



# COLORADO RIVER DISTRICT

PROTECTING WESTERN COLORADO WATER SINCE 1937

## **POSITION:**                      **Geotechnical and Dam Safety Engineer**

### **POSITION SUMMARY:**

The Geotechnical and Dam Safety Engineer performs technical, project management, advocacy, and engineering work in close coordination with and under the general direction of the Director of Asset Management/Chief Engineer. This position includes analyzing, interpreting, and managing dam embankment instrumentation data and ensuring the integrity and safety of dam structures through diligent monitoring and technical studies. The role involves project management responsibilities, coordinating with consultants and contractors to complete dam, reservoir, recreation area, and mitigation area-related projects.

### **TYPICAL EDUCATION AND EXPERIENCE REQUIRED:**

Requires a bachelor's degree in math, science, geology, engineering technology, or related field, or advanced technical training and five to ten years' related experience. Working knowledge of geotechnical principles for embankment dams and principles of dam safety. Must be a licensed Professional Engineer. Must maintain a valid driver's license.

### **SKILLS AND COMPETENCIES:**

In addition to the educational and experience requirements, the following skills are essential to the job:

- Excellent verbal and written communication skills with the ability to communicate succinctly, effectively, and professionally.
- Ability to work with professionals, the public, other organizations, and government agencies and oversee the work of others, particularly outside consultants.
- Ability to complete and oversee projects from inception to completion, coordinating both internal and external efforts.
- Working knowledge of dam safety rules and principles including risk informed decision making, emergency preparedness and consequence reduction, and dam safety best practices.
- Geotechnical Engineering training and experience related to embankment dams.
- Advanced skills in Microsoft Excel, Access, and other database management.
- Aptitude for data communications and problem-solving.

### **ADDITIONAL PREFERRED SKILLS:**

- Proficiency or expertise in GIS, including simple mapping and geospatial analysis.
- Knowledge of Colorado hydrology, water administration, and law.
- Proficiency in applying water resource management principles, including a functional understanding of the prior appropriation system.
- Competency with coding in C++, Python, R, or similar languages.
- Experience with data management and visualization tools such as macros, tableau, and Power BI.

- Controls Systems training or experience, including the design and use of SCADA.
- Data and instrumentation automation.
- Proficiency with AutoCAD.

**ESSENTIAL FUNCTIONS:**

- Provides data compilation, reduction, analysis, and interpretation of dam embankment instrumentation and other reports in Excel or similar data management software for internal processing and peer review. Monitors data for threshold exceedances. Communicates the results of the dam monitoring program to supervisor, senior leadership, and interested partners.
- Prepares, reviews, or directs technical studies on embankment dams.
- Provides project management support, including working with consultants, suppliers, and contractors to develop scopes of work and successfully complete project scopes on time and within budget. Projects may be associated with dam embankments, spillways, outlet works, wetlands mitigation areas, recreation areas, or other related components.
- Performs field work, such as simple mechanical maintenance and troubleshooting automated monitoring instrumentation.
- Assists with implementing Risk Informed Decision Making (RIDM) processes for River District-owned dams.
- Assists the Director of Asset Management/Chief Engineer in implementing dam safety-related projects, including emergency preparedness training and dam safety evaluations.
- Works closely with the Chief Engineer and other technical team members on reservoir operation plans and implementation.
- Assists in implementing the District's policies, including advocating for them in public settings.
- Work varies in complexity and requires creative problem-solving, independent judgment, and initiative.
- Travel is required, mainly throughout the 15-county District, including overnight travel to supervise projects.

**OTHER REQUIREMENTS:**

- Performs other work-related duties as assigned by the Technical Directors, Chief of Operations, and General Manager.