



Stormwater Engineering: Floodplain Engineering

- Bridges, Culverts, & Multiple Openings
- CLOMR's & LOMR's
- City, County, State, & FEMA Approvals
- FP's & FW's

WEI has modeled floodplains in mountain streams, flat valleys, and on alluvial fans, and has prepared approximate floodplain and detailed floodplain and floodway mapping. Models have been in wildland, rural, and urban settings. Gerald Williams, owner of WEI, has taught sessions and whole day long workshops on floodplain engineering, and is an ASFPM certified floodplain manager. WEI performs steady and unsteady 1-dimensional analyses, and through association, 2-dimensional analyses as well.

Selected Projects

Mill Creek Floodplain Analysis (CLOMR), Moab, CO

Performed hydraulic analyses, delineated floodplains and floodway in breakaway channels on an alluvial fan, and submitted Conditional Letter of Map Revision to FEMA. Involved 5 bridges and 116 cross sections.

Colorado River, Parachute, CO

Corrected and updated two miles of FEMA floodplain with LOMR, and removed residences from floodplain with CLOMR and LOMR.

Fruita Stormwater Management Master Plan, Fruita, CO

Prepared base mapping, provided stormwater analyses & master plan. Includes 100 & 500 year floodplain analyses on Little Salt Wash involving 9 bridges and 110 cross sections.

7th St. Bridge, Glenwood Springs, CO

Performed HEC-2 analysis through river channel for proposed 7th Street Bridge over the Roaring Fork River.

Leach Creek Floodplain Delineation, Mesa County, CO

Evaluated and established floodplain delineation and water surface elevations for two study reaches of Leach Creek involving several bridge crossings under existing and proposed conditions.

Bennett's BBQ Restaurant, Grand Junction, CO

Evaluated impacts of proposed improvements within a floodplain. Obtained project approval from City NFIP coordinator.

City-Wide Floodplain Determination and Masterplan, Central City, CO

Performed hydrological and hydraulic study which assessed existing conditions and delineated floodplain areas for the entire City, prepared proposed condition floodplain maps, and prepared application for a Letter of Map Revision (LOMR). CWCB and FEMA were reviewing agencies.

Snake River, Henry's Fork, ID

Evaluated two miles of river under peak runoff conditions and winter flows with ice cover and ice jams.

Fortuna Wash Bridge, Yuma County, AZ

Analyzed runoff from a 23 square mile area and hydraulics through a proposed county bridge and existing interstate bridges over Fortuna Wash.

Fairway Peaks, Flagstaff, AZ

Determined floodplain through a master planned community involving 2,083 acres.

No Thoroughfare Canyon, Mesa County, CO

Evaluated floodplain along property and County road. Later was expert witness in floodplain litigation.

Elusive Acres, Gila County, AZ

Determined floodplain limits for flows exceeding 11,000 cfs on mountain stream.

Chili's Restaurant, Grand Junction, CO

Evaluated impacts of proposed improvements within a floodplain. Obtained project approval from City NFIP coordinator.

