



Customer: **BRAD CUMMINGS CONSTRUC...**
 Job Name: **KEANE RESIDENCE**
 Appwright N... **3303534**
 Customer P...

Job Name: **3303534_KEANE**
 Level: **Crawl**
 Label: **BM3-2 - i117**
 Type: **Beam**

2 Ply Member
1-3/4X9-1/4 LP-LVL
2900Fb-2.0E

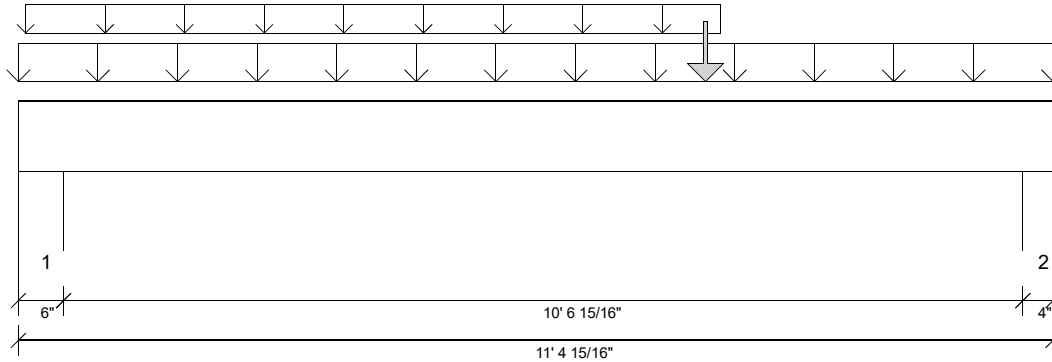
Status:
Design Passed

Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version 8.5.3.233.Update2.20

Report Version: 2021.03.26

12/29/2022 13:18



DESIGN INFORMATION

Building Code: IRC 2018
 Design Methodology: ASD
 Risk Category: II (General Construction) Residential
 Service Condition: Dry
 LL Deflection Limit: L/360, 1.00" (absolute)
 TL Deflection Limit: L/240, 1.50" (absolute)

Lateral Restraint Requirements:

Both ends of the member and the outer supports must be laterally restrained. Top and bottom edges of the member must be fully restrained or have the following maximum unbraced length:

Top: 0' Bottom: 0'

Bearing Stress of Support Material:

- 725 psi Wall @ 0'- 5"
- 725 psi Wall @ 11'- 1 15/16"

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDf	Design	Limit	Result
Max Pos. Moment:	5'- 9 1/2"	D + L	1.00	10875 lb ft	12416 lb ft	Passed - 88%
Max Shear:	1'- 3 1/4"	D + L	1.00	3421 lb	6151 lb	Passed - 56%
Live Load (LL) Pos. Defl.:	5'- 9 5/16"	L		0.310"	L/360	Passed - L/409
Total Load (TL) Pos. Defl.:	5'- 9 5/16"	D + L		0.500"	L/240	Passed - L/253

SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDf	Downward Reaction	Uplift Reaction	Resistance of Member	Resistance of Support	Result
1	6"	D + L	1.00	4361 lb		15750 lb	15225 lb	Passed - 29%
2	4"	D + L	1.00	3692 lb		10500 lb	10150 lb	Passed - 36%

LOADING

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Roof Live (Lr)	Wind (W)
Self Weight	0'	11'- 4 15/16"	Self Weight	Top	9 lb/ft	-	-	-	-
Uniform	0'	11'- 4 15/16"	User Load	Top	95 lb/ft	380 lb/ft	-	-	-
Uniform	0'- 15/16"	7'- 8 15/16"	21(i79)	Top	177 lb/ft	95 lb/ft	-	-	-
Point	7'- 6 15/16"	7'- 6 15/16"	BM3-2(i124)	Front	348 lb	89 lb	-	355 lb	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Roof Live (Lr)	Wind (W)
1	0'	0'- 6"	14(i44)	1648 lb	2729 lb	-	118 lb	-
2	11'- 15/16"	11'- 4 15/16"	E9(i50)	1250 lb	2426 lb	-	237 lb	-

DESIGN NOTES

- The dead loads used in the design of this member were applied to the structure as sloped dead loads.
- Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.
- Tributary Loads have been generated based on actual spacing between members in the model which may differ from the default system spacing. The actual loads applied to the member are shown in the Specified Loads table.
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- The unbraced length used in this design was manually input by the user. Install lateral bracing to satisfy the unbraced lengths specified on this report.

PLY TO PLY CONNECTION

- Member design assumed proper ply to ply connection by others. Fastener spacing along length of member must not exceed 4 times depth of member. Verify connection between plies according to code specification and follow the manufacturer's installation instruction. Loads assumed to be distributed equally to each ply.



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 Job Name: **KEANE RESIDENCE**
 Appwright N... **3303534**
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Job Name: **3303534_KEANE**
 Level: **Crawl**
 Label: **BM4-2 - i118**
 Type: **Beam**

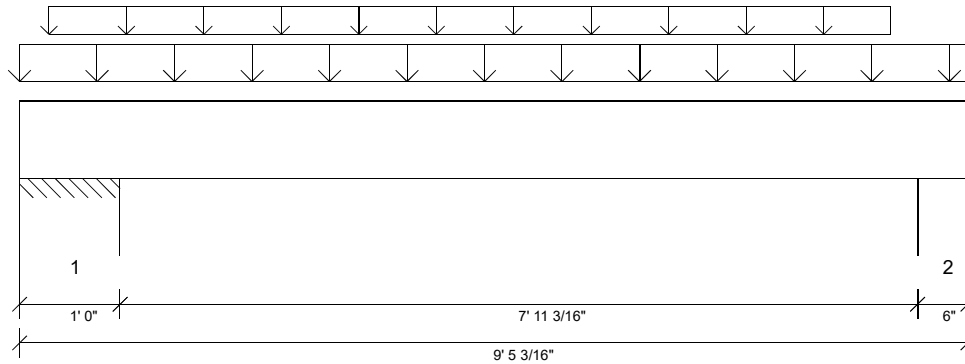
2 Ply Member
1-3/4X9-1/4 LP-LVL
2900Fb-2.0E

Status:
Design Passed

Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version 8.5.3.233.Update2.20

Report Version: 2021.03.26 12/29/2022 13:18



DESIGN INFORMATION

Building Code: IRC 2018
 Design Methodology: ASD
 Risk Category: II (General Construction) Residential
 Service Condition: Dry
 LL Deflection Limit: L/360, 1.00" (absolute)
 TL Deflection Limit: L/240, 1.50" (absolute)

Lateral Restraint Requirements:

Both ends of the member and the outer supports must be laterally restrained. Top and bottom edges of the member must be fully restrained or have the following maximum unbraced length:
 Top: 0' Bottom: 0'

Bearing Stress of Support Material:

- 875 psi Wall @ 0'- 11"
- 725 psi Wall @ 9'- 3/16"

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Max Pos. Moment:	4'- 11 5/8"	D + L	1.00	6137 lb ft	12416 lb ft	Passed - 49%
Max Neg. Moment:	0'- 11"	D + L	1.00	257 lb ft	12416 lb ft	Passed - 2%
Max Shear:	1'- 9 1/4"	D + L	1.00	2443 lb	6151 lb	Passed - 40%
Live Load (LL) Pos. Defl.:	4'- 11 9/16"	L		0.102"	L/360	Passed - L/933
Total Load (TL) Pos. Defl.:	4'- 11 5/8"	D + L		0.161"	L/240	Passed - L/590

SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Downward Reaction	Uplift Reaction	Resistance of Member	Resistance of Support	Result
1	1' 0"	D + L	1.00	3703 lb		31500 lb	36750 lb	Passed - 12%
2	6"	D + L	1.00	3168 lb		15750 lb	15225 lb	Passed - 21%

LOADING

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Roof Live (Lr)	Wind (W)
Self Weight	0'	9'- 5 3/16"	Self Weight	Top	9 lb/ft	-	-	-	-
Uniform	0'	9'- 5 3/16"	User Load	Top	95 lb/ft	380 lb/ft	-	-	-
Uniform	0'- 3 1/2"	8'- 8"	20(i78)	Top	177 lb/ft	95 lb/ft	-	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Roof Live (Lr)	Wind (W)
1	0'	1'	W13(i9)	1357 lb	2350 lb	-	-	-
2	8'- 11 3/16"	9'- 5 3/16"	15(i45)	1113 lb	2053/-23 lb	-	-	-

DESIGN NOTES

- The dead loads used in the design of this member were applied to the structure as sloped dead loads.
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PLY TO PLY CONNECTION

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 Customer P...

Job Name: **3303534_KEANE**
 Level: **Crawl**
 Label: **BM4-2 - i119**
 Type: **Beam**

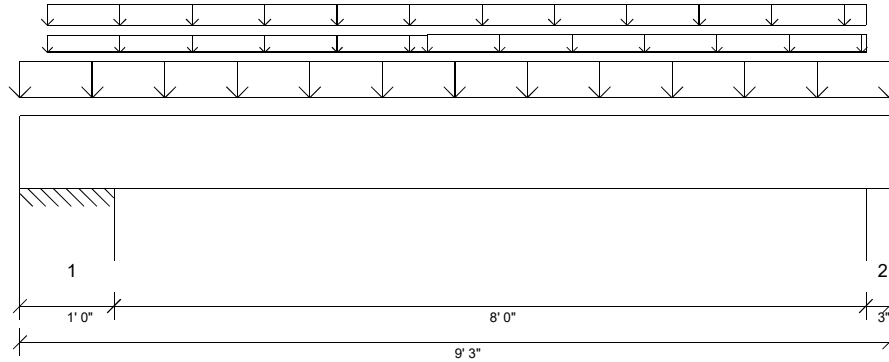
2 Ply Member
1-3/4X9-1/4 LP-LVL
2900Fb-2.0E

Status:
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DESIGN INFORMATION

Building Code: IRC 2018
 Design Methodology: ASD
 Risk Category: II (General Construction) Residential
 Service Condition: Dry
 LL Deflection Limit: L/360, 1.00" (absolute)
 TL Deflection Limit: L/240, 1.50" (absolute)

Lateral Restraint Requirements:
 Both ends of the member and the outer supports must be laterally restrained. Top and bottom edges of the member must be fully restrained or have the following maximum unbraced length:
 Top: 0' Bottom: 0'

Bearing Stress of Support Material:
 • 875 psi Wall @ 0'- 11"
 • 725 psi Wall @ 9'- 1"

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Max Pos. Moment:	5'- 5/16"	D + L	1.00	8818 lb ft	12416 lb ft	Passed - 71%
Max Neg. Moment:	0'- 11"	D + L	1.00	365 lb ft	12416 lb ft	Passed - 3%
Max Shear:	1'- 9 1/4"	D + L	1.00	3467 lb	6151 lb	Passed - 56%
Live Load (LL) Pos. Defl.:	5'	L		0.155"	L/360	Passed - L/618
Total Load (TL) Pos. Defl.:	5'- 1/16"	D + L		0.236"	L/240	Passed - L/407

SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Downward Reaction	Uplift Reaction	Resistance of Member	Resistance of Support	Result
1	1' 0"	D + L	1.00	5229 lb		31500 lb	36750 lb	Passed - 17%
2	3"	D + L	1.00	4485 lb		7875 lb	7613 lb	Passed - 59%

LOADING

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Roof Live (Lr)	Wind (W)
Self Weight	0'	9'- 3"	Self Weight	Top	9 lb/ft	-	-	-	-
Uniform	0'	9'- 3"	User Load	Top	140 lb/ft	560 lb/ft	-	-	-
Uniform	0'- 3 1/2"	9'	19(i77)	Top	152 lb/ft	70 lb/ft	-	-	-
Uniform	0'- 3 1/2"	4'- 4"	19(i77)	Top	60 lb/ft	60 lb/ft	-	-	-
Uniform	4'- 4"	9'	19(i77)	Top	70 lb/ft	70 lb/ft	-	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Roof Live (Lr)	Wind (W)
1	0'	1'	W9(i13)	1770 lb	3455 lb	-	-	-
2	9'	9'- 3"	7(i37)	1535 lb	2955/-33 lb	-	-	-

DESIGN NOTES

- The dead loads used in the design of this member were applied to the structure as sloped dead loads.
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PLY TO PLY CONNECTION

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 Job Name: **KEANE RESIDENCE**
 Appwright N... **3303534**
 Customer P...

Job Name: **3303534_KEANE**
 Level: **Crawl**
 Label: **BM3-2 - i120**
 Type: **Beam**

2 Ply Member
1-3/4X9-1/4 LP-LVL
2900Fb-2.0E

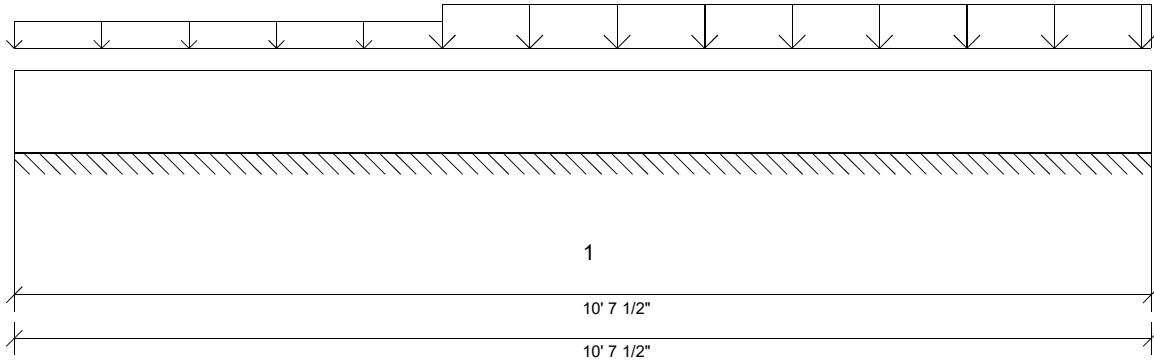
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DESIGN INFORMATION

Building Code: IRC 2018
 Design Methodology: ASD
 Risk Category: II (General Construction) Residential
 Service Condition: Dry
 LL Deflection Limit: ,
 TL Deflection Limit: ,

Lateral Restraint Requirements:
 Both ends of the member and the outer supports must be laterally restrained. Top and bottom edges of the member must be fully restrained or have the following maximum unbraced length:
 Top: 0' Bottom: 0'

Bearing Stress of Support Material:

SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Downward Reaction	Uplift Reaction	Resistance of Member	Resistance of Support	Result
	N/A	D + L	1.00	559 lb/ft		9000 lb/ft	-	Passed - 6%

LOADING

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Roof Live (Lr)	Wind (W)
Self Weight	0'	10'- 7 1/2"	Self Weight	Top	9 lb/ft	-	-	-	-
Uniform	0'	4'	User Load	Top	40 lb/ft	160 lb/ft	-	-	-
Uniform	4'	10'- 7 1/2"	User Load	Top	110 lb/ft	440 lb/ft	-	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Roof Live (Lr)	Wind (W)
1	0'	10'- 7 1/2"	24(i82)	988 lb	3555 lb	-	-	-
==>	0'	4'	24(i82)	40 lb/ft	160 lb/ft	-	-	-
==>	0'	10'- 7 1/2"	24(i82)	9 lb/ft	-	-	-	-
==>	4'	10'- 7 1/2"	24(i82)	110 lb/ft	440 lb/ft	-	-	-

DESIGN NOTES

- The dead loads used in the design of this member were applied to the structure as sloped dead loads.
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Customer: **BRAD CUMMINGS CONSTRUC...**
 Job Name: **KEANE RESIDENCE**
 Appwright N... **3303534**
 Customer P...

Job Name: **3303534_KEANE**
 Level: **Crawl**
 Label: **BM1-2 - i135**
 Type: **Beam**

2 Ply Member
1-3/4X9-1/4 LP-LVL
2900Fb-2.0E

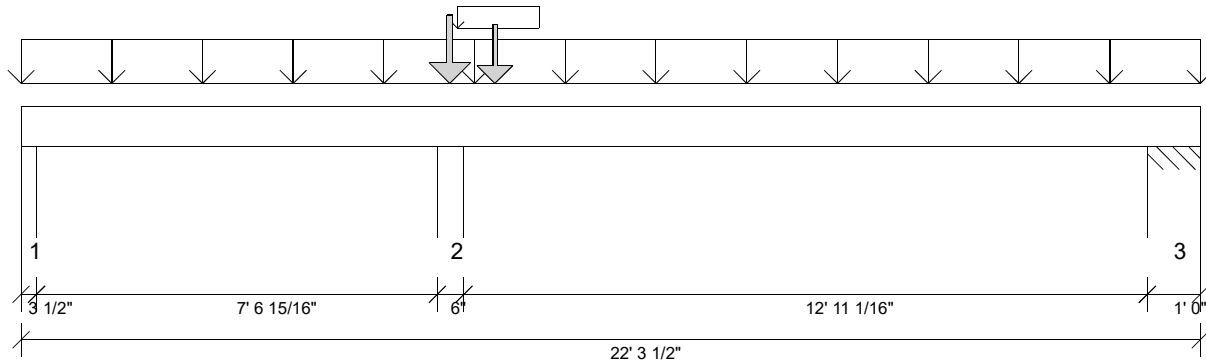
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DESIGN INFORMATION

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 Design Methodology: ASD
 Risk Category: II (General Construction) Residential
 Service Condition: Dry
 LL Deflection Limit: L/360, 1.00" (absolute)
 TL Deflection Limit: L/240, 1.50" (absolute)

Lateral Restraint Requirements:

Both ends of the member and the outer supports must be laterally restrained. Top and bottom edges of the member must be fully restrained or have the following maximum unbraced length:
 Top: 0' Bottom: 0'

Bearing Stress of Support Material:

- 725 psi Wall @ 0'- 2 1/2"
- 725 psi Wall @ 8'- 1 7/16"
- 875 psi Wall @ 21'- 4 1/2"

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Max Pos. Moment:	15'- 8 3/16"	D + L	1.00	7798 lb ft	12416 lb ft	Passed - 63%
Max Neg. Moment:	8'- 1 7/16"	D + L	1.00	9265 lb ft	12416 lb ft	Passed - 75%
Max Shear:	9'- 1 11/16"	D + L	1.00	5106 lb	6151 lb	Passed - 83%
Live Load (LL) Pos. Defl.:	15'- 2 5/16"	L		0.387"	L/360	Passed - L/401
Live Load (LL) Neg. Defl.:	4'- 9 5/16"	L		0.089"	L/360	Passed - L/999
Total Load (TL) Pos. Defl.:	15'- 2 3/16"	D + L		0.494"	L/240	Passed - L/313
Total Load (TL) Neg. Defl.:	4'- 10 13/16"	D + L		0.106"	L/240	Passed - L/857

SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Downward Reaction	Uplift Reaction	Resistance of Member	Resistance of Support	Result
1	3 1/2"	D + L	1.00	1587 lb		9187 lb	8881 lb	Passed - 18%
1	3 1/2"	D + L	1.00		-592 lb	-	-	
2	6"	D + L	1.00	12152 lb		16734 lb	15225 lb	Passed - 80%
3	1' 0"	D + L	1.00	3216 lb		31500 lb	36750 lb	Passed - 10%

LOADING

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Roof Live (Lr)	Wind (W)
Self Weight	0'	22'- 3 1/2"	Self Weight	Top	9 lb/ft	-	-	-	-
Uniform	0'	22'- 3 1/2"	User Load	Top	95 lb/ft	380 lb/ft	-	-	-
Uniform	8'- 3"	9'- 9 1/2"	30(i89)	Top	82 lb/ft	-	-	-	-
Point	8'- 1 1/4"	8'- 1 1/4"	24(i82)	Top	1033 lb	1822 lb	-	-	-
Point	8'- 11 1/2"	8'- 11 1/2"	30(i89)	Top	1248 lb	1118 lb	-	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Roof Live (Lr)	Wind (W)
1	0'	0'- 3 1/2"	6(i36)	134 lb	1450/-727 lb	-	-	-
2	7'- 10 7/16"	8'- 4 7/16"	13(i43)	3901 lb	8276 lb	-	-	-
3	21'- 3 1/2"	22'- 3 1/2"	W7(i5)	697 lb	2519 lb	-	-	-

DESIGN NOTES

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 Customer P...

Job Name: **3303534_KEANE**
 Level: **Crawl**
 Label: **BM2-2 - i123**
 Type: **Beam**

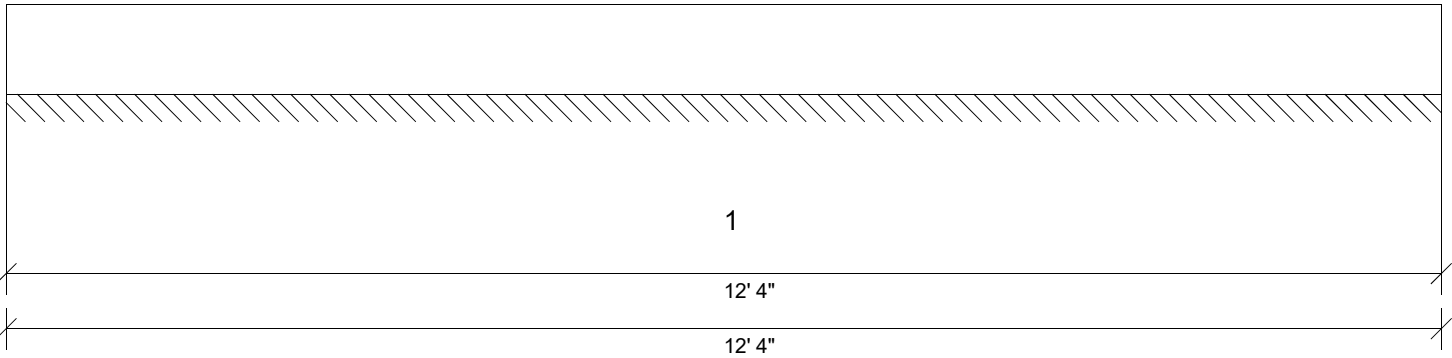
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1-3/4X9-1/4 LP-LVL
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Status:
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DESIGN INFORMATION

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 Service Condition: Dry
 LL Deflection Limit: ,
 TL Deflection Limit: ,

Lateral Restraint Requirements:

Both ends of the member and the outer supports must be laterally restrained. Top and bottom edges of the member must be fully restrained or have the following maximum unbraced length:

Top: 0' Bottom: 0'

Bearing Stress of Support Material:

SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Downward Reaction	Uplift Reaction	Resistance of Member	Resistance of Support	Result
	N/A	D	0.90	9 lb/ft		9000 lb/ft	-	Passed - 0%

LOADING

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Roof Live (Lr)	Wind (W)
Self Weight	0'	12'- 4"	Self Weight	Top	9 lb/ft	-	-	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Roof Live (Lr)	Wind (W)
1	0'	12'- 4"	-	19 lb	-	-	-	-
++>	0'	0'- 3 1/2"	22(i80)	9 lb/ft	-	-	-	-
++>	0'- 3 1/2"	12'- 4"	34(i94)	9 lb/ft	-	-	-	-

DESIGN NOTES

- CAUTION: This member didn't transfer any live load reactions to any of its supports. Verify load transfer is occurring as expected for this member.
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 Appwright N... **3303534**
 Customer P...

Job Name: **3303534_KEANE**
 Level: **Crawl**
 Label: **BM2-2 - i124**
 Type: **Beam**

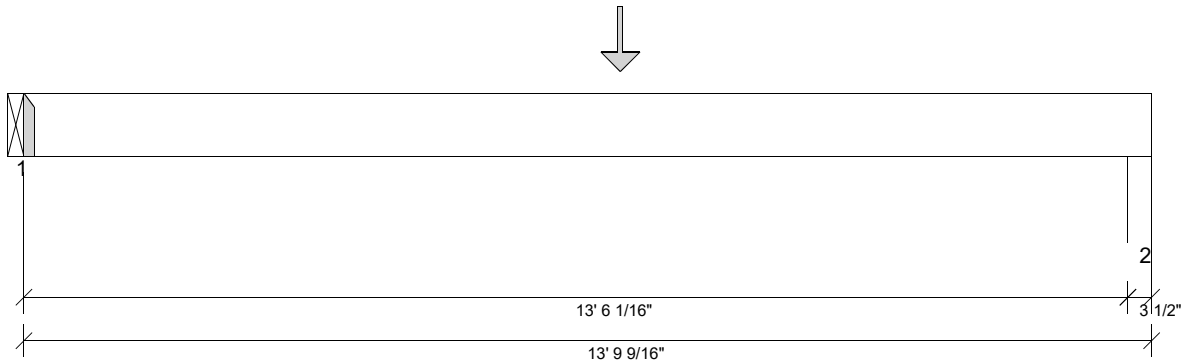
2 Ply Member
1-3/4X9-1/4 LP-LVL
2900Fb-2.0E

Status:
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Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version 8.5.3.233.Update2.20

Report Version: 2021.03.26 12/29/2022 13:18



DESIGN INFORMATION	
Building Code:	IRC 2018
Design Methodology:	ASD
Risk Category:	II (General Construction) Residential
Service Condition:	Dry
LL Deflection Limit:	L/360, 1.00" (absolute)
TL Deflection Limit:	L/240, 1.50" (absolute)

Lateral Restraint Requirements:
 Both ends of the member and the outer supports must be laterally restrained. Top and bottom edges of the member must be fully restrained or have the following maximum unbraced length:
 Top: 0' Bottom: 0'

Bearing Stress of Support Material:

- 405 psi Beam @ 0'
- 725 psi Wall @ 13'- 7 1/16"

ANALYSIS RESULTS							
Design Criteria	Location	Load Combination	LDf	Design	Limit	Result	
Max Pos. Moment:	7'- 3 9/16"	D + Lr	1.25	4884 lb ft	15519 lb ft	Passed - 31%	
Max Shear:	12'- 8 13/16"	D + Lr	1.25	798 lb	7689 lb	Passed - 10%	
Live Load (LL) Pos. Defl.:	6'- 11 7/16"	Lr		0.153"	L/360	Passed - L/999	
Total Load (TL) Pos. Defl.:	6'- 11 5/16"	D + Lr		0.292"	L/240	Passed - L/554	

SUPPORT AND REACTION INFORMATION								
ID	Input Bearing Length	Controlling Load Combination	LDf	Downward Reaction	Uplift Reaction	Resistance of Member	Resistance of Support	Result
1	1 1/2"	D + Lr	1.25	703 lb		3937 lb	-	Passed - 18%
2	3 1/2"	D + Lr	1.25	807 lb		9187 lb	8881 lb	Passed - 9%

CONNECTOR INFORMATION							
ID	Part No.	Manufacturer	Nailing Requirements			Other Information or Requirement for Reinforcement Accessories	
			Top	Face	Member		
1	HHUS410	Simpson	-	-	-	Connector manually specified by the user.	

* Connectors: Refer to manufacturer's specifications, fasteners requirements and installation instruction. Where header fasteners are longer than the width of the supporting member, install backer block or clinch header nails.

LOADING									
Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Roof Live (Lr)	Wind (W)
Self Weight	0'	13'- 9 9/16"	Self Weight	Top	9 lb/ft	-	-	-	-
Point	7'- 3 9/16"	7'- 3 9/16"	32(i91)	Top	616 lb	192 lb	-	767 lb	-

UNFACTORED REACTIONS									
ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Roof Live (Lr)	Wind (W)	
1	0'	0'	BM3-2(i117)	348 lb	89 lb	-	355 lb	-	
2	13'- 6 1/16"	13'- 9 9/16"	7(i37)	396 lb	103 lb	-	412 lb	-	

DESIGN NOTES

- The dead loads used in the design of this member were applied to the structure as sloped dead loads.
- Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.
- Tributary Loads have been generated based on actual spacing between members in the model which may differ from the default system spacing. The actual loads applied to the member are shown in the Specified Loads table.
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- The unbraced length used in this design was manually input by the user. Install lateral bracing to satisfy the unbraced lengths specified on this report.

PLY TO PLY CONNECTION

- Member design assumed proper ply to ply connection by others. Fastener spacing along length of member must not exceed 4 times depth of member. Verify connection between plies according to code specification and follow the manufacturer's installation instruction. Loads assumed to be distributed equally to each ply.



Customer: **BRAD CUMMINGS CONSTRUC...**
 Job Name: **KEANE RESIDENCE**
 Appwright N... **3303534**
 Customer P...

Job Name: **3303534_KEANE**
 Level: **Crawl**
 Label: **BM6-3 - i151**
 Type: **Beam**

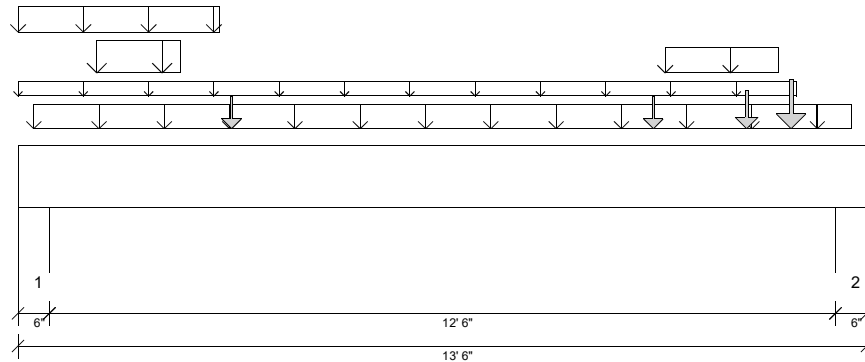
3 Ply Member
1-3/4X11-7/8 LP-LVL
2900Fb-2.0E

Status:
Design Passed

Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version 8.5.3.233.Update2.20

Report Version: 2021.03.26 12/29/2022 13:18



DESIGN INFORMATION

Building Code: IRC 2018
 Design Methodology: ASD
 Risk Category: II (General Construction) Residential
 Service Condition: Dry
 LL Deflection Limit: L/360, 1.00" (absolute)
 TL Deflection Limit: L/240, 1.50" (absolute)

Lateral Restraint Requirements:

Both ends of the member and the outer supports must be laterally restrained. Top and bottom edges of the member must be fully restrained or have the following maximum unbraced length:

Top: 0' Bottom: 0'

Bearing Stress of Support Material:

- 725 psi Wall @ 0'- 5"
- 725 psi Wall @ 13'- 1"

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Max Pos. Moment:	7'- 1 1/2"	D + L	1.00	17445 lb ft	29850 lb ft	Passed - 58%
Max Shear:	12'- 1/8"	D + L	1.00	7024 lb	11845 lb	Passed - 59%
Live Load (LL) Pos. Defl.:	6'- 10 1/16"	0.75(L + Lr)		0.235"	L/360	Passed - L/637
Total Load (TL) Pos. Defl.:	6'- 10 3/16"	D + 0.75(L + Lr)		0.423"	L/240	Passed - L/354

SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Downward Reaction	Uplift Reaction	Resistance of Member	Resistance of Support	Result
1	6"	D + L	1.00	6334 lb		23625 lb	22837 lb	Passed - 28%
2	6"	D + 0.75(L + Lr)	1.25	10044 lb		23625 lb	22837 lb	Passed - 44%

LOADING

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Roof Live (Lr)	Wind (W)
Self Weight	0'	13'- 6"	Self Weight	Top	18 lb/ft	-	-	-	-
Uniform	0'	12'- 4 9/16"	E15(i52)	Top	102 lb/ft	-	-	-	-
Uniform	0'	3'- 2 1/2"	E15(i52)	Top	170 lb/ft	-	-	340 lb/ft	-
Uniform	0'- 3"	13'- 3"	User Load	Top	95 lb/ft	380 lb/ft	-	-	-
Uniform	1'- 3 1/16"	2'- 7 1/16"	E15(i52)	Top	432 lb/ft	350 lb/ft	-	-	-
Uniform	10'- 3 1/2"	12'- 1 1/16"	E15(i52)	Top	170 lb/ft	-	-	340 lb/ft	-
Point	3'- 4 3/4"	3'- 4 3/4"	E15(i52)	Top	630 lb	-	-	1204 lb	-
Point	10'- 1 1/4"	10'- 1 1/4"	E15(i52)	Top	630 lb	-	-	1204 lb	-
Point	11'- 7 1/16"	11'- 7 1/16"	E15(i52)	Top	1248 lb	1118 lb	-	-	-
Point	12'- 3 9/16"	12'- 3 9/16"	E15(i52)	Top	1163 lb	-	-	2174 lb	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Roof Live (Lr)	Wind (W)
1	0'	0'- 6"	E1(i24)	3311 lb	3013 lb	-	2398 lb	-
2	13'	13'- 6"	E3(i25)	4523 lb	3511 lb	-	3885 lb	-

DESIGN NOTES

- The dead loads used in the design of this member were applied to the structure as sloped dead loads.
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- Tributary Loads have been generated based on actual spacing between members in the model which may differ from the default system spacing. The actual loads applied to the member are shown in the Specified Loads table.
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PLY TO PLY CONNECTION

- Member design assumed proper ply to ply connection by others. Fastener spacing along length of member must not exceed 4 times depth of member. Verify connection between plies according to code specification and follow the manufacturer's installation instruction. Loads assumed to be distributed equally to each ply.



Customer: **BRAD CUMMINGS CONSTRUC...**
 Job Name: **KEANE RESIDENCE**
 Appwright N... **3303534**
 Customer P...

Job Name: **3303534_KEANE**
 Level: **Crawl**
 Label: **BM5-2 - i126**
 Type: **Beam**

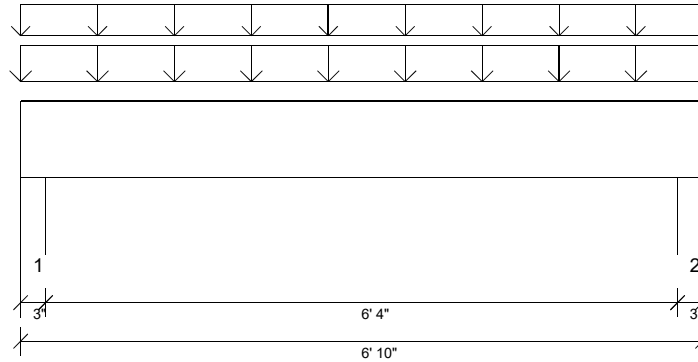
2 Ply Member
1-3/4X9-1/4 LP-LVL
2900Fb-2.0E

Status:
Design Passed

Illustration Not to Scale. Pitch: 0/12

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DESIGN INFORMATION

Building Code: IRC 2018
 Design Methodology: ASD
 Risk Category: II (General Construction) Residential
 Service Condition: Dry
 LL Deflection Limit: L/360, 1.00" (absolute)
 TL Deflection Limit: L/240, 1.50" (absolute)

Lateral Restraint Requirements:

Both ends of the member and the outer supports must be laterally restrained. Top and bottom edges of the member must be fully restrained or have the following maximum unbraced length:

Top: 0' Bottom: 0'

Bearing Stress of Support Material:

- 725 psi Wall @ 0'- 2"
- 725 psi Wall @ 6'- 8"

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Max Pos. Moment:	3'- 5"	D + L	1.00	3535 lb ft	12416 lb ft	Passed - 28%
Max Shear:	1'- 1/4"	D + L	1.00	1608 lb	6151 lb	Passed - 26%
Live Load (LL) Pos. Defl.:	3'- 5"	0.75(L + Lr)		0.033"	L/360	Passed - L/999
Total Load (TL) Pos. Defl.:	3'- 5"	D + 0.75(L + Lr)		0.062"	L/240	Passed - L/999

SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Downward Reaction	Uplift Reaction	Resistance of Member	Resistance of Support	Result
1	3"	D + L	1.00	2293 lb		7875 lb	7613 lb	Passed - 30%
2	3"	D + L	1.00	2293 lb		7875 lb	7613 lb	Passed - 30%

LOADING

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Roof Live (Lr)	Wind (W)
Self Weight	0'	6'- 10"	Self Weight	Top	9 lb/ft	-	-	-	-
Uniform	-0'	6'- 10"	E18(i59)	Top	242 lb/ft	70 lb/ft	-	140 lb/ft	-
Uniform	0'	6'- 10"	User Load	Top	70 lb/ft	280 lb/ft	-	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Roof Live (Lr)	Wind (W)
1	0'	0'- 3"	E4(i29)	1097 lb	1196 lb	-	478 lb	-
2	6'- 7"	6'- 10"	E5(i49)	1097 lb	1196 lb	-	478 lb	-

DESIGN NOTES

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PLY TO PLY CONNECTION

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Customer: **BRAD CUMMINGS CONSTRUC...**
 Job Name: **KEANE RESIDENCE**
 Appwright N... **3303534**
 Customer P...

Job Name: **3303534_KEANE**
 Level: **Crawl**
 Label: **BM3-2 - i127**
 Type: **Beam**

2 Ply Member
1-3/4X9-1/4 LP-LVL
2900Fb-2.0E

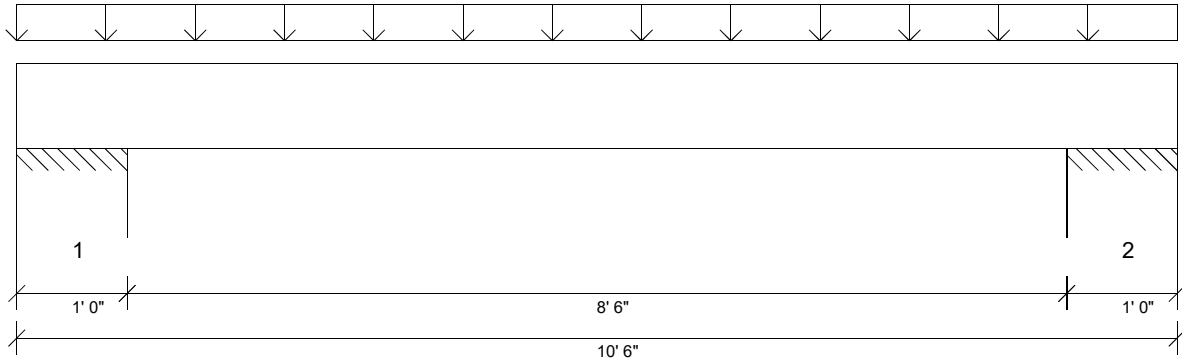
Status:
Design Passed

Illustration Not to Scale. Pitch: 0/12

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Report Version: 2021.03.26

12/29/2022 13:18



DESIGN INFORMATION

Building Code: IRC 2018
 Design Methodology: ASD
 Risk Category: II (General Construction) Residential
 Service Condition: Dry
 LL Deflection Limit: L/360, 1.00" (absolute)
 TL Deflection Limit: L/240, 1.50" (absolute)

Lateral Restraint Requirements:

Both ends of the member and the outer supports must be laterally restrained. Top and bottom edges of the member must be fully restrained or have the following maximum unbraced length:

Top: 0' Bottom: 0'

Bearing Stress of Support Material:

- 875 psi Wall @ 0'- 11"
- 875 psi Wall @ 9'- 7"

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDf	Design	Limit	Result
Max Pos. Moment:	5'- 3"	D + L	1.00	3340 lb ft	12416 lb ft	Passed - 27%
Max Neg. Moment:	0'- 11"	D + L	1.00	151 lb ft	12416 lb ft	Passed - 1%
Max Shear:	1'- 9 1/4"	D + L	1.00	1264 lb	6151 lb	Passed - 21%
Live Load (LL) Pos. Defl.:	5'- 3"	L		0.079"	L/360	Passed - L/999
Total Load (TL) Pos. Defl.:	5'- 3"	D + L		0.101"	L/240	Passed - L/999

SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDf	Downward Reaction	Uplift Reaction	Resistance of Member	Resistance of Support	Result
1	1' 0"	D + L	1.00	1886 lb		31501 lb	36751 lb	Passed - 6%
2	1' 0"	D + L	1.00	1900 lb		31501 lb	36751 lb	Passed - 6%

LOADING

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Roof Live (Lr)	Wind (W)
Self Weight	0'	10'- 6"	Self Weight	Top	9 lb/ft	-	-	-	-
Uniform	0'	10'- 6"	User Load	Top	70 lb/ft	280 lb/ft	-	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Roof Live (Lr)	Wind (W)
1	0'	1'	W4(i2)	416 lb	1484 lb	-	-	-
2	9'- 6"	10'- 6"	W2(i1)	416 lb	1484 lb	-	-	-

DESIGN NOTES

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PLY TO PLY CONNECTION

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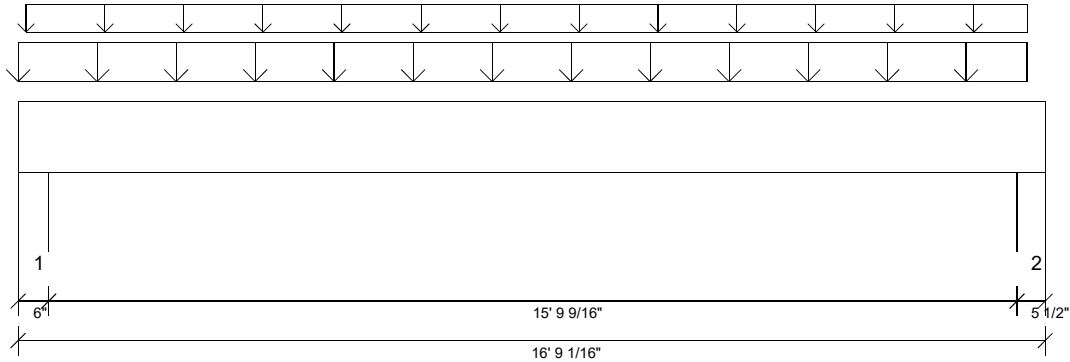
Customer: **BRAD CUMMINGS CONSTRUC...**
 Job Name: **KEANE RESIDENCE**
 Appwright N... **3303534**
 Customer P...

Job Name: **3303534_KEANE**
 Level: **Crawl**
 Label: **BM7-3 - i141**
 Type: **Beam**

3 Ply Member
1-3/4X14 LP-LVL
2900Fb-2.0E

Status:
Design Passed

Illustration Not to Scale. Pitch: 0/12 Designed by Single Member Design Engine in MiTek® Structure Version 8.5.3.233.Update2.20 Report Version: 2021.03.26 12/29/2022 13:18



DESIGN INFORMATION

Building Code: IRC 2018
 Design Methodology: ASD
 Risk Category: II (General Construction) Residential
 Service Condition: Dry
 LL Deflection Limit: L/360, 1.00" (absolute)
 TL Deflection Limit: L/240, 1.50" (absolute)

Lateral Restraint Requirements:

Both ends of the member and the outer supports must be laterally restrained. Top and bottom edges of the member must be fully restrained or have the following maximum unbraced length:
 Top: 0' Bottom: 0'

Bearing Stress of Support Material:

- 725 psi Wall @ 0'- 5"
- 725 psi Wall @ 16'- 4 9/16"

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Max Pos. Moment:	8'- 4 13/16"	D + L	1.00	30804 lb ft	40546 lb ft	Passed - 76%
Max Shear:	1'- 8"	D + L	1.00	6522 lb	13965 lb	Passed - 47%
Live Load (LL) Pos. Defl.:	8'- 4 13/16"	L		0.388"	L/360	Passed - L/488
Total Load (TL) Pos. Defl.:	8'- 4 13/16"	D + L		0.606"	L/240	Passed - L/312

SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Downward Reaction	Uplift Reaction	Resistance of Member	Resistance of Support	Result
1	6"	D + L	1.00	8095 lb		23625 lb	22838 lb	Passed - 35%
2	5 1/2"	D + L	1.00	7812 lb		21657 lb	20935 lb	Passed - 37%

LOADING

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Roof Live (Lr)	Wind (W)
Self Weight	0'	16'- 9 1/16"	Self Weight	Top	21 lb/ft	-	-	-	-
Uniform	0'	16'- 5 9/16"	User Load	Top	125 lb/ft	500 lb/ft	-	-	-
Uniform	0'- 1 9/16"	16'- 5 9/16"	28(i86)	Top	202 lb/ft	120 lb/ft	-	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Roof Live (Lr)	Wind (W)
1	0'	0'- 6"	17(i48)	2915 lb	5220 lb	-	-	-
2	16'- 3 9/16"	16'- 9 1/16"	E8(i28)	2801 lb	4971 lb	-	-	-

DESIGN NOTES

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 Job Name: **KEANE RESIDENCE**
 Appwright N... **3303534**
 Customer P...

Job Name: **3303534_KEANE**
 Level: **Crawl**
 Label: **BM7-3 - i140**
 Type: **Beam**

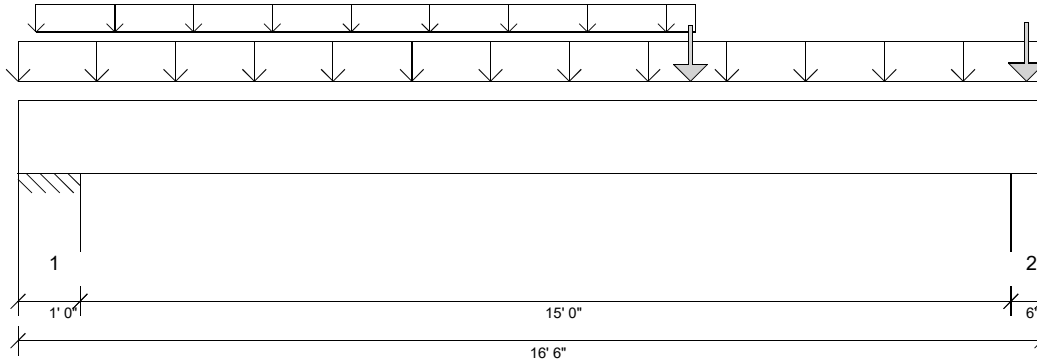
3 Ply Member
1-3/4X14 LP-LVL
2900Fb-2.0E

Status:
Design Passed

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DESIGN INFORMATION

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 Service Condition: Dry
 LL Deflection Limit: L/360, 1.00" (absolute)
 TL Deflection Limit: L/240, 1.50" (absolute)

Lateral Restraint Requirements:
 Both ends of the member and the outer supports must be laterally restrained. Top and bottom edges of the member must be fully restrained or have the following maximum unbraced length:
 Top: 0' Bottom: 0'

Bearing Stress of Support Material:
 • 875 psi Wall @ 0'- 11"
 • 725 psi Wall @ 16'- 1"

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Max Pos. Moment:	8'- 5 7/16"	D + L	1.00	27397 lb ft	40546 lb ft	Passed - 68%
Max Neg. Moment:	0'- 11"	D + L	1.00	334 lb ft	40546 lb ft	Passed - 1%
Max Shear:	2'- 2"	D + L	1.00	6103 lb	13965 lb	Passed - 44%
Live Load (LL) Pos. Defl.:	8'- 5 13/16"	L		0.316"	L/360	Passed - L/569
Total Load (TL) Pos. Defl.:	8'- 5 5/8"	D + L		0.482"	L/240	Passed - L/373

SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Downward Reaction	Uplift Reaction	Resistance of Member	Resistance of Support	Result
1	1' 0"	D + L	1.00	8107 lb		47251 lb	55126 lb	Passed - 17%
2	6"	D + L	1.00	7446 lb		23625 lb	22838 lb	Passed - 33%

LOADING

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Roof Live (Lr)	Wind (W)
Self Weight	0'	16'- 6"	Self Weight	Top	21 lb/ft	-	-	-	-
Uniform	0'	16'- 6"	User Load	Top	125 lb/ft	500 lb/ft	-	-	-
Uniform	0'- 3 1/2"	10'- 11 1/16"	27(i85)	Top	202 lb/ft	120 lb/ft	-	-	-
Point	10'- 10 1/16"	10'- 10 1/16"	27(i85)	Top	362 lb	340 lb	-	-	-
Point	16'- 3 1/16"	16'- 3 1/16"	29(i87)	Top	400 lb	350 lb	-	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Roof Live (Lr)	Wind (W)
1	0'	1'	W6(i6)	2863 lb	5264 lb	-	-	-
2	16'	16'- 6"	16(i47)	2460 lb	4968/-16 lb	-	-	-

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- The unbraced length used in this design was manually input by the user. Install lateral bracing to satisfy the unbraced lengths specified on this report.

PLY TO PLY CONNECTION

- Member design assumed proper ply to ply connection by others. Fastener spacing along length of member must not exceed 4 times depth of member. Verify connection between plies according to code specification and follow the manufacturer's installation instruction. Loads assumed to be distributed equally to each ply.