TABLE 9A-6: Canal Lining Technologies and Cost Estimates

Notes and Assumptions

1	Data Source:	
this analysis sh	[1] Swihart, J., Haynes, J., *Canal Lining Demonstration Project, Year 10 Final Report*, Bureau of Reclamation	
	Denver Technical Service Center Civil Engineering Services, Pacific Northwest Region, November 2002	
	(unit costs have been increased by 75% to account for initial costs in 1990 and other tech. service costs)	
2	Construction Cost Includes:	a contractor mobilization/demobilization
		b supply of liner materials
		c subgrade preparation
		d installation
		e contractor OH and profit

Type of Lining	Construction Cost	Maintenance Cost	Seepage Reduction	Durability
	$/sq.ft.	$/sq.ft.	%	years
Fluid Applied Membrane	$ 5.02	$ 0.01	90%	12.5
Concrete Alone	$ 4.08	$ 0.01	75%	50
Exposed Geomembrane	$ 2.68	$ 0.01	90%	17.5
Geomembrane with Concrete Cover	$ 4.45	$ 0.01	95%	50

Chose Concrete lining technique because:

1	known technology
2	low cost, good seepage efficiency, long life, easy to repair
3	ditch shapes can be made standard for easy maintenance

A MRGCD Main Canals (concrete lining)

Canal Shape	Trapezoidal
Typ. Canal Dimensions	bottom w = 25 ft., height = 8 ft., side slopes are 3:1
Sq ft. per foot	41.5
Cost per foot	$ 169.22

B MRGCD Lateral Canals (concrete lining)

Canal Shape	Trapezoidal
Typ. Canal Dimensions	bottom w = 6 ft., height = 4 ft., side slopes are 3:1
Sq ft. per foot	14.5
Cost per foot	$ 59.12

C Non MRGCD Main Canals (concrete lining)

Canal Shape	Trapezoidal
Typ. Canal Dimensions	bottom w = 10 ft., height =5 ft., side slopes are 3:1
Sq ft. per foot	20.5
Cost per foot	$ 83.59

D Non MRGCD D-Canals (concrete lining)

Canal Shape	Trapezoidal
Typ. Canal Dimensions	bottom w = 4 ft., height = 4 ft., side slopes are 3:1
Sq ft. per foot	12.2
Cost per foot	$ 49.75