Vernon Grey Design

BEAM CALCULATIONS

ADU-2

CITY OF CONDON
GILLIAM COUNTY
STATE OF OREGON

ACCESSORY DWELLING UNIT PROJECT

SPONSORED BY

AARP

Nonprofit organization

TO ACCOMPANY CONSTRUCTION PLANS
COMPLETED 11/28/22

NOTE:

BEAM SIZES LISTED WITHIN ARE RECOMENDED AS MINIMUM SIZE AND MAY BE SHOWN ON PLANS AS LARGER TO ALIGN DESIGN-WISE.

CONTRACTOR TO VERIFY WITH SUPPLIERS AND ADJUST IN FIELD AS NECESSARY.

PO BOX 712 / CONDON, OR 97823 / 541 384 3031 / CEL 503 706 1371 / vgdesign@ortelco.net

ADU-2 Main/ BR 2 (girder truss)

bm #1 Date: 10/20/22

Selection **(2) 2x 14 DF-L #1** Lu = 0.0 Ft

Conditions NDS 2015

Min Bearing Area R1= 3.6 in² R2= 3.6 in² (1.5) DL Defl= 0.05 in

Data

Beam Span	11.0 ft	Reaction 1 LL	1722 #	Reaction 2 LL	1722 #
Beam Wt per ft	9.66 #	Reaction 1 TL	2253 #	Reaction 2 TL	2253 #
Bm Wt Included	106 #	Maximum V	2253 #		
Max Moment	6196 '#	Max V (Reduced)	1801 #		
TL Max Defl	L / 240	TL Actual Defl	L / 866		
LL Max Defl	L / 360	LL Actual Defl	L / >1000		

Attributes

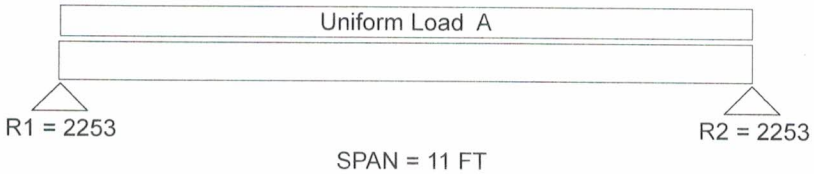
	Section (in³)	Shear (in²)	TL Defl (in)	LL Defl
Actual	87.78	39.75	0.15	0.10
Critical	82.61	15.01	0.55	0.37
Status	OK	OK	OK	OK
Ratio	94%	38%	28%	28%

Values / *Adjustments*

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc⊥ (psi)
Reference Values	1000	180	1.7	625
Adjusted Values	900	180	1.7	625
CF Size Factor	0.900			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		N/A		
Cm Wet Use	1.00	1.00	1.00	1.00

Cl Stability 1.0000 Rb = 0.00 Le = 0.00 Ft

Loads Uniform LL: 313 Uniform TL: 400 = A



SPAN = 11 FT

Uniform and partial uniform loads are lbs per lineal ft.

ADU-2 — Main/ Grt Rm window hdr

bm #2 — Date: 10/20/22

Selection **6x 8 DF-L #1** — Lu = 0.0 Ft

Conditions NDS 2015

Min Bearing Area R1= 2.4 in² R2= 2.4 in² (1.5) DL Defl= 0.03 in

Data

Beam Span	7.0 ft	Reaction 1 LL	1138 #	Reaction 2 LL	1138 #
Beam Wt per ft	10.02 #	Reaction 1 TL	1491 #	Reaction 2 TL	1491 #
Bm Wt Included	70 #	Maximum V	1491 #		
Max Moment	2609 '#	Max V (Reduced)	1225 #		
TL Max Defl	L / 240	TL Actual Defl	L / >1000		
LL Max Defl	L / 360	LL Actual Defl	L / >1000		

Attributes

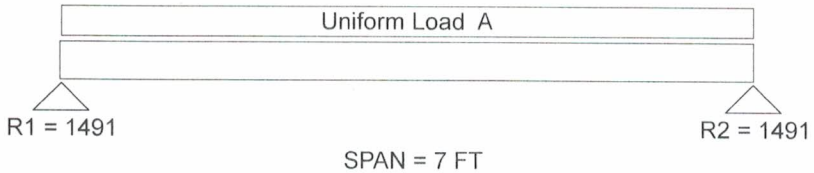
	Section (in³)	Shear (in²)	TL Defl (in)	LL Defl
Actual	51.56	41.25	0.08	0.06
Critical	26.09	10.81	0.35	0.23
Status	OK	OK	OK	OK
Ratio	51%	26%	24%	24%

Values / *Adjustments*

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc⊥ (psi)
Reference Values	1200	170	1.6	625
Adjusted Values	1200	170	1.6	625
CF Size Factor	1.000			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		N/A		
Cm Wet Use	1.00	1.00	1.00	1.00

CI Stability 1.0000 Rb = 0.00 Le = 0.00 Ft

Loads Uniform LL: 325 Uniform TL: 416 = A



SPAN = 7 FT

Uniform and partial uniform loads are lbs per lineal ft.

BeamChek v2020 licensed to: Vernon Grey Design Reg # 2001-2553

ADU-2 Main/ BR 1 patio dr hdr

bm #3 Date: 10/20/22

Selection **6x 8 DF-L #1** Lu = 0.0 Ft

Conditions NDS 2015

Min Bearing Area R1= 2.2 in² R2= 2.2 in² (1.5) DL Defl= 0.02 in

Data

Beam Span	6.0 ft	Reaction 1 LL	1050 #	Reaction 2 LL	1050 #
Beam Wt per ft	10.02 #	Reaction 1 TL	1374 #	Reaction 2 TL	1374 #
Bm Wt Included	60 #	Maximum V	1374 #		
Max Moment	2061 '#	Max V (Reduced)	1088 #		
TL Max Defl	L / 240	TL Actual Defl	L / >1000		
LL Max Defl	L / 360	LL Actual Defl	L / >1000		

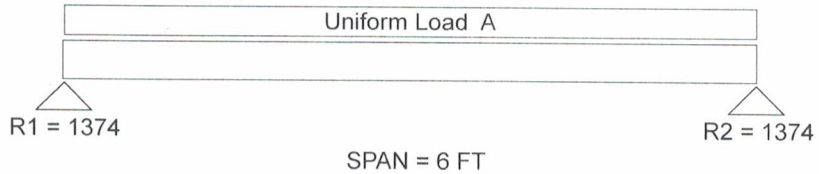
Attributes

	Section (in³)	Shear (in²)	TL Defl (in)	LL Defl
Actual	51.56	41.25	0.05	0.03
Critical	20.61	9.60	0.30	0.20
Status	OK	OK	OK	OK
Ratio	40%	23%	16%	16%

Values / *Adjustments*

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc⊥ (psi)
Reference Values	1200	170	1.6	625
Adjusted Values	1200	170	1.6	625
CF Size Factor	1.000			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		N/A		
Cm Wet Use	1.00	1.00	1.00	1.00
Cl Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	

Loads Uniform LL: 350 Uniform TL: 448 = A



SPAN = 6 FT

Uniform and partial uniform loads are lbs per lineal ft.

ADU-2 Main/ frt Porch side hdr

bm #4 Date: 10/20/22

Selection **4x 6 DF-L #1** Lu = 0.0 Ft

Conditions NDS 2015

Min Bearing Area R1= 1.1 in² R2= 1.1 in² (1.5) DL Defl= <0.01 in.

Data

Beam Span	4.0 ft	Reaction 1 LL	526 #	Reaction 2 LL	526 #
Beam Wt per ft	4.68 #	Reaction 1 TL	681 #	Reaction 2 TL	681 #
Bm Wt Included	19 #	Maximum V	681 #		
Max Moment	681 '#	Max V (Reduced)	525 #		
TL Max Defl	L / 240	TL Actual Defl	L / >1000		
LL Max Defl	L / 360	LL Actual Defl	L / >1000		

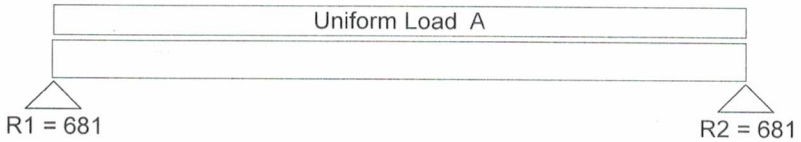
Attributes

	Section (in³)	Shear (in²)	TL Defl (in)	LL Defl
Actual	17.65	19.25	0.03	0.02
Critical	6.29	4.38	0.20	0.13
Status	OK	OK	OK	OK
Ratio	36%	23%	13%	14%

Values / *Adjustments*

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc⊥ (psi)
Reference Values	1000	180	1.7	625
Adjusted Values	1300	180	1.7	625
CF Size Factor	1.300			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		N/A		
Cm Wet Use	1.00	1.00	1.00	1.00
Cl Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	

Loads Uniform LL: 263 Uniform TL: 336 = A



SPAN = 4 FT

Uniform and partial uniform loads are lbs per lineal ft.