NOTICE TO CONTRACTOR
All construction must comply with current NC Building Codes and is subject to field inspection and verification.

APPROVED
Limited building only review
Permit holder responsible for full compliance with the code

12/14/2020

Harnett COUNTY NORTH CAROLINA

1820 Brooklyn- RH

ELEVATION 'A'

ARCHITECTURAL DRAWINGS			
Sheet No.	Sheet Description	Sheet No.	Sheet Description
0.0	Cover Sheet	4.0	Building Sections
0.1	General Notes Sheet	4.1	Interior Details
1.0	Mono Slab Foundation	5.0	Unfin Walkout Basement Electrical
1.0.1	Mono Slab Options	5.0.1	Unfin In-Ground Basement Electrical
1.1	Stem Wall Foundation	5.0.2	Finished Walkout Basement Electrical
1.1.1	Stem Wall Options	5.0.3	Finished In-Ground Basement Electrical
1.2	Crawl Space Foundation	5.1	First Floor Electrical
1.2.1	Crawl Space Options	5.1.1	First Floor Options Electrical
1.3	In-Ground Basement Foundation	5.2	Second Floor Electrical
1.3.1	In-Ground Basement Options	5.2.1	Second Floor Options Electrical
1.4	Walkout Basement Foundation	5.3	Third Floor Electrical
1.4.1	Walkout Basement Options	5.3.1	Third Floor Options Electrical
2.0	Unfinished Walkout Basement	6.0	Finished Walkout Basement Plumbing
2.0.1	Unfinished In-Ground Basement	6.0.1	Finished In-Ground Basement Plumbing
2.02	Finished Walkout Basement	6.1	First Floor Plumbing
2.03	Finished In-Ground Basement	6.1.1	First Floor Options Plumbing
2.1	First Floor Plan	6.2	Second Floor Plumbing
2.1.1	First Floor Options		
2.1.2	Fireplace Options		

DESIGN CRITERIA:

- THIS PLAN HAS BEEN DESIGNED IN CONFORMANCE WITH THE 2012 NORTH CAROLINA RESIDENTIAL CODE

ASSUMED SOIL BEARING CAPACITY:	2000 PSF
ASSUMED SOIL TYPE:	CI,ML,MH,CH
LIVING SPACE TOTAL FLR LOAD:	50 PSF
SLEEPING SPACE TOTAL FLR LOAD:	40 PSF
ROOF LOAD W/CEILING:	30 PSF
ROOF LOAD W/O CEILING:	20 PSF
DECK LOAD	50 PSF
ROOF SNOW LOAD:	20 PSF
WIND EXPOSURE	B
WIND SPEED	100 MPH
WEATHERING:	MODERATE
FROST DEPTH	12"
SUBJECT TO TERMITE DAMAGE MODERATE-SEVERE	

REVISION LOG				
Rev	Description	Drawn By	Date	Engineering Required
1	----	SDI	----	YES
2	----		----	
3	----		----	
4	----		----	
5	----		----	
6	----		----	
7	----		----	
8	----		----	

SQUARE FOOTAGE		
	ELEVATION 'A'	
	UNHEATED	HEATED
FIRST FLOOR	0	1820
SECOND FLOOR	0	0
REAR COV. PORCH	121	0
FRONT PORCH	222	0
2-CAR GARAGE	511	0
SUBTOTALS	854	1820
TOTAL UNDER ROOF	2674	

OPTIONS		
	UNHEATED S.F.	HEATED S.F.
OPT. REAR DECK	172	0

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LAMCO HOMES

REV #	DESCRIPTION	DATE
1		----
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1820 -Brooklyn - RH
SIGNATURE COLLECTION

Cover Sheet

DRAWN BY:
South Designs

ISSUE DATE:
05/15/2018

CURRENT REVISION DATE:

SCALE:
1/8" = 1'-0"

SHEET
0.0a

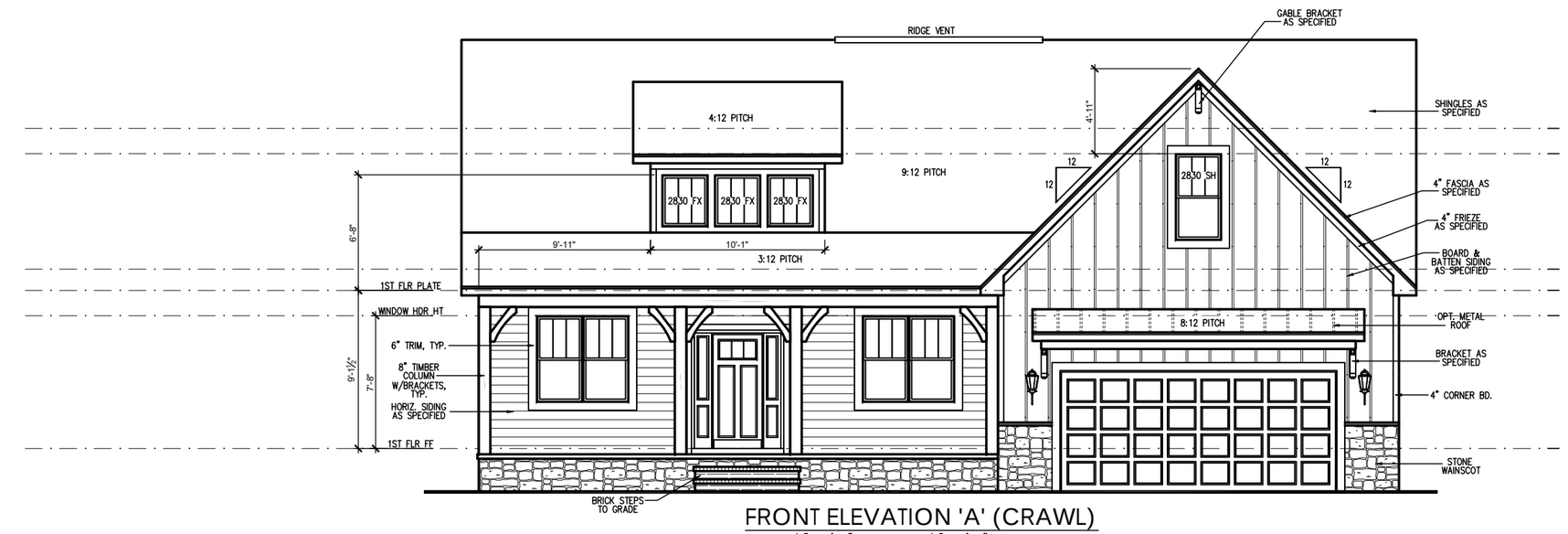
General Elevation Notes

General Elevation Notes shall apply unless noted otherwise on plan.

1. Roof shall be finished with architectural composition shingles with slopes as noted on plan.
2. Metal Roof finish is used as an accent material and may be optional, consult community specifications. NOTE: Metal roof is required on any roof slope of 3:12 regardless of Community Standard.
3. Ridge Vent shall be provided and installed on all ridges greater than 6' in length per manufacturer's specifications.
4. Soffit Vent shall be continuous soffit vent, consult community specifications for material.
5. House Wrap, "tyvek" or approved equal shall be installed over entire exterior wall per manufacturer's specifications and recommendations. "Zip" system sheathing may substitute for House Wrap.
6. Flashing shall be provided above all door and window openings, above finish wall material changes and at wall surfaces where lower roof areas abut vertical wall surfaces.
7. Porch Railings shall be provided at all porch walking surfaces greater than 30" above adjacent finished grade. It shall be 36" high with guards spaced no more than 4" apart. Consult community specifications for material.
8. Finish Wall Material shall be as noted on elevation drawings. Consult community specifications for material make-up of siding, shown as generic on drawing.
9. Brick Veneer, if included on elevation shall be tied to wall surface with galvanized corrugated metal ties at a rate of 24" oc horizontally and 16" oc vertically so that no more than 2.67sf of brick is supported by (1) tie. Space between face of wall and back face of brick shall be limited to a maximum of 1". Flashing shall be provided behind brick above all wall openings and at base of brick wall. Flashing shall be a minimum of 6-mil poly or other corrosion resistant material and shall be installed so that it laps under the house wrap material a minimum of 2". Weepholes shall be provided at a rate of 48" oc and shall not be less than 3/16" in diameter and shall be located immediately above flashing.
10. Brick Veneer Support Lintels shall be provided if brick veneer is included on elevation. Lintels shall be provided as listed in the following schedule and shall have a minimum bearing length of 6". Masonry Lintels shall be provided so that deflection is limited to L/600.

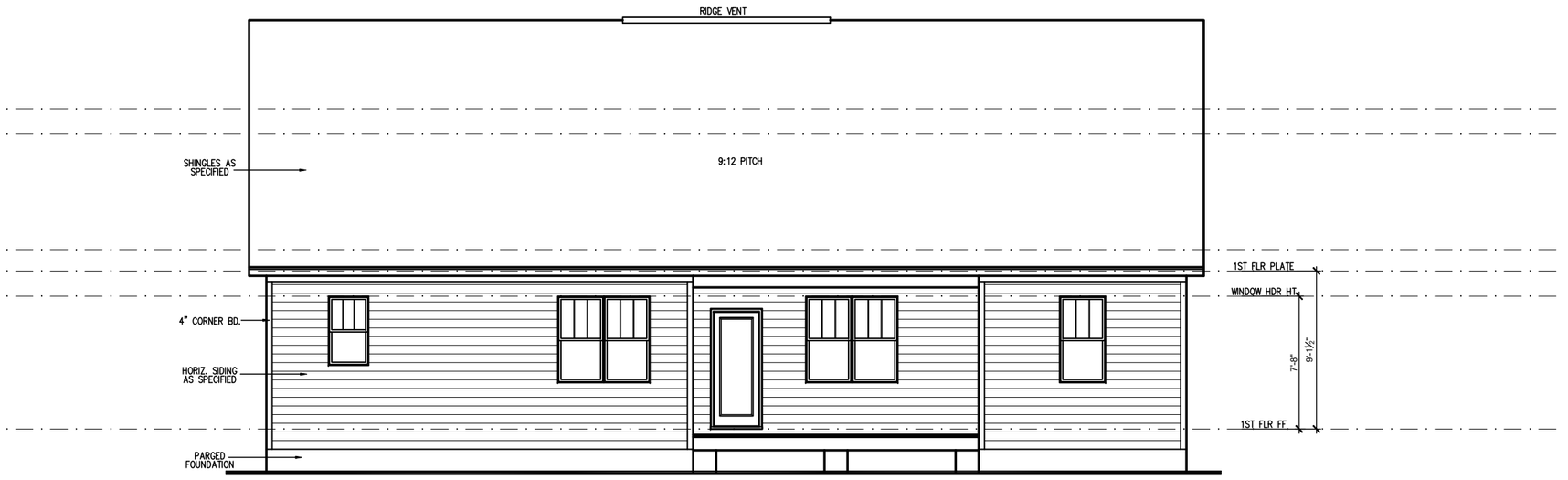
Masonry Opening Lintel Schedule

Opening Size			Angle
up to 4'-0"			3-1/2" x 3-1/2" x 5/16" LLV
4'-1"	to	5'-6"	4" x 3-1/2" x 5/16" LLV
5'-7"	to	6'-6"	5" x 3-1/2" x 5/16" LLV
6'-7"	to	8'-4"	6" x 3-1/2" x 5/16" LLV
8'-5"	to	16'-4"	7" x 4" x 3/8" LLV



FRONT ELEVATION 'A' (CRAWL)

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



REAR ELEVATION 'A' (CRAWL)

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

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SIGNATURE COLLECTION

Front & Rear Elevations 'A'

DRAWN BY: South Designs

ISSUE DATE: 05/15/2018

CURRENT REVISION DATE: ----

SCALE: 1/8" = 1'-0"

SHEET 3.1a

General Elevation Notes

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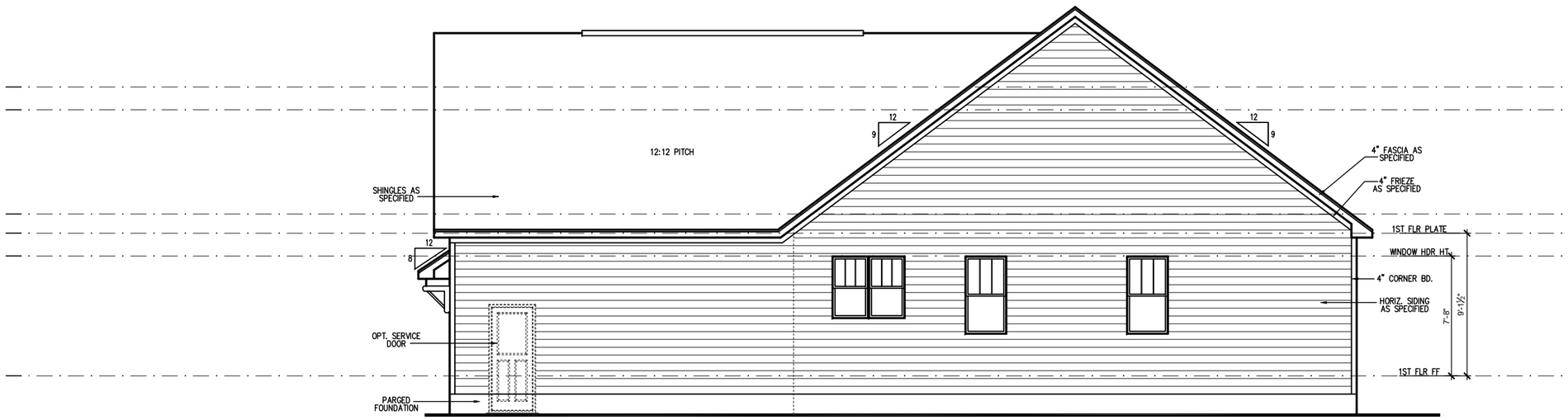
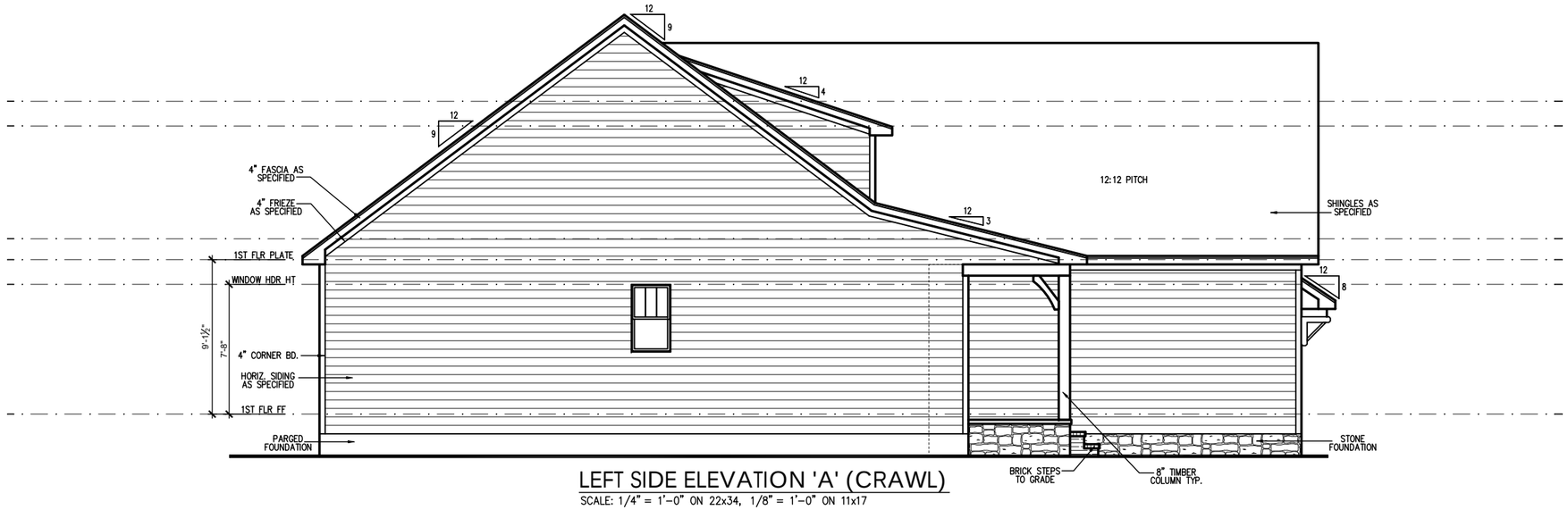


RIGHT SIDE ELEVATION 'A' (CRAWL)

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



LEFT SIDE ELEVATION 'A' (CRAWL)

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

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1820 -Brooklyn - RH
SIGNATURE COLLECTION

Side Elevations 'A'

DRAWN BY: South Designs

ISSUE DATE: 05/15/2018

CURRENT REVISION DATE: ---

SCALE: 1/8" = 1'-0"

SHEET 3.2a

FOUNDATION NOTES:

1. FOUNDATIONS TO BE CONSTRUCTED IN ACCORDANCE WITH CHAPTER 4 OF THE 2012 NORTH CAROLINA RESIDENTIAL BUILDING CODE WITH ALL LOCAL AMENDMENTS.
2. STRUCTURAL CONCRETE TO BE F_c = 3000 PSI, PREPARED AND PLACED IN ACCORDANCE WITH ACI STANDARD 318.
3. FOOTINGS TO BE PLACED ON UNDISTURBED EARTH, BEARING A MINIMUM OF 12" BELOW ADJACENT FINISHED GRADE, OR AS OTHERWISE DIRECTED BY THE CODE ENFORCEMENT OFFICIAL.
4. FOOTING SIZES BASED ON A PRESUMPTIVE SOIL BEARING CAPACITY OF 2000 PSF. CONTRACTOR IS SOLELY RESPONSIBLE FOR VERIFYING THE SUITABILITY OF THE SITE SOIL CONDITIONS AT THE TIME OF CONSTRUCTION.
5. FOOTINGS AND PIERS SHALL BE CENTERED UNDER THEIR RESPECTIVE ELEMENTS, PROVIDE 2" MINIMUM FOOTING PROJECTION FROM THE FACE OF MASONRY.
6. MAXIMUM DEPTH OF UNBALANCED FILL AGAINST MASONRY WALLS TO BE AS SPECIFIED IN SECTION R404.1 OF THE 2012 NORTH CAROLINA RESIDENTIAL BUILDING CODE.
7. PILASTERS TO BE BONDED TO PERIMETER FOUNDATION WALL.
8. PROVIDE FOUNDATION WATERPROOFING, AND DRAIN WITH POSITIVE SLOPE TO OUTLET AS REQUIRED BY SITE CONDITIONS.
9. PROVIDED PERIMETER INSULATION FOR ALL FOUNDATIONS PER 2012 NORTH CAROLINA RESIDENTIAL BUILDING CODE.
10. CORBEL FOUNDATION WALL AS REQUIRED TO ACCOMMODATE BRICK VENEERS.
11. CRAWL SPACE TO BE GRADED LEVEL, AND CLEARED OF ALL DEBRIS.
12. FOUNDATION ANCHORAGE SHALL BE A MIN. OF 1/2" DIA. ANCHOR BOLTS AND SHALL EXTEND A MIN. OF 7" INTO MASONRY OR CONCRETE. BOLTS SHALL BE 6'-0" O.C. AND WITH IN 12" OF ALL PLATE SPLICES. MIN. (2) ANCHOR BOLTS PER PLATE SECTION.
13. ABBREVIATIONS:

TS = TIMBER STRAND	DJ = DOUBLE JOIST
SC = STUD COLUMN	DR = DOUBLE RAFTER
EE = EACH END	TR = TRIPLE RAFTER
TJ = TRIPLE JOIST	OC = ON CENTER
CL = CENTER LINE	PL = POINT LOAD

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

REFER TO BRACED WALL PLAN FOR PANEL LOCATIONS AND ANY REQUIRED HOLDOWNS. ADDITIONAL INFORMATION PER SECTION R602.10.8 AND FIGURES R602.10.6.5, R602.10.7, R602.10.8(1) AND R602.10.8(2) OF THE 2012 IRC.

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

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

REINFORCE GARAGE PORTAL WALLS PER DETAIL 2/D2.1 OR FIGURE R602.10.9 OF THE 2012 IRC.

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

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

THESE PLANS ARE DESIGNED IN ACCORDANCE WITH ARCHITECTURAL PLANS PROVIDED BY SOUTH DESIGNS COMPLETED/REVISED ON 05/15/2018. IT IS THE RESPONSIBILITY OF THE CLIENT TO NOTIFY SUMMIT ENGINEERING, LABORATORY & TESTING, P.C. IF ANY CHANGES ARE MADE TO THE ARCHITECTURAL PLANS PRIOR TO CONSTRUCTION. SUMMIT ENGINEERING, LABORATORY & TESTING, P.C. CANNOT GUARANTEE THE ADEQUACY OF THESE STRUCTURAL PLANS WHEN USED WITH ARCHITECTURAL PLANS DATED DIFFERENTLY THAN THE DATE LISTED ABOVE.

STRUCTURAL MEMBERS ONLY

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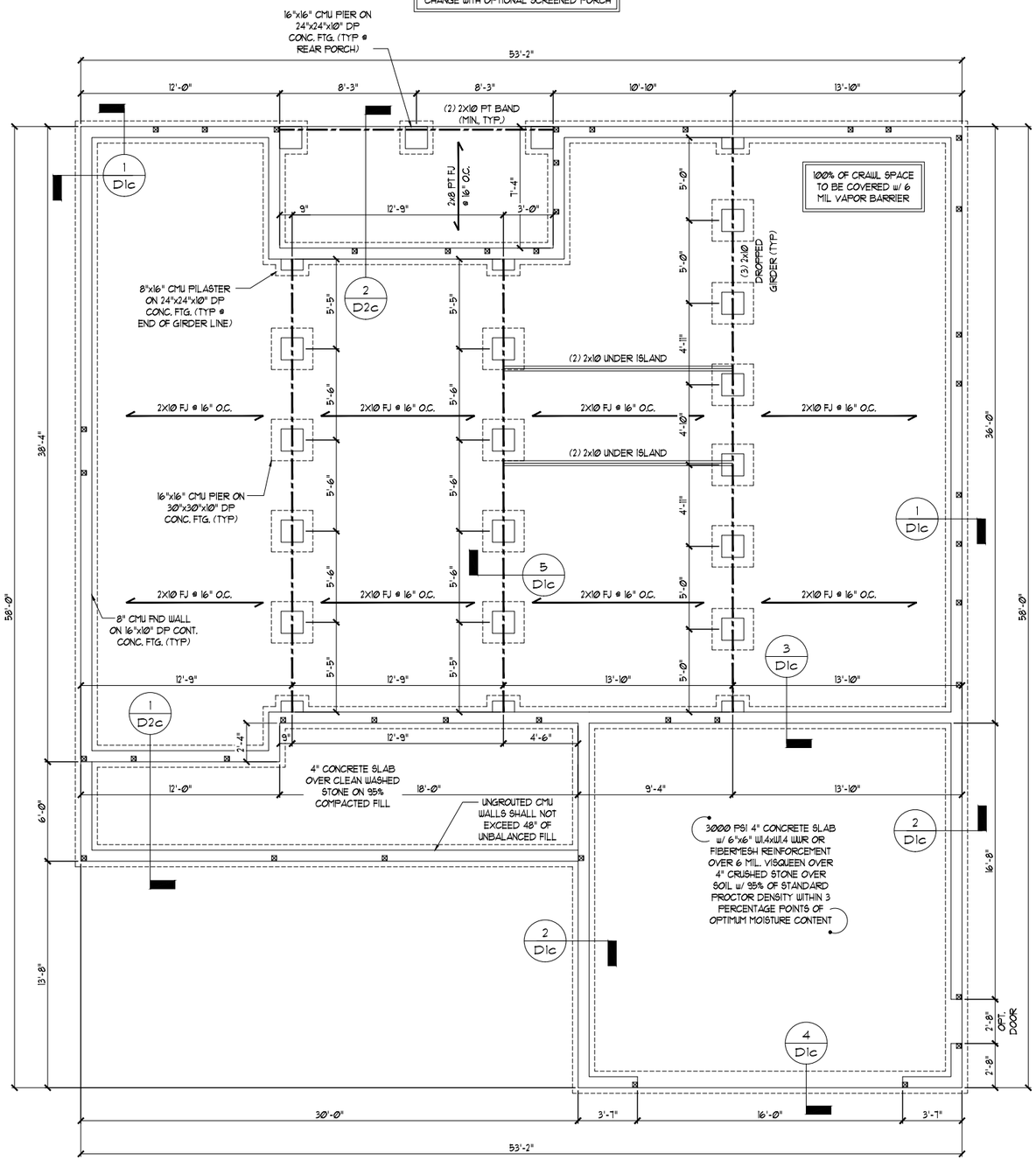
STRUCTURAL ANALYSIS BASED ON 2012 NCRC.

CRAWL SPACE FOUNDATION PLAN

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

NOTE: FOUNDATION PLAN DOES NOT CHANGE WITH OPTIONAL SCREENED PORCH

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



ELEVATION A

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

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

CLIENT:
South Designs c/o Lanco Homes
PO Box 688
Wake Forest, NC 27588

PROJECT:
Crawl Space Foundation

NORTH CAROLINA PROFESSIONAL SEAL 043823 ENGINEER WESLEY A JORDAN
STRUCTURAL MEMBERS ONLY

DRAWING
DATE: 09/13/2018
SCALE: 22x34 1/4"=1'-0"
8x11 1/8"=1'-0"
PROJECT #: 5062301
DRAWN BY: EMB
CHECKED BY: WAJ

ORIGINAL INFORMATION
PROJECT # 5062301
DATE 09/13/2018

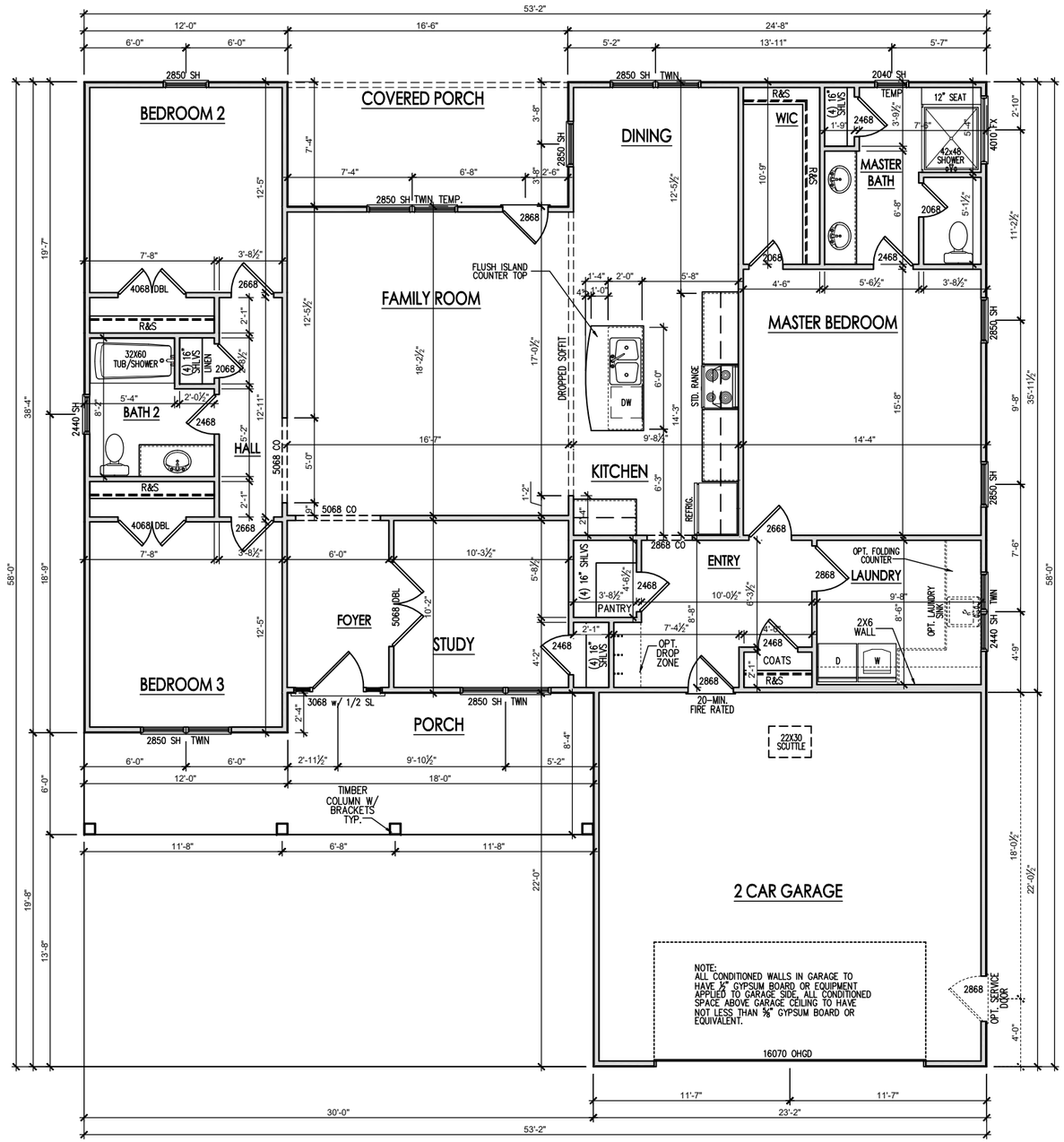
REFER TO COVER SHEET FOR A COMPLETE LIST OF REVISIONS

SHEET
S1.0c

General Floor Plan Notes

General Floor Plan Notes shall apply unless noted otherwise on plan.

1. **Wall Heights: Typically 9'-1-1/2" at first floor and second floor, and 8' 1-1/2" at attics U.N.O.. All walls are constructed using a double top plate. Splices at Double Top Plate do not need to occur at Vertical Studs but must be at least 24" apart from Joint in other Top Plate layer. Special wall heights are noted on plans where they occur.**
2. **Wall Thickness is typically 4" at exterior walls, 3-1/2" at interior. 2x6 frame shall be used at walls that back up to plumbing fixtures. Walls greater than 10' high shall be framed with 2x6 framing or greater and will be noted as a special condition where it occurs on plan.**
3. **Header height shall be 7'-8" AFF at First Floor, and 6'-10" AFF at Second Floor unless noted otherwise.**
4. **Jacks: Openings up to 3'-4" wide shall have (1) 2x4 jack stud SPF on each side. Openings greater than 3'-4" wide shall have (2) 2x4 jack studs SPF on each side.**
5. **Soffits, Coffered Ceilings, Trey Ceilings and other significant ceiling plan elements are shown on the floor plans and are denoted as single dashed lines. Unless specifically call out as included, Kitchens do not include soffits over wall cabinetry.**
6. **Door & Window Frames, where occurring near corners, shall be a minimum of 4-1/2" from corner. Except for walk-in closets with doors near a corner, doors at closets shall be centered on closet.**
7. **Windows: Shall have at least (1) window in each sleeping room, that meets egress. Shall be provided with tempered glass at hazardous glazing areas. False windows shall be installed with obscure glazing.**
8. **Closets for clothing or coat storage shall be equipped with 1 rod/shelf, open wire. Closets for linen shall have 5 open wire shelves. Closets for pantries shall have 5 wood shelves, painted.**
9. **Stair treads shall be 10" deep, risers shall be a maximum of 7-3/4", unless noted otherwise.**
10. **Handrails and Guards at stairs shall be 34" above the finished surface of the ramp surface of the stair. Handrails at landings and overlooks of multilevel spaces shall be 36" above finished floor. Guards (pickets or balisters) shall be spaced with no more than 4" between guards.**
11. **Attic Access shall be provided at all attic area with a height greater than 30". Minimum clear attic access shall be 20" x 30". Pull down stairs and access doors in knee walls meeting minimum criteria are also acceptable.**
12. **Garage Door to Living Space shall be 2'-8" x 6'-8" minimum size and shall be 20 minute fire rated and weather sealed.**
13. **Garage Walls, as a minimum, shall be separated from living space by installing 1/2" gypsum board on the garage side of the wall and not less than 5/8" gypsum board or equivalent for all conditioned space above garage ceilin**



FIRST FLOOR PLAN 'A'

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

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REV. #	DESCRIPTION	DATE
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1820 -Brooklyn - RH

SIGNATURE COLLECTION

First Floor Plan 'A'

DRAWN BY: South Designs

ISSUE DATE: 05/15/2018

CURRENT REVISION DATE: ----

SCALE: 1/8" = 1'-0"

SHEET 2.1a

MAX. GIRDER TRUSS REACTION (LBS)		
NO TBE, SYP #2 TOP PLATE		
# OF PLYS	2x4 WALL	2x6 WALL
2	5134	7013
3	7702	10519
4	10269	14025
WITH TBE, SYP #2 TOP PLATE		
2	7045	8933
3	9622	12439
4	12189	15945

GIRDER TRUSS PLYS SHOWN ARE FOR ILLUSTRATION ONLY. PLEASE REFER TO TRUSS LAYOUT DRAWINGS PROVIDED BY TRUSS MANUF. FOR ACTUAL NUMBER OF PLYS REQ'D.

TRUSS UPLIFT CONNECTOR SCHEDULE	
MODEL #	MAX. UPLIFT (LBS)
H1	585
H2A	575
H2.5T	545
H4	360
H10A*	1140
H16*	1470
HT520*	1450

USE BELOW ONLY FOR 2-PLY OR GREATER GIRDER TRUSSES THAT EXCEEDS THE UPLIFT REQUIREMENTS ABOVE.

MODEL #	MAX. UPLIFT (LBS)	PLY #
LGT2*	2050	2
LGT3-SDS2.5*	3685	3
LGT4-SDS3*	4060	4
HGT-2*	10380	2
HGT-3*	10530	3
HGT-4*	9250	4

1. SST PRODUCTS SHOWN, EQUIV. PRODUCTS MAY BE USED PROVIDING UPLIFT REQUIREMENTS ARE MET.
2. VALUES SHOWN ARE FOR A SINGLE ANCHOR. DBL ANCHORS MAY BE USED TO DBL THE UPLIFT CAPACITY SHOWN ABOVE, ONLY IF THE MEMBER IS A MIN. THICKNESS OF 2-1/2".
3. UPLIFT VALUES ARE FOR SYP #2 WOOD SPECIES. PLEASE CONTACT ENGINEER OR TRUSS MANUFACTURER IF USING DIFFERENT SPECIES OR GRADE.
4. GIRDER TRUSS-GIRDER TRUSS CONNECTIONS ARE TO BE SPECIFIED AND SUPPLIED BY THE TRUSS COMPANY. THE ENGINEER IS NOT RESPONSIBLE FOR THESE CONNECTIONS.
5. ITEMS DENOTED WITH "*" MAY NOT BE DOUBLED TO INCREASE LOAD CAPACITY.

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

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

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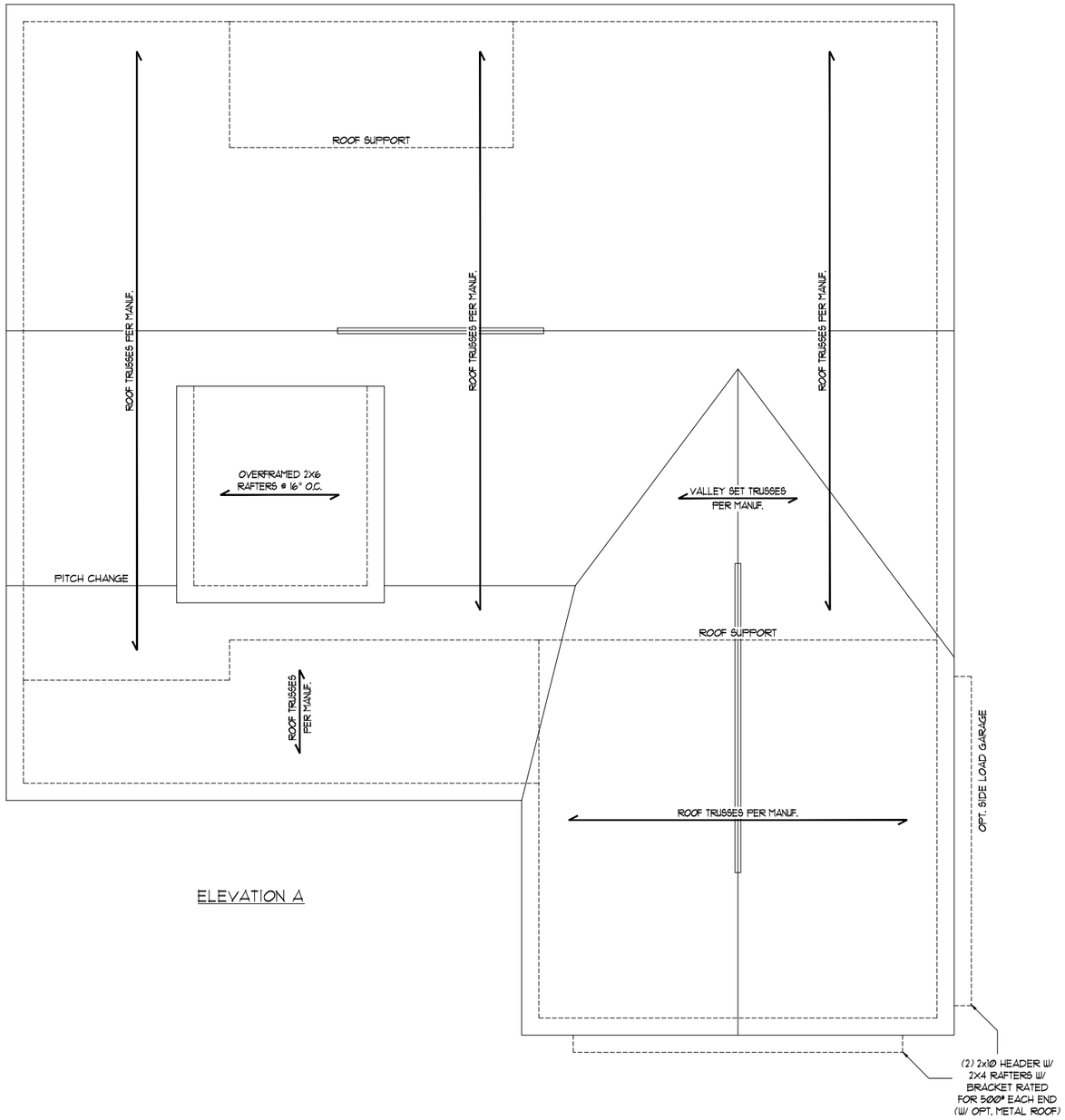
NOTE: REFER TO DETAIL 5/D3f FOR EYEBROW, RETURN OR SHED ROOF FRAMING REQUIREMENTS. (TYP. FOR ROOFS PROTRUDING MAX. 2'-0" FROM STRUCTURE)



ELEVATION A

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STRUCTURAL ANALYSIS BASED ON 2012 NCRC.

ROOF FRAMING PLAN

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

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

CLIENT:
South Designs c/o Lanco Homes
PO Box 688
Wake Forest, NC 27588

PROJECT:
Roof Framing Plan

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

DRAWING
DATE: 09/13/2018
SCALE: 22x34 1/4"=1'-0"
8x11 1/8"=1'-0"
PROJECT #: 50623d1
DRAWN BY: EMB
CHECKED BY: WAJ

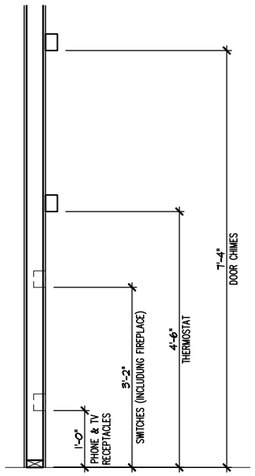
ORIGINAL INFORMATION
PROJECT # DATE
50623d1 09/13/2018

REFER TO COVER SHEET FOR A COMPLETE LIST OF REVISIONS

SHEET
S5.0

ELECTRICAL SYMBOL KEY

LIGHT FIXTURES	
	CEILING SURFACE MOUNT LIGHT
	RECESSED CAN LIGHT
WP	RECESSED CAN LIGHT WATERPROOF
	RECESSED CAN - EYEBALL
	PENDANT LIGHTING
	WALL SCONCE
	WALL MOUNT LIGHT
	FLOOD LIGHT
OUTLETS	
	DUPLEX OUTLET
GFI	GFI OUTLET
GFI-WP	WATERPROOF GFI OUTLET
	SWITCHED 1/2 HOT DUPLEX OUTLET
220V	220V OUTLET
	TELEPHONE OUTLET
TV	CATV (TELEVISION) OUTLET
	UNDER-COUNTER OR CONCEALED OUTLETS
	CEILING MOUNTED DUP. OUTLET
FLOOR	FLOOR MOUNTED DUP. OUTLET
SWITCHES	
$	SINGLE POLE SWITCH
$3	THREE-WAY SWITCH
$4	FOUR-WAY SWITCH
DISC	ELECTRICAL DISCONNECT
MISC FIXTURES	
	EXHAUST FAN
	JUNCTION BOX
220V	JUNCTION BOX 220V
CM SD	CARBON MONOXIDE DETECTOR OR SMOKE DETECTOR
CO.SD	CARBON MONOXIDE DETECTOR AND SMOKE DETECTOR
	ELECTRIC METER
Elec Panel	ELECTRICAL PANEL
	DOOR BELL CHIME
	DOOR BELL PUSH BUTTON
PROVIDE BRACING	CEILING FAN PREWIRE
	FLUORESCENT LIGHT



ELECTRICAL BOX HEIGHTS

General Power and Lighting:

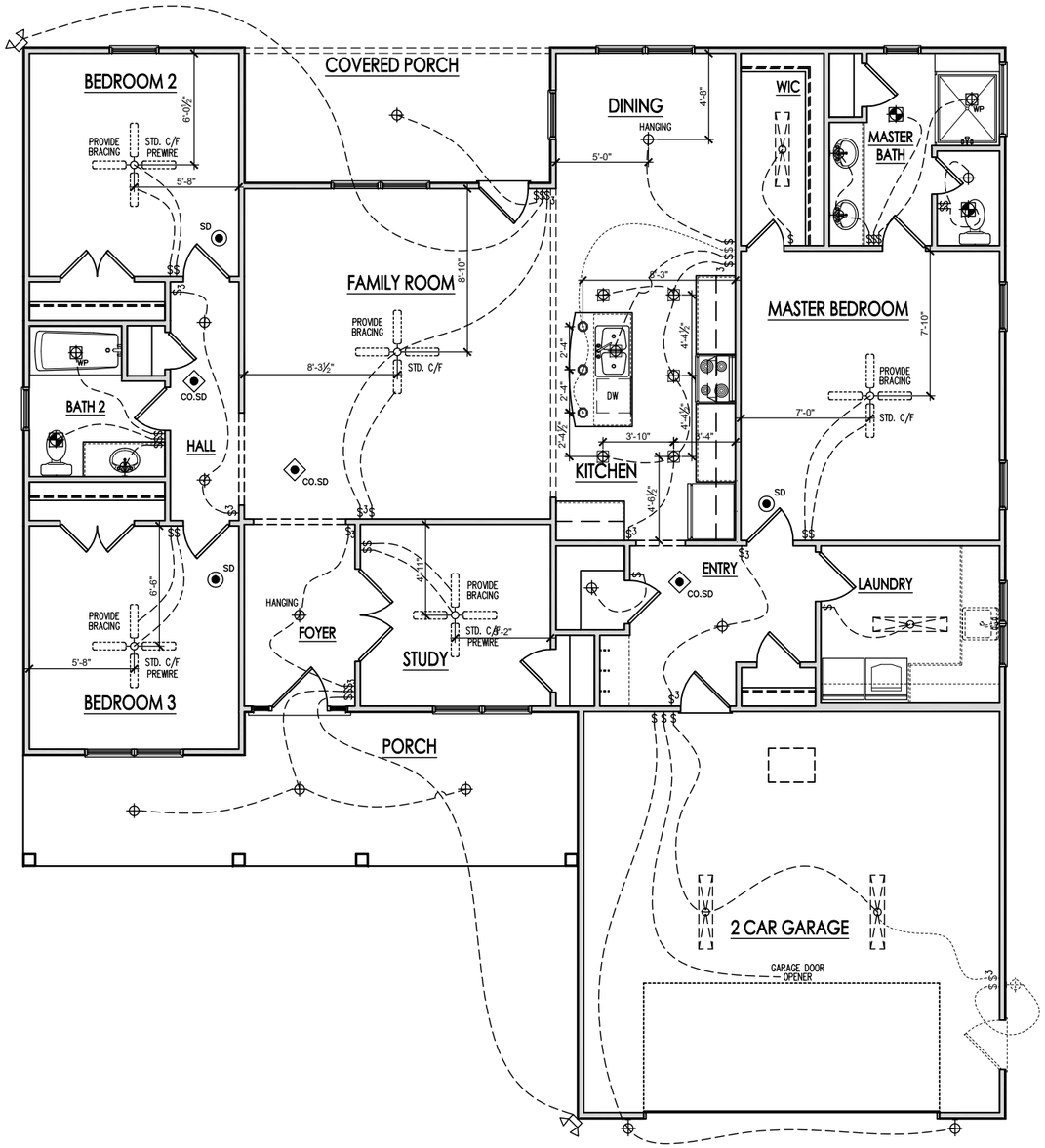
General Power and Lighting Notes shall apply unless noted otherwise on plans.

All work shall be installed per the 2012 NC Residential Building Code, and the National Electric Code. Alarm devices shall meet NFPA 72.

1. **Smoke Alarms - Shall be provided as a minimum of (1) per floor, including basements (if applicable), (1) in each sleep room, and (1) outside each sleeping area, within the immediate vicinity of sleeping rooms. When more than one alarm is required, the alarm devices shall be interconnected in such a manner that the activation of one alarm will activate all of the alarms. Smoke alarms shall be hard wired to permanent power and shall have batter back-ups.**

2. **Switches - For lighting, fans, etc. shall be installed at heights illustrated on this page and shall be located a minimum of 4 1/2" from door openings to allow for the proper installation of door casings. Switches, thermostats, security pads, and other similar devices shall be grouped together and installed thoughtfully for convenience of use and to avoid placement within centers of wall areas.**

Note:
This plan is a diagram showing approximate locations of convenience outlets based on requirements found in the NC Resiential Code and N.E.C. Actual positions may vary from what is shown on plan.



FIRST FLOOR ELECTRICAL PLAN 'A'

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

SOUTH DESIGNS
(O) 919-556-2226
(F) 919-556-2228
www.southdesigns.com

LAMCO HOMES

REV #	DESCRIPTION	DATE
1	-	---
2	-	---
3	-	---
4	-	---
5	-	---
6	-	---
7	-	---
8	-	---

1820 . Brooklyn- RH
SIGNATURE COLLECTION
First Floor Electrical 'A'

DRAWN BY: South Designs
ISSUE DATE: 05/15/2018
CURRENT REVISION DATE: ----
SCALE: 1/8" = 1'-0"
SHEET 5.1a

DESIGN SPECIFICATIONS:

Construction Type: Commerical ☐ Residential ☒

Applicable Building Codes:
- 2012 North Carolina Residential Building Code
- ASCE 7-10: Minimum Design Loads for Buildings and Other Structures

Design Loads:
1. Roof Live Loads
   - 1.1. Conventional 2x ____ 20 PSF
   - 1.2. Truss ____ 20 PSF
     - 1.2.1. Attic Truss ____ 60 PSF
2. Roof Dead Loads
   - 2.1. Conventional 2x ____ 10 PSF
   - 2.2. Truss ____ 20 PSF
3. Snow ____ 15 PSF
   - 3.1. Importance Factor ____ 1.0
4. Floor Live Loads
   - 4.1. Typ. Dwelling ____ 40 PSF
   - 4.2. Sleeping Areas ____ 30 PSF
   - 4.3. Decks ____ 40 PSF
   - 4.4. Passenger Garage ____ 50 PSF
5. Floor Dead Loads
   - 5.1. Conventional 2x ____ 10 PSF
   - 5.2. I-Joist ____ 15 PSF
   - 5.3. Floor Truss ____ 15 PSF
6. Basic Wind Speed (3 sec. gust) ____ 100 MPH
   - 6.1. Exposure ____ B
   - 6.2. Importance Factor ____ 1.0
   - 6.3. Wind Base Shear
     - 6.3.1. Vx =
     - 6.3.2. Vy =
7. Component and Cladding (in PSF)

MEAN ROOF HT.	UP TO 30'	30'1"-35'	35'1"-40'	40'1"-45'
ZONE 1	16.5,-18.0	17.3,-18.9	18.0,-19.6	18.5,-20.2
ZONE 2	16.5,-21.0	17.3,-22.1	18.0,-22.9	18.5,-23.5
ZONE 3	16.5,-21.0	17.3,-22.1	18.0,-22.9	18.5,-23.5
ZONE 4	18.0,-19.5	18.9,-20.5	19.6,-21.3	20.2,-21.8
ZONE 5	18.0,-24.1	18.9,-25.3	19.6,-26.3	20.2,-27.0

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

SUMMIT
ENGINEERING LABORATORY TESTING

STRUCTURAL PLANS PREPARED FOR:

Standard Details

PROJECT ADDRESS:
TBD

OWNER:
Lamco Homes
1424 Chapel Hill Rd
Suite 203
Raleigh, NC 27607

DESIGNER:
South Designs
PO Box 688
Wake Forest, NC 27588

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

PLAN ABBREVIATIONS:

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

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

SHEET LIST:

REVISION LIST:

Revision No.	Date	Project No.	Description

GENERAL STRUCTURAL NOTES:

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

FOUNDATIONS:

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

STRUCTURAL STEEL:

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

CONCRETE:

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

CONCRETE REINFORCEMENT:

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

WOOD FRAMING:

1. Solid sawn wood framing members shall conform to the specifications listed in the latest edition of the "National Design Specification for Wood Construction" (NDS). Unless otherwise noted, all wood framing members are designed to be Spruce-Yellow-Pine (SYP) #2.
2. LVL or PSL engineered wood shall have the following minimum design values:
   - 2.1. E = 1,900,000 psi
   - 2.2. Fb = 2600 psi
   - 2.3. Fv = 285 psi
   - 2.4. Fc = 700 psi
3. Wood in contact with concrete, masonry, or earth shall be pressure treated in accordance with AWPA standard C-15. All other moisture exposed wood shall be treated in accordance with AWPA standard C-2
4. Nails shall be common wire nails unless otherwise noted.
5. Lag screws shall conform to ANSI/ASME standard B18.2.1-1981. Lead holes for lag screws shall be in accordance with NDS specifications.
6. All beams shall have full bearing on supporting framing members unless otherwise noted.
7. Exterior and load bearing stud walls are to be 2x4 SYP #2 @ 16" O.C. unless otherwise noted. Studs shall be continuous from the sole plate to the double top plate. Studs shall only be discontinuous at headers for window/door openings. A minimum of one king stud shall be placed at each end of the header. King studs shall be continuous.
8. Individual studs forming a column shall be attached with one 10d nail @ 6" O.C. staggered. The stud column shall be continuous to the foundation or beam. The column shall be properly blocked at all floor levels to ensure proper load transfer.
9. Multi-ply beams shall have each ply attached with (3) 12d nails @ 12" O.C.
10. Four and five ply beams shall be bolted together with (2) rows of 1/2" diameter through bolts staggered @ 16" O.C. unless noted otherwise.

WOOD TRUSSES:

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

EXTERIOR WOOD FRAMED DECKS:

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

WOOD STRUCTURAL PANELS:

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

STRUCTURAL FIBERBOARD PANELS:

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

SUMMIT
ENGINEERING LABORATORY TESTING
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RALEIGH, NC 27603
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NORTH CAROLINA CERTIFICATE OF LICENSURE
SUMMIT Engineering, Laboratory & Testing, P.C.
C-4361

CLIENT:
South Designs c/o Lamco Homes
PO Box 688
Wake Forest, NC 27588

PROJECT:
Standard Details

Coversheet

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

DRAWING
DATE: 09/13/2018
SCALE: 22x34 1/4"=1'-0"
8x11 1/8"=1'-0"
CLIENT #: 5262
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ORIGINAL INFORMATION
CLIENT #: 5262
DATE: 09/13/2018

REFER TO COVER SHEET FOR A COMPLETE LIST OF REVISIONS

SHEET
CS1

ROOF TRUSS NOTES:

DO NOT CUT, DRILL, NOTCH, OR OTHERWISE DAMAGE TRUSSES. Contact your BFS Representative for assistance PRIOR TO modifying any truss.
Espanol - (NO CORTE, PERFORE, HAGA MUESCAS O DANE DE CUALQUIER OTRA MANERA LAS TRUSSES (CERCHAS DE MADERA). Contacte a su representante de BFS para asistencia ANTES de realizar cualquier modification.)

1. This Truss Placement Diagram is intended to serve as a guide for truss installation. This Diagram has been prepared by a Truss Technician and is not an engineered drawing.
2. The responsibilities of the Owner, Building Designer, Contractor, Truss Designer, and Truss Manufacturer shall be as defined by the TPI 1 National Standard.
3. The wood components shown on this diagram are to be used in dry service (moisture content<19%) and non-toxic environmental applications. The metal plates and hangers are galvanized to the G60 Standard unless noted otherwise.
4. Refer to the Truss Design Drawings for specific information about each individual truss design.
5. The Truss Technician shall provide Truss-to-Truss Connection Requirements. Any special or other connection shall be the responsibility of the Building Designer.
6. The Truss Placement Diagram and Truss Design Drawings are the property of Builders FirstSource and may not be reused or reproduced in part or in total under any circumstances without prior written authorization.
7. In some cases, field framing may be required to achieve the final appearance shown on the Construction Documents.
8. Field framing, including valley rafters, installed over roof trusses shall have a knee brace from the rafter to the truss top chord at intervals of 48" on center (O.C.) or less. Stagger knee braces from adjacent rafters such that the load is distributed uniformly over multiple truss locations and not concentrated at one location or along one truss.
9. Truss Top Chords shall be fully sheathed or have lateral bracing (purlins) spaced at 24" O.C. or less. Truss Bottom Chord Bracing shall not exceed the maximum shown on the Truss Design Drawing. Field framed bottom chord floor or ceiling attachments shall be spaced at 24" O.C. or less. Proper Bracing prevents buckling of individual truss members due to design loads.
10. This Placement Diagram is based upon the supporting structure being structurally adequate, dimensionally correct, square, plumb, and level to adequately support the trusses. The foundation design, structural member sizing, load transfer, bearing conditions, and the structure's compliance with the applicable building code are the responsibility of the Owner, Building Designer, and Contractor.
11. If Piggyback Trusses are included in this project, refer to the Mitek Piggyback Connection Detail applicable for the project details and wind load category.
12. The Contractor shall follow the SBCA TTB Partition Separation Prevention and Solutions for truss attachment to non-load bearing walls and carefully complete these details to avoid gypsum wall board related issues.

WARNING:

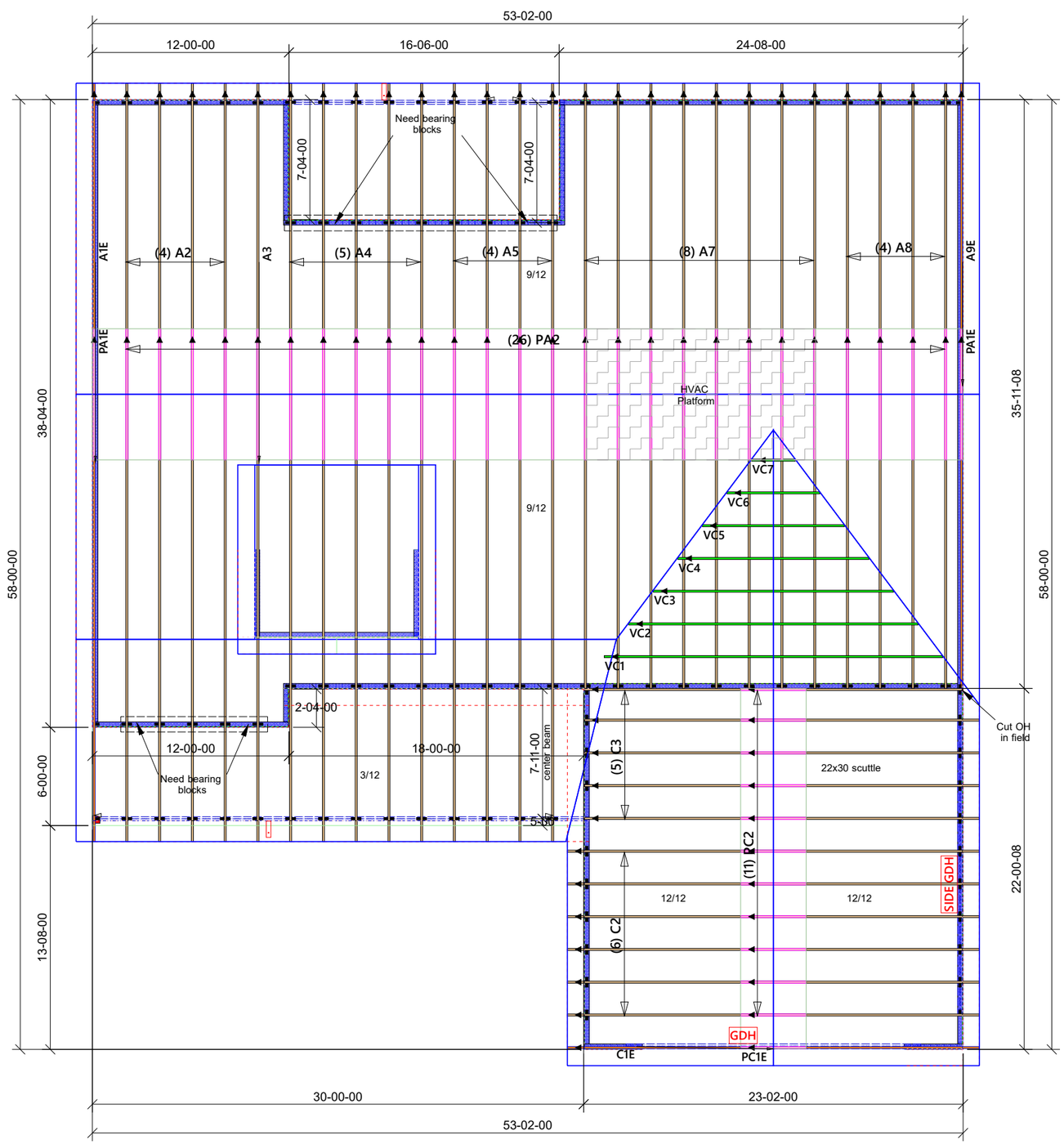
TRUSSES MUST BE BRACED DURING INSTALLATION. FAILURE TO DO SO MAY RESULT IN INJURY OR DEATH.
Espanol - (TRUSSES (CERCHAS) DEBERAN TENER UN SOPORTE DURANTE LA INSTALACION. NO HACERLO PODRIA RESULTAR EN LESIONES O MUERTE.)

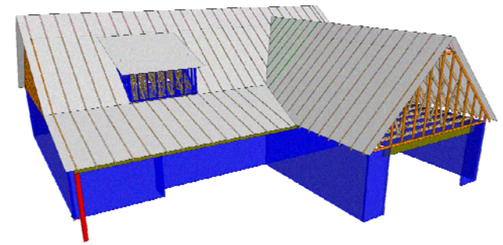
1. Trusses shall be installed in a safe manner meeting all code, local, OSHA, TPI, and BCSI Specifications. Failure to follow these specifications may result in injury or death.
2. Buildings under construction are vulnerable to high winds and present a possible safety hazard. The Contractor is responsible for recognizing adverse weather conditions and shall take appropriate action to prevent injury or death.
3. **BCSI INSTRUCTIONS SHALL BE FOLLOWED:**

BCSI-B1 = Safe Truss Handling and Installation
BCSI-B2 = Installation and Temporary Restraint
BCSI-B3 = Permanent Restraint
BCSI-B4 = Safe Construction Loading
BCSI-B5 = Truss Damage and Modification Guidelines
BCSI-B7 = Floor Truss Installation
BCSI-B8 = Toe-Nailed Connections
BCSI-B9 = Multi-Ply Girders
BCSI-B10 = Post Frame Truss Installation
BCSI-B11 = Fall Protection

4. Follow TPI Requirements for Long Span Trusses (>60').

TOTAL ROOF AREA 3676.83 SQ FT





Products				
PlotID	Length	Product	Plies	Net Qty
GDH	18-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
SIDE GDH	18-00-00	1-3/4" x 14" VERSA-LAM® 2.0 3100 SP	2	2

Until the building is completely erected in accordance with plans, the trusses may be unstable and present a safety hazard. Buildings under construction are vulnerable to high winds and present a possible safety hazard. It is the responsibility of the contractor and framer to recognize adverse weather conditions and take prompt and appropriate action to protect life and prevent injury. Prior to setting trusses, refer to Building Component Safety Information (BCSI) document produced by SBCA and TPI. Follow BCSI Specifications for Erection and Bracing.

No Scale

Customer Name: Lamco Custom Homes
Subdivision: .
Lot# : . Plan Name: Brooke A
MISC NOTES: .

File Name: BROOKE A

Builders FirstSource
Albemarle, NC

Revisions:

.
.

Drawn By: AG

DATE: 4/29/2019

Page Number
1 of 1