HICKORY ELEVATION B



SIDE LOAD OPTION

WELLERS KNOLL LOT 39

Main Street Designs of Georgia, ILC 7/
www.MainStreetDesigns.LC.com 3050Reyal Blvd. South, Suite 135
Alpharetta, GA 30022
10
0. (404) 998-5722



1/8"=1'-0"

RELEASE DATE 03-29-2021,

HICKORY

CS-1.0

INCLUDED OPTIONS:

1st FLOOR

COVERED REAR PORCH

GOURMET KITCHEN

BOX OAK STAIRS

OPEN STAIR RAIL

FRENCH DOORS @ STUDY

2nd FLOOR

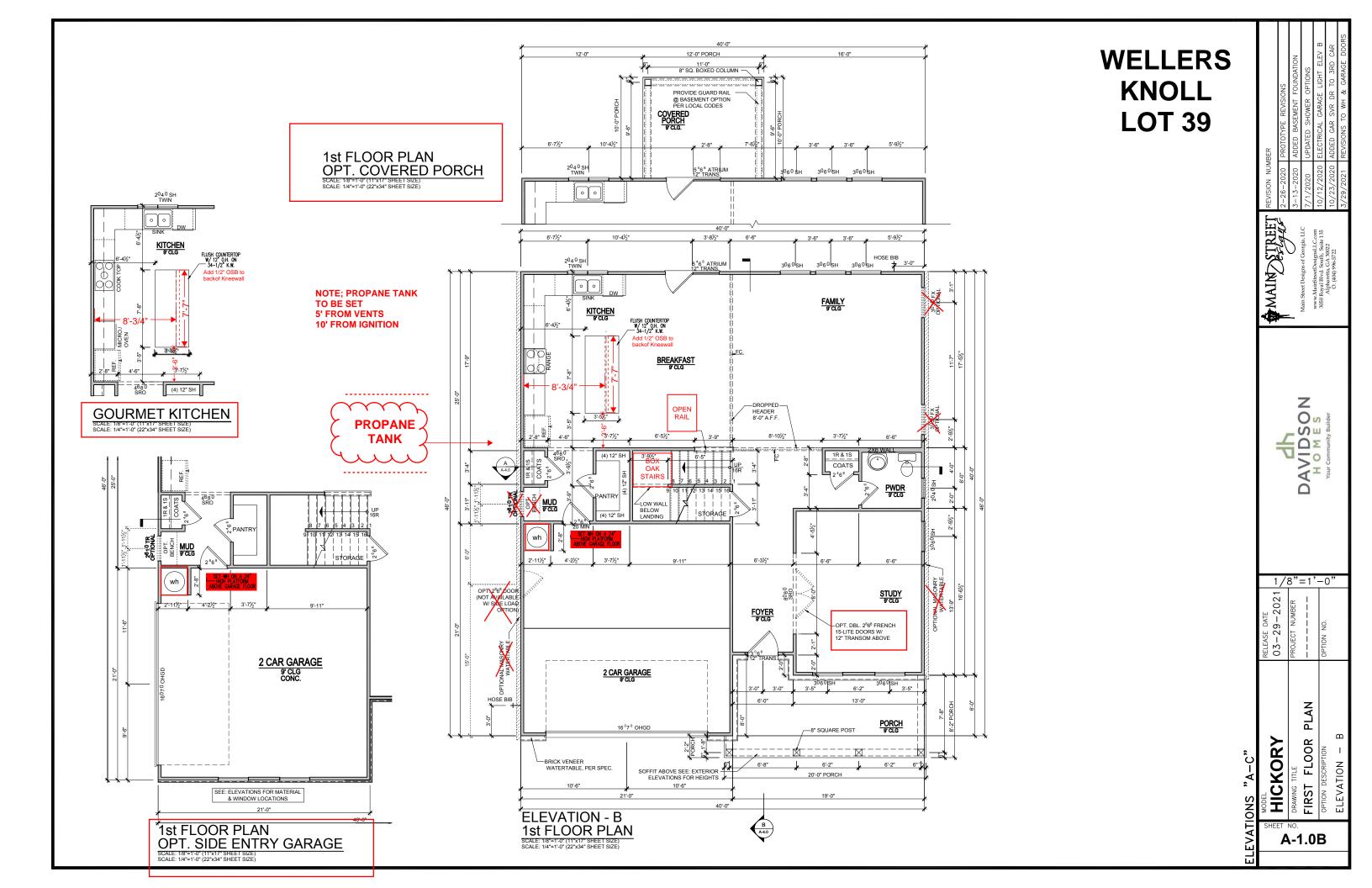
OWNERS DELUXE BATH

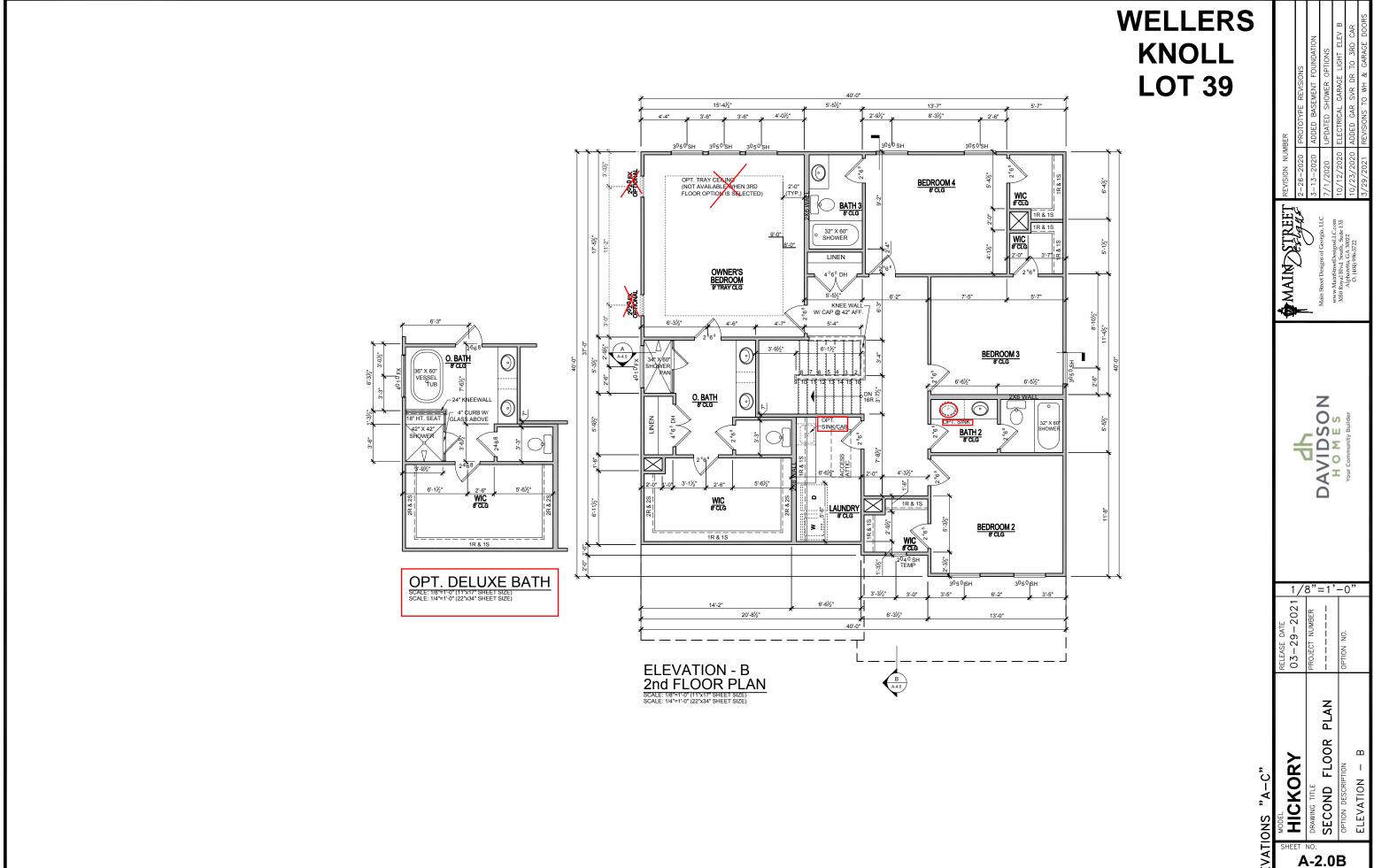
SECOND SINK @ BATH 2

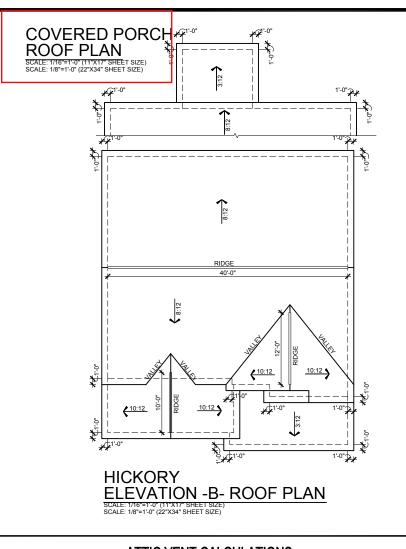
LAUNDRY SINK

BASE HOUSE SQUARE FOOTAGE CALCULATIONS							
ELEVATION	1st FLOOR	2nd FLOOR	TOTAL FIN.	FRONT PORCH	GARAGE	ROOF	
LEV. B	1,277 s.f.	1,458 s.f.	2,735 s.f.	165 s.f.	437 s.f.	3,337 s.f.	

OPTIONS:	1st FLOOR	
COVERED PORCH	+115 s.f.	







ATTIC VENT CALCULATIONS

NOTES:

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 TO CBC REQUIREMENTS.

PER DEVELOPER, AT ALL CANTILEVERED FLOORS, CANTILEVERED ARCHITECTURAL POP-OUTS, 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.

ALL ROOF DRAINAGE SHALL BE PIPED TO STREET OR APPROVED DRAINAGE FACILITY.

DASHED LINES INDICATE WALL BELOW.

LOCATE GUTTER AND DOWNSPOUTS PER BUILDER.

TRUSS MANUFACTURER SHALL SUBMIT STRUCTURAL CALCS AND SHOP DRAWINGS TO THE BUILDER'S GENERAL CONTRACTOR AND BUILDING DEPARTMENT FOR REVIEW PRIOR TO FABRICATION:

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

PORCH ROOF

115 SQ FT UNDER ROOF 150 SQ FT / 1 SQ FT = 0.77 SQ FT VENTILATION

SOFFIT VENTS 9 SQ IN = (.0625 SQ FT) ASSUME 100% VENTING @ SOFFIT

0.767 SQ FT = 12.3 FEET OF SOFFIT VENT 0.0625 SQ FT ACTUAL SOFFIT VENT PROVIDED

165 SQ FT UNDER ROOF 150 SQ FT / 1 SQ FT = 1.10 SQ FT VENTILATION SOFFIT VENTS 9 SQ IN = (.0625 SQ FT) ASSUME 100% VENTING @ SOFFIT 1.100 SQ FT = 17.6 FEET OF SOFFIT VENT ACTUAL SOFFIT VENT PROVIDED

MAIN ROOF

GARAGE ROOF

189 SQ FT UNDER ROOF ATTIC 300 SQ FT / 1 SQ FT = 0.63 SQ FT VENTILATION

RIDGE VENTS 18 SQ IN = (.125 SQ FT)

SOFFIT VENTS 9 SQ IN = (.0625 SQ FT) BOX VENTS 50 SQ IN = (.347 SQ FT)

0.63 SQ FT x 50% 0.315 SQ FT OF RIDGE 0.63 SQ FT x 50% 0.315 SQ FT OF SOFFIT

0.315 SQ FT = 2.5 FEET OF RIDGE VENT

= 5.0 FEET OF SOFFIT VENT

PORCH ROOF

58 FEET -11.0 COUNT (NEGATIVE = 0)

RIDGE VENTS 18 SQ IN = (.125 SQ FT) SOFFIT VENTS 9 SQ IN = (.0625 SQ FT) BOX VENTS 50 SQ IN = (.347 SQ FT)

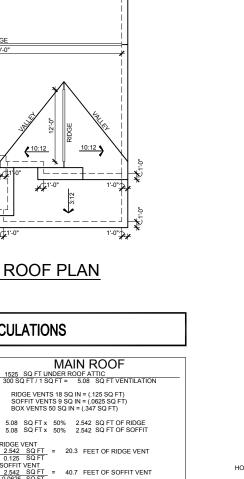
2.542 SQ FT 0.0625 SQ FT

0.315 SQ FT 0.0625 SQ FT

ACTUAL RIDGE VENT PROVIDED ACTUAL SOFFIT VENT PROVIDED

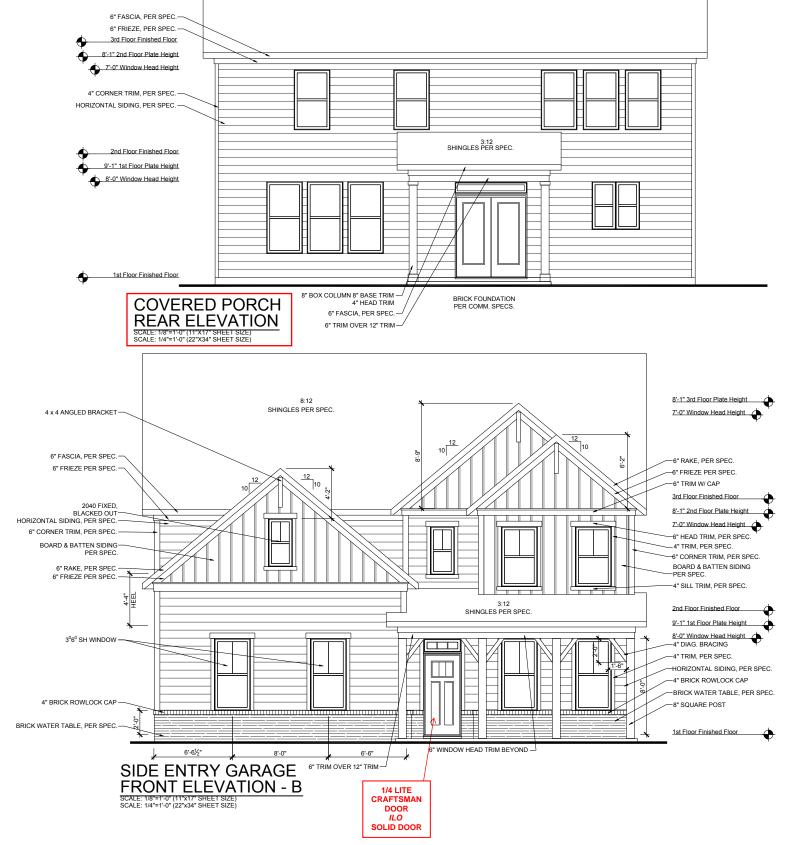
NUMBER OF BOX VENTS NEEDED (REQ - ACTUAL x .347)

ACTUAL RIDGE VENT PROVIDED ACTUAL SOFFIT VENT PROVIDED NUMBER OF BOX VENTS NEEDED (REQ - ACTUAL x .347)



8'-1" 3rd Floor Plate Height

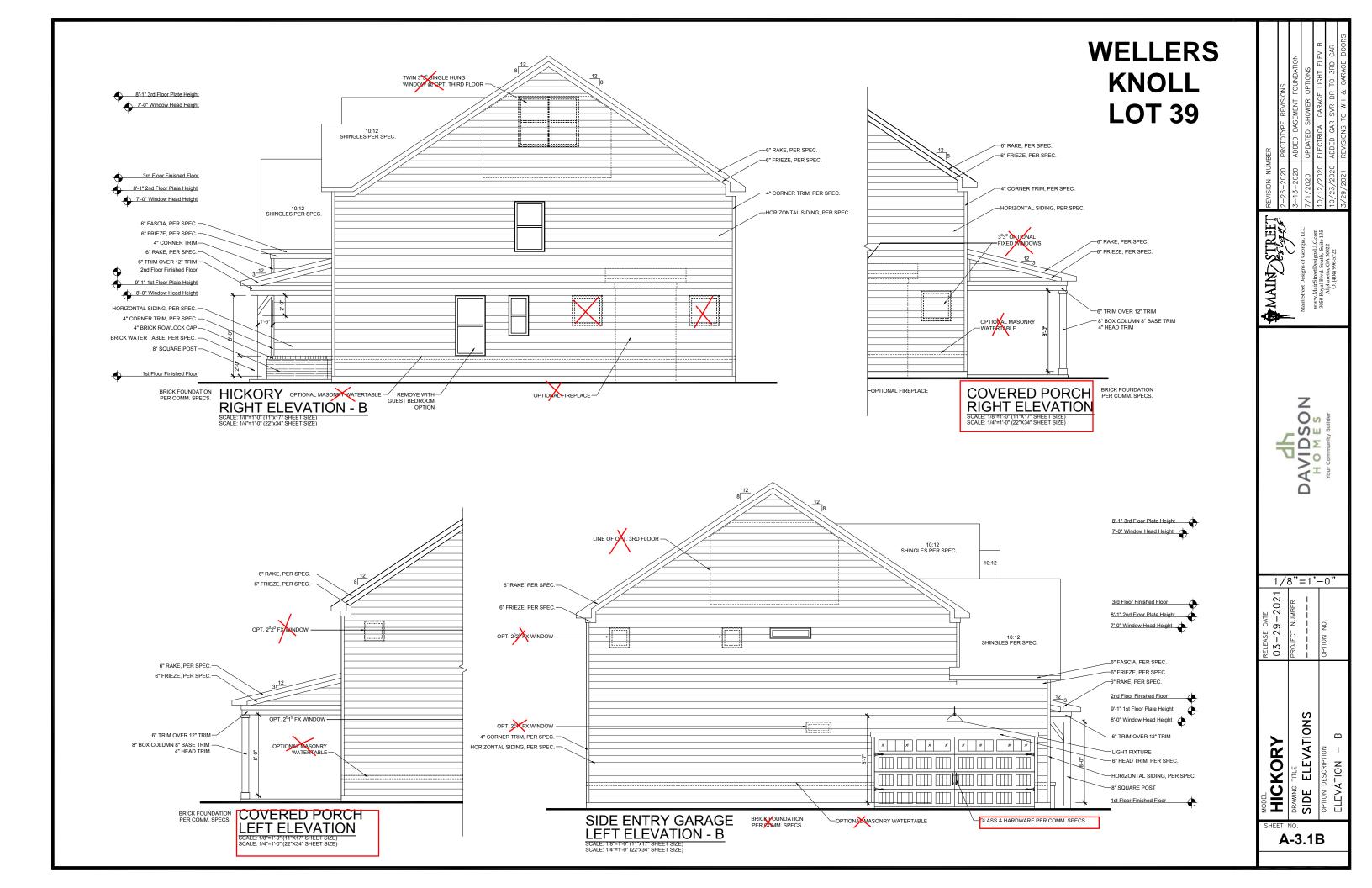
7'-0" Window Head Height

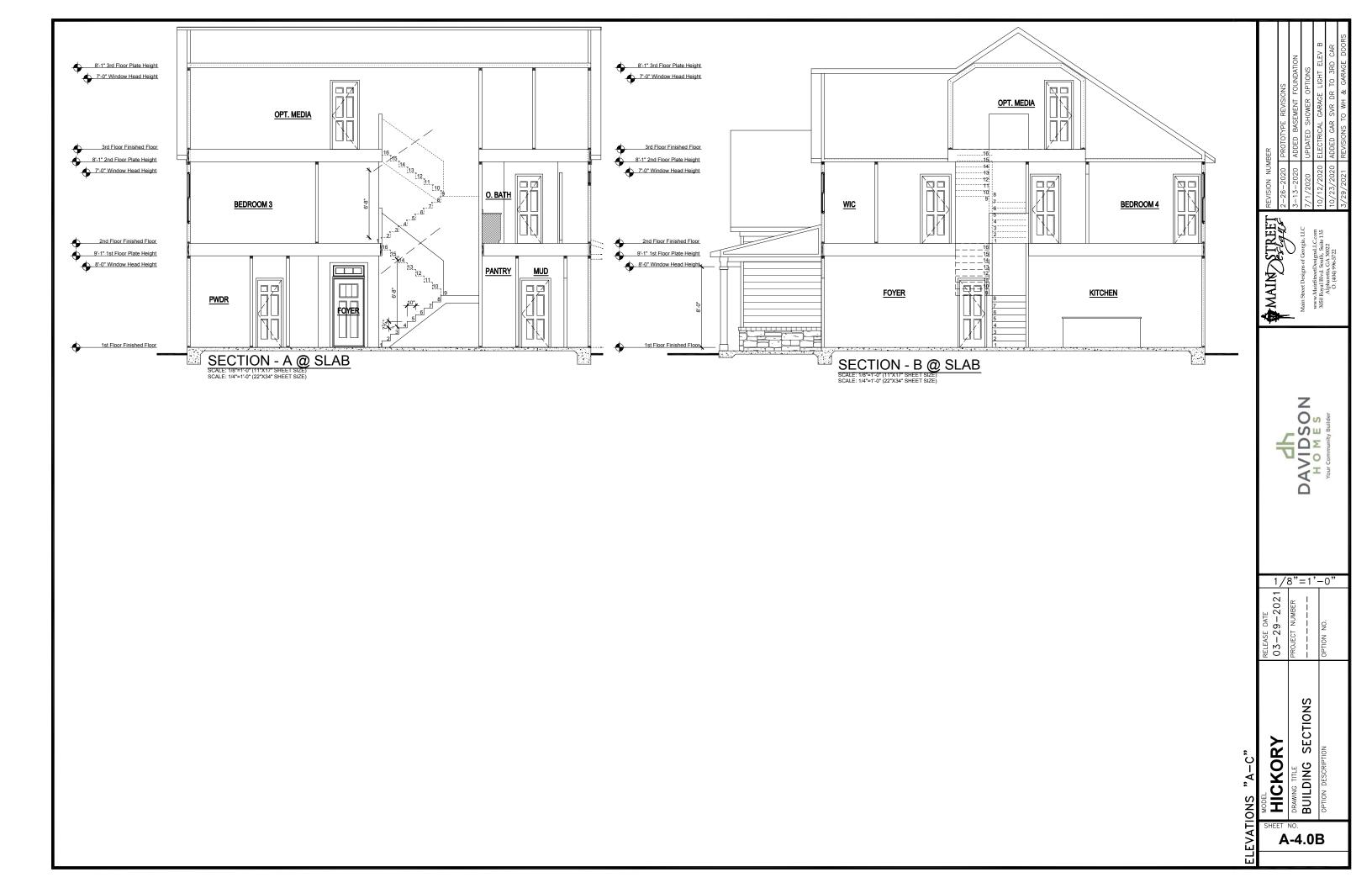


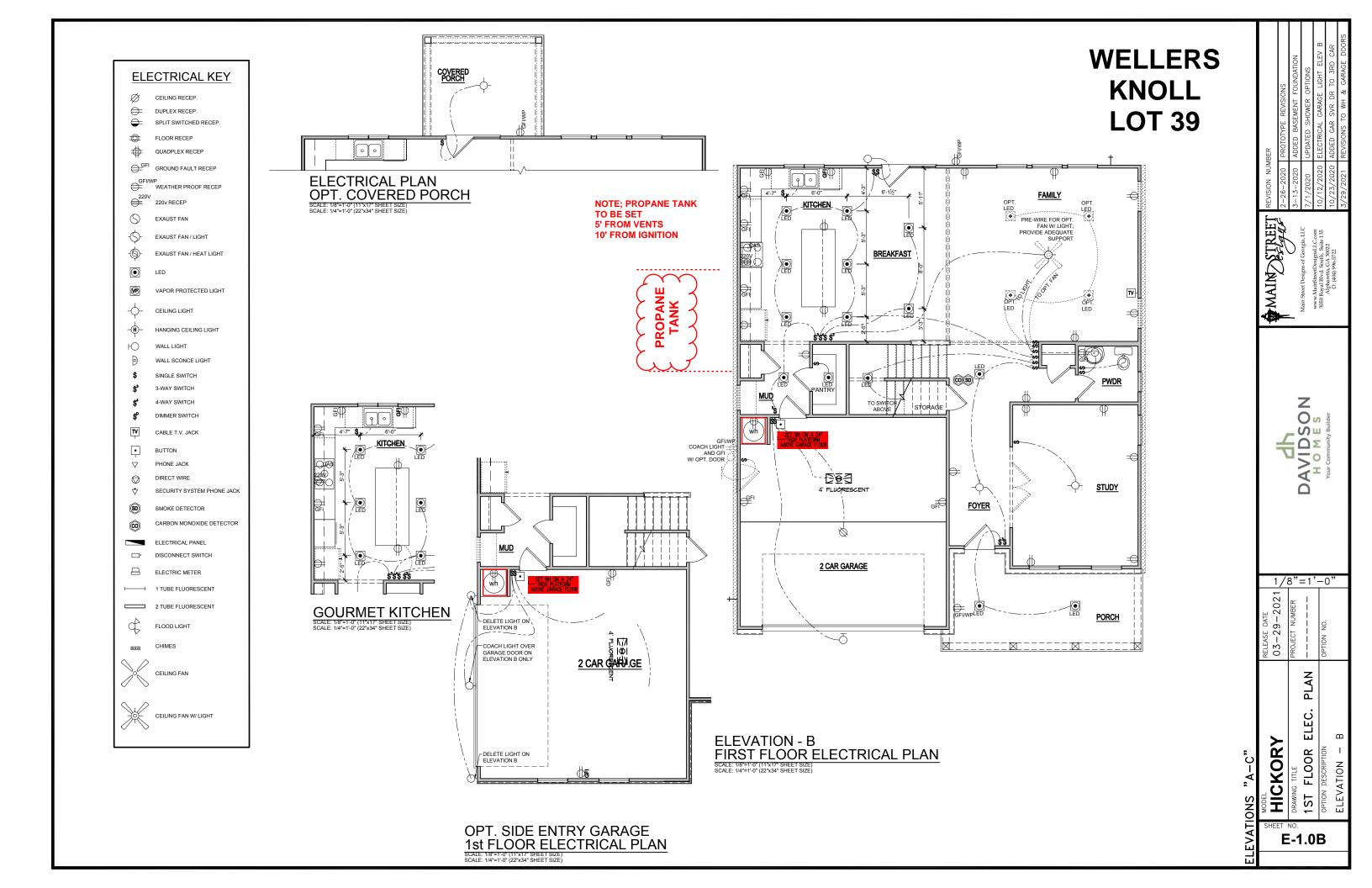
8:12 SHINGLES PER SPEC.

WELLERS KNOLL LOT 39

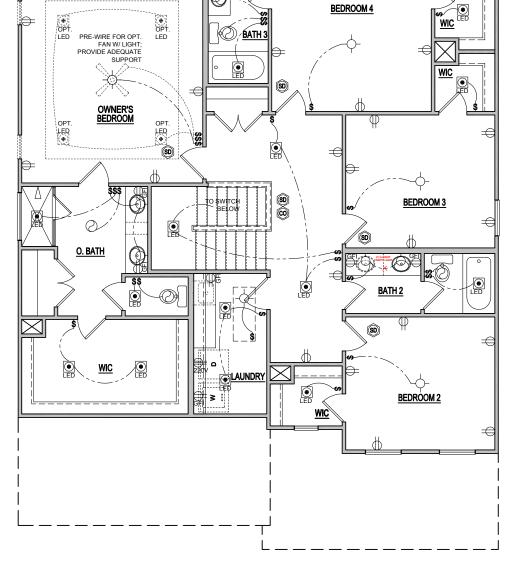


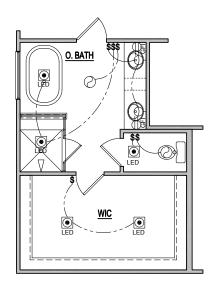






WELLERS KNOLL LOT 39





OPT. DELUXE BATH
SCALE: 1/8"=1'-0" (11"x17" SHEET SIZE)
SCALE: 1/4"=1'-0" (22"x34" SHEET SIZE)

ELEVATION - B SECOND FLOOR ELECTRICAL PLAN SCALE: 1/4"=1"-0" (22"x34" SHEET SIZE) SCALE: 1/4"=1"-0" (22"x34" SHEET SIZE)

PLAN SECOND FLOOR
OPTION DESCRIPTION HICKORY

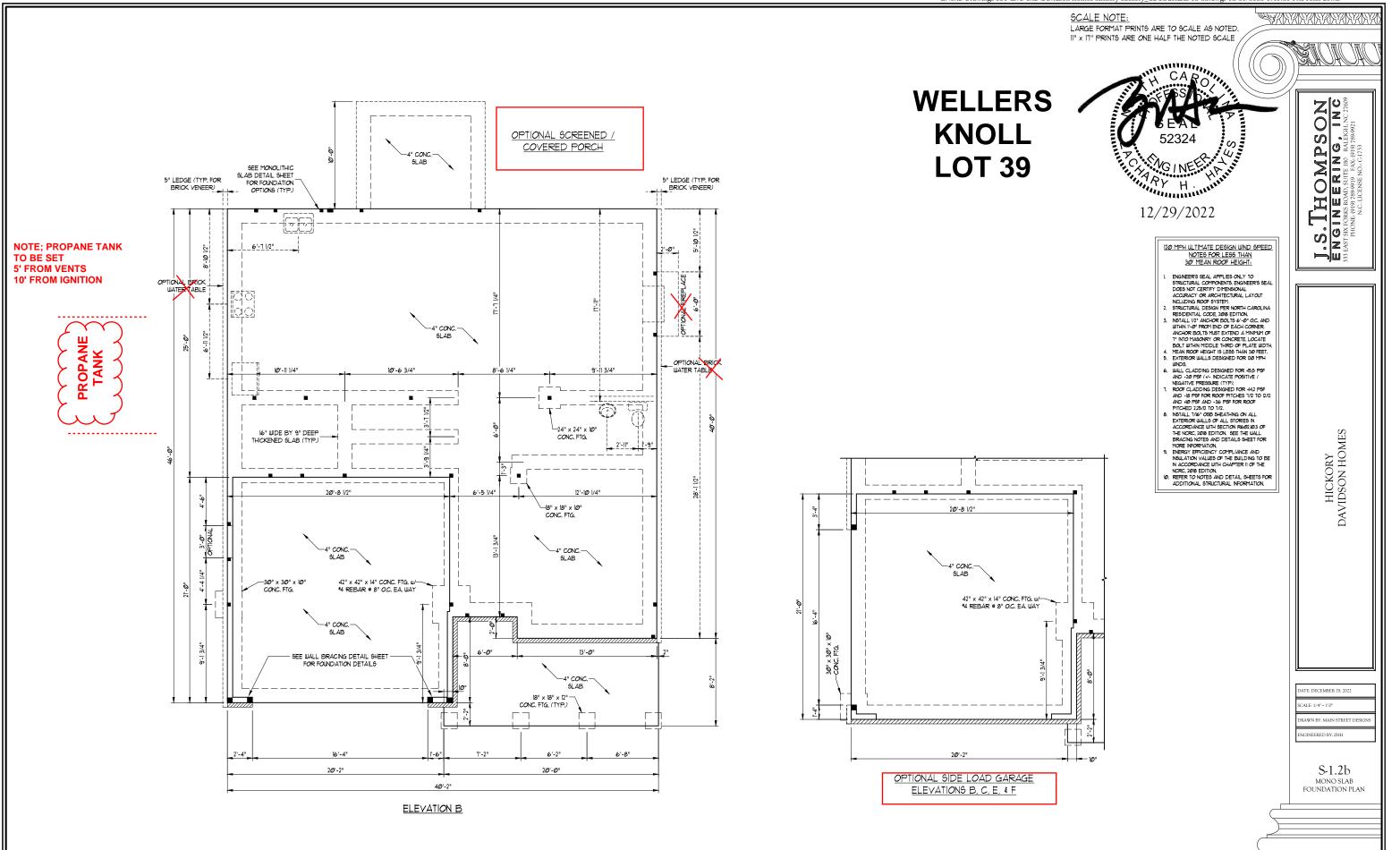
MAINDSTREET

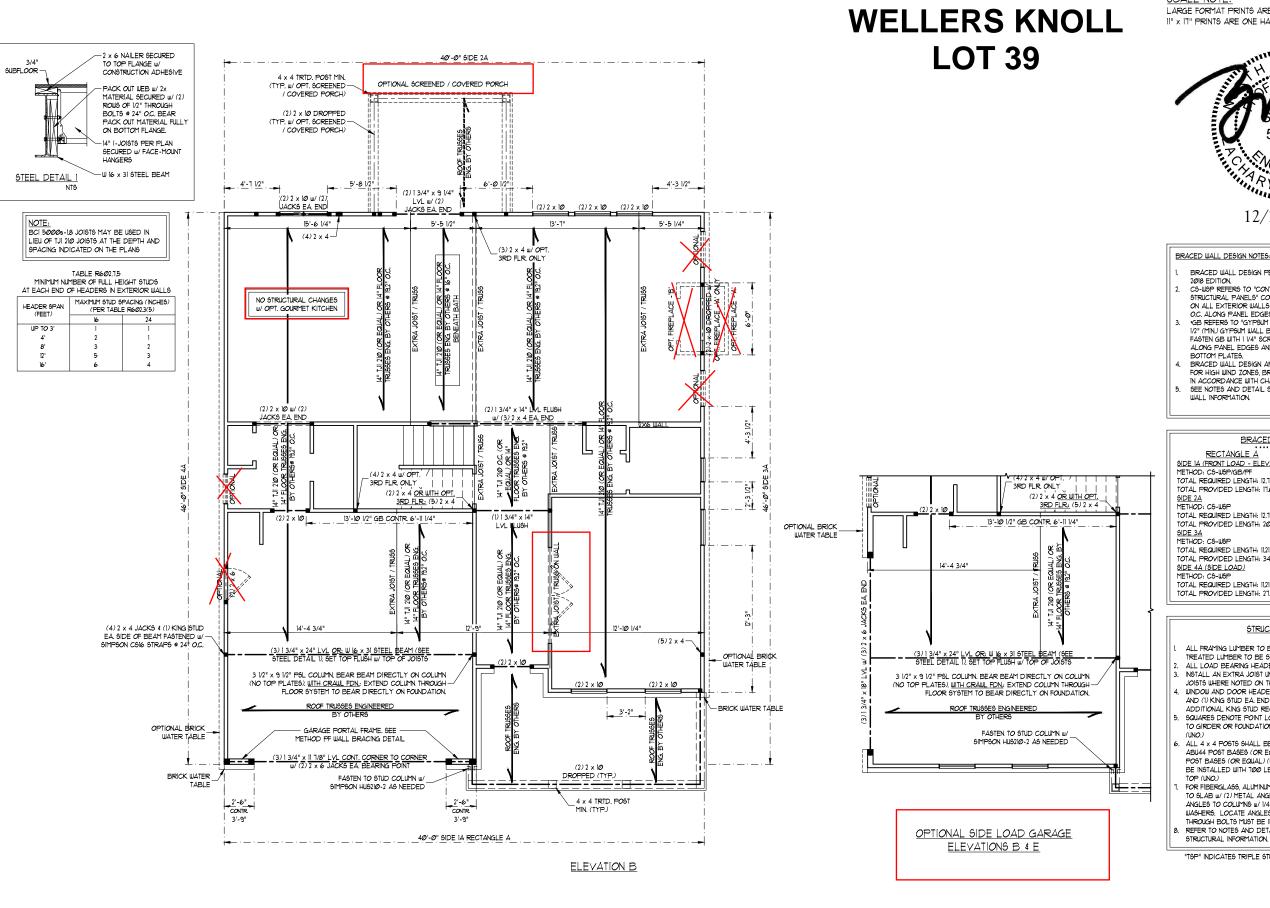
DAVIDSON HOMES

1/8"=1'-0"

RELEASE DATE 03-29-2021

E-2.0B





SCALE NOTE:

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

Thin Hairing 12/29/2022

BRACED WALL DESIGN NOTES:

- BRACED WALL DESIGN PER SECTION R602.10 OF THE NORC 2018 EDITION
- CS-WSP REFERS TO "CONTINUOUS SHEATHING WOOD STRUCTURAL PANELS" CONTRACTOR IS TO INSTALL 1/16" OSB ON ALL EXTERIOR WALLS ATTACHED W/ 8d NAILS SPACED 6" OC. ALONG PANEL EDGES AND 12" O.C. IN THE FIELD.
- *GB REFERS TO "GYP9UM BOARD" CONTRACTOR IS TO INSTALL 1/2" (MIN.) GYPSUM WALL BOARD WHERE NOTED ON THE PLANS. FASTEN GB WITH I I/4" SCREWS OR I 5/8" NAILS SPACED T" O.C. ALONG PANEL EDGES AND IN THE FIELD INCLUDING TOP AND BOTTOM PLATES.

 BRACED WALL DESIGN APPLIED IN WIND ZONES UP TO 130 MPH.
- FOR HIGH WIND ZONES, BRACE WALLS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH CHAPTER 45 OF THE NCRC 2018 EDITION. SEE NOTES AND DETAIL SHEETS FOR ADDITIONAL BRACED

BRACED WALL DESIGN

RECTANGLE A RECTANGLE B
 SIDE IA (FRONT LOAD - ELEV. B)
 SIDE IB

 METHOD: C5-W5P/GB/PF
 METHOD:

 TOTAL REQUIRED LENGTH: 12.15'
 TOTAL RE
 METHOD: PF TOTAL REQUIRED LENGTH: 2.5T¹ TOTAL PROVIDED LENGTH: 17.60' TOTAL PROVIDED LENGTH: 6.0'

SIDE 2A METHOD: C6-W6P TOTAL REQUIRED LENGTH: 12.75' TOTAL PROVIDED LENGTH: 2067' TOTAL PROVIDED LENGTH: 12.0' SIDE 3A

METHOD: C5-W5P TOTAL REQUIRED LENGTH: 11.21' TOTAL PROVIDED LENGTH: 34.83' TOTAL PROVIDED LENGTH: 30.0' SIDE 4A (SIDE LOAD) METHOD: CS-WSP

TOTAL REQUIRED LENGTH: II.21' TOTAL PROVIDED LENGTH: 27.51 SIDE 3B/4A COMBINED METHOD: CS-WSF TOTAL REQUIRED LENGTH: 13.21' SIDE 4B METHOD: CS-WSF

TOTAL REQUIRED LENGTH: 2.51'

TOTAL PROVIDED LENGTH: 19.331

SIDE 2B

STRUCTURAL NOTES:

- ALL FRAMING LUMBER TO BE SPF *2 OR SYP *2 (UNO). ALL TREATED LUMBER TO BE SYP #2 (UNO).
- ALL LOAD BEARING HEADERS TO BE (2) 2 x 6 (UNO). INSTALL AN EXTRA JOIST UNDER WALLS PARALLEL TO FLOOR
- JOISTS WHERE NOTED ON THE PLANS. WINDOW AND DOOR HEADERS TO BE SUPPORTED W/ (1) JACK STUD
- AND (1) KING STUD EA. END (UNO.). SEE TABLE R602.1.5 FOR ADDITIONAL KING STUD REQUIREMENTS.
- SQUARES DENOTE POINT LOADS WHICH REQUIRE SOLID BLOCKING TO GIRDER OR FOUNDATION. ALL SQUARES TO BE (2) STUDS ALL 4 x 4 POSTS SHALL BE ANCHORED TO SLABS W/ SIMPSON
- ABU44 POST BASES (OR EQUAL) AND 6 \times 6 POSTS w/ ABU66 POST BASES (OR EQUAL) (UNO). ALL 4 \times 4 AND 6 \times 6 POSTS TO BE INSTALLED WITH 100 LB CAPACITY UPLIFT CONNECTORS AT FOR FIBERGLASS, ALUMINUM, OR COLUMN ENG. BY OTHERS, SECURE
- TO SLAB w/(2) METAL ANGLES USING 2" CONC. SCREWS. FASTEN ANGLES TO COLUMNS w/ 1/4" THROUGH BOLTS w/ NUTS AND WASHERS. LOCATE ANGLES ON OPPOSITE SIDES OF COLUMN. THROUGH BOLTS MUST BE INSTALLED PRIOR TO SETTING COLUMN. REFER TO NOTES AND DETAIL SHEETS FOR ADDITIONAL
- "TSP" INDICATES TRIPLE STUD POCKET BETWEEN WINDOW UNITS.

S-3b SECOND FLOOR FRAMING PLAN

ON CZZGGO ശ HOMP. (O) S

HICKORY DAVIDSON HOMES

TE: DECEMBER 29, 2022 AWN BY: MAIN STREET DE

INEERED BY: ZHH

WELLERS KNOLL LOT 39

SCALE NOTE:

LARGE FORMAT PRINTS ARE TO SCALE AS NOTED.

11" x 17" PRINTS ARE ONE HALF THE NOTED SCALE



12/29/2022

BRACED WALL DESIGN NOTES:

- BRACED WALL DESIGN PER SECTION R602.10 OF THE NORC
- 2016 EDITION.
 CS-USP REFERS TO "CONTINUOUS SHEATHING WOOD STRUCTURAL PANELS" CONTRACTOR IS TO INSTALL 1/16" OSB ON ALL EXTERIOR WALLS ATTACHED W/ 80 NAILS SPACED 6"
 O.C. ALONG PANEL EDGES AND 12" O.C. IN THE FIELD.

 'GB REFERS TO "GYPSUM BOARD" CONTRACTOR IS TO INSTALL
- 1/2" (MIN.) GYPSUM MALL BOARD WHERE NOTED ON THE PLANS. FASTEN GB WITH I I/4" SCREWS OR I 5/8" NAILS SPACED T" O.C. ALONG PANEL EDGES AND IN THE FIELD INCLUDING TOP AND BOTTOM PLATES.
 BRACED WALL DESIGN APPLIED IN WIND ZONES UP TO 130 MPH.
- FOR HIGH WIND ZONES, BRACE WALLS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH CHAPTER 45 OF THE NCRC 2018 EDITION. SEE NOTES AND DETAIL SHEETS FOR ADDITIONAL BRACED

NOTE:

- PER SECTION R602.10.3.2 OF THE 2018 NCRC, THE AMOUNT OF BRACING ON THE SECOND FLOOR EXCEEDS THE AMOUNT REQUIRED FOR THE FIRST FLOOR AND NO BRACED WALL
- RECUIRED FOR THE THIS ILCOK AND NO BRACED WALL ANALYSIS IS REQUIRED.

 2. SHEATH ALL EXTERIOR WALLS WITH 7/16" OSB SHEATHING ATTACHED WITH 8d NAILS AT 6" O.C. ALONG PANEL EDGES AND 12" O.C. IN THE FIELD.

STRUCTURAL NOTES:

- ALL FRAMING LUMBER TO BE 12 SPF OR 12 SYP (UNO).
- 2. ALL LOAD BEARING HEADERS TO BE (2) 2 x 6 (UNO). 3. WINDOW AND DOOR HEADERS TO BE SUPPORTED W/ (1) JACK STUD AND (1) KING STUD EA. END (UNO.). SEE TABLE R602.75 FOR ADDITIONAL KING STUD
- REQUIREMENTS. SQUARES DENOTE POINT LOADS WHICH REQUIRE SOLID BLOCKING TO GIRDER OR FOUNDATION. SQUARES TO BE (2) STUDS (UNO.)
- REFER TO NOTES AND DETAIL SHEETS FOR ADDITIONAL STRUCTURAL INFORMATION.

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

HEADER SPAN	MAXIMUM STUD SPACING (INCHE (PER TABLE R6023(5)			
(ILLI)	16	24		
UP TO 3'	1	1		
4'	2	1		
8'	3	2		
12'	5	3		
16'	6	4		

ATE: DECEMBER 29, 2022 DRAWN BY: MAIN STREET DE

> S-4b ATTIC FLOOR FRAMING PLAN

(4) 2 x 4 STUD POCKET BETWEEN WINDOWS (3) 2 x 4 w/ OPT. 3RD FLR. ONLY INCORPORATE OPTIONAL RAISED TRAY INTO ROOF TRUSSES (NOT-AYAILABLE W/ OPT. 3RD FLOOR) 3RD FLR. ONLY (5) 2 x 4 <u>OR WITH OPT.</u> 3RD FLR: (1) 2 x 4

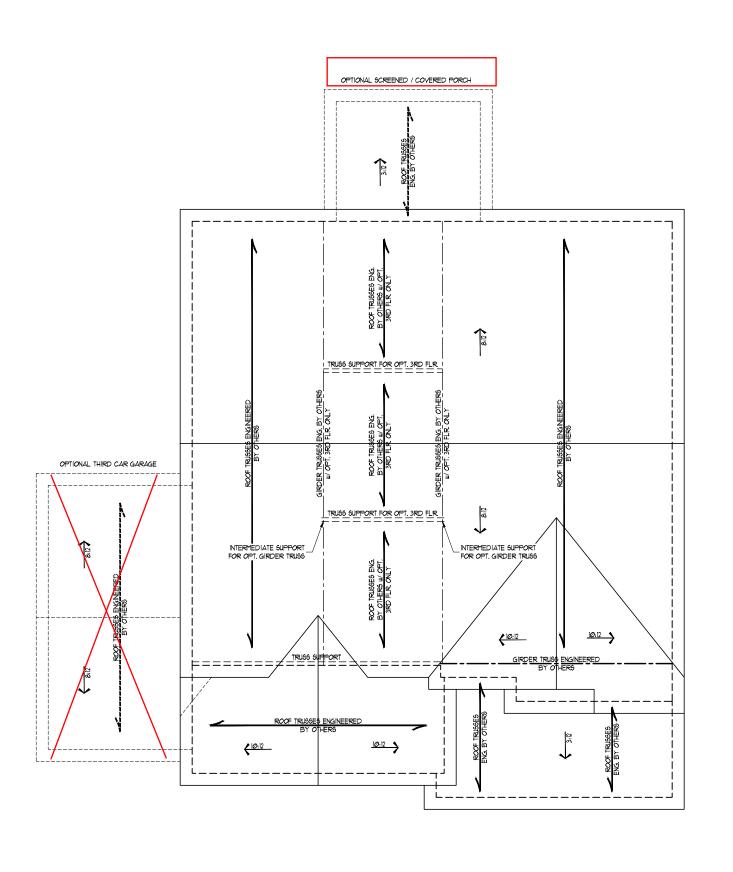
ELEVATION B

. THOMPSON
SINEERING, INC တ်ဖြ

HICKORY DAVIDSON HOMES

LARGE FORMAT PRINTS ARE TO SCALE AS NOTED.

SCALE NOTE:



WELLERS KNOLL LOT 39

11" x 17" PRINTS ARE ONE HALF THE NOTED SCALE

12/29/2022

STRUCTURAL NOTES:

- ALL FRAMING LUMBER TO BE 12 SPF OR 12 SYP (UNO). STICK FRAME OVER-FRAMED
- STICK FRAME OVER-FRAMED
 ROOF SECTIONS W 2 x 8 RIDGES,
 2 x 6 RAFTERS Is "O.C. AND
 FLAT 2 x ID VALLEYS OR USE
 VALLEY TRUSSES.

 FASTEN FLAT VALLEYS TO
 RAFTERS OR TRUSSES WITH
 SIMPSON LESS HURRICANE
 TIES THROUGH NOTCH IN ROOF
 SHEATHING. EACH RAFTER IS TO
 BE FASTENED TO THE FLAT
 VALLEY WITH A MIN. OF (6) 12d
 TOE NAILS.

 REFER TO SECTION REW2II OF THE
 2016 NORC FOR REQUIRED UP-LIFT
 RESISTANCE AT RAFTERS AND
 TRUSSES.

 TRUSSES.
- TRUSSES.
 REFER TO NOTES AND DETAIL
 SHEETS FOR ADDITIONAL
 STRUCTURAL INFORMATION.

THOMPSON

SINEERING, INC

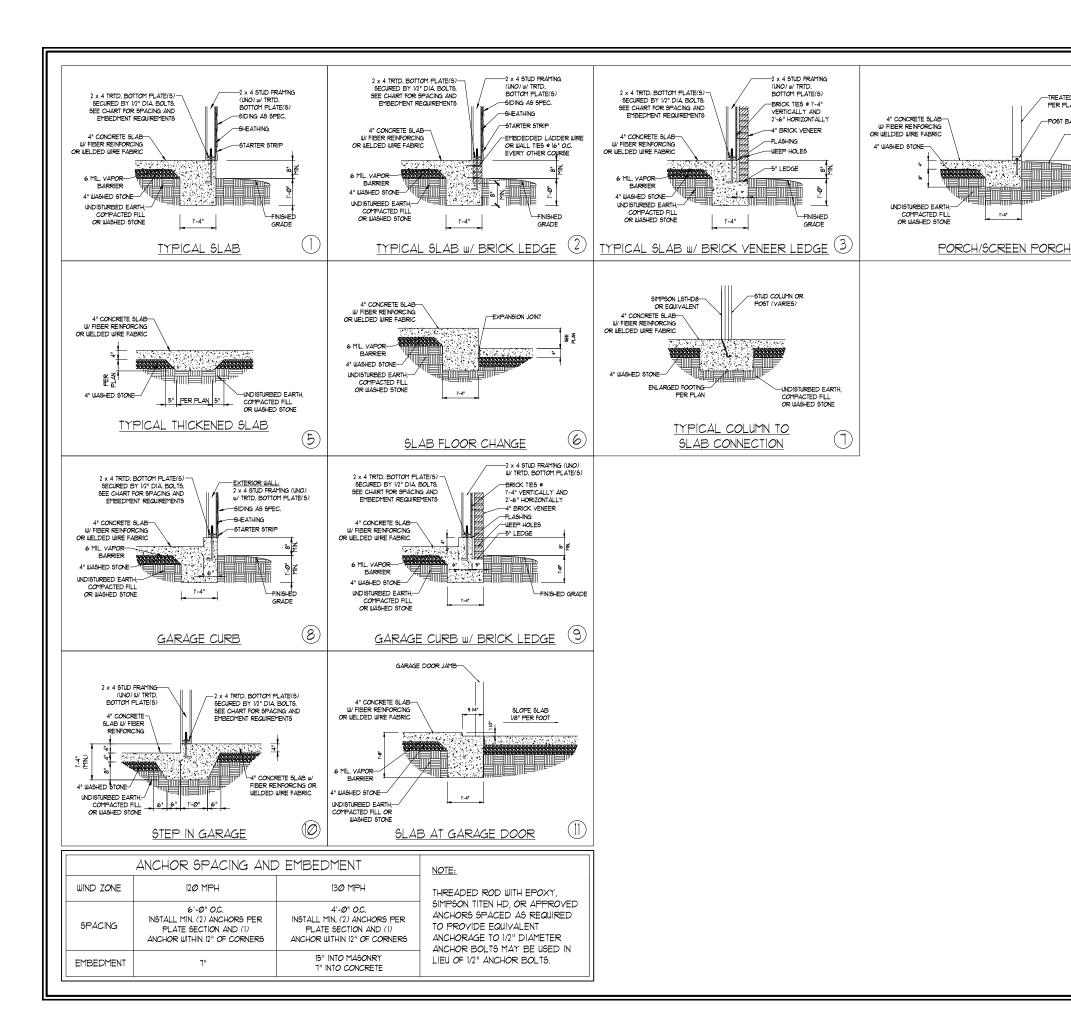
KYCKKS ROAD, SUTE BIG ARACHAGT, CZ7609

DATE: DECEMBER 29, 2022

DRAWN BY: MAIN STREET DESI GINEERED BY: ZHH

> S-6b ROOF FRAMING PLAN

ELEVATION B



SCALE NOTE: LARGE FORMAT PRINTS ARE TO SCALE AS NOTED. II" X IT" PRINTS ARE ONE HALF THE NOTED SCALE

POST BASE PER PLAN

FINISHED GRADE

(4)

ENGINEERING, INC.
333 EAST SIX FOREX ROAD SOUTH BO RALEGEL, NO. 27609
NO. LICENSE NO. C. 1733

HICKORY DAVIDSON HOMES



12/29/2022

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DATE: DECEMBER 29, 2022

SCALE: 1/4" – 1'.0"

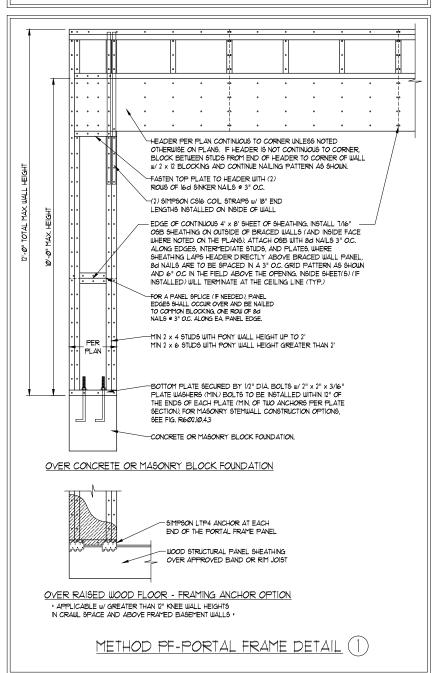
DRAWN BY: MAIN STREET DESENGINEERED BY: ZHH

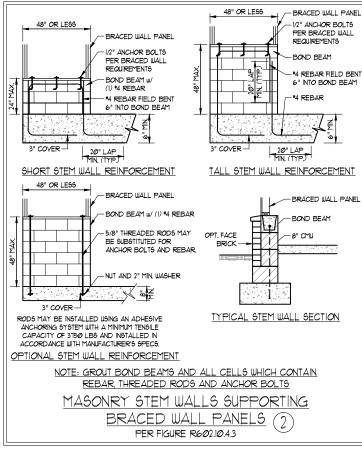
D-1 MONO SLAB FOUNDATION DETAILS

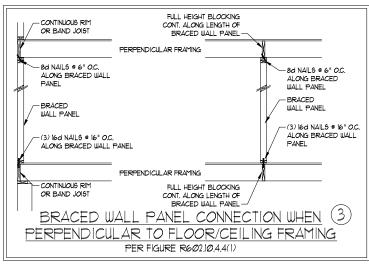
SCALE NOTE:

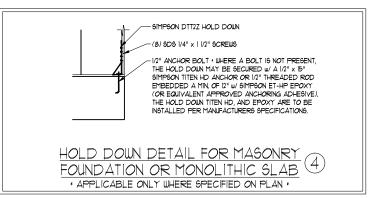
GENERAL WALL BRACING NOTES:

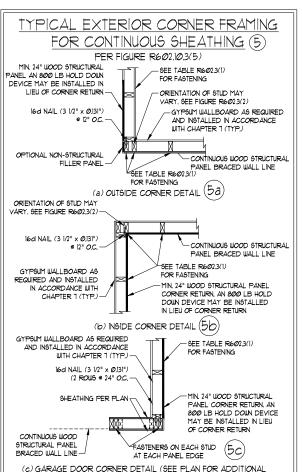
- WALL BRACING DESIGNED IN ACCORDANCE WITH CHAPTER 6 OF THE 2018 NC RESIDENTIAL BUILDING CODE (NCRC). TABLES AND FIGURES REFERENCED ARE FROM THE 2018 NORC.
 SEE THIS SHEET FOR GENERAL DETAILS, REFER TO THE 2018 NORC FOR ADDITIONAL INFORMATION AS NEEDED.
- BRACED EXTERIOR WALLS SUPPORTING ROOF TRUSSES AND RAFTERS, INCLUDING STORIES BELOW THE TOP FLOOR, HAVE
- BEEN DESIGNED PER R602.3.5 (3), WALL SHEATHING AND FASTENERS HAVE BEEN DESIGNED TO RESIST COMBINED UPLIFT AND SHEAR FORCES IN ACCORDANCE WITH ACCEPTED ENGINEERED PRACTICE. 4. SEE STRUCTURAL SHEETS FOR BRACED WALL LOCATIONS, DIMENSIONS, HOLD DOWN TYPE AND LOCATIONS, BRACED WALL
- LINE KEY WITH WALL DESIGN SUMMARY OF REQUIRED/PROVIDED TOTALS FOR EACH WALL LINE AND ANY SPECIAL NOTES OR REQUIREMENTS.
- ALL EXTERIOR WALLS ARE TO BE SHEATHED WITH CS-WSP IN ACCORDANCE WITH SECTION R602.10.3 UNLESS NOTED OTHERWISE.
- 6. ALL EXTERIOR AND INTERIOR WALLS TO HAVE 1/2" GYPSUM INSTALLED, WHEN NOT USING METHOD "GB", GYPSUM TO BE FASTENED PER TABLE R1023.5. METHOD GB TO BE FASTENED PER TABLE R602.10.1
- CS-USP REFERS TO THE "CONTINUOUS SHEATHING WOOD STRUCTURAL PANELS" WALL BRACING METHOD. 1/16" OSB SHEATHING IS TO BE INSTALLED ON ALL EXTERIOR WALLS ATTACHED W/ 6d COMMON NAILS OR 8d (2 1/2" LONG X Ø/13" DIAMETER) NAILS SPACED 6" O.C. ALONG PANEL EDGES AND 12" O.C. IN THE FIELD (UNO.).
- GB REFERS TO THE "GYPSUM BOARD" WALL BRACING METHOD. 1/2" (MIN.) GYPSUM WALL BOARD IS TO BE INSTALLED ON BOTH SIDES OF THE BRACED WALL FASTENED WITH 1/4" SCREWS OR 15/8" NAILS SPACED TO OC. ALONG PANEL EDGES INCLUDING TOP AND BOTTOM PLATES AND INTERMEDIATE SUPPORTS (UN.O.). YERRY ALL FASTENER OPTIONS FOR 1/2" AND 5/8' GYPSUM PRIOR TO CONSTRUCTION. FOR INTERIOR FASTENER OPTIONS SEE TABLE RT02.35. FOR EXTERIOR FASTENER OPTIONS SEE TABLE R602.3(I). EXTERIOR GB TO BE INSTALLED VERTICALLY.
- REQUIRED BRACED WALL LENGTH FOR EACH SIDE OF THE CIRCUMSCRIBED RECTANGLE ARE INTERPOLATED PER TABLE READ. 103, METHOD CE-MEP CONTRIBUTES 115 ACTUAL LENGTH, METHOD GB CONTRIBUTES 5 115 ACTUAL LENGTH, AND METHOD PF CONTRIBUTES 15 IMPES 115 ACTUAL LENGTH.

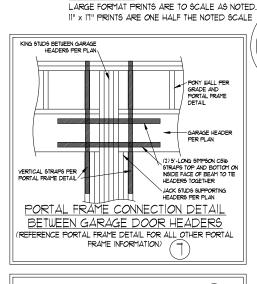


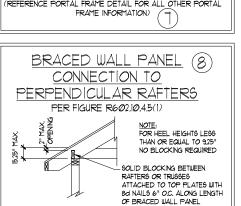












FULL HEIGHT BLOCKING

BRACED WALL PANEL

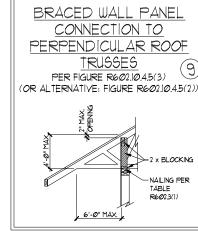
16" O.C. ALONG LENGTH OF

TOE NAIL (3) 8d NAILS AT

EA, BLOCKING MEMBER

BRACED WALL PANEL

(3) 16d NAILS @ 16" O.C.



INEERED BY: ZHI

HICKORY DAVIDSON HOMES

12/29/2022

TE: DECEMBER 29, 2022 RAWN BY: MAIN STREET DES

OM

(D) 2

S

S

D-4 WALL BRACING NOTES AND DETAILS

-8d NAILS @ 6" O.C. ALONG 8d NAILS # 6" O.C. ALONG BRACED WALL PANEL BRACED WALL PANEL - BRACED WALL PANEL BRACED WALL PANEL -(3) l6d NAILS @ 16" O.C. -(3) 16d NAILS @ 16" O.C. ALONG BRACED WALL PANEL ADDITIONAL FRAMING TINUOUS RIM W/ FINGER JOISTS OR DBL. BAND JOIST BRACED WALL PANEL

- CONTINUOUS RIM OR BAND JOIST

STRUCTURAL INFORMATION OR ALTERNATE CONFIGURATIONS)

MEMBER DIRECTLY BELOW

AT EA. BLOCKING ALONG BRACED WALL PANEL MEMBER >(2) 16d NAILS EA. SIDE FULL HEIGHT BLOCKING @ 16" O.C. ALONG LENGTH OF BRACED WALL PANEL

BRACED WALL PANEL CONNECTION WHEN 6

- ADDITIONAL FRAMING

BRACED WALL PANEL

MEMBER DIRECTLY ABOVE

PARALLEL TO FLOOR/CEILING FRAMING

PER FIG. R602 10 4 4(2)

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GENERAL NOTES

- ENGINEER'S SEAL APPLIES ONLY TO STRUCTURAL COMPONENTS INCLUDING ROOF RAFTERS, HIPS, VALLEYS, RIDGES, FLOORS, WALLS, BEAMS, HEADERS, COLUMNS, CANTILEVERS, OFFSET LOAD BEARING WALLS, PIERS, GIRDER SYSTEM AND FOOTING. ENGINEER'S SEAL DOES NOT CERTIFY DIMENSIONAL ACCURACY OF ARCHITECTURAL LAYOUT INCLUDING ROOF. ENGINEER'S SEAL DOES NOT APPLY TO I-JOIST OR FLOOR/ROOF TRUSS I AYOUT DESIGN AND ACCURACY.
- 2. ALL CONSTRUCTION SHALL CONFORM TO THE LATEST REQUIREMENTS OF THE NORTH CAROLINA RESIDENTIAL CODE (NCRC), 2018 EDITION, PLUS ALL LOCAL CODES AND REGULATIONS. THE STRUCTURAL ENGINEER IS NOT RESPONSIBLE FOR, AND WILL NOT HAVE CONTROL OF, CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES, OR SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE CONSTRUCTION WORK. NOR WILL THE ENGINEER BE RESPONSIBLE FOR THE CONTRACTORS FAILURE TO CARRY OUT THE CONSTRUCTION WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
- 3. STRUCTURAL DESIGN BASED ON THE PROVISIONS OF THE NCRC, 2018 EDITION (R301.4 R301.1)

LIVE LOAD (PSF)	DEAD LOAD (PSF)	DEFLECTION (IN)	
20	10	L/240 (L/360 w/ BRITTLE FINISHES)	
10	10	L/360	
40	10	L/36Ø	
40	10	L/36Ø	
40	10	L/360	
200 LB OR 50 (PLF)	10	L/36Ø	
5Ø	10	L/36Ø	
40	10	L/36Ø	
3Ø	10	L/36Ø	
40	10	L/36Ø	
(BASED ON TABLE R3012(4) WIND ZONE AND EXPOSURE)			
20 (P6F)			
	20 10 40 40 200 LB OR 50 (PLF) 50 40 30 40 (BASED ON TABLE R30)2(20 0 0 0 0 0 0 0 0 0 0 0 0 0	

- I-JOIST SYSTEMS DESIGNED WITH 12 PSF DEAD LOAD AND DEFLECTION (IN) OF L/480
- FLOOR TRUSS SYSTEMS DESIGNED WITH 15 PSF DEAD LOAD
- 4. FOR 115 AND 120 MPH WIND ZONES, FOUNDATION ANCHORAGE IS TO COMPLY WITH SECTION R403.1.6 OF THE NCRC, 2018 EDITION. FOR 130 MPH, 140 MPH, AND 150 MPH WIND ZONES, FOUNDATION ANCHORAGE IS TO COMPLY WITH SECTION 4504 OF THE NCRC, 2018 EDITION.
- 5. ENERGY EFFICIENCY COMPLIANCE AND INSULATION VALUES OF THE BUILDING TO BE IN ACCORDANCE WITH CHAPTER II OF THE NCRC, 2018 EDITION.

FOOTING AND FOUNDATION NOTES

- FOUNDATION DESIGN BASED ON A MINIMUM ALLOWABLE BEARING CAPACITY OF 2000 PSF. CONTACT GEOTECHNICAL ENGINEER IF BEARING CAPACITY IS NOT ACHIEVED.
- 2. FOR ALL CONCRETE SLABS AND FOOTINGS, THE AREA WITHIN THE PERIMETER OF THE BUILDING ENVELOPE SHALL HAVE ALL VEGETATION, TOP SOIL AND FOREIGN MATERIAL REMOVED. FILL MATERIAL SHALL BE FREE OF VEGETATION AND FOREIGN MATERIAL. THE FILL SHALL BE COMPACTED TO ASSURE UNIFORM SUPPORT OF THE SLAB, AND EXCEPT WHERE APPROVED, THE FILL DEPTHS SHALL NOT EXCEED 24" FOR CLEAN SAND OR GRAVEL. A 4" THICK BASED COURSE CONSISTING OF CLEAN GRADED SAND OR GRAVEL SHALL BE PLACED. A BASE COURSE IS NOT REQUIRED WHERE A CONCRETE SLAB IS INSTALLED ON WELL-DRAIDED OR SAND-GRAVEL MIXTURE SOILS CLASSIFIED AS GROUP 1, ACCORDING TO THE UNITED SOIL CLASSIFICATION SYSTEM IN ACCORDANCE WITH TABLE R405.1 OF THE NCRC, 2018 EDITION.
- 3. PROPERLY DEWATER EXCAVATION PRIOR TO POURING CONCRETE WHEN BOTTOM OF CONCRETE \$LAB IS AT OR BELOW WATER TABLE. IF APPLICABLE, 3/4" 1" DEEP CONTROL JOINTS ARE TO BE SAWED WITHIN 4 TO 12 HOURS OF CONCRETE FINISHING AND WALL LOCATIONS HAVE BEEN MARKED. ADJUST WHERE NECESSARY.
- 4. CONCRETE SHALL CONFORM TO SECTION R402.2 OF THE NCRC, 2018 EDITION. CONCRETE REINFORCING STEEL TO BE ASTM A615 GRADE 60. WELDED WIRE FABRIC TO BE ASTM A185. MAINTAIN A MINIMUM CONCRETE COVER AROUND REINFORCING STEEL OF 3" IN FOOTINGS AND 1 1/2" IN SLABS. FOR POURED CONCRETE WALLS, CONCRETE COVER FOR REINFORCING STEEL MEASURED FROM THE INSIDE FACE OF THE WALL SHALL NOT BE LESS THAN 3/4". CONCRETE COVER FOR REINFORCING STEEL MEASURED FROM THE OUTSIDE FACE OF THE WALL. SHALL NOT BE LESS THAN 1 1/2" FOR 5" BARS OR SMALLER, AND NOT LESS THAN 2" FOR 6" BARS OR LARGER.
- 5. MASONRY UNITS TO CONFORM TO ACE 530/ASCE 5/TMS 402. MORTAR SHALL CONFORM TO ASTM C270.
- 6. THE UNSUPPORTED HEIGHT OF MASONRY PIERS SHALL NOT EXCEED FOUR TIMES THEIR LEAST DIMENSION FOR UNFILLED HOLLOW CONCRETE MASONRY UNITS AND TEN TIMES THEIR LEAST DIMENSION FOR SOLID OR SOLID FILLED PIERS, PERS MAY BE FILLED SOLID WITH CONCRETE OR TYPE M OR S MORTAR PIERS AND WALLS SHALL BE CAPPED WITH 8" OF SOLID MASONRY.
- 1. THE CENTER OF EACH OF THE PIERS SHALL BEAR IN THE MIDDLE THIRD OF ITS RESPECTIVE FOOTING, EACH GIRDER SHALL BEAR IN THE MIDDLE THIRD OF THE PIERS.
- 8. ALL CONCRETE AND MASONRY FOUNDATION WALLS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH THE PROVISIONS OF SECTION R404 OF THE NCRC, 2018 EDITION OR IN ACCORDANCE WITH ACI 318, ACI 332, NCMA TRE6-A OR ACE 530/A5CE 5/M5 402. MASONRY FOUNDATION WALLS ARE TO BE REINFORCED PER TABLE R404.II.(1), R404.II.(2), R404.II.(3), OR R404.II.(4) OF THE NCRC, 2018 EDITION. CONCRETE FOUNDATION WALLS ARE TO BE REINFORCED PER TABLE R404.II.(5) OF THE NCRC, 2018 EDITION. STEP CONCRETE FOUNDATION WALLS TO 2 x 6 FRAMED WALLS AT 16" OC WHERE GRADE PERMITS (UNO)

FRAMING NOTES

- I. ALL FRAMING LUMBER SHALL BE 12 SPF (Fb = 815 P6), Fv = 315 P6), E = 1600000 P6) OR 12 SYP (Fb = 915 P6), Fv = 115 P6), E = 16000000 P6) MINIMUM UNLESS NOTED OTHERWISE (UNO). ALL TREATED LUMBER SHALL BE 12 SYP MINIMUM UNLESS NOTED OTHERWISE (UNO).
- 2. LAMINATED VENEER LUMBER (LVL) SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES: Fb = 2600 PSI, Fv = 285 PSI, E = 1900000 PSI. LAMINATED STRAND LUMBER (LSL) SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES: Fb = 2325 PSI, Fv = 310 PSI, E = 1550000 PSI. PARALLEL STRAND LUMBER (PSL) UP TO T" DEPTH SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES: Fc = 2500 PSI, E = 1800000 PSI. PARALLEL STRAND LUMBER (PSL) MORE THAN T" DEPTH SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES: Fc = 2900 PSI, E = 2000000 PSI. INSTALL ALL CONNECTIONS PER MANUFACTURER'S SPECIFICATIONS.
- 3. STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING ASTM SPECIFICATIONS

 A.
 W AND WT 9HAPE9:
 ASTM A992

 B.
 CHANNELS AND ANGLES:
 ASTM A36

 C.
 PLATES AND BARS:
 ASTM A36

D. HOLLOW STRUCTURAL SECTIONS: ASTM A500 GRADE B

E. STEEL PIPE: ASTM A53, GRADE B, TYPE E OR S

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

 A, WOOD FRAMING
 (2) 1/2" DIA, x 4" LONG LAG SCREWS

 B, CONCRETE
 (2) 1/2" DIA, x 4" WEDGE ANCHORS

 C, MASONRY (FULLY GROUTED)
 (2) 1/2" DIA, x 4" LONG SIMPSON TITEN HD ANCHORS

LATERAL SUPPORT IS CONSIDERED ADEQUATE PROVIDING THE JOISTS ARE TOE NAILED TO THE 2x NAILER ON TOP OF THE STEEL BEAM, AND THE 2x NAILER IS SECURED TO THE TOP OF THE STEEL BEAM w/ (2) ROUS OF SELF TAPPING SCREWS @ I6" O.C. OR (2) ROWS OF 1/2" DIAMETER BOLTS @ I6" O.C. IF I/2" BOLTS ARE USED TO FASTEN THE NAILER, THE STEEL BEAM SHALL BE FABRICATED w/ (2) ROWS OF 9/16" DIAMETER HOLES @ I6" O.C.

- SQUARES DENOTE POINT LOADS WHICH REQUIRE SOLID BLOCKING TO GIRDER OR FOUNDATION, SHADED SQUARES DENOTE POINT LOADS FROM ABOVE WHICH REQUIRE SOLID BLOCKING TO SUPPORTING MEMBER BELOW.
- 6. ALL LOAD BEARING HEADERS TO CONFORM TO TABLE R602.7(1) AND R602.7(2) OF THE NCRC, 2018 EDITION OR BE (2) 2 x 6 WITH (1) JACK AND (1) KING STUD EACH END (UNO), WHICHEVER IS GREATER ALL HEADERS TO BE SECURED TO EACH JACK STUD WITH (4) 8d NAILS. ALL BEAMS TO BE SUPPORTED WITH (2) STUDS AT EACH BEARING POINT (UNO). INSTALL KING STUDS PER SECTION R602.7.5 OF THE NORTH CAROLINA RESIDENTIAL CODE, 2018 EDITION.
- 7. ALL BEAMS, HEADERS, OR GIRDER TRUSSES PARALLEL TO WALL ARE TO BEAR FULLY ON (1) JACK OR (2) STUDS MINIMUM OR THE NUMBER OF JACKS OR STUDS NOTED. ALL BEAMS OR GIRDER TRUSSES PERPENDICULAR TO WALL AND SUPPORTED BY (3) STUDS OR LESS ARE TO HAVE 1 1/2" MINIMUM BEARING (NO.). ALL BEAMS OR GIRDER TRUSSES PERPENDICULAR TO WALL AND SUPPORTED BY MORE THAN (3) STUDS OR OTHER NOTED COLUMN ARE TO BEAR FULLY ON SUPPORT COLUMN FOR ENTIRE WALL DEPTH (UNO). BEAM ENDS THAT BUTT INTO ONE ANOTHER ARE TO EACH BEAR EQUIAL LENGTHS (UNO).
- 8. FLITCH BEAMS SHALL BE BOLTED TOGETHER USING 1/2" DIAMETER BOLTS (ASTM A3Ø1) WITH WASHERS PLACED AT THREADED END OF BOLT. BOLTS SHALL BE SPACED AT 24" CENTERS (MAXIMUM), AND STAGGERED AT TOP AND BOTTOM OF BEAM (2" EDGE DISTANCE), WITH (2) BOLTS LOCATED AT 6" FROM EACH END (UNO).
- 9. ALL 1-JOIST OR TRUSS LAYOUTS ARE TO BE IN COMPLIANCE WITH THE OVERALL DESIGN SPECIFIED ON THE PLANS. ALL DEVIATIONS ARE TO BE BROUGHT TO THE ATTENTION OF THE ENGINEER OF RECORD PRIOR TO INSTALLATION.
- IØ. BRACED WALL PANELS SHALL BE CONSTRUCTED ACCORDING TO THE NORTH CAROLINA RESIDENTIAL CODE 2018 EDITION WALL BRACING CRITERIA. THE AMOUNT, LENGTH, AND LOCATION OF BRACING SHALL COMPLY WITH ALL APPLICABLE TABLES IN SECTION RE02.10.
- II. PROVIDE DOUBLE JOIST UNDER ALL WALLS PARALLEL TO FLOOR JOISTS. PROVIDE SUPPORT UNDER ALL WALLS PARALLEL TO FLOOR TRUSSES OR I-JOISTS PER MANUFACTURER'S SPECIFICATIONS. INSTALL BLOCKING BETWEEN JOISTS OR TRUSSES FOR POINT LOAD SUPPORT FOR ALL POINT LOADS ALONG OFFSET LOAD LINES.
- 12. FOR ALL HEADERS SUPPORTING BRICK VENEER THAT ARE LESS THAN 8'-0" IN LENGTH, REST A 6" x 4" x 5/16" STEEL ANGLE WITH 6" MINIMUM EMBEDMENT AT SIDES FOR BRICK SUPPORT (UN.O.). FOR ALL HEADERS 8'-0" AND GREATER IN LENGTH, BOLT A 6" x 4" x 5/16" STEEL ANGLE TO HEADER WITH 1/2" LAG SCREWS AT 12" O.C. STAGGERED FOR BRICK SUPPORT. FOR ALL BRICK SUPPORT AT ROOF LINES, BOLT A 6" x 4" x 5/16" STEEL ANGLE TO (2) 2 x 10 BLOCKING INSTALLED W/ (4) 12d NAILS EA. PLY BETWEEN WALL STUDS WITH (2) ROWS OF 1/2" LAG SCREWS AT 12" O.C. STAGGERED AND IN ACCORDANCE WITH SECTION RT03.82.1 OF THE NCRC, 2018 EDITION.
- 13. FOR STICK FRAMED ROOFS: CIRCLES DENOTE (3) 2 x 4 POSTS FOR ROOF MEMBER SUPPORT. HIP SPLICES ARE TO BE SPACED A MINIMUM OF 8'-0". FASTEN MEMBERS WITH THREE ROUS OF 12d NAILS AT 16" O.C. FRAME DORMER WALLS ON TOP OF DOUBLE OR TRIPLE RAFTERS AS SHOWN (UNO).
- 14. FOR TRUSSED ROOFS: FRAME DORMER WALLS ON TOP OF 2 × 4 LADDER FRAMING AT 24" O.C. BETWEEN ADJACENT ROOF TRUSSES. STICK FRAME OVER-FRAMED ROOF SECTIONS WITH 2 × 8 RIDGES, 2 × 6 RAFTERS AT 16" O.C. AND FLAT 2 × 10 VALLEYS (UNO).
- IS. ALL 4 x 4 AND 6 x 6 POSTS TO BE INSTALLED WITH 100 LB CAPACITY UPLIFT CONNECTORS TOP AND BOTTOM (UNO.) POSTS MAY BE SECURED USING ONE SIMPSON H6 OR LTSI2 UPLIFT CONNECTOR FASTENED TO THE BAND AT THE BOTTOM AND THE BEAM AT THE TOP OF EACH POST. ONE 16" SECTION OF SIMPSON CSI6 COIL STRAPPING WITH (8) 8d HDG NAILS AT EACH END MAY BE USED IN LIEU OF EACH TWIST STRAP IF DESIRED. FOR MASONRY OR CONCRETE FOUNDATION USE SIMPSON POST BASE.

SCALE NOTE:

LARGE FORMAT PRINTS ARE TO SCALE AS NOTED.

11" x 17" PRINTS ARE ONE HALF THE NOTED SCALE



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12/29/2022

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DATE: DECEMBER 29, 2022

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

DRAWN BY: MAIN STREET DE:

INEERED BY: ZHE

D-5 STANDARD STRUCTURAL NOTES