

**Snake Creek Tributary Restoration
(ACEC of Nebraska - Engineering Excellence Honorable Mention, 2005)**

City of Alliance, NE

Once the crown jewel of Alliance Nebraska, Snake Creek tributary flows through the town’s major parks. Weddings, concerts, and countless neighborhood events were graced by the beautiful stream. However, over time the stream degraded and was replaced with an “efficient” concrete channel. In the past decade the concrete deteriorated, leaving the City with both a lost resource and a canal plagued by foul, stagnant water and excessive sedimentation.



The City sought a cost effective solution that restored both function and beauty to their stream and park system. Intuition & Logic performed the geomorphic analysis of over 5,000 feet of stream and collaborated with JEO Consulting Group, Inc. in the final restoration design.

The final design called for the complete removal of the concrete channel and restoration of a meandering stream. The team constructed a narrow low-flow channel having sufficient stream power to transport sediment efficiently while avoiding bed or bank erosion. Coir logs line the low flow channel to support native vegetation, while also providing energy dissipation and stability. A bankfull shelf was constructed behind the coir log banks to provide overbank relief for larger flows. A total of 48 native plant species were included in the planting plan, and the entire site was planted with native grasses and forbs. In addition, the team added a series of grade control structures to arrest an existing headcut, maintain a stable channel grade, and to aerate the water as it tumbles over the structures. The entire project was built by City crews and neighborhood volunteers. Construction was completed in the spring of 2004.

