BUILDING CODE COMPLIANCE / PROJECT INFORMATION

ALL CONSTRUCTION TO COMPLY WITH LOCAL CODES AND ORDINANCES CURRENTLY IN USE WITH THE LOCAL JURISDICTION.

APPLICABLE CODES:
FOLLOW ALL APPLICABLE STATE AND LOCAL CODES.
2018 NORTH CAROLINA STATE RESIDENTIAL CODE

CONTRACTOR AND BUILDER SHALL REVIEW ENTIRE PLAN TO VERIFY CONFORMANCE WITH ALL CURRENT APPLICABLE CODES IN EFFECT AT TIME OF CONSTRUCTION. BY USING THESE DRAWINGS FOR CONSTRUCTION IT IS UNDERSTOOD THAT CONFORMANCE WITH ALL APPLICABLE CODES IS THE RESPONSIBILITY OF THE BUILDER AND CONTRACTOR.

PRODUCT:
SINGLE FAMILY RESIDENCE

OCCUPANCY CLASSIFICATION
RESIDENTIAL R-3

CONSTRUCTION TYPE:
TYPE VB (2 HOUR DWELLING SEPARATION BETWEEN UNITS.)

INDEX

ALL CONSULTANT DRAWINGS ACCOMPANYING THESE GMD DESIGN GROUP DRAWINGS HAVE NOT BEEN PREPARED BY OR UNDER THE DIRECTION OF GMD DESIGN GROUP, INC. GMD DESIGN GROUP INC. THEREFORE ASSUMES NO LIABILITY FOR THE COMPLETENESS OR CORRECTNESS OF THESE DRAWINGS.

ELEV. 'CLASSIC' AREA

Name	Area
FIRST FLOOR	1387 SF
SECOND FLOOR	1028 SF
HEATED	2415 SF
PORCH	173 SF
GARAGE	459 SF
UNHEATED	632 SF

AREA OPTIONS

Name	Area
OPT. COVERED PORCH	192 SF
UNHEATED	192 SF

GENERAL NOTES:

THESE DOCUMENTS ARE THE PROPERTY OF THE DESIGNER AND SHALL NOT BE COPIED, DUPLICATED, ALTERED, MODIFIED OR REVISED IN ANY WAY WITHOUT THE EXPRESSED WRITTEN APPROVAL OF THE DESIGNER.

CONTRACTOR SHALL VERIFY ALL CONDITIONS AND DIMENSIONS AT THE SITE AND ALL INCONSISTENCES SHALL BE BROUGHT TO THE ATTENTION OF THE DEVELOPER AND THE DESIGNER BEFORE PROCEEDING WITH WORK.

ANY ERRORS OR OMISSIONS FOUND IN THESE DRAWINGS SHALL BE BROUGHT TO DEVELOPERS AND DESIGNERS ATTENTION IMMEDIATELY.

DO NOT SCALE DRAWINGS. WRITTEN DIMENSIONS TAKE PRECEDENCE OVER SCALED DIMENSIONS.

ALL DIMENSIONS ARE TO FACE OF STUD OR TO FACE OF FRAMING UNLESS OTHERWISE NOTED.

ALL TRUSS DRAWINGS TO BE REVIEWED AND APPROVED BY THE STRUCTURAL ENGINEER PRIOR TO ISSUANCE OF BUILDING PERMIT.

ALL OR EQUAL SUBSTITUTIONS MUST BE SUBMITTED TO AND APPROVED BY CITY BUILDING OFFICIAL PRIOR TO INSTALLATION.

ALL ANGLED PARTITIONS ARE 45 DEGREES UNLESS OTHERWISE NOTED.

PROVIDE FIREBLOCKING. (PER LOCAL CODES.)

ALL ELECTRICAL AND MECHANICAL EQUIPMENT AND METERS ARE SUBJECT TO RELOCATION DUE TO FIELD CONDITIONS, CONTRACTOR TO VERIFY.

PROVIDE BLOCKING AND/OR BACKING AT ALL TOWEL BAR, TOWEL RING AND/OR TOILET PAPER HOLDER LOCATIONS, AS SHOWN PER PLAN. TYPICAL AT ALL BATHROOMS AND POWDER ROOMS. VERIFY LOCATIONS AT FRAMING WALK.

ELASTOMERIC SHEET WATERPROOFING: FURNISH AND INSTALL ALL WATERPROOFING COMPLETE. A 40 MIL, SELF-ADHERING MEMBRANE OF RUBBERIZED ASPHALT INTEGRALLY BONDED TO POLYETHYLENE SHEETING, OR EQUAL. INSTALL PER MANUFACTURE'S AND TRADE ASSOCIATION'S PRINTED INSTALLATION INSTRUCTIONS. 6" MINIMUM LAP AT ALL ADJACENT WALL SURFACES.

TO THE BEST OF THE DESIGNER'S KNOWLEDGE THESE DOCUMENTS ARE IN CONFORMANCE WITH THE REQUIREMENTS OF THE BUILDING AUTHORITIES HAVING JURISDICTION OVER THIS TYPE OF CONSTRUCTION AND OCCUPANCY.

SHOP DRAWING REVIEW AND DISTRIBUSTION, ALONG WITH PRODUCT SUBMITTALS, REQUESTED IN THE CONSTRUCTION DOCUMENTS, SHALL BE THE SOLE RESPONSIBILITY OF THE GENERAL CONTRACTOR, UNLESS DIRECTED OTHERWISE UNDER A SEPARATE AGREEMENT.

DEVIATIONS FROM THESE DOCUMENTS IN THE CONSTRUCTION PHASE SHALL BE REVIEWED BY THE DESIGNER AND THE OWNER PRIOR TO THE START OF WORK IN QUESTION. ANY DEVIATIONS FROM THESE DOCUMENTS WITHOUT PRIOR REVIEW, SHALL BE THE SOLE RESPONSIBILITY OF THE GENERAL CONTRACTOR.

THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL WORK AND MATERIALS REPRESENTED ON THESE DOCUMENTS INCLUDING THE WORK AND MATERIALS FURNISHED BY SUBCONTRACTORS AND VENDORS.

THE OWNER SHALL FURNISH ANY AND ALL REPORTS RECEIVED FROM THE GEOTECHNICAL ENGINEER (SOILS REPORT), ON THE STUDY OF THE PROPOSED SITE, TO THE DESIGNER, STRUCTURAL ENGINEER, AND GENERAL CONTRACTOR. IN THE EVENT THE GEOTECHNICAL REPORTS DO NOT EXIST, THE SOILS CONDITION SHALL BE ASSUMED TO BE A MINIMUM DESIGN SOIL PRESSURE STATED BY THE STRUCTURAL ENGINEER OF RECORD FOR THE PURPOSE OF STRUCTURAL DESIGN. GENERAL CONTRACTOR SHALL ASSURE THE SOIL CONDITIONS MEET OR EXCEED THE CRITERIA.

ALL WORK PERFORMED BY THE GENERAL CONTRACTOR SHALL COMPLY AND CONFORM WITH LOCAL AND STATE BUILDING CODES, ORDINANCES AND REGULATIONS, ALONG WITH ALL OTHER AUTHORITIES HAVING JURISDICTION. THE GENERAL CONTRCATOR IS RESPONSIBLE TO BE AWARE OF THESE REQUIREMENTS AND GOVERNING REGULATIONS.

PROVIDE AN APPROVED WASHER DRAIN PAN AT SECOND FLOOR ONLY THAT DRAINS TO EXTERIOR.

WINDOW SUPPLIER TO VERIFY AT LEAST ONE WINDOW IN ALL BEDROOMS TO HAVE A CLEAR OPENABLE AREA OF 4.0 SQ FT. THE MINIMUM NET CLEAR OPENING HEIGHT SHALL BE 22" AND THE MINIMUM NET CLEAR OPENING WIDTH SHALL BE 20". GLAZING TOTAL AREA OF NOT LESS THAN 5.0 SQ FT IN THE CASE OF A GROUND WINDOW AND NOT LESS THAN 5.7 SQ FT IN THE CASE OF AN UPPER STORY WINDOW. (PER NCRC SECTION R310.1.1)

ALL HANDRAIL BALLUSTERS TO BE SPACED SUCH THAT A 4" SPHERE CANNOT PASS BETWEEN BALLUSTERS. (PER LOCAL CODES.)

PROVIDE STAIR HANDRAILS AND GUARDRAILS PER LOCAL CODES.

BUILDER SET:

THE SCOPE OF THIS SET OF PLANS IS TO PROVIDE A "BUILDER'S SET" OF CONSTRUCTION DOCUMENTS AND GENERAL NOTES HEREINAFTER REFERRED TO AS "PLANS". THIS SET OF PLANS IS SUFFICIENT TO OBTAIN A BUILDING PERMIT; HOWEVER, ALL MATERIALS AND METHODS OF CONSTRUCTION NECESSARY TO COMPLETE THE PROJECT ARE NOT NECESSARILY DESCRIBED. THE PLANS DELINEATE AND DESCRIBE ONLY LOCATIONS, DIMENSIONS, TYPES OF MATERIALS, AND GENERAL METHODS OF ASSEMBLING OR FASTENING. THEY ARE NOT INTENDED TO SPECIFY PARTICULAR PRODUCTS OR OTHER METHODS OF ANY SPECIFIC MATERIALS, PRODUCT OR METHOD. THE IMPLEMENTATION OF THE PLANS REQUIRES A CLIENT / CONTRACTOR THOROUGHLY KNOWLEDGEABLE WITH THE APPLICABLE BUILDING CODES AND METHODS OF CONSTRUCTION SPECIFIC TO THIS PRODUCT TYPE AND TYPE OF CONSTRUCTION.

CONSTRUCTION REQUIREMENTS AND QUALITY: PROVIDE WORK OF THE SPECIFIC QUALITY; WHERE QUALITY LEVEL IS NOT INDICATED, PROVIDE WORK OF QUALITY CUSTOMARY IN SIMILAR TYPES OF WORK. WHERE THE PLANS AND SPECIFICATIONS, CODES, LAWS, REGULATIONS, MANUFACTURER'S RECOMMENDATIONS OR INDUSTRY STANDARDS REQUIRE WORK OF HIGHER QUALITY OR PERFORMANCE, PROVIDE WORK COMPLYING WITH THOSE REQUIREMENTS AND QUALITY. WHERE TWO OR MORE QUALITY PROVISIONS OF THOSE REQUIREMENTS CONFLICT WITH THE MOST STRINGENT REQUIREMENT; WHERE REQUIREMENTS ARE DIFFERENT BUT APPARENTLY EQUAL, AND WHERE IT IS UNCERTAIN WHICH REQUIREMENT IS MOST STRINGENT, OBTAIN CLARIFICATION FROM THE ARCHITECT BEFORE PROCEEDING.

McKee Homes, LLC
Lot 168 Oakmont Valley View
Biltmore II Classic
RH Crawl Foundation

SHEET TITLE:
COVER SHEET

PRINT DATE:
11.15.18

SHEET NO:
T-1

ALL WINDOWS WHOSE OPENING IS LESS THAN 24" ABOVE THE FINISH FLOOR AND WHOSE OPENING IS GREATER THAN 72" ABOVE THE OUTSIDE WALKING SURFACE MUST HAVE WINDOW OPENING LIMITING DEVICES COMPLYING WITH THE 2018 NCRC SECTION R312.2.

NOTES:

-GRADE CONDITIONS MAY VARY FOR INDIVIDUAL SITE FROM THAT SHOWN. BUILDER SHALL VERIFY AND COORDINATE PER ACTUAL SITE CONDITIONS.

-WINDOW HEAD HEIGHTS:
1ST FLOOR = 7'-8" U.N.O. ON ELEVATIONS
2ND FLOOR = 6'-10" U.N.O. ON ELEVATIONS
3RD FLOOR = 6'-10" U.N.O. ON ELEVATIONS.

-ROOFING: PITCHED SHINGLES PER BUILDER.

-WINDOWS: MANUFACTURER PER BUILDER. DIVIDED LITES AS SHOWN ON THE EXTERIOR ELEVATIONS

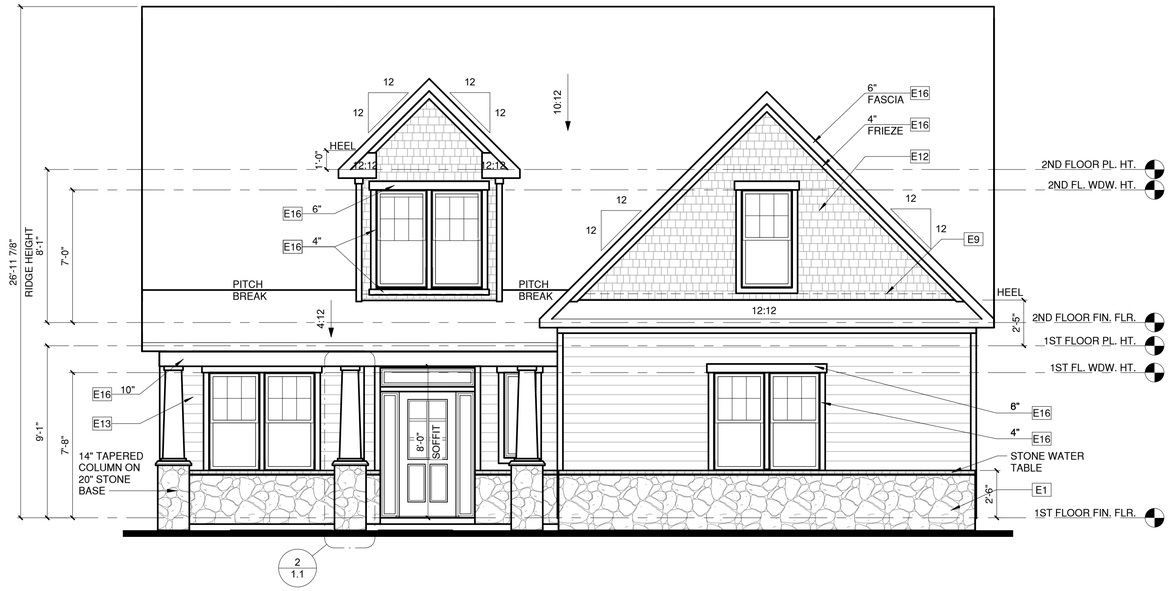
-ENTRY DOOR: AS SELECTED BY BUILDER

-CHIMNEY AS OCCURS: TOP OF CHIMNEYS TO BE A MINIMUM OF 24" ABOVE ANY ROOF WITHIN 10'-0" OF CHIMNEY.

-ALL EXTERIOR MATERIALS TO BE INSTALLED PER MANUFACTURER'S WRITTEN INSTRUCTIONS.

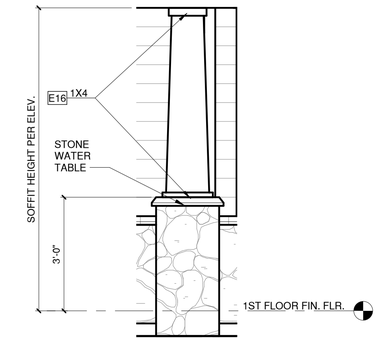
ELEVATION KEYNOTE LEGEND

E1	ADHERED STONE VENEER AS SELECTED BY DEVELOPER, HEIGHT AS NOTED
E2	MASONRY FULL BRICK AS SELECTED BY DEVELOPER, HEIGHT AS NOTED
E4	8" SOLDIER COURSE
E5	ROWLOCK COURSE
E9	CORROSION RESISTANT ROOF TO WALL FLASHING, CODE COMPLIANT FLASHING MUST BE INSTALLED AT ALL ROOF/WALL INTERSECTIONS
E10	OPT. STANDING SEAM METAL ROOF, INSTALL PER MANUFACTURER'S WRITTEN INSTRUCTIONS
E12	FIBER CEMENT SHAKE SIDING PER DEVELOPER W/ 5/4x4 CORNER TRIM BOARDS
E13	FIBER CEMENT LAP SIDING PER DEVELOPER W/ 5/4x4 CORNER TRIM BOARDS
E15	FIBER CEMENT PANEL SIDING W/ 1X3 BATTS AT 16" O.C. (VINYL BOARD AND BATTEN SIDING)
E16	1X FIBER CEMENT TRIM OR EQUAL, U.N.O. SIZE AS NOTED
E17	FALSE WOOD/VINYL SHUTTERS, TYPE AS SHOWN, SIZE AS NOTED



FRONT ELEVATION 'CLASSIC'

1 1/4" = 1'-0" AT 22"X34" LAYOUT 1/8" = 1'-0" AT 11" X 17" LAYOUT



'CLASSIC' COLUMN DETAIL

2 1/2" = 1'-0" AT 22"X34" LAYOUT 1/8" = 1'-0" AT 11" X 17" LAYOUT

REAR ELEVATION 'CLASSIC'

3 1/4" = 1'-0" AT 22"X34" LAYOUT 1/8" = 1'-0" AT 11" X 17" LAYOUT

McKee Homes, LLC

McKee Homes, LLC
Lot 168 Oakmont Valley View
Biltmore II Classic
RH Crawl Foundation

SHEET TITLE:
ELEVATIONS 'CLASSIC'

PRINT DATE:
11.15.18

SHEET NO:
1.1

ALL WINDOWS WHOSE OPENING IS LESS THAN 24" ABOVE THE FINISH FLOOR AND WHOSE OPENING IS GREATER THAN 72" ABOVE THE OUTSIDE WALKING SURFACE MUST HAVE WINDOW OPENING LIMITING DEVICES COMPLYING WITH THE 2018 NCRC SECTION R312.2.

NOTES:

-GRADE CONDITIONS MAY VARY FOR INDIVIDUAL SITE FROM THAT SHOWN. BUILDER SHALL VERIFY AND COORDINATE PER ACTUAL SITE CONDITIONS.

-WINDOW HEAD HEIGHTS:
1ST FLOOR = 7'-8" U.N.O. ON ELEVATIONS
2ND FLOOR = 6'-10" U.N.O. ON ELEVATIONS
3RD FLOOR = 6'-10" U.N.O. ON ELEVATIONS.

-ROOFING: PITCHED SHINGLES PER BUILDER.

-WINDOWS: MANUFACTURER PER BUILDER. DIVIDED LITES AS SHOWN ON THE EXTERIOR ELEVATIONS

-ENTRY DOOR: AS SELECTED BY BUILDER

-CHIMNEY AS OCCURS: TOP OF CHIMNEYS TO BE A MINIMUM OF 24" ABOVE ANY ROOF WITHIN 10'-0" OF CHIMNEY.

-ALL EXTERIOR MATERIALS TO BE INSTALLED PER MANUFACTURER'S WRITTEN INSTRUCTIONS.

ELEVATION KEYNOTE LEGEND

E1	ADHERED STONE VENEER AS SELECTED BY DEVELOPER, HEIGHT AS NOTED
E2	MASONRY FULL BRICK AS SELECTED BY DEVELOPER, HEIGHT AS NOTED
E4	8" SOLDIER COURSE
E5	ROWLOCK COURSE
E9	CORROSION RESISTANT ROOF TO WALL FLASHING, CODE COMPLIANT FLASHING MUST BE INSTALLED AT ALL ROOF/WALL INTERSECTIONS
E10	OPT. STANDING SEAM METAL ROOF, INSTALL PER MANUFACTURER'S WRITTEN INSTRUCTIONS
E12	FIBER CEMENT SHAKE SIDING PER DEVELOPER W/ 5/4x4 CORNER TRIM BOARDS
E13	FIBER CEMENT LAP SIDING PER DEVELOPER W/ 5/4x4 CORNER TRIM BOARDS
E15	FIBER CEMENT PANEL SIDING W/ 1X3 BATTS AT 16" O.C. (VINYL BOARD AND BATTEN SIDING)
E16	1X FIBER CEMENT TRIM OR EQUAL, U.N.O. SIZE AS NOTED
E17	FALSE WOOD/VINYL SHUTTERS, TYPE AS SHOWN, SIZE AS NOTED

1 LEFT ELEVATION 'CLASSIC'

1/4" = 1'-0" AT 22"X34" LAYOUT 1/8" = 1'-0" AT 11" X 17" LAYOUT

2 RIGHT ELEVATION 'CLASSIC'

1/4" = 1'-0" AT 22"X34" LAYOUT 1/8" = 1'-0" AT 11" X 17" LAYOUT

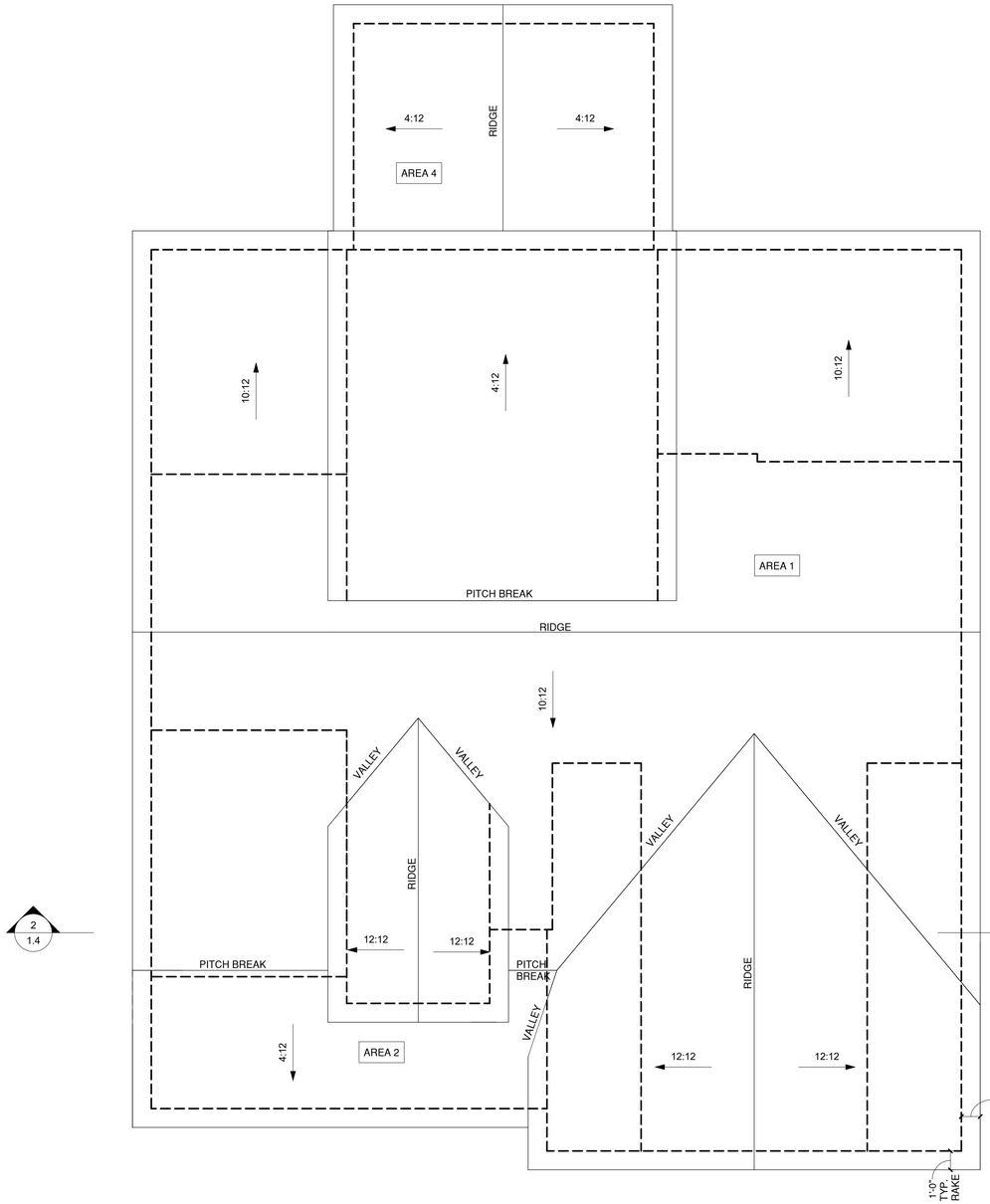
McKee Homes, LLC

McKee Homes, LLC
Lot 168 Oakmont Valley View
Biltmore II Classic
RH Crawl Foundation

SHEET TITLE:
ELEVATIONS 'CLASSIC'

PRINT DATE:
11.15.18

SHEET NO:
1.2



ROOF PLAN 'CLASSIC'

1 1/4" = 1'-0" AT 22"X34" LAYOUT 1/8" = 1'-0" AT 11" X 17" LAYOUT

1/150 RATIO:	1/300 RATIO:
GENERAL CONTRACTOR SHALL VERIFY THE NET FREE VENTILATION OF THE VENT PRODUCT SELECTED BY OWNER. VERIFY WITH MANUFACTURER OF HIGH AND LOW VENTS TO BE USED FOR MINIMUM CALCULATED VENTS REQUIRED. THE REQUIRED VENTILATION SHALL BE MAINTAINED. PROVIDE INSULATION STOP SUCH THAT INSULATION DOES NOT OBSTRUCT FREE AIR MOVEMENT AS REQUIRED BY THE BUILDING OFFICIAL. ALL OVERLAP FRAMED ROOF AREAS SHALL HAVE OPENINGS BETWEEN THE ADJACENT ATTICS IN THE ROOF SHEATHING (AS ALLOWED BY THE STRUCTURAL ENGINEER) TO ALLOW PASSAGE AND ATTIC VENTILATION BETWEEN THE TWO OR ISOLATED ATTIC SPACES SHALL BE VENTED INDEPENDENTLY. PER DEVELOPER, AT ALL CANTILEVERED FLOORS, CANTILEVERED DECORATIVE PROJECTIONS, AND ANY DOUBLE FRAMING PROJECTIONS THAT ARE SEPARATED FROM THE VENTING CALCULATIONS SHOWN ABOVE, PROVIDE A CONTINUOUS 2" CORROSION RESISTANT SOFFIT VENT AT UNDERSIDE OF FRAMED ELEMENT.	AS AN ALTERNATE TO THE 1/150 RATIO LISTED, THE NET FREE CROSS-VENTILATION AREA MAY BE REDUCED TO 1/300 WHEN A VAPOR BARRIER IS HAVING A TRANSMISSION RATE NOT EXCEEDING I-PERM INSTALLED ON THE WARM-IN-WINTER SIDE OF THE CEILING. GENERAL CONTRACTOR SHALL VERIFY THE NET FREE VENTILATION OF THE VENT PRODUCT SELECTED BY OWNER. VERIFY WITH MANUFACTURER OF HIGH AND LOW VENTS TO BE USED FOR MINIMUM CALCULATED VENTS REQUIRED. THE REQUIRED VENTILATION SHALL BE MAINTAINED. PROVIDE INSULATION STOP SUCH THAT INSULATION DOES NOT OBSTRUCT FREE AIR MOVEMENT AS REQUIRED BY THE BUILDING OFFICIAL. ALL OVERLAP FRAMED ROOF AREAS SHALL HAVE OPENINGS BETWEEN THE ADJACENT ATTICS IN THE ROOF SHEATHING (AS ALLOWED BY THE STRUCTURAL ENGINEER) TO ALLOW PASSAGE AND ATTIC VENTILATION BETWEEN THE TWO OR ISOLATED ATTIC SPACES SHALL BE VENTED INDEPENDENTLY. PER DEVELOPER, AT ALL CANTILEVERED FLOORS, CANTILEVERED DECORATIVE PROJECTIONS, AND ANY DOUBLE FRAMING PROJECTIONS THAT ARE SEPARATED FROM THE VENTING CALCULATIONS SHOWN ABOVE, PROVIDE A CONTINUOUS 2" CORROSION RESISTANT SOFFIT VENT AT UNDERSIDE OF FRAMED ELEMENT.

NOTES:

- " ALL ROOF DRAINAGE SHALL BE PIPED TO STREET OR APPROVED DRAINAGE FACILITY.
- " DASHED LINES INDICATE WALL BELOW.
- " LOCATE GUTTER AND DOWNSPOUTS PER BUILDER.
- " PITCHED ROOFS AS NOTED.
- " TRUSS MANUFACTURER SHALL SUBMIT STRUCTURAL CALCS AND SHOP DRAWING TO THE BUILDER'S GENERAL CONTRACTOR AND BUILDING DEPARTMENT FOR REVIEW PRIOR TO FABRICATIONS.
- " ALL PLUMBING VENTS SHALL BE COMBINED INTO A MINIMUM AMOUNT OF ROOF PENETRATIONS. ALL ROOF PENETRATIONS SHALL OCCUR TO THE REAR OF THE MAIN RIDGE.

ROOF VENT CALC. ELEV. 'CLASSIC'

Name	Area	1/300 RATIO AT HIGH & LOW	1/150 RATIO AT HIGH & LOW
AREA 1	1866 SF	447.77 in²	895.55 in²
AREA 2	144 SF	34.53 in²	69.05 in²
AREA 3	249 SF	59.69 in²	119.39 in²
AREA 4	192 SF	46.08 in²	92.16 in²
AREA 5	320 SF	76.80 in²	153.60 in²
AREA 6	129 SF	30.96 in²	61.92 in²
AREA 7	58 SF	13.80 in²	27.60 in²
AREA 8	323 SF	77.44 in²	154.88 in²
AREA 9	451 SF	108.16 in²	216.32 in²
AREA 10	161 SF	38.53 in²	77.05 in²

McKee Homes, LLC

McKee Homes, LLC
Lot 168 Oakmont Valley View
Biltmore II Classic
RH Crawl Foundation

SHEET TITLE:

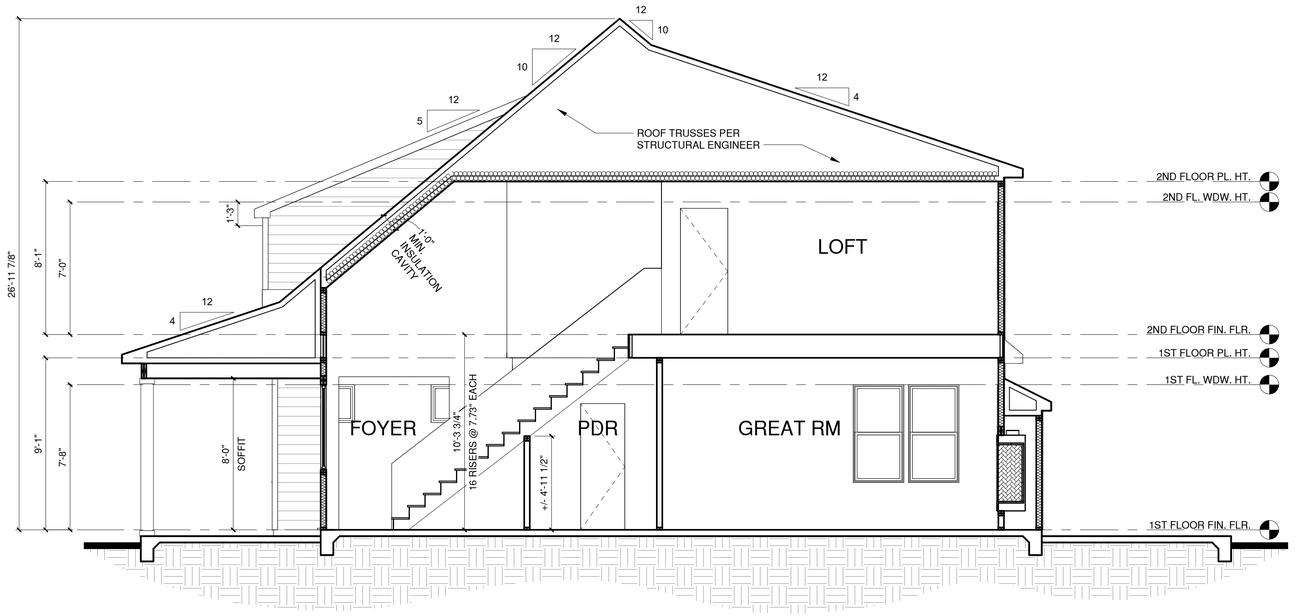
ROOF PLAN 'CLASSIC'

PRINT DATE:

11.15.18

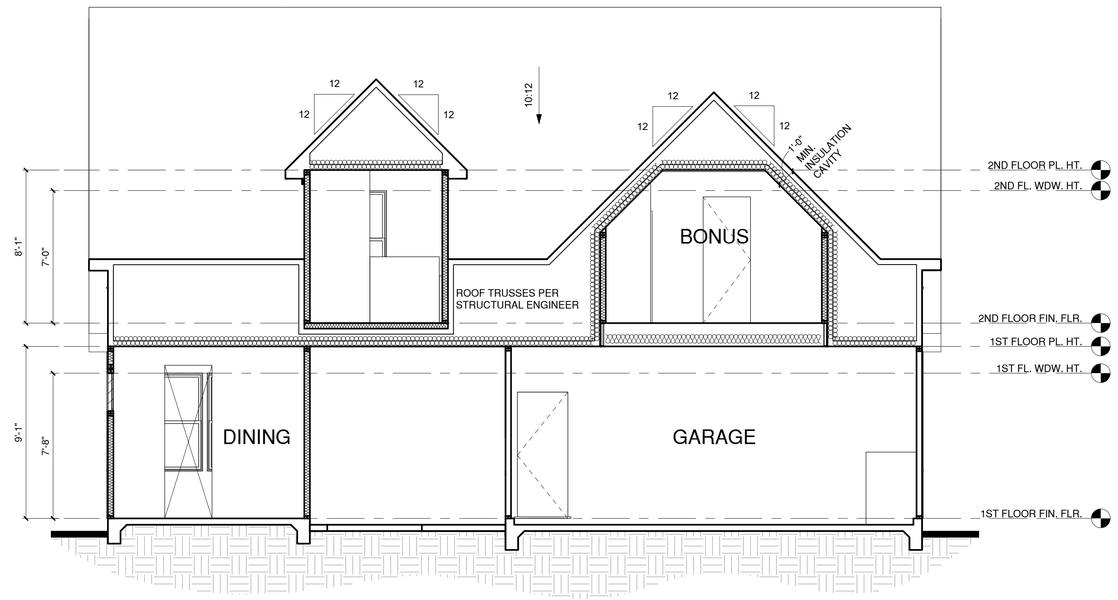
SHEET NO:

1.3



1 BASE BUILDING SECTION 1

1/4" = 1'-0" AT 22"X34" LAYOUT = 1'-0" AT 11" X 17" LAYOUT



2 BUILDING SECTION 2 'CLASSIC'

1/4" = 1'-0" AT 22"X34" LAYOUT = 1'-0" AT 11" X 17" LAYOUT

McKee Homes, LLC

Lot 168 Oakmont Valley View
Biltmore II Classic
RH Crawl Foundation

SHEET TITLE:

SECTIONS

PRINT DATE:

11.15.18

SHEET NO:

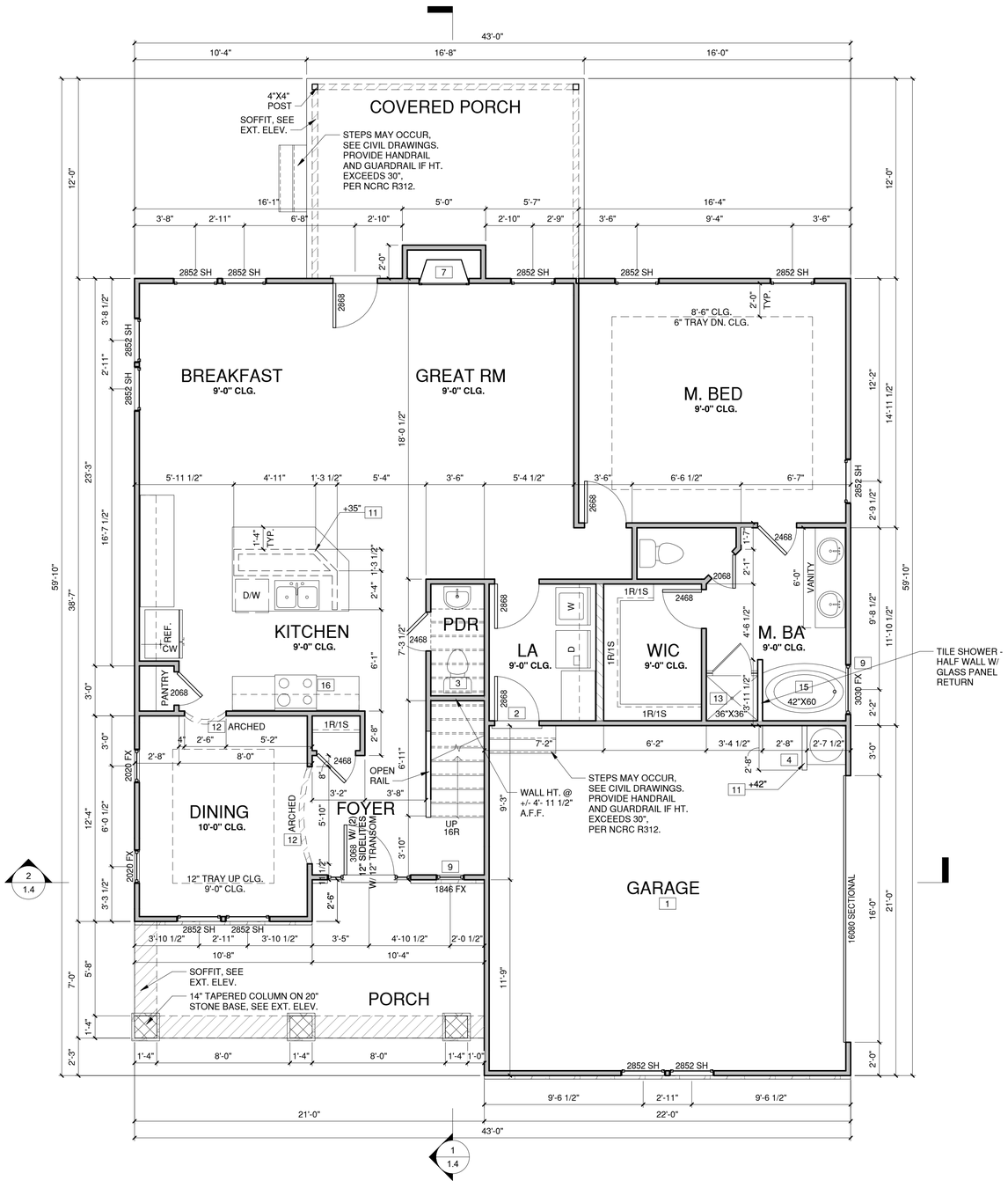
1.4

WALL LEGEND

FULL HEIGHT 2X4 WOOD STUD PARTITION	FULL HEIGHT 2X6 WOOD STUD PARTITION
STONE VENEER	DRYWALL OPENING HEIGHT AS NOTED ON PLAN
BRICK VENEER	
STUD WALL BELOW HEIGHT AND STUD SIZE AS NOTED	

FLOOR PLAN KEYNOTE LEGEND

1	HOUSE TO GARAGE FIRE SEPARATION, GARAGE/HOUSE SEPARATION AT VERTICAL SURFACES SHALL BE PROTECTED WITH ONE (1) LAYER 1/2" GYPSUM BOARD. GARAGE/HOUSE SEPARATION AT HORIZONTAL SURFACES SHALL BE PROTECTED WITH ONE (1) LAYER 5/8" TYPE "X" GYPSUM BOARD
2	HOUSE TO GARAGE DOOR SEPARATION. PROVIDE 1 3/8" SOLID CORE DOOR OR APPROVED 20 MINUTE RATED DOOR
3	BENEATH STAIRS AND LANDINGS. 1/2" GYPSUM BOARD ON WALLS AND CEILING OF ENCLOSED ACCESSIBLE AREAS
4	GAS WATER HEATER ON 18" HIGH PLATFORM
7	PRE-FABRICATED METAL FIREPLACE, INSTALL PER MANUFACTURER WRITTEN INSTRUCTIONS
8	ATTIC ACCESS LARGE ENOUGH TO REMOVE LARGEST PIECE OF EQUIPMENT BUT NOT LESS THAN 30"X22". FIRE RATED ACCESS AS NOTED. ATTIC ACCESS LADDER, VERIFY LOCATION AND SIZE WITH TRUSSES (25 1/2"X54" SIZE)
9	TEMPERED SAFETY GLASS
11	HALF WALL, HEIGHT AS NOTED
12	INTERIOR SOFFITS: FFL = 8'-1" U.N.O. SFL = 7'-6" U.N.O., OPT. CASED OPENING U.N.O.
13	SHOWER, TEMPERED GLASS ENCLOSURE
14	TUB-SHOWER COMBO
15	ACRYLIC TUB W/ PLATFORM, SIZE AS NOTED
16	SLIDE-IN ELECTRICAL RANGE W/ HOOD AND MICRO ABV. VENT PER MANUFACTURER'S WRITTEN INSTRUCTIONS
17	GAS COOKTOP AND HOOD, VENT PER MANUFACTURER'S WRITTEN INSTRUCTIONS
18	ELECTRIC OVEN WITH MICROWAVE OVEN



1 FIRST FLOOR PLAN 'CLASSIC'

1/4" = 1'-0" AT 22"X34" LAYOUT 1/8" = 1'-0" AT 11" X 17" LAYOUT

McKee Homes, LLC

Lot 168 Oakmont Valley View
Biltmore II Classic
RH Crawl Foundation

SHEET TITLE:

FIRST FLOOR PLAN

PRINT DATE:

11.15.18

SHEET NO:

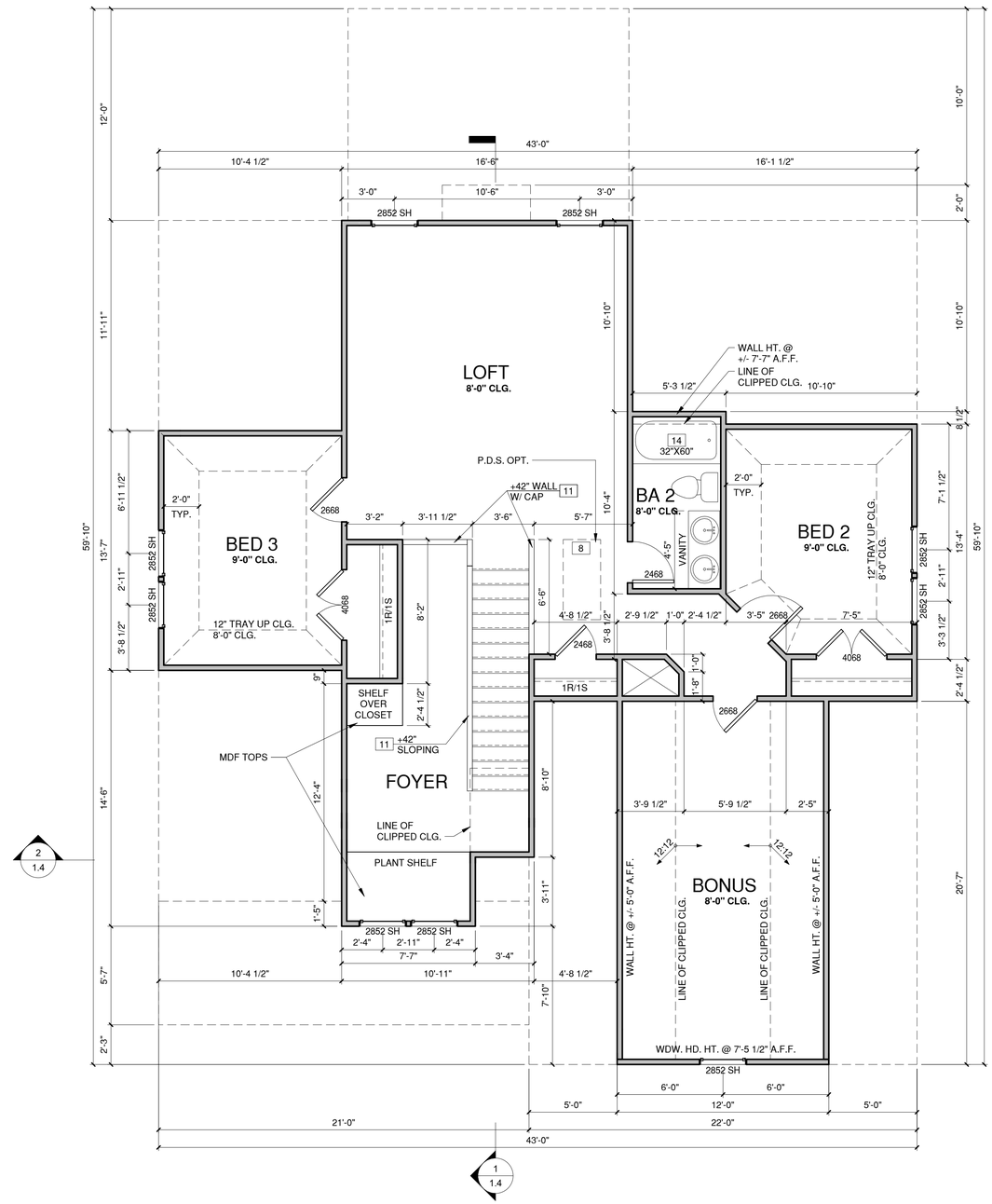
1.5

WALL LEGEND

FULL HEIGHT 2X4 WOOD STUD PARTITION	FULL HEIGHT 2X6 WOOD STUD PARTITION
STONE VENEER	DRYWALL OPENING HEIGHT AS NOTED ON PLAN
BRICK VENEER	
STUD WALL BELOW HEIGHT AND STUD SIZE AS NOTED	

FLOOR PLAN KEYNOTE LEGEND

1	HOUSE TO GARAGE FIRE SEPARATION, GARAGE/HOUSE SEPARATION AT VERTICAL SURFACES SHALL BE PROTECTED WITH ONE (1) LAYER 1/2" GYPSUM BOARD. GARAGE/HOUSE SEPARATION AT HORIZONTAL SURFACES SHALL BE PROTECTED WITH ONE (1) LAYER 5/8" TYPE "X" GYPSUM BOARD
2	HOUSE TO GARAGE DOOR SEPARATION. PROVIDE 1 3/8" SOLID CORE DOOR OR APPROVED 20 MINUTE RATED DOOR
3	BENEATH STAIRS AND LANDINGS. 1/2" GYPSUM BOARD ON WALLS AND CEILING OF ENCLOSED ACCESSIBLE AREAS
4	GAS WATER HEATER ON 18" HIGH PLATFORM
7	PRE-FABRICATED METAL FIREPLACE, INSTALL PER MANUFACTURER WRITTEN INSTRUCTIONS
8	ATTIC ACCESS LARGE ENOUGH TO REMOVE LARGEST PIECE OF EQUIPMENT BUT NOT LESS THAN 30"X22", FIRE RATED ACCESS AS NOTED. ATTIC ACCESS LADDER, VERIFY LOCATION AND SIZE WITH TRUSSES (25 1/2"X54" SIZE)
9	TEMPERED SAFETY GLASS
11	HALF WALL, HEIGHT AS NOTED
12	INTERIOR SOFFITS: FFL = 8'-1" U.N.O. SFL = 7'-6" U.N.O., OPT. CASED OPENING U.N.O.
13	SHOWER, TEMPERED GLASS ENCLOSURE
14	TUB-SHOWER COMBO
15	ACRYLIC TUB W/ PLATFORM, SIZE AS NOTED
16	SLIDE-IN ELECTRICAL RANGE W/ HOOD AND MICRO ABV. VENT PER MANUFACTURER'S WRITTEN INSTRUCTIONS
17	GAS COOKTOP AND HOOD, VENT PER MANUFACTURER'S WRITTEN INSTRUCTIONS
18	ELECTRIC OVEN WITH MICROWAVE OVEN



SECOND FLOOR PLAN 'CLASSIC'

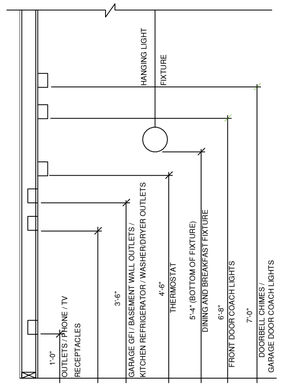
1 — 1/4" = 1'-0" AT 22"X34" LAYOUT 1/8" = 1'-0" AT 11" X 17" LAYOUT

McKee Homes, LLC
Lot 168 Oakmont Valley View
Biltmore II Classic
RH Crawl Foundation

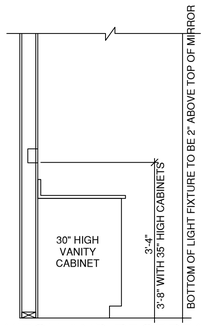
SHEET TITLE:
SECOND FLOOR PLAN

PRINT DATE:
11.15.18

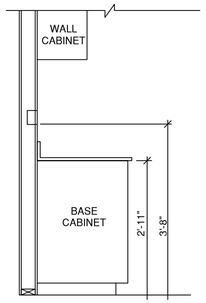
SHEET NO:
1.6



STANDARD ELECTRICAL BOX HEIGHTS

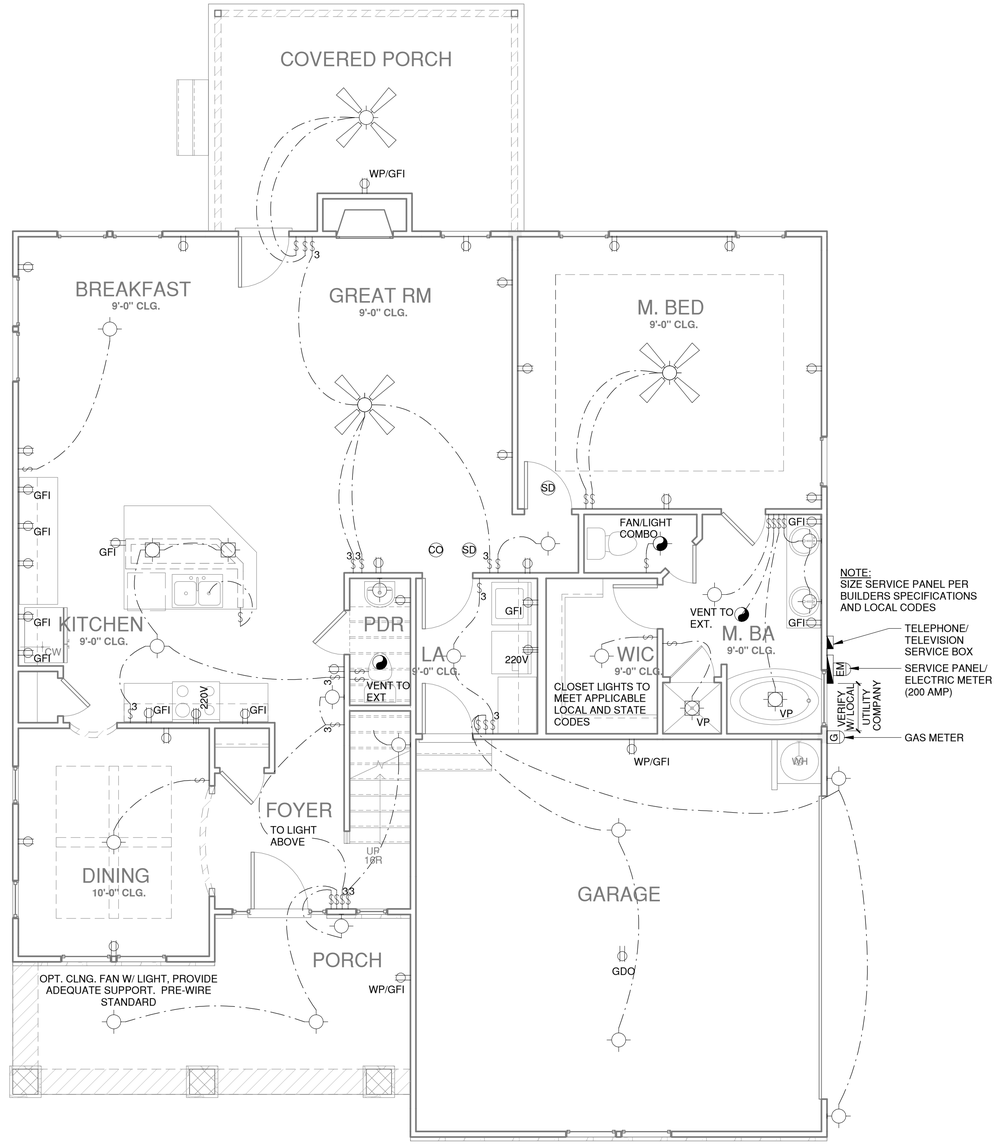


SWITCH AND RECEPTACLE BOXES OVER BATH CABINETS



SWITCH AND RECEPTACLE BOXES OVER KITCHEN CABINETS

ONLY ONE PHONE LINE INCLUDED IN BASE HOUSE



FIRST FLOOR UTILITY PLAN

1/4" = 1'-0" AT 22"X34" LAYOUT 1/8" = 1'-0" AT 11" X 17" LAYOUT

NOTES:

-PROVIDE GROUNDING ELECTRICAL ROD PER LOCAL CODES.

-PROVIDE AND INSTALL ARC FAULT CIRCUIT-INTERRUPTERS (AFCI) AS REQUIRED BY NATIONAL ELECTRICAL CODE (NEC) AND MEETING THE REQURIEMENTS OF ALL GOVERNING CODES.

-ALL EXHAUST FANS SHALL HAVE BACKDRAFT DAMPERS

-FAN/LIGHTS IN WET/DAMP LOCATIONS SHALL BE LABLED "SUITABLE FOR WET OR DAMP LOCATIONS."

-ELECTRICAL SYSTEMS ARE SHOWN FOR INTENT ONLY. THESE SYSTEMS SHALL BE ENGINEERED BY OTHERS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER INSTALLATION AND PLACEMENT.

-PROVIDE AND INSTALL LOCALLY CERTIFIED SMOKE DETECTORS AND CO_2 DETECTORS AS REQUIRED BY NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) AND MEETING THE REQUIREMENTS OF ALL GOVERNING CODES.

-PROVIDE AND INSTALL GROUND FAULT CIRCUIT-INTERRUPTERS (GFI) AS REQUIRED BY NATIONAL ELECTRICAL CODE (NEC) AND MEETING THE REQUIREMENTS OF ALL GOVERNING CODES.

-ELECTRICAL CONTRACTOR TO PROVIDE REQURIED DIRECT HOOK-UPS/CUTOFFS.

-HVAC CONTRACTOR TO VERIFY THERMOSTAT LOCATIONS.

-ALL ELECTRICAL AND MECHANICAL EQUIPMENT (FURNACES, A/C UNITS, ELECTRICAL PANELS, SANITARY SUMP PITS, DRAING TILE SUMP, AND WATER HEATERS) ARE SUBJECT TO RELOCATOIN DUE TO FIELD CONDITIONS.

-PROVIDE POWER, LIGHT AND SWITCH AS REQUIRED FOR ATTIC FURNACE PER CODE AND MANUFACTURER'S WRITTEN INSTRUCTIONS.

LEGEND:

	DUPLEX OUTLET		CEILING MOUNTED INCANDESCENT LIGHT FIXTURE
WP/GFI	WEATHERPROOF GFI DUPLEX OUTLET		WALL MOUNTED INCANDESCENT LIGHT FIXUTRE
GFI	GROUND-FAULT CIRCUIT-INTERRUPTER DUPLEX OUTLET		RECESSED INCANDESCENT LIGHT FIXTURE (VP) = VAPOR PROOF
	HALF-SWITCHED DUPLEX OUTLET		EXHAUST FAN (VENT TO EXTERIOR)
220V	220 VOLT OUTLET		EXHAUST FAN/LIGHT COMBINATION (VENT TO EXTERIOR)
J	REINFORCED JUNCTION BOX		FLUORESCENT LIGHT FIXTURE
	WALL SWITCH		TECH HUB SYSTEM
3	THREE-WAY SWITCH		CEILING FAN (PROVIDE ADEQUATE SUPPORT)
4	FOUR-WAY SWITCH		CEILING FAN WITH INCANDESCENT LIGHT FIXTURE (PROVIDE ADEQUATE SUPPORT)
CH	CHIMES		GAS SUPPLY WITH VALVE
	PUSHBUTTON SWITCH	HB	HOSE BIBB
SD	110V SMOKE DETECTOR W/ BATTERY BACKUP	CW	1/4" WATER STUB OUT
CO	CO_2 DETECTOR		WALL SCONCE
T	THERMOSTAT		
PH	TELEPHONE		
TV	TELEVISION		
	ELECTRIC METER		
	ELECTRIC PANEL		
	DISCONNECT SWITCH		

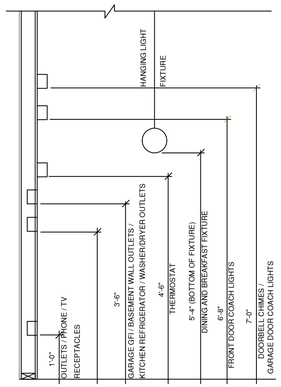
McKee Homes, LLC

McKee Homes, LLC
Lot 168 Oakmont Valley View
Biltmore II Classic
RH Crawl Foundation

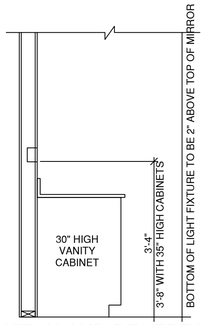
SHEET TITLE:
FIRST FLOOR UTILITY PLAN

PRINT DATE:
11.15.18

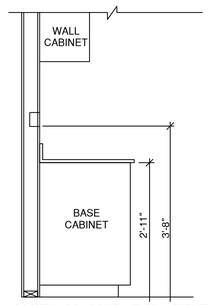
SHEET NO:
1.7



STANDARD ELECTRICAL BOX HEIGHTS



SWITCH AND RECEPTACLE BOXES OVER BATH CABINETS



SWITCH AND RECEPTACLE BOXES OVER KITCHEN CABINETS

NOTES:

-PROVIDE GROUNDING ELECTRICAL ROD PER LOCAL CODES.

-PROVIDE AND INSTALL ARC FAULT CIRCUIT-INTERRUPTERS (AFCI) AS REQUIRED BY NATIONAL ELECTRICAL CODE (NEC) AND MEETING THE REQURIEMENTS OF ALL GOVERNING CODES.

-ALL EXHAUST FANS SHALL HAVE BACKDRAFT DAMPERS

-FAN/LIGHTS IN WET/DAMP LOCATIONS SHALL BE LABLED "SUITABLE FOR WET OR DAMP LOCATIONS."

-ELECTRICAL SYSTEMS ARE SHOWN FOR INTENT ONLY. THESE SYSTEMS SHALL BE ENGINEERED BY OTHERS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER INSTALLATION AND PLACEMENT.

-PROVIDE AND INSTALL LOCALLY CERTIFIED SMOKE DETECTORS AND CO2 DETECTORS AS REQUIRED BY NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) AND MEETING THE REQUIREMENTS OF ALL GOVERNING CODES.

-PROVIDE AND INSTALL GROUND FAULT CIRCUIT-INTERRUPTERS (GFI) AS REQUIRED BY NATIONAL ELECTRICAL CODE (NEC) AND MEETING THE REQUIREMENTS OF ALL GOVERNING CODES.

-ELECTRICAL CONTRACTOR TO PROVIDE REQURIED DIRECT HOOK-UPS/CUTOFFS.

-HVAC CONTRACTOR TO VERIFY THERMOSTAT LOCATIONS.

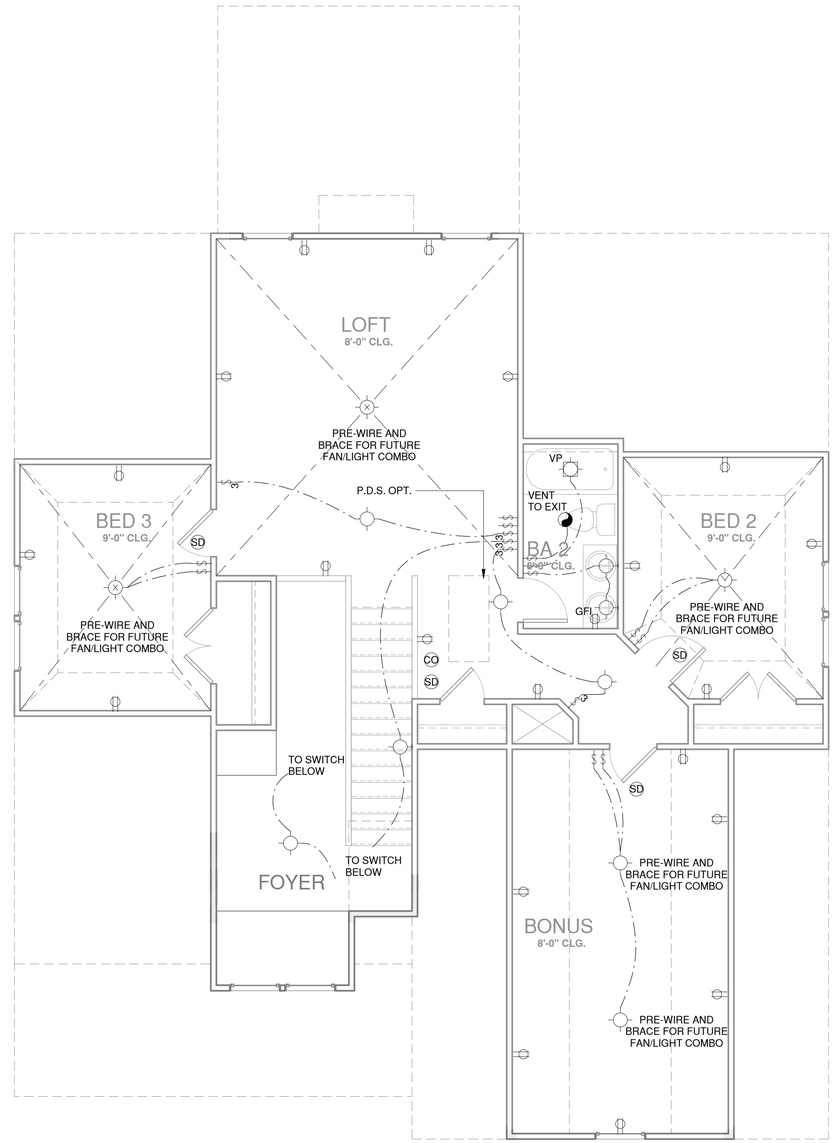
-ALL ELECTRICAL AND MECHANICAL EQUIPMENT (FURNACES, A/C UNITS, ELECTRICAL PANELS, SANITARY SUMP PITS, DRAING TILE SUMP, AND WATER HEATERS) ARE SUBJECT TO RELOCATOIN DUE TO FIELD CONDITIONS.

-PROVIDE POWER, LIGHT AND SWITCH AS REQUIRED FOR ATTIC FURNACE PER CODE AND MANUFACTURER'S WRITTEN INSTRUCTIONS.

LEGEND:

	DUPLEX OUTLET		CEILING MOUNTED INCANDESCENT LIGHT FIXTURE
WP/GFI	WEATHERPROOF GFI DUPLEX OUTLET		WALL MOUNTED INCANDESCENT LIGHT FIXUTRE
GFI	GROUND-FAULT CIRCUIT-INTERRUPTER DUPLEX OUTLET		RECESSED INCANDESCENT LIGHT FIXTURE (VP) = VAPOR PROOF
	HALF-SWITCHED DUPLEX OUTLET		EXHAUST FAN (VENT TO EXTERIOR)
220V	220 VOLT OUTLET		EXHAUST FAN/LIGHT COMBINATION (VENT TO EXTERIOR)
J	REINFORCED JUNCTION BOX		FLUORESCENT LIGHT FIXTURE
$	WALL SWITCH		TECH HUB SYSTEM
$3	THREE-WAY SWITCH		CEILING FAN (PROVIDE ADEQUATE SUPPORT)
$4	FOUR-WAY SWITCH		CEILING FAN WITH INCANDESCENT LIGHT FIXTURE (PROVIDE ADEQUATE SUPPORT)
CH	CHIMES		GAS SUPPLY WITH VALVE
	PUSHBUTTON SWITCH	HB	HOSE BIBB
SD	110V SMOKE DETECTOR W/ BATTERY BACKUP	CW	1/4" WATER STUB OUT
CO	CO2 DETECTOR		WALL SCONCE
T	THERMOSTAT		
PH	TELEPHONE		
TV	TELEVISION		
	ELECTRIC METER		
	ELECTRIC PANEL		
	DISCONNECT SWITCH		

ONLY ONE PHONE LINE INCLUDED IN BASE HOUSE



1 SECOND FLOOR UTILITY PLAN

1/4" = 1'-0" AT 22"X34" LAYOUT 1/8" = 1'-0" AT 11" X 17" LAYOUT

McKee Homes, LLC

Lot 168 Oakmont Valley View
Biltmore II Classic
RH Crawl Foundation

SHEET TITLE:

SECOND FLOOR UTILITY PLAN

PRINT DATE:
11.15.18

SHEET NO:
1.8

DESIGN SPECIFICATIONS:

Construction Type: Commerical ☐ Residential ☒

Applicable Building Codes:
- 2018 North Carolina Residential Building Code with All Local Amendments
- ASCE 7-10: Minimum Design Loads for Buildings and Other Structures

Design Loads:
1. Roof Live Loads
   - 1.1. Conventional 2x ____ 20 PSF
   - 1.2. Truss ____ 20 PSF
     - 1.2.1. Attic Truss ____ 60 PSF
2. Roof Dead Loads
   - 2.1. Conventional 2x ____ 10 PSF
   - 2.2. Truss ____ 20 PSF
3. Snow ____ 15 PSF
   - 3.1. Importance Factor ____ 1.0
4. Floor Live Loads
   - 4.1. Typ. Dwelling ____ 40 PSF
   - 4.2. Sleeping Areas ____ 30 PSF
   - 4.3. Decks ____ 40 PSF
   - 4.4. Passenger Garage ____ 50 PSF
5. Floor Dead Loads
   - 5.1. Conventional 2x ____ 10 PSF
   - 5.2. I-Joist ____ 15 PSF
   - 5.3. Floor Truss ____ 15 PSF
6. Ultimate Design Wind Speed (3 sec. gust) ____ 130 MPH
   - 6.1. Exposure ____ B
   - 6.2. Importance Factor ____ 1.0
   - 6.3. Wind Base Shear
     - 6.3.1. Vx =
     - 6.3.2. Vy =
7. Component and Cladding (in PSF)

MEAN ROOF HT.	UP TO 30'	30'1"-35'	35'1"-40'	40'1"-45'
ZONE 1	16.7,-18.0	17.5,-18.9	18.2,-19.6	18.7,-20.2
ZONE 2	16.7,-21.0	17.5,-22.1	18.2,-22.9	18.7,-23.5
ZONE 3	16.7,-21.0	17.5,-22.1	18.2,-22.9	18.7,-23.5
ZONE 4	18.2,-19.0	19.2,-20.0	19.9,-20.7	20.4,-21.3
ZONE 5	18.2,-24.0	19.2,-25.2	19.9,-26.1	20.4,-26.9

8. Seismic
   - 8.1. Site Class ____ D
   - 8.2. Design Category ____ C
   - 8.3. Importance Factor ____ 1.0
   - 8.4. Seismic Use Group ____ I
   - 8.5. Spectral Response Acceleration
     - 8.5.1. Sms = %g
     - 8.5.2. Sm1 = %g
   - 8.6. Seismic Base Shear
     - 8.6.1. Vx =
     - 8.6.2. Vy =
   - 8.7. Basic Structural System (check one)
     - ☒ Bearing Wall
     - ☐ Building Frame
     - ☐ Moment Frame
     - ☐ Dual w/ Special Moment Frame
     - ☐ Dual w/ Intermediate R/C or Special Steel
     - ☐ Inverted Pendulum
   - 8.8. Arch/Mech Components Anchored ____ No
   - 8.9. Lateral Design Control: Seismic ☐ Wind ☒
9. Assumed Soil Bearing Capacity ____ 2000psf

SUMMIT
ENGINEERING LABORATORY TESTING

STRUCTURAL PLANS PREPARED FOR:

BILTMORE II

PROJECT ADDRESS:
TBD

OWNER:
McKee Homes
109 Hay St., Suite 301
Fayetteville, NC 28301

DESIGNER:
McKee Homes
109 Hay St., Suite 301
Fayetteville, NC 28301

These drawings are to be coordinated with the architectural, mechanical, plumbing, electrical, and civil drawings. This coordination is not the responsibility of the structural engineering of record (SER). Should any discrepancies become apparent, the contractor shall notify SUMMIT Engineering, Laboratory & Testing, P.C. before construction begins.

PLAN ABBREVIATIONS:

AB	ANCHOR BOLT	PT	PRESSURE TREATED
AFF	ABOVE FINISHED FLOOR	RS	ROOF SUPPORT
CJ	CEILING JOIST	SC	STUD COLUMN
CLR	CLEAR	SJ	SINGLE JOIST
DJ	DOUBLE JOIST	SPF	SPRUCE PINE FIR
DSP	DOUBLE STUD POCKET	SST	SIMPSON STRONG-TIE
EE	EACH END	SYP	SOUTHERN YELLOW PINE
EW	EACH WAY	TJ	TRIPLE JOIST
NTS	NOT TO SCALE	TSP	TRIPLE STUD POCKET
OC	ON CENTER	TYP	TYPICAL
PSF	POUNDS PER SQUARE FOOT	UNO	UNLESS NOTED OTHERWISE
PSI	POUNDS PER SQUARE INCH	WWF	WELDED WIRE FABRIC

Roof truss and floor joist layouts, and their corresponding loading details, were not provided to SUMMIT Engineering, Laboratory & Testing, P.C. (SUMMIT) prior to the initial design. Therefore, truss and joist directions were assumed based on the information provided by MCKEE HOMES. Subsequent plan revisions based on roof truss and floor joist layouts shall be noted in the revision list, indicating the date the layouts were provided. Should any discrepancies become apparent, the contractor shall notify SUMMIT immediately.

SHEET LIST:

REVISION LIST:

Revision No.	Date	Project No.	Description
1	1.16.19	20938	Revised per 2018 NCRC and updated crawl space to use (4) 2x10 girders
2	9.19.19	20938R	Updated crawl space to use floor joist/trusses
3	10.29.19	20938R2	Updated floor beams to floor depth

GENERAL STRUCTURAL NOTES:

1. The design professional whose seal appears on these drawings is the structural engineer of record (SER) for this project. The SER bears the responsibility of the primary structural elements and the performance of this structure. No other party may revise, alter, or delete any structural aspects of these construction documents without written permission of SUMMIT Engineering, Laboratory & Testing, P.C. (SUMMIT) or the SER. For the purposes of these construction documents the SER and SUMMIT shall be considered the same entity.
2. The structure is only stable in its completed form. The contractor shall provide all required temporary bracing during construction to stabilize the structure.
3. The SER is not responsible for construction sequences, methods, or techniques in connection with the construction of this structure. The SER will not be held responsible for the contractor's failure to conform to the contract documents, should any non-conformities occur.
4. Any structural elements or details not fully developed on the construction drawings shall be completed under the direction of a licensed professional engineer. These shop drawings shall be submitted to SUMMIT for review before any construction begins. The shop drawings will be reviewed for overall compliance as it relates to the structural design of this project. Verification of the shop drawings for dimensions, or for actual field conditions, is not the responsibility of the SER or SUMMIT.
5. Verification of assumed field conditions is not the responsibility of the SER. The contractor shall verify the field conditions for accuracy and report any discrepancies to SUMMIT before construction begins.
6. The SER is not responsible for any secondary structural elements or non-structural elements, except for the elements specifically noted on the structural drawings.
7. This structure and all construction shall conform to all applicable sections of the international residential code.
8. This structure and all construction shall conform to all applicable sections of local building codes.
9. All structural assemblies are to meet or exceed to requirements of the current local building code.

FOUNDATIONS:

1. The structural engineer has not performed a subsurface investigation. Verification of this assumed value is the responsibility of the owner or the contractor. Should any adverse soil condition be encountered the SER must be contacted before proceeding.
2. The bottom of all footings shall extend below the frost line for the region in which the structure is to be constructed. However, the bottom of all footings shall be a minimum of 12" below grade.
3. Any fill shall be placed under the direction or recommendation of a licensed professional engineer.
4. The resulting soil shall be compacted to a minimum of 95% maximum dry density.
5. Excavations of footings shall be lined temporarily with a 6 mil polyethylene membrane if placement of concrete does not occur within 24 hours of excavation.
6. No concrete shall be placed against any subgrade containing water, ice, frost, or loose material.

STRUCTURAL STEEL:

1. Structural steel shall be fabricated and erected in accordance with the American Institute of Steel Construction "Code of Standard Practice for Steel Buildings and Bridges" and the manual of Steel Construction "Load Resistance Factor Design" latest editions.
2. Structural steel shall receive one coat of shop applied rust-inhibitive paint.
3. All steel shall have a minimum yield stress (F_y) of 36 ksi unless otherwise noted.
4. Welding shall conform to the latest edition of the American Welding Society's Structural Welding Code AWS D1.1. Electrodes for shop and field welding shall be class E70XX. All welding shall be performed by a certified welder per the above standards.

CONCRETE:

1. Concrete shall have a normal weight aggregate and a minimum compressive strength (f'_c) at 28 days of 3000 psi, unless otherwise noted on the plan.
2. Concrete shall be proportioned, mixed, and placed in accordance with the latest editions of ACI 318: "Building Code Requirements for Reinforced Concrete" and ACI 301: "Specifications for Structural Concrete for Buildings".
3. Air entrained concrete must be used for all structural elements exposed to freeze/thaw cycles and deicing chemicals. Air entrainment amounts (in percent) shall be within -1% to +2% of target values as follows:
   - 3.1. Footings: 5%
   - 3.2. Exterior Slabs: 5%
4. No admixtures shall be added to any structural concrete without written permission of the SER.
5. Concrete slabs-on-grade shall be constructed in accordance with ACI 302.1R-96: "Guide for Concrete Slab and Slab Construction".
6. The concrete slab-on-grade has been designed using a subgrade modulus of k=250 pci and a design loading of 200 psf. The SER is not responsible for differential settlement, slab cracking or other future defects resulting from unreported conditions not in accordance with the above assumptions.
7. Control or saw cut joints shall be spaced in interior slabs-on-grade at a maximum of 15'-0" O.C. and in exterior slabs-on-grade at a maximum of 10'-0" unless otherwise noted.
8. Control or saw cut joints shall be produced using conventional process within 4 to 12 hours after the slab has been finished.
9. Reinforcing steel may not extend through a control joint. Reinforcing steel may extend through a saw cut joint.
10. All welded wire fabric (WWF) for concrete slabs-on-grade shall be placed at mid-depth of slab. The WWF shall be securely supported during the concrete pour.

CONCRETE REINFORCEMENT:

1. Fibrous concrete reinforcement, or fibermesh, specified in concrete slabs-on-grade may be used for control of cracking due to shrinkage and thermal expansion/contraction, lowered water migration, an increase in impact capacity, increased abrasion resistance, and residual strength.
2. Fibermesh reinforcing to be 100% virgin polypropylene fibers containing no reprocessed olefin materials and specifically manufactured for use as concrete secondary reinforcement.
3. Application of fibermesh per cubic yard of concrete shall equal a minimum of 0.1% by volume (1.5 pounds per cubic yard)
4. Fibermesh shall comply with ASTM C1116, any local building code requirements, and shall meet or exceed the current industry standard.
5. Steel reinforcing bars shall be new billet steel conforming to ASTM A615, grade 60.
6. Detailing, fabrication, and placement of reinforcing steel shall be in accordance with the latest edition of ACI 315: "Manual of Standard Practice for Detailing Concrete Structures"
7. Horizontal footing and wall reinforcement shall be continuous and shall have 90° bends, or corner bars with the same size/spacing as the horizontal reinforcement with a class B tension splice.
8. Lap reinforcement as required, a minimum of 40 bar diameters for tension or compression unless otherwise noted. Splices in masonry shall be a minimum of 48 bar diameters.
9. Where reinforcing dowels are required , they shall be equivalent in size and spacing to the vertical reinforcement. The dowel shall extend 48 bar diameters vertically and 20 bar diameters into the footing.
10. Where reinforcing steel is required vertically, dowels shall be provided unless otherwise noted.

WOOD FRAMING:

1. Solid sawn wood framing members shall conform to the specifications listed in the latest edition of the "National Design Specification for Wood Construction" (NDS). Unless otherwise noted, all wood framing members are designed to be Southern-Yellow-Pine (SYP) #2.
2. LVL or PSL engineered wood shall have the following minimum design values:
   - 2.1. E = 1,900,000 psi
   - 2.2. Fb = 2600 psi
   - 2.3. Fv = 285 psi
   - 2.4. Fc = 700 psi
3. Wood in contact with concrete, masonry, or earth shall be pressure treated in accordance with AWPA standard C-15. All other moisture exposed wood shall be treated in accordance with AWPA standard C-2
4. Nails shall be common wire nails unless otherwise noted.
5. Lag screws shall conform to ANSI/ASME standard B18.2.1-1981. Lead holes for lag screws shall be in accordance with NDS specifications.
6. All beams shall have full bearing on supporting framing members unless otherwise noted.
7. Exterior and load bearing stud walls are to be 2x4 SYP #2 @ 16" O.C. unless otherwise noted. Studs shall be continuous from the sole plate to the double top plate. Studs shall only be discontinuous at headers for window/door openings. A minimum of one king stud shall be placed at each end of the header. King studs shall be continuous.
8. Individual studs forming a column shall be attached with one 10d nail @ 6" O.C. staggered. The stud column shall be continuous to the foundation or beam. The column shall be properly blocked at all floor levels to ensure proper load transfer.
9. Multi-ply beams shall have each ply attached with (3) 10d nails @ 24" O.C.
10. Four and five ply beams shall be bolted together with (2) rows of 1/2" diameter through bolts staggered @ 16" O.C. unless noted otherwise.

WOOD TRUSSES:

1. The wood truss manufacturer/fabricator is responsible for the design of the wood trusses. Submit sealed shop drawings and supporting calculations to the SER for review prior to fabrication. The SER shall have a minimum of five (5) days for review. The review by the SER shall review for overall compliance with the design documents. The SER shall assume no responsibility for the correctness for the structural design for the wood trusses.
2. The wood trusses shall be designed for all required loadings as specified in the local building code, the ASCE Standard "Minimum Design Loads for Buildings and Other Structures," (ASCE 7-10), and the loading requirements shown on these specifications. The truss drawings shall be coordinated with all other construction documents and provisions provided for loads shown on these drawings including but not limited to HVAC equipment, piping, and architectural fixtures attached to the trusses.
3. The trusses shall be designed, fabricated, and erected in accordance with the latest edition of the "National Design Specification for Wood Construction," (NDS) and "Design Specification for Metal Plate Connected Wood Trusses."
4. The truss manufacturer shall provide adequate bracing information in accordance with "Commentary and Recommendations for Handling, Installing, and Bracing Metal Plate Connected Wood Trusses" (HIB-91). This bracing, both temporary and permanent, shall be shown on the shop drawings. Also, the shop drawings shall show the required attachments for the trusses.
5. Any chords or truss webs shown on these drawings have been shown as a reference only. The final design of the trusses shall be per the manufacturer.

EXTERIOR WOOD FRAMED DECKS:

1. Decks are to be framed in accordance with local building codes and as referenced on the structural plans, either through code references or construction details.

WOOD STRUCTURAL PANELS:

1. Fabrication and placement of structural wood sheathing shall be in accordance with the APA Design/Construction Guide "Residential and Commercial," and all other applicable APA standards.
2. All structurally required wood sheathing shall bear the mark of the APA.
3. Wood wall sheathing shall comply with the requirements of local building codes for the appropriate state as indicated on these drawings. Refer to wall bracing notes in plan set for more information. Sheathing shall be applied with the long direction perpendicular to framing, unless noted otherwise.
4. Roof sheathing shall be APA rated sheathing exposure 1 or 2. Roof sheathing shall be continuous over two supports and attached to its supporting roof framing with (1)-8d CC nail at 6"o/c at panel edges and at 12"o/c in panel field unless otherwise noted on the plans. Sheathing shall be applied with the long direction perpendicular to framing. Sheathing shall have a span rating consistent with the framing spacing. Use suitable edge support by use of plywood clips or lumber blocking unless otherwise noted. Panel end joints shall occur over framing. Apply building paper over the sheathing as required by the state Building Code.
5. Wood floor sheathing shall be APA rated sheathing exposure 1 or 2. Attach sheathing to its supporting framing with (1)-8d CC ringshank nail at 6"o/c at panel edges and at 12"o/c in panel field unless otherwise noted on the plans. Sheathing shall be applied perpendicular to framing. Sheathing shall have a span rating consistent with the framing spacing. Use suitable edge support by use of T&G plywood or lumber blocking unless otherwise noted. Panel end joints shall occur over framing. Apply building paper over the sheathing as required by the state Building Code.
6. Sheathing shall have a 1/8" gap at panel ends and edges as recommended in accordance with the APA.

STRUCTURAL FIBERBOARD PANELS:

1. Fabrication and placement of structural fiberboard sheathing shall be in accordance with the applicable AFA standards.
2. All structurally required fiberboard sheathing shall bear the mark of the AFA.
3. Fiberboard wall sheathing shall comply with the requirements of local building codes for the appropriate state as indicated on these drawings. Refer to wall bracing notes in plan set for more information.
4. Sheathing shall have a 1/8" gap at panel ends and edges are recommended in accordance with the AFA.

SUMMIT
ENGINEERING LABORATORY TESTING
3070 HAMMOND BUSINESS PLACE, SUITE 171
RALEIGH, NC 27603
OFFICE: 919.380.9991
FAX: 919.380.9993
WWW.SUMMIT-COMPANIES.COM

NORTH CAROLINA CERTIFICATE OF LICENSURE
SUMMIT Engineering, Laboratory & Testing, P.C.
C-4361

CLIENT:
McKee Homes
109 Hay St, Suite 301
Fayetteville, NC 28301

PROJECT:
Biltmore II RH

Coversheet

NORTH CAROLINA PROFESSIONAL SEAL 049823 ENGINEER WESLEY A. JONES
STRUCTURAL MEMBERS ONLY

DRAWING
DATE: 10/25/2019
SCALE: 22x34 1/4"=1'-0"
8x11 1/8"=1'-0"
PROJECT #: 20938R2
DRAWN BY: EMB
CHECKED BY: WAJ

ORIGINAL INFORMATION
PROJECT # 18568 DATE 7/3/18

REFER TO COVER SHEET FOR A COMPLETE LIST OF REVISIONS

SHEET
CS1

STRUCTURAL REVISION LOG:

DATE:	SHEET:	REVISION:
1.16.19	ALL	Revised per 2018 NCRC
	S1.0c-S1.2c	Revised crawl space to use (4) 2x10 dropped girders
9.19.19	S1.0c-S1.2c	Revised crawl space to use floor joists/trusses
10.29.19	S1c & S3	Revised floor beams to be floor depth

SUMMIT
ENGINEERING LABORATORY TESTING
3070 HAMMOND BUSINESS
PLACE, SUITE 171
RALEIGH, NC 27603
OFFICE: 919.380.9991
FAX: 919.380.9993
WWW.SUMMIT-COMPANIES.COM

NORTH CAROLINA
SUMMIT
Engineering, Laboratory & Testing, P.C.
C-4361
CERTIFICATE OF LICENSURE

CLIENT:
McKee Homes
109 Hay St, Suite 301
Fayetteville, NC 28301

PROJECT:
Biltmore II RH

Revision Log

NORTH CAROLINA
PROFESSIONAL
SEAL
043623
ENGINEER
WESLEY A. JONES

STRUCTURAL MEMBERS ONLY

DRAWING
DATE: 10/25/2019
SCALE: 22x34 1/4"=1'-0"
11x17 1/8"=1'-0"
PROJECT #: 2053882
DRAWN BY: EMB
CHECKED BY: WAJ

ORIGINAL INFORMATION
PROJECT # DATE
18588 7/3/18

REFER TO COVER SHEET FOR A COMPLETE LIST OF REVISIONS

SHEET
R1

FOUNDATION NOTES:

1. FOUNDATIONS TO BE CONSTRUCTED IN ACCORDANCE WITH CHAPTER 4 OF THE 2018 NORTH CAROLINA RESIDENTIAL BUILDING CODE WITH ALL LOCAL AMENDMENTS.
2. STRUCTURAL CONCRETE TO BE F_c = 3000 PSI, PREPARED AND PLACED IN ACCORDANCE WITH ACI STANDARD 318.
3. FOOTINGS TO BE PLACED ON UNDISTURBED EARTH, BEARING A MINIMUM OF 12" BELOW ADJACENT FINISHED GRADE, OR AS OTHERWISE DIRECTED BY THE CODE ENFORCEMENT OFFICIAL.
4. FOOTING SIZES BASED ON A PRESUMPTIVE SOIL BEARING CAPACITY OF 1000 PSF. CONTRACTOR IS SOLELY RESPONSIBLE FOR VERIFYING THE SUITABILITY OF THE SITE SOIL CONDITIONS AT THE TIME OF CONSTRUCTION.
5. FOOTINGS AND PIERS SHALL BE CENTERED UNDER THEIR RESPECTIVE ELEMENTS. PROVIDE 2" MINIMUM FOOTING PROJECTION FROM THE FACE OF MASONRY.
6. MAXIMUM DEPTH OF UNBALANCED FILL AGAINST MASONRY WALLS TO BE AS SPECIFIED IN SECTION R404.1 OF THE 2018 NORTH CAROLINA RESIDENTIAL BUILDING CODE.
7. PILASTERS TO BE BONDED TO PERIMETER FOUNDATION WALL.
8. PROVIDE FOUNDATION WATERPROOFING, AND DRAIN WITH POSITIVE SLOPE TO OUTLET AS REQUIRED BY SITE CONDITIONS.
9. PROVIDED PERIMETER INSULATION FOR ALL FOUNDATIONS PER 2018 NORTH CAROLINA RESIDENTIAL BUILDING CODE.
10. CORBEL FOUNDATION WALL AS REQUIRED TO ACCOMMODATE BRICK VENEERS.
11. CRAWL SPACE TO BE GRADED LEVEL, AND CLEARED OF ALL DEBRIS.
12. FOUNDATION ANCHORAGE SHALL BE CONSTRUCTED PER THE 2018 NORTH CAROLINA RESIDENTIAL CODE SECTION R403.1.6. MINIMUM 1/2" DIA. BOLTS SPACED AT 6'-0" ON CENTER WITH A 7" MINIMUM EMBEDMENT INTO MASONRY OR CONCRETE. ANCHOR BOLTS SHALL BE 12" FROM THE END OF EACH PLATE SECTION. MINIMUM (2) ANCHOR BOLTS PER PLATE SECTION. ANCHOR BOLTS SHALL BE LOCATED IN THE CENTER THIRD OF THE PLATE.
13. ABBREVIATIONS:

DJ = DOUBLE JOIST	SJ = SINGLE JOIST
GT = GIRDER TRUSS	FT = FLOOR TRUSS
SC = STUD COLUMN	DR = DOUBLE RAFTER
EE = EACH END	TR = TRIPLE RAFTER
TJ = TRIPLE JOIST	OC = ON CENTER
CL = CENTER LINE	PL = POINT LOAD

14. ALL PIERS TO BE 16"x16" MASONRY AND ALL PILASTERS TO BE 8"x16" MASONRY, TYPICAL. (UNO)
15. WALL FOOTINGS TO BE CONTINUOUS CONCRETE, SIZES PER STRUCTURAL PLAN.
16. A FOUNDATION EXCAVATION OBSERVATION SHOULD BE CONDUCTED BY A PROFESSIONAL GEOTECHNICAL ENGINEER OR HIS QUALIFIED REPRESENTATIVE. IF ISOLATED AREAS OF YIELDING MATERIALS AND/OR POTENTIALLY EXPANSIVE SOILS ARE OBSERVED IN THE FOOTING EXCAVATIONS AT THE TIME OF CONSTRUCTION, SUMMIT ENGINEERING, LABORATORY & TESTING, P.C. MUST BE PROVIDED THE OPPORTUNITY TO REVIEW THE FOOTING DESIGN PRIOR TO CONCRETE PLACEMENT.
17. ALL FOOTINGS & SLABS ARE TO BEAR ON UNDISTURBED SOIL OR 95% COMPACTED FILL, VERIFIED BY ENGINEER OR CODE OFFICIAL.

REFER TO BRACED WALL PLAN FOR PANEL LOCATIONS AND ANY REQUIRED HOLD-DOWNS. ADDITIONAL INFORMATION PER SECTION R602.10.4 AND FIGURE R602.10.3(4) OF THE 2018 NCRC.

NOTE: ALL EXTERIOR FOUNDATION DIMENSIONS ARE TO FRAMING AND NOT BRICK VENEER, UNO

NOTE: A 4" CRUSHED STONE BASE COURSE IS NOT REQUIRED WHEN SLAB IS INSTALLED ON WELL-DRAINED OR SAND-GRAVEL MIXTURE SOILS CLASSIFIED AS GROUP I PER TABLE R405.1

REINFORCE GARAGE PORTAL WALLS PER FIGURE R602.10.4.3 OF THE 2018 NCRC. (TYP.)

BEAM POCKETS MAY BE SUBSTITUTED FOR MASONRY PILASTERS AT GIRDER ENDS. BEAM POCKETS SHALL HAVE A MINIMUM 4" SOLID MASONRY BEARING.

NOTE: REDUCE JOIST SPACING UNDER TILE FLOORS, GRANITE COUNTERTOPS AND/OR ISLANDS.

DECK JOISTS SHALL BE SPACED AT A MAX. 12" O.C. WHEN DECK BOARDS ARE INSTALLED DIAGONALLY.

THESE PLANS ARE DESIGNED IN ACCORDANCE WITH ARCHITECTURAL PLANS PROVIDED BY MCKEE HOMES COMPLETED/REVISED ON 6/20/18. IT IS THE RESPONSIBILITY OF THE CLIENT TO NOTIFY SUMMIT ENGINEERING, LABORATORY & TESTING, P.C. IF ANY CHANGES ARE MADE TO THE ARCHITECTURAL PLANS PRIOR TO CONSTRUCTION. SUMMIT ENGINEERING, LABORATORY & TESTING, P.C. CANNOT GUARANTEE THE ADEQUACY OF THESE STRUCTURAL PLANS WHEN USED WITH ARCHITECTURAL PLANS DATED DIFFERENTLY THAN THE DATE LISTED ABOVE.

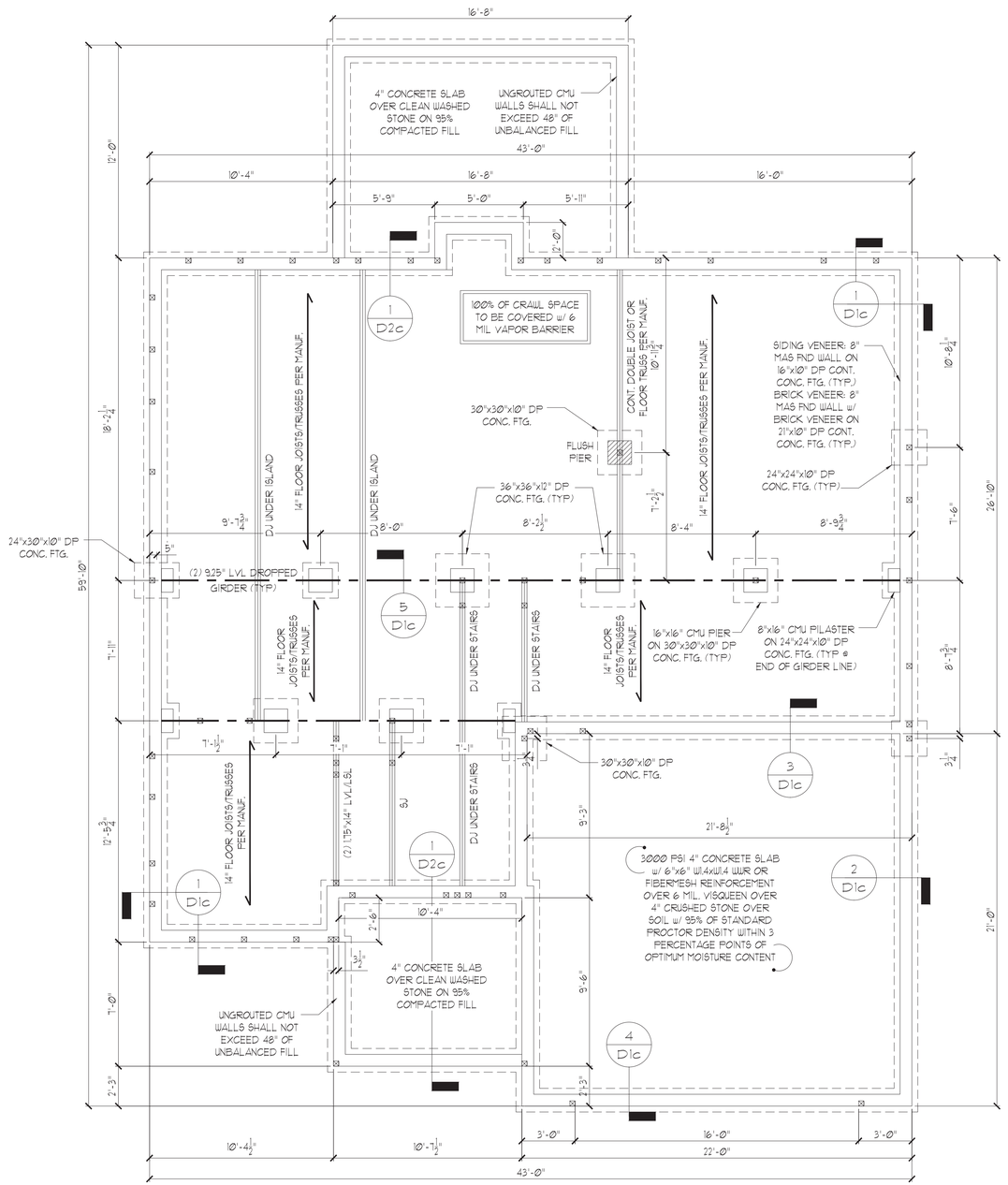
STRUCTURAL MEMBERS ONLY

ENGINEERING SEAL APPLIES ONLY TO STRUCTURAL COMPONENTS ON THIS DOCUMENT, SEAL DOES NOT INCLUDE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES OR SAFETY PRECAUTIONS. ANY DEVIATIONS OR DISCREPANCIES ON PLANS ARE TO BE BROUGHT TO THE IMMEDIATE ATTENTION OF SUMMIT ENGINEERING, LABORATORY & TESTING, P.C. FAILURE TO DO SO WILL VOID SUMMIT LIABILITY.

STRUCTURAL ANALYSIS BASED ON 2018 NCRC.

CRAWL SPACE FOUNDATION PLAN

SCALE: 1/4"=1'-0" ON 22"x34" OR 1/8"=1'-0" ON 11"x17"

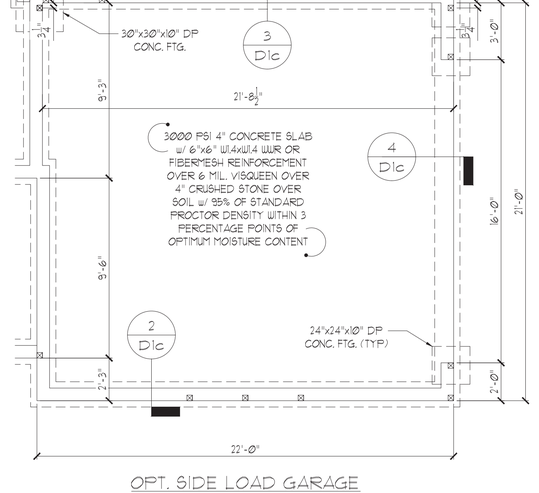


COASTAL ELEVATION

Classic - See Next Page

18"x24" MIN. CRAWL SPACE ACCESS DOOR TO BE LOCATED IN FIELD PER BUILDER. PROVIDE MIN. (2) 2x10 HEADER OVER DOOR w/ MIN. 4" BEARING EACH END. AVOID SHOWN POINT LOADS.

Side Load Garage - See Detail Below



OPT. SIDE LOAD GARAGE

SUMMIT
ENGINEERING LABORATORY TESTING
3070 HAMMOND BUSINESS PLACE, SUITE 171
RALEIGH, NC 27603
OFFICE: 919.380.9991
FAX: 919.380.9993
WWW.SUMMIT-COMPANIES.COM

NORTH CAROLINA CERTIFICATE OF LICENSURE
SUMMIT Engineering, Laboratory & Testing, P.C.
C-4361

CLIENT:
McKee Homes
109 Hay St. Suite 301
Fayetteville, NC 28301

PROJECT:
Biltmore II RH
Crawl Space Foundation

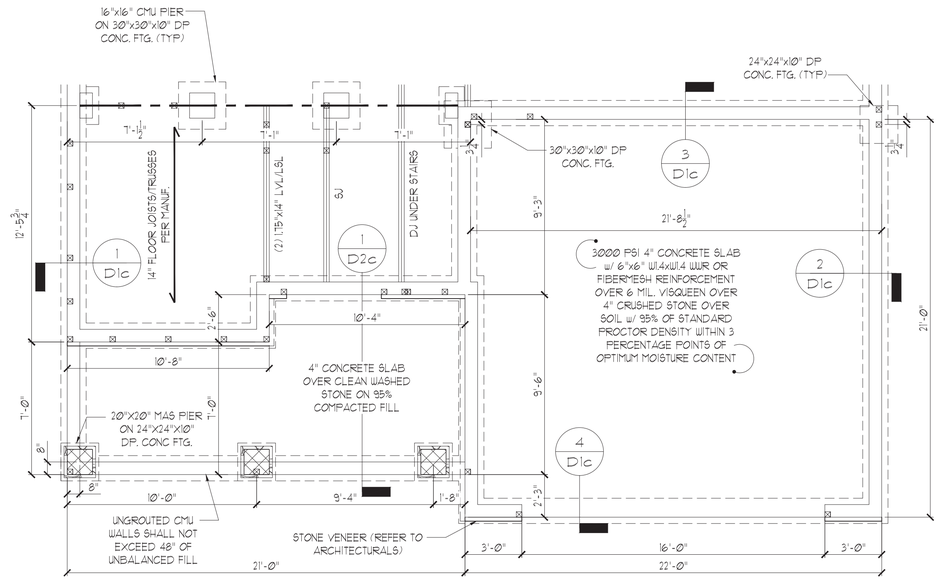
NORTH CAROLINA PROFESSIONAL SEAL 043829 ENGINEER WESLEY A. JONES
STRUCTURAL MEMBERS ONLY

DRAWING
DATE: 10/25/2019
SCALE: 22x34 1/4"=1'-0"
8x11 1/8"=1'-0"
PROJECT #: 2053682
DRAWN BY: EMB
CHECKED BY: WAJ

ORIGINAL INFORMATION
PROJECT # DATE
18568 7/3/18

REFER TO COVER SHEET FOR A COMPLETE LIST OF REVISIONS

SHEET
S1.0c



CLASSIC ELEVATION

STRUCTURAL MEMBERS ONLY

ENGINEERING SEAL APPLIES ONLY TO STRUCTURAL COMPONENTS ON THIS DOCUMENT, SEAL DOES NOT INCLUDE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES OR SAFETY PRECAUTIONS. ANY DEVIATIONS OR DISCREPANCIES ON PLANS ARE TO BE BROUGHT TO THE IMMEDIATE ATTENTION OF SUMMIT ENGINEERING, LABORATORY & TESTING, P.C. FAILURE TO DO SO WILL VOID SUMMIT LIABILITY.

STRUCTURAL ANALYSIS BASED ON 2018 NCRC.

CRAWL SPACE FOUNDATION PLAN

SCALE: 1/4"=1'-0" ON 22"X34" OR 1/8"=1'-0" ON 11"X17"

SUMMIT
ENGINEERING LABORATORY TESTING
3070 HAMMOND BUSINESS PLACE, SUITE 171
RALEIGH, NC 27603
OFFICE: 919.380.9991
FAX: 919.380.9993
WWW.SUMMIT-COMPANIES.COM

NORTH CAROLINA CERTIFICATE OF LICENSURE
SUMMIT Engineering, Laboratory & Testing, P.C.
C-4361

CLIENT:
McKee Homes
109 Hay St. Suite 301
Fayetteville, NC 28301

PROJECT:
Biltmore II RH
Crawl Space Foundation

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 043823 WESLEY A. JONES
STRUCTURAL MEMBERS ONLY

DRAWING
DATE: 10/25/2019
SCALE: 22x34 1/4"=1'-0"
8x11 1/8"=1'-0"
PROJECT #: 2053882
DRAWN BY: EMB
CHECKED BY: WAJ

ORIGINAL INFORMATION
PROJECT # DATE
18588 7/3/18

REFER TO COVER SHEET FOR A COMPLETE LIST OF REVISIONS

SHEET
S1.1c

GENERAL STRUCTURAL NOTES:

1. CONSTRUCTION SHALL CONFORM TO 2018 NORTH CAROLINA RESIDENTIAL BUILDING CODE WITH ALL LOCAL AMENDMENTS.
2. CONTRACTOR SHALL VERIFY ALL DIMENSIONS. CONTRACTOR SHALL COMPLY WITH THE CONTENTS OF THE DRAWING FOR THIS SPECIFIC PROJECT. ENGINEER IS NOT RESPONSIBLE FOR ANY DEVIATIONS FROM THIS PLAN.
3. CONTRACTOR IS RESPONSIBLE FOR PROVIDING TEMPORARY BRACING REQUIRED TO RESIST ALL FORCES ENCOUNTERED DURING ERECTION.
4. PROPERTIES USED IN THE DESIGN ARE AS FOLLOWS:
   MICRO=LAM (LVL): F_b = 2600 PSI, F_v = 285 PSI, E = 1.9x10^6 PSI
   PARALLAM (PSL): F_b = 2900 PSI, F_v = 290 PSI, E = 1.25x10^6 PSI
5. ALL WOOD MEMBERS SHALL BE #2 SYP UNLESS NOTED ON PLAN. ALL STUD COLUMNS AND JOISTS SHALL BE #2 SYP (U.N.O.).
6. ALL BEAMS SHALL BE SUPPORTED WITH A (2) 2x4 #2 SYP STUD COLUMN AT EACH END UNLESS NOTED OTHERWISE.
7. ALL REINFORCING STEEL SHALL BE GRADE 60 BARS CONFORMING TO ASTM A615 AND SHALL HAVE A MINIMUM COVER OF 3".
8. FOUNDATION ANCHORAGE SHALL BE CONSTRUCTED PER THE 2018 NORTH CAROLINA RESIDENTIAL CODE SECTION R403.1.6. MINIMUM 1/2" DIA. BOLTS SPACED AT 6'-0" ON CENTER WITH A 7" MINIMUM EMBEDMENT INTO MASONRY OR CONCRETE. ANCHOR BOLTS SHALL BE 12" FROM THE END OF EACH PLATE SECTION. MINIMUM (2) ANCHOR BOLTS PER PLATE SECTION. ANCHOR BOLTS SHALL BE LOCATED IN THE CENTER THIRD OF THE PLATE.
9. CONTRACTOR TO PROVIDED LOOKOUTS WHEN CEILING JOISTS SPAN PERPENDICULAR TO RAFTERS.
10. FLITCH BEAMS, 4-PLY LVLS AND 3-PLY SIDE LOADED LVLS SHALL BE BOLTED TOGETHER WITH 1/2" DIA. THRU BOLTS SPACED AT 24" O.C. (MAX.) STAGGERED OR EQUIVALENT CONNECTIONS PER DETAIL 1/D3F. MIN. EDGE DISTANCE SHALL BE 2" AND (2) BOLTS SHALL BE LOCATED MINIMUM 6" FROM EACH END OF THE BEAM.
11. ALL NON-LOAD BEARING HEADERS SHALL BE (1) FLAT 2x4 SYP #2, DROPPED. FOR NON-LOAD BEARING HEADERS EXCEEDING 8'-0" IN WIDTH AND/OR WITH MORE THAN 2'-0" OF CRIPPLE WALL ABOVE, SHALL BE (2) FLAT 2x4 SYP #2, DROPPED. (UNLESS NOTED OTHERWISE)
12. ABBREVIATIONS:

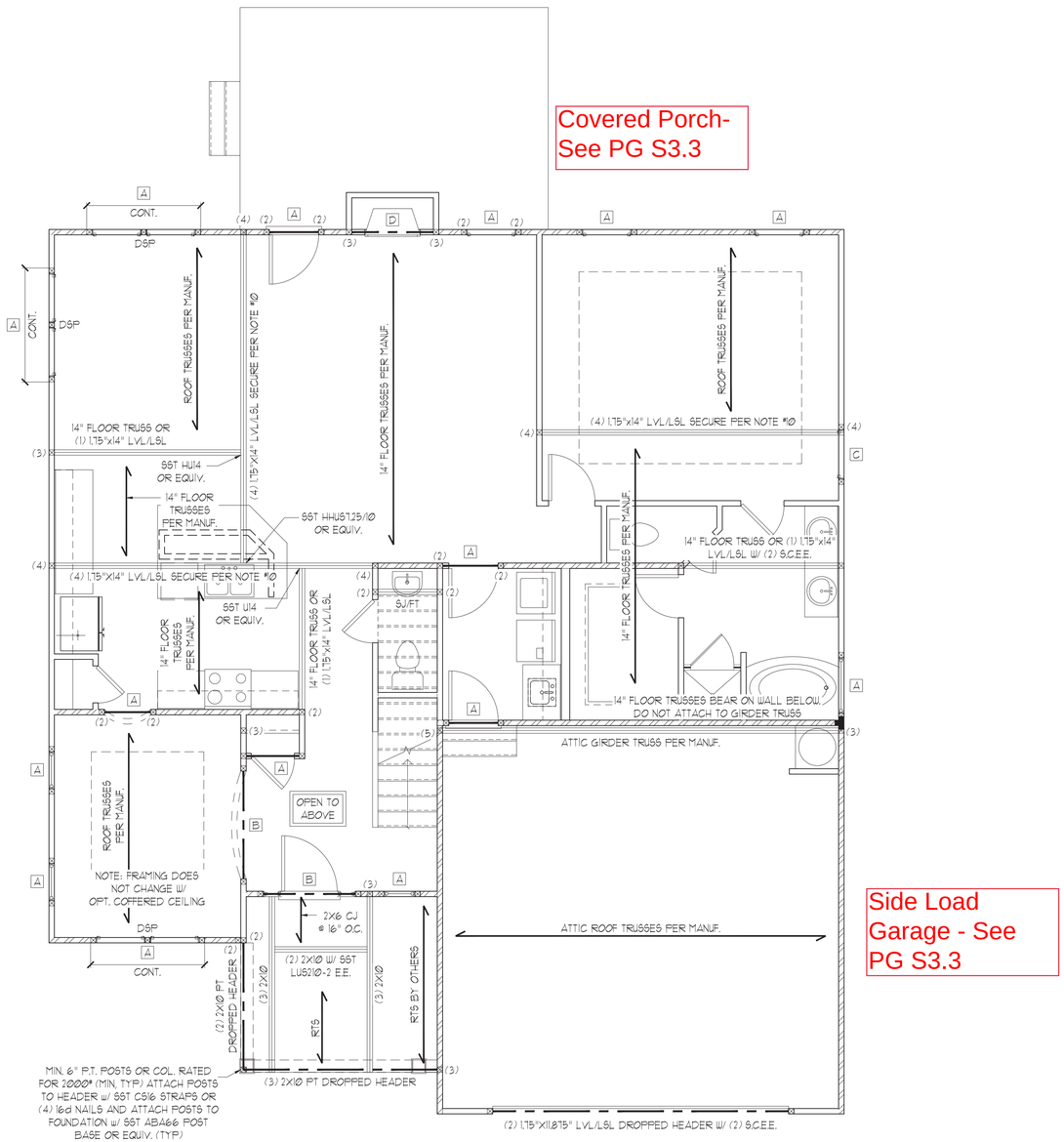
DJ = DOUBLE JOIST	SJ = SINGLE JOIST
GT = GIRDER TRUSS	FT = FLOOR TRUSS
SC = STUD COLUMN	DR = DOUBLE RAFTER
EE = EACH END	TR = TRIPLE RAFTER
TJ = TRIPLE JOIST	OC = ON CENTER
CL = CENTER LINE	PL = POINT LOAD

SHADED WALLS INDICATED LOAD BEARING WALLS

NOTE: REDUCE JOIST SPACING UNDER TILE FLOORS, GRANITE COUNTERTOPS AND/OR ISLANDS.

JOIST & BEAM SIZES SHOWN ARE MINIMUMS. BUILDER MAY INCREASE DEPTH FOR EASE OF CONSTRUCTION.

NOTE:
— — — DESIGNATES JOIST SUPPORTED LOAD BEARING WALL ABOVE. PROVIDE BLOCKING UNDER JOIST SUPPORTED LOAD BEARING WALL.



Side Load Garage - See PG S3.3

~~COASTAL~~ ELEVATION

Classic - See Next Page

THESE PLANS ARE DESIGNED IN ACCORDANCE WITH ARCHITECTURAL PLANS PROVIDED BY MCKEE HOMES COMPLETED/REVISED ON 6/20/18. IT IS THE RESPONSIBILITY OF THE CLIENT TO NOTIFY SUMMIT ENGINEERING, LABORATORY & TESTING, P.C. IF ANY CHANGES ARE MADE TO THE ARCHITECTURAL PLANS PRIOR TO CONSTRUCTION. SUMMIT ENGINEERING, LABORATORY & TESTING, P.C. CANNOT GUARANTEE THE ADEQUACY OF THESE STRUCTURAL PLANS WHEN USED WITH ARCHITECTURAL PLANS DATED DIFFERENTLY THAN THE DATE LISTED ABOVE.

STRUCTURAL MEMBERS ONLY

ENGINEERING SEAL APPLIES ONLY TO STRUCTURAL COMPONENTS ON THIS DOCUMENT, SEAL DOES NOT INCLUDE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES OR SAFETY PRECAUTIONS. ANY DEVIATIONS OR DISCREPANCIES ON PLANS ARE TO BE BROUGHT TO THE IMMEDIATE ATTENTION OF SUMMIT ENGINEERING, LABORATORY & TESTING, P.C. FAILURE TO DO SO WILL VOID SUMMIT LIABILITY.

STRUCTURAL ANALYSIS BASED ON 2018 NCRC.

FIRST FLOOR FRAMING PLAN

SCALE: 1/4"=1'-0" ON 22"x34" OR 1/8"=1'-0" ON 11"x17"

HEADER SCHEDULE

TAG	SIZE	JACKS (EACH END)
A	(2) 2x6	(1)
B	(2) 2x8	(2)
C	(2) 2x10	(2)
D	(2) 2x12	(2)
E	(2) 9-1/4" LSL/LVL	(3)
F	(3) 2x6	(1)
G	(3) 2x8	(2)
H	(3) 2x10	(2)
I	(3) 2x12	(3)

NOTES:
1. HEADER SIZES SHOWN ON PLANS ARE MINIMUMS. GREATER HEADER SIZES MAY BE USED FOR EASE OF CONSTRUCTION.
2. ALL HEADERS TO BE DROPPED (U.N.O.).
3. STUD COLUMNS NOTED ON PLAN OVERRIDE STUD COLUMNS LISTED ABOVE (U.N.O.).
4. OPENINGS LESS THAN 3'-0" USE (1) KING STUD AT E.E.
OPENINGS 3'-1" TO 4'-0" USE (2) KING STUDS AT E.E.
OPENINGS 4'-1" TO 8'-0" USE (3) KING STUDS AT E.E.
OPENINGS 8'-1" TO 12'-0" USE (5) KING STUDS AT E.E.
OPENINGS 12'-1" TO 16'-0" USE (6) KING STUDS AT E.E.

ALL HEADERS WHERE BRICK IS USED, TO BE:
(1) LINTEL (U.N.O.)

LINTEL SCHEDULE:

STEEL ANGLES TO HAVE MINIMUM 4" BEARING ONTO BRICK AT EACH END.

(1) L3x3x1/4"
(2) L5x3"x1/4"
(3) L5x3-1/2x5/16"
(4) L5x3-1/2"x5/16" ROLLED OR EQUAL ARCHED COMPONENT.

SECURE LINTEL TO HEADER w/ (2) 1/2" DIAMETER LAG SCREWS STAGGERED @ 16" O.C. (TYP FOR (3))

WALL STUD SCHEDULE (10 FT HEIGHT)

STUD SIZE	STUD SPACING (O.C.)			
	ROOF ONLY	ROOF & 1 FLOOR	ROOF & 2 FLOORS	NON-LOAD BEARING
2x4	24"	16"	12"	24"
2x6	24"	24"	16"	24"

NOTES:
1. BRACED WALLS STUDS SHALL BE A MAX. OF 16" O.C.
2. STUDS SUPPORTS OPTIONAL WALK-UP ATTIC SHALL BE SPACED A MAX. OF 16" O.C.
3. TWO STORY WALLS SHALL BE FRAMED w/ 2x4 STUDS @ 12" O.C. OR 2x6 STUDS @ 16" O.C. BALLOON FRAMED w/ CROSS BRACING @ 6'-0" O.C. VERTICALLY.

SUMMIT
ENGINEERING LABORATORY TESTING
3070 HAMMOND BUSINESS PLACE, SUITE 171
RALEIGH, NC 27603
OFFICE: 919.380.9991
FAX: 919.380.9993
WWW.SUMMIT-COMPANIES.COM

NORTH CAROLINA CERTIFICATE OF LICENSURE
SUMMIT Engineering, Laboratory & Testing, P.C.
C-4361

CLIENT:
McKee Homes
109 Hay St, Suite 301
Fayetteville, NC 28301

PROJECT:
Biltmore II RH
First Floor Framing Plan

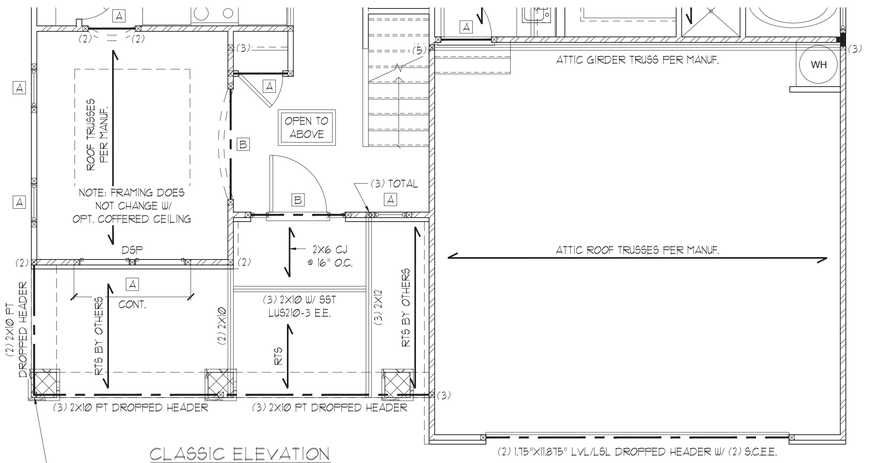
NORTH CAROLINA PROFESSIONAL SEAL 049230 ENGINEER WESLEY A. JONES
STRUCTURAL MEMBERS ONLY

DRAWING
DATE: 10/25/2019
SCALE: 22x34 1/4"=1'-0"
8x11 1/8"=1'-0"
PROJECT #: 20538R2
DRAWN BY: EMB
CHECKED BY: WAJ

ORIGINAL INFORMATION
PROJECT # 18588 DATE 7/3/18

REFER TO COVER SHEET FOR A COMPLETE LIST OF REVISIONS

SHEET
S3.0



CLASSIC ELEVATION

STRUCTURAL MEMBERS ONLY

ENGINEERING SEAL APPLIES ONLY TO STRUCTURAL COMPONENTS ON THIS DOCUMENT, SEAL DOES NOT INCLUDE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES OR SAFETY PRECAUTIONS. ANY DEVIATIONS OR DISCREPANCIES ON PLANS ARE TO BE BROUGHT TO THE IMMEDIATE ATTENTION OF SUMMIT ENGINEERING, LABORATORY & TESTING, P.C. FAILURE TO DO SO WILL VOID SUMMIT LIABILITY.

STRUCTURAL ANALYSIS BASED ON 2018 NCRC.

FIRST FLOOR FRAMING PLAN

SCALE: 1/4"=1'-0" ON 22"X34" OR 1/8"=1'-0" ON 11"X17"

SUMMIT
ENGINEERING LABORATORY TESTING
3070 HAMMOND BUSINESS PLACE, SUITE 171
RALEIGH, NC 27603
OFFICE: 919.380.9991
FAX: 919.380.9993
WWW.SUMMIT-COMPANIES.COM

NORTH CAROLINA CERTIFICATE OF LICENSURE
SUMMIT Engineering, Laboratory & Testing, P.C.
C-4361

CLIENT:
McKee Homes
109 Hay St. Suite 301
Fayetteville, NC 28301

PROJECT:
Biltmore II RH

First Floor Framing Plan

NORTH CAROLINA PROFESSIONAL SEAL 048823 ENGINEER WESLEY A. JONES
STRUCTURAL MEMBERS ONLY

DRAWING
DATE: 10/25/2019
SCALE: 22x34 1/4"=1'-0"
8x11 1/8"=1'-0"
PROJECT #: 20538R2
DRAWN BY: EMB
CHECKED BY: WAJ

ORIGINAL INFORMATION
PROJECT # DATE
18568 7/3/18

REFER TO COVER SHEET FOR A COMPLETE LIST OF REVISIONS

SHEET
S3.1

SUMMIT
ENGINEERING LABORATORY TESTING
3070 HAMMOND BUSINESS
PLACE, SUITE 171
RALEIGH, NC 27603
OFFICE: 919.380.9991
FAX: 919.380.9993
WWW.SUMMIT-COMPANIES.COM

NORTH CAROLINA
SUMMIT
Engineering,
Laboratory &
Testing, P.C.
C-4361
CERTIFICATE OF LICENSURE

CLIENT:
McKee Homes
109 Hay St, Suite 301
Fayetteville, NC 28301

PROJECT:
Biltmore II RH
First Floor Framing Plan

NORTH CAROLINA
PROFESSIONAL
SEAL
29382
ENGINEER
WESLEY A JONES
STRUCTURAL MEMBERS ONLY

DRAWING
DATE: 10/25/2019
SCALE: 22x34 1/4"=1'-0"
8x11 1/8"=1'-0"
PROJECT #: 20-1588G
DRAWN BY: EMB
CHECKED BY: WAJ

ORIGINAL INFORMATION
PROJECT # 18588
DATE 1/3/18

REFER TO COVER SHEET FOR A COMPLETE LIST OF REVISIONS

SHEET
S3.3

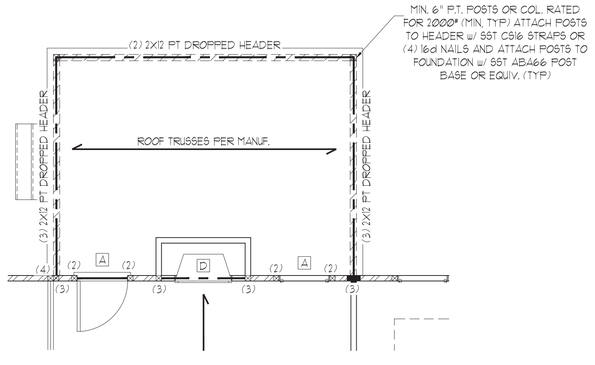
STRUCTURAL MEMBERS ONLY

ENGINEERING SEAL APPLIES ONLY TO STRUCTURAL COMPONENTS ON THIS DOCUMENT, SEAL DOES NOT INCLUDE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES OR SAFETY PRECAUTIONS. ANY DEVIATIONS OR DISCREPANCIES ON PLANS ARE TO BE BROUGHT TO THE IMMEDIATE ATTENTION OF SUMMIT ENGINEERING, LABORATORY & TESTING, P.C. FAILURE TO DO SO WILL VOID SUMMIT LIABILITY.

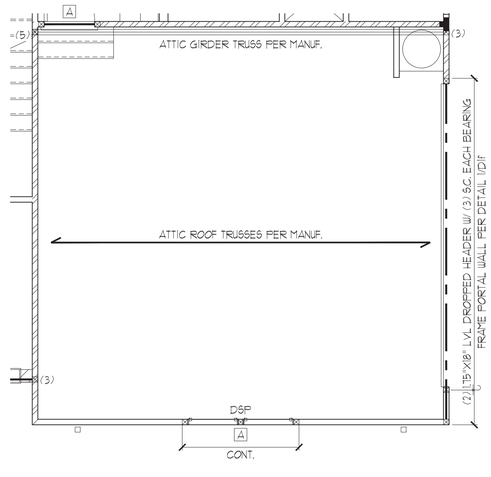
STRUCTURAL ANALYSIS BASED ON 2018 NCRC.

FIRST FLOOR FRAMING PLAN

SCALE: 1/4"=1'-0" ON 22"x34" OR 1/8"=1'-0" ON 11"x17"



OPT. COVERED PORCH



OPT. SIDE LOAD GARAGE

HEADER SCHEDULE

TAG	SIZE	JACKS (EACH END)
A	(2) 2x6	(1)
B	(2) 2x8	(2)
C	(2) 2x10	(2)
D	(2) 2x12	(2)
E	(2) 9-1/4" LSL/LVL	(3)
F	(3) 2x6	(1)
G	(3) 2x8	(2)
H	(3) 2x10	(2)
I	(3) 2x12	(3)

NOTES:
1. HEADER SIZES SHOWN ON PLANS ARE MINIMUMS. GREATER HEADER SIZES MAY BE USED FOR EASE OF CONSTRUCTION.
2. ALL HEADERS TO BE DROPPED (U.N.O.).
3. STUD COLUMNS NOTED ON PLAN OVERRIDE STUD COLUMNS LISTED ABOVE (U.N.O.).
4. OPENINGS LESS THAN 3'-0" USE (1) KING STUD AT E.E.
OPENINGS 3'-1" TO 4'-0" USE (2) KING STUDS AT E.E.
OPENINGS 4'-1" TO 8'-0" USE (3) KING STUDS AT E.E.
OPENINGS 8'-1" TO 12'-0" USE (5) KING STUDS AT E.E.
OPENINGS 12'-1" TO 16'-0" USE (6) KING STUDS AT E.E.

ALL HEADERS WHERE BRICK IS USED, TO BE:

(1) LINTEL (U.N.O.)

LINTEL SCHEDULE:

STEEL ANGLES TO HAVE MINIMUM 4" BEARING ONTO BRICK AT EACH END.

(1) L3x3x1/4"
(2) L5x3"x1/4"
(3) L5x3-1/2x5/16"
(4) L5x3-1/2"x5/16" ROLLED OR EQUAL ARCHED COMPONENT.

SECURE LINTEL TO HEADER w/ (2) 1/2" DIAMETER LAG SCREWS STAGGERED @ 16" O.C. (TYP FOR (3))

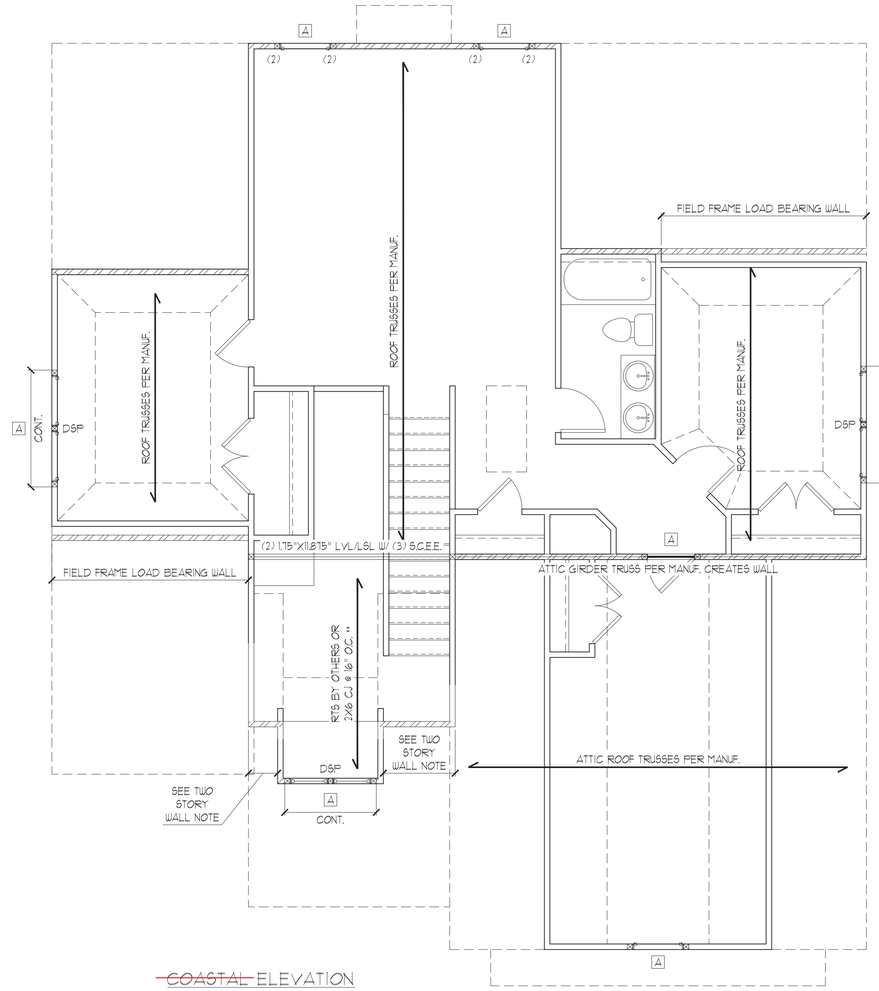
WALL STUD SCHEDULE (10 FT HEIGHT)

STUD SIZE	STUD SPACING (O.C.)			
	ROOF ONLY	ROOF & 1 FLOOR	ROOF & 2 FLOORS	NON-LOAD BEARING
2x4	24"	16"	12"	24"
2x6	24"	24"	16"	24"

NOTES:
1. BRACED WALLS STUDS SHALL BE A MAX. OF 16" O.C.
2. STUDS SUPPORTS OPTIONAL WALK-UP ATTIC SHALL BE SPACED A MAX. OF 16" O.C.
3. TWO STORY WALLS SHALL BE FRAMED w/ 2x4 STUDS @ 12" O.C. OR 2x6 STUDS @ 16" O.C. BALLOON FRAMED w/ CROSS BRACING @ 6'-0" O.C. VERTICALLY.

SHADED WALLS INDICATED LOAD BEARING WALLS

JOIST & BEAM SIZES SHOWN ARE MINIMUMS. BUILDER MAY INCREASE DEPTH FOR EASE OF CONSTRUCTION.



~~COASTAL~~ ELEVATION

** ATTACH CJ TO RAFTERS W/ (4) 10d NAILS

Classic - See Next Page

THESE PLANS ARE DESIGNED IN ACCORDANCE WITH ARCHITECTURAL PLANS PROVIDED BY MCKEE HOMES COMPLETED/REVISED ON 6/20/18. IT IS THE RESPONSIBILITY OF THE CLIENT TO NOTIFY SUMMIT ENGINEERING, LABORATORY & TESTING, P.C. IF ANY CHANGES ARE MADE TO THE ARCHITECTURAL PLANS PRIOR TO CONSTRUCTION. SUMMIT ENGINEERING, LABORATORY & TESTING, P.C. CANNOT GUARANTEE THE ADEQUACY OF THESE STRUCTURAL PLANS WHEN USED WITH ARCHITECTURAL PLANS DATED DIFFERENTLY THAN THE DATE LISTED ABOVE.

STRUCTURAL MEMBERS ONLY

ENGINEERING SEAL APPLIES ONLY TO STRUCTURAL COMPONENTS ON THIS DOCUMENT. SEAL DOES NOT INCLUDE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES OR SAFETY PRECAUTIONS. ANY DEVIATIONS OR DISCREPANCIES ON PLANS ARE TO BE BROUGHT TO THE IMMEDIATE ATTENTION OF SUMMIT ENGINEERING, LABORATORY & TESTING, P.C. FAILURE TO DO SO WILL VOID SUMMIT LIABILITY.

STRUCTURAL ANALYSIS BASED ON 2018 NCRC.

SECOND FLOOR FRAMING PLAN

SCALE: 1/4"=1'-0" ON 22"X34" OR 1/8"=1'-0" ON 11"X17"

SUMMIT
ENGINEERING LABORATORY TESTING
3070 HAMMOND BUSINESS PLACE, SUITE 171
RALEIGH, NC 27603
OFFICE: 919.380.9991
FAX: 919.380.9993
WWW.SUMMIT-COMPANIES.COM

NORTH CAROLINA CERTIFICATE OF LICENSURE
SUMMIT Engineering, Laboratory & Testing, P.C.
C-4361

CLIENT:
McKee Homes
109 Hay St. Suite 301
Fayetteville, NC 28301

PROJECT:
Biltmore II RH

Second Floor Framing Plan

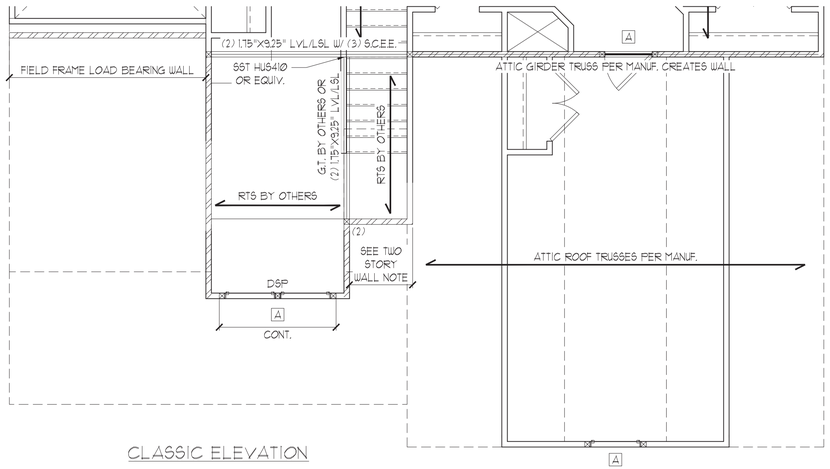
NORTH CAROLINA PROFESSIONAL SEAL 29382 ENGINEER WESLEY A. JONES
STRUCTURAL MEMBERS ONLY

DRAWING
DATE: 10/23/2019
SCALE: 22x34 1/4"=1'-0"
8x11 1/8"=1'-0"
PROJECT #: 20538R2
DRAWN BY: EMB
CHECKED BY: WAJ

ORIGINAL INFORMATION
PROJECT # DATE
18568 7/3/18

REFER TO COVER SHEET FOR A COMPLETE LIST OF REVISIONS

SHEET
S4.0



CLASSIC ELEVATION

STRUCTURAL MEMBERS ONLY

ENGINEERING SEAL APPLIES ONLY TO STRUCTURAL COMPONENTS ON THIS DOCUMENT, SEAL DOES NOT INCLUDE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES OR SAFETY PRECAUTIONS. ANY DEVIATIONS OR DISCREPANCIES ON PLANS ARE TO BE BROUGHT TO THE IMMEDIATE ATTENTION OF SUMMIT ENGINEERING, LABORATORY & TESTING, P.C. FAILURE TO DO SO WILL VOID SUMMIT LIABILITY.

STRUCTURAL ANALYSIS BASED ON 2018 NCRC.

SECOND FLOOR FRAMING PLAN

SCALE: 1/4"=1'-0" ON 22"X34" OR 1/8"=1'-0" ON 11"X17"

SUMMIT
ENGINEERING LABORATORY TESTING
3070 HAMMOND BUSINESS PLACE, SUITE 171
RALEIGH, NC 27603
OFFICE: 919.380.9991
FAX: 919.380.9993
WWW.SUMMIT-COMPANIES.COM

NORTH CAROLINA CERTIFICATE OF LICENSURE
SUMMIT Engineering, Laboratory & Testing, P.C.
C-4361

CLIENT:
McKee Homes
109 Hay St. Suite 301
Fayetteville, NC 28301

PROJECT:
Biltmore II RH

Second Floor Framing Plan

NORTH CAROLINA PROFESSIONAL SEAL 038230 ENGINEER WESLEY A. JONES
STRUCTURAL MEMBERS ONLY

DRAWING
DATE: 10/25/2019
SCALE: 22x34 1/4"=1'-0"
8x11 1/8"=1'-0"
PROJECT #: 2053882
DRAWN BY: EMB
CHECKED BY: WAJ

ORIGINAL INFORMATION
PROJECT # DATE
18588 7/3/18

REFER TO COVER SHEET FOR A COMPLETE LIST OF REVISIONS

SHEET
S4.1

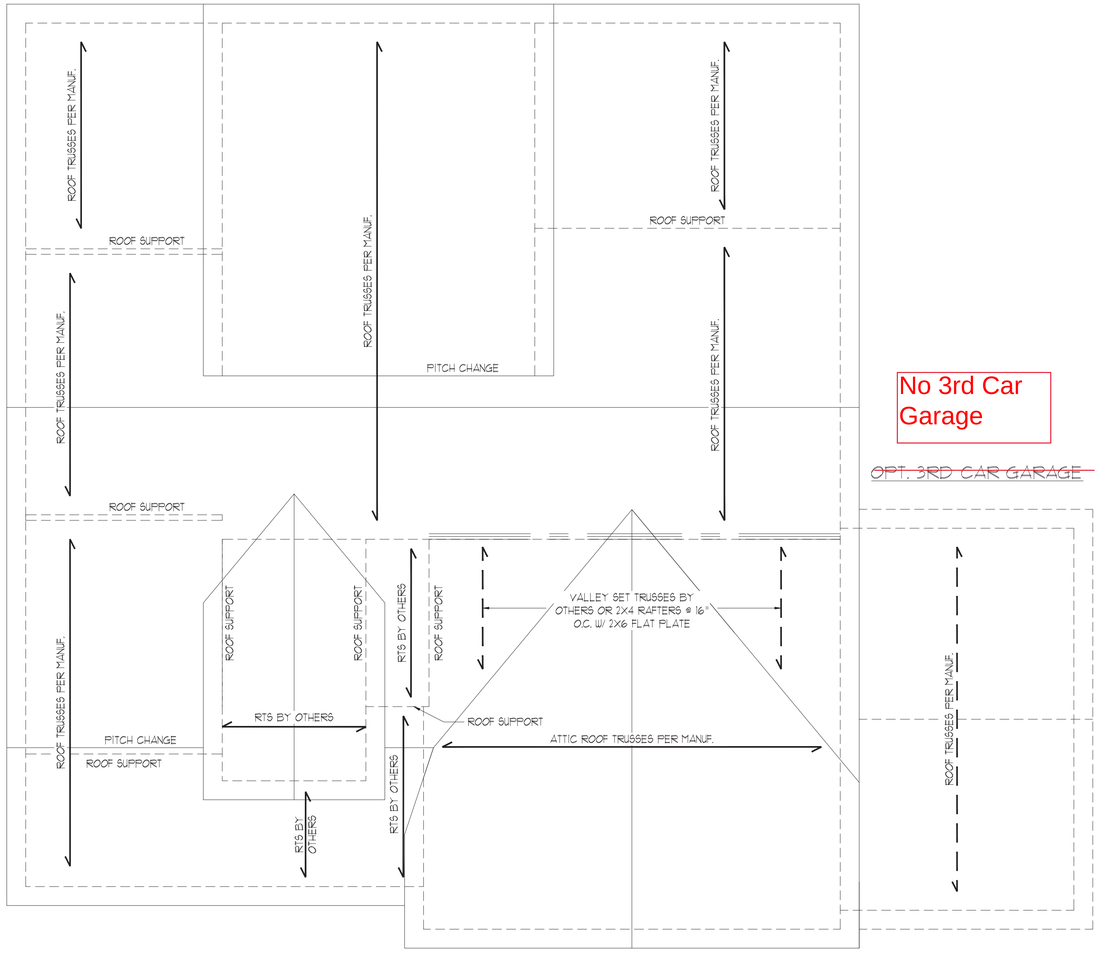
NOTE: 1ST PLY OF ALL SHOWN GIRDER TRUSSES TO ALIGN WITH INSIDE FACE OF WALL (TYP, UNO)

NOTE: ROOF TRUSSES SHALL BE SPACED TO SUPPORT FALSE FRAMED DORMER WALLS (TYP, UNO)

REFER TO TRUSS LAYOUT PER MANUFACTURER FOR UPLIFT CONNECTIONS FROM TRUSS TO TOP PLATE (TYP, UNO)

REFER TO DETAIL 5/D3F FOR EYEBROW RETURN OR SHED ROOF FRAMING REQUIREMENTS. (TYP FOR ROOFS PROTRUDING MAXIMUM 24" FROM STRUCTURE)

Covered Porch- See Next Page



No 3rd Car Garage

~~OPT. 3RD CAR GARAGE~~

CLASSIC ELEVATION

THESE PLANS ARE DESIGNED IN ACCORDANCE WITH ARCHITECTURAL PLANS PROVIDED BY MCKEE HOMES COMPLETED/REVISED ON 6/20/18. IT IS THE RESPONSIBILITY OF THE CLIENT TO NOTIFY SUMMIT ENGINEERING, LABORATORY & TESTING, P.C. IF ANY CHANGES ARE MADE TO THE ARCHITECTURAL PLANS PRIOR TO CONSTRUCTION. SUMMIT ENGINEERING, LABORATORY & TESTING, P.C. CANNOT GUARANTEE THE ADEQUACY OF THESE STRUCTURAL PLANS WHEN USED WITH ARCHITECTURAL PLANS DATED DIFFERENTLY THAN THE DATE LISTED ABOVE.

STRUCTURAL MEMBERS ONLY

ENGINEERING SEAL APPLIES ONLY TO STRUCTURAL COMPONENTS ON THIS DOCUMENT, SEAL DOES NOT INCLUDE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES OR SAFETY PRECAUTIONS. ANY DEVIATIONS OR DISCREPANCIES ON PLANS ARE TO BE BROUGHT TO THE IMMEDIATE ATTENTION OF SUMMIT ENGINEERING, LABORATORY & TESTING, P.C. FAILURE TO DO SO WILL VOID SUMMIT LIABILITY.

STRUCTURAL ANALYSIS BASED ON 2018 NCRC.

ROOF FRAMING PLAN

SCALE: 1/4"=1'-0" ON 22"X34" OR 1/8"=1'-0" ON 11"X17"

SUMMIT
ENGINEERING LABORATORY TESTING
3070 HAMMOND BUSINESS PLACE, SUITE 171
RALEIGH, NC 27603
OFFICE: 919.380.9991
FAX: 919.380.9993
WWW.SUMMIT-COMPANIES.COM

NORTH CAROLINA CERTIFICATE OF LICENSURE
SUMMIT Engineering, Laboratory & Testing, P.C.
C-4361

CLIENT:
McKee Homes
109 Hay St, Suite 301
Fayetteville, NC 28301

PROJECT:
Biltmore II RH

Roof Framing Plan

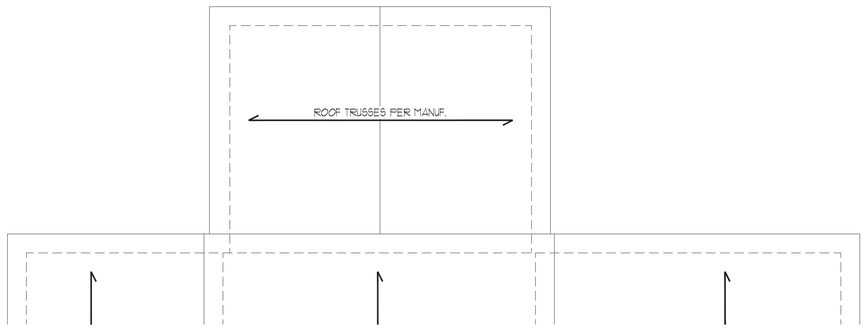
NORTH CAROLINA PROFESSIONAL SEAL 042823 ENGINEER WESLEY A. JONES
STRUCTURAL MEMBERS ONLY

DRAWING
DATE: 10/25/2019
SCALE: 22x34 1/4"=1'-0"
11x17 1/8"=1'-0"
PROJECT #: 20538R2
DRAWN BY: EMB
CHECKED BY: WAJ

ORIGINAL INFORMATION
PROJECT # DATE
18568 7/3/18

REFER TO COVER SHEET FOR A COMPLETE LIST OF REVISIONS

SHEET
S5.3



OPT. COVERED PORCH

STRUCTURAL MEMBERS ONLY

ENGINEERING SEAL APPLIES ONLY TO STRUCTURAL COMPONENTS ON THIS DOCUMENT, SEAL DOES NOT INCLUDE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES OR SAFETY PRECAUTIONS. ANY DEVIATIONS OR DISCREPANCIES ON PLANS ARE TO BE BROUGHT TO THE IMMEDIATE ATTENTION OF SUMMIT ENGINEERING, LABORATORY & TESTING, P.C. FAILURE TO DO SO WILL VOID SUMMIT LIABILITY.

STRUCTURAL ANALYSIS BASED ON 2018 NCRC.

ROOF FRAMING PLAN

SCALE: 1/4"=1'-0" ON 22"x34" OR 1/8"=1'-0" ON 11"x17"

SUMMIT
ENGINEERING LABORATORY TESTING
3070 HAMMOND BUSINESS
PLACE, SUITE 171
RALEIGH, NC 27603
OFFICE: 919.380.9991
FAX: 919.380.9993
WWW.SUMMIT-COMPANIES.COM

NORTH CAROLINA
SUMMIT
Engineering, Laboratory & Testing, P.C.
C-4361
CERTIFICATE OF LICENSURE

CLIENT:
McKee Homes
109 Hay St. Suite 301
Fayetteville, NC 28301

PROJECT:
Biltmore II RH

Roof Framing Plan

NORTH CAROLINA
PROFESSIONAL
SEAL
042823
ENGINEER
WESLEY A. JONES
STRUCTURAL MEMBERS ONLY

DRAWING
DATE: 10/25/2019
SCALE: 22x34 1/4"=1'-0"
8x11 1/8"=1'-0"
PROJECT #: 20-0388RG
DRAWN BY: EMB
CHECKED BY: WAJ

ORIGINAL INFORMATION
PROJECT # DATE
18588 1/3/18

REFER TO COVER SHEET FOR A COMPLETE LIST OF REVISIONS

SHEET
S5.4

REQUIRED BRACED WALL PANEL CONNECTIONS

METHOD	MATERIAL	MIN. THICKNESS	REQUIRED CONNECTION	
			@ PANEL EDGES	@ INTERMEDIATE SUPPORTS
CS-WSP	WOOD STRUCTURAL PANEL	3/8"	6d COMMON NAILS @ 6" O.C.	6d COMMON NAILS @ 12" O.C.
GB	GYPSUM BOARD	1/2"	5d COOLER NAILS** @ 7" O.C.	5d COOLER NAILS** @ 7" O.C.
WSP	WOOD STRUCTURAL PANEL	3/8"	6d COMMON NAILS @ 6" O.C.	6d COMMON NAILS @ 12" O.C.
PF	WOOD STRUCTURAL PANEL	7/16"	PER FIGURE R602.10.1	PER FIGURE R602.10.1

**OR EQUIVALENT PER TABLE R703.3.5

BRACED WALL NOTES:

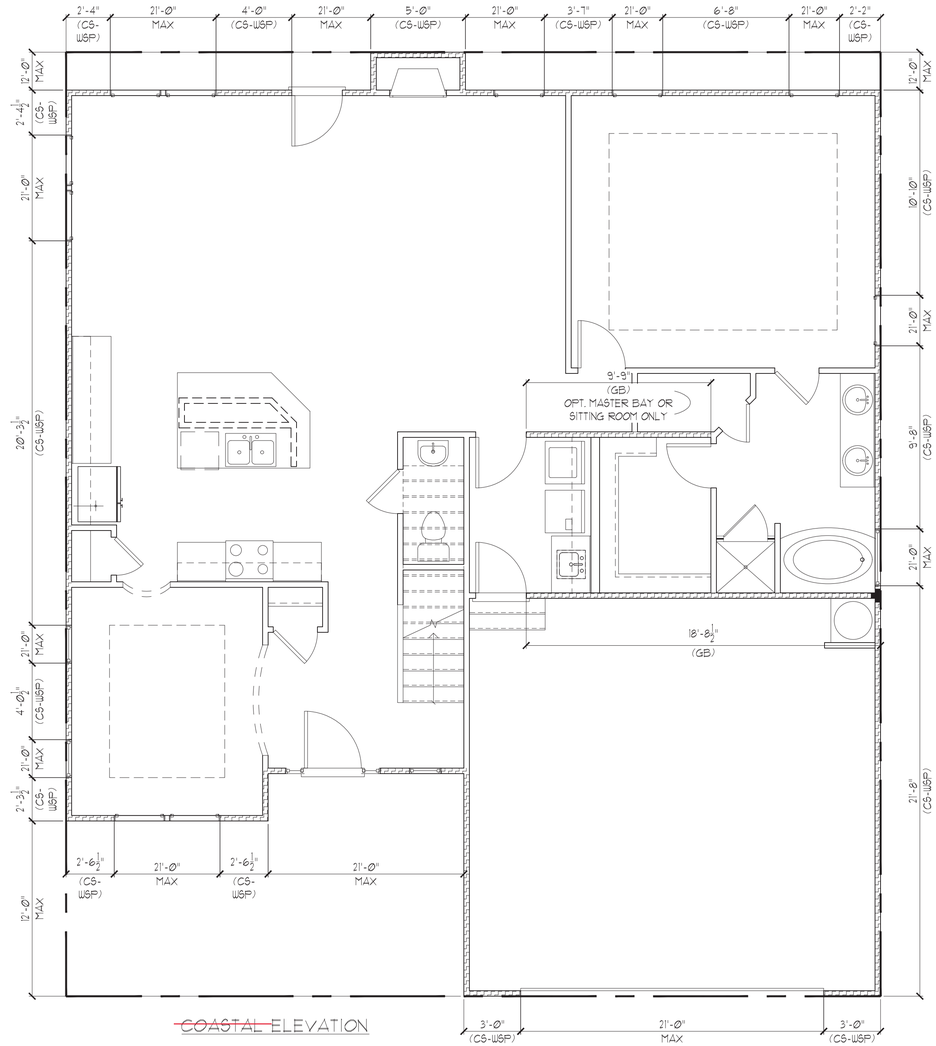
1. WALLS SHALL BE DESIGNED IN ACCORDANCE WITH SECTION R602.10 FROM THE 2018 INTERNATIONAL RESIDENTIAL CODE WITH ALL LOCAL AND STATE AMENDMENTS.
2. WALLS ARE DESIGNED FOR SEISMIC ZONES A-C AND ULTIMATE DESIGN WIND SPEEDS UP TO 130 MPH.
3. REFER TO ARCHITECTURAL PLAN FOR DOOR/WINDOW OPENING SIZES.
4. BRACING MATERIALS, METHODS AND FASTENERS SHALL BE IN ACCORDANCE WITH TABLE R602.10.1
5. ALL BRACED WALL PANELS SHALL BE FULL WALL HEIGHT AND SHALL NOT EXCEED 10 FEET FOR ISOLATED PANEL METHOD AND 12 FEET FOR CONTINUOUS SHEATHING METHOD WITHOUT ADDITIONAL ENGINEERING CALCULATIONS.
6. MINIMUM PANEL LENGTH SHALL BE PER TABLE R602.10.1.
7. THE INTERIOR SIDE OF EXTERIOR WALLS AND BOTH SIDES OF INTERIOR WALLS SHALL BE SHEATHED CONTINUOUSLY WITH MINIMUM 1/2" GYPSUM BOARD (UNO.)
8. FOR CONTINUOUS SHEATHING METHOD, EXTERIOR WALLS SHALL BE SHEATHED ON ALL SHEATHABLE SURFACES INCLUDING INFILL AREAS BETWEEN BRACED WALL PANELS, ABOVE AND BELOW WALL OPENINGS, AND ON GABLE END WALLS.
9. FLOORS SHALL NOT BE CANTILEVERED MORE THAN 24" BEYOND THE FOUNDATION OR BEARING WALL BELOW WITHOUT ADDITIONAL ENGINEERING CALCULATIONS.
10. A BRACED WALL PANEL SHALL BE LOCATED WITHIN 12 FEET OF EACH END OF A BRACED WALL LINE.
11. THE MAXIMUM EDGE DISTANCE BETWEEN BRACED WALL PANELS SHALL NOT EXCEED 21 FEET.
12. MASONRY OR CONCRETE STEM WALLS WITH A LENGTH OF 48" OR LESS SUPPORTING A BRACED WALL PANEL SHALL BE DESIGNED IN ACCORDANCE WITH FIGURE R602.10.4.3 OF THE 2018 IRC OR DETAIL 2/D2f.
13. BRACED WALL PANEL CONNECTIONS TO FLOOR/CEILING SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION R602.10.4.4
14. BRACED WALL PANEL CONNECTIONS TO ROOF SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION R602.10.4.5
15. CRIPPLE WALLS AND WALK OUT BASEMENT WALLS SHALL BE DESIGNED IN ACCORDANCE WITH SECTION R602.10.4.6
16. PORTAL WALLS SHALL BE DESIGNED IN ACCORDANCE WITH FIGURE R602.10.1 (UNO)
17. ON SCHEMATIC, SHADED WALLS INDICATE BRACED WALL PANELS.
18. ABBREVIATIONS:

GB = GYPSUM BOARD
CS-XXX = CONT. SHEATHED
PF = PORTAL FRAME
WSP = WOOD STRUCTURAL PANEL
ENG = ENGINEERED SOLUTION
PF-ENG = ENG. PORTAL FRAME

INSTALL HOLD-DOWNS FOR BRACED WALL END CONDITIONS PER SECTION R602.10.4 AND FIGURE R602.10.3(4) OF THE 2018 NCRC.

FIRST FLOOR BRACING (FT)

CONTINUOUS SHEATHING METHOD		
	REQUIRED	PROVIDED
FRONT	15.2	20.4
RIGHT	13.2	42.1
REAR	15.2	23.7
LEFT	13.2	28.9



COASTAL ELEVATION

Classic - See Next Page

Side Load Garage - See PG S7.2

THESE PLANS ARE DESIGNED IN ACCORDANCE WITH ARCHITECTURAL PLANS PROVIDED BY MCKEE HOMES COMPLETED/REVISED ON 6/20/18. IT IS THE RESPONSIBILITY OF THE CLIENT TO NOTIFY SUMMIT ENGINEERING, LABORATORY & TESTING, P.C. IF ANY CHANGES ARE MADE TO THE ARCHITECTURAL PLANS PRIOR TO CONSTRUCTION. SUMMIT ENGINEERING, LABORATORY & TESTING, P.C. CANNOT GUARANTEE THE ADEQUACY OF THESE STRUCTURAL PLANS WHEN USED WITH ARCHITECTURAL PLANS DATED DIFFERENTLY THAN THE DATE LISTED ABOVE.

STRUCTURAL MEMBERS ONLY

ENGINEERING SEAL APPLIES ONLY TO STRUCTURAL COMPONENTS ON THIS DOCUMENT. SEAL DOES NOT INCLUDE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES OR SAFETY PRECAUTIONS. ANY DEVIATIONS OR DISCREPANCIES ON PLANS ARE TO BE BROUGHT TO THE IMMEDIATE ATTENTION OF SUMMIT ENGINEERING, LABORATORY & TESTING, P.C. FAILURE TO DO SO WILL VOID SUMMIT ELT LIABILITY.

STRUCTURAL ANALYSIS BASED ON 2018 NCRC.

FIRST FLOOR BRACING PLAN

SCALE: 1/4"=1'-0" ON 22"X34" OR 1/8"=1'-0" ON 11"X17"

SUMMIT
ENGINEERING LABORATORY TESTING
3070 HAMMOND BUSINESS PLACE, SUITE 171
RALEIGH, NC 27603
OFFICE: 919.380.9991
FAX: 919.380.9993
WWW.SUMMIT-COMPANIES.COM

NORTH CAROLINA CERTIFICATE OF LICENSURE
SUMMIT Engineering, Laboratory & Testing, P.C.
C-4361

CLIENT:
McKee Homes
109 Hay St, Suite 301
Fayetteville, NC 28301

PROJECT:
Biltmore II RH
First Floor Bracing Plan

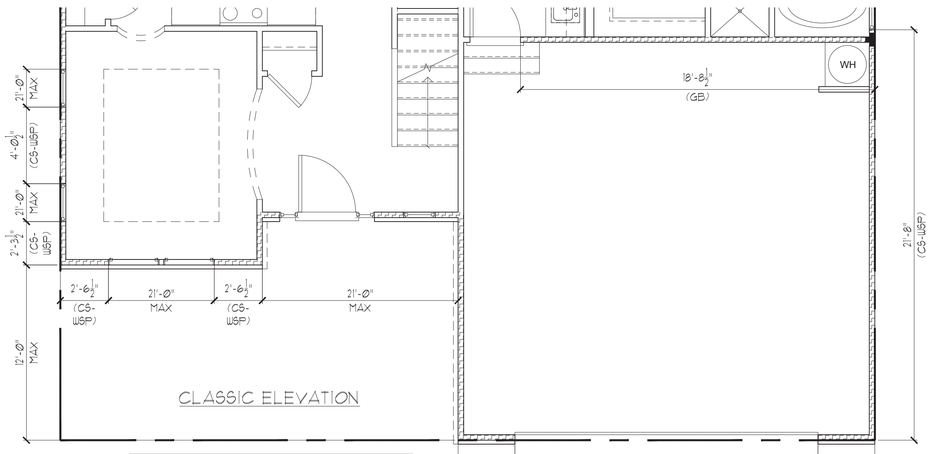
NORTH CAROLINA PROFESSIONAL SEAL 043823 ENGINEER WESLEY A. JONES
STRUCTURAL MEMBERS ONLY

DRAWING
DATE: 10/29/2019
SCALE: 22x34 1/4"=1'-0"
8x11 1/8"=1'-0"
PROJECT #: 20538R2
DRAWN BY: EMB
CHECKED BY: WAJ

ORIGINAL INFORMATION
PROJECT # DATE
18568 7/3/18

REFER TO COVER SHEET FOR A COMPLETE LIST OF REVISIONS

SHEET
S1.0



CLASSIC ELEVATION

FIRST FLOOR BRACING (FT)		
CONTINUOUS SHEATHING METHOD		
	REQUIRED	PROVIDED
FRONT	15.2	20.4
RIGHT	13.2	42.1
REAR	15.2	23.7
LEFT	13.2	28.9

STRUCTURAL MEMBERS ONLY

ENGINEERING SEAL APPLIES ONLY TO STRUCTURAL COMPONENTS ON THIS DOCUMENT, SEAL DOES NOT INCLUDE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES OR SAFETY PRECAUTIONS. ANY DEVIATIONS OR DISCREPANCIES ON PLANS ARE TO BE BROUGHT TO THE IMMEDIATE ATTENTION OF SUMMIT ENGINEERING, LABORATORY & TESTING, P.C. FAILURE TO DO SO WILL VOID SUMMIT ELT LIABILITY.

STRUCTURAL ANALYSIS BASED ON 2018 NCRC.

FIRST FLOOR BRACING PLAN

SCALE: 1/4"=1'-Ø" ON 22"X34" OR 1/8"=1'-Ø" ON 11"X17"

SUMMIT
ENGINEERING LABORATORY TESTING
3070 HAMMOND BUSINESS PLACE, SUITE 171
RALEIGH, NC 27603
OFFICE: 919.380.9991
FAX: 919.380.9993
WWW.SUMMIT-COMPANIES.COM

NORTH CAROLINA CERTIFICATE OF LICENSURE
SUMMIT Engineering, Laboratory & Testing, P.C.
C-4361

CLIENT:
McKee Homes
109 Hay St. Suite 301
Fayetteville, NC 28301

PROJECT:
Biltmore II RH

First Floor Bracing Plan

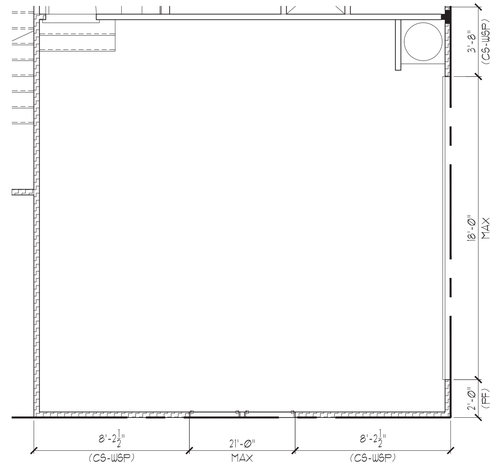
NORTH CAROLINA PROFESSIONAL SEAL 043823 ENGINEER WESLEY A. JONES
STRUCTURAL MEMBERS ONLY

DRAWING
DATE: 10/25/2019
SCALE: 22x34 1/4"=1'-Ø"
11x17 1/8"=1'-Ø"
PROJECT #: 2053882
DRAWN BY: EMB
CHECKED BY: WAJ

ORIGINAL INFORMATION
PROJECT # DATE
18588 7/3/18

REFER TO COVER SHEET FOR A COMPLETE LIST OF REVISIONS

SHEET
S7.1



OPT. SIDE LOAD GARAGE

FIRST FLOOR BRACING (FT)		
CONTINUOUS SHEATHING METHOD - SIDE LOAD GARAGE		
	REQUIRED	PROVIDED
FRONT	15.2	21.5
RIGHT	13.2	27.1
REAR	15.2	23.7
LEFT	13.2	28.9

STRUCTURAL MEMBERS ONLY

ENGINEERING SEAL APPLIES ONLY TO STRUCTURAL COMPONENTS ON THIS DOCUMENT, SEAL DOES NOT INCLUDE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES OR SAFETY PRECAUTIONS. ANY DEVIATIONS OR DISCREPANCIES ON PLANS ARE TO BE BROUGHT TO THE IMMEDIATE ATTENTION OF SUMMIT ENGINEERING, LABORATORY & TESTING, P.C. FAILURE TO DO SO WILL VOID SUMMIT ELT LIABILITY.

STRUCTURAL ANALYSIS BASED ON 2018 NCRC.

FIRST FLOOR BRACING PLAN

SCALE: 1/4"=1'-0" ON 22"x34" OR 1/8"=1'-0" ON 11"x17"

SUMMIT
ENGINEERING LABORATORY TESTING
3070 HAMMOND BUSINESS
PLACE, SUITE 171
RALEIGH, NC 27603
OFFICE: 919.380.9991
FAX: 919.380.9993
WWW.SUMMIT-COMPANIES.COM

NORTH CAROLINA CERTIFICATE OF LICENSURE
SUMMIT Engineering, Laboratory & Testing, P.C.
C-4361

CLIENT:
McKee Homes
109 Hay St. Suite 301
Fayetteville, NC 28301

PROJECT:
Biltmore II RH

First Floor Bracing Plan

NORTH CAROLINA PROFESSIONAL SEAL 043823 ENGINEER WESLEY A. JONES
STRUCTURAL MEMBERS ONLY

DRAWING
DATE: 10/23/2019
SCALE: 22x34 1/4"=1'-0"
8x11 1/8"=1'-0"
PROJECT #: 20138RG
DRAWN BY: EMB
CHECKED BY: WAJ

ORIGINAL INFORMATION
PROJECT # DATE
18588 1/3/18

REFER TO COVER SHEET FOR A COMPLETE LIST OF REVISIONS

SHEET
S1.2

REQUIRED BRACED WALL PANEL CONNECTIONS				
METHOD	MATERIAL	MIN. THICKNESS	REQUIRED CONNECTION	
			@ PANEL EDGES	@ INTERMEDIATE SUPPORTS
CS-WSP	WOOD STRUCTURAL PANEL	3/8"	6d COMMON NAILS @ 6" O.C.	6d COMMON NAILS @ 12" O.C.
GB	GYPSUM BOARD	1/2"	5d COOLER NAILS** @ 7" O.C.	5d COOLER NAILS** @ 7" O.C.
WSP	WOOD STRUCTURAL PANEL	3/8"	6d COMMON NAILS @ 6" O.C.	6d COMMON NAILS @ 12" O.C.
PF	WOOD STRUCTURAL PANEL	7/16"	PER FIGURE R602.10.1	PER FIGURE R602.10.1
**OR EQUIVALENT PER TABLE R702.3.5				

ENG-GB: PER THE DrJ ENGINEERING, LLC TECHNICAL EVALUATION REPORT (TER NO. 1004-03) OF THERMO-PLY GREEN STRUCTURAL SHEATHING SEALED BY RYAN JOSEPH DEXTER P.E. ON APRIL 17, 2018, IT WAS DETERMINED THAT THERMO-PLY GREEN STRUCTURAL SHEATHING MAY BE USED AS A SUBSTITUTE FOR GYPSUM BOARD FOR LATERAL BRACING. THE THERMO-PLY GREEN SHEATHING SHALL BE SECURED w/ 1" CROWN x 1-1/4" LEG STAPLES @ 3" O.C. FOR BOTH FIELD & EDGE MEMBERS. THE LATERAL BRACING HAS BEEN DESIGNED FOR THE REQUIRED ½" GYPSUM BOARD ON THE OPPOSITE SIDE OF THE WALL TO BE OMITTED @ AREAS WHERE THERMO-PLY GREEN STRUCTURAL SHEATHING IS USED.

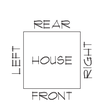
SECOND FLOOR BRACING (FT)		
CONTINUOUS SHEATHING METHOD		
	REQUIRED	PROVIDED
FRONT	5.1	12.3
RIGHT	5.8	10.1
REAR	5.1	12.9
LEFT	5.8	11.0

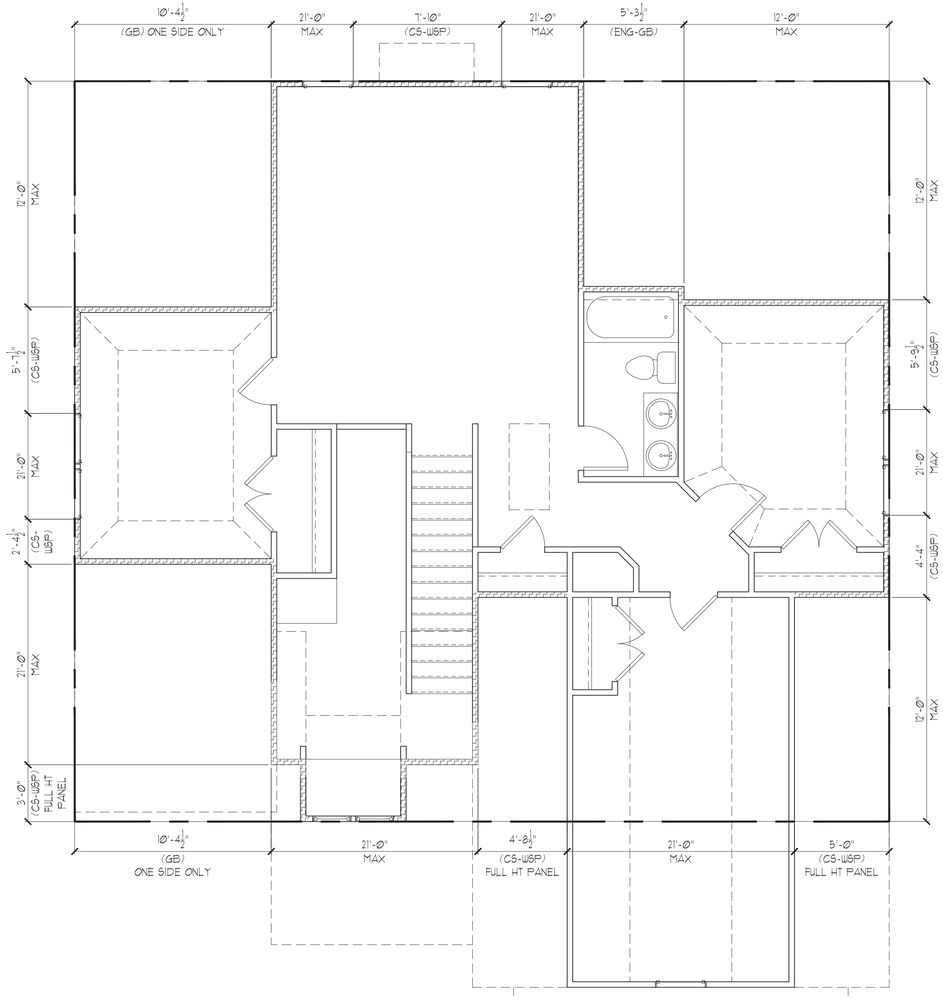
BRACED WALL NOTES:

1. WALLS SHALL BE DESIGNED IN ACCORDANCE WITH SECTION R602.10 FROM THE 2018 INTERNATIONAL RESIDENTIAL CODE WITH ALL LOCAL AND STATE AMENDMENTS.
2. WALLS ARE DESIGNED FOR SEISMIC ZONES A-C AND ULTIMATE DESIGN WIND SPEEDS UP TO 130 MPH.
3. REFER TO ARCHITECTURAL PLAN FOR DOOR/WINDOW OPENING SIZES.
4. BRACING MATERIALS, METHODS AND FASTENERS SHALL BE IN ACCORDANCE WITH TABLE R602.10.1
5. ALL BRACED WALL PANELS SHALL BE FULL WALL HEIGHT AND SHALL NOT EXCEED 10 FEET FOR ISOLATED PANEL METHOD AND 12 FEET FOR CONTINUOUS SHEATHING METHOD WITHOUT ADDITIONAL ENGINEERING CALCULATIONS.
6. MINIMUM PANEL LENGTH SHALL BE PER TABLE R602.10.1.
7. THE INTERIOR SIDE OF EXTERIOR WALLS AND BOTH SIDES OF INTERIOR WALLS SHALL BE SHEATHED CONTINUOUSLY WITH MINIMUM 1/2" GYPSUM BOARD (UNO.)
8. FOR CONTINUOUS SHEATHING METHOD, EXTERIOR WALLS SHALL BE SHEATHED ON ALL SHEATHABLE SURFACES INCLUDING INFILL AREAS BETWEEN BRACED WALL PANELS, ABOVE AND BELOW WALL OPENINGS, AND ON GABLE END WALLS.
9. FLOORS SHALL NOT BE CANTILEVERED MORE THAN 24" BEYOND THE FOUNDATION OR BEARING WALL BELOW WITHOUT ADDITIONAL ENGINEERING CALCULATIONS.
10. A BRACED WALL PANEL SHALL BE LOCATED WITHIN 12 FEET OF EACH END OF A BRACED WALL LINE.
11. THE MAXIMUM EDGE DISTANCE BETWEEN BRACED WALL PANELS SHALL NOT EXCEED 21 FEET.
12. MASONRY OR CONCRETE STEM WALLS WITH A LENGTH OF 48" OR LESS SUPPORTING A BRACED WALL PANEL SHALL BE DESIGNED IN ACCORDANCE WITH FIGURE R602.10.4.3 OF THE 2018 IRC OR DETAIL 2/D2f.
13. BRACED WALL PANEL CONNECTIONS TO FLOOR/CEILING SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION R602.10.4.4
14. BRACED WALL PANEL CONNECTIONS TO ROOF SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION R602.10.4.5
15. CRIPPLE WALLS AND WALK OUT BASEMENT WALLS SHALL BE DESIGNED IN ACCORDANCE WITH SECTION R602.10.4.6
16. PORTAL WALLS SHALL BE DESIGNED IN ACCORDANCE WITH FIGURE R602.10.1 (UNO.)
17. ON SCHEMATIC, SHADED WALLS INDICATE BRACED WALL PANELS.
18. ABBREVIATIONS:

GB = GYPSUM BOARD
CS-XXX = CONT. SHEATHED
PF = PORTAL FRAME
WSP = WOOD STRUCTURAL PANEL
ENG = ENGINEERED SOLUTION
PF-ENG = ENG. PORTAL FRAME

INSTALL HOLD-DOWNS FOR BRACED WALL END CONDITIONS PER SECTION R602.10.4 AND FIGURE R602.10.3(4) OF THE 2018 NCRC.





~~COASTAL~~ ELEVATION

Classic - See Next Page

THESE PLANS ARE DESIGNED IN ACCORDANCE WITH ARCHITECTURAL PLANS PROVIDED BY MCKEE HOMES COMPLETED/REVISED ON 6/20/18. IT IS THE RESPONSIBILITY OF THE CLIENT TO NOTIFY SUMMIT ENGINEERING, LABORATORY & TESTING, P.C. IF ANY CHANGES ARE MADE TO THE ARCHITECTURAL PLANS PRIOR TO CONSTRUCTION. SUMMIT ENGINEERING, LABORATORY & TESTING, P.C. CANNOT GUARANTEE THE ADEQUACY OF THESE STRUCTURAL PLANS WHEN USED WITH ARCHITECTURAL PLANS DATED DIFFERENTLY THAN THE DATE LISTED ABOVE.

STRUCTURAL MEMBERS ONLY

ENGINEERING SEAL APPLIES ONLY TO STRUCTURAL COMPONENTS ON THIS DOCUMENT. SEAL DOES NOT INCLUDE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES OR SAFETY PRECAUTIONS. ANY DEVIATIONS OR DISCREPANCIES ON PLANS ARE TO BE BROUGHT TO THE IMMEDIATE ATTENTION OF SUMMIT ENGINEERING, LABORATORY & TESTING, P.C. FAILURE TO DO SO WILL VOID SUMMIT ELT LIABILITY.

STRUCTURAL ANALYSIS BASED ON 2018 NCRC.

SECOND FLOOR BRACING PLAN

SCALE: 1/4"=1'-0" ON 22"x34" OR 1/8"=1'-0" ON 11"x17"

SUMMIT
ENGINEERING LABORATORY TESTING
3070 HAMMOND BUSINESS PLACE, SUITE 171
RALEIGH, NC 27603
OFFICE: 919.380.9991
FAX: 919.380.9993
WWW.SUMMIT-COMPANIES.COM

NORTH CAROLINA CERTIFICATE OF LICENSURE
SUMMIT Engineering, Laboratory & Testing, P.C.
C-4361

CLIENT:
McKee Homes
109 Hay St. Suite 301
Fayetteville, NC 28301

PROJECT:
Biltmore II RH

Second Floor Bracing Plan

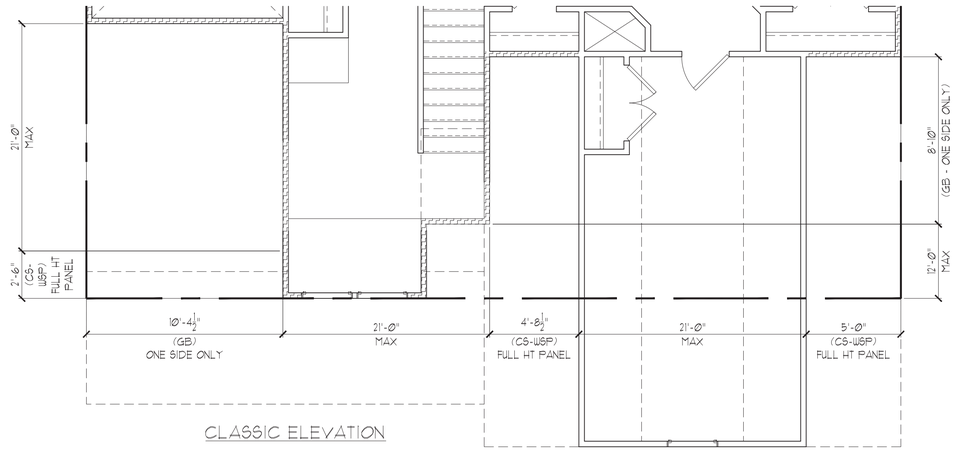
NORTH CAROLINA PROFESSIONAL SEAL 042823 ENGINEER WESLEY A. JONES
STRUCTURAL MEMBERS ONLY

DRAWING
DATE: 10/23/2019
SCALE: 22x34 1/4"=1'-0"
8x11 1/8"=1'-0"
PROJECT #: 20183682
DRAWN BY: EMB
CHECKED BY: WAJ

ORIGINAL INFORMATION
PROJECT # 18568 DATE 7/3/18

REFER TO COVER SHEET FOR A COMPLETE LIST OF REVISIONS

SHEET
S8.0



CLASSIC ELEVATION

SECOND FLOOR BRACING (FT.)		
CONTINUOUS SHEATHING METHOD		
	REQUIRED	PROVIDED
FRONT	5.1	12.3
RIGHT	5.8	12.3
REAR	5.1	12.9
LEFT	5.8	10.5

STRUCTURAL MEMBERS ONLY

ENGINEERING SEAL APPLIES ONLY TO STRUCTURAL COMPONENTS ON THIS DOCUMENT, SEAL DOES NOT INCLUDE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES OR SAFETY PRECAUTIONS. ANY DEVIATIONS OR DISCREPANCIES ON PLANS ARE TO BE BROUGHT TO THE IMMEDIATE ATTENTION OF SUMMIT ENGINEERING, LABORATORY & TESTING, P.C. FAILURE TO DO SO WILL VOID SUMMIT ELT LIABILITY.

STRUCTURAL ANALYSIS BASED ON 2018 NCRC.

SECOND FLOOR BRACING PLAN

SCALE: 1/4"=1'-0" ON 22"x34" OR 1/8"=1'-0" ON 11"x17"

SUMMIT
ENGINEERING LABORATORY TESTING
3070 HAMMOND BUSINESS PLACE, SUITE 171
RALEIGH, NC 27603
OFFICE: 919.380.9991
FAX: 919.380.9993
WWW.SUMMIT-COMPANIES.COM

NORTH CAROLINA CERTIFICATE OF LICENSURE
SUMMIT Engineering, Laboratory & Testing, P.C.
C-4361

CLIENT:
McKee Homes
109 Hay St. Suite 301
Fayetteville, NC 28301

PROJECT:
Biltmore II RH

Second Floor Bracing Plan

NORTH CAROLINA PROFESSIONAL SEAL 043823 ENGINEER WESLEY A. JONES
STRUCTURAL MEMBERS ONLY

DRAWING
DATE: 10/25/2019
SCALE: 22x34 1/4"=1'-0"
11x17 1/8"=1'-0"
PROJECT #: 20538R2
DRAWN BY: EMB
CHECKED BY: WAJ

ORIGINAL INFORMATION
PROJECT # DATE
18588 7/3/18

REFER TO COVER SHEET FOR A COMPLETE LIST OF REVISIONS

SHEET
S8.1

DESIGN SPECIFICATIONS:

Construction Type: Commerical ☐ Residential ☒

Applicable Building Codes:
- 2018 North Carolina Residential Building Code with All Local Amendments
- ASCE 7-10: Minimum Design Loads for Buildings and Other Structures

Design Loads:

1. Roof Live Loads
   - 1.1. Conventional 2x ____ 20 PSF
   - 1.2. Truss ____ 20 PSF
     - 1.2.1. Attic Truss ____ 60 PSF
2. Roof Dead Loads
   - 2.1. Conventional 2x ____ 10 PSF
   - 2.2. Truss ____ 20 PSF
3. Snow ____ 15 PSF
   - 3.1. Importance Factor ____ 1.0
4. Floor Live Loads
   - 4.1. Typ. Dwelling ____ 40 PSF
   - 4.2. Sleeping Areas ____ 30 PSF
   - 4.3. Decks ____ 40 PSF
   - 4.4. Passenger Garage ____ 50 PSF
5. Floor Dead Loads
   - 5.1. Conventional 2x ____ 10 PSF
   - 5.2. I-Joist ____ 15 PSF
   - 5.3. Floor Truss ____ 15 PSF
6. Ultimate Design Wind Speed (3 sec. gust) ____ 130 MPH
   - 6.1. Exposure ____ B
   - 6.2. Importance Factor ____ 1.0
   - 6.3. Wind Base Shear
     - 6.3.1. Vx =
     - 6.3.2. Vy =
7. Component and Cladding (in PSF)

MEAN ROOF HT.	UP TO 30'	30'1"-35'	35'1"-40'	40'1"-45'
ZONE 1	16.7,-18.0	17.5,-18.9	18.2,-19.6	18.7,-20.2
ZONE 2	16.7,-21.0	17.5,-22.1	18.2,-22.9	18.7,-23.5
ZONE 3	16.7,-21.0	17.5,-22.1	18.2,-22.9	18.7,-23.5
ZONE 4	18.2,-19.0	19.2,-20.0	19.9,-20.7	20.4,-21.3
ZONE 5	18.2,-24.0	19.2,-25.2	19.9,-26.1	20.4,-26.9

8. Seismic
   - 8.1. Site Class ____ D
   - 8.2. Design Category ____ C
   - 8.3. Importance Factor ____ 1.0
   - 8.4. Seismic Use Group ____ I
   - 8.5. Spectral Response Acceleration
     - 8.5.1. Sms = %g
     - 8.5.2. Sm1 = %g
   - 8.6. Seismic Base Shear
     - 8.6.1. Vx =
     - 8.6.2. Vy =
   - 8.7. Basic Structural System (check one)
     - ☒ Bearing Wall
     - ☐ Building Frame
     - ☐ Moment Frame
     - ☐ Dual w/ Special Moment Frame
     - ☐ Dual w/ Intermediate R/C or Special Steel
     - ☐ Inverted Pendulum
   - 8.8. Arch/Mech Components Anchored ____ No
   - 8.9. Lateral Design Control: Seismic ☐ Wind ☒
9. Assumed Soil Bearing Capacity ____ 2000psf

SUMMIT
ENGINEERING LABORATORY TESTING

STRUCTURAL PLANS PREPARED FOR:

Standard Details

PROJECT ADDRESS:
TBD

OWNER:
McKee Homes
109 Hay St., Suite 301
Fayetteville, NC 28301

DESIGNER:

These drawings are to be coordinated with the architectural, mechanical, plumbing, electrical, and civil drawings. This coordination is not the responsibility of the structural engineering of record (SER). Should any discrepancies become apparent, the contractor shall notify SUMMIT Engineering, Laboratory & Testing, P.C. before construction begins.

PLAN ABBREVIATIONS:

AB	ANCHOR BOLT	PT	PRESSURE TREATED
AFF	ABOVE FINISHED FLOOR	RS	ROOF SUPPORT
CJ	CEILING JOIST	SC	STUD COLUMN
CLR	CLEAR	SJ	SINGLE JOIST
DJ	DOUBLE JOIST	SPF	SPRUCE PINE FIR
DSP	DOUBLE STUD POCKET	SST	SIMPSON STRONG-TIE
EE	EACH END	SYP	SOUTHERN YELLOW PINE
EW	EACH WAY	TJ	TRIPLE JOIST
NTS	NOT TO SCALE	TSP	TRIPLE STUD POCKET
OC	ON CENTER	TYP	TYPICAL
PSF	POUNDS PER SQUARE FOOT	UNO	UNLESS NOTED OTHERWISE
PSI	POUNDS PER SQUARE INCH	WWF	WELDED WIRE FABRIC

Roof truss and floor joist layouts, and their corresponding loading details, were not provided to SUMMIT Engineering, Laboratory & Testing, P.C. (SUMMIT) prior to the initial design. Therefore, truss and joist directions were assumed based on the information provided by MERITAGE HOMES. Subsequent plan revisions based on roof truss and floor joist layouts shall be noted in the revision list, indicating the date the layouts were provided. Should any discrepancies become apparent, the contractor shall notify SUMMIT immediately.

SHEET LIST:

REVISION LIST:

Revision No.	Date	Project No.	Description
1	01.19	-	Updated to 2018 NCRC

GENERAL STRUCTURAL NOTES:
1. The design professional whose seal appears on these drawings is the structural engineer of record (SER) for this project. The SER bears the responsibility of the primary structural elements and the performance of this structure. No other party may revise, alter, or delete any structural aspects of these construction documents without written permission of SUMMIT Engineering, Laboratory & Testing, P.C. (SUMMIT) or the SER. For the purposes of these construction documents the SER and SUMMIT shall be considered the same entity.
2. The structure is only stable in its completed form. The contractor shall provide all required temporary bracing during construction to stabilize the structure.
3. The SER is not responsible for construction sequences, methods, or techniques in connection with the construction of this structure. The SER will not be held responsible for the contractor's failure to conform to the contract documents, should any non-conformities occur.
4. Any structural elements or details not fully developed on the construction drawings shall be completed under the direction of a licensed professional engineer. These shop drawings shall be submitted to SUMMIT for review before any construction begins. The shop drawings will be reviewed for overall compliance as it relates to the structural design of this project. Verification of the shop drawings for dimensions, or for actual field conditions, is not the responsibility of the SER or SUMMIT.
5. Verification of assumed field conditions is not the responsibility of the SER. The contractor shall verify the field conditions for accuracy and report any discrepancies to SUMMIT before construction begins.
6. The SER is not responsible for any secondary structural elements or non-structural elements, except for the elements specifically noted on the structural drawings.
7. This structure and all construction shall conform to all applicable sections of the international residential code.
8. This structure and all construction shall conform to all applicable sections of local building codes.
9. All structural assemblies are to meet or exceed to requirements of the current local building code.

FOUNDATIONS:
1. The structural engineer has not performed a subsurface investigation. Verification of this assumed value is the responsibility of the owner or the contractor. Should any adverse soil condition be encountered the SER must be contacted before proceeding.
2. The bottom of all footings shall extend below the frost line for the region in which the structure is to be constructed. However, the bottom of all footings shall be a minimum of 12" below grade.
3. Any fill shall be placed under the direction or recommendation of a licensed professional engineer.
4. The resulting soil shall be compacted to a minimum of 95% maximum dry density.
5. Excavations of footings shall be lined temporarily with a 6 mil polyethylene membrane if placement of concrete does not occur within 24 hours of excavation.
6. No concrete shall be placed against any subgrade containing water, ice, frost, or loose material.

STRUCTURAL STEEL:
1. Structural steel shall be fabricated and erected in accordance with the American Institute of Steel Construction "Code of Standard Practice for Steel Buildings and Bridges" and the manual of Steel Construction "Load Resistance Factor Design" latest editions.
2. Structural steel shall receive one coat of shop applied rust-inhibitive paint.
3. All steel shall have a minimum yield stress (F_y) of 36 ksi unless otherwise noted.
4. Welding shall conform to the latest edition of the American Welding Society's Structural Welding Code AWS D1.1. Electrodes for shop and field welding shall be class E70XX. All welding shall be performed by a certified welder per the above standards.

CONCRETE:
1. Concrete shall have a normal weight aggregate and a minimum compressive strength (f'_c) at 28 days of 3000 psi, unless otherwise noted on the plan.
2. Concrete shall be proportioned, mixed, and placed in accordance with the latest editions of ACI 318: "Building Code Requirements for Reinforced Concrete" and ACI 301: "Specifications for Structural Concrete for Buildings".
3. Air entrained concrete must be used for all structural elements exposed to freeze/thaw cycles and deicing chemicals. Air entrainment amounts (in percent) shall be within -1% to +2% of target values as follows:
   - 3.1. Footings: 5%
   - 3.2. Exterior Slabs: 5%
4. No admixtures shall be added to any structural concrete without written permission of the SER.
5. Concrete slabs-on-grade shall be constructed in accordance with ACI 302.1R-96: "Guide for Concrete Slab and Slab Construction".
6. The concrete slab-on-grade has been designed using a subgrade modulus of k=250 pci and a design loading of 200 psf. The SER is not responsible for differential settlement, slab cracking or other future defects resulting from unreported conditions not in accordance with the above assumptions.
7. Control or saw cut joints shall be spaced in interior slabs-on-grade at a maximum of 15'-0" O.C. and in exterior slabs-on-grade at a maximum of 10'-0" unless otherwise noted.
8. Control or saw cut joints shall be produced using conventional process within 4 to 12 hours after the slab has been finished
9. Reinforcing steel may not extend through a control joint. Reinforcing steel may extend through a saw cut joint.
10. All welded wire fabric (WWF.) for concrete slabs-on-grade shall be placed at mid-depth of slab. The WWF. shall be securely supported during the concrete pour.

CONCRETE REINFORCEMENT:
1. Fibrous concrete reinforcement, or fibermesh, specified in concrete slabs-on-grade may be used for control of cracking due to shrinkage and thermal expansion/contraction, lowered water migration, an increase in impact capacity, increased abrasion resistance, and residual strength.
2. Fibermesh reinforcing to be 100% virgin polypropylene fibers containing no reprocessed olefin materials and specifically manufactured for use as concrete secondary reinforcement.
3. Application of fibermesh per cubic yard of concrete shall equal a minimum of 0.1% by volume (1.5 pounds per cubic yard)
4. Fibermesh shall comply with ASTM C116, any local building code requirements, and shall meet or exceed the current industry standard.
5. Steel reinforcing bars shall be new billet steel conforming to ASTM A615, grade 60.
6. Detailing, fabrication, and placement of reinforcing steel shall be in accordance with the latest edition of ACI 315: "Manual of Standard Practice for Detailing Concrete Structures"
7. Horizontal footing and wall reinforcement shall be continuous and shall have 90° bends, or corner bars with the same size/spacing as the horizontal reinforcement with a class B tension splice.
8. Lap reinforcement as required, a minimum of 40 bar diameters for tension or compression unless otherwise noted. Splices in masonry shall be a minimum of 48 bar diameters.
9. Where reinforcing dowels are required , they shall be equivalent in size and spacing to the vertical reinforcement. The dowel shall extend 48 bar diameters vertically and 20 bar diameters into the footing.
10. Where reinforcing steel is required vertically, dowels shall be provided unless otherwise noted.

WOOD FRAMING:
1. Solid sawn wood framing members shall conform to the specifications listed in the latest edition of the "National Design Specification for Wood Construction" (NDS). Unless otherwise noted, all wood framing members are designed to be Southern-Yellow-Pine (SYP) #2.
2. LVL or PSL engineered wood shall have the following minimum design values:
   - 2.1. E = 1900,000 psi
   - 2.2. Fb = 2600 psi
   - 2.3. Fv = 285 psi
   - 2.4. Fc = 700 psi
3. Wood in contact with concrete, masonry, or earth shall be pressure treated in accordance with AWPA standard C-15. All other moisture exposed wood shall be treated in accordance with AWPA standard C-2
4. Nails shall be common wire nails unless otherwise noted.
5. Lag screws shall conform to ANSI/ASME standard B18.2.1-1981. Lead holes for lag screws shall be in accordance with NDS specifications.
6. All beams shall have full bearing on supporting framing members unless otherwise noted.
7. Exterior and load bearing stud walls are to be 2x4 SYP #2 @ 16" O.C. unless otherwise noted. Studs shall be continuous from the sole plate to the double top plate. Studs shall only be discontinuous at headers for window/door openings. A minimum of one king stud shall be placed at each end of the header. King studs shall be continuous.
8. Individual studs forming a column shall be attached with one 10d nail @ 6" O.C. staggered. The stud column shall be continuous to the foundation or beam. The column shall be properly blocked at all floor levels to ensure proper load transfer.
9. Multi-ply beams shall have each ply attached with (3) 10d nails @ 24" O.C.
10. Four and five ply beams shall be bolted together with (2) rows of 1/2" diameter through bolts staggered @ 16" O.C. unless noted otherwise.

WOOD TRUSSES:
1. The wood truss manufacturer/fabricator is responsible for the design of the wood trusses. Submit sealed shop drawings and supporting calculations to the SER for review prior to fabrication. The SER shall have a minimum of five (5) days for review. The review by the SER shall review for overall compliance with the design documents. The SER shall assume no responsibility for the correctness for the structural design for the wood trusses.
2. The wood trusses shall be designed for all required loadings as specified in the local building code, the ASCE Standard "Minimum Design Loads for Buildings and Other Structures," (ASCE 7-10), and the loading requirements shown on these specifications. The truss drawings shall be coordinated with all other construction documents and provisions provided for loads shown on these drawings including but not limited to HVAC equipment, piping, and architectural fixtures attached to the trusses.
3. The trusses shall be designed, fabricated, and erected in accordance with the latest edition of the "National Design Specification for Wood Construction," (NDS) and "Design Specification for Metal Plate Connected Wood Trusses."
4. The truss manufacturer shall provide adequate bracing information in accordance with "Commentary and Recommendations for Handling, Installing, and Bracing Metal Plate Connected Wood Trusses" (HIB-91). This bracing, both temporary and permanent, shall be shown on the shop drawings. Also, the shop drawings shall show the required attachments for the trusses.
5. Any chords or truss webs shown on these drawings have been shown as a reference only. The final design of the trusses shall be per the manufacturer.

EXTERIOR WOOD FRAMED DECKS:
1. Decks are to be framed in accordance with local building codes and as referenced on the structural plans, either through code references or construction details.

WOOD STRUCTURAL PANELS:
1. Fabrication and placement of structural wood sheathing shall be in accordance with the APA Design/Construction Guide "Residential and Commercial," and all other applicable APA standards.
2. All structurally required wood sheathing shall bear the mark of the APA.
3. Wood wall sheathing shall comply with the requirements of local building codes for the appropriate state as indicated on these drawings. Refer to wall bracing notes in plan set for more information. Sheathing shall be applied with the long direction perpendicular to framing, unless noted otherwise.
4. Roof sheathing shall be APA rated sheathing exposure 1 or 2. Roof sheathing shall be continuous over two supports and attached to its supporting roof framing with (1)-8d CC nail at 6"o/c at panel edges and at 12"o/c in panel field unless otherwise noted on the plans. Sheathing shall be applied with the long direction perpendicular to framing. Sheathing shall have a span rating consistent with the framing spacing. Use suitable edge support by use of plywood clips or lumber blocking unless otherwise noted. Panel end joints shall occur over framing. Apply building paper over the sheathing as required by the state Building Code.
5. Wood floor sheathing shall be APA rated sheathing exposure 1 or 2. Attach sheathing to its supporting framing with (1)-8d CC ringshank nail at 6"o/c at panel edges and at 12"o/c in panel field unless otherwise noted on the plans. Sheathing shall be applied perpendicular to framing. Sheathing shall have a span rating consistent with the framing spacing. Use suitable edge support by use of T&G plywood or lumber blocking unless otherwise noted. Panel end joints shall occur over framing. Apply building paper over the sheathing as required by the state Building Code.
6. Sheathing shall have a 1/8" gap at panel ends and edges as recommended in accordance with the APA.

STRUCTURAL FIBERBOARD PANELS:
1. Fabrication and placement of structural fiberboard sheathing shall be in accordance with the applicable APA standards.
2. All structurally required fiberboard sheathing shall bear the mark of the APA.
3. Fiberboard wall sheathing shall comply with the requirements of local building codes for the appropriate state as indicated on these drawings. Refer to wall bracing notes in plan set for more information.
4. Sheathing shall have a 1/8" gap at panel ends and edges are recommended in accordance with the APA.

SUMMIT
ENGINEERING LABORATORY TESTING
3070 HAMMOND BUSINESS PLACE; SUITE 171
RALEIGH, NC 27603
OFFICE: 919.380.9991
FAX: 919.380.9993
WWW.SUMMIT-COMPANIES.COM

NORTH CAROLINA CERTIFICATE OF LICENSURE
SUMMIT Engineering, Laboratory & Testing, P.C.
C-4361

CLIENT:
McKee Homes LLC
109 Hay Street, Suite 301
Fayetteville, NC 28301

PROJECT:
Standard Details
Coversheet

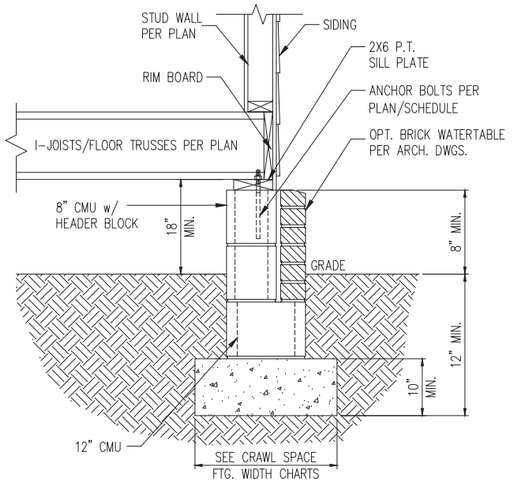
NORTH CAROLINA PROFESSIONAL SEAL 043823 ENGINEER WESLEY A. JONES 1/11/19
STRUCTURAL MEMBERS ONLY

DRAWING
DATE: 01/11/2019
SCALE: 12x34 1/4"=1'-0"
1x11 1/8"=1'-0"
PROJECT #: 42483000
DRAWN BY: EMB
CHECKED BY: WAJ

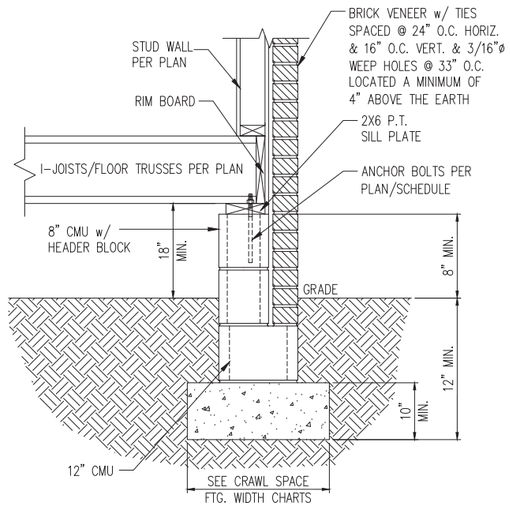
ORIGINAL INFORMATION
PROJECT # DATE

REFER TO COVER SHEET FOR A COMPLETE LIST OF REVISIONS

SHEET
CS1



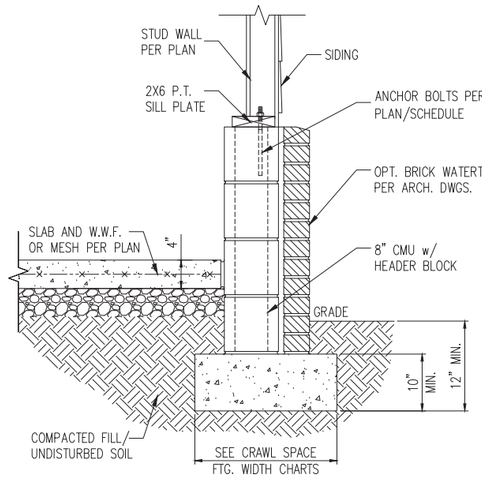
STANDARD – SIDING



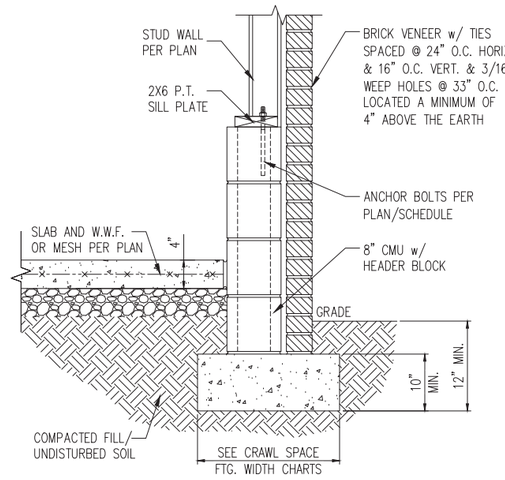
STANDARD – BRICK

1 D1c TYP. FOUNDATION WALL DETAIL

N.T.S.



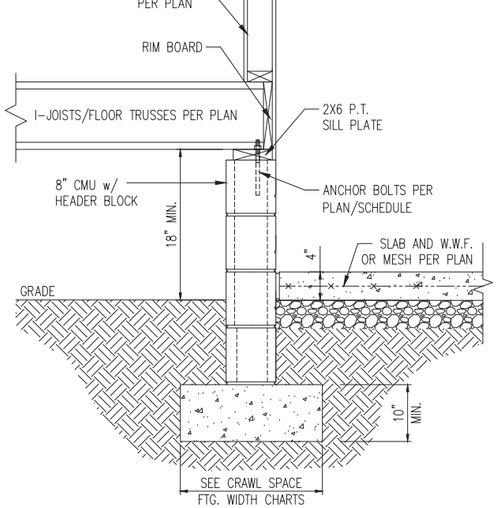
STANDARD – SIDING



STANDARD – BRICK

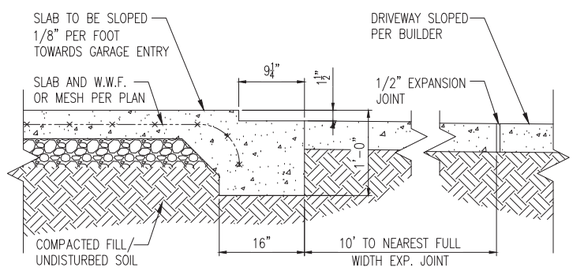
2 D1c TYP. GARAGE CURB DETAIL

N.T.S.



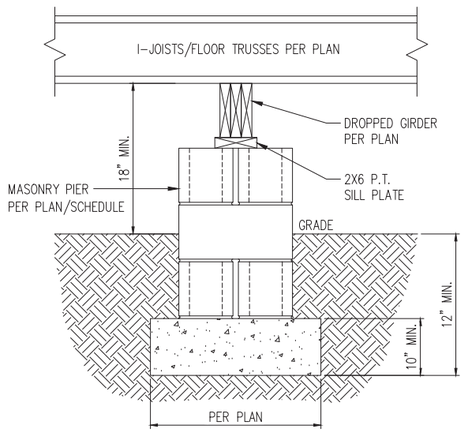
3 D1c HOUSE/GARAGE WALL DETAIL

N.T.S.



4 D1c SLAB AT GARAGE DOOR

N.T.S.



5 D1c TYP. PIER & GIRDER DETAIL

N.T.S.

PIER SIZE AND HEIGHT SCHEDULE

SIZE	HOLLOW	SOLID
8"X16"	UP TO 32" HEIGHT	UP TO 5'-0" HEIGHT
12"X16"	UP TO 48" HEIGHT	UP TO 9'-0" HEIGHT
16"X16"	UP TO 64" HEIGHT	UP TO 12'-0" HEIGHT*
24"X24"	UP TO 96" HEIGHT	UP TO 12'-0" HEIGHT*
*(4) #4 CONT. REBAR w/ #3 STIRRUPS @ 16" O.C. AND 24" MIN. LAP JOINTS		

CRAWL SPACE FOOTING WIDTH

# OF STORIES	WIDTH BASED ON SOIL BEARING CAPACITY		
	1500 PSF	2000 PSF	2500 PSF
1 STORY – STD.	16"	16"	16"
1 STORY – BRICK VENEER	21"*	21"*	21"*
2 STORY – STD.	16"	16"	16"
2 STORY – BRICK VENEER	21"*	21"*	21"*
3 STORY – STD.	23"	18"	18"
3 STORY – BRICK VENEER	32"*	24"*	24"*
*5" BRICK LEDGE HAS BEEN ADDED TO THE CRAWL SPACE FOOTING WIDTH FOR BRICK SUPPORT			

WALL ANCHOR SCHEDULE

TYPE OF ANCHOR	MIN. CONC. EMBEDMENT	SPACING EMBEDMENT	INTERIOR WALL	EXTERIOR WALL
1/2"ø A307 BOLTS w/ STD. 90° BEND	7"	6'-0"	YES	YES
SST – MAS	4"	5'-0"	NO	YES
HILTI KWIK BOLT KBI 1/2-2-3/4	2-1/4"	6'-0"	YES	NO
1/2"ø HILTI THREADED ROD w/ HIT HY150 ADHESIVE	7"	6'-0"	YES	YES

NOTE: INSTALL ALL ANCHORS 12" MAX. FROM ALL BOTTOM PLATE ENDS AND JOINTS.

NOTES:
1. REFER TO GENERAL NOTES & SPECIFICATIONS ON COVERSHEET FOR ADDITIONAL INFORMATION.
2. PROVIDE 6 MIL VAPOR BARRIER UNDER ALL SLABS-ON-GRADE.
3. SEE ARCH. DWGS. FOR ALL TOP OF THE SLAB ELEVATIONS, SLOPES AND DEPRESSIONS.
4. REFER TO STRUCTURAL PLANS AND FRAMING DETAILS FOR BRACED WALL PANEL LAYOUT, DIMENSIONS, ATTACHMENT AND CONNECTIONS
5. REFER TO LOCAL AND STATEWIDE CODES FOR ADDITIONAL AMENDMENTS AND REQUIREMENTS NOT SHOWN
6. PERIMETER INSULATION SHOWN AS REQUIRED BY LOCAL CLIMATE ZONE. INSTALL PER TABLE N1102.2.10 OF THE 2018 NCRC

SUMMIT
ENGINEERING LABORATORY TESTING
3070 HAMMOND BUSINESS PLACE; SUITE 171
RALEIGH, NC 27603
OFFICE: 919.380.9991
FAX: 919.380.9993
WWW.SUMMIT-COMPANIES.COM

NORTH CAROLINA CERTIFICATE OF LICENSURE
SUMMIT Engineering, Laboratory & Testing, P.C.
C-4361

CLIENT:
McKee Homes LLC
109 Hay Street, Suite 301
Fayetteville, NC 28301

PROJECT:
Standard Details

Crawl Space Foundation Details

NORTH CAROLINA PROFESSIONAL SEAL 043623 ENGINEER WESLEY A. JONES
STRUCTURAL MEMBERS ONLY

DRAWING
DATE: 09/11/2019
SCALE: 22x34 1/4"=1'-0" 8x11 1/8"=1'-0"
PROJECT #: 4240300
DRAWN BY: EMB
CHECKED BY: WAJ

ORIGINAL INFORMATION
PROJECT # DATE

REFER TO COVER SHEET FOR A COMPLETE LIST OF REVISIONS

SHEET
D1c