

STRUCTURAL CALCULATIONS – ADDENDUM 1

MILLCREEK COMMON

FOR

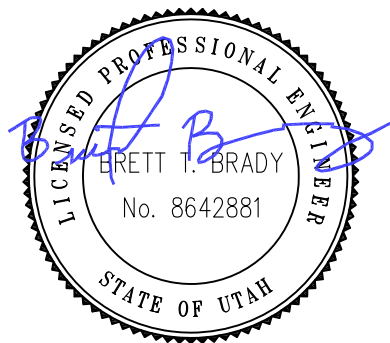
EPG DESIGN

SUBJECT:

SHEET NO:

ADDENDUM 1: ALL SHEETS ARE REVISIONS OR IN ADDITION TO THOSE DATED 12/22/2020

Overlook Railing Design..... C2r, C2.1



Job No.: UT-2009-1910

Designed By: J.W.S.

Date: 01/22/2021

Checked By: B.B.

Project: MILLCREEK COMMONSProject No.: UT-2009-1910By: J. SIPES

Date: _____

Subject: _____

Sheet: _____

DESIGN RAILING ON TOP OF CMU RETAINING WALL:
LIVE LOADS PER ASCE 7-16, SECTION 4.5.1

CHECK TOP RAIL

- TOP RAIL IS 1"x4" IPE WOOD ATTACHED TO C4x5.4
- MUST DESIGN FOR 200# POINT LOAD OR 50 PLF LIVE LOAD
- MAX SPACING BETWEEN VERTICAL POSTS = 6'

-C4x5.4 TOP RAIL IS ADEQUATE FOR LIVE LOAD.
(SEE ENERCALC RESULTS ON THE FOLLOWING PAGES)

Title Block Line 1
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 using the "Settings" menu item
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 Title Block" selection.
 Title Block Line 6

Project Title:
 Engineer:
 Project ID:
 Project Descr:

C2.1

Printed: 21 JAN 2021, 12:48PM

Steel Beam

File: Millcreek.ec6
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 HORROCKS ENGINEERS, INC.

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DESCRIPTION: RAILING - CAP BEAM

CODE REFERENCES

Calculations per AISC 360-16, IBC 2018, CBC 2019, ASCE 7-16

Load Combination Set : ASCE 7-16

Material Properties

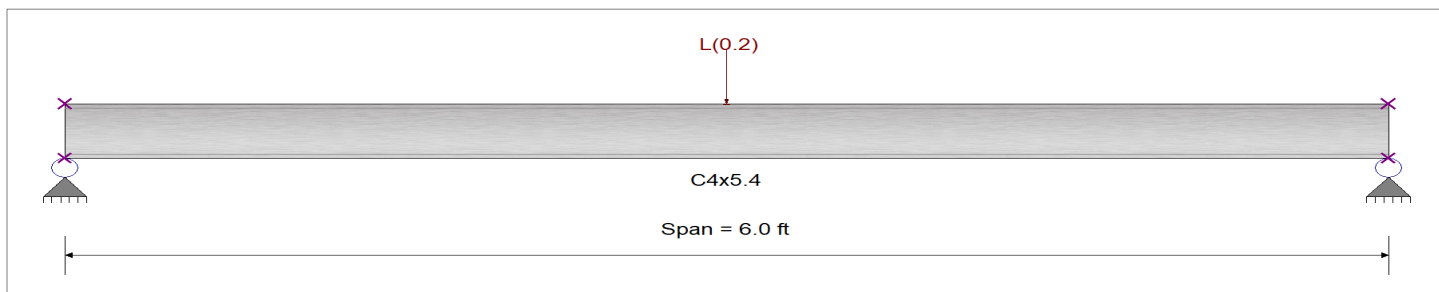
Analysis Method : Load Resistance Factor Design

Beam Bracing : Completely Unbraced

Bending Axis : Minor Axis Bending

Fy : Steel Yield : 36.0 ksi

E: Modulus : 29,000.0 ksi



Applied Loads

Service loads entered. Load Factors will be applied for calculations.

Beam self weight NOT internally calculated and added

Load(s) for Span Number 1

Point Load : L = 0.20 k @ 3.0 ft, (handrail load)

DESIGN SUMMARY

Design OK

Maximum Bending Stress Ratio =	0.401 : 1	Maximum Shear Stress Ratio =	0.018 : 1
Section used for this span	C4x5.4	Section used for this span	C4x5.4
Mu : Applied	0.480 k-ft	Vu : Applied	0.160 k
Mn * Phi : Allowable	1.197 k-ft	Vn * Phi : Allowable	9.092 k
Load Combination	+1.60L	Load Combination	+1.60L
Location of maximum on span	3.000ft	Location of maximum on span	3.000 ft
Span # where maximum occurs	Span # 1	Span # where maximum occurs	Span # 1
Maximum Deflection			
Max Downward Transient Deflection	0.000 in	Ratio =	0 <180.0
Max Upward Transient Deflection	0.000 in	Ratio =	0 <180.0
Max Downward Total Deflection	0.173 in	Ratio =	417 >=120.
Max Upward Total Deflection	0.000 in	Ratio =	0 <120.0