

Steel Design Report

Element: C:/DCC/steel6/Projects/Report.rtf
 Description:
 Date: 8/6/2020 5:23:37 PM

Company:
 User:
 Software: Digital Canal Steel Design 6.4

GENERAL INFORMATION

Description	Value	Description	Value
Run Mode	Design Mode	K_y	1.00
Design Code	AISC 14th Edition LRFD	K_z	1.00
Beam-Column Length	12.00 ft	Total Load Deflection Limit	L / 240
Steel Yield Stress	50.00 ksi	Live Load Deflection Limit	L / 360
C_b Calculation	$12.5M_{max} / (2.5M_{max} + 3M_A + 4M_B + 3M_C)$	Lateral Torsional Braced(LTB) Length	
C_{mx} Calculation	Always use 1.0 (conservative)	Section shape	HSS
C_{my} Calculation	Always use 1.0 (conservative)	Maximum Section Depth	20.00 in
L_x	12.00 ft	Minimum Section Depth	3.00 in
L_y	12.00 ft	Back-Back Distance(double angles only)	-
L_z	12.00 ft	Section Width (angles,double angles)	-
K_x	1.00	Check Section List	-
		Maximum Stress Ratio	1.000

LOAD INFORMATION

Ref. No.	Load Case	Load Type	Dir	Begin Value	Begin Position	End Value	End Position
1	Dead	Concen	Z	-190.000 (kips)	12.000 (ft)	-	-
2	Live	Linear	Y	-1.500 (kips / ft)	0.000 (ft)	-1.500 (kips / ft)	12.000 (ft)
3	Wind	Linear	Y	-0.250 (kips / ft)	0.000 (ft)	-0.350 (kips / ft)	12.000 (ft)

SELECTED LOAD COMBINATIONS

Load Combination	Code Check	Total	Live	Dependent	Conditional
LC2: 1.40DL	x	x	x	-	-
LC3: 1.20DL+1.60LL+0.50SL	x	x	x	-	-
LC4: 1.20DL+LL+1.60SL	x	x	x	-	-
LC5: 1.20DL+0.80WL+1.60SL	x	x	x	-	-
LC6: 1.20DL+LL+1.60WL+0.50SL	x	x	x	-	-
LC7: 1.20DL+LL+0.20SL+EL	x	x	x	-	-
LC8: 0.90DL+1.60WL	x	x	x	-	-
LC9: 0.90DL+EL	x	x	x	-	-

CRITICAL STRESS SUMMARY

Ref. No.	Section Name	Opt. Mark	Governing Criteria	Stress Ratio	Load Combination	Distance (ft)
1	HSS6X12X5/8	✓	Live Deflection Y	0.9021	LC3: 1.20DL+1.60LL+0.50SL	6.0000
2	HSS7X9X1/2	-	Live Deflection Y	0.9653	LC3: 1.20DL+1.60LL+0.50SL	6.0000
3	HSS8X6X5/8	-	Axial-Bending	0.8550	LC3: 1.20DL+1.60LL+0.50SL	6.0000
4	HSS9X5X5/8	-	Axial-Bending	0.8780	LC3: 1.20DL+1.60LL+0.50SL	6.0000
5	HSS10X4X5/8	-	Axial-Bending	0.9947	LC3: 1.20DL+1.60LL+0.50SL	6.0000
6	HSS12X4X1/2	-	Axial-Bending	0.9196	LC3: 1.20DL+1.60LL+0.50SL	6.0000
7	HSS14X4X3/8	-	Axial-Bending	0.9753	LC3: 1.20DL+1.60LL+0.50SL	6.0000