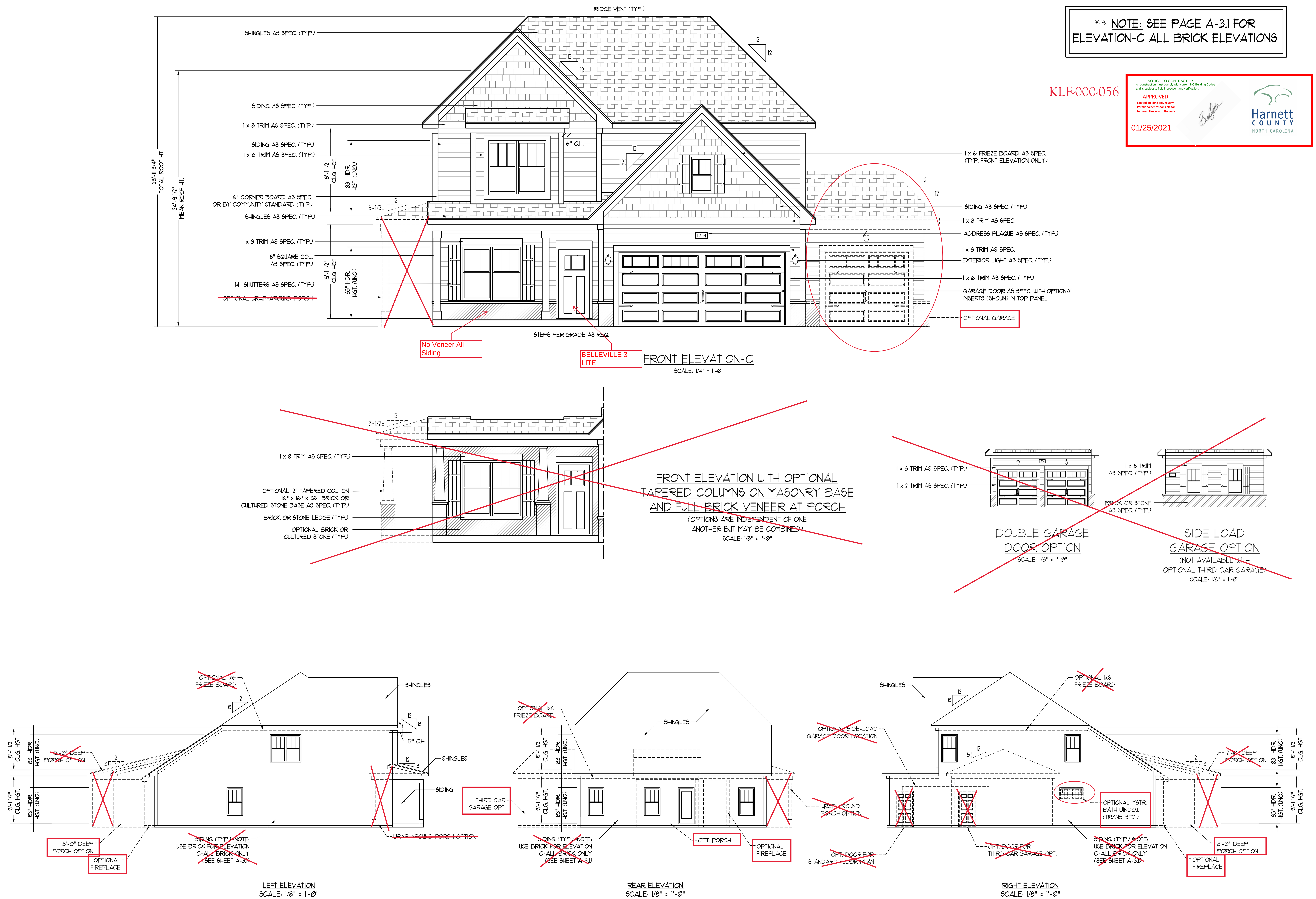

RIDGE VENT (TYP.)
SHINGLES AS SPEC. (TYP.)
SIDING AS SPEC. (TYP.)
1 x 8 TRIM AS SPEC. (TYP.)
SIDING AS SPEC. (TYP.)
1 x 6 TRIM AS SPEC. (TYP.)
6" CORNER BOARD AS SPEC. OR BY COMMUNITY STANDARD (TYP.)
SHINGLES AS SPEC. (TYP.)
1 x 8 TRIM AS SPEC. (TYP.)
8" SQUARE COL. AS SPEC. (TYP.)
14" SHUTTERS AS SPEC. (TYP.)
OPTIONAL WRAP-AROUND PORCH
29'-11 3/4" TOTAL ROOF HT.
24'-9 1/2" MEAN ROOF HT.
8'-1 1/2" CLG. HGT.
83" HDR HGT. (UNO)
9'-1 1/2" CLG. HGT.
83" HDR HGT. (UNO)
6" O.H.
1 x 6 FRIEZE BOARD AS SPEC. (TYP. FRONT ELEVATION ONLY)
SIDING AS SPEC. (TYP.)
1 x 8 TRIM AS SPEC.
ADDRESS PLAQUE AS SPEC. (TYP.)
1 x 8 TRIM AS SPEC.
EXTERIOR LIGHT AS SPEC. (TYP.)
1 x 6 TRIM AS SPEC. (TYP.)
GARAGE DOOR AS SPEC. WITH OPTIONAL INSERTS (SHOWN) IN TOP PANEL
OPTIONAL GARAGE
STEPS PER GRADE AS REQ.
No Veneer All Siding
BELLEVILLE 3 LITE
FRONT ELEVATION-C
SCALE: 1/4" = 1'-0"
** NOTE: SEE PAGE A-3.1 FOR ELEVATION-C ALL BRICK ELEVATIONS
KLF-000-056
NOTICE TO CONTRACTOR
APPROVED
01/25/2021
Harnett COUNTY NORTH CAROLINA
1 x 8 TRIM AS SPEC. (TYP.)
OPTIONAL 12" TAPERED COL. ON 16" x 16" x 36" BRICK OR CULTURED STONE BASE AS SPEC. (TYP.)
BRICK OR STONE LEDGE (TYP.)
OPTIONAL BRICK OR CULTURED STONE (TYP.)
FRONT ELEVATION WITH OPTIONAL TAPERED COLUMNS ON MASONRY BASE AND FULL BRICK VENEER AT PORCH
(OPTIONS ARE INDEPENDENT OF ONE ANOTHER BUT MAY BE COMBINED)
SCALE: 1/8" = 1'-0"
1 x 8 TRIM AS SPEC. (TYP.)
1 x 2 TRIM AS SPEC. (TYP.)
DOUBLE GARAGE DOOR OPTION
SCALE: 1/8" = 1'-0"
1 x 8 TRIM AS SPEC. (TYP.)
BRICK OR STONE AS SPEC. (TYP.)
SIDE LOAD GARAGE OPTION
(NOT AVAILABLE WITH OPTIONAL THIRD CAR GARAGE)
SCALE: 1/8" = 1'-0"
OPTIONAL 1x6 FRIEZE BOARD
SHINGLES
12'-0" DEEP PORCH OPTION
12" OH.
SHINGLES
SIDING
SIDING (TYP.) NOTE: USE BRICK FOR ELEVATION C-ALL BRICK ONLY (SEE SHEET A-3.1)
WRAP-AROUND PORCH OPTION
8'-0" DEEP PORCH OPTION
OPTIONAL FIREPLACE
LEFT ELEVATION
SCALE: 1/8" = 1'-0"
THIRD CAR GARAGE OPT.
OPT. PORCH
OPTIONAL FIREPLACE
REAR ELEVATION
SCALE: 1/8" = 1'-0"
OPTIONAL SIDE-LOAD GARAGE DOOR LOCATION
WRAP-AROUND PORCH OPTION
OPT. DOOR FOR STANDARD FLOOR PLAN
OPT. DOOR FOR THIRD CAR GARAGE OPT.
OPTIONAL MSTR. BATH WINDOW (TRANS. STD.)
RIGHT ELEVATION
SCALE: 1/8" = 1'-0"

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S.C. CERTIFICATE NO.: 4679

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AIKEN

DATE: MAY 21, 2020
REV.:
SCALE: AS NOTED
DRAWN BY: WG
ENGINEERED BY: WFB
REVIEWED BY: MGS

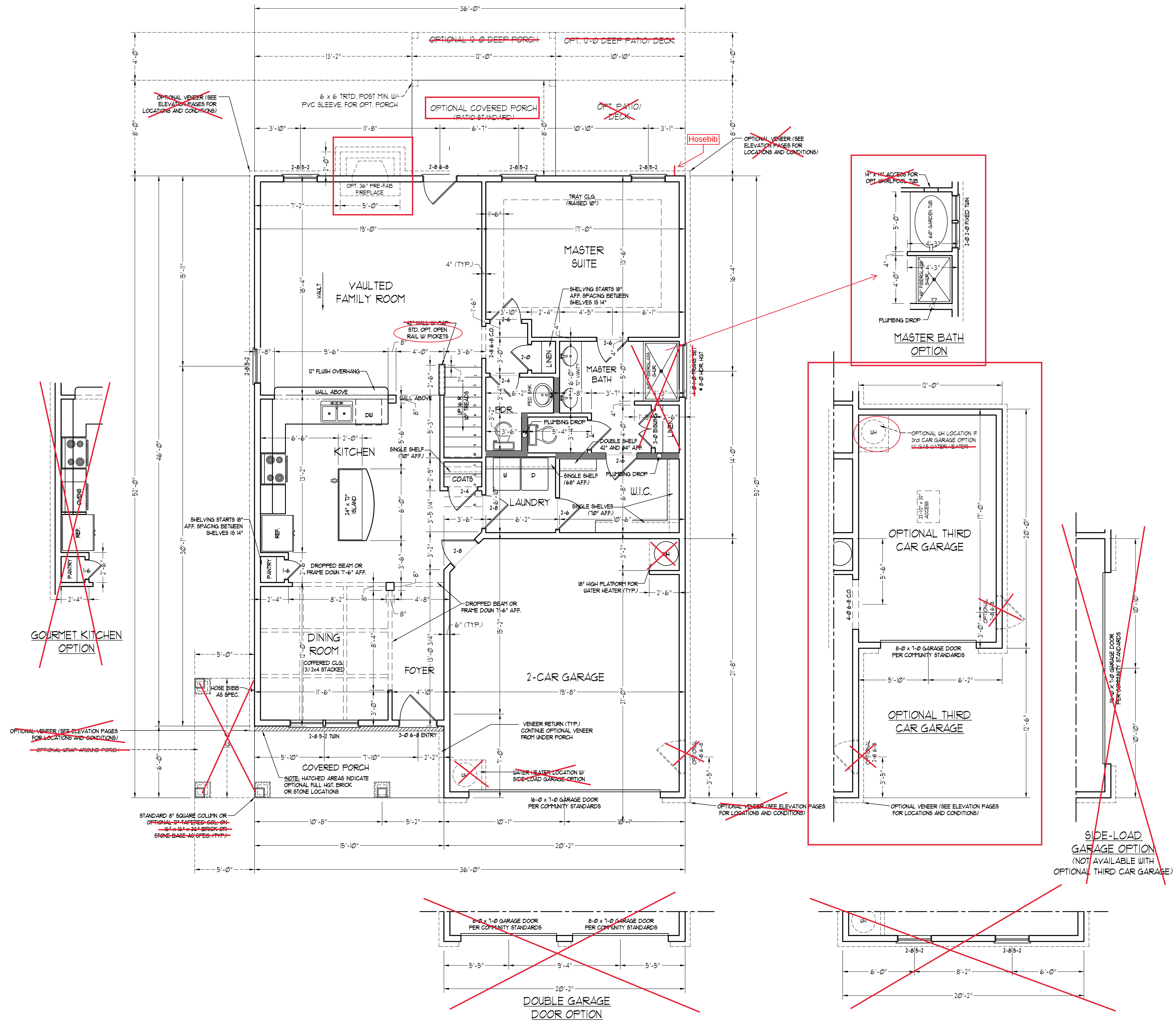
C - ELEVATIONS
A-3

SQUARE FOOTAGE

1st FLOOR:	1362 SQ. FT.
2nd FLOOR:	1090 SQ. FT.
TOTAL:	2452 SQ. FT.
FRONT PORCH:	96 SQ. FT.
STD. REAR PATIO:	36 SQ. FT.
GARAGE:	425 SQ. FT.

SQUARE FOOTAGE (OPTIONS)

1st FLOOR (ALL BRICK):	1410 SQ. FT.
2nd FLOOR (ALL BRICK):	1127 SQ. FT.
TOTAL (ALL BRICK):	2545 SQ. FT.
GARAGE (ALL BRICK):	444 SQ. FT.
FRONT PORCH (WRAP OPTION):	50 SQ. FT.
REAR PORCH (8-0 DEEP):	96 SQ. FT.
REAR PORCH (12-0 DEEP):	144 SQ. FT.
OPT. PATIO/ DECK (8-0 DEEP):	87 SQ. FT.
OPT. PATIO/ DECK (12-0 DEEP):	130 SQ. FT.
THIRD CAR GARAGE:	240 SQ. FT.
THIRD CAR GARAGE (ALL BRICK):	268 SQ. FT.



*NOTE: ALL EXTERIOR WALLS AND ATTIC WALLS ARE TO BE 2 x 6 @ 16" O.C. (UNO). ALL INTERIOR LOAD BEARING WALLS ARE TO BE 2 x 4 @ 16" O.C. (UNO) AND NON-LOAD BEARING INTERIOR WALLS ARE TO BE 2 x 4 @ 24" O.C. (UNO).

2x6 WALL

* SHADED INTERIOR WALLS ARE TO BE 2 x 6 @ 16" O.C. (LOAD BEARING) OR 2 x 6 @ 24" O.C. (NON-LOAD BEARING)

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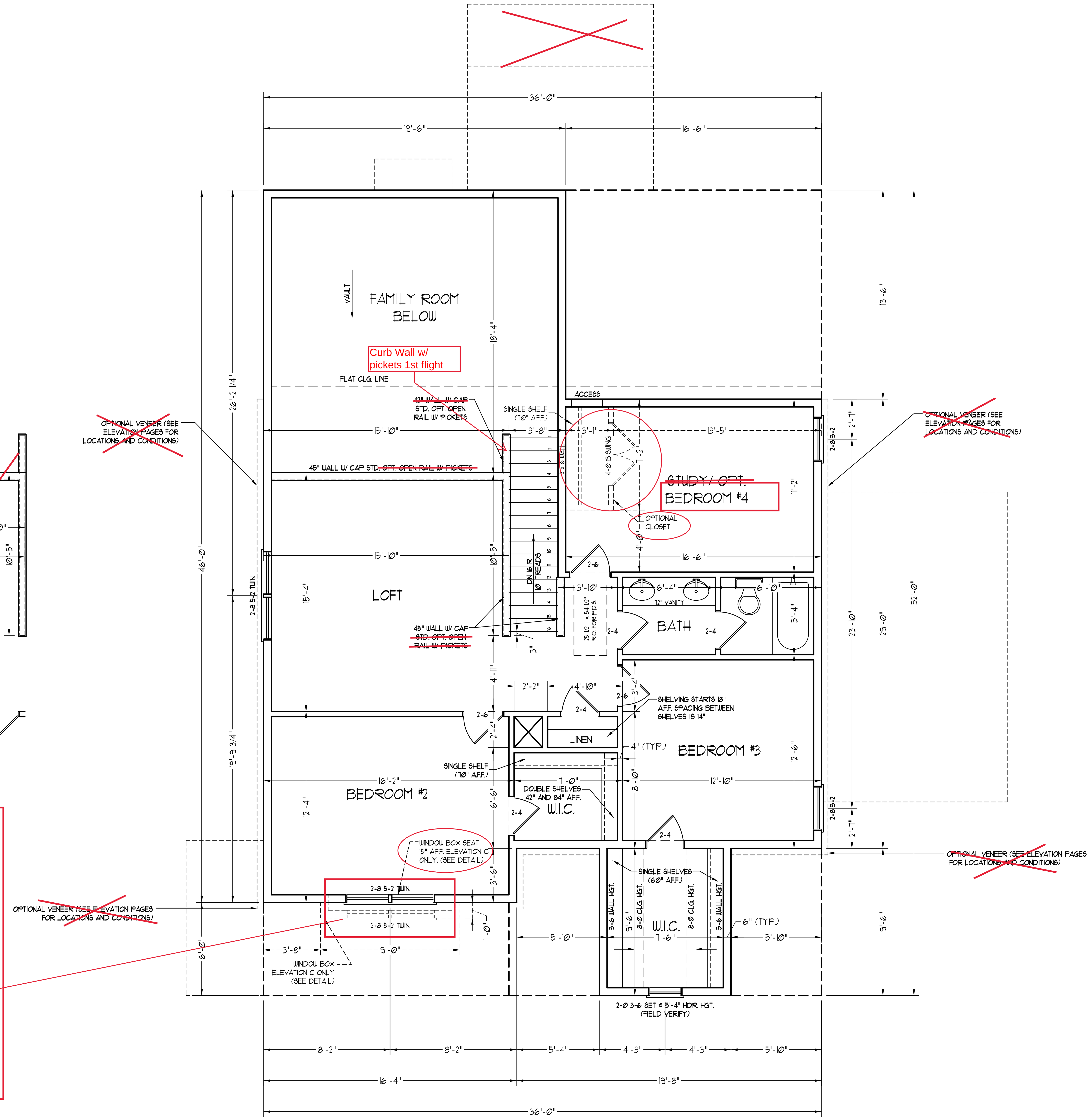
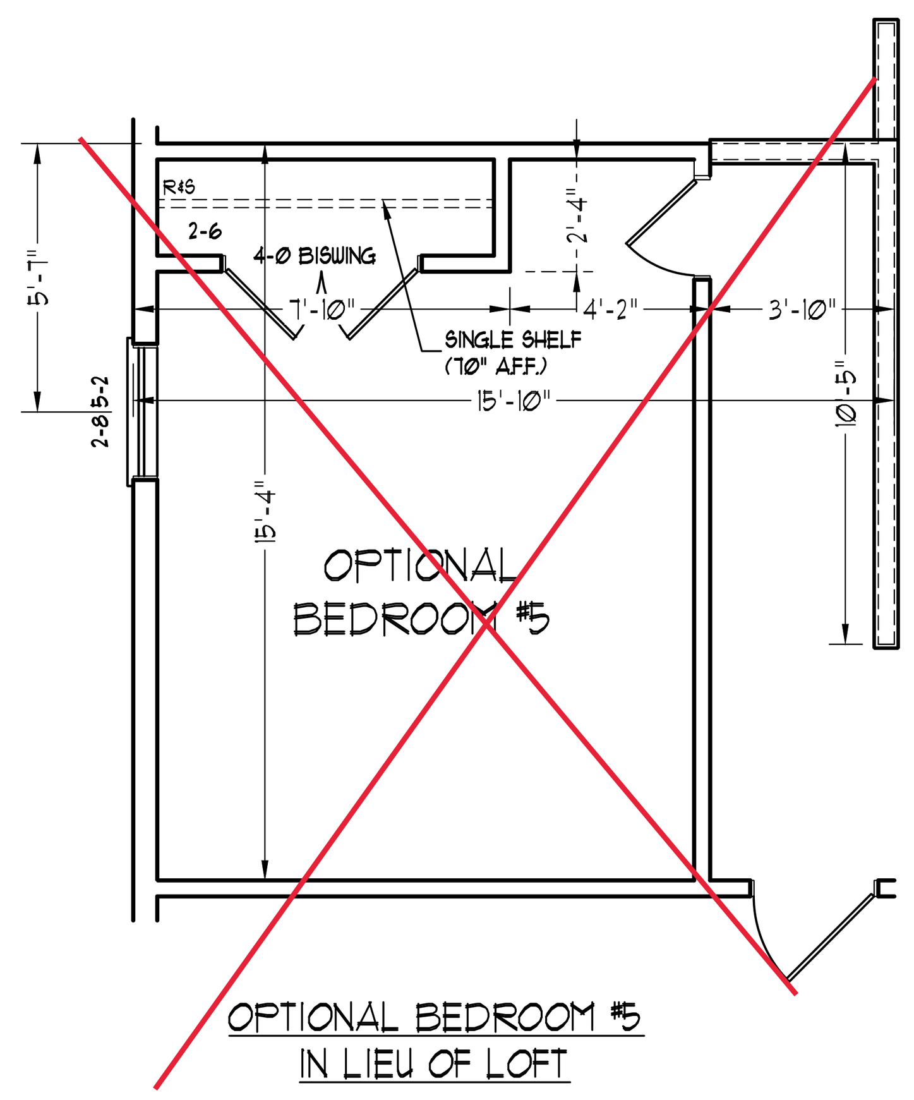
DATE: MAY 21, 2020
REV.:
SCALE: 1/4"=1'-0"
DRAWN BY: WG
ENGINEERED BY: WFB
REVIEWED BY: MGS

FIRST FLOOR PLAN

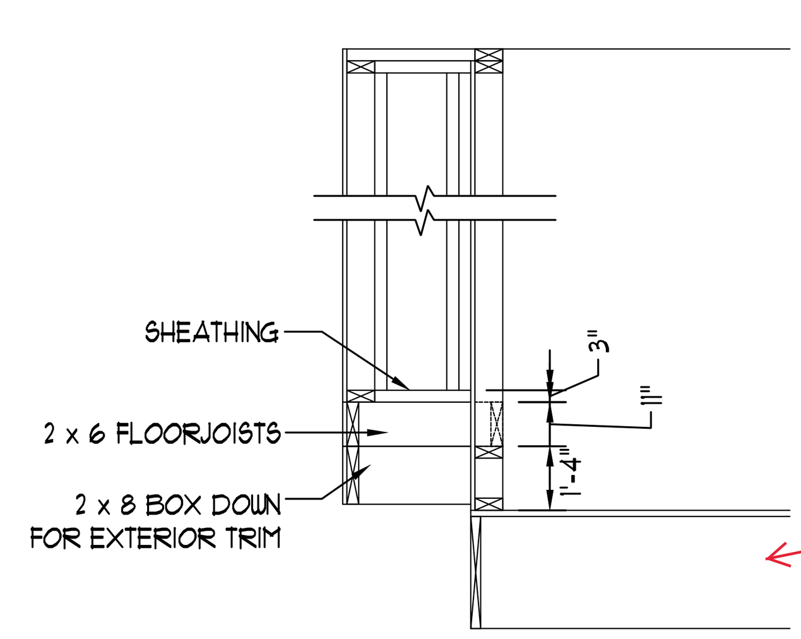
A-4



STANDARD SECOND FLOOR PLAN



OPTIONAL BEDROOM #5 IN LIEU OF LOFT



WINDOW BOX DETAIL (ELEVATION C ONLY)

SCALE: 1/2" = 1'-0"

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DATE: MAY 21, 2020
REV.:
SCALE: 1/4"=1'-0"
DRAWN BY: WG
ENGINEERED BY: WFB
REVIEWED BY: MGS

SECOND FLOOR PLAN

A-5

ELECTRICAL LAYOUT NOTES:

1.) BLOCK AND WIRE FOR ALL CELING FANS PER PLAN.

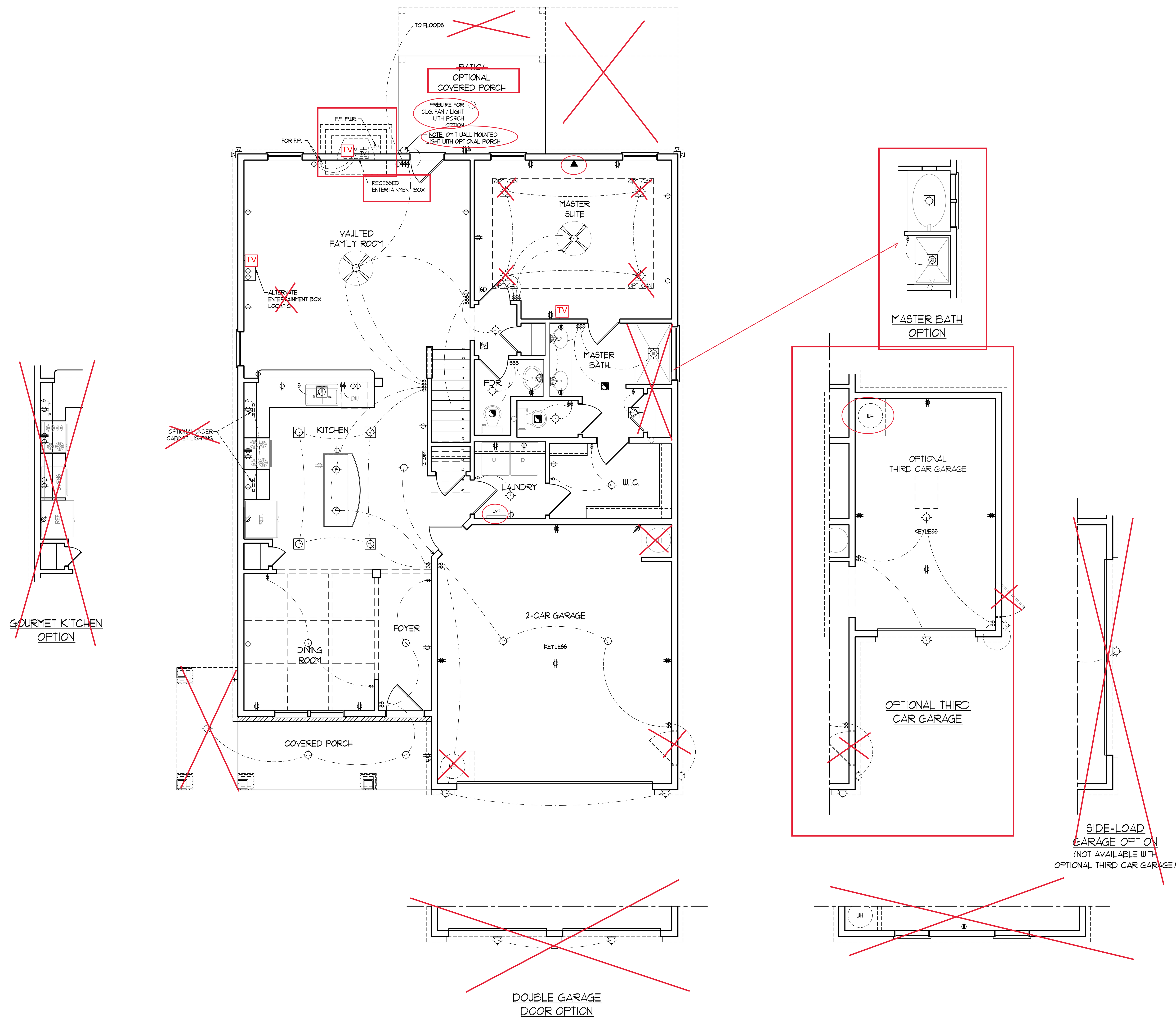
2.) VANITY LIGHTS TO BE SET @ 90" AFF. (TYP.)

3.) ADDITIONAL EXTERIOR OUTLETS REQUIRED BY CODE TO BE LOCATED BY ELECTRICIAN.

4.) PLACE SWITCHES 8" (MIN.) FROM ROUGH OPENINGS.

ELECTRICAL LEGEND

- 110 V OUTLET
- 110 V GFI OUTLET
- 110 V SWITCHED OUTLET
- BB 110 V BASEBOARD OUTLET
- 4-PLEX
- COUNTER OR FLOOR MOUNTED
- COUNTER OR FLOOR MOUNTED 110V GFI
- WP WEATHERPROOF
- 220 V OUTLET
- 110 V DEDICATED CIRCUIT
- 220 V DEDICATED CIRCUIT
- SPECIAL PURPOSE (240 V, ETC.)
- WALL MOUNT LIGHT
- CEILING MOUNT LIGHT
- PENDANT LIGHT
- RECESSED CAN LIGHT
- MINI CAN LIGHT
- EYEBALL LIGHT
- FLUORESCENT LIGHT
- UNDERCABINET LIGHT
- FLOOD LIGHT
- SWITCH
- DIMMER SWITCH
- TELEPHONE
- DATA
- TELEPHONE AND DATA
- TV CONNECTION
- TV/ DATA
- CONDUIT FOR COMPONENT WIRING
- SPEAKER
- 110 V SMOKE/ CM DETECTOR
- 110 V SMOKE DETECTOR
- EXHAUST FAN
- LVP LOW VOLTAGE PANEL
- ALARM ALARM PANEL
- CEILING FAN
- CEILING FAN W/ LIGHT



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DATE: MAY 21, 2020
REV.:
SCALE: 1/4"=1'-0"
DRAWN BY: WG
ENGINEERED BY: WFB
REVIEWED BY: MGS

FIRST FLOOR ELECTRICAL PLAN

E-1

ELECTRICAL LAYOUT NOTES:

1.) BLOCK AND WIRE FOR ALL CELING FANS PER PLAN.

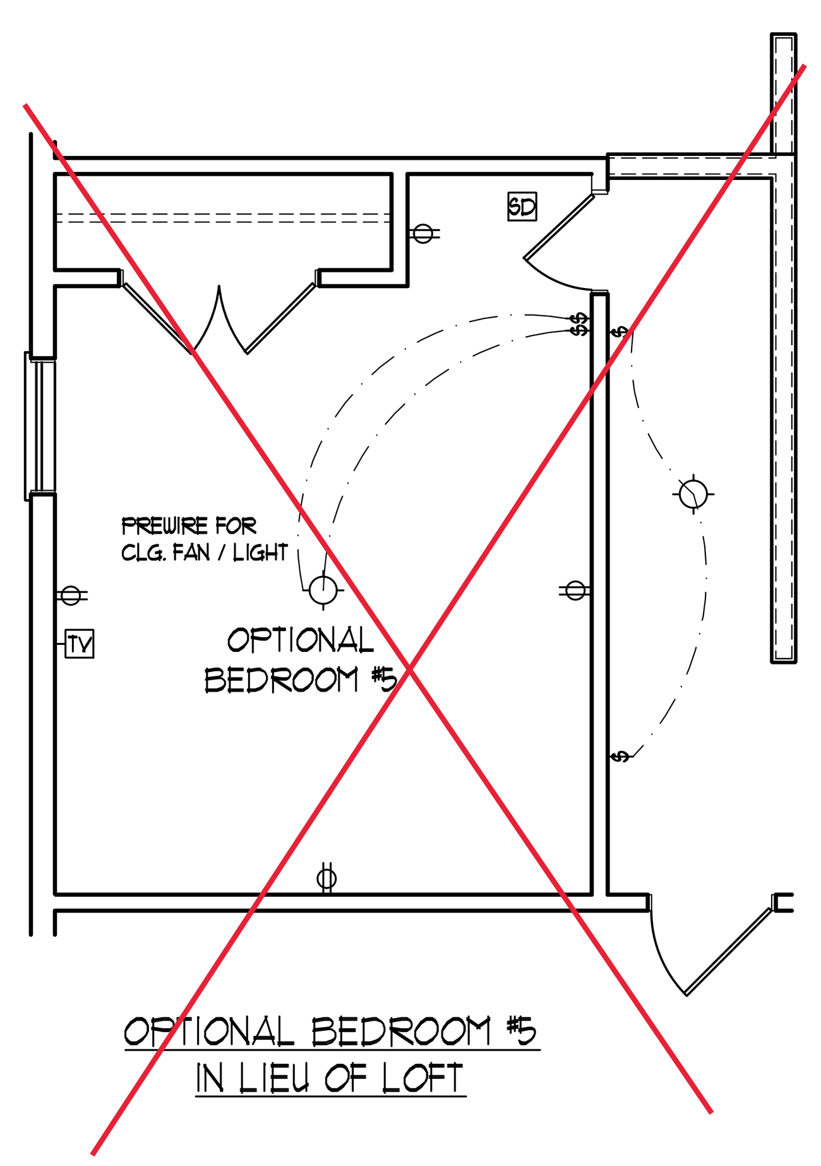
2.) VANITY LIGHTS TO BE SET @ 90" A.F.F. (TYP.)

3.) ADDITIONAL EXTERIOR OUTLETS REQUIRED BY CODE TO BE LOCATED BY ELECTRICIAN.

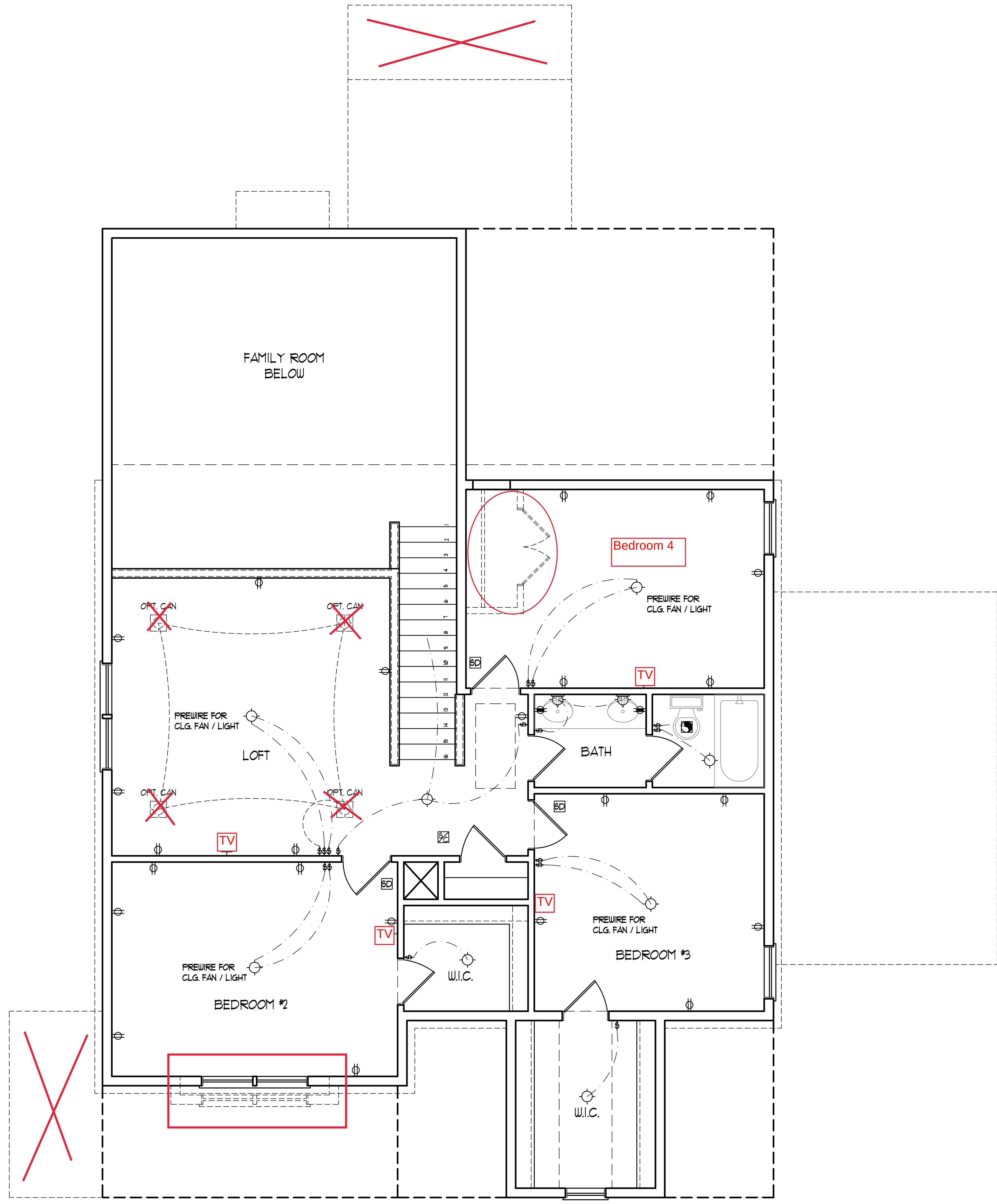
4.) PLACE SWITCHES 8" (MIN.) FROM ROUGH OPENINGS.

ELECTRICAL LEGEND

- 110 V OUTLET
- 110 V GFI OUTLET
- 110 V SWITCHED OUTLET
- 110 V BASEBOARD OUTLET
- 4-PLEX
- COUNTER OR FLOOR MOUNTED
- COUNTER OR FLOOR MOUNTED 110V GFI
- WEATHERPROOF
- 220 V OUTLET
- 110 V DEDICATED CIRCUIT
- 220 V DEDICATED CIRCUIT
- SPECIAL PURPOSE (240 V, ETC.)
- WALL MOUNT LIGHT
- CEILING MOUNT LIGHT
- PENDANT LIGHT
- RECESSED CAN LIGHT
- MINI CAN LIGHT
- EYEBALL LIGHT
- FLUORESCENT LIGHT
- UNDERCABINET LIGHT
- FLOOD LIGHT
- SWITCH
- DIMMER SWITCH
- TELEPHONE
- DATA
- TELEPHONE AND DATA
- TV CONNECTION
- TV/ DATA
- CONDUIT FOR COMPONENT WIRING
- SPEAKER
- 110 V SMOKE/ CO DETECTOR
- 110 V SMOKE DETECTOR
- EXHAUST FAN
- LOW VOLTAGE PANEL
- ALARM PANEL
- CEILING FAN
- CEILING FAN W/ LIGHT



OPTIONAL BEDROOM #5
IN LIEU OF LOFT



STANDARD SECOND
FLOOR PLAN

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DATE: MAY 21, 2020
REV.:
SCALE: 1/4"=1'-0"
DRAWN BY: WG
ENGINEERED BY: WFB
REVIEWED BY: MGS

SECOND FLOOR
ELECTRICAL
PLAN

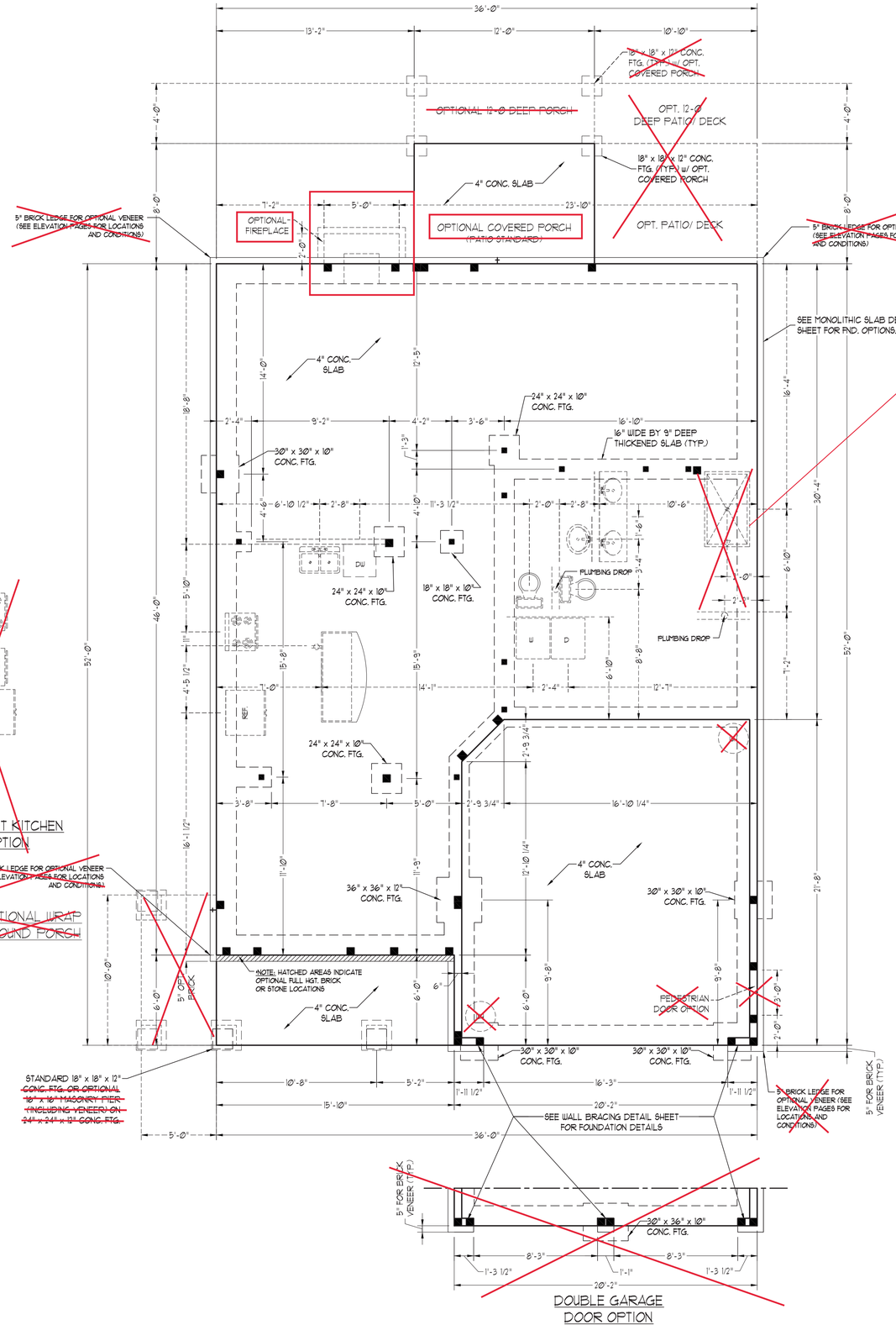
E-2

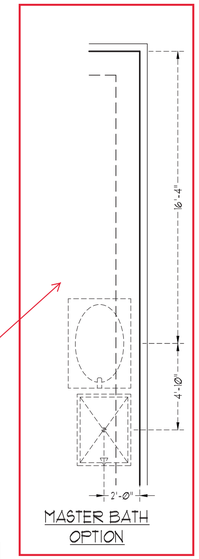
130 MPH ULTIMATE DESIGN WIND SPEED NOTES FOR LESS THAN 30' MEAN ROOF HEIGHT:

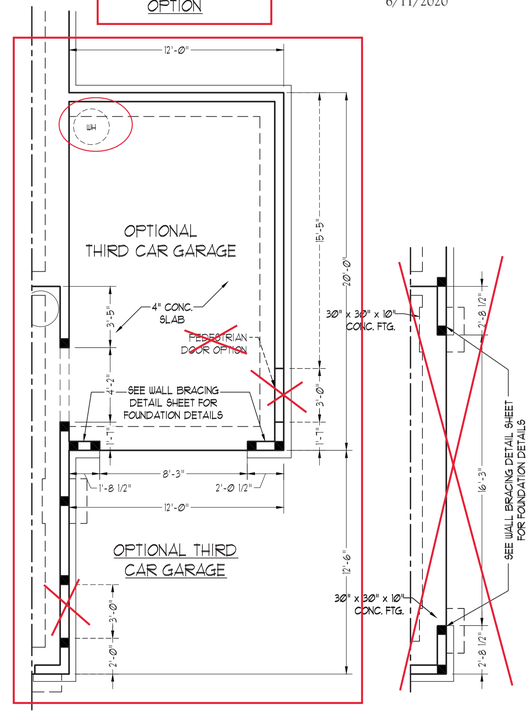
1. ENGINEER'S SEAL APPLIES ONLY TO STRUCTURAL COMPONENTS. ENGINEER'S SEAL DOES NOT CERTIFY DIMENSIONAL ACCURACY OR ARCHITECTURAL LAYOUT INCLUDING ROOF SYSTEM.
2. STRUCTURAL DESIGN PER NORTH CAROLINA RESIDENTIAL CODE, 2018 EDITION.
3. INSTALL 1/2" ANCHOR BOLTS 4'-0" O.C. AND WITHIN 1'-0" FROM END OF EACH CORNER. ANCHOR BOLTS MUST EXTEND A MINIMUM OF 7" INTO MASONRY OR CONCRETE. LOCATE BOLT WITHIN MIDDLE THIRD OF PLATE WIDTH.
4. MEAN ROOF HEIGHT IS LESS THAN 30 FEET.
5. EXTERIOR WALLS DESIGNED FOR 130 MPH WINDS.
6. WALL CLADDING DESIGNED FOR 48.2 PSF AND -24 PSF (+/- INDICATE POSITIVE / NEGATIVE PRESSURE (TYP.).
7. ROOF CLADDING DESIGNED FOR 46.1 PSF AND -21 PSF FOR ROOF PITCHES 1/12 TO 12/12 AND 48.5 PSF AND -43 PSF FOR ROOF PITCHED 225/12 TO 7/12.
8. INSTALL 7/16" OSB SHEATHING ON ALL EXTERIOR WALLS OF ALL STORIES IN ACCORDANCE WITH SECTION R602.10.3 OF THE NCRC, 2018 EDITION. SEE THE WALL BRACING NOTES AND DETAILS SHEET FOR MORE INFORMATION.
9. ENERGY EFFICIENCY COMPLIANCE AND INSULATION VALUES OF THE BUILDING TO BE IN ACCORDANCE WITH CHAPTER 11 OF THE NCRC, 2018 EDITION.
10. REFER TO NOTES AND DETAIL SHEETS FOR ADDITIONAL STRUCTURAL INFORMATION.

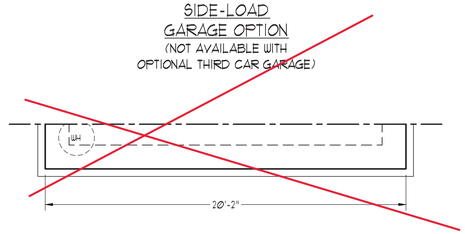
120 MPH ULTIMATE DESIGN WIND SPEED NOTES FOR LESS THAN 30' MEAN ROOF HEIGHT:

1. ENGINEER'S SEAL APPLIES ONLY TO STRUCTURAL COMPONENTS. ENGINEER'S SEAL DOES NOT CERTIFY DIMENSIONAL ACCURACY OR ARCHITECTURAL LAYOUT INCLUDING ROOF SYSTEM.
2. STRUCTURAL DESIGN PER NORTH CAROLINA RESIDENTIAL CODE, 2018 EDITION.
3. INSTALL 1/2" ANCHOR BOLTS 6'-0" O.C. AND WITHIN 1'-0" FROM END OF EACH CORNER. ANCHOR BOLTS MUST EXTEND A MINIMUM OF 7" INTO MASONRY OR CONCRETE. LOCATE BOLT WITHIN MIDDLE THIRD OF PLATE WIDTH.
4. MEAN ROOF HEIGHT IS LESS THAN 30 FEET.
5. EXTERIOR WALLS DESIGNED FOR 120 MPH WINDS.
6. WALL CLADDING DESIGNED FOR 45.5 PSF AND -20 PSF (+/- INDICATE POSITIVE / NEGATIVE PRESSURE (TYP.).
7. ROOF CLADDING DESIGNED FOR 44.2 PSF AND -18 PSF FOR ROOF PITCHES 1/12 TO 12/12 AND 48 PSF AND -36 PSF FOR ROOF PITCHED 225/12 TO 7/12.
8. INSTALL 7/16" OSB SHEATHING ON ALL EXTERIOR WALLS OF ALL STORIES IN ACCORDANCE WITH SECTION R602.10.3 OF THE NCRC, 2018 EDITION. SEE THE WALL BRACING NOTES AND DETAILS SHEET FOR MORE INFORMATION.
9. ENERGY EFFICIENCY COMPLIANCE AND INSULATION VALUES OF THE BUILDING TO BE IN ACCORDANCE WITH CHAPTER 11 OF THE NCRC, 2018 EDITION.
10. REFER TO NOTES AND DETAIL SHEETS FOR ADDITIONAL STRUCTURAL INFORMATION.









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NORTH CAROLINA PROFESSIONAL SEAL 33736 ENGINEER MATTHEW G. STROTHER

6/11/2020

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DATE: MAY 21, 2020

REV.:

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

DRAWN BY: WG

ENGINEERED BY: WFB

REVIEWED BY: MGS

MONO SLAB FOUNDATION PLAN

S-1

BRACED WALL DESIGN

RECTANGLE A	RECTANGLE B
SIDE 1A (FRONT LOAD)	SIDE 1B
METHOD: CS-WSP/FF/GB	METHOD: CS-WSP/FF
TOTAL REQUIRED LENGTH: 16'	TOTAL REQUIRED LENGTH: 3.2'
TOTAL PROVIDED LENGTH: 20.8'	TOTAL PROVIDED LENGTH: 6'
SIDE 2A	SIDE 2B
METHOD: CS-WSP	METHOD: CS-WSP
TOTAL REQUIRED LENGTH: 16'	TOTAL REQUIRED LENGTH: 3.2
TOTAL PROVIDED LENGTH: 19.16'	TOTAL PROVIDED LENGTH: 12'
SIDE 3A	SIDE 3B / SIDE 4A CUMULATIVE
METHOD: CS-WSP	METHOD: CS-WSP/GB
TOTAL REQUIRED LENGTH: 11.4'	TOTAL REQUIRED LENGTH: 13.4'
TOTAL PROVIDED LENGTH: 49.2'	TOTAL PROVIDED LENGTH: 30.6'
SIDE 4A (SIDE LOAD)	SIDE 4B
METHOD: CS-WSP/FF	METHOD: CS-WSP
TOTAL REQUIRED LENGTH: 11.4'	TOTAL REQUIRED LENGTH: 2'
TOTAL PROVIDED LENGTH: 34.1'	TOTAL PROVIDED LENGTH: 15.58'

BRACED WALL DESIGN NOTES:

1. BRACED WALL DESIGN PER SECTION R602.10 OF THE NCRC 2018 EDITION.
2. CS-WSP REFERS TO "CONTINUOUS SHEATHING - WOOD STRUCTURAL PANELS" CONTRACTOR IS TO INSTALL 7/16" OSB ON ALL EXTERIOR WALLS ATTACHED W/ 8d NAILS SPACED 6" O.C. ALONG PANEL EDGES AND 12" O.C. IN THE FIELD.
3. "GB REFERS TO "GYPSUM BOARD" CONTRACTOR IS TO INSTALL 1/2" (MIN.) GYPSUM WALL BOARD WHERE NOTED ON THE PLANS. FASTEN GB WITH 1 1/4" SCREWS OR 1 5/8" NAILS SPACED 7" O.C. ALONG PANEL EDGES AND IN THE FIELD INCLUDING TOP AND BOTTOM PLATES.
4. BRACED WALL DESIGN APPLIED IN WIND ZONES UP TO 130 MPH FOR HIGH WIND ZONES, BRACE WALLS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH CHAPTER 45 OF THE NCRC 2018 EDITION.
5. SEE NOTES AND DETAIL SHEETS FOR ADDITIONAL BRACED WALL INFORMATION.

STRUCTURAL NOTES:

1. ALL FRAMING LUMBER TO BE SPF #2 (UNO). ALL TREATED LUMBER TO BE SYP #2 (UNO.)
2. ALL LOAD BEARING HEADERS TO BE (2) 2 x 6 (UNO).
3. INSTALL AN EXTRA JOIST UNDER WALLS PARALLEL TO FLOOR JOISTS WHERE NOTED ON THE PLANS.
4. WINDOW AND DOOR HEADERS TO BE SUPPORTED W/ (1) JACK STUD AND (1) KING STUD EA. END (UNO.). SEE TABLE R602.7.5 FOR ADDITIONAL KING STUD REQUIREMENTS.
5. SQUARES DENOTE POINT LOADS WHICH REQUIRE SOLID BLOCKING TO GIRDER OR FOUNDATION. ALL SQUARES TO BE (2) STUDS (UNO.)
6. ALL 4 x 4 POSTS SHALL BE ANCHORED TO SLABS W/ SIMPSON ABU44 POST BASES (OR EQUAL) AND 6 x 6 POSTS W/ ABU66 POST BASES (OR EQUAL) (UNO). ALL 4 x 4 AND 6 x 6 POSTS TO BE INSTALLED WITH 7100 LB CAPACITY UPLIFT CONNECTORS AT TOP (UNO.)
7. FOR FIBERGLASS, ALUMINUM, OR COLUMN ENG. BY OTHERS, SECURE TO SLAB W/ (2) METAL ANGLES USING 2" CONC. SCREWS. FASTEN ANGLES TO COLUMNS W/ 1/4" THROUGH BOLTS W/ NUTS AND WASHERS. LOCATE ANGLES ON OPPOSITE SIDES OF COLUMN. THROUGH BOLTS MUST BE INSTALLED PRIOR TO SETTING COLUMN.
8. REFER TO NOTES AND DETAIL SHEETS FOR ADDITIONAL STRUCTURAL INFORMATION.

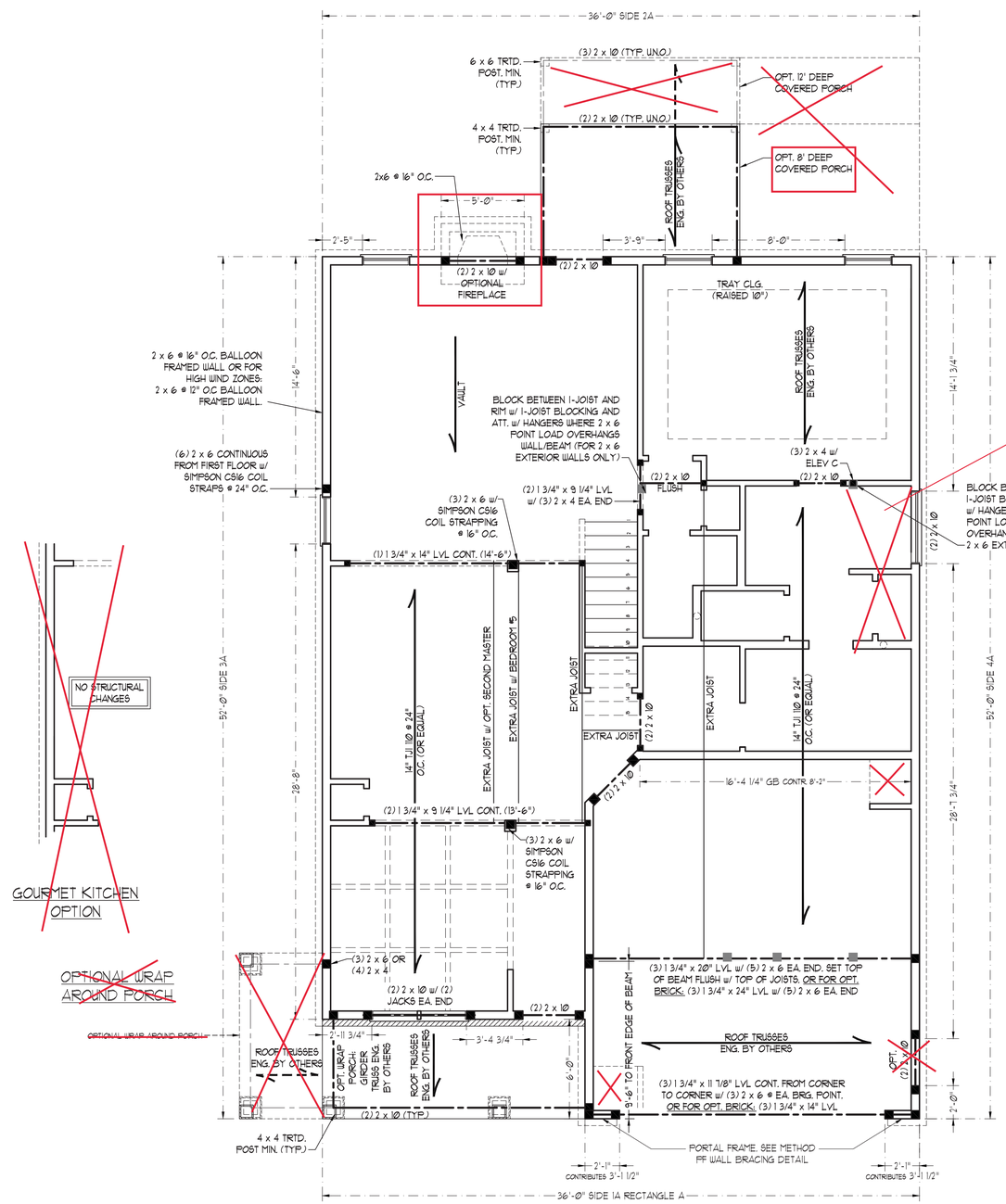
LINTEL SCHEDULE FOR BRICK/NATURAL STONE SUPPORT

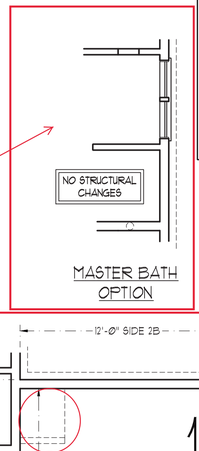
LENGTH (FT.)	SIZE OF LINTEL
UP TO 4 FT.	L 3 1/2 x 3 1/2 x 1/4
4-8	L 5 x 3 1/2 x 5/16 LLV
8 AND GREATER	L 6 x 4 x 5/16 LLV

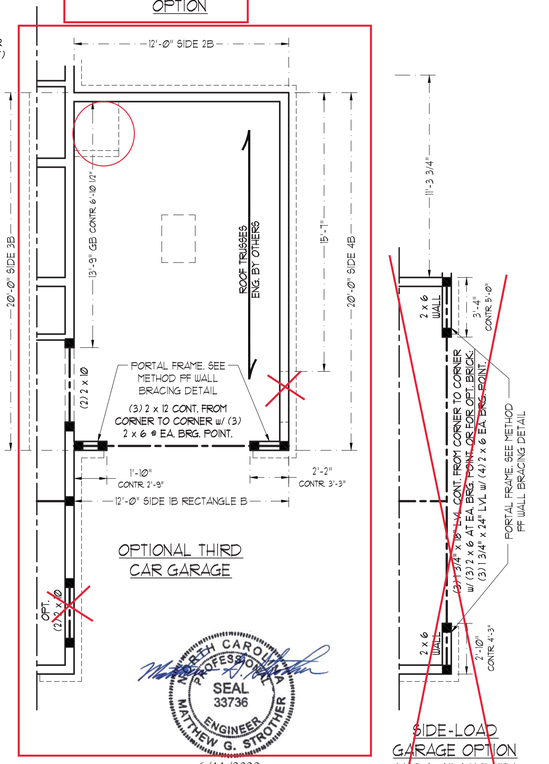
BRICK SUPPORT NOTES:

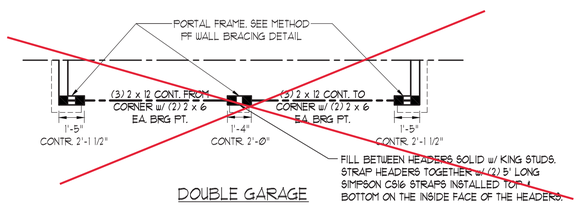
1. LINTEL SCHEDULE APPLIES TO ALL OPENINGS IN BRICK VENEER (UNO). SEE ARCH DWGS. FOR SIZE AND LOCATION OF OPENINGS.
2. (LLV) = LONG LEG VERTICAL
3. LENGTH = CLEAR OPENING
4. EMBED ALL ANGLE IRONS MIN. 4" EACH SIDE INTO VENEER TO PROVIDE BEARING.
5. FOR ALL HEADERS 8'-0" AND GREATER IN LENGTH, ATTACH STEEL ANGLE TO HEADER W/ 1/2" LAG SCREWS @ 12" O.C. STAGGERED.
6. FOR ALL BRICK SUPPORT @ ROOF LINES, FASTEN (2) 2 x 10 BLOCKING BETWEEN STUDS W/ (4) 12d NAILS PER PLY. FASTEN A 6" x 4" x 5/16" STEEL ANGLE TO (2) 2 x 10 BLOCKING W/ (2) 1/2" LAG SCREWS @ 12" O.C. STAGGERED. SEE SECTION R703.8.2.1 OF THE 2018 NCRC FOR ADDITIONAL BRICK SUPPORT INFORMATION.
7. PRECAST REINFORCED CONCRETE LINTELS ENGINEERED BY OTHERS MAY BE USED IN LIEU OF STEEL LINTELS.

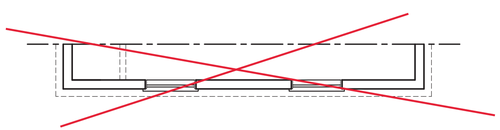
NOTE: ALL EXTERIOR WALLS AND ATTIC WALLS ARE TO BE 2 x 6 @ 16" O.C. (UNO). 2 x 4 @ 16" O.C. EXTERIOR WALLS MAY BE CONSTRUCTED IN LIEU OF 2 x 6 WALLS (UNO). ALL INTERIOR LOAD BEARING WALLS ARE TO BE 2 x 4 @ 16" O.C. (UNO) AND NON-LOAD BEARING INTERIOR WALLS ARE TO BE 2 x 4 @ 24" O.C. (UNO).











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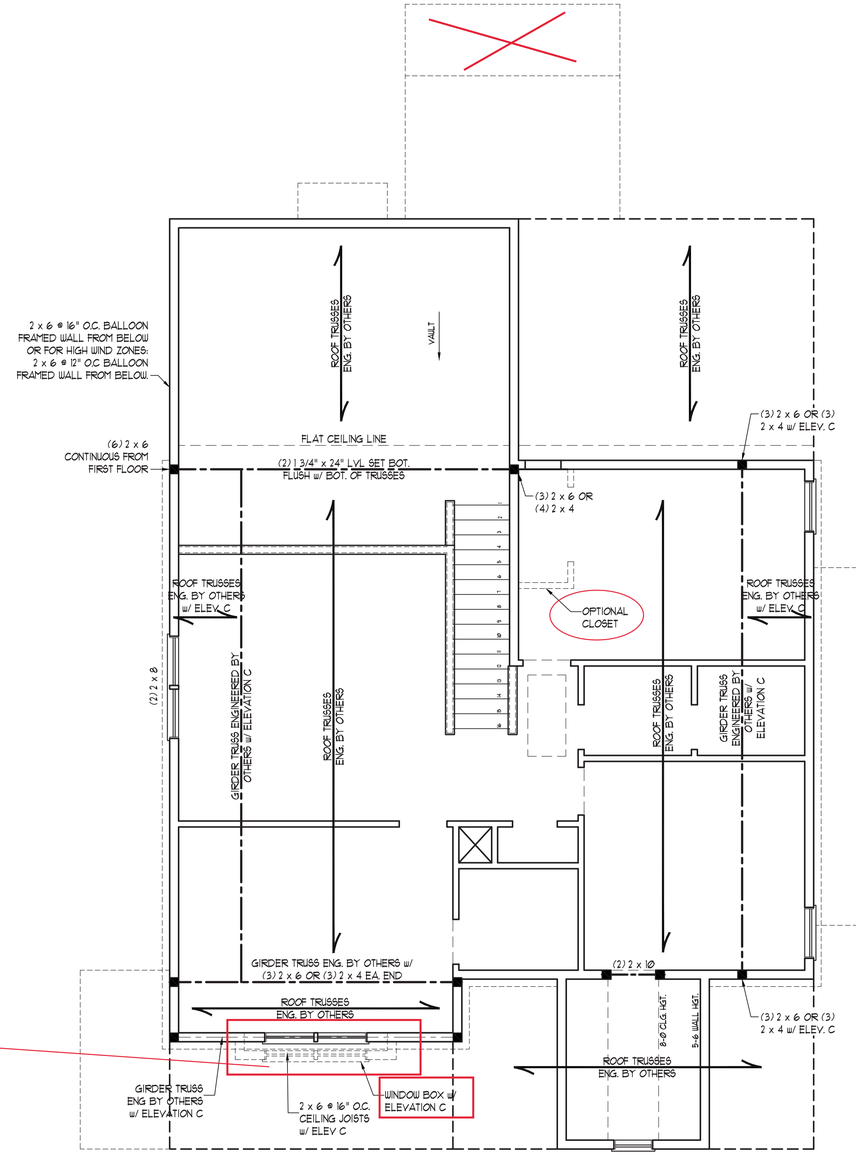
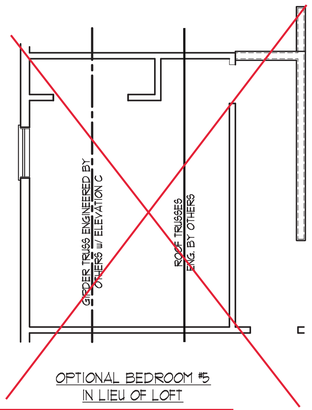
DATE: MAY 21, 2020
REV.:
SCALE: 1/4"=1'-0"
DRAWN BY: WG
ENGINEERED BY: WFB
REVIEWED BY: MGS

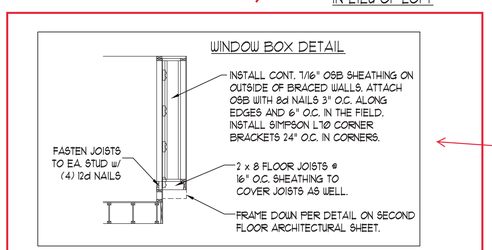
SECOND FLOOR FRAMING PLAN

S-2





OPTIONAL BEDROOM #5
IN LIEU OF LOFT



NOTE: NO STRUCTURAL CHANGES w/ OPT. SECOND MASTER FLOOR PLAN

STANDARD SECOND
FLOOR PLAN

BRACED WALL DESIGN NOTES:

1. BRACED WALL DESIGN PER SECTION R602.10 OF THE NCRC 2018 EDITION.
2. GS-WSP REFERS TO "CONTINUOUS SHEATHING - WOOD STRUCTURAL PANELS" CONTRACTOR IS TO INSTALL 7/16" OSB ON ALL EXTERIOR WALLS ATTACHED w/ 8d NAILS SPACED 6" O.C. ALONG PANEL EDGES AND 12" O.C. IN THE FIELD.
3. "GB REFERS TO "GYPSUM BOARD" CONTRACTOR IS TO INSTALL 1/2" (MIN.) GYPSUM WALL BOARD WHERE NOTED ON THE PLANS. FASTEN GB WITH 1 1/4" SCREWS OR 1 5/8" NAILS SPACED 7" O.C. ALONG PANEL EDGES AND IN THE FIELD INCLUDING TOP AND BOTTOM PLATES.
4. BRACED WALL DESIGN APPLIED IN WIND ZONES UP TO 130 MPH. FOR HIGH WIND ZONES, BRACE WALLS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH CHAPTER 45 OF THE NCRC 2018 EDITION.
5. SEE NOTES AND DETAIL SHEETS FOR ADDITIONAL BRACED WALL INFORMATION.

NOTE:

1. PER SECTION R602.10.3.2 OF THE 2018 NCRC, THE AMOUNT OF BRACING ON THE SECOND FLOOR EXCEEDS THE AMOUNT REQUIRED FOR THE FIRST FLOOR AND NO BRACED WALL ANALYSIS IS REQUIRED.
2. SHEATH ALL EXTERIOR WALLS WITH 7/16" OSB SHEATHING ATTACHED WITH 8d NAILS AT 6" O.C. ALONG PANEL EDGES AND 12" O.C. IN THE FIELD.

*NOTE: ALL EXTERIOR WALLS AND ATTIC WALLS ARE TO BE 2 x 6 @ 16" O.C. (UNO). 2 x 4 @ 16" O.C. EXTERIOR WALLS MAY BE CONSTRUCTED IN LIEU OF 2 x 6 WALLS (UNO). ALL INTERIOR LOAD BEARING WALLS ARE TO BE 2 x 4 @ 16" O.C. (UNO) AND NON-LOAD BEARING INTERIOR WALLS ARE TO BE 2 x 4 @ 24" O.C. (UNO).

LINTEL SCHEDULE FOR BRICK/NATURAL STONE SUPPORT

LENGTH (FT.)	SIZE OF LINTEL
UP TO 4 FT.	L 3 1/2 x 3 1/2 x 1/4
4-8	L 5 x 3 1/2 x 5/16 LLV
8 AND GREATER	L 6 x 4 x 5/16 LLV

BRICK SUPPORT NOTES:

1. LINTEL SCHEDULE APPLIES TO ALL OPENINGS IN BRICK VENEER (UNO). SEE ARCH'L DWGS. FOR SIZE AND LOCATION OF OPENINGS.
2. (LLV) = LONG LEG VERTICAL
3. LENGTH = CLEAR OPENING
4. EMBED ALL ANGLE IRONS MIN. 4" EACH SIDE INTO VENEER TO PROVIDE BEARING.
5. FOR ALL HEADERS 8'-0" AND GREATER IN LENGTH, ATTACH STEEL ANGLE TO HEADER W/ 1/2" LAG SCREWS @ 12" O.C. STAGGERED.
6. FOR ALL BRICK SUPPORT @ ROOF LINES, FASTEN (2) 2 x 10 BLOCKING BETWEEN STUDS w/ (4) 12d NAILS PER PLY. FASTEN A 6" x 4" x 5/16" STEEL ANGLE TO (2) 2 x 10 BLOCKING w/ (2) 1/2" LAG SCREWS @ 12" O.C. STAGGERED. SEE SECTION R703.8.2.1 OF THE 2018 NCRC FOR ADDITIONAL BRICK SUPPORT INFORMATION.
7. PRECAST REINFORCED CONCRETE LINTELS ENGINEERED BY OTHERS MAY BE USED IN LIEU OF STEEL LINTELS.

TABLE R602.7.5
MINIMUM NUMBER OF FULL HEIGHT STUDS AT EACH END OF HEADERS IN EXTERIOR WALLS

HEADER SPAN (FEET)	MAXIMUM STUD SPACING (INCHES) (PER TABLE R602.3(5))	
	16	24
UP TO 3'	1	1
4'	2	1
8'	3	2
12'	5	3
16'	6	4

STRUCTURAL NOTES:

1. ALL FRAMING LUMBER TO BE #2 SPF (UNO).
2. ALL LOAD BEARING HEADERS TO BE (2) 2 x 6 (UNO).
3. WINDOW AND DOOR HEADERS TO BE SUPPORTED w/ (1) JACK STUD AND (1) KING STUD EA. END (UNO.) SEE TABLE R602.7.5 FOR ADDITIONAL KING STUD REQUIREMENTS.
4. SQUARES DENOTE POINT LOADS WHICH REQUIRE SOLID BLOCKING TO GIRDER OR FOUNDATION. SQUARES TO BE (2) STUDS (UNO.)
5. REFER TO NOTES AND DETAIL SHEETS FOR ADDITIONAL STRUCTURAL INFORMATION.

NORTH CAROLINA PROFESSIONAL SEAL 33736 ENGINEER MATHEW G. STROTHER
6/11/2020

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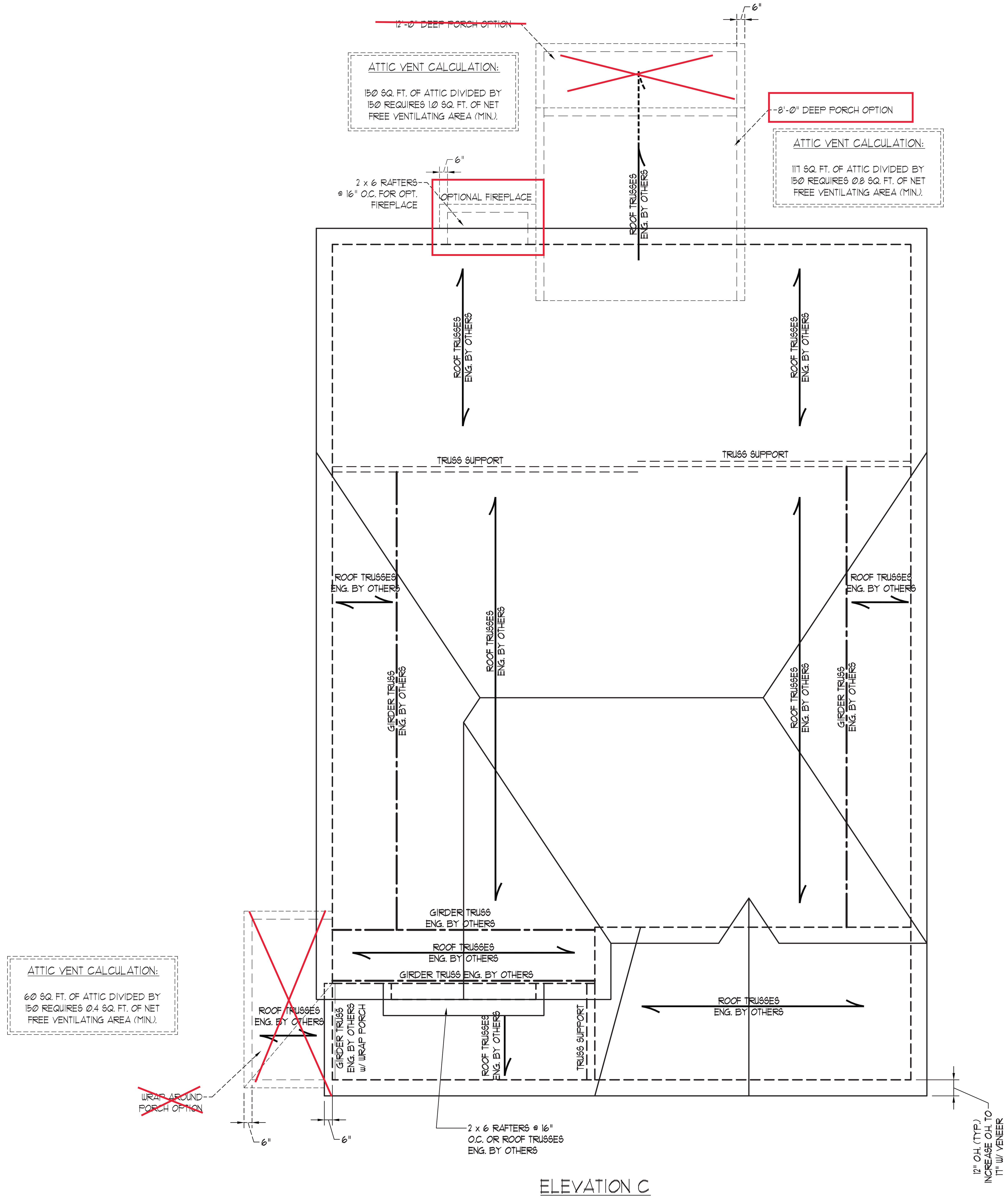
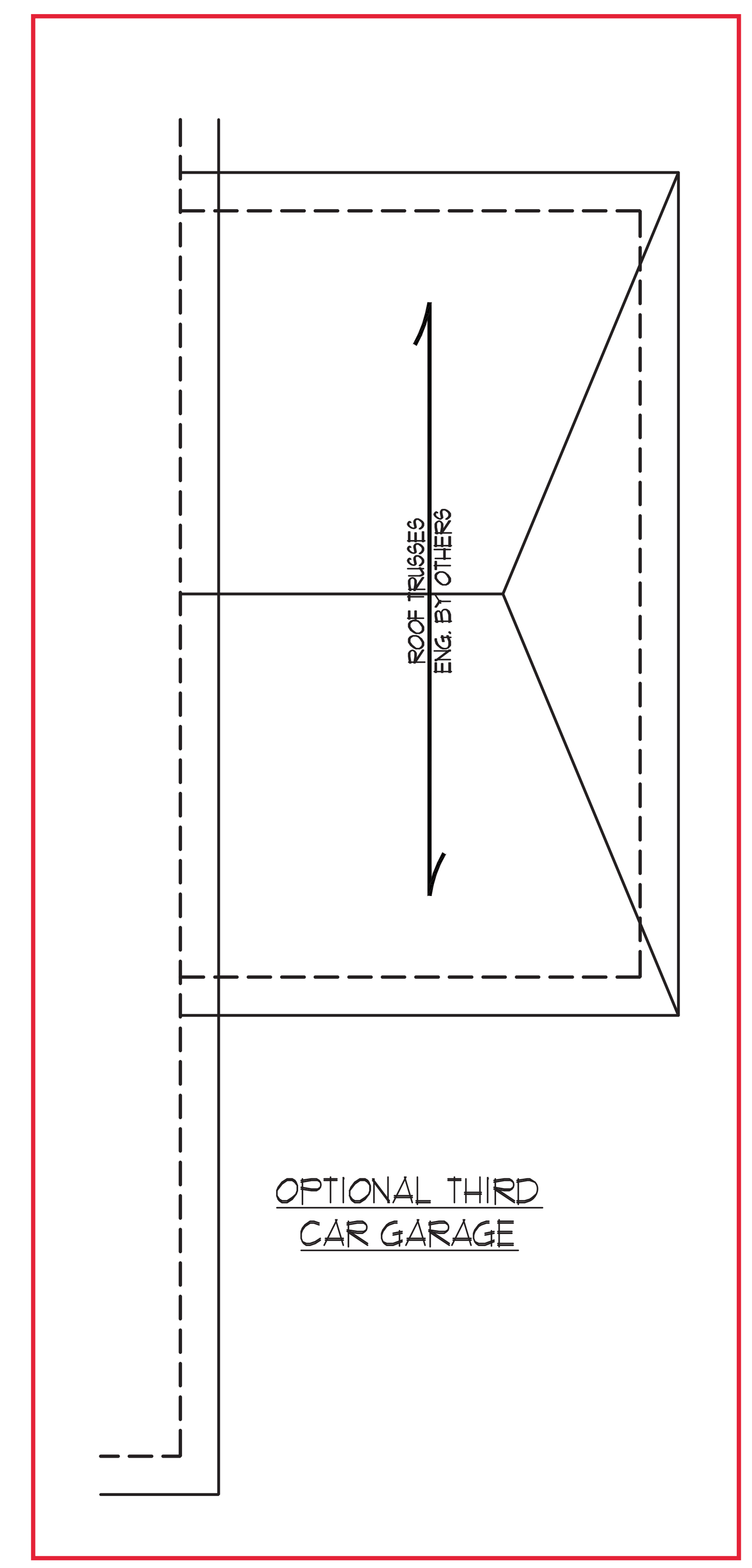
DATE: MAY 21, 2020
REV.:
SCALE: 1/4"=1'-0"
DRAWN BY: WG
ENGINEERED BY: WFB
REVIEWED BY: MGS

ATTIC FLOOR
FRAMING PLAN

S-3





ATTIC VENT CALCULATION:

2030 SQ. FT. OF ATTIC DIVIDED BY 150 REQUIRES 13.5 SQ. FT. OF NET FREE VENTILATING AREA (MIN.).

STRUCTURAL NOTES:

1. ALL FRAMING LUMBER TO BE #2 SPF (UNO).
2. CIRCLES DENOTE (3) 2 x 4 POSTS FOR ROOF SUPPORT.
3. FRAME DORMER WALLS ON TOP OF DOUBLE OR TRIPLE RAFTERS.
4. HIP SPLICES ARE TO BE SPACED A MIN. OF 8'-0". FASTEN MEMBERS WITH THREE ROWS OF 12d NAILS @ 16" O.C. (TYP.)
5. STICK FRAME OVER-FRAMED ROOF SECTIONS W/ 2 x 8 RIDGES, 2 x 6 RAFTERS @ 16" O.C. AND FLAT 2 x 10 VALLEYS OR USE VALLEY TRUSSES.
6. FASTEN FLAT VALLEYS TO RAFTERS OR TRUSSES WITH SIMPSON H2.5A HURRICANE TIES @ 32" O.C. MAX. PASS HURRICANE TIES THROUGH NOTCH IN ROOF SHEATHING. EACH RAFTER IS TO BE FASTENED TO THE FLAT VALLEY WITH A MIN. OF (6) 12d TOE NAILS.
7. REFER TO SECTION R802.11 OF THE 2018 NCRC FOR REQUIRED UPLIFT RESISTANCE AT RAFTERS AND TRUSSES.
8. REFER TO NOTES AND DETAIL SHEETS FOR ADDITIONAL STRUCTURAL INFORMATION.

ATTIC VENT CALCULATION:

294 SQ. FT. OF ATTIC DIVIDED BY 150 REQUIRES 2.0 SQ. FT. OF NET FREE VENTILATING AREA (MIN.).

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DATE: MAY 21, 2020
REV.:
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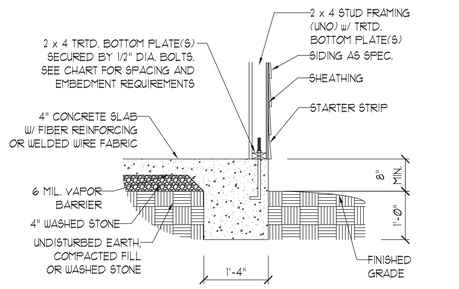
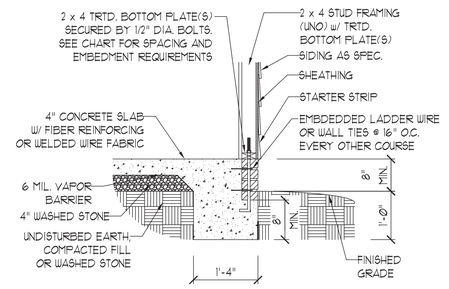
DRAWN BY: WG
ENGINEERED BY: WFB
REVIEWED BY: MGS

ROOF PLAN
ELEVATION - B

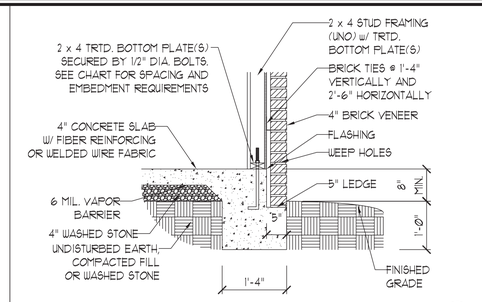
S-4



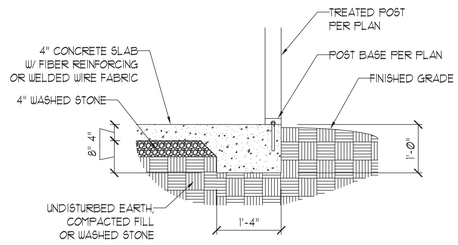
TYPICAL SLAB (1)



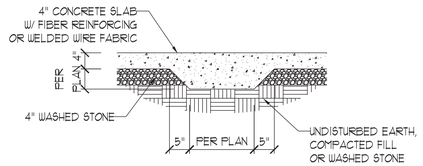
TYPICAL SLAB w/ BRICK LEDGE (2)



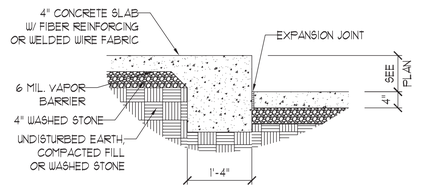
TYPICAL SLAB w/ BRICK VENEER LEDGE (3)



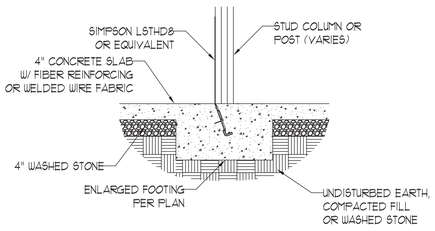
PORCH/SCREEN PORCH (4)



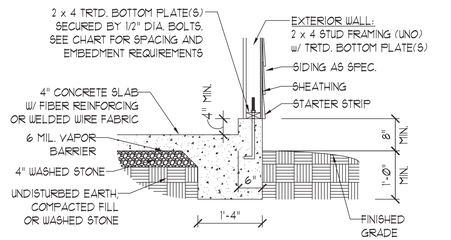
TYPICAL THICKENED SLAB (5)



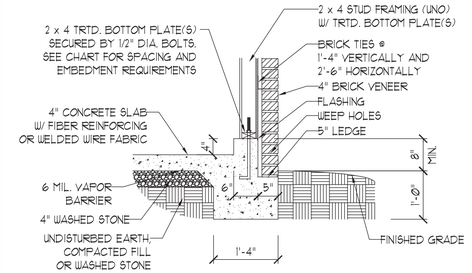
SLAB FLOOR CHANGE (6)



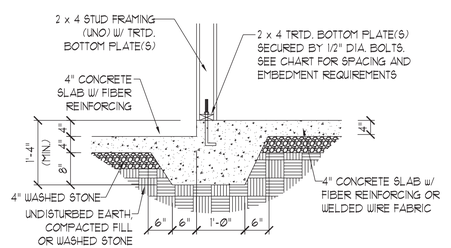
TYPICAL COLUMN TO SLAB CONNECTION (7)



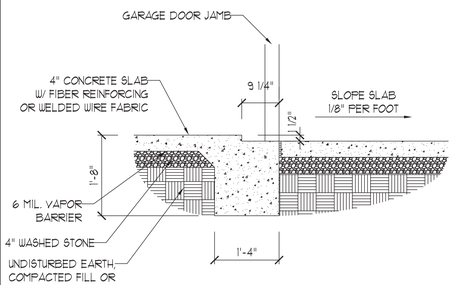
GARAGE CURB (8)



GARAGE CURB w/ BRICK LEDGE (9)



STEP IN GARAGE (10)



SLAB AT GARAGE DOOR (11)

ANCHOR SPACING AND EMBEDMENT		
WIND ZONE	120 MPH	130 MPH
SPACING	6'-0" O.C. INSTALL MIN. (2) ANCHORS PER PLATE SECTION AND (1) ANCHOR WITHIN 12" OF CORNERS	4'-0" O.C. INSTALL MIN. (2) ANCHORS PER PLATE SECTION AND (1) ANCHOR WITHIN 12" OF CORNERS
EMBEDMENT	7"	15" INTO MASONRY 7" INTO CONCRETE

NOTE:

THREADED ROD WITH EPOXY, SIMPSON TITEN HD, OR APPROVED ANCHORS SPACED AS REQUIRED TO PROVIDE EQUIVALENT ANCHORAGE TO 1/2" DIAMETER ANCHOR BOLTS MAY BE USED IN LIEU OF 1/2" ANCHOR BOLTS.

NORTH CAROLINA PROFESSIONAL SEAL 33736 ENGINEER MATTHEW G. STROTHER

6/11/2020

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N.C. LICENSE NO.: C-1733

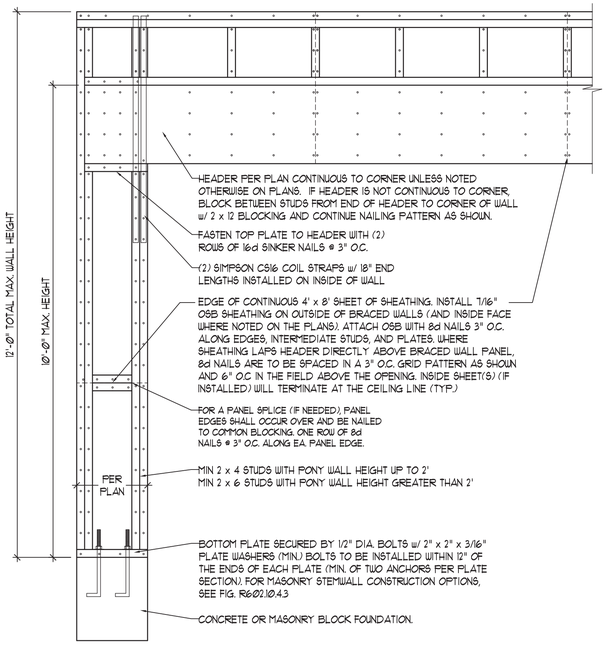
MONOLITHIC SLAB FOUNDATION DETAILS

DATE: NOVEMBER 1, 2018
SCALE: NTS
DRAWN BY: JST
ENGINEERED BY: JST

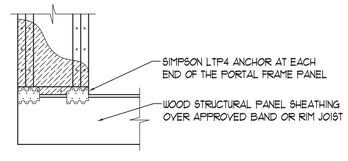
FOUNDATION DETAILS

GENERAL WALL BRACING NOTES:

1. WALL BRACING DESIGNED IN ACCORDANCE WITH CHAPTER 6 OF THE 2018 NC RESIDENTIAL BUILDING CODE (NCRC). TABLES AND FIGURES REFERENCED ARE FROM THE 2018 NCRC.
2. SEE THIS SHEET FOR GENERAL DETAILS. REFER TO THE 2018 NCRC FOR ADDITIONAL INFORMATION AS NEEDED.
3. BRACED EXTERIOR WALLS SUPPORTING ROOF TRUSSES AND RAFTERS, INCLUDING STORIES BELOW THE TOP FLOOR, HAVE BEEN DESIGNED PER R602.3.5 (3). WALL SHEATHING AND FASTENERS HAVE BEEN DESIGNED TO RESIST COMBINED UPLIFT AND SHEAR FORCES IN ACCORDANCE WITH ACCEPTED ENGINEERED PRACTICE.
4. SEE STRUCTURAL SHEETS FOR BRACED WALL LOCATIONS, DIMENSIONS, HOLD DOWN TYPE AND LOCATIONS, BRACED WALL LINE KEY WITH WALL DESIGN SUMMARY OF REQUIRED/PROVIDED TOTALS FOR EACH WALL LINE AND ANY SPECIAL NOTES OR REQUIREMENTS.
5. ALL EXTERIOR WALLS ARE TO BE SHEATHED WITH CS-WSP IN ACCORDANCE WITH SECTION R602.10.3 UNLESS NOTED OTHERWISE.
6. ALL EXTERIOR AND INTERIOR WALLS TO HAVE 1/2" GYPSUM INSTALLED, WHEN NOT USING METHOD "GB", GYPSUM TO BE FASTENED PER TABLE R702.3.5. METHOD GB TO BE FASTENED PER TABLE R602.10.1
7. CS-WSP REFERS TO THE "CONTINUOUS SHEATHING - WOOD STRUCTURAL PANELS" WALL BRACING METHOD. 7/16" OSB SHEATHING IS TO BE INSTALLED ON ALL EXTERIOR WALLS ATTACHED w/ 6d COMMON NAILS OR 8d (2 1/2" LONG x Ø.113" DIAMETER) NAILS SPACED 6" O.C. ALONG PANEL EDGES AND 12" O.C. IN THE FIELD (U.N.O.).
8. GB REFERS TO THE "GYPSUM BOARD" WALL BRACING METHOD. 1/2" (MIN.) GYPSUM WALL BOARD IS TO BE INSTALLED ON BOTH SIDES OF THE BRACED WALL FASTENED WITH 1 1/4" SCREWS OR 1 5/8" NAILS SPACED 7" O.C. ALONG PANEL EDGES INCLUDING TOP AND BOTTOM PLATES AND INTERMEDIATE SUPPORTS (U.N.O.). VERIFY ALL FASTENER OPTIONS FOR 1/2" AND 5/8" GYPSUM PRIOR TO CONSTRUCTION. FOR INTERIOR FASTENER OPTIONS SEE TABLE R702.3.5. FOR EXTERIOR FASTENER OPTIONS SEE TABLE R602.3(1). EXTERIOR GB TO BE INSTALLED VERTICALLY.
9. REQUIRED BRACED WALL LENGTH FOR EACH SIDE OF THE CIRCUMSCRIBED RECTANGLE ARE INTERPOLATED PER TABLE R602. 10.3. METHOD CS-WSP CONTRIBUTES 1TS ACTUAL LENGTH, METHOD GB CONTRIBUTES .5 ITS ACTUAL LENGTH, AND METHOD PF CONTRIBUTES 1.5 TIMES ITS ACTUAL LENGTH.



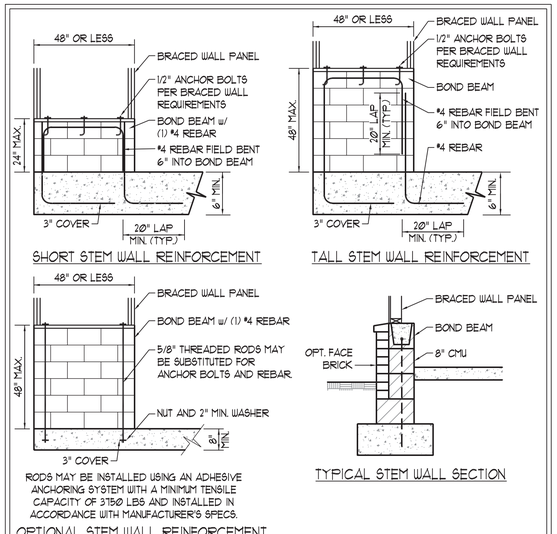
OVER CONCRETE OR MASONRY BLOCK FOUNDATION



OVER RAISED WOOD FLOOR - FRAMING ANCHOR OPTION

* APPLICABLE w/ GREATER THAN 12" KNEE WALL HEIGHTS IN CRAWL SPACE AND ABOVE FRAMED BASEMENT WALLS *

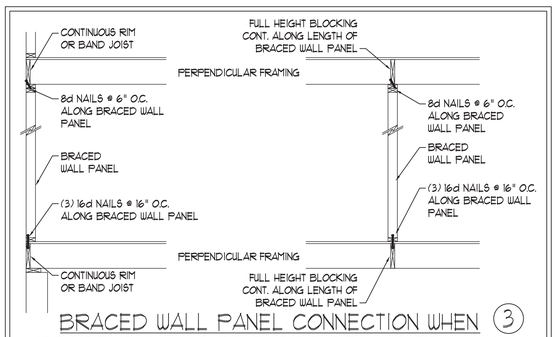
METHOD PF-PORTAL FRAME DETAIL (1)



NOTE: GROUT BOND BEAMS AND ALL CELLS WHICH CONTAIN REBAR, THREADED RODS AND ANCHOR BOLTS

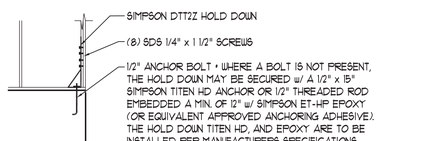
MASONRY STEM WALLS SUPPORTING BRACED WALL PANELS (2)

PER FIGURE R602.10.4.3



BRACED WALL PANEL CONNECTION WHEN PERPENDICULAR TO FLOOR/CEILING FRAMING (3)

PER FIGURE R602.10.4.4(1)

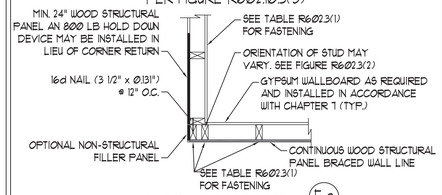


HOLD DOWN DETAIL FOR MASONRY FOUNDATION OR MONOLITHIC SLAB (4)

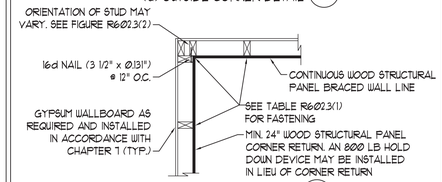
* APPLICABLE ONLY WHERE SPECIFIED ON PLAN *

TYPICAL EXTERIOR CORNER FRAMING FOR CONTINUOUS SHEATHING (5)

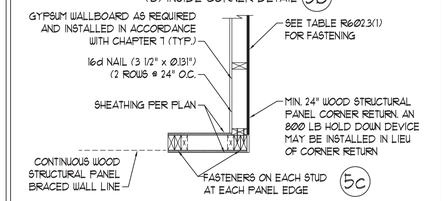
PER FIGURE R602.10.3(5)



(a) OUTSIDE CORNER DETAIL (5a)



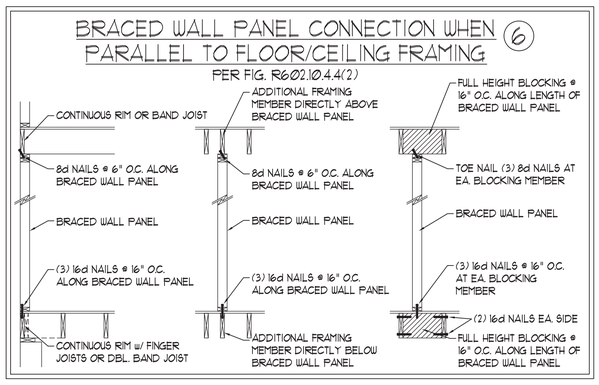
(b) INSIDE CORNER DETAIL (5b)

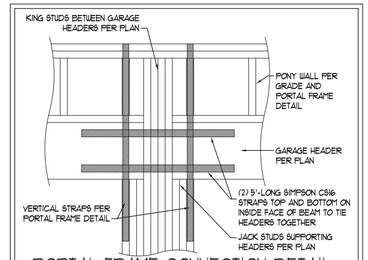


(c) GARAGE DOOR CORNER DETAIL (SEE PLAN FOR ADDITIONAL STRUCTURAL INFORMATION OR ALTERNATE CONFIGURATIONS)

BRACED WALL PANEL CONNECTION WHEN PARALLEL TO FLOOR/CEILING FRAMING (6)

PER FIG. R602.10.4.4(2)



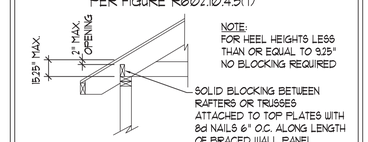


PORTAL FRAME CONNECTION DETAIL BETWEEN GARAGE DOOR HEADERS

(REFERENCE PORTAL FRAME DETAIL FOR ALL OTHER PORTAL FRAME INFORMATION) (7)

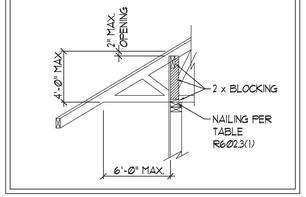
BRACED WALL PANEL CONNECTION TO PERPENDICULAR RAFTERS (8)

PER FIGURE R602.10.4.5(1)



BRACED WALL PANEL CONNECTION TO PERPENDICULAR ROOF TRUSSES (9)

PER FIGURE R602.10.4.5(3)
(OR ALTERNATIVE: FIGURE R602.10.4.5(2))



NORTH CAROLINA PROFESSIONAL SEAL 33736 ENGINEER MATTHEW G. STROTHER

6/11/2020

J.S. THOMPSON ENGINEERING, INC
606 WADE AVE., SUITE 104 RALEIGH, NC 27605
PHONE: (919) 789-9919 FAX: (919) 789-9921
N.C. LICENSE NO.: C-1733

WALL BRACING NOTES AND DETAILS

DATE: MAY 18, 2020
SCALE: 1/4" = 1'-0"
DRAWN BY: JST
ENGINEERED BY: JST

BRACED WALL NOTES AND DETAILS AND PF DETAIL

GENERAL NOTES

1. ENGINEER'S SEAL APPLIES ONLY TO STRUCTURAL COMPONENTS INCLUDING ROOF RAFTERS, HIPS, VALLEYS, RIDGES, FLOORS, WALLS, BEAMS, HEADERS, COLUMNS, CANTILEVERS, OFFSET LOAD BEARING WALLS, PIERS, GIRDER SYSTEM AND FOOTING. ENGINEER'S SEAL DOES NOT CERTIFY DIMENSIONAL ACCURACY OF ARCHITECTURAL LAYOUT INCLUDING ROOF. ENGINEER'S SEAL DOES NOT APPLY TO I-JOIST OR FLOOR/ROOF TRUSS LAYOUT DESIGN AND ACCURACY.

2. ALL CONSTRUCTION SHALL CONFORM TO THE LATEST REQUIREMENTS OF THE NORTH CAROLINA RESIDENTIAL CODE (NCRC), 2018 EDITION, PLUS ALL LOCAL CODES AND REGULATIONS. THE STRUCTURAL ENGINEER IS NOT RESPONSIBLE FOR, AND WILL NOT HAVE CONTROL OF, CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES, OR SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE CONSTRUCTION WORK. NOR WILL THE ENGINEER BE RESPONSIBLE FOR THE CONTRACTORS FAILURE TO CARRY OUT THE CONSTRUCTION WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.

3. STRUCTURAL DESIGN BASED ON THE PROVISIONS OF THE NCRC, 2018 EDITION (R301.4 - R301.7)

DESIGN CRITERIA:	LIVE LOAD (PSF)	DEAD LOAD (PSF)	DEFLECTION (IN)
ATTIC WITH LIMITED STORAGE	20	10	L/240 (L/360 W/ BRITTLE FINISHES)
ATTIC WITHOUT STORAGE	10	10	L/360
DECKS	40	10	L/360
EXTERIOR BALCONIES	40	10	L/360
FIRE ESCAPES	40	10	L/360
HANDRAILS/GUARDRAILS	200 LB OR 50 (PLF)	10	L/360
PASSENGER VEHICLE GARAGE	50	10	L/360
ROOMS OTHER THAN SLEEPING ROOM	40	10	L/360
SLEEPING ROOMS	30	10	L/360
STAIRS	40	10	L/360
WIND LOAD	(BASED ON TABLE R301.2(4) WIND ZONE AND EXPOSURE)		
GROUND SNOW LOAD: Pg	20 (PSF)		

- I-JOIST SYSTEMS DESIGNED WITH 12 PSF DEAD LOAD AND DEFLECTION (IN) OF L/480
- FLOOR TRUSS SYSTEMS DESIGNED WITH 15 PSF DEAD LOAD

4. FOR 115 AND 120 MPH WIND ZONES, FOUNDATION ANCHORAGE IS TO COMPLY WITH SECTION R403.1.6 OF THE NCRC, 2018 EDITION. FOR 130 MPH, 140 MPH, AND 150 MPH WIND ZONES, FOUNDATION ANCHORAGE IS TO COMPLY WITH SECTION 4504 OF THE NCRC, 2018 EDITION.

5. ENERGY EFFICIENCY COMPLIANCE AND INSULATION VALUES OF THE BUILDING TO BE IN ACCORDANCE WITH CHAPTER 11 OF THE NCRC, 2018 EDITION.

FOOTING AND FOUNDATION NOTES

1. FOUNDATION DESIGN BASED ON A MINIMUM ALLOWABLE BEARING CAPACITY OF 2000 PSF. CONTACT GEOTECHNICAL ENGINEER IF BEARING CAPACITY IS NOT ACHIEVED.

2. FOR ALL CONCRETE SLABS AND FOOTINGS, THE AREA WITHIN THE PERIMETER OF THE BUILDING ENVELOPE SHALL HAVE ALL VEGETATION, TOP SOIL AND FOREIGN MATERIAL REMOVED. FILL MATERIAL SHALL BE FREE OF VEGETATION AND FOREIGN MATERIAL. THE FILL SHALL BE COMPACTED TO ASSURE UNIFORM SUPPORT OF THE SLAB, AND EXCEPT WHERE APPROVED, THE FILL DEPTHS SHALL NOT EXCEED 24" FOR CLEAN SAND OR GRAVEL. A 4" THICK BASED COURSE CONSISTING OF CLEAN GRADED SAND OR GRAVEL SHALL BE PLACED. A BASE COURSE IS NOT REQUIRED WHERE A CONCRETE SLAB IS INSTALLED ON WELL-DRAINED OR SAND-GRAVEL MIXTURE SOILS CLASSIFIED AS GROUP 1, ACCORDING TO THE UNITED SOIL CLASSIFICATION SYSTEM IN ACCORDANCE WITH TABLE R405.1 OF THE NCRC, 2018 EDITION.

3. PROPERLY DEWATER EXCAVATION PRIOR TO POURING CONCRETE WHEN BOTTOM OF CONCRETE SLAB IS AT OR BELOW WATER TABLE. IF APPLICABLE, 3/4" - 1" DEEP CONTROL JOINTS ARE TO BE SAWED WITHIN 4 TO 12 HOURS OF CONCRETE FINISHING AND WALL LOCATIONS HAVE BEEN MARKED. ADJUST WHERE NECESSARY.

4. CONCRETE SHALL CONFORM TO SECTION R402.2 OF THE NCRC, 2018 EDITION. CONCRETE REINFORCING STEEL TO BE ASTM A615 GRADE 60. WELDED WIRE FABRIC TO BE ASTM A185. MAINTAIN A MINIMUM CONCRETE COVER AROUND REINFORCING STEEL OF 3" IN FOOTINGS AND 1 1/2" IN SLABS. FOR POURED CONCRETE WALLS, CONCRETE COVER FOR REINFORCING STEEL MEASURED FROM THE INSIDE FACE OF THE WALL SHALL NOT BE LESS THAN 3/4". CONCRETE COVER FOR REINFORCING STEEL MEASURED FROM THE OUTSIDE FACE OF THE WALL SHALL NOT BE LESS THAN 1 1/2" FOR #5 BARS OR SMALLER, AND NOT LESS THAN 2" FOR #6 BARS OR LARGER.

5. MASONRY UNITS TO CONFORM TO ACE 530/ASCE 5/TMS 402. MORTAR SHALL COMFORM TO ASTM C270.

6. THE UNSUPPORTED HEIGHT OF MASONRY PIERS SHALL NOT EXCEED FOUR TIMES THEIR LEAST DIMENSION FOR UNFILLED HOLLOW CONCRETE MASONRY UNITS AND TEN TIMES THEIR LEAST DIMENSION FOR SOLID OR SOLID FILLED PIERS. PIERS MAY BE FILLED SOLID WITH CONCRETE OR TYPE M OR S MORTAR. PIERS AND WALLS SHALL BE CAPPED WITH 8" OF SOLID MASONRY.

7. THE CENTER OF EACH OF THE PIERS SHALL BEAR IN THE MIDDLE THIRD OF ITS RESPECTIVE FOOTING. EACH GIRDER SHALL BEAR IN THE MIDDLE THIRD OF THE PIERS.

8. ALL CONCRETE AND MASONRY FOUNDATION WALLS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH THE PROVISIONS OF SECTION R404 OF THE NCRC, 2018 EDITION OR IN ACCORDANCE WITH ACI 318, ACI 332, NCMA TR68-A OR ACE 530/ASCE 5/TMS 402. MASONRY FOUNDATION WALLS ARE TO BE REINFORCED PER TABLE R404.1.1(1), R404.1.1(2), R404.1.1(3), OR R404.1.1(4) OF THE NCRC, 2018 EDITION. CONCRETE FOUNDATION WALLS ARE TO BE REINFORCED PER TABLE R404.1.1(5) OF THE NCRC, 2018 EDITION. STEP CONCRETE FOUNDATION WALLS TO 2 x 6 FRAMED WALLS AT 16" O.C. WHERE GRADE PERMITS (UNO).

FRAMING NOTES

1. ALL FRAMING LUMBER SHALL BE #2 SPF MINIMUM (Fb = 875 PSI, Fv = 375 PSI, E = 1600000 PSI) UNLESS NOTED OTHERWISE (UNO). ALL TREATED LUMBER SHALL BE #2 SYP MINIMUM (Fb = 975 PSI, Fv =175 PSI, E = 1600000 PSI) UNLESS NOTED OTHERWISE (UNO).

2. LAMINATED VENEER LUMBER (LVL) SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES: Fb =2600 PSI, Fv = 285 PSI, E = 1900000 PSI. LAMINATED STRAND LUMBER (LSL) SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES: Fb = 2325 PSI, Fv = 310 PSI, E = 1550000 PSI. PARALLEL STRAND LUMBER (PSL) UP TO 7" DEPTH SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES: Fc = 2500 PSI, E =1800000 PSI. PARALLEL STRAND LUMBER (PSL) MORE THAN 7" DEPTH SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES: Fc = 2300 PSI, E = 2000000 PSI. INSTALL ALL CONNECTIONS PER MANUFACTURER'S SPECIFICATIONS.

3. STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING ASTM SPECIFICATIONS
   - A. W AND WT SHAPES: ASTM A992
   - B. CHANNELS AND ANGLES: ASTM A36
   - C. PLATES AND BARS: ASTM A36
   - D. HOLLOW STRUCTURAL SECTIONS: ASTM A500 GRADE B
   - E. STEEL PIPE: ASTM A53, GRADE B, TYPE E OR S

4. STEEL BEAMS SHALL BE SUPPORTED AT EACH END WITH A MINIMUM BEARING LENGTH OF 3 1/2" AND FULL FLANGE WIDTH (UNO). PROVIDE SOLID BEARING FROM BEAM SUPPORT TO FOUNDATION. BEAMS SHALL BE ATTACHED AT THE BOTTOM FLANGE TO EACH SUPPORT AS FOLLOWS (UNO):

   A. WOOD FRAMING — (2) 1/2" DIA. x 4" LONG LAG SCREWS
   B. CONCRETE — (2) 1/2" DIA. x 4" WEDGE ANCHORS
   C. MASONRY (FULLY GROUTED) — (2) 1/2" DIA. x 4" LONG SIMPSON TITEN HD ANCHORS

   LATERAL SUPPORT IS CONSIDERED ADEQUATE PROVIDING THE JOISTS ARE TOE NAILED TO THE 2x NAILER ON TOP OF THE STEEL BEAM, AND THE 2x NAILER IS SECURED TO THE TOP OF THE STEEL BEAM W/ (2) ROWS OF SELF TAPPING SCREWS @ 16" O.C. OR (2) ROWS OF 1/2" DIAMETER BOLTS @ 16" O.C. IF 1/2" BOLTS ARE USED TO FASTEN THE NAILER, THE STEEL BEAM SHALL BE FABRICATED W/ (2) ROWS OF 9/16" DIAMETER HOLES @ 16" O.C.

5. SQUARES DENOTE POINT LOADS WHICH REQUIRE SOLID BLOCKING TO GIRDER OR FOUNDATION. SHADED SQUARES DENOTE POINT LOADS FROM ABOVE WHICH REQUIRE SOLID BLOCKING TO SUPPORTING MEMBER BELOW.

6. ALL LOAD BEARING HEADERS TO CONFORM TO TABLE R602.7.1(1) AND R602.7.1(2) OF THE NCRC, 2018 EDITION OR BE (2) 2 x 6 WITH (1) JACK AND (1) KING STUD EACH END (UNO), WHICHEVER IS GREATER ALL HEADERS TO BE SECURED TO EACH JACK STUD WITH (4) 8d NAILS. ALL BEAMS TO BE SUPPORTED WITH (2) STUDS AT EACH BEARING POINT (UNO). INSTALL KING STUDS PER SECTION R602.7.5 OF THE NORTH CAROLINA RESIDENTIAL CODE, 2018 EDITION.

7. ALL BEAMS, HEADERS, OR GIRDER TRUSSES PARALLEL TO WALL ARE TO BEAR FULLY ON (1) JACK OR (2) STUDS MINIMUM OR THE NUMBER OF JACKS OR STUDS NOTED. ALL BEAMS OR GIRDER TRUSSES PERPENDICULAR TO WALL AND SUPPORTED BY (3) STUDS OR LESS ARE TO HAVE 1 1/2" MINIMUM BEARING (UNO). ALL BEAMS OR GIRDER TRUSSES PERPENDICULAR TO WALL AND SUPPORTED BY MORE THAN (3) STUDS OR OTHER NOTED COLUMN ARE TO BEAR FULLY ON SUPPORT COLUMN FOR ENTIRE WALL DEPTH (UNO). BEAM ENDS THAT BUTT INTO ONE ANOTHER ARE TO EACH BEAR EQUAL LENGTHS (UNO).

8. FLITCH BEAMS SHALL BE BOLTED TOGETHER USING 1/2" DIAMETER BOLTS (ASTM A307) WITH WASHERS PLACED AT THREADED END OF BOLT. BOLTS SHALL BE SPACED AT 24" CENTERS (MAXIMUM), AND STAGGERED AT TOP AND BOTTOM OF BEAM (2" EDGE DISTANCE), WITH (2) BOLTS LOCATED AT 6" FROM EACH END (UNO).

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

10. BRACED WALL PANELS SHALL BE CONSTRUCTED ACCORDING TO THE NORTH CAROLINA RESIDENTIAL CODE 2018 EDITION WALL BRACING CRITERIA. THE AMOUNT, LENGTH, AND LOCATION OF BRACING SHALL COMPLY WITH ALL APPLICABLE TABLES IN SECTION R602.10.

11. PROVIDE DOUBLE JOIST UNDER ALL WALLS PARALLEL TO FLOOR JOISTS. PROVIDE SUPPORT UNDER ALL WALLS PARALLEL TO FLOOR TRUSSES OR I-JOISTS PER MANUFACTURER'S SPECIFICATIONS. INSTALL BLOCKING BETWEEN JOISTS OR TRUSSES FOR POINT LOAD SUPPORT FOR ALL POINT LOADS ALONG OFFSET LOAD LINES.

12. FOR ALL HEADERS SUPPORTING BRICK VENEER THAT ARE LESS THAN 8'-0" IN LENGTH, REST A 6" x 4" x 5/16" STEEL ANGLE WITH 6" MINIMUM EMBEDMENT AT SIDES FOR BRICK SUPPORT (UNO). FOR ALL HEADERS 8'-0" AND GREATER IN LENGTH, BOLT A 6" x 4" x 5/16" STEEL ANGLE TO HEADER WITH 1/2" LAG SCREWS AT 12" O.C. STAGGERED FOR BRICK SUPPORT. FOR ALL BRICK SUPPORT AT ROOF LINES, BOLT A 6" x 4" x 5/16" STEEL ANGLE TO (2) 2 x 10 BLOCKING INSTALLED W/ (4) 12d NAILS EA. PLY BETWEEN WALL STUDS WITH (2) ROWS OF 1/2" LAG SCREWS AT 12" O.C. STAGGERED AND IN ACCORDANCE WITH SECTION R703.8.2.1 OF THE NCRC, 2018 EDITION.

13. FOR STICK FRAMED ROOFS: CIRCLES DENOTE (3) 2 x 4 POSTS FOR ROOF MEMBER SUPPORT. HIP SPLICES ARE TO BE SPACED A MINIMUM OF 8'-0". FASTEN MEMBERS WITH THREE ROWS OF 12d NAILS AT 16" O.C. FRAME DORMER WALLS ON TOP OF DOUBLE OR TRIPLE RAFTERS AS SHOWN (UNO).

14. FOR TRUSSED ROOFS: FRAME DORMER WALLS ON TOP OF 2 x 4 LADDER FRAMING AT 24" O.C. BETWEEN ADJACENT ROOF TRUSSES. STICK FRAME OVER-FRAMED ROOF SECTIONS WITH 2 x 8 RIDGES, 2 x 6 RAFTERS AT 16" O.C. AND FLAT 2 x 10 VALLEYS (UNO).

15. ALL 4 x 4 AND 6 x 6 POSTS TO BE INSTALLED WITH 7000 LB CAPACITY UPLIFT CONNECTORS TOP AND BOTTOM (UNO.) POSTS MAY BE SECURED USING ONE SIMPSON H6 OR LTS12 UPLIFT CONNECTOR FASTENED TO THE BAND AT THE BOTTOM AND THE BEAM AT THE TOP OF EACH POST. ONE 16" SECTION OF SIMPSON CS16 COIL STRAPPING WITH (8) 8d HDG NAILS AT EACH END MAY BE USED IN LIEU OF EACH TWIST STRAP IF DESIRED. FOR MASONRY OR CONCRETE FOUNDATION USE SIMPSON POST BASE.

NORTH CAROLINA PROFESSIONAL SEAL 33736 ENGINEER MATTHEW G. STROTHER

6/11/2020

J.S. THOMPSON ENGINEERING, INC
606 WADE AVE., SUITE 104 RALEIGH, NC 27605
PHONE: (919) 789-9919 FAX: (919) 789-9921
N.C. LICENSE NO.: C-1733

STANDARD STRUCTURAL NOTES

DATE: OCTOBER 29, 2018

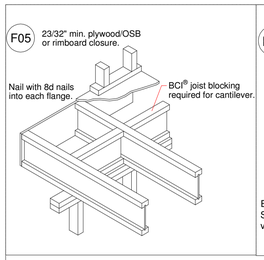
SCALE: 1/4" = 1'-0"

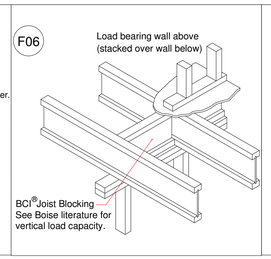
DRAWN BY: JES

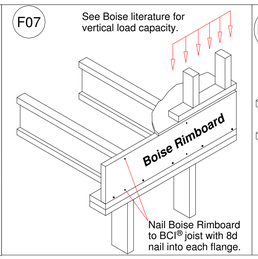
ENGINEERED BY: JST

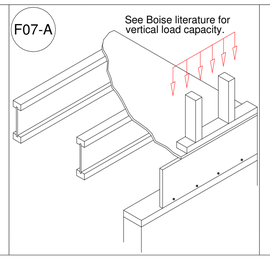
SHEET:

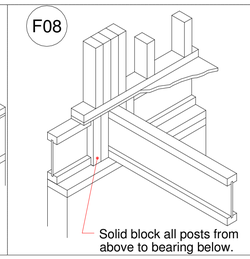
STRUCTURAL NOTES

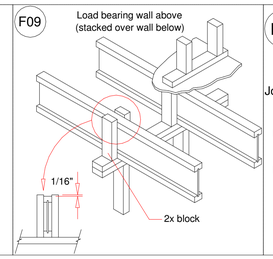


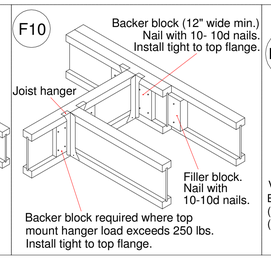


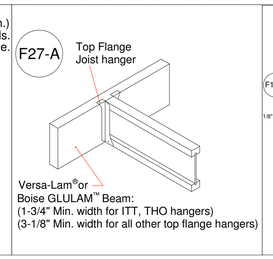


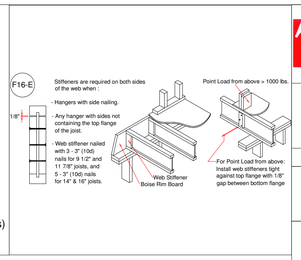


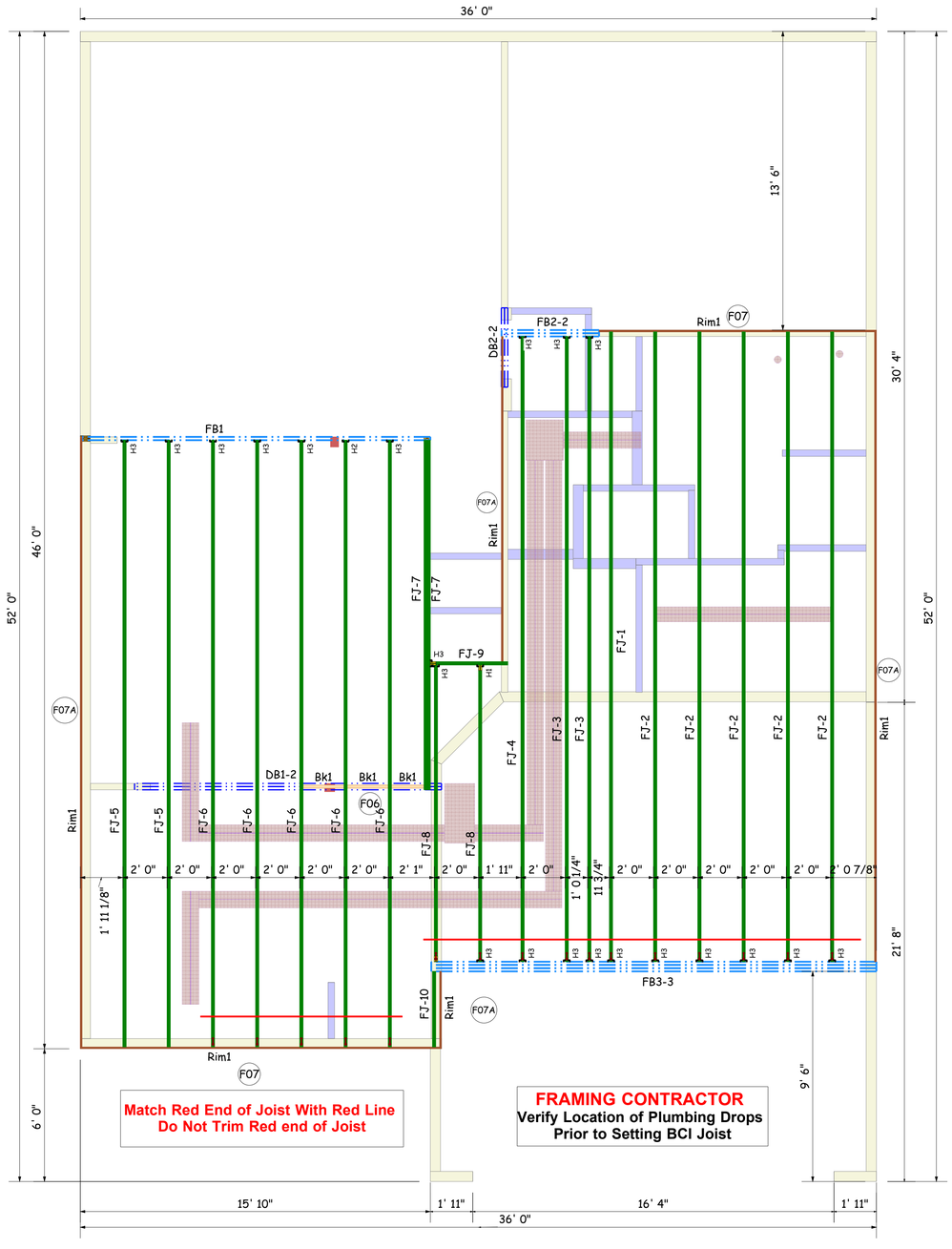












Products

PlotID	Length	Product	Plies	Net Qty	Fab Type
FJ-1	28' 5 3/4"	14" BCI® 4500s-1.8	1	1	FF
FJ-2	28' 5 3/4"	14" BCI® 4500s-1.8	1	5	FF
FJ-3	28' 3 1/4"	14" BCI® 4500s-1.8	1	2	FF
FJ-4	28' 3 1/4"	14" BCI® 4500s-1.8	1	1	FF
FJ-5	27' 5 1/4"	14" BCI® 4500s-1.8	1	2	FF
FJ-6	27' 5 1/4"	14" BCI® 4500s-1.8	1	5	FF
FJ-7	15' 10"	14" BCI® 4500s-1.8	1	2	FF
FJ-8	13' 5"	14" BCI® 4500s-1.8	1	2	FF
FJ-9	3' 6"	14" BCI® 4500s-1.8	1	1	FF
FJ-10	3' 5"	14" BCI® 4500s-1.8	1	1	FF
DB1-2	14' 0"	1-3/4" x 9-1/4" VERSA-LAM® 2.0 3100 SP	2	2	FF
DB2-2	4' 0"	1-3/4" x 9-1/4" VERSA-LAM® 2.0 3100 SP	2	2	FF
FB1	16' 0"	1-3/4" x 14" VERSA-LAM® 2.0 3100 SP	1	1	FF
FB2-2	6' 0"	1-3/4" x 14" VERSA-LAM® 2.0 3100 SP	2	2	FF
FB3-3	22' 0"	1-3/4" x 24" VERSA-LAM® 2.0 3100 SP	3	3	FF
Rim1	12' 0"	1" x 14" BC RIM BOARD OSB	1	9	FF
Bk1	6' 0"	14" BCI® 4500s-1.8	1	1	FF

Hangers

PlotID	Qty	Manuf	Product
H1	1	Simpson	HU14
H2	1	Simpson	IUS 3.56/14
H3	21	Simpson	IUS1.81/14

AIKEN
2nd FLOOR EWP PLACEMENT PLAN

Builders FirstSource

Boise Cascade
www.bldr.com

1135 ROBESON STREET
FAYETTEVILLE, NC 28305
V (910) 485-1111

7601 BOEING DRIVE
GREENSBORO, NC 27409
V (336) 884-5454

3189 NC HIGHWAY5
ABERDEEN NC 28315
V (910) 944-2516

GENERAL NOTES:
1.) READ THE INSTALLATION GUIDE BEFORE FRAMING.
2.) ALL WALLS SHOWN ARE LOAD BEARING UNLESS NOTED OTHERWISE. WALLS NOT SHOWN ARE CONSIDERED NON-LOAD BEARING.
3.) UNLESS STATED OTHERWISE ALL CEILING & ROOF LOADS BRACE DIRECTLY TO LOAD BEARING WALLS SUPPORTED BY FOUNDATION.
4.) CONTACT BUILDERS FIRSTSOURCE BEFORE MAKING ANY ALTERATIONS OR ADJUSTMENTS...FAILURE TO DO SO MAY RESULT IN COSTLY REPAIRS.

A&G RESIDENTIAL

KLF056 AIKEN R

2ND FLOOR PLACEMENT PLAN

Builders FirstSource, Central Carolina Markets

DRAWN BY: AJ NAPIER

DATE: 1/4/2021

SCALE: NTS

JOB NUMBER:

MINIMUM DESIGN DATA
LIVE LOAD 40 PSF
DEAD LOAD 10 PSF
TOTAL LOAD 50 PSF
DOL = 100%
DEFLECTION CRITERIA
L/480 (MINIMUM)

ARCHITECTUAL PLAN DATE
10-10-2015

REVISED ARCH. PLAN DATE
XX-XX-XX

SD032519

Sheet
1 of 1

North Carolina 2018 - R402.1.5 Total UA

Property
, NC 27614
Model: Aiken
Community: NA

Aiken base plan slab
Template - A & G - Aiken base plan s

Organization
Southern Energy Manager
Justin Smith

Builder
A & G

Inspection Status
Results are projected

Building UA

Elements	NC Reference	As Designed
Ceilings	54.8	56.4
Above-Grade Walls	201.7	169.7
Windows, Doors and Skylights	94.5	87.3
Slab Floor:	79.0	103.1
Framed Floors	15.1	17.7
Foundation Walls	0.0	0.0
Rim Joists	8.4	8.3
Overall UA (Design must be equal or lower):	**453.5**	**442.5**

Requirements

✓	402.1.5	Total UA alternative for insulation and fenestration	
✓	402.3.2 Glazed Fenestration SHGC	Average SHGC: 0.27; Max SHGC: 0.30	
✓	R402.4.2.2	Air Leakage Testing	Air sealing is 4.80 ACH at 50 Pa. It must not exceed 5.00 ACH at 50 Pa.
✓	R402.5	Area-weighted average fenestration SHGC	
✓	R402.5	Area-weighted average fenestration U-Factor	
✓	R404.1	Lighting Equipment Efficiency	
✓	Mandatory Checklist	Mandatory code requirements that are not checked by Ekotrope must be met.	
✓	R403.3	Duct Insulation	
✓	403.3.3	Duct Testing	

Design exceeds requirements for North Carolina 2018 Prescriptive compliance by 2.4%.

Name:	Justin Smith	Signature:	Justin Smith
Organization:	Southern Energy Management	Digitally signed:	10/8/19 at 3:28 PM

Building Summary

Property
, NC 27614
Model: Aiken
Community: NA

Aiken base plan slab
Template - A & G - Aiken base plan slab CZ 4 - ecoS

Organization
Southern Energy Management
Justin Smith

Builder
A & G

Inspection Status
Results are projected

General Building Information

Number Of Bedrooms	3
Number Of Floors	2
Conditioned Floor Area [sq. ft.]	2,452
Unconditioned, attached garage?	Yes
Conditioned Volume [cu. ft.]	25,196
Total Units in Building	1
Residence Type	Single family detached
Floor Number	-
Model	Aiken
Community	NA
Climate Zone	4A

Foundation Wall

None Present

Foundation Wall Library List

None Present

Slab

Name	Library Type	Perimeter	Floor Grade	Carpet R	Exposed Masonry Area	Surface Area	Location	Enclosing
slab	Uninsulated	163	On Grade	1	0	1,362.0 ft²	Exposed Exterior	Conditioned Space

Slab Library List

Name	Wall Construction Type	Slab Completely Insulated?	Underslab Insulation Width [ft]	Perimeter Insulation Depth [ft]	Perimeter Insulation R Value	Thermal Break	Effective R-value
Uninsulated	Wood Frame / Other	No	0	0	0	No	0.00

Framed Floor

Name	Library Type	Carpet R	Floor Grade	Surface Area	Location
over garage	R-19, 16"OC G3 Carpet	0	Above Grade	322.0 ft²	Unconditioned, attached garage

Building Summary

Property
, NC 27614
Model: Aiken
Community: NA

Aiken base plan slab
Template - A & G - Aiken base plan slab CZ 4 - ecoS

Organization
Southern Energy Management
Justin Smith

Builder
A & G

Inspection Status
Results are projected

Framed Floor Library List

Name	Effective R-value
R-19, 16"OC G3 Carpet	18.202

Rim Joist

Name	Library Type	Surface Area	Location
1st floor ambient	R-19 G3, 16"OC	118.0 ft²	Exposed Exterior
1st floor garage	R-19 G3, 16"OC	34.0 ft²	Unconditioned, attached garage

Rim Joist Library List

Name	Effective Insulation R-value
R-19 G3, 16"OC	13.20

Wall

Name	Library Type	Surface Color	Surface Area	Location
1st floor ambient	R 19 Adv. Framing G3 16" O.C	Medium	1,163.0 ft²	Exposed Exterior
1st floor garage	R 19 Adv. Framing G3 16" O.C	Medium	304.0 ft²	Unconditioned, attached garage
2nd floor ambient	R 19 Adv. Framing G3 16" O.C	Medium	947.0 ft²	Exposed Exterior
2nd floor attic	R 19 Adv. Framing G3 16" O.C	Medium	475.0 ft²	Attic

Wall Library List

Name	Effective R-value
R 19 Adv. Framing G3 16" O.C	15.433

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Glazing

Name	Library Type	Wall Assignment	Foundation Wall Assignment	Overhang Depth	Overhang Ft To Top	Overhang Ft To Bottom	Orientation	Surface Area
front 2nd unshaded	35/27	2nd floor ambient		0	0	0	West	36.9 ft²
front shaded	35/27	1st floor ambient		6	1	7	West	39.0 ft²
left 2nd unshaded	35/27	2nd floor ambient		0	0	0	North	30.0 ft²
left unshaded	35/27	1st floor ambient		0	0	0	North	8.0 ft²
rear unshaded	35/27	1st floor ambient		0	0	0	East	63.0 ft²
right 2nd unshaded	35/27	2nd floor ambient		0	0	0	South	30.0 ft²
right unshaded	35/27	1st floor ambient		0	0	0	South	15.0 ft²

Glazing Library List

Name	Shgc	U-factor
35/27	0.27	0.350

Skylight

None Present

Skylight Library List

None Present

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Opaque Door

Name	Library Type	Wall Assignment	Foundation Wall Assignment	Emittance	Solar Absorptance	Surface Color	Surface Area	Location
attic door	Fiberglass R-5	2nd floor attic		0.9	0.75	Medium	10.0 ft²	Exposed Exterior
front entry	Fiberglass R-5	1st floor ambient		0.9	0.75	Medium	20.0 ft²	Exposed Exterior
garage entry	Fiberglass R-5	1st floor garage		0.9	0.75	Medium	18.0 ft²	Exposed Exterior

Opaque Door Library List

Name	Effective U-factor
Fiberglass R-5	0.200

Roof Insulation

Name	Library Type	Attic Exterior Area [s.f.]	Clay or Concrete Roof Tiles	Surface Color	Surface Area	Location
Attic	R-38 Attic BLOWN FG G1 2x10 24"OC w/ Radiant Barrier	1,162.8	No	Dark	969.0 ft²	Attic
Attic vaulted	R-30 Attic FG VAULTED G1 2x10 w/ Radiant Barrier	858	No	Dark	858.0 ft²	Vaulted Roof

Roof Insulation Library List

Name	Has Radiant Barrier	Effective R-value
R-30 Attic FG VAULTED G1 2x10 w/ Radiant Barrier	Yes	28.227
R-38 Attic BLOWN FG G1 2x10 24"OC w/ Radiant Barrier	Yes	37.246

Whole House Infiltration

Infiltration	Measurement Type	Shelter Class
2015 CFM at 50 Pa	Blower-door tested	4

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Mechanical Ventilation

None Present

Lighting

% Interior Fluorescent Lighting	% Interior LED Lighting	% Exterior Fluorescent Lighting	% Exterior LED Lighting	% Garage Fluorescent Lighting	% Garage LED Lighting
75	0	0	0	0	0

Onsite Generation

None Present

Onsite Generation Library List

None Present

Solar Generation

None Present

Solar Generation Library List

None Present

Conditioning Equipment

Name	Library Type	Heating Percent Load	Cooling Percent Load	Hot Water Percent Load	Location
Air-source heat pump	z 48k 14 Seer 8.2hspf	100%	100%	0%	Unspecified
Water Heating	Z 50 gal. 0.59EF Gas	0%	0%	100%	Unspecified

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Equipment Type: Z 50 gal. 0.59EF Gas

Fuel Type	Natural Gas
Distribution Type	Hydronic Delivery
Hot Water Efficiency	0.59 Energy Factor
Tank Capacity (gal.)	50
Hot Water Capacity [kBtu/h]	40
Recovery Efficiency	0.76

Equipment Type: z 48k 14 Seer 8.2hspf

Fuel Type	Electric
Distribution Type	Forced Air
Motor Type	PSC (Single Speed)
Heating Efficiency	8.2 HSPF
Heating Capacity [kBtu/h]	48
Cooling Efficiency	14 SEER
Cooling Capacity [kBtu/h]	48

Building Summary

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Distribution System

Distribution Type	Forced Air
Heating Equipment	Air-source heat pump
Cooling Equipment	Air-source heat pump
Sq. Feet Served	2452
# Return Grilles	4
Supply Duct R Value	8
Return Duct R Value	8
Supply Duct Area [ft²]	496.5
Return Duct Area [ft²]	367.8
Leakage to Outdoors	98 CFM25 (4 / 100 s.f.)
Total Leakage	98 CFM25
Total Leakage Duct Test Conditions	Post-Construction
Use Default Flow Rate	Yes
Duct 1	
Duct Location	Conditioned Space
Percent Supply Area	30
Percent Return Area	30
Duct 2	
Duct Location	Attic (well vented, radiant barrier)
Percent Supply Area	70
Percent Return Area	70
Duct 3	
Duct Location	Conditioned Space
Percent Supply Area	0
Percent Return Area	0
Duct 4	
Duct Location	Conditioned Space
Percent Supply Area	0
Percent Return Area	0
Duct 5	
Duct Location	Conditioned Space
Percent Supply Area	0
Percent Return Area	0
Duct 6	
Duct Location	Conditioned Space
Percent Supply Area	0
Percent Return Area	0

Ceiling Fan

Has Ceiling Fan	Yes
Cfm Per Watt	100

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Water Distribution

Water Fixture Type	Standard
Use Default Hot Water Pipe Length	No
Hot Water Pipe Length [ft]	90
At Least R3 Pipe Insulation?	No
Hot Water Recirculation System?	No
Recirculation System Pipe Loop Length [ft]	20
Drain Water Heat Recovery?	No

Clothes Dryer

Fuel Type	Electric
Cef	2.617
Field Utilization	Timer Controls

Clothes Washer

Label Energy Rating	151 kWh/Year
Electric Rate	$0.11/kWh
Annual Gas Cost	$12.00
Gas Rate	$1.22/Therm
Capacity	3.31
Imef	2.15474

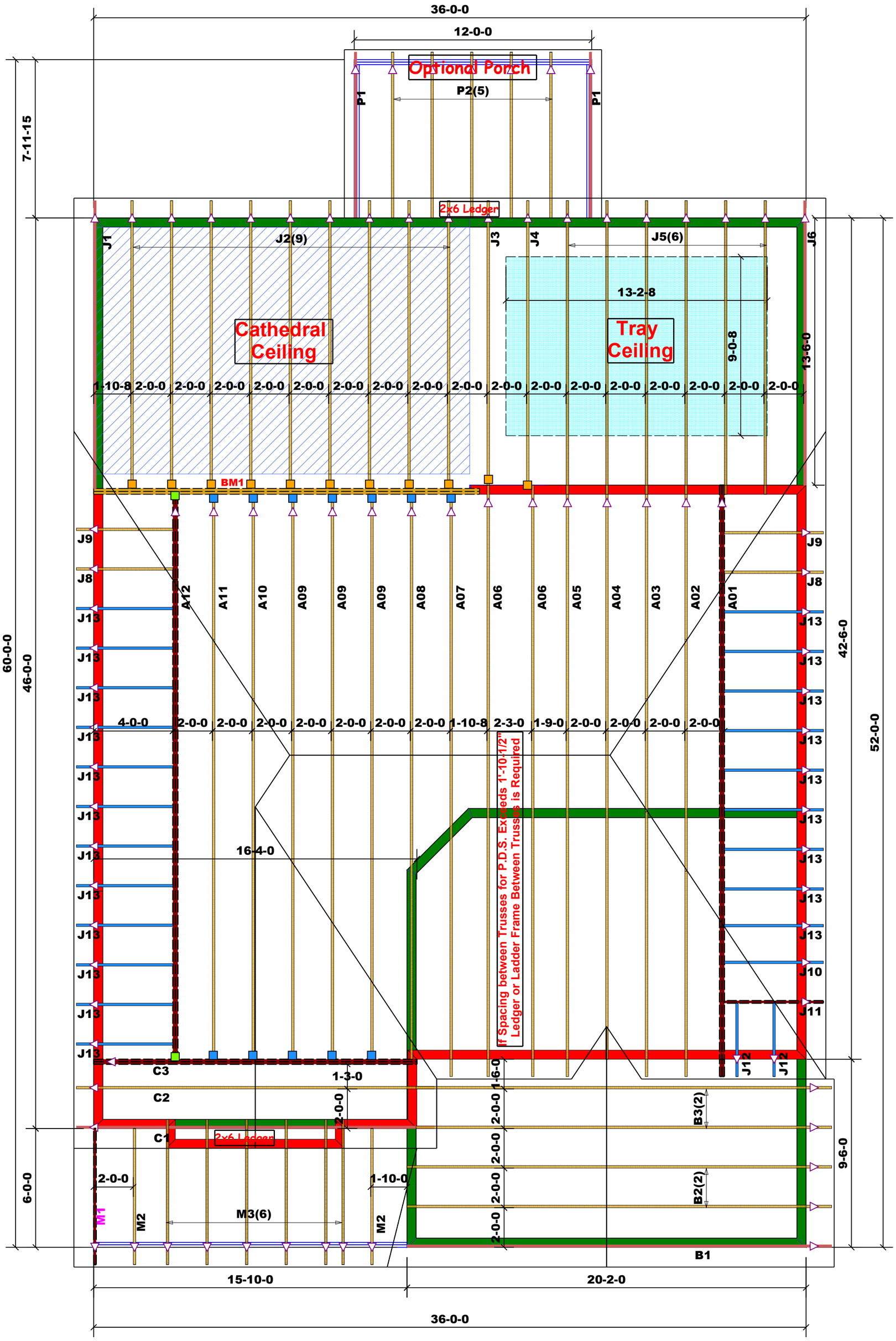
Appliances and Controls

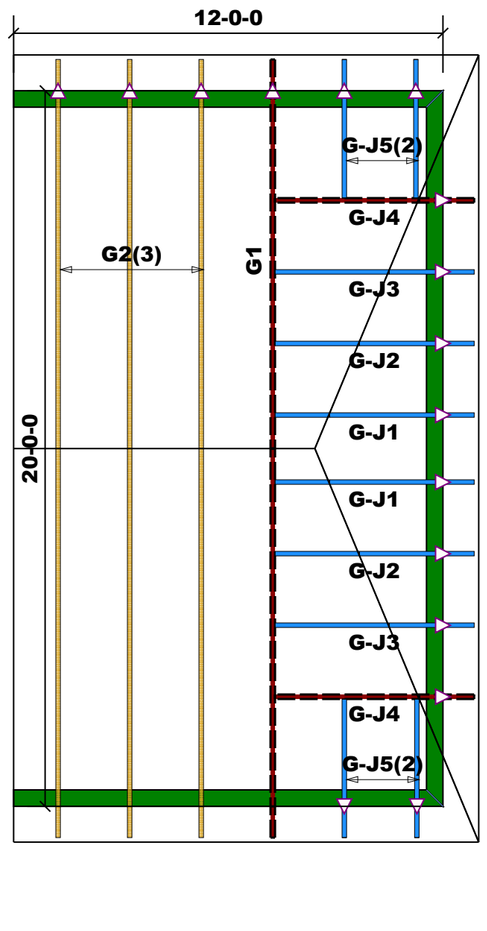
Programmable thermostat?	Yes
Dishwasher Size	Standard
Dishwasher Efficiency	0.65 EF
Range/Oven Fuel	Electric
Convection Oven?	No
Induction Range?	No
Refrigerator Consumption	700 kWh/Year

Notes

-updated JS 10/08/19

-confirm attic insulation and hvac specs
-ventilation modeled as none
-confirm cfl lighting %
-modeled to worst case orientation





= 1st Level Wall

= 2nd Level Wall

	HUS26	USP	12	NA	16d/3-1/2"	16d/3-1/2"
	JUS26	USP	11	NA	10d/3"	10d/3"

Truss Placement Plan
SCALE: 1/4"=1'

= Indicates Left End of Truss
(Reference Engineered Truss Drawing)
Do NOT Erect Truss Backwards

LOAD CHART FOR JACK STUDS

(BASED ON TABLES R502.5(1) & (b))
NUMBER OF JACK STUDS REQUIRED @ EA END OF HEADER/GIRDER

END REACTION (UP TO)	REQ'D STUDS FOR (2) PLY HEADER	END REACTION (UP TO)	REQ'D STUDS FOR (3) PLY HEADER	END REACTION (UP TO)	REQ'D STUDS FOR (4) PLY HEADER
1700	1	2550	1	3400	1
3400	2	5100	2	6800	2
5100	3	7650	3	10200	3
6800	4	10200	4	13600	4
8500	5	12750	5	17000	5
10200	6	15300	6		
11900	7				
13600	8				
15300	9				

BUILDER	A & G	CITY / CO.	Harnett County / Harnett
JOB NAME	Lot 56 Kenlan Farms	ADDRESS	Kenlan Farms
PLAN	Aiken "C" LF3, RP, 3rd Car	MODEL	Roof
SEAL DATE	1/31/2020	DATE REV.	01/11/21
QUOTE #		DRAWN BY	Marshall Naylor
JOB #	J0121-0217	SALES REP.	Marshall Naylor

THIS IS A TRUSS PLACEMENT DIAGRAM ONLY.
These trusses are designed as individual building components to be incorporated into the building design at the specification of the building designer. See individual design sheets for each truss design identified on the placement drawing. The building designer is responsible for temporary and permanent bracing of the roof and floor system and for the overall structure. The design of the truss support structure including headers, beams, walls, and columns is the responsibility of the building designer. For general guidance regarding bracing, consult BCSI-B1 and BCSI-B3 provided with the truss delivery package or online @ sbcindustry.com

Bearing reactions less than or equal to 3000# are deemed to comply with the prescriptive Code requirements. The contractor shall refer to the attached Tables (derived from the prescriptive Code requirements) to determine the minimum foundation size and number of wood studs required to support reactions greater than 3000# but not greater than 15000#. A registered design professional shall be retained to design the support system for any reaction that exceeds those specified in the attached Tables. A registered design professional shall be retained to design the support system for all reactions that exceed 15000#.

Signature Marshall Naylor
Marshall Naylor

comTECH
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