

**DRAFT**

**T. Anderson, 9-2-03**

**Engineering Alternatives Considered but Eliminated From Further Consideration**

1. No Action Alternative

As the dam owner, Tin Cup County Water and Sewer and District (District) is required to comply with federal dam safety laws and regulations. The dam has been determined to be in an unsafe condition by both Forest Service engineers and the District's engineering representative. This situation presents the District with certain responsibilities and attendant downstream liabilities. Based on engineering recommendations and potential consequences of a dam failure, this alternative is not acceptable.

2. Full Breach of Tin Cup Dam

Requires approx. 3000 cubic yards of material to be removed to natural ground  
Estimated Cost = \$200,000  
Leaves the District without any water storage.

3. Widening Spillway to Various Widths (No Berm)

Includes spillway widths of 25', 50' and 75'  
Requires approx. 1900 to 7000 cubic yards of material to be removed  
Estimated Cost Range, depending on spillway width = \$250,000 to \$1,000,000

4. Alternative using rigging operations

An alternative including the use of traditional skills and rigging operations to first remove, then place the large buttress rock to armor the berm was considered. This option would require a considerable amount of time and logistical planning and preparation. The ability to accomplish the work within the required timeframe was determined to be not feasible.