# Stormwater Engineering:
## Studies - Regional Watersheds

- Mountain & Desert
- Urban & Rural
- Interconnected Detention Basins
- Masterplan Updates

WEI has performed many regional watershed hydrological and hydraulic drainage studies for cities, counties, and drainage and flood control districts. Conditions range from mountains to rocky mountain slopes, flat lands and deserts, urbanized and rural areas, and wetlands and marshes. Analyses have involved stormwater collection and conveyance systems and detention facilities, and the updating of masterplans.

## Selected Projects

**Fortuna Wash Bridge, Yuma Cnty, AZ**
Analyzed runoff from a 23 square mile area and hydraulics through a proposed county bridge and existing interstate bridges over Fortuna Wash. HEC-1 and HEC-2 computer programs were utilized.

**Colorado National Monument, Mesa County, CO**
Prepared hydrological models and studies for 6 canyons coming off the rocky steep Monument under flash flood with high sediment load conditions, evaluating the hydraulic conveyance through natural and man-made channels on the base slopes. Performed erosion control evaluations and provided recommendations.

**Sundance Crossing, Grand Junction, CO**
Evaluated and critiqued previous subdivision studies, and prepared a regional hydrological and hydraulic drainage study that encompassed the subdivision. Included multiple interconnected detention basins.

**Grand Mesa Center, Grand Junction, CO**
Performed regional hydrological study for the Grand Mesa Center. Project included three proposed interconnected regional detention basin. Grades are such that each is affected by downstream pond "tailwater" conditions and flows can be both directions between ponds depending upon the time period in the runoff event.

**Orchard Avenue Storm Drain, Grand Junction, CO**
Performed hydrological analysis of the Logan Drain system, and modeled and designed a proposed drainage system with up to 60" outfall pipes.

**Elusive Acres, AZ.**
Analyzed a 21 square mile watershed and calculated floodplain limits for flows exceeding 11,000 cfs using SCS TR-20 and HEC-2 computer programs.

**Linden Ave. Subdivision, Mesa Cnty, CO**
Updated the Orchard Mesa Stormwater Management Master plan with respect to Linden Avenue subdivision, and provided subdivision drainage study.

**32.5 Road Regional Watershed Study, Mesa County, CO**
Performed regional basin-wide stormwater hydrological study and evaluated detention basin feasibility and requirements.

**Cotton Woods 3 Subdivision, Fruita, CO**
Performed a hydrological and hydraulic study for the subdivision and the entire Murray Drain system, updating the City of Fruita and GJDD SWMMP.

**Powder Ridge Development, Mesa County, CO**
Performed hydrological and hydraulic drainage study for a mountain subdivision near a ski resort. Included wetlands and springs.