
Example 2 - Lundberg Dam

**CEF Instructional
Guide
(Version 2)
November 1998**



*Federal
Emergency
Management
Agency*

Example 2 **Category D – Water Control Facilities – Lundberg Dam**

This example illustrates the use of bid prices for completed and uncompleted work in the preparation of the CEF.

Project Background

The project involved estimating the cost to repair the damaged Lundberg Dam. The applicant is St. Joseph’s College, a public university, which owns and maintains the dam. Public universities are eligible applicants and the dam is an eligible facility.

The dam is located approximately 600 feet downstream from Tom’s Cabin footbridge. The masonry structure has a top width of five feet, and an upstream height of 12 feet. On the downstream side, the dam has a vertical drop of three feet, and then drops on a six-to-one slope for a vertical distance of 2 feet, then vertical for seven feet. A manually operated sluice gate is conveniently located in the center of this 250 foot long dam and was unaffected by this incident. The flood undermined the northern portion of the dam. As a result, 104 feet of the dam collapsed. Debris from the dam is obstructing the channel downstream.

Information relating to the calculation of CEF factors

Lundberg Dam is a water control facility, so the repair work is Category D. The contractor will have to construct a temporary cofferdam to complete repairs. The entire repair project will be in and around flowing water, and requires detailed planning and sequencing. The degree of difficulty of the repair work is considered moderate. The applicant has provided structural fill material close to the work site. The work will include filling in behind the sheet piles used in the construction of the cofferdam, and pouring concrete to stabilize the structure and form a wall.

The CEF estimate was completed using the applicant’s accepted lowest qualified bid for the eligible repair work, subsequent to a site visit by the project formulation team. Quantities for this CEF estimate were cross-checked against “As-Built” drawings of the dam provided by the applicant.

The repair work does not involve toxic or any other hazardous materials and the applicant applied for a 404 permit. The dam was constructed in 1977 and has no historic considerations. The structure has never been damaged by flood before although it is in the 100-year flood plain. The applicant has indicated that there was no insurance coverage for the structure or its replacement.

Although the repair work was already underway at the time of estimating, it was less than 10% complete. Two months work has already been completed but most of this work was engineering design and some site work. It is estimated that there is 12 months of eligible work until the completion date. The applicant has not proposed any Hazard Mitigation Projects and is proceeding with an eligible scope of work. Applicable permits have already been acquired.

<u>Division</u>	<u>City Cost Index</u>
2	0.86
3	0.89
4	0.84
5	0.97
6	0.78
7	0.89
8	0.87
9	0.82
10 - 14	0.96
15	0.90
16	0.93