ENGINEERING BY
TRENCO
A MiTek Affiliate

Trenco
818 Soundside Rd
Edenton, NC 27932

Re: LGI_Homes
Hartford Floor

The truss drawing(s) referenced below have been prepared by Truss Engineering Co. under my direct supervision based on the parameters provided by Builders FirstSource (Albermarle,NC).

Pages or sheets covered by this seal: E10635817 thru E10635828

My license renewal date for the state of North Carolina is December 31, 2017.

North Carolina COA: C-0844

Lumber design values are in accordance with ANSI/TPI 1 section 6.3
These truss designs rely on lumber values established by others.

June 12,2017

Strzyzewski, Marvin

IMPORTANT NOTE: The seal on these truss component designs is a certification that the engineer named is licensed in the jurisdictions(s) identified and that the designs comply with ANSI/TPI 1. These designs are based upon parameters shown (e.g., loads, supports, dimensions, shapes and design codes), which were given to Trenco. Any project specific information included is for Trenco's customer's file reference purpose only, and was not taken into account in the preparation of these designs. Trenco has not independently verified the applicability of the design parameters or the designs for any particular building. Before use, the building designer should verify applicability of the design parameters and properly incorporate these designs into the overall building design per ANSI/TPI 1, Chapter 2.

Job	Truss	Truss Type	Qty	Ply	Hartford Floor	E10635817
LGI_HOMES	F1E	Floor Supported Gable	1	1	Job Reference (optional)	

Builders FirstSource, Albemarle , NC 28001 — 7.640 s Apr 19 2016 MiTek Industries, Inc. Mon Jun 12 16:16:26 2017 Page 1

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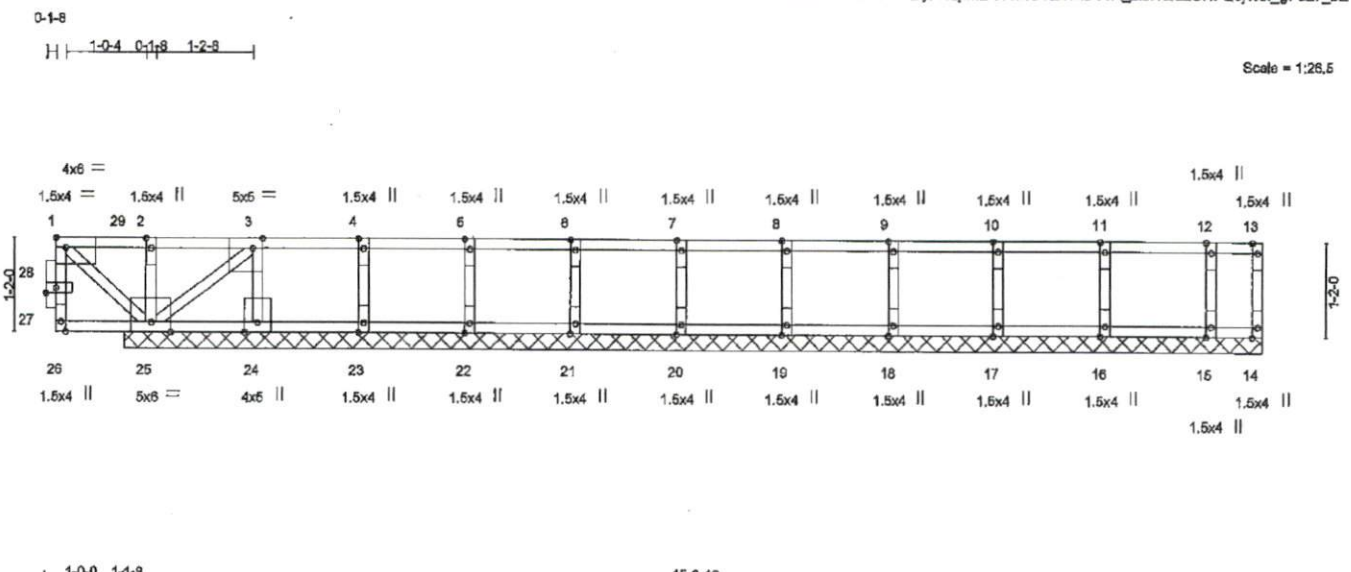


Plate Offsets (X,Y)-- [1:Edge,0-1-8], [3:0-1-8,Edge], [27:0-1-8,0-0-12]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.74	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.19	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0	Rep Stress Incr	NO	WB	0.68	Horz(TL)	0.00		n/a	n/a		
BCDL	5.0	Code IRC2009/TPI2007		(Matrix)							Weight: 68 lb	FT = 20%F, 11%E

LUMBER-
TOP CHORD 2x4 SP No.2(flat)
BOT CHORD 2x4 SP No.2(flat)
WEBS 2x4 SP No.3(flat)
OTHERS 2x4 SP No.3(flat)

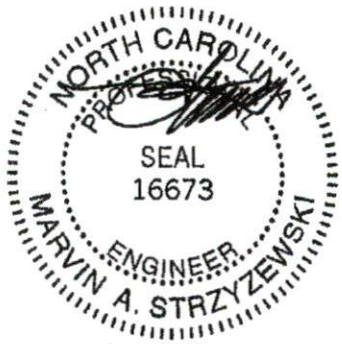
BRACING-
TOP CHORD Structural wood sheathing directly applied or 10-0-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS. (lb/size) 14=11/14-3-12, 25=3335/14-3-12, 24=-1336/14-3-12, 23=155/14-3-12, 22=146/14-3-12, 21=147/14-3-12, 20=147/14-3-12, 19=147/14-3-12, 18=147/14-3-12, 17=145/14-3-12, 16=152/14-3-12, 15=122/14-3-12
Max Uplift24=-1451(LC 2)
Max Grav 14=11(LC 3), 25=3335(LC 1), 23=155(LC 1), 22=147(LC 3), 21=147(LC 1), 20=147(LC 3), 19=147(LC 1), 18=147(LC 3), 17=145(LC 1), 16=152(LC 3), 15=122(LC 1)

FORCES. (lb) - Maximum Compression/Maximum Tension
TOP CHORD 26-27=-19/0, 27-28=-19/0, 1-28=-19/0, 13-14=-10/0, 1-29=0/1833, 2-29=0/1833, 2-3=0/1833, 3-4=0/0, 4-5=0/0, 5-6=0/0, 6-7=0/0, 7-8=0/0, 8-9=0/0, 9-10=0/0, 10-11=0/0, 11-12=0/0, 12-13=0/0
BOT CHORD 25-26=-0/0, 24-25=0/0, 23-24=0/0, 22-23=0/0, 21-22=0/0, 20-21=0/0, 19-20=0/0, 18-19=0/0, 17-18=0/0, 16-17=0/0, 15-16=0/0, 14-15=0/0
WEBS 2-25=-178/0, 3-24=0/1431, 4-23=-133/0, 5-22=-135/0, 6-21=-133/0, 7-20=-133/0, 8-19=-133/0, 9-18=-134/0, 10-17=-132/0, 11-16=-136/0, 12-15=-111/0, 1-25=-2477/0, 3-25=-2326/0

NOTES-
1) Unbalanced floor live loads have been considered for this design.
2) Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
3) Gable studs spaced at 1-4-0 oc.
4) Two HTS20 Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 24. This connection is for uplift only and does not consider lateral forces.
5) Non Standard bearing condition. Review required.
6) Load case(s) 1, 2, 3 has/have been modified. Building designer must review loads to verify that they are correct for the intended use of this truss.
7) "Semi-rigid pitchbreaks with fixed heels" Member end fixity model was used in the analysis and design of this truss.
8) This truss has large uplift reaction(s) from gravity load case(s). Proper connection is required to secure truss against upward movement at the bearings. Building designer must provide for uplift reactions indicated.
9) Recommend 2x6 strongbacks, on edge, spaced at 10-0-0 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.
10) CAUTION, Do not erect truss backwards.

LOAD CASE(S) Standard
1) Dead + Floor Live (balanced): Lumber Increase=1.00, Plate Increase=1.00
Uniform Loads (plf)
Vert: 14-26=-10, 1-13=-100



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LOAD CASE(S) Standard

Concentrated Loads (lb)

Vert: 1=-1660

2) 1st Dead + Floor Live (unbalanced): Lumber Increase=1.00, Plate Increase=1.00

Uniform Loads (plf)

Vert: 14-26=-10, 1-29=-100, 13-29=-20

Concentrated Loads (lb)

Vert: 1=-1660

3) 2nd Dead + Floor Live (unbalanced): Lumber Increase=1.00, Plate Increase=1.00

Uniform Loads (plf)

Vert: 14-26=-10, 1-29=-20, 13-29=-100

Concentrated Loads (lb)

Vert: 1=-569

Job	Truss	Truss Type	Qty	Ply	Hartford Floor	E10636818
LGI_HOMES	F2	Floor	6	1	Job Reference (optional)	

Builders FirstSource, Albemarle , NC 28001

7.840 s Apr 19 2018 MiTek Industries, Inc. Mon Jun 12 16:16:26 2017 Page 1
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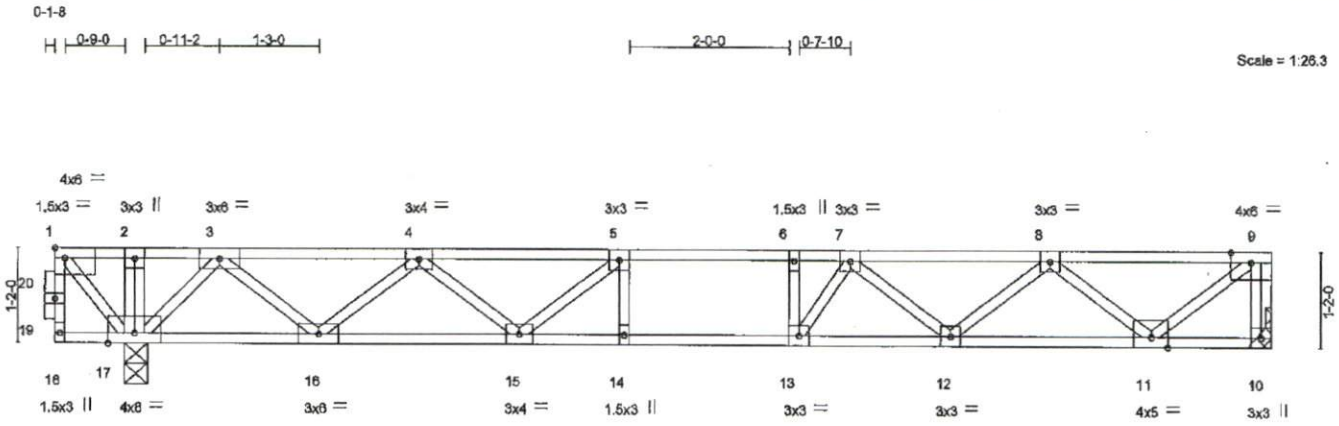

Plate Offsets (X,Y)-- [1:Edge,0-1-8]

LOADING (psf)		SPACING-	2-0-0	CSI		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.88	Vert(LL)	-0.13	12-13	>999	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	1.00	Vert(TL)	-0.19	12-13	>886	240		
BCLL	0.0	Rep Stress Incr	NO	WB	0.52	Horz(TL)	0.00		n/a	n/a		
BCDL	5.0	Code IRC2009/TPI2007		(Matrix)							Weight: 79 lb	FT = 20%F, 11%E

LUMBER-
TOP CHORD 2x4 SP No.2(flat)
BOT CHORD 2x4 SP No.2(flat)
WEBS 2x4 SP No.3(flat)

BRACING-
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

REACTIONS. (lb/size) 10=859/Mechanical, 17=2651/0-3-8
Max Horz 10=-1486(LC 3), 17=1486(LC 3)
Max Grav 10=734(LC 3), 17=2651(LC 1)

FORCES. (lb) - Maximum Compression/Maximum Tension
TOP CHORD 18-19=-14/0, 19-20=-14/0, 1-20=-14/0, 9-10=-729/0, 1-2=0/1514, 2-3=0/1515, 3-4=-958/907, 4-5=-1968/373, 5-6=-2318/61, 6-7=-2318/61, 7-8=-1913/0, 8-9=-825/0
BOT CHORD 17-18=-0/0, 16-17=-1651/0, 15-16=-506/295, 14-15=0/832, 13-14=0/832, 12-13=0/874, 11-12=-184/624, 10-11=-1486/287
WEBS 5-14=-67/217, 6-13=-255/172, 2-17=-101/0, 1-17=-2258/0, 5-15=-814/0, 4-15=0/648, 4-16=-966/0, 3-16=0/1004, 3-17=-1191/0, 9-11=0/1035, 8-11=-943/0, 8-12=-1/473, 7-12=-433/99, 7-13=-382/413

NOTES-
1) Unbalanced floor live loads have been considered for this design.
2) Refer to girder(s) for truss to truss connections.
3) Non Standard bearing condition. Review required.
4) Load case(s) 1, 2, 3, 4, 5 has/have been modified. Building designer must review loads to verify that they are correct for the intended use of this truss.
5) "Semi-rigid pitchbreaks with fixed heels" Member end fixity model was used in the analysis and design of this truss.
6) Recommend 2x6 strongbacks, on edge, spaced at 10-0-0 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.
7) CAUTION, Do not erect truss backwards.

LOAD CASE(S) Standard
1) Dead + Floor Live (balanced): Lumber Increase=1.00, Plate Increase=1.00
Uniform Loads (plf)
Vert: 10-18=-10, 1-9=-100
Concentrated Loads (lb)
Vert: 1=-1660
2) 1st Dead + Floor Live (unbalanced): Lumber Increase=1.00, Plate Increase=1.00
Uniform Loads (plf)
Vert: 10-18=-10, 1-2=-100, 2-9=-20
Concentrated Loads (lb)
Vert: 1=-1660
3) 2nd Dead + Floor Live (unbalanced): Lumber Increase=1.00, Plate Increase=1.00

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LOAD CASE(S) Standard

Uniform Loads (plf)

Vert: 10-18=-10, 1-2=-20, 2-9=-100

Concentrated Loads (lb)

Vert: 1=-569

4) 1st chase Dead + Floor Live (unbalanced): Lumber Increase=1.00, Plate Increase=1.00

Uniform Loads (plf)

Vert: 10-18=-10, 1-2=-20, 2-6=-100, 6-9=-20

Concentrated Loads (lb)

Vert: 1=-569

5) 2nd chase Dead + Floor Live (unbalanced): Lumber Increase=1.00, Plate Increase=1.00

Uniform Loads (plf)

Vert: 10-18=-10, 1-2=-100, 2-5=-20, 5-9=-100

Concentrated Loads (lb)

Vert: 1=-1660

Job	Truss	Truss Type	Qty	Ply	Hartford Floor
LGI_HOMES	F3	Floor	6	1	E10636819

Job Reference (optional)

Builders FirstSource, Albemarle , NC 28001

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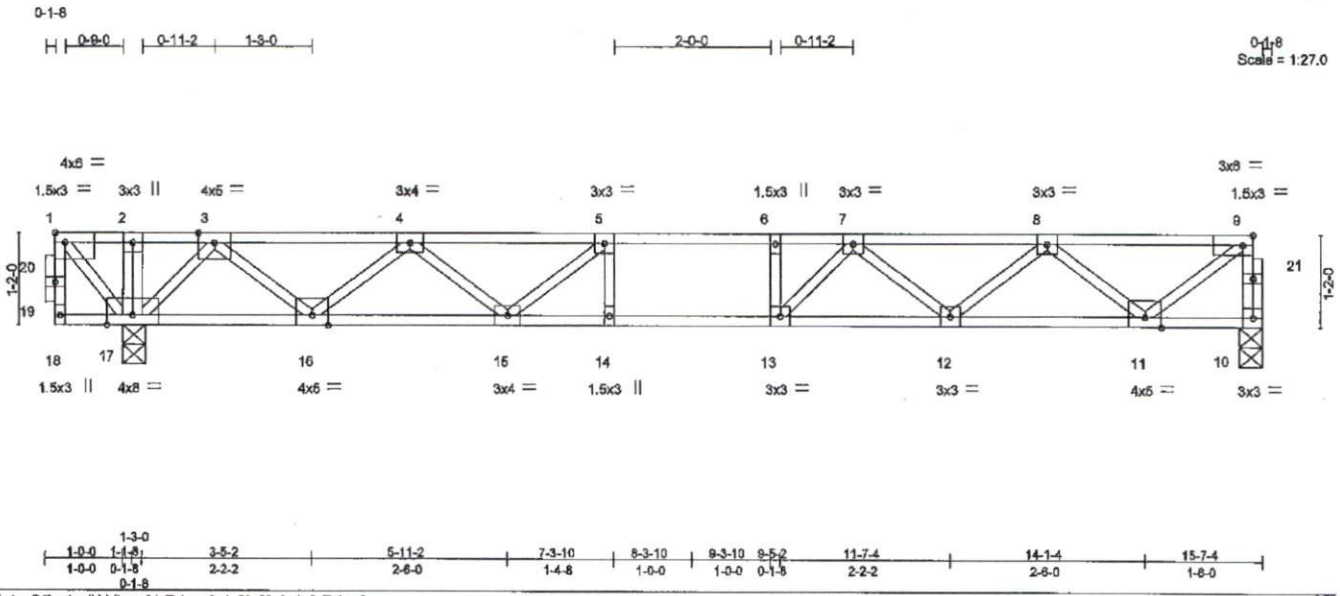

Plate Offsets (X,Y)-- [1:Edge,0-1-8], [9:0-1-8,Edge]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.89	Vert(LL)	-0.15	12-13	>999	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.92	Vert(TL)	-0.23	12-13	>747	240		
BCLL	0.0	Rep Stress Incr	NO	WB	0.52	Horz(TL)	0.03	10	n/a	n/a		
BCDL	5.0	Code IRC2009/TPI2007		(Matrix)							Weight: 80 lb	FT = 20%F, 11%E

LUMBER-

TOP CHORD 2x4 SP No.2(flat)
BOT CHORD 2x4 SP No.1(flat)
WEBS 2x4 SP No.3(flat)

BRACING-

TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

REACTIONS. (lb/size) 10=671/0-3-8, 17=2665/0-3-8
Max Grav 10=745(LC 3), 17=2665(LC 1)

FORCES. (lb) - Maximum Compression/Maximum Tension

TOP CHORD 18-19=-15/0, 19-20=-15/0, 1-20=-15/0, 10-21=-739/0, 9-21=-738/0, 1-2=0/1513, 2-3=0/1513, 3-4=-988/901, 4-5=-2036/365, 5-6=-2418/42, 6-7=-2418/42, 7-8=-1973/0, 8-9=-845/0
BOT CHORD 17-18=-0/0, 16-17=-1216/283, 15-16=-619/1668, 14-15=-42/2418, 13-14=-42/2418, 12-13=0/2320, 11-12=0/1587, 10-11=0/44
WEBS 5-14=-69/247, 6-13=-208/99, 2-17=-104/0, 1-17=-2256/0, 5-15=-859/0, 4-15=0/664, 4-16=-987/0, 3-16=0/1024, 3-17=-1206/0, 9-11=0/1023, 8-11=-965/0, 8-12=0/503, 7-12=-452/86, 7-13=-342/405

NOTES-

1) Unbalanced floor live loads have been considered for this design.
2) Load case(s) 1, 2, 3, 4, 5 has/have been modified. Building designer must review loads to verify that they are correct for the intended use of this truss.
3) "Semi-rigid pitchbreaks with fixed heels" Member end fixity model was used in the analysis and design of this truss.
4) Recommend 2x6 strongbacks, on edge, spaced at 10-0-0 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.
5) CAUTION, Do not erect truss backwards.

LOAD CASE(S) Standard

1) Dead + Floor Live (balanced): Lumber Increase=1.00, Plate Increase=1.00
   Uniform Loads (plf)
   Vert: 10-18=-10, 1-9=-100
   Concentrated Loads (lb)
   Vert: 1=-1660
2) 1st Dead + Floor Live (unbalanced): Lumber Increase=1.00, Plate Increase=1.00
   Uniform Loads (plf)
   Vert: 10-18=-10, 1-2=-100, 2-9=-20
   Concentrated Loads (lb)
   Vert: 1=-1660
3) 2nd Dead + Floor Live (unbalanced): Lumber Increase=1.00, Plate Increase=1.00
   Uniform Loads (plf)
   Vert: 10-18=-10, 1-2=-20, 2-9=-100

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LOAD CASE(S) Standard

Concentrated Loads (lb)

Vert: 1=-569

4) 1st chase Dead + Floor Live (unbalanced): Lumber Increase=1.00, Plate Increase=1.00

Uniform Loads (plf)

Vert: 10-18=-10, 1-2=-20, 2-6=-100, 6-9=-20

Concentrated Loads (lb)

Vert: 1=-569

5) 2nd chase Dead + Floor Live (unbalanced): Lumber Increase=1.00, Plate Increase=1.00

Uniform Loads (plf)

Vert: 10-18=-10, 1-2=-100, 2-5=-20, 5-9=-100

Concentrated Loads (lb)

Vert: 1=-1660

Job	Truss	Truss Type	Qty	Ply	Hartford Floor	
LGI_HOMES	F4	Floor	5	1	Job Reference (optional)	E10636620

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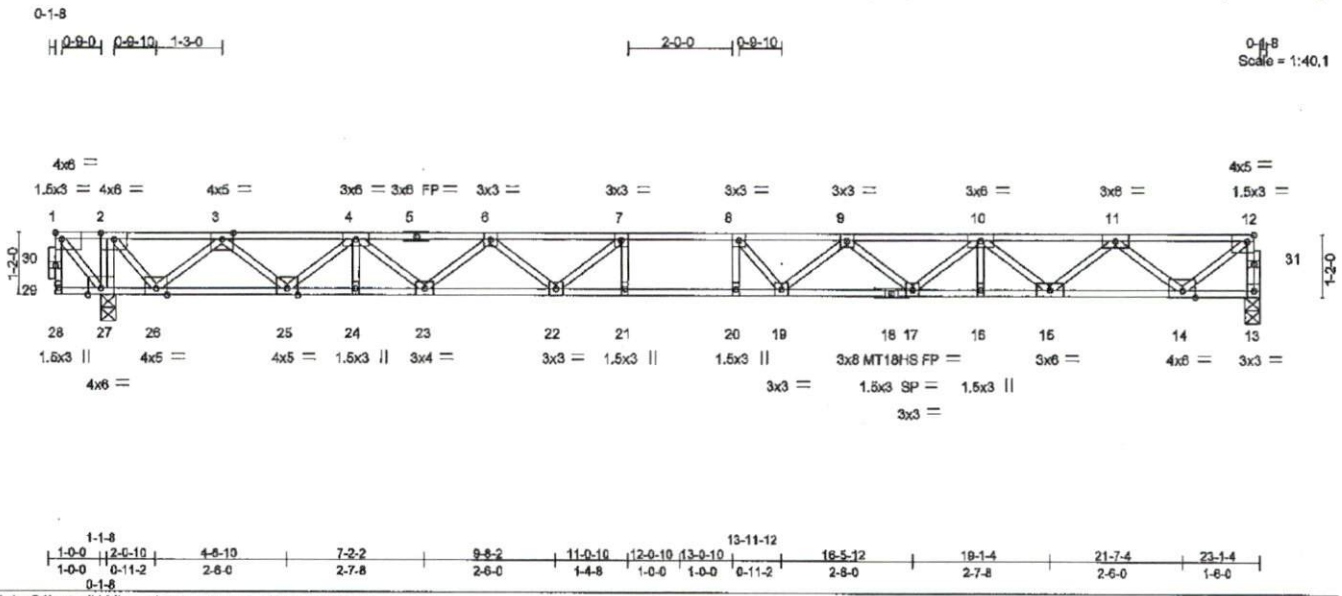

Plate Offsets (X,Y)-- [1:Edge,0-1-8], [12:0-1-8,Edge]

LOADING (psf)		SPACING-	1-7-3	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.96	Vert(LL)	-0.52	20-21	>501	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.92	Vert(TL)	-0.76	20-21	>343	240	MT18HS	244/190
BCLL	0.0	Rep Stress Incr	NO	WB	0.65	Horz(TL)	0.09	13	n/a	n/a		
BCDL	5.0	Code IRC2009/TPI2007		(Matrix)							Weight: 119 lb	FT = 20%F, 11%E

LUMBER-
TOP CHORD 2x4 SP No.2(flat)
BOT CHORD 2x4 SP DSS(flat) *Except*
13-18: 2x4 SP No.1(flat)
WEBS 2x4 SP No.3(flat)

BRACING-
TOP CHORD Structural wood sheathing directly applied, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing. Except:
6-0-0 oc bracing: 26-27,25-26,24-25,23-24.

REACTIONS. (lb/size) 13=883/0-3-8, 27=2776/0-3-8
Max Grav 13=931(LC 3), 27=2776(LC 1)

FORCES. (lb) - Maximum Compression/Maximum Tension
TOP CHORD 28-29=-28/0, 29-30=-28/0, 1-30=-28/0, 13-31=-927/0, 12-31=-925/0, 1-2=0/1491, 2-3=-304/1234, 3-4=-2195/562, 4-5=-3624/6, 5-6=-3624/6, 6-7=-4441/0, 7-8=-4740/0, 8-9=-4633/0, 9-10=-4017/0, 10-11=-2821/0, 11-12=-1117/0
BOT CHORD 27-28=-0/0, 26-27=-1491/0, 25-26=-880/1365, 24-25=-255/3043, 23-24=-255/3043, 22-23=0/4154, 21-22=0/4740, 20-21=0/4740, 19-20=0/4740, 18-19=0/4443, 17-18=0/4443, 16-17=0/3548, 15-16=0/3548, 14-15=0/2107, 13-14=0/56
WEBS 7-21=-152/294, 8-20=-349/223, 2-27=-1076/0, 1-27=-2229/0, 7-22=-819/30, 6-22=0/585, 6-23=-756/0, 4-23=0/818, 4-24=-7/13, 4-25=-1160/0, 3-25=0/1158, 3-26=-1451/0, 2-26=0/1222, 12-14=0/1355, 11-14=-1289/0, 11-15=0/829, 10-15=-929/0, 10-16=0/13, 10-17=0/598, 9-17=-555/0, 9-19=-94/419, 8-19=-504/387

NOTES-
1) Unbalanced floor live loads have been considered for this design.
2) All plates are MT20 plates unless otherwise indicated.
3) The Fabrication Tolerance at joint 18 = 11%
4) Load case(s) 1, 2, 3, 4, 5 has/have been modified. Building designer must review loads to verify that they are correct for the intended use of this truss.
5) "Semi-rigid pitchbreaks with fixed heels" Member end fixity model was used in the analysis and design of this truss.
6) Required 2x6 strongbacks, on edge, spaced at 10-0-0 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.
7) CAUTION, Do not erect truss backwards.

LOAD CASE(S) Standard
1) Dead + Floor Live (balanced): Lumber Increase=1.00, Plate Increase=1.00
Uniform Loads (plf)
Vert: 13-28=-8, 1-12=-80
Concentrated Loads (lb)
Vert: 1=-1660
2) 1st Dead + Floor Live (unbalanced): Lumber Increase=1.00, Plate Increase=1.00
Uniform Loads (plf)
Vert: 13-28=-8, 1-2=-80, 2-12=-16
Concentrated Loads (lb)
Vert: 1=-1660

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LOAD CASE(S) Standard

3) 2nd Dead + Floor Live (unbalanced): Lumber Increase=1.00, Plate Increase=1.00
   Uniform Loads (plf)
      Vert: 13-28=-8, 1-2=-16, 2-12=-80
   Concentrated Loads (lb)
      Vert: 1=-569

4) 1st chase Dead + Floor Live (unbalanced): Lumber Increase=1.00, Plate Increase=1.00
   Uniform Loads (plf)
      Vert: 13-28=-8, 1-2=-16, 2-8=-80, 8-12=-16
   Concentrated Loads (lb)
      Vert: 1=-569

5) 2nd chase Dead + Floor Live (unbalanced): Lumber Increase=1.00, Plate Increase=1.00
   Uniform Loads (plf)
      Vert: 13-28=-8, 1-2=-80, 2-7=-16, 7-12=-80
   Concentrated Loads (lb)
      Vert: 1=-1660

Job	Truss	Truss Type	Qty	Ply	Hartford Floor	E10036821
LGI_HOMES	F5	Floor	6	1	Job Reference (optional)	

Builders FirstSource, Albemarle , NC 28001

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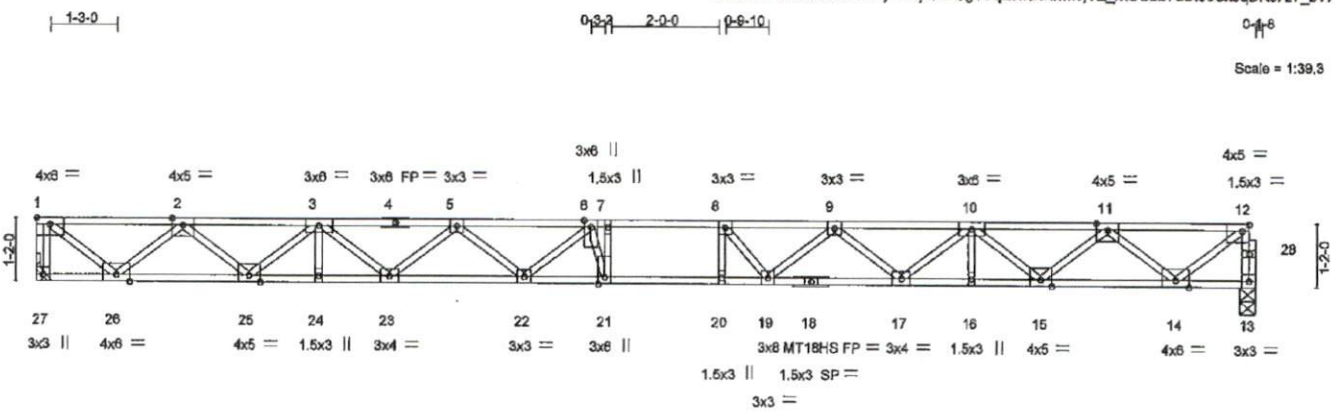

Plate Offsets (X,Y)-- [1:Edge,0-1-8], [12:0-1-8,Edge]

LOADING (psf)		SPACING-	1-7-3	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.59	Vert(LL)	-0.51	21	>534	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.59	Vert(TL)	-0.79	21	>341	240	MT18HS	244/190
BCLL	0.0	Rep Stress Incr	YES	WB	0.71	Horz(TL)	0.11	13	n/a	n/a		
BCDL	5.0	Code IRC2009/TPI2007		(Matrix)							Weight: 116 lb	FT = 20%F, 11%E

LUMBER-

TOP CHORD 2x4 SP DSS(flat)
BOT CHORD 2x4 SP DSS(flat)
WEBS 2x4 SP No.3(flat)

BRACING-

TOP CHORD Structural wood sheathing directly applied or 5-11-7 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS. (lb/size) 27=992/Mechanical, 13=987/0-3-8

FORCES. (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-27=-986/0, 13-28=-983/0, 12-28=-981/0, 1-2=-1188/0, 2-3=-3029/0, 3-4=-4366/0, 4-5=-4366/0, 5-6=-5111/0, 6-7=-5319/0, 7-8=-5319/0, 8-9=-5124/0, 9-10=-4364/0, 10-11=-3029/0, 11-12=-1189/0

BOT CHORD 26-27=0/0, 25-26=0/2249, 24-25=0/3823, 23-24=0/3823, 22-23=0/4863, 21-22=0/5324, 20-21=0/5319, 19-20=0/5319, 18-19=0/4852, 17-18=0/4852, 16-17=0/3825, 15-16=0/3825, 14-15=0/2247, 13-14=0/59

WEBS 7-21=-453/340, 8-20=-149/223, 1-26=0/1491, 2-26=-1382/0, 2-25=0/1015, 3-25=-1014/0, 3-24=-1/9, 3-23=0/693, 5-23=-648/0, 5-22=0/405, 6-22=-464/20, 6-21=-498/606, 12-14=0/1443, 11-14=-1377/0, 11-15=0/1018, 10-15=-1017/0, 10-16=-1/6, 10-17=0/687, 9-17=-635/0, 9-19=0/531, 8-19=-597/104

NOTES-

1) Unbalanced floor live loads have been considered for this design.
2) All plates are MT20 plates unless otherwise indicated.
3) The Fabrication Tolerance at joint 18 = 11%
4) Refer to girder(s) for truss to truss connections.
5) "Semi-rigid pitchbreaks with fixed heels" Member end fixity model was used in the analysis and design of this truss.
6) Required 2x6 strongbacks, on edge, spaced at 10-0-0 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.
7) CAUTION, Do not erect truss backwards.

June 12,2017

ENGINEERING BY
TRENCO
A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	Hartford Floor	
LGI_HOMES	F6E	Floor Supported Gable	1	1	Job Reference (optional)	E10635822

Builders FirstSource, Albemarle , NC 28001

7.640 s Apr 19 2016 MiTek Industries, Inc. Mon Jun 12 16:16:29 2017 Page 1
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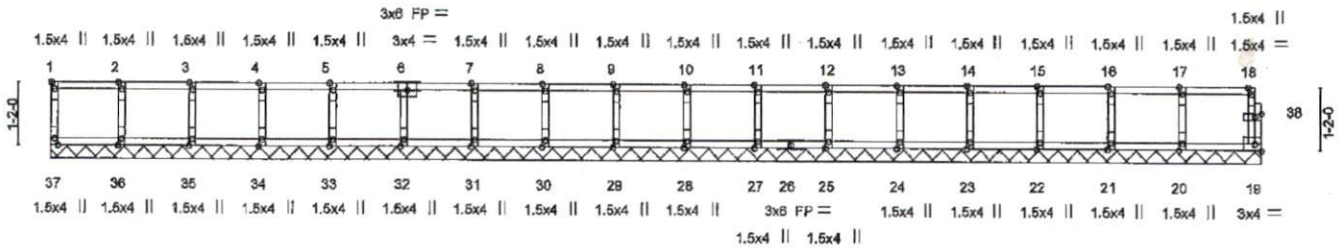


22-9-12
22-9-12

Plate Offsets (X,Y)-- [1:Edge,0-0-12], [38:0-1-8,0-0-12]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.09	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.02	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0	Rep Stress Incr	YES	WB	0.03	Horz(TL)	0.00	19	n/a	n/a		
BCDL	5.0	Code IRC2009/TPI2007		(Matrix)							Weight: 93 lb	FT = 20%F, 11%E

LUMBER-

TOP CHORD	2x4 SP No.2(flat)
BOT CHORD	2x4 SP No.2(flat)
WEBS	2x4 SP No.3(flat)
OTHERS	2x4 SP No.3(flat)

BRACING-

TOP CHORD	Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing.

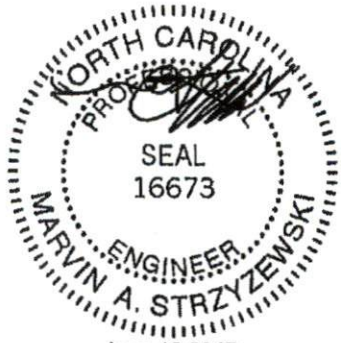
REACTIONS. (lb/size) 37=62/22-9-12, 19=67/22-9-12, 36=152/22-9-12, 35=146/22-9-12, 34=146/22-9-12, 33=152/22-9-12, 32=147/22-9-12, 31=142/22-9-12, 30=148/22-9-12, 29=146/22-9-12, 28=147/22-9-12, 27=147/22-9-12, 25=147/22-9-12, 24=147/22-9-12, 23=147/22-9-12, 22=147/22-9-12, 21=146/22-9-12, 20=149/22-9-12

FORCES. (lb) - Maximum Compression/Maximum Tension

TOP CHORD	1-37=-56/0, 19-38=-61/0, 18-38=-60/0, 1-2=-7/0, 2-3=-7/0, 3-4=-7/0, 4-5=-7/0, 5-6=-7/0, 6-7=-15/0, 7-8=-15/0, 8-9=-15/0, 9-10=-15/0, 10-11=-15/0, 11-12=-15/0, 12-13=-15/0, 13-14=-15/0, 14-15=-15/0, 15-16=-15/0, 16-17=-15/0, 17-18=-15/0
BOT CHORD	36-37=0/7, 35-36=0/7, 34-35=0/7, 33-34=0/7, 32-33=0/7, 31-32=0/15, 30-31=0/15, 29-30=0/15, 28-29=0/15, 27-28=0/15, 26-27=0/15, 25-26=0/15, 24-25=0/15, 23-24=0/15, 22-23=0/15, 21-22=0/15, 20-21=0/15, 19-20=0/15
WEBS	2-36=-139/0, 3-35=-132/0, 4-34=-132/0, 5-33=-138/0, 6-32=-134/0, 7-31=-128/0, 8-30=-135/0, 9-29=-133/0, 10-28=-133/0, 11-27=-133/0, 12-26=-133/0, 13-24=-133/0, 14-23=-133/0, 15-22=-134/0, 16-21=-133/0, 17-20=-137/0

NOTES-

1) Gable requires continuous bottom chord bearing.
2) Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
3) Gable studs spaced at 1-4-0 oc.
4) "Semi-rigid pitchbreaks with fixed heels" Member end fixity model was used in the analysis and design of this truss.
5) Recommend 2x6 strongbacks, on edge, spaced at 10-0-0 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.
6) CAUTION, Do not erect truss backwards.



June 12,2017

ENGINEERING BY
TRENCO
A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	Hartford Floor	
LGI_HOMES	F7E	Floor Supported Gable	1	1	Job Reference (optional)	E10635823

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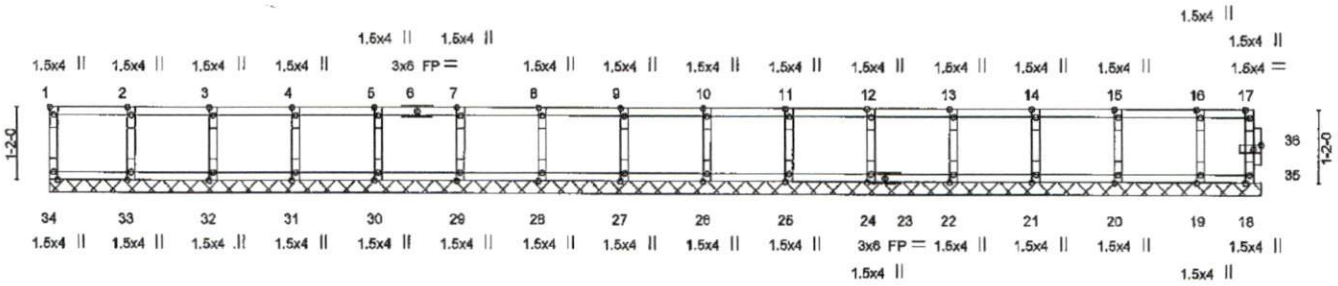

19-7-12

19-7-12

Plate Offsets (X,Y)-- [1:Edge,0-0-12], [35:0-1-8,0-0-12]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	In	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.08	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.01	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0	Rep Stress Incr	YES	WB	0.03	Horz(TL)	0.00	18	n/a	n/a		
BCDL	5.0	Code IRC2009/TPI2007		(Matrix)							Weight: 81 lb	FT = 20%F, 11%E

LUMBER-

TOP CHORD 2x4 SP No.2(flat)
BOT CHORD 2x4 SP No.2(flat)
WEBS 2x4 SP No.3(flat)
OTHERS 2x4 SP No.3(flat)

BRACING-

TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS. (lb/size) 34=61/19-7-12, 18=36/19-7-12, 33=154/19-7-12, 32=145/19-7-12, 31=147/19-7-12, 30=147/19-7-12, 29=147/19-7-12, 28=147/19-7-12, 27=147/19-7-12, 26=147/19-7-12, 25=147/19-7-12, 24=147/19-7-12, 22=147/19-7-12, 21=145/19-7-12, 20=152/19-7-12, 19=120/19-7-12

FORCES. (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-34=-55/0, 18-35=-30/0, 35-36=-30/0, 17-36=-30/0, 1-2=-6/0, 2-3=-6/0, 3-4=-6/0, 4-5=-6/0, 5-6=-6/0, 6-7=-6/0, 7-8=-6/0, 8-9=-6/0, 9-10=-6/0, 10-11=-6/0, 11-12=-6/0, 12-13=-6/0, 13-14=-6/0, 14-15=-6/0, 15-16=-6/0, 16-17=-6/0
BOT CHORD 33-34=0/6, 32-33=0/6, 31-32=0/6, 30-31=0/6, 29-30=0/6, 28-29=0/6, 27-28=0/6, 26-27=0/6, 25-26=0/6, 24-25=0/6, 23-24=0/6, 22-23=0/6, 21-22=0/6, 20-21=0/6, 19-20=0/6, 18-19=0/6
WEBS 2-33=-140/0, 3-32=-132/0, 4-31=-134/0, 5-30=-133/0, 7-29=-133/0, 8-28=-133/0, 9-27=-133/0, 10-26=-133/0, 11-25=-133/0, 12-24=-133/0, 13-22=-134/0, 14-21=-132/0, 15-20=-138/0, 16-19=-112/0

NOTES-

1) Gable requires continuous bottom chord bearing.
2) Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
3) Gable studs spaced at 1-4-0 oc.
4) "Semi-rigid pitchbreaks with fixed heels" Member end fixity model was used in the analysis and design of this truss.
5) Recommend 2x6 strongbacks, on edge, spaced at 10-0-0 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.
6) CAUTION, Do not erect truss backwards.

June 12,2017

ENGINEERING BY
TRENCO
A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	Hartford Floor
LGI_HOMES	F8	Floor	3	1	E10035824

Job Reference (optional)

Builders FirstSource, Albemarle , NC 28001

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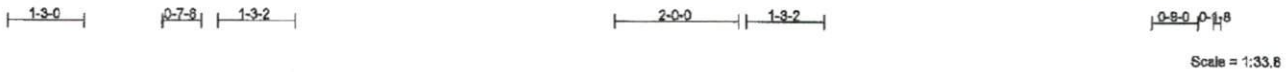

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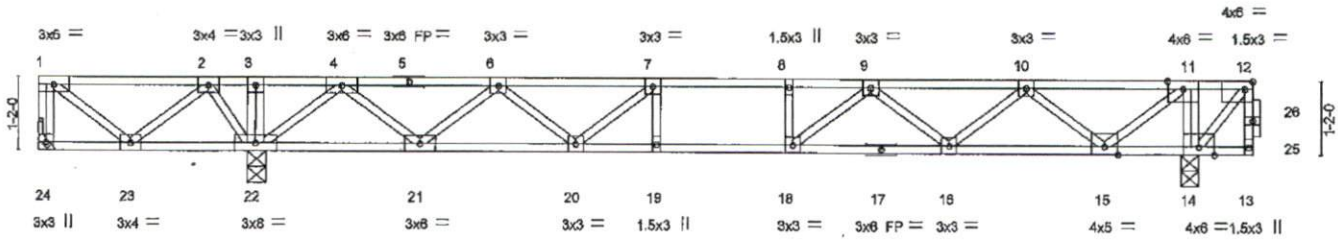

Plate Offsets (X,Y)-- [12:0-1-8,Edge]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	In	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.91	Vert(LL)	-0.18	16-18	>982	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.96	Vert(TL)	-0.21	16-18	>864	240		
BCLL	0.0	Rep Stress Incr	NO	WB	0.53	Horz(TL)	0.02	14	n/a	n/a		
BCDL	5.0	Code IRC2009/TPI2007		(Matrix)							Weight: 102 lb	FT = 20%F, 11%E

LUMBER-

TOP CHORD 2x4 SP No.2(flat)
BOT CHORD 2x4 SP No.2(flat)
WEBS 2x4 SP No.3(flat)

BRACING-

TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing. Except: 10-0-0 oc bracing: 23-24,13-14.

REACTIONS. (lb/size) 24=-326/Mechanical, 22=1533/0-3-8, 14=2580/0-3-8
Max Uplift 24=-471(LC 5)
Max Grav 24=59(LC 4), 22=1622(LC 2), 14=2581(LC 3)

FORCES. (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-24=-54/476, 13-25=-16/0, 25-26=-16/0, 12-26=-16/0, 1-2=0/654, 2-3=0/1697, 3-4=0/1697, 4-5=-228/184, 5-6=-228/184, 6-7=-1348/76, 7-8=-1827/172, 8-9=-1827/172, 9-10=-1430/639, 10-11=-322/1160, 11-12=0/1505

BOT CHORD 23-24=-0/0, 22-23=-1266/0, 21-22=-728/0, 20-21=-63/915, 19-20=-172/1827, 18-19=-172/1827, 17-18=-415/1766, 16-17=-415/1766, 15-16=-867/1037, 14-15=-1505/0, 13-14=0/0

WEBS 7-19=-108/147, 8-18=-236/0, 3-22=-57/60, 11-14=-904/0, 1-23=-821/0, 2-23=0/797, 2-22=-923/0, 7-20=-616/122, 6-20=-17/566, 6-21=-943/0, 4-21=0/985, 4-22=-1404/0, 11-15=0/1105, 10-15=-1034/0, 10-16=0/816, 9-16=-574/0, 9-18=-58/559, 12-14=-2249/0

NOTES-

1) Unbalanced floor live loads have been considered for this design.
2) Refer to girder(s) for truss to truss connections.
3) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 471 lb uplift at joint 24.
4) Load case(s) 1, 2, 3, 4, 5, 6, 7 has/have been modified. Building designer must review loads to verify that they are correct for the intended use of this truss.
5) "Semi-rigid pitchbreaks with fixed heels" Member end fixity model was used in the analysis and design of this truss.
6) Recommend 2x6 strongbacks, on edge, spaced at 10-0-0 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.
7) CAUTION, Do not erect truss backwards.

LOAD CASE(S) Standard

1) Dead + Floor Live (balanced): Lumber Increase=1.00, Plate Increase=1.00
   Uniform Loads (plf)
   Vert: 13-24=-10, 1-12=-100
   Concentrated Loads (lb)
   Vert: 12=-1660
2) 1st Dead + Floor Live (unbalanced): Lumber Increase=1.00, Plate Increase=1.00
   Uniform Loads (plf)
   Vert: 13-24=-10, 1-11=-100, 11-12=-20
   Concentrated Loads (lb)
   Vert: 12=-569

June 12,2017

Continued on page 2

ENGINEERING BY
TRENCO
A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

LOAD CASE(S) Standard

3) 2nd Dead + Floor Live (unbalanced): Lumber Increase=1.00, Plate Increase=1.00
   Uniform Loads (plf)
      Vert: 13-24=-10, 1-3=-20, 3-12=-100
   Concentrated Loads (lb)
      Vert: 12=-1660
4) 3rd Dead + Floor Live (unbalanced): Lumber Increase=1.00, Plate Increase=1.00
   Uniform Loads (plf)
      Vert: 13-24=-10, 1-3=-100, 3-11=-20, 11-12=-100
   Concentrated Loads (lb)
      Vert: 12=-1660
5) 4th Dead + Floor Live (unbalanced): Lumber Increase=1.00, Plate Increase=1.00
   Uniform Loads (plf)
      Vert: 13-24=-10, 1-3=-20, 3-11=-100, 11-12=-20
   Concentrated Loads (lb)
      Vert: 12=-569
6) 1st chase Dead + Floor Live (unbalanced): Lumber Increase=1.00, Plate Increase=1.00
   Uniform Loads (plf)
      Vert: 13-24=-10, 1-8=-100, 8-11=-20, 11-12=-100
   Concentrated Loads (lb)
      Vert: 12=-1660
7) 2nd chase Dead + Floor Live (unbalanced): Lumber Increase=1.00, Plate Increase=1.00
   Uniform Loads (plf)
      Vert: 13-24=-10, 1-3=-100, 3-7=-20, 7-11=-100, 11-12=-20
   Concentrated Loads (lb)
      Vert: 12=-569

Job	Truss	Truss Type	Qty	Ply	Hartford Floor	
LGI_HOMES	F9	Floor	1	1	Job Reference (optional)	E10635826

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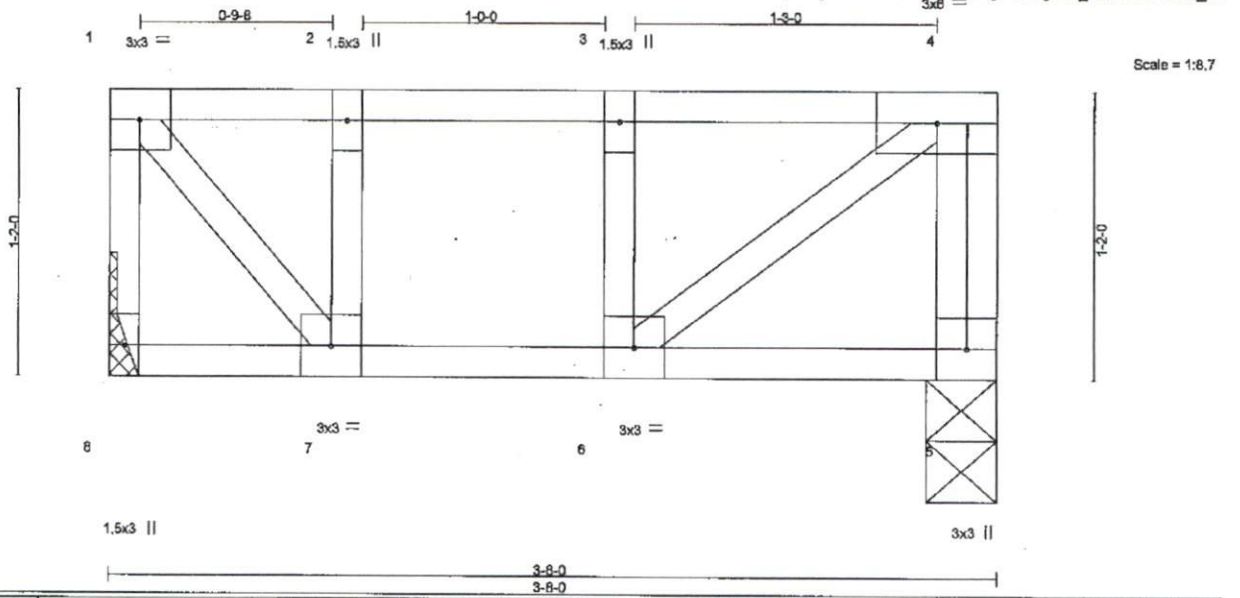


LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	In	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.14	Vert(LL)	-0.01	6	>999	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.13	Vert(TL)	-0.01	6	>999	240		
BCLL	0.0	Rep Stress Incr	YES	WB	0.11	Horz(TL)	0.00	5	n/a	n/a		
BCDL	5.0	Code IRC2009/TPI2007		(Matrix)							Weight: 22 lb	FT = 20%F, 11%E

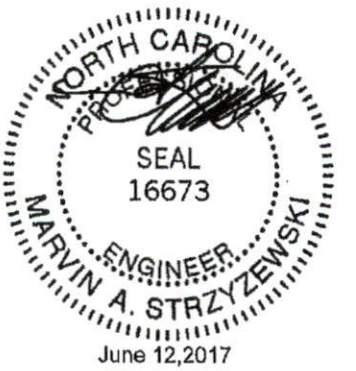
LUMBER-
TOP CHORD 2x4 SP No.2(flat)
BOT CHORD 2x4 SP No.2(flat)
WEBS 2x4 SP No.3(flat)

BRACING-
TOP CHORD Structural wood sheathing directly applied or 3-8-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS. (lb/size) 8=191/Mechanical, 5=191/0-3-8

FORCES. (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-8=-200/0, 4-5=-178/0, 1-2=-154/0, 2-3=-154/0, 3-4=-154/0
BOT CHORD 7-8=-0/0, 6-7=0/154, 5-6=0/0
WEBS 4-6=0/190, 1-7=0/232, 2-7=-133/0, 3-6=-124/0

NOTES-
1) Unbalanced floor live loads have been considered for this design.
2) Refer to girder(s) for truss to truss connections.
3) "Semi-rigid pitchbreaks with fixed heels" Member end fixity model was used in the analysis and design of this truss.
4) Recommend 2x6 strongbacks, on edge, spaced at 10-0-0 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.



June 12,2017

ENGINEERING BY
TRENCO
A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	Hartford Floor	
LGI_HOMES	F10	Floor	9	1	Job Reference (optional)	E10636826

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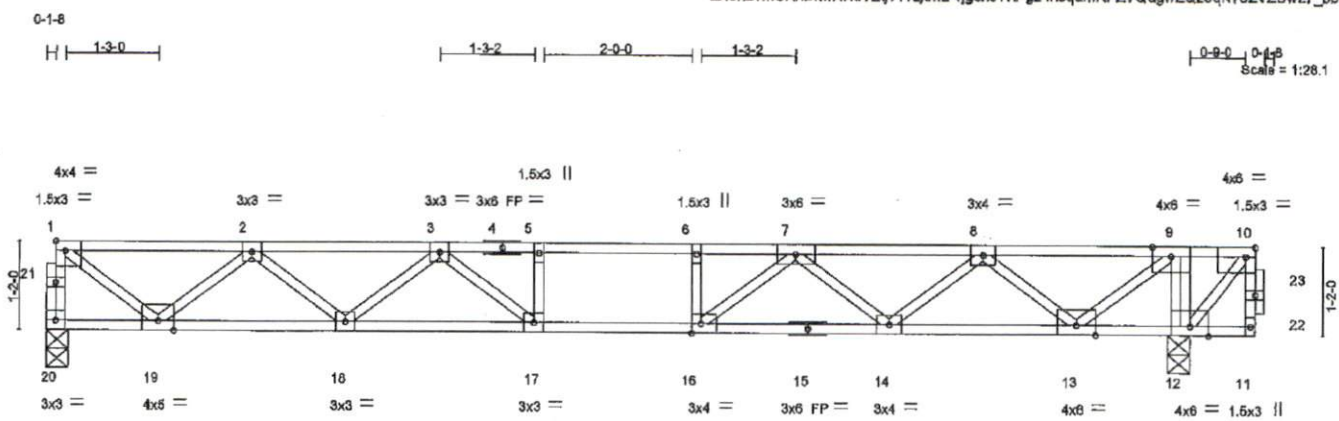

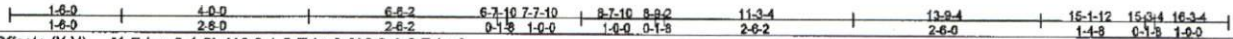

Plate Offsets (X,Y)-- [1:Edge,0-1-8], [10:0-1-8,Edge], [16:0-1-8,Edge]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.88	Vert(LL)	-0.16	17-18	>999	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.83	Vert(TL)	-0.25	17-18	>711	240		
BCLL	0.0	Rep Stress Incr	NO	WB	0.62	Horz(TL)	0.04	12	n/a	n/a		
BCDL	5.0	Code IRC2009/TPI2007		(Matrix)							Weight: 83 lb	FT = 20%F, 11%E

LUMBER-

TOP CHORD 2x4 SP No.1(flat) *Except* 1-4: 2x4 SP No.2(flat)
BOT CHORD 2x4 SP No.1(flat) *Except* 11-15: 2x4 SP No.2(flat)
WEBS 2x4 SP No.3(flat)

BRACING-

TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

REACTIONS. (lb/size) 20=713/0-3-8, 12=2696/0-3-8
Max Grav 20=784(LC 2), 12=2696(LC 1)

FORCES. (lb) - Maximum Compression/Maximum Tension

TOP CHORD 20-21=-777/0, 1-21=-776/0, 11-22=-16/0, 22-23=-16/0, 10-23=-16/0, 1-2=-896/0, 2-3=-2119/0, 3-4=-2673/0, 4-5=-2673/0, 5-6=-2673/0, 6-7=-2673/0, 7-8=-1853/535, 8-9=-483/1121, 9-10=0/1504
BOT CHORD 19-20=0/47, 18-19=0/1684, 17-18=0/2511, 16-17=0/2673, 15-16=-275/2351, 14-15=-275/2351, 13-14=-794/1333, 12-13=-1504/0, 11-12=0/0
WEBS 5-17=-221/88, 6-16=-385/0, 9-12=-1023/0, 1-19=0/1084, 2-19=-1026/0, 2-18=0/566, 3-18=-510/49, 3-17=-309/469, 9-13=0/1300, 8-13=-1206/0, 8-14=0/776, 7-14=-776/0, 7-16=0/877, 10-12=-2248/0

NOTES-

1) Unbalanced floor live loads have been considered for this design.
2) Load case(s) 1, 2, 3, 4, 5 has/have been modified. Building designer must review loads to verify that they are correct for the intended use of this truss.
3) "Semi-rigid pitchbreaks with fixed heels" Member end fixity model was used in the analysis and design of this truss.
4) Recommend 2x6 strongbacks, on edge, spaced at 10-0-0 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.
5) CAUTION, Do not erect truss backwards.

LOAD CASE(S) Standard

1) Dead + Floor Live (balanced): Lumber Increase=1.00, Plate Increase=1.00
   Uniform Loads (plf)
   Vert: 11-20=-10, 1-10=-100
   Concentrated Loads (lb)
   Vert: 10=-1660
2) 1st Dead + Floor Live (unbalanced): Lumber Increase=1.00, Plate Increase=1.00
   Uniform Loads (plf)
   Vert: 11-20=-10, 1-9=-100, 9-10=-20
   Concentrated Loads (lb)
   Vert: 10=-569
3) 2nd Dead + Floor Live (unbalanced): Lumber Increase=1.00, Plate Increase=1.00

June 12,2017

Continued on page 2

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LOAD CASE(S) Standard

Uniform Loads (plf)

Vert: 11-20=-10, 1-9=-20, 9-10=-100

Concentrated Loads (lb)

Vert: 10=-1660

4) 1st chase Dead + Floor Live (unbalanced): Lumber Increase=1.00, Plate Increase=1.00

Uniform Loads (plf)

Vert: 11-20=-10, 1-6=-100, 6-9=-20, 9-10=-100

Concentrated Loads (lb)

Vert: 10=-1660

5) 2nd chase Dead + Floor Live (unbalanced): Lumber Increase=1.00, Plate Increase=1.00

Uniform Loads (plf)

Vert: 11-20=-10, 1-5=-20, 5-9=-100, 9-10=-20

Concentrated Loads (lb)

Vert: 10=-569

Job	Truss	Truss Type	Qty	Ply	Hartford Floor E10835827
LGI_HOMES	F11	Floor	6	1	Job Reference (optional)

Builders FirstSource, Albemarle , NC 28001 — 7.540 s Apr 19 2016 MiTek Industries, Inc. Mon Jun 12 16:16:25 2017 Page 1

ID:6h2vmCXnBkwXHlryEtj??vzjtML-OvE_?CYPA_5xP0PmK9mo1eQqQzoMNFm9ODF6jMz7_ba

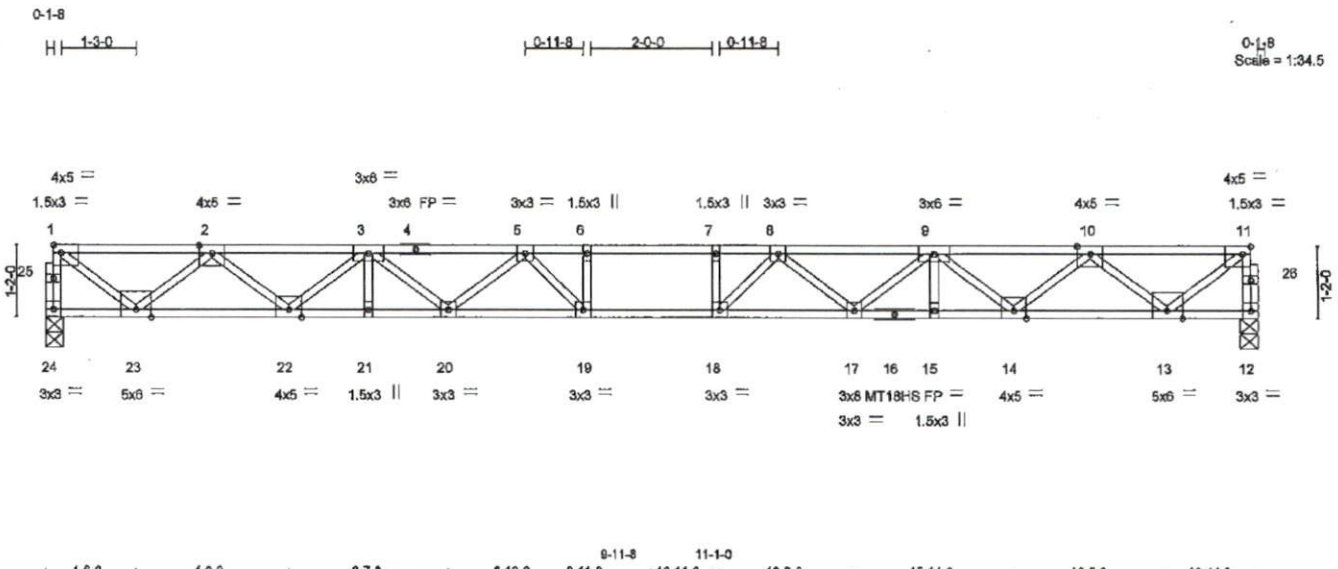

Plate Offsets (X,Y)-- [1:Edge,0-1-8], [11:0-1-8,Edge]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.96	Vert(LL)	-0.43	18-19	>543	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.76	Vert(TL)	-0.68	18-19	>347	240	MT18HS	244/190
BCLL	0.0	Rep Stress Incr	YES	WB	0.74	Horz(TL)	0.09	12	n/a	n/a		
BCDL	5.0	Code IRC2009/TPI2007		(Matrix)							Weight: 101 lb	FT = 20%F, 11%E

LUMBER-
TOP CHORD 2x4 SP No.2(flat)
BOT CHORD 2x4 SP DSS(flat) *Except* 12-16: 2x4 SP No.1(flat)
WEBS 2x4 SP No.3(flat)

BRACING-
TOP CHORD Structural wood sheathing directly applied, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS. (lb/size) 24=1075/0-3-8, 12=1075/0-3-8

FORCES. (lb) - Maximum Compression/Maximum Tension
TOP CHORD 24-25=-1070/0, 1-25=-1068/0, 12-26=-1070/0, 11-26=-1068/0, 1-2=-1279/0, 2-3=-3198/0, 3-4=-4464/0, 4-5=-4464/0, 5-6=-5049/0, 6-7=-5049/0, 7-8=-5049/0, 8-9=-4464/0, 9-10=-3199/0, 10-11=-1279/0
BOT CHORD 23-24=0/64, 22-23=0/2410, 21-22=0/4000, 20-21=0/4000, 19-20=0/4886, 18-19=0/5049, 17-18=0/4887, 16-17=0/3999, 15-16=0/3999, 14-15=0/3999, 13-14=0/2411, 12-13=0/64
WEBS 6-19=-316/34, 7-18=-316/34, 1-23=0/1551, 2-23=-1473/0, 2-22=0/1025, 3-22=-1024/0, 3-21=-20/41, 3-20=0/593, 5-20=-573/0, 5-19=-185/642, 11-13=0/1551, 10-13=-1473/0, 10-14=0/1025, 9-14=-1022/0, 9-15=-20/39, 9-17=0/593, 8-17=-573/0, 8-18=-185/642

NOTES-
1) Unbalanced floor live loads have been considered for this design.
2) All plates are MT20 plates unless otherwise indicated.
3) "Semi-rigid pitchbreaks with fixed heels" Member end fixity model was used in the analysis and design of this truss.
4) Recommend 2x6 strongbacks, on edge, spaced at 10-0-0 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.

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Job	Truss	Truss Type	Qty	Ply	Hartford Floor
LGI_HOMES	F12	Floor	1	1	E10635828

Job Reference (optional)

Builders FirstSource, Albemarle , NC 28001 — 7.640 s Apr 19 2016 MiTek Industries, Inc. Mon Jun 12 16:16:26 2017 Page 1

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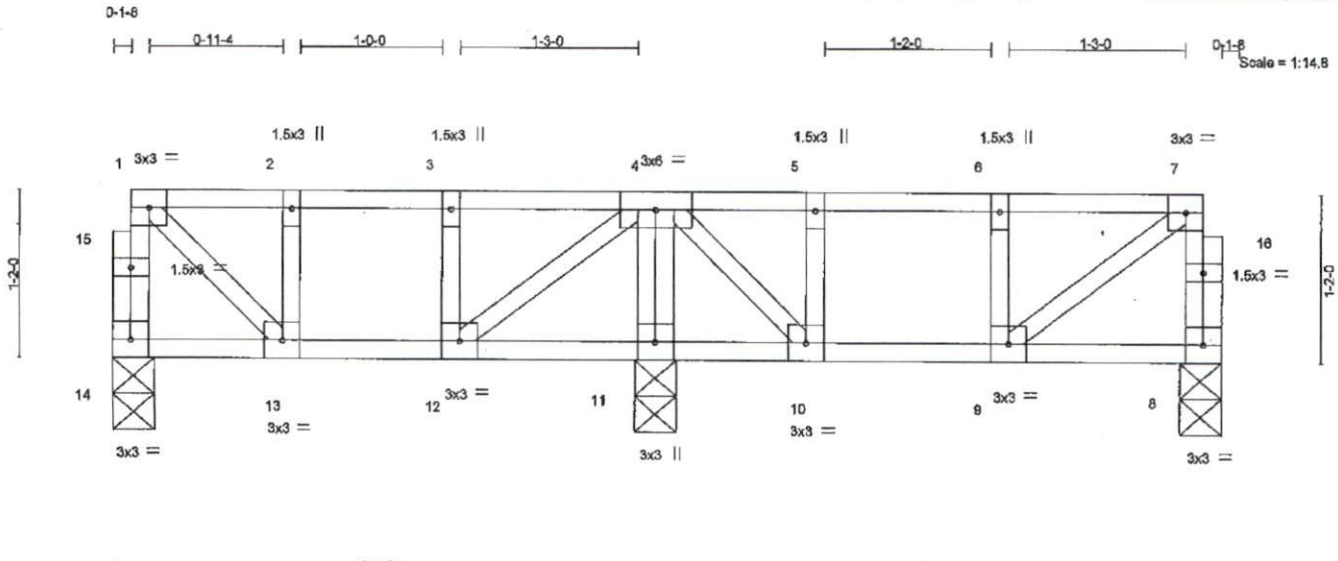

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	In	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.12	Vert(LL)	-0.01	9	>999	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.12	Vert(TL)	-0.01	9	>999	240		
BCLL	0.0	Rep Stress Incr	YES	WB	0.12	Horz(TL)	0.00	8	n/a	n/a		
BCDL	5.0	Code IRC2009/TPI2007		(Matrix)							Weight: 44 lb	FT = 20%F, 11%E

LUMBER-

TOP CHORD	2x4 SP No.2(flat)
BOT CHORD	2x4 SP No.2(flat)
WEBS	2x4 SP No.3(flat)

BRACING-

TOP CHORD	Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.
BOT CHORD	Rigid ceiling directly applied or 6-0-0 oc bracing.

REACTIONS. (lb/size) 14=195/0-3-8, 8=204/0-3-8, 11=418/0-3-8
Max Grav 14=203(LC 7), 8=214(LC 4), 11=422(LC 6)

FORCES. (lb) - Maximum Compression/Maximum Tension

TOP CHORD	14-15=-205/0, 1-15=-204/0, 8-16=-204/0, 7-16=-204/0, 1-2=-183/0, 2-3=-183/0, 3-4=-183/0, 4-5=-203/0, 5-6=-203/0, 6-7=-203/0
BOT CHORD	13-14=0/12, 12-13=0/183, 11-12=-30/39, 10-11=-33/37, 9-10=0/203, 8-9=0/12
WEBS	4-11=-404/0, 1-13=0/240, 4-12=0/221, 2-13=-136/0, 3-12=-125/0, 7-9=0/240, 4-10=0/245, 5-10=-134/0, 6-9=-141/0

NOTES-

1) Unbalanced floor live loads have been considered for this design.
2) "Semi-rigid pitchbreaks with fixed heels" Member end fixity model was used in the analysis and design of this truss.
3) Recommend 2x6 strongbacks, on edge, spaced at 10-0-0 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.
4) CAUTION, Do not erect truss backwards.

June 12,2017

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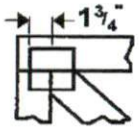
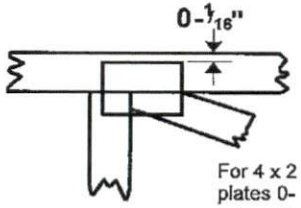
Symbols

PLATE LOCATION AND ORIENTATION



Center plate on joint unless x, y offsets are indicated. Dimensions are in ft-in-sixteenths. Apply plates to both sides of truss and fully embed teeth.



For 4 x 2 orientation, locate plates 0- 1/16" from outside edge of truss.

This symbol indicates the required direction of slots in connector plates.

*** Plate location details available in MiTek 20/20 software or upon request.**

PLATE SIZE

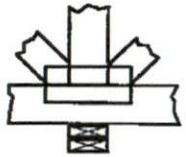
4 x 4

The first dimension is the plate width measured perpendicular to slots. Second dimension is the length parallel to slots.

LATERAL BRACING LOCATION

Indicated by symbol shown and/or by text in the bracing section of the output. Use T or I bracing if indicated.

BEARING

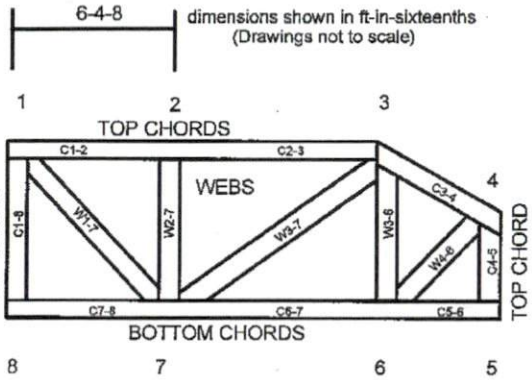


Indicates location where bearings (supports) occur. Icons vary but reaction section indicates joint number where bearings occur. Min size shown is for crushing only.

Industry Standards:

ANSI/TPI1: National Design Specification for Metal Plate Connected Wood Truss Construction.
DSB-89: Design Standard for Bracing.
BCSI: Building Component Safety Information, Guide to Good Practice for Handling, Installing & Bracing of Metal Plate Connected Wood Trusses.

Numbering System



JOINTS ARE GENERALLY NUMBERED/LETTERED CLOCKWISE AROUND THE TRUSS STARTING AT THE JOINT FARTHEST TO THE LEFT.

CHORDS AND WEBS ARE IDENTIFIED BY END JOINT NUMBERS/LETTERS.

PRODUCT CODE APPROVALS
ICC-ES Reports:

ESR-1311, ESR-1352, ESR1988
ER-3907, ESR-2362, ESR-1397, ESR-3282

Trusses are designed for wind loads in the plane of the truss unless otherwise shown.

Lumber design values are in accordance with ANSI/TPI 1 section 6.3 These truss designs rely on lumber values established by others.

MiTek

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General Safety Notes

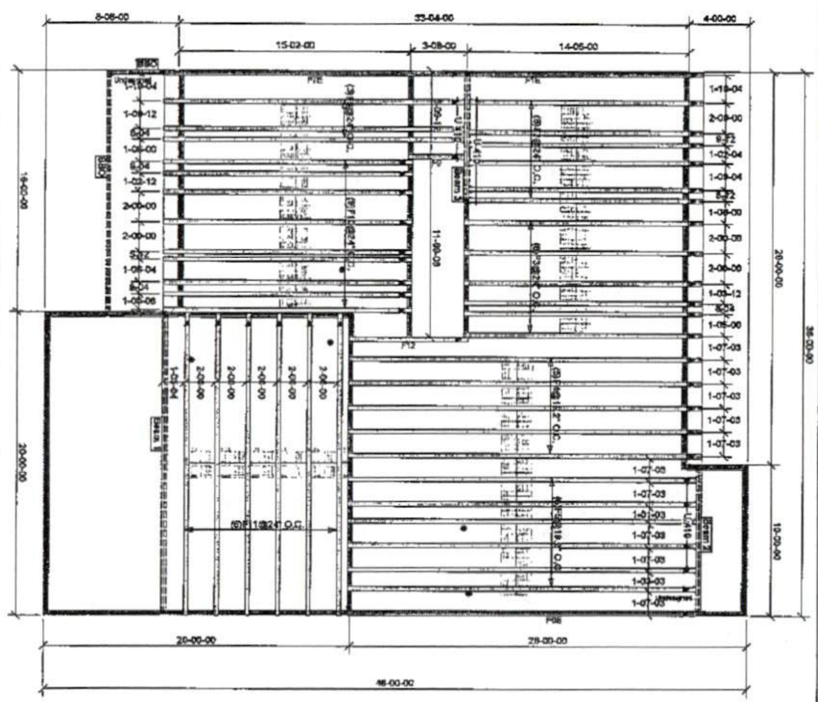
Failure to Follow Could Cause Property Damage or Personal Injury

1. Additional stability bracing for truss system, e.g. diagonal or X-bracing, is always required. See BCSI.
2. Truss bracing must be designed by an engineer. For wide truss spacing, individual lateral braces themselves may require bracing, or alternative Tor I bracing should be considered.
3. Never exceed the design loading shown and never stack materials on inadequately braced trusses.
4. Provide copies of this truss design to the building designer, erection supervisor, property owner and all other interested parties.
5. Cut members to bear tightly against each other.
6. Place plates on each face of truss at each joint and embed fully. Knots and wane at joint locations are regulated by ANSI/TPI 1.
7. Design assumes trusses will be suitably protected from the environment in accord with ANSI/TPI 1.
8. Unless otherwise noted, moisture content of lumber shall not exceed 19% at time of fabrication.
9. Unless expressly noted, this design is not applicable for use with fire retardant, preservative treated, or green lumber.
10. Camber is a non-structural consideration and is the responsibility of truss fabricator. General practice is to camber for dead load deflection.
11. Plate type, size, orientation and location dimensions indicated are minimum plating requirements.
12. Lumber used shall be of the species and size, and in all respects, equal to or better than that specified.
13. Top chords must be sheathed or purlins provided at spacing indicated on design.
14. Bottom chords require lateral bracing at 10 ft. spacing, or less, if no ceiling is installed, unless otherwise noted.
15. Connections not shown are the responsibility of others.
16. Do not cut or alter truss member or plate without prior approval of an engineer.
17. Install and load vertically unless indicated otherwise.
18. Use of green or treated lumber may pose unacceptable environmental, health or performance risks. Consult with project engineer before use.
19. Review all portions of this design (front, back, words and pictures) before use. Reviewing pictures alone is not sufficient.
20. Design assumes manufacture in accordance with ANSI/TPI 1 Quality Criteria.

FLOOR TRUSS NOTES:

WARNING:

TOTAL FLOOR AREA
1266.89 SQ FT



Products				
PlotID	Length	Product	Plies	Net Qty
Beam 2	10-00-00	1-3/4" x 14" VERSA-LAM® 2.0 3100 SP	2	2
Beam 3	10-00-00	1-3/4" x 14" VERSA-LAM® 2.0 3100 SP	2	2
Beam 1	20-00-00	1-3/4" x 24" VERSA-LAM® 2.0 3100 SP	2	2

Truss Connector Total List		
Manuf	Product	Qty
Simpson	U 410	15

• = SPACE TO AVOID PLUMBING DROPS

Until the building is completely erected in accordance with plans, the trusses may be unstable and present a safety hazard. Truss instability may increase with building width, height, and length. 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 Recommendations for Erection and Bracing.

Customer Name: LGI Homes	No Scale
Subdivision:	
Lot# : Plan Name: Hartford	
File Name	Hartford

Builders FirstSource
Albemarle, NC

Revisions:

Drawn By: JEFF BURRIS
DATE: 12/5/2018
Page Number
1 of 1

ENGINEERING BY
TRENCO
A MiTek Affiliate

Trenco
818 Soundside Rd
Edenton, NC 27932

Re: LGI_Homes
Hartford 2 Roof

The truss drawing(s) referenced below have been prepared by Truss Engineering Co. under my direct supervision based on the parameters provided by Builders FirstSource (Albermarle,NC).

Pages or sheets covered by this seal: E10840485 thru E10840499

My license renewal date for the state of North Carolina is December 31, 2017.

North Carolina COA: C-0844

Lumber design values are in accordance with ANSI/TPI 1 section 6.3
These truss designs rely on lumber values established by others.

August 14,2017

Gilbert, Eric

IMPORTANT NOTE: The seal on these truss component designs is a certification that the engineer named is licensed in the jurisdictions(s) identified and that the designs comply with ANSI/TPI 1. These designs are based upon parameters shown (e.g., loads, supports, dimensions, shapes and design codes), which were given to Trenco. Any project specific information included is for Trenco's customer's file reference purpose only, and was not taken into account in the preparation of these designs. Trenco has not independently verified the applicability of the design parameters or the designs for any particular building. Before use, the building designer should verify applicability of the design parameters and properly incorporate these designs into the overall building design per ANSI/TPI 1, Chapter 2.

Job	Truss	Truss Type	Qty	Ply	Hartford 2 Roof	E10840485
LGI_HOMES	A1E	Piggyback Base Supported Gable	1	1	Job Reference (optional)	

Builders FirstSource, Albemarle , NC 28001

7.640 s Apr 19 2016 MiTek Industries, Inc. Mon Aug 14 09:18:08 2017 Page 1

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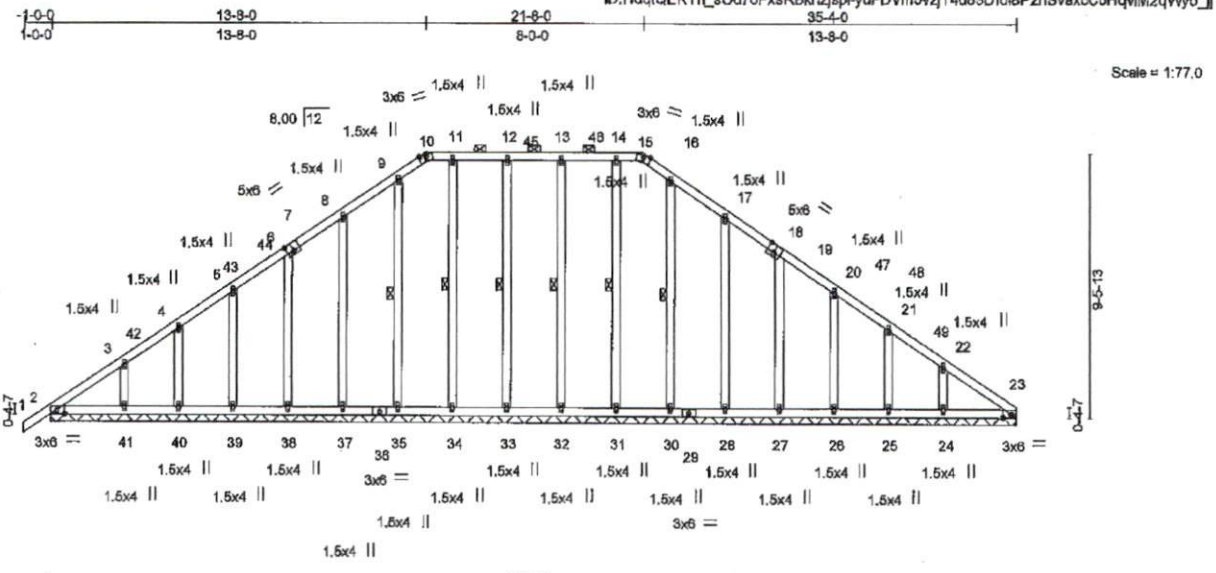


Plate Offsets (X,Y)-- [2:0-3-9,0-1-8], [7:0-3-0,0-3-4], [18:0-3-0,0-3-4], [23:0-3-9,0-1-8]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.08	Vert(LL)	-0.00	1	n/r	120	MT20	244/190
Snow (Pf/Pg)	20.4/20.0	Lumber DOL	1.15	BC	0.06	Vert(TL)	0.00	1	n/r	120		
TCDL	10.0	Rep Stress Incr	YES	WB	0.19	Horz(TL)	0.01	23	n/a	n/a		
BCLL	0.0 *	Code IRC2009/TPI2007		(Matrix)							Weight: 257 lb	FT = 20%
BCDL	10.0											

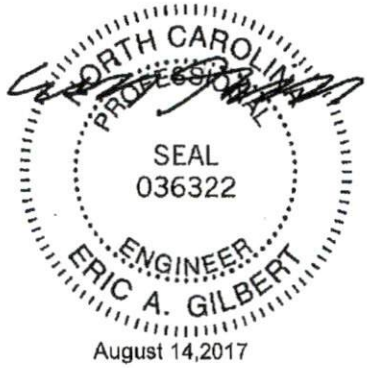
LUMBER-
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
OTHERS 2x4 SP No.3

BRACING-
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except 2-0-0 oc purlins (6-0-0 max.): 10-15.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS 1 Row at midpt 12-33, 11-34, 9-35, 13-32, 14-31, 16-30

REACTIONS. (lb/size) 2=175/35-4-0, 33=161/35-4-0, 34=153/35-4-0, 35=152/35-4-0, 37=162/35-4-0, 38=160/35-4-0, 39=163/35-4-0, 40=146/35-4-0, 41=203/35-4-0, 32=161/35-4-0, 31=153/35-4-0, 30=152/35-4-0, 28=162/35-4-0, 27=159/35-4-0, 26=165/35-4-0, 25=139/35-4-0, 24=223/35-4-0, 23=101/35-4-0
Max Horz 2=276(LC 9)
Max Uplift 2=-60(LC 8), 33=-52(LC 8), 34=-33(LC 9), 35=-21(LC 9), 37=-42(LC 11), 38=-27(LC 11), 39=-52(LC 10), 40=-63(LC 10), 41=-69(LC 10), 32=-49(LC 8), 31=-23(LC 9), 28=-42(LC 11), 27=-27(LC 10), 26=-54(LC 11), 25=-56(LC 11), 24=-89(LC 11), 23=-2(LC 9)
Max Grav 2=175(LC 1), 33=230(LC 19), 34=205(LC 19), 35=205(LC 20), 37=232(LC 20), 38=226(LC 20), 39=230(LC 20), 40=212(LC 20), 41=203(LC 21), 32=230(LC 19), 31=205(LC 19), 30=205(LC 20), 28=232(LC 20), 27=225(LC 20), 26=231(LC 20), 25=206(LC 20), 24=223(LC 22), 23=101(LC 1)

FORCES. (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/31, 2-3=-242/161, 3-42=-189/136, 4-42=-177/148, 4-5=-149/145, 5-43=-108/127, 43-44=-102/132, 6-44=-102/139, 6-7=-76/120, 7-8=-69/133, 8-9=-78/167, 9-10=-68/179, 10-11=-21/177, 11-12=-21/177, 12-45=-21/177, 45-46=-21/177, 13-46=-21/177, 13-14=-21/177, 14-15=-21/177, 15-16=-68/179, 16-17=-78/167, 17-18=-69/101, 18-19=-76/88, 19-47=-24/57, 47-48=-36/49, 20-48=-76/45, 20-21=-75/50, 21-49=-82/53, 22-49=-94/41, 22-23=-156/65
BOT CHORD 2-41=-48/154, 40-41=-48/154, 39-40=-48/154, 38-39=-48/154, 37-38=-48/154, 36-37=-48/154, 35-36=-48/154, 34-35=-48/154, 33-34=-48/154, 32-33=-48/154, 31-32=-48/154, 30-31=-48/154, 29-30=-48/154, 28-29=-48/154, 27-28=-48/154, 26-27=-48/154, 25-26=-48/154, 24-25=-48/154, 23-24=-48/154
WEBS 12-33=-190/76, 11-34=-165/57, 9-35=-165/45, 8-37=-192/96, 6-38=-186/78, 5-39=-188/81, 4-40=-177/85, 3-41=-147/100, 13-32=-190/73, 14-31=-165/47, 16-30=-165/14, 17-28=-192/96, 19-27=-186/77, 20-26=-189/82, 21-25=-174/81, 22-24=-156/109

NOTES-
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-05; 100mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; enclosed; MWFRS (low-rise) gable end zone and C-C Corner(3) -1-0-0 to 2-8-0, Exterior(2) 2-8-0 to 13-8-0, Corner(3) 13-8-0 to 25-2-6, Exterior(2) 25-2-6 to 35-4-0 zone; cantilever left and right exposed ;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) TCLL: ASCE 7-05; Pr=20.0 psf (roof live load: Lumber DOL=1.15 Plate DOL=1.15); Pg=20.0 psf (ground snow); Pf=20.4 psf (flat roof snow: Lumber DOL=1.15 Plate DOL=1.15); Category II; Exp B; Partially Exp.; Ct=1.1, Lu=50-0-0; Min. flat roof snow load governs. Rain surcharge applied to all exposed surfaces with slopes less than 0.500/12 in accordance with IBC 1608.3.4.
5) Unbalanced snow loads have been considered for this design.
6) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 15.4 psf on overhangs non-concurrent with other live loads.
7) Provide adequate drainage to prevent water ponding.



August 14,2017

Continued on page 2

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818 Soundside Road
Edenton, NC 27932

NOTES-

8) Gable requires continuous bottom chord bearing.
9) Gable studs spaced at 2-0-0 oc.
10) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
11) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
12) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 2, 33, 34, 35, 37, 38, 39, 40, 41, 32, 31, 28, 27, 26, 25, 24, and 23. This connection is for uplift only and does not consider lateral forces.
13) "Semi-rigid pitchbreaks with fixed heels" Member end fixity model was used in the analysis and design of this truss.
14) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

Job	Truss	Truss Type	Qty	Ply	Hartford 2 Roof	
LGI_HOMES	A2	Piggyback Base	5	1	Job Reference (optional)	E10840486

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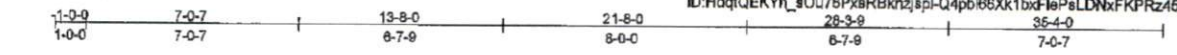

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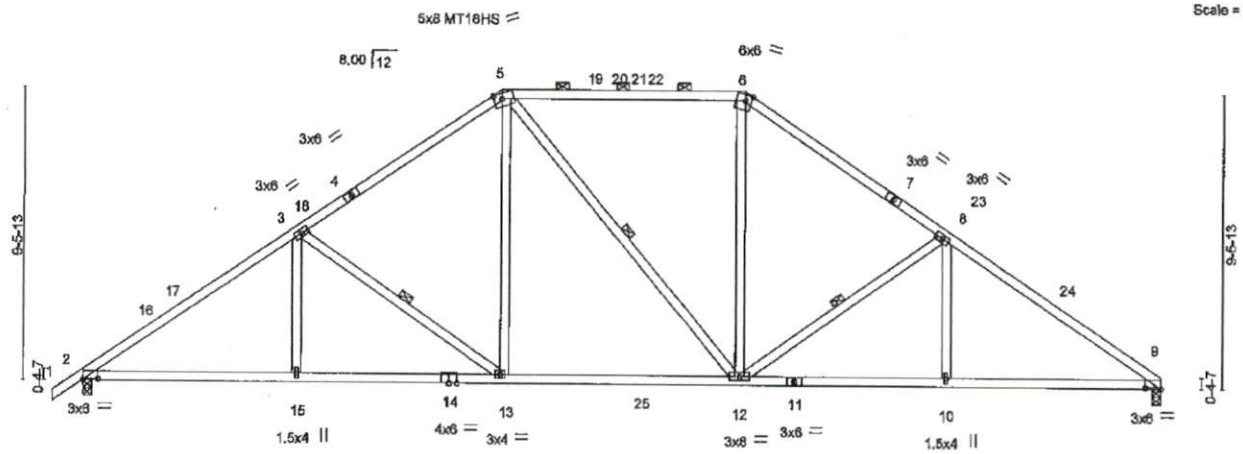

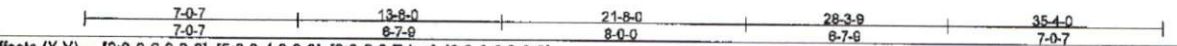

Plate Offsets (X,Y)-- [2:0-6-0,0-0-6], [5:0-3-4,0-2-0], [6:0-2-8,Edge], [9:0-6-0,0-0-6]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.99	Vert(LL)	-0.26	12-13	>999	240	MT20	244/190
Snow (Pf/Pg)	20.4/20.0	Lumber DOL	1.15	BC	0.87	Vert(TL)	-0.48	12-13	>880	180	MT18HS	244/190
TCDL	10.0	Rep Stress Incr	YES	WB	0.29	Horz(TL)	0.14	9	n/a	n/a		
BCLL	0.0 *	Code IRC2009/TPI2007		(Matrix)							Weight: 196 lb	FT = 20%
BCDL	10.0											

LUMBER-

TOP CHORD 2x4 SP No.2 *Except*
5-6: 2x4 SP DSS
BOT CHORD 2x4 SP No.2
WEBS 2x4 SP No.3

BRACING-

TOP CHORD Structural wood sheathing directly applied, except 2-0-0 oc purlins (2-2-0 max.): 5-6.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS 1 Row at midpt 3-13, 5-12, 8-12

REACTIONS. (lb/size) 2=1569/0-3-8, 9=1481/0-3-8
Max Horz 2=275(LC 9)
Max Uplift 2=-161(LC 10), 9=-112(LC 11)
Max Grav 2=1741(LC 20), 9=1658(LC 20)

FORCES. (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/33, 2-18=-2678/238, 16-17=-2583/243, 3-17=-2431/269, 3-18=-2068/256, 4-18=-2036/261, 4-5=-1876/301, 5-19=-1542/302, 19-20=-1542/302, 20-21=-1542/302, 21-22=-1542/302, 6-22=-1542/302, 6-7=-1844/306, 7-23=-2015/256, 8-23=-2036/262, 8-24=-2405/277, 9-24=-2648/251

BOT CHORD 2-15=-199/2128, 14-15=-199/2128, 13-14=-199/2128, 13-25=-125/1569, 12-25=-125/1569, 11-12=-136/2106, 10-11=-136/2106, 9-10=-136/2106

WEBS 3-15=0/290, 3-13=-695/167, 5-13=-5/689, 5-12=-185/150, 6-12=-3/638, 8-12=-701/175, 8-10=0/291

NOTES-

1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-05; 100mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; enclosed; MWFRS (low-rise) gable end zone and C-C Exterior(2) -1-0-0 to 2-6-6, Interior(1) 2-6-6 to 13-8-0, Exterior(2) 13-8-0 to 26-7-15, Interior(1) 26-7-15 to 35-2-4 zone; cantilever left and right exposed ;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) TCLL: ASCE 7-05; Pr=20.0 psf (roof live load: Lumber DOL=1.15 Plate DOL=1.15); Pg=20.0 psf (ground snow); Pf=20.4 psf (flat roof snow: Lumber DOL=1.15 Plate DOL=1.15); Category II; Exp B; Partially Exp.; Ct=1.1, Lu=50-0-0; Min. flat roof snow load governs. Rain surcharge applied to all exposed surfaces with slopes less than 0.500/12 in accordance with IBC 1608.3.4.
4) Unbalanced snow loads have been considered for this design.
5) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 15.4 psf on overhangs non-concurrent with other live loads.
6) Provide adequate drainage to prevent water ponding.
7) All plates are MT20 plates unless otherwise indicated.
8) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
9) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
10) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 2 and 9. This connection is for uplift only and does not consider lateral forces.
11) "Semi-rigid pitchbreaks with fixed heels" Member end fixity model was used in the analysis and design of this truss.
12) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

August 14,2017

ENGINEERING BY
TRENCO
A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	Hartford 2 Roof	E10640487
LGI_HOMES	A3	Piggyback Base	6	1	Job Reference (optional)	

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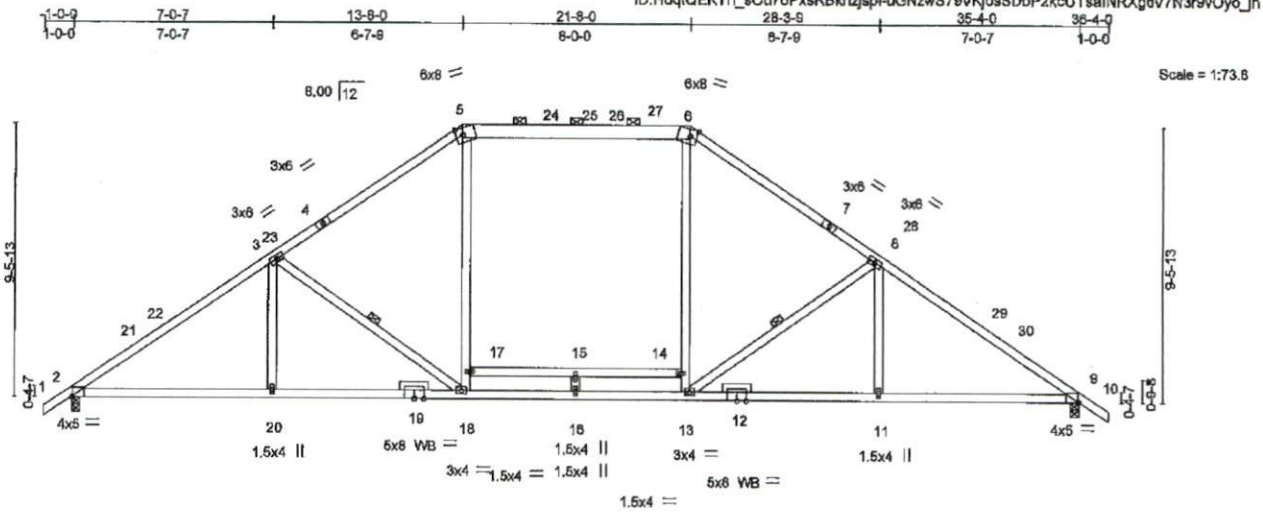

Plate Offsets (X,Y)-- [2:0-0-4,Edge], [5:0-2-12,Edge], [6:0-2-12,Edge], [9:0-0-4,Edge]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.98	Vert(LL)	0.61	18-20	>687	240	MT20	244/190
Snow (Pf/Pg)	20.4/20.0	Lumber DOL	1.15	BC	0.79	Vert(TL)	-0.77	16-18	>548	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.46	Horz(TL)	0.14	9	n/a	n/a		
BCLL	0.0 *	Code IRC2009/TPI2007		(Matrix)							Weight: 202 lb	FT = 20%
BCDL	10.0											

LUMBER-

TOP CHORD 2x4 SP No.1 *Except*
5-6: 2x6 SP No.2, 1-4,7-10: 2x4 SP No.2
BOT CHORD 2x4 SP No.1 *Except*
12-19: 2x4 SP DSS, 14-17: 2x4 SP No.2
WEBS 2x4 SP No.3
OTHERS 2x4 SP No.2

BRACING-

TOP CHORD Structural wood sheathing directly applied, except 2-0-0 oc purlins (2-2-0 max.): 5-6.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS 1 Row at midpt 3-18, 8-13

REACTIONS. (lb/size) 2=1856/0-3-8, 9=1856/0-3-8
Max Horz 2=-265(LC 8)
Max Uplift 2=-114(LC 10), 9=-114(LC 11)
Max Grav 2=2029(LC 20), 9=2029(LC 20)

FORCES. (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/33, 2-21=-3174/157, 21-22=-3079/162, 3-22=-3076/187, 3-23=-2596/175, 4-23=-2577/179, 4-5=-2406/219, 5-24=-2025/225, 24-25=-2025/225, 25-26=-2025/225, 26-27=-2025/225, 6-27=-2025/225, 6-7=-2406/219, 7-28=-2577/179, 8-28=-2598/176, 8-29=-3076/187, 29-30=-3079/162, 9-30=-3174/157, 9-10=0/33
BOT CHORD 2-20=-145/2534, 19-20=-145/2534, 18-19=-145/2534, 16-18=0/1990, 13-16=0/1990, 12-13=-53/2534, 11-12=-53/2534, 9-11=-53/2534, 15-17=0/35, 14-15=0/35
WEBS 3-20=0/176, 3-18=-643/185, 17-18=0/779, 5-17=0/938, 13-14=0/779, 6-14=0/938, 8-13=-643/185, 8-11=0/307, 15-16=-144/0

NOTES-

1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-05; 100mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; enclosed; MWFRS (low-rise) gable end zone and C-C Exterior(2) -1-0-0 to 2-6-6, Interior(1) 2-6-6 to 13-8-0, Exterior(2) 13-8-0 to 26-7-15, Interior(1) 26-7-15 to 36-4-0 zone; cantilever left and right exposed ;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) TCLL: ASCE 7-05; Pr=20.0 psf (roof live load: Lumber DOL=1.15 Plate DOL=1.15); Pg=20.0 psf (ground snow); Pf=20.4 psf (flat roof snow: Lumber DOL=1.15 Plate DOL=1.15); Category II; Exp B; Partially Exp.; Ct=1.1, Lu=50-0-0; Min. flat roof snow load governs. Rain surcharge applied to all exposed surfaces with slopes less than 0.500/12 in accordance with IBC 1608.3.4.
4) Unbalanced snow loads have been considered for this design.
5) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 15.4 psf on overhangs non-concurrent with other live loads.
6) Provide adequate drainage to prevent water ponding.
7) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
8) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
9) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 2 and 9. This connection is for uplift only and does not consider lateral forces.
10) "Semi-rigid pitchbreaks with fixed heels" Member end fixity model was used in the analysis and design of this truss.
11) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

August 14,2017

ENGINEERING BY
TRENCO
A MiTek Affiliate
816 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	Hartford 2 Roof	
LGI_HOMES	A4	PIGGYBACK BASE	1	1	Job Reference (optional)	E10840488

Builders FirstSource, Albemarle , NC 28001

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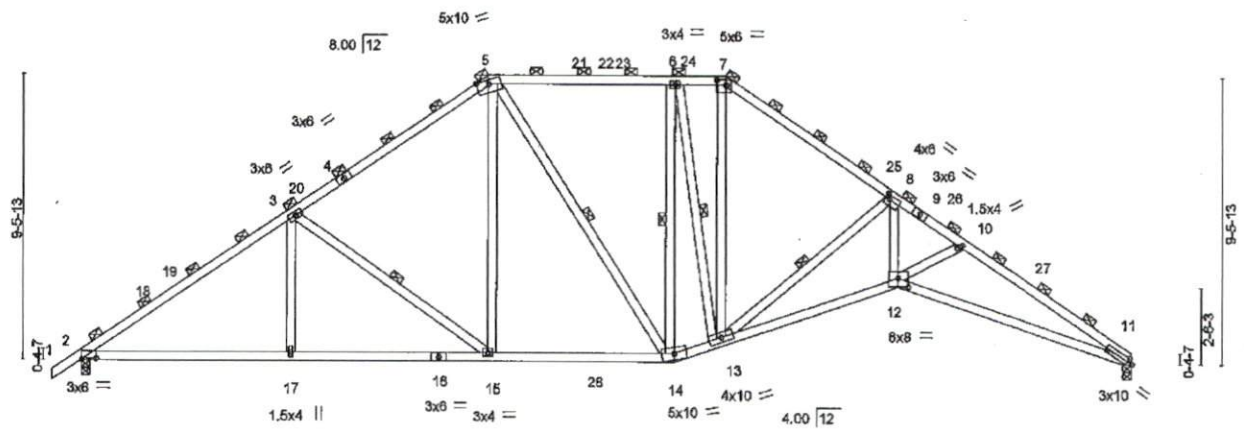
ID:HdqtQEKYn_sOu78PxsRBknzjspl-MTxL7o8nGerfUcoozmFr0gPmRnkbPzRGbjelRryo_jg

1-0-0	7-0-7	13-8-0	19-11-4	21-8-0	27-5-14	29-2-9	35-4-0
1-0-0	7-0-7	6-7-9	6-3-4	1-8-12	5-9-14	0-8-11	7-1-7

Scale = 1:70.7



7-0-7	13-8-0	19-11-4	21-8-0	27-5-14	35-4-0
7-0-7	6-7-9	6-3-4	1-8-12	5-9-14	7-10-2

Plate Offsets (X,Y)-- [2:0-6-0,0-0-6], [7:0-3-12,0-2-0], [8:0-1-8,0-1-12], [11:0-2-0,0-1-8], [12:0-4-0,0-3-8]

LOADING (psf)		SPACING-	2-1-8	CSI.		DEFL.	In	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.96	Vert(LL)	-0.29	12	>999	240	MT20	244/190
Snow (Pf/Pg)	20.4/20.0	Lumber DOL	1.15	BC	0.93	Vert(TL)	-0.61	11-12	>685	180		
TCDL	10.0	Rep Stress Incr	NO	WB	0.93	Horz(TL)	0.41	11	n/a	n/a		
BCLL	0.0 *	Code IRC2009/TPI2007		(Matrix)							Weight: 221 lb	FT = 20%
BCDL	10.0											

LUMBER-

TOP CHORD 2x4 SP No.1 *Except*
4-5,9-11: 2x4 SP DSS
BOT CHORD 2x4 SP No.2 *Except*
12-14: 2x4 SP No.1, 11-12: 2x4 SP DSS
WEBS 2x4 SP No.3 *Except*
8-12: 2x4 SP No.2

BRACING-

TOP CHORD 2-0-0 oc purlins (2-7-1 max.)
(Switched from sheeted: Spacing > 2-0-0).
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS 1 Row at midpt 3-15, 5-14, 6-14, 6-13, 8-13

REACTIONS. (lb/size) 2=1845/0-3-8, 11=1552/0-3-8
Max Horz 2=292(LC 9)
Max Uplift 2=-171(LC 10), 11=-120(LC 11)
Max Grav 2=1828(LC 20), 11=1739(LC 20)

FORCES. (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/35, 2-18=-2809/252, 18-19=-2707/258, 3-19=-2707/285, 3-20=-2150/273, 4-20=-2115/278, 4-5=-1945/320, 5-21=-1622/332, 21-22=-1622/332, 22-23=-1622/332, 23-24=-1622/332, 6-24=-1622/332, 6-7=-1693/324, 7-25=-2021/330, 8-25=-2181/294, 8-26=-4528/431, 9-26=-4545/428, 9-10=-4646/423, 10-27=-4823/462, 11-27=-4916/443
BOT CHORD 2-17=-212/2230, 16-17=-212/2230, 15-16=-212/2230, 15-28=-130/1627, 14-28=-130/1627, 13-14=-80/1713, 12-13=-238/4058, 11-12=-319/4189
WEBS 3-17=0/314, 3-15=-750/178, 5-15=-11/686, 5-14=-191/199, 6-14=-491/142, 6-13=-103/388, 7-13=-109/909, 8-13=-2800/269, 8-12=-131/2770, 10-12=-154/164

NOTES-

1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-05; 100mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; enclosed; MWFRS (low-rise) gable end zone and C-C Exterior(2) -1-0-0 to 2-6-6, Interior(1) 2-6-6 to 13-8-0, Exterior(2) 13-8-0 to 26-7-15, Interior(1) 26-7-15 to 35-2-4 zone; cantilever left and right exposed ;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) TCLL: ASCE 7-05; Pr=20.0 psf (roof live load: Lumber DOL=1.15 Plate DOL=1.15); Pg=20.0 psf (ground snow); Pf=20.4 psf (flat roof snow: Lumber DOL=1.15 Plate DOL=1.15); Category II; Exp B; Partially Exp.; Ct=1.1, Lu=50-0-0; Min. flat roof snow load governs. Rain surcharge applied to all exposed surfaces with slopes less than 0.500/12 in accordance with IBC 1608.3.4.
4) Unbalanced snow loads have been considered for this design.
5) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 15.4 psf on overhangs non-concurrent with other live loads.
6) Provide adequate drainage to prevent water ponding.
7) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
8) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
9) Bearing at joint(s) 11 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
10) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 2 and 11. This connection is for uplift only and does not consider lateral forces.
11) "Semi-rigid pitchbreaks with fixed heels" Member end fixity model was used in the analysis and design of this truss.

Continued on page 2

NORTH CAROLINA PROFESSIONAL SEAL 036322 ENGINEER ERIC A. GILBERT

August 14,2017

ENGINEERING BY TRENCO
A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	Hartford 2 Roof	
LGI_HOMES	A4	PIGGYBACK BASE	1	1	Job Reference (optional)	E10840488

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ID:HdqQEKYn_sOu76PxsRBknzjspl-MTxL7oBnGerfUcoozmFr0gPmRnkbPzRGbjaIRryo_jg

NOTES-

12) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

Job	Truss	Truss Type	Qty	Ply	Hartford 2 Roof	E10840489
LGI_HOMES	A5	PIGGYBACK BASE	4	1	Job Reference (optional)	

Builders FirstSource, Albemarle , NC 28001

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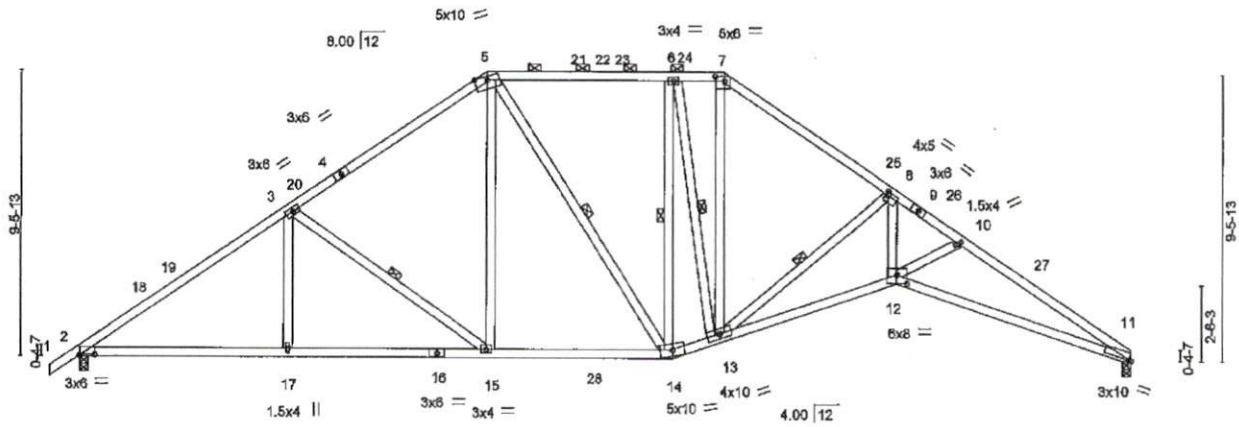
1-0-0	7-0-7	13-8-0	19-11-4	21-8-0	27-5-14	28-2-9	35-4-0
1-0-0	7-0-7	6-7-9	6-3-4	1-8-12	5-9-14	0-8-11	7-1-7

Scale = 1:70.7



7-0-7	13-8-0	19-11-4	21-8-0	27-5-14	35-4-0
7-0-7	6-7-9	6-3-4	1-8-12	5-9-14	7-10-2

Plate Offsets (X,Y)-- [2:0-6-0,0-0-6], [7:0-3-12,0-2-0], [8:0-1-0,0-1-8], [11:0-1-1,0-0-1], [12:0-4-0,0-3-8]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.99	Vert(LL)	-0.30	12	>999	240	MT20	244/190
Snow (Pf/Pg)	20.4/20.0	Lumber DOL	1.15	BC	0.99	Vert(TL)	-0.66	11-12	>639	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.88	Horz(TL)	0.43	11	n/a	n/a		
BCLL	0.0 *	Code IRC2009/TPI2007		(Matrix)							Weight: 221 lb	FT = 20%
BCDL	10.0											

LUMBER-

TOP CHORD 2x4 SP No.2 *Except* 9-11: 2x4 SP No.1
BOT CHORD 2x4 SP No.2 *Except* 11-12: 2x4 SP No.1
WEBS 2x4 SP No.3 *Except* 8-12: 2x4 SP No.2

BRACING-

TOP CHORD Structural wood sheathing directly applied, except 2-0-0 oc purlins (2-10-13 max.): 5-7.
BOT CHORD Rigid ceiling directly applied or 2-2-0 oc bracing.
WEBS 1 Row at midpt 3-15, 5-14, 6-14, 6-13, 8-13

REACTIONS. (lb/size) 2=1548/0-3-8, 11=1461/0-3-8
Max Horz 2=275(LC 9)
Max Uplift 2=-161(LC 10), 11=-113(LC 11)
Max Grav 2=1721(LC 20), 11=1637(LC 20)

FORCES. (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/33, 2-18=-2646/238, 18-19=-2551/243, 3-19=-2399/269, 3-20=-2024/257, 4-20=-1992/262, 4-5=-1830/302, 5-21=-1527/312, 21-22=-1526/312, 22-23=-1526/312, 23-24=-1526/312, 6-24=-1526/312, 6-7=-1593/305, 7-25=-1901/311, 8-25=-2053/277, 8-26=-4264/406, 9-26=-4280/403, 9-10=-4374/398, 10-27=-4541/435, 11-27=-4628/417
BOT CHORD 2-17=-200/2101, 16-17=-200/2101, 15-16=-200/2101, 15-28=-122/1531, 14-28=-122/1531, 13-14=-75/1612, 12-13=-224/3821, 11-12=-301/3944
WEBS 3-17=0/296, 3-15=-708/168, 5-15=-10/648, 5-14=-181/168, 6-14=-464/135, 6-13=-100/365, 7-13=-103/860, 8-13=-2638/253, 8-12=-124/2609, 10-12=-145/154

NOTES-

1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-05; 100mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; enclosed; MWFRS (low-rise) gable end zone and C-C Exterior(2) -1-0-0 to 2-6-6, Interior(1) 2-6-6 to 13-8-0, Exterior(2) 13-8-0 to 26-7-15, Interior(1) 26-7-15 to 35-2-4 zone; cantilever left and right exposed ;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) TCLL: ASCE 7-05; Pr=20.0 psf (roof live load: Lumber DOL=1.15 Plate DOL=1.15); Pg=20.0 psf (ground snow); Pf=20.4 psf (flat roof snow: Lumber DOL=1.15 Plate DOL=1.15); Category II; Exp B; Partially Exp.; Ct=1.1, Lu=50-0-0; Min. flat roof snow load governs. Rain surcharge applied to all exposed surfaces with slopes less than 0.500/12 in accordance with IBC 1608.3.4.
4) Unbalanced snow loads have been considered for this design.
5) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 15.4 psf on overhangs non-concurrent with other live loads.
6) Provide adequate drainage to prevent water ponding.
7) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
8) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
9) Bearing at joint(s) 11 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
10) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 2 and 11. This connection is for uplift only and does not consider lateral forces.
11) "Semi-rigid pitchbreaks with fixed heels" Member end fixity model was used in the analysis and design of this truss.

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Edenton, NC 27932

NOTES-

12) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

Job	Truss	Truss Type	Qty	Ply	Hartford 2 Roof	E10840490
LGI_HOMES	A6	Piggyback Base	2	1	Job Reference (optional)	

Builders FirstSource, Albemarle, NC 28001

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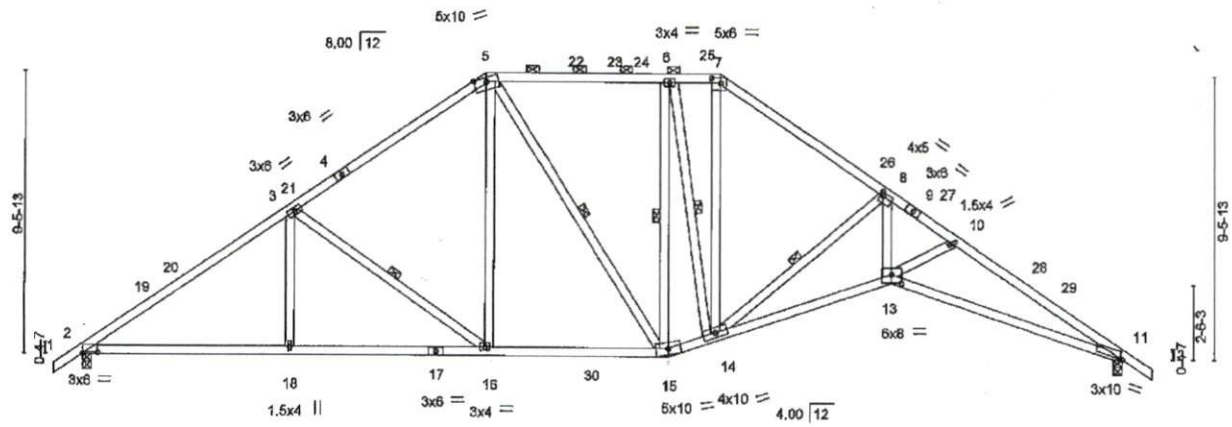
ID:HdqtQEKYn_eOu76PxsRBknzjspl-Ir36YU92oF5NjvyA5AIJ65U5SbP6ttnZ313pWjyo_Je

1-0-0	7-0-7	13-8-0	19-11-4	21-8-0	27-5-14	29-2-8	35-4-0	36-4-0
1-0-0	7-0-7	6-7-9	6-3-4	1-8-12	5-9-14	0-8-11	7-1-7	1-0-0

Scale = 1:71.5



7-0-7	13-8-0	19-11-4	21-8-0	27-5-14	35-4-0
7-0-7	6-7-9	6-3-4	1-8-12	5-9-14	7-10-2

Plate Offsets (X,Y)— [2:0-6-0,0-0-6], [7:0-3-12,0-2-0], [8:0-1-0,0-1-8], [11:0-1-1,0-0-1], [13:0-4-0,0-3-8]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.99	Vert(LL)	-0.30	13	>999	240	MT20	244/190
Snow (Pf/Pg)	20.4/20.0	Lumber DOL	1.15	BC	0.99	Vert(TL)	-0.65	11-13	>645	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.88	Horz(TL)	0.43	11	n/a	n/a		
BCLL	0.0 *	Code IRC2009/TPI2007		(Matrix)							Weight: 223 lb	FT = 20%
BCDL	10.0											

LUMBER-

TOP CHORD	2x4 SP No.2 *Except* 9-12: 2x4 SP No.1
BOT CHORD	2x4 SP No.2 *Except* 11-13: 2x4 SP No.1
WEBS	2x4 SP No.3 *Except* 8-13: 2x4 SP No.2

BRACING-

TOP CHORD	Structural wood sheathing directly applied, except 2-0-0 oc purlins (2-10-13 max.): 5-7.
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing, Except: 2-2-0 oc bracing: 13-14.
WEBS	1 Row at midpt 3-16, 5-15, 6-15, 6-14, 8-14

REACTIONS. (lb/size) 2=1547/0-3-8, 11=1531/0-3-8
Max Horz 2=267(LC 9)
Max Uplift 2=-161(LC 10), 11=-161(LC 11)
Max Grav 2=1721(LC 20), 11=1704(LC 20)

FORCES. (lb) - Maximum Compression/Maximum Tension

TOP CHORD	1-2=0/33, 2-19=-2646/235, 19-20=-2551/240, 3-20=-2399/265, 3-21=-2024/257, 4-21=-2003/261, 4-5=-1830/301, 5-22=-1526/312, 22-23=-1526/312, 23-24=-1526/312, 24-25=-1526/312, 6-25=-1526/312, 6-7=-1593/303, 7-26=-1901/303, 8-26=-2052/269, 8-27=-4262/385, 9-27=-4278/381, 9-10=-4372/379, 10-28=-4551/402, 28-29=-4561/385, 11-29=-4632/381, 11-12=0/31
BOT CHORD	2-18=-191/2101, 17-18=-191/2101, 16-17=-191/2101, 16-30=-114/1531, 15-30=-114/1531, 14-15=-66/1612, 13-14=-193/3820, 11-13=-268/3943
WEBS	3-18=0/296, 3-16=-708/168, 5-16=-10/648, 5-15=-181/187, 6-15=-463/131, 6-14=-101/365, 7-14=-100/860, 8-14=-2637/236, 8-13=-95/2606, 10-13=-146/148

NOTES-

1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-05; 100mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; enclosed; MWFRS (low-rise) gable end zone and C-C Exterior(2) -1-0-0 to 2-6-6, Interior(1) 2-6-6 to 13-8-0, Exterior(2) 13-8-0 to 26-7-15, Interior(1) 26-7-15 to 36-4-0 zone; cantilever left and right exposed ;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) TCLL: ASCE 7-05; Pr=20.0 psf (roof live load: Lumber DOL=1.15 Plate DOL=1.15); Pg=20.0 psf (ground snow); Pf=20.4 psf (flat roof snow: Lumber DOL=1.15 Plate DOL=1.15); Category II; Exp B; Partially Exp.; Ct=1.1, Lu=50-0-0; Min. flat roof snow load governs. Rain surcharge applied to all exposed surfaces with slopes less than 0.500/12 in accordance with IBC 1608.3.4.
4) Unbalanced snow loads have been considered for this design.
5) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 15.4 psf on overhangs non-concurrent with other live loads.
6) Provide adequate drainage to prevent water ponding.
7) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
8) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
9) Bearing at joint(s) 11 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
10) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 2 and 11. This connection is for uplift only and does not consider lateral forces.

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NORTH CAROLINA PROFESSIONAL SEAL 036322 ENGINEER ERIC A. GILBERT

August 14,2017

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Job	Truss	Truss Type	Qty	Ply	Hartford 2 Roof	
LGI_HOMES	A6	Piggyback Base	2	1	Job Reference (optional)	E10840490

Builders FirstSource, Albemarle , NC 28001

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NOTES-

11) "Semi-rigid pitchbreaks with fixed heels" Member end fixity model was used in the analysis and design of this truss.

12) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

Job	Truss	Truss Type	Qty	Ply	Hartford 2 Roof	E10840491
LGI_HOMES	A7E	GABLE	1	1	Job Reference (optional)	

Builders FirstSource, Albemarle , NC 28001 — 7.640 s Apr 19 2016 MiTek Industries, Inc. Mon Aug 14 09:18:14 2017 Page 1

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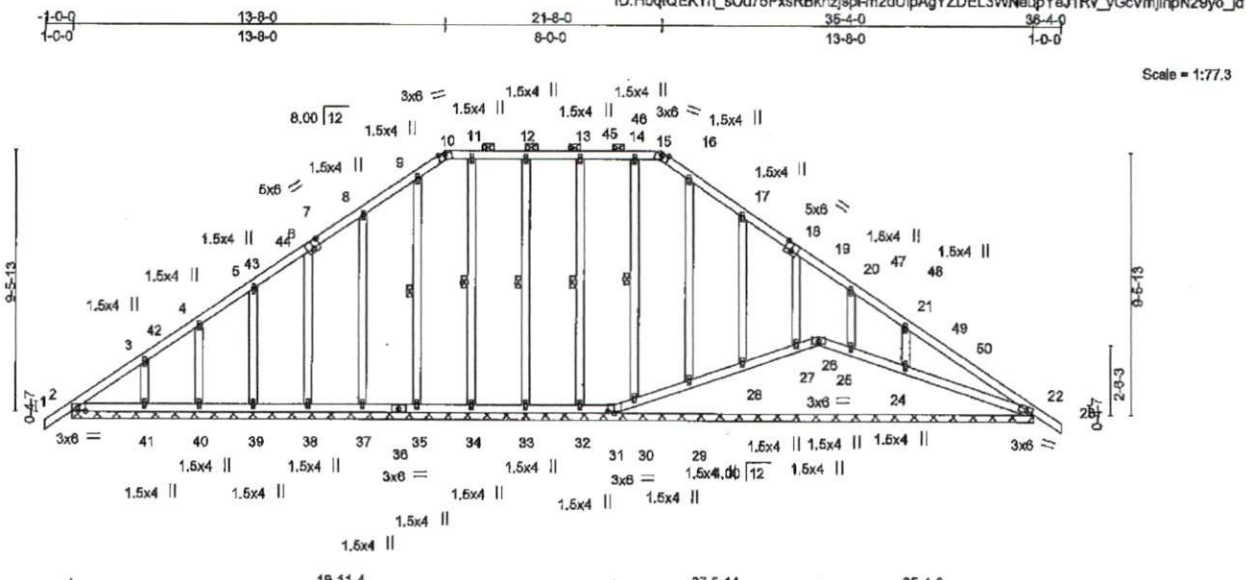

Plate Offsets (X,Y)-- [2:0-3-9,0-1-8], [7:0-3-0,0-3-4], [18:0-3-0,0-3-4], [31:0-3-0,0-1-0]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.24	Vert(LL)	0.01	23	n/r	120	MT20	244/190
Snow (Pf/Pg)	20.4/20.0	Lumber DOL	1.15	BC	0.17	Vert(TL)	0.03	23	n/r	120		
TCDL	10.0	Rep Stress Incr	YES	WB	0.19	Horz(TL)	0.01	22	n/a	n/a		
BCLL	0.0 *	Code IRC2009/TPI2007		(Matrix)							Weight: 245 lb	FT = 20%
BCDL	10.0											

LUMBER-
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
OTHERS 2x4 SP No.3

BRACING-
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except 2-0-0 oc purlins (6-0-0 max.): 10-15.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing, Except: 6-0-0 oc bracing: 24-25.
WEBS 1 Row at midpt 14-30, 13-32, 12-33, 11-34, 9-35

REACTIONS. (lb/size) 2=174/35-4-0, 31=3/35-4-0, 26=41/35-4-0, 22=227/35-4-0, 30=146/35-4-0, 32=157/35-4-0, 33=162/35-4-0, 34=153/35-4-0, 35=153/35-4-0, 37=162/35-4-0, 38=160/35-4-0, 39=163/35-4-0, 40=146/35-4-0, 41=203/35-4-0, 29=154/35-4-0, 28=159/35-4-0, 27=165/35-4-0, 25=47/35-4-0, 24=375/35-4-0
Max Horz 2=268(LC 9)
Max Uplift 2=-65(LC 8), 31=-52(LC 11), 26=-12(LC 9), 22=-69(LC 11), 30=-28(LC 9), 32=-52(LC 8), 33=-52(LC 8), 34=-33(LC 9), 35=-20(LC 9), 37=-43(LC 11), 38=-26(LC 11), 39=-52(LC 10), 40=-63(LC 10), 41=-69(LC 10), 28=-41(LC 11), 27=-37(LC 11), 25=-19(LC 11), 24=-143(LC 11)
Max Grav 2=174(LC 1), 31=20(LC 9), 26=118(LC 11), 22=227(LC 1), 30=199(LC 19), 32=226(LC 19), 33=231(LC 19), 34=205(LC 19), 35=205(LC 20), 37=232(LC 20), 38=226(LC 20), 39=230(LC 20), 40=212(LC 20), 41=203(LC 21), 29=207(LC 20), 28=230(LC 20), 27=230(LC 20), 25=119(LC 20), 24=428(LC 20)

FORCES. (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/31, 2-3=-240/169, 3-42=-187/144, 4-42=-175/156, 4-5=-148/153, 5-43=-107/135, 43-44=-102/139, 6-44=-100/147, 6-7=-75/128, 7-8=-67/142, 8-9=-77/163, 9-10=-67/169, 10-11=-20/167, 11-12=-20/167, 12-45=-20/167, 45-46=-20/167, 13-46=-20/167, 13-14=-20/167, 14-15=-20/167, 15-16=-67/170, 16-17=-77/164, 17-18=-69/114, 18-19=-76/101, 19-47=-24/69, 47-48=-28/60, 20-48=-68/58, 20-21=-101/42, 21-49=-103/76, 49-50=-109/59, 22-50=-127/55, 22-23=0/28
BOT CHORD 2-41=-42/169, 40-41=-42/169, 39-40=-42/169, 38-39=-42/169, 37-38=-42/169, 36-37=-42/169, 35-36=-42/169, 34-35=-42/169, 33-34=-42/169, 32-33=-42/169, 31-32=-42/169, 30-31=-44/181, 29-30=-48/182, 28-29=-48/182, 27-28=-48/182, 26-27=-46/178, 25-26=-44/179, 24-25=-53/181, 22-24=-49/185
WEBS 14-30=-165/47, 13-32=-190/73, 12-33=-190/76, 11-34=-165/57, 9-35=-165/44, 8-37=-192/96, 6-38=-186/69, 5-39=-188/76, 4-40=-177/84, 3-41=-147/100, 16-29=-166/12, 17-28=-189/95, 19-27=-200/76, 20-25=-128/37, 21-24=-313/178

NOTES-
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-05; 100mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; enclosed; MWFRS (low-rise) gable end zone and C-C Exterior(2) -1-0-0 to 2-8-0, Interior(1) 2-8-0 to 13-8-0, Exterior(2) 13-8-0 to 26-8-0, Interior(1) 26-8-0 to 36-4-0 zone; cantilever left and right exposed ;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) TCLL: ASCE 7-05; Pr=20.0 psf (roof live load: Lumber DOL=1.15 Plate DOL=1.15); Pg=20.0 psf (ground snow); Pf=20.4 psf (flat roof snow: Lumber DOL=1.15 Plate DOL=1.15); Category II; Exp B; Partially Exp.; Ct=1.1, Lu=50-0-0; Min. flat roof snow load governs. Rain surcharge applied to all exposed surfaces with slopes less than 0.500/12 in accordance with IBC 1608.3.4.
5) Unbalanced snow loads have been considered for this design.
6) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 15.4 psf on overhangs non-concurrent with other live loads.
7) Provide adequate drainage to prevent water ponding.

NORTH CAROLINA PROFESSIONAL SEAL 036322 ENGINEER ERIC A. GILBERT
August 14,2017

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NOTES-

8) Gable requires continuous bottom chord bearing.
9) Gable studs spaced at 2-0-0 oc.
10) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
11) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
12) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 52 lb uplift at joint 31, 12 lb uplift at joint 26, 26 lb uplift at joint 30, 41 lb uplift at joint 28, 37 lb uplift at joint 27, 19 lb uplift at joint 25 and 143 lb uplift at joint 24.
13) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 2, 22, 32, 33, 34, 35, 37, 38, 39, 40, and 41. This connection is for uplift only and does not consider lateral forces.
14) Beveled plate or shim required to provide full bearing surface with truss chord at joint(s) 26, 30, 29, 28, 27, 25, 24.
15) "Semi-rigid pitchbreaks with fixed heels" Member end fixity model was used in the analysis and design of this truss.
16) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

Job	Truss	Truss Type	Qty	Ply	Hartford 2 Roof	
LGI_HOMES	B1E	GABLE	1	1	Job Reference (optional)	E10840492

Builders FirstSource, Albemarle , NC 28001

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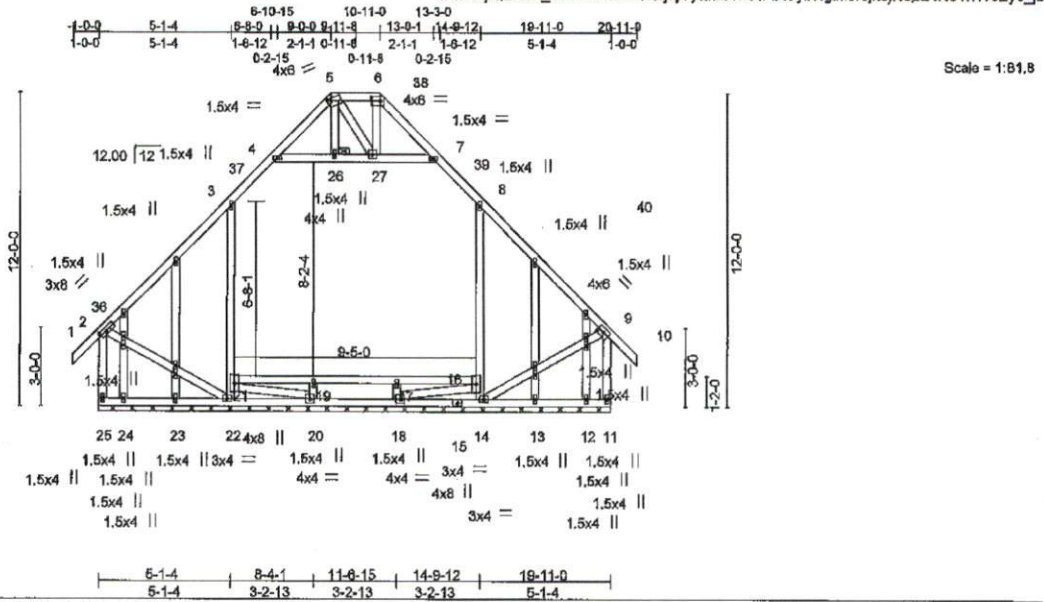

Plate Offsets (X,Y)-- [2:0-3-7,0-1-8], [5:0-1-8,0-1-0], [6:0-4-4,0-1-12]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	In	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.50	Vert(LL)	0.01	9-10	n/r	120	MT20	244/190
Snow (Pf/Pg)	20.4/20.0	Lumber DOL	1.15	BC	0.20	Vert(TL)	0.02	9-10	n/r	120		
TCDL	10.0	Rep Stress Incr	YES	WB	0.26	Horz(TL)	0.01	11	n/a	n/a		
BCLL	0.0 *	Code IRC2009/TPI2007		(Matrix)							Weight: 190 lb	FT = 20%
BCDL	10.0											

LUMBER-

TOP CHORD	2x4 SP No.2
BOT CHORD	2x4 SP No.2
WEBS	2x4 SP No.3 *Except* 8-14,4-7,3-22: 2x4 SP No.2
OTHERS	2x4 SP No.3

BRACING-

TOP CHORD	Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals, and 2-0-0 oc purlins (6-0-0 max.): 5-6.
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing.
JOINTS	1 Brace at Jt(s): 26

REACTIONS. (lb/size) 25=541/19-11-0, 21=541/19-11-0, 14=426/19-11-0, 22=-91/19-11-0, 11=541/19-11-0, 20=413/19-11-0, 18=438/19-11-0, 23=23/19-11-0, 24=20/19-11-0, 13=23/19-11-0, 12=20/19-11-0
Max Horz 25=260(LC 9)
Max Uplift 25=-53(LC 8), 21=-138(LC 9), 14=-294(LC 11), 22=-235(LC 11), 11=-45(LC 9)
Max Grav 25=695(LC 21), 21=764(LC 21), 14=589(LC 21), 22=28(LC 15), 11=695(LC 21), 20=414(LC 21), 18=449(LC 21), 23=77(LC 5), 24=62(LC 5), 13=77(LC 5), 12=62(LC 5)

FORCES. (lb) - Maximum Compression/Maximum Tension

TOP CHORD	1-2=0/49, 2-36=-525/65, 3-36=-373/103, 3-37=-516/67, 4-37=-445/83, 4-5=-313/64, 6-38=-206/63, 7-38=-312/54, 7-39=-445/83, 8-39=-516/67, 8-40=-372/98, 9-40=-524/60, 9-10=0/49, 2-25=-659/58, 9-11=-658/53, 5-6=-181/76
BOT CHORD	24-25=-274/269, 23-24=-274/269, 22-23=-274/269, 20-22=-45/246, 18-20=-33/224, 15-18=-8/351, 14-15=-8/351, 13-14=-26/47, 12-13=-26/47, 11-12=-26/47, 19-21=-11/60, 17-19=-11/60, 16-17=-11/60
WEBS	14-16=-589/163, 8-16=-548/230, 4-26=-73/65, 26-27=-72/66, 7-27=-73/65, 21-22=-35/164, 3-21=-548/232, 2-22=-62/344, 9-14=-59/343, 19-20=-209/0, 20-21=-24/12, 17-18=-210/0, 16-18=-140/0, 5-26=0/23, 6-27=-31/58, 5-27=-54/55

NOTES-

1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-05; 100mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; enclosed; MWFRS (low-rise) gable end zone and C-C Corner(3) -1-0-0 to 2-0-0, Exterior(2) 2-0-0 to 9-0-0, Corner(3) 9-0-0 to 10-11-0, Exterior(2) 13-11-0 to 20-11-0 zone; cantilever left and right exposed ;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) TCLL: ASCE 7-05; Pr=20.0 psf (roof live load: Lumber DOL=1.15 Plate DOL=1.15); Pg=20.0 psf (ground snow); Pf=20.4 psf (flat roof snow: Lumber DOL=1.15 Plate DOL=1.15); Category II; Exp B; Partially Exp.; Ct=1.1, Lu=50-0-0; Min. flat roof snow load governs. Rain surcharge applied to all exposed surfaces with slopes less than 0.500/12 in accordance with IBC 1608.3.4.
5) Unbalanced snow loads have been considered for this design.
6) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 15.4 psf on overhangs non-concurrent with other live loads.
7) Provide adequate drainage to prevent water ponding.
8) Gable requires continuous bottom chord bearing.
9) Gable studs spaced at 2-0-0 oc.
10) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
11) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
12) Ceiling dead load (5.0 psf) on member(s). 3-4, 7-8, 4-26, 26-27, 7-27; Wall dead load (5.0psf) on member(s).8-16, 3-21

August 14,2017

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Job	Truss	Truss Type	Qty	Ply	Hartford 2 Roof	E10840492
LGI_HOMES	B1E	GABLE	1	1	Job Reference (optional)	

NOTES-

13) Bearing at joint(s) 21 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
14) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 25, 21, 14, 22, and 11. This connection is for uplift only and does not consider lateral forces.
15) "Semi-rigid pitchbreaks with fixed heels" Member end fixity model was used in the analysis and design of this truss.
16) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
17) Attic room checked for L/360 deflection.

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Job	Truss	Truss Type	Qty	Ply	Hartford 2 Roof	E10840493
LGI_HOMES	B2	Common	3	1	Job Reference (optional)	

Builders FirstSource, Albemarle , NC 28001

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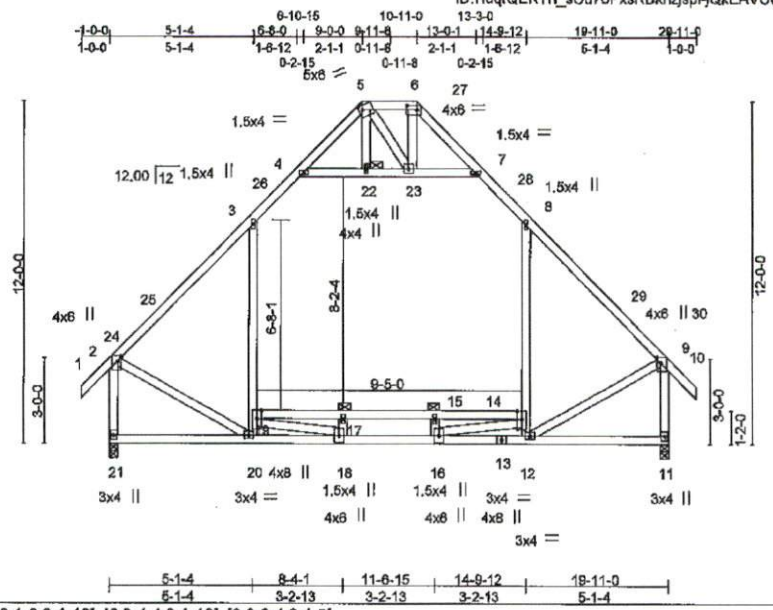


Plate Offsets (X,Y)-- [2:0-2-4,0-1-8], [5:0-1-8,0-1-12], [6:0-4-4,0-1-12], [9:0-2-4,0-1-8]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.66	Vert(LL)	0.32	20	>729	240	MT20	244/190
Snow (Pf/Pg)	20.4/20.0	Lumber DOL	1.15	BC	0.74	Vert(TL)	-0.37	14-15	>628	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.71	Horz(TL)	0.03	11	n/a	n/a		
BCLL	0.0 *	Code IRC2009/TPI2007		(Matrix)		Attic	-0.15	14-19	742	360	Weight: 165 lb	FT = 20%
BCDL	10.0											

LUMBER-

TOP CHORD 2x4 SP DSS *Except*
5-6: 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x4 SP No.3 *Except*
8-12,4-7,3-20,2-21,9-11: 2x4 SP No.2

BRACING-

TOP CHORD Structural wood sheathing directly applied or 5-0-0 oc purlins, except end verticals, and 2-0-0 oc purlins (10-0-0 max.): 5-6.
BOT CHORD Rigid ceiling directly applied or 9-6-11 oc bracing. Except:
4-1-0 oc bracing: 14-19
JOINTS 1 Brace at Jt(s): 22

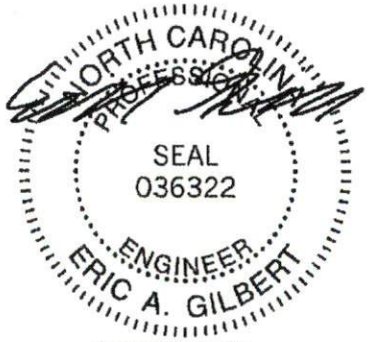
REACTIONS. (lb/size) 21=1489/0-3-8, 11=1489/0-3-8
Max Horz 21=260(LC 9)
Max Grav 21=1799(LC 21), 11=1799(LC 21)

FORCES. (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/49, 2-24=-1509/0, 24-25=-1394/0, 3-25=-1276/0, 3-26=-977/86, 4-26=-862/104, 4-5=-134/83, 6-27=-69/83, 7-27=-131/65, 7-28=-862/104, 8-28=-977/86, 8-29=-1276/0, 29-30=-1394/0, 9-30=-1509/0, 9-10=0/49, 2-21=-1747/0, 9-11=-1747/0, 5-6=0/137
BOT CHORD 20-21=-289/308, 18-20=-206/972, 16-18=0/2426, 13-16=0/972, 12-13=0/972, 11-12=-30/93, 17-19=-1520/0, 15-17=-1520/0, 14-15=-1520/0
WEBS 12-14=-363/15, 8-14=0/445, 4-22=-1008/116, 22-23=-1006/117, 7-23=-1010/117, 19-20=-363/13, 3-19=0/445, 2-20=0/929, 9-12=0/929, 17-18=-412/36, 18-19=0/1628, 15-16=-412/36, 14-16=0/1628, 5-22=0/28, 6-23=-84/112, 5-23=-120/120

NOTES-

1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-05; 100mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; enclosed; MWFRS (low-rise) gable end zone and C-C Exterior(2) -1-0-0 to 2-0-0, Interior(1) 2-0-0 to 9-0-0, Exterior(2) 9-0-0 to 10-11-0, Interior(1) 13-11-0 to 20-11-0 zone; cantilever left and right exposed ;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) TCLL: ASCE 7-05; Pr=20.0 psf (roof live load: Lumber DOL=1.15 Plate DOL=1.15); Pg=20.0 psf (ground snow); Pf=20.4 psf (flat roof snow: Lumber DOL=1.15 Plate DOL=1.15); Category II; Exp B; Partially Exp.; Ct=1.1, Lu=50-0-0; Min. flat roof snow load governs. Rain surcharge applied to all exposed surfaces with slopes less than 0.500/12 in accordance with IBC 1608.3.4.
4) Unbalanced snow loads have been considered for this design.
5) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 15.4 psf on overhangs non-concurrent with other live loads.
6) Provide adequate drainage to prevent water ponding.
7) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
8) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
9) Ceiling dead load (5.0 psf) on member(s). 3-4, 7-8, 4-22, 22-23, 7-23; Wall dead load (5.0psf) on member(s).8-14, 3-19
10) Bottom chord live load (40.0 psf) and additional bottom chord dead load (5.0 psf) applied only to room. 17-19, 15-17, 14-15
11) "Semi-rigid pitchbreaks with fixed heels" Member end fixity model was used in the analysis and design of this truss.
12) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
13) Attic room checked for L/360 deflection.



August 14,2017

ENGINEERING BY TRENCO
A MiTek Affiliate
816 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	Hartford 2 Roof	
LGI_HOMES	BP1	Monopitch Supported Gable	6	1	Job Reference (optional)	E10840494

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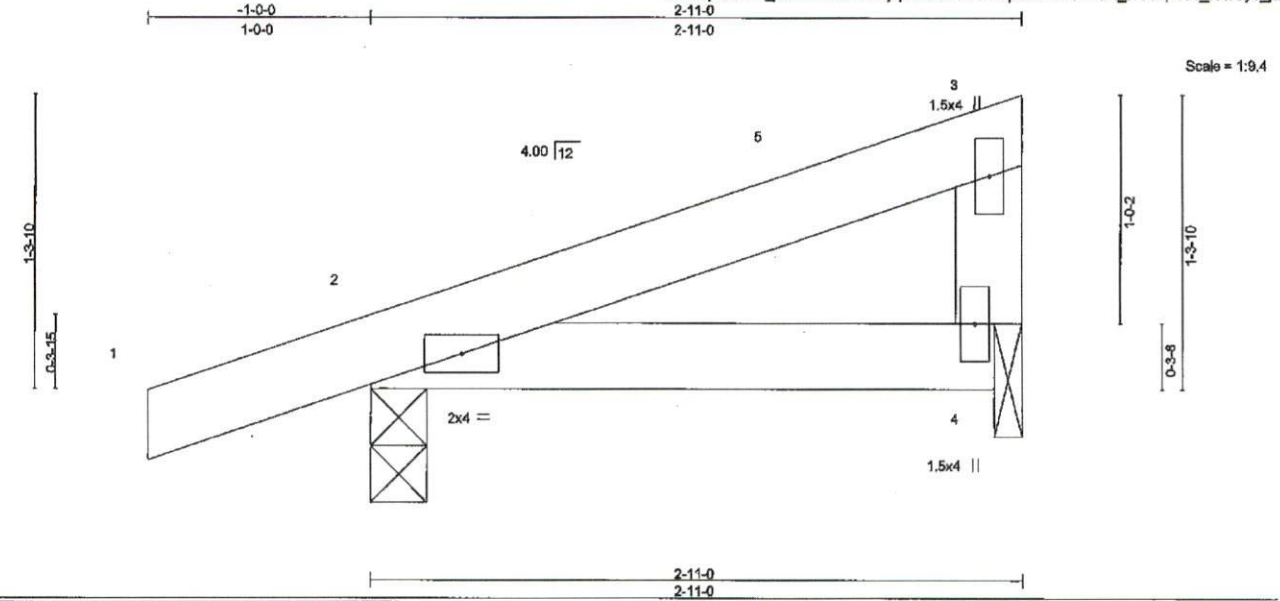

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.10	Vert(LL)	-0.00	2-4	>999	240	MT20	244/190
Snow (Pf/Pg)	15.4/20.0	Lumber DOL	1.15	BC	0.08	Vert(TL)	-0.01	2-4	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.00	Horz(TL)	0.00		n/a	n/a		
BCLL	0.0 *	Code IRC2009/TPI2007		(Matrix)								
BCDL	10.0										Weight: 11 lb	FT = 20%

LUMBER-
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x4 SP No.2

BRACING-
TOP CHORD Structural wood sheathing directly applied or 2-11-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS. (lb/size) 2=188/0-3-0, 4=91/0-1-8
Max Horz 2=53(LC 6)
Max Uplift 2=-69(LC 6), 4=-20(LC 9)

FORCES. (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/18, 2-5=-45/0, 3-5=-37/17, 3-4=-65/100
BOT CHORD 2-4=0/0

NOTES-
1) Wind: ASCE 7-05; 100mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; enclosed; MWFRS (low-rise) automatic zone and C-C Corner(3) -1-0-0 to 2-0-0, Exterior(2) 2-0-0 to 2-9-4 zone; cantilever left and right exposed ;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
2) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
3) TCLL: ASCE 7-05; Pr=20.0 psf (roof live load: Lumber DOL=1.15 Plate DOL=1.15); Pg=20.0 psf (ground snow); Pf=15.4 psf (flat roof snow: Lumber DOL=1.15 Plate DOL=1.15); Category II; Exp B; Partially Exp.; Ct=1.1
4) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 15.4 psf on overhangs non-concurrent with other live loads.
5) Gable studs spaced at 2-0-0 oc.
6) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
7) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
8) Bearing at joint(s) 4 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
9) Provide mechanical connection (by others) of truss to bearing plate at joint(s) 4.
10) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 2 and 4. This connection is for uplift only and does not consider lateral forces.
11) "Semi-rigid pitchbreaks with fixed heels" Member end fixity model was used in the analysis and design of this truss.

August 14,2017

ENGINEERING BY TRENCO
A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	Hartford 2 Roof	E10640495
LGI_HOMES	FP1	Monopitch Supported Gable	8	1	Job Reference (optional)	

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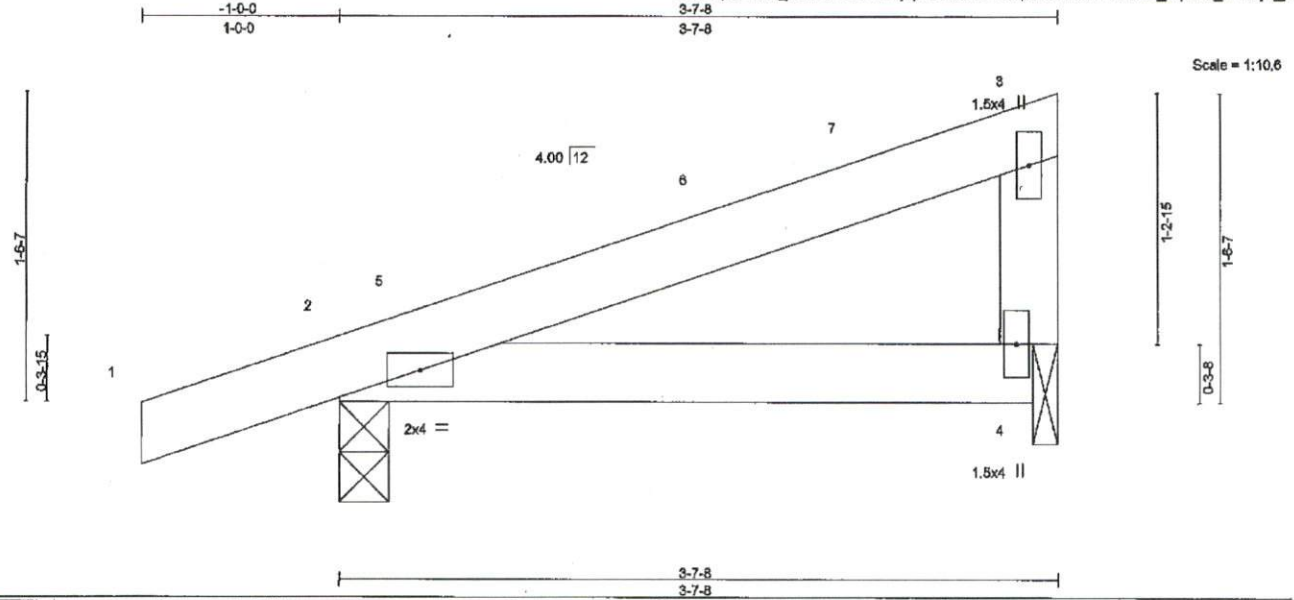

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.18	Vert(LL)	-0.01	2-4	>999	240	MT20	244/190
Snow (Pf/Pg)	15.4/20.0	Lumber DOL	1.15	BC	0.13	Vert(TL)	-0.02	2-4	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.00	Horz(TL)	0.00		n/a	n/a		
BCLL	0.0 *	Code IRC2009/TPI2007		(Matrix)								
BCDL	10.0										Weight: 14 lb	FT = 20%

LUMBER-
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x4 SP No.2

BRACING-
TOP CHORD Structural wood sheathing directly applied or 3-7-8 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS. (lb/size) 2=213/0-3-0, 4=123/0-1-8
Max Horz 2=62(LC 8)
Max Uplift 2=-71(LC 8), 4=-27(LC 11)

FORCES. (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/18, 2-5=-57/0, 5-6=-50/0, 6-7=-50/0, 3-7=-47/23, 3-4=-89/131
BOT CHORD 2-4=0/0

NOTES-
1) Wind: ASCE 7-05; 100mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; enclosed; MWFRS (low-rise) automatic zone and C-C Corner(3) -1-0-0 to 2-0-0, Exterior(2) 2-0-0 to 3-5-12 zone; cantilever left and right exposed ;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
2) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
3) TCLL: ASCE 7-05; Pr=20.0 psf (roof live load: Lumber DOL=1.15 Plate DOL=1.15); Pg=20.0 psf (ground snow); Pf=15.4 psf (flat roof snow: Lumber DOL=1.15 Plate DOL=1.15); Category II; Exp B; Partially Exp.; Ct=1.1
4) Unbalanced snow loads have been considered for this design.
5) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 15.4 psf on overhangs non-concurrent with other live loads.
6) Gable studs spaced at 2-0-0 oc.
7) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
8) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
9) Bearing at joint(s) 4 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
10) Provide mechanical connection (by others) of truss to bearing plate at joint(s) 4.
11) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 2 and 4. This connection is for uplift only and does not consider lateral forces.
12) "Semi-rigid pitchbreaks with fixed heels" Member end fixity model was used in the analysis and design of this truss.

August 14,2017

Job	Truss	Truss Type	Qty	Ply	Hartford 2 Roof	
LGI_HOMES	PB1	Piggyback	19	1	Job Reference (optional)	E10840496

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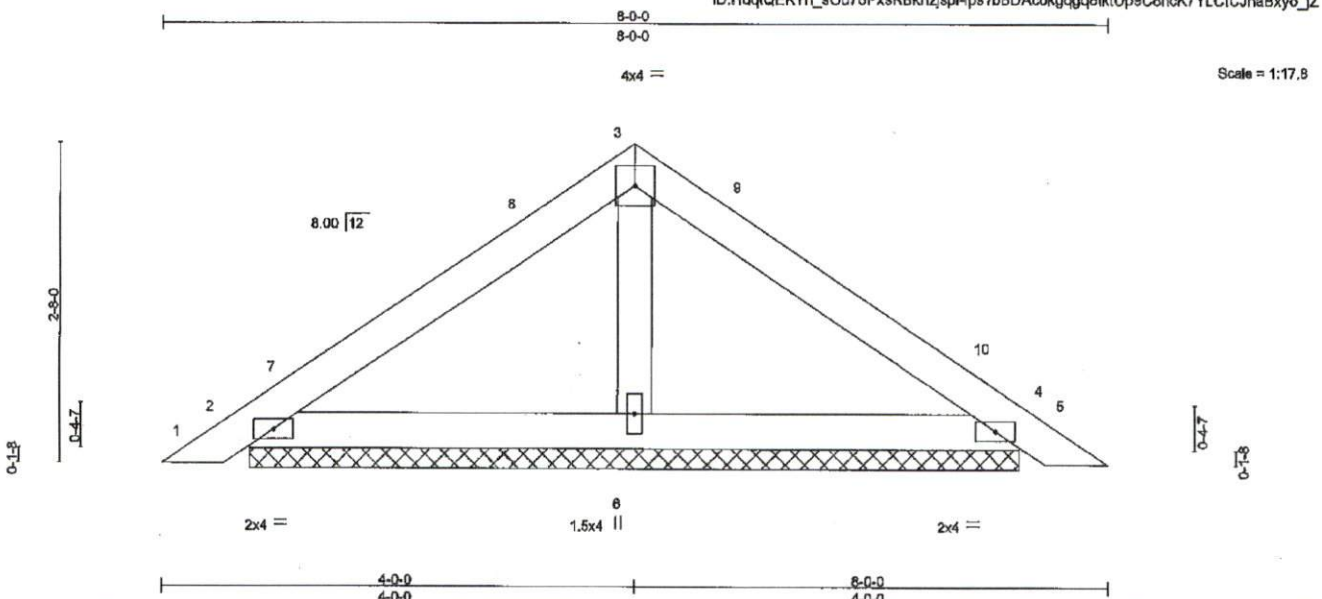


LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.19	Vert(LL)	0.01	5	n/r	120	MT20	244/190
Snow (Pf/Pg)	15.4/20.0	Lumber DOL	1.15	BC	0.11	Vert(TL)	0.01	5	n/r	120		
TCDL	10.0	Rep Stress Incr	YES	WB	0.03	Horz(TL)	0.00	4	n/a	n/a		
BCLL	0.0 *	Code IRC2009/TPI2007		(Matrix)							Weight: 27 lb	FT = 20%
BCDL	10.0											

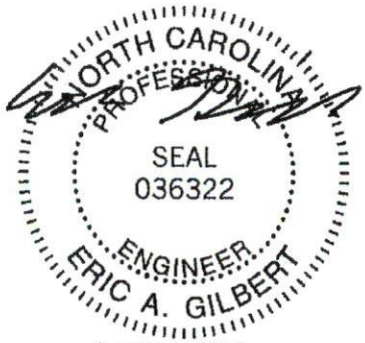
LUMBER-
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x4 SP No.3

BRACING-
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS. (lb/size) 2=172/6-6-2, 4=172/6-6-2, 6=235/6-6-2
Max Horz 2=-65(LC 6)
Max Uplift 2=-66(LC 10), 4=-69(LC 11)

FORCES. (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/14, 2-7=-78/30, 7-8=-33/37, 3-8=-19/46, 3-9=-12/48, 9-10=-33/39, 4-10=-78/31, 4-5=0/14
BOT CHORD 2-6=-10/36, 4-6=-10/36
WEBS 3-6=-154/49

NOTES-
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-05; 100mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; enclosed; MWFRS (low-rise) gable end zone and C-C Exterior(2) 0-3-2 to 3-3-2, Interior(1) 3-3-2 to 4-0-0, Exterior(2) 4-0-0 to 7-3-1 zone; cantilever left and right exposed ;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) TCLL: ASCE 7-05; Pr=20.0 psf (roof live load: Lumber DOL=1.15 Plate DOL=1.15); Pg=20.0 psf (ground snow); Pf=15.4 psf (flat roof snow: Lumber DOL=1.15 Plate DOL=1.15); Category II; Exp B; Partially Exp.; Ct=1.1
4) Unbalanced snow loads have been considered for this design.
5) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 15.4 psf on overhangs non-concurrent with other live loads.
6) Gable requires continuous bottom chord bearing.
7) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
8) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
9) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 2 and 4. This connection is for uplift only and does not consider lateral forces.
10) "Semi-rigid pitchbreaks with fixed heels" Member end fixity model was used in the analysis and design of this truss.
11) See Standard Industry Piggyback Truss Connection Detail for Connection to base truss as applicable, or consult qualified building designer.



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TRENCO
A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	Hartford 2 Roof	
LGI_HOMES	V1	GABLE	1	1	Job Reference (optional)	E10640497

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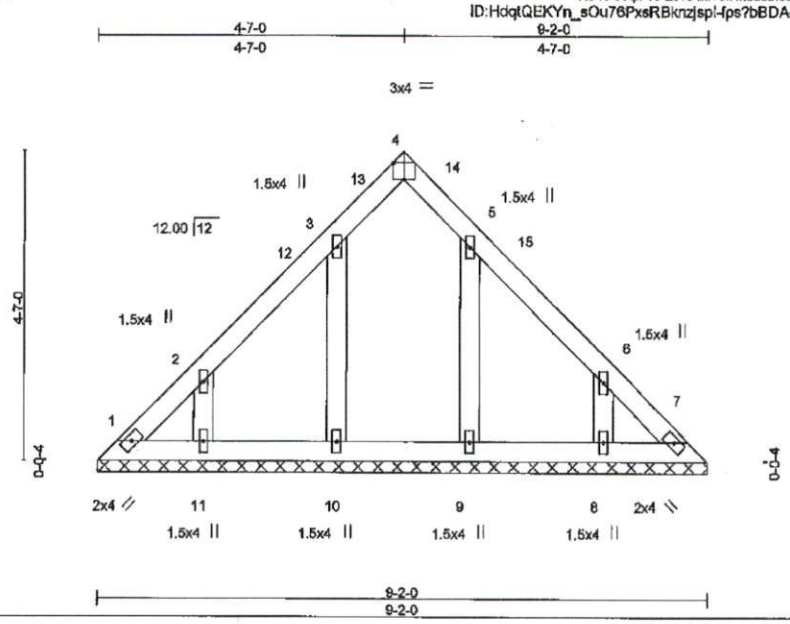

Plate Offsets (X,Y)-- [4:0-2-0,Edge]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.04	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf/Pg)	15.4/20.0	Lumber DOL	1.15	BC	0.03	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.04	Horz(TL)	0.00	7	n/a	n/a		
BCLL	0.0 *	Code IRC2009/TPI2007		(Matrix)							Weight: 44 lb	FT = 20%
BCDL	10.0											

LUMBER-
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
OTHERS 2x4 SP No.3

BRACING-
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS. (lb/size) 1=45/9-2-0, 7=45/9-2-0, 10=145/9-2-0, 11=149/9-2-0, 9=145/9-2-0, 8=149/9-2-0
Max Horz 1=-121(LC 8)
Max Uplift 1=-8(LC 8), 7=-6(LC 9), 10=-75(LC 10), 11=-105(LC 10), 9=-74(LC 11), 8=-106(LC 11)
Max Grav 1=119(LC 10), 7=118(LC 11), 10=145(LC 1), 11=149(LC 14), 9=145(LC 1), 8=149(LC 15)

FORCES. (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-182/33, 2-12=-85/18, 3-12=-71/27, 3-13=-53/13, 4-13=-21/18, 4-14=-21/19, 5-14=-53/13, 5-15=-71/27, 6-15=-85/14, 6-7=-182/30
BOT CHORD 1-11=-17/139, 10-11=-17/139, 9-10=-17/139, 8-9=-17/139, 7-8=-17/139
WEBS 3-10=-104/103, 2-11=-113/133, 5-9=-104/103, 6-8=-113/133

NOTES-
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-05; 100mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; enclosed; MWFRS (low-rise) gable end zone and C-C Exterior(2) 0-4-4 to 3-7-0, Interior(1) 3-7-0 to 4-7-0, Exterior(2) 4-7-0 to 7-7-0 zone; cantilever left and right exposed ;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) TCLL: ASCE 7-05; Pr=20.0 psf (roof live load: Lumber DOL=1.15 Plate DOL=1.15); Pg=20.0 psf (ground snow); Pf=15.4 psf (flat roof snow: Lumber DOL=1.15 Plate DOL=1.15); Category II; Exp B; Partially Exp.; Ct=1.1
4) Unbalanced snow loads have been considered for this design.
5) Gable requires continuous bottom chord bearing.
6) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
7) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
8) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 1, 7, 10, 11, 9, and 8. This connection is for uplift only and does not consider lateral forces.
9) "Semi-rigid pitchbreaks with fixed heels" Member end fixity model was used in the analysis and design of this truss.

August 14,2017

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A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	Hartford 2 Roof	
LGI_HOMES	V2	Valley	1	1	Job Reference (optional)	E10640498

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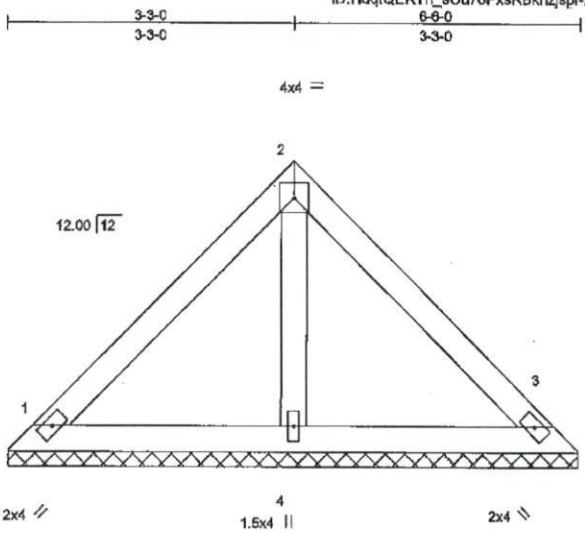


Scale: 1/2"=1'

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	In	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.16	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf/Pg)	15.4/20.0	Lumber DOL	1.15	BC	0.09	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.03	Horz(TL)	0.00	3	n/a	n/a		
BCLL	0.0 *	Code IRC2009/TPI2007		(Matrix)							Weight: 26 lb	FT = 20%
BCDL	10.0											

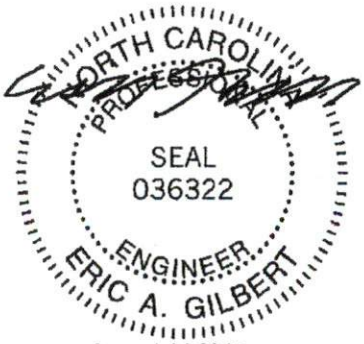
LUMBER-
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
OTHERS 2x4 SP No.3

BRACING-
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS. (lb/size) 1=140/6-5-8, 3=140/6-5-8, 4=184/6-5-8
Max Horz 1=83(LC 9)
Max Uplift 1=-48(LC 10), 3=-48(LC 10)

FORCES. (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-93/52, 2-3=-93/45
BOT CHORD 1-4=-21/49, 3-4=-21/49
WEBS 2-4=-111/34

NOTES-
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-05; 100mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; enclosed; MWFRS (low-rise) automatic zone and C-C Exterior(2) zone; cantilever left and right exposed ;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) TCLL: ASCE 7-05; Pr=20.0 psf (roof live load: Lumber DOL=1.15 Plate DOL=1.15); Pg=20.0 psf (ground snow); Pf=15.4 psf (flat roof snow: Lumber DOL=1.15 Plate DOL=1.15); Category II; Exp B; Partially Exp.; Ct=1.1
4) Unbalanced snow loads have been considered for this design.
5) Gable requires continuous bottom chord bearing.
6) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
7) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
8) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 1 and 3. This connection is for uplift only and does not consider lateral forces.
9) "Semi-rigid pitchbreaks with fixed heels" Member end fixity model was used in the analysis and design of this truss.



August 14,2017

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TRENCO
A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	Hartford 2 Roof	E10840499
LGI_HOMES	V3	Valley	1	1	Job Reference (optional)	

Builders FirstSource, Albemarle , NC 28001 — 7.640 s Apr 19 2016 MiTek Industries, Inc. Mon Aug 14 09:18:19 2017 Page 1

ID:HdqtQEKYn_sOu76PxsRBknzjspI-77QNpXEoN5sXSqPKRRPjLMkLI?gDHozSRzW8jNyo_JY

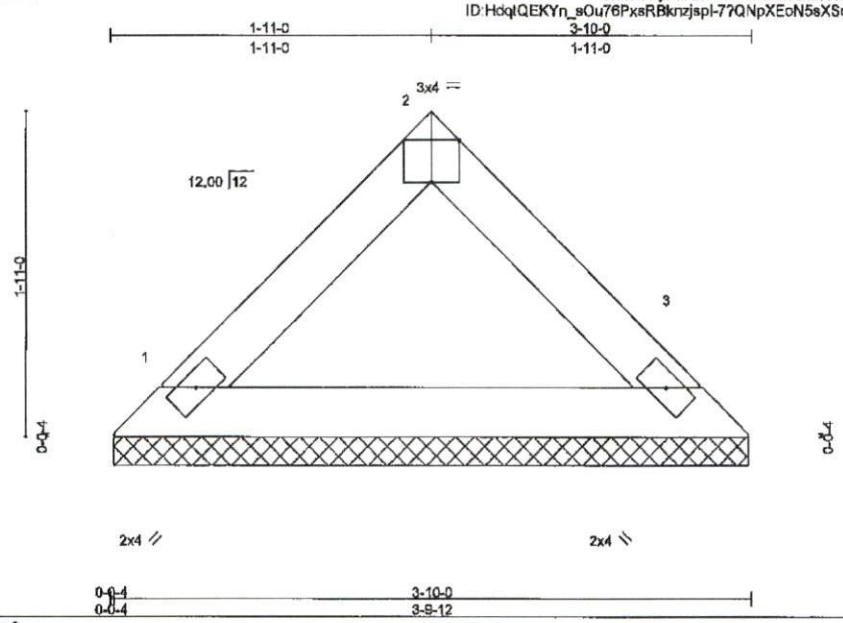

Plate Offsets (X,Y)-- [2:0-2-0,Edge]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.04	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf/Pg)	15.4/20.0	Lumber DOL	1.15	BC	0.12	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.00	Horz(TL)	0.00	3	n/a	n/a		
BCLL	0.0 *	Code IRC2009/TPI2007		(Matrix)								
BCDL	10.0										Weight: 12 lb	FT = 20%

LUMBER-
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2

BRACING-
TOP CHORD Structural wood sheathing directly applied or 3-10-0 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS. (lb/size) 1=125/3-9-8, 3=125/3-9-8
Max Horz 1=-45(LC 6)
Max Uplift 1=-22(LC 8), 3=-22(LC 8)

FORCES. (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-93/39, 2-3=-93/39
BOT CHORD 1-3=-13/47

NOTES-
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-05; 100mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; enclosed; MWFRS (low-rise) automatic zone and C-C Exterior(2) zone; cantilever left and right exposed ;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) TCLL: ASCE 7-05; Pr=20.0 psf (roof live load: Lumber DOL=1.15 Plate DOL=1.15); Pg=20.0 psf (ground snow); Pf=15.4 psf (flat roof snow: Lumber DOL=1.15 Plate DOL=1.15); Category II; Exp B; Partially Exp.; Ct=1.1; Min. flat roof snow load governs.
4) Gable requires continuous bottom chord bearing.
5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
6) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
7) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 1 and 3. This connection is for uplift only and does not consider lateral forces.
8) "Semi-rigid pitchbreaks with fixed heels" Member end fixity model was used in the analysis and design of this truss.

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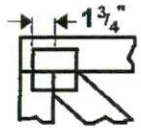
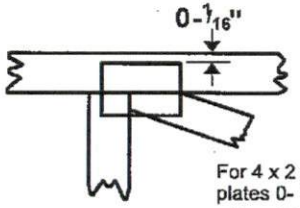
Symbols

PLATE LOCATION AND ORIENTATION



Center plate on joint unless x, y offsets are indicated. Dimensions are in ft-in-sixteenths. Apply plates to both sides of truss and fully embed teeth.



For 4 x 2 orientation, locate plates 0- 1/16" from outside edge of truss.

This symbol indicates the required direction of slots in connector plates.

*** Plate location details available in MiTek 20/20 software or upon request.**

PLATE SIZE

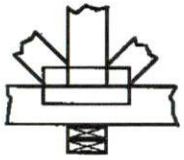
4 x 4

The first dimension is the plate width measured perpendicular to slots. Second dimension is the length parallel to slots.

LATERAL BRACING LOCATION

Indicated by symbol shown and/or by text in the bracing section of the output. Use T or I bracing if indicated.

BEARING

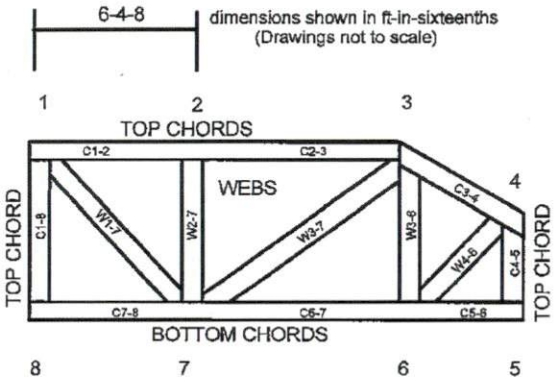


Indicates location where bearings (supports) occur. Icons vary but reaction section indicates joint number where bearings occur. Min size shown is for crushing only.

Industry Standards:

ANSI/TPI1: National Design Specification for Metal Plate Connected Wood Truss Construction.
DSB-89: Design Standard for Bracing.
BCSI: Building Component Safety Information, Guide to Good Practice for Handling, Installing & Bracing of Metal Plate Connected Wood Trusses.

Numbering System



JOINTS ARE GENERALLY NUMBERED/LETTERED CLOCKWISE AROUND THE TRUSS STARTING AT THE JOINT FARTHEST TO THE LEFT.

CHORDS AND WEBS ARE IDENTIFIED BY END JOINT NUMBERS/LETTERS.

PRODUCT CODE APPROVALS

ICC-ES Reports:

ESR-1311, ESR-1352, ESR1988
ER-3907, ESR-2362, ESR-1397, ESR-3282

Trusses are designed for wind loads in the plane of the truss unless otherwise shown.

Lumber design values are in accordance with ANSI/TPI 1 section 6.3 These truss designs rely on lumber values established by others.

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General Safety Notes

Failure to Follow Could Cause Property Damage or Personal Injury

1. Additional stability bracing for truss system, e.g. diagonal or X-bracing, is always required. See BCSI.
2. Truss bracing must be designed by an engineer. For wide truss spacing, individual lateral braces themselves may require bracing, or alternative Tor I bracing should be considered.
3. Never exceed the design loading shown and never stack materials on inadequately braced trusses.
4. Provide copies of this truss design to the building designer, erection supervisor, property owner and all other interested parties.
5. Cut members to bear tightly against each other.
6. Place plates on each face of truss at each joint and embed fully. Knots and wane at joint locations are regulated by ANSI/TPI 1.
7. Design assumes trusses will be suitably protected from the environment in accord with ANSI/TPI 1.
8. Unless otherwise noted, moisture content of lumber shall not exceed 19% at time of fabrication.
9. Unless expressly noted, this design is not applicable for use with fire retardant, preservative treated, or green lumber.
10. Camber is a non-structural consideration and is the responsibility of truss fabricator. General practice is to camber for dead load deflection.
11. Plate type, size, orientation and location dimensions indicated are minimum plating requirements.
12. Lumber used shall be of the species and size, and in all respects, equal to or better than that specified.
13. Top chords must be sheathed or purlins provided at spacing indicated on design.
14. Bottom chords require lateral bracing at 10 ft. spacing, or less, if no ceiling is installed, unless otherwise noted.
15. Connections not shown are the responsibility of others.
16. Do not cut or alter truss member or plate without prior approval of an engineer.
17. Install and load vertically unless indicated otherwise.
18. Use of green or treated lumber may pose unacceptable environmental, health or performance risks. Consult with project engineer before use.
19. Review all portions of this design (front, back, words and pictures) before use. Reviewing pictures alone is not sufficient.
20. Design assumes manufacture in accordance with ANSI/TPI 1 Quality Criteria.

FLOOR 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 DAÑE DE CUALQUIER OTRA MANERA LAS TRUSSES (CERCHAS DE MADERA). Contacte a su representante de BFS para asistencia ANTES de realizar cualquier modificación.)

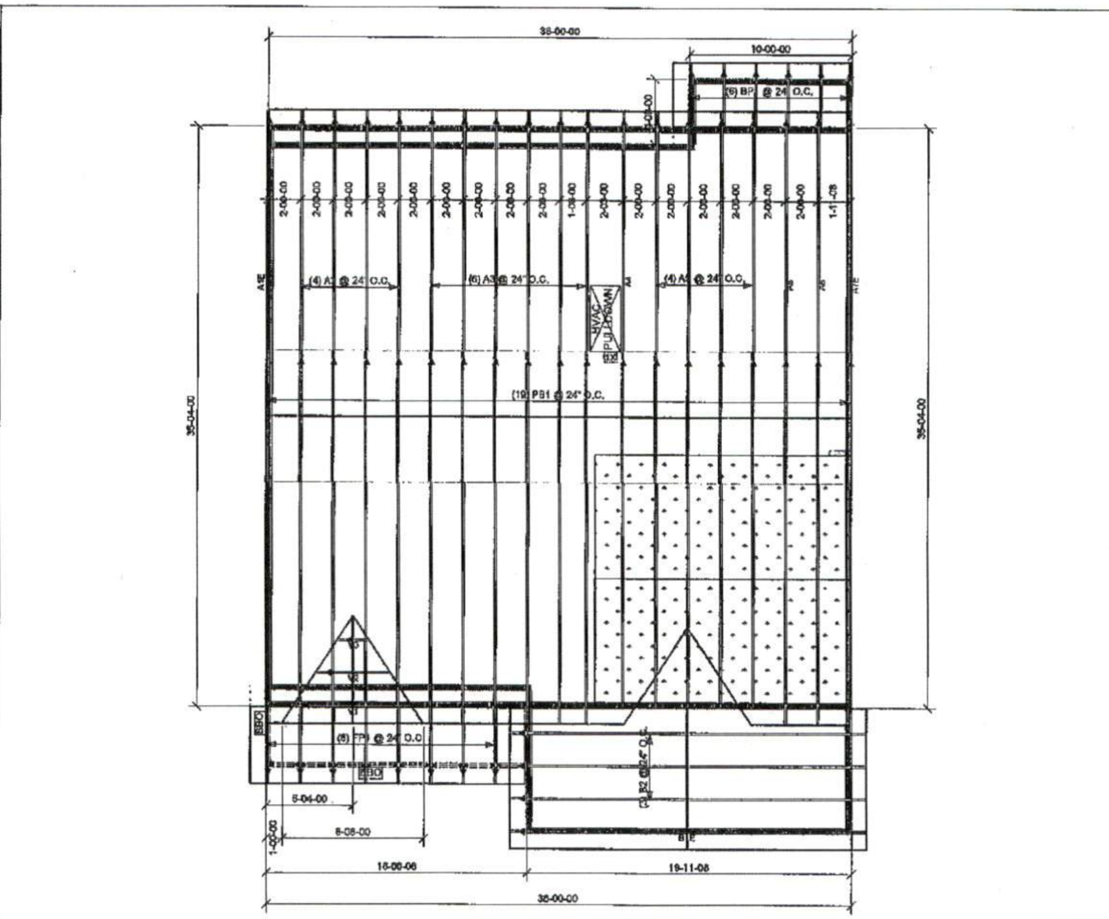
1. This Truss Placement Diagram is intended to serve as a guide for truss installation. This Diagram has been prepared by a Truss Technician and is not an engineered drawing.
2. The responsibilities of the Owner, Building Designer, Contractor, Truss Designer, and Truss Manufacturer shall be as defined 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. Floor Trusses have been spaced as specified in the plans or as directed by the contractor / customer. BFS recommends that the contractor / customer consider economics, floor performance, floor coverings, and accessibility when selecting the floor truss spacing.
8. Inflexible floor coverings, such as ceramic tile, require careful consideration and planning by the contractor. The contractor shall select and use an approved floor covering assembly for the chosen floor covering and floor truss spacing used in the project. Ceramic tile assemblies are shown in the TCNA Handbook for Ceramic, Glass, and Stone Installation. Builders FirstSource is not responsible for floor covering related issues.
9. The builder / owner is to inform Builders FirstSource of any additional loads placed on floor trusses, such as loads from structural members, heavy granite island countertops, fireplace surrounds, etc. If we do not note these additional loads on the placement diagram or truss design drawings, then they have not been added.
10. This Placement Diagram may show approximate plumbing drop locations with a corresponding truss layout. With or without this information, the contractor shall insure that the installer verifies all plumbing locations and installs the trusses to avoid interference. Consider all plumbing such as toilets, tub drain and overflow, showers, etc. The contractor shall also plan for other potential utility conflicts.
11. Floor Truss Spacing may be altered to avoid plumbing interference. Avoid overloading single trusses due to truss spacing shifts. Do not exceed the allowable span rating of the subfloor sheathing used.
12. Floor Trusses shall be fully sheathed on the top chord. The builder shall select structural sheathing that meets the truss spacing requirement as well as the desired long term performance characteristics for the specific assembly.
13. Strongbacks are either recommended or required as shown on the Truss Design Drawings. BFS recommends installing strongbacks for all floor trusses to improve floor performance and allow load sharing between trusses.
14. 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.

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. Floor Trusses shall be temporarily restrained during installation. DO NOT WALK ON UNRESTRAINED FLOOR TRUSSES. Unrestrained floor trusses may suddenly collapse or roll over and may cause injury or death.
3. BCSI INSTRUCTIONS SHALL BE FOLLOWED: BCSI-B7 • Floor Truss Installation

TOTAL ROOF AREA
2010.36 SQ FT



No Scale

Customer Name: LGI Homes
Subdivision:
Lot#:
Plan Name: Hartford 2
File Name
ROOF

Builders FirstSource
Albemarle, NC

Revisions:

Drawn By:
JEFF BURRIS

DATE:
12/5/2018

Page Number
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