

## Channel Behavior and Sediment Control Monitoring

### *Merced River Utility Crossing Project, Yosemite National Park, California*

#### *Background*

Balance Hydrologics, working with a large consulting firm, assisted the National Park Service in planning, designing and observing construction of a challenging utility crossing 38 feet beneath the Merced River in the heart of the Yosemite Valley. With spring snowmelt quickly approaching, the project team prepared a design and installation strategy that could be permitted and built prior to snowmelt peak. The snowmelt peak re-arranged the bed gravels in a pool, riffles and point bar configuration very similar to our predictions of bed geometry.



#### *Project Highlights:*

- Conducted geomorphic assessments in conjunction with detailed hydraulic analysis in order to prepare a staged design scheme that limited both bed scour and bank erosion within the main stem of the river.
- Designed a water treatment system for construction waters to meet stringent turbidity criteria (<1 NTU) and maintain the remarkably clear waters within the river. The treatment system isolated seepage in the active work areas, and then utilized settling tanks followed by 500 feet of secondary channel as additional settling and polishing.
- During the construction process, maintained a strong on-site presence to allow adaptive and efficient installation as well as monitor and address potential impacts to the Merced River from this complex and highly-accelerated project.

