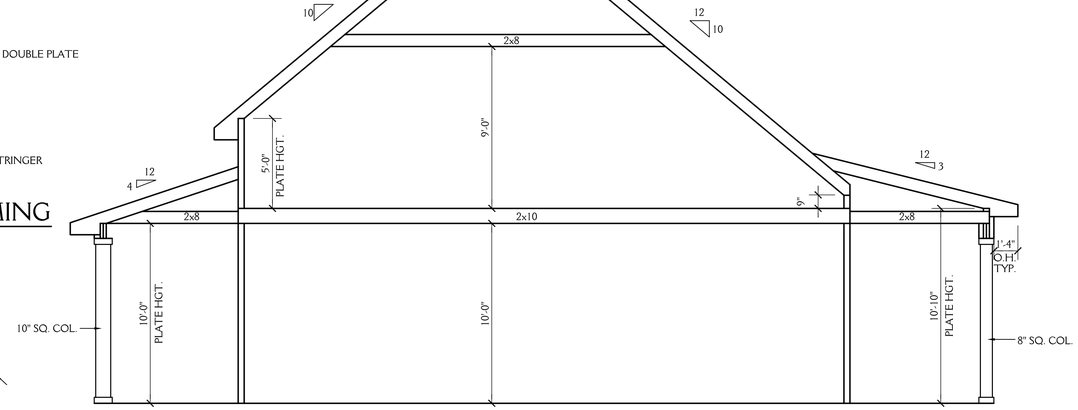
SCALE 1/4"=1'-0"

SEE STRUCTURAL DRAWINGS FOR ALL JOIST SIZES AND DIRECTIONS



STAIRWAY FRAMING

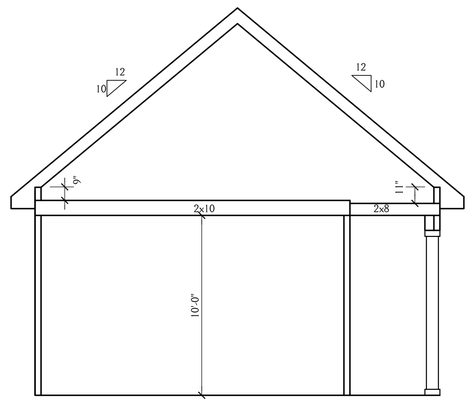
NTS



1/5 SCHEMATIC SECTION

SCALE 1/4"=1'-0"

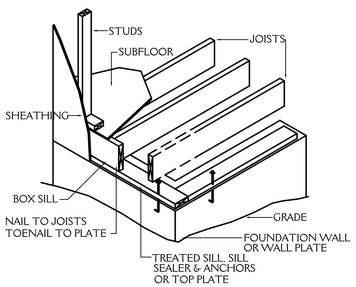
SEE STRUCTURAL DRAWINGS FOR ALL JOIST SIZES AND DIRECTIONS



3/5 SCHEMATIC SECTION

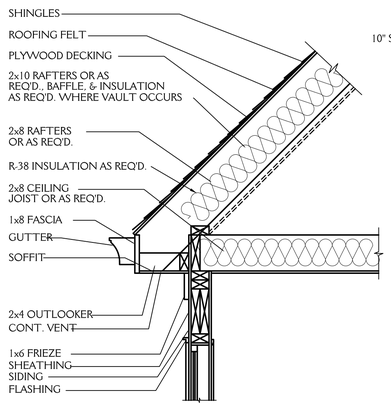
SCALE 1/4"=1'-0"

SEE STRUCTURAL DRAWINGS FOR ALL JOIST SIZES AND DIRECTIONS



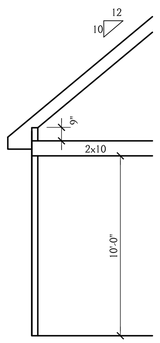
FLOOR FRAMING

NTS



CORNICE DETAIL

3/4"=1'-0"



4/5 SCHEMATIC SECTION

SCALE 1/4"=1'-0"

SEE STRUCTURAL DRAWINGS FOR ALL JOIST SIZES AND DIRECTIONS

J&W CUSTOM HOMES

MARSHBURN RESIDENCE
947 MARSHBURN RD
WENDELL NC

SHEET 5 OF 5

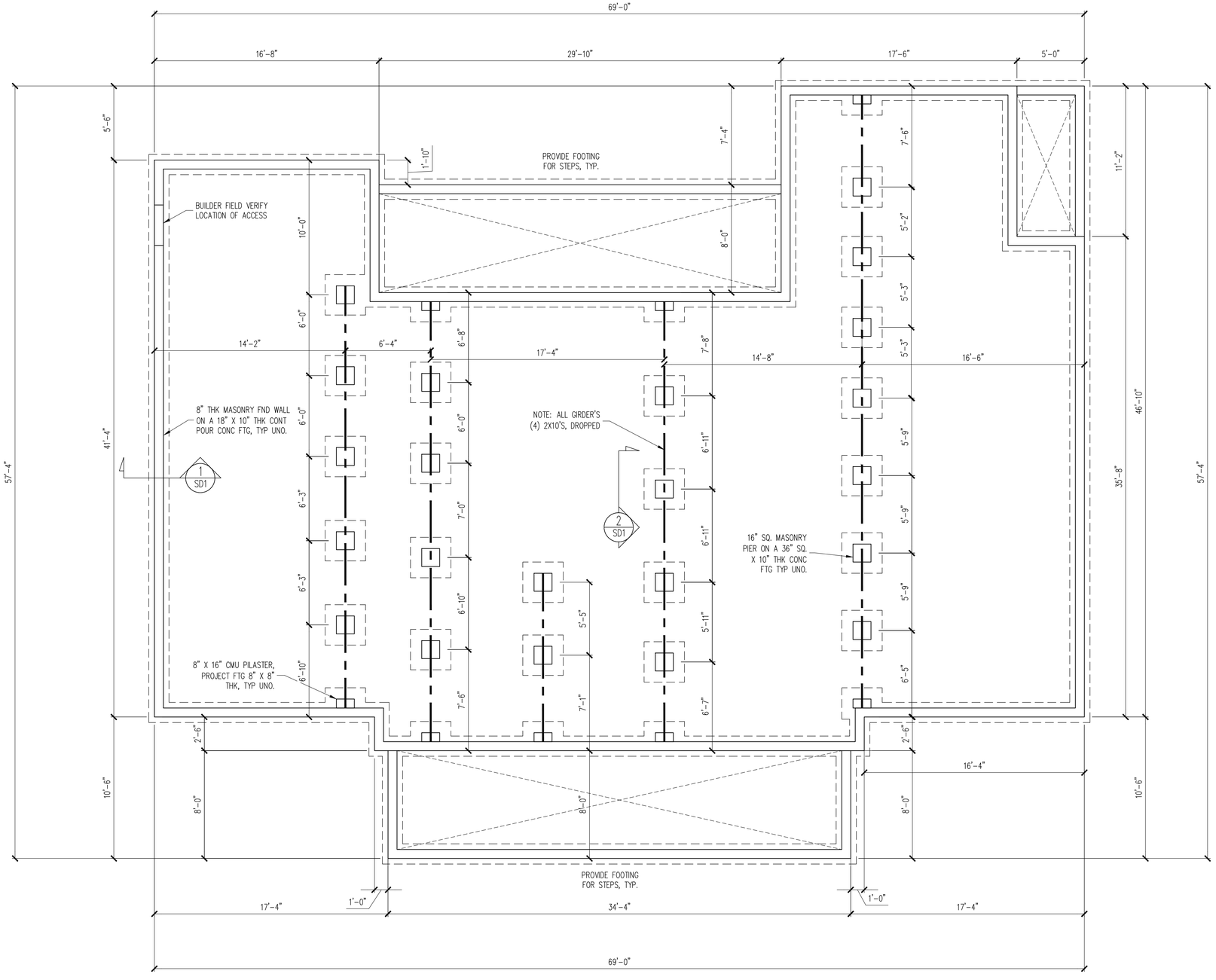
DRAWN BY: JD | DATE: 2-24-22

REVISIONS:

PROJECT NO. 2202

TDB

RBPR-077357-2022



NOTES:
-HEIGHT AND BACKFILL LIMITATIONS FOR FOUNDATION WALLS ARE TO BE GOVERNED BY THE NCSBC, LATEST EDITION. REINFORCEMENT AND GROUTING SHALL BE DETERMINED BY FINAL SITE CONDITIONS.

-BUILDER TO FIELD LOCATE CRAWLSPACE ACCESS OPENING WITH MINIMUM DIMENSIONS OF 18X24. DO NOT LOCATE ACCESS OPENING BELOW POINT LOADS FROM ABOVE WITHOUT ENGINEER APPROVAL.

FOUNDATION PLAN

1/4" = 1'-0"

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 040734 NATHANIEL B. GRAY

STRUCTURAL ENGINEERS
License No. C-3870
318 W. Millbrook Rd
Raleigh, North Carolina 27609
Phone (919) 844-1661

Engineering Tech ASSOCIATES, P.A.

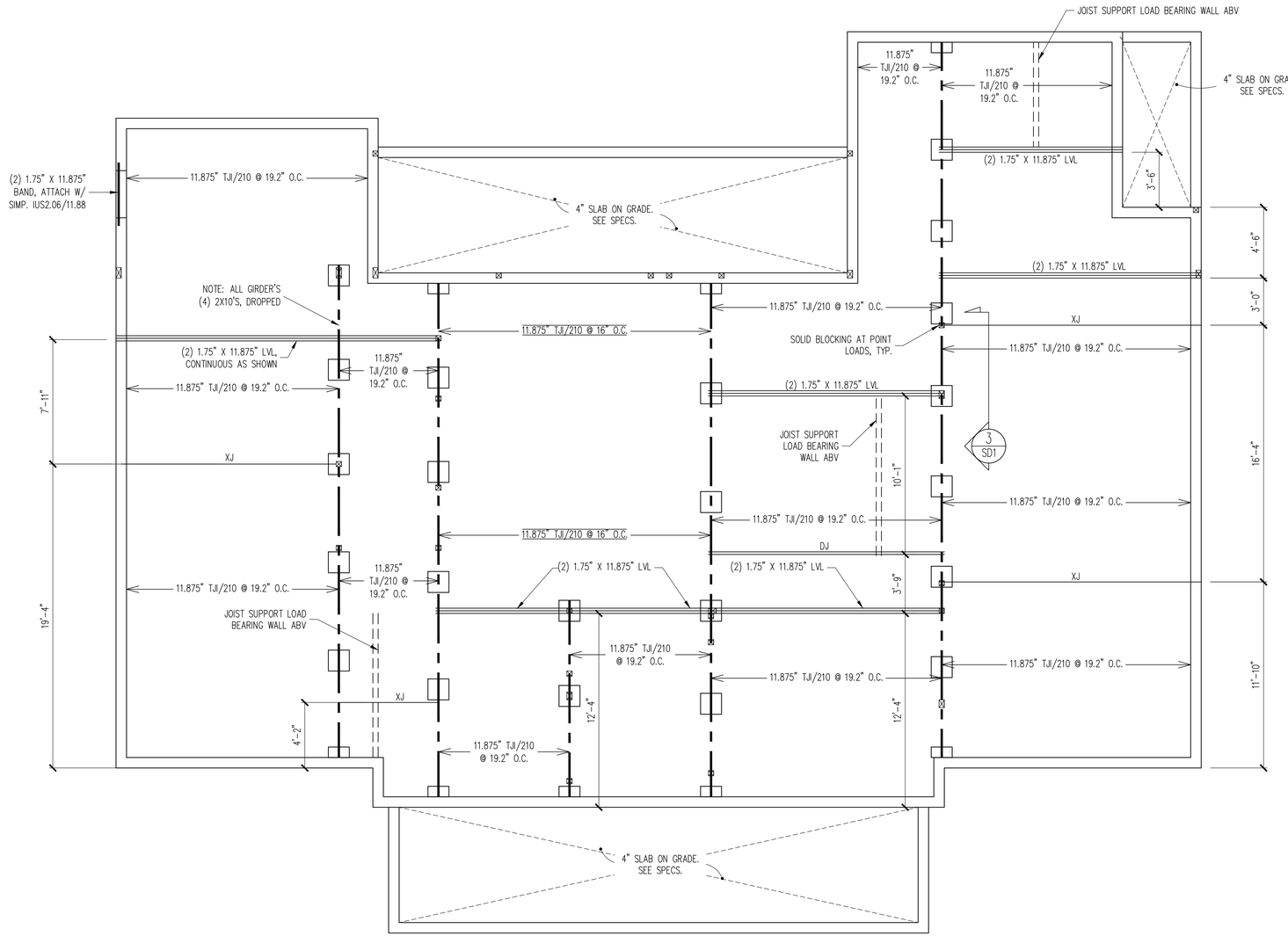
J&W CUSTOM HOMES
SCOPE: STRUCTURAL ADDENDUM
LOC: 974 MARSHBURN RD

ENG: NBG/CR
DATE: 2/25/2022

PROJECT NO.
22-17-008

SHEET NO.
S1
1 of 6

TDB RBPR-077357-2022



CRAWL SPACE FRAMING PLAN

1/4" = 1'-0"

STRUCTURAL ENGINEERS
License No. C-3870
318 W. Millbrook Rd
Raleigh, North Carolina 27609
Phone (919) 844-1661
Engineering Tech ASSOCIATES, P.A.

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 040794 NATHANIEL B. GRAY

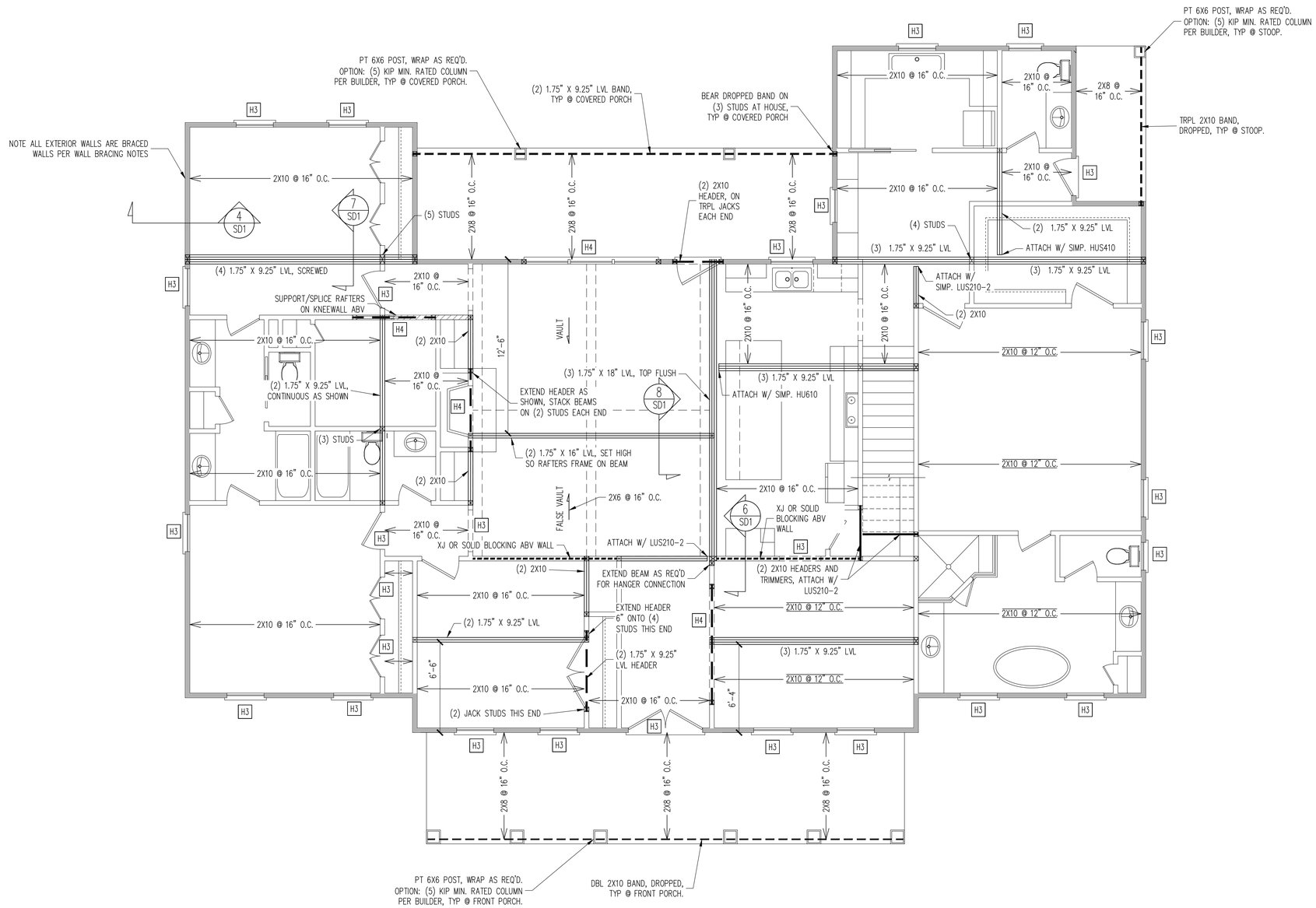
J&W CUSTOM HOMES
STRUCTURAL ADDENDUM
SCOPE:
LOC: 974 MARSHBURN RD

ENG: NBG/CR
DATE: 2/25/2022

PROJECT NO.
22-17-008

SHEET NO.
S2
2 of 6

TDB RBPR-077357-2022



WALL BRACING

SHADED WALLS:

ALL EXTERIOR STUD WALLS, EXTERIOR SIDE, ARE TO BE CONTINUOUSLY SHEATHED WITH 7/16 APA RATED OSB NAILED TO STUDS WITH 8d NAILS @ 6" O.C. AT PANEL EDGES, 12" O.C. IN PANEL FIELD.

NOTES:
PROVIDED CONTINUOUS SHEATHING = 256' MIN.

REFERENCE PART 16.02 OF CONSTRUCTION SPECIFICATIONS FOR GENERAL WIND BRACING INFORMATION.

HEADER SCHEDULE

H1 SINGLE 2X4 TURNED FLAT (A)

H2 (2) 2X4'S ON SINGLE JACKS (B)

H3 (2) 2X10'S ON SINGLE JACKS (C)

H4 (2) 1.75" X 9.25" LVL'S ON DBL JACKS

H5 (3) 2X10'S ON SINGLE JACKS

(A) TYPICAL FOR INTERIOR NON LOAD BEARING WALLS ONLY, ROUGH OPENING 38" MAX.

(B) TYPICAL FOR INTERIOR NON LOAD BEARING WALLS ONLY, ROUGH OPNG 38" TO 74" MAX.

(C) TYPICAL FOR ALL CONDITIONS NOT LISTED IN (A) OR (B) UNO.

NOTES:
–HEADERS IN NON LOAD BEARING INTERIOR WALLS ARE NOT LABELED.

CONSTRUCTION SPECIFICATIONS

INSTANT REFERENCES

REFER TO THE CONSTRUCTION SPECIFICATIONS SECTIONS FOR THE FOLLOWING INFORMATION:

PART 1.01: CURRENT GOVERNING CODE

PART 14: STUD SUPPORT FOR BEAMS

PART 17: KING STUDS FOR EXTERIOR WALLS

SEE DETAIL / CONSTRUCTION SPECIFICATIONS SHEETS FOR I-JOISTS ALLOWABLE SUBSTITUTIONS

1ST FLOOR FRAMING PLAN

WALLS AND CEILING

1/4" = 1'-0"

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 036734 NATHANIEL B. CRAY

STRUCTURAL ENGINEERS
License No. C-3870
318 W. Millbrook Rd
Raleigh, North Carolina 27609
Phone (919) 844-1661
Engineering Tech ASSOCIATES, P.A.

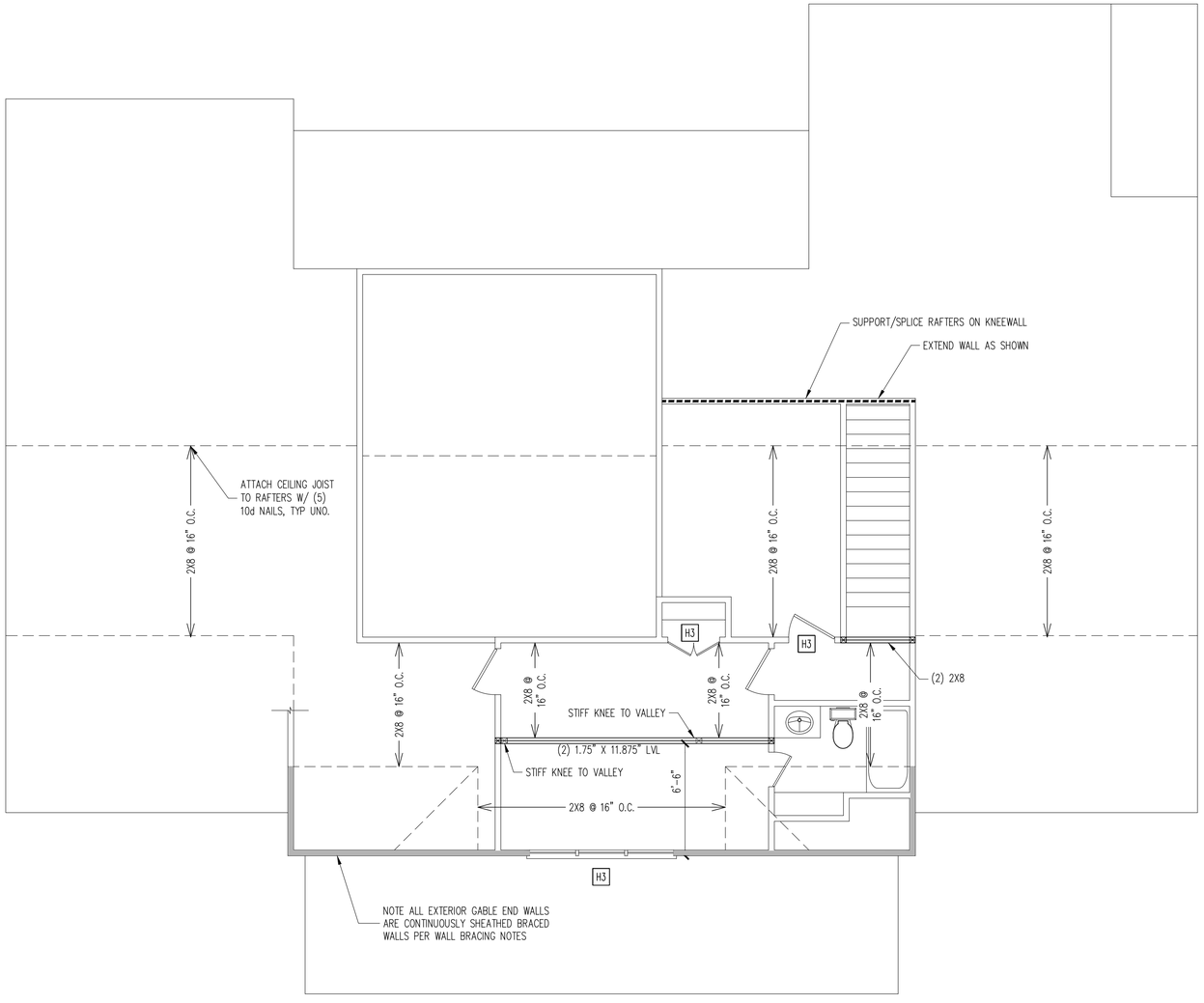
J&W CUSTOM HOMES
SCOPE: STRUCTURAL ADDENDUM
LOC: 974 MARSHBURN RD

ENG: NBG/CR
DATE: 2/25/2022

PROJECT NO.
22-17-008

SHEET NO.
S3
3 of 6

TDB RBPR-077357-2022



WALL BRACING

SHADED WALLS:

ALL EXTERIOR STUD WALLS, EXTERIOR SIDE, ARE TO BE CONTINUOUSLY SHEATHED WITH 7/16 APA RATED OSB NAILED TO STUDS WITH 8d NAILS @ 6" O.C. AT PANEL EDGES, 12" O.C. IN PANEL FIELD.

NOTES:
PROVIDED CONTINUOUS SHEATHING = 38" MIN.

REFERENCE PART 16.02 OF CONSTRUCTION SPECIFICATIONS FOR GENERAL WIND BRACING INFORMATION.

HEADER SCHEDULE

H1 SINGLE 2X4 TURNED FLAT (A)

H2 (2) 2X4'S ON SINGLE JACKS (B)

H3 (2) 2X10'S ON SINGLE JACKS (C)

H4 (2) 1.75" X 9.25" LVL'S ON DBL JACKS

H5 (3) 2X10'S ON SINGLE JACKS

(A) TYPICAL FOR INTERIOR NON LOAD BEARING WALLS ONLY, ROUGH OPENING 38" MAX.

(B) TYPICAL FOR INTERIOR NON LOAD BEARING WALLS ONLY, ROUGH OPNG 38" TO 74" MAX.

(C) TYPICAL FOR ALL CONDITIONS NOT LISTED IN (A) OR (B) UNO.

NOTES:
- HEADERS IN NON LOAD BEARING INTERIOR WALLS ARE NOT LABELED.

CONSTRUCTION SPECIFICATIONS

INSTANT REFERENCES

REFER TO THE CONSTRUCTION SPECIFICATIONS SECTIONS FOR THE FOLLOWING INFORMATION:

PART 1.01: CURRENT GOVERNING CODE

PART 14: STUD SUPPORT FOR BEAMS

PART 17: KING STUDS FOR EXTERIOR WALLS

SEE DETAIL / CONSTRUCTION SPECIFICATIONS SHEETS FOR I-JOISTS ALLOWABLE SUBSTITUTIONS

2ND FLOOR FRAMING PLAN

WALLS AND CEILING
1/4" = 1'-0"

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 046734 NATHANIEL B. GRAY
STRUCTURAL ENGINEERS
License No. C-3870
318 W. Millbrook Rd
Raleigh, North Carolina 27609
Phone (919) 844-1661
Engineering Tech ASSOCIATES, P.A.

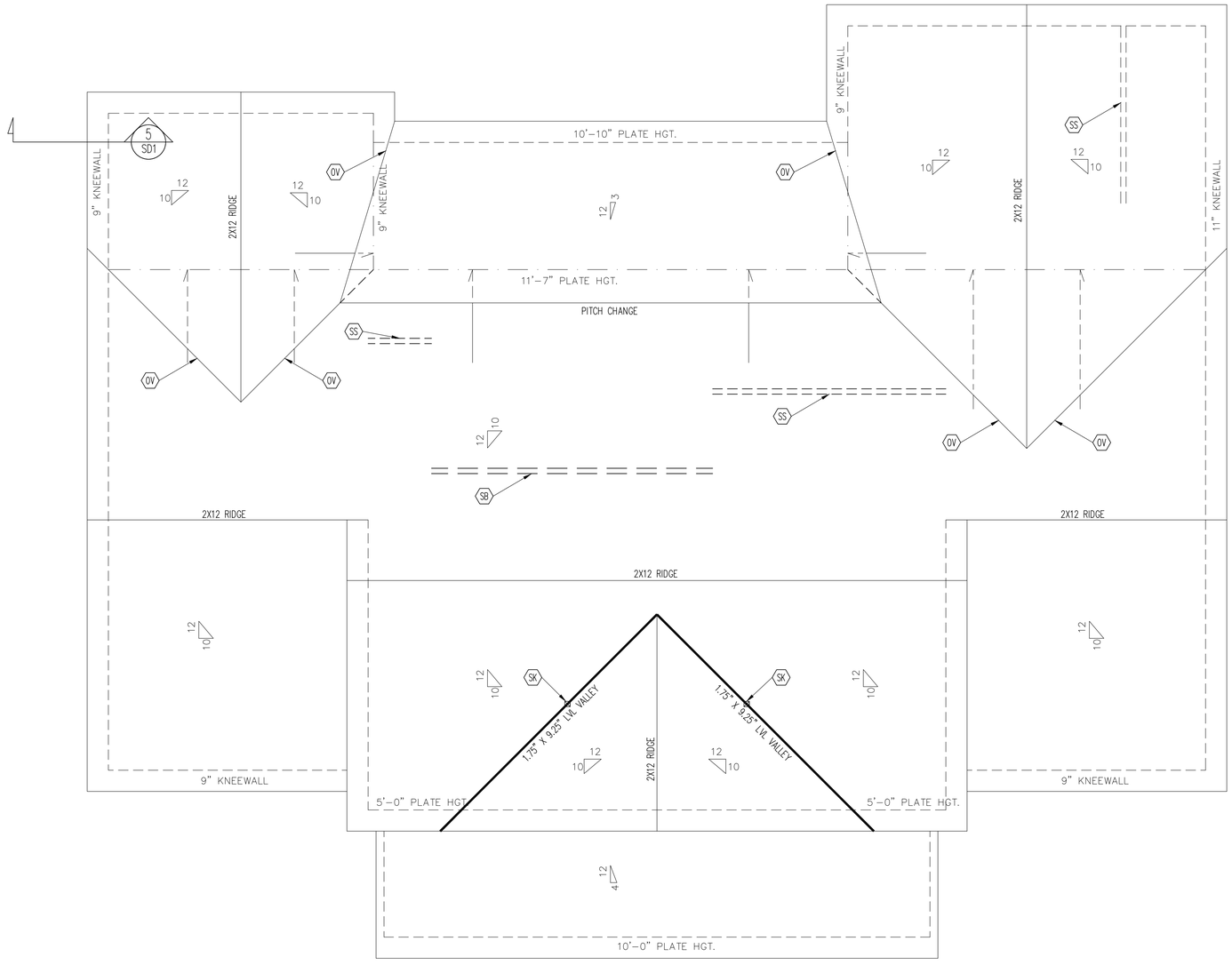
J&W CUSTOM HOMES
SCOPE: STRUCTURAL ADDENDUM
LOC: 974 MARSHBURN RD

ENG: NBG/CR
DATE: 2/25/2022

PROJECT NO.
22-17-008

SHEET NO.
S4
4 of 6

TDB RBPR-077357-2022



FRAMING SCHEDULE

ROOF ONLY

SB	SUPPORT/SPLICE RAFTERS ON BEAM BELOW
OV	OVERFRAME VALLEY (2X10 SLEEPER)
SK	DBL 2X4 STIFF KNEE
SS	SUPPORT/SPLICE RAFTERS ON KNEEWALL BELOW

FRAMING NOTES

ROOF ONLY

-COMMON RAFTERS 2X8 @ 16" O.C. TYP U.N.O.

-COLLAR TIES 2X4 EVERY 3RD SET OF RAFTERS TYP U.N.O.

-VERIFY ROOF PITCHES, OVERHANG LENGTHS, AND KNEEWALL FRAMING HGTS WITH ARCHITECTURAL DRAWINGS PRIOR TO CONSTRUCTION, TYPICAL.

ROOF FRAMING PLAN

1/4" = 1'-0"

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 046734 NATHANIEL B. GRAY

Engineering Tech ASSOCIATES, P.A.
STRUCTURAL ENGINEERS
License No. C-3870
318 W. Millbrook Rd Raleigh, North Carolina 27609
Phone (919) 844-1661

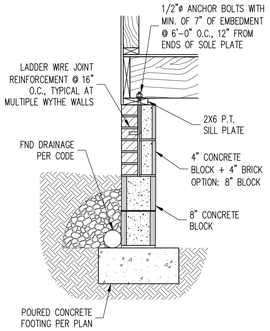
J&W CUSTOM HOMES
SCOPE: STRUCTURAL ADDENDUM
LOC: 974 MARSHBURN RD

ENG: NBG/CR
DATE: 2/25/2022

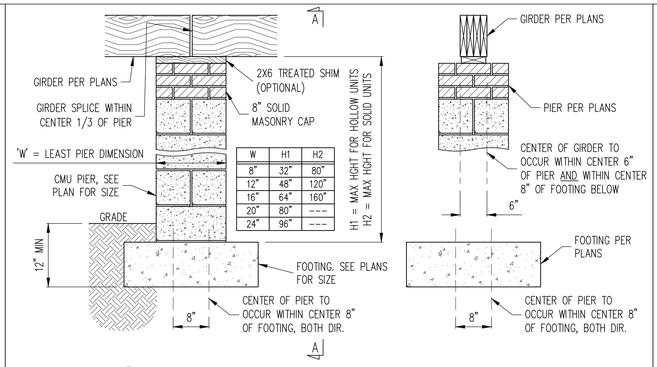
PROJECT NO.
22-17-008

SHEET NO.
S5
5 of 6

TDB RBPR-077357-2022



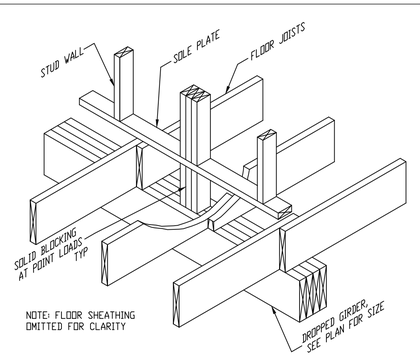
1 S1 SECTION
TYPICAL FND WALL
3/4" = 1'-0"



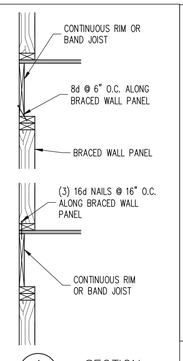
W	H1	H2
8"	32"	80"
12"	48"	120"
16"	64"	160"
20"	80"	---
24"	96"	---

2 S1 SECTION
TYPICAL MASONRY PIER, GIRDER
3/4" = 1'-0"

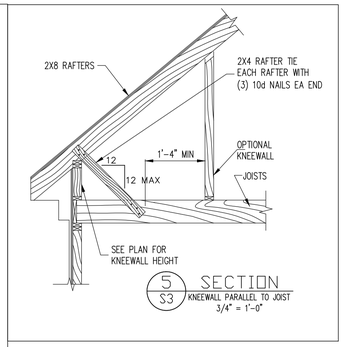
SECTION A-A
3/4" = 1'-0"



3 S2 SECTION
TYPICAL DROPPED GIRDER
3/4" = 1'-0"



4 S3 SECTION
TYPICAL BRACED WALL PANEL CONNECTION AT EXTERIOR WALL JOISTS PERPENDICULAR OR PARALLEL.
3/4" = 1'-0"



5 S3 SECTION
KNEEWALL PARALLEL TO JOIST
3/4" = 1'-0"

CONSTRUCTION SPECIFICATIONS

PART 1: GENERAL

1.01 CONSTRUCTION SHALL MEET THE REQUIREMENTS OF THE NORTH CAROLINA RESIDENTIAL CODE, 2018 EDITION.

1.02 DIMENSIONS SHOWN SHALL GOVERN OVER SCALE ON THESE DRAWINGS.

1.05 METHODS, PROCEDURES AND SEQUENCES OF CONSTRUCTION ARE THE RESPONSIBILITY OF THE CONTRACTOR, WHO SHALL TAKE ALL NECESSARY PRECAUTIONS TO MAINTAIN AND INSURE THE INTEGRITY OF THE STRUCTURE AT ALL STAGES OF CONSTRUCTION.

PART 2: DESIGN LOADS

2.01 DESIGN LOADS SHALL CONFORM WITH THE TABLE BELOW:

USE	LIVE LOAD (PSF)	DEAD LOAD (PSF)
BALCONIES, DECKS, ATTICS WITH FIXED STAIR ACCESS, DWELLING UNITS INCLUDING ATTICS WITH FIXED STAIR ACCESS, STAIRS, FIRE ESCAPES	40	10
GARAGES (PASSENGER CARS ONLY)	50	--
ATTICS (NO STORAGE, LESS THAN 5' HEADROOM)	10	10
ATTICS (WITH STORAGE)	20	10
ROOF	20	10 (15 FOR VAULTS)

NOTES: – INDIVIDUAL STAIR TREADS ARE TO BE DESIGNED FOR THE UNIFORMLY DISTRIBUTED LIVE LOAD OF 40 PSF OR A 300 LB. CONCENTRATED LOAD ACTING OVER AN AREA OF 4 SQ. WHICHEVER PRODUCES THE GREATER STRESS.
– BUILDER TO VERIFY DEAD LOAD DOES NOT EXCEED 10 PSF WHEN HEAVY FLOOR OR ROOF FINISHES SUCH AS TILE OR SLATE ARE UTILIZED. NOTIFY ENGINEERING UNDER THESE CONDITIONS

2.02 INTERIOR WALLS: 5 PSF LATERAL.

2.03 BASIC WIND DESIGN VELOCITY OF 120 MPH.

2.04 SOIL BEARING CAPACITY 2000 PSF (PRESUMPTIVE).

PART 3: STRUCTURAL STEEL

3.01 WIDE FLANGE BEAMS AND TEE SECTIONS SHALL CONFORM TO ASTM A992 MINIMUM GRADE.

3.02 SQUARE AND RECTANGULAR TUBING SHALL CONFORM TO ASTM A500 GRADE B MINIMUM GRADE.

3.03 STEEL PIPE SHALL CONFORM TO ASTM A53 GRADE B, TYPE S, MINIMUM GRADE

3.04 ALL OTHER STRUCTURAL STEEL SHALL CONFORM TO ASTM A36 MINIMUM GRADE

3.05 STRUCTURAL STEEL CONSTRUCTION SHALL MEET THE REQUIREMENTS OF THE AISC SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS.

PART 4: WELDING

4.01 WELDING ELECTRODES SHALL BE E70XX AND ALL WELDING SHALL BE PERFORMED BY AN AWS CERTIFIED WELDER

PART 5: CONCRETE AND SLABS ON GRADE

5.01 CAST IN PLACE CONCRETE SHALL BE OF NORMAL WEIGHT, 4–6% AIR ENTRAINMENT, FOR EXTERIOR CONCRETE AND SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS TYP UNO. ALL ITEMS NOTED AS "CONCRETE" ARE TO BE CAST IN PLACE, TYP UNO.

5.02 REINFORCED CAST IN PLACE CONCRETE SHALL BE PROPORTIONED, MIXED AND PLACED IN ACCORDANCE WITH THE SPECIFICATIONS OF ACI 318, LATEST EDITION.

5.03 SLABS ON GRADE, IF ANY, SHALL BE CAST IN PLACE, CONTAIN SYNTHETIC POLYPROPYLENE FIBRILLATED MICRO FIBERS, FIBER LENGTH 1 1/2", DOSAGE RATE 1 1/2 LBS/CU YD. SLAB TO BE PLACED ON A 6 MIL VAPOR BARRIER ON 4" MIN GRANULAR FILL ON SOIL WITH 90% MIN STANDARD PROCTOR DENSITY. VAPOR BARRIER MAY BE OMITTED FOR SLABS NOT IN ENCLOSED AREAS

PART 6: REBAR AND WIRE REINFORCEMENT

6.01 REBAR SHALL BE DEFORMED STEEL CONFORMING TO ASTM A615 GRADE 60 TYP UNO

6.02 LAP SPLICES SHALL BE CLASS B AS DEFINED BY ACI 318, TYP UNO

6.03 WIRE REINFORCEMENT SHALL BE 9 GA AND SHALL CONFORM TO ASTM A1064.

PART 7: MASONRY

7.01 CONCRETE MASONRY UNITS SHALL CONFORM TO ASTM C90 AND C55, NORMAL WEIGHT, f'M = 1,500 PSI MIN

7.02 CLAY MASONRY UNITS SHALL CONFORM TO ASTM C62–17 GRADE SW

7.03 MORTAR SHALL BE TYPE S. MORTAR AND GROUT SHALL CONFORM TO ASTM C476, MIN COMPRESSIVE STRENGTH OF 2000 PSI.

7.04 MASONRY CONSTRUCTION SHALL CONFORM TO THE SPECIFICATIONS OF ACI 530

7.05 LADDER WIRE REINFORCEMENT SHALL CONFORM TO ASTM A951. 6" MIN LAPS FOR CONTINUOUS WALL APPLICATIONS

PART 8: BOLTS AND LAG SCREWS

8.01 BOLTS SHALL CONFORM TO ASTM A307 MINIMUM GRADE TYP UNO. INSTALL STANDARD STEEL WASHERS (ASTM F844–07a) FOR THE NUT / BOLT HEAD WHEN BOLTING WOOD MEMBERS. HOLES FOR BOLTS SHALL BE AISC STANDARD HOLES UNO

8.02 LAG SCREWS SHALL CONFORM TO ANSI/ASME STANDARD B18.2.1–1981. PILOT HOLES SHALL BE USED FOR LAG SCREW INSTALLATION AND SHALL BE BORED ACCORDING TO NDS SPECIFICATIONS. INSTALL STANDARD STEEL WASHERS (ASTM F844–07a) FOR SCREW HEAD

8.03 ANCHOR RODS AND BOLTS SHALL CONFORM TO ASTM F1554–15 GRADE 36 UNO. BENT ANCHOR BOLTS SHALL HAVE A 2" MIN HOOK UNO

PART 9: DRIVEN FASTENERS

9.01 NAILS, SPIKES AND STAPLES SHALL CONFORM TO ASTM F 1667– 05. NAILS ARE TO BE COMMON WIRE OR BOX

PART 10: DIMENSIONAL LUMBER

10.01 SOLID SAWN WOOD FRAMING DESIGN IS BASED ON NO. 2 SPRUCE PINE FIR OR SYP #2 FOR JOISTS, RAFTERS, GIRDERS, BEAMS, STUDS, ETC. MINIMUM ALLOWABLE DESIGN PROPERTIES ARE AS FOLLOWS:
E= 1,400,000 PSI, $F_{c\ perp}$ = 425 PSI, F_v = 285 PSI, SPECIFIC GRAVITY = 0.42 MIN
F_b = 875 PSI FOR 2X4, 2X6, 2X8. F_b = 800 PSI FOR 2X10'S, 750 PSI FOR 2X12'S

PART 11: ENGINEERED LUMBER

11.01 LVL OR PSL MINIMUM ALLOWABLE DESIGN PROPERTIES ARE AS FOLLOWS:
E= 1,900,000 PSI, F_b = 2600 PSI, F_v = 285 PSI, $F_{c\ perp}$ = 750 PSI
LSL MINIMUM ALLOWABLE DESIGN STRESSES ARE AS FOLLOWS:
E= 1.3 X 1066 PSI, F_b = 1700 PSI, F_v = 400 PSI, $F_{c\ perp}$ = 680 PSI

11.02 LVL OR PSL MEMBERS MAY BE RIPPED FROM DEEPER MEMBERS TO MATCH THE MEMBER DEPTH SPECIFIED IN THE PLANS

PART 12: PRESSURE TREATED LUMBER

12.01 LUMBER IN CONTACT WITH THE GROUND, CONCRETE OR MASONRY SHALL BE PRESSURE TREATED IN ACCORDANCE WITH AWPA STANDARD C–15. ALL OTHER EXPOSED LUMBER SHALL BE TREATED IN ACCORDANCE WITH AWPA STANDARD C–2 OR BY ANY METHOD GIVING EQUAL PROTECTION. THE BUILDING CODE OFFICE MAY ALSO APPROVE A NATURAL DECAY RESISTANT WOOD PER SECTION 19–6(A)

PART 13: STEEL FLITCH PLATE BEAMS

13.01 FLITCH PLATE BEAMS SHALL CONSIST OF A CONTINUOUS STEEL PLATE BOLTED BETWEEN TWO PIECES OF CONTINUOUS LUMBER AS SIZED ON THE PLANS. BOLT PIECES TOGETHER USING 1/2" ø BOLTS SPACED AT 16" O.C. STAGGERED TOP TO BOTTOM OF THE BEAM. MAINTAIN A 2" EDGE DISTANCE. PLACE TWO BOLTS, ONE ABOVE THE OTHER, 16" MAX FROM EACH END OF THE BEAM. TYP UNO

PART 14: STUD SUPPORTS FOR BEAMS

14.01 STEEL, ENGINEERED LUMBER, AND FLITCH PLATE BEAMS BEARING ON A STUD WALL SHALL BEAR AS FOLLOWS:

1–WHEN THE BEAM IS PERPENDICULAR TO, OR SKEWED RELATIVE TO THE WALL, THE BEAM SHALL BEAR FULL WIDTH ON THE SUPPORTING WALL INDICATED AND SHALL BE SUPPORTED BY A MINIMUM OF THREE GANGED STUDS, OR A GANGED STUD COLUMN WITH A NUMBER OF STUDS SUCH THAT THE STUD COLUMN IS AT LEAST AS WIDE AS THE TRUE WIDTH OF THE BEAM BEING SUPPORTED, WHICHEVER IS GREATER. TYP UNO. FOR THE SKEWED CONDITION PARTICULAR CARE SHALL BE TAKEN TO ENSURE STUD COLUMN IS CENTERED ON THE BEAM
2–BEAMS BEARING ONTO THE END OF A STUD WALL PARALLEL TO THE BEAM SHALL BEAR A MINIMUM OF 4 1/2" ONTO THE WALL AND BE SUPPORTED BY A TRPL STUD GANGED COLUMN TYP UNO.

14.02 DIMENSIONAL LUMBER BEAMS BEARING ON A STUD WALL SHALL BEAR AS FOLLOWS:

1–WHEN THE BEAM IS PERPENDICULAR TO, OR SKEWED RELATIVE TO THE WALL, THE BEAM SHALL BEAR FULL WIDTH ON THE SUPPORTING WALL INDICATED (LESS 1 1/2" TO ALLOW FOR A CONTINUOUS RIM JOIST WHERE APPLICABLE) AND SHALL BE SUPPORTED BY A GANGED STUD COLUMN THE SAME WIDTH AS THE BEAM TYP UNO. (E.G. A TRIPLE 2X10 IS TO BE SUPPORTED BY (3) STUDS). FOR THE SKEWED CONDITION PARTICULAR CARE SHALL BE TAKEN TO ENSURE STUD COLUMN IS CENTERED ON THE BEAM
2–BEAMS BEARING ONTO THE END OF A STUD WALL PARALLEL TO THE BEAM SHALL BEAR A MINIMUM OF 3" ONTO THE WALL AND BE SUPPORTED BY A DBL STUD GANGED COLUMN TYP UNO.

14.03 EXTRA JOISTS BEARING ON A STUD WALL PERPENDICULAR TO OR SKEWED RELATIVE TO THE BEAM SHALL BE SUPPORTED BY ONE ADDITIONAL STUD.

14.04 STUDS THAT ARE GANGED TO FORM A COLUMN SHALL HAVE ADJACENT STUDS WITHIN THE COLUMN NAILED TOGETHER WITH ONE ROW OF 10d NAILS AT 8" O.C. (TWO ROWS OF 10d NAILS @ 8" O.C., 3" APART, FOR 2X8 OR 2X10 STUDS) ALL COLUMNS SHALL BE CONTINUOUS DOWN TO THE FOUNDATION OR OTHER PROPERLY DESIGNED STRUCTURAL ELEMENT SUCH AS A BEAM. COLUMNS TRANSFERRING LOADS THROUGH FLOOR LEVELS SHALL BE SOLIDLY BLOCKED FOR THE FULL WIDTH OF THE STUD COLUMN WITHIN THE CAVITY FORMED BY THE FLOOR JOISTS.

PART 15: NAILING OF MULTI PLY WOOD BEAMS

15.01 SOLID SAWN LUMBER JOISTS THAT ARE GANGED TO FORM A BEAM SHALL HAVE ADJACENT MEMBERS IN THE BEAM NAILED TOGETHER WITH THREE ROWS OF 10d NAILS @ 16" O.C. FOR 2X10 OR LARGER, TWO ROWS OF 10d NAILS @ 16" O.C. FOR 2X8, ONE ROW OF 10d NAILS @ 16" O.C. FOR 2X6 OR SMALLER. STAGGER ROWS 5" MIN.

15.02 LVL MEMBERS THAT ARE GANGED TO FORM A BEAM SHALL HAVE ADJACENT MEMBERS IN THE BEAM FASTENED TOGETHER PER MANUFACTURERS RECOMMENDATIONS, TYP UNO

PART 16: WALL FRAMING AND BRACING

16.01 STUD WALLS SHALL CONSIST OF 2X4 STUDS SPACED AT 16" O.C. UNO. STUDS SHALL BE CONTINUOUS FROM SOLE PLATE AT FLOOR TO DOUBLE TOP PLATE AT THE CEILING OR ROOF. NO INTERMEDIATE BANDS OR PLATES SHALL CAUSE DISCONTINUITIES IN A STUD WALL EXCEPT AS REQUIRED FOR DOOR OR WINDOW OPENINGS. THE KING STUDS FOR SUCH OPENINGS SHALL BE CONTINUOUS, TYP UNO.
MAX ALLOWABLE WALL HEIGHTS FOR EXTERIOR STUD WALLS, INCLUSIVE OF SOLE PLATE AND DBL TOP PLATE AND 7/16" OSB EXTERIOR BRACING AND ROW OF 2X4 2X6 PURLINS AT 8' HEIGHT (AND AT 16' HEIGHT FOR TALL WALLS), TYP UNO:
2X4 @ 16" O.C.: 11'–1 1/2" 2X6 @ 16" O.C.: 17'–0"
2X4 @ 12" O.C.: 12'–1 1/2" 2X6 @ 12" O.C.: 18'–8"
DBL 2X4 @ 16" O.C.: 13'–4" DBL 2X6 @ 16" O.C.: 21'–0"

16.02 FOR WALL BRACING THE FOLLOWING SHALL APPLY:
–BLOCKING AT UNSUPPORTED PANEL EDGES IS REQUIRED TYP UNO.
–WALL BRACING IS BY ENGINEERED DESIGN AND NOT PRESCRIPTIVE PER SECTION 602.10 OF THE 2018 NCRC. CONTINUOUS SHEATHING HAS BEEN PROVIDED, ALONG WITH ALTERNATIVE METHODS TO INSURE THE MINIMUM INTENT OF SECTION 602.10 OF THE 2018 NCRC HAS BEEN MET AND EXCEEDED.
–BRACED WALL PANELS SHALL BE FASTENED IN ACCORDANCE WITH TABLE 602.3(1) TO PROVIDE CONTINUOUS PANEL UPLIFT RESISTANCE AND COMPLIANCE WITH NCRBC R602.3.5 AND R802.11 UNLESS NOTED OTHERWISE ON STRUCTURAL PLANS.
–MAY SUBSTITUTE WSP FOR GB
–SINGLE JOIST, CONTINUOUS RIM JOIST, OR BLOCKING OF EQUAL DEPTH IS REQUIRED ABOVE AND BELOW ALL BRACED WALLS. NAIL BLOCKING ABOVE WALL TO TOP PLATE WITH 16d TOE NAILS @ 6" O.C. NAIL SOLE PLATE OF BRACED WALL TO BLOCKING BELOW WITH (3) 16d NAILS @ 16" O.C. BLOCKING AT HORIZONTAL JOINTS IN BRACED WALL LINES ONLY REQUIRED AT SHADED WALLS, UNO.

PART 17: KING STUDS

17.01 KING STUDS FOR OPENINGS IN EXTERIOR WALLS SHALL BE AS FOLLOWS:

	NUMBER OF KING STUDS				
MAX OPENING WIDTH	5'–0"	9'–0"	13'–0"	17'–0"	21'–0"
2X4	1	2	3	4	5
STUD SIZE 2X6	1	1	2	2	2
2X8	1	1	1	1	2

PART 18: SUBSTITUTIONS

18.01 MATERIAL OR MEMBER SIZE SUBSTITUTIONS OR PLAN DEVIATIONS REQUIRE THE WRITTEN AUTHORIZATION OF THE DESIGNERS. UNAUTHORIZED DEVIATIONS ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

PART 19: OWNERSHIP OF STRUCTURAL DESIGN

19.01 THE STRUCTURAL DESIGN OF THIS PLAN IS THE PROPERTY OF ENGINEERING TECH ASSOCIATES (ETA). THESE PLANS ARE FOR THE ONE TIME USE AT THE LOCATION INDICATED AND FOR THE CLIENT LISTED. ETA ASSUMES NO LIABILITY FOR THESE PLANS IF THEY ARE REPRODUCED, IN WHOLE OR IN PART, FOR CONSTRUCTION AT ANY OTHER LOCATION WITHOUT WRITTEN PERMISSION FROM ETA

NOTES

THE BUILDER IS RESPONSIBLE FOR REVIEWING PLANS PRIOR TO CONSTRUCTION. THE BUILDER SHALL IMMEDIATELY CONTACT THE ENGINEER OF RECORD (EOR) BEFORE PROCEEDING IF THE FOLLOWING CONDITIONS ARE NOTED BEFORE OR DURING CONSTRUCTION:
1) THE WORKING PLANS DO NOT BEAR THE SEAL OF THE EOR
2) THE PLANS CONTAIN DISCREPANT OR INCOMPLETE INFORMATION

ANY ERRORS DUE TO A FAILURE TO FOLLOW THE ABOVE PROCEDURES SHALL NOT BE THE RESPONSIBILITY OF THE EOR. FURTHERMORE, IT IS THE RESPONSIBILITY OF THE BUILDER TO ENSURE THAN ANY REVISIONS ISSUED BY THE EOR ARE PROMPLY DISTRIBUTED TO THE SUBCONTRACTORS

THE EOR DOES NOT PERFORM FENESTRATION OR VENTING CALCULATIONS OR ANY OTHER CALCULATIONS THAT ARE NOT DIRECTLY RELATED TO STRUCTURAL ENGINEERING.

ROOF AND FLOOR TRUSSES TO BE DESIGNED BY AN ENGINEER REGISTERED BY THE STATE. FINAL TRUSS DRAWING SHOULD BE SUBMITTED TO THE EOR FOR REVIEW

ABBREVIATIONS

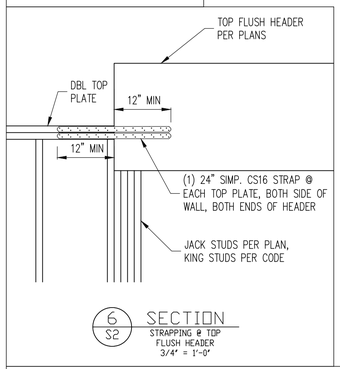
ABV	ABOVE	FND	FOUNDATION	TJ	TRIPLE JOIST
B.	BOTH	FTG	FOOTING	TYP	TYPICAL
B.E.	BOTH ENDS	HDG	HOT DIPPED GALVANIZED	TRPL	TRIPLE
BTWN	BETWEEN	HGR	HANGER	TSP	TRIPLE STUD POCKET
CIP	CAST IN PLACE	LVL	LAMINATED VENEER LUMBER	UNO	UNLESS NOTED OTHERWISE
CONC	CONCRETE	NTS	NOT TO SCALE	XJ	EXTRA JOIST
CS	CONTINUOUS SHEATHING	O.C.	ON CENTER		
DIA	DIAMETER	PSL	PARALLEL STRAND LUMBER		
DBL	DOUBLE	PT	PRESSURE TREATED		
DJ	DOUBLE JOIST	QJ	QUAD JOIST		
DSP	DBL STUD POCKET	SP	SPACE (OR SPACING)		
EQ	EQUAL	SSP	SINGLE STUD POCKET		
EA	EACH	SCHED	SCHEDULE		
FLG	FLANGE				
FL PL	FLITCH PLATE				
FLR	FLOOR				

ALLOWABLE I-JOIST SUBSTITUTION

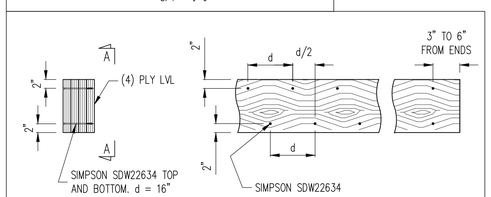
NOTE: MAINTAIN JOIST DEPTH, DIRECTION, AND SPACING SPECIFIED ON PLANS.

MANUFACTURER	DEPTH	SERIES	SIMPSON FACE MOUNT HGR	SIMPSON TOP FLANGE HGR
BLUELINX	11.875"	BLI 40	IUS2.56/11.88	ITS2.56/11.88
BOISE CASCADE	11.875"	BCI 5000s	IUS2.06/11.88	ITS2.06/11.88
BOISE CASCADE	11.875"	BCI 6000s	IUS2.37/11.88	ITS2.37/11.88
INTERNATIONAL BEAMS	11.875"	IB 400	IUS2.56/11.88	ITS2.56/11.88
LP CORP	11.875"	LPI 20+	IUS2.56/11.88	ITS2.56/11.88
NORDIC	11.875"	NI 40X	IUS2.56/11.88	ITS2.56/11.88
ROSEBURG	11.875"	RFPI 40s	IUS2.56/11.88	ITS2.56/11.88
WEYERHAEUSER	11.875"	TJI 210	IUS2.06/11.88	ITS2.06/11.88
WEYERHAEUSER	11.875"	EEI–20	IUS2.37/11.88	ITS2.37/11.88

JOISTS NOT LISTED IN THE ABOVE TABLE MAY BE USED PROVIDED THEY MEET OR EXCEED THE PROPERTIES OF THOSE LISTED. SUBSTITUTE USP BRAND HANGERS WITH EQUIVALENT VALUES AS DESIRED.



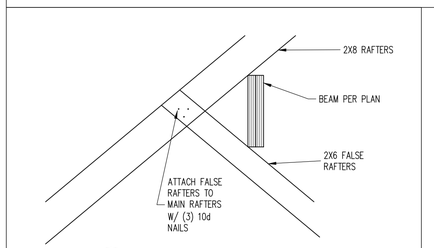
6 S2 SECTION
STRAPPING @ TOP FLUSH HEADER
3/4" = 1'-0"



SECTION A–A
3/4" = 1'-0"

7 S3 SECTION
TYPICAL FASTENING (4) PLY LVL
3/4" = 1'-0"

*BUILDER PERMITTED TO SUBSTITUTE ¼"ø THROUGH BOLTS FOR SIMP. SDW SCREWS @ EQUAL SPACING.



8 S3 SECTION
FALSE VAULT
3/4" = 1'-0"

Engineering Tech ASSOCIATES, P.A.
STRUCTURAL ENGINEERS
License No. C-3870
318 W. Millbrook Rd
Raleigh, North Carolina 27609
Phone (919) 844-1661

NATHANIEL B. GRAY SEAL 040734 ENGINEER NORTH CAROLINA PROFESSIONAL

J&W CUSTOM HOMES
SCOPE: STRUCTURAL ADDENDUM
LOC: 974 MARSHBURN RD

ENG: NBG/CR
DATE: 2/25/2022

PROJECT NO.
22-17-008

SHEET NO.
SD1
6 of 6