

MULTI-HAZARD MITIGATION PLAN

***Rapid City Legal & Finance
Committee
Executive Summary***

**Pennington County, SD
December 2004**

EXECUTIVE SUMMARY

The *Pennington County Multi-Hazard Mitigation Plan* serves as a means to reduce future losses from natural or man-made hazard events before they occur. The plan was developed by the Rapid City-Pennington County Emergency Management Office to assist the County of Pennington and its municipalities in reducing and mitigating future losses from natural and man-made hazard events. The plan was written by the Rapid City-Pennington County Emergency Management Office with the assistance of a consultant. The plan contains the tools necessary to identify specific hazards, and aspects of existing and future mitigation efforts.

MISSION STATEMENT

The Rapid City-Pennington County Emergency Management Office mission is two-fold:

- To maximize the survival of the citizens of Rapid City, Box Elder, New Underwood, Wall, Hill City, Keystone, and Pennington County and the preservation of their property in the event a disaster should occur in this area. The disaster may be natural, such as a flood, tornado, or earthquake; or technological, such as a hazardous materials spill, fire, explosion, dam failure, or nuclear attack.
- To define the emergency/disaster responsibilities of county and municipal governments.

PURPOSE STATEMENT

In pursuing its mission, Rapid City-Pennington County Emergency Management has identified; Natural Hazards, Man-made Hazards, and Critical Facilities that repetitively and continuously affect the welfare of all in Pennington County. These are summarized below and expanded in this plan.

The purpose of this plan is to maximize the survival of the citizens of Rapid City, Box Elder, New Underwood, Wall, Hill City, Keystone, and Pennington County, the preservation of their property, and the consequences to the environment in the event a disaster should occur in this area. It may be natural, such as a flood, tornado or earthquake; technological, such as a hazardous materials spill, fire or dam failure; or weapons of mass destruction such as a biological, nuclear, incendiary, chemical or explosive incident.

This plan is also intended to familiarize elected and appointed officials with the emergency preparedness and mitigation responsibilities of county and city government.

NATURAL HAZARDS

The following natural hazards are addressed in the plan:

- Flood/Flash Flood
- Drought
- Wildfire
- Earthquake
- Landslide
- Tornado/High Winds
- Severe Winter Storm

MAN-MADE HAZARDS

The following man-made hazards are addressed in the plan:

- Terrorism
- Hazardous Materials/Radiological Incident
- Nuclear Attack/Incident
- Air Transportation Incident
- Seasonal Population Shift
- Urban/Structural Fire
- Power Failure
- Dam Failure
- Aquifer Contamination
- Communications Isolation

CRITICAL FACILITIES

Critical facilities are categorized and prioritized in the plan as follows:

- Emergency Response Services
- Non Emergency Response Facilities
- Facilities/Populations to Protect
- Potential Resources for Services/Supplies

PLAN ADOPTION

This plan will be adopted by all participating jurisdictions in Pennington County. It integrates with the South Dakota Multi-Hazard Mitigation Plan and fully supports Federal Emergency Management Agency requirements.

PLAN MAINTENANCE

The Pennington County Multi-Hazard Mitigation Plan is a work in progress and shall be maintained quarterly by the Emergency Operations Planning Team and reviewed annually by the Hazard Mitigation Team to assess whether the existing and suggested mitigation strategies are successful. Copies will be distributed to the Pennington County Emergency Management Office, Pennington County Emergency Operations Center, and all Municipalities' Mayor's Offices.

CRITICAL FACILITIES

The Pennington County Hazard Mitigation Team (HMT) realized early that natural hazard events impact Rapid City in two distinct manners. “Flooding” is the primary hazard and occurs in the well-defined flood-plain. “Severe Wind” is the next most serious category of natural hazard and occurs city-wide.

The distinction between areas affected, “flood-plain” and “city-wide”, applied equally well to the rest of the natural and man-made hazards. This distinction became critical to the HMT’s subsequent actions. Basically, it allowed the HMT to estimate disaster event impact for every hazard as “flood-plain” or “city-wide”.

The impact estimates were based on 2004 structure market value data. This data was developed by the Pennington County Director of Equalization and the Rapid City Growth Management Department, GIS Division as follows:

County-wide impact estimates were developed by the Director of Equalization for the entire county, each jurisdiction, and the rural portion of the county. The estimates were further divided by each jurisdiction’s; Agricultural, Commercial, and Residential structure values.

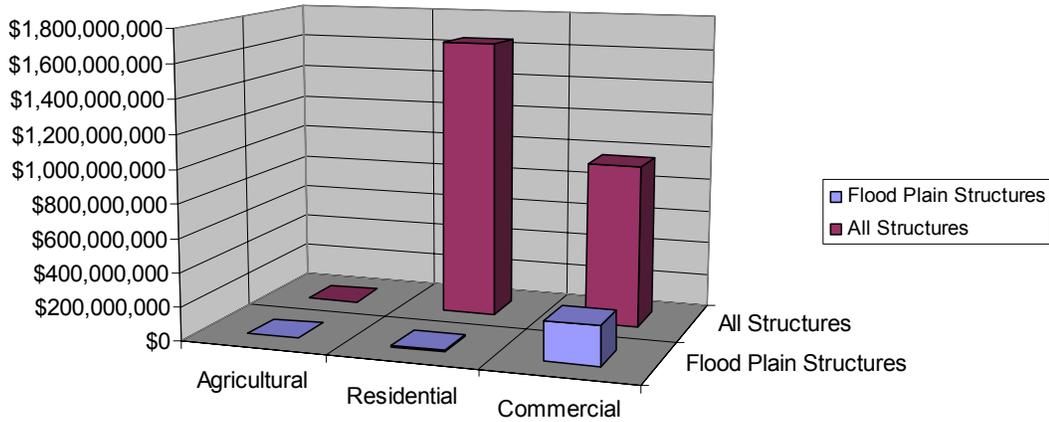
“Flooding” estimates were developed by the Rapid City Growth Management Department, GIS Division. The Division used its GIS to construct a buffer around Pennington County’s Q3 500-year flood-plain and extracted values from included parcels. Again, these values were then refined by the Director of Equalization to reflect each jurisdiction’s; Agricultural, Commercial, and Residential structure values.

Critical facilities identified by the HMT proved to be located outside of the flood-plain and well-distributed. Therefore, the economic impact on critical facilities was estimated in aggregate with the rest of the structures in Rapid City.

The resulting values were used in overall evaluation of the proposed mitigation actions. The values reflected specified area impact. As such, they provided valuable insight to area actions. And, they provided proper perspective to facility mitigation actions.

For ease of use, the values have been itemized and graphed below by both area impact and structure type.

Rapid City Flood & Multi-Hazard Structure Risk



	Agricultural	Residential	Commercial
Flood Plain Structures	\$0	\$6,454,000	\$230,335,100
All Structures	\$665,400	\$1,649,879,200	\$959,552,200

Rapid City

Structure Risk

- Flooding -- \$236.79 million
- Multi-hazard -- \$2.62 billion

Goal	Objective	Strategy
2. Reduce impact on Emergency Services.	Control site and structure access.	Install physical security and intrusion alarm systems.
	Ensure reliable power supply.	Install back-up power system.
6. Reduce impact on private property.	Redirect and manage floodwaters.	Build physical barriers and greenbelts along Rapid Creek.
	Exceed the minimum NFIP "floodplain management activities" requirements.	Participate in the Community Rating System (CRS) by: Reducing flood losses; Facilitating accurate insurance rating; and, Promoting the awareness of flood insurance.

Jurisdiction Mitigation Actions

22 November 2004

Jurisdiction

Rapid City

Hazard

Communications Isolation

Mitigation Goal 2. Reduce impact on Emergency Services.

<i>ID</i>	<i>Site</i>	<i>Agency</i>	<i>Cost</i>
82	Rapid City, City Water Tower	Rapid City Water Department	\$3,000.00

Mitigation Action

Priority

Target Date

Status

1. Install back-up power system.

High

07/01/2006

Not Started

Hazard

Flood/Flash Flood

Mitigation Goal 6. Reduce impact on private property.

<i>ID</i>	<i>Site</i>	<i>Agency</i>	<i>Cost</i>
2	N/A	RC-PC Emergency Management	

Mitigation Action

Priority

Target Date

Status

1. Participate in the Community Rating System (CRS) by: Reducing flood losses; Facilitating accurate insurance rating; and, Promoting the awareness of flood insurance.

Ongoing

3	Various	City of Rapid City	
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Mitigation Action

Priority

Target Date

Status

1. Build physical barriers and greenbelts along Rapid Creek.

Ongoing

Jurisdiction Mitigation Actions

22 November 2004

Hazard

Terrorism

Mitigation Goal

2. Reduce impact on Emergency Services.

ID

Site

Agency

Cost

81

Rapid City, City Water
Tower

Rapid City Water
Department

\$10,000.00

Mitigation Action

Priority

Target Date

Status

1. Install physical security and intrusion alarm systems.

Medium

07/01/2008

Not Started