

# Obtaining a permit for your Best Barns or Sentry Buildings kit.

Building code offices and HOA's may require different documents to obtain a permit. The homeowners first step is to contact their local code office and ask what is needed for the size of building to be purchased.

Typically, the necessary documentation may include some or all of the following.

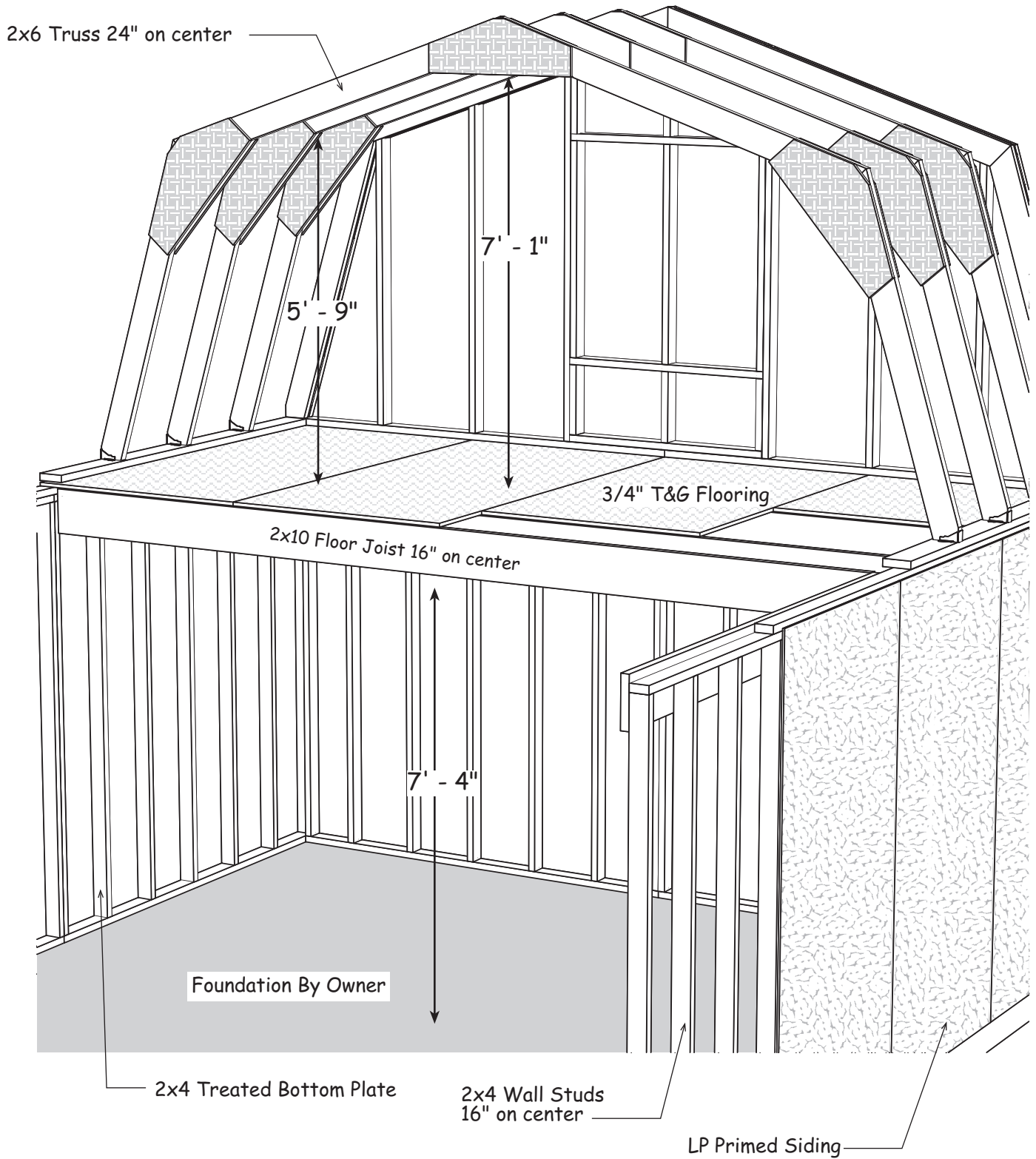
- Elevations showing at least two sides of structure.
- Site plan showing existing structures and proposed build site.
- Engineered drawings for truss system indicating snow and wind load ratings.\*
- Cross sections of wall framing and foundation.
- Tie down locations for high wind load areas.

Permit requirements vary based on location. Some areas may not require a permit at all. The documents provided by Best Barns or Sentry Buildings are intended to help the homeowner with the permit process but do not guarantee a permit will be issued.\*\* It is the homeowner's responsibility to determine if a permit is required and submit the necessary documentation if so.

\* Engineered truss drawings stamped for your individual state can be obtained upon request. A deposit will be required if shed or garage kit has not yet been purchased. Contact us directly at 800-245-1577 for further details.

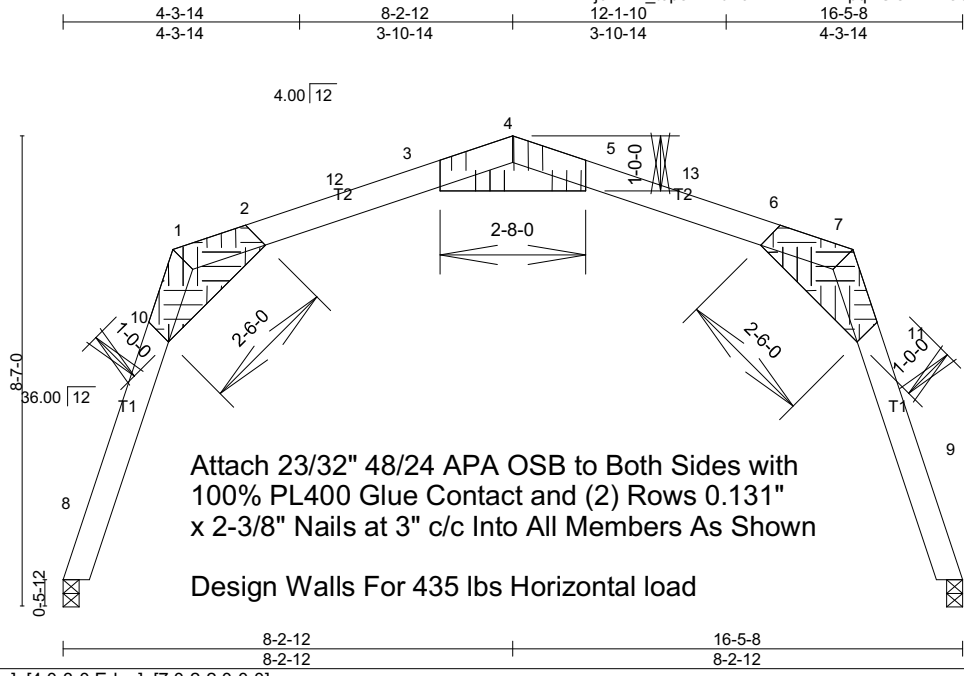
\*\* Certain states such as Florida and California have stringent requirements for obtaining a permit. Depending on your location, a civil engineer's services may be required to provide necessary documents. These services are the homeowners responsibility to obtain and are not included in the purchase of a shed or garage kit.

# Cross Section 16' Wide Buildings



Job	Truss	Truss Type	Qty	Ply	Job Reference (optional)
PER201421	130-24	COMMON	1	1	

8400 e Mar 10 2020 MiTek Industries, Inc. Tue Jun 23 18:04:11 2020 Page 1  
 ID:Xj9AAf?\_t9pePiYbB9w?wzITDw-2pqAGIsi1INF003YP8Bhr?0f5fdVA2LChwXglz3K6I



Scale = 1:42.1

Plate Offsets (X,Y)-- [1:0-2-2,Edge], [4:0-3-0,Edge], [7:0-2-2,0-0-0]

<b>LOADING</b> (psf)		<b>SPACING-</b>	2-0-0	<b>CSI.</b>		<b>DEFL.</b>	in (loc)	l/defl	L/d	<b>PLATES</b>	<b>GRIP</b>	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.86	Vert(LL)	-0.29	5-6	>659	240	MT20	197/144
Snow (Pf/Pg)	46.2/60.0	Lumber DOL	1.15	BC	0.00	Vert(CT)	-0.33	5-6	>582	180		
TCDL	12.0	Rep Stress Incr	YES	WB	0.37	Horz(CT)	0.00		n/a	n/a		
BCLL	0.0 *	Code IBC2018/TPI2014		Matrix-P							Weight: 58 lb	FT = 20%
BCDL	10.0											

<b>LUMBER-</b>		<b>BRACING-</b>	
TOP CHORD	2x6 SPF No.2	TOP CHORD	Structural wood sheathing directly applied or 3-3-3 oc purlins. [PC]
WEBS	2x4 SP No.3	BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing.

MiTek recommends that Stabilizers and required cross bracing be installed during truss erection, in accordance with Stabilizer Installation guide.

**REACTIONS.** (lb/size) 8=941/0-3-8 (min. 0-3-6), 9=941/0-3-8 (min. 0-3-5)  
 Max Horz 8=422(LC 24), 9=422(LC 23)  
 Max Uplift 8=274(LC 16), 9=274(LC 16)  
 Max Grav 8=941(LC 1), 9=1097(LC 21)

**FORCES.** (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.  
 TOP CHORD 8-10=-1008/443, 1-10=-552/915, 7-11=-552/827, 9-11=-1139/453, 1-2=-563/1036,  
 2-12=-568/499, 3-12=-490/509, 3-4=-1130/77, 4-5=-1130/77, 5-13=-469/519,  
 6-13=-568/509, 6-7=-563/950  
 WEBS 2-10=-1734/527, 6-11=-1614/527, 3-5=-18/711

- NOTES-**
- Unbalanced roof live loads have been considered for this design.
  - Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=30ft; B=45ft; L=24ft; eave=4ft; Cat. II; Exp C; Enclosed; MWFRS (directional) and C-C Exterior(2E) 0-1-12 to 2-2-5, Exterior(2R) 2-2-5 to 5-2-5, Interior(1) 5-2-5 to 8-2-12, Exterior(2R) 8-2-12 to 11-2-12, Interior(1) 11-2-12 to 14-3-3, Exterior(2E) 14-3-3 to 16-3-12 zone; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
  - TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=60.0 psf; Pf=46.2 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat C; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
  - Unbalanced snow loads have been considered for this design.
  - \* 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.
  - Bearing at joint(s) 8, 9 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
  - Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 274 lb uplift at joint 8 and 274 lb uplift at joint 9.
  - Non Standard bearing condition. Review required.
  - This truss is designed in accordance with the 2018 International Building Code section 2306.1 and referenced standard ANSI/TPI 1.

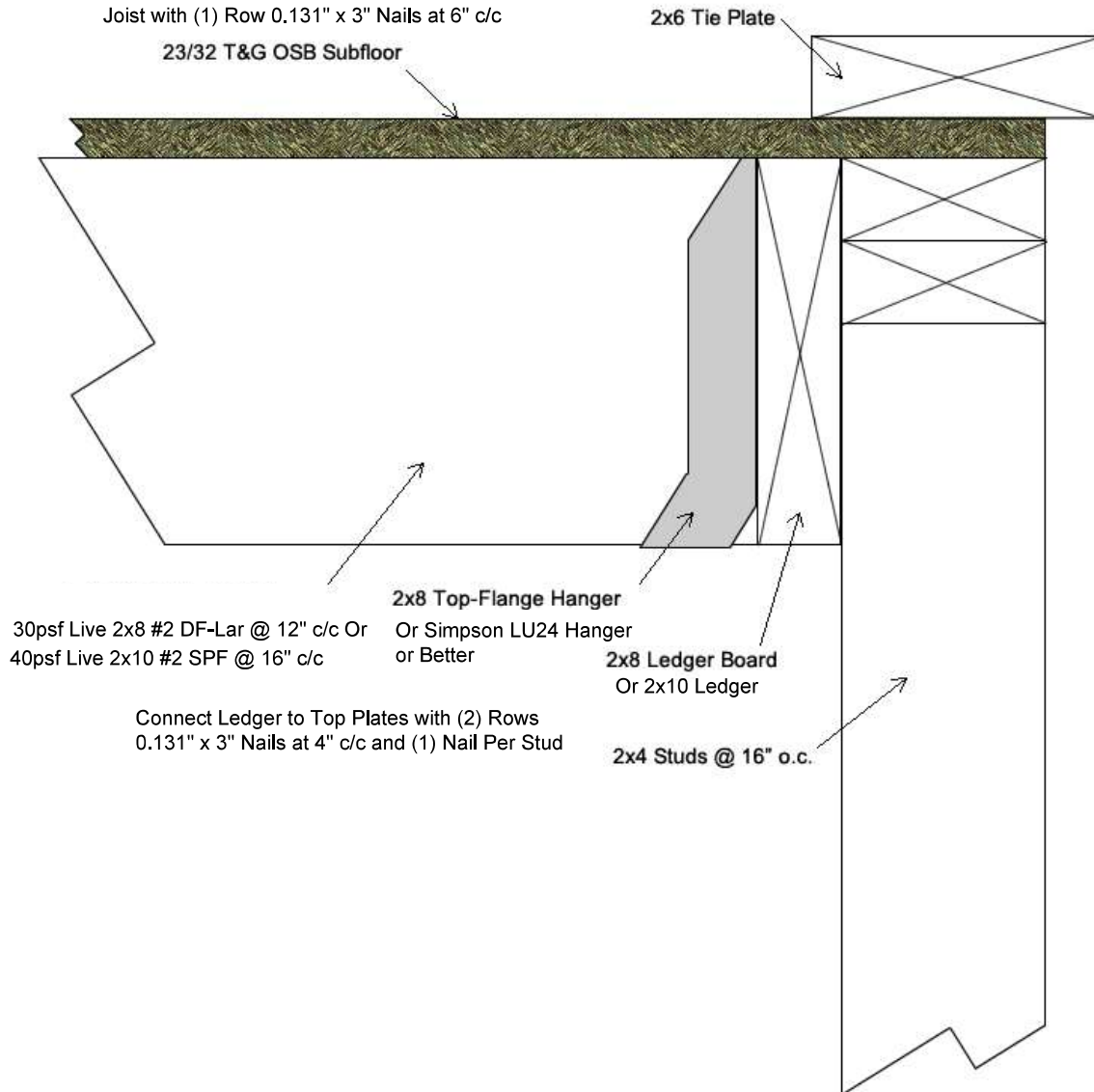
**LOAD CASE(S)** Standard



Maximum Horizontal Load From Truss =  
500 lbs

Connect 2x6 Tie Plate to Top Plates with (2)  
Rows 0.131" x 3" Nails at 4" c/c

Connect OSB Subfloor Minimum 4' Width to Floor  
Joist with (1) Row 0.131" x 3" Nails at 6" c/c



CLIENT: Reynolds Building Systems  
 SUBJECT: Loft Floor  
 SUBJECT: 2x8 30 Live  
 DESIGNER: TAR  
 JOB NUMBER: PER201820

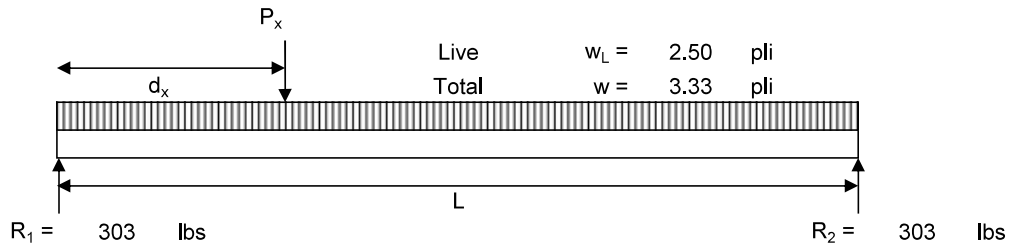
**Simple Span - Uniformly Loaded  
 With up to 4 Point Loads**

Live = 30 psf       $\Delta_{Live} = 360$   
 Dead = 10 psf       $\Delta_{Total} = 240$   
 Tributary = 12 in       $C_L = 1.0$   
 L = 182 in       $C_D = 1.00$   
                                   $C_r = 1.15$

J<sub>oist</sub> = 2x8 #2 DF-L  
 Plies = 1

b = 1.5 in  
 d = 7.3 in  
 F<sub>v</sub> = 180 psi  
 F<sub>b</sub> = 1080 psi  
 E = 1600000 psi  
 I = 47.6 in<sup>4</sup>

**OK**  
 d<sub>1</sub> = 3 in      % Live = 100%  
 P<sub>1</sub> = 0 lbs  
 d<sub>2</sub> = 48 in      % Live = 100%  
 P<sub>2</sub> = 0 lbs  
 d<sub>3</sub> = 92 in      % Live = 80%  
 P<sub>3</sub> = 0 lbs  
 d<sub>4</sub> = 150 in      % Live = 100%  
 P<sub>4</sub> = 0 lbs



**Shear**

$V_{max} = 303$  lbs  
 $f_v = 42$  psi      =  $\frac{3V_{max}}{2bd}$   
 $F_v = 180$  psi      =  $F_v C_D$  **OK**      = if( $F_v >= f_v$ ,  $O_K$ ,  $N_o$  Good)

**Moment**

$M_{max} = 13802$  in\*lbs  
 $f_b = 1050$  psi      =  $\frac{6M_{max}}{bd^2}$   
 $F_b = 1242$  psi      =  $F_b C_L C_D C_r$  **OK**      = if( $F_b >= f_b$ ,  $O_K$ ,  $N_o$  Good)

**Live Deflection**

Max  $\Delta_{Live} = 0.4686$  in  
 $L/360 = 0.5056$  in      **OK**

**Total Deflection**

Max  $\Delta_{Total} = 0.6248$  in  
 $L/240 = 0.7583$  in      **OK**



CLIENT: Reynolds Building Systems  
 SUBJECT: Loft Floor  
 SUBJECT: 2x10 40 Live  
 DESIGNER: TAR  
 JOB NUMBER: PER201820

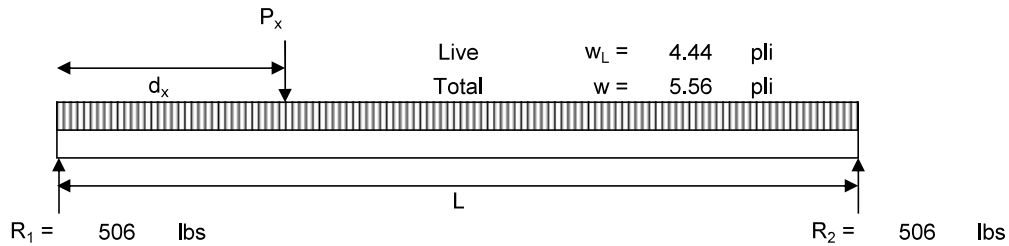
**Simple Span - Uniformly Loaded  
 With up to 4 Point Loads**

Live = 40 psf       $\Delta_{Live} = 360$   
 Dead = 10 psf       $\Delta_{Total} = 240$   
 Tributary = 16 in       $C_L = 1.0$   
 L = 182 in       $C_D = 1.00$   
                           $C_r = 1.15$

$J_{oist} = 2x10 \#1/\#2 SPF$   
 Plies = 1

b = 1.5 in  
 d = 9.3 in  
 $F_v = 135$  psi  
 $F_b = 962.5$  psi  
 E = 1400000 psi  
 I = 98.9 in<sup>4</sup>

**OK**  
 $d_1 = 3$  in      % Live = 100%  
 $P_1 = 0$  lbs  
 $d_2 = 48$  in      % Live = 100%  
 $P_2 = 0$  lbs  
 $d_3 = 92$  in      % Live = 80%  
 $P_3 = 0$  lbs  
 $d_4 = 150$  in      % Live = 100%  
 $P_4 = 0$  lbs



**Shear**

$V_{max} = 506$  lbs  
 $f_v = 55$  psi      =  $\frac{3V_{max}}{2bd}$   
 $F_v = 135$  psi      =  $F_v C_D$  **OK**      = if( $F_v >= f_v$ ,  $O_K$ ,  $N_o$  Good)

**Moment**

$M_{max} = 23003$  in\*lbs  
 $f_b = 1075$  psi      =  $\frac{6M_{max}}{bd^2}$   
 $F_b = 1107$  psi      =  $F_b C_L C_D C_r$  **OK**      = if( $F_b >= f_b$ ,  $O_K$ ,  $N_o$  Good)

**Live Deflection**

Max  $\Delta_{Live} = 0.4584$  in  
 $L/360 = 0.5056$  in      **OK**

**Total Deflection**

Max  $\Delta_{Total} = 0.5730$  in  
 $L/240 = 0.7583$  in      **OK**



**Richmond / Roanoke**

16ft. wide x \_\_\_ft. long  
2 Story Gambrel Building

Manufactured by:  
Reynolds Building Systems, Inc.  
205 Arlington Drive  
Greenville, PA 16125  
phone: 800-245-1577  
fax: 724-646-0772

**Truss & Wall  
Cross Section**

Top of wall inclusive of loft floor joists, Subfloor, wall framing and truss cross sections.

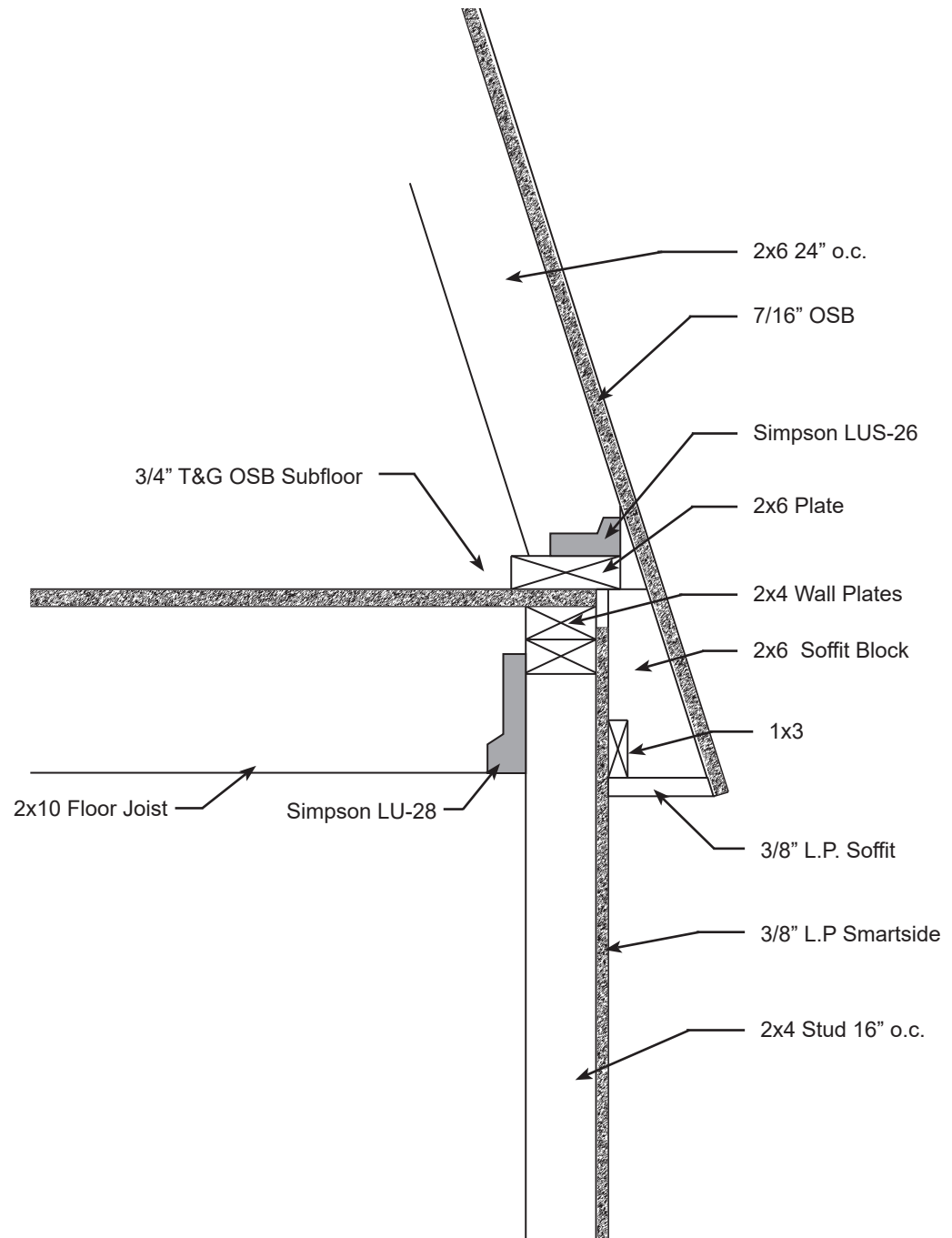
Drawing not to scale.

**Instructions:**

Homeowner may provide additional information as appropriate.

**Notes:**

Refer to installation manual for further detail.



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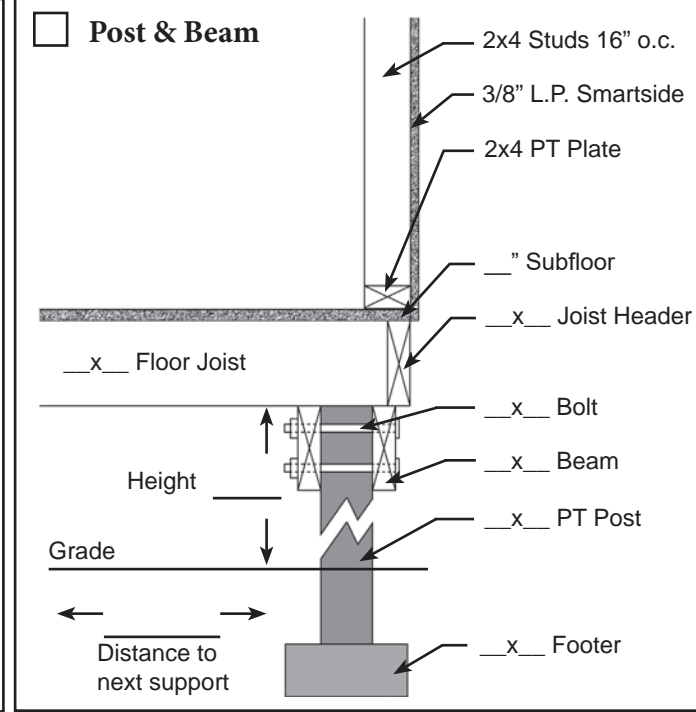
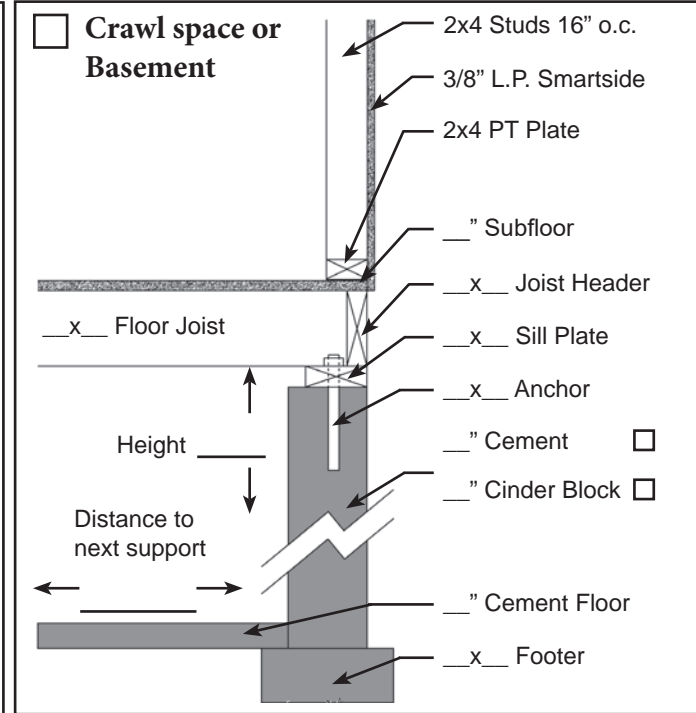
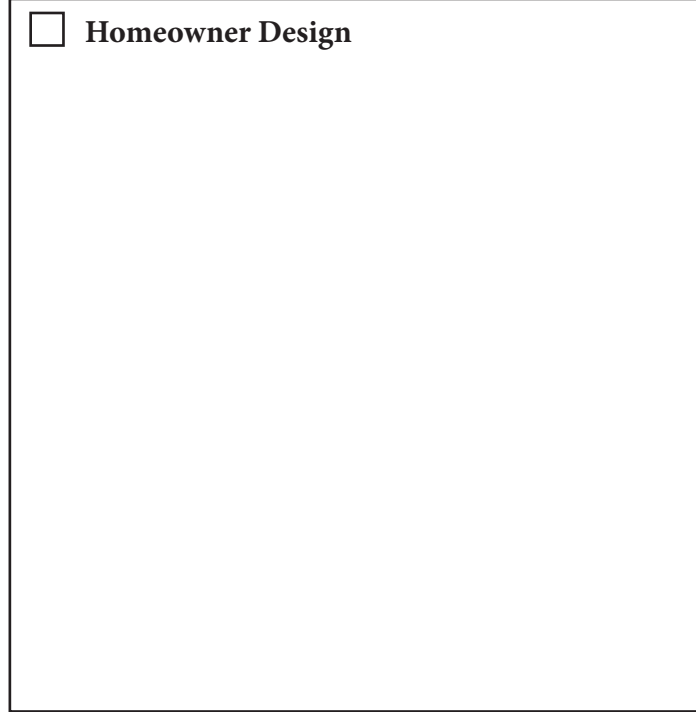
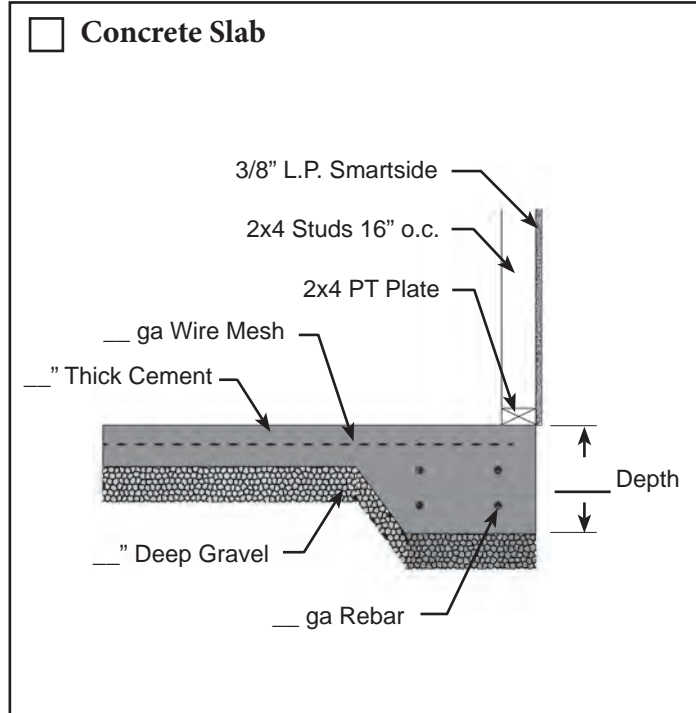
### Common Foundation Cross Sections

This document illustrates common foundation types which can be used for construction of either the Richmond or Roanoke models. Alteration may be necessary to conform to homeowners intended use and or permitting requirements. Drawings not to scale.

#### Instructions:

Check appropriate foundation cross section and provide specifications as necessary.

Homeowner may also design and draw in space provided for custom foundation type.





**Site Plan for:**

Manufactured by:  
Reynolds Building Systems, Inc.  
205 Arlington Drive  
Greenville, PA 16125  
phone: 800-245-1577  
fax: 724-646-0772

**Instructions:**

Draw property line, existing structures and proposed placement of building.

Homeowner may also be required to show trees and shrubs. Check with HOA or permit office for requirements.

A large, empty rectangular box with a black border, intended for the site plan drawing. It occupies the right two-thirds of the page.