

WATER RIGHTS ENGINEERING

Water rights engineering in Colorado commonly involves changes of water rights, historical consumptive use and depletion analyses, supply and demand analyses, and plans for augmentation. In general, water law in Colorado is complex, often requiring the services of a water rights engineer, hydrogeologist, and a water attorney working as a team.

Changes of water rights in Colorado, and outside of designated basins, fall under the Water Courts' jurisdictions per State laws. Changes of water rights commonly involve analyses of the historical use of the originally decreed water right for its decreed purpose(s). Martin and Wood personnel have performed numerous historical use analyses of ditch rights, storage rights, and ground water rights. The Water Courts rely upon the engineer's analyses and his or her expert testimony to quantify the historical use of the water rights to be changed. The Water Courts then apply terms and conditions to limit the future, changed use of most water rights to the rights' historical use as a means to prevent injury to other water rights within the stream system.

Supply and demand analyses are another important aspect of water rights engineering. Martin and Wood personnel have been involved in many projects involving private and municipal entities to examine and quantify their current water supply situation and current and/or future water demands. For some of the supply and demand projects, Martin and Wood per-



Irrigation from an Arkansas Valley ditch

sonnel have developed and programmed models to quantify supply and demand and to determine how best to manage water resources.

Water rights engineering also includes plans for augmentation. Martin and Wood personnel have been involved in many plans for augmentation including surface water, ground water, and gravel pits. Because augmentation plans must be approved in Water Court, which often takes a long time, developing temporary substitute water supply plans is also a large part of the water rights engineering performed by Martin and Wood personnel.

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