

**Lincoln Junior High School/Heidekoper Park Raw Water Irrigation Plan
Fort Collins, Colorado**

Client: Mr. Stu Reeve and Jerry Garretson/Mr. Craig Foreman
Reference: Poudre School District/Fort Collins Parks & Rec. Dept
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Anderson Consulting Engineers, Inc. (ACE) was contracted by a partnership of the Poudre School District and the City of Fort Collins Parks Department to determine the least cost alternative water supply to the ball fields and parks at the **Lincoln Junior High School** site. The first phase of the project researched and recommended a raw water supply to replace the treated water system then in existence. The raw water supply analysis first determined that ground water could not be reasonably developed at the site because of the lack of available augmentation water. Second, the two potential ditch systems in the area were reviewed for their reliability, notably the New Mercer Ditch and the Larimer County Canal No.2.

Given the seniority of the New Mercer Ditch, this ditch was selected as the water supply and a reconstructed headgate from the ditch with Parshall flume was designed, an approximately 1.5 mile pipeline was hydraulically designed with two intermediate turnouts and a siphon under the Larimer County Canal No. 2, and a 6 acre-foot lined pond was designed. The pump station was designed and constructed under a separate city contract. In order to accomplish these work items, the following general tasks were completed by ACE:

- (a) Provided coordination with Poudre School District and City of Fort Collins staffs, the New Mercer Ditch Company, and various other entities;
- (b) Collected previous data and reports documenting raw water and treated water systems in the city. Performed field reconnaissance and field surveying to define existing lands at the school site, irrigation laterals in the surrounding area, and formulated plans for conceptual alternatives at this location;
- (c) Developed GIS base maps composed of USGS quadrangles and aerial photography;
- (d) Inventoried and hydraulically evaluated the capacity of existing ditch lateral and siphon under Taft Hill Road;
- (e) Developed a detailed hydraulic pipeline model to simulate deliveries to the Lincoln site from a pipeline with multiple turnouts and a siphon under Larimer County Canal No.2;
- (f) Produced construction design plans and specifications for the pipeline and pond to provide raw water irrigation supplies to the Lincoln site; and
- (g) Summarized the results in a report and project notebook. The summary included final design drawings, technical specifications, detailed cost estimates, and an implementation plan.



**Parshall Flume at Delivery Point of
New Mercer Ditch to Lincoln JHS Pipeline**