

The

**RAINS**

came down,

and the

**City & County**

**came together**

ON OCTOBER 4, 1998, 5.6 INCHES OF RAIN FELL.

In light of the flash flooding,  
the City of Merriam and Johnson County, Kansas  
purchased 33 homes for a total cost of  
approximately \$5.3 million.

Case Studies

CITY OF MERRIAM, JOHNSON COUNTY, KANSAS

## City of Merriam, Johnson County, Kansas

Johnson County is in East Central Kansas. The county encompasses 476 square miles, and is in the Southwestern portion of the Kansas City metropolitan area. Union Pacific Railroad, Burlington Northern Santa Fe Railway, Interstates I-35 and I-435 pass through the county. With a rapidly growing population currently estimated at 435,000, it is the second largest county in Kansas. The Kansas River forms the northern boundary and most of its tributaries drain into the river from Johnson County. Johnson County, Kansas and the communities that comprise the county were selected as a funded Project Impact community in 1999.

**Johnson County faces its greatest hazards from severe weather**, primarily

high winds and tornadoes during the spring and summer months and ice and snowstorms during the fall, winter, and early spring. The county is particularly vulnerable to such events due to the high density of population and development in the northeast quadrant of the county. The county is also subject to flash flooding associated with severe thunderstorms. Current scientific



*Flood damage to the downtown district.*

### City of Merriam, Johnson County, Kansas

research assigns the county a moderate earthquake risk. As with any highly developed and populated area, the county is vulnerable to long-term drought conditions.

Prior to the October 1998 flood, the targeted buyout area was part of the ongoing Quail Creek flood study. Two months prior to the flood, the study identified this area as flood prone. The original scope of the study was to address the capacity problem of the Quail Creek channel at an estimated cost of \$1.5 million. Following the flood, representatives from all the impacted cities and the county worked together to reallocate funds from future projects. These projects were delayed in order to fund the buyout of this highly devastated area.



*Firefighters respond to a call in the devastated area.*

**Most of the 33 homes purchased had over eight feet of water inside.**

In addition to the volume of water during the 1998 event, an overburdened culvert under Interstate 35 contributed to the flooding of Quail Creek. Constructed in 1959, the arched culvert was unable to carry the stormwater runoff resulting from 40 years

of intervening development. Much of the Quail Creek watershed (712 acres) is now developed. Quail Creek drains into Turkey Creek, a major stormwater basin in northeast Johnson County.

After the flood, the City and County investigated engineering solutions for the flood area. **A buyout was selected as the most economical solution with the greatest return.**



*Project during demolition.*

## City of Merriam, Johnson County, Kansas

One of the engineering solutions considered, but not selected, was adding capacity under I-35 by boring an additional culvert parallel to the existing culvert. But, the cost was nearly as high as a complete buyout of the flood area and there was opposition to the plan because it would negatively impact downstream improvements along Turkey Creek.

**The County and City moved forward quickly on the buyout option.**

Within two months of the flood, the \$5.3 million project was approved for funding by the Stormwater Management Advisory Council and the City of Merriam. The 33 homeowners were involved early in the process; they all willingly signed purchase contracts. Condemnation was unnecessary. Appraisals of all the properties were quickly obtained and the homes were purchased at their appraised values. A relocation allowance of \$2,000 was issued to each property owner once the purchase of the property was complete and an inspection had been conducted.



*Land developed as a park.*



*Project during demolition.*

**All 33 flooded structures were under contract for purchase within ten months of the flood event.**

Demolition of the structures began September 24, 1999 and was completed by the end of November 1999.

**With direct involvement of the adjoining neighborhoods, the City developed plans for a park on the purchased property.**

### City of Merriam, Johnson County, Kansas

The park may include recreational amenities, such as a playground and walking path, while the remainder will either be mowed or allowed to return to a natural state.

Merriam's Mayor Irene French holds a chair on the Stormwater Management Advisory Council and is Chair of the Project Impact Executive Committee. The Council wanted to move quickly on the buyout to prevent homeowners from reinvesting money in their flood-damaged homes.

In addition to the Merriam buyout, Johnson County has spent \$357,179 to buy four homes in the 100-year floodplain after the 1993 floods. Of this amount, \$261,884 was from the Hazard Mitigation Grant Program and \$95,295 was from the Kansas Small Cities Community Development Block Grant Disaster Recovery Program.

**Many businesses in the City of Merriam were also bought out after the 1993 floods. This resulted in fewer flood losses on October 4, 1998** and continuous business operation for those that had already relocated to new facilities.



In 1998, the County initiated a comprehensive countywide watershed study. The scope of the study included re-mapping all FEMA floodplain areas in drainage areas of 160 acres and greater. This required



*The City created this park on the purchased land.*

## City of Merriam, Johnson County, Kansas

the County to purchase new planimetric and contour data, as well as, new aerial photography. The County data collection and mapping project will provide one-foot contour intervals 1200 feet on either side of a FEMA identified floodplain. The total estimated cost to complete the data collection, aerial photography, and all seven major watershed studies will be \$9.8 million and is scheduled to be completed by 2002.

**In 1999, the County assisted in the expansion of the City of Overland Park's flood warning system to a countywide system.** Currently, the county and city jointly maintain 82 rain and stream gauges. The information generated from these gauges is available through the Internet and any city in the county has the ability to set local alarms to warn of high water levels. The initial infrastructure expenses for this system exceeded \$600,000 with an annual maintenance cost of over \$80,000. The City of Overland Park dedicates a full time staff member to maintain the system, and the County reimburses funds to the city.

Positive things that happen  
when a city and county team up  
to prepare for a natural disaster.