AI ENGINEERS, INC. COMPUTATION SHEET	Project 063-712
	Made By EH
	Date: 4/4/2019

Subject: **REHABILITATION OF BRIDGE 980B**
I-84 TR 826 OVER THE CONNECTICUT RIVER

0603768A **STRUCTURAL STEEL REPAIRS (SITE NO. 1)**

		Repair	Plate Width (in)	Plate Height (in)	Plate Thickness (in)	# of sides	Area (ft^3)	Weight (lb/#)	Total Weight
Span 2 (Pier):									
	G4	Plate full web at beam end (failed in LR)	15.38	60	0.75	2	0.801		392.38
	G3	web base	6	5	0.75	1	0.013		6.38
	G3	web base	3.25	5	0.75	1	0.007		3.46
	G3	south stiffener 1	9	10	0.5	1	0.026		12.76
	G3	south stiffener 2	9	10	0.5	1	0.026		12.76
	G2	web base	6	10	0.75	1	0.026		12.76
	G2	web base	3.5	9	0.75	1	0.014		6.70
	G2	south stiffener 1	9	7	0.5	1	0.018		8.93
	G2	south stiffener 2	9	11	0.5	1	0.029		14.04
	Bay G1-G0	channel web	75.96	15	0.75	1	0.495		242.32
	Bay G1-G0	other side of web perforation	7	9	0.75	1	0.027		13.40
	Bay G1-G0	channel flange	75.96	3.4	0.5	1	0.075		36.62
	Bay G1-G0	repalce middle gusset	2.75	1.25	0.38	1	0.001		0.37
	Bay G1-G0	G0 Diaph connection plate	9	36	0.5	1	0.094		45.94
	Bay G1-G0	replace lower G0 gusset	0.83	0.58	0.38	1	0.000		0.05
	Bay G1-G0	replace angle L4x31/2x3/8	78			2		9.1	1419.60
	Bay G1-G0	G1 Diaph connection plate	9	36	0.5	1	0.094		45.94
	G0	replace 2 south bearing stiff.	6	54	0.50	2	0.188		91.88
	G0	bottom flange (below)	60	12	0.50	1	0.208		102.08
	G0	bottom flange (2 above)	60	5	0.50	2	0.174		85.07
	G0	beam web (end)	4	54	0.75	1	0.094		45.94
	G0	beam web (middle)	6	54	0.75	2	0.281		137.81

G0	beam web perforation	5	8	0.75	2	0.031		15.31
G0	web base	35	6	1	1	0.091		44.66
Span 1 (Pier):								
Bay G1-G2	channel web hole	9	9	0.75	2	0.070		34.45
Bay G1-G2	horizontal angle hole	4.5	4.5	0.75	2	0.018		8.61
Bay G1-G2	replace lower G1 gusset	0.83	0.58	0.38	1	0.000		0.05
Bay G1-G2	replace 2-3/4" bolts						0.6	1.20
Bay G1-G2	G1 & G2 connection plate	9	60	0.5	2	0.313		153.13
G1	replace south bearing stiff	60	7	0.63	1	0.152		74.44
G1	beam web (end)	60	9.75	0.75	2	0.508		248.83
G1	beam web (base)	6	9	0.75	1	0.023		11.48
Span 1 (Abutment):								
G3	beam web base (end)	22.5	6	0.75	2	0.117		57.42
G3	beam web base	21	6	0.75	1	0.056		27.28
G3	bottom flange (below)	14	50.75	0.5	1	0.206		100.74
G3	bottom flange (2 above)	6	50.75	0.5	2	0.176		86.35
G2	beam web base (end)	22.5	6	0.75	2	0.117		57.42
G2	beam web base	21	6	0.75	1	0.056		27.28
G2	bottom flange (below)	14	50.75	0.5	1	0.206		100.74
G2	bottom flange (2 above)	6	50.75	0.5	2	0.176		86.35
G1	beam web base (end)	22.5	6	0.75	2	0.117		57.42
G1	beam web base	21	6	0.75	1	0.056		27.28
G1	bottom flange (below)	14	50.75	0.5	1	0.206		100.74
G1	bottom flange (2 above)	6	50.75	0.5	2	0.176		86.35
G0	beam web (end)	36	54	0.75	2	1.688		826.88
G0	beam web base	29.38	6	0.75	1	0.077		37.49
G0	bottom flange (below)	12	48	0.5	1	0.167		81.67
G0	bottom flange (2 above)	5	48	0.5	2	0.139		68.06
G0	replace 2 south bearing stiff	6	84	0.5	2	0.292		142.92
G0	stiffener hole	6	8	0.5	2	0.028		13.61

Total	5315.31	lb
+ 50%	2657.66	lb

*Additional 50% for additional locations found after abrasive blast cleaning

Total	**79.73** CWT