Lot 4
Christian Light Rd.
Plan # 2596

DESIGN LOADS

TABLE R301.4	LIVE LOAD (PSF)	DEAD LOAD (PSF)
DWELLING UNITS	40	10
SLEEPING ROOMS	30	10
ATTICS WITH STORAGE	20	10
ATTICS WITHOUT STORAGE	10	10
ROOF SNOW	20	10
STAIRS	40	10
DECKS	40	10
EXTERIOR BALCONIES	60	10
PASSENGER VEHICLE GARAGES	50	–
FIRE ESCAPES	40	10
GUARDRAILS AND HANDRAILS	200	–

MATERIALS

1. FRAMING LUMBER SHALL BE #2 SPRUCE PINE FIR (SPF) WITH THE FOLLOWING DESIGN PROPERTIES:
Fb = 875 PSI Fv = 70 PSI E = 1.4E6 PSI

2. FRAMING LUMBER EXPOSED TO WEATHER OR IN CONTACT WITH THE GROUND, CONCRETE OR MASONRY SHALL BE #2 SOUTHERN YELLOW PINE (SYP) TREATED IN ACCORDANCE WITH AWPA C22 WITH THE FOLLOWING DESIGN PROPERTIES:
Fb = 1050 PSI Fv = 95 PSI E = 1.6E6 PSI

3. ENGINEERED WOOD BEAMS SHALL BE LAMINATED VENEER LUMBER (LVL) OR PARALLEL STRAND LUMBER (PSL) WITH THE FOLLOWING MINIMUM DESIGN PROPERTIES:
Fb = 2900 PSI Fv = 285 PSI E = 1.9E6 PSI

4. STRUCTURAL STEEL SHALL CONFORM TO ASTM A-36 MINIMUM GRADE.

5. BOLTS SHALL CONFORM TO A307 MINIMUM GRADE.

6. REBAR SHALL BE DEFORMED STEEL CONFORMING TO ASTM A615 GRADE 60.

7. POURED CONCRETE SHALL HAVE A MINIMUM SPECIFIED COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS. MATERIALS USED TO PRODUCE CONCRETE SHALL COMPLY WITH THE APPLICABLE STANDARDS LISTED IN ACI 318 OR ASTM C 1157.

8. CONCRETE LOCATED PER TABLE R402.2 SHALL BE AIR ENTRAINED WITH THE TOTAL AIR CONTENT NOT LESS THAN 5 PERCENT OR MORE THAN 7 PERCNET.

9. MASONRY UNITS SHALL CONFORM TO ACI 530/ASCE 5/TMS 402 AND MORTAR SHALL COMPLY WITH ASTM C 270.

10. ALLOWABLE SOIL BEARING PRESSURE 2000 PSF.

GENERAL

ENGINEER'S SEAL APPLIES TO STRUCTURAL COMPONENTS ONLY AND DOES NOT CERTIFY ARCHITECTURAL LAYOUT OR DIMENSIONAL ACCURACY. ENGINEER IS NOT RESPONSIBLE FOR CONSTRUCTION METHODS OR ANY DEVIATION FROM THE PLANS.

ALL CONSTRUCTION, WORKMANSHIP, MATERIAL QUALITY AND SELECTION SHALL BE IN ACCORDANCE WITH THE NORTH CAROLINA STATE BUILDING CODE - RESIDENTIAL CODE 2018 EDITION FROM THE INTERNATIONAL RESIDENTIAL CODE 2018 (IRC), AND LOCAL CODES AND REGULATIONS. DIMENSIONS SHALL GOVERN OVER SCALE AND CODE SHALL GOVERN OVER DIMENSIONS.

ADDITIONAL LOADS

FIGURE R301.2(4) - BASIC DESIGN WIND SPEED 100 MPH

FIGURE R301.2(2) - SEISMIC DESIGN CATEGORY B

TABLE R301.2(4) - DESIGN POSITIVE AND NEGATIVE PRESSURE FOR DOORS AND WINDOW FOR A MEAN ROOF HEIGHT OF 35 FEET OR LESS SHALL BE 25 PSF

TABLE R301.2(2) - COMPONENT AND CLADDING LOADS FOR A MEAN ROOF HEIGHT OF 30 FEET OR LESS LOCATED IN EXPOSURE B
ROOF VALUES BOTH POSITIVE AND NEGATIVE SHALL BE DESIGNED BASED ON ROOF PITCHES AS FOLLOWS:
45.4 PSF FOR 0:12 TO 2.25:12, 34.8 PSF FOR 2.25:12 TO 7:12 AND 21 PSF FOR 7:12 TO 12:12
WALL CLADDING IS DESIGNED FOR A 24.1 PSF POSITIVE AND NEGATIVE PRESSURE

ENERGY COMPLIANCE:

TABLE N1102.1 - REFER TO TABLE N1101.1 TO DETERMINE THE CLIMATE ZONE BY COUNTY AND REFER TO TABLE N1102.1 FOR R VALUE INSULATION REQUIREMENTS LISTED BY ZONE.

TABLE N1102.1 - ZONE 7 - MAX. GLAZING U FACTOR: 0.40. MIN. INSULATION R VALUES: CEILING R-30, WALLS R-13, FLOORS R-19, BASEMENT WALLS R-7, SLAB PERIMETER R-0, CRAWL SPACE WALLS R-7.

TABLE N1102.1 - ZONE 8 - MAX. GLAZING U FACTOR: 0.40. MIN. INSULATION R VALUES: CEILING R-30, WALLS R-13, FLOORS R-19, BASEMENT WALLS R-8, SLAB PERIMETER R-5 (2 FT DEEP), CRAWL SPACE WALLS R-10.

CONSTRUCTION

1. STEEL FLITCH BEAMS SHALL BE FASTENED TOGETHER WITH 1/2" DIAMETER BOLTS WITH WASHERS PLACED UNDER THE THREADED END OF THE BOLT. BOLTS SHALL BE SPACED AT MAXIMUM 24" o.c. STAGGERED TOP AND BOTTOM OF BEAM WITH A MINIMUM 2" EDGE DISTANCE. TWO BOLTS SHALL BE LOCATED AT 6" FROM EACH END OF FLITCH BEAM.

2. STEEL BEAMS SHALL BE SUPPORTED AT EACH END WITH A MINIMUM BEARING LENGTH OF 3 1/2" AND FULL FLANGE WIDTH. BEAMS MUST BE ANCHORED AT EACH END WITH A MINIMUM OF FOUR 16d NAILS OR TWO 1/2" x 4" LAG SCREWS.

3. ENGINEERED WOOD BEAMS SHALL BE INSTALLED WITH ALL CONNECTIONS PER MANUFACTURER'S INSTRUCTIONS.

4. ALL BEAMS SHALL BE CONTINUOUSLY SUPPORTED LATERALLY AND SHALL BEAR FULL WIDTH ON THE SUPPORTING WALLS OR COLUMNS INDICATED WITH A MINIMUM OF THREE STUDS.

5. SOLID BLOCKING SHALL BE PROVIDED AT ALL POINT LOADS TO TRANSFER LOADS THROUGH FLOOR LEVELS. COLUMNS SHALL BE CONTINUOUS TO THE FOUNDATION OR TO OTHER STRUCTURAL ELEMENTS.

6. ENGINEERED WOOD FLOOR SYSTEMS AND ROOF TRUSS SYSTEMS SHALL BE PROVIDED FOR REVIEW AND COORDINATED WITH THE ENGINEER OF RECORD. INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.

7. WALL BRACING REQUIREMENTS SHALL BE IN ACCORDANCE WITH SECTION R602.10 OF THE NORTH CAROLINA RESIDENTIAL CODE.

8. BRICK LINTELS SHALL BE 3 1/2 x 3 1/2 x 1/4 STEEL ANGLE FOR UP TO 6'0" MAXIMUM SPAN AND 6 x 4 x 5/16 FOR SPANS GREATER THAN 6'0".

9. BRICK LINTELS AT SLOPED AREAS SHALL BE 4 x 3 1/2 x 1/4 STEEL ANGLE WITH 16d NAILS IN 3/16" HOLES IN 4" ANGLE LEG AT 12" o.c. TO DOUBLE RAFTER. WHEN THE SLOPE EXCEEDS 4:12 A MINIMUM OF 3 x 3 x 1/4 PLATES SHALL BE WELDED AT 24" o.c. ALONG THE STEEL ANGLE.

ATTIC VENT SCHEDULE

ELEVATION

MAIN HOUSE		SQ FTG	2190	AT / NEAR RIDGE			AT / NEAR EAVE	
VENT TYPE	SQ. FT. REQUIRED RANGE	SQ. FT. SUPPLIED	PERCENT OF TOTAL SUPPLIED	POT LARGE (SQ. FT. EACH)	POT SMALL (SQ. FT. EACH)	RIDGE VENT (SQ. FT. PER LF)	EAVE VENT (SQ. IN. EACH)	CONT. VENT (SQ. IN. PER LF)
				0.4236	0.2778	0.125	0.1944	0.0625
RIDGE VENT	2.92 3.65	7.38	68.60	0	0	59.00		
SOFFIT VENTS	4.38 3.65	3.38	31.40				0	54.00
TOTAL (MIN)	7.30 7.30	10.75	100.00	POT VENTS MAY BE REQUIRED IF THERE IS INSUFFICIENT RIDGE AVAILABLE				

* SCHEDULE HAS BEEN CALCULATED ASSUMING EAVE VENTILATION AT 50-60% OF TOTAL AND RIDGE AT 40-50% OF TOTAL REQUIRED VENTILATION

SQUARE FOOTAGE

	HEATED S.F.	UNHEATED S.F.
FIRST FLOOR	1561	
SECOND FLOOR	1035	
SCREEN PORCH		144
FRONT PORCH		129
GARAGE		500
TOTAL	2596	773

REVISION LOG

Rev	Description	Drawn By	Date	Sheets Affected	Brochure Required	Engineering Required
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						

ABBREVIATIONS

CONC	CONCRETE
CONT	CONTINUOUS
DBL	DOUBLE
DJ	DOUBLE JOIST
DSP	DOUBLE STUD POCKET
EA	EACH
FL PT	FLAT PLATE
FTG	FOOTING
HGR	HANGER
LVL	LAMINATED VENEER LUMBER
NTS	NOT TO SCALE
OC	ON CENTER
PSL	PARALLEL STRAND LUMBER
PT	PRESSURE TREATED
SC	STUD COLUMN
SP	STUD POCKET
TJ	TRIPLE JOIST
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE

TABLE N1102.1 CLIMATE ZONES 3-5

CLIMATE ZONES	FENESTRATION U-FACTOR [b]	SKYLIGHT [b] U-FACTOR	GLAZED FENESTRATION SHGC [b,e]	CEILING [k] R-VALUE	WOOD FRAMED WALL R-VALUE	MASS WALL R-VALUE [i]	FLOOR R-VALUE	BASEMENT [c] WALL R-VALUE	SLAB [d] R-VALUE AND DEPTH	CRAWL SPACE [c] WALL R-VALUE
3	0.35	0.65	0.30	30	13	5/10	19	10/13[f]	0	5/13
4	0.35	0.60	0.30	38 OR 30 CONT [j]	15 OR 13+2.5[h]	5/13	19	10/13	10 [d]	10/13
5	0.35	0.60	NR	38 OR 30 CONT [j]	19 OR 13+5 OR 15+3[g,h]	13/17	30 [g]	10/13	10 [d]	10/13

a. R-VALUES ARE MINIMUMS. U-FACTORS AND SHGC ARE MAXIMUMS.
b. THE FENESTRATION U-FACTOR COLUMN EXCLUDED SKYLIGHTS. THE SHGC COLUMN APPLIES TO ALL GLAZED FENESTRATION.
c. "10/13" MEANS R-10 CONT. INSULATED SHEATHING ON THE INTERIOR OR EXTERIOR OF THE HOME OR R-13 CAVITY INSULATION AT THE INTERIOR OF THE BASEMENT WALL OR CRAWL SPACE WALL.
d. FOR MONOLITHIC SLABS, INSULATION SHALL BE APPLIED FROM THE INSPECTION GAP DOWNWARD TO THE BOTTOM OF THE FOOTING OR A MAXIMUM OF 16 INCHES BELOW GRADE, WHICHEVER IS LESS. FOR FLOATING SLABS, INSULATION SHALL EXTEND TO THE BOTTOM OF THE FOUNDATION WALL OR 24 INCHES, WHICHEVER IS LESS. R-5 SHALL BE ADDED TO THE REQUIRED SLAB EDGE R-VALUE FOR HEATED SLABS.
e. R-19 FIBERGLASS BATTS COMPRESSED AND INSTALLED IN A NOMINAL 2x6 CAVITY IS DEEMED TO COMPLY. FIBERGLASS BATTS RATED R-19 OR HIGHER COMPRESSED AND INSTALLED IN A 2x4 WALL IS NOT DEEMED TO COMPLY.
f. BASEMENT WALL INSULATION IS NOT REQUIRED IN WARM-HUMID LOCATIONS AS DEFINED BY FIGURE N1101.2 (1 AND 2) AND TABLE N1101.2.
g. OR INSULATION SUFFICIENT TO FILL THE FRAMING CAVITY, R-19 MINIMUM.
h. "13+5" MEANS R-13 CAVITY INSULATION PLUS R-5 INSULATED SHEATHING. 15+3 MEANS R-15 CAVITY INSULATION PLUS R-3 INSULATED SHEATHING. IF STRUCTURAL SHEATHING COVERS 25 PERCENT OR LESS OF THE EXTERIOR, INSULATING SHEATHING IS NOT REQUIRED WHERE STRUCTURAL SHEATHING IS USED. IF THE STRUCTURAL SHEATHING COVERS MORE THAN 25 PERCENT OF THE EXTERIOR, STRUCTURAL SHEATHING SHALL BE SUPPLEMENTED WITH INSULATED SHEATHING OF AT LEAST R-2. 13+2.5 MEANS R-13 CAVITY INSULATION PLUS R-2.5 SHEATHING.
i. FOR MASS WALLS, THE SECOND R-VALUE APPLIES WHEN MORE THAN HALF THE INSULATION IS ON THE INTERIOR OF THE MASS WALL.
j. R-30 SHALL BE DEEMED TO SATISFY THE CEILING INSULATION REQUIREMENT WHEREVER THE FULL HEIGHT OF THE UNCOMPRESSED R-30 INSULATION EXTENDS OVER THE WALL TOP PLATE AT THE EAVES. OTHERWISE R-38 INSULATION IS REQUIRED WHERE ADEQUATE CLEARANCE EXISTS OR INSULATION MUST EXTEND TO EITHER THE INSULATION BAFFLE OR WITHIN 1" OF THE ATTIC ROOF DECK.
k. TABLE VALUE REQUIRED EXCEPT FOR ROOF EDGE WHERE THE SPACE IS LIMITED BY THE PITCH OR THE ROOF, THERE THE INSULATION MUST FILL THE SPACE UP TO THE AIR BAFFLE.

MEAN ROOF HEIGHT
1 STORY = 11'-0"
CLADDING POSITIVE & NEGATIVE PRESSURE = 21 PSF

1 1/2 STORY = 19'-0"
CLADDING POSITIVE & NEGATIVE PRESSURE = 34.8 PSF

2 STORY = 19'-0"
CLADDING POSITIVE & NEGATIVE PRESSURE = 34.8 PSF

ANCHOR BOLTS
INSTALL ANCHOR BOLTS, NUTS, AND WASHERS
PER CODE AT ALL EXTERIOR WALL
TREATED PLATES AND AT INTERIOR BEARING WALL
TREATED PLATES ON SLAB
FOUNDATIONS. TO BE A MINIMUM OF 6' O.C. AND
WITHIN 12" FROM THE ENDS OF EACH PLATE.

DESIGN PRESSURES
MINIMUM RATING: 25 PSF

MI WINDOWS 3500 SERIES
LOW E-GLASS WINDOWS

SOUTH DESIGNS
P.O. Box 688
Wake Forest, NC 27588
(O) 919-556-2226
(F) 919-556-2228
www.southdesigns.com

Drawn By: RWB
Checked By:
8-11-2020

Revision No.	Revision Date

Client:

Title:
PLAN

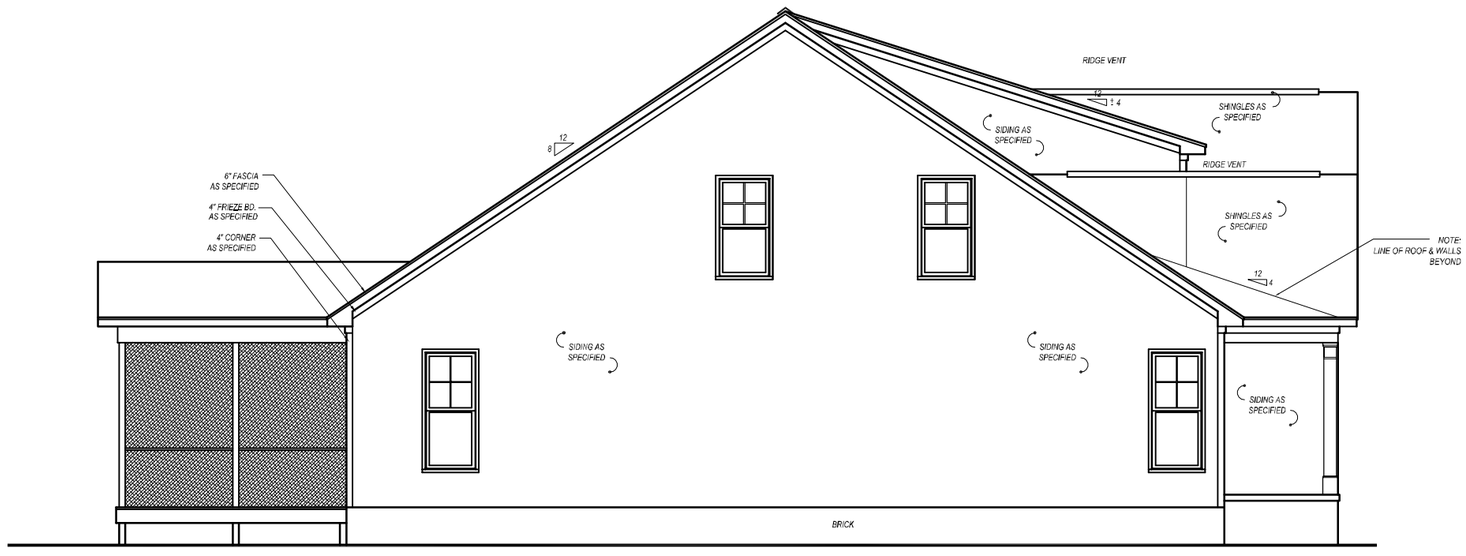
COVER SHEET

Plan No.
2596

CS-1
Sheet No.

FRONT ELEVATION

SCALE: 1/8"=1'-0" (11"x17" SHEET SIZE)
SCALE: 1/4"=1'-0" (24"x36" SHEET SIZE)



LEFT SIDE ELEVATION

SCALE: 1/8"=1'-0" (11"x17" SHEET SIZE)
SCALE: 1/4"=1'-0" (24"x36" SHEET SIZE)

SOUTH DESIGNS
P.O. Box 688
Wake Forest, NC 27588
(O) 919-556-2226
(F) 919-556-2228
www.southdesigns.com

Drawn By:

Checked By:

8-11-2020

Revision No.	Revision Date

Client:

PLAN

Title:

ELEVATIONS

Plan No.

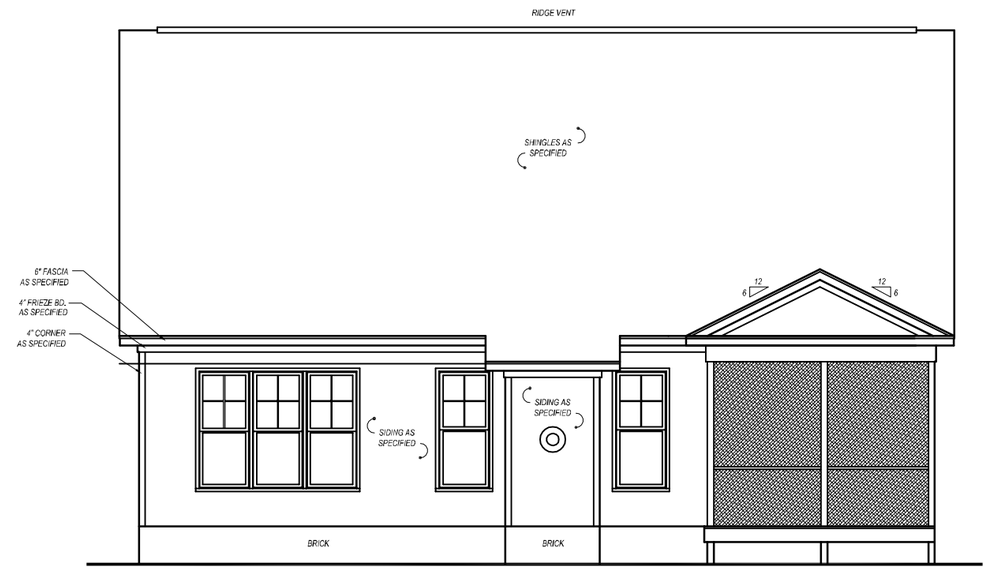
2596

EL-1

Sheet No.

RIGHT SIDE ELEVATION

SCALE: 1/8"=1'-0" (11"x17" SHEET SIZE)
SCALE: 1/4"=1'-0" (24"x36" SHEET SIZE)



REAR ELEVATION

SCALE: 1/8"=1'-0" (11"x17" SHEET SIZE)
SCALE: 1/4"=1'-0" (24"x36" SHEET SIZE)

SOUTH DESIGNS
P.O. Box 688
Wake Forest, NC 27588
(O) 919-556-2226
(F) 919-556-2228
www.southdesigns.com

Drawn By:

Checked By:

8-11-2020

Revision No.	Revision Date

Client:

PLAN

Title:

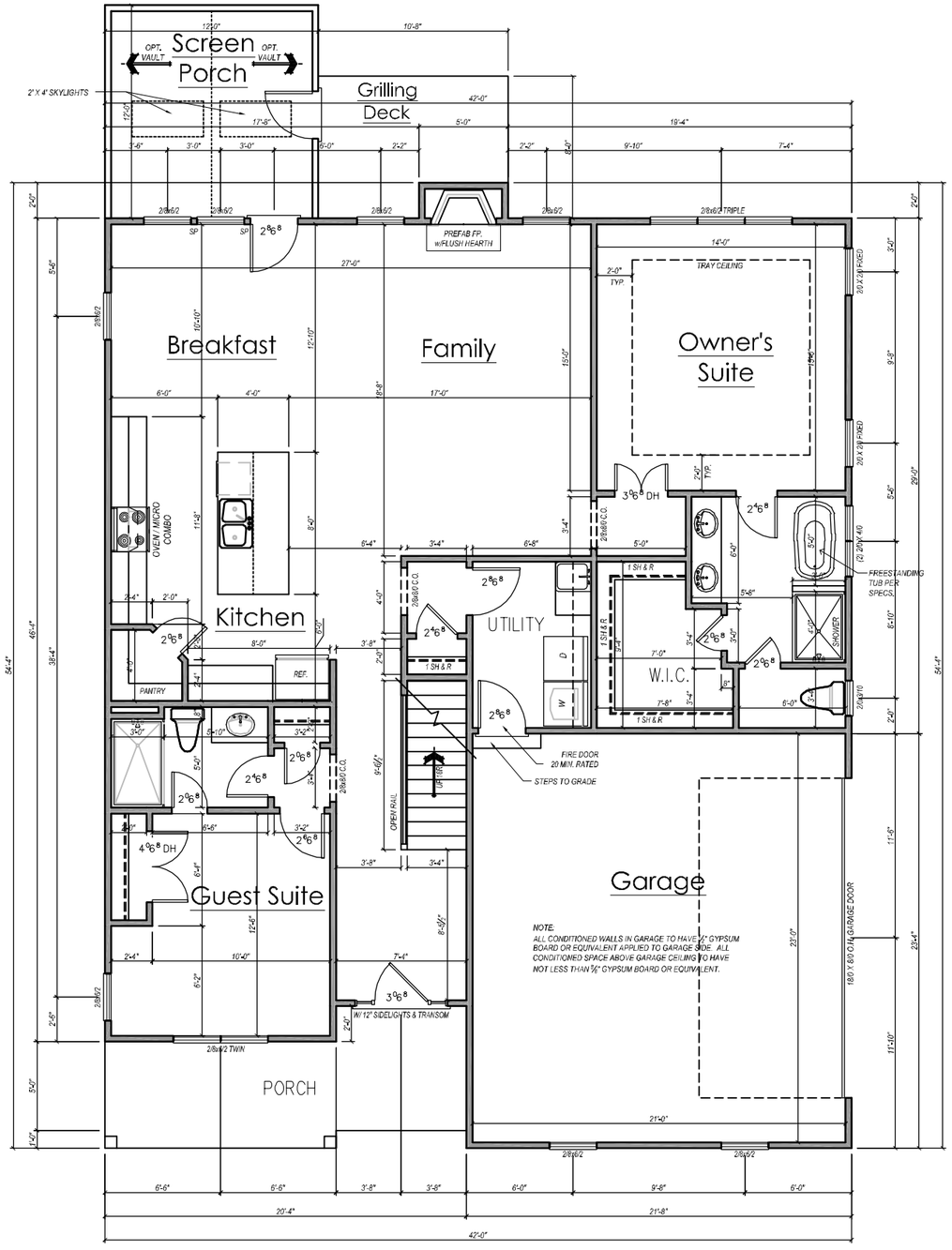
ELEVATIONS

Plan No.

2596

EL-2

Sheet No.



FIRST FLOOR PLAN

SCALE: 1/8"=1'-0" (11"x17" SHEET SIZE)
SCALE: 1/4"=1'-0" (24"x36" SHEET SIZE)

GENERAL NOTES

WALLS:
ALL WALLS ARE DRAWN 4" THICK U.N.O.
ANGLED WALL ARE DRAWN @45° U.N.O.

SMOKE DETECTORS:
LOCATION AND NUMBER OF DETECTORS SHALL CONFORM TO NEC.

EGRESS:
ALL BEDROOMS MUST HAVE AT LEAST ONE WINDOW WHICH CONFORMS TO R-310 OF THE N.C. BLDG. CODE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY CHOSEN WINDOWS MEET EGRESS REQUIREMENTS AS MANUFATURERS VARY.

ATTIC ACCESS:
MIN. ATTIC ACCESS SHALL BE PROVIDED BY BUILDER AND LOCATED ON SITE.

WALL/CEILING HGT.
WALL AND CEILING HEIGHT NOTES ARE BASED ON NOMINAL WALL SIZE.
KNEE WALL HEIGHT LABELS FOR WALLS UNDER RAFTERS ASSUME AN EXTRA 2" FOR FURRING (IN HEATED SPACES) FOR INSULATION. THE WALL HEIGHT REFERS TO THE HGT. FROM THE FLOOR DECKING TO THE BOTTOM OF THE FURRING.

SQUARE FOOTAGE

	HEATED S.F.	UNHEATED S.F.
FIRST FLOOR	1561	
SECOND FLOOR	1035	
SCREEN PORCH		144
FRONT PORCH		129
GARAGE		500
TOTAL	2596	773

SOUTH DESIGNS
P.O. Box 688
Wake Forest, NC 27588
(O) 919-556-2226
(F) 919-556-2228
www.southdesigns.com

Drawn By:

Checked By:

8-11-2020

Revision No.	Revision Date

Client:

PLAN

Title:

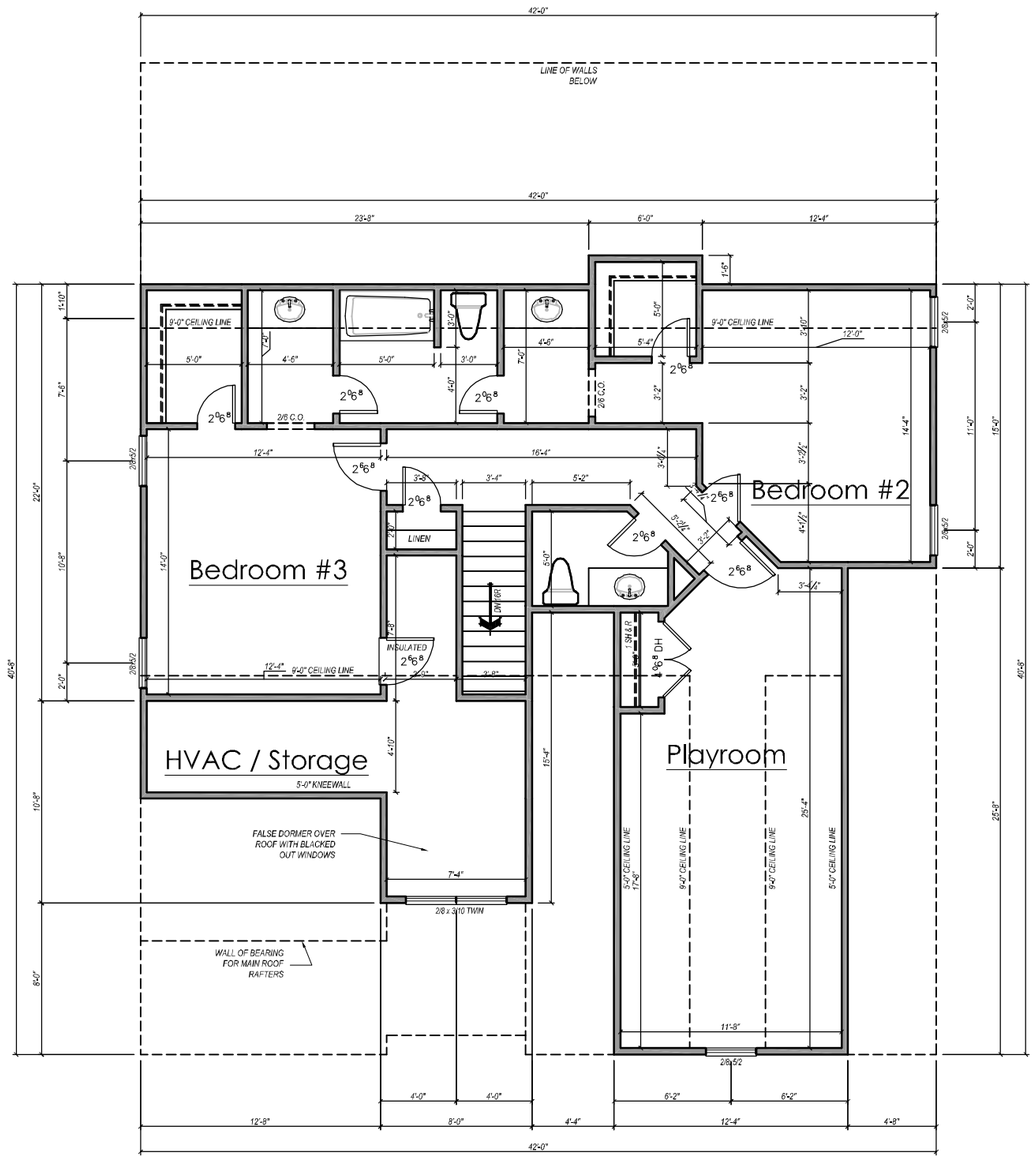
FIRST FLOOR PLAN

Plan No.

2596

A-1

Sheet No.



SECOND FLOOR PLAN

SCALE: 1/8"=1'-0" (11"x17" SHEET SIZE)
SCALE: 1/4"=1'-0" (24"x36" SHEET SIZE)

SOUTH DESIGNS
P.O. Box 688
Wake Forest, NC 27588
(O) 919-556-2226
(F) 919-556-2228
www.southdesigns.com

Drawn By:

Checked By:

8-11-2020

Revision No.	Revision Date

Client:

PLAN

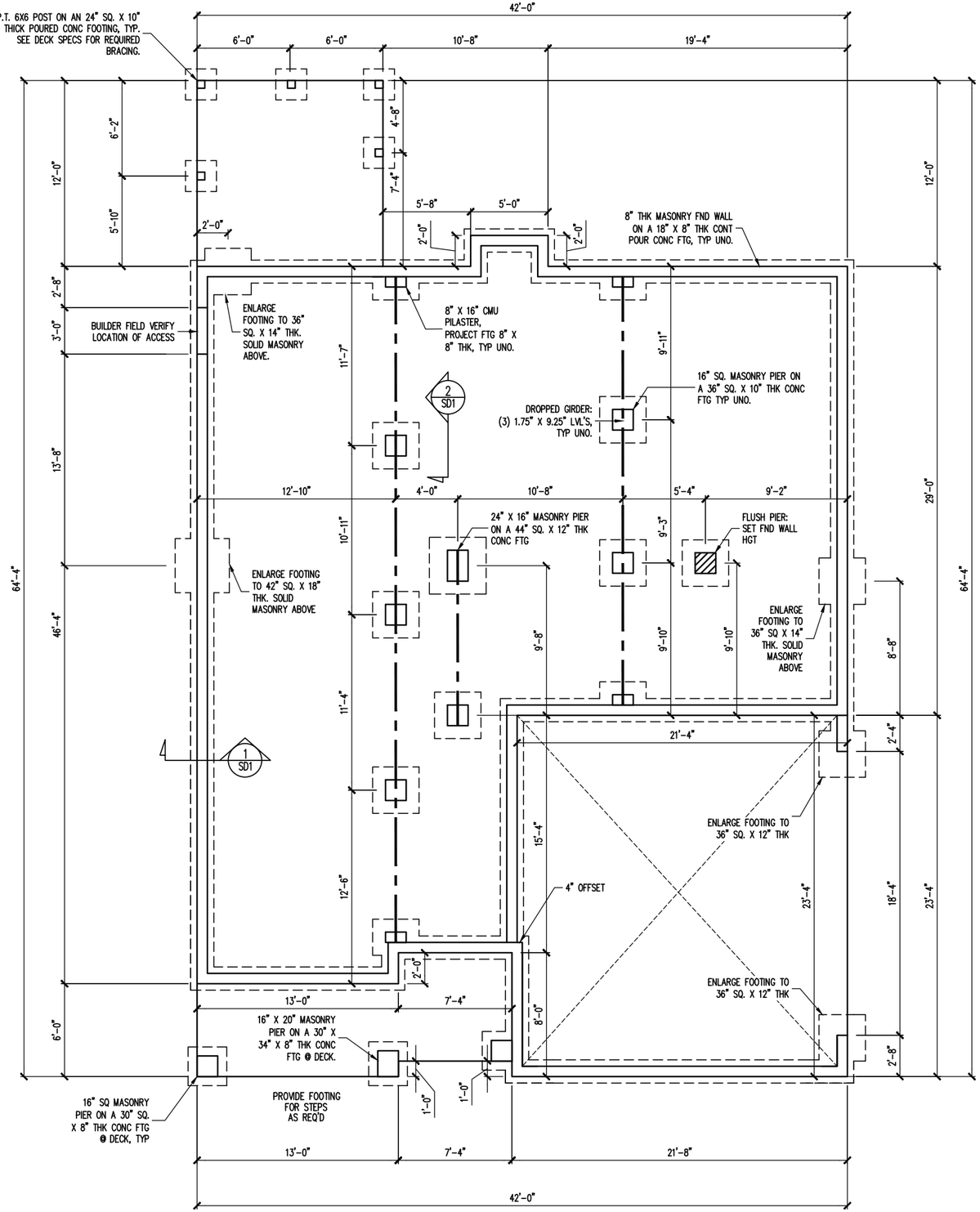
Title:

SECOND FLOOR PLAN

Plan No.

2596

Sheet No. A-2



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"

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 035020 RALPH J. SIGLER III 8/20/2020

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

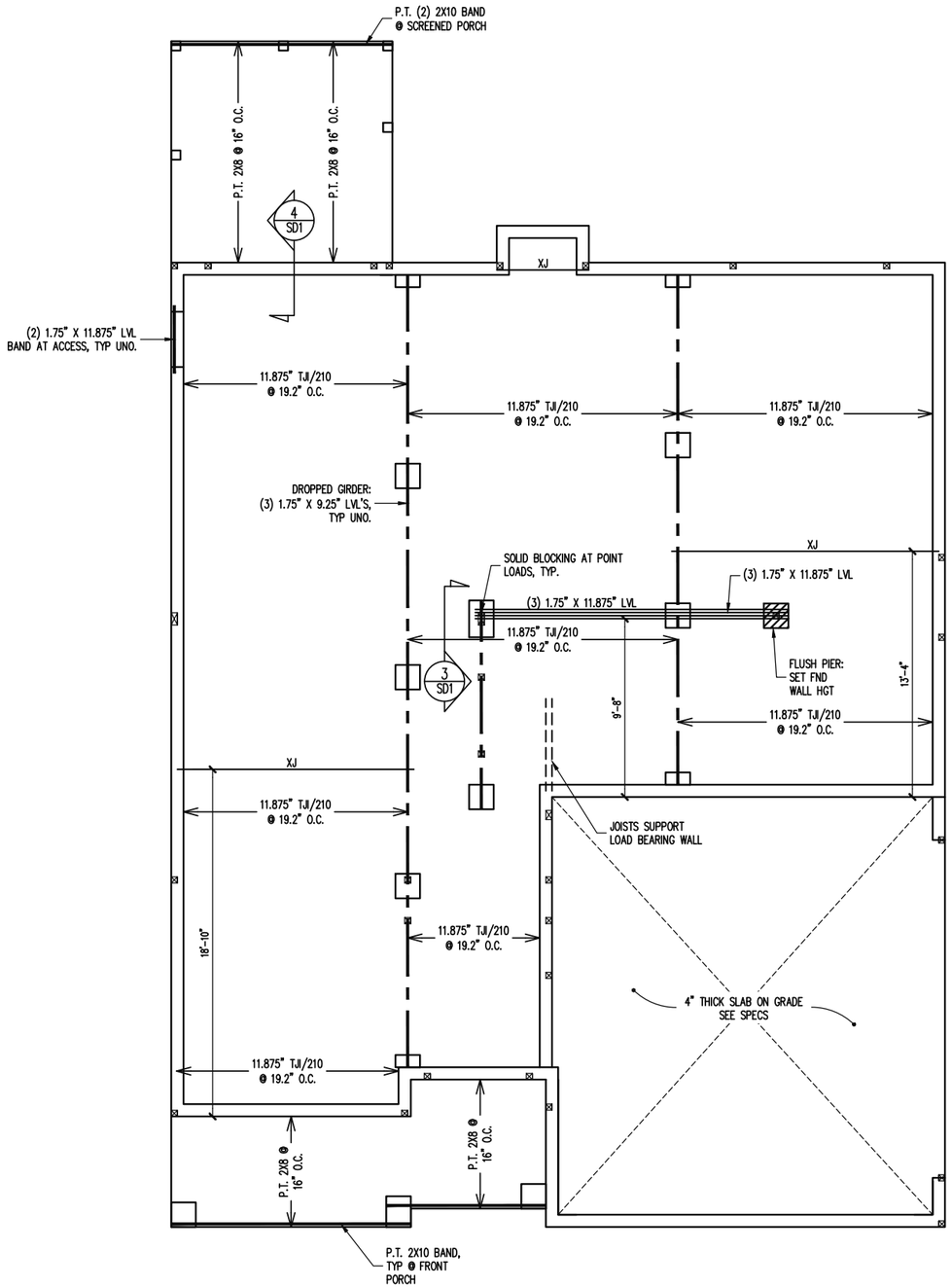
TRIPLE A HOMES
SCOPE: STRUCTURAL ADDENDUM
LOC: 4 CHRISTIAN LIGHT

ENG: RJS/CMC
DATE: 8/20/2020

PLAN
LITTLE G

PROJECT NO.
20-28-029

SHEET NO.
S1
1 of 10



CRAWL SPACE FRAMING PLAN

1/8" = 1'-0"

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 035020 RALPH J. SIGLER III
8/20/2020
Ralph J. Sigler III

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

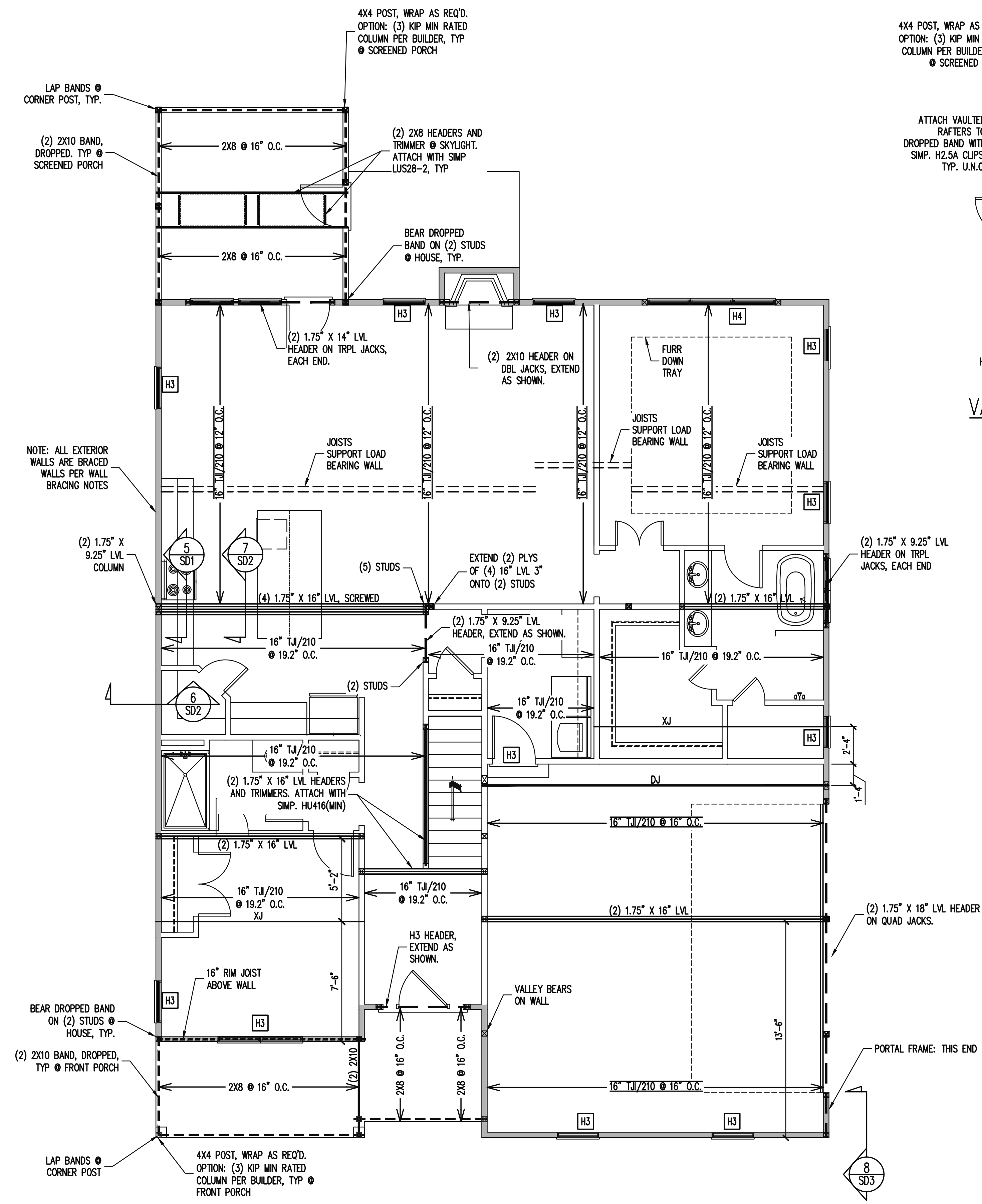
TRIPLE A HOMES
SCOPE: STRUCTURAL ADDENDUM
LOC: 4 CHRISTIAN LIGHT

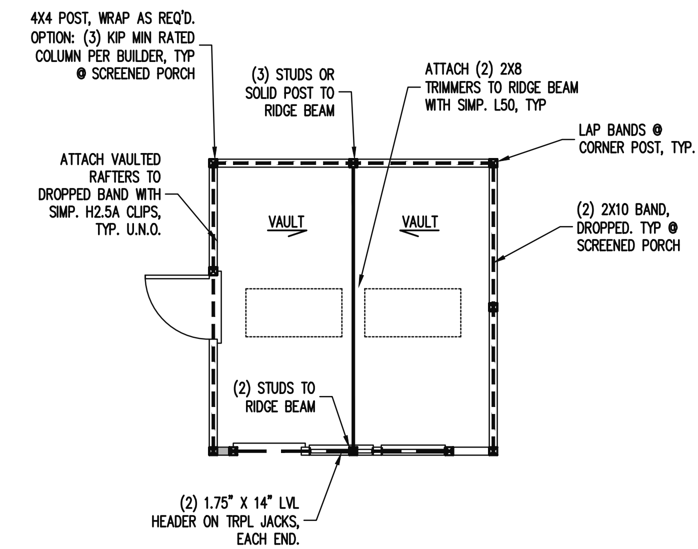
ENG: RJS/CMC
DATE: 8/20/2020

PLAN
LITTLE G

PROJECT NO.
20-28-029

SHEET NO.
S2
2 of 10





VAULTED SCREEN PORCH OPTION

WALLS AND CEILING
1/8" = 1'-0"

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 = 189' 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.

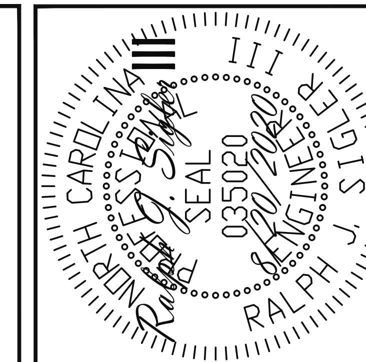
(B) TYPICAL FOR INTERIOR NON LOAD BEARING WALLS ONLY, ROUGH OPNG 38" TO 74" MAX.

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

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

1ST FLOOR FRAMING PLAN

WALLS AND CEILING
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

TRIPLE A HOMES

SCOPE: STRUCTURAL ADDENDUM

LOC: 4 CHRISTIAN LIGHT

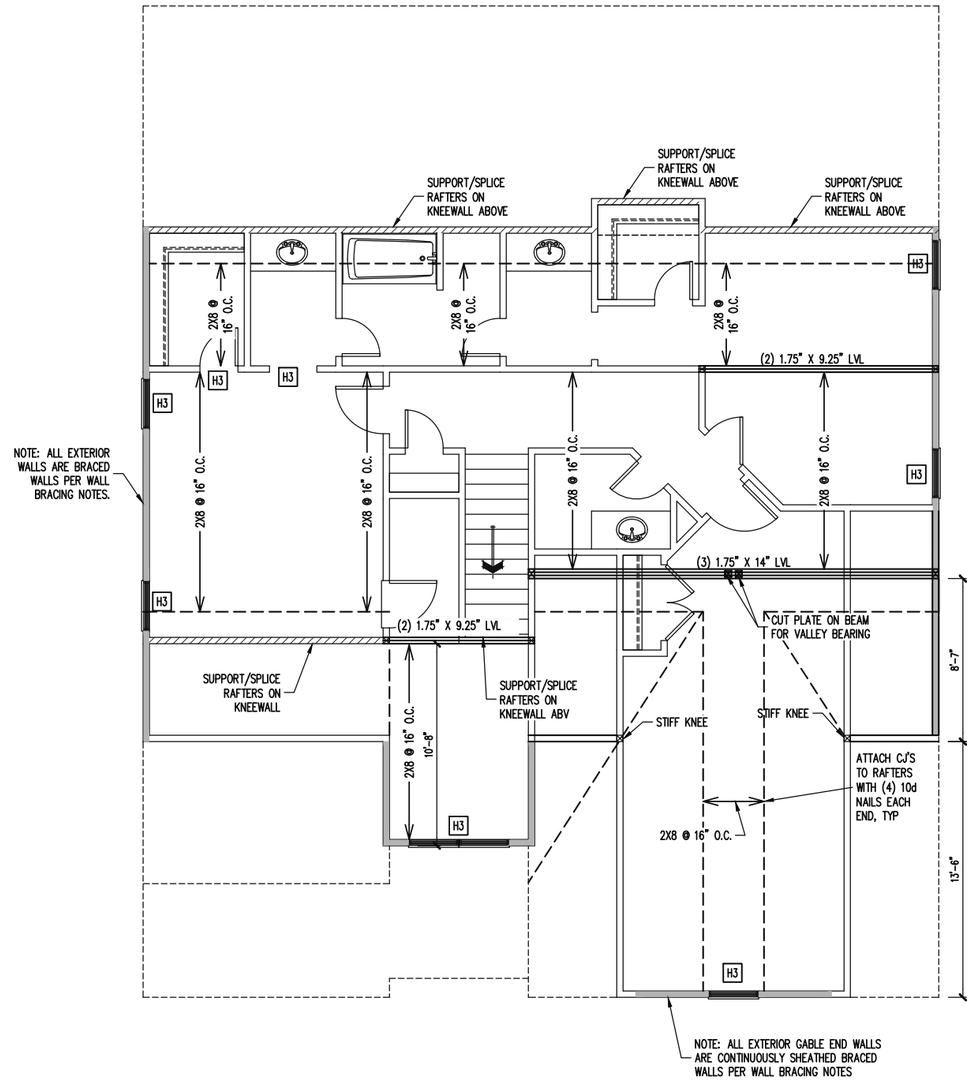
ENG: RJS/CMC

DATE: 8/20/2020

PLAN
LITTLE G

PROJECT NO.
20-28-029

SHEET NO.
S3



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

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 = 71' 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.

2ND FLOOR FRAMING PLAN

WALLS AND CEILING
1/8" = 1'-0"

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 035020 RALPH J. SIGLER III
Raleigh, NC 8/20/2020

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

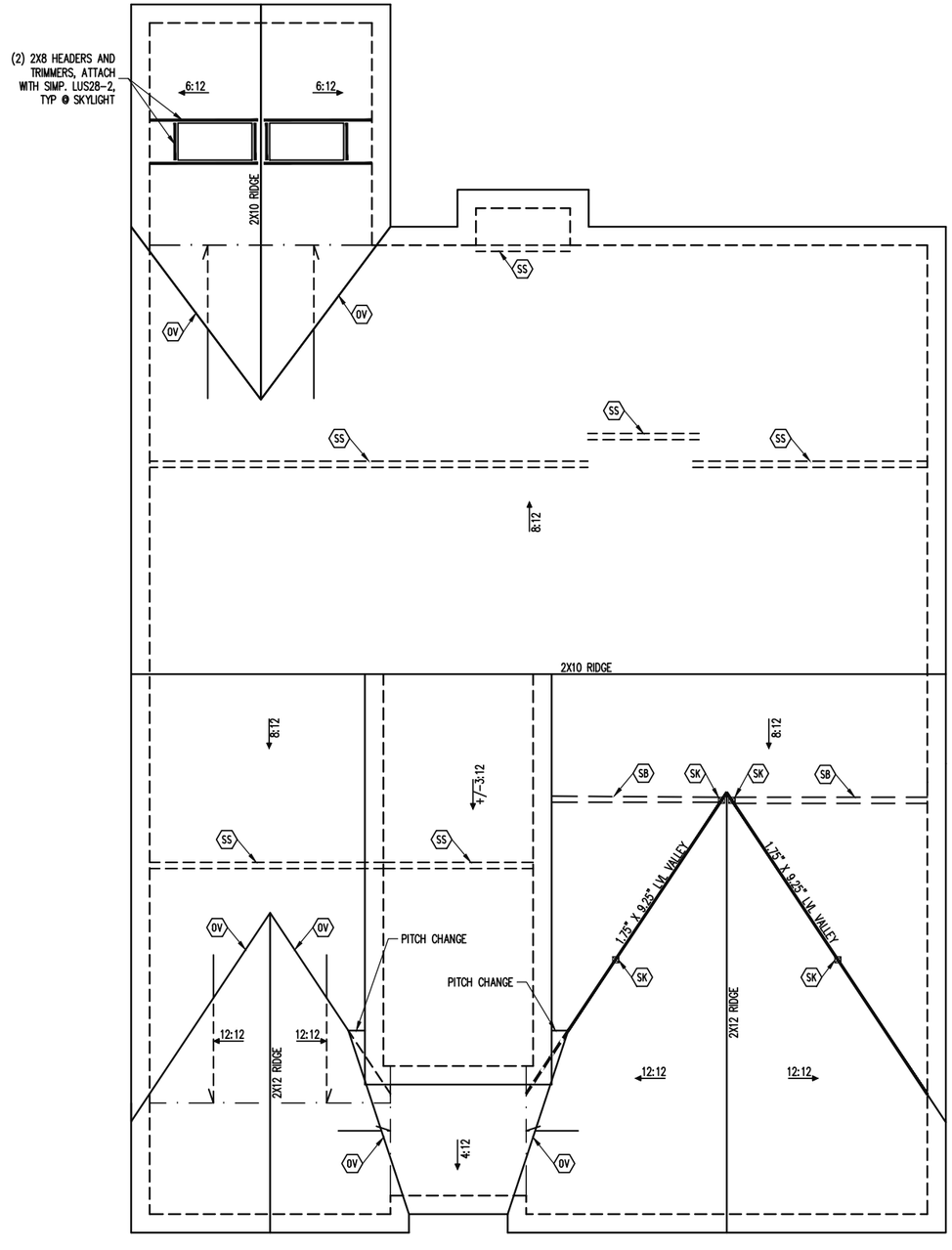
TRIPLE A HOMES
SCOPE: STRUCTURAL ADDENDUM
LOC: 4 CHRISTIAN LIGHT

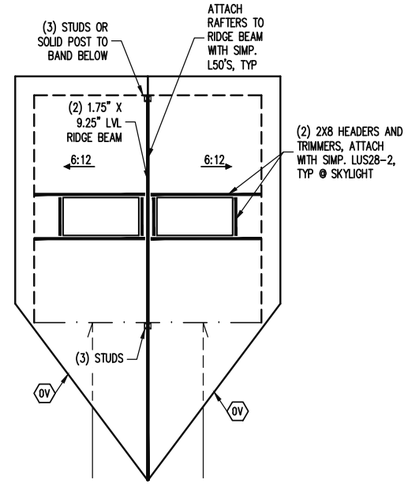
ENG: RJS/CMC
DATE: 8/20/2020

PLAN
LITTLE G

PROJECT NO.
20-28-029

SHEET NO.
S4
4 of 10





VAULTED SCREEN PORCH OPTION

1/8" = 1'-0"

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 ALL KNEEWALL HEIGHTS, ARCHITECTURAL OVERHANGS, AND ROOF PITCHES PRIOR TO CONSTRUCTION

FRAMING SCHEDULE

ROOF ONLY

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

ROOF FRAMING PLAN

1/8" = 1'-0"

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 035020 RALPH J. SIGLER III 8/20/2020

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

TRIPLE A HOMES

SCOPE: STRUCTURAL ADDENDUM

LOC: 4 CHRISTIAN LIGHT

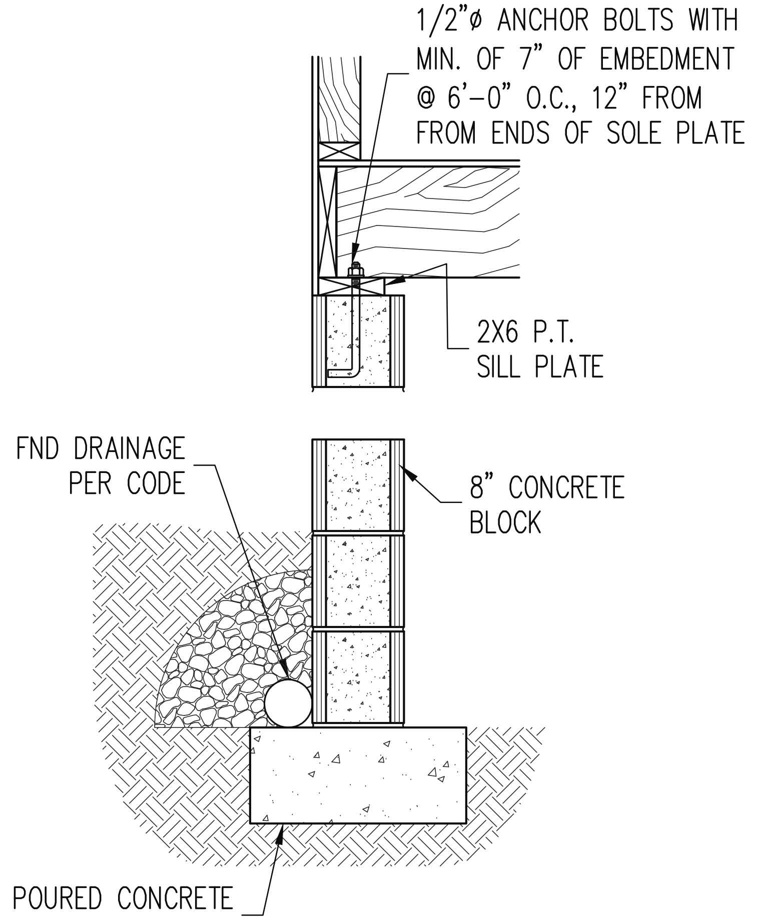
ENG: RJS/CMC

DATE: 8/20/2020

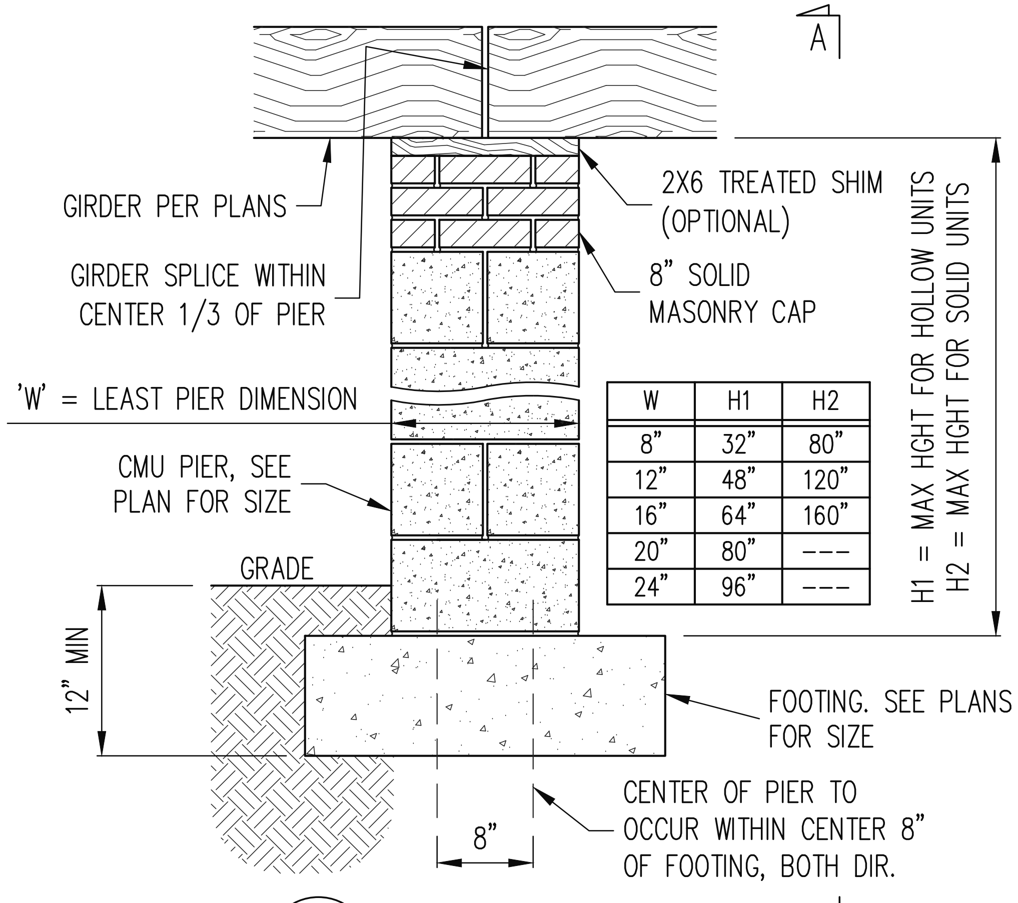
PLAN: LITTLE G

PROJECT NO. 20-28-029

SHEET NO. S5

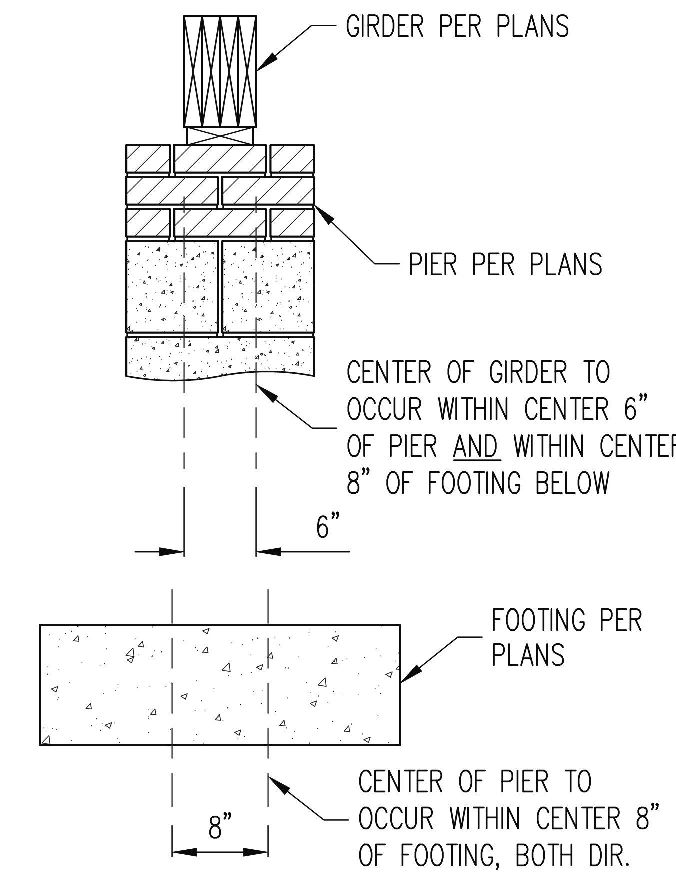


1 / S1 SECTION
TYPICAL FND WALL CRAWL SPACE
3/4" = 1'-0"

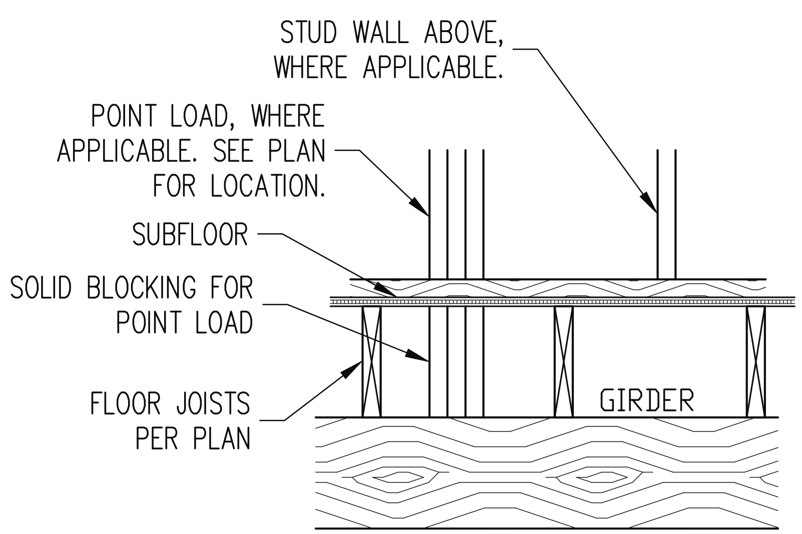


W	H1	H2
8"	32"	80"
12"	48"	120"
16"	64"	160"
20"	80"	---
24"	96"	---

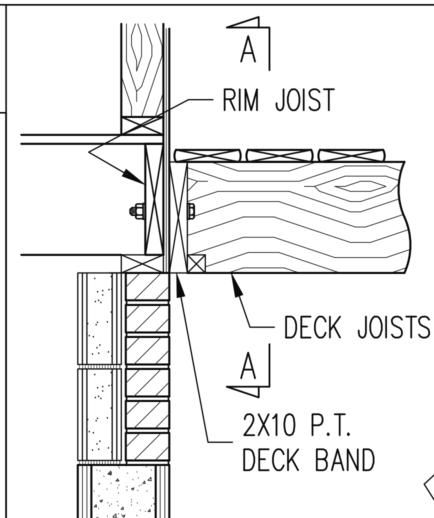
2 / S1 SECTION
TYPICAL MASONRY PIER, GIRDER
3/4" = 1'-0"



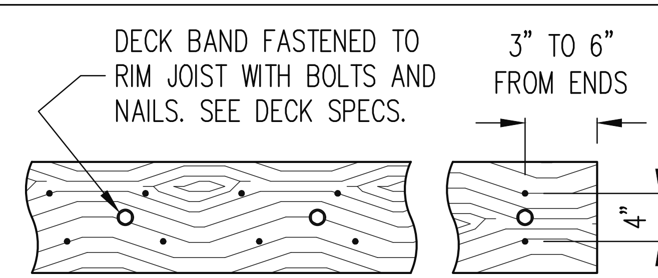
SECTION A-A
3/4" = 1'-0"



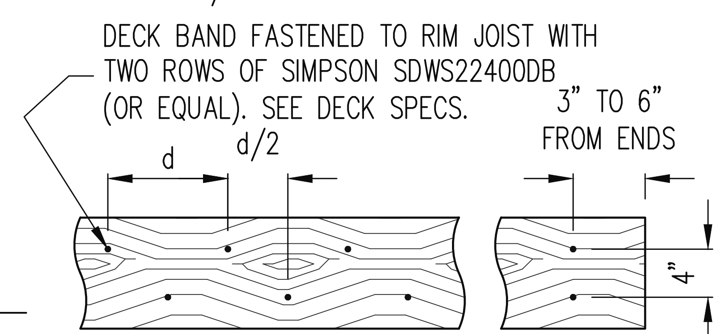
3 / S2 SECTION
TYPICAL DROPPED GIRDER
3/4" = 1'-0"



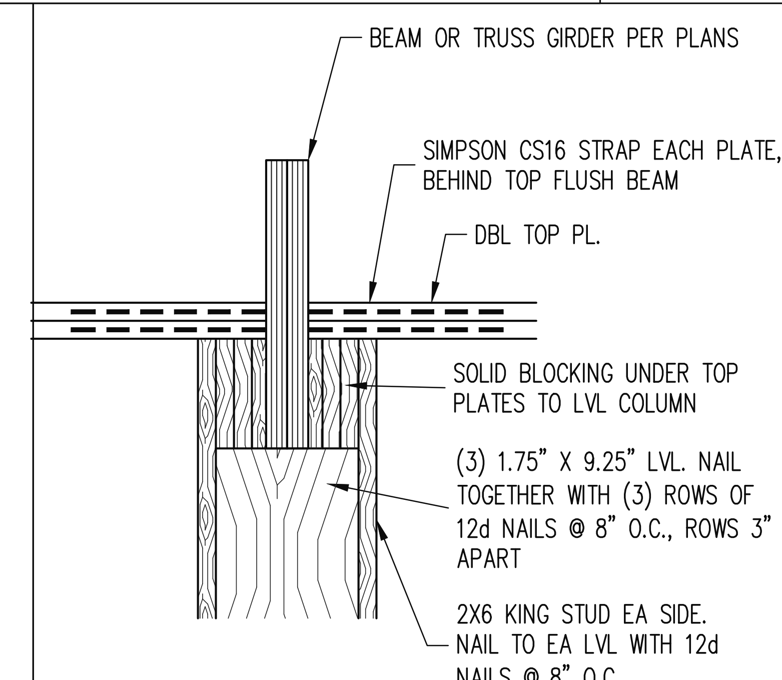
4 / S2 SECTION
DECK CONNECTION AT SIDING, TYP.
3/4" = 1'-0"



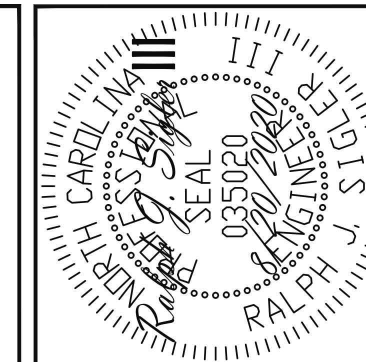
SECTION A-A
3/4" = 1'-0"



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



5 / S3 SECTION
LVL COLUMN FOR FLUSH BEAM
3/8" = 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

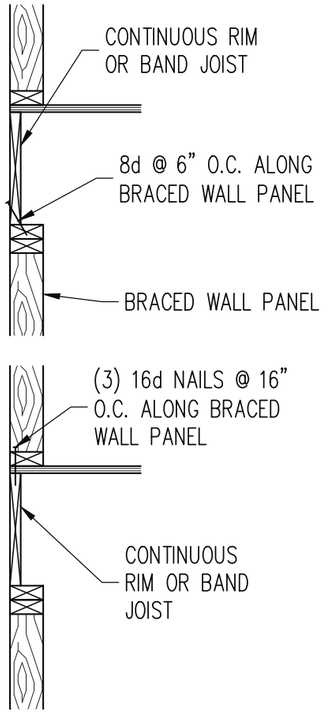
TRIPLE A HOMES
SCOPE: STRUCTURAL ADDENDUM
LOC: 4 CHRISTIAN LIGHT

ENG: RJS/CMC
DATE: 8/20/2020

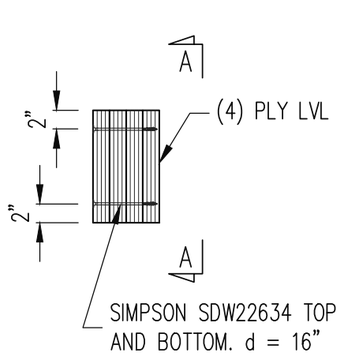
PLAN
LITTLE G

PROJECT NO.
20-28-029

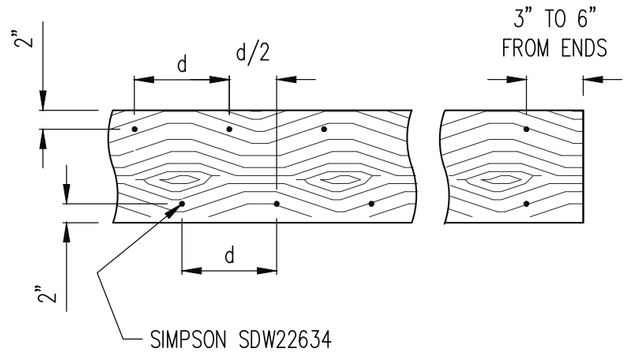
SHEET NO.
SD1
6 of 10



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



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



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

*BUILDER PERMITTED TO SUBSTITUTE $\frac{1}{2}$"ø THROUGH BOLTS FOR SIMP. SDW SCREWS @ EQUAL SPACING.

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

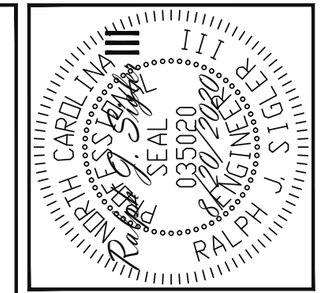
ABV	ABOVE	FND	FOUNDATION	TJ	TRIPLE JOIST
B.	BOTH	FTG	FOOTING	TYP	TYPICAL
B.E.	BOTH ENDS	HDG	HOT DIPPED GALVANIZED	TRPL	TRIPLE
BTWN	BETWEEN	HGR	HANGER	TSP	TRIPLE STUD POCKET
CIP	CAST IN PLACE	LVL	LAMINATED VENEER LUMBER	UNO	UNLESS NOTED OTHERWISE
CONC	CONCRETE	NTS	NOT TO SCALE	XJ	EXTRA JOIST
CS	CONTINUOUS 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	STUD POCKET		
EQ	EQUAL	SQ	SQUARE		
EA	EACH				
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 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
BLUELINX	16"	BLI 40	IUS2.56/16	ITS2.56/16
BLUELINX	16"	BLI 60	IUS2.56/16	ITS2.56/16
BOISE CASCADE	16"	BCI 5000s	IUS2.06/16	ITS2.06/16
BOISE CASCADE	16"	BCI 6000S	IUS2.37/16	ITS2.37/16
INTERNATIONAL BEAMS	16"	IB 600	IUS2.56/16	ITS2.56/16
LP CORP	16"	LPI 20+	IUS2.56/16	ITS2.56/16
NORDIC	16"	NI 40X	IUS2.56/16	ITS2.56/16
ROSEBURG	16"	RFPI 60S	IUS2.56/16	ITS2.56/16
WEYERHAEUSER	16"	TJI 210	IUS2.06/16	ITS2.06/16

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.



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

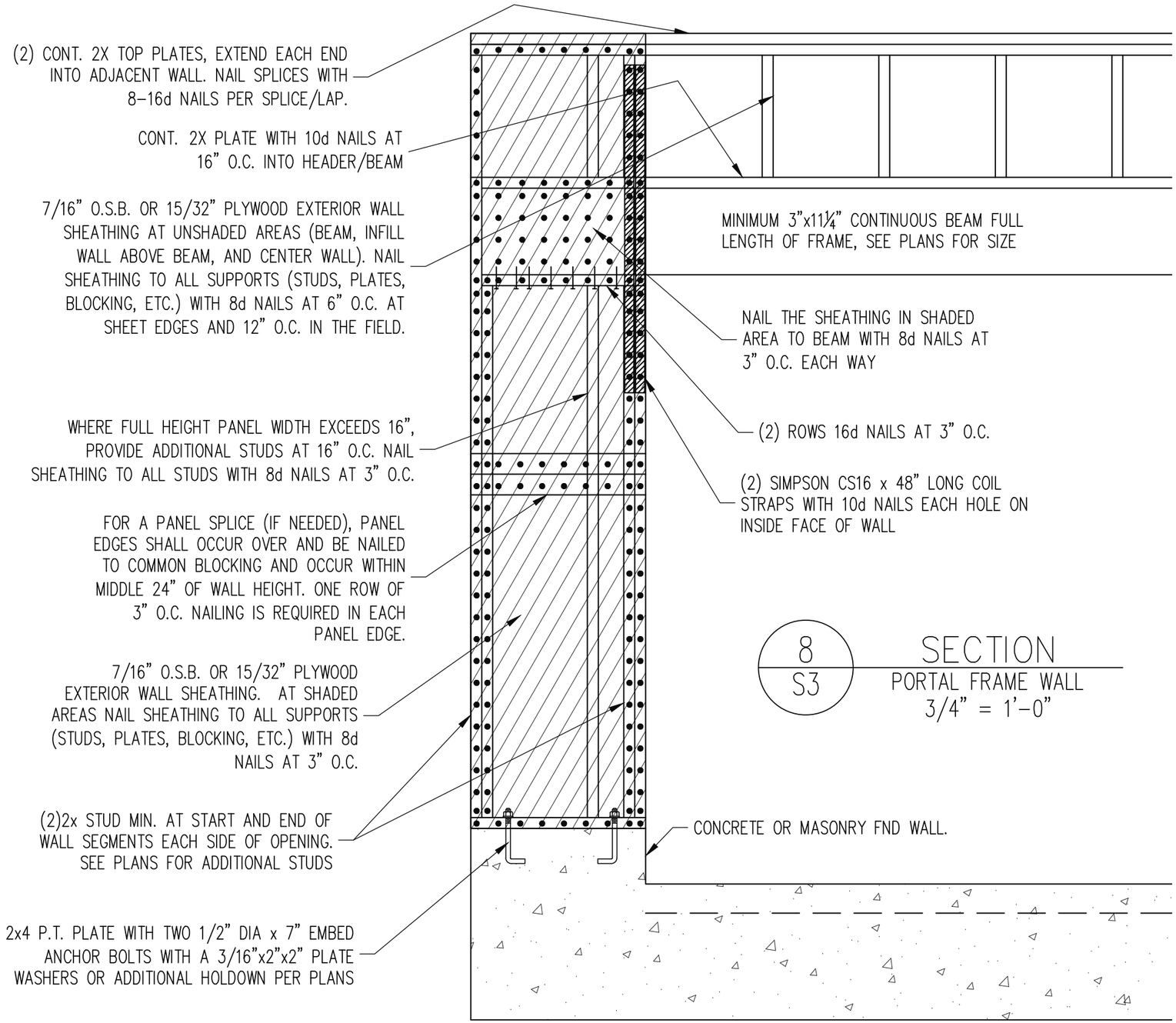
TRIPLE A HOMES
SCOPE: STRUCTURAL ADDENDUM
LOC: 4 CHRISTIAN LIGHT

ENG: RJS/CMC
DATE: 8/20/2020

PLAN
LITTLE G

PROJECT NO.
20-28-029

SHEET NO.
SD2
7 of 10



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

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 035020 RALPH J. SIGLER III
Ralph J. Sigler
8/20/2020

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

TRIPLE A HOMES
SCOPE: STRUCTURAL ADDENDUM
LOC: 4 CHRISTIAN LIGHT

ENG: RJS/CMC
DATE: 8/20/2020

PLAN
LITTLE G

PROJECT NO.
20-28-029

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 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.

5.03 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 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.

8.03 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 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 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 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"
STUD SIZE	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

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 035020 RALPH J. SIGLER III 8/20/2020

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

TRIPLE A HOMES
SCOPE: STRUCTURAL ADDENDUM
LOC: 4 CHRISTIAN LIGHT

ENG: RJS/CMC
DATE: 8/20/2020

PLAN
LITTLE G

PROJECT NO.
20-28-029

SHEET NO.
SD4
9 of 10

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" ø 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" ø 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" ø BOLT @ 28" O.C.	ONE– 5/8" ø BOLT @ 16" O.C.

5. IF THE DECK BAND IS SUPPORTED BY A 1/2" MINIMUM MASONRY LEDGE ALONG THE FOUNDATION WALL, 5/8" ø 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 BE CONNECTED TO THE SIDES OF POSTS WITH 2– 5/8" ø 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"ø 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" ø 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".

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 035020 RALPH J. SIGLER III 8/20/2020

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

TRIPLE A HOMES
SCOPE: STRUCTURAL ADDENDUM
LOC: 4 CHRISTIAN LIGHT

ENG: RJS/CMC
DATE: 8/20/2020

PLAN
LITTLE G

PROJECT NO.
20-28-029

SHEET NO.
SD5
10 of 10