

STORED INC. SUITE 200, SUWANEE, GA 30024

FHONE (770) 614-3239

WWW.GARRELLASSOCIATES.COM

SILVERTON FALLS B
FRONT & REAR ELEV

REV. NO. REV. DATE/INIT.

01 03/04/20 (RP)

02 03/11/20 (RP)

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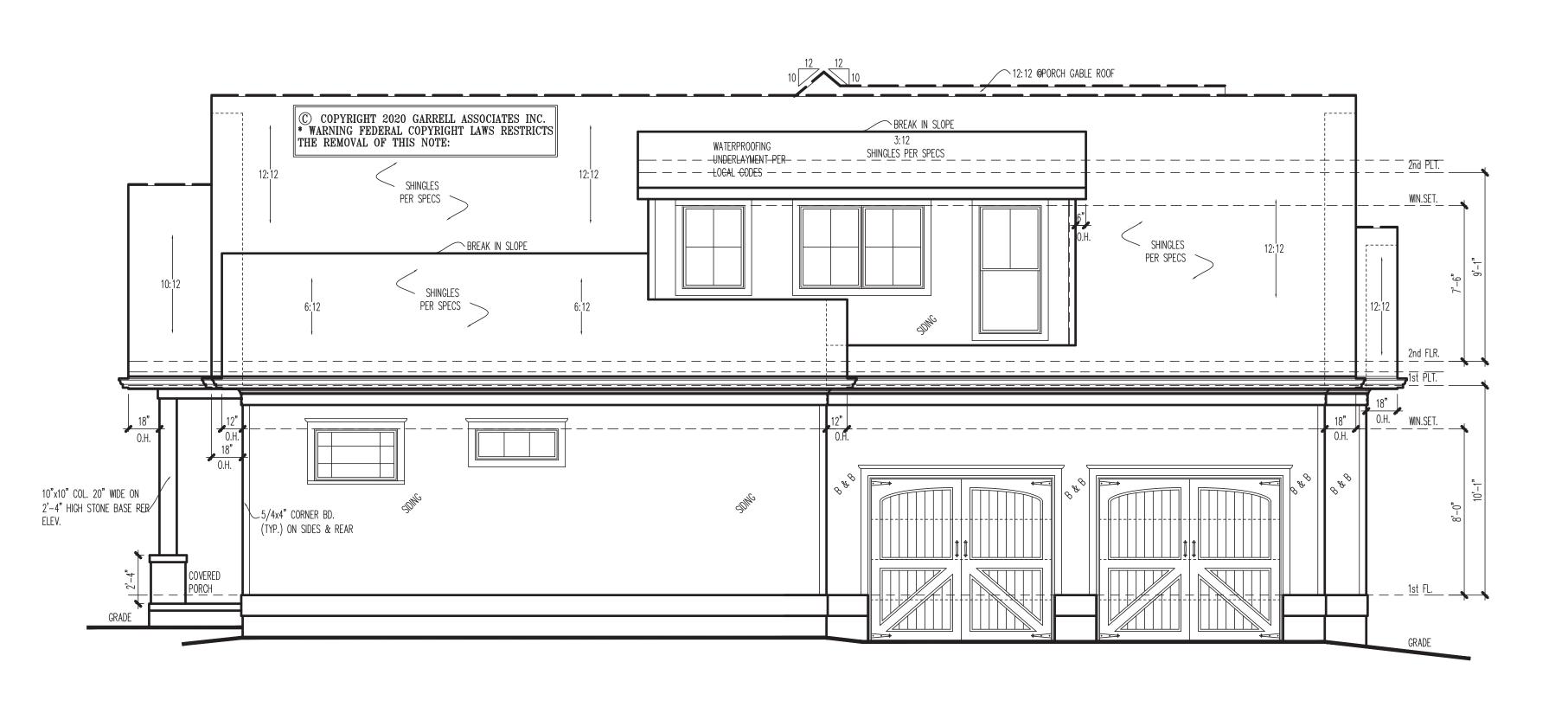
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FILE LOCATION:

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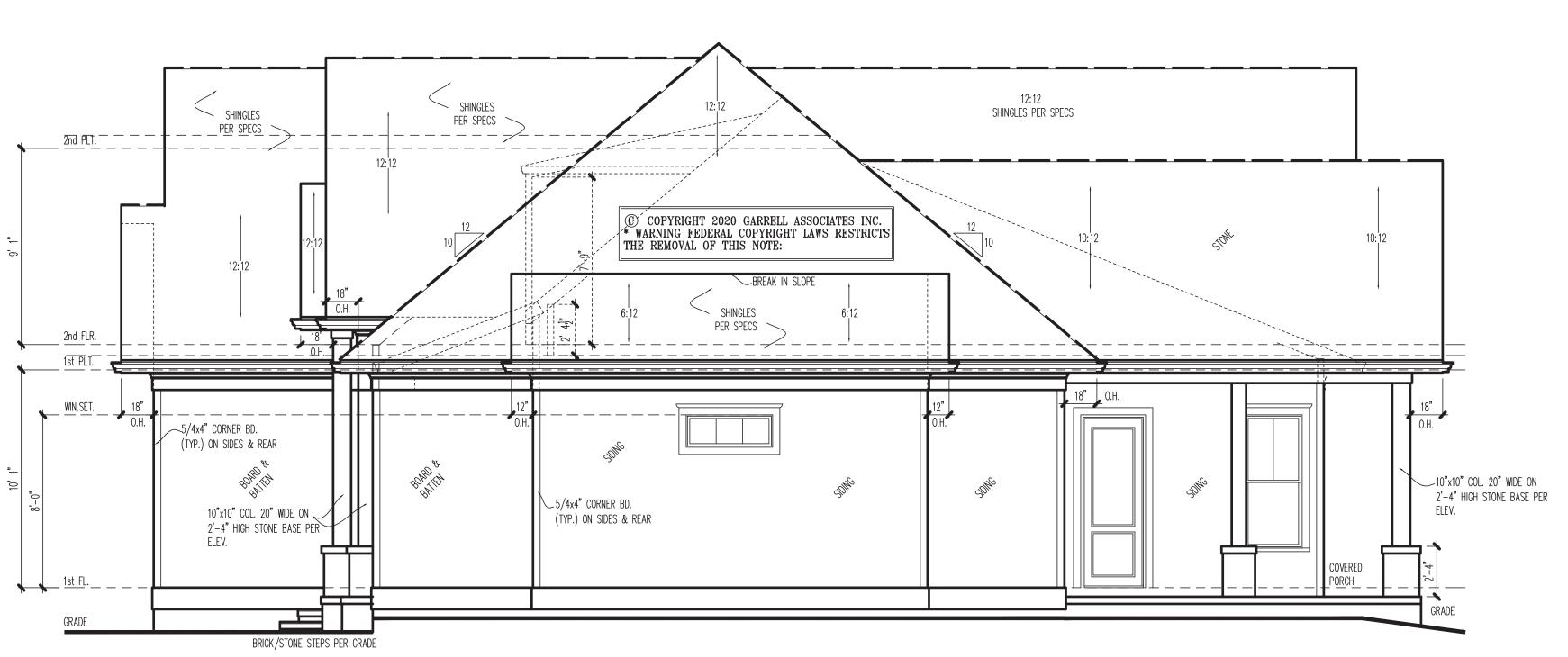
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DRAWN BY: SHEET NO.

RP E



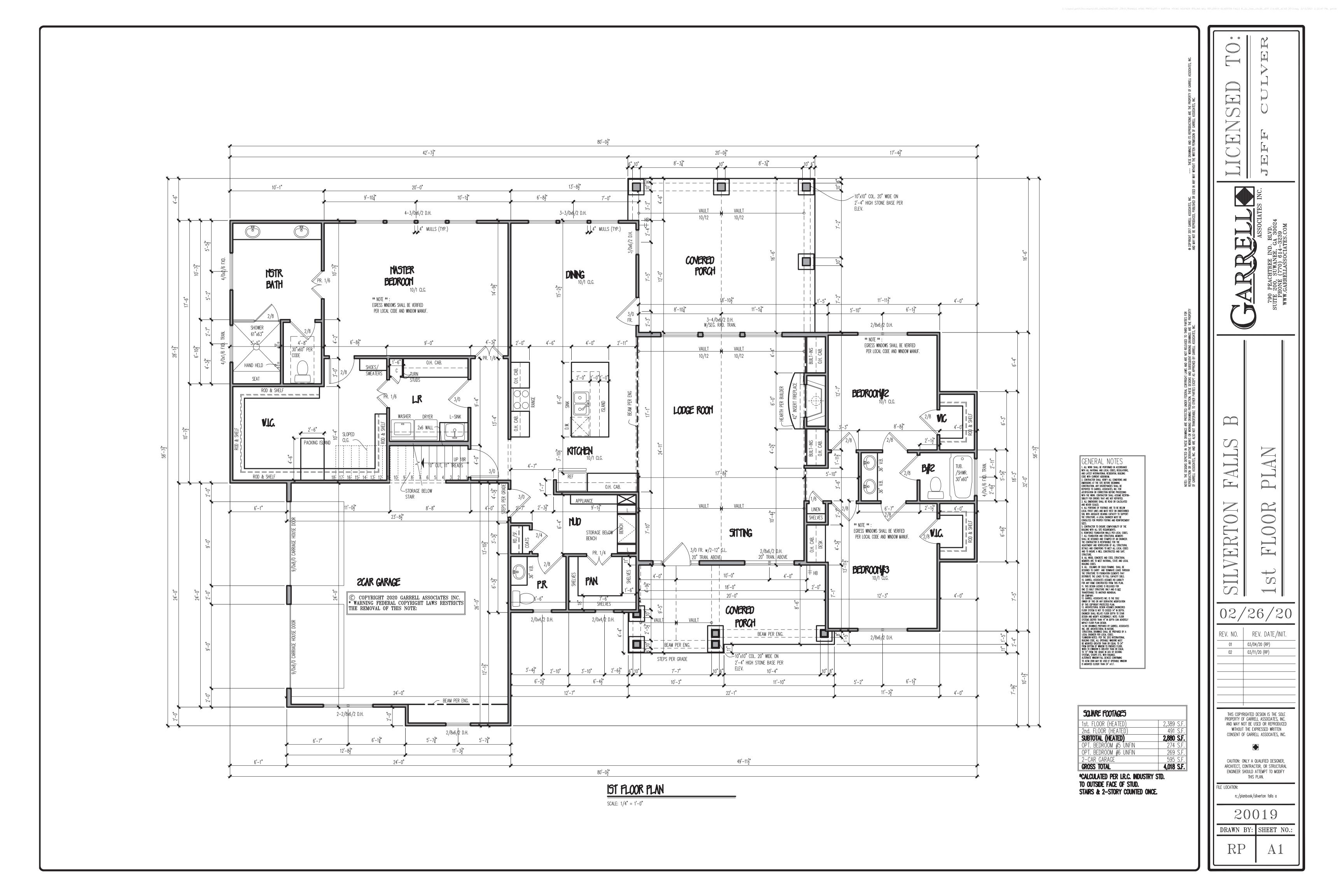
LEFT SIDE ELEVATION

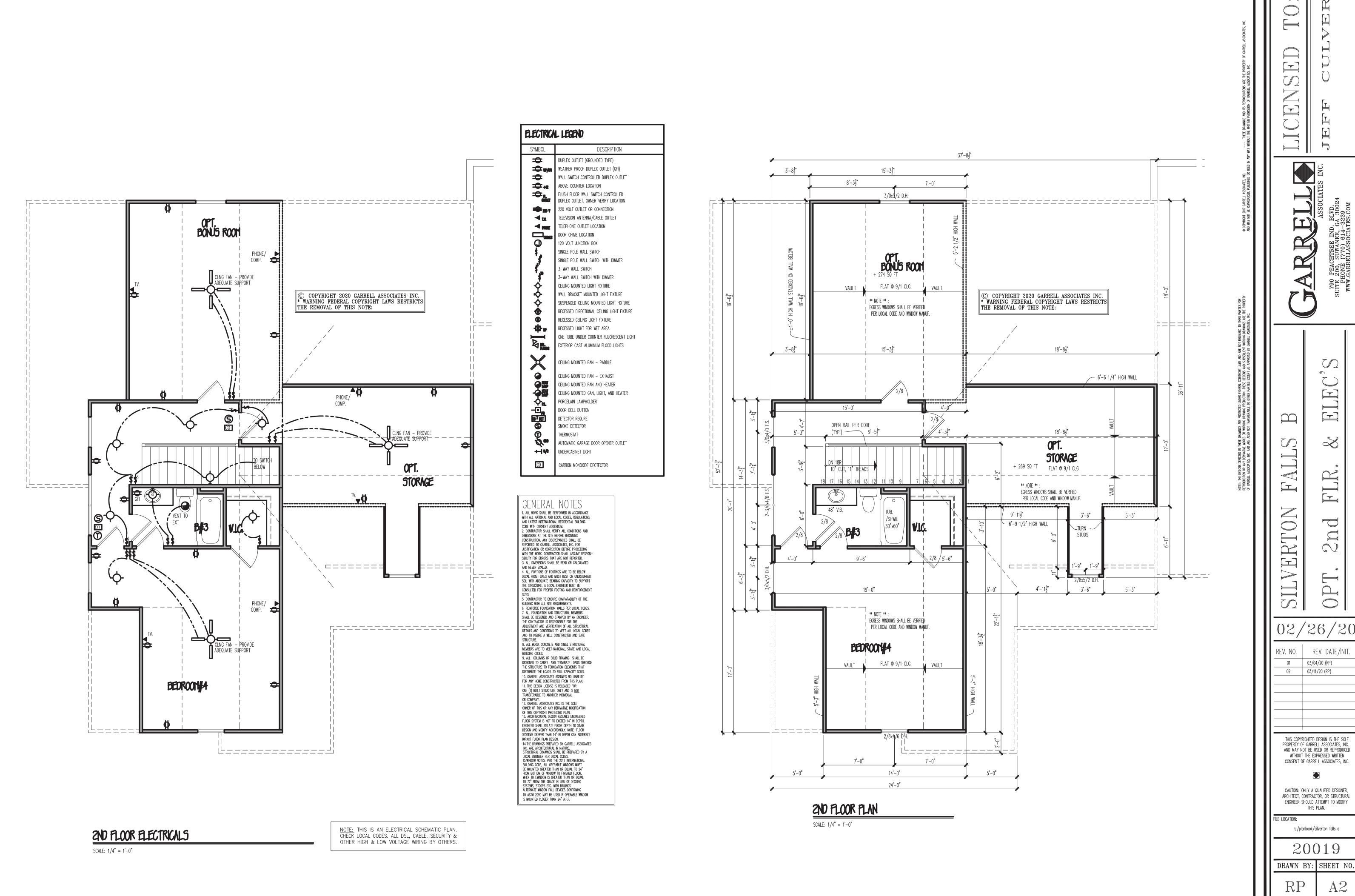
SCALE: 1/4" = 1'-0"



RIGHT SIDE ELEVATION

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





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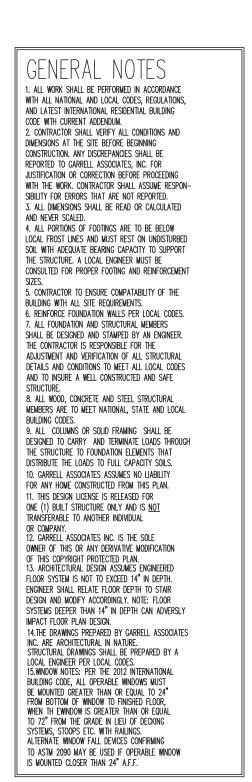
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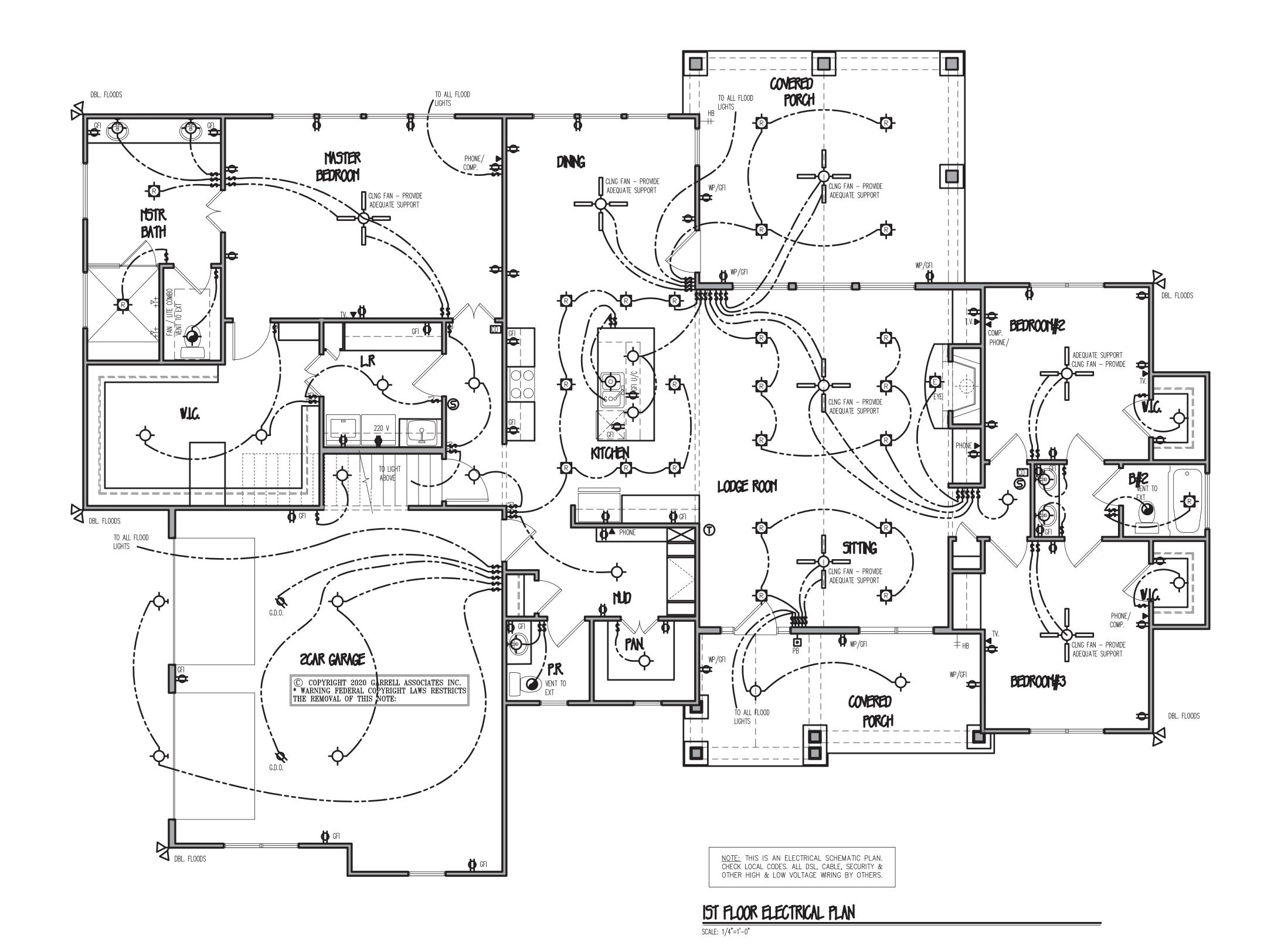
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DRAWN BY: SHEET NO.

FILE LOCATION:

CRAWL SPACE VENTILATION CALCULATION

2356 SQ. FT. OF CRAWL SPACE DIVIDED BY 150 EQUALS 15.7 SQ. FT. OF NET FREE AREA REQUIRED. SEE SECTION R408.1 OF

FREE VENT AREA MAY BE REDUCED TO 1/1500 IF AN APPROVED VAPOR BARRIER IS INSTALLED OVER 100% OF THE CRAWL FLOOR AND VENTS ARE INSTALLED TO PERMIT CROSS-VENTILATION OF

- ALL FRAMING LUMBER TO BE #2 SPF (UNO). ALL TREATED
- LUMBER TO BE #2 SYP (UNO). INSTALL AN EXTRA OR DOUBLE JOIST UNDER WALLS
- INSTALL 1/2" ANCHOR BOLTS 6'-0" O.C. AND WITHIN 1'-0" FROM END OF EACH CORNER. (MIN (2) ANCHORS PER PLATE SECTION.) ANCHOR BOLTS MUST EXTEND A MINIMUM OF 7" INTO MASONRY OR CONCRETE. LOCATE BOLT WITHIN
- INSTALL JOINT REINFORCEMENT @ 16" O.C. TO SECURE MULTIPLE WYTHE FOUNDATION WALLS TOGETHER.
- REFER TO NOTES ON SHEET S-4 AND DETAIL PAGES FOR

SMITH STRUC NGINEERING,





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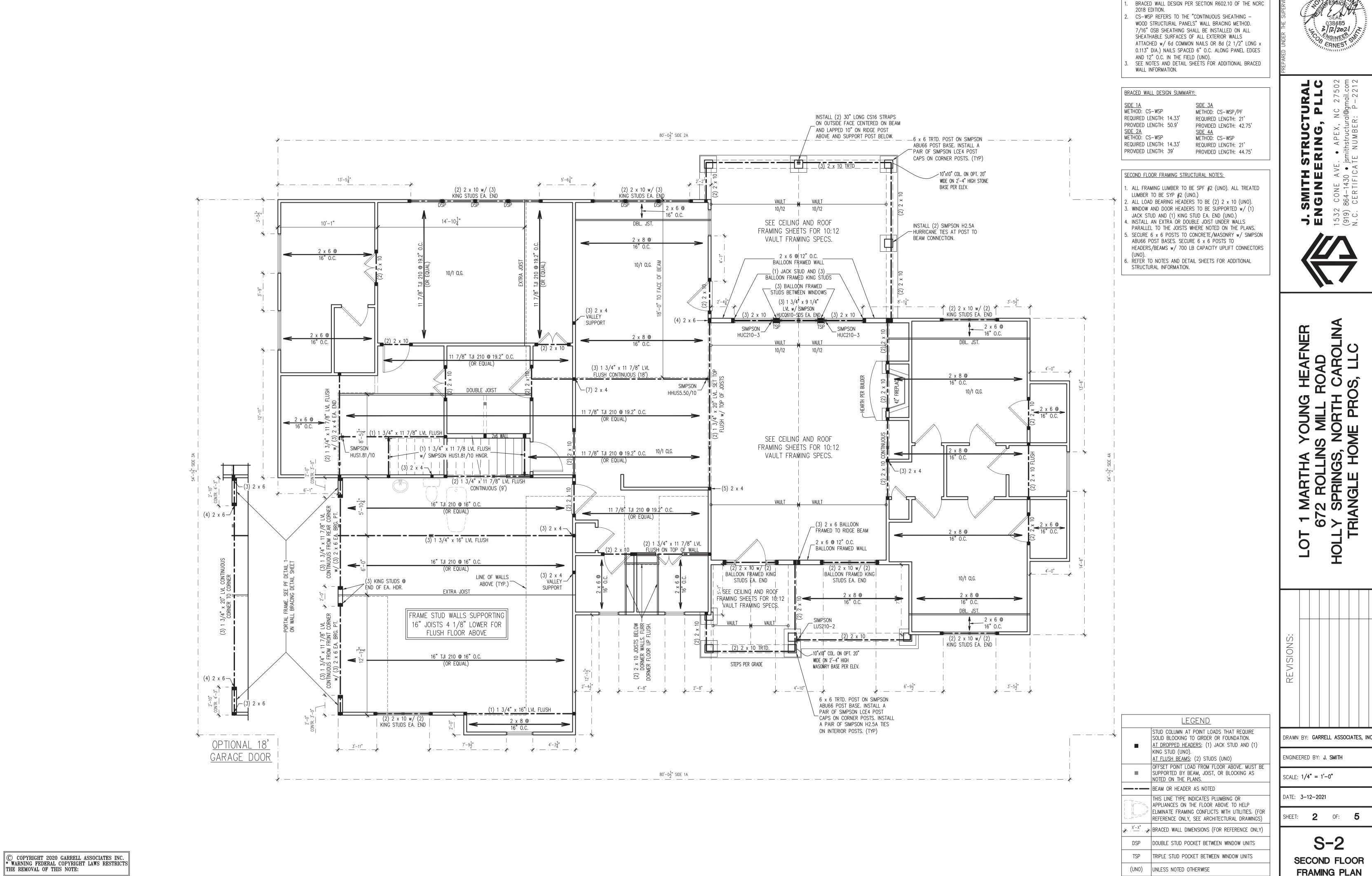
ENGINEERED BY: J. SMITH

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

DATE: **3-12-2021** 

SHEET: 1 OF: 5

S-1 CRAWL SPACE FOUNDATION PLAN



BRACED WALL DESIGN NOTES:

FRAMING PLAN

BRACED WALL DESIGN NOTES:

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

CS-WSP REFERS TO THE "CONTINUOUS SHEATHING -WOOD STRUCTURAL PANELS" WALL BRACING METHOD. 7/16" OSB SHEATHING SHALL BE INSTALLED ON ALL SHEATHABLE SURFACES OF ALL EXTERIOR WALLS ATTACHED w/ 6d COMMON NAILS OR 8d (2 1/2" LONG x 0.113" DIA.) NAILS SPACED 6" O.C. ALONG PANEL EDGES

SEE NOTES AND DETAIL SHEETS FOR ADDITIONAL BRACED

. ALL FRAMING LUMBER TO BE SPF #2 (UNO). ALL TREATED

2. ALL LOAD BEARING HEADERS TO BE (2) 2 x 10 (UNO). 5. WINDOW AND DOOR HEADERS TO BE SUPPORTED w/ (1) JACK STUD AND (1) KING STUD EA. END (UNO.)

4. REFER TO NOTES AND DETAIL SHEETS FOR ADDITIONAL

BRACED WALL ANALYSIS IS REQUIRED.

AND 12" O.C. IN THE FIELD (UNO).

WALL INFORMATION.

CEILING FRAMING STRUCTURAL NOTES:

LUMBER TO BE SYP #2 (UNO.)

STRUCTURAL INFORMATION.

2018 EDITION.

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ENGINEERED BY: J. SMITH

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

DATE: **3-12-2021** 

STUD COLUMN AT POINT LOADS THAT REQUIRE SOLID BLOCKING TO GIRDER OR FOUNDATION. ■ AT DROPPED HEADERS: (1) JACK STUD AND (1)

AT FLUSH BEAMS: (2) STUDS (UNO)

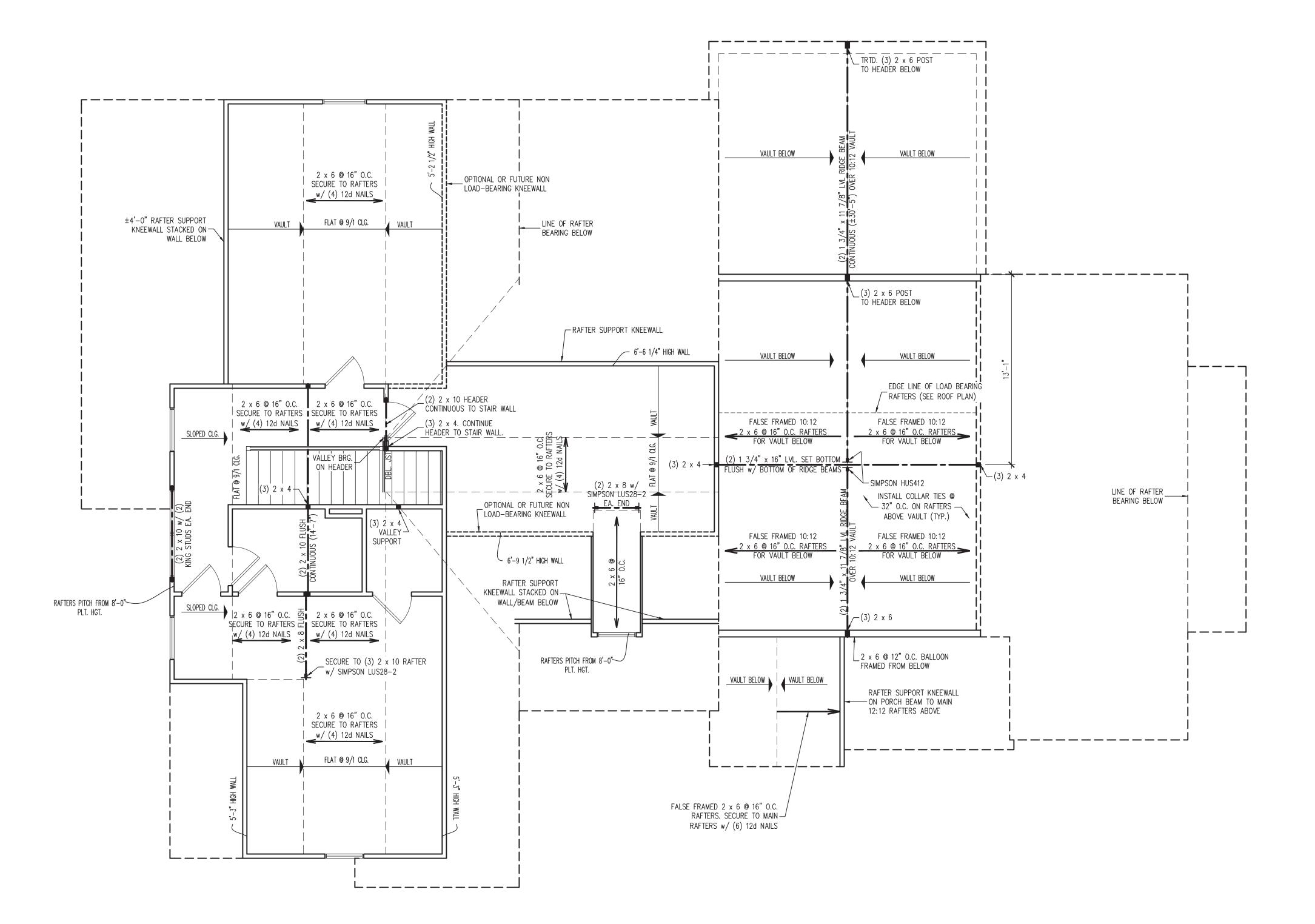
KING STUD (UNO).

BEAM OR HEADER AS NOTED

(UNO) UNLESS NOTED OTHERWISE

SHEET: **3** OF: **5** 

**S-3** CEILING FRAMING **PLAN** 



## GENERAL NOTES

- . ENGINEER'S SEAL APPLIES ONLY TO STRUCTURAL COMPONENTS. ENGINEER'S SEAL DOES NOT CERTIFY DIMENSIONAL ACCURACY OR ARCHITECTURAL LAYOUT INCLUDING ROOF SYSTEM. ENGINEER'S SEAL DOES NOT APPLY TO I-JOIST OR FLOOR/ROOF TRUSS LAYOUT DESIGN AND
- 2. ALL CONSTRUCTION SHALL CONFORM TO THE LATEST REQUIREMENTS OF THE NORTH CAROLINA RESIDENTIAL CODE (NCRC), 2018 EDITION AND ALL LOCAL CODES AND REGULATIONS. THE STRUCTURAL ENGINÈER IS NOT RESPONSIBLE FOR, AND WILL NOT HAVE CONTROL OF, CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES, OR FOR SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE CONSTRUCTION WORK.

l	3. DESIGN LOADS (R301)	LIVE LOAD	DEAD LOAD	DEFLECTIO
		(PSF)	(PSF)	(LL)
	ROOMS OTHER THAN SLEEPING RO	OOMS 40	10	L/360
	SLEEPING ROOMS	30	10	L/360
	ATTIC WITH LIMITED STORAGE	20	10	L/360
	ATTIC WITHOUT STORAGE	10	10	L/360
	STAIRS	40	10	L/360
	EXTERIOR BALCONIES	40	10	L/360
	DECKS	40	10	L/360
	HANDRAILS	200 LB OR 50 PLF	10	L/360
	PASSENGER VEHICLE GARAGES	50	10	L/360
I	FIRE ESCAPES	40	10	L/360
I	GROUND SNOW LOAD	20		

- PER SECTION R301.2. (MEAN ROOF HEIGHT <35 FEET, EXPOSURE B)
- I-JOIST SYSTEMS ARE DESIGNED WITH 12 PSF DEAD LOAD AND L/480 LL DEFLECTION. - FLOOR TRUSS SYSTEMS DESIGNED WITH 15 PSF DEAD LOAD AND L/480 LL DEFLECTION.
- 4. THE STRUCTURE IS DESIGNED FOR 120 MPH ULTIMATE DESIGN WIND SPEEDS.
- 5. WALL CLADDING DESIGNED FOR +15.5 PSF AND -20 PSF (+/-) INDICATE POSITIVE / NEGATIVE PRESSURE (TYP).
- 6. ROOF CLADDING DESIGNED FOR: 7/12 TO 12/12 PITCH: +14.2 PSF AND -18 PSF 2.25/12 TO 7/12 PITCH: +10 PSF AND -36 PSF
- . THE POSITIVE AND NEGATIVE DESIGN PRESSURE FOR DOORS AND WINDOWS FOR A MEAN ROOF HEIGHT OF 35 FEET OR LESS IS 25 PSF.
- 8. ENERGY EFFICIENCY COMPLIANCE AND INSULATION VALUES OF THE BUILDING TO BE IN ACCORDANCE WITH CHAPTER 11 OF THE 2018 NCRC.

## FOOTING AND FOUNDATION NOTES

- . FOUNDATION DESIGN BASED ON A MINIMUM ALLOWABLE BEARING CAPACITY OF 2000 PSF. CONTACT ENGINEER IF ALLOWABLE BEARING CAPACITY CAN NOT BE ACHIEVED.
- 2. FOUNDATION ANCHORAGE TO COMPLY WITH SECTION R403.1.6 OF THE 2018 NCRC.
- 3. 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 95% TO ASSURE UNIFORM SUPPORT OF THE SLAB, AND EXCEPT WHERE APPROVED, THE FILL DEPTHS SHALL NOT EXCEED 24" FOR CLEAN SAND OR GRAVEL, A 4" THICK BASED COURSE CONSISTING OF CLEAN GRADED SAND OR GRAVEL SHALL BE PLACED. A BASE COURSE IS NOT REQUIRED WHERE A CONCRETE SLAB IS INSTALLED ON WELL-DRAINED OR SAND-GRAVEL MIXTURE SOILS CLASSIFIED AS GROUP 1, ACCORDING TO THE UNITED SOIL CLASSIFICATION SYSTEM IN ACCORDANCE WITH TABLE R405.1 OF THE NCRC, 2018 EDITION.
- 4. PROPERLY DEWATER EXCAVATION PRIOR TO POURING CONCRETE WHEN BOTTOM OF CONCRETE SLAB IS AT OR BELOW WATER TABLE. IF APPLICABLE, 3/4" - 1" DEEP CONTROL JOINTS ARE TO BE SAWED WITHIN 4 TO 12 HOURS OF CONCRETE FINISHING AND WALL LOCATIONS HAVE BEEN MARKED. ADJUST WHERE NECESSARY.
- CONCRETE SHALL CONFORM TO SECTION R402.2 OF THE NCRC, 2018 EDITION. CONCRETE SHALL HAVE A MINIMUM 28 DAY STRENGTH OF 3000 PSI. CONCRETE REINFORCING STEEL SHALL BE ASTM A615 GRADE 60. WELDED WIRE FABRIC SHALL BE ASTM A185. MAINTAIN A MINIMUM CONCRETE COVER AROUND REINFORCING STEEL OF 3" IN FOOTINGS AND 1 1/2" IN SLABS (UNO).
- 6. MASONRY UNITS SHALL CONFORM TO ACE 530/ASCE 5/TMS 402. MORTAR SHALL CONFORM TO ASTM C270.
- THE UNSUPPORTED HEIGHT OF MASONRY PIERS SHALL NOT EXCEED FOUR TIMES THEIR LEAST DIMENSION FOR UNFILLED HOLLOW CONCRETE MASONRY UNITS AND TEN TIMES THEIR LEAST DIMENSION FOR SOLID OR SOLID FILLED PIERS. PIERS MAY BE FILLED SOLID WITH CONCRETE OR TYPE M OR S MORTAR. PIERS AND WALLS SHALL BE CAPPED WITH 8" OF SOLID MASONRY.
- 8. THE CENTER OF EACH PIER SHALL BEAR IN THE MIDDLE THIRD OF ITS RESPECTIVE FOOTING. EACH GIRDER SHALL BEAR IN THE MIDDLE THIRD OF THE PIERS.
- 9. ALL CONCRETE AND MASONRY FOUNDATION WALLS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE PROVISIONS OF SECTION R404 OF THE 2018 NCRC OR IN ACCORDANCE WITH ACI 318, ACI 332, NCMA TR68-A OR ACE 530/ASCE 5/TMS 402 (UNO). MASONRY FOUNDATION WALLS ARE TO BE REINFORCED PER TABLE R404.1.1(1), R404.1.1(2), R404.1.1(3), OR R404.1.1(4) OF THE 2018 NCRC (UNO). CONCRETE FOUNDATION WALLS ARE TO BE REINFORCED PER TABLE R404.1.1(5) OF THE 2018 NCRC (UNO). STEP CONCRETE FOUNDATION WALLS DOWN TO 2 x 6 @ 16" O.C. FRAMED WALLS WHERE GRADE PERMITS (UNO).

## FRAMING NOTES

- . ALL FRAMING LUMBER SHALL BE #2 SPF MINIMUM (UNO). ALL TREATED LUMBER SHALL BE #2 SYP MINIMUM (UNO). ALL FRAMING CONNECTIONS SHALL BE MADE IN ACCORDANCE WITH TABLE R602.3(1) OF THE 2018 NCRC WHERE APPLICABLE (UNO).
- . LAMINATED VENEER LUMBER (LVL) MINIMUM PROPERTIES: Fb =2600 PSI, Fv = 285 PSI, E = LAMINATED STRAND LUMBER (LSL) MINIMUM PROPERTIES: Fb = 2325 PSI, Fv = 310 PSI, E = 1,550,000 PSI. INSTALL ALL CONNECTIONS PER MANUFACTURER'S SPECIFICATIONS.
- . ALL LOAD BEARING HEADERS SHALL CONFORM TO TABLES R602.7(1) AND R602.7(2) OF THE 2018 NCRC UNLESS NOTED OTHERWISE ON THE PLANS. ALL HEADERS SHALL BE SUPPORTED WITH (1) JACK STUD AND (1) KING STUD EACH END (UNO). SECURE THE FIRST KING STUD EACH SIDE OF THE HEADER TO THE HEADER WITH (4) 16d END-NAILS. INSTALL KING STUDS PER SECTION R602.7.5 OF THE 2018 NCRC (UNO).
- 4. ALL BEAMS OR GIRDER TRUSSES THAT FRAME PARALLEL (IN LINE WITH) WITH A SUPPORT WALL SHALL BEAR ON A MINIMUM OF (2) STUDS (UNO). ALL BEAMS OR GIRDER TRUSSES THAT FRAME INTO OR ONTO A PERPENDICULAR WALL SHALL BE SUPPORTED BY A MINIMUM OF (2) STUDS AND HAVE 2" MINIMUM BEARING. IF A BEAM OR GIRDER TRUSS IS NOTED TO BE SUPPORTED BY (3) OR MORE STUDS, THE BEAM MUST BEAR FULLY ON THE SUPPORT COLUMN FOR THE FULL WALL DEPTH (UNO). BEAM ENDS THAT BUTT INTO ONE ANOTHER SHALL EACH BEAR EQUAL LENGTHS (UNO).
- 5. ALL I-JOIST OR TRUSS LAYOUTS ARE TO BE IN COMPLIANCE WITH THE OVERALL DESIGN SPECIFIED ON THE PLANS. ALL DEVIATIONS ARE TO BE BROUGHT TO THE ATTENTION OF THE ENGINEER OF RECORD PRIOR TO INSTALLATION.
- 6. BRACED WALL PANELS SHALL BE CONSTRUCTED AS NOTED ON THE PLANS, THE WALL BRACING DETAIL SHEET, AND IN ACCORDANCE WITH SECTION R602.10 OF THE 2018 NCRC.

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THE REMOVAL OF THIS NOTE:

\* WARNING FEDERAL COPYRIGHT LAWS RESTRICTS

REQUIRED ATTIC VENTILATION:

3448 SQ. FT. OF ATTIC DIVIDED BY 150 REQUIRES 22.98 SQ. FT. OF NET FREE VENTILATING AREA (MIN.).

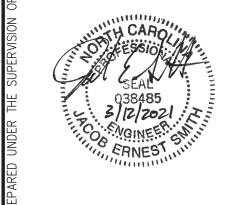
## ROOF FRAMING STRUCTURAL NOTES:

- ALL FRAMING LUMBER TO BE #2 SPF (UNO). . SHEATH ROOF w/ 7/16" OSB SHEATHING SECURED w/ 8d NAILS @ 6" O.C. ALONG EDGES AND 12" O.C. IN THE FIELD. CIRCLES DENOTE (3) 2 x 4 POSTS FOR ROOF SUPPORT. . STICK FRAME OVER-FRAMED ROOF SECTIONS W/ 2 x 8
- RIDGES, 2 x 6 RAFTERS @ 16" O.C. AND FLAT 2 x 10 VALLEYS OR USE VALLEY TRUSSES. . HIP SPLICES ARE TO BE SPACED 8'-0" O.C. MINIMUM. FASTEN MEMBERS WITH (3) ROWS OF 12d NAILS @ 16" O.C. 5. FASTEN FLAT VALLEYS TO RAFTERS OR TRUSSES WITH SIMPSON H2.5A HURRICANE TIES @ 32" O.C. MAX. PASS
- REQUIRED. SECURE RAFTERS TO FLAT VALLEYS WITH A MIN. OF (6) 12d TOE NAILS. . INSTALL (1) SIMPSON H2.5A HURRICANE TIE (OR EQUAL) @

HURRICANE TIES THROUGH NOTCH IN ROOF SHEATHING IF

EA. RAFTER BEARING. B. REFER TO NOTES AND DETAIL SHEETS FOR ADDITIONAL

STRUCTURAL INFORMATION.

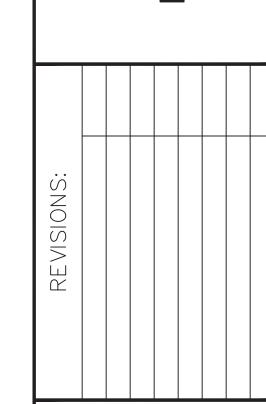








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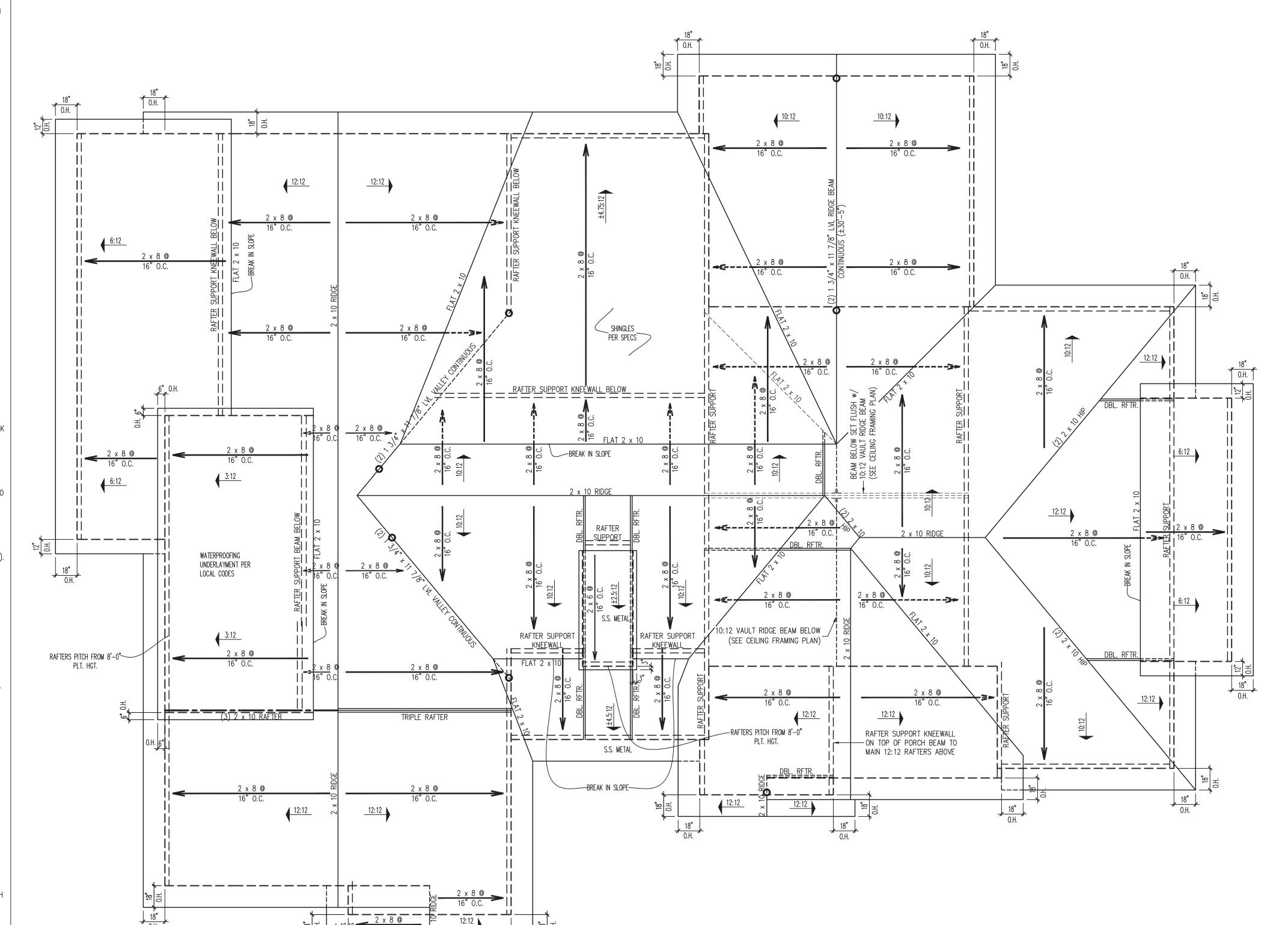
ENGINEERED BY: J. SMITH

DATE: **3-12-2021** 

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

SHEET: 4 OF: 5

S-4 ROOF FRAMING **PLAN** 



16" O.C.

