

#### 2.1.4 Social Effects

Flood-fighting causes extreme impacts to the community. Businesses shut down, transportation routes including emergency routes are affected, and recreational facilities are negatively impacted. During flood events all focus is on the emergency protection which results in a lack of public services during those events. Over the long term, the flood risk makes the community less attractive for businesses than less flood-prone areas. Failure of emergency measures during a large flood would mean loss of nearly the entire community, loss of community cohesion, decreased public safety, and potential loss of life. The alternative would have highly negative social effects.

#### 2.1.5 Acceptability

This alternative is not an acceptable long-term solution for the sponsors or the nation. Although flood-fighting has been largely successful in the past, continued reliance on flood fighting would eventually have adverse effects on the local community and the region. The sponsors have indicated that a level of permanent protection in excess of the 100-year event is necessary for local acceptability. The alternative has a low level of acceptability.

#### 2.1.6 Implementability

This alternative represents the base condition that would be implemented in the absence of a Federal project. Legal and technical issues complicate implementation of emergency measures. Obtaining rights-of-entry on short notice is difficult and controversial. The maximum level of protection is limited to the highest natural ground available to begin and end emergency barriers. The time available to implement the emergency measures varies during each event; in 2009 the communities had one week to construct more than 80 miles of emergency levees. This alternative was successfully implemented in both 1997 and 2009. The alternative is moderately implementable.

#### 2.1.7 Cost

A 500-year flood event could exceed \$6 billion in damages to the community. Average annual damages from all flood events has been calculated to be in excess of \$74 million. Emergency flood fighting in 2009 cost an estimated \$60 million. This alternative has extremely high costs.

#### 2.1.8 Risk

The probability is extremely high that the community would continue to be at risk of flooding from both spring run-off and summer rainfall events. The effectiveness of emergency measures is very poor. Emergency measures in the Fargo-Moorhead area are typically constructed by volunteers working in adverse weather conditions with temperatures below freezing. Frozen sandbags and materials placed on frozen ground cannot be adequately compacted to eliminate voids. Because of the large extent of emergency levees needed, it is difficult to mobilize manpower to the correct locations to ensure a successful flood fight. People who remain in flood-prone areas to build temporary measures are at high risk if those measures fail unexpectedly. In 2009 only small portions of the community evacuated if the emergency measures would have failed the community would have been filled with very cold water and there would have been a large potential for hypothermia and loss of life. Emergency levees block roads adversely impacting the public's ability to move and evacuate during a catastrophe. This alternative has extremely high risk.