

# THE CARY

# NORTH CAROLINA

# SQUARE FOOTAGES

FIRST FLOOR (HTD.) = 1552 sf

GARAGE = 418 sf FRONT PORCH = 16 sf COVERED PATIO = 99 sf

TOTAL = 2085 sf

# INDEX OF SHEETS

A1.0 COVER SHEET

A1.1 GENERAL NOTES

12.0 FLOOR PLAN & NOTES

A3.0 EXTERIOR ELEVATIONS & NOTES

3.1 EXTERIOR ELEVATIONS

E1.0 ELECTRICAL PLAN

# INDEX OF SHEETS (CONT.)

CS COVER SHEET, SPECIFICATIONS, REVS.

F1.1m FOUNDATION PLAN - MONOLITHIC CONC. SLAB

S1.1 FIRST FLOOR FRAMING & BRACING PLAN

CS-D COVER SHEET - STANDARD DETAILS

D-1m DETAILS - MONO. CONC. SLAB

D-2m DETAILS - MONO. CONC. SLAB (CONT.)

D-1f DETAILS - FRAMING

D-2f DETAILS - FRAMING (CONT.)

# GENERAL CONTRACTOR

## LGI HOMES

SCOTT STERLING V.P. OF CONSTRUCTION FOR NC / SC 704-953-3824

# **ARCHITECT**

# COX ARCHITECTURE & DESIGN, PLLC

R. CRAIG COX 1310 SOUTH TRYON STREET SUITE 111 CHARLOTTE, NC 28203 980-237-3827

WWW.COXARCHITECTURE.COM CRAIG@COXARCHITECTURE.COM

# **ENGINEER**

# QUEEN CITY CONSULTING & DESIGN, PLLC

2459 WILKINSON BLVD. SUITE 300 CHARLOTTE, NC 28208 828-381-3091 WWW.QC-DESIGNS.COM PERMIT SET

9 DECEMBER 2024

THESE DOCUMENTS ARE PROPERTY OF COX ARCHITECTURE AND DESIGN AND SHALL NOT BE USED OR REPRODUCED WITHOUT WRITTEN CONSENT BY COX ARCHITECTURE AND DESIGN. COX ARCHITECTURE AND DESIGN SHALL NOT BE LIABLE FOR ANY UNDATHORIZED USE OF THESE DOCUMENTS.

Ü

Ā

RT

O Z

COVER SHEET

A1.0

DATE CREATED: 12/09/2024



## **GENERAL NOTES**

# -DO NOT SCALE DRAWINGS; DESIGNATED DIMENSIONS SHALL BE USED IN PREFERENCE TO MEASUREMENTS BY SCALE.

-GENERAL CONTRACTOR SHALL VERIFY AND COMPLY TO ALL LOCAL & NATIONAL BUILDING CODES. CONTACT ARCHITECT IF INSPECTORS REQUIRE REVISIONS OR ALTERATIONS TO DRAWINGS.

-ALL SUB-CONTRACTORS SHALL BE RESPONSIBLE FOR DAMAGE TO OTHER TRADES.

# DESIGN SPECIFICATIONS

USE GROUP: ( 2018 NCBC:R )

"RESIDENTIAL" ONE & TWO FAMILY DWELLING

CONSTRUCTION CLASS: ( 2018 NCBC:R )

"RESIDENTIAL"

HEIGHT & AREA LIMIT: (LOCAL ZONING)

35' MAXIMUM 2-STORY HEIGHT

EMERGENCY ESCAPE: (2018 NCBC:R)

EGRESS OR RESCUE WINDOWS FROM SLEEPING ROOMS

SHALL HAVE MINIMUM OF 5.7 SQ. FT. NET CLEAR OPENING

(5.0 SQ. FT. NET OPENING @ GRADE FLOOR)

MINIMUM 20" WIDTH.

MINIMUM 24" HEIGHT.

MAXIMUM 44" SILL HEIGHT GARAGE / HOUSE CEILING / ASSEMBLY:

½" GYPSUM WALL BOARD

 $\ensuremath{^{5}\!\!\!\!/}\text{"}$  TYPE "X" GYPSUM BOARD CEILING WHERE LIVING IS ABOVE

20 MINUTE RATED GARAGE / HOUSE DOOR

# ATTIC VENTILATION:

[TOTAL ATTIC SQ. FT.] / [300] = SQ. FT. AREA REQUIRED

RIDGE VENT:

[LINEAR FEET OF VENT] X [18 SQUARE INCHES IN FREE AREA] / 12 = SQ. FT. PROVIDED SOFFIT VENT:

[LINEAR FEET OF VENT] X [7 SQUARE INCHES IN FREE AREA] / 12 = SQ. FT. PROVIDED EDGE SHINGLE OVER VENT:

[LINEAR FEET OF VENT] X [9 SQUARE INCHES IN FREE AREA] / 12 = SQ. FT. PROVIDED ROOF LOUVER VENTS:

[NUMBER OF VENTS] X [70 SQUARE INCHES IN FREE AREA] / 12 = SQ. FT. PROVIDED

## CRAWL SPACE VENTILATION:

[TOTAL CRAWL SPACE SQ. FT.] / [300] = SQ. FT. AREA REQUIRED FOUNDATION VENT:

FREE SPACE PROVIDED BY VENT = F

[FREE AREA REQUIRED] / F = NUMBER OF VENTS REQUIRED

THE CARY

ď

R T

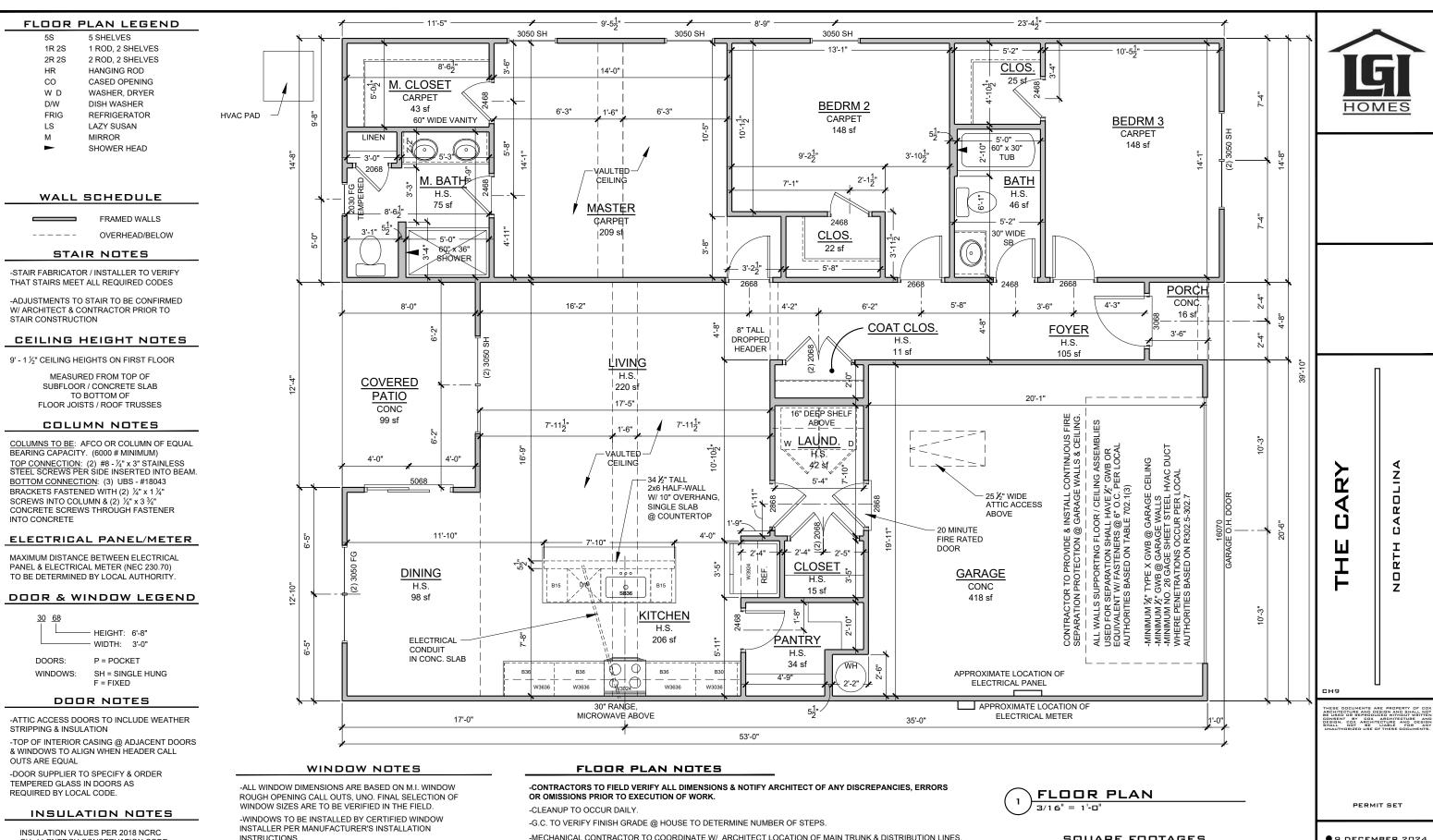
THESE DOCUMENTS ARE PROPERTY OF COX ARCHITECTURE AND DESIGN AND SHALL NOT BE USED OR REPRODUCED WITHOUT WRITTEN CONSENT SY COX ARCHITECTURE AND SHALL. NOT SELECTIVE LIBBLE FOR AN UNAUTHORIZED USE OF THESE DOCUMENTS.

PERMIT SET

9 DECEMBER 2024

GENERAL NOTES

A1.1



INSULATION VALUES PER 2018 NCRC CH. 11 ENERGY CONSERVATION CODE

R-0

SLAB:

CLIMATE ZONE 3A CLIMATE ZONE 4A TABLE N1102 1 2 TABLE N1102 1 2 CEILING: R-38 CEILING: R-38 FLOOR: R-19 FLOOR: R-19 WALL: R-15 WALL: R-15

SLAB:

R-10

-WINDOW SUPPLIER TO SPECIFY & ORDER TEMPERED GLASS

EMERGENCY EGRESS AS REQUIRED BY LOCAL AUTHORITIES.

-TOP OF INTERIOR CASING @ ADJACENT DOORS & WINDOWS

TO HAVE A MINIMUM OF ONE WINDOW WHICH MEETS

TO ALIGN WHEN HEADER CALL OUTS ARE EQUAL

-G.C. AND WINDOW SUPPLIER TO VERIFY THAT EACH BEDROOM

WINDOW SUPPLIER TO ADD EGRESS HARDWARE TO CASEMENT

IN WINDOWS AS REQUIRED BY LOCAL CODE.

WINDOWS IF NECESSARY.

-MECHANICAL CONTRACTOR TO COORDINATE W/ ARCHITECT LOCATION OF MAIN TRUNK & DISTRIBUTION LINES, REGISTERS (CENTER ALL REGISTERS ON WINDOWS), THERMOSTATS, AIR HANDLER & CONDENSERS.

-CEILING HEIGHTS LISTED ARE DIMENSIONED TO FRAMING (TOP OF SUBFL. / CONC. TO UNDERSIDE OF FRAMING ABOVE) -CONCRETE SLABS & SETTING BEDS TO ACCOMMODATE FOR ADEQUATE WATER DRAINAGE AT GARAGES AND PORCHES

-ATTIC ACCESS DROP-DOWN STAIRS TO CONFORM WITH LOCAL AUTHORITIES BASED ON R807.1. MINIMUM NET CLEAR OPENING OF 20" x 30". ALL ATTIC ACCESS STAIRS TO BE WEATHER STRIPPED & SEALED WITH R-VALUES THAT CONFORM WITH LOCAL AUTHORITIES BASED ON N1102.2.4. G.C. TO PROVIDE & INSTALL INSULATION DAMS TO RESTRICT TYPICAL ATTIC INSULATION FROM FALLING THROUGH ATTIC ACCESS OPENING. RIGID FOAM BOX COVER TO BE INSTALLED & SEALED AROUND FRAMING OF OPENING, NOT TO IMPEDE OR OBSTRUCT PERFORMANCE OF ADJACENT TYPICAL ATTIC INSULATION. -HOSE BIBB(S) TO BE LOCATED 24" ABOVE FIRST FLOOR FINISHED FLOOR

# SQUARE FOOTAGES

FIRST FLOOR (HTD.) = 1552 sf

**GARAGE** = 418 sf FRONT PORCH 16 sf COVERED PATIC = 99 sf

TOTAL = 2085 sf ● 9 DECEMBER 2024

FLOOR PLAN

A2.0

## **ROOF NOTES**

-CONTRACTORS TO FIELD VERIFY ALL DIMENSIONS & NOTIFY ARCHITECT OF ANY DISCREPANCIES, ERRORS OR OMISSIONS PRIOR TO EXECUTION OF WORK.

-ALL ROOF PENETRATIONS TO BE PLACED ON REAR SIDE OF MAIN RIDGE OR AS SPECIFIED BY ARCHITECT. PAINT TO MATCH SHINGLE COLOR.

ATTICINELL ALION TO BE PATT INSUL, BERLIOCAL CODE

-ATTIC INSULATION TO BE BATT. INSUL. PER LOCAL CODE, PROVIDE BAFFLES @ PERIMETER TO ALLOW 2" FOR AIRFLOW FROM EAVE VENTS TO RIDGE VENTS.

-ROOF SHEATHING TO BE  $\frac{1}{2}$ " T&G PLYWOOD W/ METAL CLIPS @ ENDS.

-ALL BATHROOM & DRYER VENT PENETRATIONS TO RUN TOWARD REAR OF HOUSE & VENT IN REAR OUTSIDE WALL OR ROOF BEHIND MAIN RIDGE.

-GUTTER & DOWNSPOUT INSTALLER TO PROVIDE ADEQUATE UNITS PER MANUFACTURER SPECIFICATIONS BASED ON ROOF COVERAGE. SUB-CONTACTOR TO VERIFY NUMBER & LOCATION OF DOWNSPOUTS

-ALL SHINGLED ROOFS WITH A PITCH OF 4:12 OR LESS REQUIRE (2) LAYERS OF 30# FELT PAPER PER LOCAL CODES

## **ELEVATION NOTES**

-ALL REPRESENTATIONS OF GRADE LEVELS ARE FOR DRAWING PURPOSES ONLY. AND TO BE VERIFIED IN FIELD.

-ALL EXTERIOR ELEVATION DIMENSIONS ARE FRAMING DIMENSIONS, UNO. G.C. TO FIELD VERIFY DIMENSIONS LOCATED AT SLOPED FRAMING AND / OR CONCRETE SLABS & PADS

-ALL TRUSS PROFILE DIMENSIONS TO BE VERIFIED BY TRUSS MANUFACTURER. TRUSS MANUFACTURER TO NOTIFY ARCHITECT IF TRUSS PROFILES / DIMENSIONS CHANGE.

-ALL BUILDINGS CONSTRUCTED WITH LESS THAN A 10' FIRE SEPARATION DISTANCE BETWEEN SHALL COMPLY WITH LOCAL AUTHORITIES BASED ON R302.1.1:
IN CONSTRUCTION USING VINYL ARRIVES SOCIETA ASSEMBLIES

THE FOLLOWING APPLICATION SHALL APPLY. SOFFIT ASSEMBLIES MUST BE SECURELY ATTACHED TO FRAMING MEMBERS AND APPLIED OVER FIRE-RETARDANT-TREATED WOOD, 23/32-INCH WOOD SHEATHING OR 5/8-INCH EXTERIOR GRADE OR MOISTURE RESISTANT GYPSUM BOARD. VENTING REQUIREMENTS SHALL BE PROVIDED IN BOTH SOFFIT AND UNDERLAYMENT. VENTS SHALL BE EITHER NOMINAL 2-INCH CONTINUOUS OR EQUIVALENT INTERMITTENT AND SHALL NOT EXCEED THE MINIMUM NET FREE AIR REQUIREMENTS ESTABLISHED IN SECTION R806.2 BY MORE THAN 50 PERCENT.

# CEILING HEIGHT NOTES

9' - 1 ½" CEILING HEIGHTS ON FIRST FLOOR

MEASURED FROM TOP OF SUBFLOOR / CONCRETE SLAB TO BOTTOM OF FLOOR JOISTS / ROOF TRUSSES

# COLUMN NOTES

COLUMNS TO BE: AFCO OR COLUMN OF EQUAL BEARING CAPACITY. (6000 # MINIMUM)
TOP CONNECTION: (2) #8 - ½" x 3" STAINLESS STEEL SCREWS PER SIDE INSERTED INTO BEAM.
BOTTOM CONNECTION: (3) UBS - #18043
BRACKETS FASTENED WITH (2) ½" x 1 ½"
SCREWS INTO COLUMN & (2) ½" x 3 ¾"
CONCRETE SCREWS THROUGH FASTENER
INTO CONCRETE

## **INSULATION NOTES**

CLIMATE ZONE 4A

INSULATION VALUES PER 2018 NCRC CH. 11 ENERGY CONSERVATION CODE

CLIMATE ZONE 3A

| TABLE N1102.1.2 |      | TABLE N1 | TABLE N1102.1.2 |  |  |
|-----------------|------|----------|-----------------|--|--|
| CEILING:        | R-38 | CEILING: | R-38            |  |  |
| FLOOR:          | R-19 | FLOOR:   | R-19            |  |  |
| WALL:           | R-15 | WALL:    | R-15            |  |  |
| SLAB:           | R-0  | SLAB:    | R-10            |  |  |



ú

19

THESE DOCUMENTS ARE PROPERTY OF COX ARCHITECTURE AND DESIGN AND SHALL NOT BE USED OR REPRODUCED WITHOUT WRITTEN CONSENT BY COX ARCHITECTURE AND DESIGN. COX ARCHITECTURE AND DESIGN UNAUTHORIZED USE OF THESE DOCUMENTS.

PERMIT SET

9 DECEMBER 2024

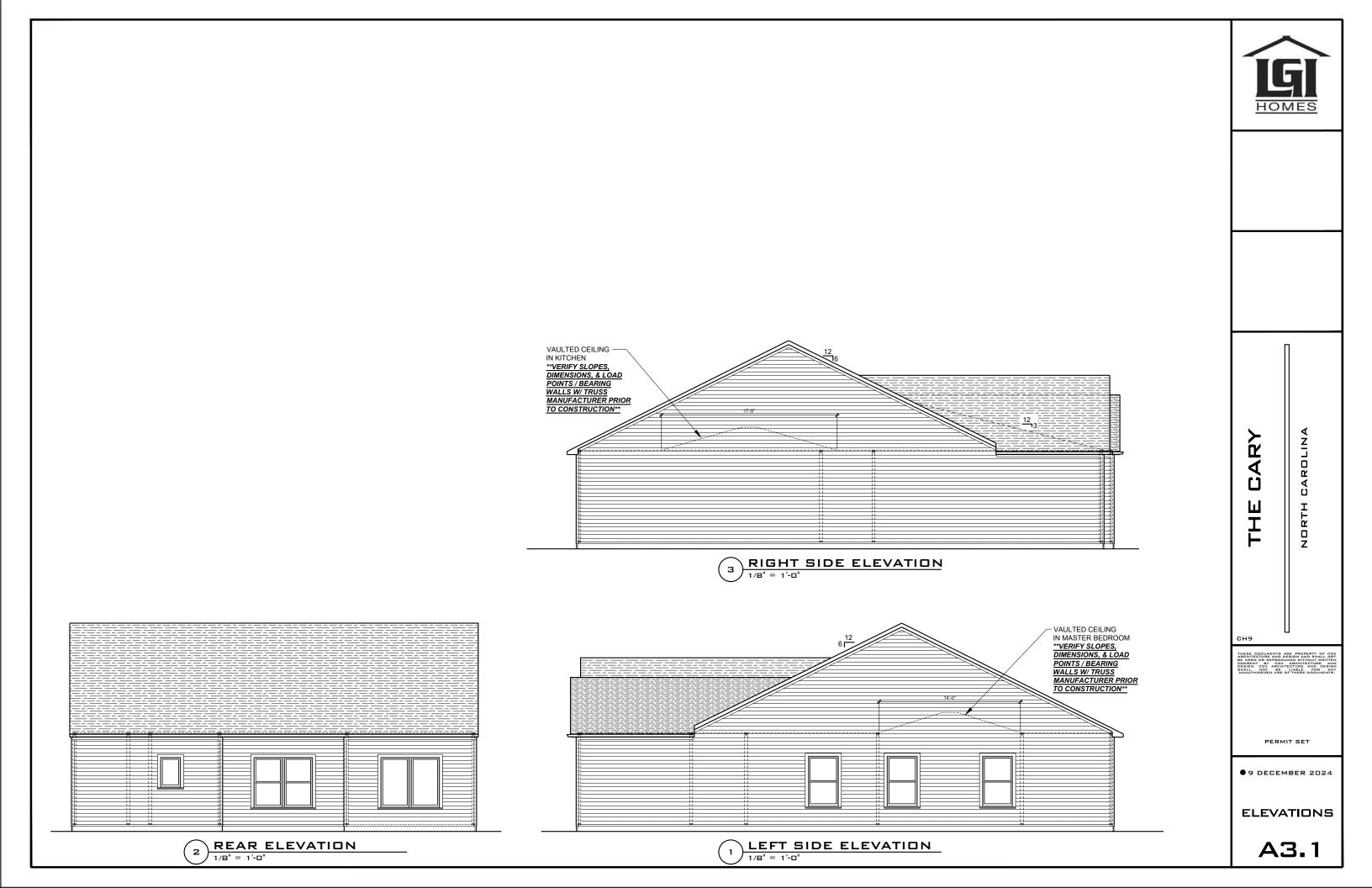
ELEVATIONS

A3.0



FRONT ELEVATION

1/8" = 1'-0"





G.F.I. 120 OUTLET, 18" A.F.F. TO CENTER OR 12" ABOVE COUNTERTOPS ₩EATHER PROOF GFI 120 OUTLET

240 OUTLET. COORDINATE EXACT LOCATION WITH EQUIPMENT SPECIFICATIONS

1/2 SWITCHED 120 OUTLET, 18" A.F.F. TO CENTER OR 12" ABOVE COUNTERTOPS 120 QUADRAPLEX OUTLET, 18" A.F.F.
TO CENTER

USB OUTLET, 18" A.F.F. TO CENTER
USB OR 12" ABOVE COUNTERTOPS

FLOOR 120 OUTLET (FLUSH)
(TBD IN FIELD W/ OWNER)

JUNCTION BOX

CEILING LIGHT FIXTURE (LED) WALL LIGHT FIXTURE 4" RECESSED LIGHT FIXTURE

4" RECESSED DAMP LOCATION LIGHT FIXTURE

4" RECESSED EYEBALL FIXTURE

FAN/LIGHT RECESSED FIXTURE

FAN/LIGHT RECESSED DAMP LOCATION FIXTURE

CEILING FAN (\*PROVIDE BLOCKING)

FLOOD LIGHT

EXHAUST FAN

THERMOSTAT

SMOKE/CARBON MONOXIDE DETECTOR

TDB DOOR BELL

DOOR BELL CHIME DOOR BELL TRANSFORMER

\$ WALL SWITCH, 48" A.F.F. TO CENTER \$<sub>D</sub> DIMMER SWITCH, 48" A.F.F. TO CENTER

\$3 3 WAY SWITCH, 48" A.F.F. TO CENTER

\$4 4 WAY SWITCH, 48" A.F.F. TO CENTER 3 WAY STACKED SWITCH

PHONE, 18" A.F.F. TO CENTER, 'W' INDICATES WALL MOUNTED @ 48" A.F.F.

DATA, 18" A.F.F. TO CENTER, "W" INDICATES WALL MOUNTED @ 48" A.F.F. ++→ CABLE

FLUORESCENT LIGHT FIXTURE ZENON UNDER CABINET LIGHT TO BE MTD. TO BOTTOM OF WALL CAB. NEAR FRONT EDGE

■ PLUG MOLD TO BE MTD. TO BOTTOM OF WALL CAB. NEAR WALL — ◆ LED TAPE LIGHT

DO DOOR OPENER

EP ELECTRICAL PANEL EM ELECTRICAL METER

TWH TANKLESS WATER HEATER +HR HOSE BIBB

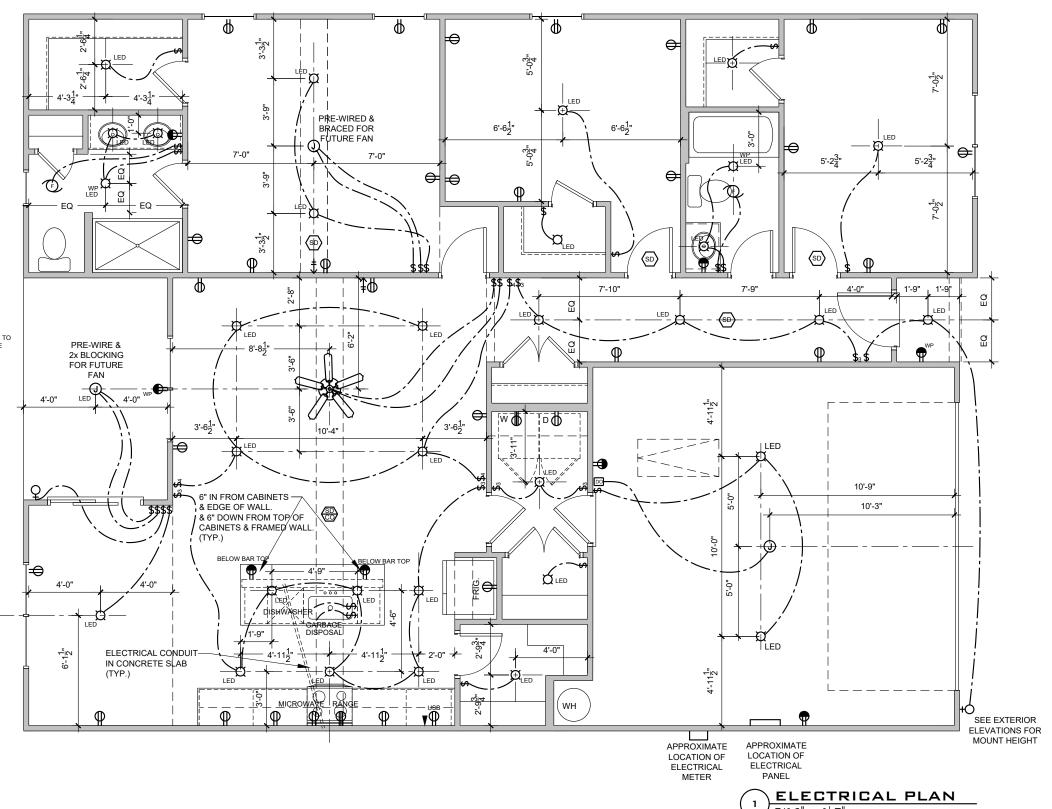
+G GAS CONNECTION

+GSO GAS SHUT-OFF



-LIGHT FIXTURES IN CLOSETS TO COMPLY WITH SECTION 410.8 OF THE LATEST VERSION OF THE NEC HANDBOOK -SMOKE/CARBON MONOXIDE DETECTORS TO BE INSTALLED PER MANUFACTURER'S INSTRUCTIONS. QUANTITY AND LOCATION OF CARBON MONOXIDE DETECTORS TO BE DETERMINED BY LOCAL AUTHORITY. -LIGHT SWITCHES & OUTLETS LOCATED AT COUNTERTOP SIDEWALLS ARE TO BE A MAXIMUM OF 18" FROM CENTERLINE OF SWITCH/OUTLET TO COUNTERTOP REAR WALL

# ELECTRICAL PANEL / METER



- THESE DRAWINGS AND ITS CONTENTS ARE THE PROPERTY OF QUEEN CITY CONSULTING AND DESIGN, PLLC, (QC) AND THE CLIENT AS NOTED ON THIS PAGE. DISTRIBUTION TO ANY OTHER PARTIES FOR PURPOSES OTHER THAN THOSE DIRECTLY CONCERNED WITH THE TITLED PROJECT WITHOUT PRIOR WRITTEN CONSENT FROM QC IS STRICTLY PROHIBITED.
- THE ENGINEER'S NAME PRESENT ON THE SEAL OF THESE DRAWINGS IS THE ENGINEER OF RECORD (EOR).
- DETAILS NOTED AS "TYPICAL" SHALL BE USED WHENEVER APPLICABLE. REFER TO SPECIFICATIONS FOR INFORMATION NOT COVERED BY THESE NOTES OR
- DRAWINGS.

  4. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY ALL DIMENSIONS PRIOR TO CONSTRUCTION. FURTHERMORE, QC WILL NOT BE HELD RESPONSIBLE FOR THE CONTRACTOR'S FAILURE TO CONFORM TO THE CONSTRUCTION DOCUMENTS, INCLUDING THIS STRUCTURAL SET, SHOULD ANY NON-CONFORMITIES
- 5. THE CONTRACTOR SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY.

  6. ANY OMISSIONS AND CONFLICTS BETWEEN THE VARIOUS ELEMENTS OF THE STRUCTURAL DRAWINGS AND/OR SPECIFICATIONS SHALL BE BROUGHT TO THE
- ATTENTION OF, AND RESOLVED WITH, THE ENGINEER BEFORE PROCEEDING WITH ANY WORK SO INVOLVED.
- ALL CONSTRUCTION SHALL CONFORM TO THE LATEST REQUIREMENTS OF THE NORTH CAROLINA RESIDENTIAL CODE (NCRC), 2018 EDITION, PLUS ALL LOCAL
- CODES AND REGULATIONS.

  8. SEISMIC DESIGN SHALL BE PER SECTION R301.2.2 OF THE 2018 NCRC AND IS BASED OFF OF LOCAL SEISMIC DESIGN CATEGORIES.

- FOOTING AND FOUNDATION NOTES:

  1. FOUNDATION DESIGN IS BASED ON A MINIMUM ALLOWING BEARING CAPACITY OF 2.000 PSF, CONTACT THE EOR IF BEARING CAPACITY IS NOT ACHIEVED. NO EXCAVATION SHALL OCCUR WITHIN A 45 DEGREE LINE PROJECTED FROM THE BOTTOM OF THE BUILDING FOUNDATION IS PERMITTED, UNLESS IT IS SPECIFICALLY APPROVED BY THE EOR.
- THE BOTTOM OF ALL FOOTINGS SHALL EXTEND BELOW THE FROST LINE FOR THE REGION, AS SPECIFIED BY THE LOCAL MUNICIPALITY. HOWEVER, THE BOTTOM OF ALL FOOTINGS SHALL BE A MINIMUM OF 12" BELOW GRADE.
- CONTRACTOR TO ENSURE THAT ALL DRAINAGE IS DIRECTED AWAY FROM THE EXTERIOR FOOTINGS (MIN. 2% SLOPE)
- EXCAVATIONS OF FOOTINGS SHALL BE TEMPORARILY PROTECTED WITH A 10 MIL POLYETHYLENE MEMBRANE IF CONCRETE IS NOT PLACED WITHIN 24 HOURS OF EXCAVATION
- DO NOT PLACE CONCRETE OR OTHER CEMENTITIOUS MATERIALS AGAINST SUBGRADE WITH ANY DELETERIOUS MATERIALS PRESENT, INCLUDING BUT NOT LIMITED TO: WATER, ICE, FROST, OR LOOSE MATERIAL,
- ALL FOOTINGS ARE TO HAVE MINIMUM 2" PROJECTION ON EACH SIDE OF FOUNDATION WALLS (EXCEPT FOR MONOLITHIC SLAB FOUNDATIONS).

- POURED CONCRETE IS TO HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS.
- AGGREGATES FOR NORMAL WEIGHT CONCRETE SHALL CONFORM TO ASTM C.3.3.
- ALL MATERIALS USED FOR CONCRETE SHALL CONFORM TO ACI 318, ACI 301, OR ASTM C1157.
  THE PLACING OF ALL CONCRETE SHALL BE IN ACCORDANCE WITH ACI 318 AND ASTM C94 REQUIREMENTS.

- ADMIXTURES MAY BE USED WITH PRIOR APPROVAL OF THE EOR. ADMIXTURES SHALL COMPLY WITH ASTM C494 AND C1017.
  CONCRETE SLABS-ON-GRADE SHALL BE CONSTRUCTED IN A MANNER THAT COMPLIES WITH ACI 302.1R-96.
  CONTROL OR SAW CUT JOINTS SHALL BE CUT TO A MINIMUM OF 1/4 OF THE THICKNESS OF THE RESPECTIVE CONCRETE ELEMENT. CONTROL JOINTS
- LOCATED WITHIN INTERIOR AND EXTERIOR SLABS-ON-GRADE SHALL BE SPACED AT A MAXIMUM OF 12' O.C. CONTROL JOINTS SHALL COMPLY WITH ACI 301

- CONCRETE REINFORCEMENT:

  1. BAR REINFORCEMENT SHALL BE CONFORM TO ASTM A615, GRADE 60 STEEL.
- 2. THE FOLLOWING MINIMUM CLEAR COVER SHALL BE PROVIDED OVER REINFORCING BARS:
  - CONCRETE EXPOSED TO EARTH = 3"
  - CONCRETE EXPOSED TO WEATHER = 1-1/2"
  - SLABS NOT EXPOSED TO WEATHER = 3/4"
  - CONCRETE BEAMS & COLUMNS = 1-1/2
- BRICK AND/OR POROUS MATERIAL SHALL NOT BE USED TO SUPPORT FOOTING STEEL OFF THE GROUND. PLASTIC REBAR CHAIRS OR PRECAST CONCRETE DOBIES MAY BE USED.
- 4. SPLICES IN REINFORCING STEEL SHALL BE A MINIMUM OF 45X THE DIAMETER, UP TO A #6 REBAR LARGER THAN #6 REQUIRES A MINIMUM LAP
- SPLICE OF 56X THE DIAMETER.

  5. ALL CONCRETE WALLS SHALL BE DOWELED TO THEIR SUPPORTING FOOTINGS, BEAMS, PADS, ETC. WITH BARS OF THE SAME SIZE AND SPACING AS THE VERTICAL BARS LOCATED WITHIN THE WALL, UNLESS OTHERWISE NOTED. ANCHORAGE OF DOWELS SHALL BE THE EQUIVALENT OF A BAR SPLICE.

- ALL WOOD FRAMING MEMBERS ARE DESIGNED TO BE SPRUCE-PINE-FIR (SPF) #2, UNLESS OTHERWISE NOTED ON THE PLAN. GRADE MARKS SHALL BE MADE BY A RECOGNIZED GRADING AGENCY.
- FRAMING MEMBERS EXPOSED TO WEATHER OR IN DIRECT CONTACT WITH SOIL, CONCRETE, OR MASONRY SHALL BE PRESSURE TREATED SPRUCE-PINE-FIR #2 AND SHALL COMPLY WITH THE AWPA STANDARD C-15
- ALL FASTENERS SUCH AS NAILS, BOLTS, SCREWS, ANCHOR BOLTS, ETC. ATTACHING PRESSURE TREATED OR FIRE—RETARDANT TREATED WOOD SHALL BE HOT-DIPPED ZINC COATED GALVANIZED OR STAINLESS STEEL (ASTM A153)
- LVL ENGINEERED WOOD SHALL HAVE THE FOLLOWING MINIMUM DESIGN VALUES:
  - - E = 1,900,000 PSI FB = 2600 PSI FV = 285 PSI FT = 1555 PSI
- 5. PSL ENGINEERED WOOD SHALL HAVE THE FOLLOWING MINIMUM DESIGN VALUES:
  5.1. E = 2,000,000 PSI
  5.2. FB = 2900 PSI
- = 1755 PSI
- 6. LSL ENGINEERED WOOD SHALL HAVE THE FOLLOWING MINIMUM DESIGN VALUES:
  6.1. E = 1,550,000 PSI
  6.2. FB = 2250 PSI
- ALL BEARING HEADERS TO BE 2-2X6 SUPPORTED WITH MINIMUM (1) 2X4 JACK STUD AND (1) 2X4 KING STUD AT EACH END, UNLESS NOTED OTHERWISE ON THE PLANS. NON-LOAD BEARING HEADERS SHALL BE MINIMUM 2-2X4.

  SOLID BLOCKING IS TO BE INSTALLED AT ALL POINT LOAD THROUGH FLOOR LEVELS TO THE FOUNDATION OR TO THE NEAREST STRUCTURAL ELEMENT.

  ALL WOOD STRUCTURAL MEMBERS THAT ARE SPECIFIED ARE MINIMUM SIZES. CONTRACTOR MAY INSTALL LARGER SIZES FOR EASE OF CONSTRUCTION, IF

- 10. ALL NAILS SHALL BE COMMON NAILS, UNLESS NOTED OTHERWISE ON PLANS AND DETAILS.
- 11. ALL LAG SCREWS ARE TO BE PREDRILLED. DRILL DIAMETER IS TO BE 60 PERCENT OF THE SHANK DIAMETER. IN ADDITION, LAG SCREWS SHALL COMPLY WITH ANSI/ASMF STANDARD B18.2.1-1981.
- 12. ALL BOLT HEADS AND NUTS BEARING ON WOOD SHALL HAVE STANDARD CUT WASHERS. HOLES FOR BOLTS SHALL BE BORED 1/16" LARGER THAN THE NOMINAL BOLT DIAMFTER.
- 13. PROVIDE FULL BEARING WHERE ALL BEAMS MEET SUPPORTING FRAMING MEMBERS.
- 14. UNLESS OTHERWISE NOTED ON PLANS, SIZE, HEIGHT, AND SPACING OF WOOD STUDS SHALL BE IN ACCORDANCE WITH SECTION R602.3.1 OF THE 2018
- NORTH CAROLINA RESIDENTIAL CODE. WOOD FRAMED WALLS SHALL CONSIST OF SPRUCE-PINE-FIR NO.2 GRADED MATERIAL.

  15. UNLESS OTHERWISE NOTED, FOUR-PLY LYL BEAMS SHALL HAVE PLIES FASTENED TOGETHER WITH TWO ROWS OF 1/2" DIAMETER BOLTS SPACED AT 16" O.C. THE BOLTS SHALL BE LOCATED A MINIMUM OF 2-1/2" AND A MAXIMUM OF 3-1/2" FROM THE TOP OF BOTTOM OF THE BEAM.

### ROOF FRAMING NOTES

- 1.1 ALL ROOF TRUSSES MUST BE BUILT IN ACCORDANCE WITH THE TRUSS MANUFACTURER'S REQUIREMENTS. TIF-DOWN CONNECTIONS TO 1.1. ALL NOVE TROSSES MUST BE SOLID IN ACCORDANCE WITH THE TROSS MANUFACTURER'S REQUIREMENTS. IT IN-DUMN CONNECTIONS OF RESTS TUPICT SHALL BE INSTALLED WHERE REQUIRED. WHEN ROOF TRUSS MANUFACTURERS DO NOT PROVIDE THE REQUIRED CONNECTORS, IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY THE ROOF TRUSS ENGINEER OR THE EOR TO PROVIDE AN ADEQUATE CONNECTION. 1.2. ROOF TRUSS LAYOUTS ARE TO BE IN COMPLANCE WITH THE OVERALL DESIGN SPECIFIED ON THE PLANS. ALL DEVAITONS ARE TO BE BROUGHT TO THE ATTENTION OF THE EOR PRIOR TO INSTALLATION.
- 1.3. ROOF TRUSSES SHALL BE BRACED PER THE MANUFACTURER'S INSTRUCTIONS AND PER THE SBCA BUILDING COMPONENT SAFETY
  INFORMATION (BCSI) GUIDE TO GOOD PRACTICE FOR HANDLING, INSTALLING & BRACING OF METAL PLATE CONNECTED ROOF TRUSSES.
- 1.4. PROVIDE 2X4 LADDER FRAMING SPACED AT 24" O.C. BETWEEN ADJACENT ROOF TRUSSES WHERE FALSE DORMERS ARE LOCATED.
- 1.5. INSTALL MINIMUM 7/16" OSB ROOF SHEATHING.
  1.6. INSTALL ROOF TRUSSES PER SECTION R802.10 IN THE 2018 NCRC. WHERE TRUSS HEELS EXCEED 9-1/4" AND ARE LOCATED OVER BRACED WALL PANELS, BLOCKING IS TO BE INSTALLED PER SECTION R602.10.5 OF THE 2018 NCRC.
- 2. STICK FRAMED ROOFS
  - COLLAR TIES SHALL BE 2X6 SPACED AT 48" O.C. AT ALL RIDGES UNLESS NOTED OTHERWISE AND CONNECTED IN THE UPPER THIRD OF THE ATTIC SPACE USING (3) 10D COMMON NAILS.

  - FUR DOWN ALL RIDGES AS NEEDED SO THAT RAFTERS HAVE FULL CONTACT.

    CEILING JOISTS WHEN ERECTED PARALLEL TO RAFTERS MUST BE SISTERED TO RAFTERS AND SECURED AS PER TABLE R802.5.1(A) OF THE 2018 NORTH CAROLINA RESIDENTIAL CODE.

    4. IN ADDITION TO THE NCRC FASTENER SCHEDULE, UNLESS NOTED OTHERWISE ON THE PLAN, ROOF MEMBERS SHALL BE TIED DOWN WITH
  - ADDITIONAL METAL CONNECTORS. INSTALL A SIMPSON H2.5A CONNECTOR AT EVERY RAFTER TO FASTEN THE LOWER END OF THE RAFTER TO THE
  - TOP PLATE OR BEAM BELOW.
    2.5. INSTALL MINIMUM 7/16" OSB ROOF SHEATHING.



# **QUEEN CITY** CONSULTING AND DESIGN, PLLC

STRUCTURAL PLANS PREPARED FOR:

CARY - LH VERSION

PROJECT ADDRESS

LGL HOMES 7201 CREEDMORE RD. SUITE 147 RALEIGH, NC 27613

DESIGNER:

Queen City Consulting and Design, PLLC. 2459 Wilkinson Blvd Suite 300 Charlotte, NC 28208

| Revision No. | Date     | Description                        |  |
|--------------|----------|------------------------------------|--|
| 0            | 06.10.24 | ORIGINAL ENGINEERING               |  |
| 1            | 07.31.24 | ADDED STEM WALL FOUNDATION         |  |
| 2            | 12.09.24 | UPDATED PER NEW ARCHITECTURAL PLAN |  |
|              |          |                                    |  |
|              |          |                                    |  |
|              |          |                                    |  |
|              |          |                                    |  |
|              |          |                                    |  |
|              |          |                                    |  |
|              |          |                                    |  |
|              |          |                                    |  |
|              |          |                                    |  |
|              |          |                                    |  |
|              |          |                                    |  |
|              |          |                                    |  |
|              |          |                                    |  |
|              |          |                                    |  |
|              |          |                                    |  |
|              |          |                                    |  |
|              |          |                                    |  |
|              |          |                                    |  |
|              |          |                                    |  |
|              |          |                                    |  |
|              |          |                                    |  |
|              |          |                                    |  |
|              |          |                                    |  |
|              |          |                                    |  |
|              |          |                                    |  |
|              |          |                                    |  |
|              |          |                                    |  |
|              |          |                                    |  |
|              |          |                                    |  |

## **DESIGN SPECIFICATIONS:**

CONSTRUCTION TYPE: 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

ULTIMATE DESIGN WIND SPEED: 130MPH, EXPOSURE B

ASSUMED SOIL BEARING CAPACITY: 2000PSF

COMPONENT AND CLADDING LOADS SHALL BE DERIVED PER TABLES R301.2(2) AND R301.2(3)

# ENGINEERING SEAL APPLIES TO STRUCTURAL COMPONENTS ONLY

QC ASSUMES NO LIABILITY FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES, SAFETY PRECAUTIONS, OR DEVIATIONS/DISCREPANCIES THAT MAY OCCUR IN THE PLAN ANY DEVIATIONS OR DISCREPANCIES ARE TO BE BROUGHT TO THE IMMEDIATE ATTENTION OF QUEEN CITY CONSULTING AND DESIGN PLLC

THE ARCHITECTURAL PLANS USED FOR STRUCTURAL DRAWINGS AND ANALYSIS HAVE BEEN PROVIDED BY COX ARCHITECTURE AND DESIGN, PLLC AND HAVE BEEN COMPLETED/REVISED ON 12/04/24 NOTIFY OC OF ANY ALTERATIONS MADE TO THE PLANS AFTER THE DATE SHOWN HEREIN.

|                          | LIVE LOADS |
|--------------------------|------------|
| CONVENTIONAL 2X ROOF     | 20 PSF     |
| ROOF TRUSS               | 20 PSF     |
| ATTIC ROOF TRUSS         | 60 PSF     |
| FLOOR LIVE TYP. DWELLING | 40 PSF     |
| SLEEPING AREAS           | 30 PSF     |
| DECKS                    | 40 PSF     |
| PASSENGER VEHICLE GARAGE | 50 PSF     |
| BALCONIES                | 40 PSF     |
| ATTICS WITH STORAGE      | 20 PSF     |
| ATTICS WITHOUT STORAGE   | 10 PSF     |
| GROUND SNOW LOAD         | 15 PSF     |

|                       | DEAD LOADS |
|-----------------------|------------|
| CONVENTIONAL 2X ROOF  | 15 PSF     |
| ROOF TRUSS            | 20 PSF     |
| CONVENTIONAL 2X FLOOR | 10 PSF     |
| I-J0IST               | 15 PSF     |
| FLOOR TRUSS           | 15 PSF     |
|                       |            |

| PAGE LIST:  |  |
|-------------|--|
| Page Symbol | DESCRIPTION                            |
| CS          | COVER SHEET, SPECIFICATIONS, REVISIONS |
| F-1m        | MONOLITHIC SLAB FOUNDATION             |
| F-1s        | STEM WALL FOUNDATION                   |
| S-1         | FIRST FLOOR FRAMING PLAN               |
| D-1m        | MONOLITHIC SLAB DETAILS                |
| D-1s        | STEM WALL SLAB DETAILS                 |
| D-1f        | FRAMING DETAILS                        |







N. I. SHEET NAME: COVER

CLIENT: LCL HOMES

TRN

TRD

PLAN NAME: CARY-LH VERSION NEIGHBORHOOD:

LOT AND ADDRESS: LOT #

PROJECT NUMBER: I GI240014

DRAWN BY: EO & MSB

DATE: 12.09.2024

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

PAGE:

CS

### MONOSLAB FOUNDATION NOTES:

- DISCLAIMER: ALL CONSTRUCTION SHALL CONFORM TO THE LATEST REQUIREMENTS OF THE NORTH CAROLINA RESIDENTIAL CODE, 2018 EDITION, PLUS ALL LOCAL
- CODES AND REGULATIONS.

  THE FOUNDATION HAS BEEN DESIGNED WITH AN ASSUMED 2000 PSF MINIMUM ALLOWABLE SOIL BEARING CAPACITY. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE SOIL BEARING CAPACITY PRIOR TO CONCRETE PLACEMENT. CONTACT QC IF DESIRED BEARING CAPACITY IS NOT ACHIEVED.
- PLACEMENT. COUNCIL OF THE SEARCH SEARCH CAPACITY IS NOT ACHIEVED.
  ALL POURED CONCRETE IS TO HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3000
  PSI AT 28 DAYS. PLACE CONCRETE IN ACCORDANCE WITH ACI STANDARD 318.
  THE BOTTOM OF ALL FOOTINGS SHALL EXTEND BELOW THE FROST LINE FOR THE
  REGION, AS SPECIFIED BY THE LOCAL WONICIPALITY, HOWEVER, THE BOTTOM OF
  ALL FOOTINGS SHALL BE A MINIMUM OF 12" BELOW GRADE.
- MAXIMUM DEPTH OF UNBALANCED FILL AGAINST MASONRY WALLS IS 4'. FOR
- GREATER THAN 4', REFER TO SECTION R404.1 OF THE 2018 NORTH CAROLINA RESIDENTIAL BUILDING CODE, OR CONTACT QC FOR ADDITIONAL ENGINEERING. PERIMETER INSULATION IS TO BE INSTALLED PER THE 2018 NCRC AND PER
- PERIMETER INSULATION IS TO BE INSTALLED PER THE 2018 NURCL AND PER LOCAL MUNICIPALITY.

  WOOD SILL PLATES AT LOAD BEARING AND BRACED WALLS SHALL BE ANCHORED TO THE FOUNDATION WITH 1/2" DIAMETER BOLTS SPACED AT A MAXIMUM OF 6" O.C. THERE SHALL BE A MINIMUM OF 17" INTO CONCRETE AND SHALL BELOCATED WITHIN THE BULL STEPPING OF THE PLATE. BOLTS TO BE LOCATED NOT MORE THAN 12"

  FOR MAY CONCRED AS DEPARCE WITHIN THE SILL DIATE.
- FROM ANY CORNERS OR BREAKS WITHIN THE SILL PLATE.

  ALL FOOTINGS & SLABS ARE TO BEAR ON UNDISTURBED SOIL OR 95%
  COMPACTED FILL, VERPIED BY ENGINEER OR CODE OFFICIAL

  DIMENSIONS SHOWN ON FOUNDATION DRAWINGS ARE TO EDGE OF FRAMING AND NOT TO EDGE OF BRICK VENEER.
- WITH CLASS 1 SOILS (TABLE R405.1), A 4" CRUSHED STONE BASE COURSE IS NOT REQUIRED.
- NOT REQUIRED.
  ALL GRADING AND FOUNDATION WORK MUST BE OBSERVED AND APPROVED PRIOR
  TO PLACEMENT OF CONCRETE.
  CONCRETE SLABS SHALL BE 4" THICK AND CONSTRUCTED OUT OF 3000 PSI MIN.
  COMPRESSIVE STRENGTH WITH 6"x6" W1.4-WH.1.4 WELDED WIRE FABRIC OR
  FIBERMEST CONCRETE OVER 10 MIL. THICK VAPOR BARRIER ON 95% COMPACTED
  FILL, VERIFIED BY EITHER ENGINEER OR CODE OFFICIAL.
  CONCRETE CURBS THAT ARE USED TO SUPPORT PORTAL FRAME WALLS SHALL BE
  A MINIMUM OF 8" WIRE
- A MINIMUM OF 8" WIDE
- ABBREVIATIONS:
- SJ = SINGLE JOIST FT = FLOOR TRUSS DR = DOUBLE RAFTER TR = TRIPLE RAFTER
- ABBREVIATIONS:

  DJ = DOUBLE JOIST

  GT = GIRDER TRUSS

  SC = STUD COLUMN

  EE = EACH END

  TJ = TRIPLE JOIST
  - OC = ON CENTER PLFA = POINT LOAD FROM ABOVE
- CL = CENTERLINE
  COL = COLUMN
  PT = PRESSURE TREATED
- J = JACK STUD CONT = CONTINUOUS
- NTS = NOT TO SCALE
  UNO = UNLESS NOTED OTHERWISE
  K = KING STUD
  MANUF = MANUFACTURER
- TERMITE TREATMENT NOTE: CONTRACTOR IS TO INSTALL PROTECTION AGAINST SUBTERRANEAN TERMITES PER SECTION R318 OF THE 2018 NCRC.

| ANCHORAGE                                   | SCHEDULE  |   |
|---|---|---|
| ANCHOR                                      | MIN. SPACING  | MIN. CONC. EMBEDMENT  |
| 1/2" DIA. A307 BOLTS W/ 90 DEGREE BEND      | 6'-0"   | 7"  |
| SIMPSON MASA MUDSILL ANCHOR                 | 6'-0"   | 4"  |
| 1/2" DIAMETER THREADED ROD W/ SET-3G EPOXY  | 6'-0"   | 7"  |
| 1/2" DIAMETER SIMPSON TITEN CONCRETE SCREWS | 6'-0"   | 4-1/4"  |
|   | ANCHOR  1/2" DIA. A307 BOLTS W/ 90 DEGREE BEND  SIMPSON MASA MUDSILL ANCHOR  1/2" DIAMETER THREADED ROD W/ SET—3G EPOXY | 1/2" DIA. A307 BOLTS W/ 90 DEGREE BEND       6'-0"         SIMPSON MASA MUDSILL ANCHOR       6'-0"         1/2" DIAMETER THREADED ROD W/ SET-3G EPOXY       6'-0" |

|                   | 53'-0"   |
|-------------------|--|
|                   | $42'-1\frac{1}{4}''$ $10'-10\frac{3}{4}''$   |
|                   |  |
| 14'-8"            | D-1m  D-1m  D-1m  D-1m  D-1m  D-1m  D-1m  SEE SLAB NOTE  THICKENED SLAB  |
| 39'-10"<br>12'-4" | (m)  (m)  (m)  (m)  (m)  (m)  (m)  (m)   |
| 12'-10"           | 8'-0"  SEE SLAB NOTE  SEE SLAB NOTE  CONDUIT  16"X13.5"THICKENED  FIG. AT GARAGE WALL  20'-4½"  D-1m  10"  10"  10"  10"  10"  10"  10"  1 |
|                   | $\begin{array}{c ccccccccccccccccccccccccccccccccccc$  |
|                   | 53'-0"   |

|   | FOOTING SCHEDULE |             |                     |  |
|---|------------------|-------------|---------------------|--|
|   | LABEL SIZE       |             | REBAR               |  |
|   | A                | 24"x24"x10" | N/A                 |  |
|   | В                | 30"X30"X10" | N/A                 |  |
|   | С                | 36"X36"X12" | #4 @ 8" O.C. EA WAY |  |
|   | D                | 42"X42"X12" | #4 @ 8" O.C. EA WAY |  |
| 1 | E                | 48"X48"X12" | #5 @ 8" O.C. EA WAY |  |







SLAB SHEET NAME:
MONOLITHIC
FOUNDATION

CLIENT: LGI HOMES

PLAN NAME: CARY-LH VERSION

NEIGHBORHOOD: TRD

LOT AND ADDRESS: LOT # TBD

PROJECT NUMBER: LGI240014

DRAWN BY: EO & MSB

DATE: 12.09.2024

SCALE:

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

PAGE:

F-1.1m

## FRAMING NOTES:

- REFER TO COVER PAGE FOR ADDITIONAL NOTES
  ALL CONSTRUCTION SHALL CONFORM TO THE LATEST REQUIREMENTS OF THE NORTH CAROLINA RESIDENTIAL CODE (NCRC), 2018 EDITION, PLUS ALL LOCAL CODES AND
- REGULATIONS.
  THE EOR SHALL REVIEW EWP AND TRUSS LAYOUTS FOR ACCURACY PRIOR TO CONSTRUCTION. SOLID BLOCKING IS TO BE INSTALLED AT ALL POINT LOADS THROUGH FLOOR LEVELS TO THE FOUNDATION OR TO THE NEAREST STRUCTURAL ELEMENT. BLOCKING SHALL BE EQUAL TO OR GREATER THAN THE SUPPORT ABOVE.
- GREATER HAN THE SUPPORT ABOVE.

  BUILT-UP WOOD COLUMNS CONSISTING OF MULTIPLE STUDS SHALL HAVE EACH LAMINATION
  NAILED WITH 16D NAILS SPACED AT 9" O.C. FOR BUILT-UP COLUMNS CONSISTING OF (4)
  PLIES OR MORE, SECURE PLIES TOGETHER WITH HORIZONTAL SIMPSON CS-16 COIL STRAPS LOCATED AT QUARTER POINTS.
  CONTRACTOR SHALL ENSURE THAT ALL BEAMS, HEADERS, AND STRUCTURAL COMPONENTS
- CONTRACTOR SHALL ENSURE THAT ALL BEAMS, HEADLES, AND STRUCTURAL COMPONENTS ARE FULLY BEARING ON THE SUPPORTING MEMBERS. ANY GAPS IN THE FRANING SHALL BE SHIMMED APPROPRIATELY WITH EITHER METAL SHIMS OF WOOD SHIMS AS NECESSARY, HEADER SIZES SHOWN ON PLANS ARE MINIMUMS. ANY HEADLES INSTALLED THAT ARE REPORTED IN STALLED THAT ARE SHOULD STALLED THAT ARE SHOULD STALLED THAT ARE SAME OR GREATER STRUCTURAL PROPERTIES.
- WHERE TOP PLATE HAS BEEN CUT TO ACCOMMODATE FLUSH HEADERS/BEAMS, INSTALL A
- MINIMUM 16" LONG HORIZONTAL CS-16 STRAP EXTENDING 12" PAST THE BREAK ON EACH UNLESS OTHERWISE NOTED, FOUR-PLY LVL BEAMS SHALL HAVE PLIES FASTENED TOGETHER WITH TWO (2) ROWS OF 1/2" DIAMETER BOLTS SPACED AT 16" O.C. THE BOLTS SHALL BE LOCATED A MINIMUM OF 2-1/2" AND A MAXIMUM OF 3-1/2" FROM THE TOP AND BOTTOM
- OF THE BEAM.
  ALL LOAD BEARING WALLS TO BE 2X4 U.N.O.

ABBREVIATIONS: DJ = DOUBLE JOIST GT = GIRDER TRUSS SJ = SINGLE JOIST FT = FLOOR TRUSS FI = FLOOR INUSS
DR = DOUBLE RAFTER
TR = TRIPLE RAFTER
OC = ON CENTER
PLFA = POINT LOAD FROM ABOVE
NTS = NOT TO SCALE
UNO = UNLESS NOTED OTHERWISE
UN EXECUTED. SC = STUD COLUMN EE = EACH END COL = COLUMN PT = PRESSURE TREATED = JACK STUD MANUE = MANUEACTURER CONT = CONTINUOUS

### LEGEND:

#J # OF JACK STUDS STUD COLUMN POINT LOAD FROM ABOVE LOAD BEARING WALL

NON LOAD BEARING WALL

| HEADER SCHEDULE: |                                    |
|------------------|------------------------------------|
| LABEL            | SIZE                               |
| A                | 2x6 W/ (1) JACK STUD E.E.*         |
| В                | 2x8 W/ (2) JACK STUDS E.E.*        |
| С                | 2x10 W/ (2) JACK STUDS E.E.*       |
| D                | 2x12 W/ (2) JACK STUDS E.E.*       |
| E                | 9-1/4" LVL W/ (3) JACK STUDS E.E.* |
| c                | 11_7/8" IVI W/ (3) IACK STUDS FF * |

\*THE AMOUNT OF PLYS FOR THE HEADER IS DETERMINED BY THE WIDTH OF THE WALL (2X4 WALL=2 PLYS, 2X6 WALL=3 PLYS, ETC.).
AMOUNT OF JACK STUDS SHOWN ON PLAN TAKE PRECEDENCE OVER TABLE

| HEADER SPAN      | MINIMUM KING STUDS E.E. |
|------------------|-------------------------|
| 3'-0" OR LESS    | (1)                     |
| 3'-0" TO 6'-0"   | (2)                     |
| 6'-0" TO 9'-0"   | (3)                     |
| 9'-0" TO 12'-0"  | (4)                     |
| 12'-0" TO 16'-0" | (6)                     |

# WALL STUD NOTES:

- ALL STRUCTURAL LOAD BEARING WALLS SHALL BE CONSTRUCTED OUT OF 2X4 OR 2X6 STUDS AT 16" O.C. U.N.O. FOR UP TO 10' WALLS
- ALL NON LOAD BEARING WALLS SHALL BE CONSTRUCTED OUT OF 2X4 OR 2X6 STUDS AT 24" O.C. U.N.O. FOR UP TO 10' WALLS BALLOON FRAMED WALLS SHALL BE CONSTRUCTED WITH 2X4 STUDS AT 12" O.C.
- OR 2X6 STUDS AT 16" O.C. WITH CROSS BRACING AT 6'-0" O.C. VERTICALLY OR ACCORDING TO THE CHART BELOW:

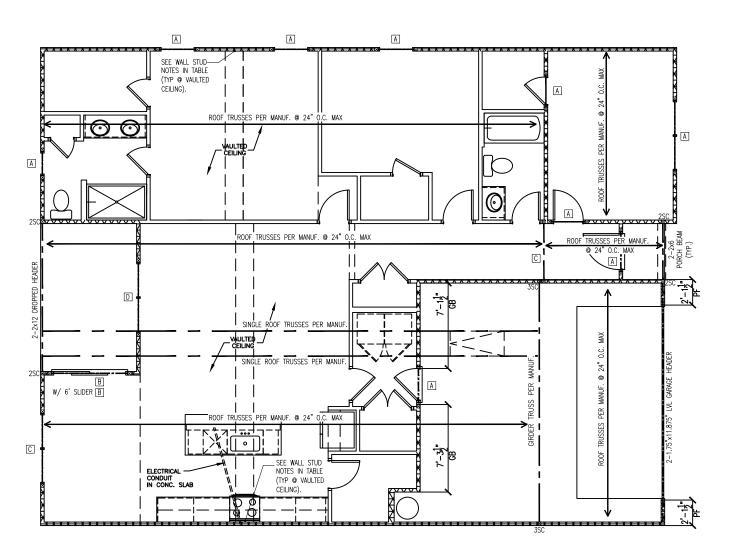
| HEIGHT (PLATE TO PLATE) | STUD SIZE   | SPACING           |
|-------------------------|-------------|-------------------|
| 12'-0"                  | 2X4         | 12" O.C.          |
| 15'-0"                  | 2X6         | 16" O.C.          |
| 17'-0"                  | (2) 2X4/2X6 | 12" O.C./12" O.C. |
| 21'-0"                  | (2) 2X6/2X8 | 16" O.C./12" O.C. |
| 25'-0"                  | (2) 2X6     | 12" O.C.          |

| BRICK LINTEL SCHEDULE: |                              |  |
|------------------------|------------------------------|--|
| SPAN                   | HEIGHT OF<br>BRICK           | LINTEL   |
| 3'-0" OR LESS          | 20' MAX                      | L3"x3"x1/4"                                    |
| 3'-0" TO 6'-0"         | 6' MAX<br>12' MAX<br>20' MAX | L3"x3"x1/4"<br>L4"x3"x1/4"<br>L5"x3-1/2"x5/16" |
| 6'-0" TO 12'-0"        | 6' MAX<br>12' MAX            | L5"x3-1/2"x5/16"<br>L6x3-1/2"x5/16"            |

12'-0" TO 16'-0" 12' MAX L8"x4"x1/2" ATTACH ALL LINTELS TO THE SUPPORTING HEADER WITH (2) ROWS OF MINIMUM 3.5" LONG 1/2" DIAMETER LAG SCREWS AT 16" O.C. ENDS OF LINTEL SHALL BEAR AT LEAST 3.5" IN THE ADJACENT BRICK

NOTE: WALL BRACING HAS BEEN ANALYZED USING CS-WSP PER SECTION R602.10 OF THE 2018 NCRC. MIXED METHODS PER TABLE R602.10.1 ARE DESIGNATED ON THE PLAN.

NOTE: FLOOR JOISTS MAY INCLUDE FLOOR TRUSSES OR I-JOISTS, AS CONTRACTOR DESIRES.



| TYPICAL                          | HANGERS FOR JOIS   | ST & BEAMS          |
|----------------------------------|--|---------------------|
|                                  | -SIMPSON-  | -USP-               |
| MEMBERS                          | HANGER   | HANGER              |
| 2x8                              | ULS28 ULS210 ULS210 ULS210 ULS210 ULS210 ULS210-2 ULS210-3 ULS210-3 ULS210-3 ULS210-3 ULS210-3 ULS210-3 ULS210-3 ULS10-3 ULS10 | JUS28               |
| 2x10                             | LUS210   | JUS210              |
| 2x12                             | LUS210   | JUS210              |
| 2-2x8                            | HUS28-2  | JUS28-2             |
| 2-2x10                           | HUS210-2   | JUS210-2            |
| 2-2x12                           | HUS212-2   | JUS212-2            |
| 3-2x6                            | LUSZ0-3  | JUS28-3<br>JUS210-3 |
| 3-2×10                           | LU3210-3   | JUS212-3 MIN.       |
| 2 13/4"-01/4" 13/1               | HOUSE S MINE.  | TUDUATO             |
| 2 134 X374 EVE                   | HOUST IO   | TUDINATO            |
| 2 174 X3/2 LVL                   | HOUSTIO<br>HOUSTIO   | TUDUATO             |
| 2 174 X 1 1/4 LVL                | HOUSTIZ<br>HOUSTIZ   | TUDUATO             |
| 2 174 X 1 178 LVL                | HOUSTIZ<br>HOUGALA   | TUDHATA             |
| 2 174 X 14 LVL<br>2 13/1/10" LVL | HOUSTIT  | TUDHATA             |
| 2-174 X 10 LVL                   | HGUS414  | TUDUATA             |
| 2-174 X 10 LVL                   | HOUST 14   | TUDUATA             |
| 2-174 X24 LVL<br>7 43/1-01/1 LVI | HOUSE ED /10   | TUDUETO             |
| 3-1% X9% LVL                     | HGUS5.50/10  | THUHOTO             |
| 3-1% X9% LVL                     | HGUS5.50/10  | THUHOTO             |
| 3-1% X11% LVL                    | HGUS5.50/12  | THDH612             |
| 3-1% X11% LVL                    | HGUS5.50/12  | THDH612             |
| 3-1% x14 LVL                     | HGUS5.50/14  | THDH614             |
| 3-1% x16 LVL                     | HGUS5.50/14  | THDH614             |
| 3-1% X18 LVL                     | HGUS5.50/14  | THDH614             |
| 3-1% x24 LVL                     | HGUS5.50/14  | IHDH614             |
| 4-1%, x9%, LVL                   | HGUS7.25/10  | THDH7210            |
| 4-1% x9% LVL                     | HGUS7.25/10  | IHUH/210            |
| 4-1% x11% LVL                    | HGUS7.25/12  | IHUH/212            |
| 4-1% x11% LVL                    | HGUS7.25/12  | IHUH/212            |
| 4-1%,"x14" LVL                   | HGUS7.25/14  | THDH7214            |
| 4-1%, x16" LVL                   | HGUS7.25/14  | IHDH/214            |
| 4-1%,"x18" LVL                   | HGUS7.25/14  | THDH7214            |

NOTE: ALL HANGERS BY SIMPSON STRONG TIE CO., INC. (BRAND - NAME EQUIVALENTS ACCEPTABLE)

# TRUSS UPLIFT CONNECTOR SCHEDULE

| MAX. UPLIFT | ROOF TO WALL       | FLOOR TO FLOOR        | FLOOR TO FND |
|-------------|--------------------|-----------------------|--------------|
| 600 LBS     | H2.5A              | PER WALL SHEATHING    | & FASTENERS  |
| 1200 LBS    | (2) H2.5A          | CS16 (END = 11")      | DTT2Z        |
| 1450 LBS    | HTS20              | CS16 (END = 11")      | DTT2Z        |
| 2000 LBS    | (2) MTS20          | (2) CS16 (END = 11")  | DTT2Z        |
| 2900 LBS    | (2) HTS20          | (2) CS16 (END = 11")  | HTT4         |
| 3685 LBS    | LGT3-SDS2.5        | MSTC52                | HTT4         |
| 4 111 00001 | OTC LICTED ADE CIL | DOON CEDONO TIE FOURT | CHT DDODUOTO |

ALL PRODUCTS LISTED ARE SIMPSON STRONG-TIE. EQUIVALENT PRODUCTS MAY BE USED PER MANUFACTURER'S SPECIFICATIONS.

VANT DE COSED FER MANORMOTORS SPECIFICATIONS.

2. UPLIET VALUES LISTED ARE FOR SPF 22 GRADE MEMBERS.

3. REFER TO TRUSS LAYOUT PER MANUF. FOR UPLIET VALUES AND TRUSS TO TRUSS CONNECTIONS. CONNECTORS SPECIFIED BY TRUSS MANUFACTURER OVERRIDE THOSE LISTED ABOVE. 4. CONTACT QC FOR REQUIRED CONNECTORS WHEN LOADS EXCEED THOSE

LISTED ABOVE.

# WALL BRACING LEGEND:

◆ ATTACH (2) 2X4 STUD COLUMN TO FOUNDATION WITH SST LTTP2 HOLD DOWN, OR EQUIVALENT HARDWARE.

BRACED WALL

# WALL BRACING NOTES:

- REFER TO COVER PAGE FOR ADDITIONAL NOTES.
- BRACING DESIGN CONFORMS TO THE 2018 NCRC AND ALL LOCAL AMENDMENTS FOR A MAXIMUM WIND SPEED OF 130 MPH AND SEISMIC ZONES A-C
- WALL BRACING HAS BEEN ANALYZED PER SECTION R602.10 OF THE 2018 NCRC. CS-WSP IS THE COMMON BRACING METHOD USED, WHERE APPLICABLE. MIXED METHODS, OTHER THAN CS-WSP, SHOWN WITHIN TABLE R602,10.1 ARE
- ALL BRACING COMPONENTS SHALL COMPLY TO SECTION R602.10.1 OF THE 2018
- MINIMUM PANEL LENGTH SHALL BE 24" OR THE MINIMUM AS STATED IN R602.10.1 OF THE 2018 NCRC. BRACED WALL PANELS SHALL BE WITHIN 12'-0" FROM THE ENDS OF A BRACED
- WALL LINE AND SPACED NO GREATER THAN 21'. INTERIOR OF EXTERIOR BRACED WALLS SHALL BE SHEATHED CONTINUOUSLY WITH
- 1/2" THICK GYPSUM, U.N.O. HOLD DOWNS SHALL BE INSTALLED FOR BRACED WALL END CONDITIONS PER
- SECTION R602.10.4 AND FIGURE R602.10.3(3) OF THE 2018 NCRC.
  REFER TO THE CHART BELOW FOR BRACED WALL METHODS AND CONNECTIONS.

| METHOD  | MATERIAL                 | MIN. THICKNESS | REQUIRED CONNECTION  |
|---|--------------------------|----------------|--|
| CONTINUOUS SHEATHING<br>WOOD STRUCTURAL<br>PANEL (CS-WSP) | WOOD STRUCTURAL<br>PANEL | 3/8"           | 6d COMMON NAILS AT 6" O.C.<br>ON EDGE AND 12" O.C. ON<br>FIELD |
| GYPSUM BOARD (GB)   | GYPSUM BOARD             | 1/2"           | 5d COOLER NAILS AT 7" O.C.<br>ON EDGE AND FIELD                |
| WOOD STRUCTURAL<br>PANEL (WSP)                            | WOOD STRUCTURAL<br>PANEL | 3/8"           | 6d COMMON NAILS AT 6" O.C.<br>ON EDGE AND 12" O.C. ON<br>FIELD |
| PORTAL FRAME (PF)   | WOOD STRUCTURAL<br>PANEL | 7/16"          | SEE DETAIL 1/D-1f  |

- REFER TO COVER PAGE FOR ADDITIONAL WOOD FRAMING NOTES.
- ALL ROOF TRUSSES SHALL BE ATTACHED TO WALL PLATES WITH MINIMUM (1) SIMPSON H2.5A OR PER MANUFACTURER'S INSTRUCTIONS OR PER SECTION R802.11 OF THE 2018 NCRC, WHICHEVER IS GREATER.
- ROOF TRUSSES ARE TO BE INSTALLED PER SECTION R802.10 IN THE 2018 NCRC ROOF TRUSSES SHALL BE BRACED PER THE MANUFACTURER'S INSTRUCTIONS AND PER THE SBCA BUILDING COMPONENT SAFETY INFORMATION (BCSI) GUIDE TO GOOD PRACTICE FOR HANDING,
- INSTALLING & BRACING OF METAL PLATE CONNECTED WOOD TRUSSES. DO NOT CUT OR ALTER ROOF TRUSSES
- ROOF TRUSS MANUFACTURER SHALL VERIFY AND DESIGN FOR POSITION OF PULL DOWN STAIRS
- WHERE TRUSS HEELS EXCEED 9-1/4" AND ARE LOCATED OVER BRACED WALL PANELS AS SHOWN ON THE PLANS, BLOCKING SHALL BE INSTALLED PER SECTION R602.10.5 OF THE 2018 NCRC.







CLENT: LGI HOV

PLAN FLOOR SHEET NAME: FIRST FLC FRAMING

CLIENT: LGL HOMES

PLAN NAME: CARY-LH VERSION

NEIGHBORHOOD: TRD

LOT AND ADDRESS: LOT # TBD

PROJECT NUMBER: LGI240014

DRAWN BY: EO & MSB

DATE: 12.09.2024

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

PAGE:

S - 1.1

### GENERAL STRUCTURAL NOTES:

- These drawings and its contents are the property of Queen City Consulting and Design, PLLC, (QC) and the client as noted on this page. Distribution to any other parties for purposes other than those directly concerned with the titled project without prior written consent from QC is strictly prohibited.
- The engineer's name present on the seal of these drawings is the engineer of record (EOR).
- Details noted as "Typical" shall be used whenever applicable. Refer to specifications for information not covered by these notes or drawings.
- 4. It is the responsibility of the contractor to verify all dimensions prior to construction. Furthermore, QC will not be held responsible for the contractor's failure to conform to the construction documents, including this structural set, should any non-conformities occur.
- The contractor shall assume sole and complete responsibility for job site conditions during the course of construction of this project, including
- 6. Any omissions and conflicts between the various elements of the structural drawings and/or specifications shall be brought to the attention of, an resolved with, the engineer before proceeding with any work so involved.
- 7. All construction shall conform to the latest requirements of the North Carolina Residential Code (NCRC), 2018 Edition, plus all local codes and regulations.
- 8. Seismic design shall be per section R301.2.2 of the 2018 NCRC and is based off of local seismic design categories.

### FOOTING AND FOUNDATION NOTES:

- Foundation Design is based on a minimum allowing bearing capacity of 2,000 PSF. Contact the EOR if bearing capacity is not achieved.

  No excavation shall occur within a 45 degree line projected from the bottom of the building foundation is permitted, unless it is specifically
- 3. The bottom of all footings shall extend below the frost line for the region, as specified by the local municipality. However, the bottom of all footings shall be a minimum of 12" below grade.
- 4. Contractor to ensure that all drainage is directed away from the exterior footings (Min. 2% slope).
- 5. Excavations of footings shall be temporarily protected with a 10 mil polyethylene membrane if concrete is not placed within 24 hours of
- 6. Do not place concrete or other cementitious materials against subgrade with any deleterious materials present, including but not limited to: water, ice, frost, or loose material.
- 7. All footings are to have minimum 2" projection on each side of foundation walls (except for monolithic slab foundations).

- Poured concrete is to have a minimum compressive strength of 3000 psi at 28 days. Aggregates for normal weight concrete shall conform to ASTM C33.
- All materials used for concrete shall conform to ACI 318, ACI 301. or ASTM C1157.
- The placing of all concrete shall be in accordance with ACI 318 and ASTM C94 requirements
- Admixtures may be used with prior approval of the EOR. Admixtures shall comply with ASTM C494 and C1017. Concrete slabs-on-grade shall be constructed in a manner that complies with ACI 302.1R-96.
- Control or saw cut joints shall be cut to a minimum of 1/4 of the thickness of the respective concrete element. Control joints located within interior and exterior slabs-on-grade shall be spaced at a maximum of 12' 0.C. Control joints shall comply with ACI 301.

- Bar reinforcement shall be conform to ASTM A615, grade 60 steel.
- 2. The following minimum clear cover shall be provided over reinforcing bars:
  - Concrete exposed to earth
  - Concrete exposed to weather = 1-1/2
  - Slabs not exposed to weather = 3/4"
  - Concrete Beams & Columns = 1-1/2"
- 3. Brick and/or porous material shall not be used to support footing steel off the ground. Plastic rebar chairs or precast concrete dobies may be
- 4. Splices in reinforcing steel shall be a minimum of 45x the diameter, up to a #6 rebar, Rebar larger than #6 requires a minimum lap splice of 56x the diameter.
- 5. All concrete walls shall be doweled to their supporting footings, beams, pads, etc. with bars of the same size and spacing as the vertical bars located within the wall, unless otherwise noted. Anchorage of dowels shall be the equivalent of a bar splice.

## GENERAL WOOD FRAMING:

- All wood framing members are designed to be Spruce-Pine-Fir (SPF) #2, unless otherwise noted on the plan. Grade marks shall be made by a recognized grading agency.
- 2. Framing members exposed to weather or in direct contact with soil, concrete, or masonry shall be pressure treated Spruce-Pine-Fir #2 and shall comply with the AWPA standard C-15.
- 3. All fasteners such as nails, bolts, screws, anchor bolts, etc. attaching pressure treated or fire-retardant treated wood shall be hot-dipped zinc coated galvanized or stainless steel (ASTM A153).
- 4. LVL engineered wood shall have the following minimum design values:
  - E = 1,900,000 psi
    - Fb = 2600 psi
  - Fv = 285 psi Ft = 1555 psi = 1555 psi
- 5. PSL engineered wood shall have the following minimum design values:
- = 2,000,000 psi
  - Fb = 2900 psi
  - Fv = 290 psi
- = 1755 psi 6. LSL engineered wood shall have the following minimum design values:
  - E = 1,550,000 psi Fb = 2250 psi 6.2.
  - Fv = 400 psi Ft = 1075 psi
- All bearing headers to be 2-2x6 supported with minimum (1) 2x4 jack stud and (1) 2x4 king stud at each end, unless noted otherwise on the plans. Non-load bearing headers shall be minimum 2-2x4.
- Solid blocking is to be installed at all point load through floor levels to the foundation or to the nearest structural element.
- All wood structural members that are specified are minimum sizes. Contractor may install larger sizes for ease of construction, if desired.
- 10. All nails shall be common nails, unless noted otherwise on plans and details.
- 11. All lag screws are to be predrilled. Drill diameter is to be 60 percent of the shank diameter. In addition, lag screws shall comply with ANSI/ASME standard B18.2.1-1981.
- 12. All bolt heads and nuts bearing on wood shall have standard cut washers. Holes for bolts shall be bored 1/16" larger than the nominal bolt
- Provide full bearing where all beams meet supporting framing members.
- 14. Unless otherwise noted on plans, size, height, and spacing of wood studs shall be in accordance with section R602.3.1 of the 2018 North Carolina Residential Code. Wood framed walls shall consist of Spruce—Pine—Fir No.2 graded material.
- 15. Unless otherwise noted, four-ply LVL beams shall have plies fastened together with two rows of 1/2" diameter bolts spaced at 16" o.c. The bolts shall be located a minimum of 2-1/2" and a maximum of 3-1/2" from the top of bottom of the beam.

# ROOF FRAMING NOTES: 1. Truss Built Roofs

- 1.1. All roof trusses must be built in accordance with the truss manufacturer's requirements. Tie-down connections to resist uplift shall be installed where required. When roof truss manufacturers do not provide the required connectors, it is the responsibility of the contractor o notify the roof truss engineer or the EOR to provide an adequate connection.
- 1.2. Roof 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 EOR prior to installation.
- 1.3. Roof trusses shall be braced per the manufacturer's instructions and per the SBCA Building Component Safety Information (BCSI) Guide to Good Practice for Handling, Installing & Bracing of Metal Plate Connected Roof Trusses.
- 1.4. Provide 2x4 ladder framing spaced at 24" o.c. between adjacent roof trusses where false dormers are located.
- 1.5. Install minimum 7/16" OSB roof sheathing.

using (3) 10d common nails.

- 1.6. Install roof trusses per section R802.10 in the 2018 NCRC. Where truss heels exceed 9-1/4" and are located over braced wall panels, blocking is to be installed per section R602.10.5 of the 2018 NCRC.
- 2. Stick Framed Roofs Collar ties shall be 2x6 spaced at 48" o.c. at all ridges unless noted otherwise and connected in the upper third of the attic space
  - Fur down all ridges as needed so that rafters have full contact. Ceiling joists when erected parallel to rafters must be sistered to rafters and secured as per table R802.5.1(a) of the 2018 North Carolina Residential Code
  - In addition to the NCRC fastener schedule, unless noted otherwise on the plan, roof members shall be tied down with additional metal connectors. Install a Simpson H2.5A connector at every rafter to fasten the lower end of the rafter to the top plate or beam below 2.5. Install minimum 7/16" OSB roof sheathing.



# **QUEEN CITY** CONSULTING AND DESIGN, PLLC

STRUCTURAL PLANS PREPARED FOR:

STANDARD DETAILS

PROJECT ADDRESS:

OWNER:

QUEEN CITY CONSULTING AND DESIGN, PLLC. 2459 WILKINSON BLVD SUITE 300 CHARLOTTE NC 28208

### DESIGN SPECIFICATIONS

Construction Type: 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

Ultimate Design Wind Speed: 130MPH, EXPOSURE B

Assumed Soil Bearing Capacity: 2000psf

Component and Cladding loads shall be derived per Tables R301.2(2) and R301.2(3)

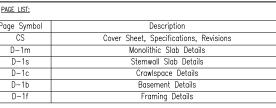
## SEAL APPLIES TO STRUCTURAL ONLY

ENGINEERING SEAL APPLIES TO STRUCTURAL COMPONENTS ONLY. QC ASSUMES NO LIABILITY FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES, SAFETY PRECAUTIONS, OR DEVIATIONS/DISCREPANCIES THAT MAY OCCUR IN THE PLAN. ANY DEVIATIONS OR DISCREPANCIES ARE TO BE BROUGHT TO THE IMMEDIATE ATTENTION OF QUEEN CITY CONSULTING AND DESIGN, PLLC.

|                          | LIVE LOADS |
|--------------------------|------------|
| Roof 2x Conventional     | 20 PSF     |
| Roof Truss               | 20 PSF     |
| Attic Roof Truss         | 60 PSF     |
| Floor Live Typ. Dwelling | 40 PSF     |
| Sleeping Areas           | 30 PSF     |
| Decks                    | 40 PSF     |
| Passenger Vehicle Garage | 50 PSF     |
| Balconies                | 40 PSF     |
| Attics with Storage      | 20 PSF     |
| Attics without Storage   | 10 PSF     |
| Ground Snow Load         | 15 PSF     |
|                          |            |

|                       | DEAD LOADS |
|-----------------------|------------|
| Roof 2x Conventional  | 15 PSF     |
| Roof Truss            | 20 PSF     |
| Conventional 2x Floor | 10 PSF     |
| I-Joist               | 15 PSF     |
| Floor Truss           | 15 PSF     |

| PAGE LIST:  |  |
|-------------|--|
| Page Symbol | Description                            |
| CS          | Cover Sheet, Specifications, Revisions |
| D-1m        | Monolithic Slab Details                |
| D-1s        | Stemwall Slab Details                  |
| D-1c        | Crawlspace Details                     |
| D-1b        | Basement Details                       |
| D-1f        | Framing Details                        |
|             |  |



| PERSON, PLLC &   |
|--|
| TO CAROLANIA CAR |
| SEAL OS6484  |
| 12.11.24   |

**QUEEN CITY** 

# Revision Date Description No. 12 26 23 ORIGINAL ENGINEERING 05.05.24 Added Stem Wall Details 05 16 24 ADDED BRICK CRAWL SPACE DETAILS 08.30.24 ADDED STAIR DETAIL AND TURNDOWN DETAIL ADDED BASEMENT DETAILS 12.11.24 4

CLIENT: IGL HOMES

DRAWN BY

SCALE: DETAILS ARE N.T.S.

 $\sqrt{D-1}$  m/<sub>N.T.S.</sub>

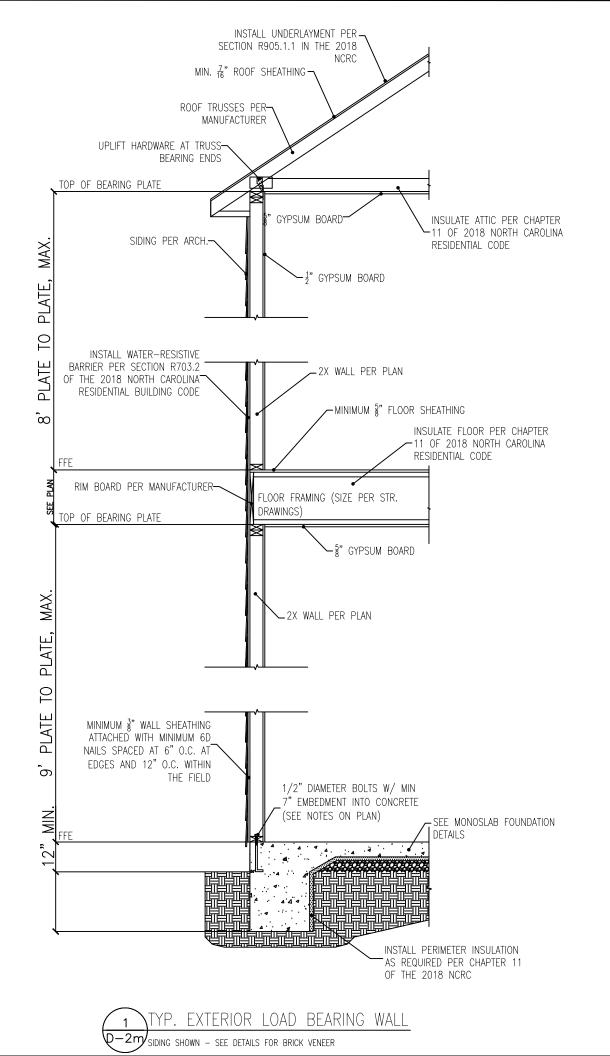
 $\sqrt{D-1}$  m/n.t.s. – Brick veneer and siding options shown above

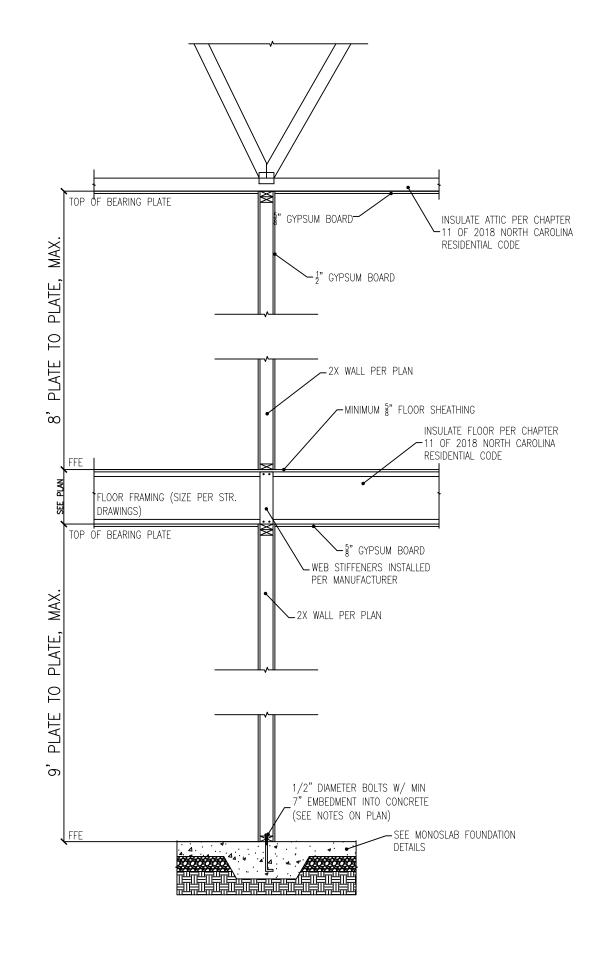
D-1m

CLIENT: LGI HOMES DRAWN BY:

SCALE:

DETAILS ARE N.T.S.



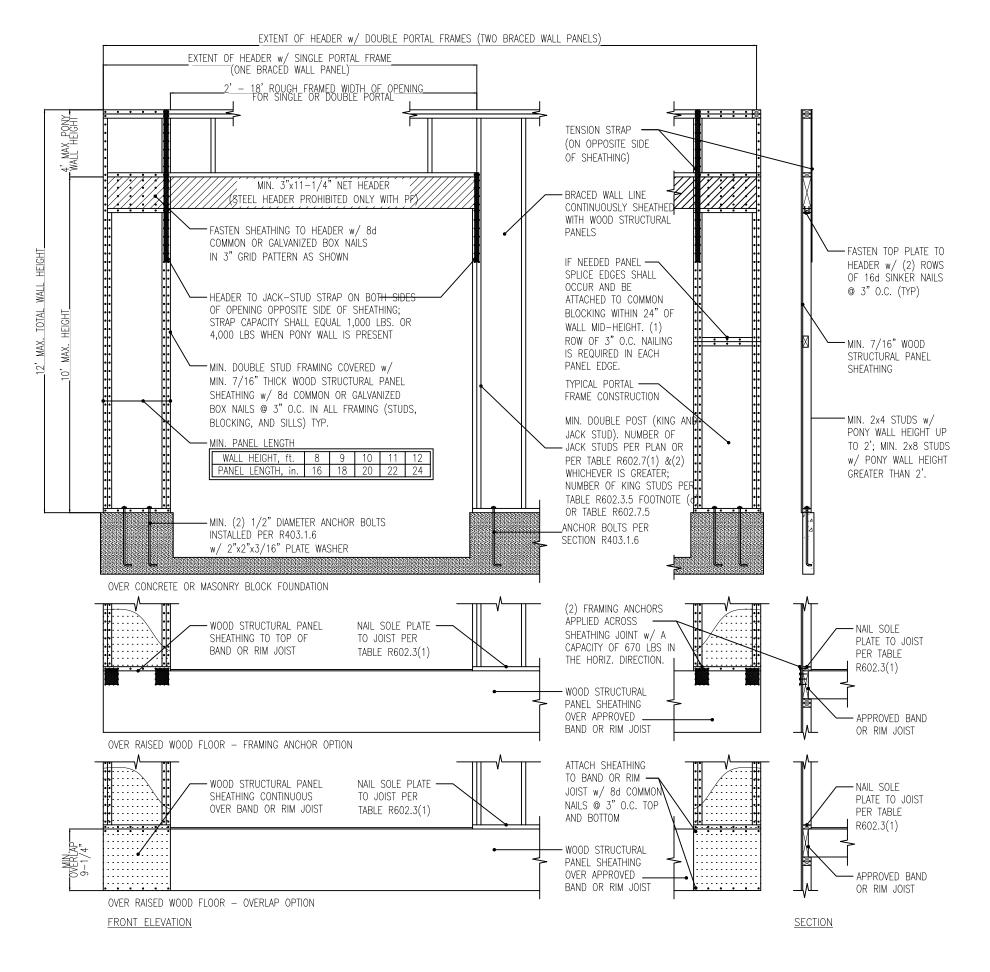


TYP. INTERIOR LOAD BEARING WALL



QUEEN CITY











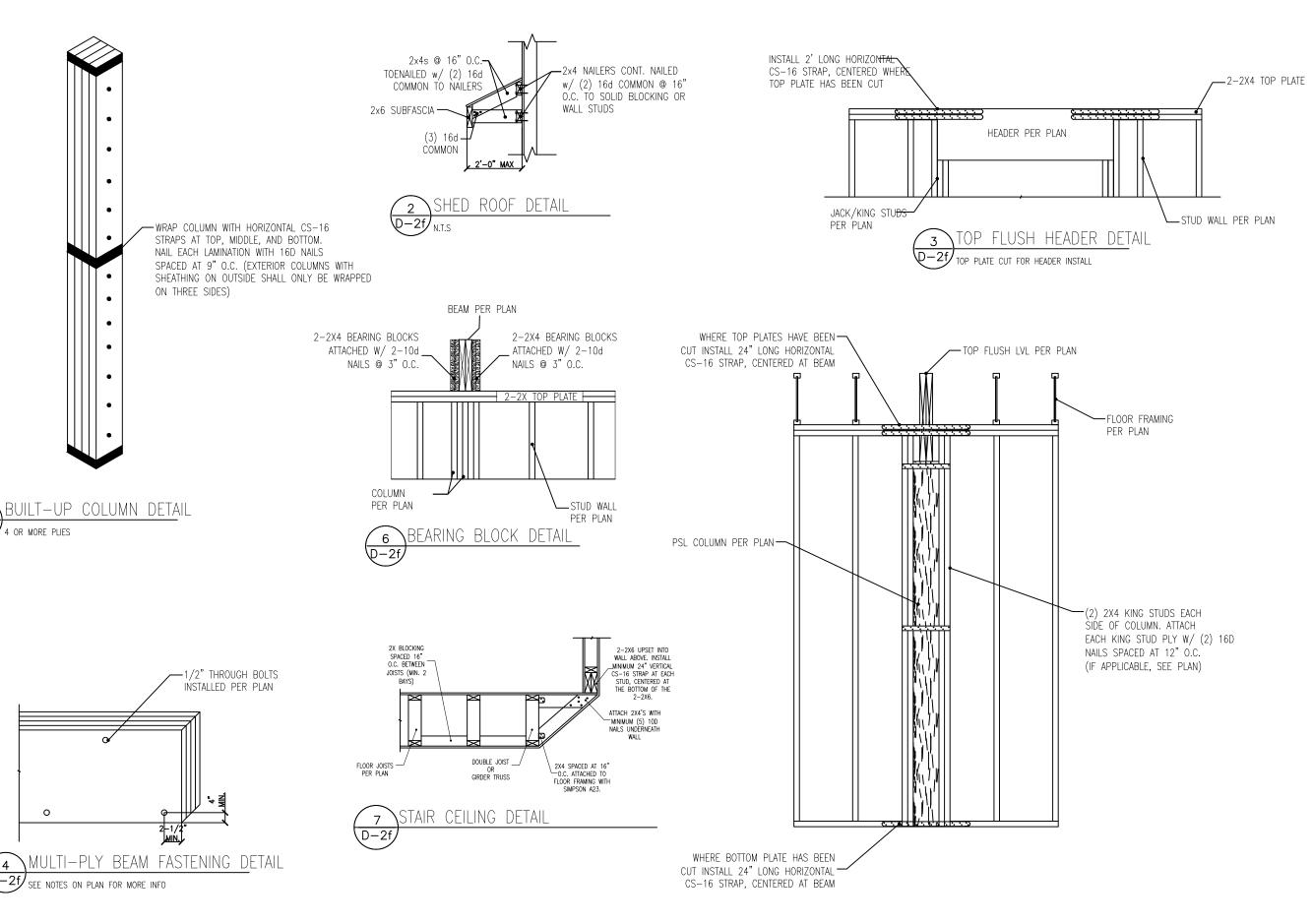


CLIENT: LGL HOMES

DRAWN BY:

SCALE: DETAILS ARE N.T.S.

D-1f











CLIENT: LGI HOMES

DRAWN BY:

SCALE: DETAILS ARE N.T.S.