Client:		Date:	4/5/2017
Project:		Designer:	PD
Address:		Job Name:	Chapel Street
		Project #:	

Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 06/28/17

Ridge A 2.0E CP-LAM 1.750" X 18.000" 3-Ply - PASSED

Level: Level

Member Information

Type:	Girder	Application:	Floor
Plies:	3	Design Method:	ASD
Moisture Condition:	Dry	Building Code:	IBC 2012
Deflection LL:	360	Load Sharing:	Yes
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal		
Temperature:	Temp <= 100°F		

Reactions lb (Uplift)

Brg	Live	Dead	Snow	Wind	Const
1	0	2158	6843	0	0
2	0	2121	6724	0	0

Bearings

Bearing	Length	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - LVL/ LSL	5.500"	42%	2158 / 6843	9001	L	D+S
2 - LVL/ LSL	3.313"	68%	2121 / 6724	8844	L	D+S

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	43791 ft-lb	10'5 7/8"	80769 ft-lb	0.542 (54%)	D+S	L
Unbraced	43791 ft-lb	10'5 7/8"	43958 ft-lb	0.996 (100%)	D+S	L
Shear	7383 lb	1'10 5/8"	20648 lb	0.358 (36%)	D+S	L
LL Defl inch	0.479 (L/506)	10'5 7/8"	0.673 (L/360)	0.710 (71%)	S	L
TL Defl inch	0.630 (L/385)	10'5 7/8"	1.010 (L/240)	0.620 (62%)	D+S	L

Design Notes

1 Girders are designed to be supported on the bottom edge only.
2 Multiple plies must be fastened together as per manufacturer's details.
3 Top loads must be supported equally by all plies.
4 Compression edge bracing required at 4'4" o.c. or less.
5 Lateral slenderness ratio based on single ply width.

ID	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
1	Uniform		7-3-0	Top	25 PSF	0 PSF	90 PSF	0 PSF	0 PSF	
	Self Weight				25 PLF					

Notes

Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to verify the dimensions and loads.

Lumber

1. Dry service conditions, unless noted otherwise
2. LVL not to be treated with fire retardant or corrosive chemicals

Handling & Installation

1. LVL beams must not be cut or drilled
2. Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
3. Damaged Beams must not be used
4. Design assumes top edge is laterally restrained
5. Provide lateral support at bearing points to avoid lateral displacement and rotation
6. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

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APA: PR-L233, ICC-ES: ESR-2909

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Client:		Date:	4/5/2017
Project:		Designer:	PD
Address:		Job Name:	Chapel Street
		Project #:	

Reviewed for Code Compliance
Inspections Division
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Ridge B 2.0E CP-LAM 1.750" X 14.000" 3-Ply - PASSED

Level: Level

Member Information

Type:	Girder	Application:	Floor
Plies:	3	Design Method:	ASD
Moisture Condition:	Dry	Building Code:	IBC 2012
Deflection LL:	360	Load Sharing:	Yes
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal		
Temperature:	Temp <= 100°F		

Reactions lb (Uplift)

Brg	Live	Dead	Snow	Wind	Const
1	0	1736	5625	0	0
2	0	1701	5512	0	0

Bearings

Bearing	Length	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - LVL/ LSL	5.500"	34%	1736 / 5625	7361	L	D+S
2 - LVL/ LSL	3.313"	55%	1701 / 5512	7214	L	D+S

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	30611 ft-lb	9'1 1/8"	51379 ft-lb	0.596 (60%)	D+S	L
Unbraced	30611 ft-lb	9'1 1/8"	30650 ft-lb	0.999 (100%)	D+S	L
Shear	6096 lb	1'6 3/4"	16060 lb	0.380 (38%)	D+S	L
LL Defl inch	0.530 (L/393)	9'1 1/8"	0.580 (L/360)	0.910 (91%)	S	L
TL Defl inch	0.694 (L/301)	9'1 1/8"	0.870 (L/240)	0.800 (80%)	D+S	L

Design Notes

1 Girders are designed to be supported on the bottom edge only.
2 Multiple plies must be fastened together as per manufacturer's details.
3 Top loads must be supported equally by all plies.
4 Compression edge bracing required at 4'9" o.c. or less.
5 Lateral slenderness ratio based on single ply width.

ID	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
1	Uniform		6-10-8	Top	25 PSF	0 PSF	90 PSF	0 PSF	0 PSF	
	Self Weight				19 PLF					

Notes

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Lumber

1. Dry service conditions, unless noted otherwise
2. LVL not to be treated with fire retardant or corrosive chemicals

Handling & Installation

1. LVL beams must not be cut or drilled
2. Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
3. Damaged Beams must not be used
4. Design assumes top edge is laterally restrained
5. Provide lateral support at bearing points to avoid lateral displacement and rotation
6. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

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Project:		Designer:	PD
Address:		Job Name:	Chapel Street
		Project #:	

Reviewed for Code Compliance
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Valley 2.0E CP-LAM 1.750" X 11.875" - PASSED

Level: Level

Member Information

Type:	Girder	Application:	Floor
Plies:	1	Design Method:	ASD
Moisture Condition:	Dry	Building Code:	IBC 2012
Deflection LL:	360	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal		
Temperature:	Temp <= 100°F		

Reactions lb (Uplift)

Brg	Live	Dead	Snow	Wind	Const
1	0	329	1105	0	0
2	0	314	1055	0	0

Bearings

Bearing	Length	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - LVL/ LSL	5.500"	20%	329 / 1105	1434	L	D+S
2 - LVL/ LSL	3.313"	32%	314 / 1055	1370	L	D+S

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	2392 ft-lb	4'1 1/8"	12245 ft-lb	0.195 (20%)	D+S	L
Unbraced	2392 ft-lb	4'1 1/8"	5839 ft-lb	0.410 (41%)	D+S	L
Shear	948 lb	6'9 9/16"	4541 lb	0.209 (21%)	D+S	L
LL Defl inch	0.037 (L/2390)	4'1 1/8"	0.246 (L/360)	0.150 (15%)	S	L
TL Defl inch	0.048 (L/1842)	4'1 1/8"	0.370 (L/240)	0.130 (13%)	D+S	L

Design Notes

1 Girders are designed to be supported on the bottom edge only.

ID	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
1	Uniform		3-0-0	Top	25 PSF	0 PSF	90 PSF	0 PSF	0 PSF	
	Self Weight				5 PLF					

Notes

Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to verify the dimensions and loads.

Lumber

1. Dry service conditions, unless noted otherwise
2. LVL not to be treated with fire retardant or corrosive chemicals

Handling & Installation

1. LVL beams must not be cut or drilled
2. Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
3. Damaged Beams must not be used
4. Design assumes top edge is laterally restrained
5. Provide lateral support at bearing points to avoid lateral displacement and rotation
6. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

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		Project #:	

Reviewed for Code Compliance
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Hip 2.0E CP-LAM 1.750" X 11.875" - PASSED

Level: Level

Member Information

Type:	Girder	Application:	Floor
Plies:	1	Design Method:	ASD
Moisture Condition:	Dry	Building Code:	IBC 2012
Deflection LL:	360	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal		
Temperature:	Temp <= 100°F		

Reactions lb (Uplift)

Brg	Live	Dead	Snow	Wind	Const
1	0	718	2467	0	0
2	0	697	2393	0	0

Bearings

Bearing	Length	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - LVL/ LSL	5.500"	44%	718 / 2467	3185	L	D+S
2 - LVL/ LSL	3.313"	71%	697 / 2393	3090	L	D+S

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	8481 ft-lb	6'1 1/8"	12245 ft-lb	0.693 (69%)	D+S	L
Unbraced	8481 ft-lb	6'1 1/8"	8519 ft-lb	0.996 (100%)	D+S	L
Shear	2461 lb	10'9 9/16"	4541 lb	0.542 (54%)	D+S	L
LL Defl inch	0.314 (L/435)	6'1 1/8"	0.380 (L/360)	0.830 (83%)	S	L
TL Defl inch	0.406 (L/337)	6'1 1/8"	0.570 (L/240)	0.710 (71%)	D+S	L

Design Notes

1 Girders are designed to be supported on the bottom edge only.
2 Compression edge bracing required at 4'8" o.c. or less.

ID	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
1	Uniform		4-6-0	Top	25 PSF	0 PSF	90 PSF	0 PSF	0 PSF	
	Self Weight				5 PLF					

Notes

Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to verify the dimensions and loads.

Lumber

1. Dry service conditions, unless noted otherwise
2. LVL not to be treated with fire retardant or corrosive chemicals

Handling & Installation

1. LVL beams must not be cut or drilled
2. Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
3. Damaged Beams must not be used
4. Design assumes top edge is laterally restrained
5. Provide lateral support at bearing points to avoid lateral displacement and rotation
6. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

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Column Anthony Power Column 7.000" X 7.000" - PASSED

Level: Level

Design Method:	ASD
Building Code:	IBC 2012
Application:	Column Free Standing
Service Condition:	Dry
Load Sharing:	No

Design OK.

Design Notes

1. Axial load eccentricity of 1/6 side dimension in both cross-section axes, each axis analyzed separately.
2. Designed in accordance with NDS 2005, ASCE7 and IBC 2012.
3. Restrain top and bottom of member for lateral stability.
4. Holes and notches are not allowed in member.

Analysis

	Actual	Allowed	Capacity	Load Combination
Slenderness	23.0	50.0	46%	
Axial (lb.)	20517	68696	30%	D+S
Axial + Bending	0.34	1	34%	D+S
Bearing Steel (lb.)	20695	98000	21%	D+S

Design Properties

E:	1900000	Fc:	2300
Ey:	1900000	Fv:	0
Fb:	2100	Fvy:	0
Fby:	2300		

Applied Loads

ID	Load Type	Location	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
Axial								
1	Point	13-5-0	2121 lb	0 lb	6724 lb	0 lb	0 lb	
2	Point	13-5-0	1701 lb	0 lb	5512 lb	0 lb	0 lb	
3	Point	13-5-0	314 lb	0 lb	1055 lb	0 lb	0 lb	
4	Point	13-5-0	697 lb	0 lb	2393 lb	0 lb	0 lb	

Manufacturer Info

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