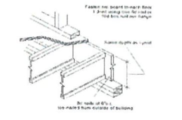
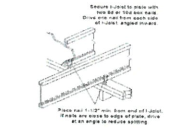
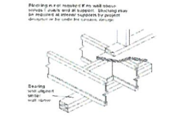
A1 RIM BOARD



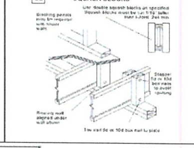
A5 JOIST SUPPORT NAILING



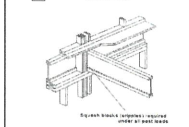
B3 BLOCKING AT INTERIOR SUPPORT



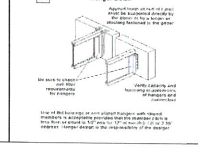
B2 SQUASH BLOCKS



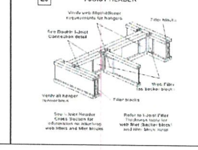
D2 POST LOADS



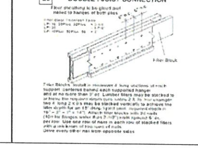
E2 Hanger Detail



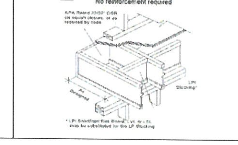
E3 I-JOIST HEADER

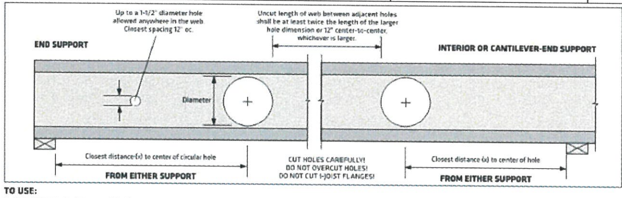


E5 DOUBLE I-JOIST CONNECTION



C1 CANTILEVER DETAIL
No reinforcement required





TO USE:

1. Select the required series and depth.
2. Determine the support condition for the nearest bearing, end support or interior support (including cantilever-end supports).
3. Select the row corresponding to the required Clear Span. For spans between those listed, use the next largest value.
4. Select the column corresponding to the required hole diameter. For diameters between those listed, use the next largest value.
5. The intersection of the Clear Span row and Hole Diameter column gives the minimum distance from the inside face of bearing to the center of a circular hole.
6. Double check the distance to the other support, using the appropriate support condition.

Depth	Clear Span (ft)	Distance from End Support						Distance from Interior or Cantilever-End Support					
		Hole Diameter						Hole Diameter					
		2"	4"	6"	8"	10"	12"	2"	4"	6"	8"	10"	12"
14"	14'	1'-0"	1'-0"	1'-0"	1'-0"	2'-2"	-	1'-0"	1'-0"	1'-5"	2'-7"	3'-9"	-
	18'	1'-0"	1'-0"	1'-9"	3'-1"	4'-6"	-	1'-8"	2'-10"	3'-11"	5'-1"	6'-3"	-
	22'	1'-5"	2'-9"	4'-1"	5'-6"	7'-0"	-	4'-2"	5'-4"	6'-5"	7'-7"	8'-9"	-
	26'	3'-8"	5'-0"	6'-5"	8'-0"	9'-8"	-	6'-8"	7'-10"	8'-11"	10'-1"	11'-4"	-
16"	18'	1'-0"	1'-0"	1'-4"	2'-5"	3'-7"	4'-11"	1'-6"	2'-6"	3'-6"	4'-6"	5'-6"	6'-6"
	22'	1'-4"	2'-5"	3'-6"	4'-9"	6'-1"	7'-5"	4'-0"	5'-0"	6'-0"	7'-0"	8'-0"	9'-0"
	26'	3'-6"	4'-8"	5'-11"	7'-2"	8'-7"	10'-1"	6'-6"	7'-6"	8'-6"	9'-6"	10'-6"	11'-9"
	30'	5'-9"	7'-0"	8'-4"	9'-9"	11'-3"	12'-10"	9'-0"	10'-0"	11'-0"	12'-0"	13'-2"	14'-8"

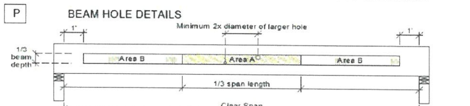
DESIGN ASSUMPTIONS:

1. The hole locations listed above are valid for floor joists supporting only uniform loads. The total uniform load shall not exceed 130 plf (e.g., 40 psf Live Load and 25 psf Dead Load spaced 24" oc).
2. Hole location is measured from the inside face of bearing to the center of a circular hole, from the closest support.
3. Clear Span has not been verified for these joists and is shown for informational purposes only! Verify that the joist selected will work for the span and loading conditions needed before checking hole location.
4. The maximum hole depth for circular holes is the I-joist Depth less 4", except the maximum hole depth is 6" for 9-1/2" LPI joists, and 8" for 11-7/8" LPI joists.
5. Holes cannot be located in the span where designated "-", without further analysis by a design professional.

NOTES:

1. Holes may be placed anywhere within the depth of the joist. A minimum 1/4" clear distance is required between the hole and the flanges.
2. Round holes up to 1-1/2" diameter may be placed anywhere in the web.
3. Perforated "knockouts" may be neglected when locating web holes.
4. Holes larger than 1-1/2" are not permitted in cantilevers without special engineering.
5. Multiple holes shall have a clear separation along the length of the joist of at least twice the length of the larger adjacent hole, or a minimum of 12" center-to-center, whichever is greater.
6. Multiple holes may be spaced closer provided they fit within the boundary of an acceptable larger hole. Example: two 3" round holes aligned parallel to the joist length may be spaced 2" apart (clear distance) provided that a 3" high by 8" long rectangle or an 8" diameter round hole are acceptable for the joist depth at that location and completely encompass the holes.
7. For conditions not covered in this table, use LP's design software or contact your local LP® SolidStart® Engineered Wood Products distributor for more information.

P BEAM HOLE DETAILS



NOTES:
1. These guidelines apply to uniformly loaded beams selected from the Quick Reference Tables or the Uniform Load Tables or designed with LP's design/specification software only. For all other applications, such as beams with concentrated loads, please contact your LP® SolidStart® Engineered Wood Products distributor for assistance.
2. Round holes can be drilled anywhere in "Area A" provided that: no more than four holes are cut, with the minimum spacing described in the diagram. The maximum hole size is 1-1/2" for depths up to 9-1/4" and 2" for depths greater than 9-1/4".
3. Rectangular holes are NOT allowed.
4. DO NOT drill holes in cantilevers without prior approval from the project designer.
5. Other hole sizes and configurations MAY be possible with further engineering analysis. For more information, contact your LP SolidStart Engineered Wood Products distributor.
6. Up to three 3/4" holes may be drilled in "Area B" to accommodate wiring and/or water lines. These holes shall be at least 12" apart. The holes shall be located in the middle third of the depth, or a minimum of 3" from the bottom and top of the beam. For beams shallower than 9-1/4", locate holes at mid-depth.
7. Protect plumbing holes from moisture.

Important Notes — WARNING: Failure to follow proper procedures for handling, storage and installation could result in unsatisfactory performance, unsafe structures and possible collapse.

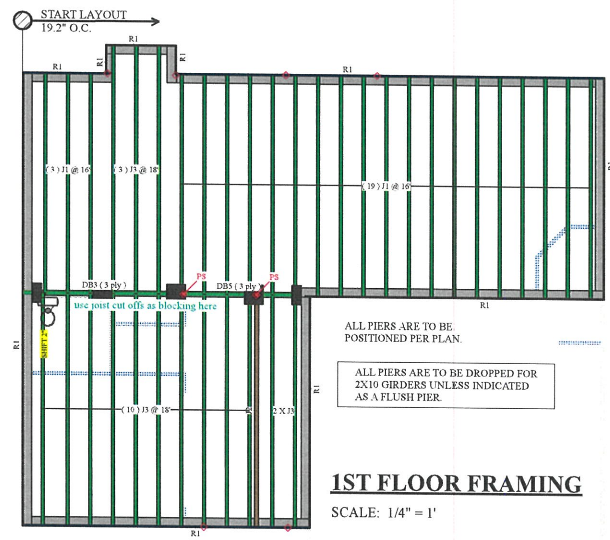
These instructions are offered as a guide to good practice in the handling, storage and installation of LP® SolidStart® I-Joists, LP SolidStart LVL & LP SolidStart LSL beams. They are, however, solely general recommendations and, in some instances, other or additional precautions may be desirable. In all cases, the procedures used should be as specified by the architect/engineer responsible for the entire building.

- This is not intended as a manual for selecting products and assumes that components and details have been specified correctly.
- Consult the LP SolidStart I-Joist, LP SolidStart LVL & LP SolidStart LSL brochures or contact your LP SolidStart products distributor for assistance.
- All rim joists, blocking, connections and temporary bracing must be installed before erectors are allowed on the structure.
- No loads other than the weight of the erectors are to be imposed on the structure before it is permanently sheathed.
- After sheathing, do not overload joists with construction materials exceeding design loads.
- LP SolidStart I-Joists, LP SolidStart LVL & LP SolidStart LSL beams must be used under dry, covered and well ventilated interior conditions in which the equivalent moisture content in lumber will not exceed 16%.

Handling & Storage — Keep LP SolidStart I-Joists, LP SolidStart LVL & LP SolidStart LSL beams dry.

- Unload products carefully by lifting. Support the bundles to reduce excessive bowing. Individual products should be handled in a manner which prevents physical damage during measuring, cutting, erection, etc. I-Joists should be handled vertically and not flatwise.
- Keep stored in wrapped and strapped bundles, stacked no more than 10' high. Support and separate bundles with 2 x 4 (or larger) stickers spaced no more than 10' apart. Keep stickers in line vertically.
- Product must not be stored in contact with the ground, or have prolonged exposure to the weather.
- Use forklifts and cranes carefully to avoid damaging product.
- Do not use visually damaged product. Call your local LP SolidStart Engineered Wood Products distributor for assistance when damaged products are encountered.

Version 20.60.158 Powered by iStruct™ This layout is to be used as an installation guide only. It is meant to be used in conjunction with the architectural and structural drawings, not to replace them.



ALL PIERS ARE TO BE POSITIONED PER PLAN.

ALL PIERS ARE TO BE DROPPED FOR 2X10 GIRDERS UNLESS INDICATED AS A FLUSH PIER.

1ST FLOOR FRAMING

SCALE: 1/4" = 1'

1st Flr

I Joist (Flush)

Label	Description	Width	Depth	Qty	Plies	Pcs	Length
J3	LPI 20Plus	2.5	11.875			15	18-0-0
J1	LPI 20Plus	2.5	11.875			22	16-0-0

LVL/LSL (Flush)

Label	Description	Width	Depth	Qty	Plies	Pcs	Length
J2	LP-LSL 1.55E	3.5	11.875			1	18-0-0

Beam By Others (Dropped)

Label	Description	Width	Depth	Qty	Plies	Pcs	Length
DB3	[2x10]			1	3	3	12-0-0
DB5	[2x10]			1	3	3	10-0-0

Rim Board

Label	Description	Width	Depth	Qty	Plies	Pcs	Length
R1	LP APA Rated OSB 1.125 X 11.875	1.125	11.875			13	12-0-0

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Duluth, GA 30097
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84 Lumber-Fayetteville #2307

Dealer Address
620 Belt Road
Fayetteville, NC 28301
(910) 867-9185

Project
20369

Created
September 03, 2020

Layout Name
202008-20369

Description
Caviness Land
CL2325 - 275 Forest Oaks

Designer
Kyle Militzer

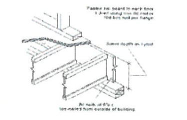
1st Flr

Design Method	ASD (USA)
Building Code	IBC/IRC 2015
Floor	
Loads	
Live	40
Dead	10
Deflection Joist	
LL Span L/	480
TL Span L/	240
LL Cant 2L/	240
TL Cant 2L/	180
Deflection Girder	
LL Span L/	360
TL Span L/	240
LL Cant 2L/	240
TL Cant 2L/	180
Decking	
Decking	OSB 23/32 APA Rated Sturd-I-Floor
Fastener	Nailed & Glued

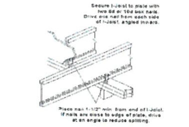
Legend
- Point Load Support
- Load from Above
- Foundation Wall
- 3.5" Ext Wall
- 3.5" Int Wall
- 5.5" Int Wall
- 3.5" Non-Brg Wall
- 5.5" Non-Brg Wall
- LP APA Rated OSB 1.125 X 11.875
- LPI 20Plus 11.875
- LP-LSL 1.55E 3.5 X 11.875
- 1.5 X 9.25 (Dropped)

Calculated Structured Designs

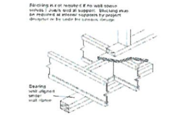
A1 RIM BOARD



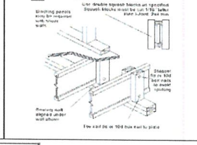
A5 JOIST SUPPORT NAILING



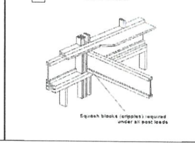
B3 BLOCKING AT INTERIOR SUPPORT



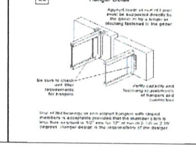
B2 SQUASH BLOCKS



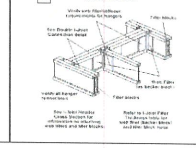
D2 POST LOADS



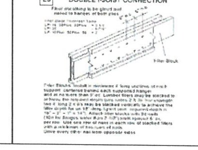
E2 Hanger Detail



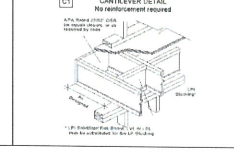
E3 I-JOIST HEADER

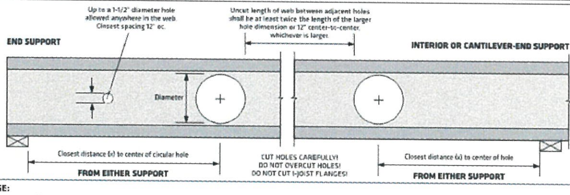


E5 DOUBLE I-JOIST CONNECTION



C1 CANTILEVER DETAIL
No reinforcement required





TO USE:

1. Select the required series and depth.
2. Determine the support condition for the nearest bearing, end support or interior support (including cantilever-end supports).
3. Select the row corresponding to the required Clear Span. For spans between those listed, use the next largest value.
4. Select the column corresponding to the required hole diameter. For diameters between those listed, use the next largest value.
5. The intersection of the Clear Span row and Hole Diameter column gives the minimum distance from the inside face of bearing to the center of a circular hole.
6. Double check the distance to the other support, using the appropriate support condition.

Depth	Clear Span (ft)	Distance from End Support						Distance from Interior or Cantilever-End Support					
		Hole Diameter						Hole Diameter					
		2"	4"	6"	8"	10"	12"	2"	4"	6"	8"	10"	12"
14"	14'	1'-0"	1'-0"	1'-0"	1'-0"	2'-2"	-	1'-0"	1'-0"	1'-5"	2'-7"	3'-9"	-
	18'	1'-0"	1'-0"	1'-9"	3'-1"	4'-6"	-	1'-8"	2'-10"	3'-11"	5'-1"	6'-3"	-
	22'	1'-5"	2'-9"	4'-1"	5'-6"	7'-0"	-	4'-2"	5'-4"	6'-5"	7'-7"	8'-9"	-
	26'	3'-8"	5'-0"	6'-5"	8'-0"	9'-8"	-	6'-8"	7'-10"	8'-11"	10'-1"	11'-4"	-
16"	18'	1'-0"	1'-0"	1'-4"	2'-5"	3'-7"	4'-11"	1'-6"	2'-6"	3'-6"	4'-6"	5'-6"	6'-6"
	22'	1'-4"	2'-5"	3'-6"	4'-9"	6'-1"	7'-5"	4'-0"	5'-0"	6'-0"	7'-0"	8'-0"	9'-0"
	26'	3'-6"	4'-8"	5'-11"	7'-2"	8'-7"	10'-1"	6'-6"	7'-6"	8'-6"	9'-6"	10'-6"	11'-9"
	30'	5'-9"	7'-0"	8'-4"	9'-9"	11'-3"	12'-10"	9'-0"	10'-0"	11'-0"	12'-0"	13'-2"	14'-8"

DESIGN ASSUMPTIONS:

1. The hole locations listed above are valid for floor joists supporting only uniform loads. The total uniform load shall not exceed 130 plf (e.g., 40 psf Live Load and 25 psf Dead Load spaced 24" oc)
2. Hole location is measured from the inside face of bearing to the center of a circular hole, from the closest support.
3. Clear Span has not been verified for these joists and is shown for informational purposes only! Verify that the joist selected will work for the span and loading conditions needed before checking hole location.
4. The maximum hole depth for circular holes is the I-joist Depth less 4", except the maximum hole depth is 6" for 9-1/2" LPI joists, and 8" for 11-7/8" LPI joists.
5. Holes cannot be located in the span where designated "-", without further analysis by a design professional.

NOTES:

1. Holes may be placed anywhere within the depth of the joist. A minimum 1/4" clear distance is required between the hole and the flanges.
2. Round holes up to 1-1/2" diameter may be placed anywhere in the web.
3. Perforated "knockouts" may be neglected when locating web holes.
4. Holes larger than 1-1/2" are not permitted in cantilevers without special engineering.
5. Multiple holes shall have a clear separation along the length of the joist of at least twice the length of the larger adjacent hole, or a minimum of 12" center-to-center, whichever is greater.
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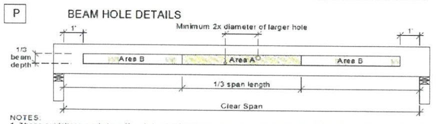
7. For conditions not covered in this table, use LP's design software or contact your local LP® SolidStart® Engineered Wood Products distributor for more information.

P BEAM HOLE DETAILS



NOTES:
1. These guidelines apply to uniformly loaded beams selected from the Quick Reference Tables or the Uniform Load Tables or designed with LP's design/specification software only. For all other applications, such as beams with concentrated loads please contact your LP® SolidStart® Engineered Wood Products distributor for assistance.
2. Round holes can be drilled anywhere in "Area A" provided that: no more than four holes are cut, with the minimum spacing described in the diagram. The maximum hole size is 1-1/2" for depths up to 9-1/4" and 2" for depths greater than 9-1/4".
3. Rectangular holes are NOT allowed.
4. DO NOT drill holes in cantilevers without prior approval from the project designer.
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6. Up to three 3/4" holes may be drilled in "Area B" to accommodate wiring and/or water lines. These holes shall be at least 12" apart. The holes shall be located in the middle third of the depth, or a minimum of 3" from the bottom and top of the beam. For beams shallower than 9-1/4", locate holes at mid-depth.
7. Protect plumbing holes from moisture.

Important Notes WARNING: Failure to follow proper procedures for handling, storage and installation could result in unsatisfactory performance, unsafe structures and possible collapse.

These instructions are offered as a guide to good practice in the handling, storage and installation of LP® SolidStart® I-Joists, LP SolidStart LVL & LP SolidStart LSL beams. They are, however, solely general recommendations and, in some instances, other or additional precautions may be desirable. In all cases, the procedures used should be as specified by the architect/engineer responsible for the entire building.

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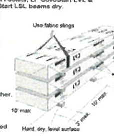

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2ND FLOOR FRAMING

SCALE: 1/4" = 1'

2nd Flr

I Joist (Flush)

Label	Description	Width	Depth	Qty	Plies	Pcs	Length
J8	LPI 20Plus	2.5	14			11	20-0-0
J6	LPI 20Plus	2.5	14			8	18-0-0
J5	LPI 20Plus	2.5	14			22	16-0-0
J4	LPI 20Plus	2.5	14			2	6-0-0

LVL/LSL (Flush)

Label	Description	Width	Depth	Qty	Plies	Pcs	Length
FB1	LP-LSL 1.55E	3.5	14			1	6-0-0
FB3	LP-LVL 2900Fb-2.0E	1.75	14			1	10-0-0
FB2	LP-LVL 2900Fb-2.0E	1.75	14			1	4-0-0
FB4	LP-LVL 2900Fb-2.0E	1.75	20	1	2	2	22-0-0

LVL/LSL (Dropped)

Label	Description	Width	Depth	Qty	Plies	Pcs	Length
DB4	LP-LSL 1.55E	3.5	9.25			1	10-0-0
HD1-B	LP-LSL 1.55E	3.5	9.25			1	8-0-0
HD1-A	LP-LSL 1.55E	3.5	9.25			1	8-0-0
HD2	LP-LSL 1.55E	3.5	14			1	22-0-0

Beam By Others (Dropped)

Label	Description	Width	Depth	Qty	Plies	Pcs	Length
DB2	[2x10]			4	2	8	12-0-0
DB1	[2x10]			2	2	4	6-0-0

Rim Board

Label	Description	Width	Depth	Qty	Plies	Pcs	Length
R2	LP APA Rated OSB 1.125 X 14	1.125	14			13	12-0-0

Blocking

Label	Description	Width	Depth	Qty	Plies	Pcs	Length
Bk2	LPI 20 Plus	2.5	14	LinFt		Varies	27-0-0

Hanger

Label	Pcs	Description	Skew	Slope	Beam/Girder fasteners	Supported Member fasteners
H1	1	HUS1.81/10			30 16d	10 16d
H2	17	IUS2.56/14 (Min)			12 10d	

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Project
20369

Created
September 03, 2020

Layout Name
202008-20369

Description
Caviness Land
CL2325 - 275 Forest Oaks

Designer
Kyle Militzer

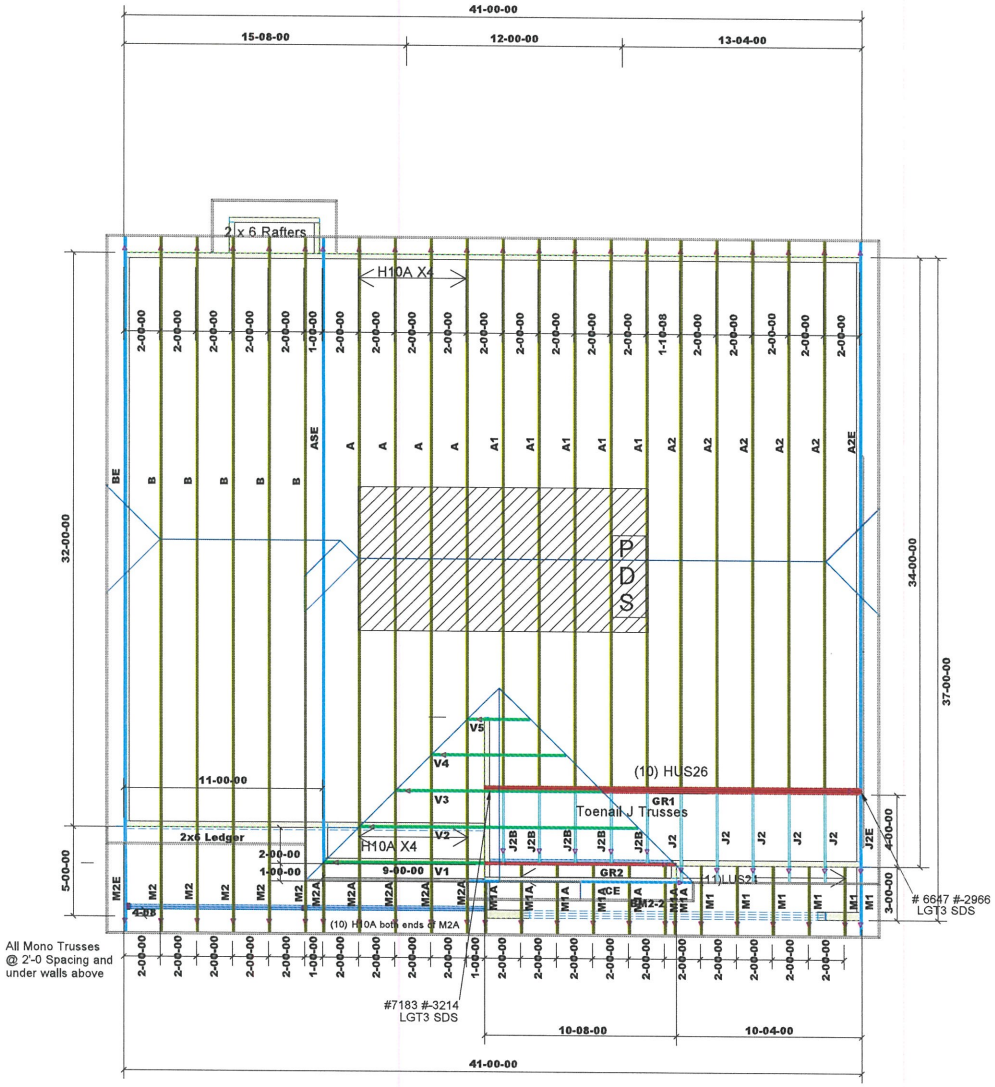
2nd Flr

Design Method	ASD (USA)
Building Code	IBC/IRC 2015
Floor	
Loads	
Live	40
Dead	10
Deflection Joist	
LL Span L/	480
TL Span L/	240
LL Cant 2L/	240
TL Cant 2L/	180
Deflection Girder	
LL Span L/	360
TL Span L/	240
LL Cant 2L/	240
TL Cant 2L/	180
Decking	
Decking	OSB 23/32 APA Rated Sturd-I-Floor
Fastener	Nailed & Glued

Legend
- Point Load Support
- Load from Above
- Foundation Wall
- 3.5" Ext Wall
- 3.5" Int Wall
- 5.5" Int Wall
- 3.5" Non-Brg Wall
- 5.5" Non-Brg Wall
- Wall Opening
- LP APA Rated OSB 1.125 X 14
- LPI 20Plus 14
- LP-LSL 1.55E 3.5 X 9.25 (Dropped)
- LP-LSL 1.55E 3.5 X 14 (Dropped)
- LP-LSL 1.55E 3.5 X 14
- LP-LVL 2900Fb-2.0E 1.75 X 14
- LP-LVL 2900Fb-2.0E 1.75 X 20
- 1.5 X 9.25 (Dropped)

CSD Calculated Structured Designs

THIS LAYOUT IS INTENDED FOR THE PURPOSE OF TRUSS LOCATION AND PLACEMENT ONLY. REFER TO THE BUILDING PLANS FOR ACTUAL BUILDING CONSTRUCTION.



1st Level Roof Area	2nd Level Roof Area
648.19	0

84 LUMBER COMPONENTS

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200 EMMETT ROAD
DUNN, NORTH CAROLINA 28334
PHONE: 910-892-8400

PROJECT:	CL 2325 Base
CUSTOMER:	Caviness Land Development
MODEL:	CL2325 Base
QUOTE #:	24554
PRINT DATE:	9/2/2020
DRAWN BY:	
SCALE:	N.T.S

TOP LIVE LOAD: 20.0 lb/ft²

TOP DEAD LOAD: 10.0 lb/ft²

BOTTOM DEAD LOAD: 10.0 lb/ft²

WIND SPEED: 130 mph

GENERAL NOTES:

- DO NOT CUT OR MODIFY TRUSSES
- TRUSSES ARE SPACED 24" ON CENTER UNLESS OTHERWISE NOTED
- REFER TO THE INDIVIDUAL TRUSS DESIGN DRAWINGS FOR THE LOCATION OF LATERAL BRACING AND MULTI-PLY CONNECTION REQUIREMENTS.
- PER ANSI TPI 1-2002 THE TRUSS ENGINEER IS RESPONSIBLE FOR TRUSS TO TRUSS CONNECTIONS AND TRUSS TO PLY CONNECTIONS. THIS TRUSS PLACEMENT PLAN RECOMMENDS TRUSS TO BEARING CONNECTIONS AND TRUSS TO BEAM CONNECTIONS WHICH SHALL BE REVIEWED BY THE BUILDING DESIGNER. IT IS THE RESPONSIBILITY OF THE BUILDING DESIGNER TO RESOLVE ALL ROOF FORCES ADEQUATELY TO THE FOUNDATION.