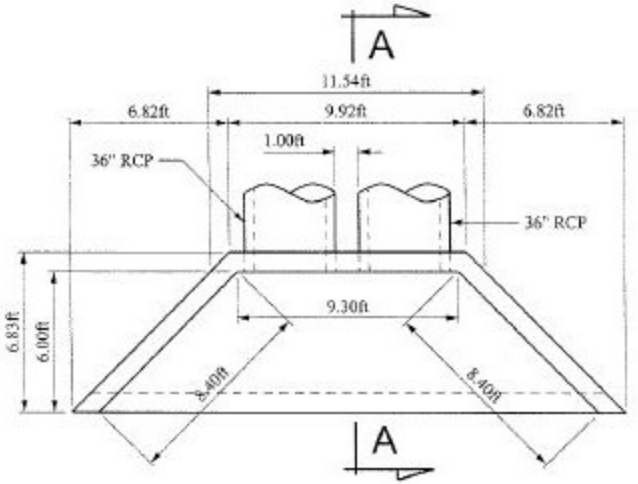
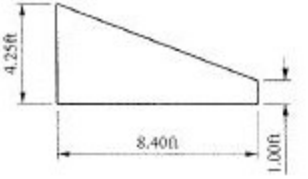
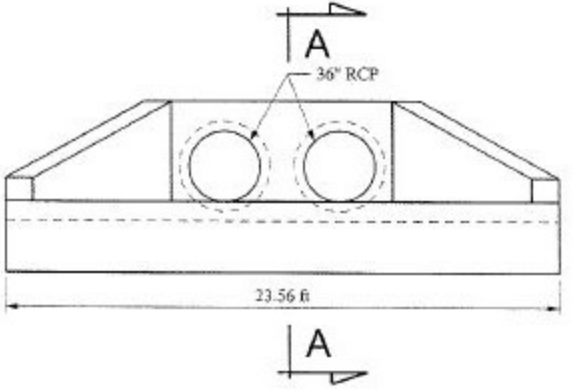
ITEM 31 CONCRETE DRAINAGE STRUCTURE
STA. 217+44 RT 84' (H-2620)



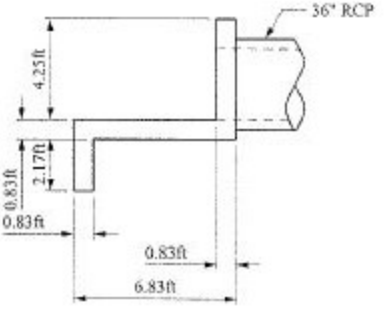
PLAN



WING WALL



FRONT VIEW



SECTION A-A

F-LC45 (8) 1000 North, Between SR-112 and 600 West, Tooele

Item 31 Concrete Drainage Structure (cubic yard)

11/4/2009

Station	Offset	Quantity	Description
217+44	RT 84	7.12	**cutoff wall**
			2.17' x 23.56' x 0.83' = 42.43 cf / 27 = 1.57 cy
			apron
			6.83' x 9.92' x 0.83' = 56.24 cf
			6.82' x 6.83' x 0.83' = 38.66 cf / 2 = 19.33 cf
			56.24 cf + 19.33 cf + 19.33 cf = 94.90 cf / 27 = 3.51 cy
			wingwalls
			1.00' + 4.25' = 5.25' / 2 = 2.63' avg
			2.63' x 8.40' x 0.83' = 18.34 cf / 27 = 0.68 cy
			1.00' + 4.25' = 5.25' / 2 = 2.63' avg
			2.63' x 8.40' x 0.83' = 18.34 cf / 27 = 0.68 cy
			headwall
			11.54' + 9.92' = 21.46' / 2 = 10.73' avg
			10.73' x 4.25' x 0.83' = 37.85 cf / 27 = 1.40 cy
			less two 36" pipes
			36" dia pipe + pipe wall thickness of 5" x 2 = 46" (3.83')
			3.14 x $(1.92')^2$ x 0.83' = 9.61 cf / 27 = 0.36 cy x 2 = 0.72 cy
			1.40 cy - 0.72 cy = 0.68 cy
			Total
			1.57 cy + 3.51 cy + 0.68 cy + 0.68 cy + 0.68 cy = 7.12 cy

Structure was measured as constructed in the field.

As-built drawing is attached.

Verified by: _____

Checked by: _____