Residence for

Garman Homes Lot 0259 Serenity Fuquay Varina, North Carolina

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- CONSTRUCTION DETAILS

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ROOF FRAMING PLAN STRUCTURAL DETAILS STRUCTURAL DETAILS

S4 SD1 SD2 SD3 STRUCTURAL DETAILS

CONSTRUCTION SPECIFICATIONS

GENERAL NOTES

- 1. ALL WORK TO BE DONE IN STRICT ACCORDANCE WITH NORTH CAROLINA STATE RESIDENTIAL BUILDING CODE, 2018 EDITION (HEREWITH SHOWN AS N.C.S.R.B.C.)
- 2. DIMENSIONS SHOWN ON DRAWINGS GOVERN OVER SCALE.
- 3. STUD WALL DESIGN SHALL CONFORM TO ALL N.C.S.R.B.C.
- 4. CONTRACTOR SHALL USE TEMPERED SAFETY GLASS IN ALL LOCATIONS AS REQUIRED BY N.C.S.R.B.C., 2018 EDITION, SECTION
- 5. ANY HABITABLE ROOM SHALL MEET ALL LIGHT/VENTILATION AND EGRESS AS REQUIRED BY N.C.S.R.B.C. 2018 EDITION, SECTIONS R-303.1
- 6. ALL EXTERIOR WALLS SHOWN ON FLOOR PLANS ARE 2X6 FRAME UNLESS NOTED OTHERWISE. ALL INTERIOR WALLS SHOWN ON FLOOR PLANS ARE 2X4 FRAME UNLESS NOTED OTHERWISE
- 7. ALL ANGLED WALLS SHOWN ON FLOOR PLANS ARE 45 UNLESS NOTED OTHERWISE.
- 8. ALL WINDOWS SHALL HAVE A MINIMUM DPI RATING OF 25. BUILDER SHALL VERIFY WITH WINDOW MANUFACTURER THAT UNITS INSTALLED MEET THESE REQUIREMENTS AS PER N.C.S.R.B.C., 2018 EDITION, TABLE
- 9. ENERGY EFFICIENCY REQUIREMENTS FOR THE SPECIFIC CLIMATE ZONE WHERE STRUCTURE IS BEING BUILT SHALL BE IN ACCORDANCE WITH CHAPTER 11 OF THE N.C.S.R.B.C., 2018 EDITION, AS SHOWN IN SECTION N1101.2.

MATERIALS LEGEND

EARTH/COMPACT FILL	FINISH WOOD
CONCRETE	ROUGH WOOD
BRICK	BLOCKING
CONCRETE BLOCK/STONE	PLYWOOD
STEEL	BATT INSULATION
ALUMINUM	RIGID

TOILET ACCESSORIES LEGEND

PROVIDE 2X4 BLOCKING IN THE WALL FOR THE FOLLOWING

TOWEL BAR TOILET PAPER HOLDER

TOWEL RING MEDICINE CABINET

RESIDENTIAL BUILDING CODE SUMMARY

- 1. PLANS ARE DESIGNED TO THE 2018 N.C.S.R.B.C
- 2. HOUSE IS DESIGNED FOR 115 MPH ULTIMATE DESIGN WIND SPEED (89 MPH NOMINAL
- 3. ANCHOR BOLTS SHALL BE MIN. 1/2" DIAMETER AND SHALL EXTEND 7" MIN. INTO MASONRY OR CONCRETE. BOLTS TO BE NO MORE THAN 6' O.C. AND WITHIN 12" FROM
- 4. MEAN ROOF HEIGHT: 28'-8"
- 5. COMPONENT & CLADDING DESIGNED FOR THE FOLLOWING LOADS:

MEAN ROOF HGT:	UP TO 30'	30'-1" TO 35'	35'-1" TO 40'	40'-1" TO 45'
ZONE 1	16.5,-18.0	17.3,-18.9	17.3,-18.9	17.3,-18.9
ZONE 2	16.5,-21.0	17.3,-22.1	17.3,-22.1	17.3,-22.1
ZONE 3	16.5,-21.0	17.3,-22.1	17.3,-22.1	17.3,-22.1
ZONE 4	18.0,-19.5	18.9,-20.5	18.9,-20.5	18.9,-20.5
ZONE 5	18.0,-24.1	18.9,-25.3	18.9,-25.3	18.9,-25.3

- 6. MINIMUM VALUES FOR ENERGY COMPLIANCE: Zone 4
- 7. MAXIMUM GLAZING U-FACTOR: .35
- 8. INSULATING VALUES: CEILING: R-38 / WALLS: R-15 / FLOOR: R-19 SLABS: R-10. CODE REFERENCE: TABLE N1102.1

AREA CALCULATIONS

HEATED (SQ. FT.)		UNHEATED (S	Q. FT.)	UNFINISHED	(SQ. FT.)
1ST FLOOR: 2ND FLOOR:	1163 687	GARAGE: FRONT PORCH: PATIO:	260 113 100	BASEMENT: 1ST FLOOR: 2ND FLOOR:	N/A N/A 128
TOTAL:	1850	TOTAL:	473	ATTIC: TOTAL:	N/A 128
				OVERALL DIMEN	ISIONS
				WIDTH: DEPTH:	44'-6" 56'-0"

FOUNDATION VENTILATION CALCULATIONS

(REFERENCE: N.C.S.R.B.C. 2018 EDITION SECTION R408)

NOT APPLICABLE WITH SLAB FOUNDATIONS

ATTIC VENTILATION REQUIREMENTS

NATURAL ROOF VENTILATION CALCULATIONS | MECHANICAL ROOF VENTILATION CALCULATIONS

<u>1536 SQ. FT.</u> = 10.24 SQ. FT. VENT REQ'D BUILDER TO PROVIDE APPROPRIATE

VENTILATING AS REQUIRED PER CODE

1536 SQ. FT. = 5.12 SQ. FT. VENT REQ'D BUILDER TO PROVIDE APPROPRIATE VENTILATING AS REQUIRED PER CODE



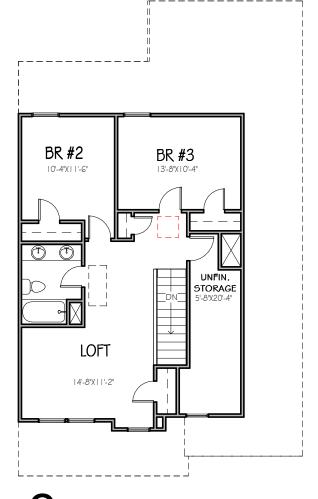


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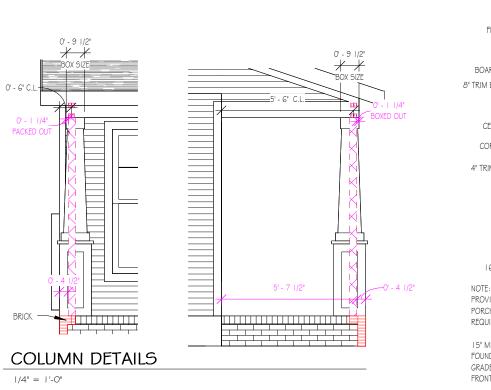
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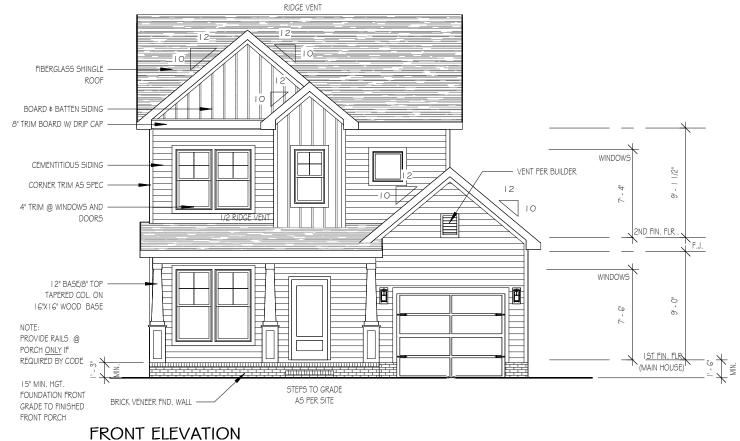
SER ELEVATION A LOT 0259 SERENITY

PATIO PRIMARY SUITE DINING 14'-2"x10'-2" KITCHEN 継 LAUNDRY **GARAGE** 12'-2"x20'-4" **FAMILY** 14'-8"X15'-4" **COVERED ENTRY**

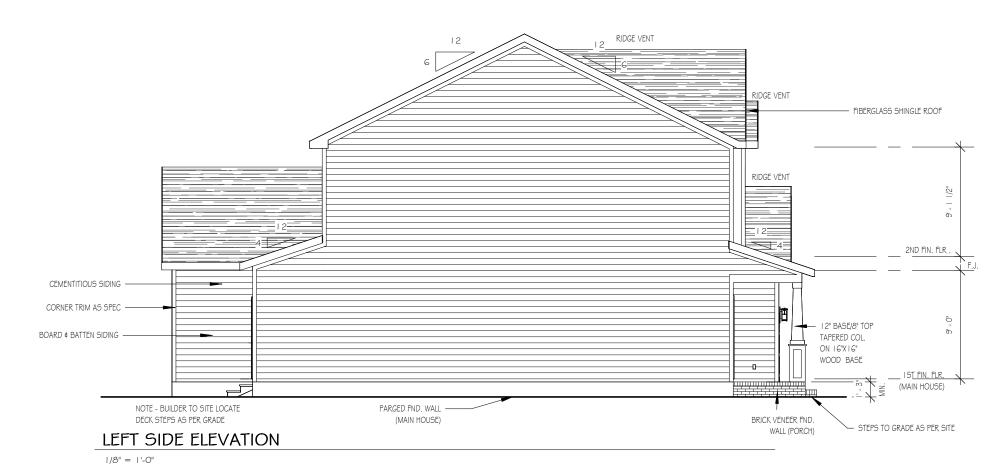


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NOTE - SLOPE ALL GRADES AWAY FROM HOUSE FOR POSITIVE DRAINAGE



THE PURPOSE OF THESE DRAWINGS IS TO SHOW THE INTENT OF THE DESIGN AND CONSTRUCTION OF THIS HOME. CONTRACTOR SHOULD VERIFY ALL CONDITIONS AND DIMENSIONS PRIOR TO CONSTRUCTION. ONCE A PERMIT HAS BEEN ISSUED, CONTRACTOR SHALL ASSUME ALL RESPONSIBILITY TO THE ACCURACY OF THE PLANS AND ANY CHANGES MADE DURING CONSTRUCTION.



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AZALEA SER ELEVATION A LOT 0259 SERENITY

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MH
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CM
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4/8/20

Revision Date
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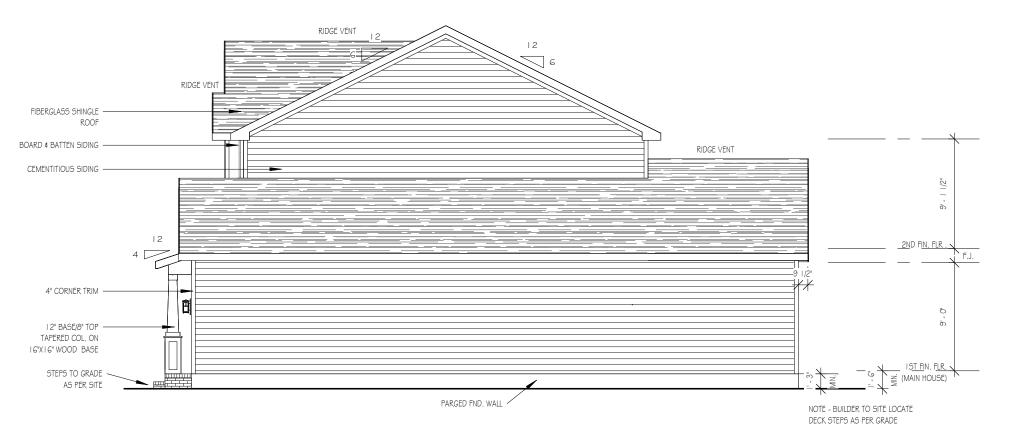
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RIDGE VENT FIBERGLASS SHINGLE ROOF WINDOWS CEMENTITIOUS SIDING 2ND FIN. FLR CORNER TRIM AS SPEC -WINDOWS BRICK MOLD ONLY @ DOORS PARGED FND. WALL -NOTE - BUILDER TO SITE LOCATE DECK STEPS AS PER GRADE

REAR ELEVATION

1/8" = 1'-0"

NOTE - SLOPE ALL GRADES AWAY FROM HOUSE FOR POSITIVE DRAINAGE

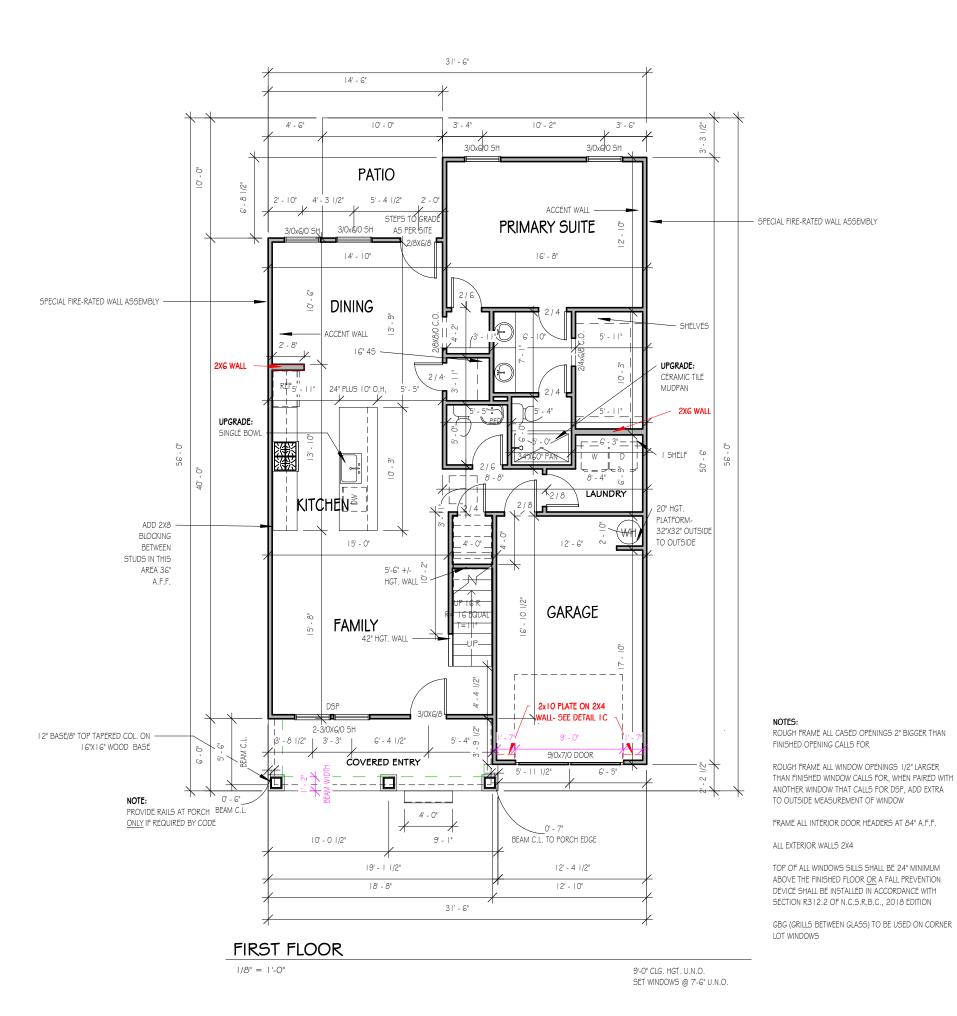


PROVIDE RAILS @ PORCH ONLY IF REQUIRED BY CODE

15" MIN. HGT. FOUNDATION FRONT GRADE TO FINISHED FRONT PORCH

RIGHT SIDE ELEVATION

1/8" = 1'-0"



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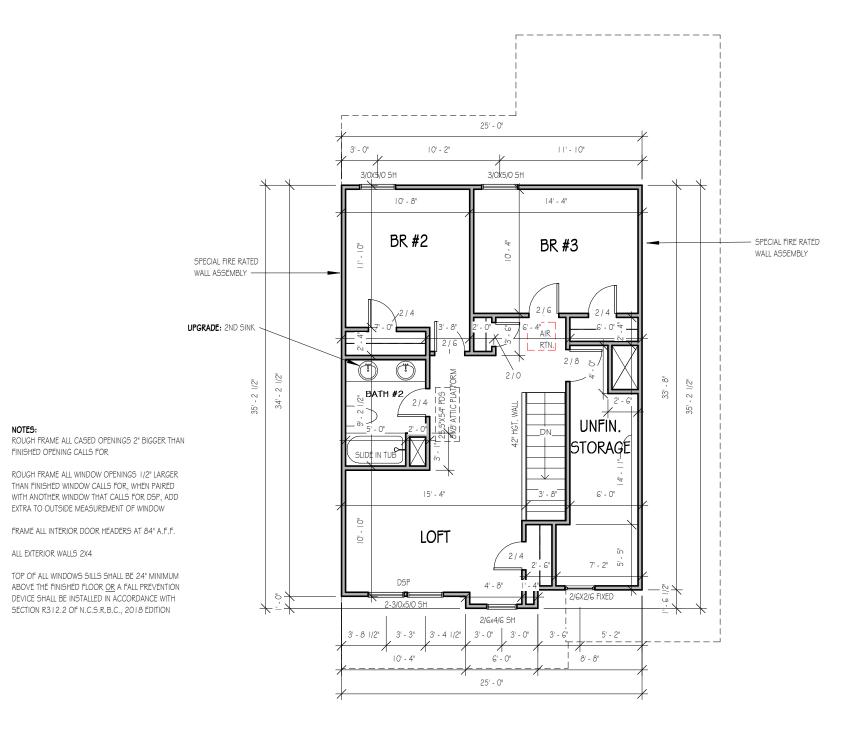
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SECOND FLOOR

1/8" = 1'-0"

9'-0" CLG. HGT. U.N.O. SET WINDOWS @ 7'-4" U.N.O. THE PURPOSE OF THESE DRAWINGS IS TO SHOW THE INTENT OF THE DESIGN AND CONSTRUCTION OF THIS HOME. CONTRACTOR SHOULD VERIFY ALL CONDITIONS AND DIMENSIONS PRIOR TO CONSTRUCTION. ONCE A PERMIT HAS BEEN ISSUED, CONTRACTOR SHALL ASSUME ALL RESPONSIBILITY TO THE ACCURACY OF THE PLANS AND ANY CHANGES MADE DURING CONSTRUCTION.

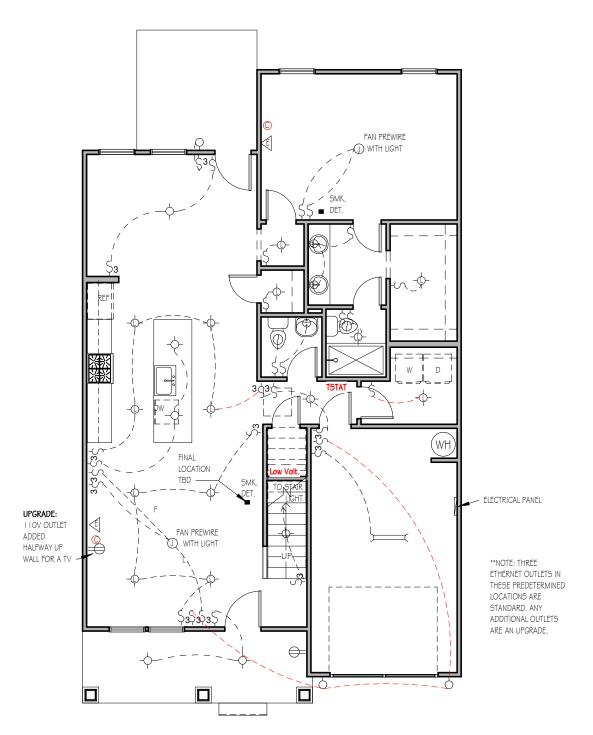


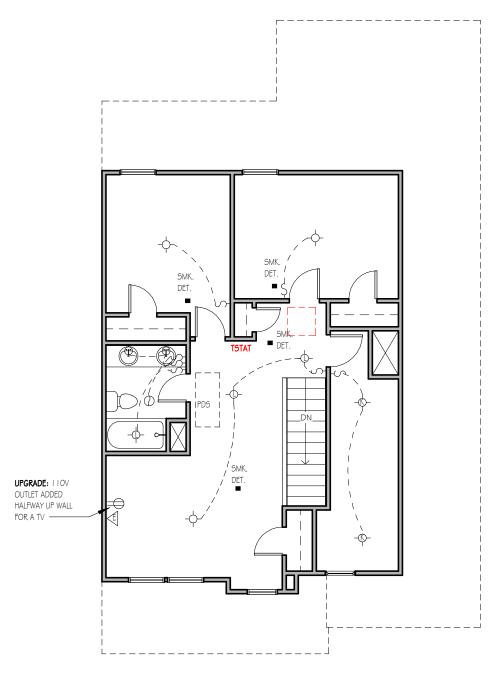
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FIRST FLOOR ELECTRICAL PLAN

1/8" = 1'-0"

NOTE - ELECTRICAL RECEPTACLE AND SWITCH QUANTITIES AND LOCATIONS SHOWN ON PLAN ARE FOR ILLUSTRATION PURPOSES ONLY. ACTUAL NUMBER AN D LOCATIONS SHALL BE FIELD DETERMINED AS PER CLIENT AND BUILDER EXCEPT WHERE CODE REQUIREMENTS APPLY.

SECOND FLOOR ELECTRICAL PLAN

1/8" = 1'-0"

NOTE - ELECTRICAL RECEPTACLE AND SWITCH QUANTITIES AND LOCATIONS SHOWN ON PLAN ARE FOR ILLUSTRATION PURPOSES ONLY. ACTUAL NUMBER AN D LOCATIONS SHALL BE FIELD DETERMINED AS PER CLIENT AND BUILDER EXCEPT WHERE CODE REQUIREMENTS APPLY.

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ELECTRICAL LEGEND



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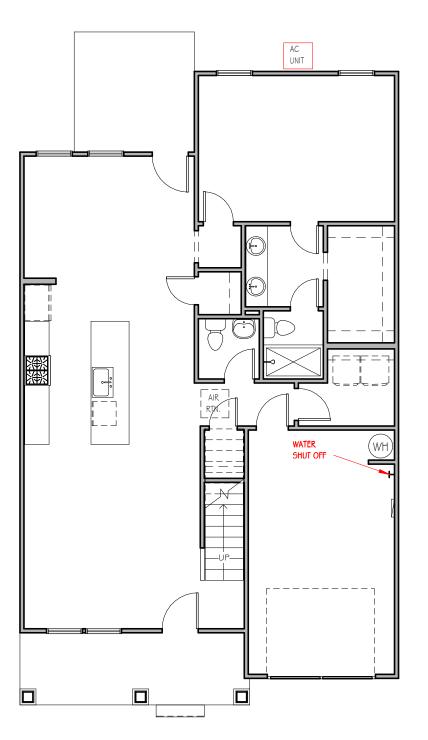
LOT 0259 SERENITY

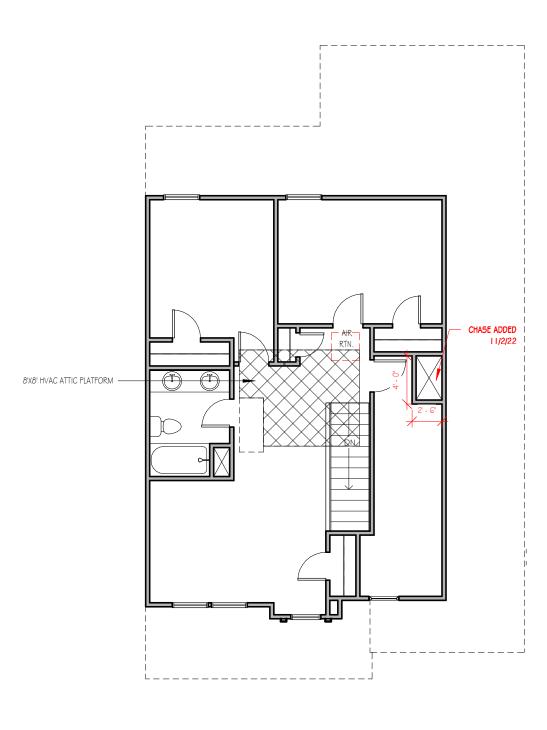
- FLUSH MOUNT/PENDANT LIGHT -ф-LED DISK LIGHT - KEYLESS LIGHT RECESSED CAN LIGHT WALL SCONCE ◆ FLOOD LIGHT FLUORESCENT LIGHT CEILING FAN **%** EXHAUST FAN T THERMOSTAT € ETHERNET OUTLET O DOORBELL 0 CABLE OUTLET SMOKE DETECTOR FLOOR RECEPTACLE DUPLEX RECEPTACLE GFCI RECEPTACLE ■ 220 VOLT RECEPTACLE ELECTRICAL PANEL ŞD 3-WAY SWITCH DIMMER SWITCH

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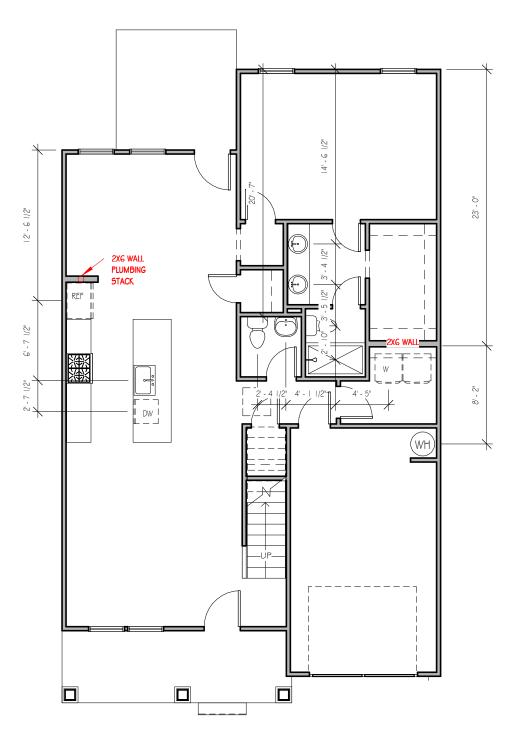
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SECOND FLOOR MECHANICAL PAGE



FIRST FLOOR PLUMBING

1/8" = 1'-0"

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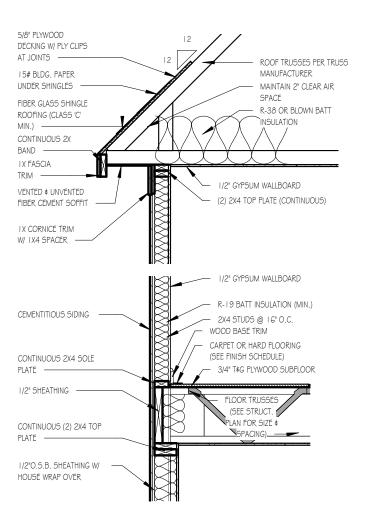


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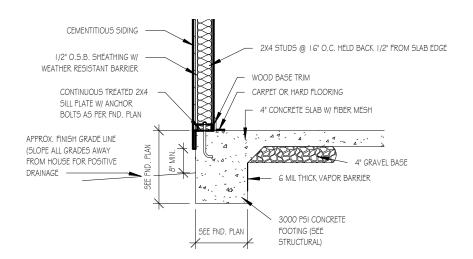
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TWO-STORY WALL SECTION

1/2" = 1'-0"

1/2" = 1'-0"



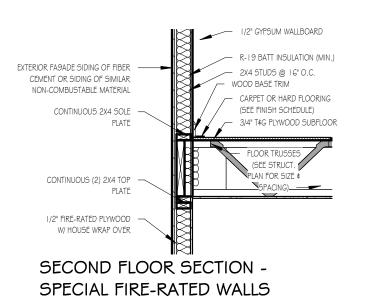
FOUNDATION DETAIL - SLAB

1/2" = 1'-0"

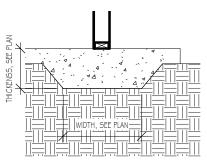
1/2" FIRE-RATED PLYWOOD -DECKING W/ PLY CLIPS AT JOINTS EXTENDING AMIN. OF 4' AWAY FROM WALL ASSEMBLY ROOF TRUSSES PER TRUSS MANUFACTURER 15# BLDG. PAPER UNDER SHINGLES MAINTAIN 2" CLEAR AIR FIBER GLASS SHINGLE SPACE R-38 OR BLOWN BATT ROOFING (CLASS 'C' MIN.) INSULATION CONTINUOUS 2X BAND LX FASCIA TRIM 1/2" GYPSUM WALLBOARD 5'8" PLYWOOD SOFFIT, ALL SOFFITS CONNECTING TO THE (2) 2X4 TOP PLATE (CONTINUOUS) SPECIAL WALL AND A MIN. OF 4' OF CONNECTING POINT SHALL BE SEALED W/ TWO LAYERS OF FIRE-RATED PLYWOOD OR 5/8" EXTERIOR OR MOISTURE RESISTANT GYPSUM BOARD IX CORNICE TRIM W/ IX4 SPACER FIRE RATED OSB

ROOF DETAIL SPECIAL FIRE-RATED WALLS

1/2" = 1'-0"



1/2" = 1'-0"



LUG FOOTING

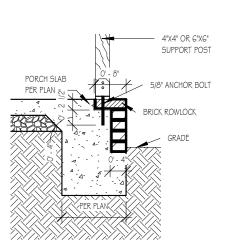
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I YPICAL DE LAIL SHEET SERENITY COLLECTION

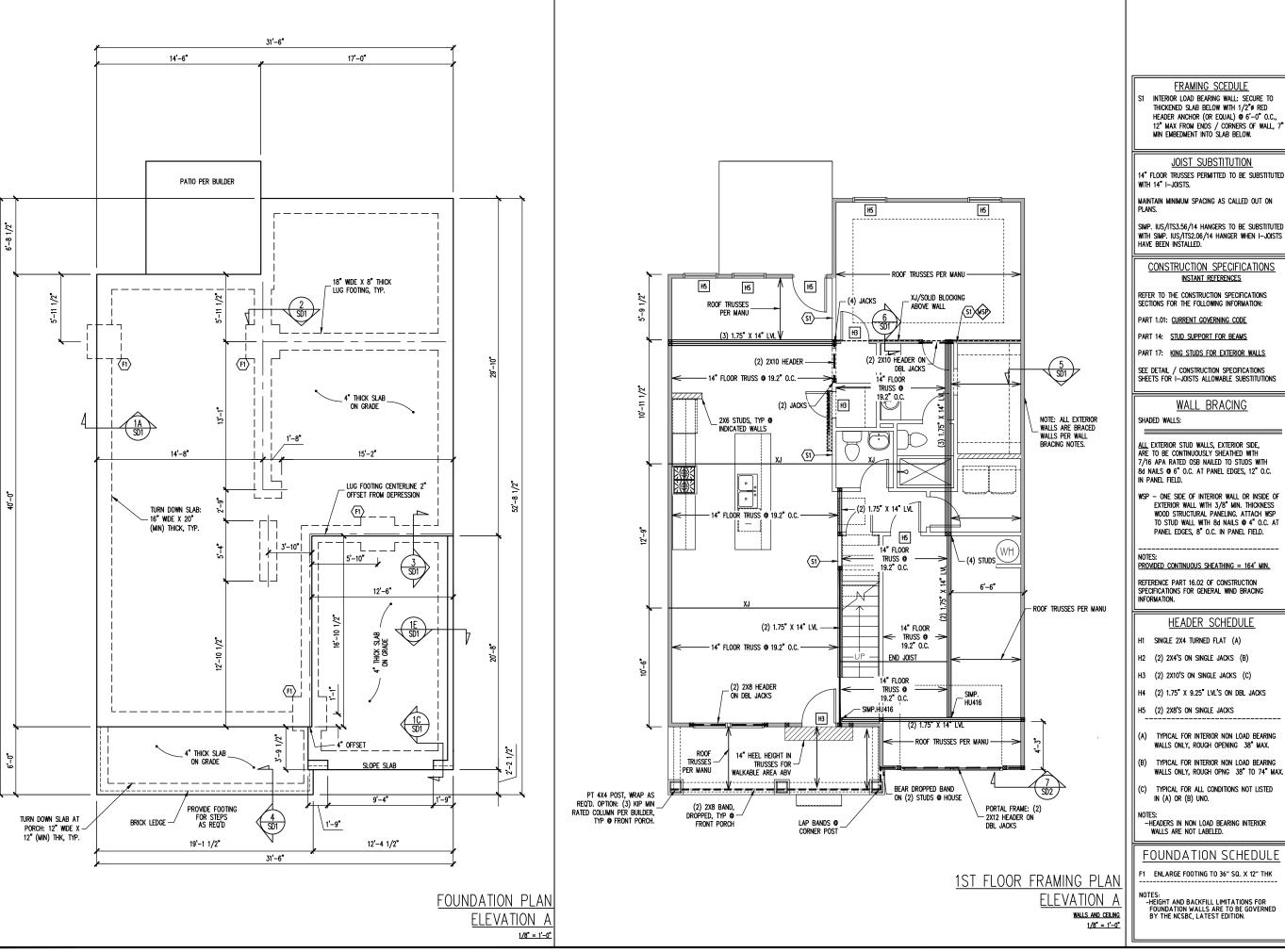


FRONT PORCH COLUMNS
SUPPORT ATTACHMENT

1/2" = 1'-0"

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THICKENED SLAB BELOW WITH 1/2" RED HEADER ANCHOR (OR EQUAL) @ 6'-0" O.C., 12" MAX FROM ENDS / CORNERS OF WALL, 7 MIN EMBEDMENT INTO SLAB BELOW.

SIMP. IUS/ITS3.56/14 HANGERS TO BE SUBSTITUTED WITH SIMP. IUS/ITS2.06/14 HANGER WHEN I-JOISTS HAVE BEEN INSTALLED.

CONSTRUCTION SPECIFICATIONS

PART 17: KING STUDS FOR EXTERIOR WALLS

ALL EXTERIOR STUD WALLS, EXTERIOR SIDE, ARE TO BE CONTINUOUSLY SHEATHED WITH 7/16 APA RATED OSB NAILED TO STUDS WITH 8d NAILS @ 6" O.C. AT PANEL EDGES, 12" O.C. IN PANEL FIELD.

EXTERIOR WALL WITH 3/8" MIN. THICKNESS WOOD STRUCTURAL PANFLING ATTACH WSP TO STUD WALL WITH 8d NAILS @ 4" O.C. AT PANEL EDGES, 8" O.C. IN PANEL FIELD.

SPECIFICATIONS FOR GENERAL WIND BRACING INFORMATION.

- TYPICAL FOR INTERIOR NON LOAD BEARING WALLS ONLY, ROUGH OPENING 38" MAX.
- TYPICAL FOR INTERIOR NON LOAD BEARING WALLS ONLY, ROUGH OPNG 38" TO 74" MAX.
- TYPICAL FOR ALL CONDITIONS NOT LISTED IN (A) OR (B) UNO.

FOUNDATION SCHEDULE

ENLARGE FOOTING TO 36" SQ. X 12" THK

OLES: -HEIGHT AND BACKFILL LIMITATIONS FOR FOUNDATION WALLS ARE TO BE GOVERNED BY THE NCSBC, LATEST EDITION.

SEAL 05554 STRUCTURAL ENGINEERS
License No. C-3870
W Millbrook Rd, Suite 201
leigh, North Carolina 27609
Phone (919) 844-1661

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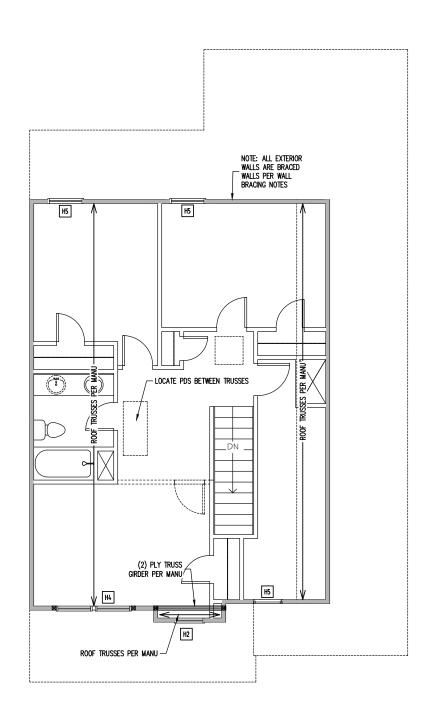
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TRUSS <u>UPLIFT CONNECTORS</u>

EXPOSURE B. 120 MPH. ANY PITCH. 24" O.C. MAX ROOF TRUSS SPACING

TRUSSES SHALL BE ATTACHED TO SUPPORT WALL FOR UPLIFT
RESISTANCE CONTINUOUS OSB WALL SHEATHING BELOW PROVIDES
CONTINUOUS UPLIFT RESISTANCE TO FOUNDATION. ALL TRUSSES
SUPPORTED BY INTERMEDIATE SUPPORT WALLS, KNEEWALLS OR
BEAMS SHALL BE ATTACHED TO SUPPORTING MEMBER PER SCHEDULE
BELOW.

ROOF SPAN IS MEASURED HORIZONTALLY BETWEEN FURTHEST SUPPORT POINTS.

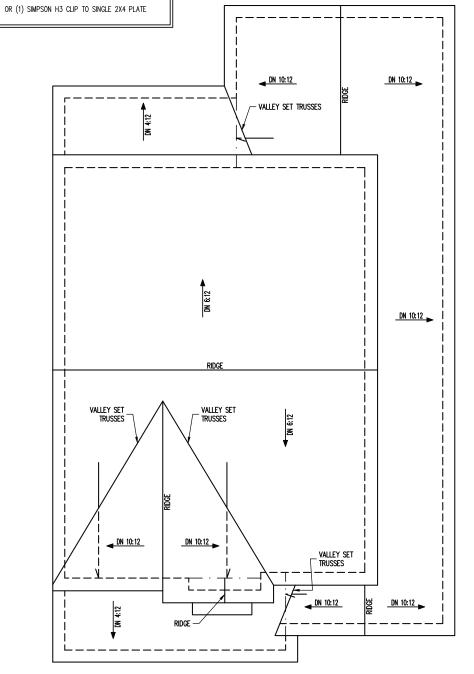
ROOF SPAN UP TO 28'

OVER 28'

2ND FLOOR FRAMING PLAN

WALLS AND CEILING

1/8" = 1'-0"



ELEVATION A 1/8" = 1'-0"

FRAMING NOTES

-ROOF TRUSSES PER MANU. TYPICAL U.N.O.
-VERIFY ALL KNEEWALL HEIGHTS, ROOF PITCHES,
AND ARCHITECTURAL OVERHANGS PRIOR TO CONSTRUCTION

CONSTRUCTION SPECIFICATIONS INSTANT REFERENCES

REFER TO THE CONSTRUCTION SPECIFICATIONS SECTIONS FOR THE FOLLOWING INFORMATION:

PART 1.01: CURRENT GOVERNING CODE

PART 14: STUD SUPPORT FOR BEAMS

PART 17: KING STUDS FOR EXTERIOR WALLS

WALL BRACING

SHADED WALLS:

ALL EXTERIOR STUD WALLS, EXTERIOR SIDE, ARE TO BE CONTINUOUSLY SHEATHED WITH 7/16 APA RATED OSB NAILED TO STUDS WITH 8d NAILS @ 6" O.C. AT PANEL EDGES, 12" O.C. IN PANEL FIELD.

PROVIDED CONTINUOUS SHEATHING = 120' MIN.

SPECIFICATIONS FOR GENERAL WIND BRACING INFORMATION.

HEADER SCHEDULE

- SINGLE 2X4 TURNED FLAT (A)
- (2) 2X4'S ON SINGLE JACKS (B)
- (2) 2X10'S ON SINGLE JACKS (C)
- H4 (2) 1.75" X 9.25" LVL'S ON DBL JACKS
- H5 (2) 2X8'S ON SINGLE JACKS
- TYPICAL FOR INTERIOR NON LOAD BEARING WALLS ONLY, ROUGH OPENING 38" MAX.
- TYPICAL FOR INTERIOR NON LOAD BEARING WALLS ONLY, ROUGH OPNG 38" TO 74" MAX.
- TYPICAL FOR ALL CONDITIONS NOT LISTED IN (A) OR (B) UNO.

-HEADERS IN NON LOAD BEARING INTERIOR WALLS ARE NOT LABELED.

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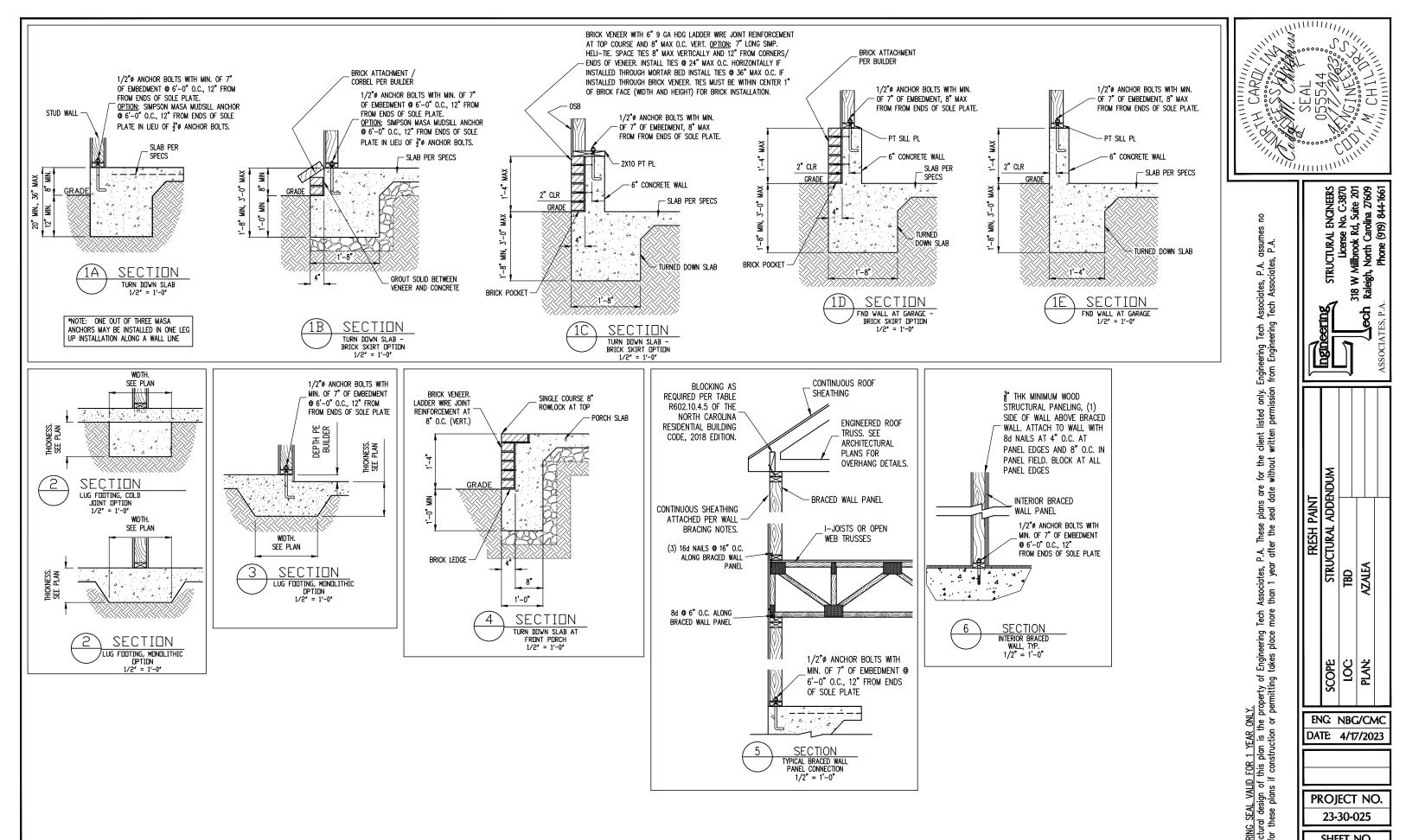
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ROOF FRAMING PLAN



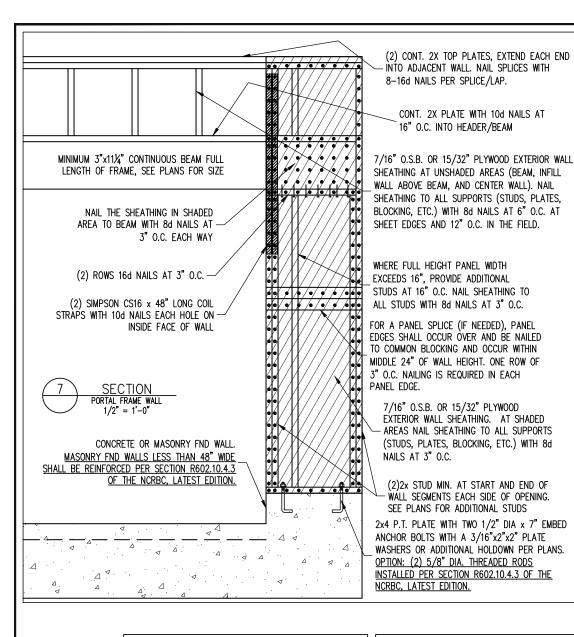
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ALLOWABLE I-JOIST SUBSTITUTION

NOTE: MAINTAIN JOIST DEPTH, DIRECTION, AND SPACING SPECIFIED ON

MANUFACTURER	DEPTH	SERIES	SIMPSON FACE MOUNT HGR	SIMPSON TOP FLANGE HGR
BLUELINX	11.875"	BLI 40	IUS2.56/11.88	ITS2.56/11.88
BOISE CASCADE	11.875"	BCI 5000s	IUS2.06/11.88	ITS2.06/11.88
BOISE CASCADE	11.875"	BCI 6000s	IUS2.37/11.88	ITS2.37/11.88
INTERNATIONAL BEAMS	11.875"	IB 400	IUS2.56/11.88	ITS2.56/11.88
LP CORP	11.875"	LPI 20+	IUS2.56/11.88	ITS2.56/11.88
NORDIC	11.875"	NI 40X	IUS2.56/11.88	ITS2.56/11.88
ROSEBURG	11.875"	RFPI 40s	IUS2.56/11.88	ITS2.56/11.88
WEYERHAEUSER	11.875"	TJI 210	IUS2.06/11.88	ITS2.06/11.88
WEYERHAEUSER	11.875"	EEI-20	IUS2.37/11.88	ITS2.37/11.88
BLUELINX	14"	BLI 40	IUS2.56/14	ITS2.56/14
BOISE CASCADE	14"	BCI 5000s	IUS2.06/14	ITS2.06/14
BOISE CASCADE	14"	BCI 6000S	IUS2.37/14	ITS2.37/14
LP CORP	14"	LPI 20+	IUS2.56/14	ITS2.56/14
NORDIC	14"	NI 40X	IUS2.56/14	ITS2.56/14
ROSEBURG	14"	RFPI 40s	IUS2.56/14	ITS2.56/14
WEYERHAEUSER	14"	TJI 210	IUS2.06/14	ITS2.06/14
WEYERHAEUSER	14"	EEI-20	IUS2.37/14	ITS2.73/14

JOISTS NOT LISTED IN THE ABOVE TABLE MAY BE USED PROVIDED THEY MEET OR EXCEED THE PROPERTIES OF THOSE LISTED. SUBSTITUTE USP BRAND HANGERS WITH EQUIVALENT VALUES AS DESIRED.

ABBREVIATIONS

TJ TRIPLE JOIST TYPICAL

UNO UNLESS NOTED

XJ EXTRA JOIST

OTHERWISE

TRIPLE STUD POCKE

TRPL TRIPLE

ABV	ABOVE	FND	FOUNDATION
B.	BOTH	FTG	FOOTING
B.E.	BOTH ENDS	HDG	HOT DIPPED
BTWN	BETWEEN		GALVANIZED
CIP	CAST IN PLACE	HGR	HANGER
CONC	CONCRETE	LVL	LAMINATED VENE
CS	CONTINUOUS SHEATHING		LUMBER
DIA	DIAMETER	NTS	NOT TO SCALE
DBL	DOUBLE	0.C.	ON CENTER
DJ	DOUBLE JOIST	PSL	PARALLEL STRAI
DSP	DBL STUD POCKET		LUMBER
EQ	EQUAL	PT	PRESSURE TREA
EΑ	EACH	QJ	QUAD JOIST
FLG	FLANGE	SP	STUD POCKET
FL PL	FLITCH PLATE	SQ	SQUARE
FLR	FLOOR		

CIP

NFFR AND ATED

NOTES

THE BUILDER IS RESPONSIBLE FOR REVIEWING PLANS PRIOR TO CONSTRUCTION. THE BUILDER SHALL IMMEDIATELY CONTACT THE ENGINEER OF RECORD (EOR) BEFORE PROCEEDING IF THE FOLLOWING CONDITIONS ARE NOTED BEFORE OR DURING CONSTRUCTION:

- 1) THE WORKING PLANS DO NOT BEAR THE SEAL OF THE EOR
- 2) THE PLANS CONTAIN DISCREPANT OR INCOMPLETE INFORMATION

ANY ERRORS DUE TO A FAILURE TO FOLLOW THE ABOVE PROCEDURES SHALL NOT BE THE RESPONSIBILITY OF THE EOR. FURTHERMORE, IT IS THE RESPONSIBILITY OF THE BUILDER TO ENSURE THAN ANY REVISIONS ISSUED BY THE EOR ARE PROMPLY DISTRIBUTED TO THE

THE EOR DOES NOT PERFORM FENESTRATION OR VENTING CALCULATIONS OR ANY OTHER CALCULATIONS THAT ARE NOT DIRECTLY RELATED TO STRUCTURAL ENGINEERING.

ROOF AND FLOOR TRUSSES TO BE DESIGNED BY AN ENGINEER REGISTERED BY THE STATE. FINAL TRUSS DRAWING SHOULD BE SUBMITTED TO THE EOR FOR REVIEW

CONSTRUCTION SPECIFICATIONS

PART 1: GENERAL

- 1.01 CONSTRUCTION SHALL MEET THE REQUIREMENTS OF THE NORTH CAROLINA RESIDENTIAL CODE, 2018 EDITION.
- 1.02 DIMENSIONS SHOWN SHALL GOVERN OVER SCALE ON THESE DRAWINGS.
- METHODS, PROCEDURES AND SEQUENCES OF CONSTRUCTION ARE THE RESPONSIBILITY OF THE CONTRACTOR, WHO SHALL TAKE ALL NECESSARY PRECAUTIONS TO MAINTAIN AND INSURE THE INTEGRITY OF THE STRUCTURE AT ALL STAGES OF CONSTRUCTION.

PART 2: DESIGN LOADS

2.01 DESIGN LOADS SHALL CONFORM WITH THE TABLE BELOW: USE

BALCONIES, DECKS, ATTICS WITH FIXED STAIR ACCESS, DWELLING UNITS INCLUDING ATTICS WITH FIXED STAIR ACCESS, STAIRS, FIRE ESCAPES	40	10
GARAGES (PASSENGER CARS ONLY)	50	
ATTICS (NO STORAGE, LESS THAN 5' HEADROOM)	10	10
ATTICS (WITH STORAGE)	20	10
ROOF	20	10 (15 FOR VAULTS)
ATTICS (NO STORAGE, LESS THAN 5' HEADROOM) ATTICS (WITH STORAGE)	10 20	10

LIVE LOAD (PSF) DEAD LOAD (PSF)

- Notes: individual stair treads are to be designed for the uniformly distributed Live Load of 40 psf or a 300 lb. concentrated Load acting over an area of 4 sq. whichever produces the greater stress.

 builder to verify dead load does not exceed 10 psf when heavy floor or
 - ROOF FINISHES SUCH AS TILE OR SLATE ARE UTILIZED. NOTIFY ENGINEERING UNDER
- 2.02 INTERIOR WALLS: 5 PSF LATERAL.
- 2.03 BASIC WIND DESIGN VELOCITY OF 120 MPH.
- 2.04 SOIL BEARING CAPACITY 2000 PSF (PRESUMPTIVE)

PART 5: CONCRETE AND SLABS ON GRADE

- CAST IN PLACE CONCRETE SHALL BE OF NORMAL WEIGHT, 6% AIR ENTRAINMENT, AND SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS TYP UNO. ALL CONCRETE, INCLUDING CONCRETE FOR FOOTINGS, IS TO BE CAST IN PLACE, TYP
- 5.02 REINFORCED CAST IN PLACE CONCRETE SHALL BE PROPORTIONED, MIXED AND PLACED IN ACCORDANCE WITH THE SPECIFICATIONS OF ACI 318, LATEST EDITION.
- SLABS ON GRADE, IF ANY, SHALL CONTAIN SYNTHETIC POLYPROPYLENE FIBRILLATED MICRO FIBERS, FIBER LENGTH 1 1/2", DOSAGE RATE 1 1/2 LBS/CU YD. SLAB TO BE PLACED ON A 6 MILL VAPOR BARRIER ON 2" MIN GRANULAR FILL ON SOIL WITH 90% MIN STANDARD PROCTOR DENSITY. VAPOR BARRIER MAY BE OMITTED FOR SLABS NOT

PART 6: REBAR AND WIRE REINFORCEMENT

- REBAR SHALL BE DEFORMED STEEL CONFORMING TO ASTM A615 GRADE 60 TYP UNO
- 6.02 LAP SPLICES SHALL BE CLASS B AS DEFINED BY ACI 318, TYP UNO
- 6.03 WIRE REINFORCEMENT SHALL BE 9 GA AND SHALL CONFORM TO ASTM A1064.

- 7.01 CONCRETE MASONRY UNITS SHALL CONFORM TO ASTM C90 AND C55, NORMAL WEIGHT,
- 7.02 CLAY MASONRY UNITS SHALL CONFORM TO ASTM C62-17 GRADE SW
- 7.03 MORTAR SHALL BE TYPE S. MORTAR AND GROUT SHALL CONFORM TO ASTM C476, MIN COMPRESSIVE STRENGTH OF 2000 PSI.
- 7.04 MASONRY CONSTRUCTION SHALL CONFORM TO THE SPECIFICATIONS OF ACI 530
- LADDER WIRE REINFORCEMENT SHALL CONFORM TO ASTM A951. 6" MIN LAPS FOR CONTINUOUS WALL APPLICATIONS 7.05

PART 8: BOLTS AND LAG SCREWS

8.03 ANCHOR RODS AND BOLTS SHALL CONFORM TO ASTM F1554-15 GRADE 36 UNO. BENT ANCHOR BOLTS SHALL HAVE A 2" MIN HOOK UNO

PART 9: DRIVEN FASTENERS

9.01 NAILS, SPIKES AND STAPLES SHALL CONFORM TO ASTM F 1667- 05. NAILS ARE TO BE COMMON WIRE OR BOX

PART 10: DIMENSIONAL LUMBER

10.01 SOLID SAWN WOOD FRAMING DESIGN IS BASED ON NO. 2 SPRUCE PINE FIR <u>OR</u> SYP #2 FOR JOISTS, RAFTERS, GIRDERS, BEAMS, STUDS, ETC.

- 11.01 LVL OR PSL MINIMUM ALLOWABLE DESIGN STRESSES ARE AS FOLLOWS: E= 1.9 X 10E6 PSI, Fb = 2600 PSI, Fc = 285 PSI, Fc = 750 PSI LSL MINIMUM ALLOWABLE DESIGN STRESSES ARE AS FOLLOWS: E= 1.3 X 10E6 PSI, Fb = 1700 PSI, Fv = 400 PSI, Fc = 680 PSI
- 11.02 LVL OR PSL MEMBERS MAY BE RIPPED FROM DEEPER MEMBERS TO MATCH THE MEMBER DEPTH SPECIFIED IN THE PLANS

PART 12: PRESSURE TREATED LUMBER

LUMBER IN CONTACT WITH THE GROUND, CONCRETE OR MASONRY SHALL BE PRESSURE TREATED IN ACCOPDANCE WITH AWPA STANDARD C-15. ALL OTHER EXPOSED LUMBER SHALL BE TREATED IN ACCORDANCE WITH AWPA STANDARD C-2 OR BY ANY METHOD GIVING EQUAL PROTECTION. THE BUILDING CODE OFFICE MAY ALSO APPROVE A NATURAL 2.01 DECAY RESISTANT WOOD PER SECTION 19-6(A)

PART 14: STUD SUPPORTS FOR BEAMS

- 14.01 STEEL, ENGINEERED LUMBER, AND FLITCH PLATE BEAMS BEARING ON A STUD WALL SHALL BEAR AS FOLLOWS:
- 1-when the Beam is perpendicular to, or skewed relative to the wall, the Beam shall bear <u>full width</u> on the supporting wall indicated and shall be supported by a minimum of three ganced studs, or a ganced stud column with a number of studs such that the stud column is at least as wide as the true width of the beam being supported, whichever is greater, typ und. For the skewed TION PARTICULAR CARE SHALL BE TAKEN TO ENSURE STUD COLUMN IS CENTERED ON
- 2-REAMS BEARING ONTO THE FND OF A STUD WALL PARALLEL TO THE BEAM. SHALL BEAR A MINIMUM OF 4 1/2" ONTO THE WALL AND BE SUPPORTED BY A TRPL STUD GANGED
- 14.02 DIMENSIONAL LUMBER BEAMS BEARING ON A STUD WALL SHALL BEAR AS FOLLOWS:
- 1-WHEN THE BEAM IS PERPENDICULAR TO, OR SKEWED RELATIVE TO THE WALL, THE BEAM SHALL BEAR <u>FULL WIDTH</u> ON THE SUPPORTING WALL INDICATED (LESS 1 1/2" TO ALLOW FOR A CONTINUOUS RIM JOIST WHERE APPLICABLE) AND SHALL BE SUPPORTED BY A TO BE SUPPORTED BY (3) STUDS), FOR THE SKEWED CONDITION PARTICULAR CARE SHALL BE TAKEN TO ENSURE STUD COLUMN IS CENTERED ON THE BEAM

 2-BEAMS BEARING ONTO THE END OF A STUD WALL PARALLEL TO THE BEAM SHALL BEAR
- MINIMUM OF 3" ONTO THE WALL AND BE SUPPORTED BY A DBL STUD GANGED COLUMN
- 14.03 Extra joists bearing on a stud wall perpendicular to or skewed relative to the beam shall be supported by one additional stud.
- STUDS THAT ARE GANGED TO FORM A COLUMN SHALL HAVE ADJACENT STUDS WITHIN THE COLUMN NAILED TOGETHER WITH ONE ROW OF 10d NAILS AT 8" O.C. (TWO ROWS OF 10d NAILS @ 8" O.C., 3" APART, FOR 2X8 OR 2X10 STUDS) ALL COLUMNS SHALL BE CONTINUOUS DOWN TO THE FOUNDATION OR OTHER PROPERTY DESIGNED
 STRUCTURAL ELEMENT SUCH AS A BEAM. COLUMNS TRANSFERRING LOADS THROUGH
 FLOOR LEVELS SHALL BE SOLIDLY BLOCKED FOR THE FULL WIDTH OF THE STUD COLUMN
 WITHIN THE CANTY CORDER DRY THE WITHIN THE CAVITY FORMED BY THE

PART 15: NAILING OF MULTI PLY WOOD BEAMS

- SOLID SAWN LUMBER JOISTS THAT ARE GANGED TO FORM A BEAM SHALL HAVE ADJACENT MEMBERS IN THE BEAM NAILED TOGETHER WITH THREE ROWS OF 10d NAILS @ 16" O.C. FOR 2X10 OR LARGER, TWO ROWS OF 10d NAILS @ 16" O.C. FOR 2X8, ONE ROW OF 10d NAILS @ 16" O.C. FOR 2X6 OR SMALLER. STAGGER ROWS 5" MIN.
- LVL MEMBERS THAT ARE GANGED TO FORM A BEAM SHALL HAVE ADJACENT MEMBERS IN THE BEAM FASTENED TOGETHER PER MANUFACTURERS RECOMMENDATIONS, TYP

PART 16: WALL FRAMING AND BRACING

STUD WALLS SHALL CONSIST OF 2X4 STUDS SPACED AT 16" O.C. UNO. STUDS SHALL BE CONTINUOUS FROM SOLE PLATE AT FLOOR TO DOUBLE TOP PLATE AT THE CEILING OR ROOF. NO INTERMEDIATE BANDS OR PLATES SHALL CAUSE DISCONTINUITIES IN A 16.01 STUD WALL EXCEPT AS REQUIRED FOR DOOR OR WINDOW OPENINGS. THE KING STUDS
FOR SUCH OPENINGS SHALL BE CONTINUOUS, TYP UNO.

MAX ALLOWABLE WALL HEIGHTS FOR EXTERIOR STUD WALLS, WITH SOLE PLATE

MAX ALLOWABLE WALL HEIGHTS FOR EXTERIOR STOD WALLS, WITH SOLE PLATE
AND DBL TOP PLATE AND 7/16" OSB EXTERIOR BRACKING AND ROW OF 2X4 /
2X6 PURLINS AT 8" HEIGHT (AND AT 16' HEIGHT FOR TALL WALLS), TYP UNO:
2X4 ● 16" O.C.: 11"-0" 2X6 ● 16" O.C.: 17"-0"

DBL 2X4 ● 16" O.C.: 13"-4" DBL 2X6 ● 16" O.C.: 21"-0"

16.02 FOR WALL BRACING THE FOLLOWING SHALL APPLY -BLOCKING AT UNSUPPORTED PANEL EDGES IS REQUIRED TYP UNO.
-WALL BRACING IS BY ENGINEERED DESIGN AND NOT PRESCRIPTIVE PER SECTION
602.10 OF THE 2018 NCRC. CONTINUOUS SHEATHING HAS BEEN PROVIDED, ALONG WITH ALTERNATIVE METHODS TO INSURE THE MINIMUM INTENT OF SECTION 602.10 OF THE 2018 NCRC HAS BEEN MET AND EXCEEDED.

-Braced Wall Panels shall be fastened in accordance with Table 602.3(1) to PROVIDE CONTINUOUS PANEL UPLIET RESISTANCE AND COMPULANCE WITH NCRBC R602.3.5 AND R802.11 UNLESS NOTED OTHERWISE ON STRUCTURAL PLANS.

-MAY SUBSTITUTE WSP FOR G8

-SINGLE JOIST, CONTINUOUS RIM JOIST, OR BLOCKING OF EQUAL DEPTH IS REQUIRED ABOVE AND BELOW ALL BRACED WALLS. NAIL BLOCKING ABOVE WALL TO TOP PLATE WITH 16d TOE NAILS @ 6" O.C. NAIL SOLE PLATE OF BRACED WALL TO BLOCKING BELOW WITH (3) 16d NAILS @ 16" O.C. BLOCKING AT HORIZONTAL JOINTS IN BRACED WALL LINES ONLY REQUIRED AT SHADED WALLS, UNO.

PART 17: KING STUDS

17.01 KING STUDS FOR OPENINGS IN EXTERIOR WALLS SHALL BE AS FOLLOWS:

MAX OPENING	G WIDTH	5'-0"	NUMBE 9'-0"	R OF KIN 13'-0"	g studs 17'-0"	21'-0"
STUD SIZE	2X4 2X6 2X8	1 1	2 1	3 2	4 2	5 2

PART 18: SUBSTITUTIONS

MATERIAL OR MEMBER SIZE SUBSTITUTIONS OR PLAN DEVAITONS REQUIRE THE WRITTEN AUTHORIZATION OF THE DESIGNERS. UNAUTHORIZED DEVAITIONS ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

PART 19: OWNERSHIP OF STRUCTURAL DESIGN

THE STRUCTURAL DESIGN OF THIS PLAN IS THE PROPERTY 19.01 OF ENGINEERING TECH ASSOCIATES (ETA). THESE PLANS ARE FOR THE ONE TIME USE AT THE LOCATION INDICATED AND FOR THE CLIENT LISTED. ETA ASSUMES NO LIABILITY FOR THESE PLANS IF THEY ARE REPRODUCED, IN WHOLE OR

IH. : ن : STRUCTURAL ENGINEERS
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leigh, North Carolina 27609
Phone (919) 844-1661

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