

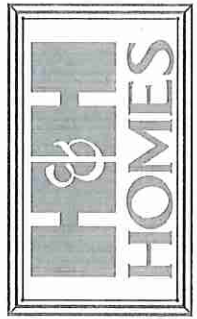
# EMBARK H&H HOMES

## PLAN REVISIONS

11-08-11	COMPLETED CONSTRUCTION DOCUMENTS INCLUDING CLIENT REVIEW COMMENTS.
11-16-11	MIRRORED PLANS TO CREATE LEFT HAND GARAGE VERSION.
03-14-18	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" DRAILER 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 OWNER'S 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 1'-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 3-0 5-0 WINDOW AT OWNER'S BEDROOM FOR VENTILATION 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.

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JOB NUMBER	27187.03
CAD FILE NAME	EMBARK-R
ISSUED	11-08-17
REVISED	11-17-17
	09-14-18
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EST. 1994

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

Inventory Marked

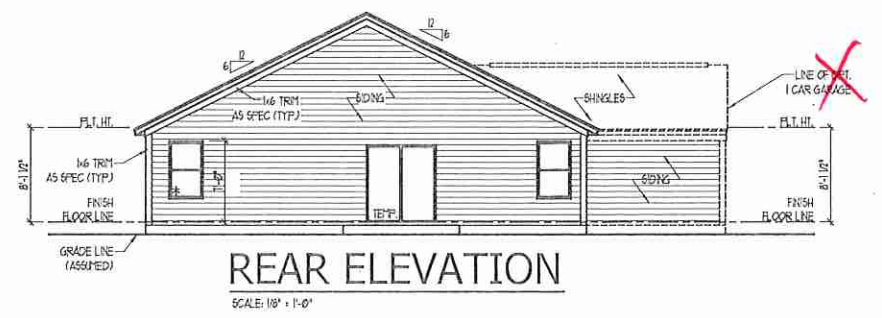
CSQ 0000 80

EMBARK (GARAGE LEFT)  
H&H HOMES

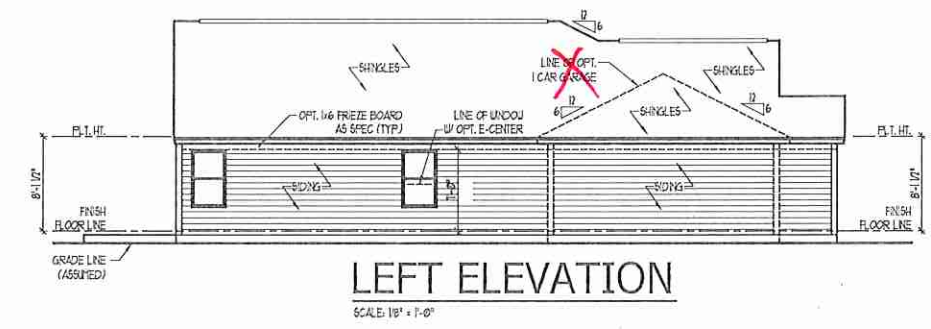
1724

TITLE  
REVISION LOG

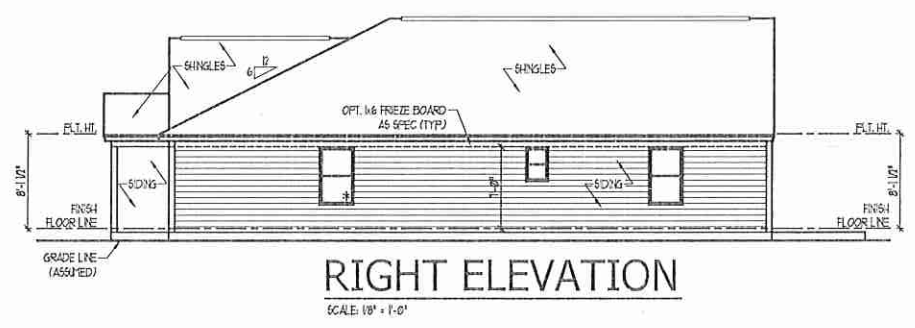
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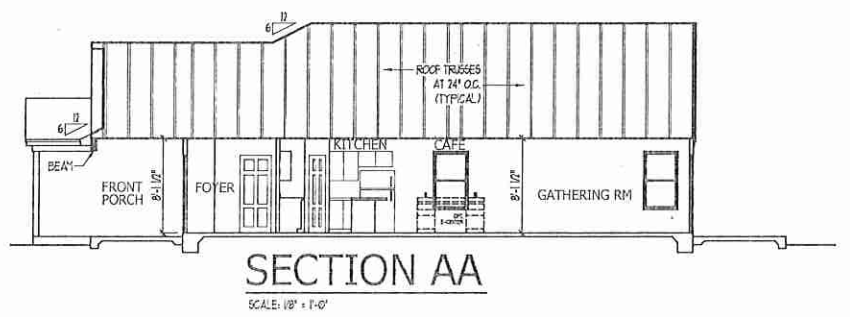
REAR ELEVATION  
 SCALE: 1/8" = 1'-0"



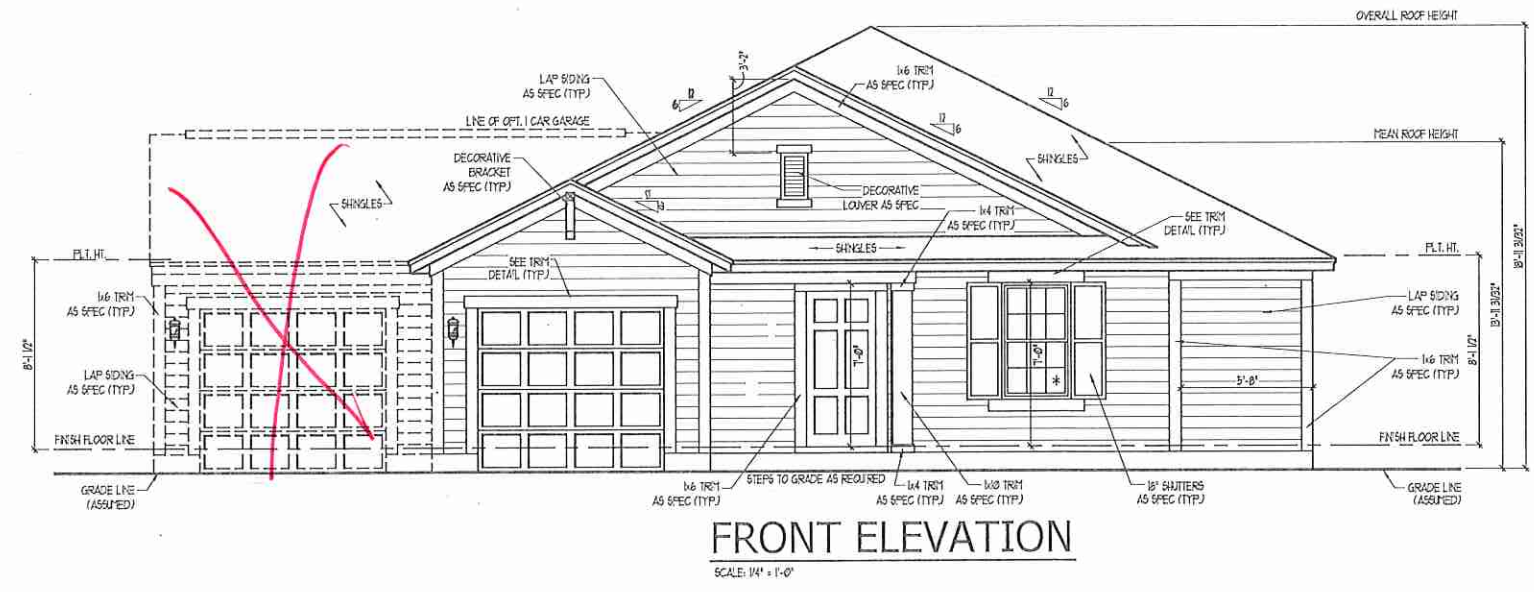
LEFT ELEVATION  
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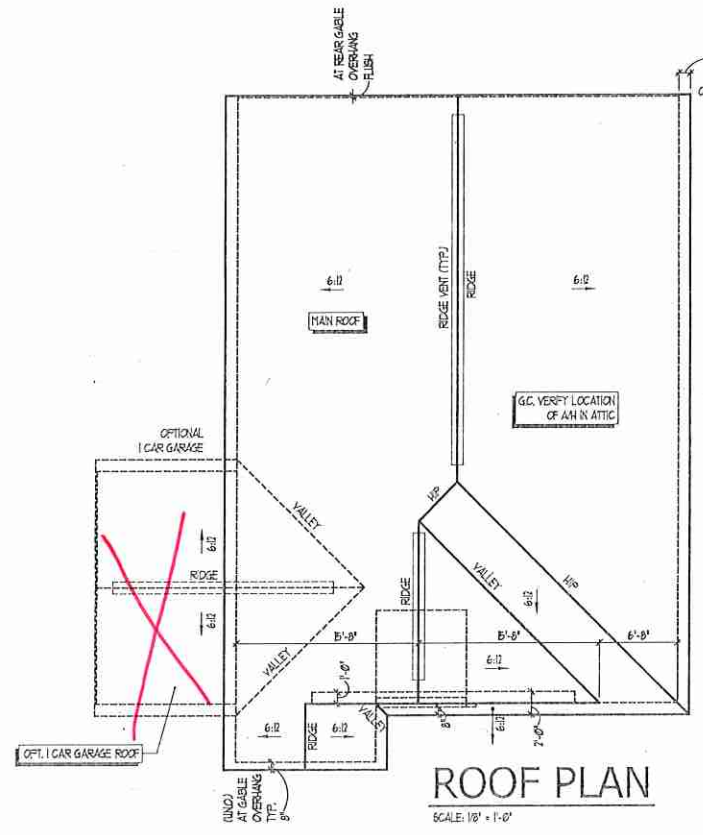
RIGHT ELEVATION  
 SCALE: 1/8" = 1'-0"



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

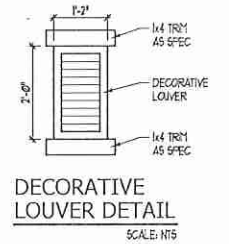


FRONT ELEVATION  
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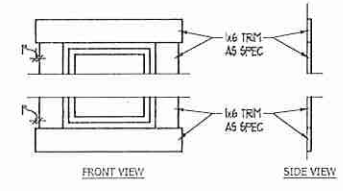


ROOF PLAN  
 SCALE: 1/8" = 1'-0"

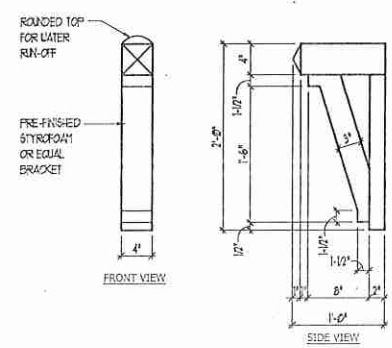
TOTAL UNDER ROOF AREA:	1724	SQ.FT.	1724	SQ.FT.
VENTING AREA REQUIRED:	194.9"		321	SQ.FT.
TOTAL REQUIREMENTS:	LOWER: 2.87		UPPER: 2.87	
LOWER AREA VENTING				
SOFFIT VENT	SIZE	PER UNIT	# UNITS	PROVIDED
	48" SILE		194.9"	2.8
UPPER AREA VENTING				
RIDGE VENT	SIZE	PER UNIT	# UNITS	PROVIDED
	125.20" L		12.0"	5.3
TOTAL AREA PROVIDED				
SOFFIT AND RIDGE VENT				13.1



DECORATIVE LOUVER DETAIL  
 SCALE: NTS



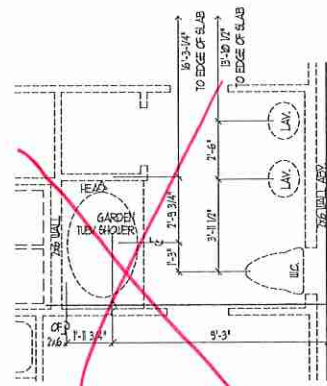
TRIM DETAIL  
 SCALE: NTS



BRACKET DETAIL  
 SCALE: 1" = 1'-0"

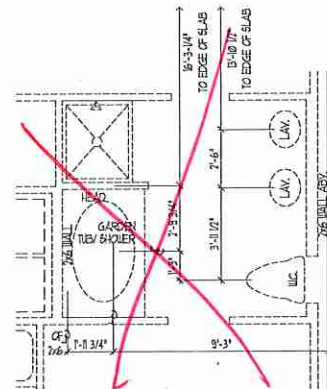
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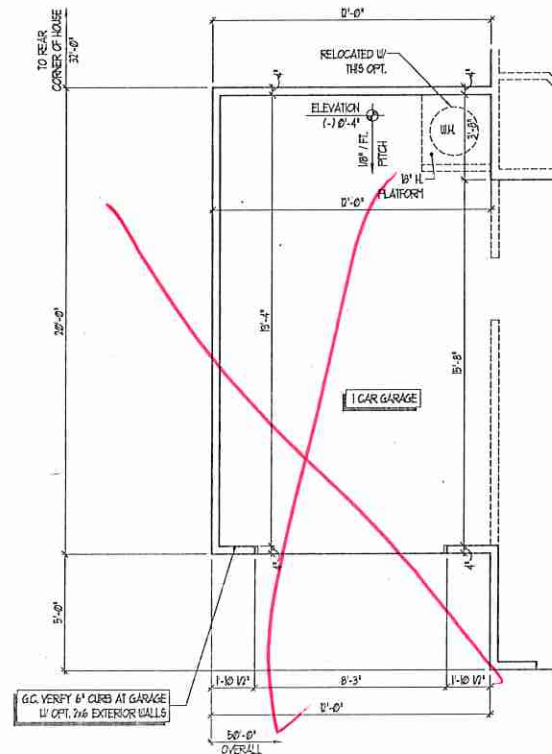
OPT. OWNER'S BATH 2

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



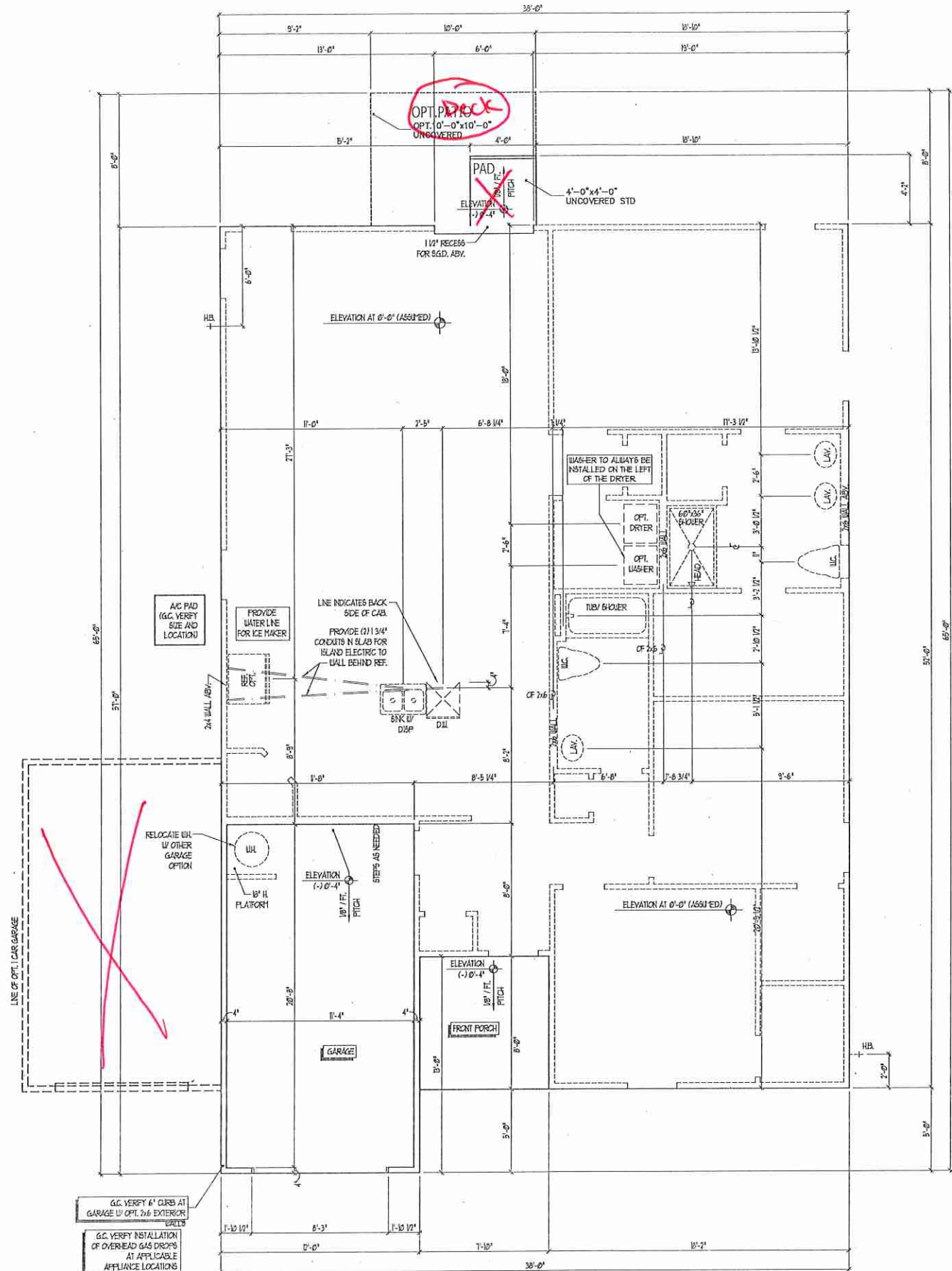
OPT. OWNER'S BATH 3

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



OPT. 1 CAR GARAGE

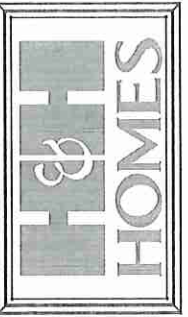
SCALE: 1/4" = 1'-0"



SLAB INTERFACE PLAN

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

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ISSUED	11-08-17
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	09-14-18
	02-04-20

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

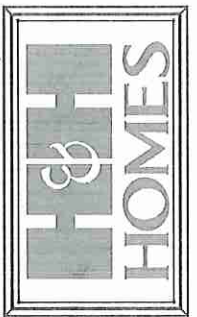
EMBARK (GARAGE LEFT)  
 H&H HOMES

1724

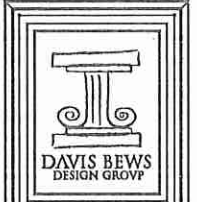
TITLE  
 SLAB INTERFACE PLAN  
 SLAB INTERFACE OPTIONS

SHEET  
 A1.0





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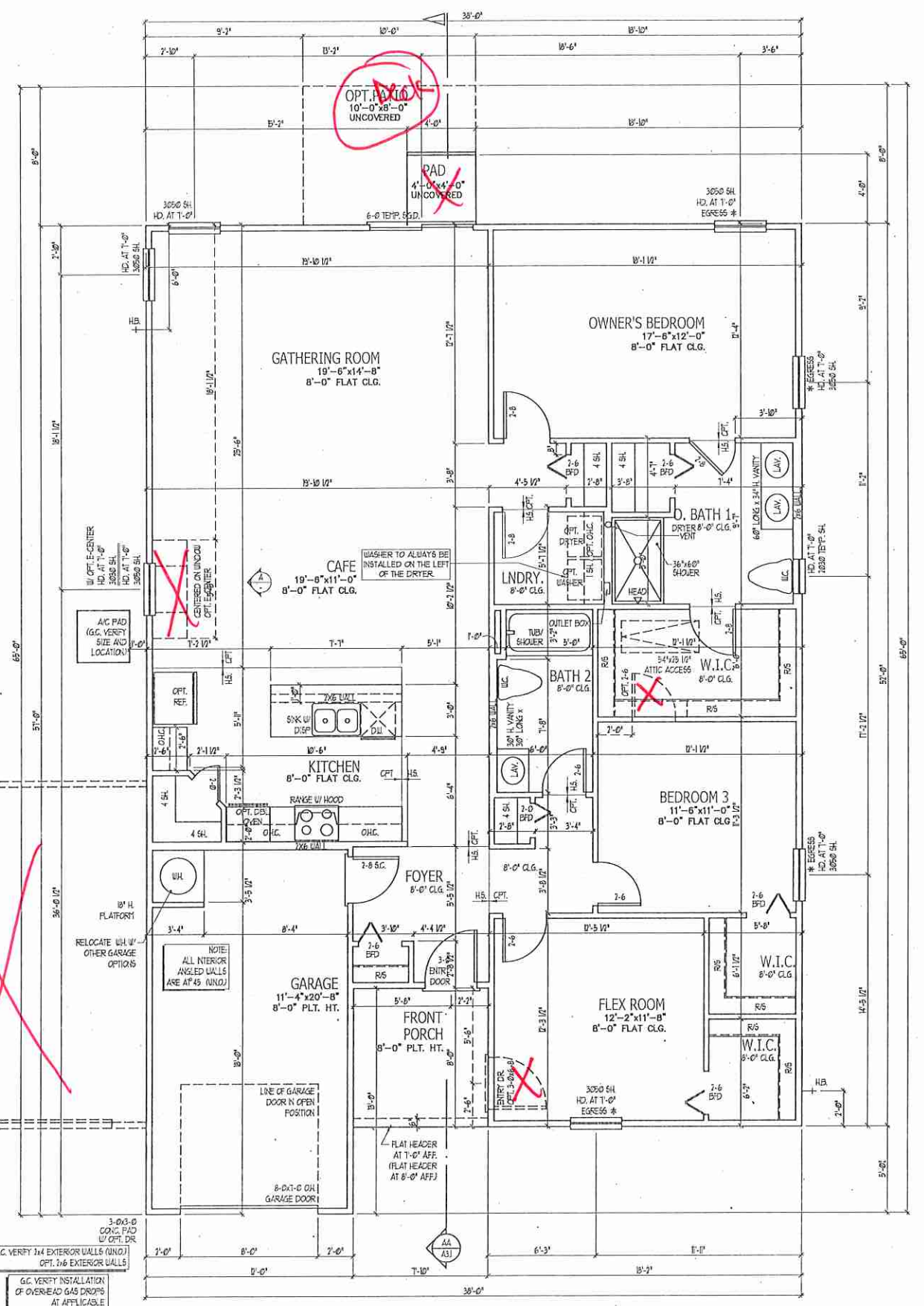
DRAWINGS ON 11"x17"  
 SHEET ARE ONE HALF  
 THE SCALE NOTED

EMBARK (GARAGE LEFT)  
 H&H HOMES

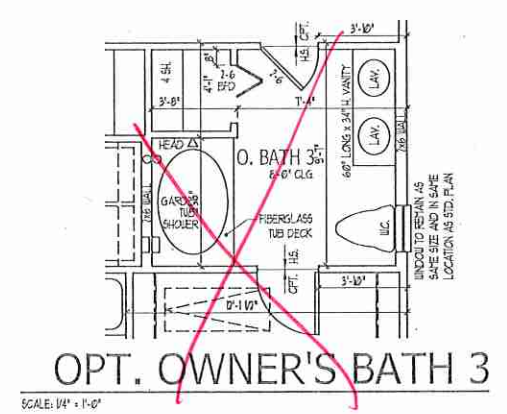
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 FLOOR PLAN

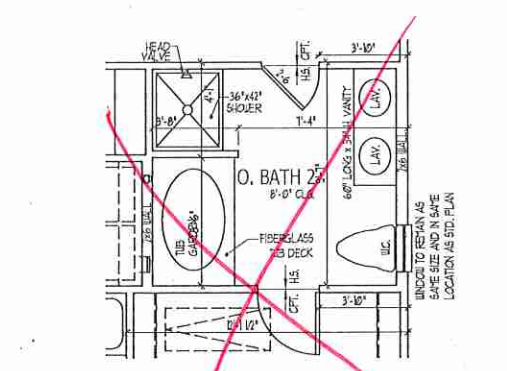
SHEET  
 A2.0



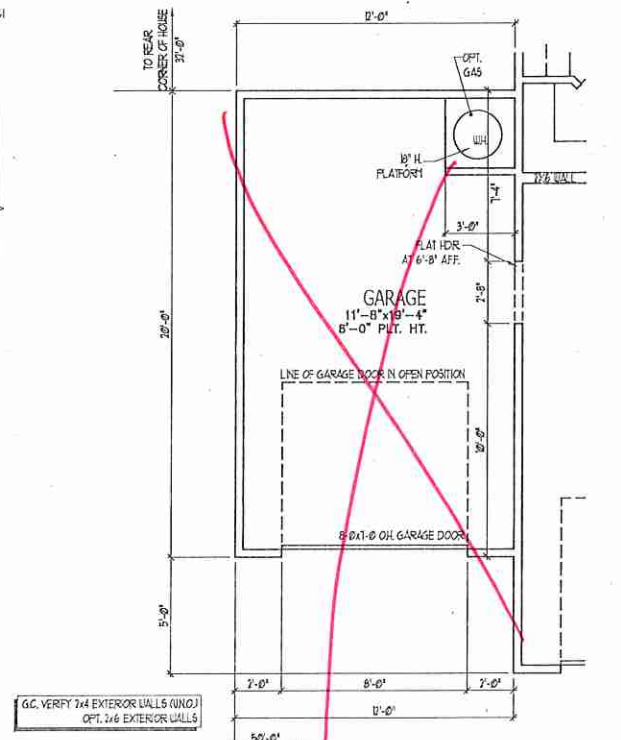
MAIN FLOOR PLAN  
 SCALE: 1/4" = 1'-0"



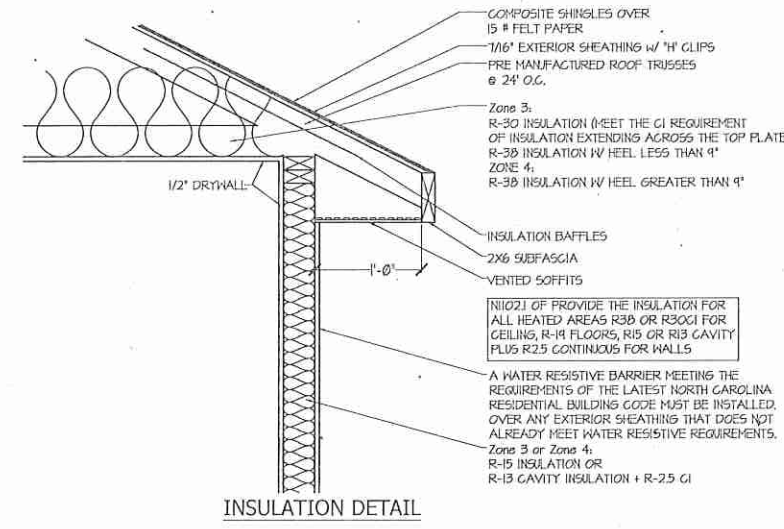
OPT. OWNER'S BATH 3  
 SCALE: 1/4" = 1'-0"



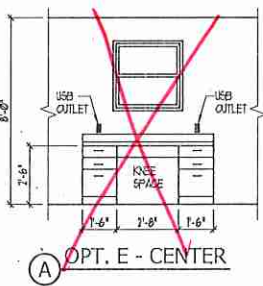
OPT. OWNER'S BATH 2  
 SCALE: 1/4" = 1'-0"



OPT. 1 CAR GARAGE  
 SCALE: 1/4" = 1'-0"



INSULATION DETAIL

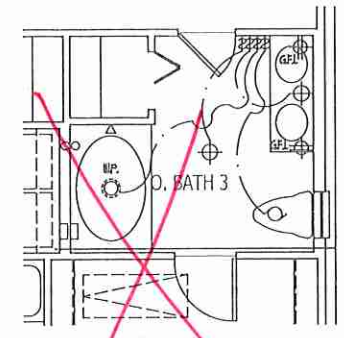


OPT. E - CENTER

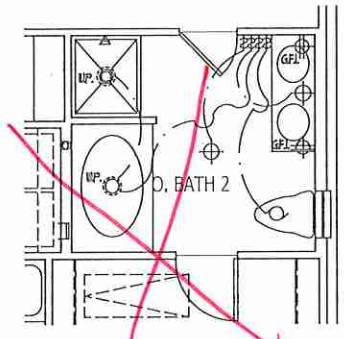
SQUARE FOOTAGE			
HEATED AREAS	ELEV 'A'	ELEV 'B'	ELEV 'C'
MAIN FLOOR	1724 SQ. FT.	1724 SQ. FT.	1724 SQ. FT.
TOTAL HEATED SF	1724 SQ. FT.	1724 SQ. FT.	1724 SQ. FT.
UNHEATED AREAS			
1 CAR GARAGE	249 SQ. FT.	249 SQ. FT.	249 SQ. FT.
COVERED AREAS			
FRONT PORCH	63 SQ. FT.	63 SQ. FT.	63 SQ. FT.
UNCOVERED 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.

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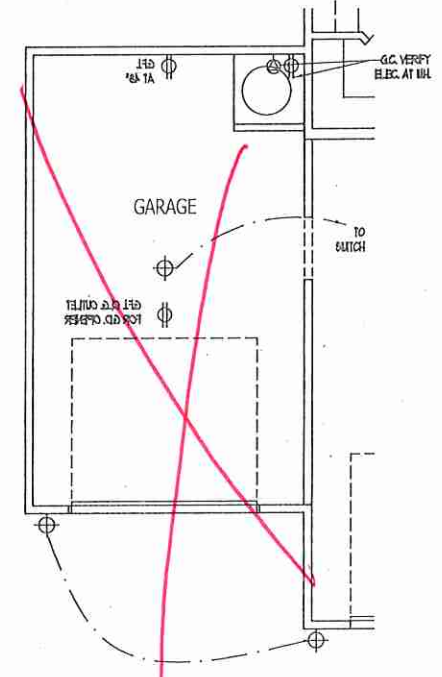




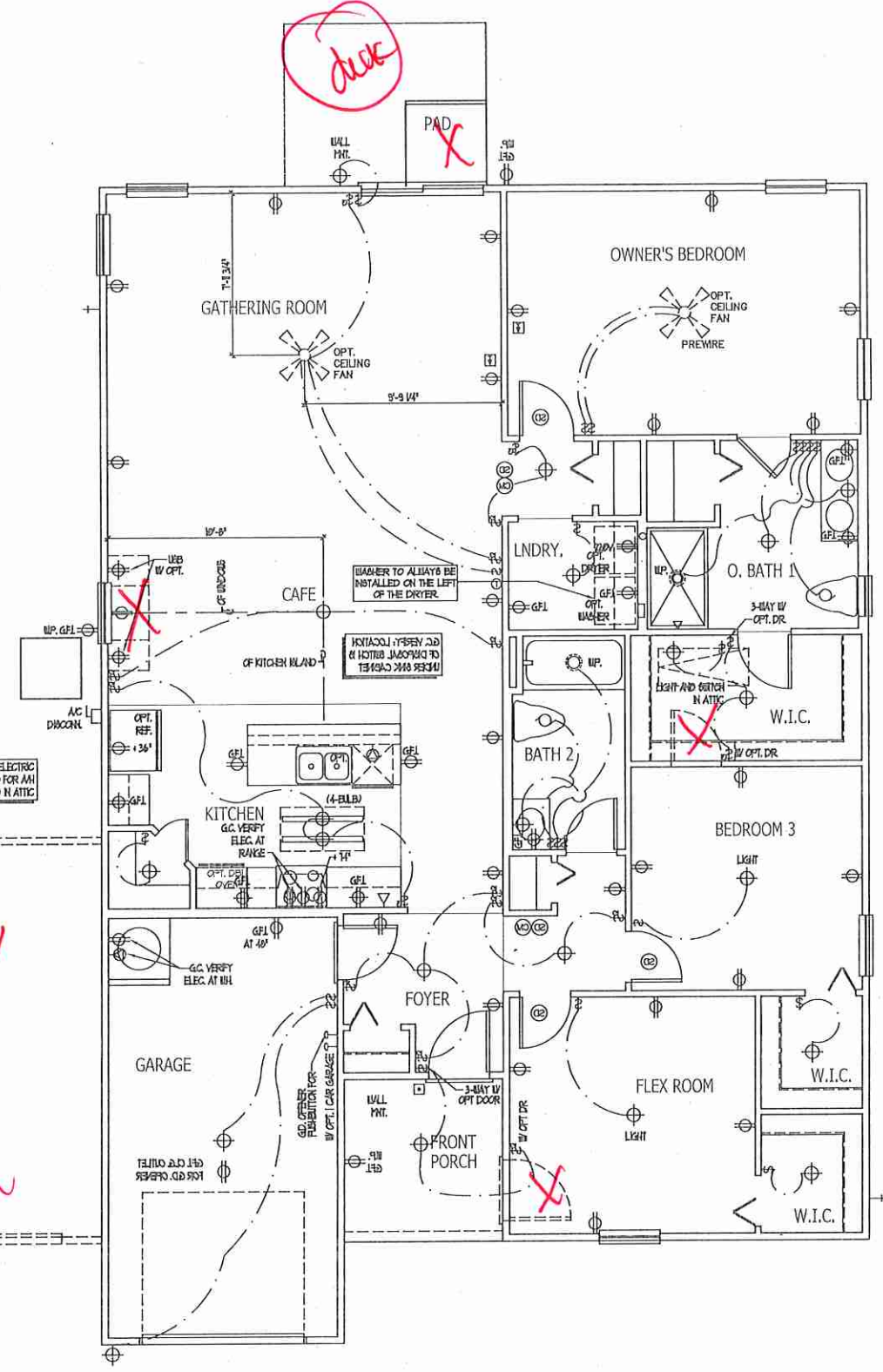
OPT. OWNER'S BATH 3



OPT. OWNER'S BATH 2



OPT. 1 CAR GARAGE



ELECTRICAL PLAN

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
- ⊕ 200 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 FULL CHAIN
- ⊕ TRACK LIGHT
- ⊕ FLUORESCENT LIGHT FIXTURE
- ⊕ EXHAUST FAN
- ⊕ EXHAUST FAN LIGHT COMBINATION
- ⊕ ELECTRIC DOOR OPERATOR (OPTIONAL)
- ⊕ CIRCLES (OPTIONAL)
- ⊕ PULLMOTION SWITCH (OPTIONAL)
- ⊕ CARBON MONOXIDE DETECTOR
- ⊕ SMOKE DETECTOR
- ⊕ SMOKE / CARBON MONOXIDE COMBO DETECTOR
- ⊕ TELEPHONE (OPTIONAL)
- ⊕ TELEVISION (OPTIONAL)
- ⊕ THERMOSTAT
- ⊕ ELECTRIC METER
- ⊕ ELECTRIC PANEL
- ⊕ DISCONNECT SWITCH
- ⊕ BREAKER (OPTIONAL)
- ⊕ ROUGH-IN FOR OPT. CEILING FAN
- ⊕ CEILING MOUNTED INCANDESCENT LIGHT FIXTURE W/ ROUGH-IN FOR OPT. CEILING FAN

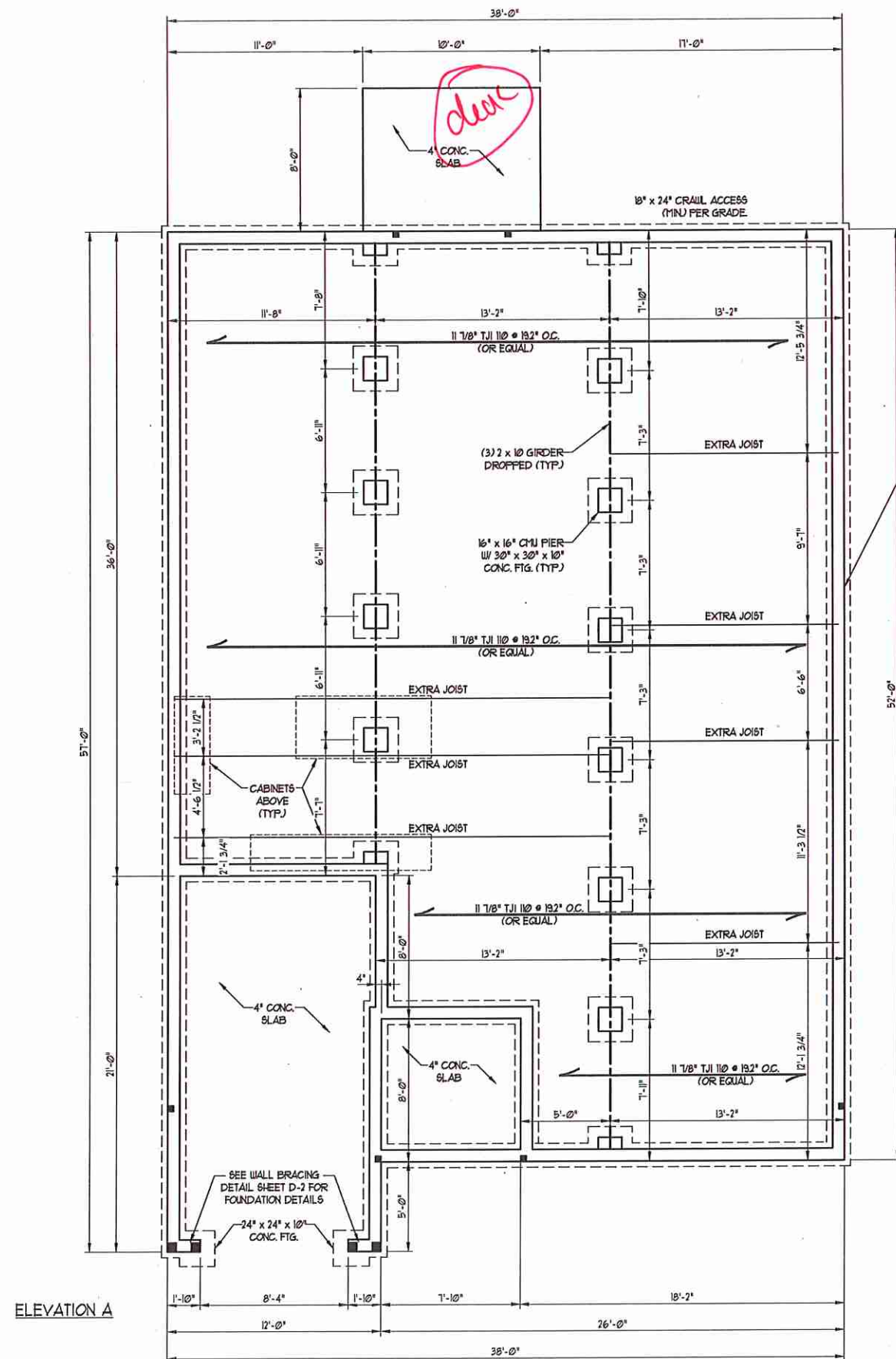
NOTES:

1. PROVIDE AND INSTALL GROUND FAULT CIRCUIT INTERRUPTERS (GFCI) AS INDICATED ON PLANS OR AS ITEM NO. 4 AND 5 BELOW INDICATED.
  2. UNLESS OTHERWISE INDICATED, INSTALL SWITCHES AND RECEPTACLES AT THE FOLLOWING HEIGHTS ABOVE FINISHED FLOOR:  
 SWITCHES... 48"  
 OUTLETS... 18"  
 TELEPHONE... 48" (UNLESS A/BY COUNTERTOP)  
 TELEVISION... 48"
  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 2BA RECEPTACLES IN SLEEPING ROOMS, FAMILY ROOMS, DINING ROOMS, LIVING ROOMS, PORCHES, LIBRARIES, DEHS, GUN ROOMS, RECREATION ROOMS, CLOSETS, HALLWAYS, AND OTHER AREAS SHALL REQUIRE A COMBINATION TYPE AFCI DEVICE AND TAMPER-PROOF RECEPTACLES PER NEC 201.406(B) AND 406(D).
  5. ALL BA AND 2BA 20A 250V 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 NFPA 70, NEC 2015 EDITION (WITH ALL APPLICABLE LOCAL ORDINANCES, CODES, AND ORDINANCES).
1. EVERY BUILDING HAVING A FOSSIL-FUEL-BURNING HEATER OR APPLIANCE, REPLACEMENT, OR AN ATTACHED GARAGE SHALL HAVE AN OPERATIONAL CARBON MONOXIDE DETECTOR INSTALLED WITHIN 10 FEET OF EACH ROOM USED FOR SLEEPING PURPOSES.
2. ALARMS SHALL RECEIVE THEIR PRIMARY POWER FROM THE BUILDING WIRING WHEN SUCH WIRING IS DERIVED 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.

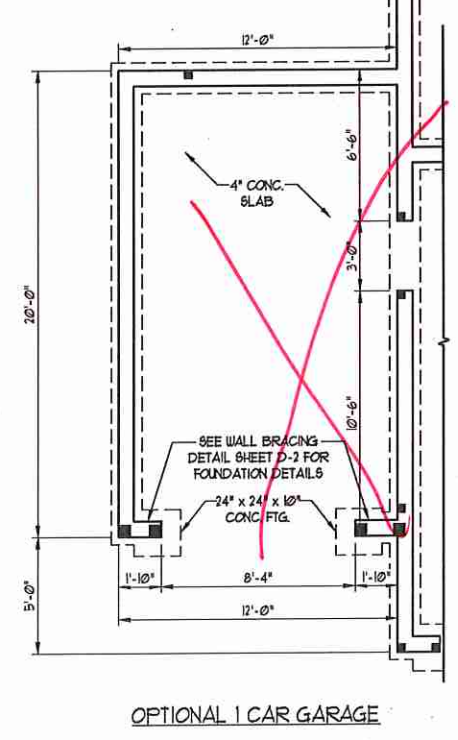
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SCALE NOTE:  
LARGE FORMAT PRINTS ARE TO SCALE AS NOTED.  
11" x 17" PRINTS ARE ONE HALF THE NOTED SCALE



8" FDN. ON 16" WIDE BY 8" DEEP CONT. CONC. FIG. (TYP.) OR FOR "HIGH WIND ZONES" 8" FDN. ON 24" WIDE BY 8" DEEP CONT. CONC. FIG. REINFORCED W/ THREE #4 REBAR (OR TWO #5 BARS) AT 3" ABOVE THE BOTTOM OF THE FIG. SPLICES MUST BE OVERLAPPED 25" MIN. (TYP.)



- STRUCTURAL NOTES:**
1. ALL FRAMING LUMBER TO BE #2 SFF (INO). ALL TREATED LUMBER TO BE #2 SYP (INO).
  2. INSTALL AN EXTRA OR DOUBLE JOIST UNDER WALLS PARALLEL TO FLOOR JOISTS WHERE NOTED ON THE PLANS.
  3. SQUARES DENOTE POINT LOADS WHICH REQUIRE SOLID BLOCKING TO GIRDER OR FOUNDATION.
  4. SHADED PIERS TO BE FILLED SOLID.
  5. INSTALL LADDER WIRE @ 16" O.C. TO SECURE MULTIPLE W/ THE FOUNDATION WALLS TOGETHER.
  6. REFER TO NOTES AND DETAIL SHEETS FOR ADDITIONAL STRUCTURAL INFORMATION.

- 50 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, 2008 EDITION WITH SPECIAL CONSIDERATION TO CHAPTER 45 ("HIGH WIND ZONES" FOR 50 MPH WINDS).
  3. BUILDER IS TO PROVIDE FRAMING CONNECTIONS AS REQUIRED BY CHAPTER 45 ("HIGH WIND ZONES" FOR 50 MPH WINDS) OF THE NORTH CAROLINA RESIDENTIAL CODE, 2008 EDITION.
  4. FOUNDATION ANCHORAGE TO COMPLY WITH SECTION 4504 OF THE NORTH CAROLINA RESIDENTIAL CODE, 2008 EDITION.
  5. MEAN ROOF HEIGHT IS LESS THAN 30 FEET.
  6. WALL CLADDING DESIGNED FOR 44.9 PSF AND -32 PSF (+/- INDICATE POSITIVE / NEGATIVE PRESSURE (TYP)).
  7. ROOF CLADDING DESIGNED FOR 42.2 PSF AND -28 PSF FOR ROOF PITCHES 1/2 TO 1/12 AND 44 PSF AND -31 PSF FOR ROOF PITCHES 22/12 TO 1/12.
  8. 1/4" OSB SHEATHING IS REQUIRED ON ALL EXTERIOR WALLS.
  9. WALLS TO BE BRACED IN ACCORDANCE WITH SECTION 602.10 OF THE NORTH CAROLINA RESIDENTIAL CODE, 2008 EDITION AND AS NOTED ON PLANS.
  10. ENERGY EFFICIENCY COMPLIANCE AND INSULATION VALUES OF THE BUILDING TO BE IN ACCORDANCE WITH CHAPTER 8 OF THE NRC, 2008 EDITION.

- 100 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, 2008 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 1" 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 100 MPH WINDS.
  6. WALL CLADDING DESIGNED FOR 45.5 PSF AND -30 PSF (+/- INDICATE POSITIVE / NEGATIVE PRESSURE (TYP)).
  7. ROOF CLADDING DESIGNED FOR 44.2 PSF AND -28 PSF FOR ROOF PITCHES 1/2 TO 1/12 AND 40 PSF AND -36 PSF FOR ROOF PITCHES 22/12 TO 1/12.
  8. INSTALL 1/4" OSB SHEATHING ON ALL EXTERIOR WALLS OF ALL STOREYS IN ACCORDANCE WITH SECTION 602.10.3 OF THE NRC, 2008 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 8 OF THE NRC, 2008 EDITION.
  10. REFER TO NOTES AND DETAIL SHEETS FOR ADDITIONAL STRUCTURAL INFORMATION.

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PHONE: 919 789-9119 FAX: 919 789-9121  
N.C. LICENSE NO. C1713

EMBAK - GARAGE LEFT  
H & H HOMES

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

SHEET 1 OF 10  
S-1.1a  
CRAWL  
FOUNDATION PLAN





**NOTE: ALL EXTERIOR WALLS AND ATTIC WALLS ARE TO BE 2 x 4 SFF #2 @ 24" O.C. 2 x 6 SFF #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 SFF #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

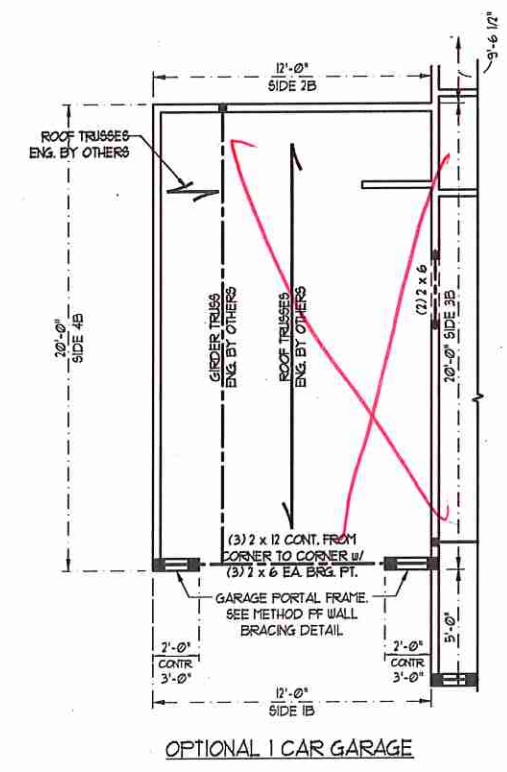
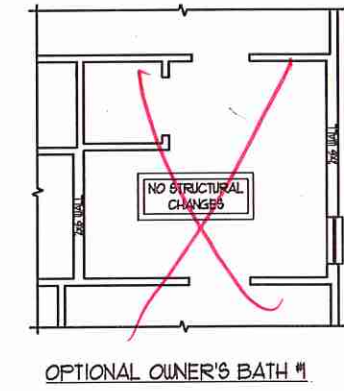
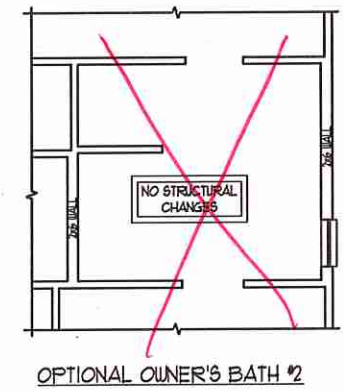
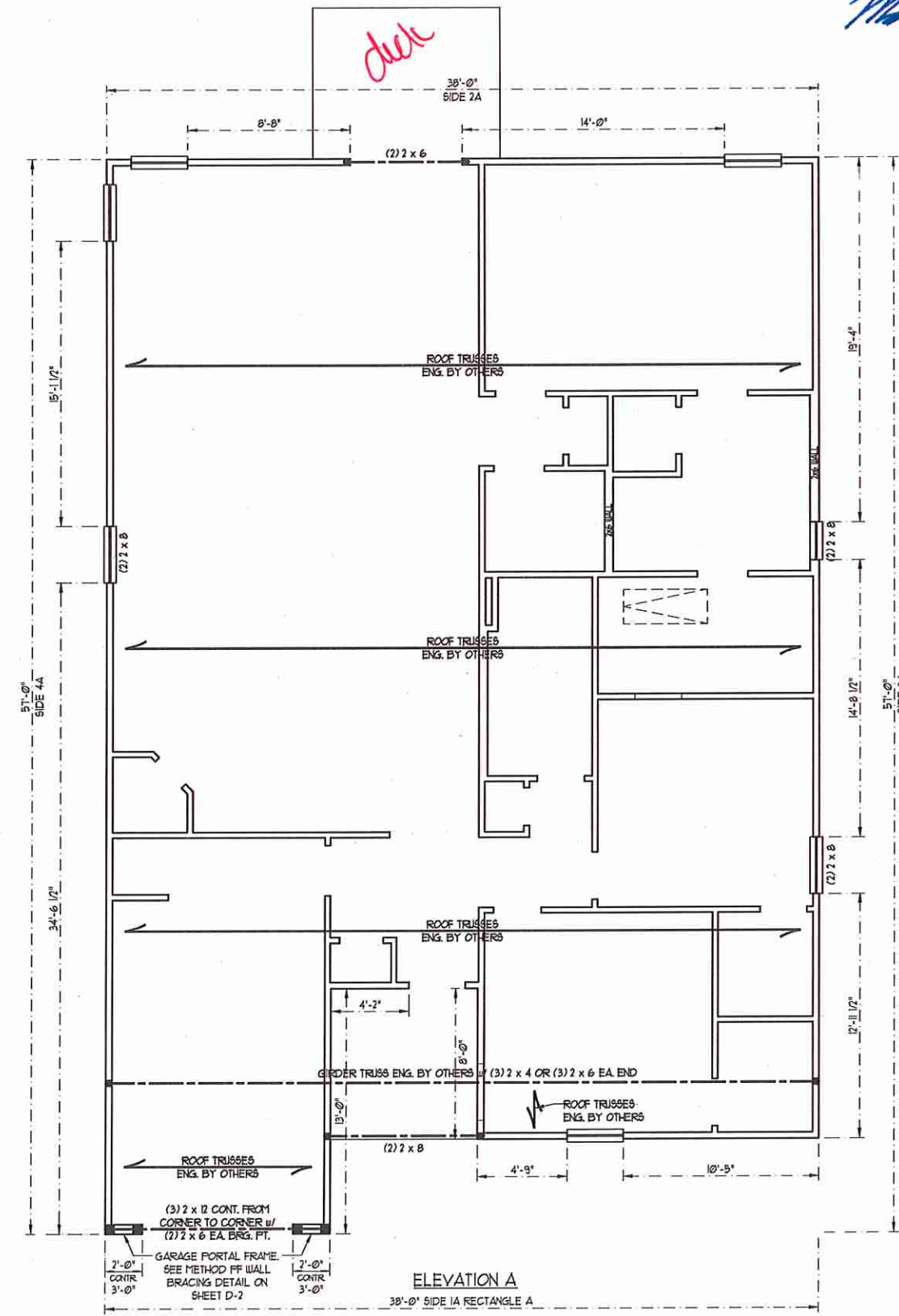
TABLE R602.15  
MINIMUM NUMBER OF FULL HEIGHT STUDS AT EACH END OF HEADERS IN EXTERIOR WALLS

HEADER SPAN (FEET)	MAXIMUM STUD SPACING (INCHES) (PER TABLE R602.3.5)	
	16	24
UP TO 3'	1	1
4'	2	1
6'	3	2
12'	5	3
16'	6	4

- STRUCTURAL NOTES:**
- ALL FRAMING LUMBER TO BE SFF #2 (UNO). ALL TREATED LUMBER TO BE SYP #2 (UNO).
  - ALL LOAD BEARING HEADERS TO BE (2) 2 x 6 (UNO).
  - WINDOW AND DOOR HEADERS TO BE SUPPORTED w/ (1) JACK STUD AND (1) KING STUD EA. END (UNO). SEE TABLE R602.15 FOR ADDITIONAL KING STUD REQUIREMENTS.
  - SQUARES DENOTE POINT LOADS WHICH REQUIRE SOLID BLOCKING TO GIRDER OR FOUNDATION. ALL SQUARES TO BE (2) STUDS (UNO).
  - FOR HIGH WIND ZONES, ALL EXTERIOR WALLS TO BE SHEATHED WITH 1/8" OSB SHEATHING WITH JOINTS BLOCKED AND SECURED WITH 8d NAILS AT 3" O.C. ALONG EDGES AND 6" O.C. IN THE FIELD.
  - 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.
  - 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 100 LB CAPACITY UPLIFT CONNECTORS AT TOP (UNO).
  - 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.
  - REFER TO NOTES AND DETAIL SHEETS FOR ADDITIONAL STRUCTURAL INFORMATION.

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N.C. LICENSE NO.: C-1713

EMBARK - GARAGE LEFT  
H & H HOMES



- BRACED WALL DESIGN NOTES:**
- BRACED WALL DESIGN PER SECTION R602.10 OF THE NRC 2018 EDITION.
  - C5-WSP REFERS TO 'CONTINUOUS SHEATHING - WOOD STRUCTURAL PANELS' CONTRACTOR IS TO INSTALL 1/8" OSB ON ALL EXTERIOR WALLS ATTACHED w/ 8d NAILS SPACED 6" O.C. ALONG PANEL EDGES AND 12" O.C. IN THE FIELD.
  - 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 1' O.C. ALONG PANEL EDGES AND IN THE FIELD INCLUDING TOP AND BOTTOM PLATES.
  - 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 NRC 2018 EDITION.
  - SEE NOTES AND DETAIL SHEETS FOR ADDITIONAL BRACED WALL INFORMATION.

**BRACED WALL DESIGN**

RECTANGLE A		RECTANGLE B	
SIDE 1A	METHOD: C5-WSP/FF TOTAL REQUIRED LENGTH: 12.16' TOTAL PROVIDED LENGTH: 25.33'	SIDE 1B	METHOD: FF TOTAL REQUIRED LENGTH: 48' TOTAL PROVIDED LENGTH: 6'
SIDE 2A	METHOD: C5-WSP TOTAL REQUIRED LENGTH: 12.16' TOTAL PROVIDED LENGTH: 16.61'	SIDE 2B	METHOD: C5-WSP TOTAL REQUIRED LENGTH: 48' TOTAL PROVIDED LENGTH: 12'
SIDE 3A	METHOD: C5-WSP TOTAL REQUIRED LENGTH: 8.14' TOTAL PROVIDED LENGTH: 6.0'	SIDE 3B/4A COMBINED	METHOD: C5-WSP TOTAL REQUIRED LENGTH: 121' TOTAL PROVIDED LENGTH: 26.61'
SIDE 4A	METHOD: C5-WSP TOTAL REQUIRED LENGTH: 8.14' TOTAL PROVIDED LENGTH: 9.61'	SIDE 4B	METHOD: C5-WSP TOTAL REQUIRED LENGTH: 336' TOTAL PROVIDED LENGTH: 16'

DATE: MARCH 7, 2019  
SCALE: 1/4" = 1'-0"  
DRAWN BY: DWIS, BCS 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

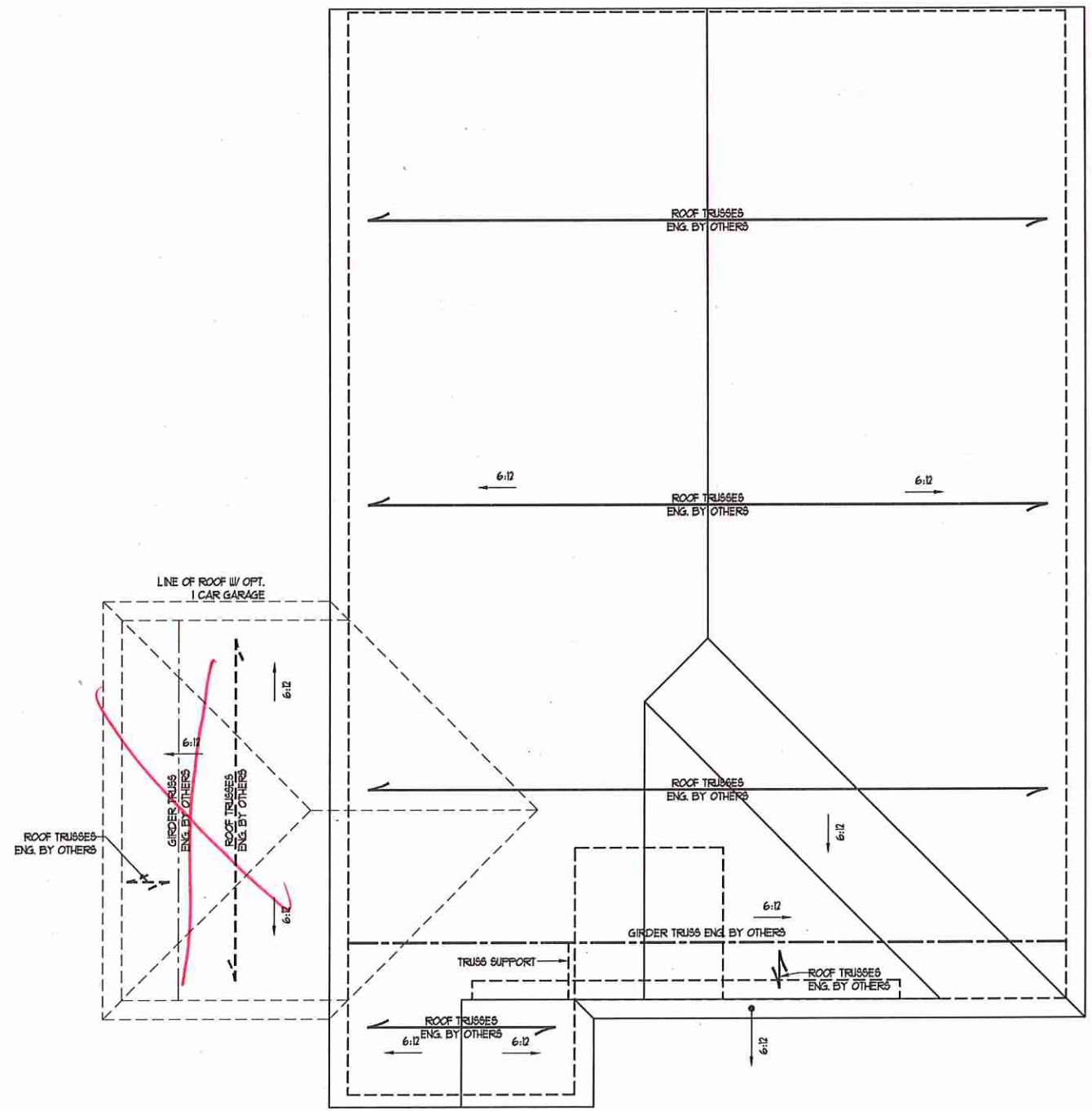
- STRUCTURAL NOTES:**
1. ALL FRAMING LUMBER TO BE #2 SFF (INO).
  2. CIRCLES DENOTE (3) 2 x 4 POSTS FOR ROOF SUPPORT.
  3. FRAME DORMER WALLS ON TOP OF DOUBLE OR TRIPLE RAFTERS.
  4. HIP SPLICES ARE TO BE SPACED A MIN. OF 8'-0". FASTEN MEMBERS WITH THREE ROWS OF 1/2d NAILS @ 16" O.C. (TYP.)
  5. STICK 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) 1/2d TOE NAILS.
  7. REFER TO SECTION R202.11 OF THE 2018 NRC FOR REQUIRED UPLIFT RESISTANCE AT RAFTERS AND TRUSSES.
  8. REFER TO NOTES AND DETAIL SHEETS FOR ADDITIONAL STRUCTURAL INFORMATION.

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 N.C. LICENSE NO.: CA773

EMBARK - GARAGE LEFT  
 H & H HOMES

DATE: MARCH 7, 2019  
 SCALE: 1/4" = 1'-0"  
 DRAWN BY: DWIS DEWES EGBR24  
 ENGINEERED BY: WTB

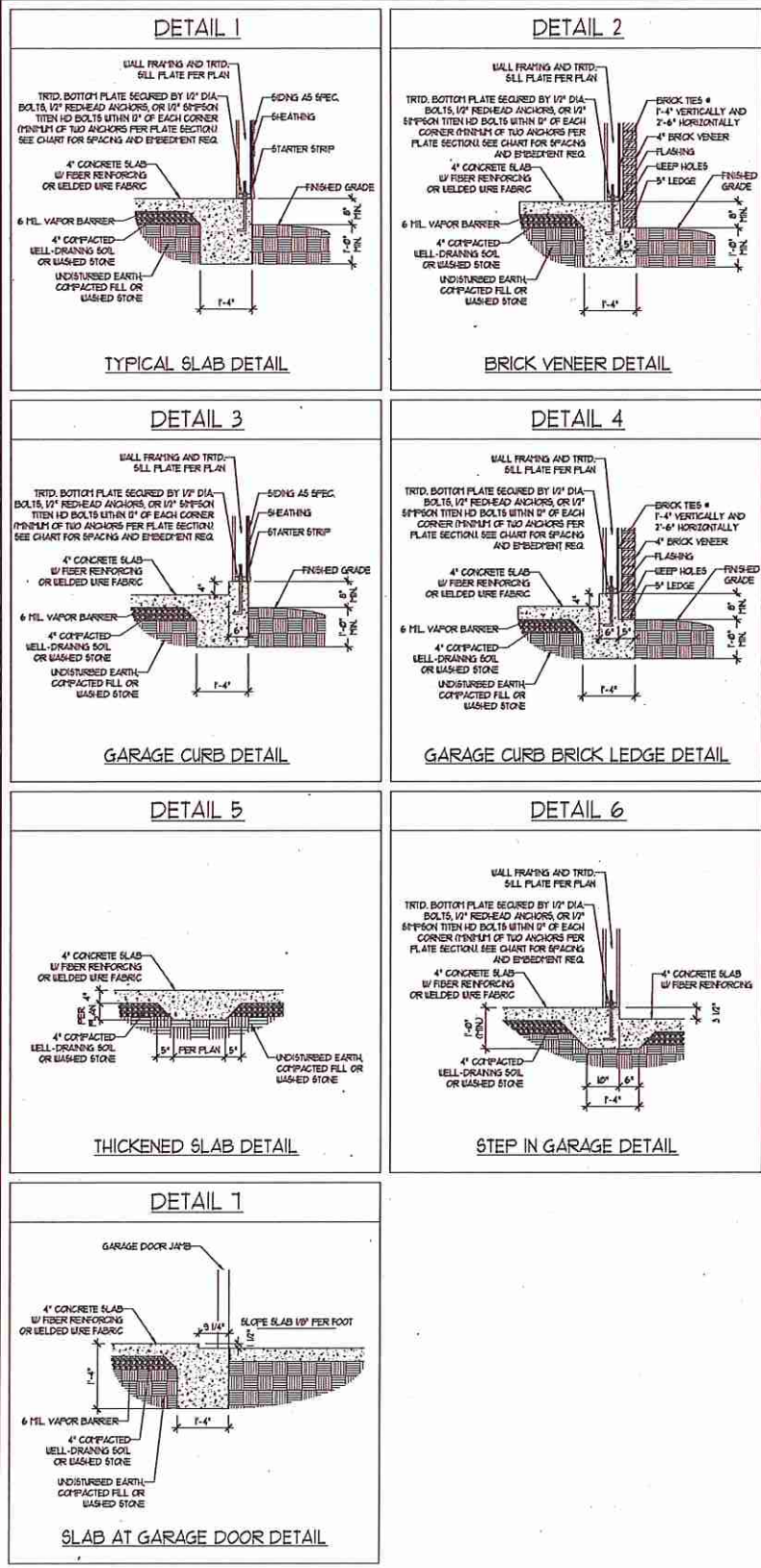
SHEET 9 OF 10  
 S-3a  
 ROOF FRAMING  
 PLAN



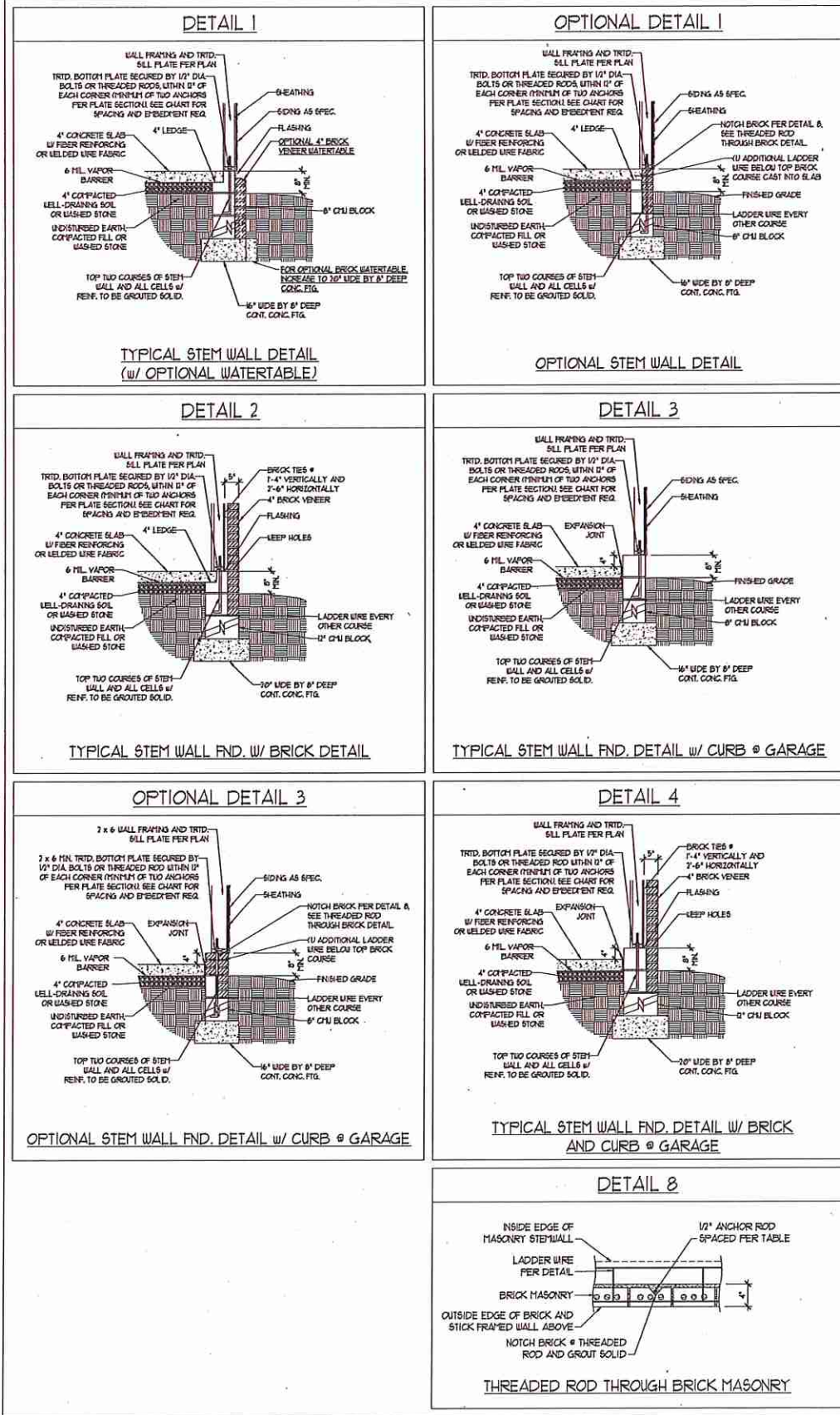
ELEVATION A



MONOLITHIC SLAB DETAILS



STEMWALL DETAILS



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	UNROUTED	GROUT SOLID	UNROUTED	UNROUTED
3	UNROUTED	GROUT SOLID	UNROUTED	UNROUTED
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. THE 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 5/11 WASHED STONE IS ALLOWABLE.
  5. BACKFILL OF WELL DRAINED OR SAND - GRAVEL MIXTURE SOILS (45 PSF/FT BELOW GRADE) CLASSIFIED AS GROUP 1 ACCORDING TO UNIFIED SOILS CLASSIFICATION SYSTEM IN ACCORDANCE WITH TABLE 4.02(5) OF THE 2018 INTERNATIONAL RESIDENTIAL CODE ARE ALLOWABLE.
  6. PREP SLAB PER (S206.2) AND (S206.2.2) BASE OF THE 2018 INTERNATIONAL RESIDENTIAL CODE. MINIMUM 14" 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	1"	5" INTO MASONRY 1" INTO CONCRETE

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 N.C. LICENSE NO.: 01737

120 MPH - 130 MPH ULTIMATE DESIGN WIND SPEED  
 FOUNDATION DETAILS

SEAL  
 33736  
 ENGINEER  
 MATTHEW G. STROTHER  
 3/7/19

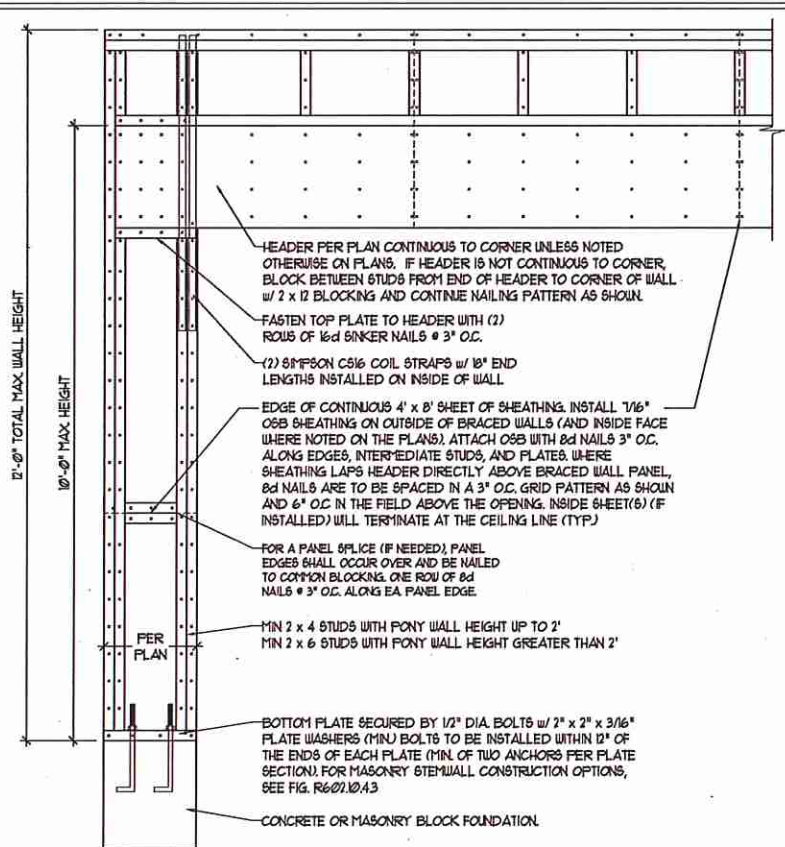
DATE: NOVEMBER 14, 2018  
 SCALE: NTS  
 DRAWN BY: JST  
 ENGINEERED BY: JES

D-1  
 FOUNDATION DETAILS

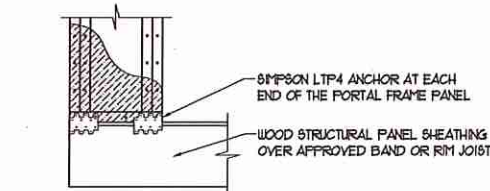


**GENERAL WALL BRACING NOTES:**

1. WALL BRACING DESIGNED IN ACCORDANCE WITH CHAPTER 6 OF THE 2018 NC RESIDENTIAL BUILDING CODE (NCR). TABLES AND FIGURES REFERENCED ARE FROM THE 2018 NCR.
2. SEE THIS SHEET FOR GENERAL DETAILS. REFER TO THE 2018 NCR 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 SHEATHINGS AND FASTENERS HAVE BEEN DESIGNED TO RESIST COMBINED UPLIFT AND SHEAR FORCES IN ACCORDANCE WITH ACCEPTED ENGINEERING 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-USP 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 R102.3.5, METHOD GB TO BE FASTENED PER TABLE R602.10.1
7. CS-USP REFERS TO THE "CONTINUOUS SHEATHING - WOOD STRUCTURAL PANELS" WALL BRACING METHOD. 1/8" OSB SHEATHING IS TO BE INSTALLED ON ALL EXTERIOR WALLS ATTACHED w/ 6d COMMON NAILS OR 8d (2 1/2" LONG x Ø13" DIAMETER) NAILS SPACED 6" O.C. ALONG PANEL EDGES AND 12" O.C. IN THE FIELD (UNO).
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 1" O.C. ALONG PANEL EDGES INCLUDING TOP AND BOTTOM FLATES AND INTERMEDIATE SUPPORTS (UNO). VERIFY ALL FASTENER OPTIONS FOR 1/2" AND 5/8" GYPSUM FOR CONSTRUCTION. FOR INTERIOR FASTENER OPTIONS SEE TABLE R102.3.5. 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-USP CONTRIBUTES ITS ACTUAL LENGTH, METHOD GB CONTRIBUTES 5 ITS ACTUAL LENGTH, AND METHOD PF CONTRIBUTES 15 TIMES ITS ACTUAL LENGTH.

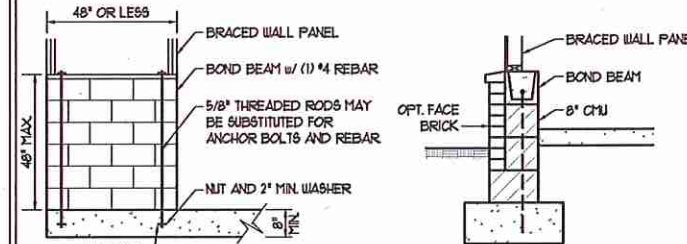
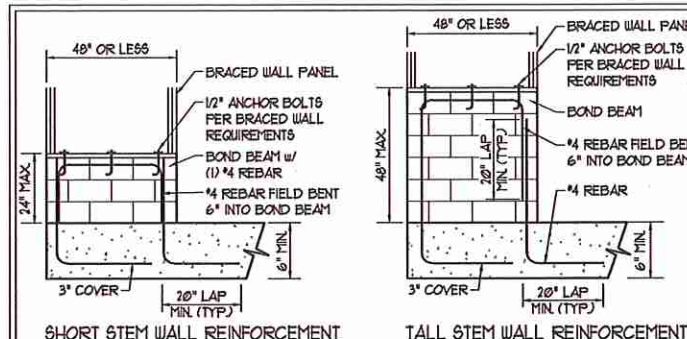


OVER CONCRETE OR MASONRY BLOCK FOUNDATION



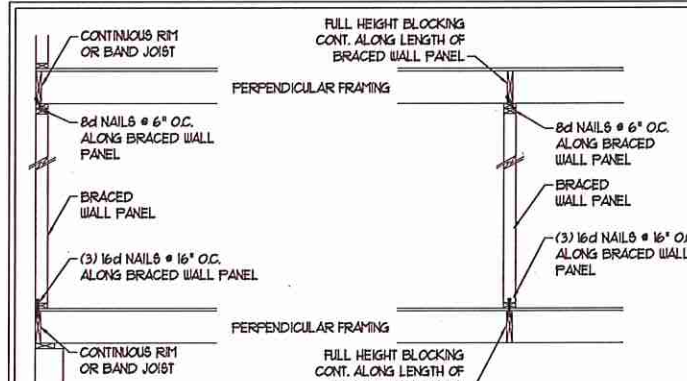
OVER RAISED WOOD FLOOR - FRAMING ANCHOR OPTION  
 \* APPLICABLE w/ GREATER THAN 12\"/>

METHOD PF-PORTAL FRAME DETAIL ①

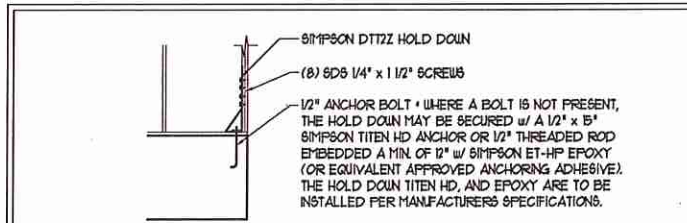


OPTIONAL STEM WALL REINFORCEMENT

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



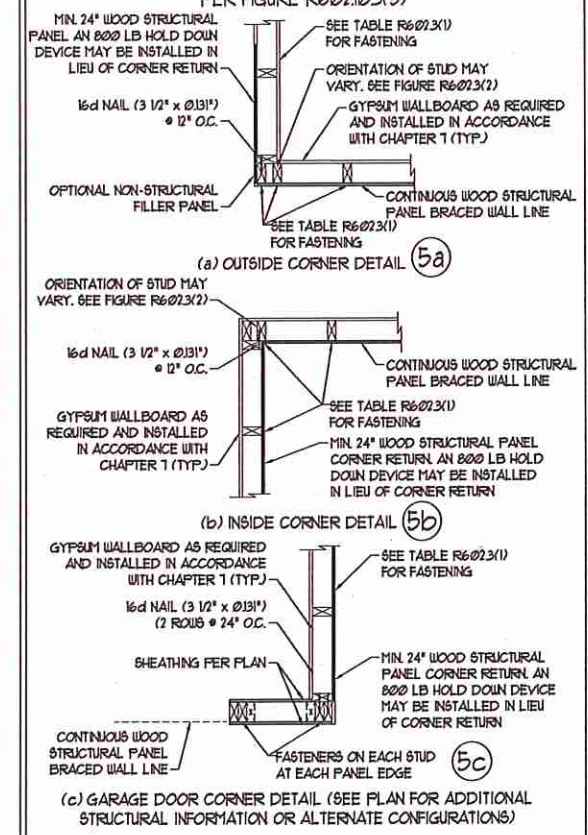
BRACED WALL PANEL CONNECTION WHEN PERPENDICULAR TO FLOOR/CEILING FRAMING  
 PER FIGURE R602.10.4.4(1)



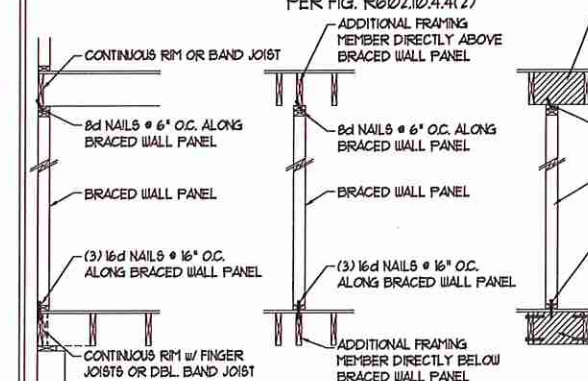
BRACED WALL PANEL CONNECTION WHEN PARALLEL TO FLOOR/CEILING FRAMING  
 PER FIG. R602.10.4.4(2)

**HOLD DOWN DETAIL FOR MASONRY FOUNDATION OR MONOLITHIC SLAB ④**  
 \* APPLICABLE ONLY WHERE SPECIFIED ON PLAN \*

**TYPICAL EXTERIOR CORNER FRAMING FOR CONTINUOUS SHEATHING ⑤**

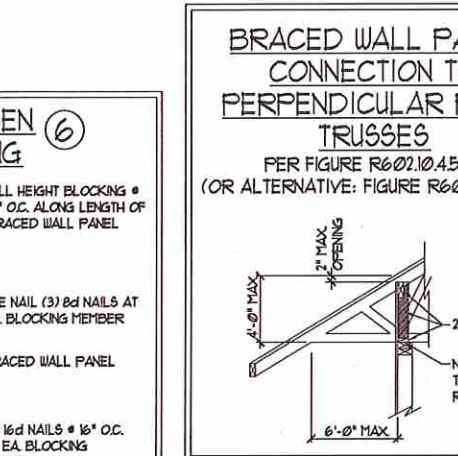
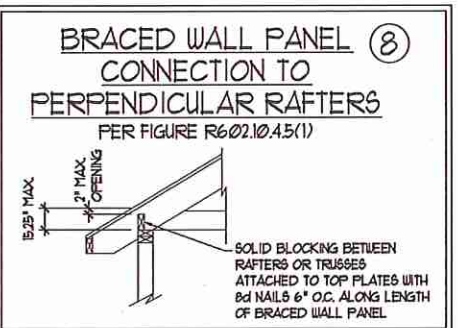
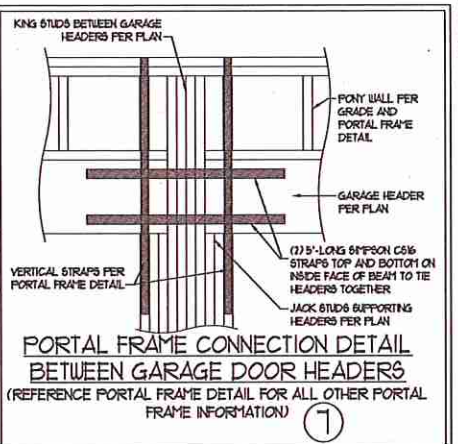


**BRACED WALL PANEL CONNECTION WHEN PARALLEL TO FLOOR/CEILING FRAMING ⑥**



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SCALE NOTE:  
 LARGE FORMAT PRINTS ARE TO SCALE AS NOTED.  
 11\"/>



DATE: OCTOBER 31, 2018  
 SCALE: 1/4\"/>

D-2  
 BRACED WALL NOTES AND DETAILS AND PF DETAILS  
 3/7/19

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 N.C. LICENSE NO.: C-1173

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

SEAL  
 33736  
 ENGINEER  
 MATTHEW G. STROTHER



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

**GENERAL NOTES**

- 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.
- 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.
- 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/260
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/260
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

- FOR 15 AND 20 MPH WIND ZONES, FOUNDATION ANCHORAGE IS TO COMPLY WITH SECTION R403.16 OF THE NCRC, 2018 EDITION. FOR 30 MPH, 40 MPH, AND 50 MPH WIND ZONES, FOUNDATION ANCHORAGE IS TO COMPLY WITH SECTION 4504 OF THE NCRC, 2018 EDITION.
- ENERGY EFFICIENCY COMPLIANCE AND INSULATION VALUES OF THE BUILDING TO BE IN ACCORDANCE WITH CHAPTER II OF THE NCRC, 2018 EDITION.

**FOOTING AND FOUNDATION NOTES**

- FOUNDATION DESIGN BASED ON A MINIMUM ALLOWABLE BEARING CAPACITY OF 2000 PSF. CONTACT GEOTECHNICAL ENGINEER IF BEARING CAPACITY IS NOT ACHIEVED.
- 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.
- 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 SAILED WITHIN 4 TO 12 HOURS OF CONCRETE FINISHING AND WALL LOCATIONS HAVE BEEN MARKED. ADJUST WHERE NECESSARY.
- 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.
- MASONRY UNITS TO CONFORM TO ACE 530/ASCE 5/TMS 402. MORTAR SHALL CONFORM TO ASTM C710.
- 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.
- 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.
- 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, NCH 11 TR68-A OR ACE 530/ASCE 5/TMS 402. MASONRY FOUNDATION WALLS ARE TO BE REINFORCED PER TABLE R404.1X(1), R404.1X(2), R404.1X(3), OR R404.1X(4) OF THE NCRC, 2018 EDITION. CONCRETE FOUNDATION WALLS ARE TO BE REINFORCED PER TABLE R404.1X(5) OF THE NCRC, 2018 EDITION. STEP CONCRETE FOUNDATION WALLS TO 2 x 6 FRAMED WALLS AT 16" O.C. WHERE GRADE PERMITS (UNO).

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**FRAMING NOTES**

- ALL FRAMING LUMBER SHALL BE 2 SFF 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 = 475 PSI, E = 1600000 PSI) UNLESS NOTED OTHERWISE (UNO).
- 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 = 2375 PSI, Fv = 310 PSI, E = 1550000 PSI. PARALLEL STRAND LUMBER (PSL) UP TO 1" DEPTH SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES: Fc = 2500 PSI, E = 1800000 PSI. PARALLEL STRAND LUMBER (PSL) MORE THAN 1" DEPTH SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES: Fc = 2300 PSI, E = 2000000 PSI. INSTALL ALL CONNECTIONS PER MANUFACTURER'S SPECIFICATIONS.
- STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING ASTM SPECIFICATIONS
 

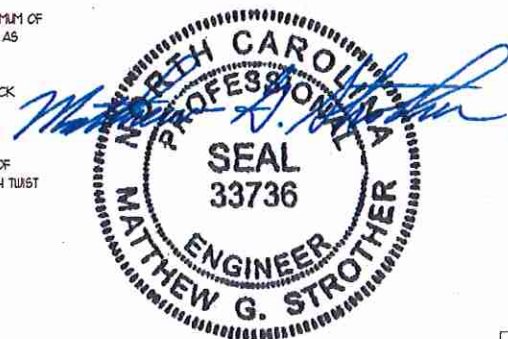
A. W AND WT SHAPES:	ASTM A992
B. CHANNELS AND ANGLES:	ASTM A36
C. PLATES AND BARS:	ASTM A36
D. HOLLOW STRUCTURAL SECTIONS:	ASTM A500 GRADE B
E. STEEL PIPE:	ASTM A53, GRADE B, TYPE E OR S

- 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.

- 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.
- ALL LOAD BEARING HEADERS TO CONFORM TO TABLE R602.1(1) AND R602.1(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 R602.15 OF THE NORTH CAROLINA RESIDENTIAL CODE, 2018 EDITION.
- 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).
- 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).
- 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.
- 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.
- 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.
- 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) 8d NAILS EA. FLY BETWEEN WALL STUDS WITH (2) ROWS OF 1/2" LAG SCREWS AT 12" O.C. STAGGERED AND IN ACCORDANCE WITH SECTION R103.8(2) OF THE NCRC, 2018 EDITION.
- 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 8d NAILS AT 16" O.C. FRAME DORMER WALLS ON TOP OF DOUBLE OR TRIPLE RAFTERS AS SHOWN (UNO).
- 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).
- ALL 4 x 4 AND 6 x 6 POSTS TO BE INSTALLED WITH 1000 LB CAPACITY UPLIFT CONNECTORS TOP AND BOTTOM (UNO). POSTS MAY BE SECURED USING ONE SIMPSON 165 OR L1512 UPLIFT CONNECTOR FASTENED TO THE BAND AT THE BOTTOM AND THE BEAM AT THE TOP OF EACH POST. ONE 16" SECTION OF SIMPSON C96 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.



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

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

S-0  
STRUCTURAL NOTES

3/7/19