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	
LGI_HOMES	F1E	Floor Supported Gable	1	1	Job Reference (optional)	E10635817

Builders FirstSource, Albemarle , NC 28001

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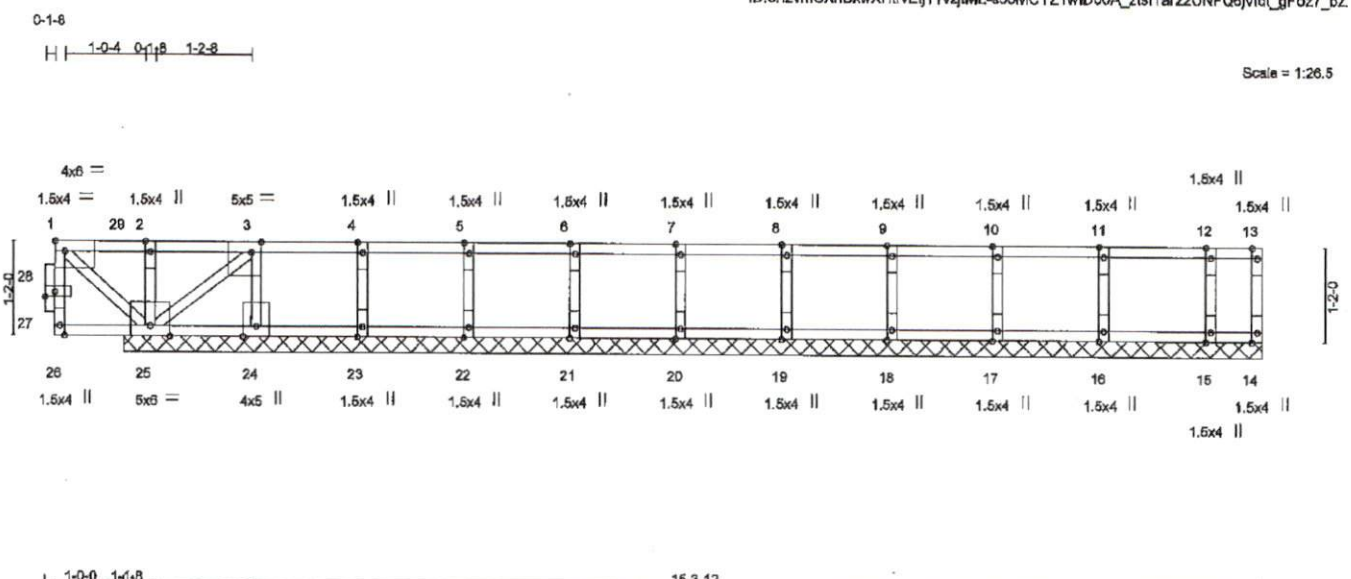

Plate Offsets (X,Y)-- [1:Edge,0-1-8], [3:0-1-8,Edge], [27:0-1-8,0-0-12]

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 Uplift 24=-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=-138/0, 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	
LGI_HOMES	F2	Floor	6	1	Job Reference (optional)	E10635818

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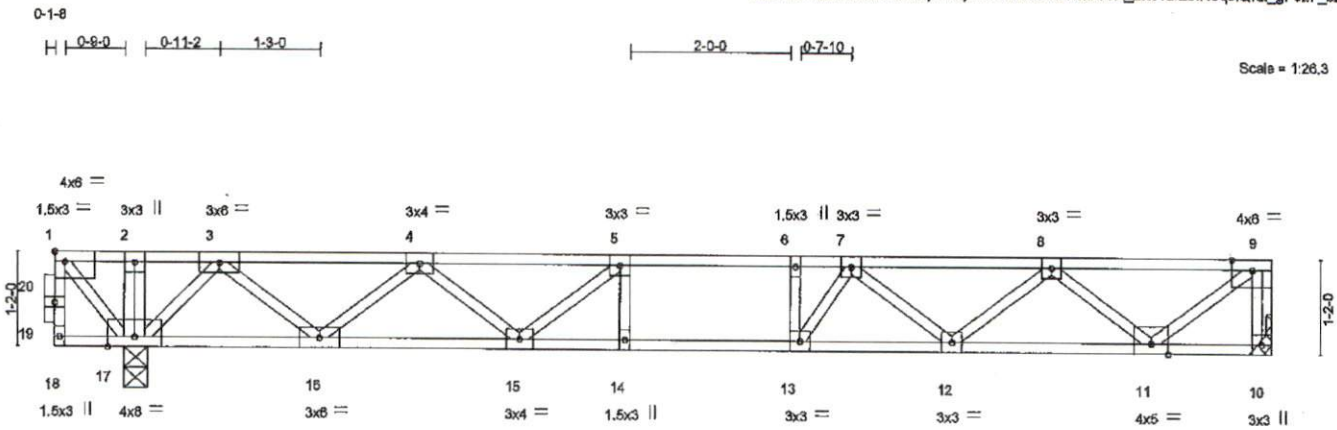


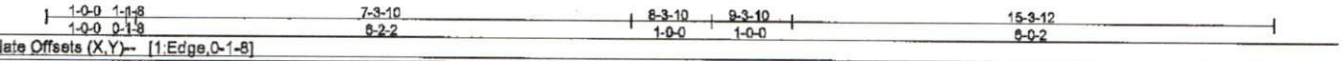


Plate Offsets (X,Y)-- [1:Edge,0-1-8]

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)

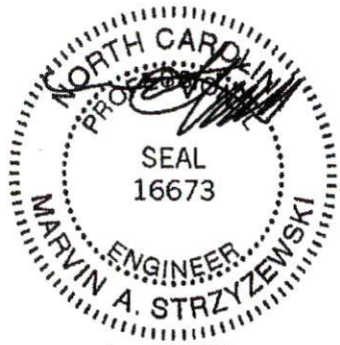
BRACING-
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

REACTIONS. (lb/size) 10=659/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=-959/907, 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, 2-8=-100, 8-9=-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	Job Reference (optional)	E10035819

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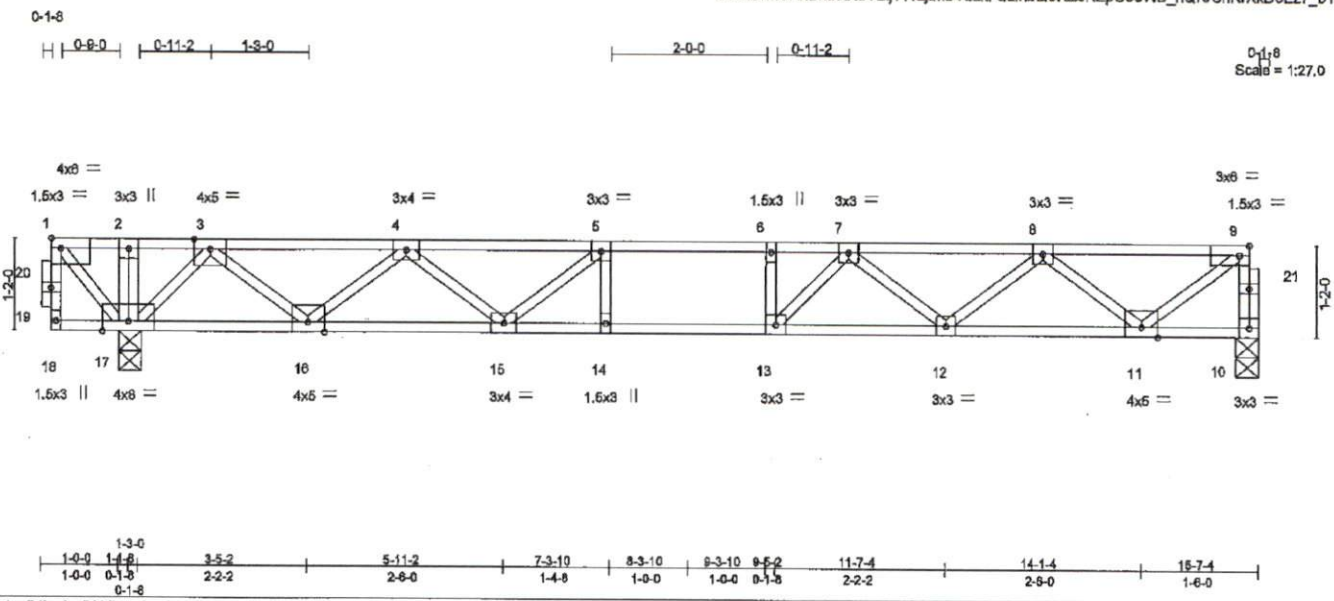

Plate Offsets (X,Y)-- [1:Edge,0-1-8], [9:0-1-8,Edge]

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=-619/1666, 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)	E10635820

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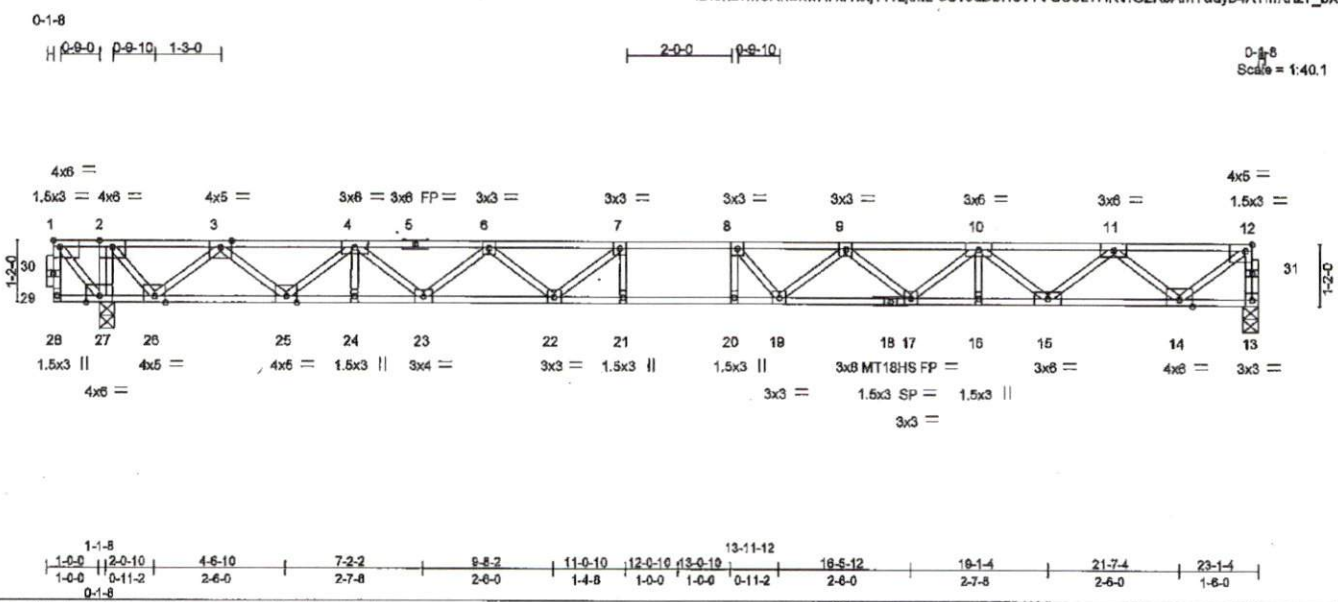

Plate Offsets (X,Y)-- [1:Edge,0-1-8], [12:0-1-8,Edge]

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	>601	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=0/929, 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

NORTH CAROLINA PROFESSIONAL SEAL 16673 ENGINEER MARVIN A. STRZYZEWSKI
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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	
LGI_HOMES	F5	Floor	6	1	Job Reference (optional)	E10635821

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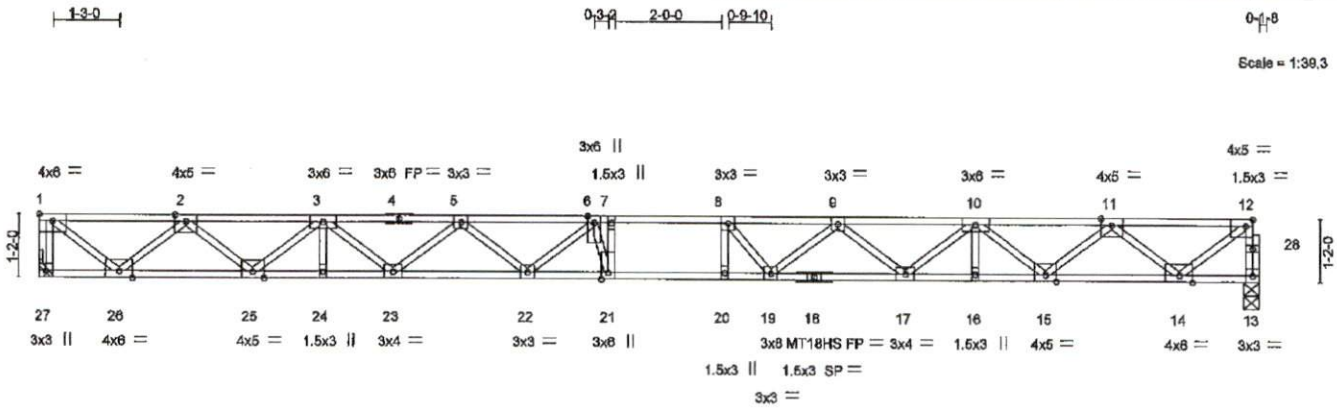

22-9-12
22-9-12

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=-496/606, 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	F8E	Floor Supported Gable	1	1	E10635822

Job Reference (optional)

Builders FirstSource, Albemarle , NC 28001

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ID:6h2vmCXnBkwXHtrvEtj??vzjtML-GgTVqZowDDbMteJYZ_rkCUbjvaKuJEokJqDKs7z7_bW

0-1-8

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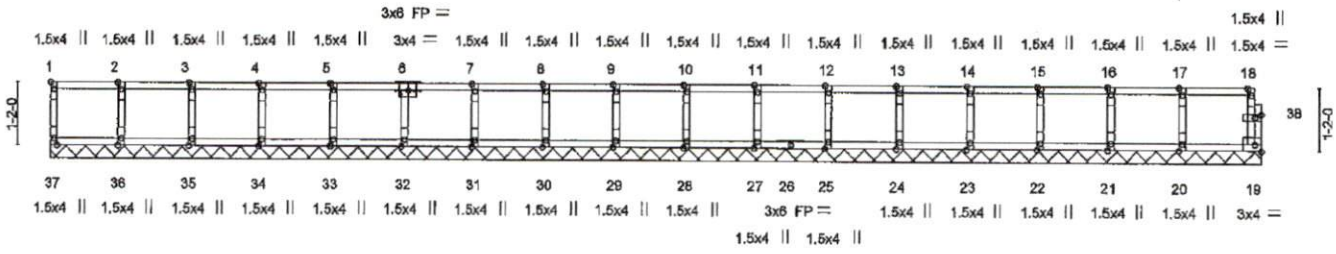

22-9-12

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, 12-25=-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)	E10636823

Builders FirstSource, Albemarle , NC 28001

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0-1-8

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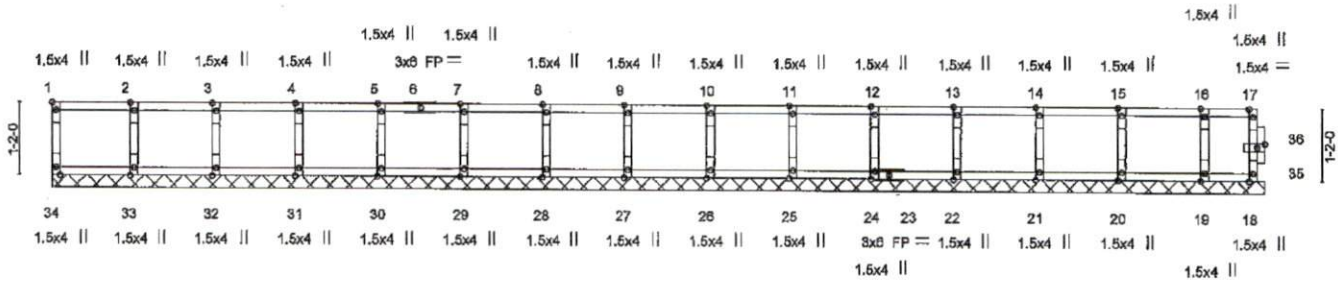

19-7-12

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	E10635824
LGI_HOMES	F8	Floor	3	1	Job Reference (optional)	

Builders FirstSource, Albemarle , NC 28001

7.840 s Apr 19 2016 MiTek Industries, Inc. Mon Jun 12 16:16:30 2017 Page 1
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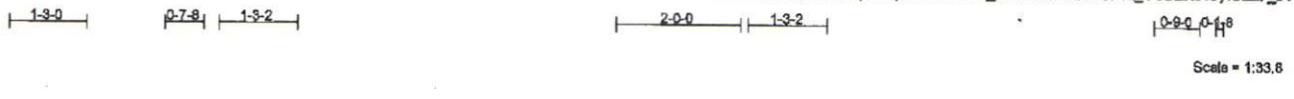

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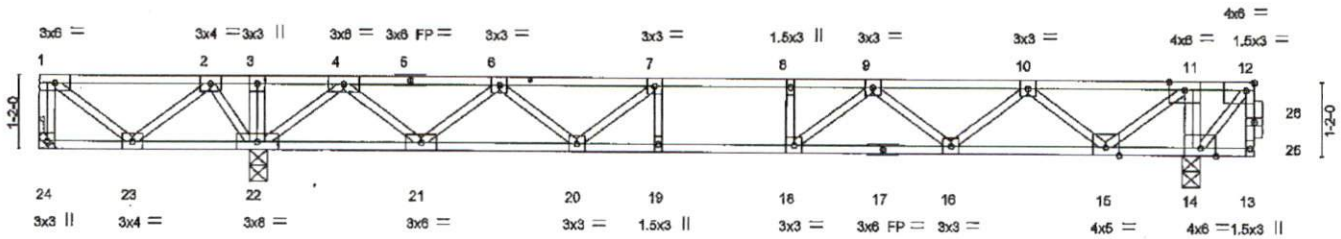


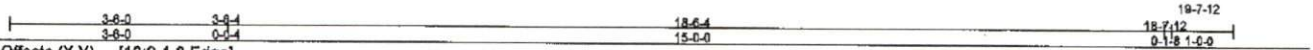


Plate Offsets (X,Y)— [12:0-1-8,Edge]

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)

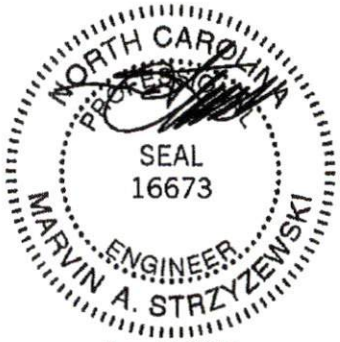
BRACING-
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing, Except: 10-0-0 oc bracing: 23-24,13-14.

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=0/616, 9-16=-574/0, 9-16=-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
6) 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
8) 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		E10635825

Builders FirstSource, Albemarle , NC 28001

Job Reference (optional)

7.640 s Apr 19 2016 MiTek Industries, Inc. Mon Jun 12 16:16:31 2017 Page 1

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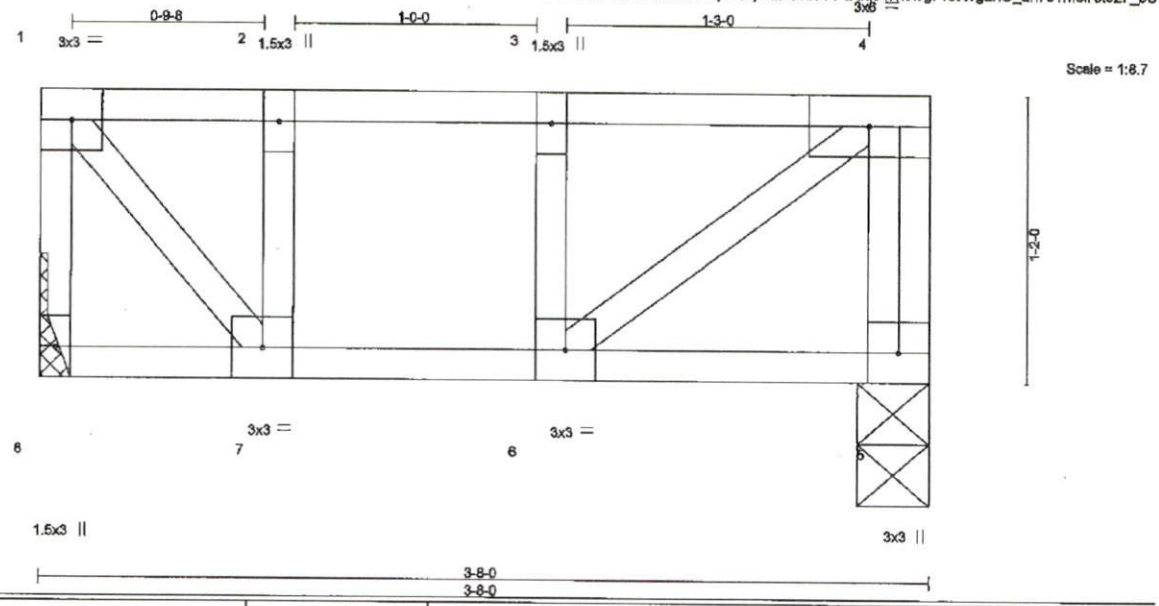


LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.14	Vert(LL)	-0.01	6	>999	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.13	Vert(TL)	-0.01	6	>999	240		
BCLL	0.0	Rep Stress Incr	YES	WB	0.11	Horz(TL)	0.00	5	n/a	n/a		
BCDL	5.0	Code IRC2009/TPI2007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

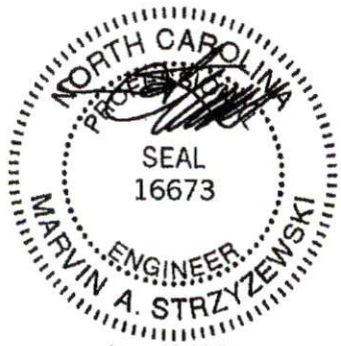
REACTIONS. (lb/size) 8=191/Mechanical, 5=191/0-3-8

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)	E10835826

Builders FirstSource, Albemarle , NC 28001

7.640 s Apr 19 2016 MiTek Industries, Inc. Mon Jun 12 16:16:24 2017 Page 1

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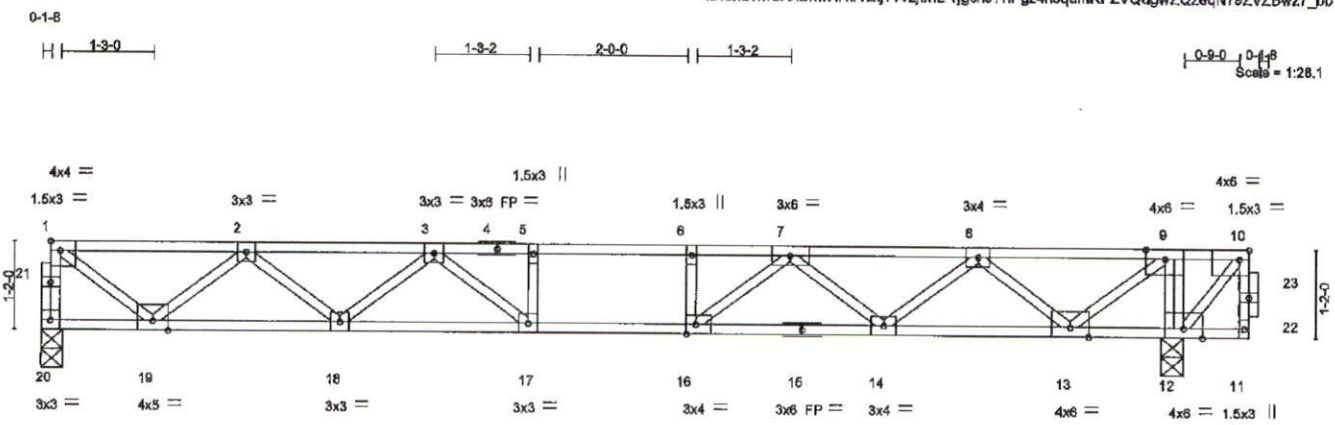

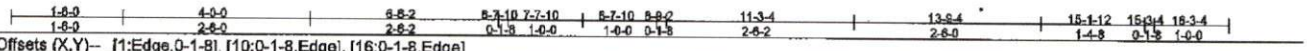

Plate Offsets (X,Y)-- [1:Edge,0-1-8], [10:0-1-8,Edge], [16:0-1-8,Edge]

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

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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	
LGI_HOMES	F11	Floor	6	1	Job Reference (optional)	E10636827

Builders FirstSource, Albemarle , NC 28001

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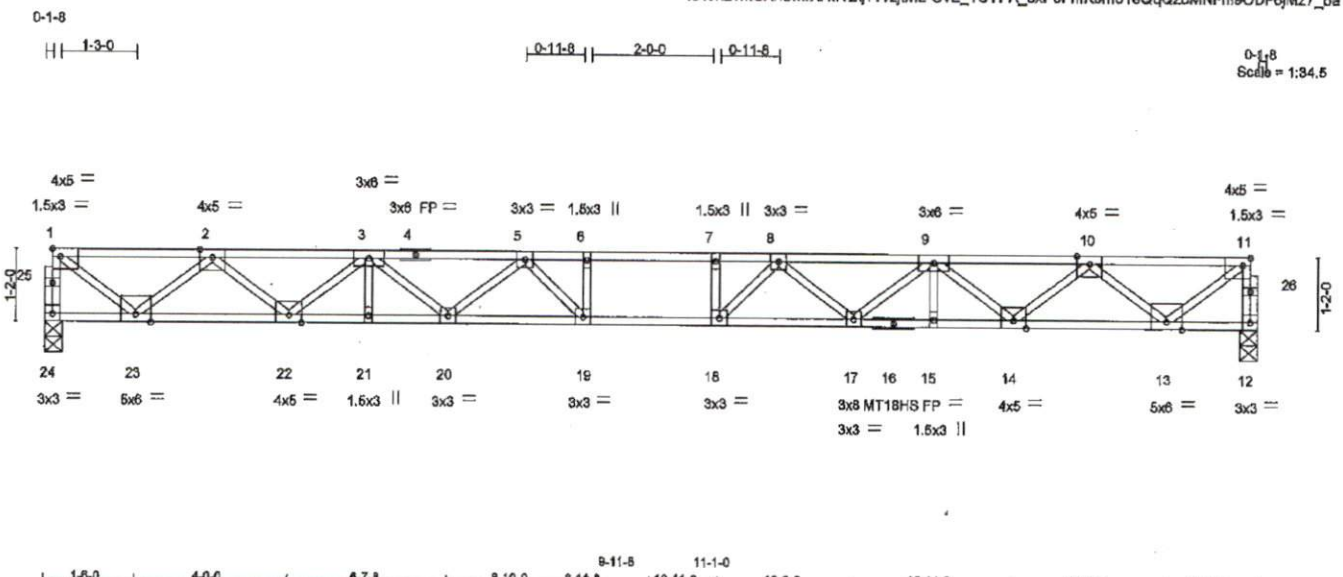

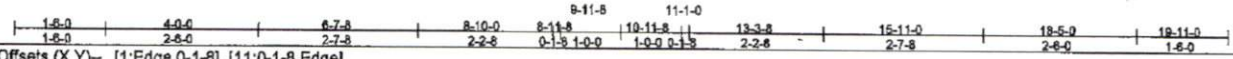

Plate Offsets (X,Y)-- [1:Edge,0-1-8], [11:0-1-8,Edge]

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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WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MiTek REFERENCE PAGE MII-7473 rev. 10/03/2015 BEFORE USE.
Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall building design. Bracing indicated is to prevent buckling of individual truss web and/or chord members only. Additional temporary and permanent bracing is always required for stability and to prevent collapse with possible personal injury and property damage. For general guidance regarding the fabrication, storage, delivery, erection and bracing of trusses and truss systems, see **ANSI/TPI1 Quality Criteria, DSB-89 and BCSI Building Component Safety Information** available from Truss Plate Institute, 218 N. Lee Street, Suite 312, Alexandria, VA 22314.

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Job	Truss	Truss Type	Qty	Ply	Hartford Floor	
LGI_HOMES	F12	Floor	1	1	Job Reference (optional)	E10636828

Builders FirstSource, Albemarle , NC 28001

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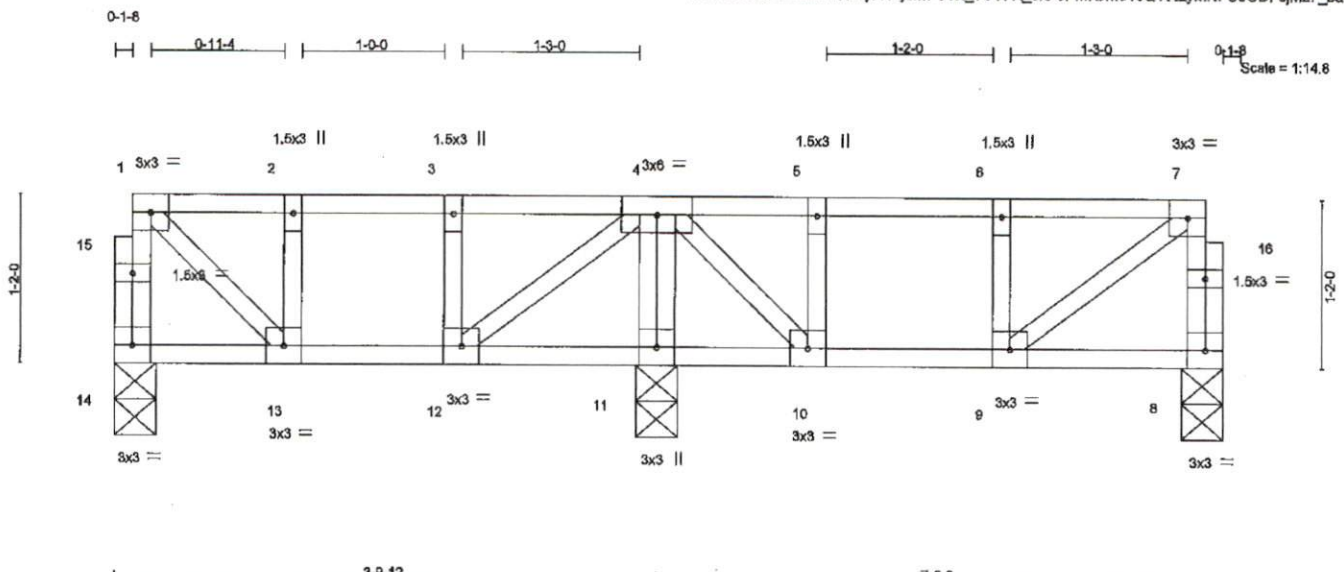


LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.12	Vert(LL)	-0.01	9	>999	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.12	Vert(TL)	-0.01	9	>999	240		
BCLL	0.0	Rep Stress Incr	YES	WB	0.12	Horz(TL)	0.00	8	n/a	n/a		
BCDL	5.0	Code IRC2009/TPI2007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

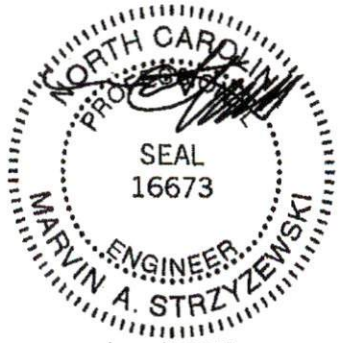
REACTIONS. (lb/size) 14=195/0-3-8, 8=204/0-3-8, 11=418/0-3-8
Max Grav 14=203(LC 7), 8=214(LC 4), 11=422(LC 6)

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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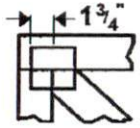
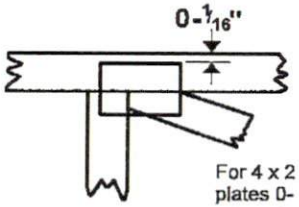
Symbols

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

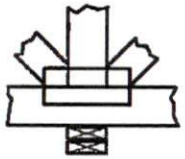
4 x 4

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

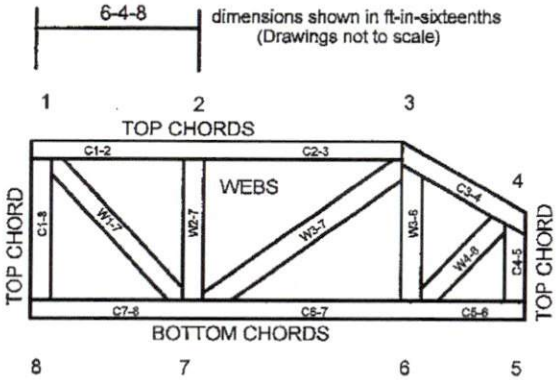


Indicates location where bearings (supports) occur. Icons vary but reaction section indicates joint number where bearings occur. Min size shown is for crushing only.

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.

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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. [illegible]

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 [illegible] 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. [illegible]

8. [illegible]

9. [illegible]

10. This Placement Diagram may show approximate plumbing drop locations with a corresponding truss layout. [illegible]

11. [illegible]

12. Floor Trusses shall be fully sheathed on the top chord. [illegible]

13. [illegible]

14. This Placement Diagram is based upon the supporting structure being structurally adequate, [illegible]

WARNING:

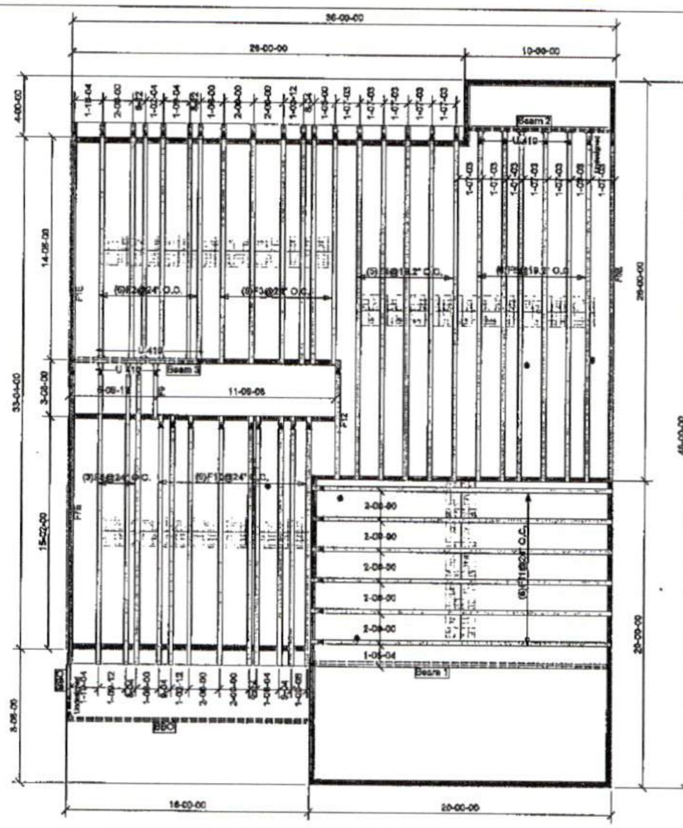
TRUSSES MUST BE BRACED DURING INSTALLATION. FAILURE TO DO SO MAY RESULT IN INJURY OR DEATH. Espanol - (TRUSSES (CERCHAS) DEBERAN TENER UN SOPORTE DURANTE LA INSTALACION. NO HACERLO PODRIA RESULTAR EN LESIONES O MUERTE.)

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 stabilized during installation. DO NOT WALK ON UNBRACED FLOOR TRUSSES. [illegible]

3. BCSI INSTRUCTIONS SHALL BE FOLLOWED: [illegible] - Floor Truss Installation

TOTAL FLOOR AREA
1286.89 SQ FT



• = SPACE TO AVOID PLUMBING DROPS

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	U410	15

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 Specifications for Erection and Bracing.

Builders FirstSource Albemarle, NC	Customer Name: LGI Homes
	Subdivision:
	Lot#: Plan Name: Hartford
	File Name: Hartford
	No Scale
Revisions:	
Drawn By: JEFF BURRIS	
DATE: 12/5/2018	
Page Number 1 of 1	

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TRENCO
A MiTek Affiliate

Trenco
818 Soundside Rd
Edenton, NC 27932

Re: LGI_Homes
Hartford 1 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: E10840438 thru E10840451

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 1 Roof	
LGI_HOMES	A1E	Piggyback Base Supported Gable	1	1	Job Reference (optional)	E10840438

Builders FirstSource, Albemarle , NC 28001 — 7.540 s Apr 19 2016 MiTek Industries, Inc. Mon Aug 14 09:15:39 2017 Page 1

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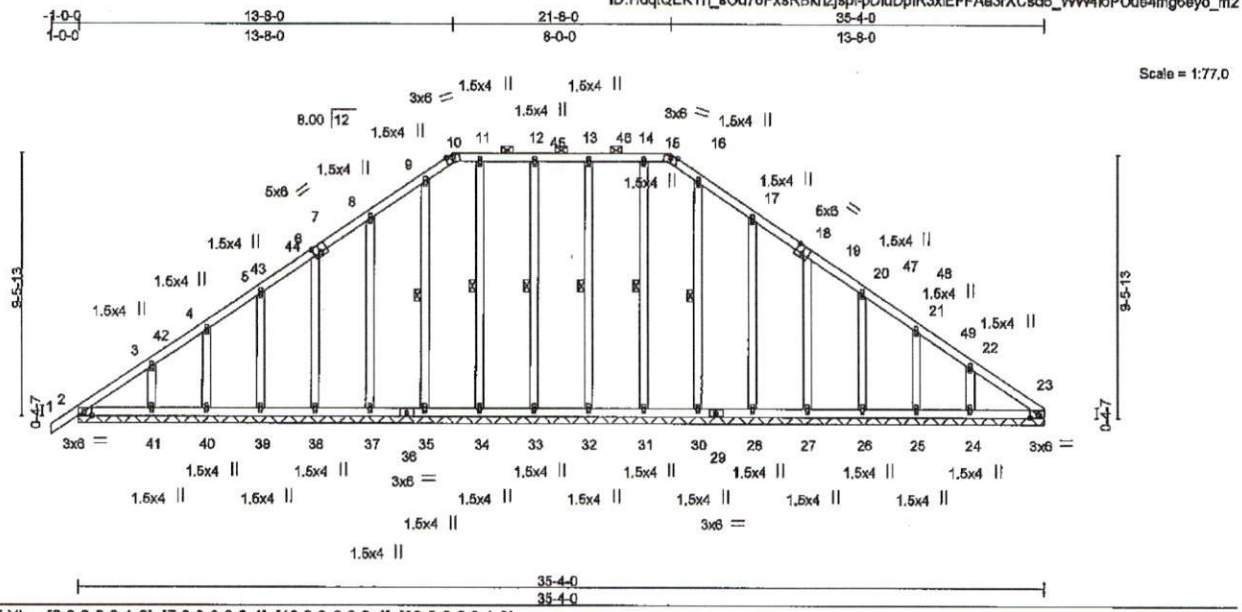

Plate Offsets (X,Y)— [2:0-3-9,0-1-8], [7:0-3-0,0-3-4], [18:0-3-0,0-3-4], [23:0-3-9,0-1-8]

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=-169/136, 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.

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Continued on page 2

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818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	Hartford 1 Roof
LGI_HOMES	A1E	Piggyback Base Supported Gable	1	1	E10840436

Job Reference (optional)

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.

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Job	Truss	Truss Type	Qty	Ply	Hartford 1 Roof	
LGI_HOMES	A2	Piggyback Base	5	1	Job Reference (optional)	E10640439

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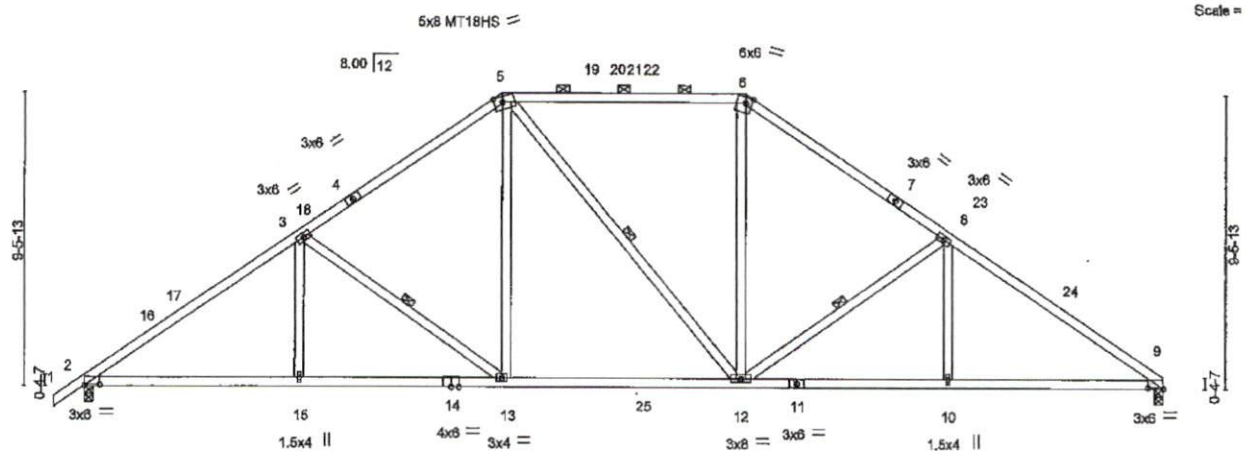
ID:HdqtQEKYn_sOu76PxsRBknzjspl-HQJGR9J3qFq4tOlmdY2RPqfx2vDEXq92tkVDf5yo_m1

1-0-0	7-0-7	13-8-0	21-8-0	28-3-9	35-4-0
1-0-0	7-0-7	6-7-9	8-0-0	6-7-9	7-0-7

Scale = 1:68.9



7-0-7	13-8-0	21-8-0	28-3-9	35-4-0
7-0-7	6-7-9	8-0-0	6-7-9	7-0-7

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, 2-16=-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=-2015/266, 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.

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Job	Truss	Truss Type	Qty	Ply	Hartford 1 Roof	
LGI_HOMES	A3	Piggyback Base	5	1	Job Reference (optional)	E10840440

Builders FirstSource, Albemarle , NC 28001

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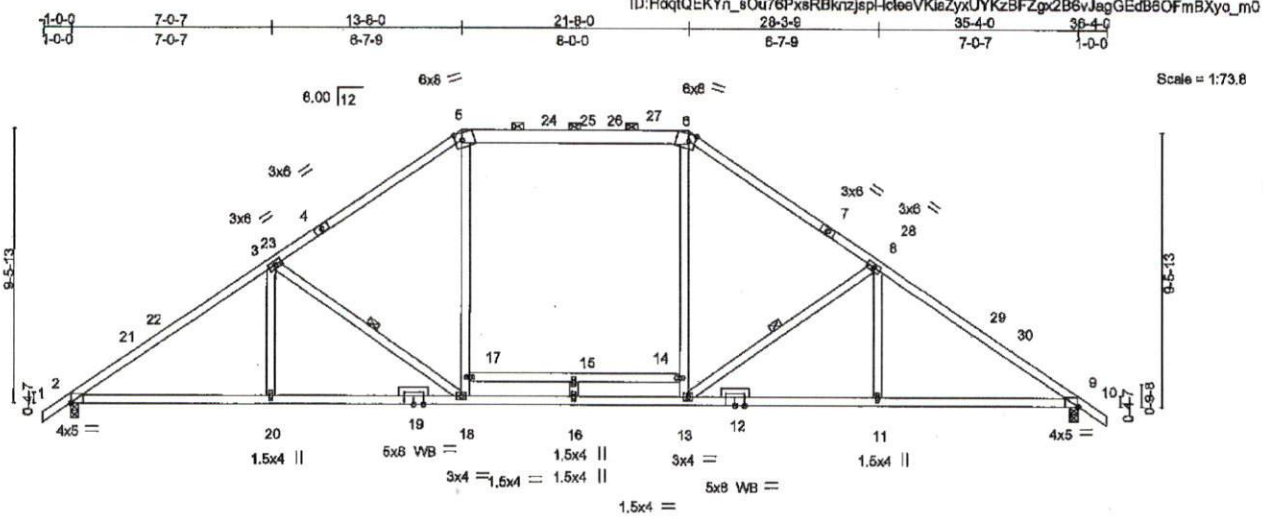
ID:HdqtQEKYn_sOu76PxsRBknzjspI-IcIeeVKiaZyxUYKzBFZgx2B6vJagGEdB6OFmBXyo_m0



7-0-7	13-8-0	17-8-0	21-8-0	28-3-9	35-4-0
7-0-7	6-7-9	4-0-0	4-0-0	6-7-9	7-0-7

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=-2598/175, 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=-2598/175, 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

WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 10/03/2015 BEFORE USE.
Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall building design. Bracing indicated is to prevent buckling of individual truss web and/or chord members only. Additional temporary and permanent bracing is always required for stability and to prevent collapse with possible personal injury and property damage. For general guidance regarding the fabrication, storage, delivery, erection and bracing of trusses and truss systems, see **ANSI/TPI1 Quality Criteria, DSB-89 and BCSI Building Component** Safety Information available from Truss Plate Institute, 218 N. Lee Street, Suite 312, Alexandria, VA 22314.

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818 Soundside Road
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Job	Truss	Truss Type	Qty	Ply	Hartford 1 Roof	
LGI_HOMES	A4	PIGGYBACK BASE	1	1	Job Reference (optional)	E10840441

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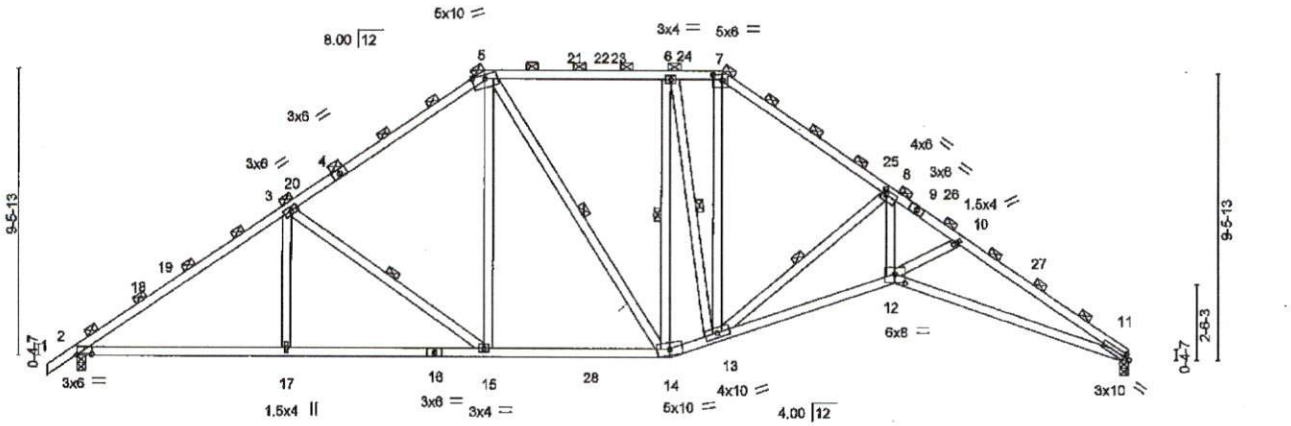
ID:HdqtQEKYn_sOu76PxsRBknzjspl-DoR0srKKLs4o6iv9lz4vUFkl1juk?aZLL2_Kjzyo_m?

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], [8:0-1-8,0-1-12], [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=1645/0-3-8, 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=-750/176, 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.

NORTH CAROLINA PROFESSIONAL SEAL 036322 ENGINEER ERIC A. GILBERT

August 14,2017

Continued on page 2

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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 1 Roof	
LGI_HOMES	A5	PIGGYBACK BASE	4	1	Job Reference (optional)	E10640442

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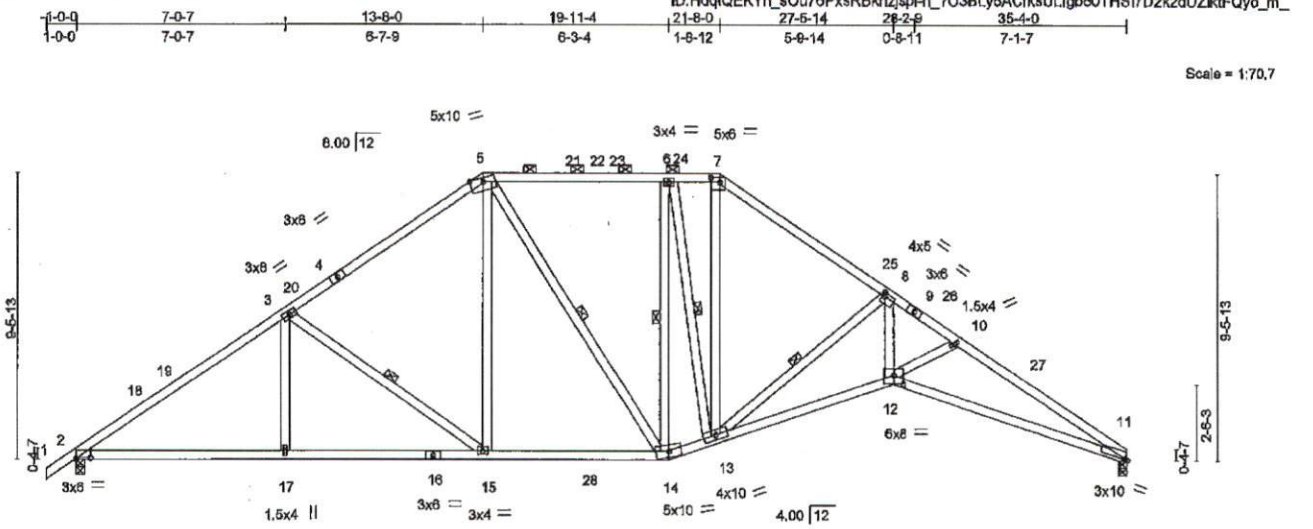

Plate Offsets (X,Y)— [2:0-6-0,0-0-6], [7:0-3-12,0-2-0], [8:0-1-0,0-1-8], [11:0-1-1,0-0-1], [12:0-4-0,0-3-8]

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=-181/188, 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.

NORTH CAROLINA PROFESSIONAL SEAL 036322 ENGINEER ERIC A. GILBERT

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ENGINEERING BY TRENCO
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Job	Truss	Truss Type	Qty	Ply	Hartford 1 Roof
LGI_HOMES	A5	PIGGYBACK BASE	4	1	E10840442
					Job Reference (optional)

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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 1 Roof	
LGI_HOMES	A8	Piggyback Base	2	1	Job Reference (optional)	E10840443

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ID:HdqtQEKYn_sOu76PxsRBknzjspI-9BZnHXMatTKWL03YsO7NZgpd2XZFTVueoMTRnsyo_lz

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

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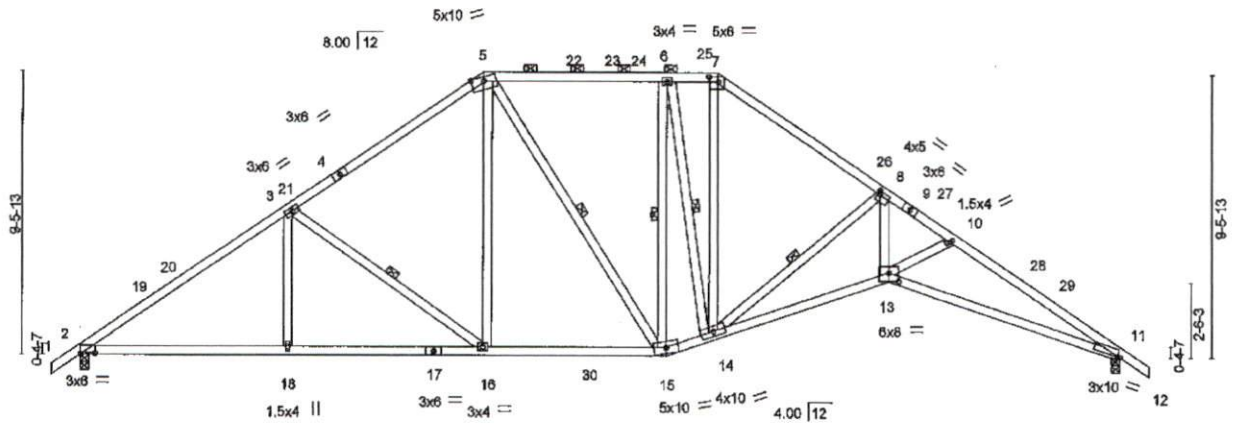

7-0-7	13-8-0	19-11-4	21-8-0	27-5-14	35-4-0
7-0-7	6-7-9	6-3-4	1-8-12	5-9-14	7-10-2

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=-66/1812, 13-14=-193/3820, 11-13=-266/3943
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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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 1 Roof	E10840444
LGI_HOMES	A7E	GABLE	1	1	Job Reference (optional)	

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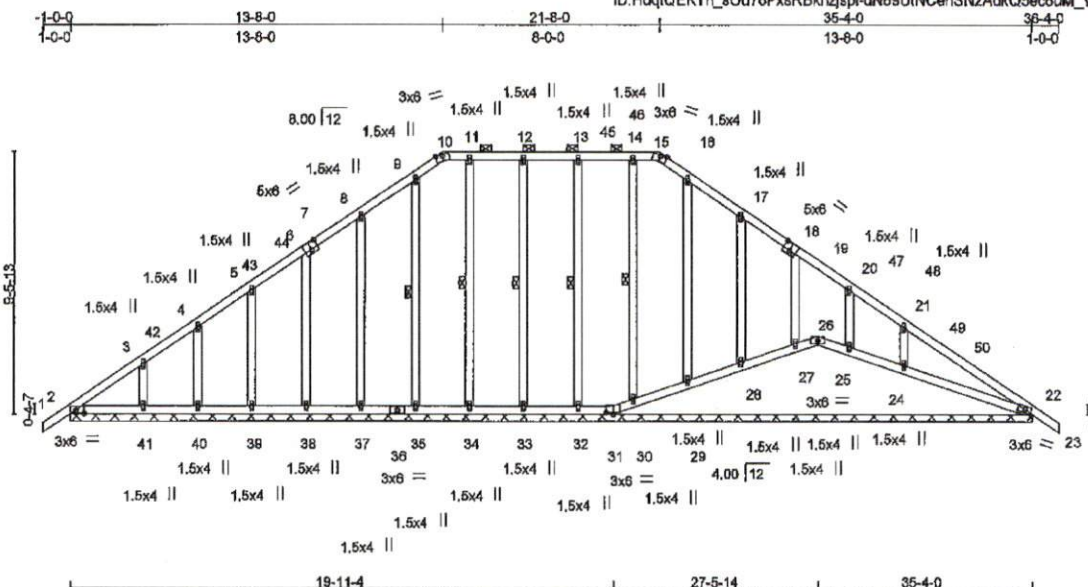

Plate Offsets (X,Y)— [2:0-3-8,0-1-8], [7:0-3-0,0-3-4], [18:0-3-0,0-3-4], [31:0-3-0,0-1-0]

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.

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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, 28 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 1 Roof	E10840445
LGI_HOMES	B1E	GABLE	1	1	Job Reference (optional)	

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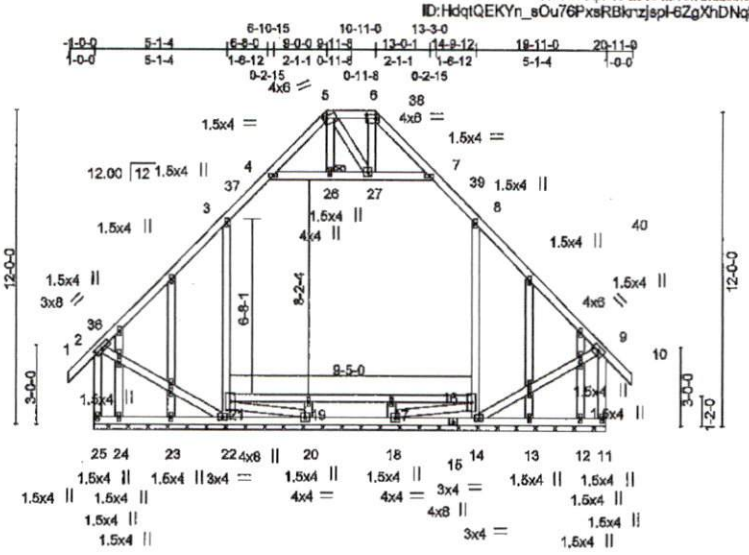

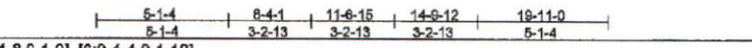

Plate Offsets (X,Y)– [2:0-3-7,0-1-8], [5:0-1-8,0-1-0], [6:0-4-4,0-1-12]

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

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

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.

Job	Truss	Truss Type	Qty	Ply	Hartford 1 Roof	
LGI_HOMES	B2	Common	3	1	Job Reference (optional)	E10840448

Builders FirstSource, Albemarle , NC 28001

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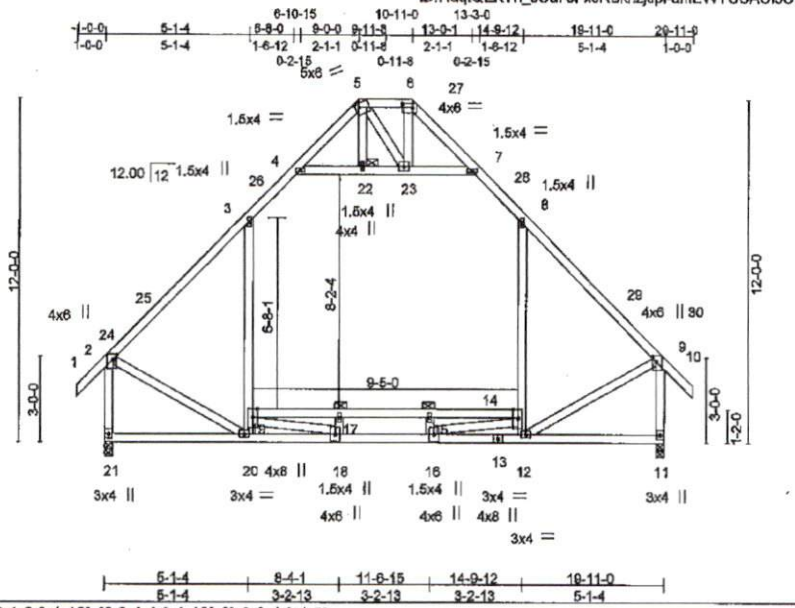

Plate Offsets (X,Y)-- [2:0-2-4,0-1-8], [5:0-1-8,0-1-12], [6:0-4-4,0-1-12], [9:0-2-4,0-1-8]

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

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818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	Hartford 1 Roof	E10840447
LGI_HOMES	BP1	Monopitch Supported Gable	6	1	Job Reference (optional)	

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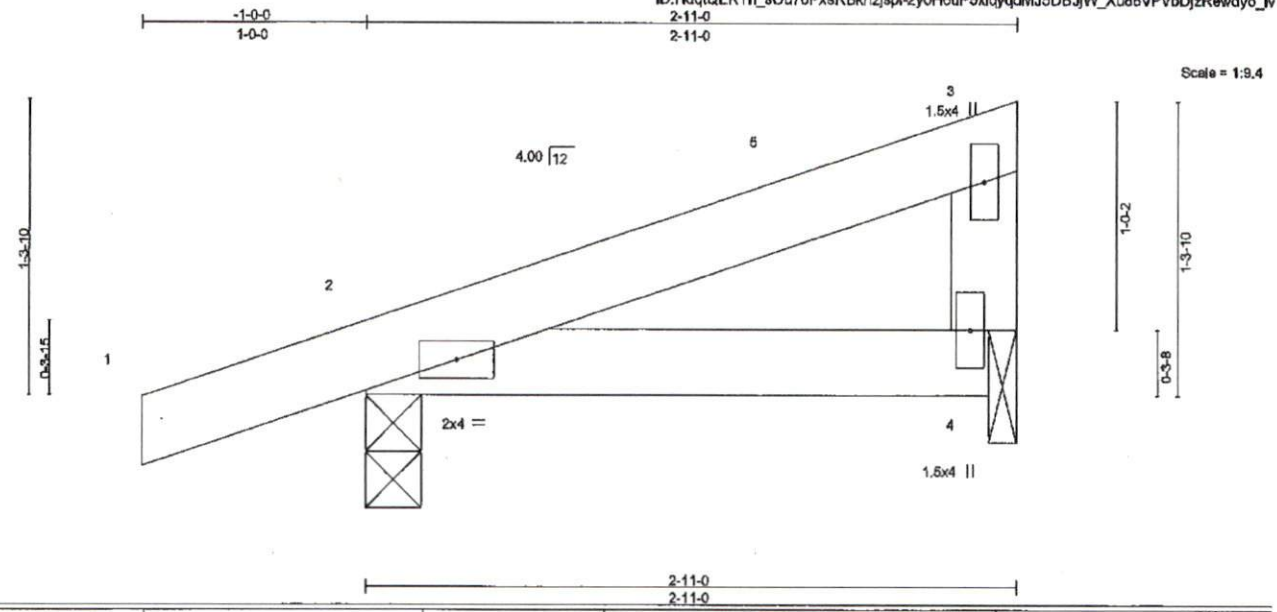

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	In	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.10	Vert(LL)	-0.00	2-4	>999	240	MT20	244/190
Snow (Pf/Pg)	15.4/20.0	Lumber DOL	1.15	BC	0.08	Vert(TL)	-0.01	2-4	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.00	Horz(TL)	0.00		n/a	n/a		
BCLL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

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

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Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	Hartford 1 Roof	
LGI_HOMES	FP1	Monopitch Supported Gable	8	1	Job Reference (optional)	E10840448

Builders FirstSource, Albemarle , NC 28001

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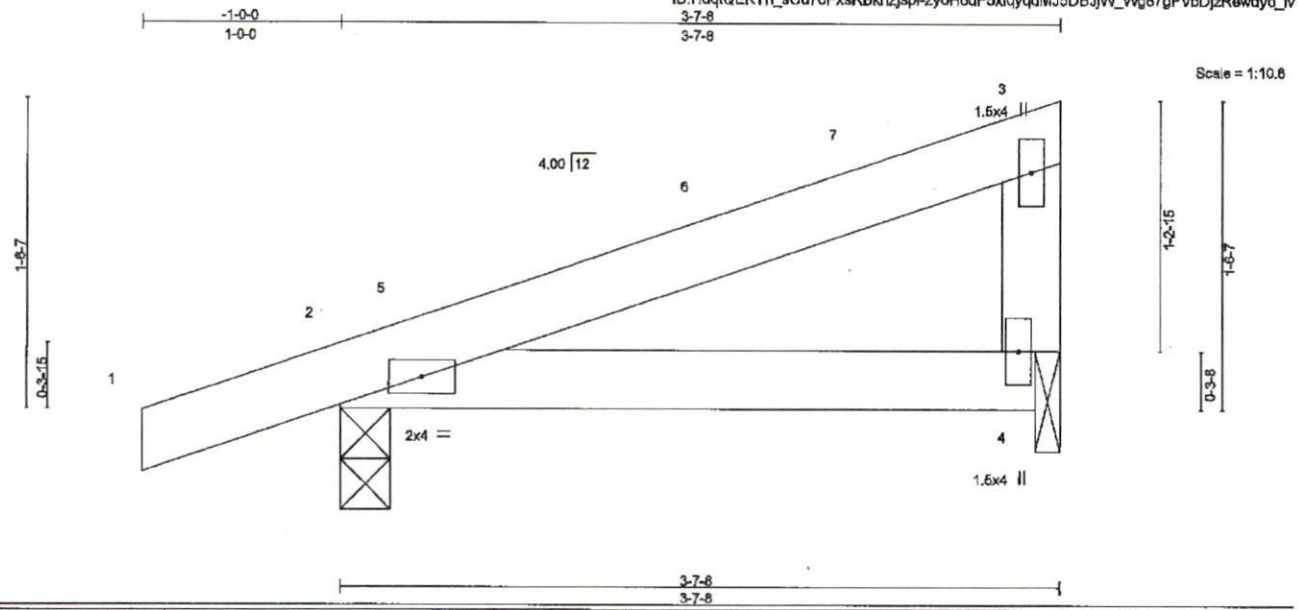


LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.18	Vert(LL)	-0.01	2-4	>999	240	MT20	244/190
Snow (Pf/Pg)	15.4/20.0	Lumber DOL	1.15	BC	0.13	Vert(TL)	-0.02	2-4	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.00	Horz(TL)	0.00		n/a	n/a		
BCLL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

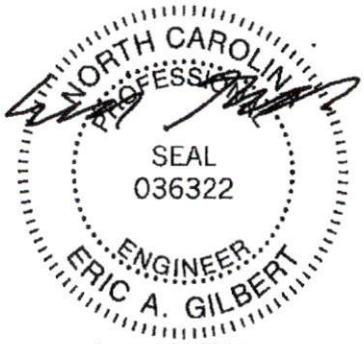
LUMBER-
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x4 SP No.2

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 Uplift2=-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

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818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	Hartford 1 Roof	
LGI_HOMES	PB1	Piggyback	19	1	Job Reference (optional)	E10840448

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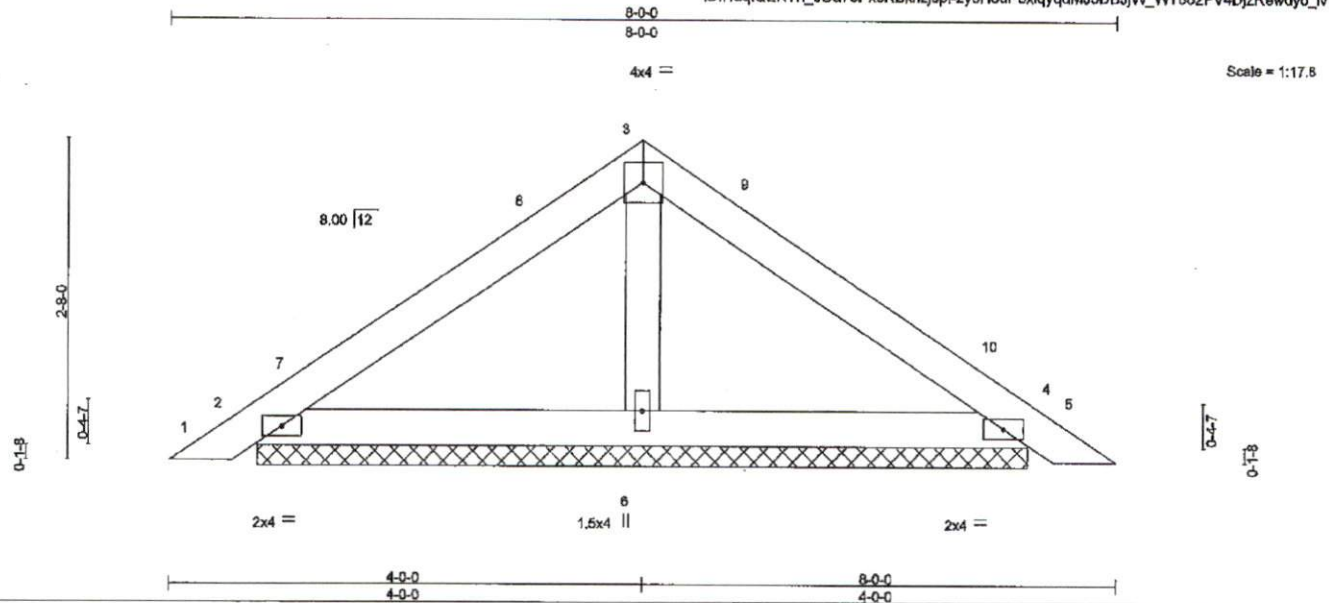


LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.19	Vert(LL)	0.01	5	n/r	120	MT20	244/190
Snow (Pf/Pg)	15.4/20.0	Lumber DOL	1.15	BC	0.11	Vert(TL)	0.01	5	n/r	120		
TCDL	10.0	Rep Stress Incr	YES	WB	0.03	Horz(TL)	0.00	4	n/a	n/a		
BCLL	0.0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

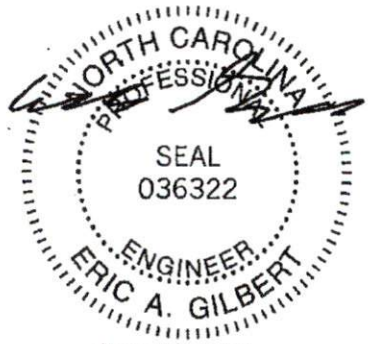
LUMBER-
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x4 SP No.3

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 8)
Max Uplift 2=-66(LC 10), 4=-69(LC 11)

FORCES. (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/14, 2-7=-75/30, 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.



August 14,2017

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Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	Hartford 1 Roof	
LGI_HOMES	V1	GABLE	1	1	Job Reference (optional)	E10840450

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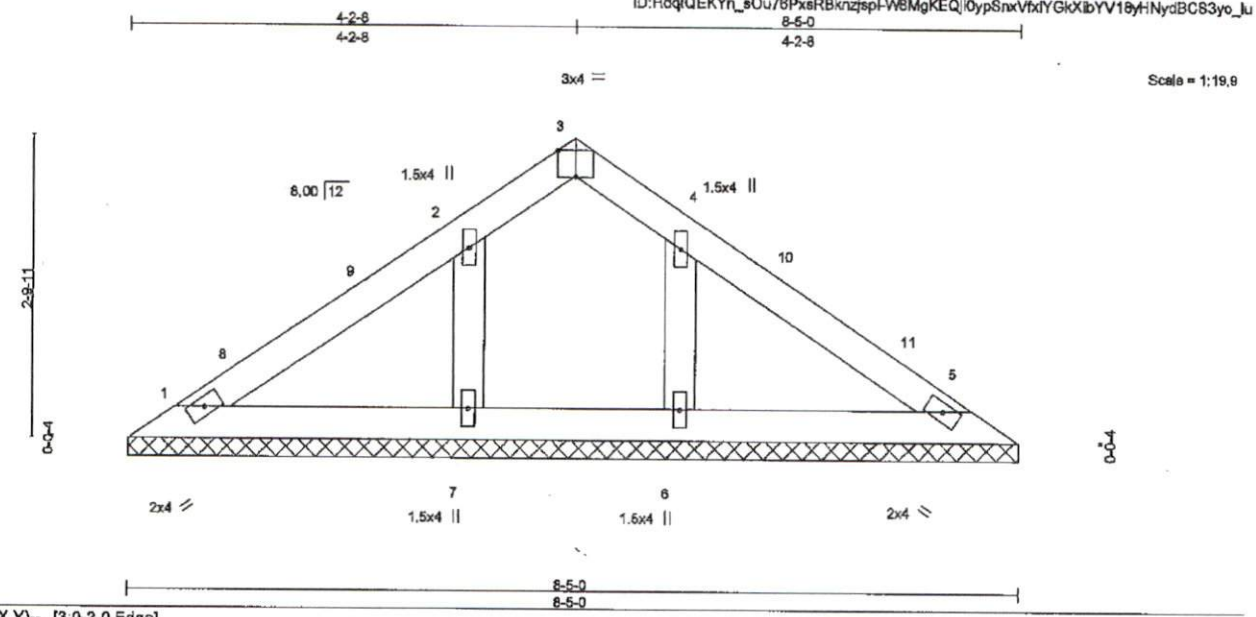


Plate Offsets (X,Y)-- [3.0-2-0,Edge]

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	0.11	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf/Pg)	15.4/20.0	Lumber DOL	1.15	BC	0.06	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.04	Horz(TL)	0.00	5	n/a	n/a		
BCLL	0.0 *	Code IRC2009/TPI2007		(Matrix)							Weight: 31 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 6-0-0 oc bracing.

REACTIONS. (lb/size) 1=80/8-5-0, 5=80/8-5-0, 7=218/8-5-0, 6=218/8-5-0
Max Horz 1=-71(LC 8)
Max Uplift 7=-83(LC 10), 6=-83(LC 11)
Max Grav 1=84(LC 14), 5=84(LC 15), 7=218(LC 14), 6=218(LC 15)

FORCES. (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-8=-95/7, 8-9=-89/17, 2-9=-84/71, 2-3=-27/9, 3-4=-27/9, 4-10=-84/71, 10-11=-89/17, 5-11=-95/7
BOT CHORD 1-7=-14/103, 6-7=-14/103, 5-6=-14/103
WEBS 2-7=-166/118, 4-6=-166/118

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) 0-5-12 to 3-2-8, Interior(1) 3-2-8 to 4-2-8, Exterior(2) 4-2-8 to 7-2-8 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) 7 and 6. 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

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

Job	Truss	Truss Type	Qty	Ply	Hartford 1 Roof	
LGI_HOMES	V2	Valley	1	1	Job Reference (optional)	E10840451

Builders FirstSource, Albemarle, NC 28001

7.640 s Apr 19 2016 MiTek Industries, Inc. Mon Aug 14 09:15:48 2017 Page 1

ID:HdqfQEKYn_sOu76PxsRBknzjspI-W8MgKEQjI0ypSnxVfxIYGkXjSYTh8yqNydBCS3yo_lu

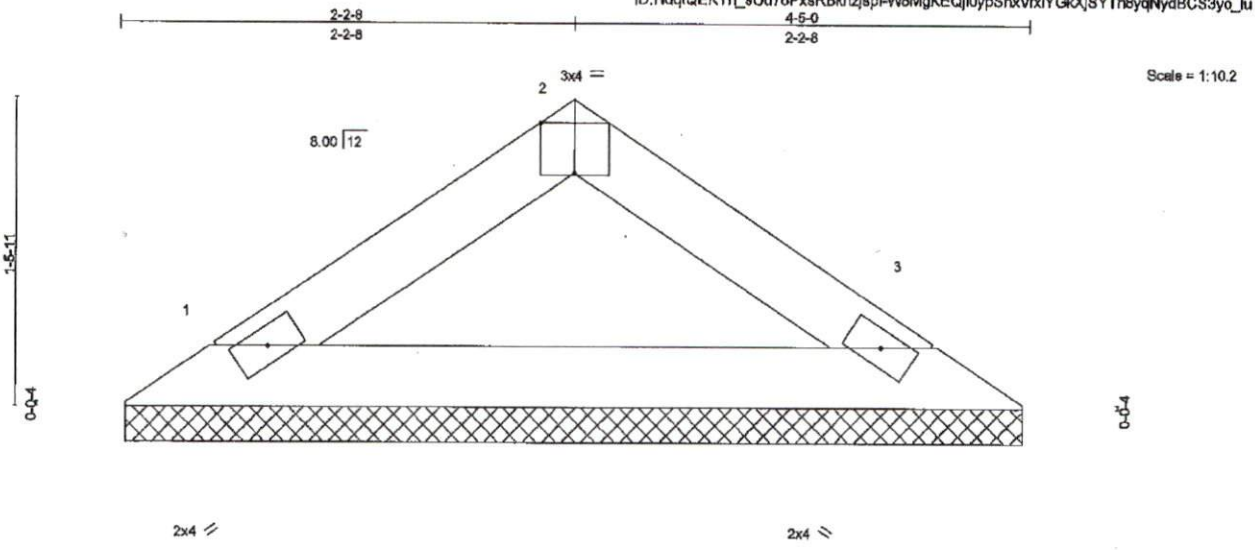


Plate Offsets (X,Y)-- [2:0-2-0,Edge]

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	0.05	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf/Pg)	15.4/20.0	Lumber DOL	1.15	BC	0.14	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)							Weight: 13 lb	FT = 20%
BCDL	10.0											

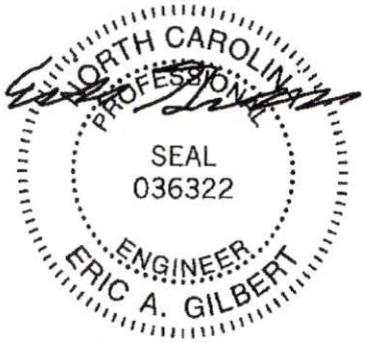
LUMBER-
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2

BRACING-
TOP CHORD Structural wood sheathing directly applied or 4-5-0 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS. (lb/size) 1=138/4-4-4, 3=138/4-4-4
Max Horz 1=-33(LC 6)
Max Uplift 1=-24(LC 8), 3=-24(LC 8)

FORCES. (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-116/51, 2-3=-116/51
BOT CHORD 1-3=-15/78

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 MTS12 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.

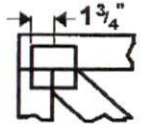


August 14,2017

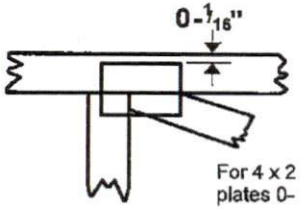
ENGINEERING BY
TRENCO
A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

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

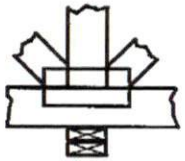
4 x 4

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

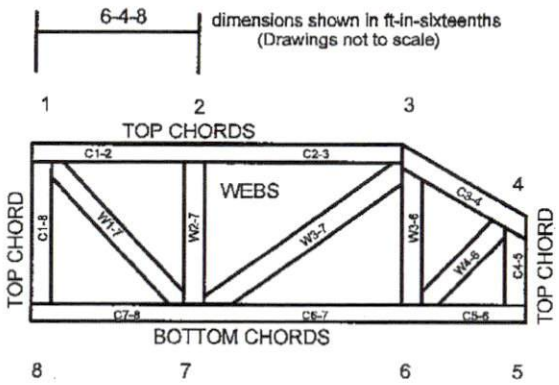


Indicates location where bearings (supports) occur. Icons vary but reaction section indicates joint number where bearings occur. Min size shown is for crushing only.

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

ENGINEERING BY TRENCO
A MiTek Affiliate

⚠ 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, MUESCAS O DAME DE CUALQUIER OTRA MANERA A LAS TRUSSES (CERCHAS DE MADERA). *Contacte a su representante de BFS para asistencia ANTES de realizar cualquier modificación.*

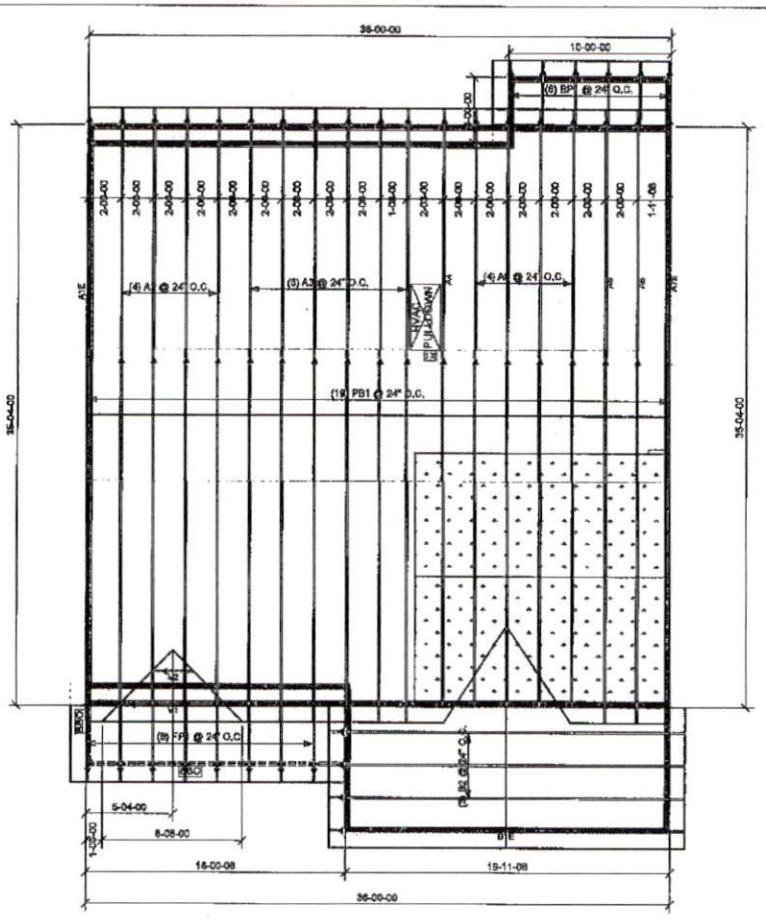
1. This Truss Placement Diagram is intended to serve as a guide for truss installation. This Diagram has been prepared by a Truss Technician and is not an engineered drawing.
2. The responsibilities of the Owner, Building Designer, Contractor, Truss Designer, and Truss Manufacturer shall be as defined by the TPI 1 National Standard.
3. The wood components shown on this diagram are to be used in dry service conditions (<19%) and non-basic environmental applications. Wire rope, plates and hangers are galvanized in the ASTM 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 / contractor. BFS recommends that the contractor / customer consider ceramics, floor performance, floor coverings, and sheathing when selecting the floor truss spacing.
8. Indicate floor coverings, such as ceramic tile, remain careful consideration and planning by the contractor. The contractor shall select and use an approved floor bonding assembly for the chosen floor covering and floor truss spacing used in the project. Details for assemblies 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 insure Builders FirstSource of any additional loads placed on floor trusses, such as items than standard mechanical, heavy plumb mirror countertops, fireplace surrounds, etc. If we do not note these additional loads on the placement diagram or truss design drawings, then they were not been added.
10. This Placement Diagram may show approximate plumbing drop locations with a corresponding truss spacing. With or without this information, the contractor shall insure that the installer verifies all plumbing locations and installs the trusses to avoid interference. Creation of plumbing work on holes, bib drain and washing chases, etc. The contractor shall also plan for other concealed utility conduits.
11. Floor Truss Spacing may be altered to avoid plumbing interference. Avoid overlapping single plumbing chases are in front spacing limits. Do not exceed the allowable span rating of the smallest plumbing 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. Manufacturing are either accommodated 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. The Placement Diagram is based upon the supporting structure being structurally adequate. Unacceptably support, repair, sheath, and bond to adequately support the trusses. The framing design, structural support design, 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 - *ITRIANGLE*
ADVERTENCIA: DURANTE LOS ACONTECIMIENTOS DURANTE LA INSTALACION. NO ARRIESGUE PODRIA RESULTAR EN LESIONES O MUERTE.)

5. Trusses shall be installed in a safe manner meeting all code local, OSHA, TPI, and NCSI Specifications. Failure to follow these specifications may result in injury or death.
6. Floor Trusses shall be temporarily restrained during installation. DO NOT WALK ON UNSHEATHED FLOOR TRUSSES. Unsheathed floor trusses may suddenly collapse or roll over and may cause injury or death.
7. BCSI INSTRUCTIONS SHALL BE FOLLOWED: BCSI B7 = Floor Truss Installation

TOTAL ROOF AREA
2004.38 SQ FT



No Scale

Builders FirstSource
Albemarle, NC

Customer Name: LGI Homes
Subdivision:
Plan Name: Hartford 1
Elev:
File Name: Hartford 1

Revisions:

Drawn By: JEFF BURRIS
DATE: 12/5/2018

DO NOT REMOVE!

Details: Appointment of Lien Agent

Entry #: 986791

Filed on: 02/06/2019
Initially filed by: LGIHOMESNC

Designated Lien Agent

WFG National Title Insurance Company

Online: www.liensnc.com

Address: 19 W. Hargett St., Suite 507 / Raleigh, NC 27601

Phone: 888-690-7384

Fax: 913-489-5231

Email: support@liensnc.com

Owner Information

LGI Homes
1450 Lake Robbins Dr.
Ste 430
The Woodlands, NC 77380
United States
Email: megan.thornton@lgihomes.com
Phone: 919-586-6360

Project Property

Lot 100
377 Mineral Spring Lane
Fuquay Varina, NC 27526
Harnett County

Property Type

1-2 Family Dwelling

Date of First Furnishing

02/18/2019

Print & Post

Contractors:
Please post this notice on the Job Site.

Suppliers and Subcontractors:
Scan this image with your smart phone to view this filing. You can then file a Notice to Lien Agent for this project.

View Comments (0)

Technical Support Hotline: (888) 690-7384

THE ALAMANCE
RALEIGH

Revisions

Revision #1 02/26/17	NEW ALAMANCE PLAN BASED ON LGI ST CLAIR MODEL RALEIGH VERSION
Revision #2 __/__/__	
Revision #3 __/__/__	
Revision #4 __/__/__	
Revision #5 __/__/__	
Revision #6 __/__/__	
Revision #7 __/__/__	
Revision #8 __/__/__	

SUBDIVISION >

LOT # >

GARAGE >
LEFT RIGHT

ELEVATION # >

FIRE WALL REQUIREMENT NOTE:
THESE PLANS WILL NOT BE BUILT INSIDE THE MINIMUM 5' FIRE SEPARATION

These construction documents are in full compliance with the requirements of the North Carolina Residential Building Code - 2012 Edition including all amendments by the North Carolina Building Code Council adopted and effective as of the date of this issue of these documents.

AREA	SQ FT
1ST FLOOR	1316
TOTAL LIVING	1316
GARAGE	400
PORCH	64
TOTAL	1780

INDEX OF SHEETS

GENERAL NOTES:

1) DO NOT SCALE DRAWINGS; DIMENSIONS SHOWN SHALL BE USED IN PREFERENCE TO MEASUREMENTS BY SCALE
2) CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS AT SITE BEFORE PROCEEDING WITH ANY WORK
3) NOTES INDICATING TYPICAL CONDITIONS SHALL APPLY TO ALL LIKE AREAS UNLESS NOTED OTHERWISE
4) CONTRACTOR SHALL VERIFY AND COMPLY TO ALL LOCAL AND NATIONAL BUILDING CODES
5) ALL SUB-CONTRACTORS SHALL BE RESPONCIBLE FOR THEIR DAMAGE TO OTHER TRADES

ELECTRICAL NOTES

1) ELECTRICAL INSTALLATION SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE NATIONAL ELECTRIC CODE AND ALL APPLICABLE LOCAL CODES
2) LOCATION OF EXISTING UNDERGROUND UTILITY LINES AND STRUCTURES SHALL BE DETERMINED AND VERIFIED IN THE FIELD PRIOR TO COMMENCING WORK. ELECTRICAL CONTRACTORS SHALL BE RESPONSIBLE FOR THEIR DAMAGE TO OTHER TRADES
3) ELECTRICAL BOXES INSTALLED IN FLOORS, WALLS, OR CEILINGS SHALL BE MOUNTED FLUSH WITH FINISHED SURFACE AND CONDUITS AND/OR CABLES SHALL BE CONCEALED UNLESS OTHERWISE NOTED
4) EXTERIOR OUTLETS ARE WP /GFI
5) OUTLETS IN GARAGE OR WITHIN 6' OF A WATER SOURCE ARE GFI

Design Specifications

Use Group > One and two family dwelling
Construction Class > Unprotected
Height & Area Limit > 35 feet maximum 2 story height
Emergency Escape > Egress or rescue windows from sleeping rooms shall have minimum of 4.0 sq ft net clear opening. Min width 20"; min height 22"; & max sill height 44".
Garage > House ceiling > House assembly > 1/2" gypsum board wall & 5/8" type X gypsum board ceiling where living is above w/ 20 minute garage/house door.
Design Loads > Live Load >
Sleeping = 30 psf
Non-sleeping = 40 psf
Dead Load > 10 psf
Decks > 40 psf
Wind Speed > 100 mph
Stair Load > 40 psf
Roof Live Load > 20 psf
Assumed Lateral Soil Pressure > 30 psf
Attic Ventalation > Total attic sq ft / 300 = sq ft free area req'd
Ridge Vent > Linear feet of vent X 18 sq in free area / 12 = sq ft provided
Soffit Vent > Linear feet of vent X 7 sq in free area / 12 = sq ft provided
Edge Shingle-Over Vent > Linear feet of vent X 9 sq in free area / 12 = sq ft provided
Roof Louver Vents > 70 sq in free area X number of vents / 12 = sq ft provided
Crawl Space Ventalation > Total crawl space sq ft / 300 = sq ft free area req'd
Foundation Vents > Free space provided by vent = F
Free area req'd / F = number of vents req'd

SUMMIT ENGINEERING LABORATORY TESTING
120 PENMARC DR, SUITE 108
RALEIGH, NC 27603
OFFICE: 919.380.9991
FAX: 919.380.9993
WWW.SUMMIT-COMPANIES.COM
NC COL #: C-4361
PROJECT NO: 1203-08R;13302

NORTH CAROLINA PROFESSIONAL SEAL 043823 ENGINEER WESLEY A. JONES 3/30/17
STRUCTURAL MEMBERS ONLY

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

LGI HOMES

THE ALAMANCE
RALEIGH

REV 02/26/17

COVER SHEET

PAGE A1

Call (423) 946-7306
www.customizedhomeplans.com

CustomizedHomePlans.com

DESIGN LOADS:

1. Design loads are all dead loads plus:

A.	Sleeping Rooms		30 PSF
B.	All other floors		40 PSF
C.	Balconies		60 PSF
D.	Attic floor (ceiling joists) live loading with the following:		
	i.)	Area accessible by stairs	40 PSF
	ii.)	Roof slopes > 3:12	20 PSF
	iii.)	Roof slopes < 3:12	10 PSF
E	Roof live load		20 PSF or as required by Code.
F	Wind load		100 MPH, Exposure B
G	Snow load		10 PSF or as required by Code

1. All designs are in accordance with the 2012 North Carolina Residential Building Code, and the 2012 International Residential Code (IRC). Refer to the relevant Code for any additional information not covered in these notes or the designs.
2. Engineering design is for structural information only. The Engineer of Record does not accept responsibility for dimension errors, architectural errors, detailing of waterproofing, plumbing, electrical, or mechanical information or any part of the plan not relevant to the structural information.

RESIDENTIAL FOUNDATIONS:

1. All continuous wall footings are to be installed as noted on the plans and per the standard details package. Reinforcing is to be as noted on plans and per the standrad details package.
2. All interior piers are 8"x16" CMU up to a maximum height of 32". All piers over 32" high must be filled solid with Type S mortar. Maximum height for 8"x16" filled pier is 5'-0". Piers larger than 8"x16" are noted on plans and must be filled with Type S mortar. For one-story structures, pier caps are to be 4" solid masonry. For two-story structures, pier caps are to be 8" of solid masonry.
3. Footings for 8"x16" piers are as noted on plans and per standard details package. Reinforcing is to be as noted on plans and per the standard details package.
4. Interior thickened slab footings which occur in basements and "slab on grade" floors are 10" deep by 16" wide unless noted otherwise. Thickened footings are required under all bearing walls.
5. All rebar splices shall be a minimum of 2'-0" unless otherwise noted.
6. Shallow foundations are designed for an assumed soil bearing capacity of 2,000 psf. The contractor is responsible for notifying the Engineer of Record if any soils are found to be unsuitable for this bearing capacity. The contractor is responsible obtaining soil testing to ensure that the bearing capacity of the soil meets or exceeds this value. All fill is to be compacted to 95% density as measured by the Standard Proctor Test (ASTM D-1557).
7. All soils and fill under floors within and/or under buildings shall have preconstruction soil treatment for protection against termites. Certification of Compliance shall be issued to the Building Department by a licensed pest control company.
8. All footing excavations shall be neat, straight, and level in the proper elevations to receive the concrete. Excessive variations in the dimensions of footings or slab will not be permitted. Reinforcing steel and mesh shall be accurately placed and supported to maintain their position during the concrete pouring. Edge forms shall be used for concrete that will be exposed.
9. All slab penetrations are to be the responsibility of the contractor. Penetrations interfering with reinforcing shall be approved by the Engineer of Record prior to the placement of concrete.
10. Elevation difference between the bottom of adjacent footings shall be a maximum of one foot less than the minimum horizontal footing distance - for stepped footings. Differential heights between footings can become excessive usually where a pier footing in a crawlspace or garage footing is next to a basement wall footing.

SPECIAL FOUNDATION CONSIDERATIONS:

1. Waffle slabs are self-supporting slabs reinforced according to details and do not require firm soil for support. Soil must only be capable of supporting concrete until it hardens and develops strength.
2. Caisson foundations shall be a minimum of 12" diameter drilled unreinforced concrete caissons. Caissons shall extend to a minimum depth providing 2' penetrations into good original ground. A caisson cannot be used if water rises immediately into a drilled hole. Piles will have to be used in such cases. (6'-0" MIN.)
3. Treated wood piles with a minimum diameter of 8" and a minimum design load of six tons are used for all foundations with unsuitable soil deeper than 13' or with water in drilled caisson holes. Drive per North Carolina or South Carolina Code.
4. Sizes and reinforcing for footing caps over caissons or piles shall be as shown on plans.
5. Chimney footings are to be 12" larger than the chimney footprint by 12" thick.
6. Foundation walls backfilled with dirt which support structural framing shall be constructed as follows:
   A. For earth fill up to a maximum height of 4': Use 8" Solid Grouted CMU or 8" brick with Bituthene membrane waterproofing on exterior. Footings are to be 8"x16" or 8"x24" as noted on the plan.
   B. For earth fill 4' to a maximum height of 9': Use 8"x24" footing with #4 @ 16" dowels hooked in footing and projecting 18" above footings. Use 12" CMU walls with #4 @ 16" vertical bars located 4" from non-dirt fill face, lap all splices 12" and use Dur-o-wall horizontal reinforcing every 8" in CMU joints. Install 1-#3 L-bar with 24" legs in every other joint horizontally at all corners; i.e., #3 corner bars @ 16' o/c vertically. Fill all open cells of CMU with either type S or M mortar or fill with 2,500 psi concrete. Install waterproof Bituthene membrane or equal.
   C. In lieu of the preceding design, basement walls may be constructed in accordance with R404.1 of the Code. However, 24"x24", #3 corner bars shall be installed at 16" o/c vertically regardless of the wall height. ***ERECT ALL FRAMING BEFORE BACKFILLING***
7. When floor joists are parallel to basement walls, block between joists @ 24" o/c for three joist spacings. For retaining walls without framing see special designs on drawings.

FRAMING CONSTRUCTION - OTHER THAN ROOF:

1. See Table R602.3(1) of the Code for a fastener schedule for structural members.
2. Wood beams shall be supported by metal hangers of adequate capacity where framing into beams or ledgers. The following hanger schedule may be used unless noted otherwise on the plan:

Member Size	Simpson® Hangers
(2) 2x8	HUS 28-2
(2) 2x10	HU 210-2 (Max)
(2) 2x12	HU 212-2 (Max)
(2) 1 3/4" x 9 1/4" LVL	HU 410 (Max)
(2) 1 3/4" x 11 7/8" LVL	HU 412 (Max)
(2) 1 3/4" x 14" LVL	HHUS 410
All Triple LVL Members	HHUS 5.50/10

Note: This table shows Simpson® face hangers. Other hangers may be used so long as they are equal to or stronger than those listed.

Note: Provide Grade #1 for SYP girders and headers per January 1, 2015 amendment to 2012 NC Residential Code Table 502.2 footnote B

3. Crawl girders and bands with 4" curtain wall and pier construction shall be 2-2x10 Southern Yellow Pine #1 unless noted otherwise. Maximum clear spans are to be 4'-8" (6'-0" o/c spacing of piers). To avoid objectionable cracking in finished hardwood floors over any girders, use the following procedure:
   A. Nailing
      i.) All floor joists must be toenailed to their support girders with a minimum of 3-8d nails at each end. Larger nails will split and render the toenail ineffective. No end nailing through the girder or band is permitted.
      ii.) If dropped girders are used, end lap all joists and side nail each with a minimum of 3-16d nails at each end of each joist. If flush girders are used, support joists at girder with hangers or ledger strip.
      iii.) Nail multiple member built-up girders with two rows of 16d nails staggered at 32" o/c, 2" down from the top and 2" up from the bottom with 3-16d nails at each end of each piece in the joist through the members making up the multiple girder.
      iv.) This nailing pattern will ensure a tight floor from the outside of the house to the outside so that when the framing shrinks during the first heating season, the shrinkage will be uniformly distributed over the entire floor. If the girder-nailing pattern is omitted, then the shrinkage will accumulate over the girders and an objectionable crack will develop in the finished hardwood floor over the girder line.
   B. At all girders where the joists change direction, install bridging at 6' o/c for a minimum of six joist spacings beyond any joist direction change. This will insure shrinkage distribution over the floor and not let it accumulate at the girder.
   C. There must be wood blocking thru bolted to the steel beam with joists toenailed or attached to the beam with metal hangers under any hardwood floors that pass over a steel beam supporting floor joists. This condition often exists over basement areas.
4. All other lumber may be Spruce #2 unless noted otherwise.
5. Steel beams must have (5)-2x4 or (4)-2x6 studs under each end U.N.O. The top flange shall be covered with wood blocking fastened with 2 rows 1/2"dia. lag-screws 12" o/c staggered, or powder-actuated fasteners, Simpson TB Screws, or an approved method.
6. "Lam" beams must have (3)-2x4 or (2)-2x6 studs under each end U.N.O.
7. Masonry lintels:
   A. For openings up to 6': Use 3" x 3" x 1/4" steel angles.
   B. For openings from 6' to 10': Use 5" x 3 1/2" x 5/16" steel angles.
   C. For openings from 10' to 18': Fasten 6" x 4" x 5/16" steel angle to wood header with (2) 1/2"dia. lag screws staggered @ 16" O.C. Extend angle 6" past opening to bear on masonry veneer at ends.
   D. When structural steel beams with bottom plates are used to support masonry, the bottom plate must extend the full length of the steel beam. Provide a minimum 4" bearing at the end of all steel headers. This supports the ends of the plate by bearing on the adjacent masonry jambs. The beam should be temporarily shored prior to laying the masonry. The shoring may be removed five days after laying the masonry.
8. All brick veneer over lower roofs (brick climbs) must have a structural angle lag screwed to an adjacent stud wall in accordance with detail, with steel brick stops to prevent sliding of brick.
9. All rafter braces must have two studs from plate through all floors to the foundation or supporting beam below. No braces shall be attached to top wall plate without studs directly under them.
10. Where non-load bearing partitions fall between floor joists or trusses, 2x4 ladders @ 16" o/c must be placed perpendicular to the trusses to support the plywood decking. The ladders shall be supported with a Simpson "Z" clip or similar device. A double joist can also be used and is allowed to be separated 4" Max. to allow for plumbing and wiring.
11. All wood I-joists and open joists must be braced in accordance with the manufacturer's directions plus details shown on plans. Load-bearing partitions, jacks, beams and column supports must be solid blocked through floor. Trusses and plywood cannot carry concentrated point loads. I-joist material should not be used as blocking under concentrated point loads. All point loads must be carried to foundations with adequate blocking and/or beams.
12. All steel columns shall bear on concrete, masonry, or steel only. Beams that bear on top of steel columns shall be welded to the column. Where steel columns bear on concrete or masonry, unless otherwise noted, a 5/8" x 6 1/2" x 6 1/2" or 5/8" x 3 1/2" x 10" base plate shall be used to spread the column load across the bearing surface. Base plates shall be bolted with at least two 1/2"dia. anchor bolts or expansion bolts to concrete or masonry.
13. Unless noted otherwise on the plans, all exterior facing stud walls taller than 10' shall be constructed as follows:
   A. Walls 10' to 11' high: Balloon frame 2x4 SPF#2 studs at 12" o/c with 1/2" OSB sheathing and 3 king studs on each side of each opening nailed securely to the header.

FRAMING CONSTRUCTION - OTHER THAN ROOF: (Continued)

14. Continuous 2x6 bridging shall be nailed to diagonal or vertical web members of all open-web floors trusses over 10' long. They shall be installed near mid-span as a load distribution member. If the 2x6 bridging is not continuous, lap ends of bridging one truss space.

15. Lower stud walls for buildings over two stories, but not more than three stories:
   A. Interior walls
      i.) Load bearing 2x4 @ 12" o/c for up to 10'-0", or 2x6 @ 16" o/c if taller than 10'-0"
      ii.) Non load bearing 2x4 @ 16" o/c under 12'-6"
   B. Exterior walls
      Use 2x6 @ 16" o/c with 1#2" plywood sheathing solid on walls.
16. Headers shall be as follows unless noted differently on plans:
   A. Interior and exterior:
      i) Spans up to 2'-6" 2-2x6's - 1 Jack Stud Each Side
      ii) Spans 2'-6" to 3'-6" 2-2x8's - 1 Jack Stud Each Side
      iii) Spans 3'-6" to 6'-6" 2-2x10's - 2 Jack Stud Each Side
      iv) Spans 6'-6" or more See Plan - See Plan
   B. Number Of 2x4" King Studs Required At Each End For A Given Wall Height And Opening Width.

Wall Height	Wall Opening Width 2'-6"	3'-6"	4'-0"	5'-6"	6'-0"	8'-0"
8'	1	1	1	1	1	2
9'	1	1	1	2	2	2
10'	1	2	2	2	3	3
11'	2	2	3	3	-	-
12'	2	3	3	-	-	-

*See plans for king-stud requirements at openings in 2x6 framed walls.

17. When ceiling joists are parallel to an exterior wall, tie the rafters near the top plate to ceiling joists with a 2x6 strongback a minimum of 6' long at 4' o/c across the top of the ceiling joists. 2x4 rafter ties shall be fastened to the side of the rafter and the strongback.
18. At all exterior diagonal wall panels (i.e. bay windows), each panel shall be nailed to each adjacent panel with 5-16d nails or tied together with metal strapping nailed at four locations between floors with a minimum of 2-16d nails into each panel at each strap. This will avoid vertical cracking in panel joints due to horizontal oscillating panels.
19. At all stairs, every stud at each stringer must be nailed to each stringer with a minimum of 2-16d nails. This will avoid cracking between wallboard and top of base molding due to vertical oscillation of stair stringers.
20. Roof trusses that have non-bearing partitions passing under them should be nailed to the partition plates to avoid ceiling-wall cracking.
21. Roof trusses close to side walls framing and used as dead wood for sheetrock boards should be nailed to the wall framing to prevent ceiling-wall cracking.
22. All structural framing lumber exposed directly to the weather or bearing directly on exterior masonry piers or concrete shall be treated. All wood in contact with the ground is to be ground-contact approved. All wood exposed directly to the weather shall be protected to prevent the occurrence of rot.
23. Unless otherwise detailed, all stick-built chimneys shall be constructed with 2x4 studs at 12" o/c, balloon-framed from attic ceiling or floor. Fasten 15/32" CDX plywood on all sides of the chimney along the full length of the studs. Fasten each stud to the supporting beam or ceiling joist with a 1 1/2"x24", 18-gauge metal strap, or a similar connector. Fasten beam down to support studs with a (2) similar straps.
24. All point loads from roof braces, jack studs, beam supports -whether wood or steel-cannot bear on sheathing alone. Blockingequal to or better than the point load supports above must be carried through all construction to the foundation.
25. Note to apply for all hard coat stucco exterior finishes:
   A. Joints are necessary at the following locations:
      i) Horizontally at each floor line.
      ii) No areas larger than 144 S.F. surface exposed.
      iii) No dimension longer than 18'.
      iv) No dimension longer than 2½ times the shortest dimension.
   B. Drip screed required at the bottom of all walls 2" above paved areas and 4" above grade.
   C. See ASTM 926 and 1063 for further information.

FRAMING CONSTRUCTION - OTHER THAN ROOF: (Continued on page A3)

NORTH CAROLINA PROFESSIONAL SEAL 043823 ENGINEER WESLEY A. JONES 3/30/17

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FRAMING CONSTRUCTION - OTHER THAN ROOF: (Continued)

26. All "Self Supporting Stairs" must be connected to adequate framing to support the load of the stair case. It is the stair manufacturer's responsibility to provide the E.O.R. with all point loads prior to construction.
27. All studs, which support the bearing ends of steel or LVL beams, greater than four plies (i.e. 7-2x4 or 5-2x6 studs etc.) are to be fastened with adhesive or equivalent nailed per R602.3(1). This adhesive is to be applied to the wide face of each stud.

28. Openings in garage wall shall comply with Section R302.5. This provision does not apply to garage walls that are perpendicular to the adjacent dwelling unit wall.

TABLE R302.6 DWELLING/GARAGE SERARATION

SEPARATION	MATERIAL
From the residence and attic	Not less than 1/2-inch gypsum board or equivalent applied to the garage side
From all habitable rooms above the garage	Not less than 5/8-inch Type X gypsum board or equivalent
Structure (s) supporting floor/ceiling assemblies used for separation required by this section	Not less than 1/2-inch gypsum board or equivalent
Garages located less than 3 feet from a dwelling unit on the same lot	Not less than 1/2-inch gypsum board or equivalent applied to the interior side of the exterior walls that are within this area

ROOF CONSTRUCTION:

1. All roof trusses must be built in accordance with truss manufacturers' requirements. Tie-down connections to resist uplift shall be installed where required. When roof truss manufacturers do not provide the required connectors, it is the responsibility of the contractor to notify the roof truss engineer or the Engineer of Record to provide an adequate connector.
2. Roof trusses and stick framed rafters are to be tied down to the top plates of walls, headers and beams/girder trusses with a Simpson H2.5A as follows (per Table R802.11 for 90 mph Basic Wind Speed; 30' mean roof height; Exposure B, if site conditions are found to be above that specified, contact SUMMIT Engineering Laboratory & Testing, Inc. for further consultation):

   - Roof span 0 to 22' => Simpson H2.5A @ 48" on center (per manufacturer's specifications)
   - Roof span 22'-1" to 40'-0" => Simpson H2.5A @ 32" on center (per manufacturer's specifications)

3. Rafters shall be 2x6 SYP#2 @ 16" o/c for shingles with 7/16" OSB sheathing with one layer of 15# felt unless noted otherwise. They are to be cut into hips, ridges, etc., unless noted otherwise. Tile, slate and other heavy roof coverings shall use 2x8 SYP#2 @ 16" o/c with 5/8" minimum OSB sheathing with (2) layers of 15# felt, unless noted otherwise.
4. Collar ties shall be 2x6 @ 48" o/c at all ridges unless noted otherwise and located a nominal 3' below the ridge. Vaulted ceilings require special collar tie or ridge beam details. See the end of Table R802.5.1 in the Code unless otherwise detailed on the plan.
5. A minimum of three collar ties shall be used at all ridges even if two ties must be put on one set of rafters.
6. All hips and ridges are 2x10 SYP#2 unless noted otherwise.
7. All "HOGS" shall be composed of two 2x6's or a 2x6 nailed to a 2x8, as indicated on the plan. The boards shall be fastened together at their ends with 16d nails at 4" on center to form an "L" shape (See detail at lower right this page). All hogs on ceiling joists or rafters are 12' long 2x6's unless noted otherwise. Rafters may be spliced over hogs. Splice rafter hogs only at a roof brace.
8. Gable end framing must be braced parallel to ridges with a minimum of 2x6 diagonal braces @ 6' o/c along the gable wall to interior ceiling joists. Braces to bear on 2x6 hogs and to the gable wall at approximately mid-height of gable walls. Braces shall be at an angle of approximately 45°. Other bracing may be used with the design engineer's approval.
9. Ceiling joists when erected parallel to rafters must be sistered to rafters and nailed with 3-16d nails at each rafter. If a kneewall is used and ceiling joists do not intersect with rafters, then the rafters must be tied to the ceiling joists using 2x4 kikers or rafter ties spaced no more than 48" o/c or every third rafter.
10. Roof Plan Legend:
    - A. ⊗ Indicates location of roof brace point at rafter level.
    - B. ⊗→ Arrow away from the brace point indicates direction of roof brace to partition, beam, or other brace point below.
    - C. ⊗← Arrow into brace point indicates a vertical or almost vertical roof brace to partition, beam, or other brace point below.
    - D. Roof braces under 7'-0" are 2-2x4 nailed with 16 penny nails @ 9" o/c vertically from top to bottom.
      Braces longer than 7'-0" are (2)-2x6 T-braces. Braces longer than 10' must be braced horizontally in two directions at mid-height.
    - E. Maximum spacing of roof braces are to be as follows (unless noted otherwise on plans):
      i) For (2) 2x6 Hog . . . . . 6'-0" o/c
      ii) For (2) 2x8 Hog . . . . . 7'-6" o/c

MATERIALS SPECIFICATIONS:

Concrete General Notes:

1. Except where otherwise noted, for all concrete, the proportions of cement, aggregate, and water to attain required plasticity and compressive strength shall be in accordance with ACI 318 Code. Concrete shall be 2,500 PSI in 28 days for footings and 3,000 PSI for walls, beams and columns, unless noted otherwise.
2. Before placing concrete, all debris, water and other deleterious material shall be removed from the places to be occupied by the concrete. The placing of all concrete shall be in accordance with ACI 318 and ASTM C94 requirements. Pumping of concrete will be permitted only with the Engineer of Record's approval of proposed concrete mix and method of pumping. Concrete shall be rapidly handled from the mixer to forms and deposited as nearly as possible to its final position to avoid segregation due to rehandling. Concrete to be spaded and worked by hand and vibrated to assure close contact with all surfaces of forms and reinforcing steel and leveled off at proper grade to receive finish. All concrete shall be placed upon clean, damp surfaces. Vibration shall be applied directly to the concrete and shall be sufficient to cause flow of settlement but not long enough to cause segregation of the mix.
3. Construction joints shall be located in accordance with ACI 301. All reinforcing steel shall be continuous across joints. In slabs on grade, saw contraction joints shall not be over 20 feet center to center each way. Joints shall be sawn a depth of one-third of the slab thickness. Sawing of the joints shall commence as soon as the concrete has hardened sufficiently to permit sawing without excessive raveling. Fill the saw cuts with approved joint filler after the concrete has cured.
4. Concrete, when deposited, shall have a temperature not below 50° F and not above 90° F. The methods and recommended practices as described in ACI 306 shall be followed for cold weather concreting and ACI 305 for hot weather concreting.
5. Freshly placed concrete shall be protected from premature drying by one of the following methods:
   - A. Ponding or continuous sprinkling.
   - B. Absorptive mat or fabric kept continuously wet.
   - C. Waterproof paper conforming to ASTM C171.
   - D. Application of an approved chemical curing compound.

   The curing shall continue until the cumulative number of days when the ambient temperature above 50° F has totaled seven. During curing, the concrete shall be protected from any mechanical injury, load stresses, shock, vibration, or damage to finished surfaces.
6. Reinforcing steel bars shall be deformed in accordance with ASTM A305 and or A408 and formed of ASTM A615-78 Grade 60 steel. Welded wire fabric reinforcing to be ASTM A185 steel wire. Accessories shall conform to the CRSI "Manual of Standard Practice." The following minimum concrete cover shall be provided over reinforcing bars:
   - A. Exposed to Earth . . . . . 3"
   - B. Exposed to Weather . . . . . 1 1/2"
   - C. Slabs not Exposed to Weather 8" . . . . . 3/4"
   - D. Beams and columns . . . . . 1 1/2"

Masonry General Notes:

1. Masonry walls are to be of the sizes and in the locations shown on the plans and shall be constructed in accordance with the provisions of ACI 530.
2. Hollow Load Bearing Units: ASTM C90 made with lightweight or normal weight aggregates. Grade N-I units shall be provided for exterior and foundation walls. Grade N-I or S-I units shall be provided for other load-bearing walls or partitions.
3. Concrete Building Brick: ASTM C55 made with lightweight or normal aggregates, Grade N-I or S-I except that brick exposed to weather shall be N-I.
4. Mortar: ASTM C270-95, Type S prepackaged mortar mix which shall not contain any non-cementitious fillers combined with not more than three parts sand per one part mix.
5. Reinforcing Steel: ASTM A615 Grade 60 steel deformed bars where indicated on the plans. Where reinforcing bars are installed in the cells of concrete masonry units, they shall be secured with wire ties at intervals not exceeding 24" o/c to maintain the bars location in the cell. The tolerance for spacing of vertical bars is ±2 inches along the length of the wall. The tolerance for the distance between the face of the concrete masonry unit and the center of the bar shall not exceed ±1/2".
6. Mortar protrusion shall be less than 1/2". A protrusion of 1/2" or greater must be removed before grouting.
7. Horizontal Joint Reinforcement: ASTM A82 fabricated from cold drawn steel wire and hot dip zinc coated (ASTM A153). It shall consist of two or more parallel, longitudinal wires 0.1875" in diameter with weld-connected cross wires 0.1483" in diameter at a maximum of 16" o/c. Joint reinforcement is to be installed in every other course and in the first two courses at the bottom and top of wall openings and shall extend not less than 24" past the opening. Splices shall overlap not less than 12".
8. Execution: Masonry units shall be laid in a running bond pattern unless noted otherwise. The walls shall be carried up level and plumb within the tolerances specified in ACI 530.1-88, Section 2.3.3.2. If nonstandard dimensions are encountered, block shall be cut with a masonry saw to fit, not by stretching or shrinking joints. Unfinished work shall be stepped back for joining with new work. Toothing will not be permitted except where specifically approved. Damaged units are to be cut out and new units set in place.
9. The filled cells and bond-beam blocks of reinforced masonry walls are to be filled with ASTM C476-91 Grout for Masonry with minimum compressive stress of 2,000 psi and slump range of 8" to 11". The outside face of the bottom block of each cell is to be broken out for inspection of reinforcing and clean out of mortar droppings in cell. The grout is to be placed in cells in maximum 5' lifts and immediately vibrated to minimize voids within the grout. Reconsolidate each lift by vibrating several inches into the preceding lift before plasticity is lost. Reconsolidate the top lift and fill with grout any spaces left by settlement or shrinkage.

Lumber General Notes:

1. All common framing lumber is to meet the following minimum specifications at 19% moisture content:

MATERIAL	Fb (psi)	Ft (psi)	Fc (psi)(Perp.)	E (psi)
#2 Spruce Pine Fir	875	450	425	1,400,000
#2 Southern Yellow Pine	750	450	565	1,600,000

2. All Structural Composite Lumber (LVL, LSL, PSL) is to meet the following minimum specifications:

APPLICATION	Fb (psi)	Fc (psi)(Parallel)	Fc (psi)(Perp.)	E (psi)
Girders & Beams (LVL, PSL)	2,600	2,510	750	1,900,000
Columns (LSL) & Rimboards	1,700	1,400	400	1,300,000

3. All Glue Laminated Timber (Glu-lam) is to meet the following minimum specifications:

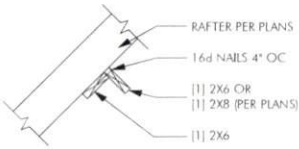
APPLICATION	Fb (psi)	Fc (psi)(Parallel)	Fc (psi)(Perp.)	E (psi)
Girders & Beams	2,400	1,700	740	1,700,000
Columns	1,600	1,550	560	1,500,000

4. Three-ply side-loaded (joists frame into the side at the outside plies) or four-ply LVL beams: fasten all plies together with two rows of 1/2"dia. bolts at 12" o/c. The bolts shall be located a minimum of 2 1/2" and a maximum of 3 1/2" from the top or bottom of the beam.
5. Built-up wood columns consisting of multiple studs shall have each lamination nailed with 16d nails at 9" o/c.

Steel General Notes:

1. All steel wide flange beams shall conform to ASTM A572 having a minimum yield stress of 50,000 psi.
2. All steel pipes shall be Schedule 40 or better with a minimum yield stress of 35,000 psi.
3. All steel tubes shall conform to ASTM A500, Grade B, having a minimum yield stress of 46,000 psi.
4. All other shapes not listed above shall conform to ASTM A36 having a minimum yield stress of 36,000 psi.
5. Unless otherwise noted, all welds shall be fillet type with a minimum 3/16" leg. Welding electrodes shall be E70xx type having a minimum yield strength of 70,000 psi. Welding work and materials shall conform to the American Welding Society Welding Code (AWS D.1).

   Bolted connections shall include high strength bolts conforming to ASTM A325. Foundation anchor bolts or tie rods shall conform to ASTM A36 having a minimum yield strength of 36,000 psi.



2X6 OR 2X8 HOG @ RAFTERS

2X4 ROOF BRACE

NORTH CAROLINA PROFESSIONAL SEAL 043823 ENGINEER WESLEY A. JONES 5/30/17

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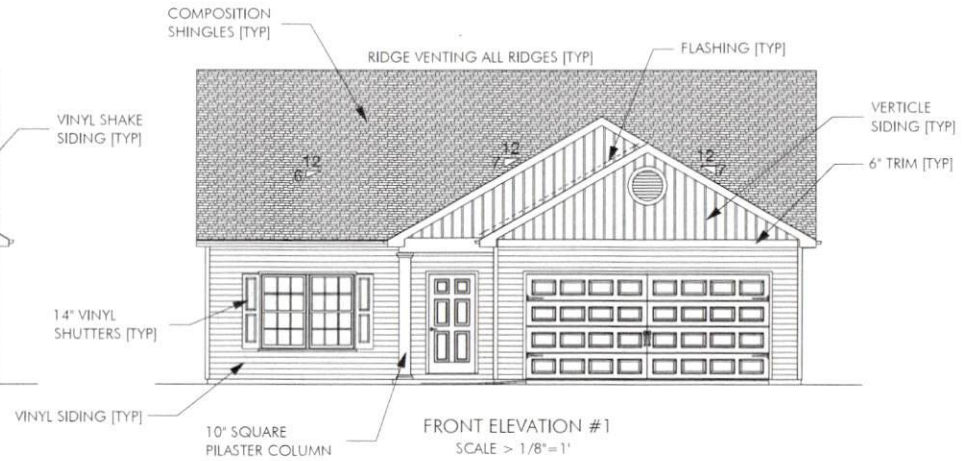
FRONT ELEVATION #2
SCALE > 1/8"=1'



FRONT ELEVATION #1
SCALE > 1/8"=1'

R703.11.3 WHERE THE PROPERTY LINE IS LESS THAN 10' FROM THE BUILDING FACE AND THE SOFFIT MATERIAL IS VINYL OR ALUMINUM, THE SOFFIT MATERIAL SHALL BE SECURELY ATTACHED TO THE FRAMING MEMBERS AND SHALL USE UNDERLAYMENT MATERIAL OR EITHER FIRE RETARDANT TREATED WOOD; 23/32" WOOD SHEATHING, OR 5/8" GYPSUM BOARD. VENTING REQUIREMENTS SHALL APPLY TO BOTH SOFFIT AND UNDERLAYMENT AND SHALL BE PER SECTION R806

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FRONT ELEVATIONS

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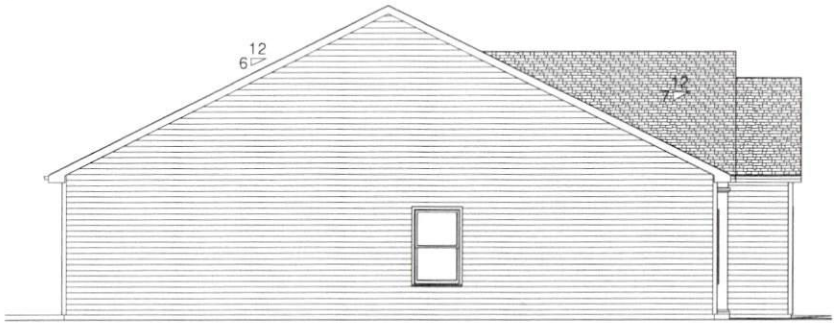
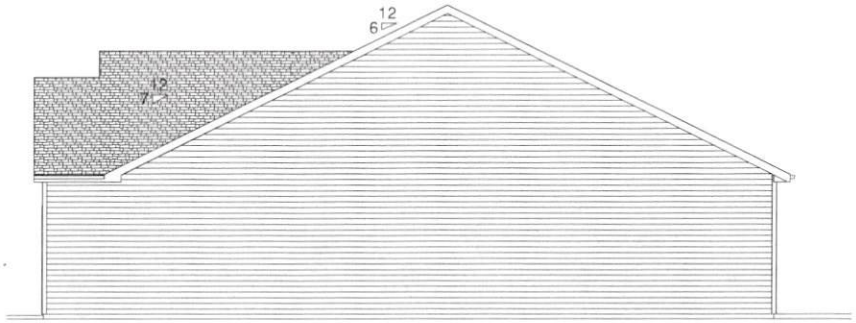
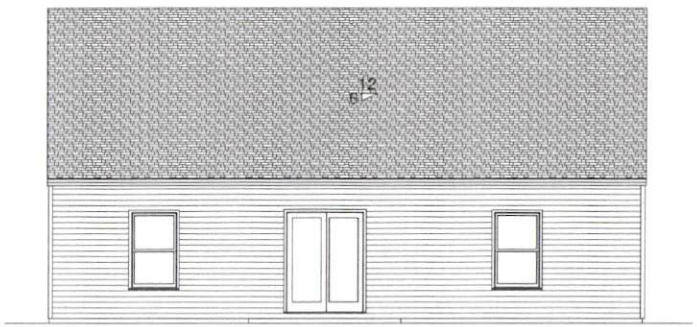


LEFT ELEVATION
SCALE > 1/8"=1'



RIGHT ELEVATION
SCALE > 1/8"=1'

R703.11.3 WHERE THE PROPERTY LINE IS LESS THAN 10' FROM THE BUILDING FACE AND THE SOFFIT MATERIAL IS VINYL OR ALUMINUM, THE SOFFIT MATERIAL SHALL BE SECURELY ATTACHED TO THE FRAMING MEMBERS AND SHALL USE UNDERLAYMENT MATERIAL OR EITHER FIRE RETARDANT TREATED WOOD; 23/32" WOOD SHEATHING, OR 5/8" GYPSUM BOARD. VENTING REQUIREMENTS SHALL APPLY TO BOTH SOFFIT AND UNDERLAYMENT AND SHALL BE PER SECTION R806



REAR ELEVATION
SCALE > 1/8"=1'

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SIDE/ REAR ELEVATIONS

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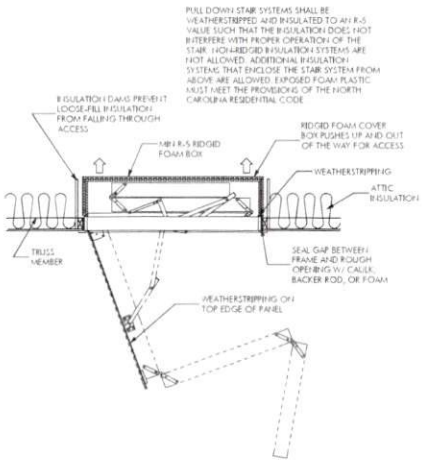
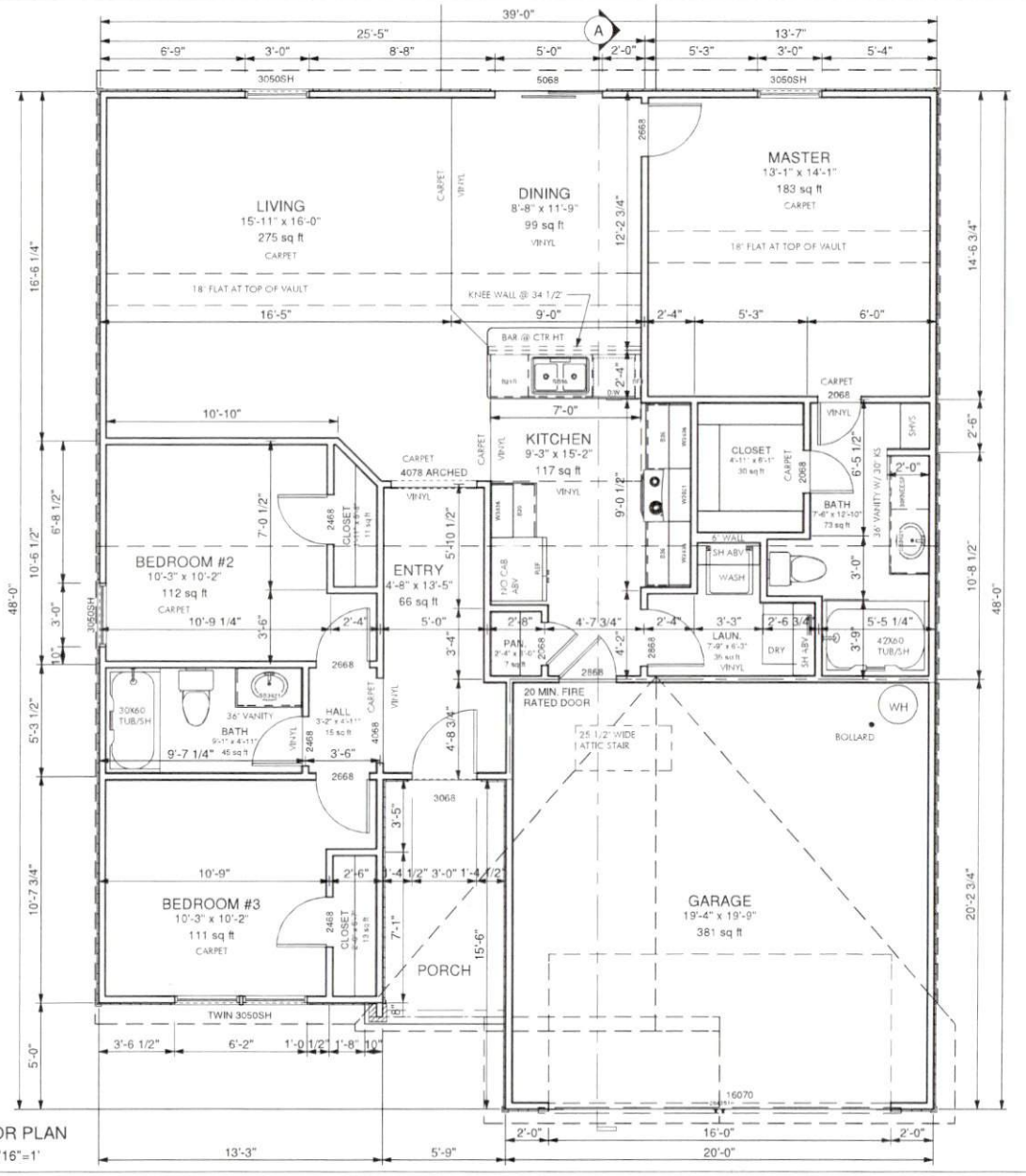


N1102.2.3
ATTIC STAIR INSULATION REQUIREMENTS

COLUMN NOTE:

Columns to be: AFCO or column of equal bearing capacity. (6000# MIN)
Top connection: [2] #8- 1/4" x 3" stainless steel screws per side inserted into beam.
Bottom connection: [3] UBS-#18043 brackets fastened with [2] 1/4" x 1 1/4" screws into column and [2] 1/4" x 3 3/4" concrete screws through fastener into concrete.



1ST FLOOR PLAN
SCALE > 3/16"=1'

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1ST FLOOR PLAN

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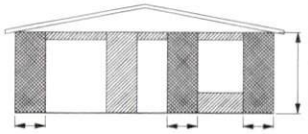
A SECTION
SCALE: 1/4"=1'

PER TABLE R602.10.1
BRACING METHODS

METHOD	MATERIAL	MINIMUM THICKNESS	FIGURE	CONNECTION CRITERIA
CS-WSP	WOOD STRUCTURAL PANEL	3/8"		6d common nail or 8d(2 1/2" long x 0.113" diameter) nail Spacing = 6" edges and 12" field

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SECTION

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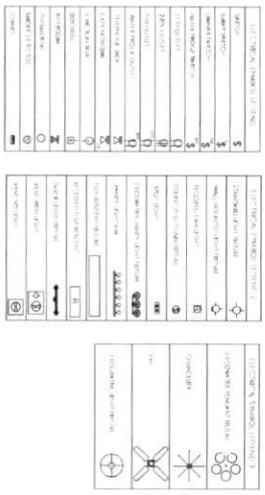

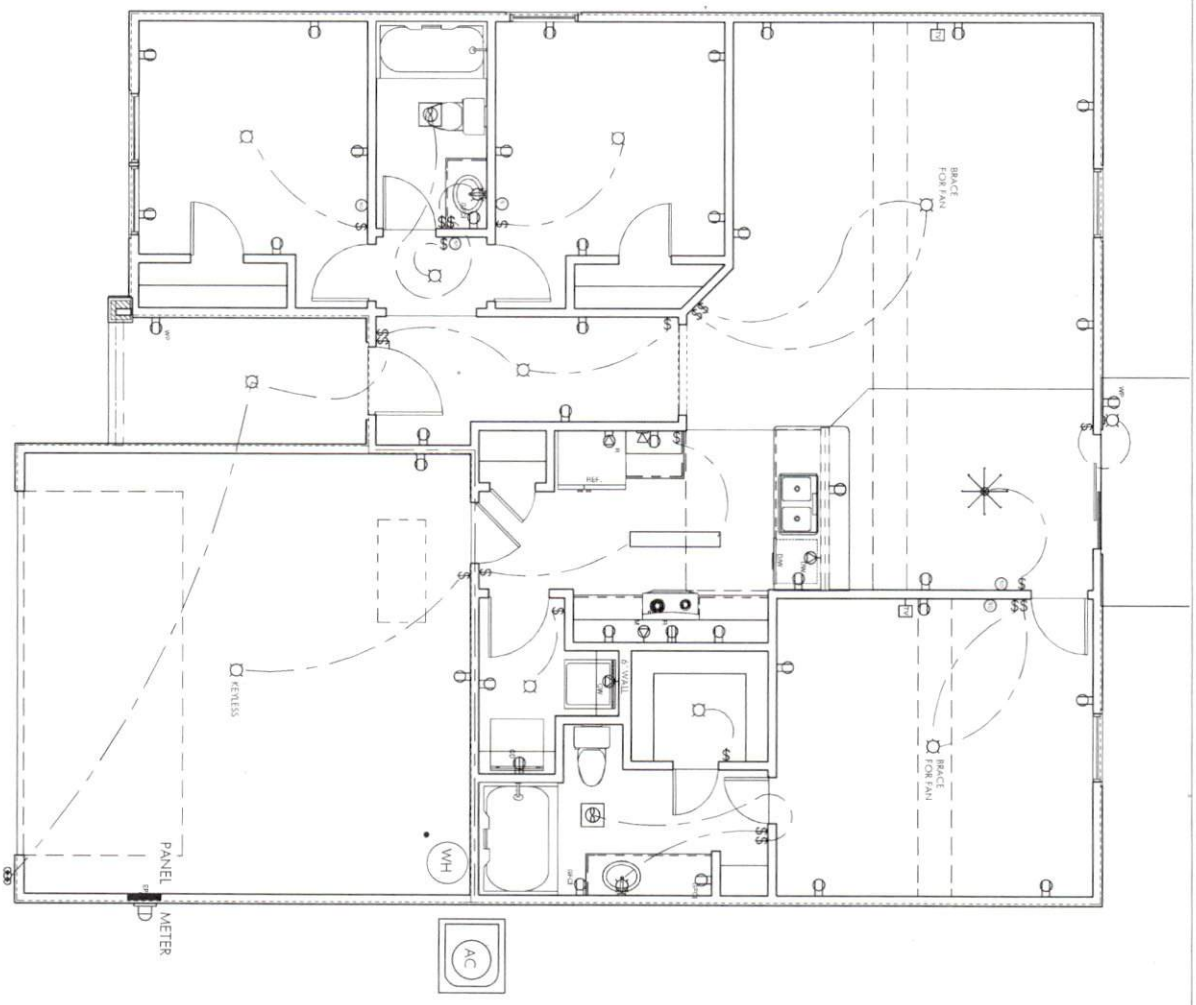

ELECTRICAL PLAN

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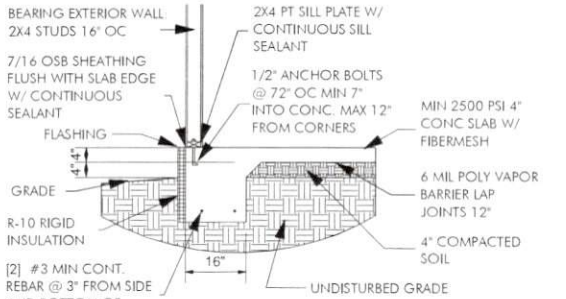
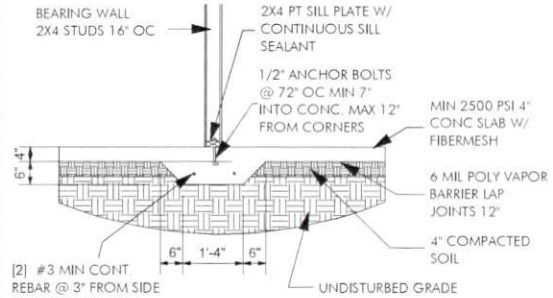


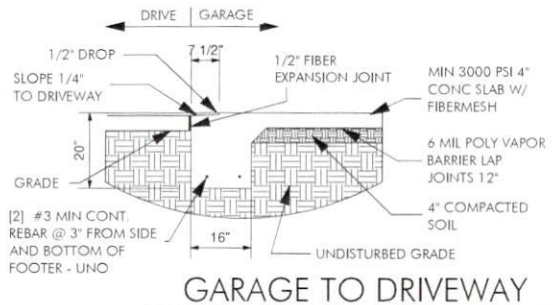
TYP FOUNDATION [SIDING]

SCALE > 3/8"=1'



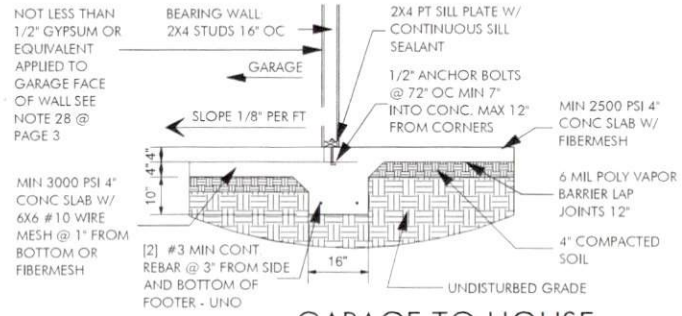
GRADE BEAM SECTION

SCALE > 3/8"=1'



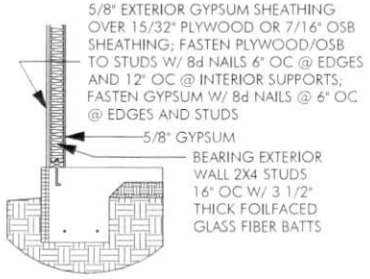
GARAGE TO DRIVEWAY

SCALE > 3/8"=1'



GARAGE TO HOUSE

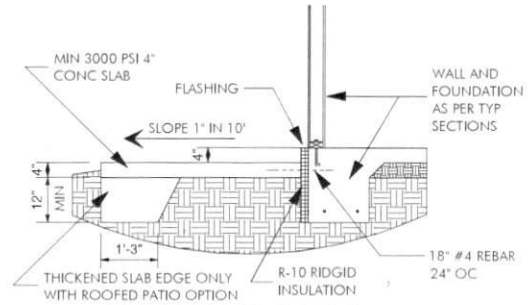
SCALE > 3/8"=1'



TYP FIRE WALL

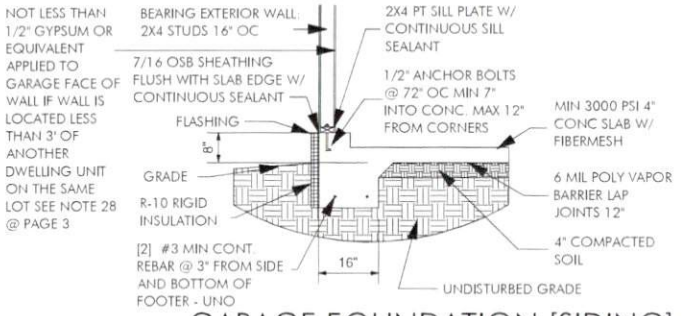
1 HR FIRE WALL REQUIRED IF WALL IS LOCATED LESS THAN 5' OF PROPERTY LINE

SCALE > 3/8"=1'



HOUSE TO PATIO

SCALE > 3/8"=1'



GARAGE FOUNDATION [SIDING]

SCALE > 3/8"=1'

**SEE STEM WALL FOUNDATION DETAIL PAGE FOR SECTIONS AT PORCHES

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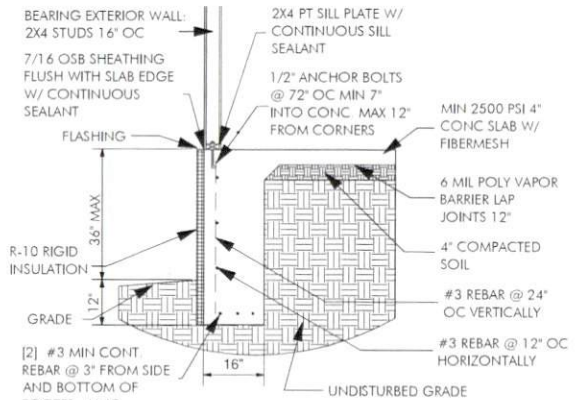

TURNDOWN SLAB SECTION

SCALE > 3/8"=1'

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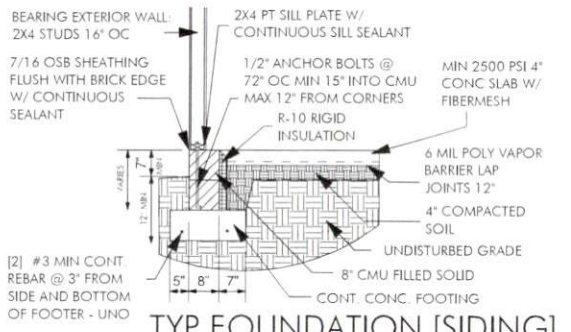
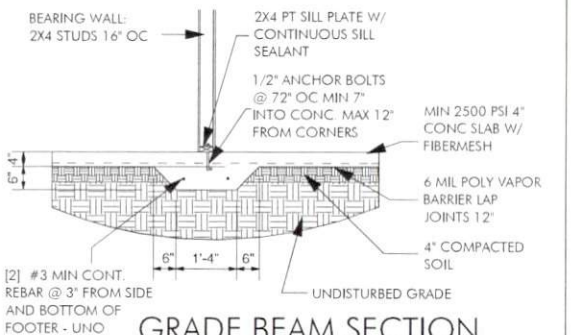


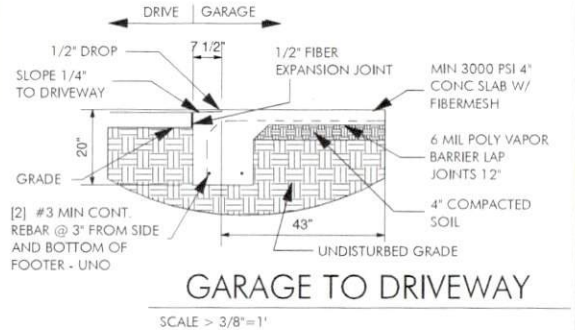
TYP FOUNDATION [SIDING]

SCALE > 3/8"=1'



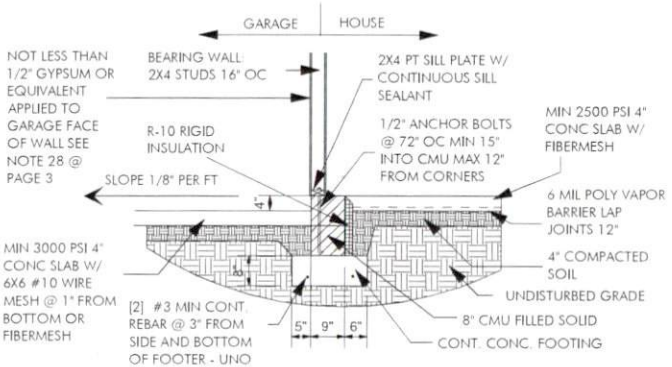
GRADE BEAM SECTION

SCALE > 3/8"=1'



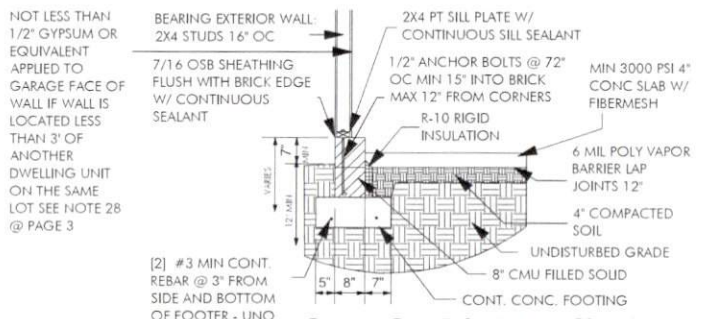
GARAGE TO DRIVEWAY

SCALE > 3/8"=1'



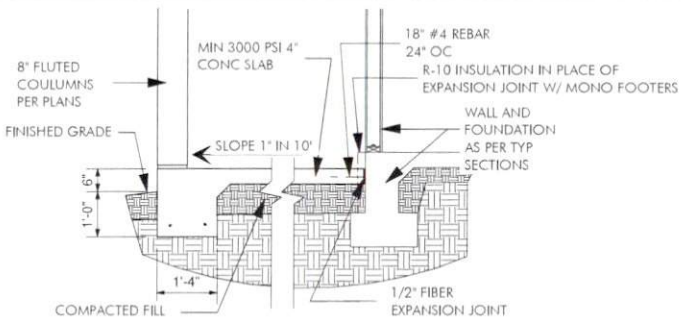
GARAGE TO HOUSE

SCALE > 3/8"=1'



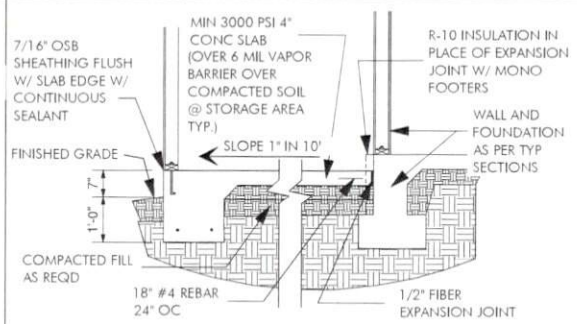
GARAGE FOUND. [SIDING]

SCALE > 3/8"=1'



SECTION @ FRONT PORCH

SCALE > 3/8"=1'



SECTION @ BACK PORCH

SCALE > 3/8"=1'

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TYP SOFFIT NOTE:

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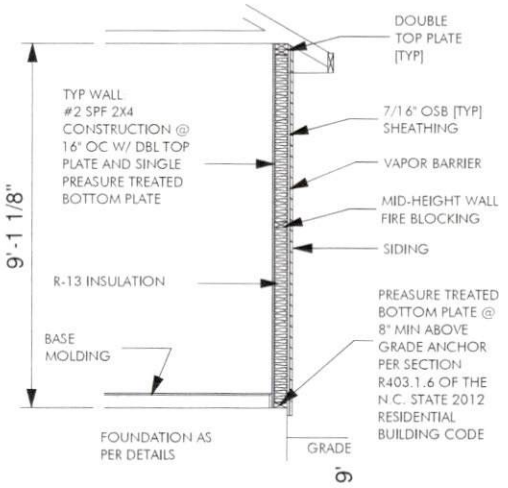
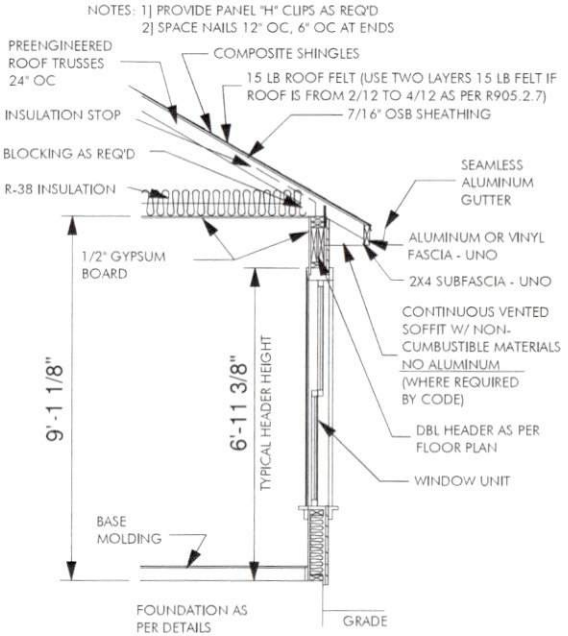
PROVIDE FIRE RATED CONSTRUCTION ON THE UNDERSIDE OF SOFFITS AS REFERENCED IN TABLE R302.1

NOTE: WINDOW OPENINGS:

IN DWELLING UNITS, WHERE THE OPENING OF AN OPERABLE WINDOW IS LOCATED MORE THAN 72" ABOVE THE FINISHED GRADE OR SURFACE BELOW, THE LOWEST PART OF THE CLEAR OPENING OF THE WINDOW SHALL BE A MINIMUM OF 24" ABOVE THE FINISHED FLOOR OF THE ROOM IN WHICH THE WINDOW IS LOCATED. OPERABLE SECTIONS OF THE WINDOWS SHALL NOT PERMIT THE OPENINGS THAT ALLOW PASSAGE OF A 4 INCH DIAMETER SPHERE WHERE SUCH OPENING ARE LOCATED WITHIN 24 INCHES OF THE FINISHED FLOOR.





NOTES: 1] PROVIDE ALL REQ'D MATERIALS, FASTENERS, AND STRAPS AS PER CODE R-703
2] INSTALL OSB WALL SHEATHING @ ALL EXTERIOR WALLS FASTENED W/ 8d NAILS @ 6" OC @ EDGES AND 12" OC @ ALL INTERMEDIATE SUPPORTS
LAP ALL SUB FLOORS AND TIE TO SILL PLATE

TYPICAL WALL SECTIONS [SIDING]

SCALE > 3/8"-1'

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TYPICAL WALL SECTIONS

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TRUSS UPLIFT CONNECTOR SCHEDULE

MODEL #	MAX UPLIFT (LBS)
H1	400
H2A	495
H2.5T	545
H4	235
H10A*	1015
H16*	1265
HTS20*	1245

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

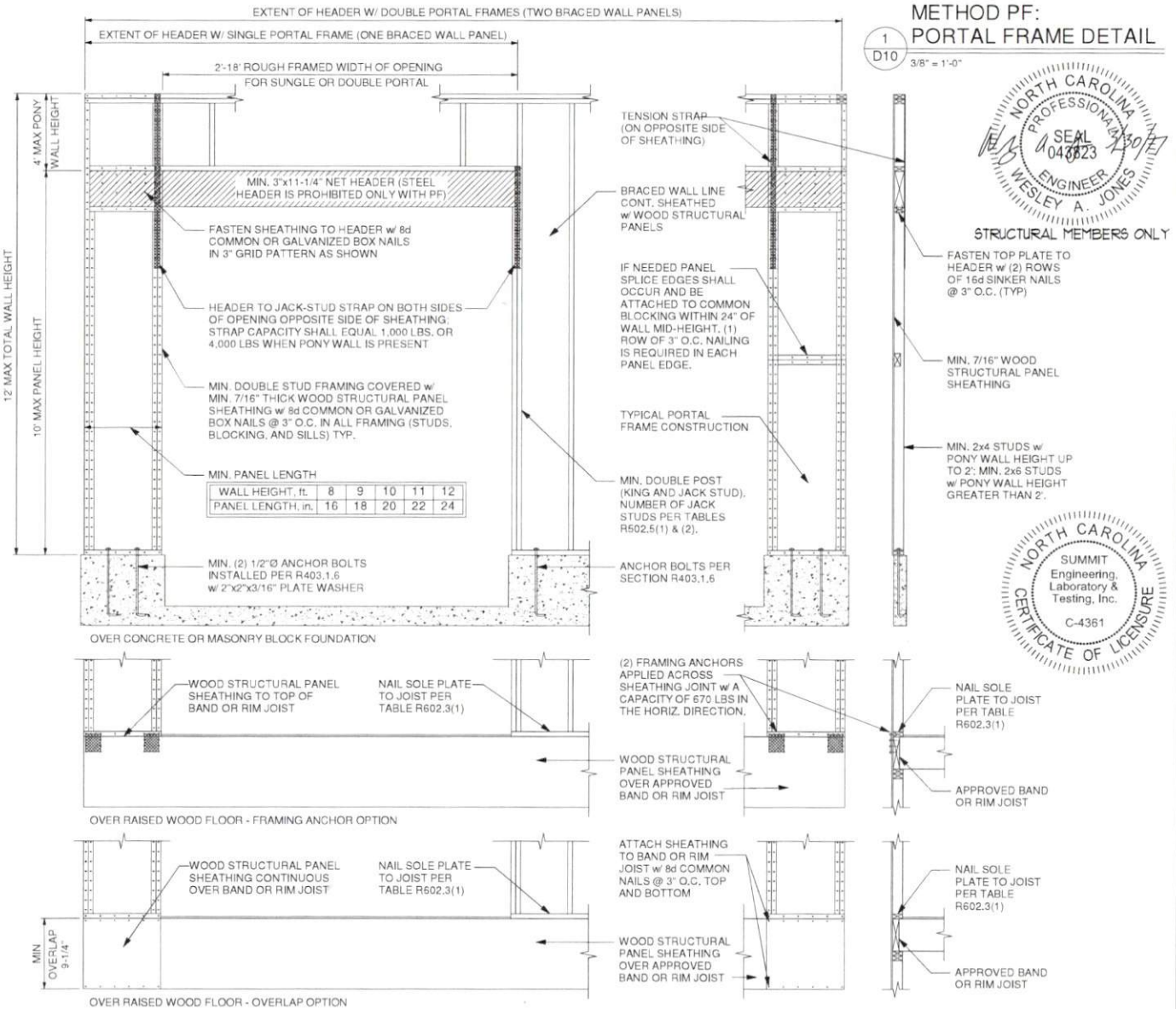
MODEL #	MAX UPLIFT (LBS)	PLY #
LGT2*	1785	2
LGT3-SDS2.5*	2655	3
LGT4-SDS3*	2925	4
HGT-2*	6485	2
HGT-3*	9035	3
HGT-4*	9250	4

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

MAX GIRDER TRUSS REACTIONS (LBS.)

NO TBE, SPF#2 TOP PLATE		
# OF PLYS	2X4 WALL	2X6 WALL
2	5134	7013
3	7702	10519
4	10269	14025
WITH TBE, SPF#2 TOP PLATE		
2	7045	8933
3	9622	12439
4	12189	15945

GIRDER TRUSS PLYS SHOWN ARE FOR ILLUSTRATION ONLY. PLEASE REFER TO TRUSS LAYOUT DRAWINGS PROVIDED BY TRUSS MANUFACTURER FOR ACTUAL NUMBER OF PLYS REQUIRED.



METHOD PF: PORTAL FRAME DETAIL

1 / D10 — 3/8" = 1'-0"

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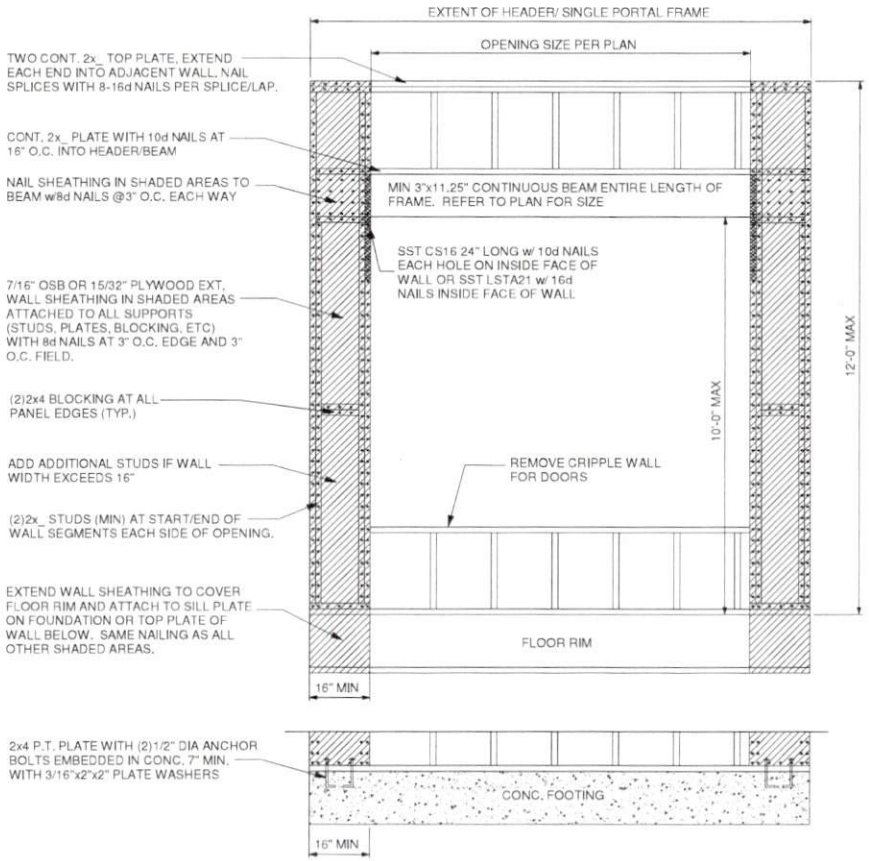
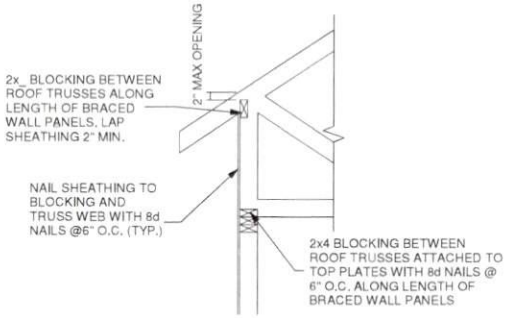
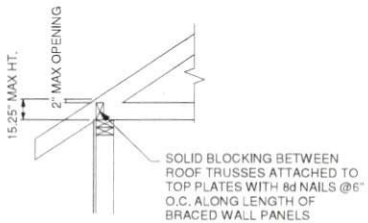


1 / D12 METHOD PF: PORTAL FRAME DETAIL

OPENINGS UNDER 8'-0"



HEEL HEIGHT GREATER THAN 15.25"



HEEL HEIGHT LESS THAN 15.25"

2 / D12 TYP. WALL PANEL TO ROOF TRUSS CONNECTION

1" = 1'-0"

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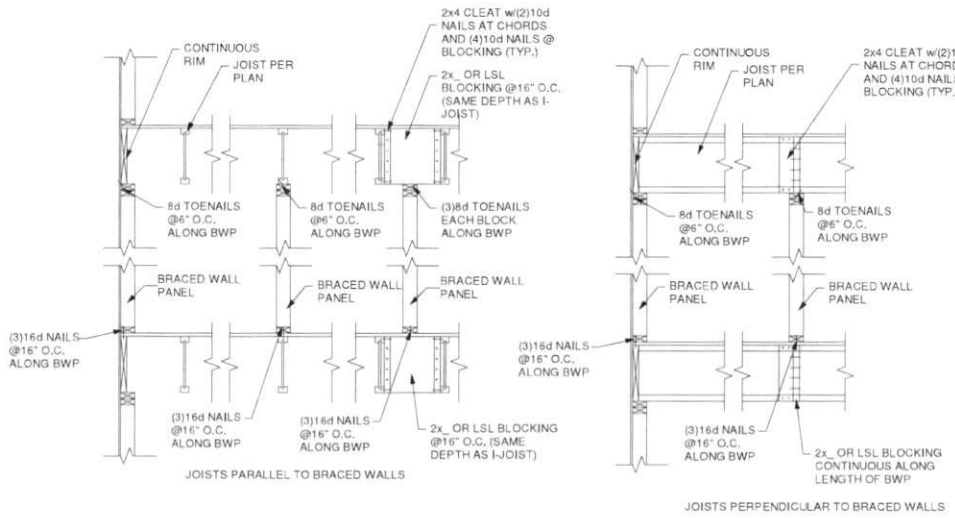

1/D12 TYP. WALL PANEL TO FLOOR/CEILING CONNECTION

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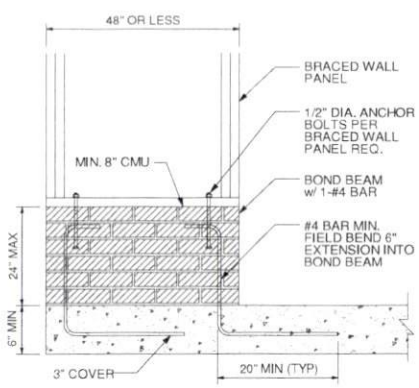
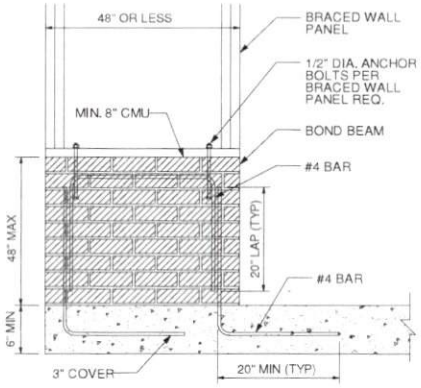
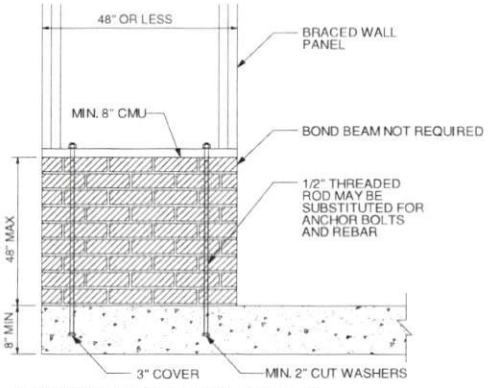


SHORT STEM WALL REINFORCEMENT



TALL STEM WALL REINFORCEMENT



RODS MAY BE INSTALLED USING AN ADHESIVE ANCHORING SYSTEM WITH A MINIMUM TENSILE CAPACITY OF 3,750 LBS AND INSTALLED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.

OPTIONAL STEM WALL REINFORCEMENT

NOTE: GROUT BOND BEAMS AND ALL CELLS WHICH CONTAIN REBAR, THREADED RODS AND ANCHOR BOLTS.

2012 NCRC FIGURE R602.10.5.3 - MASONRY STEM WALLS SUPPORTING BRACED WALL PANELS

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FOUNDATION NOTES:

1. FOUNDATIONS TO BE CONSTRUCTED IN ACCORDANCE WITH CHAPTER 4 OF THE 2012 NORTH CAROLINA RESIDENTIAL BUILDING CODE.
2. STRUCTURAL CONCRETE TO BE F_c = 3000 PSI, PREPARED AND PLACED IN ACCORDANCE WITH ACI STANDARD 318.
3. FOOTINGS TO BE PLACED ON UNDISTURBED EARTH, BEARING A MINIMUM OF 12" BELOW ADJACENT FINISHED GRADE, OR AS OTHERWISE DIRECTED BY THE CODE ENFORCEMENT OFFICIAL.
4. FOOTING SIZES BASED ON A PRESUMPTIVE SOIL BEARING CAPACITY OF 2000 PSF. CONTRACTOR IS SOLELY RESPONSIBLE FOR VERIFYING THE SUITABILITY OF THE SITE SOIL CONDITIONS AT THE TIME OF CONSTRUCTION.
5. ALL REINFORCING STEEL SHALL BE GRADE 60 BARS CONFORMING TO ASTM A615 AND SHALL HAVE A MINIMUM COVER OF 3".
6. FOOTINGS SHALL BE CENTERED UNDER THEIR RESPECTIVE ELEMENTS, PROVIDE 3" MINIMUM FOOTING PROJECTION FROM THE FACE OF MASONRY.
7. MAXIMUM DEPTH OF UNBALANCED FILL AGAINST MASONRY WALLS TO BE AS SPECIFIED IN SECTION R404.1 OF THE 2012 NORTH CAROLINA RESIDENTIAL BUILDING CODE.
8. PROVIDE FOUNDATION WATERPROOFING, AND DRAIN WITH POSITIVE SLOPE TO OUTLET AS REQUIRED BY SITE CONDITIONS.
9. PROVIDED PERIMETER INSULATION FOR ALL FOUNDATIONS PER THE 2012 NORTH CAROLINA RESIDENTIAL BUILDING CODE.
10. CORBEL FOUNDATION WALL AS REQUIRED TO ACCOMMODATE BRICK VENEERS.
11. FOUNDATION ANCHORAGE SHALL BE A MIN. OF 1/2" DIA. ANCHOR BOLTS AND SHALL EXTEND A MIN. OF 7" INTO MASONRY OR CONCRETE. BOLTS SHALL BE 6'-0" O.C. AND WITH IN 12" OF ALL PLATE SPLICES. MIN. (2) ANCHOR BOLTS PER PLATE SECTION.
12. WALL FOOTINGS TO BE CONTINUOUS CONCRETE, SIZED PER STRUCTURAL PLAN.
13. A FOUNDATION EXCAVATION OBSERVATION SHOULD BE CONDUCTED BY A PROFESSIONAL GEOTECHNICAL ENGINEER, OR HIS QUALIFIED REPRESENTATIVE. IF ISOLATED AREAS OF YIELDING MATERIALS AND/OR POTENTIALLY EXPANSIVE SOILS ARE OBSERVED IN THE FOOTING EXCAVATIONS AT THE TIME OF CONSTRUCTION, SUMMIT ENGINEERING, LABORATORY & TESTING, P.C. MUST BE PROVIDED THE OPPORTUNITY TO REVIEW THE FOOTING DESIGN PRIOR TO CONCRETE PLACEMENT.
14. ALL FOOTINGS & SLABS ARE TO BEAR ON UNDISTURBED SOIL OR 95% COMPACTED FILL, VERIFIED BY ENGINEER OR CODE OFFICIAL.

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

REINFORCE GARAGE PORTAL WALLS PER FIGURE R602.10.5.3 OF THE 2012 NCRC

FOUNDATION SCHEDULE		
TAG	DESCRIPTION	REBAR REQ'D
1	16"W x 20"D MONO	(2) #5 CONT.
2	24"SQ x 10"D	NONE
3	16"W x 10"D LUG (18"D @ GARAGE INTERIOR)	(2) #5 CONT.
4	30"SQ x 10"D	NONE
5	36"SQ x 12"D	(5) #4 E.W.
6	16"SQ x10"D	NONE
7	PLAN SPECIFIC	NONE
A	4" THICK POURED CONCRETE SLAB w/ FIBER MESH ON 6 MIL POLY ON COMPACTED SOIL	
B	4" THICK POURED CONCRETE SLAB ON COMPACTED SOIL	

ABBREVIATIONS: W = WIDTH, D = DEPTH, SQ = SQUARE, B.D. = BOTH DIRECTIONS, CONT. = CONTINUOUS, MONO = MONOLITHIC SLAB FOOTING

THESE PLANS ARE DESIGNED IN ACCORDANCE WITH ARCHITECTURAL PLANS PROVIDED BY LGI HOMES COMPLETED/REVISED ON 2/23/17. IT IS THE RESPONSIBILITY OF THE CLIENT TO NOTIFY SUMMIT ENGINEERING, LABORATORY & TESTING, P.C. (SUMMIT) IF ANY CHANGES ARE MADE TO THE ARCHITECTURAL PLANS PRIOR TO CONSTRUCTION. SUMMIT CANNOT GUARANTEE THE ADEQUACY OF THESE STRUCTURAL PLANS WHEN USED WITH ARCHITECTURAL PLANS DATED DIFFERENTLY THAN THE DATE LISTED ABOVE.

STRUCTURAL MEMBERS ONLY

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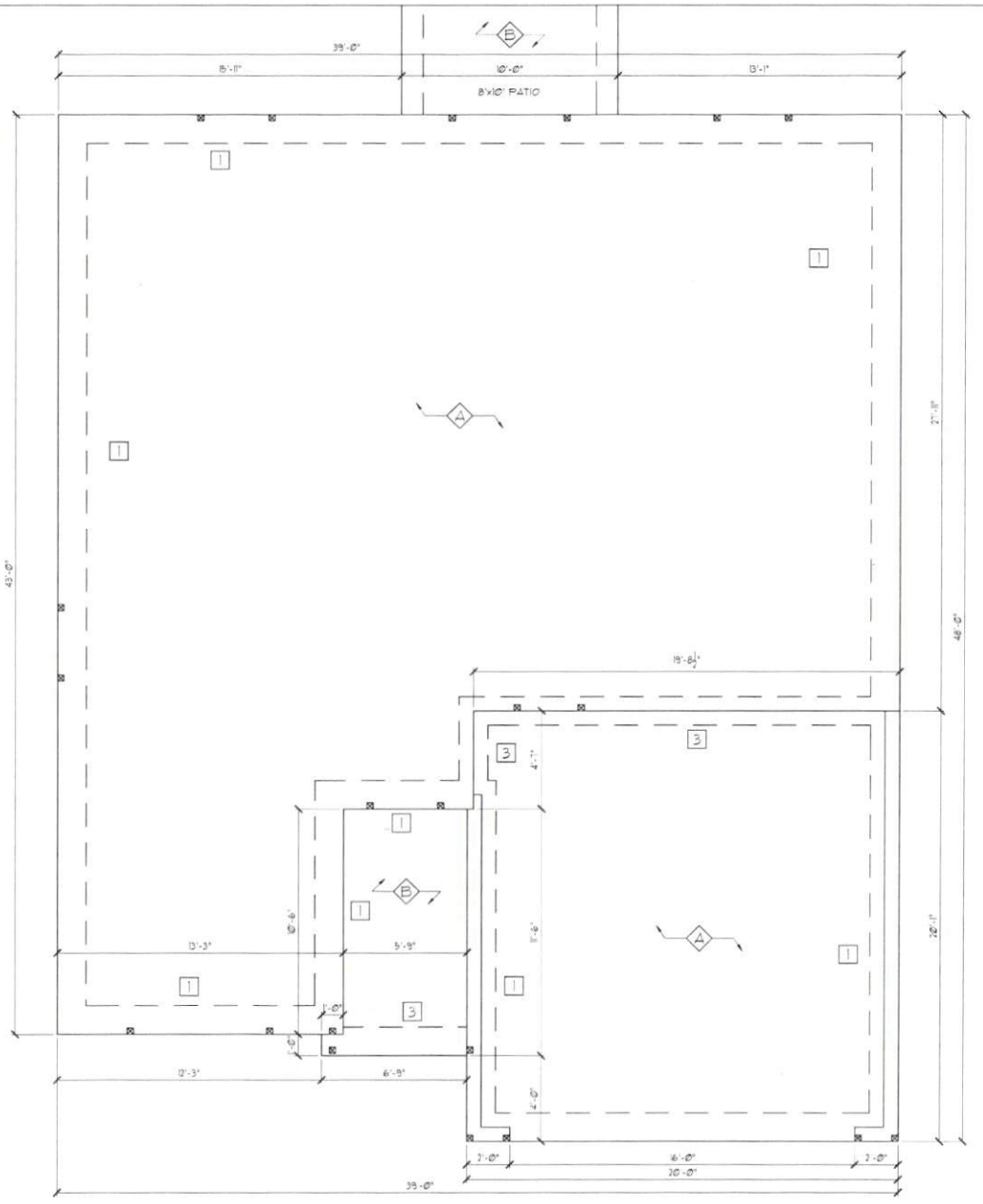
STRUCTURAL ANALYSIS BASED ON 2012 NCRC.

MONOLITHIC SLAB FOUNDATION PLAN

SCALE: 3/16"=1' ON 11"x17" SHEET

WALL ANCHOR OPTION SCHEDULE FOR MONO SLAB				
ANCHORS	MIN. CONC. EMBEDMENT	SPACING	INTERIOR WALL	EXTERIOR WALL
1/2"ø A307 BOLTS w/ STD. 90° BEND	7"	6'-0"	YES	YES
1/2"ø HILTI KWIK BOLT, SST WEDGE-ALL, OR EQUIVALENT WEDGE ANCHOR	4"	6'-0"	YES	YES
1/2"ø THREADED ROD w/ SST SET EPOXY	4"	6'-0"	YES	YES

NOTE:
1. INSTALL ALL ANCHORS 12" MAX. FROM ALL BOTTOM WALL PLATE ENDS & JOINTS.
2. MINIMUM CONCRETE EMBEDMENT AND SPACINGS SHOWN ARE TYPICAL. IF DIFFERENT EMBEDMENTS OR SPACINGS ARE EXPLICITLY CALLED FOR ON THE PLAN OR DETAILS, DEFER TO THOSE.



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CLIENT: LGI HOMES

PROJECT: THE ALAMANCE (NORTH CAROLINA)

CURRENT DRAWING
DATE: 3/30/2017
PROJECT #: 1203-08R 13/02
DRAWN BY: ZTS
CHECKED BY: WAJ

MONOLITHIC SLAB FOUNDATION

SHEET S1.0m

FOUNDATION NOTES:

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2. STRUCTURAL CONCRETE TO BE F_c = 3000 PSI, PREPARED AND PLACED IN ACCORDANCE WITH ACI STANDARD 318.
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4. FOOTING SIZES BASED ON A PRESUMPTIVE SOIL BEARING CAPACITY OF 2000 PSF. CONTRACTOR IS SOLELY RESPONSIBLE FOR VERIFYING THE SUITABILITY OF THE SITE SOIL CONDITIONS AT THE TIME OF CONSTRUCTION.
5. ALL REINFORCING STEEL SHALL BE GRADE 60 BARS CONFORMING TO ASTM A615 AND SHALL HAVE A MINIMUM COVER OF 3".
6. FOOTINGS SHALL BE CENTERED UNDER THEIR RESPECTIVE ELEMENTS, PROVIDE 3" MINIMUM FOOTING PROJECTION FROM THE FACE OF MASONRY.
7. MAXIMUM DEPTH OF UNBALANCED FILL AGAINST MASONRY WALLS TO BE AS SPECIFIED IN SECTION R404.1 OF THE 2012 NORTH CAROLINA RESIDENTIAL BUILDING CODE.
8. PROVIDE FOUNDATION WATERPROOFING, AND DRAIN WITH POSITIVE SLOPE TO OUTLET AS REQUIRED BY SITE CONDITIONS.
9. PROVIDED PERIMETER INSULATION FOR ALL FOUNDATIONS PER THE 2012 NORTH CAROLINA RESIDENTIAL BUILDING CODE.
10. CORBEL FOUNDATION WALL AS REQUIRED TO ACCOMMODATE BRICK VENEERS.
11. FOUNDATION ANCHORAGE SHALL BE A MIN. OF 1/2" DIA. ANCHOR BOLTS AND SHALL EXTEND A MIN. OF 7" INTO MASONRY OR CONCRETE. BOLTS SHALL BE 6'-0" O.C. AND WITH IN 12" OF ALL PLATE SPLICES. MIN. (2) ANCHOR BOLTS PER PLATE SECTION.
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NOTE: ALL EXTERIOR FOUNDATION DIMENSIONS ARE TO FRAMING AND NOT BRICK VENEER, UNO

REINFORCE GARAGE PORTAL WALLS PER FIGURE R602.10.5.3 OF THE 2012 NCRC

FOUNDATION SCHEDULE		
TAG	DESCRIPTION	REBAR REQ'D
1	8" CMU STEM WALL w/ 20"W x 8"D CONT. FTG.	(2) #5 CONT.
2	24"SQ x 10"D	NONE
3	16"W x 10"D LUG	(2) #5 CONT.
4	30"SQ x 10"D	NONE
5	36"SQ x 12"D	(5) #4 E.W.
6	16"SQ x10"D	NONE
7	PLAN SPECIFIC	NONE
A	4" THICK POURED CONCRETE SLAB w/ FIBER MESH ON 6 MIL. POLY. ON COMPACTED SOIL	
B	4" THICK POURED CONCRETE SLAB ON COMPACTED SOIL	

ABBREVIATIONS: W = WIDTH, D = DEPTH, SQ = SQUARE, B.D. = BOTH DIRECTIONS, CONT. = CONTINUOUS, MONO = MONOLITHIC SLAB FOOTING

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STRUCTURAL ANALYSIS BASED ON 2012 NCRC.

STEM WALL FOUNDATION PLAN

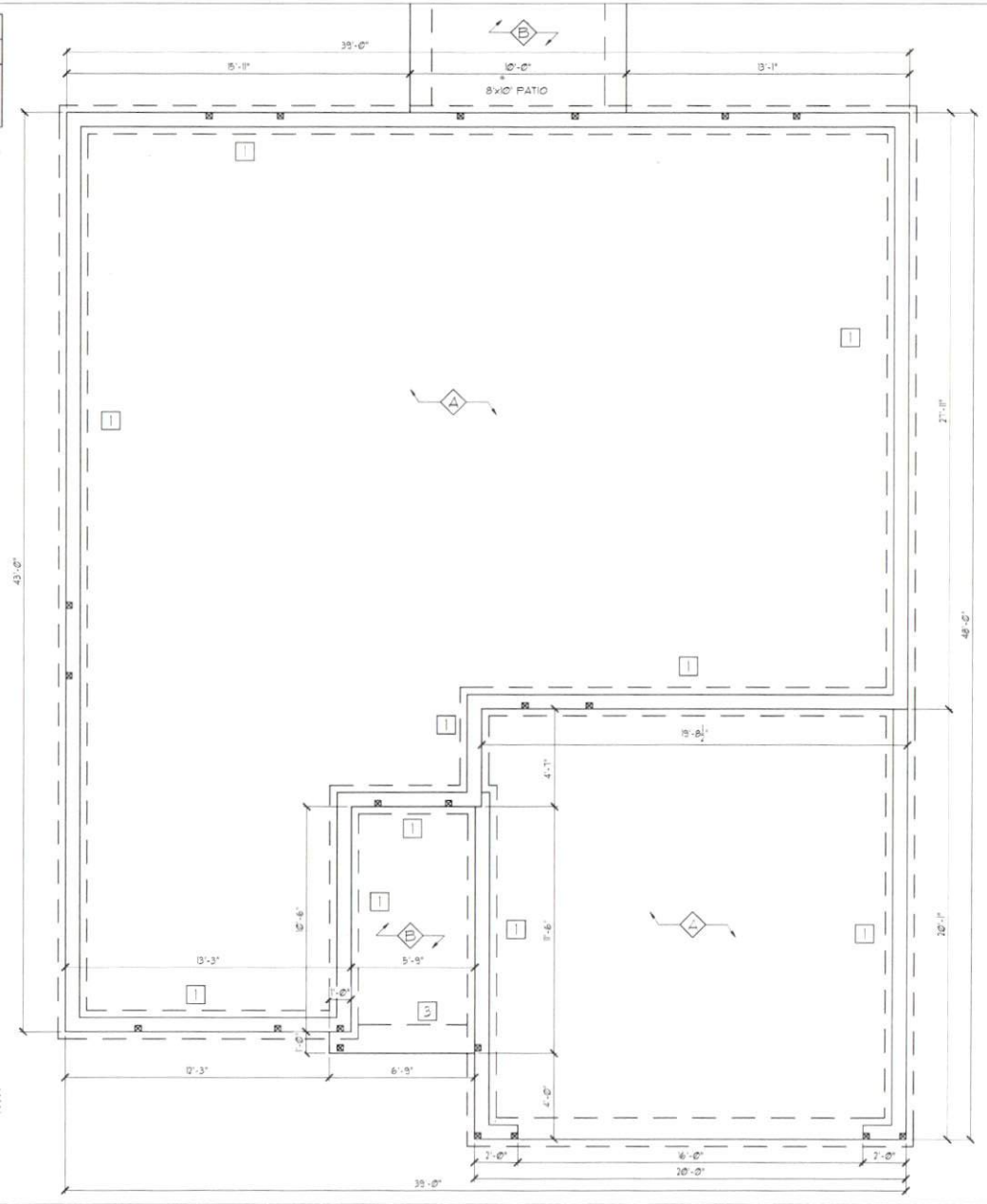
SCALE: 3/16"=1' ON 11x17" SHEET

WALL ANCHOR OPTION SCHEDULE FOR STEM WALL				
ANCHORS	MIN. CONC. EMBEDMENT	SPACING	INTERIOR WALL	EXTERIOR WALL
1/2"ø A307 BOLTS w/ STD. 90° BEND	15"	6'-0"	YES	YES
1/2"ø THREADED ROD w/ 551 SET EPOXY	15"	6'-0"	YES	YES

NOTE:
1. INSTALL ALL ANCHORS 12" MAX. FROM ALL BOTTOM WALL PLATE ENDS & JOINTS.
2. MINIMUM CONCRETE EMBEDMENT AND SPACINGS SHOWN ARE TYPICAL. IF DIFFERENT EMBEDMENTS OR SPACINGS ARE EXPLICITLY CALLED FOR ON THE PLAN OR DETAILS, DEFER TO THOSE.

NORTH CAROLINA PROFESSIONAL SEAL 043823 ENGINEER WESLEY A. JONES 4/30/11

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



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SUMMIT ENGINEERING LABORATORY TESTING

CLIENT: LGI HOMES

PROJECT: THE ALAMANCE (NORTH CAROLINA)

CURRENT DRAWING
DATE: 3/30/2011
PROJECT #: 1203-08R 13302
DRAWN BY: ZTS
CHECKED BY: WAJ

STEM WALL FOUNDATION

SHEET S1.05

GENERAL STRUCTURAL NOTES:

1. CONSTRUCTION SHALL CONFORM TO THE 2012 NORTH CAROLINA RESIDENTIAL BUILDING CODE.
2. CONTRACTOR SHALL VERIFY ALL DIMENSIONS. CONTRACTOR SHALL COMPLY WITH THE CONTENTS OF THE DRAWING FOR THIS SPECIFIC PROJECT. ENGINEER IS NOT RESPONSIBLE FOR ANY DEVIATIONS FROM THIS PLAN.
3. CONTRACTOR IS RESPONSIBLE FOR PROVIDING TEMPORARY BRACING REQUIRED TO RESIST ALL FORCES ENCOUNTERED DURING ERECTION.
4. PROPERTIES USED IN THE DESIGN ARE AS FOLLOWS (UNO.): LVL: F_b = 2600 PSI, F_v = 285 PSI, E = $19x10^6$ PSI; PSL: F_b = 2900 PSI, F_v = 290 PSI, E = $125x10^6$ PSI
5. ALL WOOD MEMBERS, STUD COLUMNS AND JOISTS SHALL BE #2 SYP UNLESS NOTED ON PLAN.
6. ALL BEAMS SHALL BE SUPPORTED WITH A (2) 2x4 #2 SYP STUD COLUMN AT EACH END UNLESS NOTED OTHERWISE.
7. POSITIVE AND NEGATIVE WALL CLADDING DESIGN VALUES FOR 120 MPH, CATEGORY B, AND MEAN ROOF HEIGHT 30 FEET OR LESS ARE 18.0 AND -24.1 RESPECTIVELY.
8. CONTRACTOR TO PROVIDED LOOKOUTS WHEN CEILING JOISTS SPAN PERPENDICULAR TO RAFTERS.
9. FLITCH BEAMS, 4-PLY BEAMS & 3-PLY SIDE LOADED BEAMS SHALL BE BOLTED TOGETHER W/ 1/2" DIA. THRU BOLTS SPACED AT 24" O.C. (MAX.) STAGGERED. MIN. EDGE DISTANCE SHALL BE 2" AND (2) BOLTS SHALL BE LOCATED MINIMUM 6" FROM EACH END OF THE BEAM.
10. ALL NON-LOAD BEARING INTERIOR DOOR HEADERS SHALL BE FLAT (2) 2x4 SYP #2 DROPPED HEADERS UNLESS NOTED OTHERWISE.

WALL STUD SCHEDULE

1ST & 2ND FLOOR LOAD BEARING STUDS:
2x4 STUDS @ 16" O.C. OR 2x6 STUDS @ 24" O.C.
1ST FLOOR LOAD BEARING STUDS W/ WALK-UP ATTIC:
2x4 STUDS @ 12" O.C. OR 2x6 STUDS @ 16" O.C.
BASEMENT LOAD BEARING STUDS:
2x4 STUDS @ 12" O.C. OR 2x6 STUDS @ 16" O.C.
NON-LOAD BEARING STUDS (ALL FLOORS)
2x4 STUDS @ 24" O.C.
TWO STORY WALLS:
2x4 STUDS @ 12" O.C. OR 2x6 STUDS @ 16" O.C. W/ CROSS BRACING @ 6'-0" O.C. VERTICALLY

NOTE:
======= DESIGNATES JOIST SUPPORTED LOAD BEARING WALL ABOVE. PROVIDE BLOCKING UNDER JOIST SUPPORTED LOAD BEARING WALL.

NOTE: SHADED WALL INDICATED LOAD BEARING WALLS

JOIST & BEAM SIZES SHOWN ARE MINIMUMS. BUILDER MAY INCREASE DEPTH FOR EASE OF CONSTRUCTION.

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HEADER SCHEDULE

TAG	SIZE	JACKS (EACH END)
A	(2) 2x6	(1) 2X4
B	(2) 2x8	(2) 2X4
C	(2) 2x10	(2) 2X4
D	(2) 2x12	(2) 2X4
E	(2) 1-3/4"x9-1/4" LVL	(3) 2X4
F	(2) 1-3/4"x11-7/8" LVL	(3) 2X4
G	(2) 1-3/4"x14" LVL	(3) 2X4
H	PLAN SPECIFIC	SEE PLAN

1. HEADER SIZES SHOWN ON PLANS ARE MINIMUMS. GREATER HEADER SIZES MAY BE USED FOR EASE OF CONSTRUCTION.
2. ALL HEADERS TO BE DROPPED UNLESS NOTED OTHERWISE.
3. JACK STUD QTY. NOTED ON PLAN OVERRIDES JACK STUD QTY. LISTED ABOVE.
4. REFER TO "RESIDENTIAL STANDARD NOTES PAGE 1" (SHEET 2 OF PLAN) FOR KING STUD REQUIREMENTS.

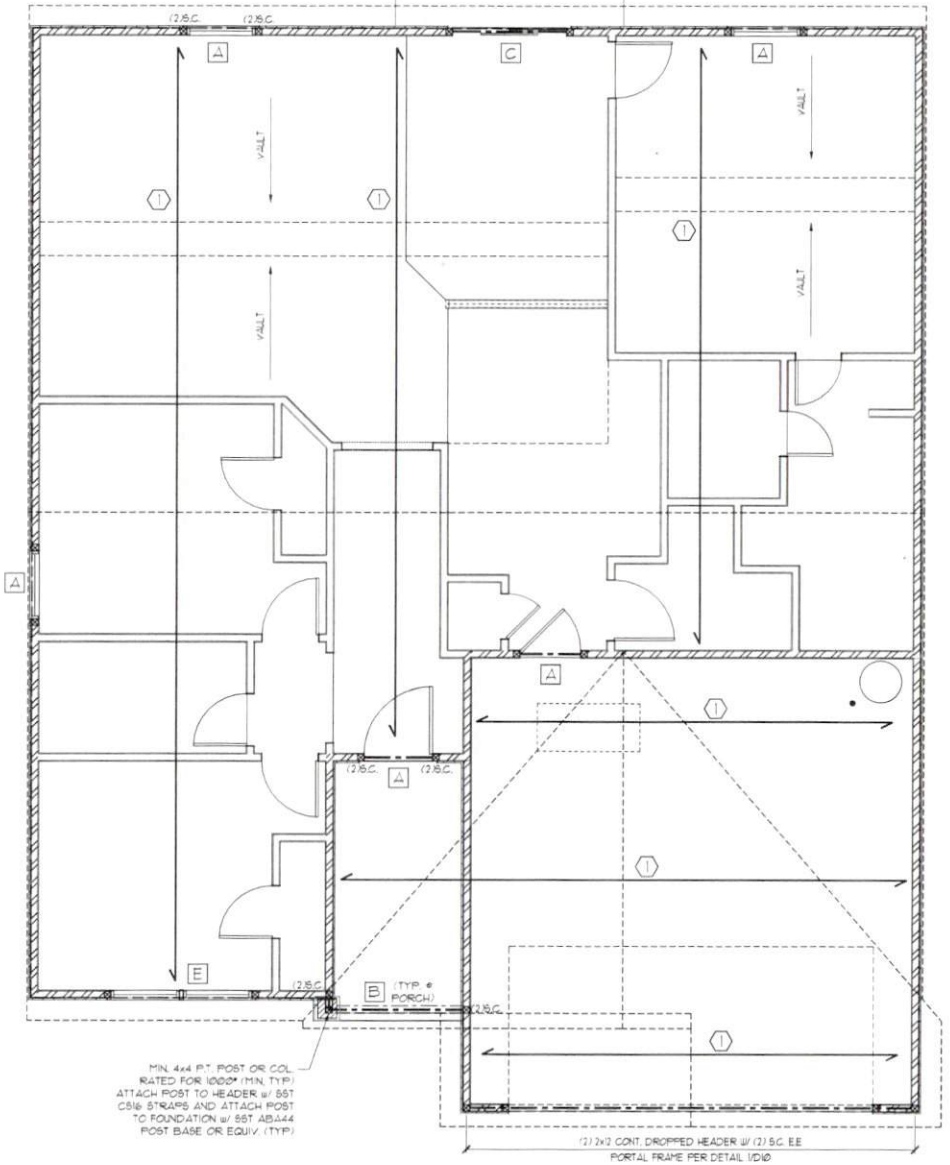
BEAM SCHEDULE

TAG	SIZE
B1	(1) 11-7/8" I-JOIST OR FLOOR TRUSS
B2	(2) 11-7/8" I-JOIST OR FLOOR TRUSS
B3	(1) 14" I-JOIST OR FLOOR TRUSS
B4	(2) 14" I-JOIST OR FLOOR TRUSS
B5	(1) 1-3/4"x9-1/4" LVL
B6	(2) 1-3/4"x9-1/4" LVL
B7	(1) 1-3/4"x11-7/8" LVL
B8	(2) 1-3/4"x11-7/8" LVL
B9	(1) 1-3/4"x14" LVL
B10	(2) 1-3/4"x14" LVL
B11	(2) 2x10 P.T.

1. BEAM SIZES SHOWN ON PLANS ARE MINIMUMS. GREATER BEAM SIZES MAY BE USED FOR EASE OF CONSTRUCTION.
2. ALL BEAMS TO BE TOP FLUSH UNLESS NOTED OTHERWISE.
3. JACK STUD QTY. NOTED ON PLAN OVERRIDES JACK STUD QTY. LISTED ABOVE.

ROOF/FLOOR FRAMING SCHEDULE

TAG	DESCRIPTION
(1)	SPAN OF ROOF TRUSSES BY OTHERS
(2)	GIRDER TRUSS BY OTHERS
(3)	BLOCK SOLID AT GIRDER TRUSS BEARING
(4)	2x6 STUDS THIS WALL CONT. TO CEILING
(5)	BALLOON FRAME 2x6 STUDS @ 16" O.C. THIS WALL



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STRUCTURAL ANALYSIS BASED ON 2012 NCRC.

NORTH CAROLINA PROFESSIONAL SEAL 048823 ENGINEER WESLEY A. JONES 3/30/17

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

FIRST FLOOR FRAMING PLAN

SCALE: 3/16"=1'-0" ON 17x11" SHEET

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SUMMIT ENGINEERING, LABORATORY & TESTING

CLIENT: LGI HOMES

PROJECT: THE ALAMANCE (NORTH CAROLINA)

CURRENT DRAWING
DATE: 3/30/2017
PROJECT #: 1203-08R, 13302
DRAWN BY: ZTS
CHECKED BY: WAJ

FIRST FLOOR FRAMING

SHEET S2.0

REQUIRED BRACED WALL PANEL CONNECTIONS

METHOD	MATERIAL	MIN. THICKNESS	REQUIRED CONNECTION	
			* PANEL EDGES	* INTERMEDIATE SUPPORTS
CS-WSP	WOOD STRUCTURAL PANEL	3/8"	6d COMMON NAILS @ 6" O.C.	6d COMMON NAILS @ 12" O.C.
GB	GYPSUM BOARD	1/2"	5d COOLER NAILS** @ 7" O.C.	5d COOLER NAILS** @ 7" O.C.
WSP	WOOD STRUCTURAL PANEL	3/8"	6d COMMON NAILS @ 6" O.C.	6d COMMON NAILS @ 12" O.C.
PF	WOOD STRUCTURAL PANEL	7/16"	PER FIGURE R602.10.1	PER FIGURE R602.10.1

**OR EQUIVALENT PER TABLE R1602.3.5

COMPONENT & CLADDING DESIGNED FOR THE FOLLOWING LOADS (IN PSF):

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

BASIC DESIGN WIND VELOCITY = 100 MPH, EXPOSURE B

BRACED WALL SCHEDULE

	LENGTH REQUIRED (FT.)	LENGTH PROVIDED (FT.)
FRONT	9.6	13.1
LEFT	7.1	40.0
REAR	9.6	28.0
RIGHT	7.1	48.0

NOTES: ALL BRACED WALL PANELS TO BE CS-WSP METHOD U.N.O. ALL PANELS TO BE INSTALLED PER R602.10 & TABLE R602.10.1 OF THE 2012 NCRC

BRACED WALL NOTES:

1. WALLS SHALL BE DESIGNED IN ACCORDANCE WITH SECTION R602.10 FROM THE 2012 NORTH CAROLINA RESIDENTIAL BUILDING CODE.
2. WALLS ARE DESIGNED FOR SEISMIC ZONES A-C AND ULTIMATE WIND SPEEDS UP TO 100 MPH.
3. REFER TO ARCHITECTURAL PLAN FOR DOOR/WINDOW OPENING SIZES.
4. BRACING MATERIALS, METHODS AND FASTENERS SHALL BE IN ACCORDANCE WITH TABLE R602.10.1
5. ALL BRACED WALL PANELS SHALL BE FULL WALL HEIGHT AND SHALL NOT EXCEED 10 FEET FOR ISOLATED PANEL METHOD AND 12 FEET FOR CONTINUOUS SHEATHING METHOD WITHOUT ADDITIONAL ENGINEERING CALCULATIONS.
6. MINIMUM PANEL LENGTH SHALL BE PER TABLE R602.10.1
7. THE INTERIOR SIDE OF EXTERIOR WALLS AND BOTH SIDES OF INTERIOR WALLS SHALL BE SHEATHED CONTINUOUSLY WITH MINIMUM 1/2" GYPSUM BOARD (U.N.O.).
8. FOR CONTINUOUS SHEATHING METHOD, EXTERIOR WALLS SHALL BE SHEATHED ON ALL SHEATHABLE SURFACES INCLUDING INFILL AREAS BETWEEN BRACED WALL PANELS, ABOVE AND BELOW WALL OPENINGS, AND ON GABLE END WALLS.
9. FLOORS SHALL NOT BE CANTILEVERED MORE THAN 24" BEYOND THE FOUNDATION OR BEARING WALL BELOW WITHOUT ADDITIONAL ENGINEERING CALCULATIONS.
10. A BRACED WALL PANEL SHALL BE LOCATED WITHIN 12 FEET OF EACH END OF A BRACED WALL LINE.
11. THE MAXIMUM EDGE DISTANCE BETWEEN BRACED WALL PANELS SHALL NOT EXCEED 21 FEET.
12. MASONRY OR CONCRETE STEM WALLS WITH A LENGTH OF 48" OR LESS SUPPORTING A BRACED WALL PANEL SHALL BE DESIGNED IN ACCORDANCE WITH FIGURE R602.10.3.3
13. BRACED WALL PANEL CONNECTIONS TO FLOOR/CEILING SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION R602.10.5.4
14. BRACED WALL PANEL CONNECTIONS TO ROOF SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION R602.10.5.5
15. CRIPPLE WALLS AND WALK OUT BASEMENT WALLS SHALL BE DESIGNED IN ACCORDANCE WITH SECTION R602.10.5.6
16. PORTAL WALLS SHALL BE DESIGNED IN ACCORDANCE WITH FIGURE R602.10.1 (U.N.O.)
17. ABBREVIATIONS:

GB = GYPSUM BOARD
CS-XXX = CONT. SHEATHED
PF = PORTAL FRAME
WSP = WOOD STRUCTURAL PANEL
ENG = ENGINEERED SOLUTION
PF-ENG = ENG. PORTAL FRAME

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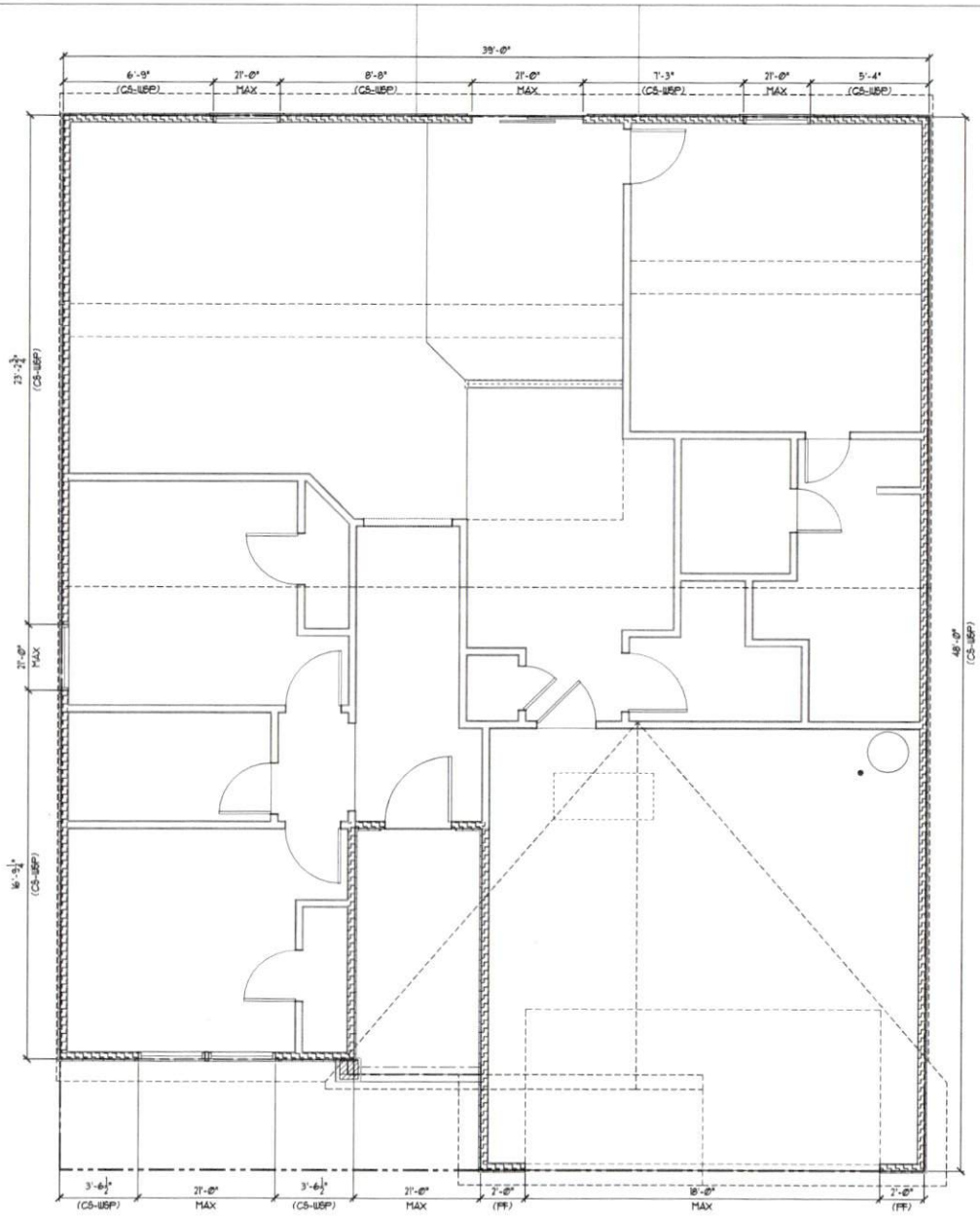
STRUCTURAL ANALYSIS BASED ON 2012 NCRC.

NORTH CAROLINA PROFESSIONAL SEAL 34823 ENGINEER WESLEY A. JONES 3/30/11

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

FIRST FLOOR BRACING PLAN

SCALE: 3/16"=1' ON 11"x17" SHEET



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CLIENT: LGI HOMES

PROJECT: THE ALAMANCE (NORTH CAROLINA)

CURRENT DRAWING
DATE: 3/30/2011
PROJECT #: 1203-02AR.13302
DRAWN BY: ZTS
CHECKED BY: WAJ

FIRST FLOOR BRACING

SHEET S3.0