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

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

11/19/2020

Harnett COUNTY NORTH CAROLINA

EMBARK
H&H HOMES

PLAN REVISIONS

11-08-17	COMPLETED CONSTRUCTION DOCUMENTS INCLUDING CLIENT REVIEW COMMENTS.
11-16-17	MIRRORED PLANS TO CREATE LEFT HAND GARAGE VERSION.
09-14-18	STANDARD CLIENT CHANGES PER CLIENT WALK-THRU NOTES DATED 08-30-18. CHANGES INCLUDE BUT NOT LIMITED TO THE FOLLOWING: REMOVE OPT. LAUNDRY TUB, REMOVE KITCHEN ISLAND KNEEWALLS, CHANGE KITCHEN ISLAND COUNTER TOP TO HAVE 12" OVERHANGS, REMOVE O.H.C. ABOVE FRIDGE, ADD PLUMBING DROP UNDER CABINET, REMOVE GARAGE SERVICE DOORS, REMOVE OPT. RAILING AT STAIRS, REVISE ALL SECONDARY CLOSETS AND LINENS TO HAVE BI-FOLD DOORS, REVISE OPT. E-CENTER TO HAVE 18" DRAWER BANK EACH SIDE WITH 32" KNEE SPACE WITH 2 USB OUTLETS, REMOVE WINDOW GRIDS AT SIDES AND REAR ELEVATIONS, CHANGE ALL GARAGE DOORS TO 16 PANEL DOORS, REVISE DATA DROPS TO BE 1 PHONE IN KITCHEN AND 1 T.V. IN OWNERS SUITE AND GATHERING ROOM ONLY, REMOVE COVERED PORCH OPTION, REVISE KITCHEN LIGHTING TO BE 4-BULB FLUORESCENT LIGHT. PLAN SPECIFIC CHANGES INCLUDE BUT NOT LIMITED TO THE FOLLOWING: REMOVE OPT. DOOR AT OWNER'S SUITE, REMOVE OPT. WINDOW AT BACK AND SIDE WALLS OF GATHERING ROOM, REMOVE O.H.C. ABOVE REF. AND SIDE WALL. ELEVATION "A" - REMOVE PICTURE FRAMING AT FRONT PORCH AND ADD PILASTER COLUMN, CHANGE HIP ROOF AT REAR OF HOUSE TO GABLE WITH FLUSH OVERHANG. ELEVATION "B" - REMOVE DECORATIVE GABLE BRACKET AT TOP GABLE AND REPLACE WITH TYPICAL GABLE BRACKET, CHANGE HIP ROOF AT REAR OF HOUSE TO GABLE WITH FLUSH OVERHANG. ELEVATION "C" - CHANGE HIP AT REAR OF HOUSE TO GABLE WITH FLUSH OVERHANG.
02-04-20	ADJUSTED THE PATIO/PAD TO MEASURE 10' X 8' AND ADJUSTED DIMENSIONS OF CONCRETE PAD/PATIO. VERIFIED HDR. HGT. WAS AT LEAST 7'-0" ON ALL EXTERIOR WINDOWS. VERIFIED ROOM SIZES AND DIMENSIONS. CHANGED WASHER, DRYER, AND REFRIGERATOR TO OPTIONAL COMPONENTS. VERIFIED MASTERS WAS CHANGED TO OWNER'S THROUGHOUT PLAN. CHANGED FRONT DOOR ON ELEVATION C TO 2-PANEL INSTEAD OF 3-PANEL DOOR. ADDED ROOF VENT CALCULATIONS OF ALL ELEVATION. CHANGED 2X4 WALL AT REAR OF THE GARAGE TO 2X6 WALL. UPDATED SLAB INTERFACE PLAN AND OPTIONS. ADDED OPT. DBL OVEN TO PLANS IN KITCHEN. ADDED INSULATION DETAIL TO PLAN SHEETS. ADDED 3-@ 5-0 WINDOW AT OWNER'S BEDROOM FOR VENTILITION PURPOSES. CHANGE ALL CEILING FANS TO OPTIONAL. REVISED CUTSHEETS.

SQUARE FOOTAGE			
HEATED AREAS	ELEV 'A'	ELEV 'B'	ELEV 'C'
MAIN FLOOR	1724 SQ. FT.	1724 SQ. FT.	1724 SQ. FT.
TOTAL HEATED SF	1724 SQ. FT.	1724 SQ. FT.	1724 SQ. FT.
UNHEATED AREAS			
1 CAR GARAGE	249 SQ. FT.	249 SQ. FT.	249 SQ. FT.
COVERED AREAS			
FRONT PORCH	63 SQ. FT.	63 SQ. FT.	63 SQ. FT.
UNCOVERED AREAS			
OPTIONAL PATIO	80 SQ. FT.	80 SQ. FT.	80 SQ. FT.
OPTIONAL EXTENDED PATIO	100 SQ. FT.	100 SQ. FT.	100 SQ. FT.
UNHEATED OPTIONS			
OPTIONAL 1-CAR GARAGE	240 SQ. FT.	240 SQ. FT.	240 SQ. FT.

Buyer Marked

H&H HOMES

JOB NUMBER	27187.03
CAD FILE NAME	EMBARK-R
ISSUED	11-08-17
REVISED	11-17-17
	09-14-18
	02-04-20

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DRAWINGS ON 11"x17" SHEET ARE ONE HALF THE SCALE NOTED

CS000070

EMBARK (GARAGE LEFT)
H&H HOMES

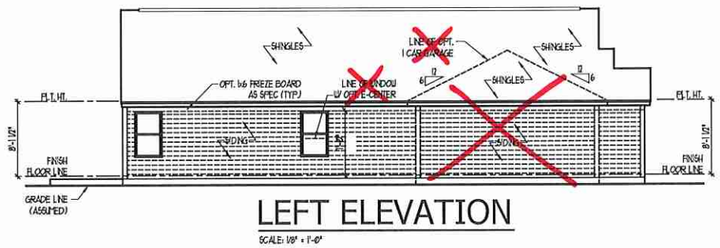
1724

TITLE
REVISION LOG

SHEET
CS

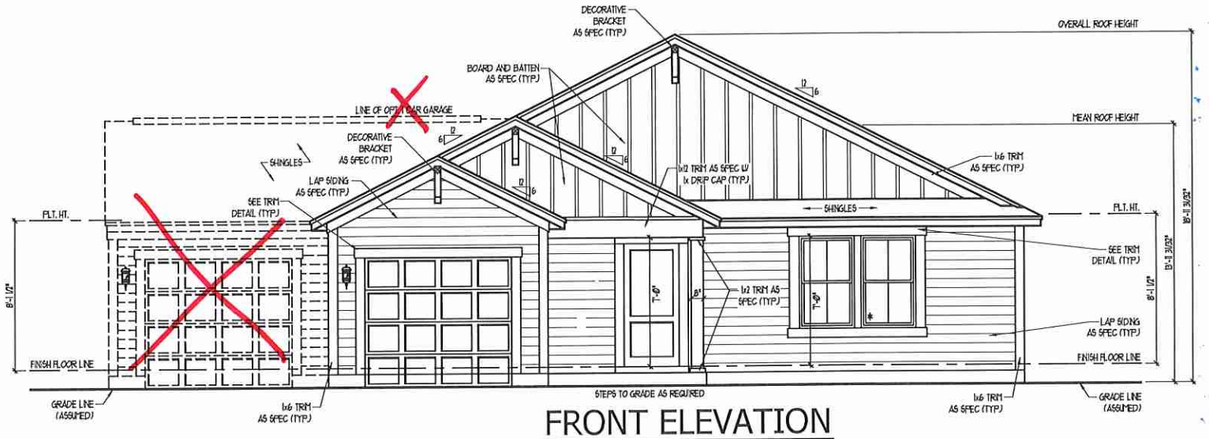
REAR ELEVATION

SCALE: 1/8" = 1'-0"



LEFT ELEVATION

SCALE: 1/8" = 1'-0"



FRONT ELEVATION

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

TOTAL UNDER ROOF AREA:			1724	SQ.FT.
VENTING AREA REQUIRED:	1724 SQ. FT. / 300 =		5.74	SQ.FT.
TOTAL REQUIREMENTS:	LOWER: 2.87	UPPER: 2.87		

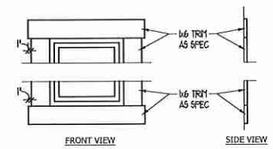
LOWER AREA VENTING

SOFFIT VENT	SIZE:	PER UNIT:	# UNITS:	PROVIDED:
	-	361 SQ.IN.	191'-0"	7.8
		LOWER AREA VENTING PROVIDED:		-

UPPER AREA VENTING

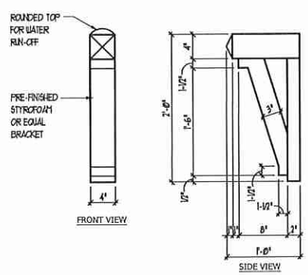
RIDGE VENT	SIZE:	PER UNIT:	# UNITS:	PROVIDED:
	-	125 SQ.IN.	42'-0"	5.3
		UPPER AREA VENTING PROVIDED:		-

TOTAL AREA PROVIDED	
SOFFIT AND RIDGE VENT	13.1



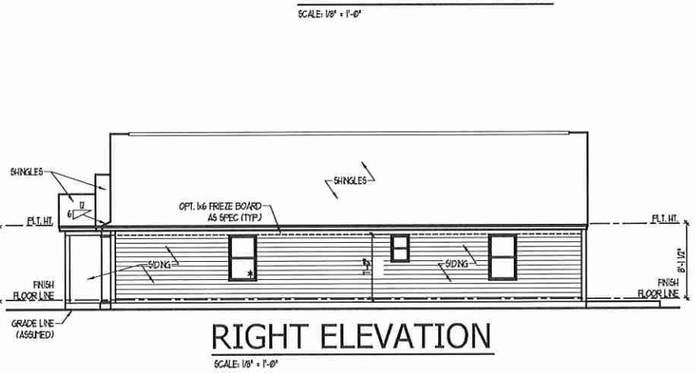
TRIM DETAIL

SCALE: NTS



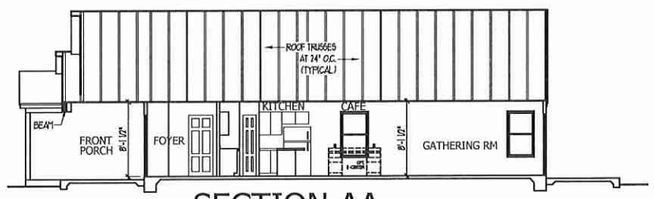
BRACKET DETAIL

SCALE: 1" = 1'-0"



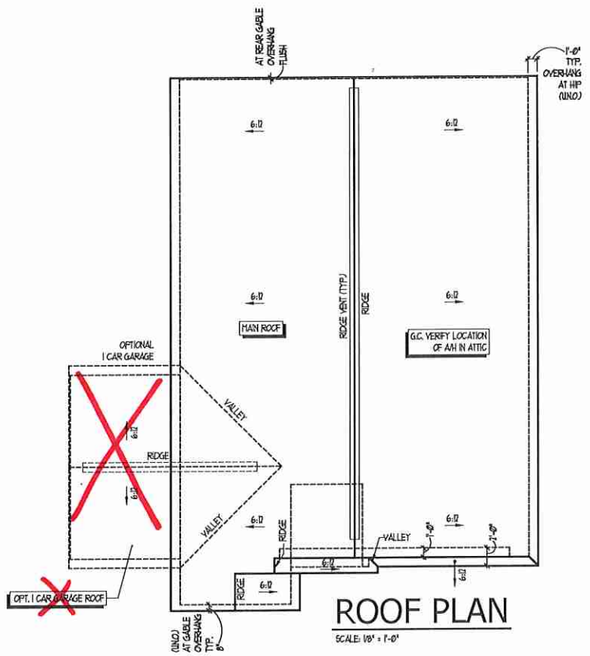
RIGHT ELEVATION

SCALE: 1/8" = 1'-0"



SECTION AA

SCALE: 1/8" = 1'-0"



ROOF PLAN

SCALE: 1/8" = 1'-0"

ELEVATION "B" - FARMHOUSE
GARAGE RIGHT

H&H HOMES

JOB NUMBER	27187.03
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REVISED	11-17-17
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80 SOUTH STREET EAST
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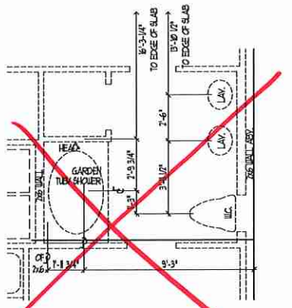
EMBARK (GARAGE LEFT)
H&H HOMES

1724

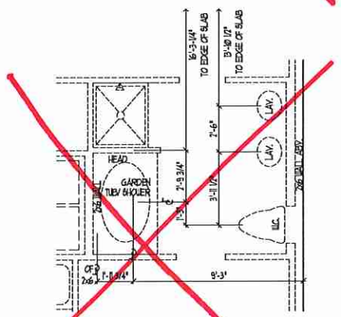
TITLE
FRONT ELEVATION DETAILS

SHEET
A4.0



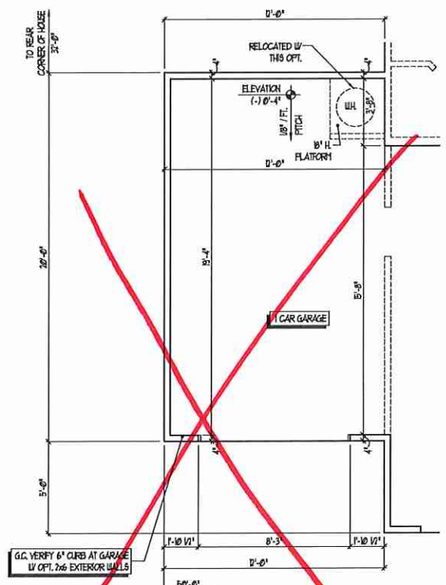
OPT. OWNER'S BATH 2

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



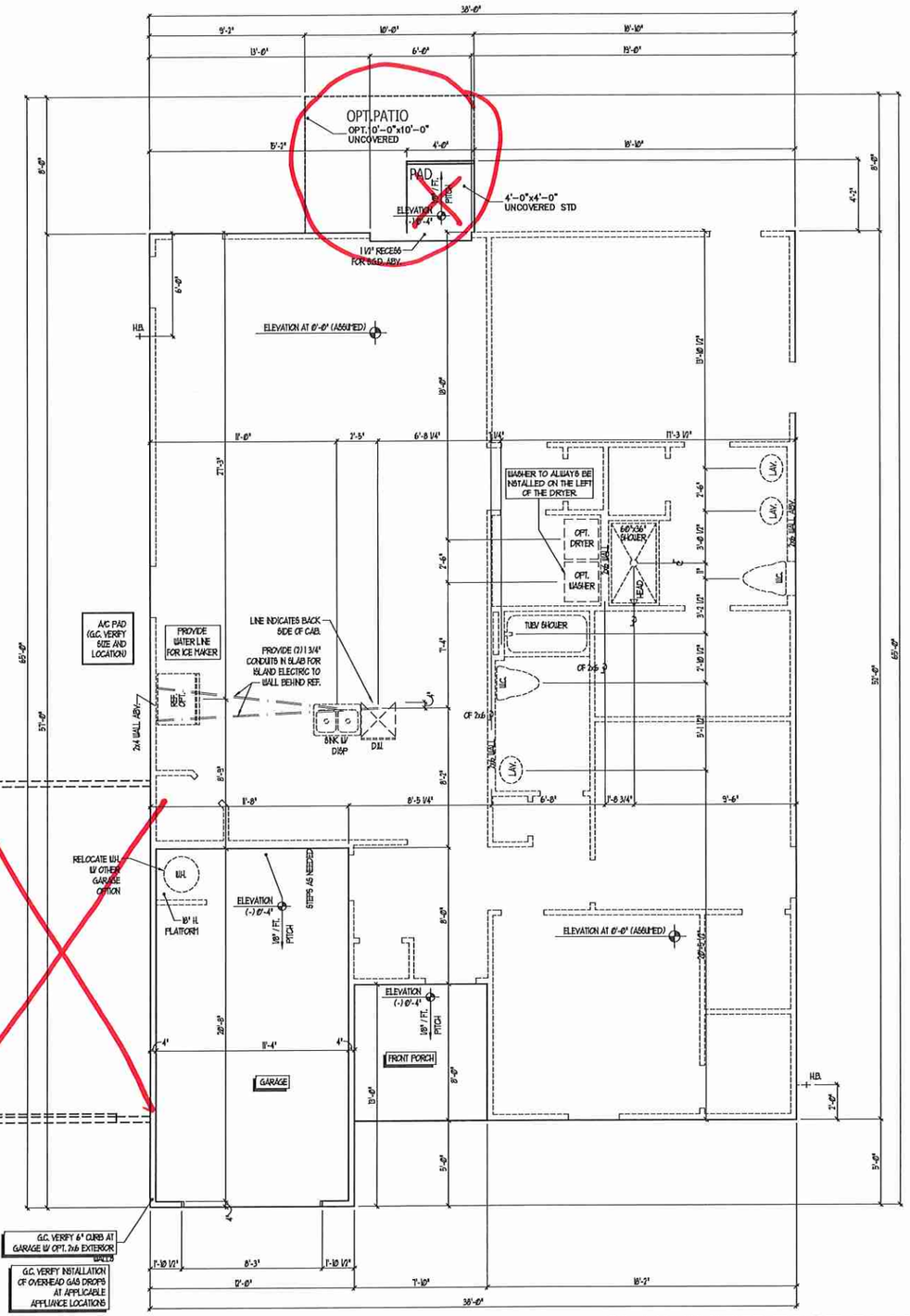
OPT. OWNER'S BATH 3

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



OPT. 1 CAR GARAGE

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



SLAB INTERFACE PLAN

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

H&H HOMES

JOB NUMBER	27167.03
CAD FILE NAME	EMBARK-R
ISSUED	11-08-17
REVISED	11-17-17
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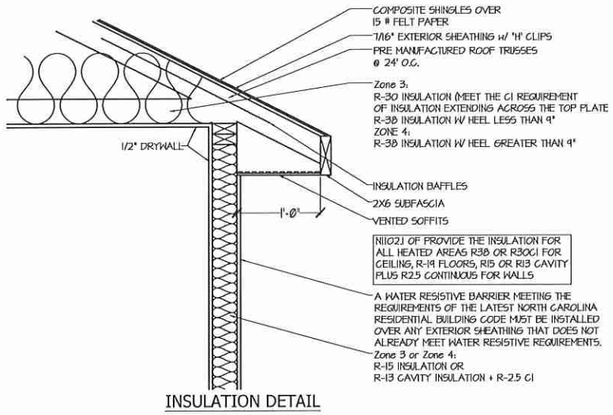
DRAWINGS ON 11"x17" SHEET ARE ONE HALF THE SCALE NOTED

EMBARK (GARAGE LEFT)
H&H HOMES

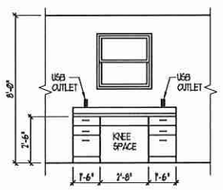
1724

TITLE
SLAB INTERFACE PLAN
SLAB INTERFACE OPTIONS

SHEET
A1.0



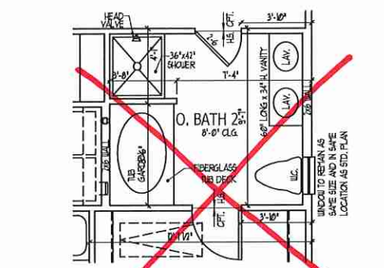
INSULATION DETAIL

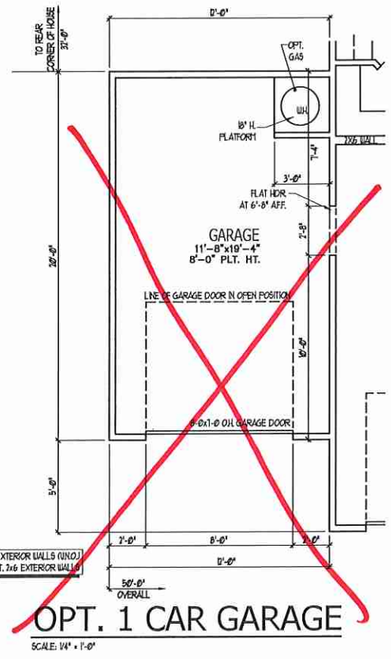


A OPT. E - CENTER

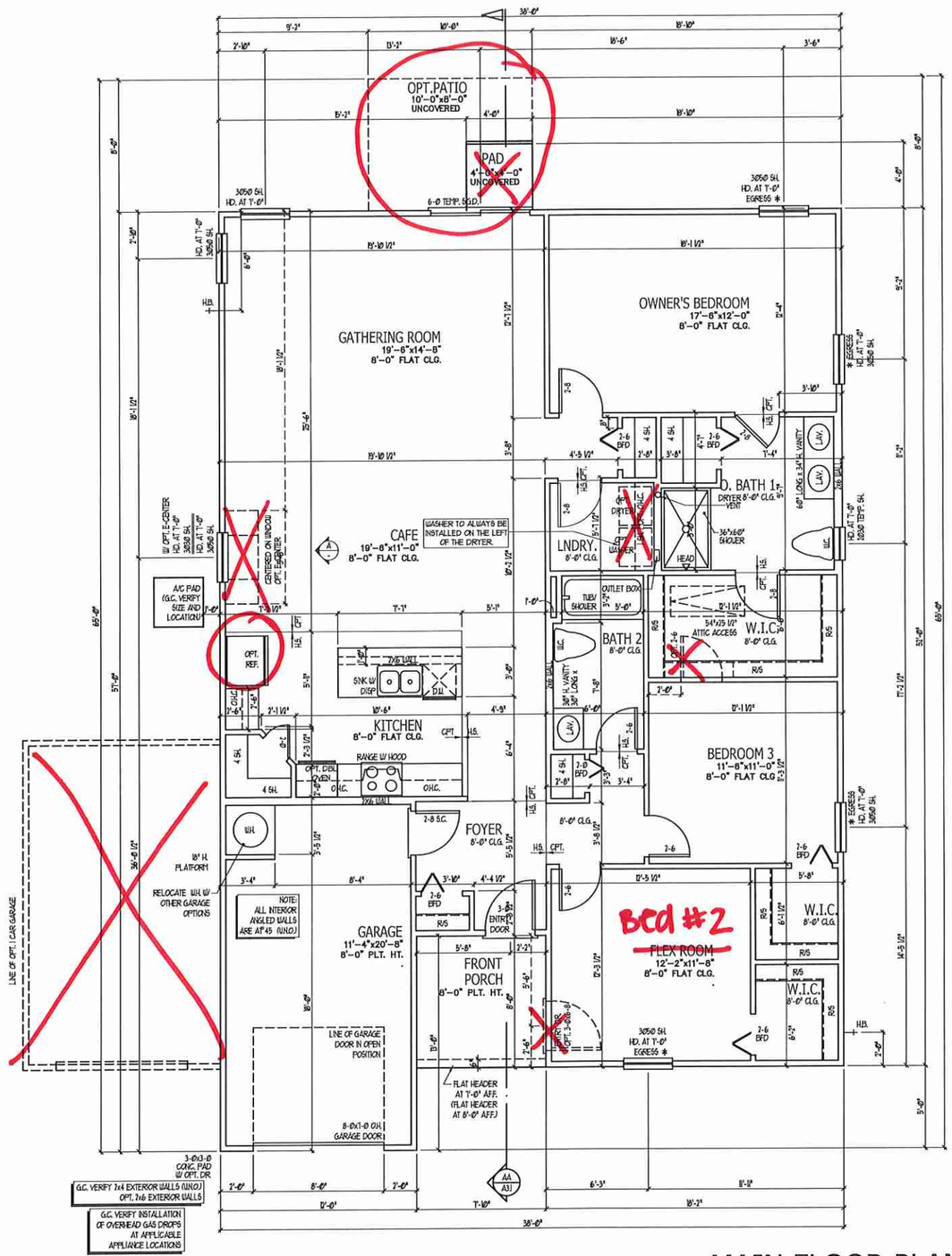
SQUARE FOOTAGE			
HEATED AREAS	ELEV 'A'	ELEV 'B'	ELEV 'C'
MAIN FLOOR	1724 SQ. FT.	1724 SQ. FT.	1724 SQ. FT.
TOTAL HEATED SF	1724 SQ. FT.	1724 SQ. FT.	1724 SQ. FT.
UNHEATED AREAS			
1 CAR GARAGE	249 SQ. FT.	249 SQ. FT.	249 SQ. FT.
COVERED AREAS			
FRONT PORCH	63 SQ. FT.	63 SQ. FT.	63 SQ. FT.
UNCOVERED AREAS			
OPTIONAL PATIO	80 SQ. FT.	80 SQ. FT.	80 SQ. FT.
OPTIONAL EXTENDED PATIO	100 SQ. FT.	100 SQ. FT.	100 SQ. FT.
UNHEATED OPTIONS			
OPTIONAL 1-CAR GARAGE	240 SQ. FT.	240 SQ. FT.	240 SQ. FT.

G.C. VERIFY 2x4 EXTERIOR WALLS (U.N.O.)
OPT. 2x6 EXTERIOR WALLS





G.C. VERIFY 2x4 EXTERIOR WALLS (U.N.O.)
OPT. 2x6 EXTERIOR WALLS



G.C. VERIFY 2x4 EXTERIOR WALLS (U.N.O.)
OPT. 2x6 EXTERIOR WALLS

G.C. VERIFY INSTALLATION OF OVERHEAD GAS DROPS AT APPLICABLE APPLIANCE LOCATIONS

H&H HOMES

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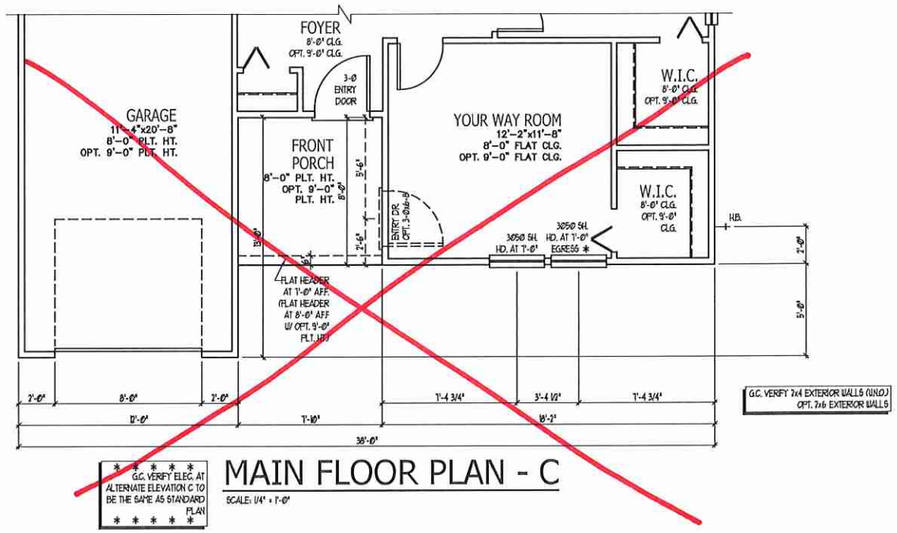
EMBARK (GARAGE LEFT)
H&H HOMES

1724

TITLE
FLOOR PLAN

SHEET
A2.0



* * * * * G.C. VERIFY ELEC. AT ALTERNATE ELEVATION C TO BE THE SAME AS STANDARD PLAN * * * * *

MAIN FLOOR PLAN - C

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

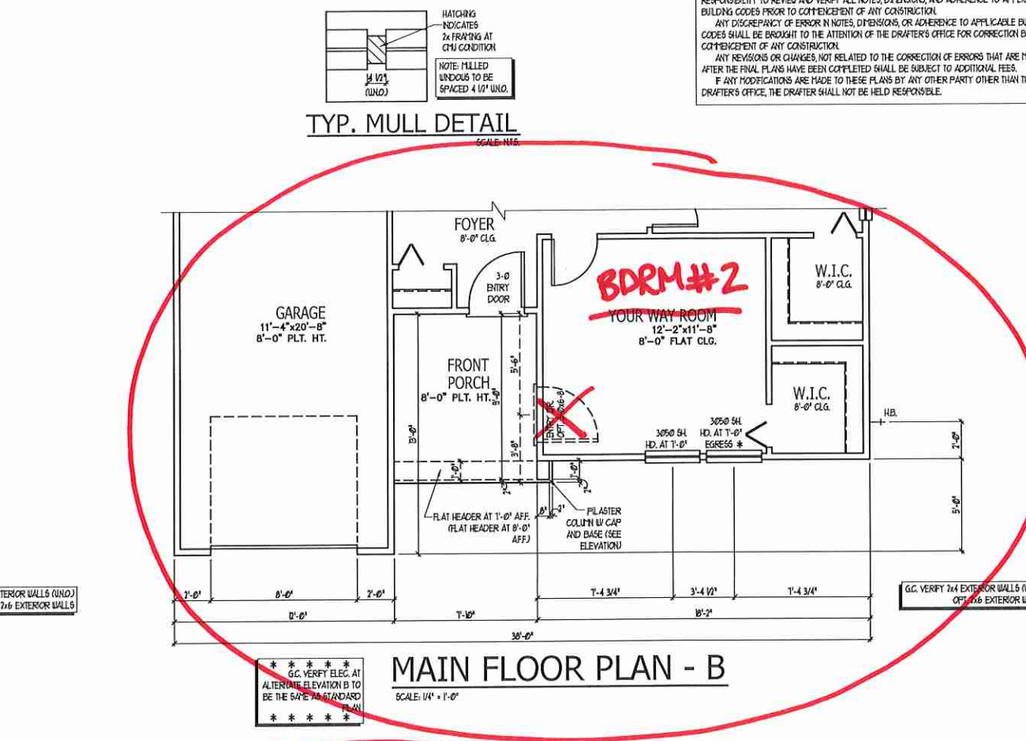
SLAB INTERFACE PLAN - C

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

* * * * * G.C. VERIFY ELEC. AT ALTERNATE ELEVATION B TO BE THE SAME AS STANDARD PLAN * * * * *

MAIN FLOOR PLAN - B

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



SLAB INTERFACE PLAN - B

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

TYP. MULL DETAIL

SCALE: N.T.S.

ISSUANCE OF PLANS FROM THIS DRAFTER'S OFFICE SHALL NOT RELIEVE THE BUILDER OF RESPONSIBILITY TO REVIEW AND VERIFY ALL NOTES, DIMENSIONS, AND ADHERENCE TO APPLICABLE BUILDING CODES PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION.

ANY DISCREPANCY OF ERROR IN NOTES, DIMENSIONS, OR ADHERENCE TO APPLICABLE BUILDING CODES SHALL BE BROUGHT TO THE ATTENTION OF THE DRAFTER'S OFFICE FOR CORRECTION BEFORE COMMENCEMENT OF ANY CONSTRUCTION.

ANY REVISIONS OR CHANGES, NOT RELATED TO THE CORRECTION OF ERRORS THAT ARE MADE AFTER THE FINAL PLANS HAVE BEEN COMPLETED SHALL BE SUBJECT TO ADDITIONAL FEES.

IF ANY MODIFICATIONS ARE MADE TO THESE PLANS BY ANY OTHER PARTY OTHER THAN THE DRAFTER'S OFFICE, THE DRAFTER SHALL NOT BE HELD RESPONSIBLE.

REFER TO STANDARD PLAN FOR INFORMATION NOT SHOWN

PARTIAL PLANS AT ELEVATIONS

H&H HOMES

JOB NUMBER	27167.03
CAD FILE NAME	EMBARK-R
ISSUED	11-08-17
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EMBARK (GARAGE LEFT)
H&H HOMES

1724

TITLE
PARTIAL PLANS AT ELEVATION "B" AND "C"

SHEET
A2.1

ELECTRICAL KEY

- DUPLEX CONVENIENCE OUTLET
- DUPLEX OUTLET ABOVE COUNTER
- WEATHERPROOF DUPLEX OUTLET
- GROUND FAULT INTERRUPTER DUPLEX OUTLET
- HALF-SWITCHED DUPLEX OUTLET
- SPECIAL PURPOSE OUTLET
- DUPLEX OUTLET IN FLOOR
- 220 VOLT OUTLET
- WALL SWITCH
- THREE-WAY SWITCH
- FOUR-WAY SWITCH
- DIMMER SWITCH
- CEILING MOUNTED INCANDESCENT LIGHT FIXTURE
- WALL MOUNTED INCANDESCENT LIGHT FIXTURE
- RECESSED INCANDESCENT LIGHT FIXTURE
- LIGHT FIXTURE WITH PULL CHAIN
- TRACK LIGHT
- FLUORESCENT LIGHT FIXTURE
- EXHAUST FAN
- EXHAUST FAN/LIGHT COMBINATION
- ELECTRIC DOOR OPERATOR (OPTIONAL)
- CHIMES (OPTIONAL)
- PUSHBUTTON SWITCH (OPTIONAL)
- CARBON MONOXIDE DETECTOR
- SMOKE DETECTOR
- SMOKE / CARBON MONO. COMBO DETECTOR
- TELEPHONE (OPTIONAL)
- TELEVISION (OPTIONAL)
- THERMOSTAT
- ELECTRIC METER
- ELECTRIC PANEL
- DISCONNECT SWITCH
- SPEAKER (OPTIONAL)
- ROUGH-IN FOR OPT. CEILING FAN
- CEILING MOUNTED INCANDESCENT LIGHT FIXTURE W/ ROUGH-IN FOR OPT. CEILING FAN

NOTES:

1. PROVIDE AND INSTALL GROUND FAULT CIRCUIT-INTERRUPTERS (GFI) AS INDICATED ON PLANS OR AS ITEM NO. 4 AND 5 BELOW INDICATES.

2. UNLESS OTHERWISE INDICATED, INSTALL SWITCHES AND RECEPTACLES AT THE FOLLOWING HEIGHTS ABOVE FINISHED FLOOR:
   SWITCHES ..... 42"
   OUTLETS ..... 18"
   TELEPHONE .. 18" (UNLESS ABV COUNTERTOP)
   TELEVISION .. 18"

3. ALL SMOKE DETECTORS SHALL BE HARDWIRED INTO AN ELECTRICAL POWER SOURCE AND SHALL BE EQUIPPED WITH A MONITORED BATTERY BACKUP. PROVIDE AND INSTALL LOCALLY CERTIFIED SMOKE DETECTORS.

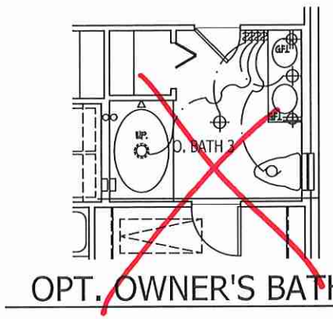
4. ALL BA AND 20A RECEPTACLES IN SLEEPING ROOMS, FAMILY ROOMS, DINING ROOMS, LIVING ROOMS, PARLORS, LIBRARIES, DENS, SUNROOMS, RECREATION ROOMS, CLOSETS, HALLWAYS, AND SIMILAR AREAS WILL REQUIRE A COMBINATION TYPE AFCI DEVICE AND TAMPER-PROOF RECEPTACLES PER NEC 201 406.12 AND 406.13

5. ALL BA AND 20A BOV RECEPTACLES LOCATED IN THE GARAGE AND UTILITY ROOMS SHALL BE GFCI PROTECTED (GFI).

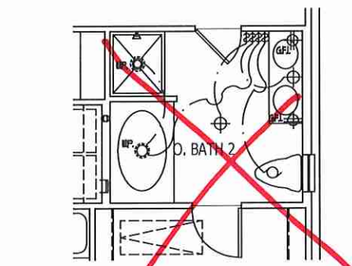
6. IT IS THE RESPONSIBILITY OF THE LICENSED ELECTRICIAN TO ENSURE THAT ALL ELECTRICAL WORK IS IN FULL COMPLIANCE WITH N.F.P.A. 70, NEC. 2011, F.B.C.R. - 5TH EDITION (2014), AND ALL APPLICABLE LOCAL STANDARDS, CODES, AND ORDINANCES.

7. EVERY BUILDING HAVING A FOSSIL-FUEL-BURNING HEATER OR APPLIANCE, FIREPLACE, OR AN ATTACHED GARAGE SHALL HAVE AN OPERATIONAL CARBON MONOXIDE DETECTOR INSTALLED WITHIN 10 FEET OF EACH ROOM USED FOR SLEEPING PURPOSES.

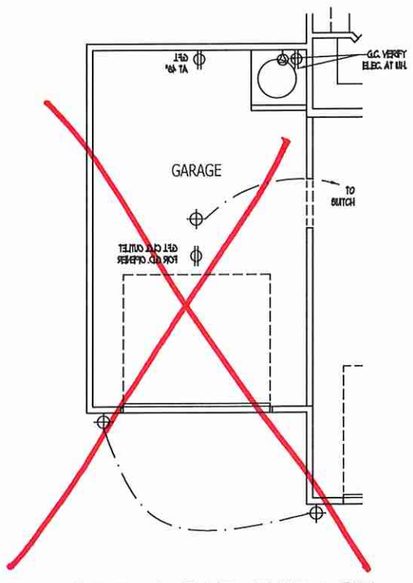
8. ALARMS SHALL RECEIVE THEIR PRIMARY POWER FROM THE BUILDING WIRING WHEN SUCH WIRING IS SERVED FROM THE LOCAL POWER UTILITY. SUCH ALARMS SHALL HAVE BATTERY BACKUP. COMBINATION SMOKE/CARBON MONOXIDE ALARMS SHALL BE LISTED OR LABELED BY A NATIONALLY RECOGNIZED TESTING LABORATORY.



OPT. OWNER'S BATH 3



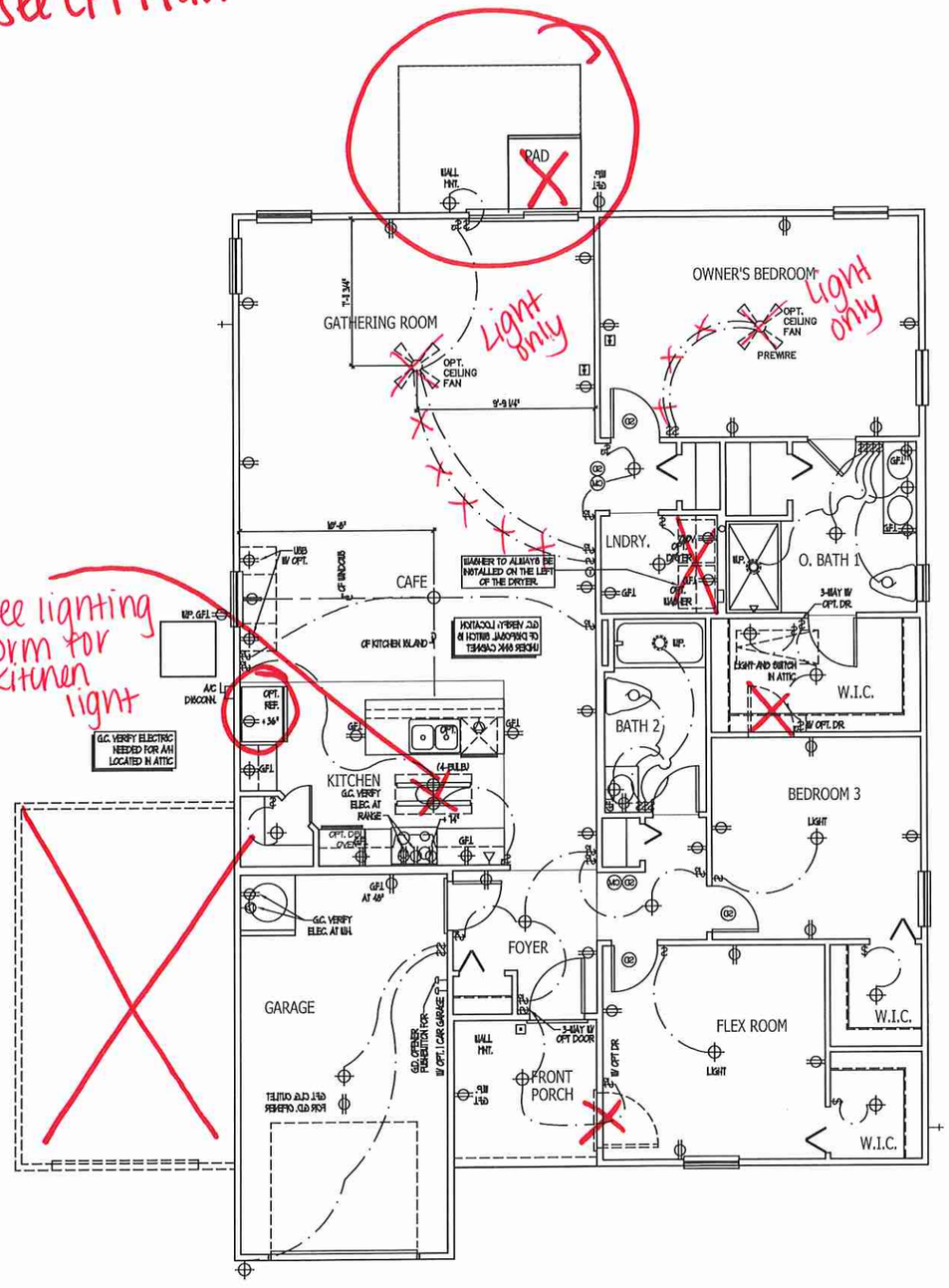
OPT. OWNER'S BATH 2



OPT. 1 CAR GARAGE

*see CPI plan

see lighting Form for Kitchen light



ELECTRICAL PLAN

EMBARK (GARAGE LEFT)
H&H HOMES

1724

TITLE
ELECTRICAL PLAN

SHEET
E1

H&H HOMES

JOB NUMBER	27187.03
CAD FILE NAME	EMBARK-R
ISSUED	11-08-17
REVISED	11-17-17
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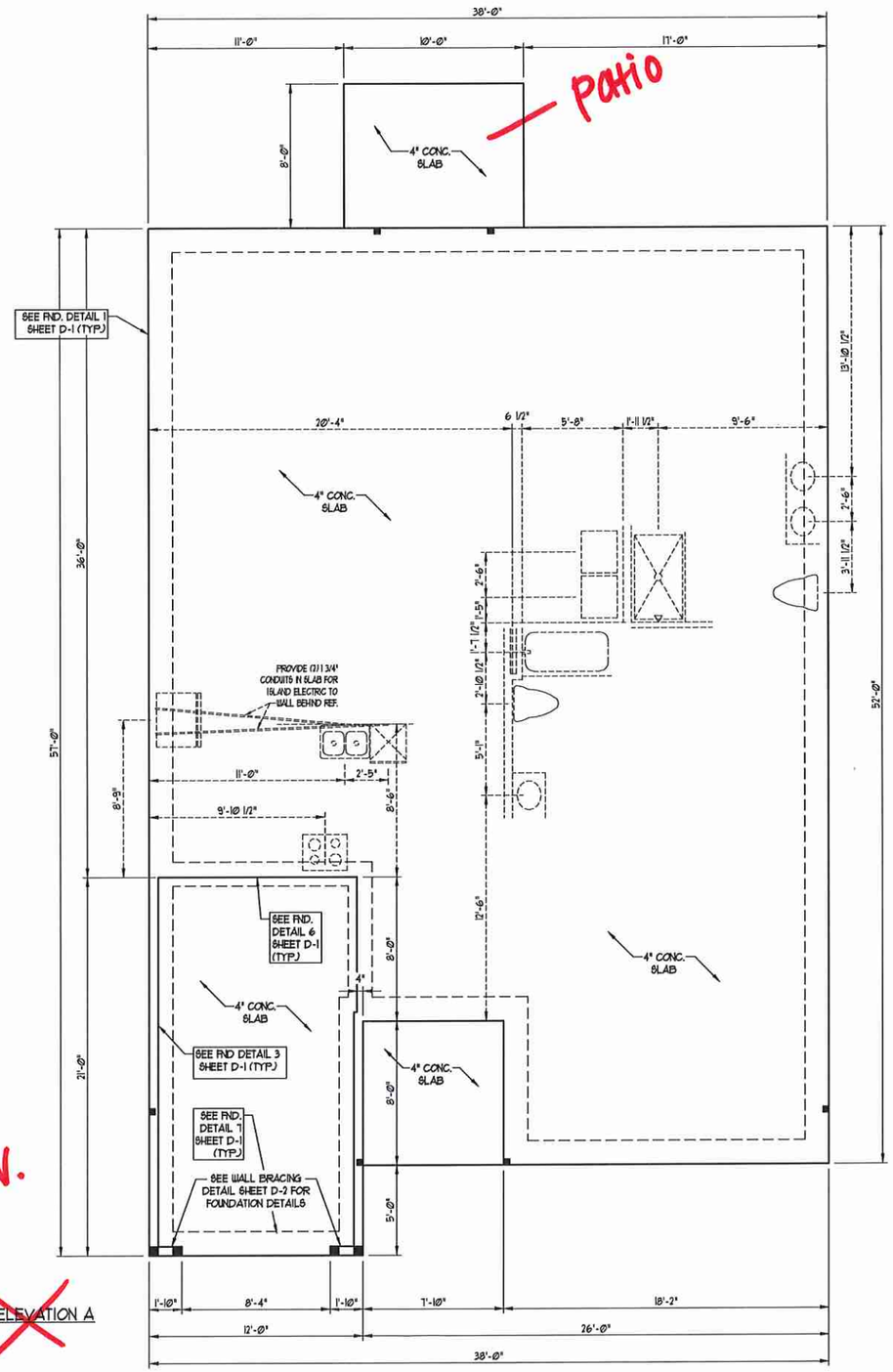
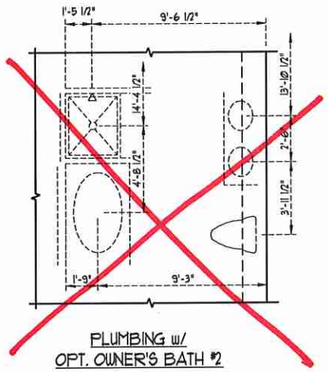
DRAWINGS ON 11"x17" SHEET ARE ONE HALF THE SCALE NOTED

SCALE NOTE:
LARGE FORMAT PRINTS ARE TO SCALE AS NOTED.
11" x 17" PRINTS ARE ONE HALF THE NOTED SCALE

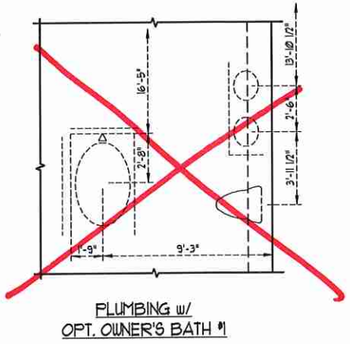


ELEVATION A

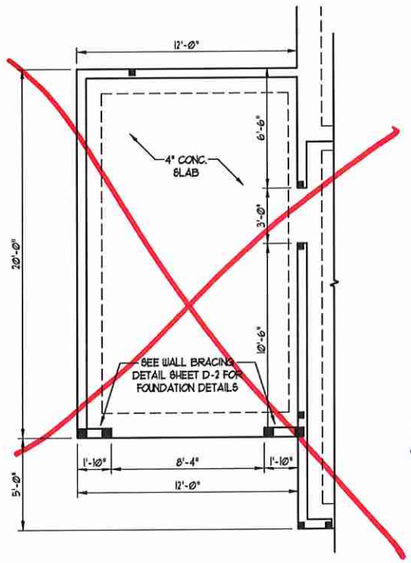
See elev. B



PLUMBING w/
OPT. OWNER'S BATH #2



PLUMBING w/
OPT. OWNER'S BATH #1



OPTIONAL 1 CAR GARAGE

150 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 WITH SPECIAL CONSIDERATION TO CHAPTER 45 ("HIGH WIND ZONES" FOR 150 MPH WINDS)
3. BUILDER IS TO PROVIDE FRAMING CONNECTIONS AS REQUIRED BY CHAPTER 45 ("HIGH WIND ZONES" FOR 150 MPH WINDS) OF THE NORTH CAROLINA RESIDENTIAL CODE, 2018 EDITION.
4. FOUNDATION ANCHORAGE TO COMPLY WITH SECTION 4504 OF THE NORTH CAROLINA RESIDENTIAL CODE, 2018 EDITION.
5. MEAN ROOF HEIGHT IS LESS THAN 30 FEET.
6. WALL CLADDING DESIGNED FOR 42.3 PSF AND -37 PSF (+/- INDICATE POSITIVE / NEGATIVE PRESSURE (TYP.)
7. ROOF CLADDING DESIGNED FOR 47.2 PSF AND -78 PSF FOR ROOF PITCHES 1/12 TO 12/12 AND 44 PSF AND -61 PSF FOR ROOF PITCHED 23/12 TO 1/12.
8. 7/16" OSB SHEATHING IS REQUIRED ON ALL EXTERIOR WALLS.
9. WALLS TO BE BRACED IN ACCORDANCE WITH SECTION R602.10 OF THE NORTH CAROLINA RESIDENTIAL CODE, 2018 EDITION AND AS NOTED ON PLANS.
10. ENERGY EFFICIENCY COMPLIANCE AND INSULATION VALUES OF THE BUILDING TO BE IN ACCORDANCE WITH CHAPTER 11 OF THE NCRC, 2018 EDITION.

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 @ 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 120 MPH WINDS.
6. WALL CLADDING DESIGNED FOR 45.3 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 40 PSF AND -36 PSF FOR ROOF PITCHED 23/12 TO 1/12.
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.

NORTH CAROLINA PROFESSIONAL SEAL 33736 ENGINEER MATTHEW G. STROTHER
3/7/19

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

EMBARK - GARAGE LEFT
H & H HOMES

DATE: MARCH 7, 2019
SCALE: 1/4" = 1'-0"
DRAWN BY: DAVIS BEWS DESIGN CO.
ENGINEERED BY: WTB

SHEET: 3 OF: 10
S-1.2a
MONO SLAB FOUNDATION PLAN

SCALE NOTE:
LARGE FORMAT PRINTS ARE TO SCALE AS NOTED.
11" x 17" PRINTS ARE ONE HALF THE NOTED SCALE

J.S. THOMPSON
ENGINEERING, INC
606 WADE AVE., SUITE 104 RALEIGH, NC 27605
PHONE (919) 789-9919 FAX (919) 789-9921
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NORTH CAROLINA PROFESSIONAL SEAL 33736 ENGINEER MATTHEW G. STROTHER

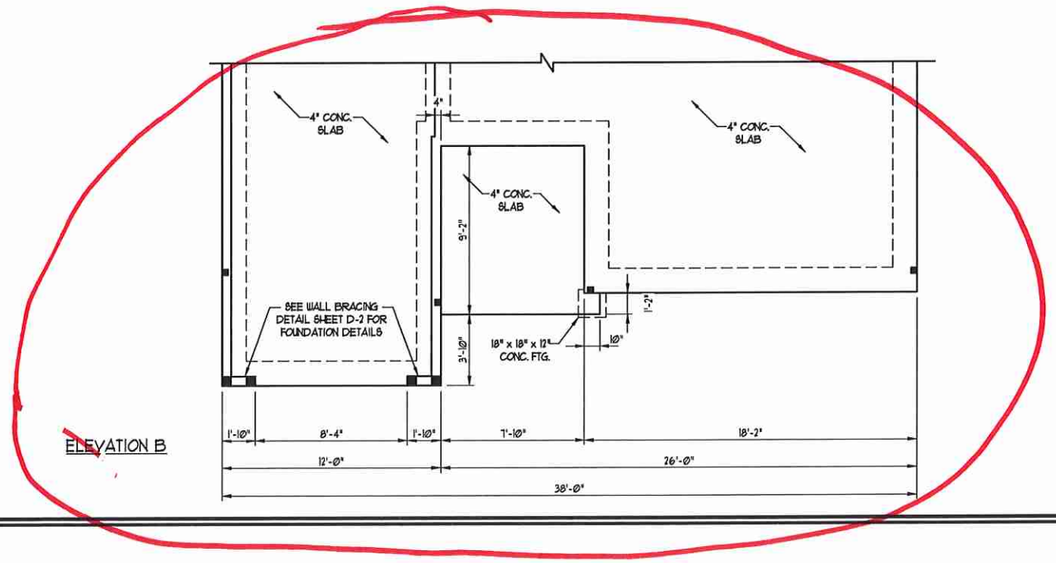
3/7/19

EMBARK - GARAGE LEFT
H & H HOMES

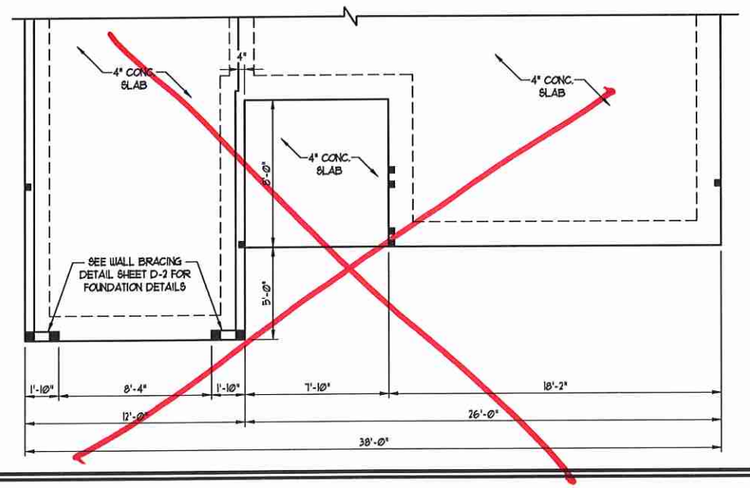
DATE: MARCH 7, 2019
SCALE: 1/4" = 1'-0"
DRAWN BY: DAVIS DEWS DESIGN CO.
ENGINEERED BY: WFB

SHEET: 4 OF: 10

S-1.2b
MONO SLAB
FOUNDATION PLAN

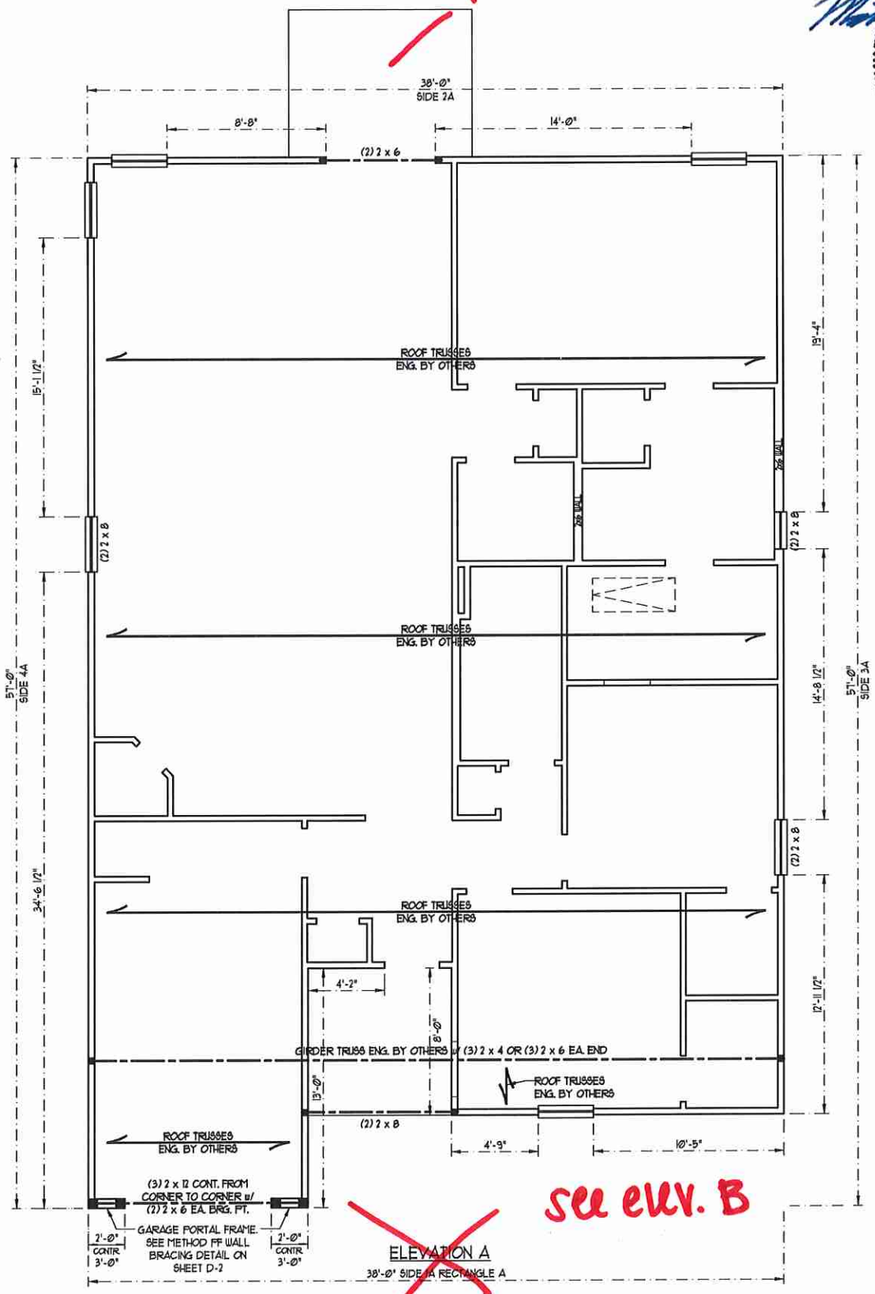


ELEVATION B



ELEVATION C

Patio



see elev. B

ELEVATION A

38'-Ø" SIDE 1A RECTANGLE A

NORTH CAROLINA
PROFESSIONAL
SEAL
33736
ENGINEER
MATTHEW G. STROTHER

3/7/19

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

SCALE NOTE:
LARGE FORMAT PRINTS ARE TO SCALE AS NOTED.
11" x 17" PRINTS ARE ONE HALF THE NOTED SCALE

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

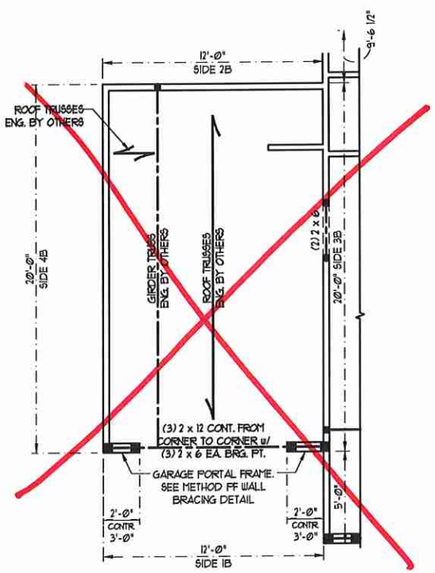
OPTIONAL OWNER'S BATH #2

OPTIONAL OWNER'S BATH #1

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. 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. ALL SQUARES TO BE (2) STUDS (UNO.)
5. FOR HIGH WIND ZONES, ALL EXTERIOR WALLS TO BE SHEATHED WITH 7/16" OSB SHEATHING WITH JOINTS BLOCKED AND SECURED WITH 8d NAILS AT 3" O.C. ALONG EDGES AND 6" O.C. IN THE FIELD.
6. FOR HIGH WIND ZONES, SECURE ALL EXTERIOR WALL SHEATHING PANELS TO DOUBLE TOP PLATES, BANDS, JOISTS, AND GIRDERS WITH (2) ROWS OF 8d NAILS STAGGERED AT 3" O.C. PANELS SHALL EXTEND 12" BEYOND CONSTRUCTION JOINTS AND SHALL OVERLAP GIRDERS AND DOUBLE SILL PLATES THEIR FULL DEPTH.
7. 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 1100 LB CAPACITY UPLIFT CONNECTORS AT TOP (UNO.)
8. 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.
9. REFER TO NOTES AND DETAIL SHEETS FOR ADDITIONAL STRUCTURAL INFORMATION.

T&P - TRIPLE STUD POCKET



OPTIONAL 1 CAR GARAGE

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.

BRACED WALL DESIGN

RECTANGLE A		RECTANGLE B	
SIDE 1A		SIDE 1B	
METHOD:	CS-WSP/PF	METHOD:	PF
TOTAL REQUIRED LENGTH:	12.76'	TOTAL REQUIRED LENGTH:	4.8'
TOTAL PROVIDED LENGTH:	25.33'	TOTAL PROVIDED LENGTH:	6'
SIDE 2A		SIDE 2B	
METHOD:	CS-WSP	METHOD:	CS-WSP
TOTAL REQUIRED LENGTH:	12.76'	TOTAL REQUIRED LENGTH:	4.8'
TOTAL PROVIDED LENGTH:	16.67'	TOTAL PROVIDED LENGTH:	12'
SIDE 3A		SIDE 3B/4A COMBINED	
METHOD:	CS-WSP	METHOD:	CS-WSP
TOTAL REQUIRED LENGTH:	8.74'	TOTAL REQUIRED LENGTH:	12.1'
TOTAL PROVIDED LENGTH:	60'	TOTAL PROVIDED LENGTH:	26.67'
SIDE 4A		SIDE 4B	
METHOD:	CS-WSP	METHOD:	CS-WSP
TOTAL REQUIRED LENGTH:	8.74'	TOTAL REQUIRED LENGTH:	3.36
TOTAL PROVIDED LENGTH:	9.33'	TOTAL PROVIDED LENGTH:	16'

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

EMBARK - GARAGE LEFT
H & H HOMES

DATE: MARCH 7, 2019
SCALE: 1/4" = 1'-0"
DRAWN BY: DAVIS BEKS DESIGN CO.
ENGINEERED BY: WFB

SHEET: 7 OF: 10

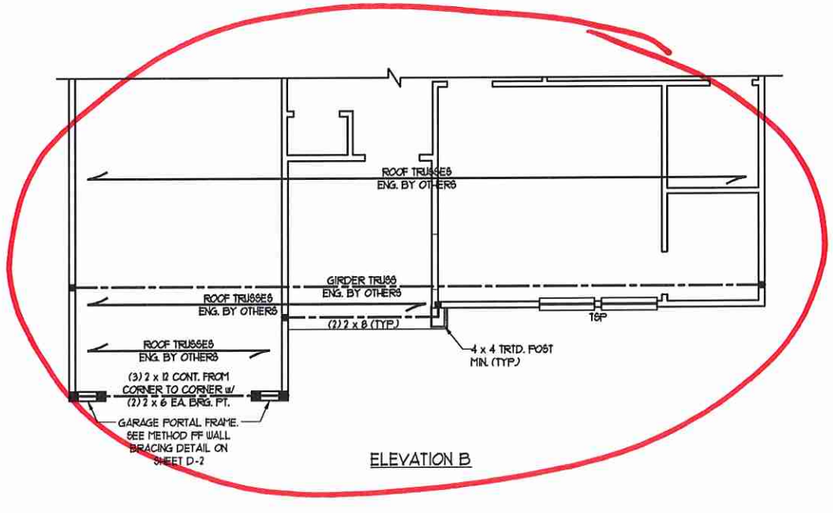
S-2a
ATTIC FLOOR
FRAMING PLAN

SCALE NOTE:
LARGE FORMAT PRINTS ARE TO SCALE AS NOTED.
11" x 17" PRINTS ARE ONE HALF THE NOTED SCALE

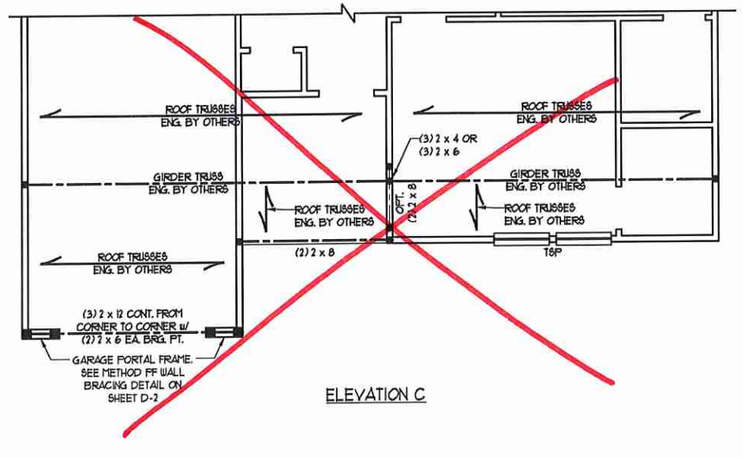
J.S. THOMPSON
ENGINEERING, INC
606 WADE AVE, SUITE 104 RALEIGH, NC 27605
PHONE (919) 789-9949 FAX (919) 789-9921
N.C. LICENSE NO. C-1733

NORTH CAROLINA PROFESSIONAL SEAL 33736 ENGINEER MATTHEW G. STROTHER

3/7/19



ELEVATION B



ELEVATION C

EMBARK - GARAGE LEFT
H & H HOMES

DATE: MARCH 7, 2019
SCALE: 1/4" = 1'-0"
DRAWN BY: DAVIS DEWS DESIGN CO.
ENGINEERED BY: WFB

SHEET: 8 OF: 10

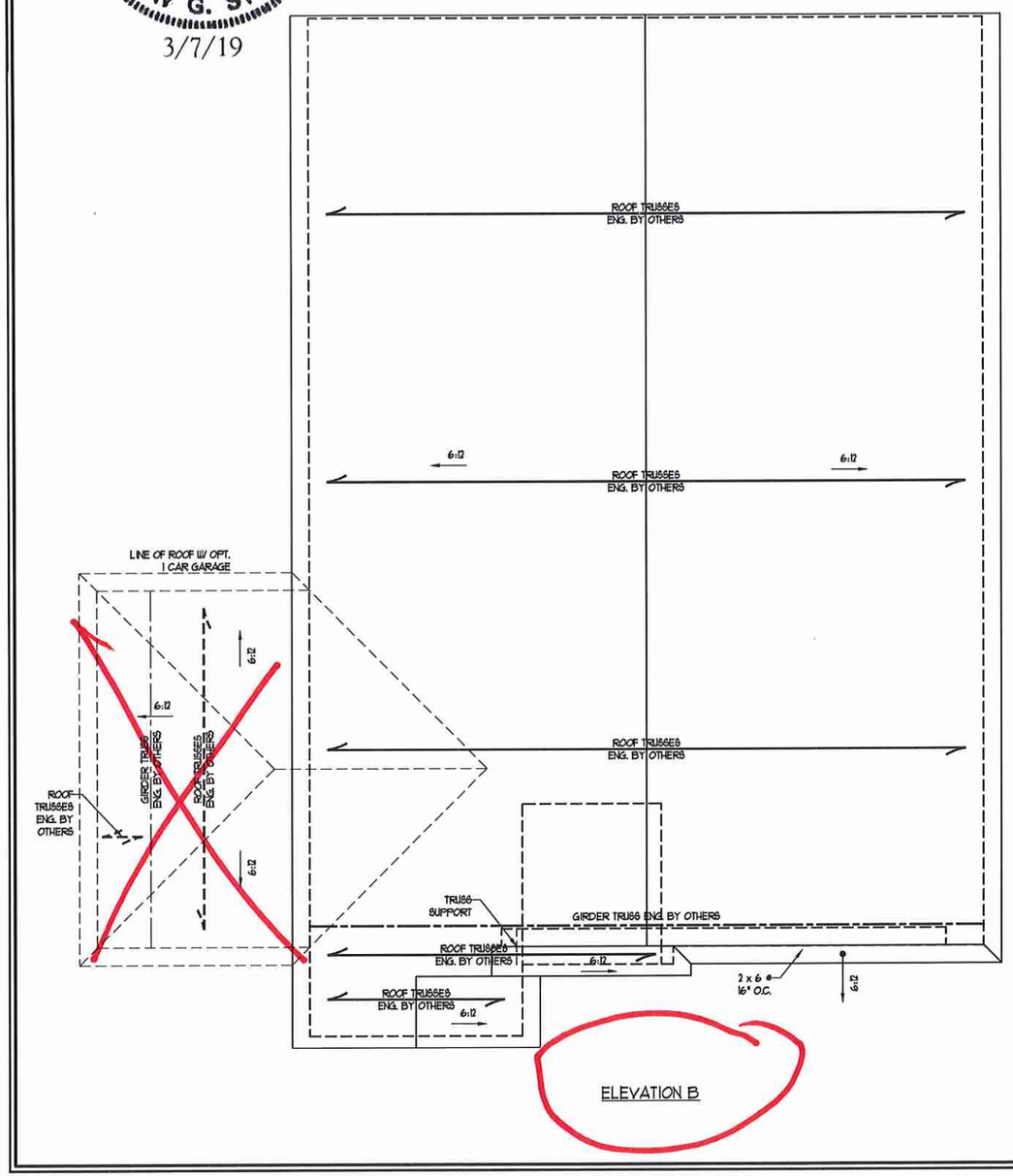
S-2b
ATTIC FLOOR FRAMING PLAN

3/7/19

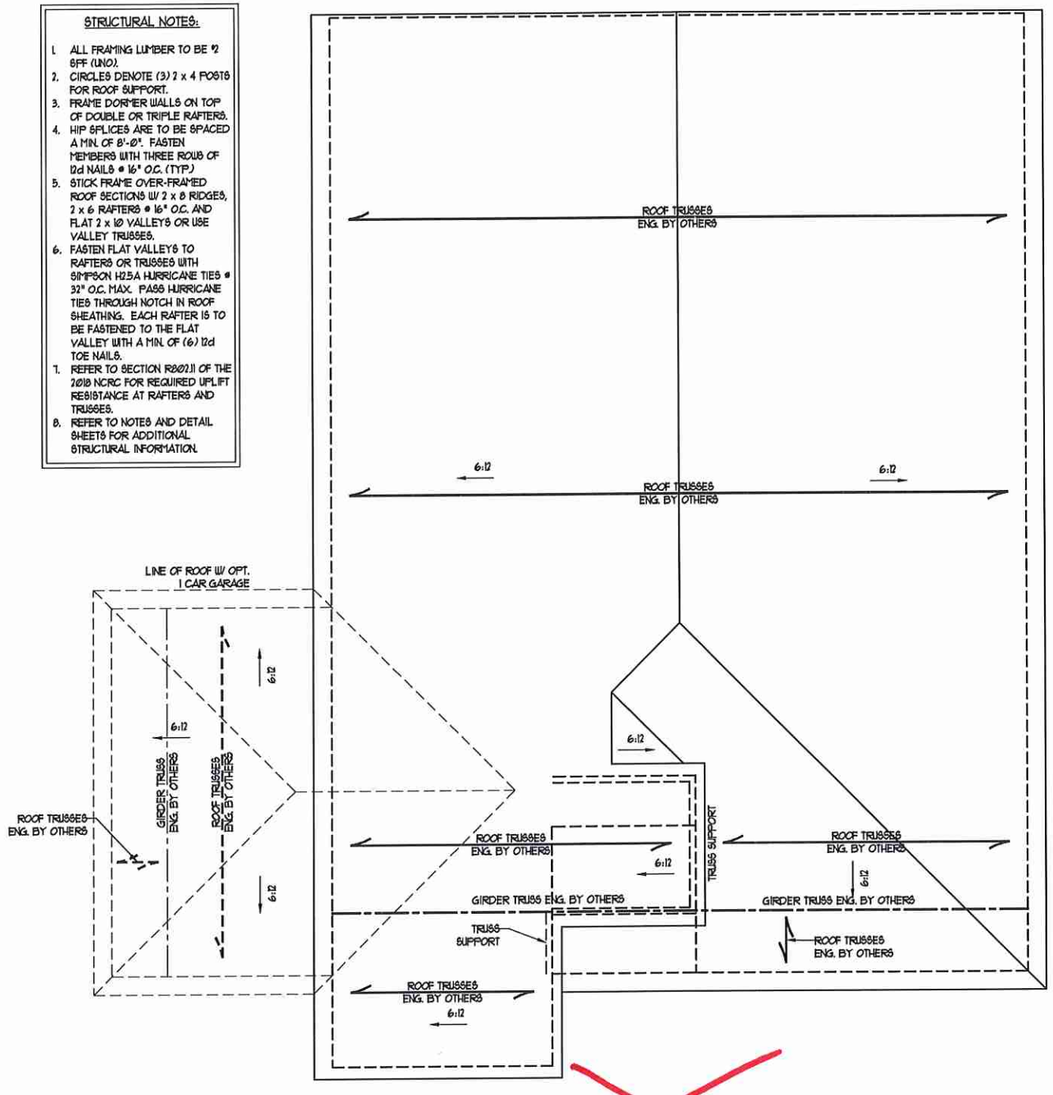
SCALE NOTE:
LARGE FORMAT PRINTS ARE TO SCALE AS NOTED.
11" x 17" PRINTS ARE ONE HALF THE NOTED SCALE

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.



ELEVATION B



ELEVATION C

J.S. THOMPSON
ENGINEERING, INC
606 WADE AVE, SUITE 104 RALEIGH, NC 27605
PHONE (919) 789-9159 FAX (919) 789-9921
N.C. LICENSE NO. C-1733

EMBARK - GARAGE LEFT
H & H HOMES

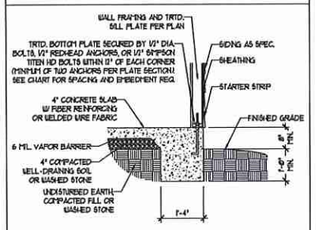
DATE: MARCH 7, 2019
SCALE: 1/4" = 1'-0"
DRAWN BY: DAVIS BERRY DESIGN CO.
ENGINEERED BY: WFB

SHEET: 10 OF: 10

S-3b
ROOF FRAMING PLAN

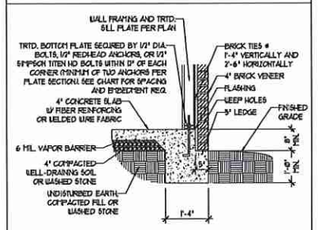
MONOLITHIC SLAB DETAILS

DETAIL 1



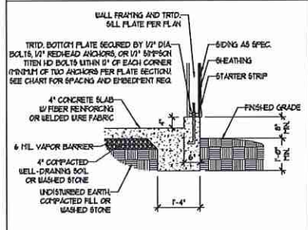
TYPICAL SLAB DETAIL

DETAIL 2



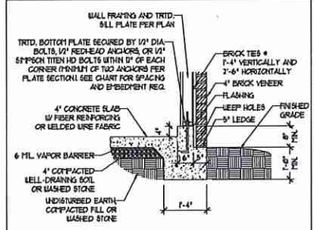
BRICK VENEER DETAIL

DETAIL 3



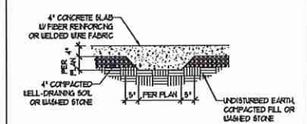
GARAGE CURB DETAIL

DETAIL 4



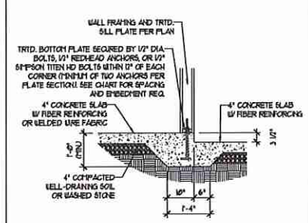
GARAGE CURB BRICK LEDGE DETAIL

DETAIL 5



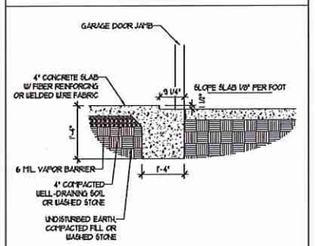
THICKENED SLAB DETAIL

DETAIL 6



STEP IN GARAGE DETAIL

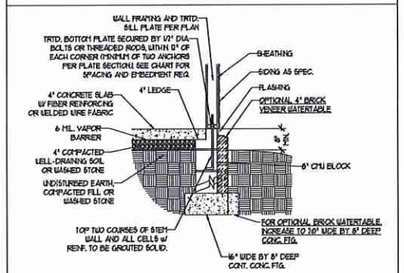
DETAIL 7



SLAB AT GARAGE DOOR DETAIL

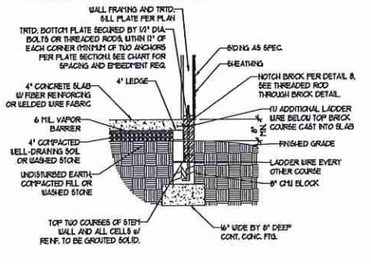
STEMWALL DETAILS

DETAIL 1



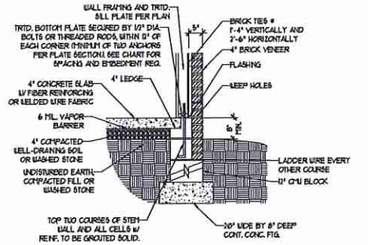
TYPICAL STEM WALL DETAIL
(W/ OPTIONAL WATERTABLE)

OPTIONAL DETAIL 1



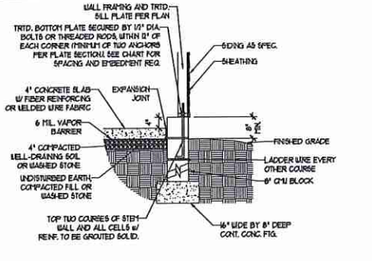
OPTIONAL STEM WALL DETAIL

DETAIL 2



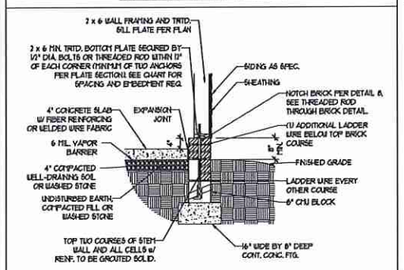
TYPICAL STEM WALL FND. W/ BRICK DETAIL

DETAIL 3



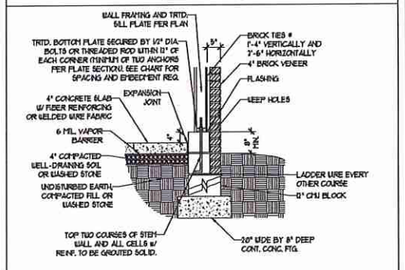
TYPICAL STEM WALL FND. DETAIL W/ CURB @ GARAGE

OPTIONAL DETAIL 3



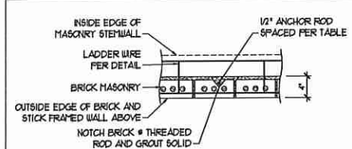
OPTIONAL STEM WALL FND. DETAIL W/ CURB @ GARAGE

DETAIL 4



TYPICAL STEM WALL FND. DETAIL W/ BRICK AND CURB @ GARAGE

DETAIL 8



THREADED ROD THROUGH BRICK MASONRY

MASONRY STEMWALL SPECIFICATIONS

WALL HEIGHT (FEET)	MASONRY WALL TYPE			
	8" CMU	4" BRICK AND 4" CMU	4" BRICK AND 8" CMU	12" CMU
2 AND BELOW	UNGROUTED	GROUT SOLID	UNGROUTED	UNGROUTED
3	UNGROUTED	GROUT SOLID	UNGROUTED	UNGROUTED
4	GROUT SOLID	GROUT SOLID w/ #4 REBAR @ 48" O.C.	GROUT SOLID	GROUT SOLID w/ #4 REBAR @ 64" O.C.
5	GROUT SOLID w/ #4 REBAR @ 36" O.C.	NOT APPLICABLE	GROUT SOLID w/ #4 REBAR @ 36" O.C.	GROUT SOLID w/ #4 REBAR @ 64" O.C.
6	GROUT SOLID w/ #4 REBAR @ 24" O.C.	NOT APPLICABLE	GROUT SOLID w/ #4 REBAR @ 24" O.C.	GROUT SOLID w/ #4 REBAR @ 64" O.C.
7 AND GREATER	ENGINEERED DESIGN BASED ON SITE CONDITIONS			

STRUCTURAL NOTES:

1. WALL HEIGHT MEASURED FROM TOP OF FOOTING TO TOP OF THE WALL.
2. TIE MULTIPLE WYTHES TOGETHER WITH LADDER WIRE AT 16" O.C. VERTICALLY.
3. CHART APPLICABLE FOR HOUSE FOUNDATION ONLY. CONSULT ENGINEER FOR DESIGN OF GARAGE FOUNDATION NOT COMMON TO HOUSE.
4. BACKFILL OF CLEAN #57 / #67 WASHED STONE IS ALLOWABLE.
5. BACKFILL OF WELL DRAINED OR SAND - GRAVEL MIXTURE SOILS (45 PSF/FT BELOW GRADE) CLASSIFIED AS GROUP I ACCORDING TO UNIFIED SOILS CLASSIFICATION SYSTEM IN ACCORDANCE WITH TABLE R405.1 OF THE 2018 INTERNATIONAL RESIDENTIAL CODE ARE ALLOWABLE.
6. FREE SLAB PER R506.2.1 AND R506.2.2 BASE OF THE 2018 INTERNATIONAL RESIDENTIAL CODE. MINIMUM 24" LAP SPLICE LENGTH.
7. LOCATE REBAR IN CENTER OF FOUNDATION WALL.
8. WHERE REQUIRED, FILL BLOCK SOLID WITH TYPE "S" MORTAR OR 3000 PSI GROUT. USE OF "LOW LIFT GROUTING" METHOD REQUIRED WHEN FILLING WALLS WITH GROUT AT HEIGHTS OF 5' AND GREATER.

ANCHOR SPACING AND EMBEDMENT

WIND ZONE	120 MPH	130 MPH
SPACING	6'-0" O.C.	4'-0" O.C.
EMBEDMENT	7"	5" INTO MASONRY 7" INTO CONCRETE

J.S. THOMPSON ENGINEERING, INC
606 WADE AVE, SUITE 101 RALEIGH, NC 27605
PHONE (919) 789-9518 FAX (919) 789-9921
N.C. LICENSE NO. C-1753

120 MPH - 130 MPH ULTIMATE DESIGN WIND SPEED
FOUNDATION DETAILS

NORTH CAROLINA PROFESSIONAL SEAL 33736 ENGINEER MATTHEW G. STROTHER

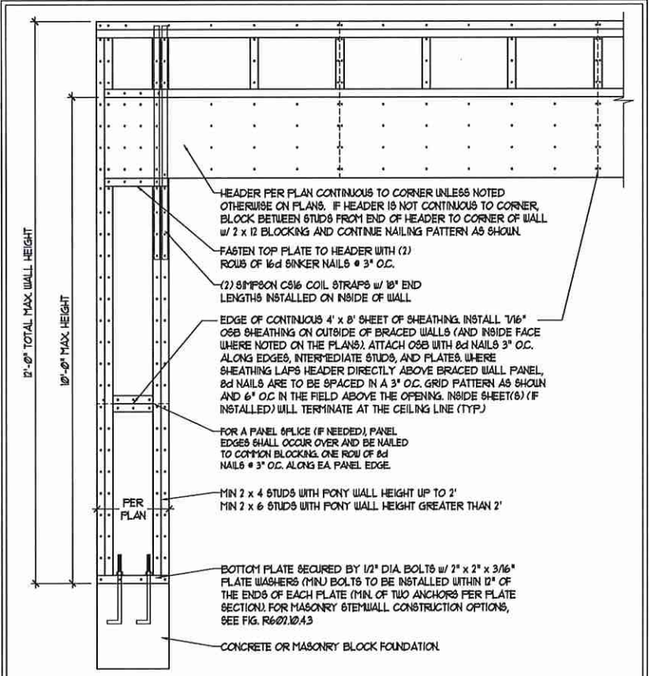
3/7/19

DATE: NOVEMBER 14, 2018
SCALE: NTS
DRAWN BY: JST
ENGINEERED BY: JES

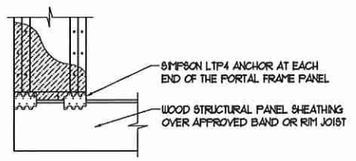
D-1
FOUNDATION DETAILS

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 Ø113" 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 ITS ACTUAL LENGTH, METHOD GB CONTRIBUTES .5 ITS ACTUAL LENGTH, AND METHOD PF CONTRIBUTES 1.5 TIMES ITS ACTUAL LENGTH.



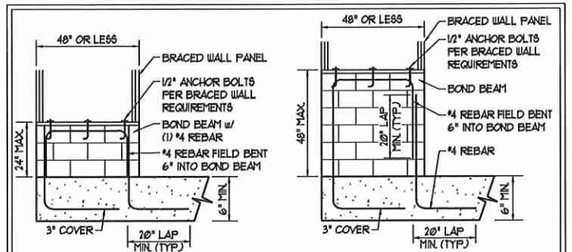
OVER CONCRETE OR MASONRY BLOCK FOUNDATION



OVER RAISED WOOD FLOOR - FRAMING ANCHOR OPTION

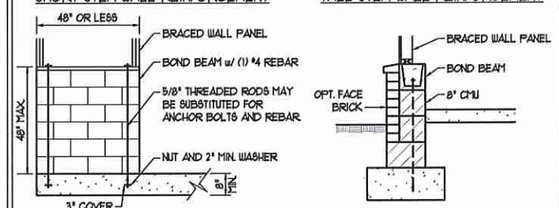
* APPLICABLE W/ GREATER THAN 12" KNEE WALL HEIGHTS IN CRAWL SPACE AND ABOVE FRAMED BASEMENT WALLS *

METHOD PF-PORTAL FRAME DETAIL (1)



SHORT STEM WALL REINFORCEMENT

TALL STEM WALL REINFORCEMENT



RODS MAY BE INSTALLED USING AN ADHESIVE ANCHORING SYSTEM WITH A MINIMUM TENSILE CAPACITY OF 3750 LBS AND INSTALLED IN ACCORDANCE WITH MANUFACTURER'S SPECS.

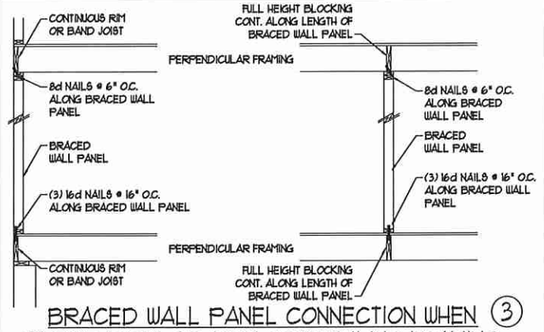
OPTIONAL STEM WALL REINFORCEMENT

TYPICAL STEM WALL SECTION

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

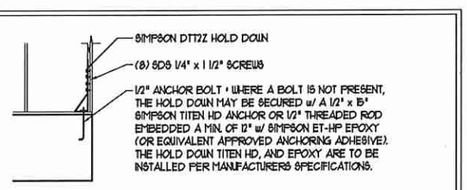
MASONRY STEM WALLS SUPPORTING BRACED WALL PANELS (2)

PER FIGURE R602.10.4.3



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

PER FIGURE R602.10.4.4(1)

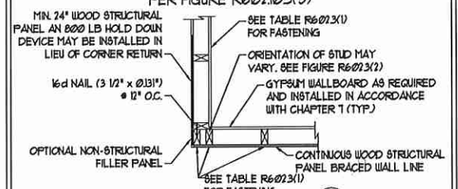


HOLD DOWN DETAIL FOR MASONRY FOUNDATION OR MONOLITHIC SLAB (4)

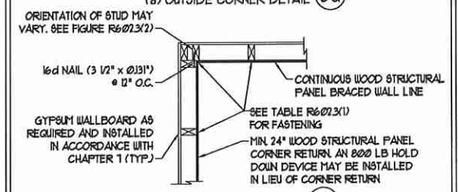
* APPLICABLE ONLY WHERE SPECIFIED ON PLAN *

TYPICAL EXTERIOR CORNER FRAMING FOR CONTINUOUS SHEATHING (5)

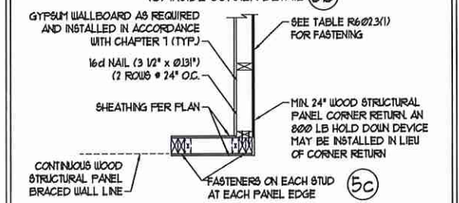
PER FIGURE R602.10.3(5)



(a) OUTSIDE CORNER DETAIL (5a)



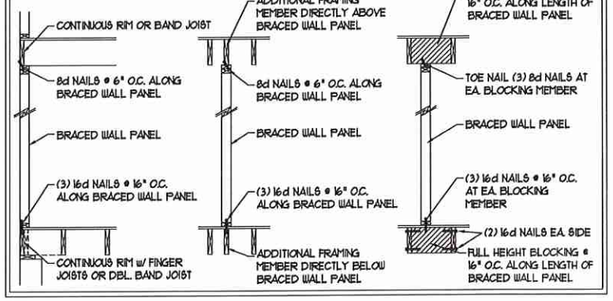
(b) INSIDE CORNER DETAIL (5b)



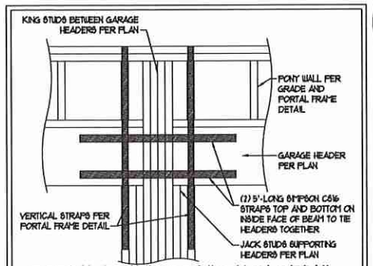
(c) GARAGE DOOR CORNER DETAIL (SEE PLAN FOR ADDITIONAL STRUCTURAL INFORMATION OR ALTERNATE CONFIGURATIONS) (5c)

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

PER FIG. R602.10.4.4(2)



SCALE NOTE:
LARGE FORMAT PRINTS ARE TO SCALE AS NOTED.
11" x 17" PRINTS ARE ONE HALF THE NOTED SCALE

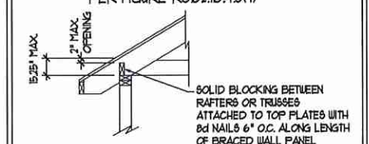


PORTAL FRAME CONNECTION DETAIL BETWEEN GARAGE DOOR HEADERS

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

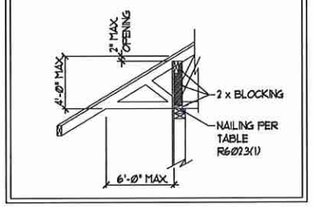
BRACED WALL PANEL CONNECTION TO PERPENDICULAR RAFTERS (8)

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

3/7/19

J.S. THOMPSON ENGINEERING, INC
606 WADE AVE., SUITE 19
RALEIGH, NC 27605
PHONE: (919)890-1918 FAX: (919) 789-9921
N.C. LICENSE NO.: C-1733

120 MPH - 130 MPH ULTIMATE DESIGN WIND SPEED
WALL BRACING NOTES AND DETAILS

DATE: OCTOBER 30, 2018
SCALE: 1/4" = 1'-0"
DRAWN BY: JST
ENGINEERED BY: JST

D-2
BRACED WALL NOTES AND DETAILS AND PF DETAILS

SCALE NOTE:
LARGE FORMAT PRINTS ARE TO SCALE AS NOTED.
11" x 17" PRINTS ARE ONE HALF THE NOTED SCALE

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 CONTRACTOR'S 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 CONFORM 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 = 1000000 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 700 LB CAPACITY UPLIFT CONNECTORS TOP AND BOTTOM (UNO.) POSTS MAY BE SECURED USING ONE SIMPSON H6 OR LTP2 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

3/7/19

J.S. THOMPSON ENGINEERING, INC
606 WADE AVE, SUITE 104 RALEIGH, NC 27605
PHONE: (919) 789-9519 FAX: (919) 789-9921
N.C. LICENSE NO. C-1733

120 MPH - 130 MPH ULTIMATE DESIGN WIND SPEED
STANDARD STRUCTURAL NOTES

DATE: NOVEMBER 14, 2018
DRAWN BY: JES
ENGINEERED BY: JST

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STRUCTURAL NOTES