



Clark County Regional Flood Control District Projects Prove Successful

Full Mitigation Best Practice Story

Clark County, Nevada

Las Vegas, NV - On July 8, 1999, the City of Las Vegas experienced the worst flash flood in its history. The average annual rainfall for the area is four inches and this event produced two to two and a half times the normal amount in one six hour period. The storm was very intense and widespread with water flows in some areas exceeding the 100 year flood level (a one percent chance that the levels identified on the Flood Insurance Rate Maps will be equaled or exceeded in any given year). There was one death as a result of the storm. Within the city of Las Vegas, the storm damaged 360 structures. Of these businesses and homes, 85% were owner occupied and 80% were low income. Among those most heavily impacted was a large mobile home park.



[See "Legislation Creates Clark County Regional Flood Control District" for an overview of the City's flood history.]

The Clark County Regional Flood Control District was created by the Nevada Legislature in 1985. Its responsibilities are: (a) to develop a coordinated and comprehensive master plan to solve flooding problems, (b) to regulate land use in flood hazard areas, (c) to fund and coordinate the construction of flood control facilities, and (d) to develop and contribute to the funding of a maintenance program for master plan flood control facilities. The district is self-funded by a .25 percent sales tax. The service area for the District includes Clark County and the incorporated cities of Boulder City, Henderson, Las Vegas, Mesquite, and North Las Vegas. At the time of the flash flooding, one third of the master plan had been implemented.

"What's in place worked!" stated Kevin Eubanks, P.E., Assistant General Manager for the district. The projects were tested by the flash flooding of July 8.

The mitigation projects include both the Flood Threat Recognition System (FTRS) and the Capital Improvement Program.

The FTRS was one of the first major components implemented as part of the master plan. This system functioned extremely well on July 8. The system, in place throughout the Las Vegas Valley, measures rainfall and activates a warning that is immediately communicated to the flood control district staff. Using computer modem linkups to the base station, staff can assess the potential for flooding and begin alerting public works and other emergency response personnel. The District maintains modems to provide local governmental agencies with access to the FTRS. Additionally, there is a plan for the media to be alerted to begin broadcasting watch and or warning information to the general public. Utilizing this system to monitor the flash flood gave critical real-time attention to the flood event that aided in minimizing loss of life and property.

The Capital Improvement Program, begun in 1987, includes the construction projects. Projects are prioritized according to the potential of providing the greatest protection against threat to life and property. Two of the completed detention basins, Oakey and Gowan, clearly demonstrated successful mitigation during the flash flood. The basins, both located in high-density urban areas within the city limits of Las Vegas, filled to near capacity and protected adjacent residential communities from inundation.

Benefit/cost ratio is estimated to be 2.2:1 for the completed projects. It is expected that the benefit to cost ratio of the District construction program will remain at a level that approximates 2:1 through build out of the Master Plan and over the useful life of the facilities.

The flash flood of July 8 fully tested the completed portions of this project. The protection provided by the detention basins was clearly demonstrated.

Activity/Project Location

Geographical Area: **Single County in a State**

FEMA Region: **Region IX**

State: **Nevada**

County: **Clark County**

Key Activity/Project Information

Sector: **Public**

Hazard Type: **Flooding**

Activity/Project Type: **Flood Control**

Activity/Project Start Date: **06/1985**

Activity/Project End Date: **Ongoing**

Funding Source: **State sources**

Funding Recipient: **Local Government**

Funding Recipient Name: **Clark County Regional Flood Control District**

Activity/Project Economic Analysis

Cost: **\$1,200,000,000.00 (Estimated)**

Activity/Project Disaster Information

Mitigation Resulted From Federal
Disaster? **Unknown**

Value Tested By Disaster? **Yes**

Tested By Federal Disaster #: **No Federal Disaster specified**

Year First Tested: **2004**

Repetitive Loss Property? **No**

Reference URLs

Reference URL 1: <http://www.ccrfcd.com>

Reference URL 2: <http://www.floodsmart.gov/>

Main Points

- Flood control district funded by legislative act which created a tax base for ongoing project funding.
- The projects were tested by the flash floods of July 1999. "What's in place worked!" stated Kevin Eubanks, P.E., Assistant General Manager for the district.
- The mitigation projects include both the Flood Threat Recognition System (FTRS) and the Capital Improvement Program.