



# PROJECT DESCRIPTION SHEET



## GEOTECHNICAL AND WATER RESOURCES ENGINEERING

### KEY ENGINEERING ELEMENTS:

- Geotechnical analyses
- Seepage analysis
- Stability analysis
- Construction drawings
- Construction specifications
- Construction of a dam on an existing levee
- Integration of several components
- Constrained site access and working areas

### CLIENT BENEFITS:

- Additional storage without additional property acquisitions
- SEO permitting experience
- Incorporating existing structures and facilities into a new facility

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## MILLER RESERVOIR AND DAM ADAMS COUNTY, CO DENVER WATER

Miller Reservoir was originally an unlined gravel pit with about 800 acre-feet of water storage. Denver Water purchased the gravel pit as part of an overall goal to increase raw water storage along the South Platte River. Design changes made to the reservoir included:

- Mined additional property to the east and south of the existing reservoir.
- Constructed a perimeter embankment to increase the water storage to about 2,000 acre-feet.
- Installed an inlet from Burlington Canal.
- Installed an outlet to the South Platte River and to the adjacent Cat Reservoir.
- Constructed a spillway.

RJH Consultants Inc. (RJH) worked as part of a team composed of four engineering firms. RJH led the design of the embankment for Miller Reservoir and Dam. The project consisted of construction of an earthen embankment dam up to approximately 20 feet high and regradation of the interior slopes and reservoir bottom.



In addition to embankment design, RJH reviewed and provided technical assistance for design of a soil-bentonite cutoff wall that was installed during embankment design, but prior to embankment construction. Coordination with the cutoff wall design firm was critical to ensure the cutoff wall was

properly aligned with the embankment, and that the foundation was adequately prepared to facilitate an effective connection between the cutoff wall and the embankment.

Construction of the modified reservoir was completed in the summer of 2008.