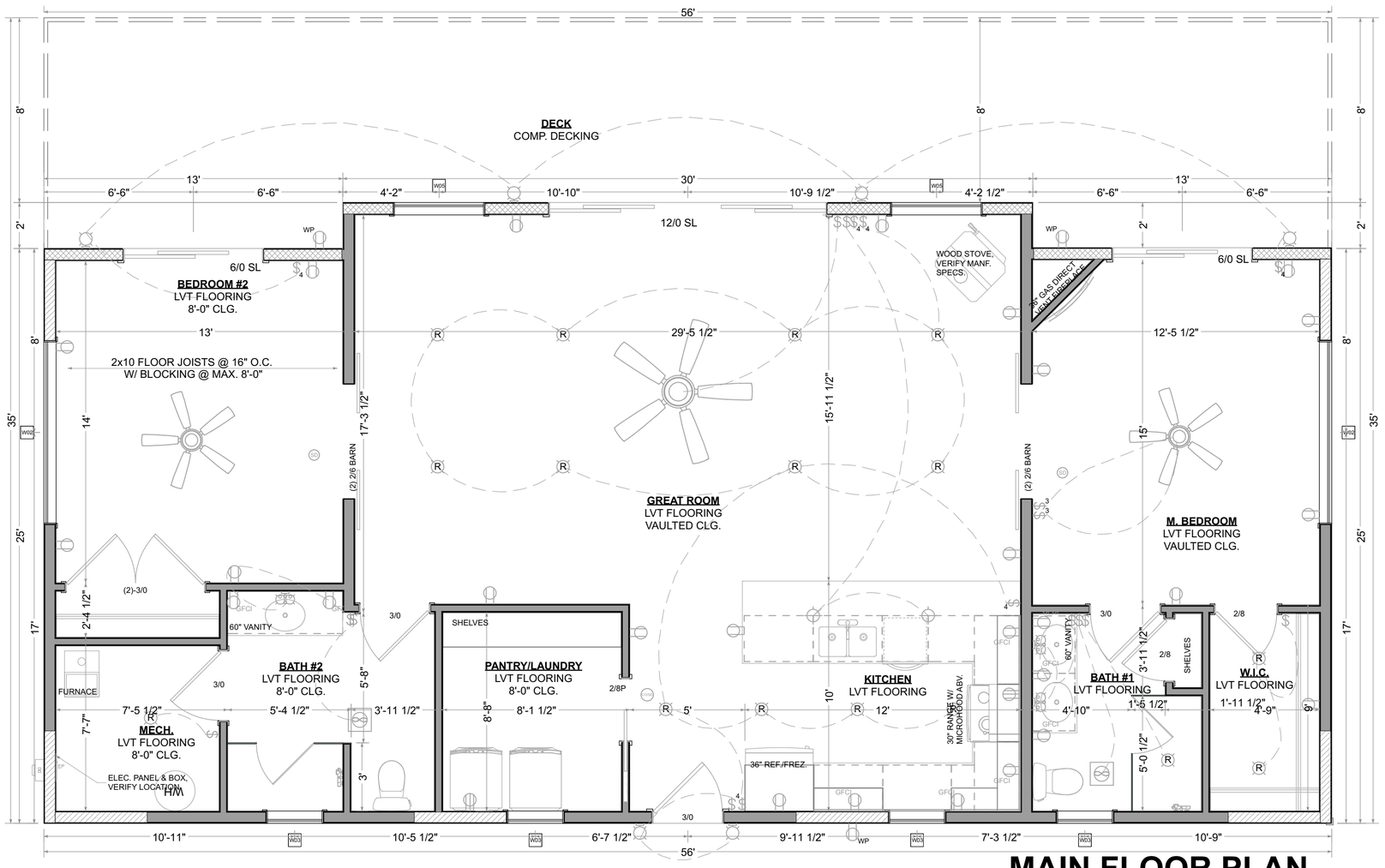
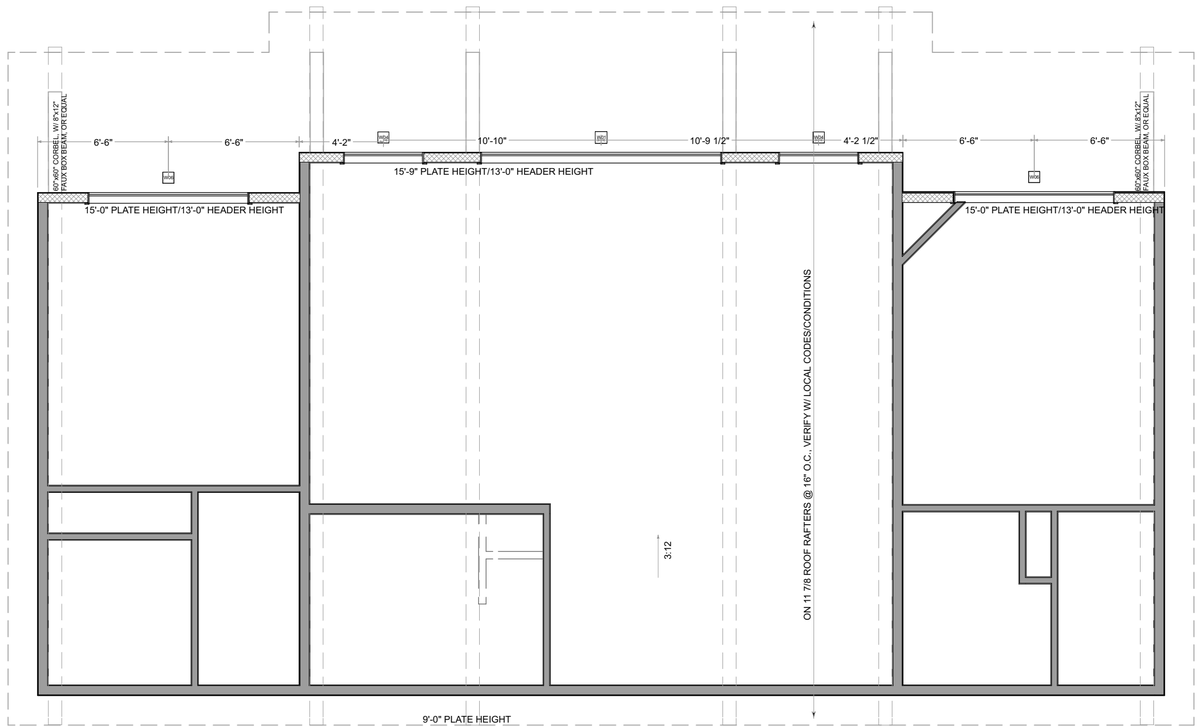


MAIN FLOOR PLAN

1/4"=1'-0"



ROOF PLAN

3/16"=1'-0"

FIRST FLOOR AREA: 1,455 SQ. FT.
DECK AREA: 506 SQ. FT.
Total Under Roof Area is taken to outside edge of sheathing.

GENERAL NOTES:
-WALL HEIGHT IS 9'-0"
-CRAWLSPACE WALL HEIGHT, TO FROST DEPTH, VERIFY W/ LOCAL CODES
-ALL WINDOWS TO BE INSTALLED AT 8'-0" HEADER HEIGHT
-ALL DOORS ARE 6'-8" TALL

STRUCTURAL NOTES:
-ALL HEADERS, UNLESS CALLED OUT, ARE TO BE (2) 2x12s W/ 1/2" PLYWOOD IN BETWEEN
-VERIFY W/ LUMBER/FRAMING PLAN, AS IT SUPERSEDES THIS PLAN
H-1 (2) 1 3/4" x 9 1/4" 2.0E MICROLAM HEADER, W/ PARALAM PSL COLUMN W/ PORTAL FRAME METHOD, PER CODE, OR EQUAL
H-2 (3) 1 3/4" x 14" 2.0E MICROLAM HEADER, W/ PARALAM PSL COLUMN W/ PORTAL FRAME METHOD, PER CODE, OR EQUAL (GARAGE DOOR)

WALL BRACING NOTE:
CONTINUOUS SHEATHING (CS-WSP TABLE 321.25 G): ALL EXTERIOR WALLS TO BE 1/2" OSB SHEATHING FASTENED WITH 6d COMMON OR 8d BOX NAILS @ 6" EDGES AND 12" FIELD.
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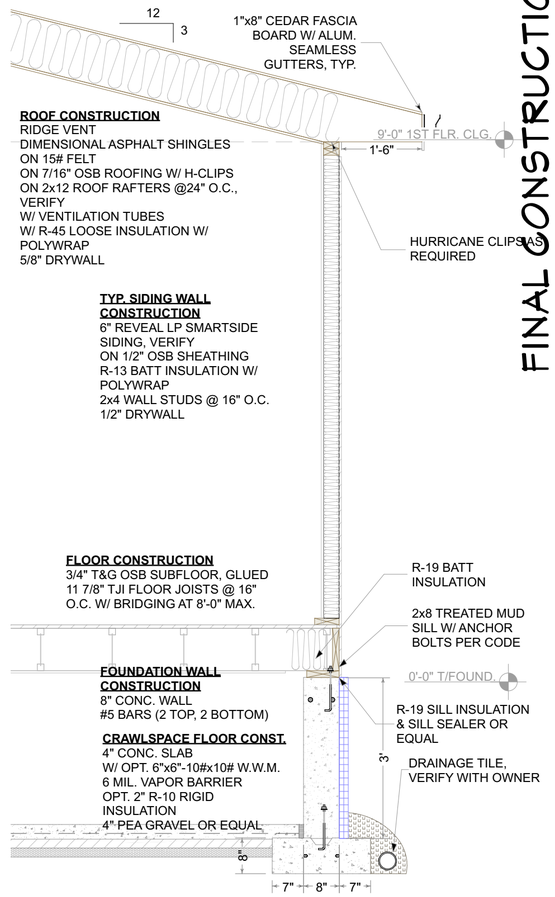
WINDOW SCHEDULE

NUMBER	QTY	WIDTH	HEIGHT	DESCRIPTION
W01	1	144 "	42 "	FIXED GLASS
W02	2	96 "	24 "	FIXED GLASS
W03	4	30 "	30 "	SINGLE AWNING
W04	2	48 "	42 "	FIXED GLASS
W05	2	48 "	72 "	DOUBLE HOPPER-T/B
W06	2	96 "	42 "	FIXED GLASS

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
09/26/2022
Harnett COUNTY NORTH CAROLINA



ROOF CONSTRUCTION
RIDGE VENT
DIMENSIONAL ASPHALT SHINGLES
ON 15# FELT
ON 7/16" OSB ROOFING W/ H-CLIPS
ON 2x12 ROOF RAFTERS @24" O.C., VERIFY
W/ VENTILATION TUBES
W/ R-45 LOOSE INSULATION W/ POLYWRAP
5/8" DRYWALL

TYP. SIDING WALL CONSTRUCTION
6" REVEAL LP SMARTSIDE SIDING, VERIFY
ON 1/2" OSB SHEATHING
R-13 BATT INSULATION W/ POLYWRAP
2x4 WALL STUDS @ 16" O.C.
1/2" DRYWALL

FLOOR CONSTRUCTION
3/4" T&G OSB SUBFLOOR, GLUED
11 7/8" TJI FLOOR JOISTS @ 16" O.C. W/ BRIDGING AT 8'-0" MAX.

FOUNDATION WALL CONSTRUCTION
8" CONC. WALL
#5 BARS (2 TOP, 2 BOTTOM)

CRAWLSPACE FLOOR CONST.
4" CONC. SLAB
W/ OPT. 6"x6"-10#x10# W.W.M.
6 MIL. VAPOR BARRIER
OPT. 2" R-10 RIGID INSULATION
4" PEA GRAVEL OR EQUAL

TYP. WALL SECTION

1/2"=1'-0"

FINAL CONSTRUCTION DOCUMENTS

LANGDON RESIDENCE
ADDRESS
CITY, STATE

N·C·B·D·C NATIONAL COUNCIL OF BUILDING DESIGNERS CERTIFICATION
Shawna Anne Duncan
CERTIFICATION NO. 50-104
TM

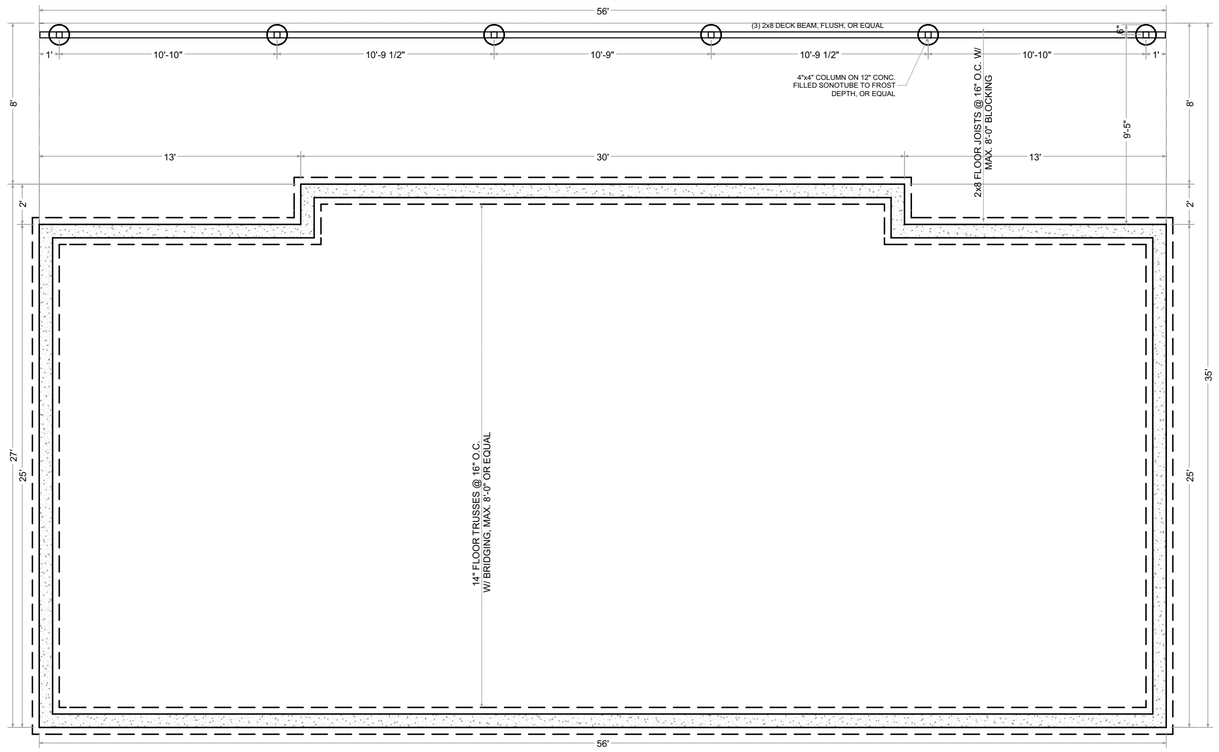
DRAWINGS PROVIDED BY:
SHAWNA DUNCAN, CPBD
DRAFTSMITH
3380 N 129TH ST BROOKFIELD, WI 53005
262.707.9293 DRAFTSMITH@GMAIL.COM

DS

DATE: 7/26/2022

PROJECT: 2022.236

SHEET: 1



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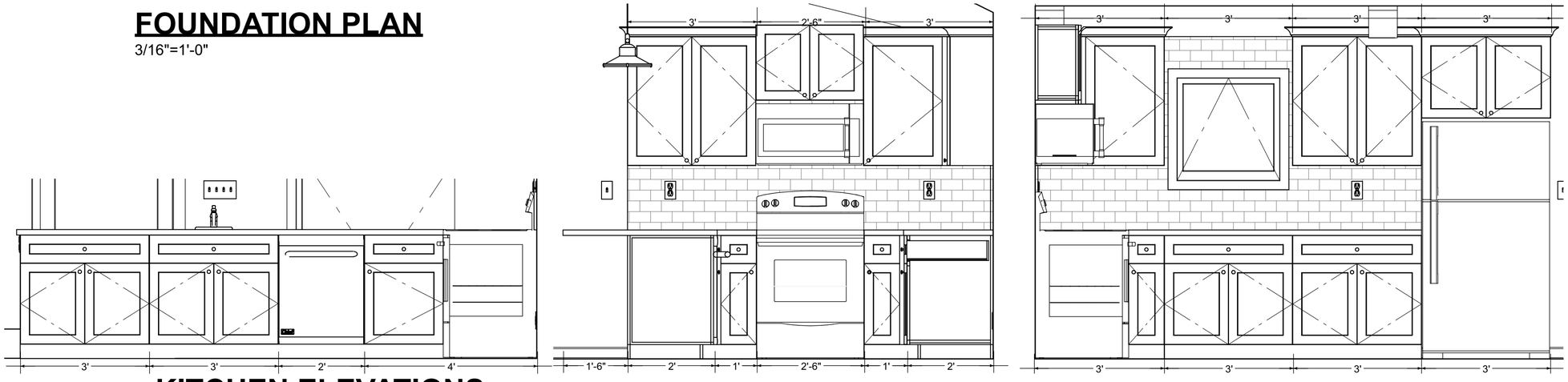

KITCHEN ELEVATIONS

1/2"=1'-0"

FRONT ELEVATION

1/4"=1'-0"

FINAL CONSTRUCTION DOCUMENTS

LANGDON RESIDENCE
ADDRESS
CITY, STATE

N·C·B·D·C NATIONAL COUNCIL OF BUILDING DESIGNERS CERTIFICATION
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262.707.9293 DRAFTSMITH@GMAIL.COM

DATE: 7/26/2022

PROJECT: 2022.236

SHEET: 2

DESIGN LOADS		
USE:	LIVE LOAD	DEAD LOAD
ROOF	40 PSF	15 PSF
ROOF W/ CEILING ATTACHED	40 PSF	20 PSF
ATTICS W/ LIMITED STORAGE	20 PSF	10 PSF
ATTICS W/ NO STORAGE	10 PSF	5 PSF
DECKS	40 PSF	10 PSF
ROOMS OTHER THAN BEDROOM	40 PSF	10 PSF
BEDROOMS	30 PSF	10 PSF
STAIRS	40 PSF	10 PSF

ALLOWABLE DEFLECTION OF STRUCTURAL MEMBERS	
STRUCTURAL MEMBER	ALLOWABLE LIVE LOAD DEFLECTION
RAFTERS W/ NO FIN. CLG. ATTACHED	L/180
INTERIOR WALLS & PARTITIONS	H/180
	L/360
ALL OTHER STRUCTURAL MEMBERS	L/240
EXT. WALLS - WIND LOADS W/ FLEXIBLE FINISHES	L/120

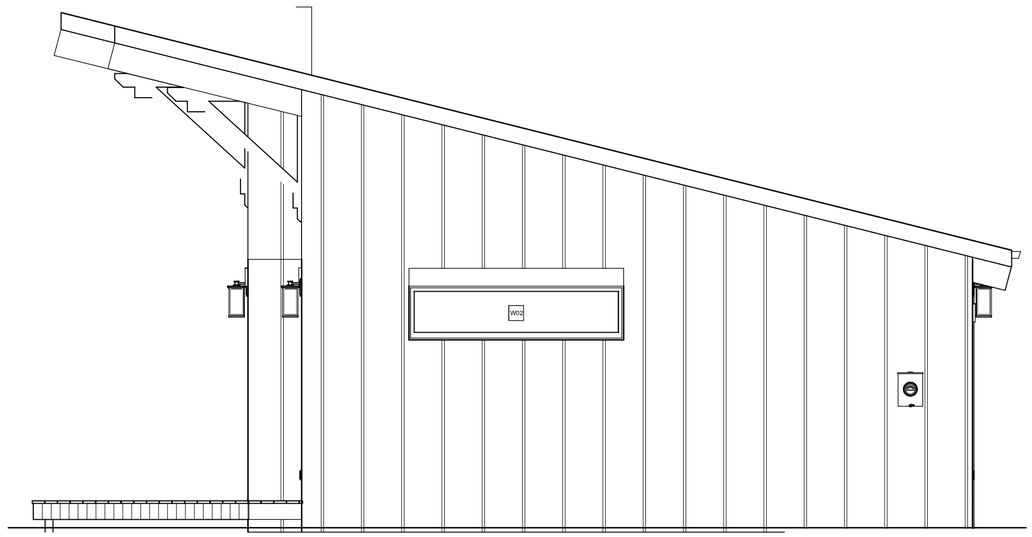
DESIGN CRITERIA:
THE FOLLOWING DESIGN CRITERIA WERE USED IN THE DESIGN OF THIS HOME. THE BUILDER AND/OR THE PURCHASER OF THESE PLANS IS FULLY RESPONSIBLE FOR REVIEWING THE DESIGN CRITERIA. ADDITIONAL DESIGN CRITERIA MAY ALSO BE REQUIRED TO BE CONSIDERED, THIS IS ALSO THE RESPONSIBILITY OF THE BUILDER AND/OR PURCHASER OF THESE PLANS. THE PLANS MUST BE REVIEWED AND ADJUSTED ACCORDINGLY BY THE BUILDER AND/OR PURCHASER OF THESE PLANS (CONSULTATION WITH A LOCAL ENGINEER IS RECOMMENDED) TO MEET THE ACTUAL DESIGN CRITERIA OF THE CHOSEN SITE. THE BUILDER AND/OR PURCHASER OF THESE PLANS WILL ALSO NEED TO VERIFY THE APPROPRIATE CODES AND ORDINANCES THAT WILL GOVERN THE PROJECT ACCORDING TO THE LOCAL AUTHORITY HAVING JURISDICTION (USUALLY THE LOCAL BUILDING DEPARTMENT). ALL SUCH ADJUSTMENTS FOR THE ACTUAL DESIGN CRITERIA AND TO MEET LOCAL CODES SHALL TAKE PRECEDENCE OVER THE INFORMATION IN THESE PLANS.

CLIMATIC & GEOGRAPHIC DESIGN CRITERIA:
GROUND SNOW LOAD: 40 PSF
BASIC WIND SPEED: 90 MPH
EXPOSURE CATEGORY: B
SEISMIC CATEGORY: C (DETACHED ONE FAMILY DWELLINGS IN THIS CATEGORY ARE EXEMPT FROM THE SEISMIC REQUIREMENTS OF THE CODE)
SUBJECT TO DAMAGE FROM:
CONCRETE WEATHERING PROBABILITY: SEVERE
MIN. DISTANCE OF FOOTING BELOW GRADE LEVEL (FROST LINE 48")
TERMITE INFESTATION PROBABILITY: SLIGHT TO MODERATE
DECAY PROBABILITY: SLIGHT TO MODERATE
ICE & WATER SHIELD UNDERLAYMENT REQUIREMENT:
YES 6'-0" FROM ALL EDGES, IN ACCORDANCE W/ LOCAL CODES
FLOOD HAZARD ZONE: N/A

STRUCTURAL FRAMING LUMBER:
1. FLOOR JOISTS, CEILING JOISTS, HEADERS & ROOF TRUSSES, IN-GRADE BASE DESIGN VALUES, SPRUCE/PINE/FIR (SPF) SPECIES, Fb = 8.75 PSI, FC PERPENDICULAR = 4.25 PSI, Fc PARALLEL = 1150 PSI, Fv = 10 PSI, E = 1,400,000 PSI, GRADE #2 OR BETTER, US DOMESTIC OR CANADIAN.
2. WALL STUDS, IN GRADE BASE DESIGN VALUES, SPRUCE/PINE/FIR (SPF) SPECIES, Fb = 675 PSI, Fb 6.75 PSI, Fv = 10 PSI, Ft = 350 SPI, Fc PERPENDICULAR = 4.25 PSI, Fc PARALLEL = 725 PSI, E = 1,200,000 PSI, STUD GRADE OR BETTER CANADIAN
3. COLUMN, BEAM, OR HEADER PRODUCT, LAMINATED VENEER LUMBER (LVL), MICROLLAM BY TRUSJOIST MACMILLAN, Fb = 2600 PSI, E = 1,900,000 PSI, Fc PERPENDICULAR = 750 PSI (PARALLEL TO GLUE LINE), Fc PARALLEL =2510 PSI, Fv - 285 PSI (HORZ. SHEAR PERPENDICULAR TO GLUE LINE), G = 118,750 PSI (SHEAR MODULS OF ELASTICITY)
4. COLUMN, BEAM, OR HEADER PRODUCT, PARALLEL STRAND LUMBER (PSL), PARALLAM PSL BY TRUSJOIST MACMILLAN, Fb = 2900 PSI, E = 2,000,000 PSI, Fc PERPENDICULAR = 750 PSI (PARALLEL TO WIDE FACE OF STRANDS), Fc PARALLEL =2900 PSI, Fv - 290 PSI (HORZ. SHEAR PERPENDICULAR TO WIDE FACE OF STRANDS), G = 125,000 PSI (SHEAR MODULS OF ELASTICITY)

STRUCTURAL STEEL:
1. DESIGN, DETAIL, FABRICATE & ERECT STEEL IN ACCORDANCE W/ THE LATEST AISG SPECS.
2. STEEL SHAPES SHALL BE ASTM a36, TUBING ASTM GRADE B, & PIPE ASTM A 53 GRADE B.
3. ALL STRUCTURAL STEEL SHALL HAVE ONE SHOP COAT OF APPROVED PRIMING PAINT. PARTS INACCESSIBLE AFTER ERECTION SHALL RECEIVE TWO COATS
4. CONNECTIONS SHALL BE SHOP WELDED & FIELD BOLTED UNLESS OTHERWISE SHOWN
5. UNLESS INDICATED OTHERWISE ON THE DRAWINGS, CONNECTIONS SHALL DEVELOP THE FULL STRENGTH OF THE MEMBER AS DETERMINED BY THE LOAD TABLES IN THE AISG MANUAL
6. BOLTED CONNECTIONS SHALL BE 3/4" DIA, A 325, WITH A MIN. OF 2 BOLTS
7. ALL WELDING SHALL BE IN ACCORDANCE W/ THE LATEST AISG AND AWS SPECS. USING E10 ELECTRODES
8. BASE PLATES SHALL BE WELDED TO COLUMNS
9. ANCHOR BOLTS SHALL BE FABRICATED FRP, ASTM A36 ROUND BAR STOCK

MASONRY:
1. MASONRY CONSTRUCTION SHALL CONFORM TO THE LATEST ACI & NCMA SPECS. PERTINENT TO THE PARTICULAR TYPE OF CONSTRUCTION OR CONDITION OCCURRING
2. CONCRETE MASONRY UNITS SHALL BE ASTM C-90, GRADE N, TYPE I, UNLESS OTHERWISE, WITH A MIN. COMPRESSIVE STRENGTH OF MASONRY (fm') OF 1500 PSI. MORTOR SHALL BE TYPE S OR M BELOW GRADE & TYPE S ABOVE GRADE, UNLESS NOTED
3. CHASES, RIDED, CONDUITS OR TOOTHING OF MASONRY SHALL NOT OCCUR WITHIN 1'-4" OF CENTERLINE OF LOAD CONCENTRATIONS.
4. THREE COURSES (24" MIN.) OF SOLID BEARING, BUILT IN A PYRAMID FASHIN, SHALL BE PROVIDED BELOW ALL BEAM & JOIST BEARINGS & LINTELS IN BEARING WALLS.
5. SINGLE WYTH WALLS SHALL HAVE TRUSS DESIGN MASONRY WALL REINFORCEMENT IN EVERY OTHER HORIZONTAL JOINT (16" c/c) AND IN EACH JOINT (8" c/c) FOR TWO JOINTS ABOVE REINFORCEMENT AT OPENINGS. REINFORCEMENT SHALL BE CONT. W/ 6" MIN. LAPS. REINFORCEMENT AT OPENINGS SHALL EXTEND 2" BEYOND EACH SIDE OF THE OPENING. GRAVITY WALLS SHALL HAVE ONE ROD FOR EACH BED JOINT. NO 'TRUSS' RODS SHALL EXTEND THROUGH THE CAVITY.
6. PROVIDE CONTROL JOINTS IN CONC. MASONRY WALLS AT A MAX. SPACING OF 40' c/c OR AS OTHERWISE SHOWN ON THE DRAWINGS.



RIGHT ELEVATION
1/4"=1'-0"

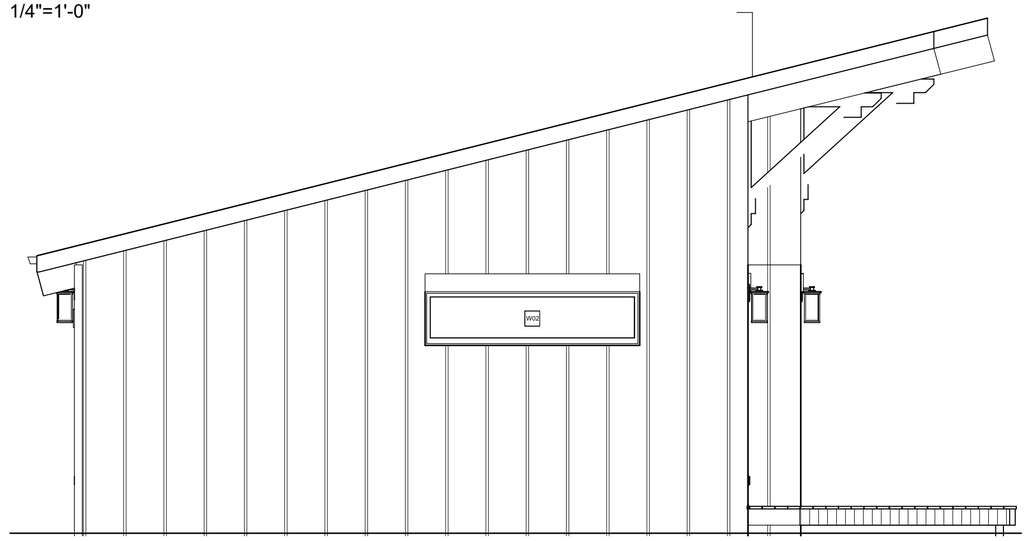
CONCRETE:
1 DESIGN, FURNISH & PLACE CONCRETE IN ACCORDANCE WITH THE LATEST SPECS. OF THE ACI.
2 UNLESS NOTED OR SPECIFIED OTHERWISE, CONCRETE SHALL BE CONTROLLED STONE OR GRAVEL CONCRETE. CONCRETE SHALL HAVE THE FOLLOWING MINIMUM 28 DAY COMPRESSIVE STRENGTHS:

-UNEXPOSED FOUNDATIONS:	2500 PSI
-INTERIOR SLABS OTHER THAN GARAGE SLAB	2500 PSI
-BASEMENT WALLS, FOUNDATION WALLS, EXTERIOR WALLS & OTHER VERTICAL CONCRETE SURFACES EXPOSED TO WEATHER	3000 PSI
-ANY FLATWORK EXPOSED TO THE WEATHER INCLUDING GARAGE SLAB	4500 PSI

3.SEE TABLE R301.2(7) INTERNATIONAL RESIDENTIAL BUILDING CODE FOR AIR-ENTRAINED CONCRETE.
4. DESIGN, DETAIL, FABRICATE AND ERECT REINFORCING STEEL ACCORDING TO THE LATEST SCI AND CRSI SPECS. FROM ASTM A-615, GRADE 60 MATERIAL.
5. WALL & FOOTING REINFORCING SHALL BE HOOKED AROUND CORNERS A MINIMUM OF 30 BAR DIAMETERS OR SEPARATE CORNER BARS SHALL BE PROVIDED.
6. REINFORCING BARS SHALL LAP A MIN. OF 30 BAR DIAMETERS, BUT NOT LESS THAN 12"
7. PROVIDE A 1" NOMINAL CHAMFER AT ALL EXPOSED CORNERS OF BEAMS, COLUMNS & WALLS
8. AT ALL CONSTRUCTION JOSITS PROVIDE KEYWAYS 1 1/2" DEEP BY 1/3 OF THE WIDTH OF THE MEMBERS (3 1/2" MIN.)
9. PROVIDE CONTROL JOINTS IN FLOOR SLABS AT 20' c/c MAX. EACH WAY UNLESS OTHERWISE NOTED ON DRAWINGS. MAX. NOT TO EXCEED 400 SQ. FT.
10. PROVIDE THE FOLLOWING PROTECTION (COVER) OVER REINFORCING

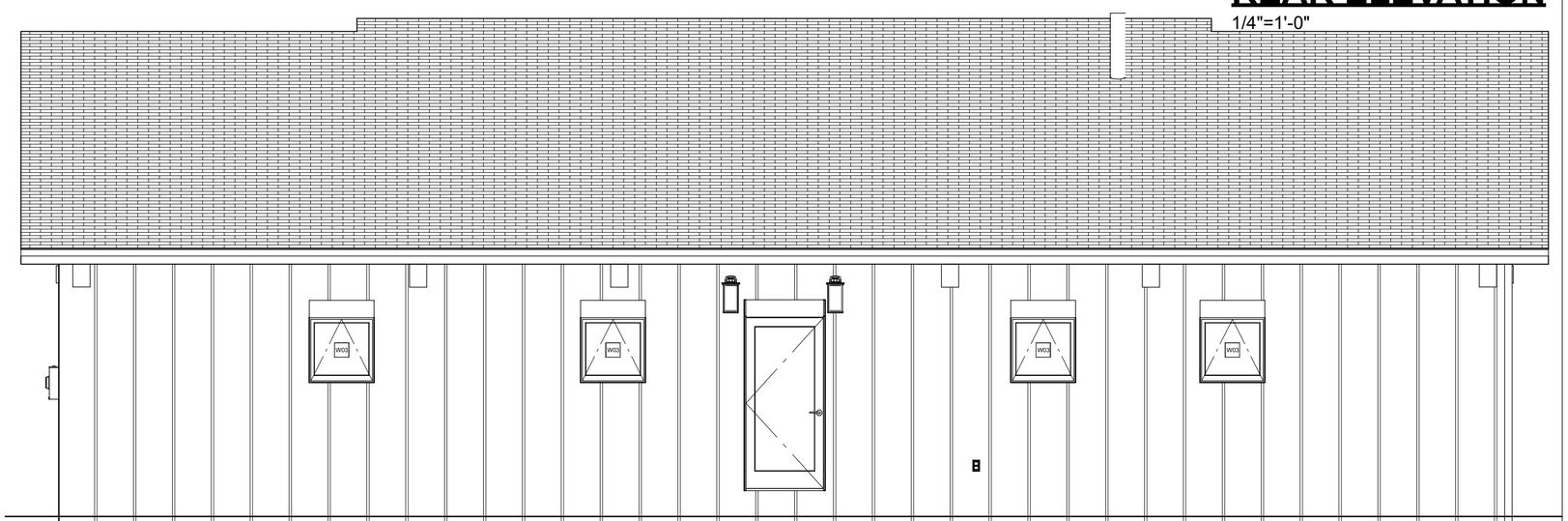
COLUMNS, BEAMS & GIRDERS	1 1/2"
SLABS & WALLS	3/4"
FORMED MEMBERS IN CONTACT W/ EARTH	2"
MEMBERS PLACED AGAINST EARTH	3"

11. PROVIDE ALL SLEEVES, INSERTS, HANGERS, ETC. NECESSARY TO THE JOB.



LEFT ELEVATION
1/4"=1'-0"

REAR ELEVATION
1/4"=1'-0"



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DS

DATE: 7/26/2022
PROJECT: 2022.236
SHEET: 3

Note: All non-structural roof members are not included in this design quote.

Note: Beam sizes may have been re-designed due to design loads

First Floor Framing

Floor Truss (Flush)

Label	Description	Width	Depth	Qty	Plies	Pcs	Length
J5	OJ418	3.5	14			18	26-0-0
J9	OJ418	3.5	14	2	2	4	26-0-0

I Joist (Flush)

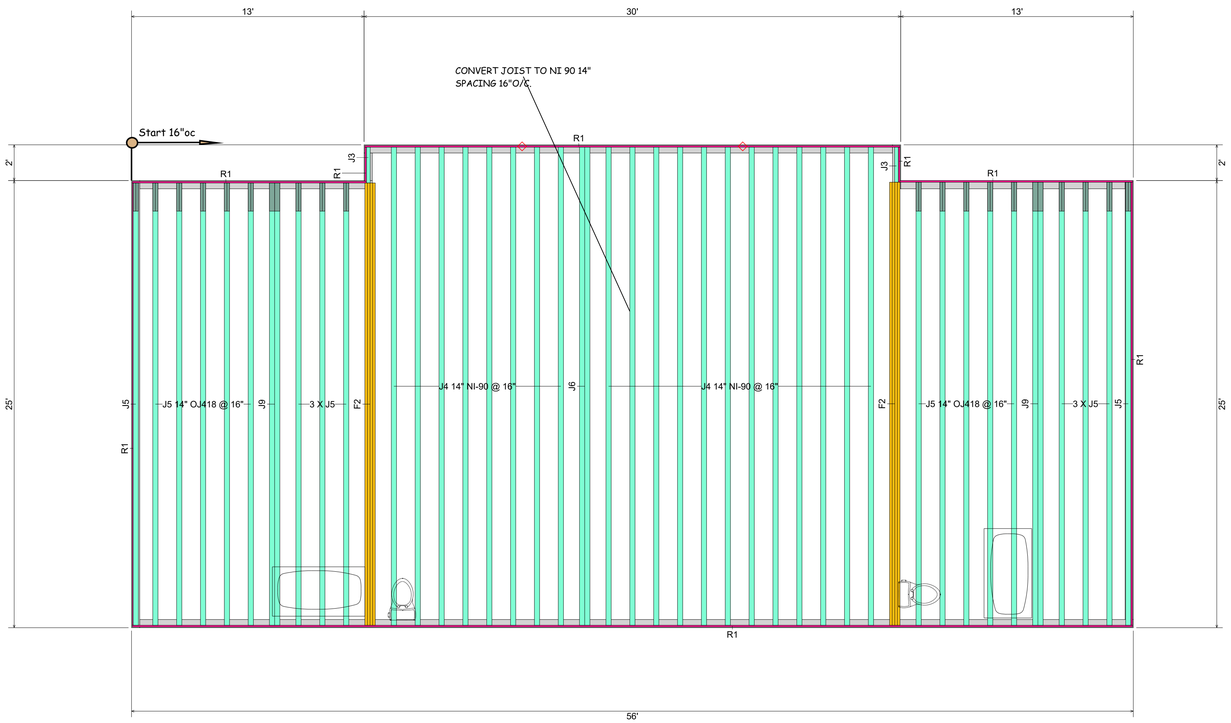
Label	Description	Width	Depth	Qty	Plies	Pcs	Length
J3	NI-40x	2.5	14			2	2-0-0
J4	NI-90	3.5	14			20	28-0-0
J6	NI-90	3.5	14	1	2	2	28-0-0

LVL/LSL (Flush)

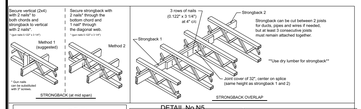
Label	Description	Width	Depth	Qty	Plies	Pcs	Length
F2	2.0E Rigidlam LVL	1.75	14	2	4	8	26-0-0

Rim Board

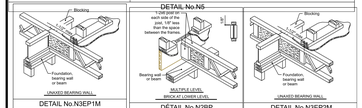
Label	Description	Width	Depth	Qty	Plies	Pcs	Length
R1	Norbord Rimboard 1.125 X 14	1.125	14			14	12-0-0



PRELIMINARY LAYOUT



DETAIL No.N5



DETAIL No.N3EP1M

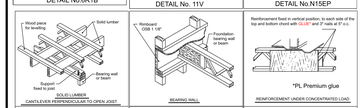
DETAIL No.N2BP

DETAIL No.N3EP2M

DETAIL No.6R1B

DETAIL No. 11V

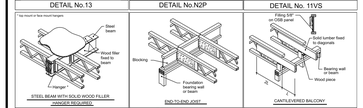
DETAIL No.N15EP



DETAIL No.13

DETAIL No.N2P

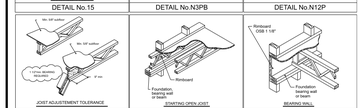
DETAIL No. 11VS



DETAIL No.15

DETAIL No.N3PB

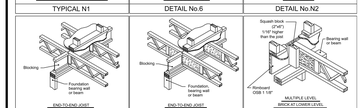
DETAIL No.N12P



TYPICAL N1

DETAIL No.6

DETAIL No.N2



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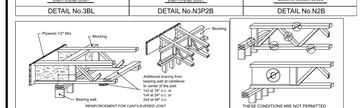

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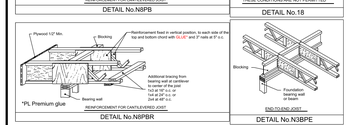

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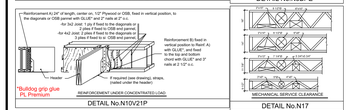

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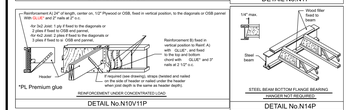

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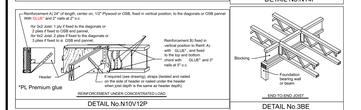

DETAIL No.N10V12P

DETAIL No.3BE

DETAIL No.N10V22P

DETAIL No.14T

WARNING FOR A PROPER INSTALLATION (TOP AND BOTTOM)
Please refer to the stamp on the joist to install them in the right position

Reinforcement
For Reinforcement please refer to the calculation sheets.

TRIFORCE MC TM

OPEN JOIST TRIFORCE® and OPEN JOIST 2000® are in accordance with ICC 2015 and NDS-2015. OPEN JOIST TRIFORCE® and OPEN JOIST 2000® have been evaluated by ICC (report # ESR-2999) & (report # ESR-1035) and are quality controlled by a qualified third DRAWN BY party agency. Parts are joined together with phenol-resorcinol adhesives. Lumber used for diagonal and vertical web members is visually graded in-plant as per quality control manual. A sub-floor must be attached to the top chord member according to the building code. If specified, strong backs must be of dry lumber and attached to the joists, according to current practice. Required bearing length must be determined for each application based on specifications by the manufacturer and must never be less than 1.5 inches. OPEN JOIST 2000® must be used under dry conditions. Refer to the specifications by the manufacturer for details of installation.

Eastern Engineered Wood Products
(800) 700-4788
techplans@eewp.com

Installation Guide

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NOTES:

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Legend

◇	Load from Above
	Wall
	Norbord Rimboard 1.125 X 14
	NI-40x 14
	NI-90 14
	2.0E Rigidlam LVL 1.75 X 14
	OJ418 3.5 X 14

Description
Langdon Residence, ., NC, USA

Dealer
J.E. Wombles

Sales Rep
Robbie McNeill

Designer
Mike Heller

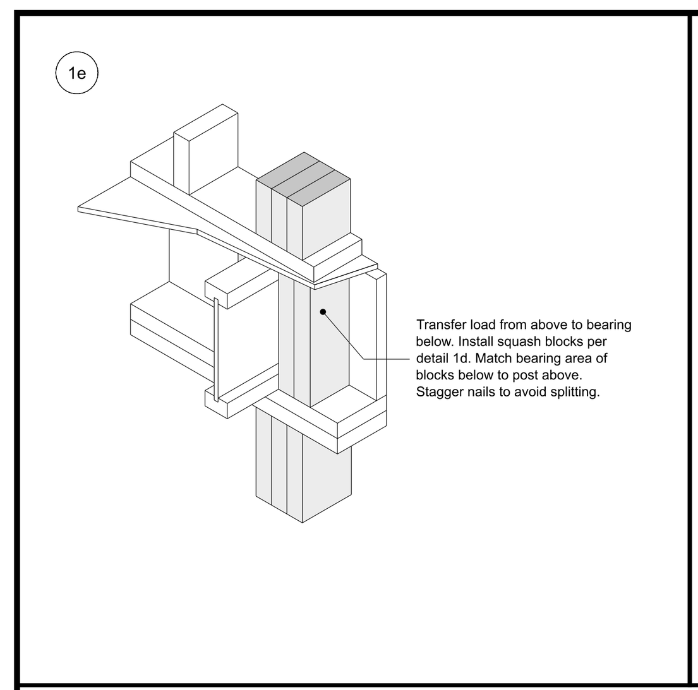
Revisions:

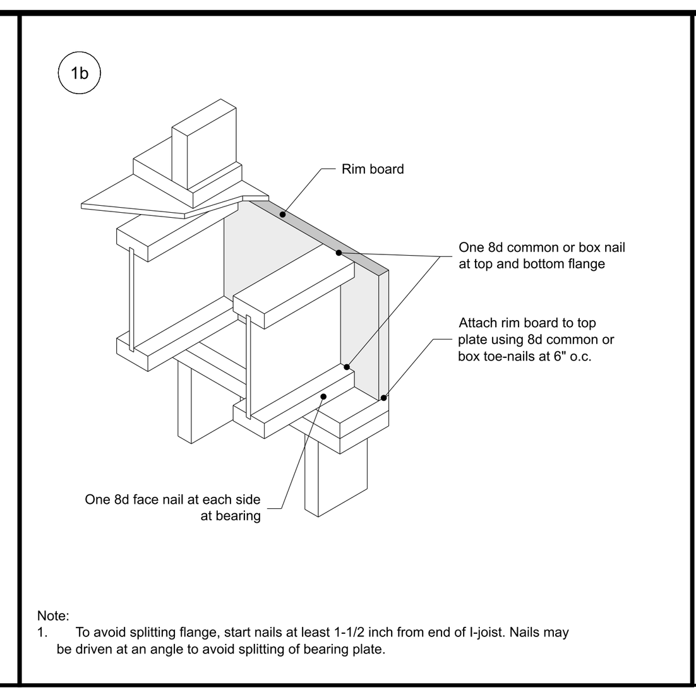
Scale 1/4 inch : 1 ft

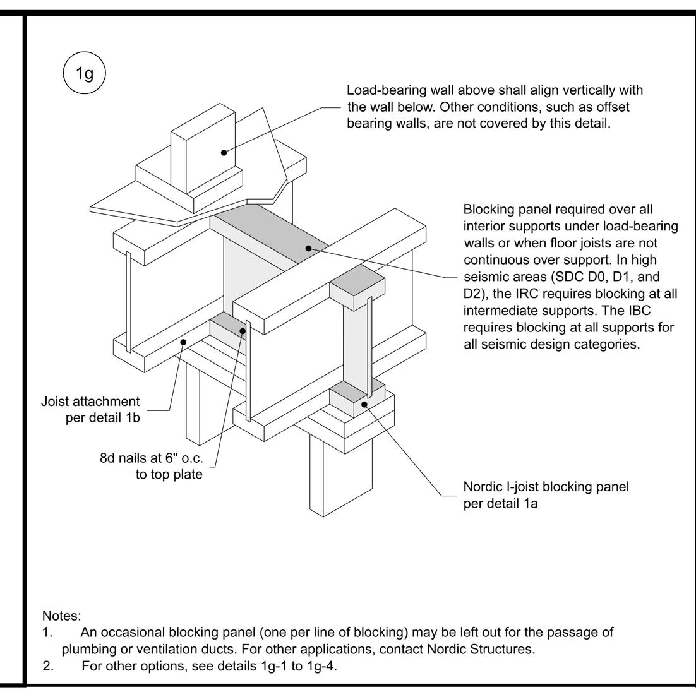
First Floor Framing

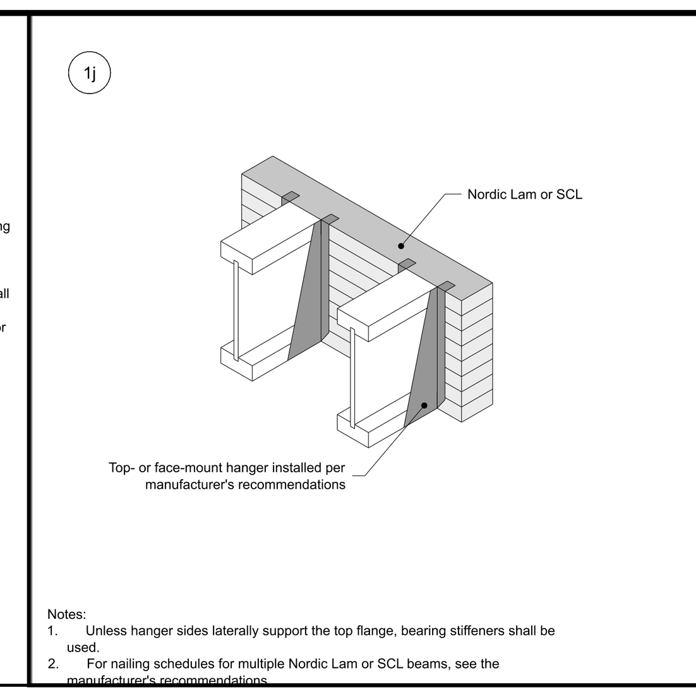
Design Method	ASD (USA)
Building Code	IRC 2018
Floor	
Loads	
Live	40
Dead	15
Deflection Joist	
LL Span L/	480
TL Span L/	240
Deflection Flush Girder	
LL Span L/	360
TL Span L/	240
Deflection Dropped Girder	
LL Span L/	360
TL Span L/	240
Deflection Header	
LL Span L/	360
TL Span L/	240
Decking	
Decking	OSB 23/32 APA Rated Sturd-I-Floor
Fastener	Nailed & Glued

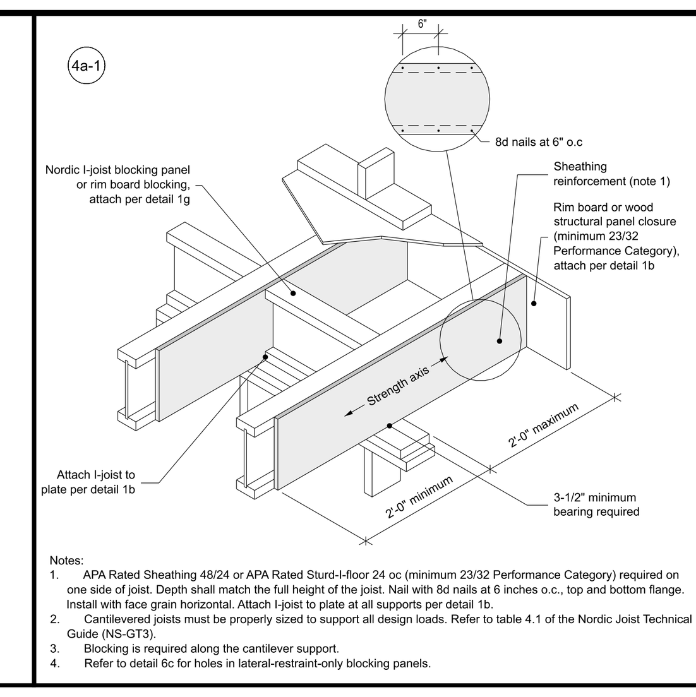
Project
22-2554JE

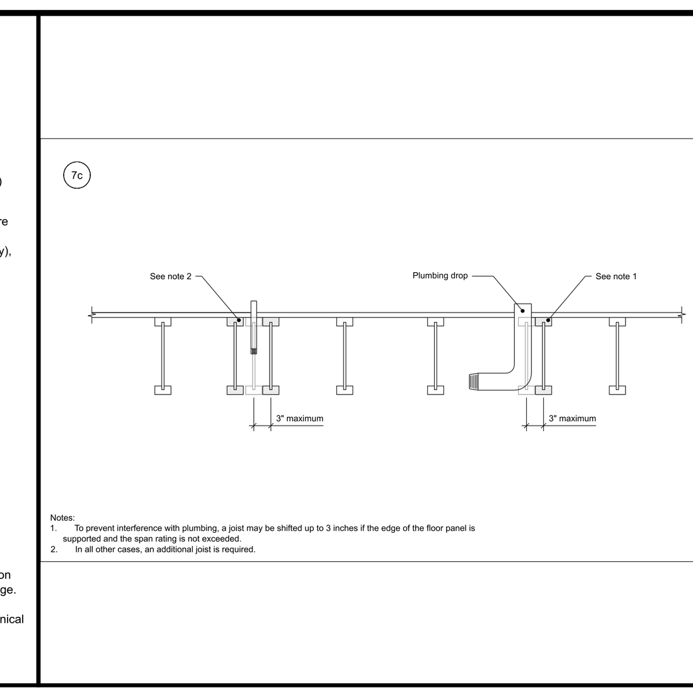


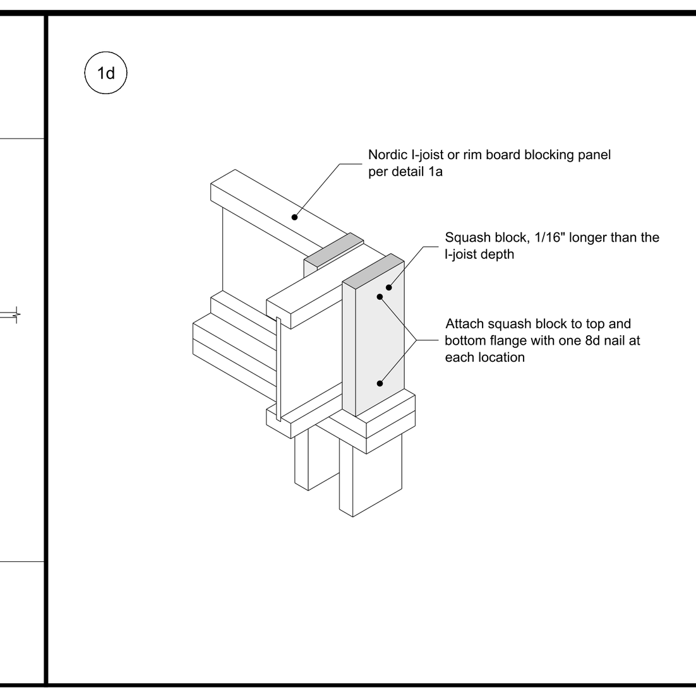










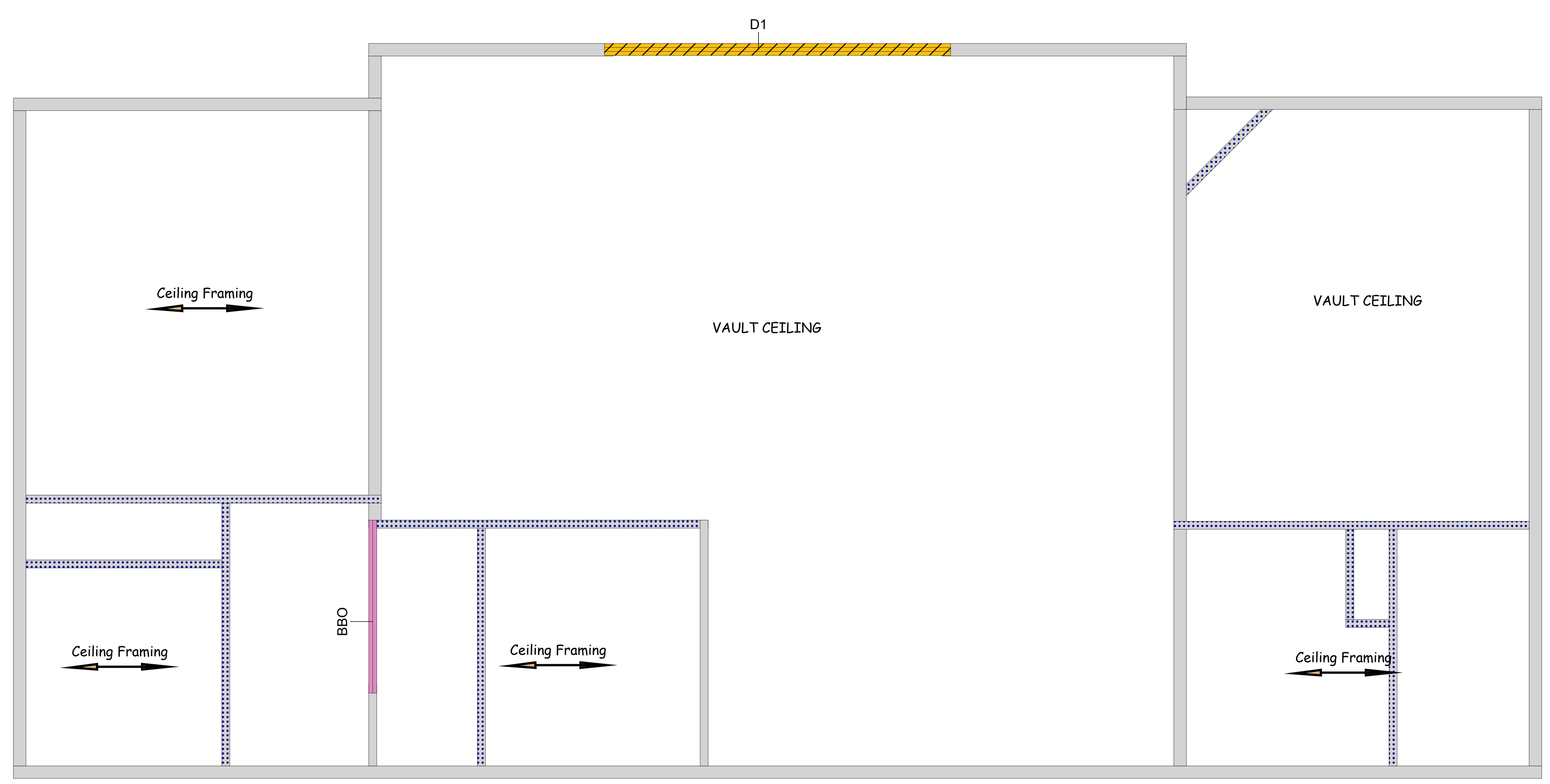


Note: All non-structural roof members are not included in this design quote.

Note: Beam Sizes may have been re-designed due to design load.

Ceiling Framing
LVL/LSL (Dropped)

Label	Description	Width	Depth	Qty	Plies	Pcs	Length
D1	2.0E Rigidlam LVL	1.75	16	1	3	3	14-0-0



PRELIMINARY LAYOUT

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techplans@eewp.com

Installation Guide

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Legend

Symbol	Meaning
◇	Load from Above
(grey)	Wall
(orange hatched)	2.0E Rigidlam LVL 1.75 X 16 (Dropped)
(green)	D FIR-L SS 1.5 X 9.25
(pink)	1.75 X 9.25

Description
Langdon Residence, ., NC, USA

Dealer
J.E. Wombles

Sales Rep
Robbie McNeill

Designer
Mike Heller

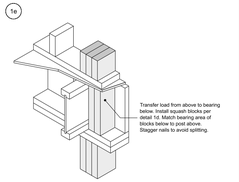
Revisions:

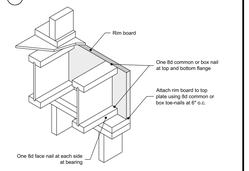
Scale 1/4 inch : 1 ft

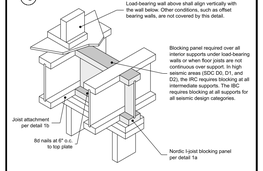
Ceiling Framing

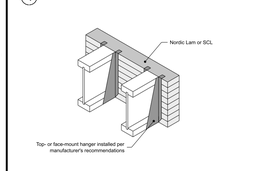
Design Method	ASD (USA)
Building Code	IRC 2018
Floor	
Loads	
Live	20
Dead	10
Deflection Joist	
LL Span L/	480
TL Span L/	240
Deflection Flush Girder	
LL Span L/	360
TL Span L/	240
Deflection Dropped Girder	
LL Span L/	360
TL Span L/	240
Deflection Header	
LL Span L/	360
TL Span L/	240
Decking	
Decking	OSB 23/32 APA Rated Sturd-I-Floor
Fastener	Nailed & Glued

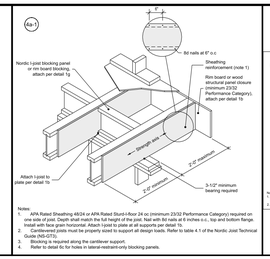
Project
22-2554JE

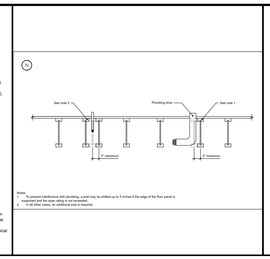


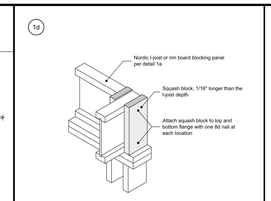












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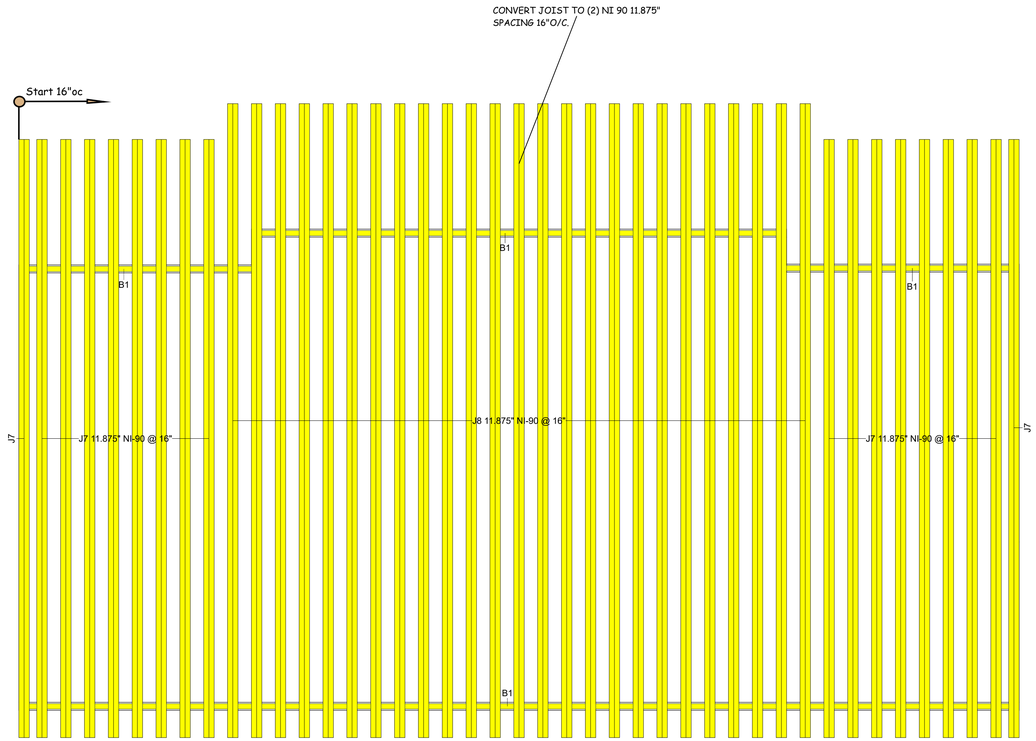
Roof Framing
I Joist (Flush)

Label	Description	Width	Depth	Qty	Plies	Pcs	Length
J7	NI-90	3.5	11.875	18	2	36	36-0-0
J8	NI-90	3.5	11.875	25	2	50	38-0-0

Blocking

Label	Description	Width	Depth	Qty	Plies	Pcs	Length
B1	NI-90	3.5	11.875			84	2-0-0



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Legend

Load from Above
Wall
NI-90 11.875

Description
Langdon Residence, ., NC, USA

Dealer
J.E. Wombles

Sales Rep
Robbie McNeill

Designer
Mike Heller

Revisions:

Scale 1/4 inch : 1 ft

Roof Framing

Design Method	ASD (USA)
Building Code	IRC 2018

Floor

Loads

Live	0
Dead	20
Snow	40

Deflection Joist

LL Span L/	480
TL Span L/	240

Deflection Flush Girder

LL Span L/	360
TL Span L/	240

Deflection Dropped Girder

LL Span L/	360
TL Span L/	240

Deflection Header

LL Span L/	360
TL Span L/	240

Decking

Decking	OSB 23/32 APA Rated Sturd-I-Floor

Project
22-2554JE