

Power Plant Dam/Boat Chute Project, Cache la Poudre River Fort Collins, Colorado

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ANDERSON CONSULTING ENGINEERS, INC.
Civil • Water Resources • Environmental

In 1986, the Power Plant Dam and boat chute was designed and constructed. The original plans included the construction of two additional downstream structures to accommodate the boating and recreational uses within the Cache La Poudre River in Fort Collins, Colorado. The existing structure incorporated a drop of three feet from the end of the boat chute to the stilling pool. In addition, a fish ladder was constructed and was considered ineffective with respect to fish passage. Anderson Consulting Engineers, Inc. (ACE) was contracted by the Park Planning and Development Department to provide construction drawings for a new structure that would: (a) accommodate the boating and fishery uses in the river; and (b) improve the efficiency of the structure with respect to fish passage.

The design objectives of the project included the following:

- Safe boat passage to reduce the health and safety risks associated with the existing structure;
- Improvements to promote the passage of fish through the existing structure and additional structures placed downstream;
- Incorporation of features that will facilitate the placement of vegetation and enhancement or replacement of wetlands along the fringe of the channel, and the enhancement of aesthetic values along the channel
- Improvements that will not result in an increase in flooding or base flood elevations along the channel; and
- Construction of improvements that are cost effective.

An evaluation of design alternatives resulted in the selection of a grouted rock boat chute and rock riprap channel improvements within the river. A detailed hydraulic analysis was completed and submitted to the City of Fort Collins Floodplain Manager for review and approval. Construction drawings and specifications were prepared and provided to the Park Planning and Development Department. Assistance during construction was also provided, as necessary.

Following construction of the project, as-built drawings were prepared along with a Letter of Map Revision (LOMR). The LOMR was submitted to FEMA for subsequent review and approval.



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