

Lackland Bridge Mitigation

City of Maryland Heights, Missouri



The Lackland Bridge site is located on a reach of the East Tributary to Fee Fee Creek and was evaluated as part of a comprehensive examination of the Fee Fee Creek Watershed. Geomorphologic analysis, including a longitudinal profile survey, indicated that the reach is stable with the exception of several hundred feet on either side of the recently installed Westport V Bridge (a double 12-foot X 12-foot box culvert). Incision upstream of the bridge has induced slope failure when banks exceed critical height and the subsequent liberation of sediment into the stream.



Two grade controls were installed upstream of the bridge to control the incision and to help direct flow through meanders. Six in-stream weirs and one grade control were installed downstream of the bridge to re-establish the low flow channel and help with bank stability by taking erosive pressure off the streambanks. During low flows, the entire flow is contained in the center of the channel between the weirs. During higher flows, the weirs direct the high velocity flow to the center of the channel thereby keeping the high velocity away from the bank. The downstream grade control was designed to facilitate the last riffle and direct flow off the site in a controlled manner to reduce potential downstream damage.

