

## Stevens Creek Capital Improvement Projects #3 and 4

Lincoln, Nebraska

The City of Lincoln and the Lower Platte South Natural Resource District commissioned a comprehensive master plan of the Stevens Creek Watershed in 2005. The Stevens Creek Master Plan included a geomorphic analysis, as well as a hydrologic and hydraulic model, to protect incoming development from flooding and erosion hazards, while also protecting the watershed's existing natural resources. Intuition & Logic developed preliminary interventions and management recommendations for the Master Plan, including Stevens Creek Capital Improvement Projects #3 and 4.



Channel incision along the main stem of Stevens Creek and a tributary to the main stem had produced widespread bank failures, toppled trees, and numerous woody debris jams. The channel bed elevation in the tributary had already incised by more than 4 feet, based on geomorphic indicators. Because of the location in the lower part of the watershed, it was a priority to control incision before it had the opportunity to propagate through

upstream tributaries and headwaters reaches, as these streams would erode to match grade with the incised main stem.

Capital Improvement Projects #3 and 4 were designed to arrest channel incision through a series of rock grade controls. Because of the relatively flat grade and erodible soils, Newbury-style grade controls were the selected method of grade stabilization. By distributing the grade change over a series of structures, the Newbury grade controls lower the stress at each structure and reduce the risk of catastrophic failure. Construction is scheduled for Fall 2007.

