Shadow Lake Dam Preliminary Alternatives Analysis

1,000-year Storm Event Results

Scenario	Description	Starting WSE (ft-NAVD88)	Peak Discharge (cfs)	Peak WSE (ft-NAVD88)	Freeboard (ft)
Existing	Existing	1394.6	351	1400.0	-0.1
Alt 1	Armor existing for overtopping	1394.6	351	1400.0	-0.1
	Change from Existing	*0*	*0*	*0.0*	*0.0*
Alt 2	Lower existing P/S inlet invert 2.6 ft	1392.0	179.6	1398.3	1.6
	Change from Existing	*-2.6*	*-171.4*	*-1.7*	*1.7*
Alt 2A	**Lower existing P/S inlet invert 1 ft**	**1393.6**	**284.5**	**1399.3**	**0.6**
	Change from Existing	***-1***	***-66.5***	***-0.7***	***0.7***
Alt 3	Lower inlet invert 2 ft and upsize to 4-ft wide by 5-ft tall box culvert	1392.6	294.2	1398.3	1.6
	Change from Existing	*-2*	*-56.8*	*-1.7*	*1.7*
Alt 3A	Lower inlet invert 1 ft and upsize to 7-ft wide by 5-ft tall box culvert	1393.6	428.3	1398.8	1.1
	Change from Existing	*-1*	*77.3*	*-1.2*	*1.2*
Alt 3B	Upsize to 45-ft wide by 5-ft tall box culvert	1394.6	1184.4	1398.4	1.5
	Change from Existing	*0*	*833.4*	*-1.6*	*1.6*
Alt 4A	24-hr drawdown using 48-in LLO	1393.5	273.1	1399.3	0.6
	Change from Existing	*-1.1*	*-77.9*	*-0.7*	*0.7*
Alt 4B	48-hr drawdown using 48-in LLO	1392.6	213.3	1398.7	1.2
	Change from Existing	*-2*	*-137.7*	*-1.3*	*1.3*
Alt 5	Dam removal	1386.3	1225.6	1390.4	9.5
	Change from Existing	*-8.3*	*874.6*	*-9.6*	*9.6*