

Elevation D - Sheet List

Sheet Number	Sheet Name
D-Pg1	Front & Rear Elevations
D-Pg2	Side Elevations
D-Pg3	1st Floor Plan
D-Pg4	2nd Floor Plan
D-Pg5	Roof Plan
Pg6	Building Section
Pg7	Details
Structural Pages by Engineer	

NOTICE TO CONTRACTOR  
All construction must comply with current NC Building Codes and is subject to field inspection and verification.

**APPROVED**  
Limited building only review  
Permit holder responsible for full compliance with the code

05/17/2021



1 Front - Elev D  
1/8" = 1'-0"



2 Rear - Elev D  
1/8" = 1'-0"

Area Schedule  
(Elevation D)

Name	Area
<b>Heated</b>	
1st Floor	2015 SF
2nd Floor	956 SF
	2971 SF
<b>Unheated</b>	
Front Porch	136 SF
Garage	460 SF
Screened Porch	256 SF
	852 SF
Under Roof	3823 SF

CAMDEN - Elevation D

Front & Rear Elevations



3015 Jefferson Davis Hwy, Sanford, NC 27332

Job #: 2020-081  
Address:

County:

Plan Version Date:  
7-31-20

Job Version Date:  
4-13-21

Sheet #:  
D-Pg1



① Left - Elev D  
1/8" = 1'-0"



② Right - Elev D  
1/8" = 1'-0"

CAMDEN - Elevation D

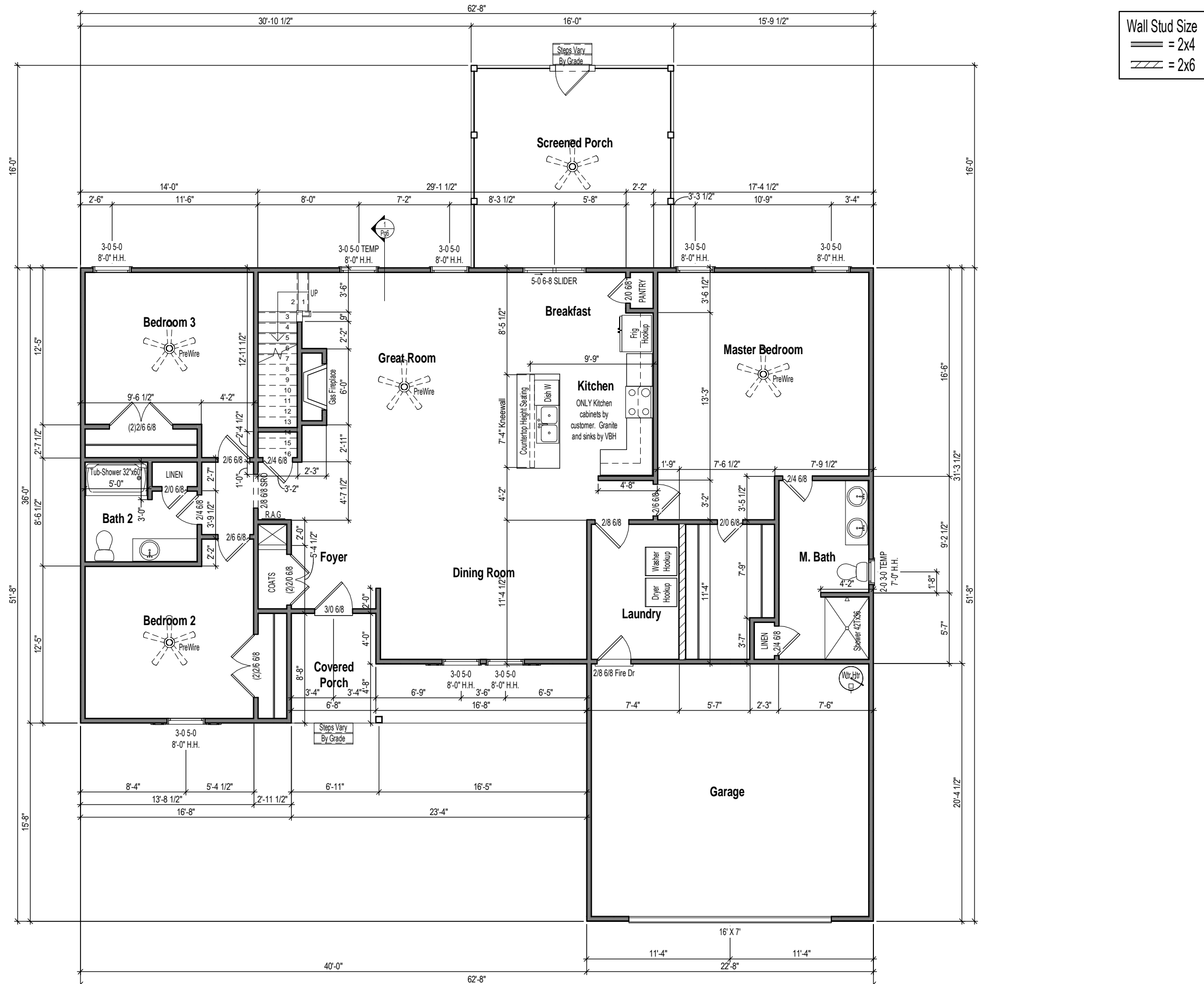
Side Elevations

Job #: 2020-081  
Address:  
County:

Plan Version Date:  
7-31-20

Job Version Date:  
4-13-21

Sheet #:  
D-Pg2



Wall Stud Size  
 — = 2x4  
 // = 2x6

1 1st Floor Plan - Elev D  
 1/8" = 1'-0"



CAMDEN - Elevation D

1st Floor Plan

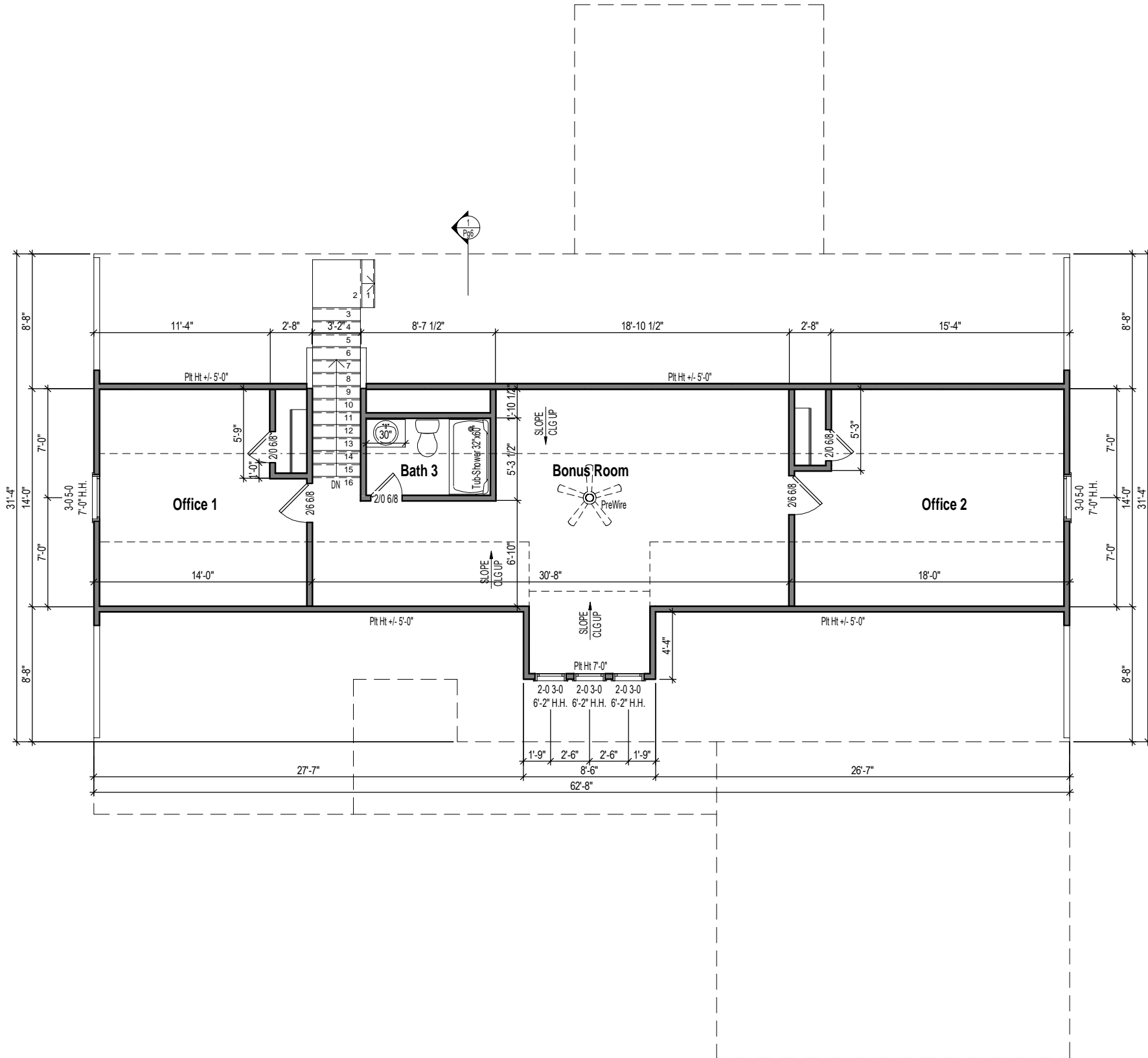
Job #: 2020-081  
 Address:  
 County:

Plan Version Date:  
 7-31-20

Job Version Date:  
 4-13-21

Sheet #:  
 D-Pg3

Wall Stud Size  
 — = 2x4  
 // = 2x6



1 2nd Floor Plan - Elev D  
 1/8" = 1'-0"

CAMDEN - Elevation D

2nd Floor Plan

Job #: 2020-081  
 Address:  
 County:

Plan Version Date:  
 7-31-20

Job Version Date:  
 4-13-21

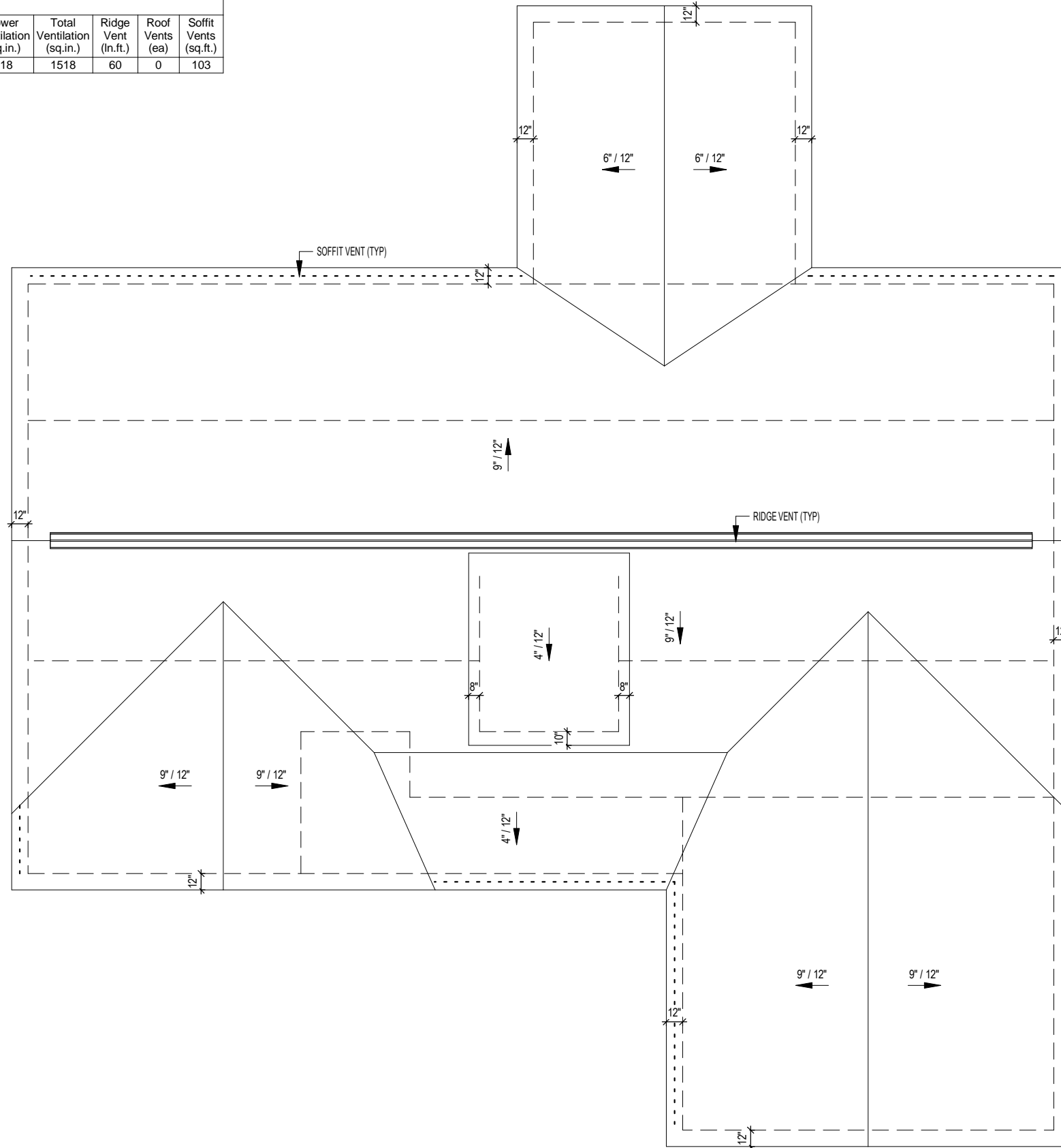
Sheet #:  
 D-Pg4



### Attic Ventilation Calcs 1/300 (sq.in.)

Name	Area	Ventilation Required (sq.in.)	Max Upper (sq.in.)	Min Upper (sq.in.)	Upper Ventilation (sq.in.)	Lower Ventilation (sq.in.)	Total Ventilation (sq.in.)	Ridge Vent (ln.ft.)	Roof Vents (ea)	Soffit Vents (sq.ft.)
Main Roof	2611 SF	1253	1003	627	900	618	1518	60	0	103

- CALCS BASED ON THE FOLLOWING VALUES**
- Ridge Vents = 15 in<sup>2</sup> of net free area per linear foot
  - Roof Vents = 50 in<sup>2</sup> of net free area per unit
  - Soffit Vents = 6 in<sup>2</sup> of net free area per square foot



1 Roof Plan - Elev D  
1/8" = 1'-0"



3015 Jefferson Davis Hwy, Sanford, NC 27332

CAMDEN - Elevation D

Roof Plan

Job #: 2020-081  
Address:

County:

Plan Version Date:  
7-31-20

Job Version Date:  
4-13-21

Sheet #:  
D-Pg5

CAMDEN - Elevation D

Building Section

Job #: 2020-081  
Address:

County:

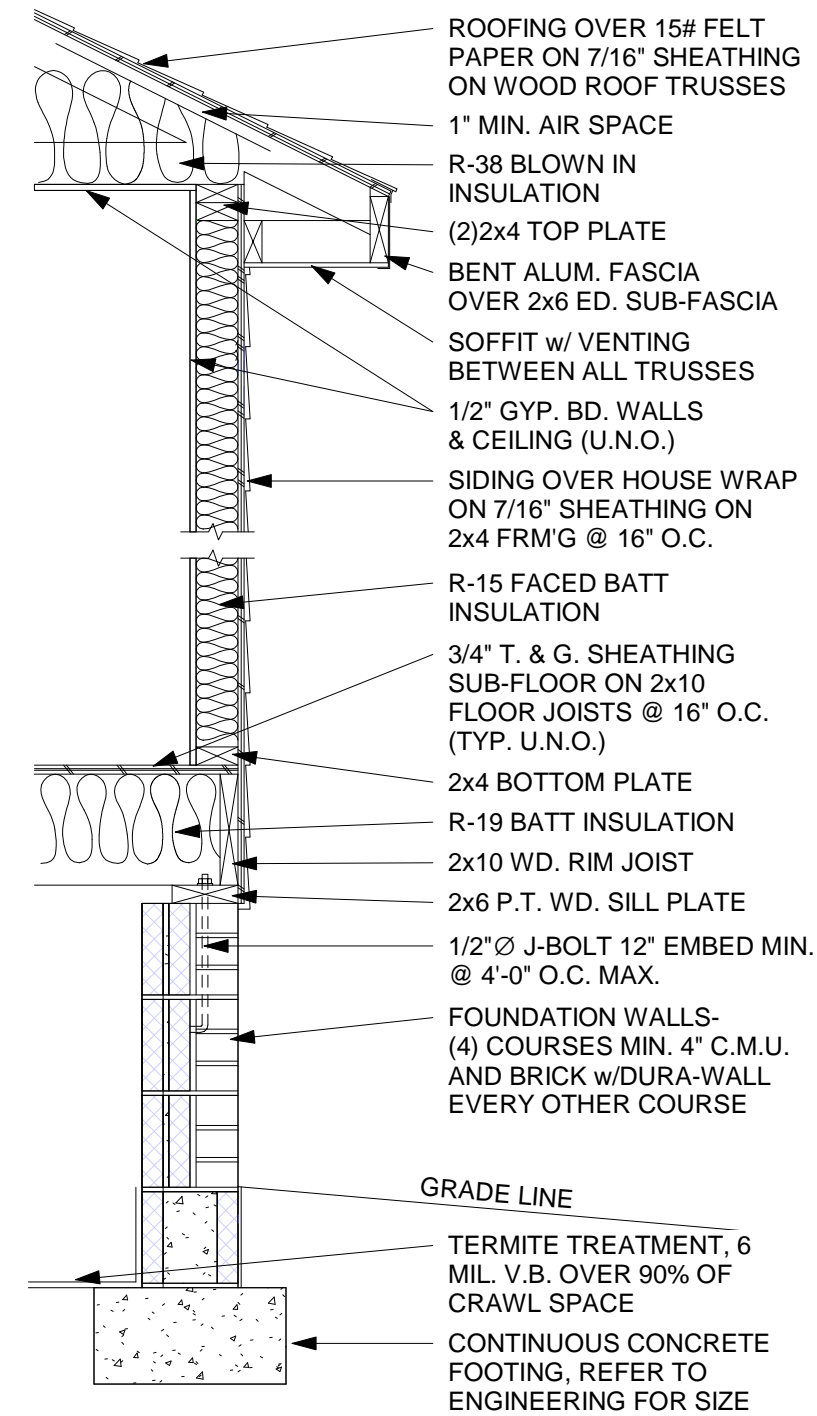
Plan Version Date:  
7-31-20

Job Version Date:  
4-13-21

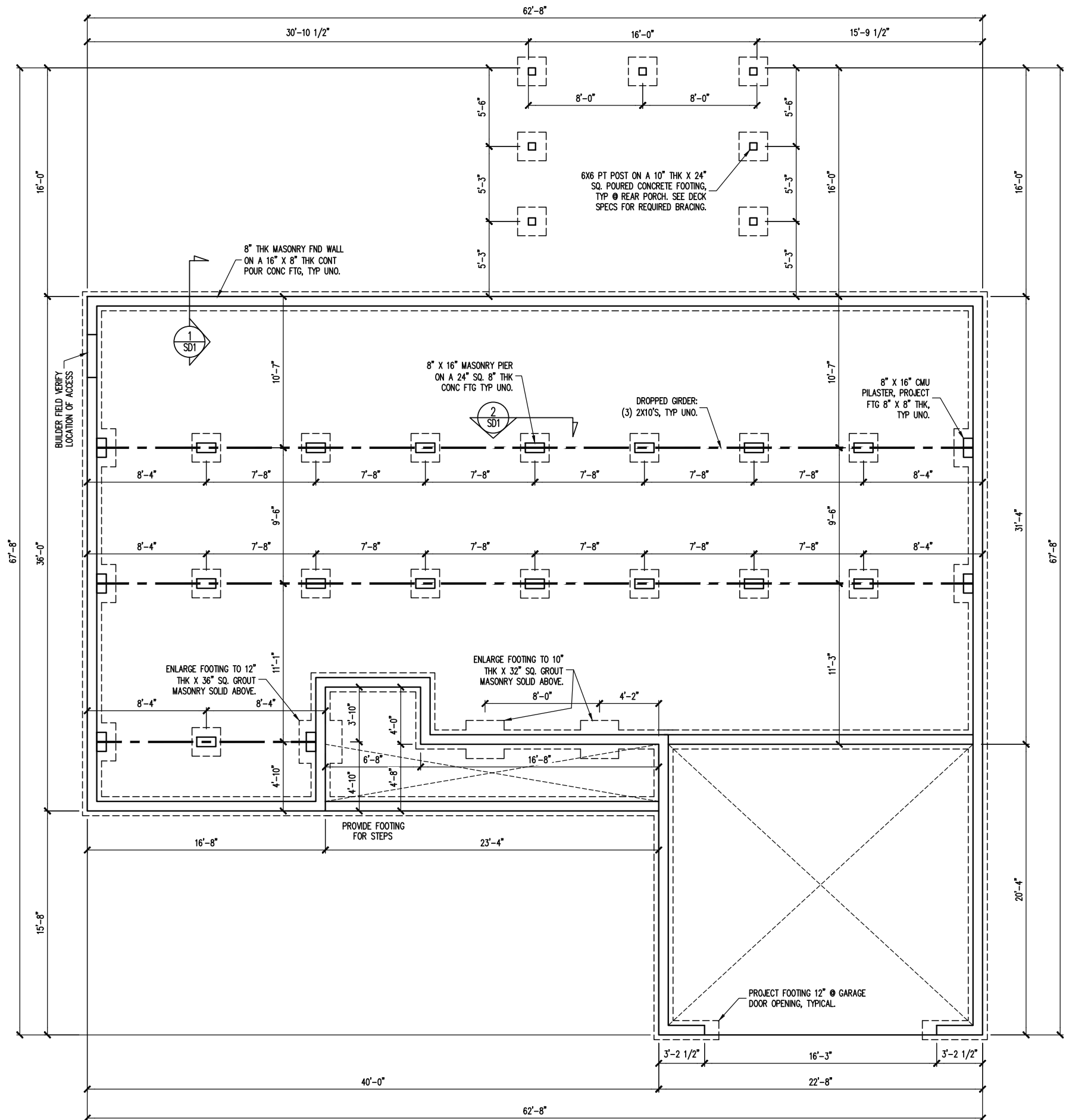
Sheet #:  
Pg6



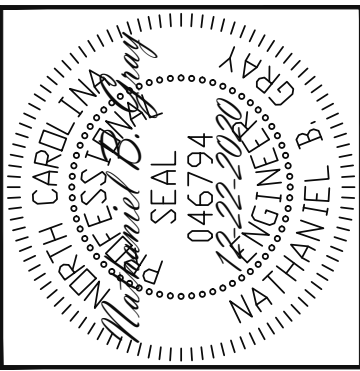
1 Building Section  
1/4" = 1'-0"



① Typical Wall Section - Brick Fnd  
1/64" = 1'-0"



The structural design of this plan is the property of Engineering Tech Associates, P.A. These plans are for the one time use at the location and for the client listed. Engineering Tech Associates, P.A. 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 Engineering Tech Associates, P.A.



**Engineering Tech**  
ASSOCIATES, P.A.  
STRUCTURAL ENGINEERS  
License No. C-3870  
183 Wind Chime Ct, Ste 100  
Raleigh, North Carolina 27615  
Phone (919) 844-1661

VALUE BUILD HOMES  
STURCTURAL ADDENDUM  
REV 1 NBC/EF 04-23-2021  
SCOPE  
LOC 163 WILBURN RD  
FUQUAY VARINA, NC  
JOB# 2020-081 BARBOUR 3

ENG: NBC  
DATE: 12-22-2020

PLAN  
CAMDEN D

PROJECT NO.  
20-65-505\_118

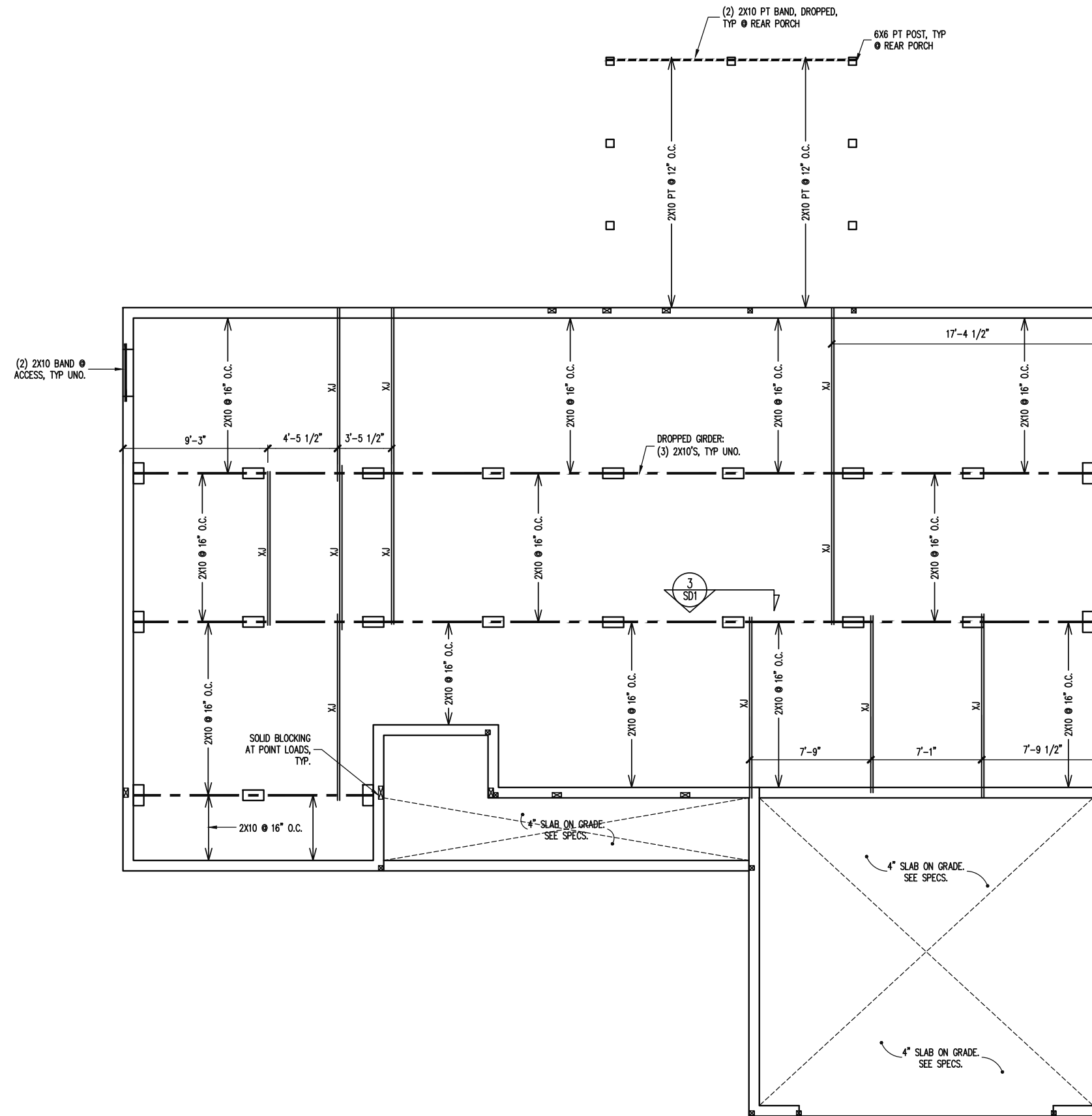
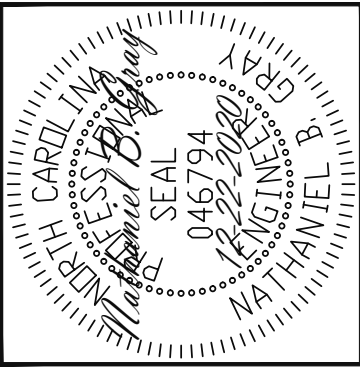
SHEET NO.  
S1  
1 of 10

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  
1/8" = 1'-0"



The structural design of this plan is the property of Engineering Tech Associates, P.A. These plans are for the one time use at the location and for the client listed. Engineering Tech Associates, P.A. 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 Engineering Tech Associates, P.A.



**Engineering Tech**  
 ASSOCIATES, P.A.  
 STRUCTURAL ENGINEERS  
 License No. C-3870  
 183 Wind Chime Ct, Ste 100  
 Raleigh, North Carolina 27615  
 Phone (919) 844-1661

SCOPE	VALUE BUILD HOMES
LOC	STURCTURAL ADDENDUM
	REV 1 NBC/EF 04-23-2021
	163 WILBURN RD
	FUQUAY VARINA, NC
	JOB# 2020-081 BARBOUR 3

ENG: NBC  
 DATE: 12-22-2020

PLAN  
 CAMDEN D

PROJECT NO.  
 20-65-505\_118

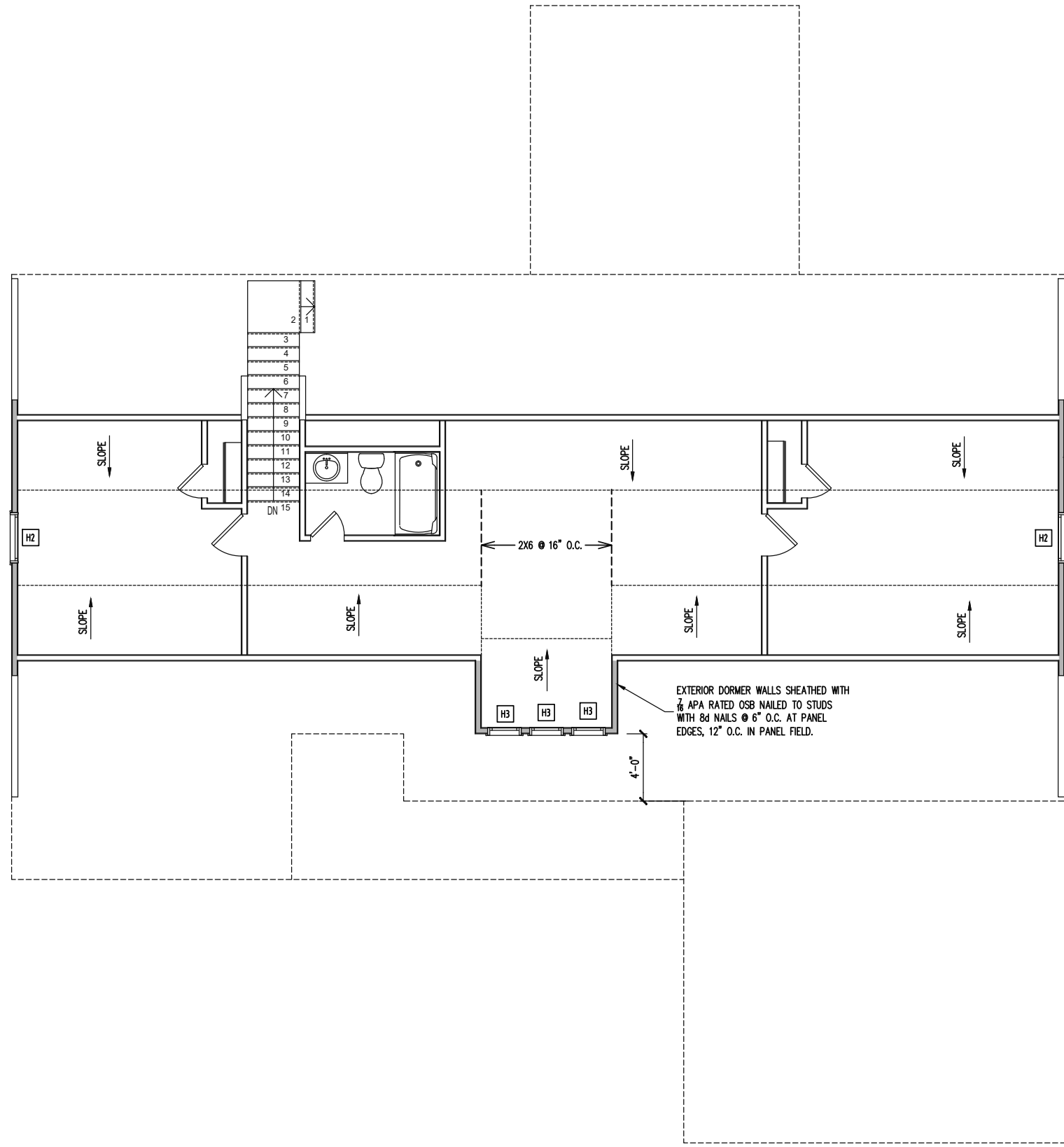
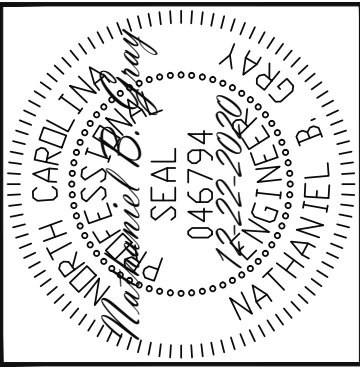
SHEET NO.  
 S2  
 2 of 10

CRAWL SPACE FRAMING PLAN

1/8" = 1'-0"



The structural design of this plan is the property of Engineering Tech Associates, P.A. These plans are for the one time use at the location and for the client listed. Engineering Tech Associates, P.A. 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 Engineering Tech Associates, P.A.



NOTE ALL GABLE END EXTERIOR WALLS ARE BRACED WALLS PER WALL BRACING NOTES

**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

**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 = 50' 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) 2X8'S ON SINGLE JACKS (C)
  - H4 (2) 1.75" X 9.25" LVL'S ON DBL 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.

**Engineering Tech ASSOCIATES, P.A.**  
STRUCTURAL ENGINEERS  
License No. C-3870  
183 Wind Chime Ct, Ste 100  
Raleigh, North Carolina 27615  
Phone (919) 844-1661

VALUE BUILD HOMES	
SCOPE	STURCTURAL ADDENDUM
LOC	163 WILBURN RD FUQUAY VARINA, NC
	REV 1 NBC/EF 04-23-2021
	JOB# 2020-081 BARBOUR 3

ENG: NBC  
DATE: 12-22-2020

PLAN  
CAMDEN D

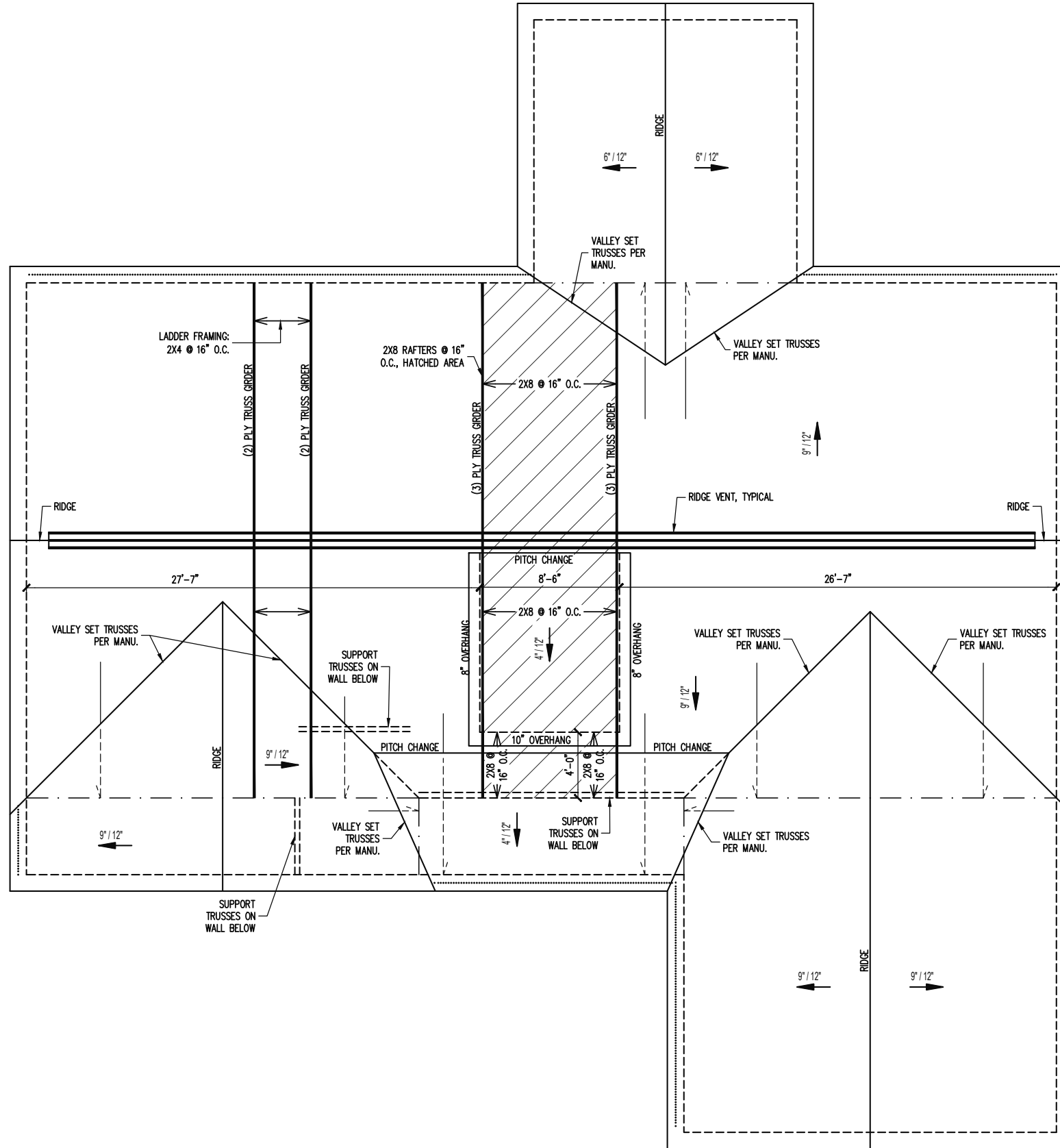
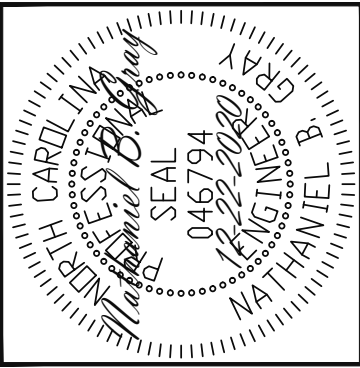
PROJECT NO.  
20-65-505\_118

SHEET NO.  
S4

4 of 10

2ND FLOOR FRAMING PLAN  
WALLS AND CEILING  
1/8" = 1'-0"

The structural design of this plan is the property of Engineering Tech Associates, P.A. These plans are for the one time use at the location and for the client listed. Engineering Tech Associates, P.A. 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 Engineering Tech Associates, P.A.



**TRUSS UPLIFT CONNECTORS**  
 EXPOSURE B, 115 MPH, ANY PITCH  
 24" O.C. MAX ROOF TRUSS SPACING

TRUSSES SHALL BE ATTACHED TO SUPPORT WALL FOR UPLIFT RESISTANCE. CONTINUOUS OSB WALL SHEATHING BELOW PROVIDES CONTINUOUS UPLIFT RESISTANCE TO FOUNDATION. ALL TRUSSES SUPPORTED BY INTERMEDIATE SUPPORT WALLS, KNEEWALLS OR BEAMS SHALL BE ATTACHED TO SUPPORTING MEMBER PER SCHEDULE BELOW.

ROOF SPAN IS MEASURED HORIZONTALLY BETWEEN FURTHEST SUPPORT POINTS.

ROOF SPAN UP TO 28'	CONNECTOR NAILING PER TABLE 602.3(1) NCRBC 2018 EDITION
OVER 28'	(1) SIMPSON H2.5A HURRICANE CLIP TO DBL TOP PLATE OR BEAM

**FRAMING NOTES**  
 ROOF ONLY  
 -ROOF TRUSSES PER MANUFACTURER, TYP U.N.O.  
 -ROOF PITCHES 9:12 TYP U.N.O.  
 -VERIFY ROOF PITCHES, OVERHANG LENGTHS, AND KNEEWALL FRAMING HGTS WITH ARCHITECTURAL DRAWINGS, TYPICAL.

**ROOF FRAMING PLAN**  
 1/8" = 1'-0"

**Engineering Tech ASSOCIATES, P.A.**  
 STRUCTURAL ENGINEERS  
 License No. C-3870  
 183 Wind Chime Ct, Ste 100  
 Raleigh, North Carolina 27615  
 Phone (919) 844-1661

**VALUE BUILD HOMES**  
 STRUCTURAL ADDENDUM  
 REV 1 NBC/EF 04-23-2021

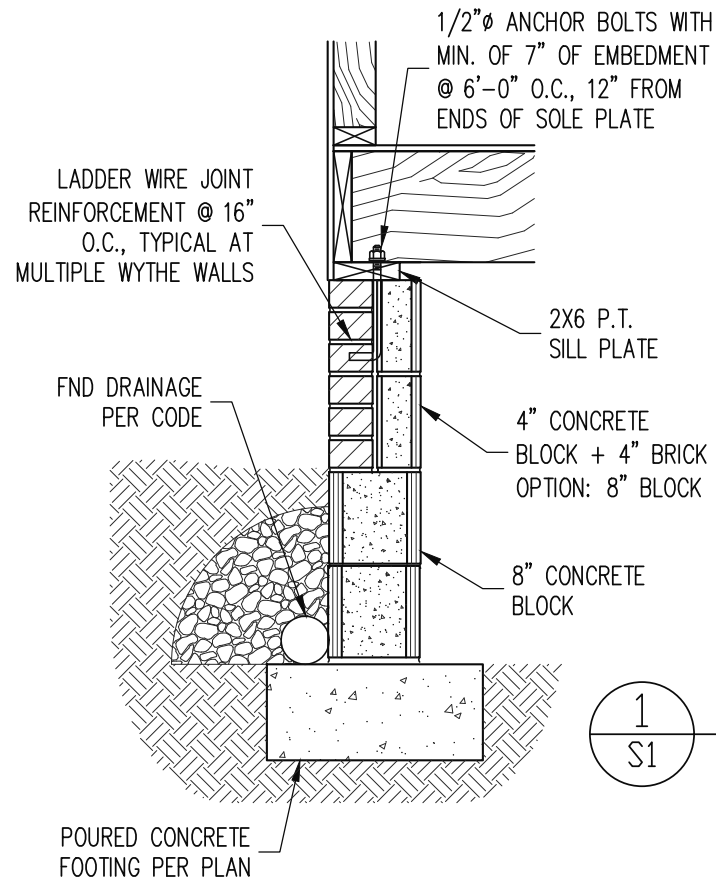
**SCOPE** 163 WILBURN RD  
**LOC** FUQUAY VARINA, NC  
**JOB#** 2020-081 BARBOUR 3

**ENG** NBC  
**DATE** 12-22-2020

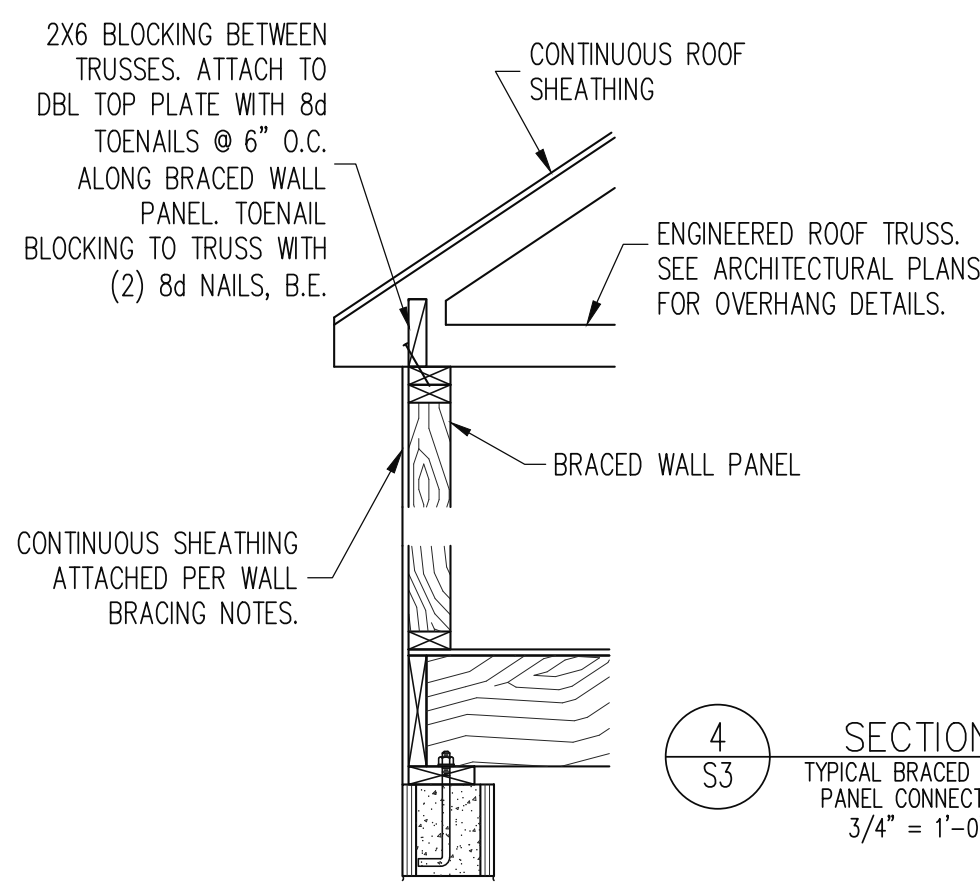
**PLAN**  
 CAMDEN D

**PROJECT NO.**  
 20-65-505\_118

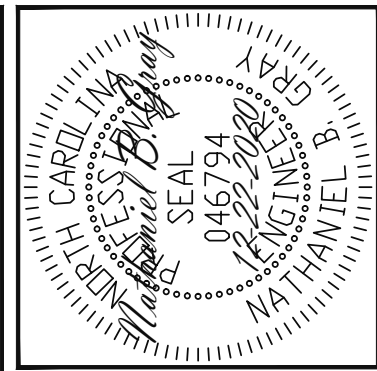
**SHEET NO.**  
 S5  
 5 of 10



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

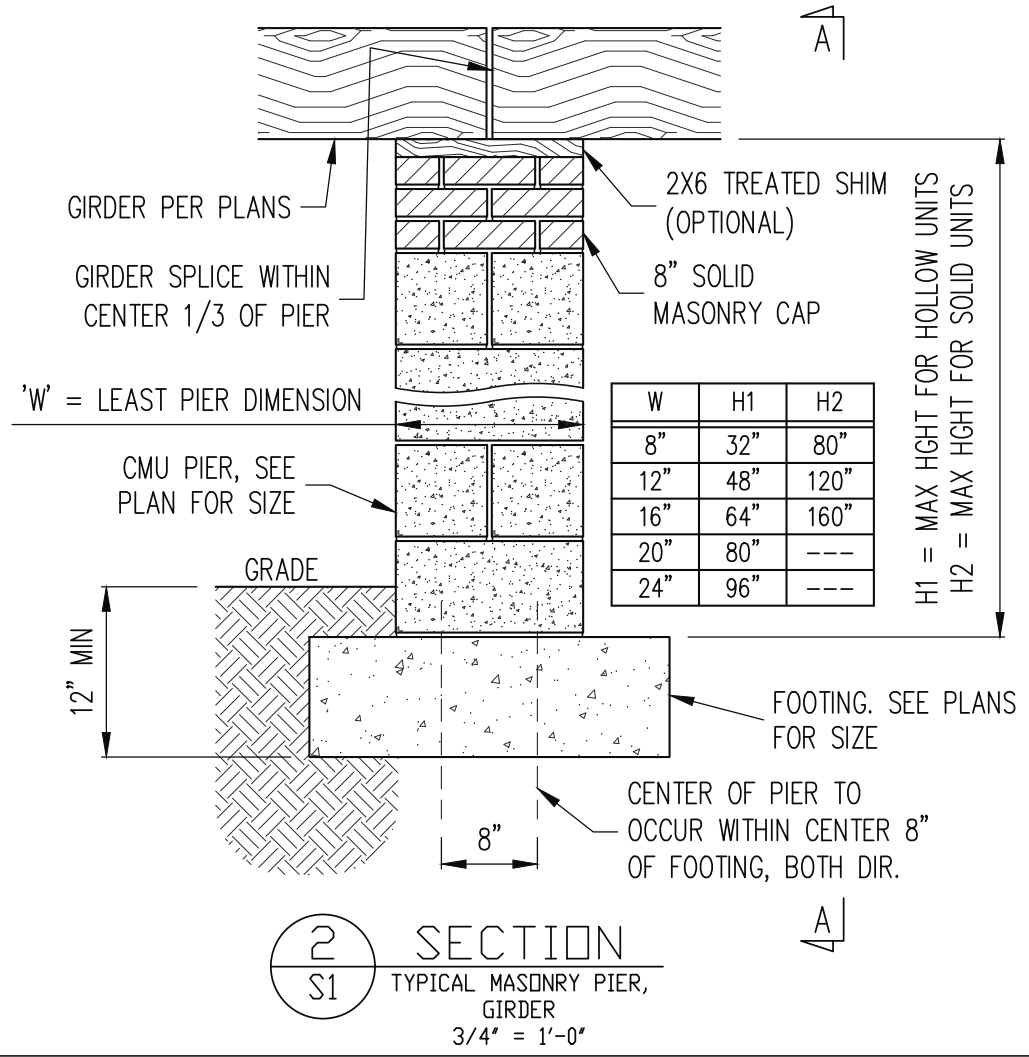


**4**  
S3 SECTION  
TYPICAL BRACED WALL  
PANEL CONNECTION  
3/4" = 1'-0"

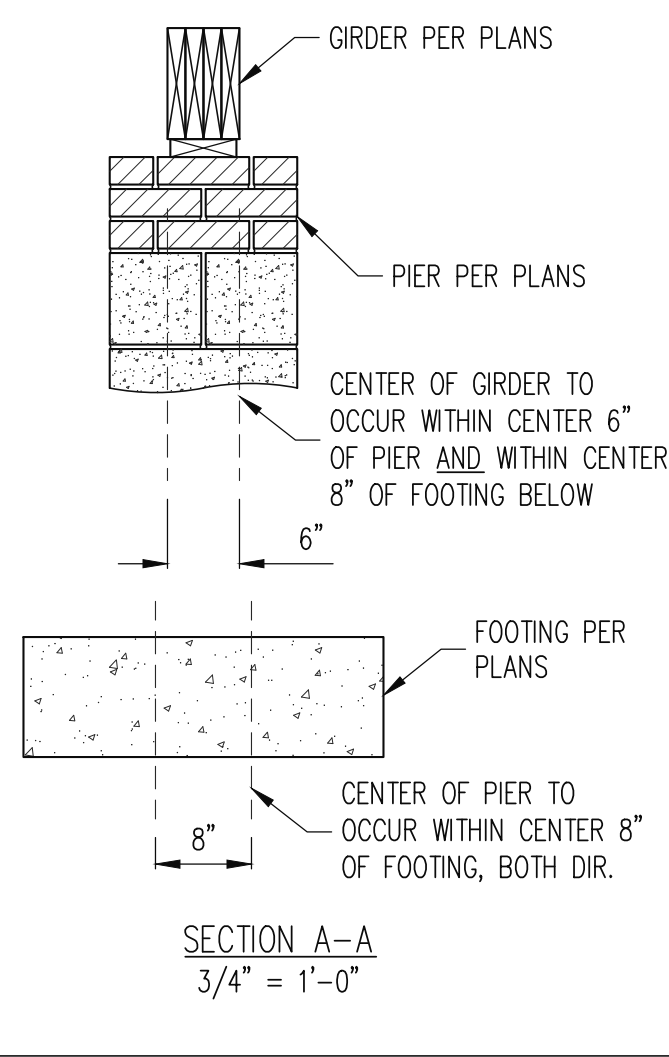


STRUCTURAL ENGINEERS  
License No. C-3870  
183 Wind Chime Ct, Ste 100  
Raleigh, North Carolina 27615  
Phone (919) 844-1661

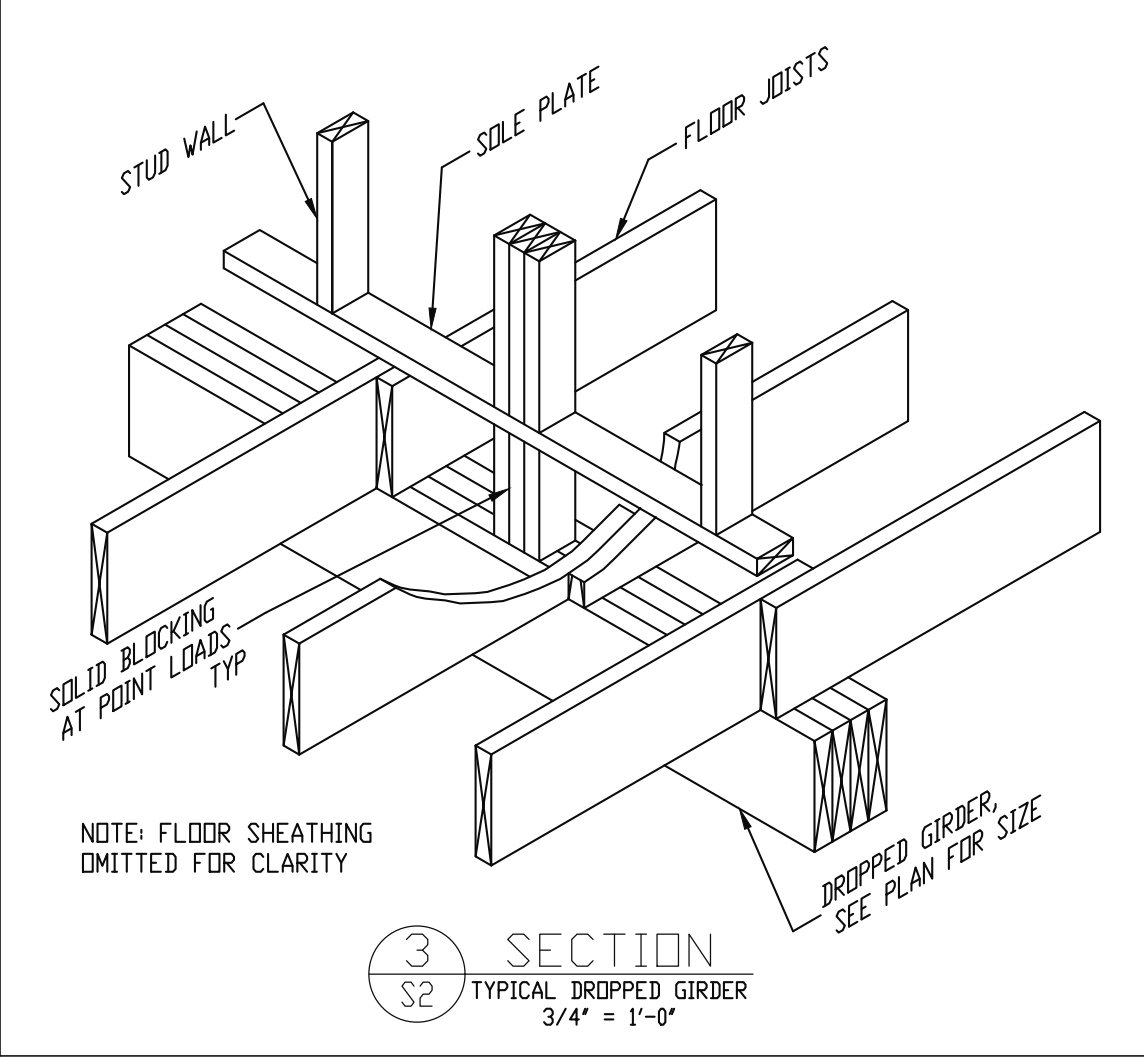
**Engineering**  
**Lech**  
ASSOCIATES, P.A.



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



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

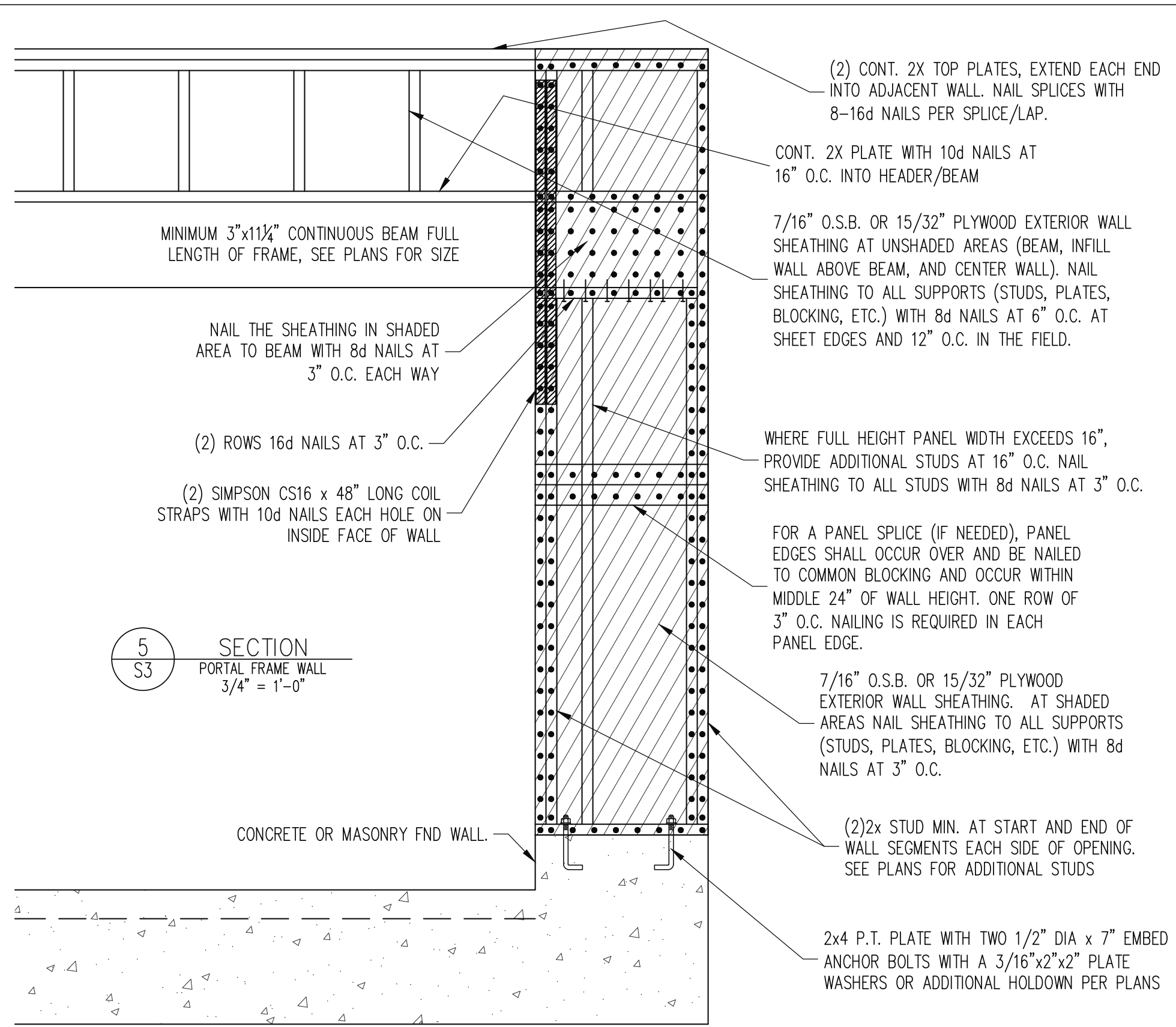
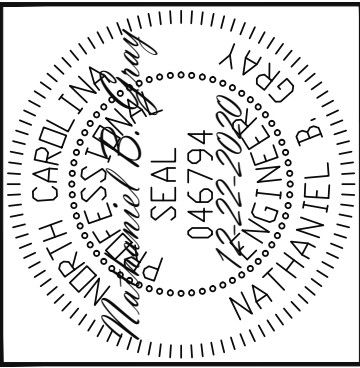


**3**  
S2 SECTION  
TYPICAL DROPPED GIRDER  
3/4" = 1'-0"

VALUE BUILD HOMES  
STRUCTURAL ADDENDUM  
REV 1 NBC/EF 04-23-2021

SCOPE  
LOC  
163 WILBURN RD  
FUQUAY VARINA, NC  
JOB# 2020-081 BARBOUR 3

ENG: NBC  
DATE: 12-22-2020  
PLAN  
CAMDEN D  
PROJECT NO.  
20-65-505\_118  
SHEET NO.  
SD1  
6 of 10



MINIMUM 3"x11¼" CONTINUOUS BEAM FULL LENGTH OF FRAME, SEE PLANS FOR SIZE

NAIL THE SHEATHING IN SHADED AREA TO BEAM WITH 8d NAILS AT 3" O.C. EACH WAY

(2) ROWS 16d NAILS AT 3" O.C.

(2) SIMPSON CS16 x 48" LONG COIL STRAPS WITH 10d NAILS EACH HOLE ON INSIDE FACE OF WALL

5 SECTION  
S3 PORTAL FRAME WALL  
3/4" = 1'-0"

CONCRETE OR MASONRY FND WALL.

(2) CONT. 2X TOP PLATES, EXTEND EACH END INTO ADJACENT WALL. NAIL SPLICES WITH 8-16d NAILS PER SPLICE/LAP.

CONT. 2X PLATE WITH 10d NAILS AT 16" O.C. INTO HEADER/BREAM

7/16" O.S.B. OR 15/32" PLYWOOD EXTERIOR WALL SHEATHING AT UNSHADED AREAS (BEAM, INFILL WALL ABOVE BEAM, AND CENTER WALL). NAIL SHEATHING TO ALL SUPPORTS (STUDS, PLATES, BLOCKING, ETC.) WITH 8d NAILS AT 6" O.C. AT SHEET EDGES AND 12" O.C. IN THE FIELD.

WHERE FULL HEIGHT PANEL WIDTH EXCEEDS 16", PROVIDE ADDITIONAL STUDS AT 16" O.C. NAIL SHEATHING TO ALL STUDS WITH 8d NAILS AT 3" O.C.

FOR A PANEL SPLICE (IF NEEDED), PANEL EDGES SHALL OCCUR OVER AND BE NAILED TO COMMON BLOCKING AND OCCUR WITHIN MIDDLE 24" OF WALL HEIGHT. ONE ROW OF 3" O.C. NAILING IS REQUIRED IN EACH PANEL EDGE.

7/16" O.S.B. OR 15/32" PLYWOOD EXTERIOR WALL SHEATHING. AT SHADED AREAS NAIL SHEATHING TO ALL SUPPORTS (STUDS, PLATES, BLOCKING, ETC.) WITH 8d NAILS AT 3" O.C.

(2)2x STUD MIN. AT START AND END OF WALL SEGMENTS EACH SIDE OF OPENING. SEE PLANS FOR ADDITIONAL STUDS

2x4 P.T. PLATE WITH TWO 1/2" DIA x 7" EMBED ANCHOR BOLTS WITH A 3/16"x2"x2" PLATE WASHERS OR ADDITIONAL HOLDOWN PER PLANS

STRUCTURAL ENGINEERS  
License No. C-3870  
183 Wind Chime Ct, Ste 100  
Raleigh, North Carolina 27615  
Phone (919) 844-1661

**Engineering**  
**Lech**  
ASSOCIATES, P.A.

VALUE BUILD HOMES  
STRUCTURAL ADDENDUM  
REV 1 NBC/EF 04-23-2021

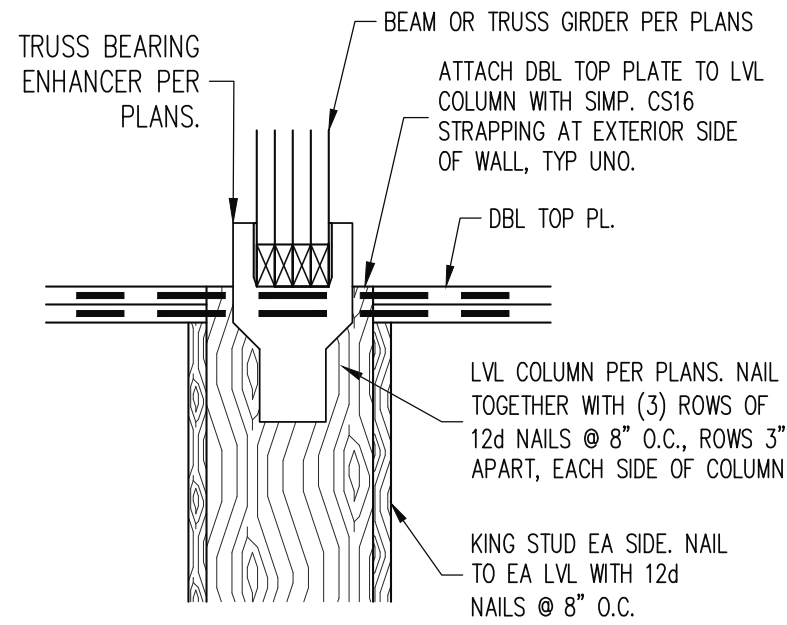
SCOPE  
LOC: 163 WILBURN RD  
FUQUAY VARINA, NC  
JOB# 2020-081 BARBOUR 3

ENG: NBC  
DATE: 12-22-2020

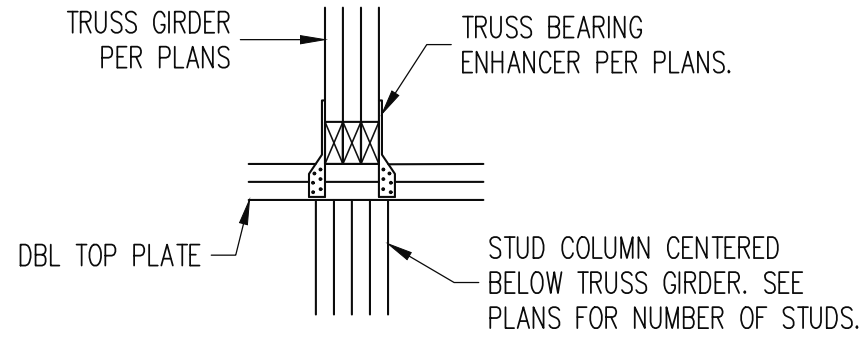
PLAN  
CAMDEN D

PROJECT NO.  
20-65-505\_118

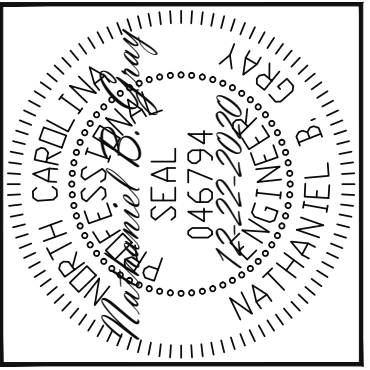
SHEET NO.  
SD2  
7 of 10



6 SECTION  
S3 LVL COLUMN AND TRUSS BEARING ENHANCER  
3/4" = 1'-0"



7 SECTION  
S3 TBE4 TRUSS BEARING ENHANCER, TYPICAL  
3/4" = 1'-0"



STRUCTURAL ENGINEERS  
License No. C-3870  
183 Wind Chime Ct, Ste 100  
Raleigh, North Carolina 27615  
Phone (919) 844-1661

Engineering Lech ASSOCIATES, P.A.

SCOPE	VALUE BUILD HOMES
LOC	STURCTURAL ADDENDUM
	REV 1 NBC/EF 04-23-2021
	163 WILBURN RD
	FUQUAY VARINA, NC
	JOB# 2020-081 BARBOUR 3

ENG: NBC  
DATE: 12-22-2020

PLAN  
CAMDEN D

PROJECT NO.  
20-65-505\_118

SHEET NO.  
SD3

8 of 10

# 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, 6% AIR ENTRAINMENT, AND SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS TYP UNO. ALL CONCRETE, INCLUDING CONCRETE FOR FOOTINGS, IS 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 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 2" 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
- 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.

## PART 11: ENGINEERED LUMBER

- 11.01 LVL OR PSL MINIMUM ALLOWABLE DESIGN STRESSES ARE AS FOLLOWS:  
 E= 1.9 X 10E6 PSI, Fb = 2600 PSI, Fv = 285 PSI, Fc = 750 PSI  
 LSL MINIMUM ALLOWABLE DESIGN STRESSES ARE AS FOLLOWS:  
 E= 1.3 X 10E6 PSI, Fb = 1700 PSI, Fv = 400 PSI, Fc = 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 AWP STANDARD C-15. ALL OTHER EXPOSED LUMBER SHALL BE TREATED IN ACCORDANCE WITH AWP 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 24" O.C. STAGGERED TOP TO BOTTOM OF THE BEAM. MAINTAIN A 2" EDGE DISTANCE. PLACE TWO BOLTS, ONE ABOVE THE OTHER, 6" ± 2" FROM EACH END OF THE BEAM.

## 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, WITH 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'-0"    2X6 @ 16" O.C.: 17'-0"  
 2X4 @ 12" O.C.: 12'-0"    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 NCR. CONTINUOUS SHEATHING HAS BEEN PROVIDED, ALONG WITH ALTERNATIVE METHODS TO INSURE THE MINIMUM INTENT OF SECTION 602.10 OF THE 2018 NCR 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 CB  
 -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:

MAX OPENING WIDTH	NUMBER OF KING STUDS				
	5'-0"	9'-0"	13'-0"	17'-0"	21'-0"
2X4	1	2	3	4	5
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

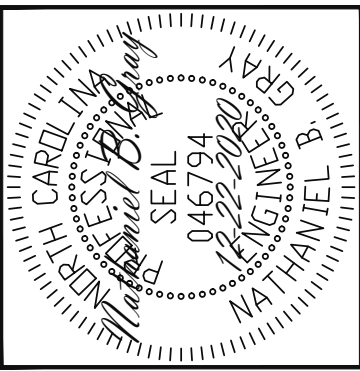
- 19.01 THE STRUCTURAL DESIGN OF THIS PLAN IS THE PROPERTY OF ENGINEERING TECH ASSOCIATES (ETA). THESE PLANS ARE FOR THE ONE TIME USE AT THE LOCATION INDICATED AND FOR THE CLIENT LISTED. ETA ASSUMES NO LIABILITY FOR THESE PLANS IF THEY ARE REPRODUCED, IN WHOLE OR IN PART, FOR CONSTRUCTION AT ANY OTHER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

## ABBREVIATIONS

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

## 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 THAT ANY REVISIONS ISSUED BY THE EOR ARE PROMPTLY 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



**Engineering Tech**  
 ASSOCIATES, P.A.  
**STRUCTURAL ENGINEERS**  
 License No. C-3870  
 183 Wind Chime Ct, Ste 100  
 Raleigh, North Carolina 27615  
 Phone (919) 844-1661

<b>VALUE BUILD HOMES</b>	<b>REV 1 NBC/EF 04-23-2021</b>
<b>SCOPE</b>	<b>163 WILBURN RD</b>
<b>LOC</b>	<b>FUQUAY VARINA, NC</b>
<b>STURCTURAL ADDENDUM</b>	<b>JOB# 2020-081 BARBOUR 3</b>

**ENG:** NBC  
**DATE:** 12-22-2020

**PLAN**  
**CAMDEN D**

**PROJECT NO.**  
**20-65-505\_118**

**SHEET NO.**  
**SPECS**



# DECK SPECIFICATIONS

1. A DECK IS AN EXPOSED EXTERIOR WOOD FLOOR STRUCTURE WHICH MAY BE ATTACHED TO A STRUCTURE OR BE FREE STANDING. ROOFED PORCHES, OPEN OR SCREENED IN, MAY BE CONSTRUCTED USING THESE PROVISIONS.
2. SUPPORT POSTS SHALL BE SUPPORTED BY A FOOTING.
3. WHEN ATTACHED TO A STRUCTURE, THE STRUCTURE TO WHICH ATTACHED 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 OF THE STRUCTURE. THE DECK BAND AND THE STRUCTURE BAND SHALL BE CONSTRUCTED IN CONTACT WITH EACH OTHER EXCEPT AT BRICK VENEER AND WHERE PLYWOOD SHEATHING IS REQUIRED AND PROPERLY FLASHED. SIDING SHALL NOT BE INSTALLED BETWEEN THE STRUCTURE AND THE DECK BAND. IF ATTACHED TO A BRICK STRUCTURE, NEITHER FLASHING NOR A TREATED BAND FOR THE BRICK STRUCTURE IS REQUIRED. IN ADDITION, THE TREATED DECK BAND SHALL BE CONSTRUCTED IN CONTACT WITH THE BRICK
4. WHEN THE DECK IS SUPPORTED AT THE STRUCTURE BY ATTACHING THE DECK TO THE STRUCTURE, THE FOLLOWING ATTACHMENT SCHEDULES SHALL APPLY FOR ATTACHING THE DECK BAND TO THE STRUCTURE:

A. ALL STRUCTURES EXCEPT BRICK STRUCTURES

	JOIST LENGTH	
	UP TO 8' MAX.	UP TO 16' MAX.
REQUIRED FASTENERS	ONE- 5/8" $\phi$ BOLT @ 42" O.C. AND (2) ROWS OF 12d NAILS @ 8" O.C. OR TWO ROWS OF SIMPSON SDWS22400DB @ d = 32" O.C. STAGGERED	ONE- 5/8" $\phi$ BOLT @ 20" O.C. AND (3) ROWS OF 12d NAILS @ 6" O.C. OR TWO ROWS OF SIMPSON SDWS22400DB @ d = 16" O.C. STAGGERED

A . BRICK VENEER STRUCTURES

	JOIST LENGTH	
	UP TO 8' MAX.	UP TO 16' MAX.
REQUIRED FASTENERS	ONE- 5/8" $\phi$ BOLT @ 28" O.C.	ONE- 5/8" $\phi$ BOLT @ 16" O.C.

5. IF THE DECK BAND IS SUPPORTED BY A 1/2" MINIMUM MASONRY LEDGE ALONG THE FOUNDATION WALL, 5/8"  $\phi$  BOLTS SPACED @ 48" O.C. MAY BE USED FOR SUPPORT.
6. OTHER MEANS OF SUPPORT, SUCH AS JOIST HANGERS, MAY BE USED TO CONNECT DECK JOISTS TO A TREATED STRUCTURE BAND
7. GIRDERS SHALL BEAR DIRECTLY ON POSTS OR BE CONNECTED TO THE SIDES OF POSTS WITH 2- 5/8"  $\phi$  BOLTS
8. FLOOR DECKING SHALL BE NO. 2 GRADE TREATED SOUTHERN PINE OR EQUIVALENT. THE MINIMUM FLOOR DECKING THICKNESS SHALL BE AS FOLLOWS:

JOIST SPAN	DECKING
12" O.C.	1" S4S
16" O.C.	1" T&G
24" O.C.	1 1/4" S4S
32" O.C.	2" S4S

9. MAXIMUM HEIGHT OF DECK SUPPORT POSTS IS AS FOLLOWS:

POST SIZE	MAX POST HEIGHT
4X4	8'
6X6	20'
ENGINEERED	20' +

- NOTES: 1) THIS TABLE IS BASED ON NO. 2 TREATED SOUTHERN PINE POSTS.  
 2) THIS TABLE IS BASED ON A MAXIMUM TRIBUTARY AREA OF 128 SQ. FT.  
 3) POST HEIGHT IS FROM TOP OF FOOTING TO BOTTOM OF GIRDER.

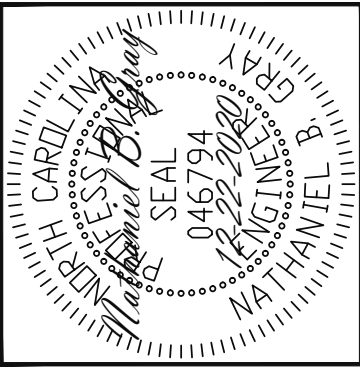
10. DECKS SHALL BE BRACED TO PROVIDE LATERAL STABILITY BY ONE OF THE FOLLOWING METHODS:

- A. WHEN THE DECK FLOOR HEIGHT IS LESS THAN 4'-0" AND THE DECK IS ATTACHED TO THE STRUCTURE IN ACCORDANCE WITH SECTION 4, LATERAL BRACING IS NOT REQUIRED.
- B. 4X4 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 ATTACHED AT THE ENDS TO THE GIRDER AND THE POST WITH ONE - 5/8"  $\phi$  BOLT
- C. FOR FREE STANDING DECKS WITHOUT KNEE BRACES OR DIAGONAL BRACING, LATERAL STABILITY MAY BE PROVIDED BY EMBEDDING THE POSTS IN CONCRETE IN ACCORDANCE WITH THE FOLLOWING:

POST SIZE	TRIBUT. AREA	POST HEIGHT	EMB. DEPTH	CONC. DIAM.
4X4	48 SQ. FT.	4'-0"	2'-6"	1'-0"
6X6	120 SQ. FT.	6'-0"	3'-6"	1'-8"

- D. 2X6 DIAGONAL VERTICAL CROSS BRACING SHALL BE PROVIDED IN TWO PERPENDICULAR DIRECTIONS FOR FREE STANDING DECKS OR PARALLEL TO THE STRUCTURE AT THE EXTERIOR COLUMN LINE FOR ATTACHED DECKS. THE BRACES SHALL BE ATTACHED TO THE POSTS WITH ONE - 5/8"  $\phi$  BOLT AT EACH END OF THE BRACE.

- NOTES: 1) ALL NAILS AND BOLTS ARE TO BE HOT DIPPED GALVANIZED.  
 2) MINIMUM EDGE DISTANCE FOR BOLTS IS 2 1/2".  
 3) NAILS MUST PENETRATE THE SUPPORTING STRUCTURE BAND A MINIMUM OF 1 1/2".



**Engineering Lech**  
 STRUCTURAL ENGINEERS  
 License No. C-3870  
 183 Wind Chime Ct, Ste 100  
 Raleigh, North Carolina 27615  
 Phone (919) 844-1661  
 ASSOCIATES, P.A.

VALUE BUILD HOMES	STURCTURAL ADDENDUM	REV 1 NBC/EF 04-23-2021
SCOPE	LOC	JOB#
	163 WILBURN RD	FUQUAY VARINA, NC
		2020-081 BARBOUR 3

ENG: NBC  
 DATE: 12-22-2020

PLAN  
 CAMDEN D

PROJECT NO.  
 20-65-505\_118

SHEET NO.  
 SPECS2  
 10 of 10