



- Burning Mountains Fire Protection District
- Glenwood Springs Fire Protection District
- Grand Valley Fire Protection District
- Rifle Fire Protection District

*Addenda to the Garfield County Natural  
Hazard Mitigation Plan, 2012*



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## Attachments

- Attachment 1: Action item Forms
- Attachment 2: Fire District Maps

## Section 1: Planning Process

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The Garfield County Fire Protection Districts developed these addenda to the Garfield County multi-jurisdictional Natural Hazard Mitigation Plan in an effort to increase the Districts' resilience to all natural hazards that might affect them. The addenda focus on the natural hazards that could affect the Districts, which include wildfire, flood, earthquakes, landslide, and severe weather.

The Districts that participated in the 2011/2012 NHMP process are:

- Burning Mountains Fire Protection District
- Glenwood Springs Fire Protection District
- Grand Valley Fire Protection District
- Rife Fire Protection District

The addenda provide a set of actions that aim to reduce the risks posed by natural hazards through education and outreach programs, the development of partnerships, and the implementation of preventative activities. They have two main categories of actions:

- 1) **Actions that coordinate other planning activities that the Districts and the County have undertaken.** The Districts assisted with the development of the Garfield County CWPP in 2006. The Districts are also currently (2012) participating in a process to develop a new County-wide Community Wildfire Protection Plan (CWPP). Actions in this plan coordinate the wildfire mitigation actions in these CWPP documents with the Countywide and District mitigation plans.
- 2) **Actions that address risk to hazards other than wildfire.** The CWPP documents focus on reducing the risk from wildfire in the District; when applicable the addenda include actions that reduce the risk to District equipment and facilities from flood, landslides, earthquakes, and severe weather.

The actions described in the addenda will be implemented through existing plans and programs within each District.

### *How were the Fire District Addenda Developed?<sup>1</sup>*

The Districts developed these addenda in a collaborative process that Garfield County initiated in April of 2011. At that time, the County Risk Assessment had already been completed, and the County's action items were under development. The County organized an intensive workshop for the jurisdictions developing an addendum (including the Fire Districts) and invited a broad range of participation from District staff. The purpose of the workshop was to identify areas in

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<sup>1</sup> The NHMP and accompanying multi-jurisdictional addendums are intended to be living documents, updated as new hazard information becomes available or as mitigation projects are completed. The four Fire Protection Districts included in the 2012 NHMP confirmed their participation via a resolution or letter of agreement from their director or managing board. At any date additional jurisdictions, including other Fire Protection Districts, can develop an addendum to the Garfield County NHMP.

the jurisdictions where risk was greater than that identified in the County Risk Assessment, and to begin to develop action items.

The agenda for the workshop follows:

Agenda item	Topic	Time
Presentation / Intro	<ul style="list-style-type: none"> <li>• What is a multi-jurisdictional plan; requirements from FEMA</li> <li>• County Risk Assessment and Community profile</li> <li>• Questions / Discussion</li> </ul>	9:00 – 10:00
Breakout #1, by jurisdiction	<ul style="list-style-type: none"> <li>• Addendum document: overview and discussion</li> <li>• How is risk in your jurisdiction greater than the risk in the County?</li> </ul>	10:00 – 11:30
Breakout #2, by jurisdiction	<ul style="list-style-type: none"> <li>• Action item development: What steps will we take to reduce risk?</li> </ul>	12:30 to 2:00
Presentation	<ul style="list-style-type: none"> <li>• Plan adoption requirements</li> <li>• Plan maintenance and update process</li> <li>• Outreach at jurisdictional level</li> <li>• Next steps</li> <li>• Discussion / questions</li> </ul>	2:00 to 3:00

A second meeting was held on October 4, 2011 for the Fire Protection Districts specifically and was facilitated by State of Colorado Emergency Management staff to further refine the action items. The agenda further developed actions and other key components of the addendum document in a workshop setting

The following documents and resources were referenced in the process of developing the addendum:

- Public outreach survey of Garfield County residents, developed and distributed during Plan development
- Garfield County Risk Assessment
- Garfield County Community Wildfire Protection Plan
- Census and other demographic and economic data

## Outreach

The citizens of Garfield County and residents of the participating Fire Protection Districts contributed to the development of this plan as follows:

- During plan development:
  - Garfield County developed an on-line survey, which was advertised on its website, and via email in multiple list servs. Additionally, the Fire Districts posted notification of the County survey on the City Website. Through these distribution methods, 106 people took the survey. The following is a summary of the number of people who identified themselves as most familiar with the County’s study area that best corresponds to the coverage areas of each District:
    - Burning Mountains FPD / Study Area 2

- 18 respondents stated that Area 2 was the area with which they were most familiar (i.e. spend most of their time).
- Glenwood Springs FPD / Study Area 1
  - 40 respondents stated that Area 1 was the area with which they were most familiar (i.e. spend most of their time).
- Grand Valley FPD / Study Area 3
  - 38 respondents stated that Area 3 was the area with which they were most familiar (i.e. spend most of their time).
- Rifle FPD / Study Area 3
  - 38 respondents stated that Area 3 was the area with which they were most familiar (i.e. spend most of their time).
- The public was also given an opportunity to comment on the draft addenda document, as follows:
  - On March 13 the County held a public meeting at which the draft Fire District NHMP was discussed along with the other Multi-Jurisdictional addenda. The NHMP agenda item was included in the public notice of the meeting.
  - Additionally, the final draft addenda documents were posted on the County’s website which clearly included a phone number and email address for provision of comments.
    - The Districts received X comments about the Addenda, which were [addressed, incorporated into document, etc.]
  - The public was provided an opportunity to comment when the plan was adopted via resolution, in a public meeting, on [DATE].

## Summary of Addenda

The following sections describe each Fire District from a number of perspectives in order to describe each District’s sensitivity and resilience to natural hazards. *Sensitivity factors* are the physical and demographic assets and characteristics that may be impacted by natural hazards, (e.g., special populations, economic factors, and historic and cultural resources). *Resilience factors* include the ability to manage risk and adapt to hazard event impacts (e.g., governmental structure, agency missions and directives, and plans, policies, and programs). The information in these sections present a snapshot in time of the current sensitivity and resilience factors when the plan was developed. The information documented herein should be used as the local level rationale for the risk reduction actions identified in the plan.

Additionally, short and long-term action items identified through the planning process are an important part of the mitigation plan and are included here. Action items are detailed recommendations for activities that local departments, citizens and others could engage in to reduce risk. Actions from each District are included as an attachment to the addenda.

## **Mitigation Actions**

### ***All Fire Districts***

- Participate in the ongoing development of an updated Community Wildfire Protection plan to ensure that future updates to the CWPP and the Garfield County Natural Hazard mitigation plan are coordinated to reflect the best available data and comprehensive set of risk reduction actions.

### ***Burning Mountains FPD***

- Develop resource list for predicting damaging events subsequent to a disaster.
- Develop a rural water supply system and / or plan

### ***Glenwood Springs FPD***

- Develop a community education plan (e.g. Firewise) to educate property owners in fuels management and defensible space construction and maintenance.

### ***Grand Valley FPD***

- Utilize the NHMP and CWPP to identify areas of risk and start to preplan areas of the districts wildland urban interface.
- Complete the Community Wildfire Protection Plan and identify areas of potential mitigation.
- Continue outreach and education for wildfire issues
- Assist property owners with the Colorado State Forest Service grant process.
- Work with the County and other partners to address flood risk areas and impacts to critical infrastructure.

### ***Rifle FPD***

- Develop *Firewise* (Ready, Set, Go!) program for vulnerable communities.



## **Section 2: Burning Mountains FPD Addendum**

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### ***Burning Mountains FPD Profile***

The Garfield County Natural Hazard Mitigation Plan divides the County into five study areas that are meant to roughly approximate geographic, climatological and economic sub-geographies within the County. The Burning Mountains Fire Protection District is primarily in Area 2. The County Plan's Community Profile provides an adequate description of the geography, population, housing, and other characteristic of these areas, as they relate to risk from natural hazards.

The Burning Mountains Fire Protection District covers a territory of approximately 440 square miles. The coverage area includes public land (Bureau of Land Management, United States Forest Service, Garfield County, etc) as well as private land.

The District maintains three facilities:

- Station #1 (Headquarters) in Silt
- Station #2 (un-manned) in New Castle
- Station #3 (un-manned) in Appletree / New Castle

Two urban areas lay within the District's boundaries: the Town of Silt and the City of New Castle.

#### **Silt:**

- The Town of Silt is approximately 2.8 square miles in area and lies at the western edge of the District boundary.
- Silt's population grew from about 1,740 people in 2000 to 2,930 people in 2010, an increase of nearly 1,200 people at an average annual growth rate of 5.3%.
- The Silt Mesa area has developed greatly with residential units in the last 15 to 20 years, and presents an interface with the more urbanized and the more rural area of that part of the County.
- The Union Pacific Rail line and Interstate 70 both run along the south end of town and are critical transportation arteries for the Town and region.

#### **New Castle**

- New Castle lies along the Fire District's eastern boundary and encompasses 2.53 square miles.
- New Castle' population for the period 2000-2007 increased an average of 241 persons per year with an average annual growth rate of 9.24%. This growth rate made New Castle one of the fastest-growing towns in Colorado.
- Since 1990, the vast majority of the new single-family dwelling units were located in two major subdivisions, Castle Valley Ranch PUD and Lakota Canyon Ranch PUD.

Both subdivisions lie north of the original New Castle town site and are separated from the original town site by Mt. Medaris.

- New Castle can be accessed using 5 different routes and these transportation routes are key for daily commerce and public safety during evacuations.

## **Burning Mountains FPD Risk Assessment**

This section expands on Garfield County's Natural Hazards Mitigation Plan by addressing the District's unique risks to the following natural hazards:

- Wildfire
- Flood
- Landslide
- Earthquake
- Severe Weather

The Burning Mountains FPD lies within Study Area 2. The Garfield County NHMP summarized risk in that area as follows:

*According to the Risk Assessment, the airport, landfill, and road network in Area 2 are at risk of soil-aggravated hazards. Additionally, residential developments including single-family, multi-family, and a nursing home, have potentially unstable soil. In each of the Study Areas, a wildfire could potentially impact the suburban, rural, and isolated developments of single houses or farms more quickly and severely than the development in the urban communities. The city of Silt experiences fire risk due to the location of the coal seam that runs east-west just to the north of the town.*

As a component of the County NHMP outreach, a survey was distributed via email throughout the County. 106 individuals responded to the survey and 18 respondents stated that Area 2 was the area with which they were most familiar (i.e. spend most of their time). Of those 18 respondents who associate most directly with Area 2, nearly 65% of them (11 people) agreed that the County's Risk Assessment of Area 2 was "accurate" or "very accurate".<sup>2</sup>

### **Wildfire**

The Garfield County Natural Hazard Mitigation Plan draws from the best currently-available data to adequately describe the risk from wildfire in the District, including historic occurrences, the extent and location of the hazard, the probability of and vulnerability to the hazard, and the potential damages to property.

The Burning Mountains Fire Protection District developed a Community Wildfire protection Plan (CWPP) in 2008 to identify wildfire hazards for selected areas of concern in the wildland/urban interface (WUI) within the fire district, assess levels of risk for residences and other structures in these areas, and provide recommendations for reducing wildfire risk for property owners and response personnel. Selected areas of concern include: 1) Asgard

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<sup>2</sup> The results of the Garfield County NHMP Public Outreach survey are not, and were not intended to be statistically valid.

Subdivision to the north of Silt, 2) The combined neighborhoods of Elk Creek, Three Elk, and The Cedars to the north of New Castle, and 3) The private properties and ingress/egress within the Garfield Creek drainage to the south of I-70. The detailed vulnerability, risk and mitigation information is incorporated in this NHMP by reference.<sup>3</sup>

Additionally, the District is currently participating in the development of a County-wide CWPP that will further refine the understanding of wildfire risk in the County and incurred by the District. The CWPP should be considered the primary source for wildfire risk assessment and actions. Future updates of this mitigation plan addendum will reference the best available data that is included in the new CWPP.

## **Flood**

The Garfield County mitigation plan adequately describes the risk of flood in the District, including historic flood occurrences, the extent and location of the hazard, the probability of and vulnerability to the hazard, and the potential damages to property.

There are no District-owned resources that incur greater risk from flood than other County resources.

## **Landslide**

The Garfield County mitigation plan adequately describes the risk of landslides in the District, including historic occurrences, the extent and location of the hazard, the probability of and vulnerability to the hazard, and the potential damages to property.

There are no District-owned resources that incur greater risk from landslides than other County resources.

## **Earthquake**

The Garfield County mitigation plan adequately describes the risk of earthquakes in the District, including historic occurrences, the extent and location of the hazard, the probability of and vulnerability to the hazard, and the potential damages to property.

There are no District-owned resources that incur greater risk from earthquake than other County resources.

## **Severe Weather**

The Garfield County mitigation plan adequately describes the risk of severe weather in the District, including historic occurrences, the extent and location of the hazard, the probability of and vulnerability to the hazard, and the potential damages to property.

There are no District-owned resources that incur greater risk from severe weather than other County resources.

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<sup>3</sup> Community Wildfire Protection Plan: Selected Areas within the Burning Mountains Fire Protection District, 2008. (<http://csfs.colostate.edu/pages/CommunityWildfireProtectionPlans.html#g>)

### ***Burning Mountains FPD Mitigation Action Items***

- Participate in the ongoing development of an updated Community Wildfire Protection plan to ensure that future updates to the CWPP and the Garfield County Natural Hazard mitigation plan are coordinated to reflect the best available data and comprehensive set of risk reduction actions.
- Develop resource list for predicting damaging events subsequent to a disaster.
- Develop a rural water supply system and / or plan

### ***Burning Mountains FPD Plan Maintenance and Implementation***

The District is adopting the plan maintenance and implementation process outlined in the County Natural Hazard Mitigation Plan. The District will also participate in ongoing updates to the relevant CWPP documents, and coordinate actions with the mitigation plan.

### ***Burning Mountains FPD Adoption***

The Burning Mountains FPD adopted the Garfield County Natural Hazard Mitigation Plan and this Fire District Addendum via resolution on [date].

## **Section 3: Glenwood Springs FPD Addendum**

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### ***Glenwood Springs FPD Profile***

The Garfield County Natural Hazard Mitigation Plan divides the County into five study areas that are meant to roughly approximate geographic, climatological and economic sub-geographies within the County. The Glenwood Springs Fire Protection District is primarily in Area 1. The County Plan's Community Profile provides an adequate description of the geography, population, housing, and other characteristic of these areas, as they relate to risk from natural hazards.

The Glenwood Springs Fire Protection District covers a territory of 76 square miles. The coverage area includes public land (Bureau of Land Management, United States Forest Service, Garfield County, etc) as well as private land. The District's coverage area encompasses approximately 13,000 residents, with 8,000 or more within the City of Glenwood Springs. The primary access to the district is via Interstate Highway 70 and Colorado Highway 82.

The District maintains 3 facilities:

- Station One is located in West Glenwood on Mel Ray Drive.
- Station Two is located in downtown Glenwood Springs on 8th Street and Cooper Avenue.
- Station Three is located on Four Mile Road (County Road 117) south of the intersection with Midland Ave. Y.

One urban area is within the District's boundaries: The City of Glenwood Springs.

- Glenwood Springs is about 4.8 square miles in area.
- Glenwood Spring's population grew from about 7,736 people in 2000 to 9,614 people in 2010, an increase of more than 3,000 people at an average annual growth rate of 2.2%, accounting for 17% of County population in 2010.
- Several regional transportation routes bisect the City. I-70, which is also a hazardous materials transportation route, a rail line, and several State highways. A network of recreational trails also surrounds the City.
- Downtown Glenwood Springs is an important retail center and tourist destination with significant historical and cultural importance.

### ***Glenwood Springs FPD Risk Assessment***

This section expands on Garfield County's Natural Hazards Mitigation Plan by addressing the District's unique risks to the following natural hazards:

- Wildfire
- Flood

- Landslide
- Earthquake
- Severe Weather

The Glenwood Springs FPD lies within Study Area 1. The Garfield County NHMP summarized risk in that area as follows:

*According to the Risk Assessment, Area 1 experiences the highest risk from geologic hazards – unstable soil and landslide. A significant number of assets in Area 1 are located on hazardous slopes. The soil type found on these slopes and across Area 1 may amplify various hazards and put municipal buildings, water infrastructure, roads and information/communication facilities, residential development, some industrial and commercial zones at risk of damage and disruption of service. Communication facilities and the road network in Area 1 incur specific risk from landslides and debris flows. Population centers such as churches and schools also experience greater than average risk. Additionally, the highway and tunnels along I-70 through the Glenwood Canyon are at risk and could become unusable during a fire incident. The Glenwood Springs viaduct, which is a primary source of water for the community, is at high risk of damage from fire.*

As a component of the County NHMP outreach, a survey was distributed via email throughout the County. 106 individuals responded to the survey and 40 respondents stated that Area 1 was the area with which they were most familiar (i.e. spend most of their time). Of those 40 respondents who associate most directly with Area 1, nearly 86% of them (29 people) agreed that the County’s Risk Assessment of Area 1 was “accurate” or “very accurate”.

## **Wildfire**

The Garfield County Natural Hazard Mitigation Plan draws from the best currently-available data to adequately describe the risk from wildfire in the District, including historic occurrences, the extent and location of the hazard, the probability of and vulnerability to the hazard, and the potential damages to property.

The Glenwood Springs Fire Protection District developed a Community Wildfire protection Plan (CWPP) in 2007 to provide a comprehensive, scientifically based assessment of wildfire hazards and risks. The goals for the CWPP include: 1) Enhance Life Safety for Residents and Responders, 2) Mitigate Undesirable Fire Outcomes to Property and Infrastructure, 3) Mitigate Undesirable Fire Outcomes to the Environment and Quality of Life. The detailed vulnerability, risk and mitigation information is incorporated in this NHMP by reference.<sup>4</sup>

Additionally, the District is currently participating in the development of a County-wide CWPP that will further refine the understanding of wildfire risk in the County and incurred by the District. The CWPP should be considered the primary source for

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<sup>4</sup> Glenwood Springs Fire protection District Wildland Urban Interface Community Wildfire Protection Plan, 2007. (<http://csfs.colostate.edu/pages/CommunityWildfireProtectionPlans.html#g>)

wildfire risk assessment and actions Future updates of this mitigation plan addendum will reference the best available data that is included in the new CWPP.

## **Flood**

The Garfield County mitigation plan adequately describes the risk of flood in the District, including historic flood occurrences, the extent and location of the hazard, the probability of and vulnerability to the hazard, and the potential damages to property.

There are no District-owned resources that incur greater risk from flood than other County resources.

## **Landslide**

The Garfield County mitigation plan adequately describes the risk of landslides in the District, including historic occurrences, the extent and location of the hazard, the probability of and vulnerability to the hazard, and the potential damages to property.

There are no District-owned resources that incur greater risk from landslides than other County resources.

## **Earthquake**

The Garfield County mitigation plan adequately describes the risk of earthquakes in the District, including historic occurrences, the extent and location of the hazard, the probability of and vulnerability to the hazard, and the potential damages to property.

There are no District-owned resources that incur greater risk from earthquake than other County resources.

## **Severe Weather**

The Garfield County mitigation plan adequately describes the risk of severe weather in the District, including historic occurrences, the extent and location of the hazard, the probability of and vulnerability to the hazard, and the potential damages to property.

There are no District-owned resources that incur greater risk from severe weather than other County resources.

## ***Glenwood Springs FPD Mitigation Action Items***

- Participate in the ongoing development of an updated Community Wildfire Protection plan to ensure that future updates to the CWPP and the Garfield County Natural Hazard mitigation plan are coordinated to reflect the best available data and comprehensive set of risk reduction actions.
- Develop a community education plan (e.g. Firewise) to educate property owners in fuels management and defensible space construction and maintenance.

### ***Glenwood Springs FPD Plan Maintenance and Implementation***

The District is adopting the plan maintenance and implementation process outlined in the County Natural Hazard Mitigation Plan. The District will also participate in ongoing updates to the relevant CWPP documents, and coordinate actions with the mitigation plan.

### ***Glenwood Springs FPD Adoption***

The Glenwood Springs FPD adopted the Garfield County Natural Hazard Mitigation Plan and this Fire District Addendum via resolution on [date].

## **Section 4: Grand Valley FPD Addendum**

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### ***Grand Valley FPD Profile***

The Garfield County Natural Hazard Mitigation Plan divides the County into five study areas that are meant to roughly approximate geographic, climatological and economic sub-geographies within the County. The Grand Valley Fire Protection District is primarily in Area 3. The County Plan's Community Profile provides an adequate description of the geography, population, housing, and other characteristics of these areas, as they relate to risk from natural hazards.

### **Geography & Climate**

The Grand Valley Fire Protection District is 320 square miles in size and is a mix of private and federal lands. A small percentage of the District lies along the Colorado River corridor, with the majority of the lands lying high on the Roan Plateau and Battlement Mesa. Access to the higher elevations can vary depending on time of year. Most of the roads are constructed of natural shale, which become very slick during wet and snowy conditions. The District's climate is more like the western portions of the county, rather than the eastern portions. Fire season comes on during the month of June and can last through September. Winter conditions can start as early as October, but most years November and can last through March and April.

### **Population & Housing**

The Grand Valley/Parachute and Battlement Mesa communities have had several periods of "Boom and Bust" throughout their existence. Early boom periods started during the early years of oil shale exploration and natural gas development. Each was followed shortly thereafter by a bust due to loss of capital, falling oil prices and too high of cost for R&D.

The most recent oil shale boom and bust was during the boom of the late 70's and the Exxon bust of 1982 and the subsequent Unocal shutdown of 1988-89. Natural gas development came back to the area shortly after the oil shale pullout. Gas development was happening at an accelerated rate through 2009, at which time the price of gas plummeted. This caused the latest bust to the area. Each time there is a boom; there is an increase in population, construction other activities and conversely a decrease during periods of bust. At this time, combined with the national recession, the District is just starting to come out of a bust period. Battlement Mesa Company states that rental units are starting to fill in a positive direction. There is however, a large amount of properties for sale and in foreclosure in the District.

In years past, the community was made up of long-term residents and oil shale construction workers. As the oil shale plants shut down, the area was marketed as a great place to retire. Consequently the District experienced a large rise in retirement-aged persons. The makeup of the community was largely bedroom community working families and retirees. During the last boom period, area rent went up and large numbers of retirees left the District. When rents fell back down to previous

rates, these members of the community did not return. Now the District is predominantly a mix of old time residents, up-valley blue-collar workers and oil & gas workers. According to the 2008 Accountability reports for Bea Underwood Elementary School, almost 50% of the students are and have been eligible to free and reduced lunches.

There are three major groups of housing trends in the District: prior to oil shale, during oil shale startup and after the Exxon oil shale bust.

Prior to oil shale, or the late 70's, most homes were stick build wood and close to 1940-50's. Most of these homes were in Parachute proper and the outlying rural area. Homes were built very solid, with true dimensional lumber.

During the oil shale start-up and early 80's Unocal boom time, homes were primarily manufactured and brought in on trucks. This includes apartments that were constructed in Parachute and Battlement Mesa. Tamarisk village was originally put in as the Brown and Root man camp. The eastern part of the village was single wide modular home sites. Homes were built in the Monument Creek and Willow Creek Villages. The houses were stick built and built to specifications per the Battlement Mesa HOA. During this period there were few houses built in Parachute. There were a couple of manufactured home parks developed and the Tells Meadows town home constructed.

After the Exxon oil shale bust, Battlement Mesa saw a boom in housing starts. After the Exxon bust, the man camp was removed and the sites were converted to modular home sites for sale. Some of the initial increase was due to the Unocal plant start up and employees moving into the area to be closer to the jobsite. Another group of persons moving to the area were the retirees. Battlement Creek Village, Mesa Ridge, Stone Ridge, Canyon View and the Fairways were all developed to accommodate this additional growth. Parachute benefited from an increase in housing starts as well. The age of area began to shift to an older population. It remained such until the latest natural gas boom, at which time the retirees began to start leaving and the population started shifting back to a younger family aged group.

## **Transportation**

The District is bisected by I-70, a major transportation route that serves the entire region and is critical to ongoing functioning of the economy.

## **Critical Facilities & Infrastructure**

The Grand Valley FPD owns 3 fire stations, all of which it considers critical. Station #1, Battlement Mesa Fire Station (Critical) is where the District administration offices and full time staff are located. Station #2, Parachute Fire Station (Critical) is where a full complement of equipment is staged to provide immediate coverage for the Town of Parachute. Station #3, Rulison Fire Station (Critical) is located on the eastern portion of the District. It was built at a time when there were several volunteers living in this area. Now it is used to store the District's reserve equipment and provide immediately ready equipment in the Rulison area, which can be accessed by either GVFPD or RFPD fire personnel. The District also as a 5 acre

piece of property located along County Road 215, on the north end of Parachute that it will be developing as a training center (Non-Critical at this time).

### **Existing Plans, Policies, and Partners**

The District has budgeted funds to be used toward mitigation and community awareness since the Monument Gulch fire of 1999. The District has partnered in the past with the Division of Wildlife, Soil Conservation and Battlement Mesa Company on both pre and post fire mitigation activities. The District has developed a “How to be Firewise in Western Colorado” video, through the use of local talent and a grant from the Colorado State Forest Service. The District has partnered with the Town of Parachute to conduct fire mitigation and training with its new members around the Town’s water supply cistern. The District has been called out to patrol Parachute Creek in the past during periods of high run off. The District has been called upon to assist Town of Parachute personnel filling sand bags to protect the lower areas of Parachute along the river. The District has been called upon to search of missing persons during snowstorms. The District is committed to reducing the risk of fire and other natural and man-made disasters that may come to the community.

The District is constantly improving its strategies and tactics as newer methods are developed to deal with situations. The District is committed to providing its rescuers with quality equipment that will meet the needs of the District and be compatible with those that it relies on for mutual aid. The District could continue to assist in fuels mitigation through the Training Division. This is usually an excellent time to hone personnel’s skills prior to the start of fire season. The District is committed to taking this plan and the CWPP to the community and hosting public sessions in order to get the information out to those that may need it.

### **Grand Valley FPD Risk Assessment**

This section expands on Garfield County’s Natural Hazards Mitigation Plan by addressing the District’s unique risks to the following natural hazards:

- Wildfire
- Flood
- Landslide
- Earthquake
- Severe Weather

The Grand Valley FPD lies within Study Area 3. The Garfield County NHMP summarized risk in that area as follows:

*According to the Risk Assessment, Area 3 faces risk from potentially unstable soil around the cities of Rifle and Parachute. Areas where the Colorado River flows through Area 3 are likely to experience the most risk from flooding. Additionally, steep slopes around the river have funneled development, in some cases, dangerously close to the flood zone.*

As a component of the County NHMP outreach, a survey was distributed via email throughout the County. 106 individuals responded to the survey and 38 respondents

stated that Area 3 was the area with which they were most familiar (i.e. spend most of their time). Of those 38 respondents who associate most directly with Area 3, nearly 66% of them (25 people) agreed that the County’s Risk Assessment of Area 2 was “accurate” or “very accurate”.

## **Wildfire**

The Garfield County Natural Hazard Mitigation Plan draws from the best currently-available data to adequately describe the risk from wildfire in the District, including historic occurrences, the extent and location of the hazard, the probability of and vulnerability to the hazard, and the potential damages to property.

Additionally, the District is currently participating in the development of a County-wide CWPP that will further refine the understanding of wildfire risk in the County and incurred by the District. The CWPP should be considered the primary source for wildfire risk assessment and actions. Future updates of this mitigation plan addendum will reference the best available data that is included in the new CWPP.

## **Flood**

The Garfield County mitigation plan adequately describes the risk of flood in the District, including historic flood occurrences, the extent and location of the hazard, the probability of and vulnerability to the hazard, and the potential damages to property.

There are no District-owned resources that incur greater risk from flood than other County resources.

The District also would like to work with the County and other partners to address flood risk to the following non-District-owned infrastructure that is critical to the District operations:

- The increased potential for bridge damage to the Parachute/Battlement Mesa Bridge that was of concern during the high water flows of the spring of 2011.
- Town of Parachute water treatment facility
- Battlement Mesa water treatment facility

## **Landslide**

The Garfield County mitigation plan adequately describes the risk of landslides in the District, including historic occurrences, the extent and location of the hazard, the probability of and vulnerability to the hazard, and the potential damages to property.

There are no District-owned resources that incur greater risk from landslides than other County resources.

## **Earthquake**

The Garfield County mitigation plan adequately describes the risk of earthquakes in the District, including historic occurrences, the extent and location of the hazard, the probability of and vulnerability to the hazard, and the potential damages to property.

There are no District-owned resources that incur greater risk from earthquake than other County resources.

### **Severe Weather**

The Garfield County mitigation plan adequately describes the risk of severe weather in the District, including historic occurrences, the extent and location of the hazard, the probability of and vulnerability to the hazard, and the potential damages to property.

There are no District-owned resources that incur greater risk from severe weather than other County resources.

### **Grand Valley FPD Mitigation Action Items**

Following the two facilitated workshops, the Grand Valley Fire Protection District further developed its action items through:

- Historical review of past calls for service
- Review of BLM/USFS historical fire data

Participants from the District included David A. Blair, Fire Chief and Rob Ferguson, Deputy Fire Chief, Operations

Short and long-term action items identified through the planning process are an important part of the mitigation plan. Action items are detailed recommendations for activities that local departments, citizens and others could engage in to reduce risk.

### **MultiHazard**

- Participate in the ongoing development of an updated Community Wildfire Protection plan to ensure that future updates to the CWPP and the Garfield County Natural Hazard mitigation plan are coordinated to reflect the best available data and comprehensive set of risk reduction actions.

### **Wildfire**

- Utilize the NHMP and CWPP to identify areas of risk and start to preplan areas of the districts wildland urban interface.
- Complete the Community Wildfire Protection Plan and identify areas of potential mitigation.
- Continue outreach and education for wildfire issues
- Assist property owners with the Colorado State Forest Service grant process.

### **Flood**

- Work with the County and other partners to address flood risk areas and impacts to critical infrastructure.

### ***Grand Valley FPD Plan Maintenance and Implementation***

The jurisdiction is adopting the plan maintenance and implementation process outlined in the County Natural Hazard Mitigation Plan. The District will also participate in ongoing updates to the relevant CWPP documents, and coordinate actions with the mitigation plan.

### ***Grand Valley FPD Adoption***

The Grand Valley FPD adopted the Garfield County Natural Hazard Mitigation Plan and this Fire District Addendum via resolution on [date].

## **Section 5: Rifle FPD Addendum**

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### ***Rifle FPD Profile***

The Garfield County Natural Hazard Mitigation Plan divides the County into five study areas that are meant to roughly approximate geographic, climatological and economic sub-geographies within the County. The Rifle Fire Protection District is primarily in Area 3. The County Plan's Community Profile provides an adequate description of the geography, population, housing, and other characteristic of these areas, as they relate to risk from natural hazards.

The Rifle Fire Protection District covers a territory of 411 square miles. The coverage area includes public land (Bureau of Land Management, United States Forest Service, Garfield County, etc) as well as private land and approximately 24,000 people

The District maintains 3 facilities:

- Station 1 in downtown Rifle (headquarters).
- Station 2 at the Airport (interagency facility with Forest Service and Garfield County).
- Station 3 in south Rifle (opened in 2010).

One urban area is within the District's boundaries, the City of Rifle.

- Rifle is about 4.3 square miles in area and lies approximately in the middle of the District.
- Rifle's population grew from about 6,784 people in 2000 to 9,172 people in 2010, at an average annual growth rate of 3.1%. Rifle's population grew faster than Garfield County, accounting for 16% of the County's population in 2010.
- About 41% of Rifle's housing was renter-occupied, more than the County average but the town has fewer mobile home units than the County overall.
- Rifle maintains a fairly compact urban form with the majority of the residential districts within 1-mile of the historic Central Business District.
- Rifle is served by Interstate 70 (east/west) and Highway 13 (north/south). The State maintains two interchanges and several bridges in Rifle. The City maintains four bridge structures critical to local traffic circulation. Garfield County Regional Airport is located in southeast Rifle.

### ***Rifle FPD Risk Assessment***

This section expands on Garfield County's Natural Hazards Mitigation Plan by addressing the District's unique risks to the following natural hazards:

- Wildfire

- Flood
- Landslide
- Earthquake
- Severe Weather

The Rifle FPD lies within Study Area 3. The Garfield County NHMP summarized risk in that area as follows:

*According to the Risk Assessment, Area 3 faces risk from potentially unstable soil around the cities of Rifle and Parachute. Areas where the Colorado River flows through Area 3 are likely to experience the most risk from flooding. Additionally, steep slopes around the river have funneled development, in some cases, dangerously close to the flood zone.*

As a component of the County NHMP outreach, a survey was distributed via email throughout the County. 106 individuals responded to the survey and 38 respondents stated that Area 3 was the area with which they were most familiar (i.e. spend most of their time). Of those 38 respondents who associate most directly with Area 3, nearly 66% of them (25 people) agreed that the County’s Risk Assessment of Area 2 was “accurate” or “very accurate”.

### **Wildfire**

The Garfield County Natural Hazard Mitigation Plan draws from the best currently-available data to adequately describe the risk from wildfire in the District, including historic occurrences, the extent and location of the hazard, the probability of and vulnerability to the hazard, and the potential damages to property.

Additionally, the District is currently participating in the development of a County-wide CWPP that will further refine the understanding of wildfire risk in the County and incurred by the District. The CWPP should be considered the primary source for wildfire risk assessment and actions. Future updates of this mitigation plan addendum will reference the best available data that is included in the new CWPP.

### **Flood**

The Garfield County mitigation plan adequately describes the risk of flood in the District, including historic flood occurrences, the extent and location of the hazard, the probability of and vulnerability to the hazard, and the potential damages to property.

There are no District-owned resources that incur greater risk from flood than other County resources.

### **Landslide**

The Garfield County mitigation plan adequately describes the risk of landslides in the District, including historic occurrences, the extent and location of the hazard, the probability of and vulnerability to the hazard, and the potential damages to property.

There are no District-owned resources that incur greater risk from landslides than other County resources.

## **Earthquake**

The Garfield County mitigation plan adequately describes the risk of earthquakes in the District, including historic occurrences, the extent and location of the hazard, the probability of and vulnerability to the hazard, and the potential damages to property.

There are no District-owned resources that incur greater risk from earthquake than other County resources.

## **Severe Weather**

The Garfield County mitigation plan adequately describes the risk of severe weather in the District, including historic occurrences, the extent and location of the hazard, the probability of and vulnerability to the hazard, and the potential damages to property.

There are no District-owned resources that incur greater risk from severe weather than other County resources.

## **Rifle FPD Mitigation Action Items**

- Participate in the ongoing development of an updated Community Wildfire Protection plan to ensure that future updates to the CWPP and the Garfield County Natural Hazard mitigation plan are coordinated to reflect the best available data and comprehensive set of risk reduction actions.
- Develop *Firewise* (Ready, Set, Go!) program for vulnerable communities.

## **Rifle FPD Plan Maintenance and Implementation**

The District is adopting the plan maintenance and implementation process outlined in the County Natural Hazard Mitigation Plan. The District will also participate in ongoing updates to the relevant CWPP documents, and coordinate actions with the mitigation plan.

## **Rifle FPD Adoption**

The Rifle FPD adopted the Garfield County Natural Hazard Mitigation Plan and this Fire District Addendum via resolution on [date].



# Summary of Multi-Jurisdictional NHMP Action Items

Proposed Action Title	Coordinating Organization	Internal Partners	External Partners	Timeline	1) Reduce the loss of life and personal injuries from natural hazard events.	2) Reduce damage to County assets	3) Reduce County costs of disaster response and recovery.	4) Minimize economic losses.	5) Reduce damage to personal property.
<i>All Fire Protection Districts</i>									
Participate in the ongoing development of an updated Community Wildfire Protection plan to ensure that future updates to the CWPP and the Garfield County Natural Hazard mitigation plan are coordinated to reflect the best available data and comprehensive set of risk reduction actions.	All Fire Districts		Garfield County Emergency Management	Ongoing	X	X	X	X	X
<i>Burning Mountains Fire Protection District</i>									
Develop resource list for predicting damaging events subsequent to a disaster.	Burning Mountains Fire Protection District		National Oceanic and Atmospheric Association	Short Term	X	X			
Develop a rural water supply system and / or plan	Burning Mountains Fire Protection District	Garfield County GIS	Private land owners	Ongoing	X		X		
<i>Glenwood Springs Fire Protection District</i>									
Develop a community education plan (e.g. Firewise) to educate property owners in fuels management and defensible space construction and maintenance.	Glenwood Springs Rural Fire Protection District			Short Term	X				X
<i>Grand Valley Fire Protection District</i>									
Utilize the NHMP and CWPP to identify areas of risk and start to preplan areas of the district's wildland urban interface.	Grand Valley Fire Protection District			Ongoing	X				
Complete the Community Wildfire Protection Plan and identify areas of potential mitigation.	Grand Valley Fire Protection District			Ongoing	X		X		
Continue outreach and education for wildfire issues	Grand Valley Fire Protection District			Ongoing	X				X
Assist property owners with the Colorado State Forest Service grant process.	Grand Valley Fire Protection District			Ongoing				X	X
Work with the County and other partners to address flood risk areas and impacts to critical infrastructure.	Grand Valley Fire Protection District			Ongoing		X			
<i>Rifle Fire Protection District</i>									
Develop Firewise (Ready, Set, Go!) program for vulnerable communities.	Rifle Fire Protection District			Ongoing	X				X



## **Attachment 1:**

# **Garfield County Fire Protection Districts Action Item Worksheets**

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Short and long-term action items identified through the planning process are an important part of the mitigation plan. Action items are detailed recommendations for activities that local departments, citizens and others could engage in to reduce risk.

### ***All Fire Districts***

- Participate in the ongoing development of an updated Community Wildfire Protection plan to ensure that future updates to the CWPP and the Garfield County Natural Hazard mitigation plan are coordinated to reflect the best available data and comprehensive set of risk reduction actions.

### ***Burning Mountains FPD***

- Develop resource list for predicting damaging events subsequent to a disaster.
- Develop a rural water supply system and / or plan

### ***Glenwood Springs FPD***

- Develop a community education plan (e.g. Firewise) to educate property owners in fuels management and defensible space construction and maintenance.

### ***Grand Valley FPD***

- Utilize the NHMP and CWPP to identify areas of risk and start to preplan areas of the districts wildland urban interface.
- Complete the Community Wildfire Protection Plan and identify areas of potential mitigation.
- Continue outreach and education for wildfire issues
- Assist property owners with the Colorado State Forest Service grant process.
- Work with the County and other partners to address flood risk areas and impacts to critical infrastructure.

### ***Rifle FPD***

- Develop *Firewise* (Ready, Set, Go!) program for vulnerable communities.



<b>Proposed Action Item:</b>		<b>Alignment with Plan Goals:</b>	
Participate in the ongoing development of an updated Community Wildfire Protection plan to ensure that future updates to the CWPP and the Garfield County Natural Hazard mitigation plan are coordinated to reflect the best available data and comprehensive set of risk reduction actions.		All Goals <i>All Hazards</i>	
<b>Rationale for Proposed Action Item:</b>			
The CWPP and the NHMP each require similar risk, vulnerability, and action plan information. At the same time, the two plans have a different scope of influence (the mitigation plan addresses all hazards while the CWPP is very focused on wildfire) and provide the District with access to different financial resources for risk reduction. To reduce administrative overlap and ensure that the best and most current available data are included in both plans, the two planning process should be coordinated			
<b>Ideas for Implementation:</b>			
Adopt all wild-fire risk reduction activities identified in the CWPP in to the Natural Hazard Mitigation Plan via reference in the CWPP adoption resolution.			
<b>Coordinating Organization:</b>		All Fire Districts	
<b>Internal Partners:</b>		<b>External Partners:</b>	
		Garfield County Emergency Management	
<b>Timeline:</b>		<b>If available, estimated cost:</b>	
Short Term (0-2 years)	Long Term (2-4 or more years)		
	Ongoing		
<b>Form Submitted by:</b>			
Action Item Status: New Action (2012)			

<b>Proposed Action Item:</b>		<b>Alignment with Plan Goals:</b>	
Develop resource list for predicting damaging events subsequent to a disaster.		Goal 1: Reduce the loss of life and personal injuries from natural hazard events. Goal 2: Reduce damage to county assets. <i>All Hazards</i>	
<b>Rationale for Proposed Action Item:</b>			
Following wildland fires, even minimal rainfall can cause mudslides. Predicting causal rates and times are necessary to reduce additional damage and loss of life through timely notification and response.			
<b>Ideas for Implementation:</b>			
Establish resource list, contacts with expertise in various predictive areas and mitigation and prevention options.			
<b>Coordinating Organization:</b>		Burning Mountains Fire Protection District	
<b>Internal Partners:</b>		<b>External Partners:</b>	
		National Oceanic and Atmospheric Association	
<b>Timeline:</b>		<b>If available, estimated cost:</b>	
<u>Short Term</u> (0-2 years)	<u>Long Term</u> (2-4 or more years)		
X			
<b>Form Submitted by:</b>		Brit McLin, Burning Mountains Fire District	
Action Item Status: New Action (2012)			

<b>Proposed Action Item:</b>		<b>Alignment with Plan Goals:</b>	
Develop a rural water supply system and / or plan		Goal 1: Reduce the loss of life and personal injuries from natural hazard events. Goal 3: Reduce County costs of disaster response and recovery. <i>Wildfire Hazard</i>	
<b>Rationale for Proposed Action Item:</b>			
Water is an essential component of wildfire suppression in areas where structure protection is an issue. Reliable sources of water need to be identified and / or developed.			
<b>Ideas for Implementation:</b>			
Institute cost share program for infrastructure development  Map natural and man-made sources  Identify deficient areas			
<b>Coordinating Organization:</b>		Burning Mountains Fire Protection District	
<b>Internal Partners:</b>		<b>External Partners:</b>	
Garfield County GIS		Private land owners	
<b>Timeline:</b>		<b>If available, estimated cost:</b>	
Short Term (0-2 years)	Long Term (2-4 or more years)		
	Ongoing		
<b>Form Submitted by:</b>		<b>Brit McLin, Burning Mountains Fire District</b>	
Action Item Status: New Action (2012)			

<b>Proposed Action Item:</b>		<b>Alignment with Plan Goals:</b>	
Develop a community education plan (e.g. Firewise) to educate property owners in fuels management and defensible space construction and maintenance.		Goal 1: Reduce the loss of life and personal injuries from natural hazard events. Goal 5: Reduce damage to personal property <i>Wildfire Hazard</i>	
<b>Rationale for Proposed Action Item:</b>			
Providing education and assistance programs for homeowners and property owners that encourages construction and maintenance of firebreaks and defensible space in high risk areas is in alignment with the CWPP and will reduce the loss of life and property, and the cost of incident response.			
<b>Ideas for Implementation:</b>			
Work with homeowners groups, federal, and state agencies to facilitate meetings and the distribution of educational material.			
Offer assistance with mitigation projects to property owners.			
<b>Coordinating Organization:</b>		Glenwood Springs Rural Fire Protection District	
<b>Internal Partners:</b>		<b>External Partners:</b>	
<b>Timeline:</b>		<b>If available, estimated cost:</b>	
<u>Short Term</u> (0-2 years)	<u>Long Term</u> (2-4 or more years)		
<u>XX</u>			
<b>Form Submitted by:</b>		Gary Tillotson, GSRFPD	
Action Item Status: New Action (2012)			

<b>Proposed Action Item:</b>		<b>Alignment with Plan Goals:</b>	
Utilize the NHMP and CWPP to identify areas of risk and start to preplan areas of the district's wildland urban interface.		Goal 1: Reduce the loss of life and personal injuries from natural hazard events. <i>Wildfire Hazard</i>	
<b>Rationale for Proposed Action Item:</b>			
The district has in the past focused on preplans for "in-town" areas of commercial and residential properties. This project will use the same format but focus on the rural and Wildland urban interface Areas. Home sites will be evaluated and individual mitigation plans can be provided to the home owners / property owners.			
<b>Ideas for Implementation:</b>			
Areas would be gridded and fire companies would be responsible for doing the home site surveys.			
<b>Coordinating Organization:</b>		Grand Valley Fire Protection District	
<b>Internal Partners:</b>		<b>External Partners:</b>	
<b>Timeline:</b>		<b>If available, estimated cost:</b>	
Short Term (0-2 years)	Long Term (2-4 or more years)		
	Ongoing		
<b>Form Submitted by:</b>			
Action Item Status: New Action (2012)			

<b>Proposed Action Item:</b>		<b>Alignment with Plan Goals:</b>	
Complete the Community Wildfire Protection Plan and identify areas of potential mitigation.		Goal 1: Reduce the loss of life and personal injuries from natural hazard events. Goal 3: Reduce County costs of disaster response and recovery. <i>Wildfire Hazard</i>	
<b>Rationale for Proposed Action Item:</b>			
The District has in the past focused on preplans for the “In-Town” areas of commercial and residential properties. This project will use the same format in the rural and WUI areas. Homesites will be evaluated and individual mitigation plan’s can be provided to the homeowner and property owners.			
<b>Ideas for Implementation:</b>			
To use the Hazard Plan & CWPP to identify areas of risk and start to preplan the areas of the District’s WUI.  Areas would be gridded and fire companies would be responsible for doing the homesite/property site surveys.			
<b>Coordinating Organization:</b>		Grand Valley Fire Protection District	
<b>Internal Partners:</b>		<b>External Partners:</b>	
<b>Timeline:</b>		<b>If available, estimated cost:</b>	
<u>Short Term</u> (0-2 years)	<u>Long Term</u> (2-4 or more years)		
	Ongoing		
<b>Form Submitted by:</b>			
Action Item Status: New Action (2012)			

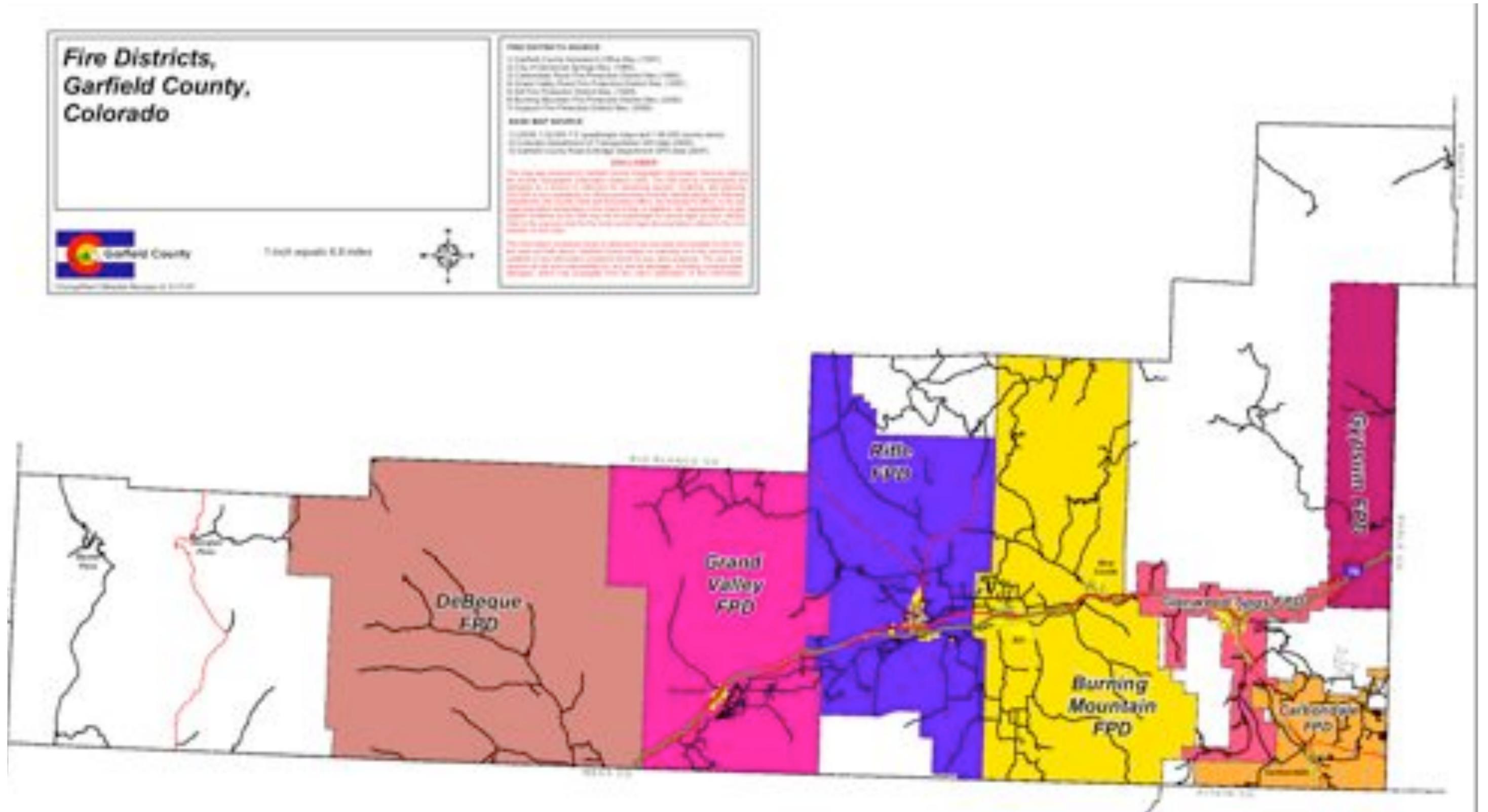
<b>Proposed Action Item:</b>		<b>Alignment with Plan Goals:</b>	
Continue outreach and education for wildfire issues		Goal 1: Reduce the loss of life and personal injuries from natural hazard events. Goal 5: Reduce damage to personal property <i>Wildfire Hazard</i>	
<b>Rationale for Proposed Action Item:</b>			
Providing education and assistance programs for homeowners and property owners that encourages construction and maintenance of firebreaks and defensible space in high risk areas is in alignment with the CWPP and will reduce the loss of life and property, and will reduce the cost of incident response.			
<b>Ideas for Implementation:</b>			
Set up communities meeting to explain risk and mitigation options.			
<b>Coordinating Organization:</b>		Grand Valley Fire Protection District	
<b>Internal Partners:</b>		<b>External Partners:</b>	
<b>Timeline:</b>		<b>If available, estimated cost:</b>	
<u>Short Term</u> (0-2 years)	<u>Long Term</u> (2-4 or more years)		
	Ongoing		
<b>Form Submitted by:</b>		Grand Valley Fire Protection District	
Action Item Status: New Action (2012)			

<b>Proposed Action Item:</b>		<b>Alignment with Plan Goals:</b>	
Assist property owners with the Colorado State Forest Service grant process.		Goal 4: Minimize economic losses Goal 5: Reduce damage to personal property <i>Wildfire Hazard</i>	
<b>Rationale for Proposed Action Item:</b>			
Historically, wildfire has created the largest loss to life and property of all natural disasters in Garfield County. Providing support for property owners to access funds to ensure construction and maintenance of firebreaks and defensible space, use of fire resistant construction materials, and other fire safe practices is in alignment with the CWPP and will reduce the loss of life and property, and the cost of incident response.			
<b>Ideas for Implementation:</b>			
<ul style="list-style-type: none"> <li>- Conduct information meetings</li> <li>- Provide material in hard copy and via the web</li> <li>- Identify pilot or model projects.</li> </ul>			
<b>Coordinating Organization:</b>		Grand Valley Fire Protection District	
<b>Internal Partners:</b>		<b>External Partners:</b>	
<b>Timeline:</b>		<b>If available, estimated cost:</b>	
<u>Short Term</u> (0-2 years)	<u>Long Term</u> (2-4 or more years)		
	Ongoing		
<b>Form Submitted by:</b>		Grand Valley Fire Protection District	
Action Item Status: New Action (2012)			

<b>Proposed Action Item:</b>		<b>Alignment with Plan Goals:</b>	
Work with the County and other partners to address flood risk areas and impacts to critical infrastructure.		Goal 2: Reduce damage to county assets. <i>Flood Hazard</i>	
<b>Rationale for Proposed Action Item:</b>			
Resilient infrastructure is key to facilitating response to and recovery from a significant flood incident. The District relies on bridges throughout the region as it responds. The following issues and facilities are of concern to the District for the negative impact incurred by citizens and first responder should these facilities be damaged by flood:			
<ol style="list-style-type: none"> <li>1) The increased potential for bridge damage to the Parachute/Battlement Mesa Bridge that was of concern during the high water flows of the spring of 2011.</li> <li>2) Town of Parachute water treatment facility</li> <li>3) Battlement Mesa water treatment facility</li> </ol>			
<b>Ideas for Implementation:</b>			
<ul style="list-style-type: none"> <li>- Participate in NHMP monitoring and update</li> <li>- Identify and communicate about funding opportunities</li> <li>-</li> </ul>			
<b>Coordinating Organization:</b>		Grand Valley Fire Protection District	
<b>Internal Partners:</b>		<b>External Partners:</b>	
<b>Timeline:</b>		<b>If available, estimated cost:</b>	
<u>Short Term</u> (0-2 years)	<u>Long Term</u> (2-4 or more years)		
	Ongoing		
<b>Form Submitted by:</b>		Grand Valley Fire Protection District	
Action Item Status: New Action (2012)			

<b>Proposed Action Item:</b>		<b>Alignment with Plan Goals:</b>	
Develop <i>Firewise</i> (Ready, Set, Go!) program for vulnerable communities.		Goal 1: Reduce the loss of life and personal injuries from natural hazard events. Goal 5: Reduce damage to personal property <i>Wildfire Hazard</i>	
<b>Rationale for Proposed Action Item:</b>			
Historically, wildfire has created the largest loss to life and property of all natural disasters in Garfield County. Firewise programs have proven effective at helping communities and individuals mitigate, prepare, and prevent wild fires.			
<b>Ideas for Implementation:</b>			
Distribute educational materials, Demonstrate defensible space for property owners Identify and demarcate evacuation routes and safe zones, Review and when feasible enhance codes related to building materials for new construction			
<b>Coordinating Organization:</b>		Rifle Fire Protection District	
<b>Internal Partners:</b>		<b>External Partners:</b>	
<b>Timeline:</b>		<b>If available, estimated cost:</b>	
<u>Short Term</u> (0-2 years)	<u>Long Term</u> (2-4 or more years)		
	Ongoing		
<b>Form Submitted by:</b>	Mike Morgan, Rifle Fire Department		
Action Item Status: New Action (2012)			

# Attachment 2: Map of Garfield County Fire Districts





# Attachment 3: Documentation of Participation

This Attachment includes documentation of the planning process for the Fire District Addendum.

## October 4, 2011 Fire District NHMP Meeting

### 1) Agenda

Agenda item	Topic	Time
Overview of workshop purpose	<ul style="list-style-type: none"> <li>What is a multi-jurisdictional plan; requirements from FEMA</li> <li>Expected outcome: fully drafted mitigation addenda</li> </ul>	12:00 – 12:10
Breakout #1, by District	<ul style="list-style-type: none"> <li>Addendum document: overview and discussion</li> <li>How is risk in your jurisdiction greater than the risk in the County?</li> </ul>	12:10 – 12:40
Breakout #2, by District	<ul style="list-style-type: none"> <li>Action item development: What steps will we take to reduce risk?</li> </ul>	12:40 to 1:25
Next steps	<ul style="list-style-type: none"> <li>Plan adoption requirements</li> <li>Outreach</li> <li>Discussion / questions</li> </ul>	1:25 – 1:30

### 2) Meeting Attendees

Name	Agency	Phone
David A. Smith	Garfield County	505-241-1111
John Smith	Garfield County	505-241-1111
Chris Taylor	Garfield County	505-241-1111
Dave Williams	Garfield County	505-241-1111
Mike Morgan	Garfield County	505-241-1111
Don Smith	Garfield County	505-241-1111
Robert Miller	Garfield County	505-241-1111
Patricia Smith	Garfield County	505-241-1111
Deanna DeFuria	Garfield County	505-241-1111





# City of Glenwood Springs

## Addendum to the Garfield County Natural Hazards Mitigation Plan

### 2012



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## **Attachments**

- Attachment 1: Action item Forms
- Attachment 2: Risk Assessment Map
- Attachment 3: Critical Infrastructure Map



# Section 1: Planning Process

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## Overview

The City of Glenwood Springs developed this addendum to the Garfield County multi-jurisdictional Natural Hazards Mitigation Plan in an effort to increase the community's resilience to natural hazards. The addendum focuses on the natural hazards that could affect Glenwood Springs, which include wildfire, flood, landslide and debris flow, earthquake, severe weather. The addendum also addresses hazardous materials spills, which are possible secondary hazards resulting from wildfires, landslides, and transport accidents that can affect drinking water and wildlife habitat.

This addendum has the following attachments:

- Attachment 1 provides detailed action items for risk reduction
- Attachment 2 provides a map which is the output of a risk assessment discussion early in the process of plan development
- Attachment 3 provides critical infrastructure maps, generated by Garfield County Geographic Information Systems (GIS) staff, using best available digital data

It is impossible to predict exactly when disasters may occur, or the extent to which they will affect the town. However, with careful planning and collaboration among public agencies, private sector organizations, and citizens within the community, it is possible to minimize the losses that can result from natural hazards.

The addendum provides a set of actions that aim to reduce the risks posed by natural hazards through education and outreach programs, the development of partnerships, and the implementation of preventative activities through existing plans and planning mechanisms including:

- City of Glenwood Municipal Code adopting the International Fire Code, Chapter Four
- City of Glenwood Springs Flood and mudslide Action Plan, 1995
- City Manager's Office

The actions described in the addendum are intended to be implemented through existing plans and programs within the town.

## *How was the Addendum developed?*

The City of Glenwood Springs developed this addendum in a collaborative process that Garfield County initiated in April of 2011. At that time, the County Risk Assessment had been completed in draft form, using data that covered many of the County's jurisdictions and all of its unincorporated areas. The County had initiated the process of developing its action items. The County organized an initial outreach meeting, held in April of 2011, and invited all towns and cities, fire districts, school districts, and other overlapping districts. State of Colorado Division of Emergency

Management (DEM) and Federal Emergency Management Agency (FEMA) representatives described the mitigation planning process and plan requirements. The City of Glenwood Springs opted to create an addendum to the County Plan after that meeting.

The County then organized an intensive workshop for the jurisdictions developing addendums (including Glenwood Springs) and invited a broad range of participation from City staff. The purpose of the workshop, which was held on June 27, 2011, was to identify areas in the jurisdictions where risk was greater than that identified in the County Risk Assessment, and to begin to develop action items. One of the maps that was the output of this workshop and focused on community-level risk is included in this plan addendum as Attachment 2. Participants from Glenwood Springs included:

- Rick Turner, Streets Department Superintendent
- Gary Tillotson, Acting Fire Chief

The agenda for the workshop follows:

Agenda item	Topic	Time
Presentation / Intro	<ul style="list-style-type: none"> <li>• What is a multi-jurisdictional plan; requirements from FEMA</li> <li>• County Risk Assessment and Community profile</li> <li>• Questions / Discussion</li> </ul>	9:00 – 10:00
Breakout #1, by jurisdiction	<ul style="list-style-type: none"> <li>• Addendum document: overview and discussion</li> <li>• How is risk in your jurisdiction greater than the risk in the County?</li> </ul>	10:00 – 11:30
Breakout #2, by jurisdiction	<ul style="list-style-type: none"> <li>• Action item development: What steps will we take to reduce risk?</li> </ul>	12:30 to 2:00
Presentation	<ul style="list-style-type: none"> <li>• Plan adoption requirements</li> <li>• Plan maintenance and update process</li> <li>• Outreach at jurisdictional level</li> <li>• Next steps</li> <li>• Discussion / questions</li> </ul>	2:00 to 3:00

Following the workshop, the City of Glenwood Springs further developed its action items in consultation with ECONorthwest, County staff, and internal meetings.

The following plans, reports, and studies were reviewed in the development of this addendum:

- Public outreach survey of Garfield County residents
- Garfield County Risk Assessment
- Census and other demographic and economic data
- Garfield County Community Wildfire Protection Plan

Citizens of Glenwood Springs contributed to the development of this plan as follows:

- During plan development:
  - Garfield County developed an on-line survey, which was advertised on its website, and via email in multiple list servs. Additionally, Glenwood Springs posted notification of the County survey on the City Website. Through these distribution methods, 106 people took

the survey. 26 of these respondents lived in Area 1 (the area in which Glenwood Springs is located), 38 worked in the Area, and 40 claimed that Area 1 was the area with which they were most familiar (i.e. spend most of their time). Of those 40 respondents who associate most directly with Area 1, nearly 86% of them (29 people) agreed that the County's Risk Assessment of Area 1 was "accurate" or "very accurate".

- Additionally, the meeting where the City Council formally declared it's participation in the planning process was a public meeting. The NHMP agenda item was included in the public notice of the meeting.
- In the fall of 2011, Glenwood Springs also published a public notification of the NHMP Planning Process on the City's website. This notice was posted for approximately 6 weeks. Contact information was provided for submitting questions or comments.
- The public was also given an opportunity to comment on the draft addendum document, as follows:
  - The final draft addendum document was posted on the City's website, and also on the County website, which clearly included a phone number and email address for provision of comments. The City received X comments, which were [addressed, incorporated into document, etc.]
  - A work session was held with the Board of County Commissioners to review the draft County NHMP including the Rifle Addendum and to take public comment on March 13, 2012.
  - The public was provided an opportunity to comment when the plan was adopted via resolution, in a public meeting, on [DATE]. Plan Maintenance and Implementation

The City of Glenwood Springs is adopting the plan maintenance and implementation process outlined in the County Natural Hazard Mitigation Plan.

## **Adoption**

*This section will be filled out at a later date, following adoption*

FEMA approved the County Plan on [DATE.]

The City of Glenwood Springs adopted this addendum to the Garfield County Natural Hazard Mitigation Plan via resolution on [date].

## Section 2: Community Profile

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The following section describes Glenwood Springs from a number of perspectives in order to help define and understand Glenwood Springs' sensitivity and resilience to natural hazards. Sensitivity factors can be defined as those assets and characteristics that may be impacted by natural hazards, (e.g., special populations, economic factors, and historic and cultural resources). Resilience factors can be defined as the ability to manage risk and adapt to hazard event impacts (e.g., governmental structure, agency missions and directives, and plans, policies, and programs). The information in this section represents a snapshot in time of the current sensitivity and resilience factors when the plan was developed. The information documented below, along with the risk assessments in Section 3 below, should be used as the local level rationale for the risk reduction actions identified in the plan.

### *Geography and climate*

Glenwood Springs is located in Garfield County in northwestern Colorado. Glenwood Springs is about 4.8 square miles. The City is located in the mountains, and as such has relatively wide ranging temperatures, from an average temperature in the 80's in the summer, to an average in the 30s in the winter.

### *Population and demographics*

Glenwood Spring's population grew from about 7,736 people in 2000 to 9,614 people in 2010, an increase of more than 3,000 people at an average annual growth rate of 2.2%. Glenwood Spring's population grew slightly slower than the County, accounting for 18% of County population in 2000 and 17% in 2010.<sup>1</sup>

The most vulnerable components of the population in a disaster are women, children, minorities, and the poor. In comparison to the County, Glenwood Spring's population was:<sup>2</sup>

- **Older than the County.** The median age of Glenwood Spring's population was 37.8 years old in 2009, compared with the County average of 34.2 years old. Glenwood Spring's population grew older since 2000, when the median age was about 36.2 years. Glenwood Springs had a smaller proportion of people under 20 years old (21%) than the County (30%). Glenwood Springs had a larger proportion of people over 60 years old (17%) than the County (13%).
- **More ethnically diverse.** Since 2000, Glenwood Springs grew more ethnically diverse. In 2000, 14% of Glenwood Springs' population was Hispanic (1,100 people). By 2009, about 18% of Glenwood Springs' population was Hispanic (1,600 people). Hispanic population grew slower in Glenwood Springs than in the County, where Hispanic population increased from 17% to 24% of the population between 2000 and 2009.

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<sup>1</sup> Colorado Division of Local Government, State Demography Office

<sup>2</sup> Based on data from U.S. Census, 2000 and U.S. Census American Community Survey 2005-2009

- **More likely to be in poverty than the County.** The poverty rate in Glenwood Springs (12.0% of people living below the federal poverty line) was higher than the County's poverty rate (8.1%) in 2009.

## **Employment and economics**

The City's economic base is a mixture of tourism and commercial uses. Unemployment in the current recession has been relatively high; very little new development has taken place. Consideration of Glenwood Springs' economy is important in recovery planning. In comparison to Garfield County, Glenwood Springs' economy had:<sup>3</sup>

- **Similar mix of industries.** Glenwood Springs' major employment sectors, accounting for 10% or more of employment each, were: Retail Trade, Construction, Leisure Activities (e.g., Accommodations, Food Service, or Entertainment), Health Care and Social Assistance, Professional Services, and Government.
- **Lower household income.** Glenwood Springs' median household income in 2009 (about \$51,900) was about \$12,900 lower than the County (about \$64,800).
- **Fewer long-distance commuters.** Forty-five percent of workers in Glenwood Springs commuted for fewer than 15 minutes, compared with about one-third of workers in Garfield County. About one-third of workers in Glenwood Springs commute lasted 30 minutes or more, compared to 40% of the County workers. This is an indicator of the importance of the transportation infrastructure within the City and the connection to County infrastructure for the local economy.

## **Housing**

Understanding the characteristics of Glenwood Springs' housing stock is important to recovery planning. Housing that is in poor condition is more likely to be at-risk in recovery than housing in good condition. Some indicators of condition include housing tenure and housing age, with older renter-occupied housing is more likely to be in poor condition than newer owner-occupied housing. In comparison to Garfield County, Glenwood Springs' housing stock was:<sup>4</sup>

- **More renter-occupied.** About 41% of Glenwood Springs' housing was renter-occupied, compared with one-thirds of housing in Garfield County. About 60% of housing in Glenwood Springs was owner-occupied, compared with about two-thirds of housing in Garfield County.
- **Older.** The median year build of Glenwood Springs' housing stock was 1974, compared with 1984 in Garfield County. Although Glenwood Springs had a larger share of housing built prior to 1970 than the County (40% compared to 22%), nearly one-quarter of Glenwood Springs' housing was built since 1990, compared with the County average of 40%.
- **More multifamily.** Although the predominant housing type in the City is single-family detached, Glenwood Springs had a larger share of multifamily housing with five or more units per structure (23%) than the County average (12%). About half of

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<sup>3</sup> Based on data from U.S. Census American Community Survey 2005-2009

<sup>4</sup> Based on data from U.S. Census American Community Survey 2005-2009

housing in Glenwood Springs was single-family detached, compared with 60% on the County's housing. Glenwood Springs had a smaller share of mobile and manufactured housing (7%) compared to the County (13%).

### ***Land use, development, and transportation***

Several regional transportation routes bisect the City: I-70 (which is also a hazardous materials transportation route), a rail line, and several State highways. A network of recreational trails also surrounds the City.

Glenwood Springs adopted its latest Long Range Transportation Plan in 2003. That plan incorporates three transit agencies: Ride Glenwood Springs (local transit service), the Roaring Fork Transportation Authority (RFTA) (regional transit service), and the Traveler, a demand-responsive transit service for the elderly and disabled provided by Colorado Mountain College.

The Long Range Transportation Plan describes transportation several funding sources available to the City of Glenwood Springs: Transportation Management Tax Fund, the Bus Tax Fund and the RFTA tax. The Plan also describes the existing system components, including streets and bridges, bicycle and pedestrian, aviation, rail, transit, parking and the transportation demand management program.

The Long Range Transportation Plan can be found on the City's website.

In 2011, the City also completed and adopted an update to the Comprehensive Code. Through the plan update process, the community identified a vision statement and primary development goals:

- Vision Statement:
  - The City of Glenwood Springs desires to maintain its small town character and preserve its cultural and natural resources by implementing a proactive plan to achieve directed and balanced development, social and economic diversity and address its transportation needs.
- Community Goals
  - The Community Goals of the 2011 Glenwood Springs Comprehensive Plan are:
  - Promote long-term, sustainable, diverse economic development
  - Maintain Glenwood Springs as the regional tourism, retail, commercial and governmental center of Garfield County
  - Preserve the small town character while maintaining the livability of Glenwood Springs and increasing the vibrancy and commercial success of the Downtown
  - Address transportation needs and provide multiple convenient travel choices
  - Direct development to locations and building forms that are cost-effective to serve
  - Provide housing for the entire community
  - Support social diversity
  - Preserve cultural resources
  - Preserve natural resources

The Comprehensive plan update also identified several challenges facing the community now and in the future:

- Competition in the Role as a Regional Commercial Center of the County
- Vitality
- Significant but Uncertain Impacts From Increased Energy Exploration/Development in Garfield County
- The Lack of Affordable Housing for its Workforce, Both Rental and For-Sale Housing
- Increased Traffic and Congestion on Grand Avenue
- Retaining Community Character
- To Grow or Not To Grow

The 2011 Comprehensive Plan update document can be found on the City's website.

### ***Critical facilities and infrastructure***

The Garfield County NHMP identifies the vulnerability of and risk incurred by critical facilities and infrastructure throughout the County, especially by Study Area. In the County NHMP, Area 1 includes Glenwood Springs.

The maps included in Appendix 3 show the best available critical facility and infrastructure data. Additionally, the City has recently built a new wastewater treatment plant.

### ***Historic and cultural resources***

Downtown Glenwood Springs is an important retail center and tourist destination with significant historical and cultural importance. The Spa of the Rocky Mountains and the hot springs pool are important to the local economy and are also significant cultural and historical resource. Doc Holiday's grave located within Linwood Cemetery is a common tourist destination for people visiting the area. Glenwood also has many trails and amenities that add to the tourist industry.

### ***Administrative structure***

Garfield County is guided by a 7 member City Council and 13 departments:

- |                         |                       |
|-------------------------|-----------------------|
| ▪ Information Services  | ▪ Human Resources     |
| ▪ Finance               | ▪ Legal Department    |
| ▪ Community Development | ▪ Broadband           |
| ▪ Fire Department       | ▪ Electric Department |
| ▪ Parks and Recreation  | ▪ Police Department   |
| ▪ Public Works          | ▪ Municipal Court     |
| ▪ City Clerk            |                       |

## ***Community organizations & programs***

Several community organizations and programs in Glenwood Springs that could assist in implementing mitigation measures:

- Kiwanis Club
- Roaring Fork Conservative
- Rotary Club
- Chamber of Commerce
- Homeowners Associations
- Neighborhood Watch Groups

Additionally, the City has established several Boards and Commissions to guide decision making and implementation of its programs and services:

- Downtown Development Authority
- Financial Advisory Board
- Volunteer Firefighter Pension Board
- Historic preservation Commission
- Parks and Recreation Commission
- Planning and Zoning Commission
- River Commission
- Transportation Commission
- Tourism Promotion Board
- Victims and Witnesses Assistance and Law Enforcement Board

## Section 3: Risk Assessment

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This section expands on Garfield County's Natural Hazards Mitigation Plan by addressing Glenwood Spring's unique risks to the following hazards:

- Wildfire
- Flood
- Landslide and debris flow
- Earthquake
- Severe Weather
- Hazardous Materials (as a secondary hazard to the natural hazards outlined above)

### *Wildfire*

In general, the County's Risk Assessment adequately describes the risk from wildfires within the areas surrounding the City of Glenwood Springs, given the data currently available. However, the County is also in the process of updating its Community Wildfire Protection Plan (CWPP), and more accurate and detailed risk assessment data will be available in the early years of implementing this natural hazard mitigation addendum. The City of Glenwood Springs will work with the County and the surrounding rural fire protection districts to evaluate and understand the implications of the CWPP to the City's wildfire risk and action items.

With this mitigation plan addendum, the City wishes to acknowledge the following geographic areas and related vulnerabilities in which local risk is greater than the risk described in the County's risk assessment, and in which additional actions are warranted to reduce the risk to life and property:

- The greatest potential for wildfire spreading from the wildland urban interface into the City limits is throughout the City. Glenwood has a unique topography merging steep hillsides adjacent to the City boundary. Wildfire from any one of these slopes would have a negative impact to the residents and businesses adjacent to the hillside slopes. The City's water plant on Red Mountain may be vulnerable to wildfire.

### *Flood*

The City has identified the following geographic areas and related vulnerabilities in which local flood risk is greater than the risk described in the County's risk assessment, and in which additional actions are warranted to reduce the risk to life and property from flooding. The bullets below are ordered according to their importance to the community (highest priority infrastructure is listed first):

- The Three Mile Creek culvert at southern end of the City. The culvert under Midland Road at Three Mile Creek could experience flooding

that could lead to washout of the road, removing an important transportation and evacuation route for both City and County residents.

- The Mitchell Creek floodplain at the northwestern corner of the City is prone to flooding; this flooding has the potential to block important transportation corridors on Donegan Rd, as well as impacting population and private property.
- The east side debris basins. In the early 70's, the City experienced debris flows from the surrounding hillsides impacting numerous residence and City infrastructure. To help reduce the impact of these debris flows, debris basins were constructed above the properties in this area of town.
- A mobile home park located on the Roaring Fork River is prone to flooding.
- The main water supply for the City is piped over the Colorado River. While this line was recently raised, it remains critical infrastructure that should be monitored.
- The 7<sup>th</sup> St interchange, near the confluence of the Colorado River and the Roaring Fork, is subject to flooding.
- Veltus Park is subject to flooding; the handicapped fishing ramp was closed for several weeks during the floods in June of 2011.

### **Mitigation success:**

The City of Glenwood Springs is not new to risk reduction activities, though this is its first adopted and FEMA-approved mitigation plan. Following are some of the recent mitigation actions that the City has taken:

- Raised the water main line, which transfers water over the Colorado River
- Constructed drainage basins on the east side of town
- Build debris collection basics above the alluvial fan on Midland Road and the Meadows
- The 27th St. bridge has had scouring repairs completed to its pillars, per Colorado Department of Transportation recommendations

### **The National Flood Insurance Program (NFIP)**

The Flood Insurance and Mitigation Administration, a component of the Federal Emergency

Management Agency (FEMA), manages the National Flood Insurance Program (NFIP). The three components of the NFIP are:

- Flood Insurance;
- Floodplain Management; and
- Flood Hazard Mapping

Glenwood Springs participates in the NFIP by adopting and enforcing floodplain management ordinances to reduce future flood damage. In exchange, the NFIP makes federally backed flood insurance available to homeowners, renters, and business owners in these communities. Preliminary Flood Insurance Study (FIS) Flood Insurance and Rate Maps (FIRM) are effective as of October, 15, 1985. There are no repetitive loss properties in the City of Glenwood Springs.

City of Glenwood Springs – NFIP Participation Information				
Category	Data		Category	Data
Date Joined NFIP	07/16/1979		Number of Policies in force	38
CRS class/discount	N/A		Insurance in Force	\$9,291,300
CAV date			Number of Paid Losses	4
CAC date			Total Losses Paid	\$26,590.03
Date of Current FIRM	10/15/1985		Substantial Damage claims since 1978	0

Notes: CAC = Community Assistance Contact; CAV = Community Assistance Visit; CRS = Community Rating System; FIRM = Flood Insurance Rate Map; NFIP = National Flood Insurance Program

### ***Landslide and debris flow***

The following geographic areas and related vulnerabilities experience local landslide and debris flow risk that is greater than the risk described in the County’s risk assessment. Additional actions are warranted to reduce the risk to life and property from landslides and debris flows in these areas:

- The Meadows area, which was recently developed with new commercial development, is located on an alluvial fan at the base of a steep slope that is subject to rock slides and land slides. Debris basins were built to reduce the vulnerability, but continuing to maintain and monitor this area is important.
- Debris flows are possible on the all portions of the City; debris basins have been built on the eastern portion of the City but it is not known if these basins are sized adequately or for what criteria. There is continued rock fall and smaller debris flows on the western portion of town which has no protection. This is an ongoing issue that continues to be monitored.

### ***Earthquake***

The Garfield County Natural Hazard Mitigation Plan adequately describes the causes and characteristics, hazard history, and impacts of earthquakes in the City of Glenwood Springs. In general, the risk is low in Garfield County for this type of event. However, some buildings in the Historic Downtown area are constructed with unreinforced masonry, and could be subject to damage in an earthquake.

There is no known history of geologic activity in the area of the hot springs. However, it is geologic activity that feeds and heats the water to the hot springs thereby making it vulnerable.

## ***Severe weather***

The Garfield County Natural Hazard Mitigation Plan adequately describes the causes and characteristics, hazard history, and impacts of severe weather in the City of Glenwood Springs. In general, severe weather events are frequent occurrences in the County that residents are aware of and prepared for. Existing programs target risk reduction and education related to severe weather.

## ***Hazardous materials***

The Garfield County risk assessment describes hazardous materials spills as possible secondary hazard events resulting from landslides or debris flows / rock falls, wildfires, or earthquakes that impact storage areas. Additionally, several hazardous materials transfer routes (most notably I-70 and the rail line) bisect the County; spills or accidents along these lines, which also run near the Colorado River, could result in contamination of the source of drinking water for many communities in the County.

In Glenwood Springs, the railroad tracks run adjacent to the historic downtown area; spills there from accidents could result in economic loss and impact the health and safety of residents and retail patrons in this area. The City's drinking water source is No Name Creek, a tributary of the Colorado River. As a result, spills upstream on the Colorado would not affect the Town's drinking water source, but would affect wildlife habitat and recreational resources.

## **Section 4: Mitigation Action Items**

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Short and long-term action items identified through the planning process are an important part of the mitigation plan. Action items are detailed recommendations for activities that local departments, citizens and others could engage in to reduce risk.

### ***Multi Hazard***

- Continue to evaluate and improve bridges in Glenwood Springs in collaboration with CDOT and County.
- Review comprehensive plan and development codes for opportunities to more effectively reduce risks to new development.
- Continue to encourage citizens to prepare and maintain 72-hour kits.
- Assess the resilience of the wastewater treatment plant and water intake pond and develop improvements accordingly as part of the capital facilities plans for water and wastewater infrastructure.

### ***Flood***

- Continue compliance with the National Flood Insurance Program (NFIP) through the enforcement of local floodplain ordinances.
- Update the town's Flood Insurance Rate Maps (FIRMs) if funding becomes available.
- Replace the culvert at Three Mile Creek
- Work with State Division of Wildlife to develop a plan for removing dead trees from the Mitchell Creek area to reduce debris that blocks the creek and results in flooding.

### ***Severe weather***

- Continue to educate the public about the role of proper tree pruning and stability in preventing damage during windstorms.
- Collaborate with the County to educate citizens about ways to weatherize their homes, as well as safe emergency heating equipment



## Summary of Multi-Jurisdictional NHMP Action Items

Proposed Action Title	Coordinating Organization	Internal Partners	External Partners	Timeline	1) Reduce the loss of life and personal injuries from natural hazard events.	2) Reduce damage to County assets	3) Reduce County costs of disaster response and recovery.	4) Minimize economic losses.	5) Reduce damage to personal property.
<i>City of Glenwood Springs</i>									
Continue to evaluate and improve bridges in Glenwood Springs in collaboration with CDOT and County.	City of Glenwood Springs Engineering	Public Works, City Manager	CDOT / Garfield County	Ongoing	X	X			
Review comprehensive plan and development codes for opportunities to more effectively reduce risks to new development.	City Manager and Director of Community Developer	Fire Department, Police Department, Public Works		Short Term	X				X
Continue to encourage citizens to prepare and maintain 72-hour kits.				Ongoing					
Assess the resilience of the wastewater treatment plant and water intake pond and develop improvements accordingly as part of the capital facilities plans for water and wastewater infrastructure.	City of Rifle Utility Director	City Engineer, Planning Dept, and City Council	Colorado Department of Public Health and Environment	Short Term	X	X			
Continue compliance with the National Flood Insurance Program (NFIP) through the enforcement of local floodplain ordinances.	Community Development	Public Works Engineering	Homebuilders, Contractors, Property Owners	Ongoing	X				X
Update the town's Flood Insurance Rate Maps (FIRMs) if funding becomes available.	Community Development Director	City Manager and Public Works		Long Term				X	X
Replace the culvert at Three Mile Creek	City of Glenwood Springs Engineering	Fire Department, Police Department		Short Term	X	X			
Work with State Division of Wildlife to develop a plan for removing dead trees from the Mitchell Creek area to reduce debris that blocks the creek and results in flooding.	City of Glenwood, Streets Divisions, Department of Public Works, Rick Turner.		Garfield County; State Division of Wildlife, Army Corps of Engineers	Short Term		X	X		
Continue to educate the public about the role of proper tree pruning and stability in preventing damage during windstorms.	City of Glenwood Parks Department	Public Works	Contractors	Ongoing				X	X
Collaborate with the County to educate citizens about ways to weatherize their homes, as well as safe emergency heating equipment			County, Clean Energy Economy for the Region (CLEER, a volunteer group)	Short Term	X		X		X



# **Attachment 1:**

## **City of Glenwood Springs Action Item Worksheets**

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Short and long-term action items identified through the planning process are an important part of the mitigation plan. Action items are detailed recommendations for activities that local departments, citizens and others could engage in to reduce risk.

### ***MultiHazard***

- Continue to evaluate and improve bridges in Glenwood Springs in collaboration with CDOT and County.
- Review comprehensive plan and development codes for opportunities to more effectively reduce risks to new development.
- Continue to encourage citizens to prepare and maintain 72-hour kits.
- Assess the resilience of the wastewater treatment plant and water intake pond and develop improvements accordingly as part of the capital facilities plans for water and wastewater infrastructure.

### ***Flood***

- Continue compliance with the National Flood Insurance Program (NFIP) through the enforcement of local floodplain ordinances.
- Update the town's Flood Insurance Rate Maps (FIRMs) if funding becomes available.
- Replace the culvert at Three Mile Creek
- Work with State Division of Wildlife to develop a plan for removing dead trees from the Mitchell Creek area to reduce debris that blocks the creek and results in flooding.

### ***Severe Weather***

- Continue to educate the public about the role of proper tree pruning and stability in preventing damage during windstorms.
- Collaborate with the County to educate citizens about ways to weatherize their homes, as well as safe emergency heating equipment

<b>Proposed Action Item:</b>		<b>Alignment with Plan Goals:</b>	
Continue to evaluate and improve bridges in Glenwood Springs in collaboration with CDOT and County.		Goal 1: Reduce the loss of life and personal injuries from natural hazard events. Goal 2: Reduce damage to county assets.  MultiHazard	
<b>Rationale for Proposed Action Item:</b>			
All bridges in Glenwood Springs are critical infrastructure, necessary for the normal functioning of the City's economic and social systems, as well as for evacuation in some disaster events. Glenwood's bridges are inspected by CDOT on a regular schedule, and repairs are made based on their recommendations. Several bridges have flood risk and when impacted, isolate large portions of the community and limiting access to emergency services and basic supplies. Continuing to maintain bridges with the flood hazard in mind will lead to increased community resilience. Bridges within Glenwood also serve many residents of the County in rural areas. Glenwood is a main access hub to areas within the Roaring Fork Valley, many which lie outside of the City limits. If a bridge were to fail, access could be limited to businesses and residence within Carbondale, Garfield County, Pitkin County, Eagle County, Basalt, El Jebel, Aspen, Snowmass, Rifle, Silt, and New Castle.			
<b>Ideas for Implementation:</b>			
Work with Garfield County, and CDOT to assess bridges within the City. Prioritize any actions that need to be taken to address any natural disaster concerns and coordinate with Garfield County, and CDOT to find appropriate funding sources. The access issues within Glenwood affect all entities involved in the Hazardous Mitigation plan. In an event that impacted access to areas up-valley, or down-valley, these entities would have an interest in correcting any hazards as expeditiously as possible.			
<b>Coordinating Organization:</b>		City of Glenwood Springs Engineering	
<b>Internal Partners:</b>		<b>External Partners:</b>	
Public Works, City Manager		CDOT / Garfield County	
<b>Timeline:</b>		<b>If available, estimated cost:</b>	
<u>Short Term</u> (0-2 years)	<u>Long Term</u> (2-4 or more years)		
	Ongoing		
<b>Form Submitted by:</b>		Rick Turner	
Action Item Status: New Action (2011)			

<b>Proposed Action Item:</b>		<b>Alignment with Plan Goals:</b>	
Review comprehensive plan and development codes for opportunities to more effectively reduce risks to new development.		Goal 1: Reduce the loss of life and personal injuries from natural hazard events.  Goal 5: Reduce damage to personal property  MultiHazard	
<b>Rationale for Proposed Action Item:</b>			
The Comprehensive Plans provide the legal framework and long-term vision for implementing plans and land use regulations; this is one of the best places to implement mitigation because risks can be eliminated before development occurs.			
<b>Ideas for Implementation:</b>			
Incorporate new hazard information in the Comprehensive Plan's Periodic Review process.  Review latest vulnerability assessment information and policies that address hazards. Information can be obtained from the risk assessment portion of the Garfield County Natural Hazard Mitigation Plan (NHMP) and other state agencies.			
<b>Coordinating Organization:</b>		City Manager and Director of Community Developer	
<b>Internal Partners:</b>		<b>External Partners:</b>	
Fire Department, Police Department, Public Works			
<b>Timeline:</b>		<b>If available, estimated cost:</b>	
<u>Short Term</u> (0-2 years)	<u>Long Term</u> (2-4 or more years)		
<u>X</u>			
<b>Form Submitted by:</b>			
Action Item Status: New Action (2011)			

<b>Proposed Action Item:</b>		<b>Alignment with Plan Goals:</b>	
Continue to encourage citizens to prepare and maintain 72-hour kits.		Goal 1: Reduce the loss of life and personal injuries from natural hazard events. Goal 3: Reduce County costs of disaster response and recovery.  MultiHazard	
<b>Rationale for Proposed Action Item:</b>			
The town is vulnerable to a number of natural hazards that could disrupt services. In a major disaster, utilities transportation networks, and businesses could be disrupted, and it may take days until vital services are restored. Preparing a 72-hour kit can help community members survive on their own without relying too heavily on emergency services.			
<b>Ideas for Implementation:</b>			
Provide educational material and examples of how to assemble 72-hour kits to residents of the town and employees. Outreach and awareness campaigns need to be carefully organized and developed to ensure that residents receive critical information. Distribute information through the town's newsletter. Alternatively, post information about 72-hour kits on the town's website.			
During National Emergency Preparedness Month or National Night Out, use first responders and community members to host educational presentations to groups within the community to encourage individuals to put together their own kit.			
Resources like <a href="http://www.preparedness.gov">www.preparedness.gov</a> or <a href="http://www.72hours.org">www.72hours.org</a> can provide content needs for 72-hour kits.			
<b>Coordinating Organization:</b>			
<b>Internal Partners:</b>		<b>External Partners:</b>	
<b>Timeline:</b>		<b>If available, estimated cost:</b>	
<u>Short Term</u> (0-2 years)	<u>Long Term</u> (2-4 or more years)		
	Ongoing		
<b>Form Submitted by:</b>			
Action Item Status: New Action (2011)			

<b>Proposed Action Item:</b>		<b>Goal Alignment / Hazards Addressed:</b>	
Assess the resilience of the wastewater treatment plant and water intake pond and develop improvements accordingly as part of the capital facilities plans for water and wastewater infrastructure.		Goal 1: Reduce the loss of life and personal injuries from natural hazard events. Goal 2: Reduce damage to county assets.  MultiHazard	
<b>Rationale for Proposed Action Item:</b>			
The water intake pond and wastewater treatment plant are in the 100 year floodplain and are subject to flood inundation and damage. This would include a focus on drinking water availability and resilience in addition to existing actions for the sewage plant.			
<b>Ideas for Implementation:</b>			
Conduct an assessment of the sewage treatment plant and drinking water intake for potential impacts from flood risk.  Contract with an engineer to assess potential of inundation and propose alternative mitigation options including a cost-benefit analysis.  Seek funding from FEMA to develop improvements of the sewage treatment plant and water treatment facility, if needed.			
<b>Coordinating Organization:</b>		City of Rifle Utility Director	
<b>Internal Partners:</b>		<b>External Partners:</b>	
City Engineer, Planning Dept, and City Council		Colorado Department of Public Health and Environment	
<b>Timeline:</b>		<b>If available, estimated cost:</b>	
<u>Short Term</u> (0-2 years)	<u>Long Term</u> (2-4 or more years)		
XX			
<b>Form Submitted by:</b>		City of Rifle	
Action Item Status: New Action (2011)			

<b>Proposed Action Item:</b>		<b>Alignment with Plan Goals:</b>	
Continue compliance with the National Flood Insurance Program (NFIP) through the enforcement of local floodplain ordinances.		Goal 1: Reduce the loss of life and personal injuries from natural hazard events. Goal 5: Reduce damage to personal property  Flood Hazard	
<b>Rationale for Proposed Action Item:</b>			
The National Flood Insurance Program provides communities with federally backed flood insurance to homeowners, renters, and business owners, provided that communities develop and enforce adequate floodplain management ordinances. The benefits of adopting NFIP standards for communities are a reduced level of flood damage in the community and stronger buildings that can withstand floods. According to the NFIP, buildings constructed in compliance with NFIP building standards suffer approximately 80 percent less damage annually than those not built in compliance.			
<b>Ideas for Implementation:</b>			
<ul style="list-style-type: none"> <li>Actively participate with Colorado Emergency Management and FEMA during Community Assistance Visits. The Community Assisted Visit (CAV) is a scheduled visit to a community participating in the NFIP for the purpose of 1) conducting a comprehensive assessment of the community's floodplain management program; 2) assisting the community and its staff in understanding the NFIP and its requirements; and 3) assisting the community in implementing effective flood loss reduction measures when program deficiencies or violations are discovered.</li> <li>Conduct an assessment of the town's floodplain ordinances to ensure they reflect current flood hazards.</li> <li>Coordinate with the county to ensure that floodplain ordinances and NFIP regulations are maintained and enforced. Continue to assess the need for updated ordinances.</li> <li>Mitigate areas that are prone to flooding and/or have the potential to flood.</li> </ul>			
<b>Coordinating Organization:</b>		Community Development	
<b>Internal Partners:</b>		<b>External Partners:</b>	
Public Works Engineering		Homebuilders, Contractors, Property Owners	
<b>Timeline:</b> Ongoing		<b>If available, estimated cost:</b>	
<u>Short Term</u> (0-2 years)	<u>Long Term</u> (2-4 or more years)		
<b>Form Submitted by:</b>			
Action Item Status: New Action (2011)			

<b>Proposed Action Item:</b>		<b>Alignment with Plan Goals:</b>	
Update the town's Flood Insurance Rate Maps (FIRMs) if funding becomes available.		Goal 4: Minimize economic losses Goal 5: Reduce damage to personal property  Flood Hazard	
<b>Rationale for Proposed Action Item:</b>			
The town has Flood Mitigation Rate Maps current as of October 15, 1985. However, if funding becomes available, the FIRMs should be updated to address new information and new vulnerabilities, as well as any new land use developments occurring in the community.			
<b>Ideas for Implementation:</b>			
If there are areas that need to be revised for the flood map, complete the MT-2 Forms Package (Application Forms for Conditional Letters of Map Revision and Letters of Map Revision). The forms and instructions are designed to assist requesters (community officials or individuals via community officials) in gathering the data that the FEMA needs to determine whether the effective NFIP map and Flood Insurance Study report for a community should be revised.			
<b>Coordinating Organization:</b>		Community Development Director	
<b>Internal Partners:</b>		<b>External Partners:</b>	
City Manager and Public Works			
<b>Timeline:</b>		<b>If available, estimated cost:</b>	
<u>Short Term</u> (0-2 years)	<u>Long Term</u> (2-4 or more years)		
	X		
<b>Form Submitted by:</b>			
Action Item Status: New Action (2011)			

<b>Proposed Action Item:</b>		<b>Alignment with Plan Goals:</b>	
Replace the culvert at Three Mile Creek		Goal 1: Reduce the loss of life and personal injuries from natural hazard events. Goal 2: Reduce damage to county assets.  Flood Hazard	
<b>Rationale for Proposed Action Item:</b>			
The culvert has separated from its headwall. Failure of the culvert would lead to road closure, on an important transportation (ingress / egress route)			
<b>Ideas for Implementation:</b>			
This process is partially underway. Work with Army Corps of Engineers for permitting. A portion of the bridge is projected to be replaced in the Spring of 2012. This bridge not only services residents of the City, but also residence within the County up Four Mile Canyon. Midland Avenue is the only paved access to this area. Any damage to this structure would inhibit access to the area, and would increase emergency response times to residence both in the City and County			
<b>Coordinating Organization:</b>		City of Glenwood Springs Engineering	
<b>Internal Partners:</b>		<b>External Partners:</b>	
Fire Department, Police Department		County	
<b>Timeline:</b>		<b>If available, estimated cost:</b>	
<u>Short Term</u> (0-2 years)	<u>Long Term</u> (2-4 or more years)		
XX			
<b>Form Submitted by:</b>			
Action Item Status: New Action (2011)			

<b>Proposed Action Item:</b>		<b>Alignment with Plan Goals:</b>	
Work with State Division of Wildlife to develop a plan for removing dead trees from the Mitchell Creek area to reduce debris that blocks the creek and results in flooding.		Goal 2: Reduce damage to county assets. Goal 3: Reduce County costs of disaster response and recovery.  Flood Hazard	
<b>Rationale for Proposed Action Item:</b>			
Dead / downed trees in this area result in flooding of nearby residential property. Because the area is sensitive habitat for birds, removing them requires careful planning and coordination to reduce or eliminate impacts to nesting areas.			
<b>Ideas for Implementation:</b>			
Initiate planning process with the State. Obtain permits for work from Army Corps of Engineers.			
<b>Coordinating Organization:</b>		City of Glenwood, Streets Divisions, Department of Public Works, Rick Turner.	
<b>Internal Partners:</b>		<b>External Partners:</b>	
		Garfield County; State Division of Wildlife, Army Corps of Engineers	
<b>Timeline:</b>		<b>If available, estimated cost:</b>	
<u>Short Term</u> (0-2 years)	<u>Long Term</u> (2-4 or more years)		
XX			
<b>Form Submitted by:</b>			
Action Item Status: New Action (2011)			

<b>Proposed Action Item:</b>		<b>Alignment with Plan Goals:</b>	
Continue to educate the public about the role of proper tree pruning and stability in preventing damage during windstorms.		Goal 4: Minimize economic losses Goal 5: Reduce damage to personal property  Severe Weather Hazard	
<b>Rationale for Proposed Action Item:</b>			
High winds can topple trees and break limbs which in turn can result in power outages and disrupt telephone, computer, and TV and radio service, and compromise the functioning of the communities' utilities such as the wastewater and water treatment plants. Private property owners are responsible for trees on their property. Educating property owners about how to properly prune their trees to prevent power outages and damage to their property can help reduce impacts of windstorm events. The City of Glenwood Parks Department has a program in place for managing trees in right of ways. The program makes recommendations to home owners if asked.			
<b>Ideas for Implementation:</b>			
Review regulations and standards for easement and right of way maintenance, and provide training to foresters and logging crews.			
Educate homeowners in pruning of vegetation, tree care safety, and proper tree care for trees bordering utility corridors and public rights of way via door knocker flyers, utility mailers, Safety Fair, Website, or Quarterly Newsletter.			
Coordinate with arboricultural groups, public agencies, and utilities to promote proper tree pruning and care practices that can reduce the risk of tree failure and property damage. Common messages refined by state level entities such as the Colorado Department of Natural Resources can help provide continuity and efficiency across the state.			
<b>Coordinating Organization:</b>		City of Glenwood Parks Department	
<b>Internal Partners:</b>		<b>External Partners:</b>	
Public Works		Contractors	
<b>Timeline:</b> Ongoing		<b>If available, estimated cost:</b>	
<u>Short Term</u> (0-2 years)	<u>Long Term</u> (2-4 or more years)		
<b>Form Submitted by:</b>			
Action Item Status: New Action (2011)			

<b>Proposed Action Item:</b>		<b>Alignment with Plan Goals:</b>	
Collaborate with the County to educate citizens about ways to weatherize their homes, as well as safe emergency heating equipment		Goal 1: Reduce the loss of life and personal injuries from natural hazard events. Goal 3: Reduce County costs of disaster response and recovery. Goal 5: Reduce damage to personal property  Severe Weather	
<b>Rationale for Proposed Action Item:</b>			
Severe winter storms can bring extreme cold, snow, and ice, causing power outages and breaks in un-insulated water lines. Power outages can lead to heat loss, potentially harming citizens. Educating citizens about ways to weatherize their homes, as well as safe emergency heating equipment, can reduce the effects of extreme cold and inform residents of how to properly heat their homes in the event of a power outage.			
<b>Ideas for Implementation:</b>			
<ul style="list-style-type: none"> <li>• Use energy audits, cash rebates, and tax credits to help homeowners weatherize their homes.</li> <li>• Coordinate efforts with home improvement businesses to educate citizens about weatherizing homes and providing safe emergency heating equipment.</li> <li>• Coordinate education efforts with local electric companies to educate citizens about weatherization.</li> <li>• Coordinate with the local Fire Districts to develop a list of emergency heating information.</li> <li>• Advertise weatherization tax credits to serve as an incentive for people to weatherize their homes and reduce their heating bills.</li> </ul>			
<b>Coordinating Organization:</b>		To be determined	
<b>Internal Partners:</b>		<b>External Partners:</b>	
		County, Clean Energy Economy for the Region (CLEER, a volunteer group)	
<b>Timeline:</b>		<b>If available, estimated cost:</b>	
<u>Short Term</u> (0-2 years)	<u>Long Term</u> (2-4 or more years)		
X			
<b>Form Submitted by:</b>			
Action Item Status: New Action (2011)			







## **Attachment 3:**

### **City of Glenwood Springs Critical Infrastructure Map**

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A significant component of the Natural Hazard Mitigation Plan is identifying where and how critical infrastructure and key resources could be impacted by natural hazards. The Garfield County GIS department developed maps of Glenwood Springs that identify public facilities, utilities, agriculture and natural resources, water supply and treatment infrastructure, oil and gas facilities, and transportation facilities. These maps contribute to the understanding of community vulnerability. Due to the sensitive nature of some of the information included in this map, the map is not available upon request from Glenwood Springs Community Development Department, the Garfield County Manager, or the Garfield County GIS Department.





# Town of New Castle

## Addendum to the Garfield County Natural Hazards Mitigation Plan

2012



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## **Attachments**

- Attachment 1: Action item Forms
- Attachment 2: Risk Assessment Map
- Attachment 3: Critical Infrastructure Map
- Attachment 4: Town Organizational Chart
- Attachment 5: Documentation



# Section 1: Planning Process

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## Overview

The Town of New Castle developed this addendum to the Garfield County multi-jurisdictional Natural Hazards Mitigation Plan in an effort to increase the community's resilience to natural hazards. The addendum focuses on the natural hazards that could affect New Castle, which include wildfire, flood, landslide and debris flow, earthquake, and severe weather. The addendum also addresses hazardous materials spills, which are possible secondary hazards resulting from wildfires, landslides, and transport accidents that can affect drinking water, public safety and wildlife habitat.

This addendum has the following attachments:

- Attachment 1 provides detailed action items for risk reduction
- Attachment 2 provides a map which is the output of a risk assessment discussion early in the process of plan development
- Attachment 3 provides critical infrastructure maps, generated by Garfield County Geographic Information Systems (GIS) staff, using best available digital data

It is impossible to predict exactly when disasters may occur, or the extent to which they will affect the city. However, with careful planning and collaboration among public agencies, private sector organizations, and citizens within the community, it is possible to minimize the losses that can result from natural hazards.

The addendum provides a set of actions that aim to reduce the risks posed by natural hazards through education and outreach programs, the development of partnerships, and the implementation of preventative activities through the town's development code, emergency operations plan, and comprehensive plan. The actions described in the addendum are intended to be implemented through existing plans and programs within the town.

## *How was the Addendum developed?*

The Town of New Castle developed this addendum in a collaborative process that Garfield County initiated in April of 2011. At that time, the County Risk Assessment had been completed in draft form, using data that covered many of the County's jurisdictions and all of its unincorporated areas. The County had initiated the process of developing its action items. The County organized an initial outreach meeting, held in April of 2011, and invited all towns and cities, fire districts, school districts, and other overlapping districts. State of Colorado Division of Emergency Management (DEM) and Federal Emergency Management Agency (FEMA) representatives described the mitigation planning process and plan requirements. The Town of New Castle opted to create an addendum to the County Plan after that meeting.

The County then organized an intensive workshop for the jurisdictions developing addendums (including New Castle) and invited a broad range of participation from City staff. The purpose of the workshop, which was held on June 27, 2011, was to identify areas in the jurisdictions where risk was greater than that identified in the County Risk Assessment, and to begin to develop action items. One of the maps that was the output of this workshop and focused on community-level risk is included in this plan addendum as Attachment 2. Participants from New Castle included:

- Mike Edgar, Human Resources Manager
- John Wenzel, Public Works Director
- Tim Cain, Town Planner/Code Administrator

The agenda for the workshop follows:

Agenda item	Topic	Time
Presentation / Intro	<ul style="list-style-type: none"> <li>• What is a multi-jurisdictional plan; requirements from FEMA</li> <li>• County Risk Assessment and Community profile</li> <li>• Questions / Discussion</li> </ul>	9:00 – 10:00
Breakout #1, by jurisdiction	<ul style="list-style-type: none"> <li>• Addendum document: overview and discussion</li> <li>• How is risk in your jurisdiction greater than the risk in the County?</li> </ul>	10:00 – 11:30
Breakout #2, by jurisdiction	<ul style="list-style-type: none"> <li>• Action item development: What steps will we take to reduce risk?</li> </ul>	12:30 to 2:00
Presentation	<ul style="list-style-type: none"> <li>• Plan adoption requirements</li> <li>• Plan maintenance and update process</li> <li>• Outreach at jurisdictional level</li> <li>• Next steps</li> <li>• Discussion / questions</li> </ul>	2:00 to 3:00

Following the workshop, the Town of New Castle further developed its action items by:

- New Castle primary staff meeting on July 19, 2011
- New Castle Management Retreat on July 20, 2011
- New Castle primary staff meeting on July 26, 2011
- New Castle primary staff meeting on August 2, 2011
- New Castle primary staff meeting on October 18, 2011

Police Chief Chris Sadler, John Wenzel, Mike Edgar and Tim Cain attended the primary staff meetings; the focus of the meetings was to analyze current data and work on the mitigation plan. These meetings were not publicized.

The Town Administrator and department directors attended the Management Retreat; this meeting was not publicized.

The following plans, reports, and studies were reviewed in the development of this addendum:

- Garfield County Risk Assessment
- Census and other demographic and economic data
- Garfield County Community Wildfire Protection Plan

Citizens of New Castle contributed to the development of this plan as follows:

- During plan development:
  - The County developed an on-line survey, which was advertised on its website, and via email in multiple list serves. In the initial distribution, 106 people took the survey. 21 of these respondents lived in Area 2 (the area in which New Castle is located), 11 worked in the Area, and 18 claimed that Area 2 was the area with which they were most familiar (i.e. spend most of their time). Of those 18 respondents who associate most directly with Area 2, nearly 65% of them (11 people) agreed that the County's Risk Assessment of Area 2 was "accurate" or "very accurate".
  - Town Council meeting on July 19, 2011 – Town Planner report on status of preliminary New Castle Hazard Mitigation Plan; this meeting was attended by council members, Town administrator and department directors. The public was invited to attend via various communication outlets e.g. website, 3 neighborhood public posting areas.
  - Town Council Agenda on August 2, 2011 – New Castle staff report on preliminary New Castle Hazard Mitigation Plan; council members, Town administrator and department directors attended this meeting. The public was invited to attend via various communication outlets e.g. website, 3 neighborhood public posting areas.
  - August 1, 2011 - New Castle utility bill announcement seeking public input about the NC Hazard Mitigation Plan; over 1600 utility notices were sent to in-town and out-of-town utility users
  - August 1, 2011 – Public cable channel 10 announcement seeking public input about the NC Hazard Mitigation Plan; this channel is available to all cable subscribers in the New Castle region.
  - October 19, 2011 – New Castle Senior Citizens weekly luncheon; eleven (11) residents attended. Tim Cain made a presentation. They listened and asked questions about possible flooding of Elk Creek and debris flow from Mount Medaris that occurs routinely after it rains heavily.
  - November 10, 2011 – Villas at the Peak Townhome HOA annual meeting; ten (10) residents attended. Mike Edgar made a presentation. Questions were asked about 2002 mitigation efforts to control flood and subsequent debris flow north of the townhomes.
  - Town Council Agenda on November 15, 2011 – New Castle staff report on final New Castle Hazard Mitigation Plan; council members, Town administrator and department directors attended this meeting. The public was invited to attend via various communication outlets e.g. website, 3 neighborhood public posting areas.

- The public was also given an opportunity to comment on the draft addendum document, as follows:
  - The final draft addendum document was posted on the Town’s website, and also on the County website, which clearly included a phone number and email address for provision of comments. The City received X comments, which were [addressed, incorporated into document, etc.]
  - A work session was held with the Board of County Commissioners to review the draft County NHMP including the New Castle Addendum and to take public comment on March 13, 2012.
  - The public was provided an opportunity to comment when the plan was adopted via resolution, in a public meeting, on [DATE].

### ***Plan Maintenance and Implementation***

The jurisdiction is adopting the plan maintenance and implementation process outlined in the County Natural Hazard Mitigation Plan.

New Castle will participate directly in the update and maintenance schedule outlined in the County Plan by participating on the Public Safety Council subcommittee responsible for ongoing update of the Plan.

### ***Adoption***

*This section will be filled out at a later date, following adoption*

FEMA approved the County Plan on [DATE]. The Town of New Castle adopted this addendum to the Garfield County Natural Hazard Mitigation Plan via resolution on [date].

## Section 2: Community Profile

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The following section describes the Town of New Castle from a number of perspectives to define and describe New Castle's sensitivity and resilience to natural hazards. Sensitivity factors can be defined as those assets and characteristics that may be impacted by natural hazards, (e.g., special populations, economic factors, and historic and cultural resources). Resilience factors can be defined as the ability to manage risk and adapt to hazard event impacts (e.g., governmental structure, agency missions and directives, and plans, policies, and programs). The information in this section represents a snapshot in time of the current sensitivity and resilience factors when the plan was developed. The information documented below, along with the risk assessments in Section 3 below, should be used as the local level rationale for the risk reduction actions identified in the plan.

### *Geography and climate*

The Town of New Castle is located in Garfield County, Colorado along Interstate 70 and the Colorado River on the Western Slope of the Rocky Mountains. New Castle is approximately 76 miles east of Grand Junction and 169 miles west of Denver and lies at an elevation of 5,550 feet above sea level. The town's elevation provides a comfortable climate with a mean January temperature of 25°F and a mean July temperature of 70°F. Average annual precipitation is 17.9 inches. The total land area within the municipal boundaries is 2.53 square miles.

The original New Castle town site is located south of Mount Medaris and relatively new subdivisions are located on the north side of the mountain within the town jurisdiction. Mount Medaris is steep and during times of heavy rain and snowmelt can inundate the Town's stormwater system causing flooding of Main Street (Highway 6 & 24).

The town has also recently annexed residential and industrial property on the south side of the Colorado River. This area is partly located within extreme rock fall hazards and can also be prone to flooding by the Colorado River.

New Castle lies on the easterly edge of the natural gas drilling areas and is approximately 25 miles east of rich oil shale deposits between Parachute and Rifle, Colorado. However, with recent technological advances, it has become profitable to explore drilling within a 7 to 10 mile radius west and south of New Castle.

New Castle is located adjacent to the 100-mile long Grand Hogback. The Hogback is a sedimentary rock monocline that extends from Redstone, Colorado, northwest into Wyoming. This iconic formation includes large coal deposits mined during the last century. There are currently no active coalmines in New Castle, but during the last 20 years, mining proposals immediately outside New Castle have been considered by Garfield County. Several of the older mines in New Castle are on fire because of historic mine disaster explosions that killed a number of miners. Occasionally smoke and steam can be seen on the steep sides of the hogback and there are areas that readily melt snow because of the high ground temperature.

## Population and demographics

According to the 2010 U.S. Census Bureau the population of New Castle is approximately 4,500 with 1,200 households and an average of 2.9 per household. Families made up 68% of the households in New Castle and this figure includes both married-couples families (52%) and other families (16%). Nonfamily households made up 32% of all households; most nonfamily households were people living alone.

Nineteen percent of the people living in New Castle were foreign born. Eighty-one percent was native, including 38% who were born in Colorado. Among people at least five years old living in New Castle in 2005-2009, 32% spoke a language other than English at home. Of those speaking a language other than English at home, 96% spoke Spanish and 4% spoke some other language; 53% reported that they did not speak English “very well.”

New Castle’ population for the period 2000-2007 increased an average of 241 persons per year with an average annual growth rate of 9.24%. This growth rate made New Castle one of the fastest-growing towns in Colorado. In the past 25 years, much of New Castle’s population increase has been fueled by a down-valley migration from the communities of Aspen, Snowmass, Basalt and Carbondale where the cost of housing has historically been higher.

The most vulnerable components of the population in a disaster are women, children, minorities, and the poor. In comparison to the County, New Castle’s population was:

- **Younger than the County.** The median age of New Castle’s population was 30.2 years old in 2009, compared with the County average of 34.2 years old. The age-distribution of New Castle’s population has remained stable since 2000, when the medium age was 30 years. About 68% of New Castle’s population was under 40 years old in 2009, compared with 59% of the County’s population. New Castle had a smaller proportion of people over 60 years old (8%) than the County (13%).
- **More ethnically diverse.** Since 2000, New Castle grew more ethnically diverse. In 2000, 12% of New Castle’s population was Hispanic (1,170 people). This trend is similar to increasing ethnic diversity in Garfield County, where Hispanic population increased from 17% to 24% of the population between 2000 and 2009
- **In poverty as frequently as the County.** The poverty rate in New Castle (8.3% of people living below the federal poverty line) was similar to the County’s poverty rate (8.1%) in 2009

At the end of 2008, the U.S. and world economies entered a severe economic recession. This economic downturn has fundamentally stopped new development activity in New Castle. Major developers, Village Homes and Lakota Canyon Ranch, filed for bankruptcy and halted construction on all projects. Very few building permits have been issued in New Castle from the third quarter of 2008 to the present time. However, population growth projections in Garfield County are

expected to remain robust through the year 2035 as the energy industry expands in response to demands for natural gas and other fuels. Growth pressures on New Castle are expected to continue in the same timeframe.

### **Employment and economics**

The majority of New Castle residents find employment outside of the community in Glenwood Springs, the Roaring Fork valley, the Eagle Valley and the Rifle area. Employment outside of New Castle requires the need to use Interstate 70 predominantly; highway 6 & 24 can be used for those traveling west to the Rifle area. Accidents occur often on Interstate 70 and occasionally shut down the highway; traffic is then diverted to Highway 6 and 24 (both of which travel New Castle Main St.). After the Storm King fire east of New Castle near Canyon Creek in 1994 a major landslide occurred that completely shut down Interstate 70 for 24 hours; many New Castle workers did not have access to up-valley jobs. I – 70 was also shut down over a weekend in 2002 due to the Coal Seam fire, which started on the south side of I – 70 east of New Castle. This fire was a result of a mine that has been on fire for over a hundred years.

The American Community Survey (ACS) reported that from 2005-2009 for the employed population 16 years and older, the leading industries in New Castle were Construction, 21%, Educational services, and health care, and social assistance, 20%. Other employment by industry included:

- |   |     |  |     |
|---|-----|--|-----|
| ▪ Agriculture, forestry, fishing, hunting, mining | 4%  | ▪ Finance, insurance, real estate, rental leasing                        | 6%  |
| ▪ Manufacturing                                   | 2%  | ▪ Professional, scientific, management, administrative, waste management | 11% |
| ▪ Wholesale trade                                 | 2%  | ▪ Arts, entertainment, recreation, accommodation, food services          | 10% |
| ▪ Retail trade                                    | 11% | ▪ Other services, except public administration                           | 6%  |
| ▪ Transportation, warehousing, utilities          | 3%  |  |     |
| ▪ Information                                     | 2%  |  |     |
| ▪ Public administration                           | 3%  |  |     |

From 2005-2009, the medium income for households in New Castle was \$56,445. This is \$8,000 lower than the County (about \$64,800). Ninety-seven percent of the households received earnings and 7% received retirement income other than social security. Five percent of households received social security. These incomes sources are not mutually exclusive; that is, some households received income from more than one source. In the same timeframe ACS reported that 8% of people were in poverty. Thirteen percent of related children under 18 were below the poverty level, compared with less than 0.5% of people 65 years old and older. Eight percent of all families, and 34 percent of families with a female householder and no husband present, had incomes below the poverty level.

## Housing

By the end of 2008, New Castle potable water service delivery was estimated to include 1,657 housing units; the Town services many out-of town individual dwelling units and larger subdivisions. Very few single-family homes were built after 2008 due to a virtual halt in construction. Since 1990, the vast majority of the new single-family dwelling units were located in two major subdivisions, Castle Valley Ranch PUD and Lakota Canyon Ranch PUD. Both subdivisions lie north of the original New Castle town site and are separated from the original town site by Mount Medaris. The Town has some multifamily units with duplex, triplex, and larger multifamily structures in River Park PUD, Castle Valley Ranch Planning Area – 12, Shibui and Alder Ridge.

Many of the houses in the original New Castle town site were built in the early 20th century and are mostly stick-built with very few brick homes. Likely, many are not up to present building codes and may be in poor condition and at a much higher risk compared to newer subdivisions mentioned above (River Park, Lakota Canyon Ranch, Castle Valley Ranch, Shibui, etc). There are a few homes and commercial buildings that still stand after over 120 years. Several of the original and newer town site commercial buildings also house people on the second floor which may or may not put them more at risk possibly due to seismic occurrence. In comparison to Garfield County, New Castle's housing stock was:<sup>1</sup>

- **More owner-occupied.** About three-quarters of New Castle's housing were owner-occupied, compared with about two-thirds of Garfield County.
- **Younger.** The median year build of New Castle's housing stock was 1992, compared with 1984 in Garfield County. New Castle had a larger share of housing stock built since 1990 (57%) than Garfield County (40%). However, New Castle had a larger share of housing built prior to 1950 (25%) than Garfield County (11%)
- **More single-family detached.** More than three-quarters of New Castle's housing was single-family detached, compared with 60% of the County's housing stock. New Castle had a smaller share of mobile and manufactured housing (9%) compared to the County (13%). New Castle also had a smaller share of attached housing of all types (14%) compared with the County (27%). The newer single-family homes and multifamily dwelling units are mostly stick-frame and are up to present building code standards.

The need for housing units in New Castle will increase as the population grows. Assuming an average growth rate of 4% from 2007 to 2030, population is expected to grow to 9,086. Housing demand generated by a population increase will require over 2,000 new residential units based upon an average household size of 2.66 persons. Many of the new dwelling units will be located adjacent to steep

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<sup>1</sup> Based on data from U.S. Census American Community Survey 2005-2009

mountainous terrain. Forest wildfire is perhaps the single most important hazard that New Castle faces.

### ***Land use and development***

In New Castle, single-family and multifamily zoning accounts for more than 87% of total available land. The remaining acreage is zoned commercial (9.01%) and industrial (3.17%). Part of the land dedicated to residential development is zoned “multi-use” where a mixture of commercial and residential is authorized. About 56 acres of land is yet to be built in the mixed-use zone district. There is approximately 32 acres of undeveloped commercial and industrial land available.

The future land use plan establishes a framework within which development plans must be designed, evaluated by New Castle and ultimately completed if approved. It is not “zoning” per se, but may be used by New Castle to modify existing zoning or to establish new zone districts. Some of the goals of the future land use plan are:

- Ensure a variety and mix of uses that complement the existing New Castle land-use patterns
- Guarantee a balanced mix of housing types that support a broad range of pricing within the market
- Make certain there are adequate open spaces, trails and connected parks
- Allow for feathered-edge community that transitions to rural areas where open lands and agricultural uses predominate
- Offer protection of sensitive natural areas, preservation of older tree stands and conservation of resources
- Promote service delivery efficiency and energy conservation

### ***Transportation***

New Castle can be accessed using 5 different routes. They are:

- Exit 105 at the I – 70 interchange
- From north to south using N. Midland Ave. /7th St. to downtown New Castle
- From the north using CR 245 to east using Castle Valley Blvd. which leads to Castle Valley Ranch PUD and Lakota Canyon Ranch PUD and eventually to the highway 6 & 24 at the I – 70 interchange
- From east to west using highway 6 & 24
- From west to east using highway 6 & 24.

There are no bridges owned or maintained by New Castle.

In the event of mass evacuation there are a few notable challenges New Castle and its partners will have to manage. They are:

- The stacking and queuing at the I – 70 interchange is a problem during peak morning and evening hours. Evening traffic queues can extend

down the length of the off-ramp from the access bridge intersection. The vehicle stacking is likely to become more severe as New Castle population increase without substantial intersection improvements or an additional interstate interchange. The overpass is hazardous to pedestrians crossing over the interstate, UP railroad and Colorado River because there are no sidewalks on the bridge. There are two subdivisions and one mobile home trailer park located immediately outside of New Castle boundaries that use this bridge as well.

- The busy intersection at highway 6 & 24 / Castle Valley Blvd. is stressed during morning and evening traffic peaks. The four-way stop and short stacking lanes contribute to frequent congestion. The current level of service (LOS) at highway 6 & 24 / Castle Valley Blvd. intersection is “C” at non-peak hours and “D” during peak hours. Traffic engineers consider a LOS “D” the minimum acceptable LOS and ratings of “E” or “F” are unacceptable because of long intersection wait times. As traffic volume increases due to future commercial and residential development, the LOS will decrease to “E” or “F” unless intersection improvements are completed.
- North-South access from downtown New Castle to Castle Valley Blvd or CR 245 is severely restricted in vehicle movement due to 7th St., which is narrow and winding; it does not have adequate capacity or easy access.
- The single-lane bridge crossing Elk Creek on the west end of town could incur a huge bottleneck if it was the only exit out of town during a mass evacuation. This is a bridge maintained by CDOT and is quite old leading to possible failure in the advent of massive flooding
- Approximately two miles north of New Castle is another single-lane bridge that could see the same scenario as above if it were the only exit out of town as well. This bridge is located at the intersection of CR 245 and CR 241.

## ***Critical facilities and infrastructure***

### **Facilities: Government**

#### ***Town Hall***

- The Town Hall is located on the 400 block of West Main Street on the north side. The building houses key administrative personnel, the Town Clerk, support staff, and the police department. The facility is used for many purposes that include being a public meeting place for numerous commissions and boards, as well as bi-monthly meetings of the Town Council. It functions as the Municipal Court on a bi-monthly basis and houses records related to the Court. The building is equipped with a walk-in vault and is a hub for computer data collection and storage. This structure rests on the southern slope of Mount Medaris and is potentially threatened by debris flow in the event of soil saturation or

flash flood. It rests in the central west end of the original Town site and is surrounded by older structures, which pose a threat of collateral damage in the event of fire. A frequently used railroad track runs east/west, parallel with Main Street and is located within approximately 100 yards of the building. The proximity of the track poses a significant threat to the building, as frequently transported cargo on the rail is known to be hazardous in nature. Flooding of the Colorado River does not pose a significant threat. However, in the event of a dam breaking, such as that located upstream from New Castle at Ruedi Reservoir, the building and entire downtown area would be at risk. This at-risk area would also include an elementary school site, the Town's wastewater treatment plant, and, the main escape routes from the Town to the east and west.

### ***Community Center***

- The Community Center is a large structure, also built on the 400 block of West Main Street, on the south side. The Center is equipped with a large main room, offices, kitchen, restroom facilities, telephones and computer access. In the event of an emergency, this structure could be used as an emergency command center, distribution center or relief shelter. The structure rests approximately twenty yards from the main east/west railroad track. The community center is at risk from high level flooding and at high risk from railroad related incidents. South of the railroad tracks I-70 and the Colorado River run east/west through the Town, roughly parallel to Main Street and the main rail. South-southeast of the community center, on the south side of the river, a large propane storage facility is located. Any incident related to the propane facility could cause collateral damage to the community center, and, the entire downtown area.

### ***800 MHz Radio Tower / Repeater***

- Located near the northern edge of the Town limit at the Highland Cemetery. This station provides uninterrupted radio service for emergency services on a 24/7 basis. It is not a required station for radio service in the overall area and surrounding communities, however, due to the geography, is necessary to provide radio service to the Town of New Castle emergency services, the portion of I-70 adjacent to the Town limits, and the general New Castle lower valley area to the west.

### ***Public Works / Town Maintenance Facility***

- The Public Works facility is located on the 800 block of West Main on the west bank of Elk Creek. This facility/compound consists of two main enclosed buildings known as the public works offices and the maintenance shop, as well as three three-sided structures used for aggregate and equipment storage. The majority of structures on this site are constructed of metal materials. The public works office building consists of two levels, the main floor and basement. The main floor and

roof are constructed of wood and the basement is concrete. The main floor consists of a number of offices, a meeting room and restrooms. The area could serve as a command center in the event of an emergency as it also has phone and computer service access. The basement area is primarily used for general storage. The maintenance shop is a large open single story structure with a number of large bay doors on the south side. Under normal operation the maintenance shop contains numerous vehicles, tools and equipment, available for use on a daily basis. Larger trucks and equipment used for earthmoving are also stationed at the facility. The entire public works compound is at risk from flooding incidents involving Elk Creek, or events of a larger magnitude involving the Colorado River. Fire does not pose a significant risk to the compound; however, it is located at the junction of Hwy 6 on the north edge, Elk Creek on the eastern edge, the railroad track directly to the south, and I-70 slightly more to the south. Other than flood, the greatest risk to the facility would appear to be hazardous materials presented to the site by either rail or vehicular incident. It should be noted the public works facility is currently equipped with a solar array which efficiently produces more energy than can be consumed at the site on a daily basis. Currently there is no equipment in place to store the energy for future use and the purchase of equipment for this purpose may not be economically feasible for some time. However, if New Castle were to lose all electrical power, the solar energy producing equipment currently installed has the potential to provide a substantial amount of emergency energy. In the event of long-term crisis, this solar equipment feature could be critical.

### ***Police Department Garage***

- The Police Department garage is located on the south side of West Main Street on the 600 block. A dirt lot and Kamm Avenue border it on the east side and the main railroad track on the south. The garage consists of metal construction and provides storage for tools, police equipment and generally houses one police vehicle. The facility is not threatened by general natural hazards except for high magnitude flooding of the Colorado River. It is located immediately adjacent to the railroad tracks and is at greater risk of a rail related incident than most near-rail locations due to being located on the outside of a curve in the rail. The facility also has an older wood construction private dwelling /business immediately to the west. This structure exposes the garage to fire hazards due to its use and age, although in the event of an incident sustained fire exposure to the garage structure is unlikely and potential for loss minimal.

## **Water (raw water, potable water treatment, storage, waste water)**

### ***Waste Water Treatment Plant***

- The waste water treatment plant is located south of the railroad tracks, at the approximate 700 block of West Main Street, lying between and running parallel to the railroad tracks and I-70 at the approximate mile mark 104 I-70. The western border of the plant is marked by Elk Creek. The plant consists of numerous buildings and structures used in the treatment of human waste product. Some of the structures have office spaces and areas used for storage of miscellaneous tools, equipment and chemicals. This facility is at risk of flooding or debris flow from both the Colorado River and Elk Creek, and it is noted that significant water depth will inhibit the facilities ability to discharge treated non-pressurized waste material. Also, there exists potential for collateral damage from an incident originating on I-70 or the rail. The facility has one access point, crossing three active train rails. It is equipped with a diesel generator capable of running the plant independently in the event of electrical grid failure.

### ***Water Storage***

- There are three water storage tanks servicing the Town, all of metal construction. The “Old Town” tank has a 1,000,000-gallon capacity and is located at the North West edge of the Town limits in the area west of Mountain View Drive. The “Castle Valley” tank has an 800,000 gallon capacity and is located outside of the town limits to the north of the Castle Valley area. It is at elevation and out of plain view. The “Lakota” tank has a 1,700,000-gallon capacity and is located to the northeast. Another tank, known as the “Elk Creek” tank, has the capacity to hold 450,000 gallons. This tank services and is located in the Elk Creek subdivision, outside and to the northwest of the Town limits. Fire or flooding pose a minimal threat to the above listed tanks. All are at highest risk from seismic activity, ground shift, sinking or landslide. All locations are subject to unnatural attack focused on mass casualty / terrorism. In the event of water treatment failure, with all tanks full to maximum capacity, it is estimated water would be available for all purposes to all serviced areas for a minimum of one day. If conservation techniques are immediately applied, water availability to all serviced areas could extend to approximately three days.

### ***Potable Water Treatment***

- The potable water treatment plant is located in the Elk Creek Subdivision and receives its raw water from a location on East Elk Creek. In the event of an incident in Elk Creek, the plant also has the capability of obtaining raw water from a pump station located on the Colorado River. A chain link fence that is locked during non-business

hours surrounds the plant structure. It is predominantly metal construction and has no back-up power source. Non-domestic trees, shrubs and tall growing grasses surround the Elk Creek Subdivision. This flora is present throughout the subdivision. The plant being located in the approximate center of the subdivision with uncontrolled plant growth exposes it to a great risk of fire or wild fire related incident. Again, seismic activity or perhaps extreme winds pose the greatest natural threats to the plant overall. Plant production is ultimately subject to availability of electricity; conditions in the East Elk Creek basin, and, at the Colorado River lift station. Incidents involving interruption in any of these areas poses a critical threat to potable water production and availability throughout the Town, and, associated service areas.

### ***Raw Water Intake***

- East Elk Creek Head Gate / Colorado River Pump – Lift Station. Raw water intakes are located on East Elk Creek (with associated head gate and retention pond) and on the Colorado River to the southwest of the wastewater treatment facility. Fire does not present a significant threat however both locations are subject to damage from flooding and subsequent debris flow. The Elk Creek facilities are also at risk from landslide hazards.

## **Bridges**

### ***Elk Creek Bridge – 800 block West Main Street – Hwy 6 MM105.5***

- The Elk Creek Bridge is located on the 800 block of West Main Street, which is also known as Highway 6 at the approximate 105.5-mile mark. It is a metal structure originally built in 1931 that spans Elk Creek. Elk Creek flows from north to south, emptying into the Colorado River at approximately the 103.8-mile mark of I-70. Due to the geography, there are limited methods to enter or leave the Town. The Elk Creek Bridge is located at the western edge of the Town limits and is an integral structure when considering a timely and orderly escape route to the west. This bridge could also be used as a main supply access should a problem arise on the east end of Town, denying access from that end. Although the Town does not own the bridge, its maintenance and protection is imperative. Extremely high run off may pose some danger to this bridge. Flash flooding, or conditions causing debris flow, would put this bridge at highest risk. The main train track runs close to the bridge and motor vehicle traffic puts the bridge at risk from hazardous material related incident. A motor vehicle accident of magnitude or hazardous material spill could render the bridge impassable for some time.

### ***Bridge(s) – Overpass – I-70 MM 105***

- This location actually consists of a series of three bridges arranged end to end, running north / south, which span the main railroad track on the

north end, four lanes of I-70 in the center, and the Colorado River at the south. The south end connects to County Road 335, which services the industrial section of New Castle as well as some residential areas. The north end connects to Highway 6 (Main Street) and is the main entrance for most traffic into the Town. These structures are at risk from all hazards dependent on severity, but are most vulnerable to effects of floodwaters of magnitude. These bridges are critical to the rapid arrival of emergency responders in the event of an incident and would also be used as a primary evacuation route.

#### ***Bridge – Overpass – I-70 MM 109***

- This bridge is located four miles east of the New Castle Town boundary and provides access from Highway 6 to I-70. Highway 6 terminates a short distance east of the MM109 access point and I-70 becomes the only roadway allowing access to the east and to the City of Glenwood Springs. This bridge also spans a railroad track and four lanes of I-70. In the event of a disaster or emergency disabling the I-70 MM 105 Bridge and New Castle evacuation routes to the west or north, the I-70 MM 109 Bridge would become critical for evacuation and emergency response purposes. This bridge is at risk from all hazards.

#### ***Bridge – East Elk Creek – County Road 245***

- The County Road 245 Bridge crosses Elk Creek at the approximate intersection of County Road 245 and County Road 241. This bridge is outside of the Town boundary but it would be crucial if evacuation to the north of Town were required. The bridge is at risk from flooding and debris flow hazard. Saturation would likely present landslide hazard on County Road 245 further west of the bridge.

#### ***Bridge/s – I-70 MM 104***

- Two bridges at this location span Elk Creek with four lanes of highway at the MM 104 of I-70, paralleled by two train tresses supporting two railroad tracks. Should the I-70 bridges fail, Town evacuation via I-70 to the west would be obstructed. The bridges are at risk from extreme flooding and debris flow from Elk Creek. Seismic activity is also a concern.

## **Schools**

#### ***Elk Creek Elementary School***

- Elk Creek Elementary School is a mainly brick structure located on the 800 block of West Main, on the west side of Elk Creek. The property is subject to flooding, debris flow, etc. It also has the strong possibility of being exposed to fire as trees, large bushes, shrubs and grassland on its west and north border it. The mountain directly to the west of the

subject property also displays a vent from an internal coal mine fire, which is a potential ignition source for the surrounding flora.

### ***Kathryn Senor Elementary & Riverside Middle School***

- Both of these schools are located on the east side of Alder Avenue, immediately north of the intersection of Alder Avenue and Castle Valley Boulevard, in the Castle Valley Subdivision. The schools maintain a service population of approximately 1000 students throughout the school year, from mid-August through the beginning of June. The schools are predominately brick construction, are positioned at elevation and have minimal landscape or vegetation in the vicinity. Fire or floods pose minimal risk to the structures. Other natural activity such as seismic events or saturation may present a considerable hazard.

### **Other infrastructure and critical facilities**

- **Gasoline/Fuel storage and delivery** – Stop N’ Save, Kum and Go – These fuel station/convenience stores are typical, dispensing gasoline and diesel fuels. They are located opposite one another on the north and south sides of Highway 6, west of its intersection with Castle Valley Boulevard. This location is also known as the I-70 interchange MM105. These resources are critical if isolated due to disaster.
- **New Castle Plaza** – The New Castle Plaza is located on the 800 block of East Main Street on the north side. It consists of four main buildings and a parking area large enough to contain approximately 350 vehicles. The buildings consist of a bank, bowling alley, City Market grocery store, and a two story structure containing restaurants and liquor store on the lower level, a gym, doctor’s office and other office space on the upper level. This two-story structure abuts an excavated hillside on its northern edge. This hillside is subject to saturation and has landslide potential. This complex is a resource for food, medical supplies, use as a staging area, and/or helicopter operations.
- **City Market** - Numerous restaurants exist within the Town limits, although duration of food-stocks is unknown. Under normal conditions the City Market contains enough food to sustain, if controlled, the current Town population for a short period.
- **Fire Station – Burning Mountains Fire Protection District**– The fire station is located on the 700 block of Castle Valley Boulevard. This is a new structure containing various fire fighting apparatus and emergency equipment. Availability of this equipment would be critical in any emergency situation. The structure could potentially be used as an emergency operations and staging center. It is located on a sloping hillside with minimal vegetation in the vicinity. Fire poses a minimal danger although potential saturation and landslide hazards exist.
- **County Road 335** – County Road 335 runs parallel to I-70 and the Colorado River at the southern Town limit. It provides access to the

west for residential properties outside the Town limits and to an industrially zoned portion of Town which includes businesses involved in the sales of hardware, lumber, stone, flooring materials, propane, individually packaged water, soft drinks, food snacks, etc. To the east County Road 335 provides access to an apartment complex within the Town, a park, and to other residential properties outside the Town limits. The resources contained within the industrial portion of the Town limits would be crucial in the event of large-scale disaster. County Road 335 is located at the base of a mountain slope and is subject to rockslide, landslide and slip due to saturation.

### **Historic and cultural resources**

The Town of New Castle's was incorporated on February 2, 1888. Its Main Street is a designated historic district. Over the years, New Castle's Historic Preservation Commission, a group of residents and town officials, have been committed to the historic preservation of the Town and the future success of Main Street. Their efforts have focused on "historic style" improvements between 2nd and 8th Streets (old style lamp posts, trees, and benches) and historic landmark designation for selected buildings along Main Street. They sought to embellish Main Street's existing historic character and building stock.<sup>2</sup>

### **Community organizations and programs**

New Castle is populated by a diverse group of persons of all types, races, beliefs and age ranges. The following are groups or organizations with community interest or stake in a rapid return to "normal" should a natural hazard or disaster present itself. These groups are most likely to assist the community, with or without direction:

- New Castle is the gateway to the Flattops region and White River National Forest. A large variety of year-round sporting opportunities present themselves to the sportsman. A strong percentage of the New Castle population is sport oriented and would respond to assist if called to a hazardous situation within the Town.
- A concerted effort to encourage citizen volunteer efforts has been under way for some time. Volunteer groups can be identified through this effort.
- Numerous churches within the Town have considerable membership. Some citizen oriented non-profit groups are also based in New Castle. The River Center is an example of the former; its mission to determine the needs of the community, recruit volunteers and fulfill those needs.

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*New Castle – Garfield County, Colorado by Crissy Fanganello, May 1999.*

- The police department has a neighborhood watch programs that provides access to several neighborhood citizen groups and/or networks.
- Other organizations include the Boy Scouts and Lions Club.
- New Castle has an extensive recreational program with numerous individuals involved and generally assigned as teams. In the event of disaster team members and respective families could be contacted and assigned as operating units.

### ***Administrative structure***

On January 12, 1999, the Town of New Castle adopted a Home Rule Charter. The Charter provides for a Council-Mayor form of government. It includes the requirement of two readings and advanced publication of ordinances before passage by the Council. This Charter also grants the Town the power of eminent domain outside our municipal boundaries. As the Town's needs and desires change, flexibility in our government is enhanced by our ability to institute laws, procedures, and boards and commissions through ordinances. This strengthens the voice of our citizens and their ability to become involved in local government by providing for the electorate's rights of referendum, petition, and recall.

All powers of the Town shall be vested in an elected Mayor and elected Council. The Council determines policies, enacts local legislation, adopts budgets, and appoints the Town Administrator who is delegated executive and administrative functions. The Council also appoints the Town Clerk, and Town Treasure/Finance Director.

The Towns current Organizational Chart is included as an appendix to this plan.

## Section 3: Risk Assessment

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This section expands on Garfield County's Natural Hazards Mitigation Plan by addressing New Castle's unique risks to the following natural hazards:

- Wildfire
- Flood
- Landslide and debris flow
- Earthquake
- Severe Weather
- Hazardous Materials (as a secondary hazard to the natural hazards outlined above)

### *Wildfire*

In general, the County's Risk Assessment does an adequate job of describing the risk from wildfires with the areas surrounding the Town of New Castle, given the data currently available. However, the County is also in the process of updating its Community Wildfire Protection Plan (CWPP), and more accurate and detailed risk assessment data will be available in the early years of implementing this natural hazard mitigation addendum. New Castle will work with the County and the surrounding rural fire protection districts to evaluate and understand the implications of the CWPP to the Town's wildfire risk and action items.

With this mitigation plan addendum, the Town wishes to acknowledge the following geographic areas and related vulnerabilities in which local risk is greater than the risk described in the County's risk assessment, and in which additional actions are warranted to reduce the risk to life and property:

- In general, wildfire risk is greatest in the northern portion of New Castle, from the area north of Mount Medaris
- More specifically, new development on the northeastern edge of town, accessed via Clubhouse Drive and Faas Ranch Road has had incomplete mitigation to reduce the risk of wildfire, which increases its vulnerability. A new golf course at the northeastern edge of town is expected to experience accompanying development of new higher-end housing in the coming years, in areas that have steep slopes and are at risk from wildfires spreading from the adjacent wildland-urban interface.
- Some nearby coalmines, similar to those in other parts of the County have been smoldering underground for over 100 years and provide possible sources of ignition. The Coal Seam fire resulted from the same ignition source.
- While not inside the Town's boundaries, a large trailer park near the southwestern border for the Town is vulnerable to fire. Many of the park's residents access services and retail opportunities in New Castle.

## **Flood**

With this mitigation plan addendum, the Town wishes to acknowledge the following geographic areas and related vulnerabilities in which local flood risk is greater than the risk described in the County's risk assessment, and in which additional actions are warranted to reduce the risk to life and property from flooding.

- The Town's potable water headgate, located on East Elk Creek, is vulnerable to flood damage. While it is outside of the Town's limits, it is a town-owned facility.
- A bridge crossing on CR 245 at East Elk Creek (a Garfield County controlled facility outside the Town's limits) is critical to the safe and efficient flow of transportation into and out of the Town.
- A wastewater / effluent discharge on the Colorado River could become blocked in a flood, damaging the Town's ability to effectively manage water.
- Grand River Park along the Colorado River in the southeast portion of the Town is subject to flood events.

## **Mitigation successes**

The Town of New Castle is not new to risk reduction and mitigation activities, though this is its first adopted and FEMA-approved mitigation plan. The following projects show a track record of success in implementation:

- 7th Street Project (2001): The Town of New Castle used its own funds and equipment to create a diversion structure to protect residents from storm water flooding during heavy rain. Property owners along 7th Street were suffering repetitive losses. The project included construction of a channel at the western base of Mount Medaris. The channel diverts floodwaters away from private property and into the public right-of way. The project has been tested several times by heavy rainfall since its construction and no losses have been suffered. The diversion structure was constructed with limited funds and should be considered temporary. Future improvements should include channel enlargement, bank armament and construction of a storm water detention basin.
- N. Wild Horse Project (2007): The Town of New Castle used its own funds to contract improvements to the N. Wildhorse drainage area. The project is intended to protect future residential development from large and infrequent flooding and debris flows. The project included channeling floodwater under the roadway and into an improved parkland area. The improvements include installation of large galvanized culverts and an armored channel. The improved parkland is designed to act as a water and debris basin.
- Hwy 6 Project (2002): At the request of the Town, land developers created a diversion structure to protect businesses and residents from

storm water flooding during heavy rain. Property owners along Hwy 6 were suffering repetitive losses. The project included construction of a channel at the eastern base of Mount Medaris. The channel diverts floodwaters away from private property and into the public right-of-way. The project has been tested several times by heavy rainfall since its construction and no losses have been suffered. The diversion structure was constructed with limited funds and should be considered temporary. Future improvements should include channel enlargement, bank armament and construction of a storm water detention basin.

- C Ave. Drainage Project (2008): A series of detention basins were created above the downtown district that suffered from repetitive flooding. The basins were constructed by land developers and are located in Castle Valley Ranch PUD, above the C Ave. drainage channel. The basins are designed to fill up and hold excess floodwaters until the system can recover and drain naturally. The project has been tested several times by heavy winter runoff and no losses have been suffered.

### **The National Flood Insurance Program (NFIP)**

The Flood Insurance and Mitigation Administration, a component of the Federal Emergency

Management Agency (FEMA) manages the National Flood Insurance Program (NFIP). The three components of the NFIP are: 1) Flood Insurance; 2) Floodplain Management; 3) Flood Hazard Mapping.

The Town of New Castle participates in the NFIP by adopting and enforcing floodplain management ordinances to reduce future flood damage. In exchange, the NFIP makes federally backed flood insurance available to homeowners, renters, and business owners in these communities. Preliminary Flood Insurance Study (FIS) Flood Insurance and Rate Maps (FIRM) are not available for New Castle. There are no repetitive flood loss properties in Town of New Castle.

<b>Town of New Castle – NFIP Participation Information</b>			
Category	Data	Category	Data
Date Joined NFIP	7/22/2004	Number of Policies in force	0
CRS class/discount	N/A	Insurance in Force	0
CAV date	7/22/2009	Number of Paid Losses	0
CAC date	01/04/2010	Total Losses Paid	0
Date of Current FIRM	Never Mapped	Substantial Damage claims since 1978	0

Notes: CAC = Community Assistance Contact; CAV = Community Assistance Visit; CRS = Community Rating System; FIRM = Flood Insurance Rate Map; NFIP = National Flood Insurance Program

### **Landslide and debris flow**

Several areas within the Town of New Castle experience landslides and debris flows in ways that affect the residents and infrastructure of the Town. The

following geographic areas and related vulnerabilities experience local landslide and debris flow risk that is greater than what is described in the County's risk assessment. Additional actions are warranted to reduce the risk to life and property from landslides and debris flows in these areas:

- Mount Medaris is a small range with steep slopes that runs through the Town of New Castle from east to west. It is located just to the north of the historic downtown area. This area is subject to debris flows and rock fall that impact downtown New Castle and areas in the immediate vicinity.
- The southern boundary of the Town is flanked by steep slopes and is subject to debris flows and rock fall.

### ***Earthquake***

The Garfield County Natural Hazard Mitigation Plan adequately describes the causes and characteristics, hazard history, and impacts of earthquakes in the Town of New Castle. In general, the risk is low in Garfield County for this type of event.

However, the historic commercial district near I-70 was constructed around the turn of the last century, and may have unreinforced masonry that could be subject to damage in an earthquake.

### ***Severe weather***

The Garfield County Natural Hazard Mitigation Plan adequately describes the causes and characteristics, hazard history, and impacts of severe weather in the Town of New Castle. In general, severe weather events are frequent occurrences in the County that residents are aware of and prepared for. Existing programs target risk reduction and education related to severe weather.

### ***Hazardous materials***

The Garfield County risk assessment describes hazardous materials spills as possible secondary hazard events resulting from landslides or debris flows / rock falls, wildfires, or earthquakes that impact storage areas. Additionally, several hazardous materials transfer routes (most notably I-70 and the rail line) bisect the County; spills or accidents along these lines, which also run near the Colorado River, could result in contamination of the source of drinking water for many communities in the County. In New Castle, the railroad tracks run adjacent to the historic downtown area; spills there from accidents could result in economic loss and impact the health and safety of residents and retail patrons in this area. The Town's drinking water source is Elk Creek; as a result, spills upstream on the Colorado would not affect the Town's drinking water source, but would affect wildlife habitat and recreational areas.

## Section 4: Action Items

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### *Mitigation Action Items*

Short and long-term action items identified through the planning process are an important part of the mitigation plan. Action items are detailed recommendations for activities that local departments, citizens and others could engage in to reduce risk.

#### **Multi Hazard**

- Review comprehensive plan and development codes for opportunities to more effectively reduce risks to new development.
- Continue to encourage citizens to prepare and maintain 72-hour kits.

#### **Wildfire**

- Undertake wildfire mitigation for the Castle Valley Ranch and Elk Run Areas, including clearing and maintaining firebreaks and other fire defensive areas.
- Undertake wildfire mitigation for the Lakota Canyon Ranch. Identify, clear, and maintain fire defensive areas and fire breaks.
- Coordinate with Garfield County to review development codes and improve opportunities to mitigate wildfires near the communities.

#### **Flood**

- Survey / map areas of critical concern for stream banks on East Elk Creek above the Town's potable water intake as a first step in fortifying the stream banks to reduce the risk to the intake from flooding.
- Construct a pressurized effluent system to discharge at the wastewater treatment plant.
- Continue compliance with the National Flood Insurance Program (NFIP) through the enforcement of local floodplain ordinances.
- Update the town's Flood Insurance Rate Maps (FIRMs) if funding becomes available.
- Armor the flood banks surrounding the Grand River Park.

#### **Landslides / Debris Flows**

- Construct diversions and barricades to control debris flows from Mount Medaris and Grand Hogback Mountain.

#### **Severe Weather**

- Continue to educate citizens about ways to weatherize their homes, as well as safe emergency heating equipment.



## Summary of Multi-Jurisdictional NHMP Action Items

Proposed Action Title	Coordinating Organization	Internal Partners	External Partners	Timeline	1) Reduce the loss of life and personal injuries from natural hazard events.	2) Reduce damage to County assets	3) Reduce County costs of disaster response and recovery.	4) Minimize economic losses.	5) Reduce damage to personal property.
<i>Town of New Castle</i>									
Undertake wildfire mitigation for the Castle Valley Ranch and Elk Run Areas, including clearing and maintaining fire breaks and other fire defensive areas.	Town of New Castle	Public Works dept.; Building & Planning dept.	Burning Mountain Fire Protection District; Bureau of Land Management; Garfield County; Castle Valley Ranch & Elk Run Home Owners Associations	Long Term	X		X		X
Undertake wildfire mitigation for the Lakota Canyon Ranch. Identify, clear, and maintain fire defensive areas and fire breaks.	Town of New Castle	Public Works dept; Building & Planning dept.	Burning Mountain Fire Protection District; Bureau of Land Management; Garfield County; Lakota Canyon Ranch Home Owners Association	Long Term	X		X		X
Survey / map areas of critical concern for stream banks on East Elk Creek above the Town's potable water intake as a first step in fortifying the stream banks to reduce the risk to the intake from flooding.	Town of New Castle	Public Works dept.	DOLA; CDPHE	Long Term		X			
Construct diversions and barricades to control debris flows from Mt. Medaris and Grand Hogback Mountain.	Town of New Castle	Public Works dept.	DOLA; CDOT; Garfield County	Long Term	X		X		
Construct a pressurized effluent system to discharge at the wastewater treatment plant	Town of New Castle	Public Works dept.	DOLA; CDPHE	Long Term		X	X		
Review comprehensive plan and development codes for opportunities to more effectively reduce risks to new development.	Town of New Castle	Building & Planning dept.	Western Slope Consulting	Long Term	X				X
Continue compliance with the National Flood Insurance Program (NFIP) through the enforcement of local floodplain ordinances.	Town of New Castle	Town engineer; Building & Planning dept.	Garfield County; OEM; FEMA	Long Term	X				X
Update the town's Flood Insurance Rate Maps (FIRMs) if funding becomes available.	Town of New Castle	Town engineer; Building & Planning dept.	OEM; FEMA	Long Term				X	X
Coordinate with Garfield County to review development codes and improve opportunities to mitigate wildfires near the communities.	Town of New Castle	Town engineer; Building & Planning dept.	Garfield County; Western Slope Consulting; BMFPD	Long Term		X			X
Armor the flood banks surrounding the Grand River Park	Town of New Castle	Public Works dept.	Schmueser Gordon Meyer engineers/surveyors and Conservation Trust Fund	Long Term			X		
Continue to educate citizens about ways to weatherize their homes, as well as safe emergency heating equipment.	Town of New Castle	Building & Planning dept.	CLEER; Xcel; BMFPD	Long Term	X			X	X
Continue to encourage citizens to prepare and maintain 72-hour kits.	Town of New Castle	Building & Planning dept.	American Red Cross; Garfield County Emergency Management; BMFPD	Short Term	X				



## **Attachment 1:**

### **Town of New Castle Action Item Worksheets**

---

Short and long-term action items identified through the planning process are an important part of the mitigation plan. Action items are detailed recommendations for activities that local departments, citizens and others could engage in to reduce risk.



<b>Proposed Action Item:</b>		<b>Alignment with Plan Goals:</b>	
Review comprehensive plan and development codes for opportunities to more effectively reduce risks to new development.		Goal 1: Reduce the loss of life and personal injuries from natural hazard events. Goal 5: Reduce damage to personal property  <i>Multi Hazard</i>	
<b>Rationale for Proposed Action Item:</b>			
The Comprehensive Plan and development code provide the legal framework and long-term vision for implementing plans and land use regulation, this is one of the best places to implement mitigation because risks can be eliminated before development occurs.			
<b>Ideas for Implementation:</b>			
Incorporate new hazard information in the Comprehensive Plan's Periodic Review process.  Review latest vulnerability assessment information and policies that address hazards. Information can be obtained from the risk assessment portion of the Garfield County Natural Hazard Mitigation Plan (NHMP) and other state agencies.			
<b>Coordinating Organization:</b>		Town of New Castle	
<b>Internal Partners:</b>		<b>External Partners:</b>	
Building & Planning dept.		Western Slope Consulting	
<b>Timeline:</b>		<b>If available, estimated cost:</b>	
<u>Short Term</u> (0-2 years)	<u>Long Term</u> (2-4 or more years)	<b>\$5,000</b>	
	XXX		
<b>Form Submitted by:</b>		<b>Tim Cain</b>	
Action Item Status: New Action (2011)			

<b>Proposed Action Item:</b>		<b>Alignment with Plan Goals:</b>	
Continue to encourage citizens to prepare and maintain 72-hour kits.		Goal 1: Reduce the loss of life and personal injuries from natural hazard events. <i>Multi Hazard</i>	
<b>Rationale for Proposed Action Item:</b>			
The town is vulnerable to a number of natural hazards that could disrupt services. In a major disaster, utilities transportation networks, and businesses could be disrupted, and it may take days until vital services are restored. Preparing a 72-hour kit can help community members survive on their own without relying too heavily on emergency services.			
<b>Ideas for Implementation:</b>			
Provide educational material and examples of how to assemble 72-hour kits to residents of the town and employees. Outreach and awareness campaigns need to be carefully organized and developed to ensure that residents receive critical information. Distribute information through the town's newsletter. Alternatively, post information about 72-hour kits on the town's website.			
During National Emergency Preparedness Month or National Night Out, use first responders and community members to host educational presentations to groups within the community to encourage individuals to put together their own kit.			
Resources like <a href="http://www.preparedness.gov">www.preparedness.gov</a> or <a href="http://www.72hours.org">www.72hours.org</a> can provide content needs for 72-hour kits.			
<b>Coordinating Organization:</b>		Town of New Castle	
<b>Internal Partners:</b>		<b>External Partners:</b>	
Building & Planning dept.		American Red Cross; Garfield County Emergency Management; BMFPD	
<b>Timeline:</b>		<b>If available, estimated cost:</b>	
<u>Short Term</u> (0-2 years)	<u>Long Term</u> (2-4 or more years)	<b>\$5,000</b>	
XXX			
<b>Form Submitted by:</b>		Tim Cain	
Action Item Status: New Action (2011)			

<b>Proposed Action Item:</b>		<b>Alignment with Plan Goals:</b>	
Undertake wildfire mitigation for the Castle Valley Ranch and Elk Run Areas, including clearing and maintaining fire breaks and other fire defensive areas.		Goal 1: Reduce the loss of life and personal injuries from natural hazard events. Goal 3: Reduce County costs of disaster response and recovery. Goal 5: Reduce damage to personal property <i>Wildfire Hazard</i>	
<b>Rationale for Proposed Action Item:</b>			
The unique geological formations surrounding the Castle Valley Ranch and Elk Run areas cause storm cells to stall in the Castle Valley Ranch areas. These stalled storm systems often result in frequent lightning strikes, which are the source of wildfire ignitions.			
<b>Ideas for Implementation:</b>			
<ol style="list-style-type: none"> <li>1. Map areas of concern</li> <li>2. Public outreach via various communication outlets e.g. website, cable channel 10, informational pamphlets</li> <li>3. Development review approval process to include action item</li> <li>4. Assist individual lot owners with educational information</li> <li>5. Seek funding</li> </ol>			
<b>Coordinating Organization:</b>		Town of New Castle	
<b>Internal Partners:</b>		<b>External Partners:</b>	
Public Works dept.; Building & Planning dept.		Burning Mountain Fire Protection District; Bureau of Land Management; Garfield County; Castle Valley Ranch & Elk Run Home Owners Associations	
<b>Timeline:</b>		<b>If available, estimated cost:</b>	
Short Term (0-2 years)	Long Term (2-4 or more years)	<b>\$150,000</b>	
	XXX		
<b>Form Submitted by:</b>		<b>Tim Cain</b>	
Action Item Status: New Action (2011)			

<b>Proposed Action Item:</b>		<b>Alignment with Plan Goals:</b>	
Undertake wildfire mitigation for the Lakota Canyon Ranch. Identify, clear, and maintain fire defensive areas and fire breaks.		Goal 1: Reduce the loss of life and personal injuries from natural hazard events. Goal 3: Reduce County costs of disaster response and recovery. Goal 5: Reduce damage to personal property <i>Wildfire Hazard</i>	
<b>Rationale for Proposed Action Item:</b>			
The unique geological formations surrounding the Lakota Ranch areas cause storm cells to stall in the Lakota Ranch areas. These stalled storm systems often result in frequent lightning strikes, which are the source of wildfire ignitions.			
<b>Ideas for Implementation:</b>			
<ol style="list-style-type: none"> <li>1. Map areas of concern</li> <li>2. Public outreach via various communication outlets e.g. website. Cable channel 10, informational pamphlets</li> <li>3. Development review approval process to include action item</li> <li>4. Assist individual lot owners with educational information</li> <li>5. Seek funding</li> </ol>			
<b>Coordinating Organization:</b>		Town of New Castle	
<b>Internal Partners:</b>		<b>External Partners:</b>	
Public Works dept; Building & Planning dept.		Burning Mountain Fire Protection District; Bureau of Land Management; Garfield County; Lakota Canyon Ranch Home Owners Association	
<b>Timeline:</b>		<b>If available, estimated cost:</b>	
<u>Short Term</u> (0-2 years)	<u>Long Term</u> (2-4 or more years)	<b>\$150,000</b>	
	XXX		
<b>Form Submitted by:</b>		<b>Tim Cain</b>	
Action Item Status: New Action (2011)			

<b>Proposed Action Item:</b>		<b>Alignment with Plan Goals:</b>	
Coordinate with Garfield County to review development codes and improve opportunities to mitigate wildfires near the communities.		Goal 2: Reduce damage to county assets. Goal 5: Reduce damage to personal property <i>Wildfire Hazard</i>	
<b>Rationale for Proposed Action Item:</b>			
Wildfires beginning in Garfield County near the urban fringe could easily spread to the town. Reviewing Garfield County's development codes together with the Garfield County Development Services Division to develop ways to mitigate wildfires will reduce the likelihood that wildfires will spread to the town.			
<b>Ideas for Implementation:</b>			
Review Garfield County's development codes together with the County to identify potential wildfire issues. Develop strategies for addressing these issues. Strategies could include conducting education and outreach with the public on wildfire risks and mitigation actions.			
Coordinate efforts with the Garfield County Community Wildfire Protection Plan Steering Committee and Garfield County Emergency Management.			
<b>Coordinating Organization:</b>		Town of New Castle	
<b>Internal Partners:</b>		<b>External Partners:</b>	
Town engineer; Building & Planning dept.		Garfield County; Western Slope Consulting; BMFPD	
<b>Timeline:</b>		<b>If available, estimated cost:</b>	
<u>Short Term</u> (0-2 years)	<u>Long Term</u> (2-4 or more years)	<b>\$25,000</b>	
	XXX		
<b>Form Submitted by:</b>		<b>Tim Cain</b>	
Action Item Status: New Action (2011)			

<b>Proposed Action Item:</b>		<b>Alignment with Plan Goals:</b>	
Survey / map areas of critical concern for stream banks on East Elk Creek above the Town's potable water intake as a first step in fortifying the stream banks to reduce the risk to the intake from flooding.		Goal 2: Reduce damage to county assets.  <i>Flood Hazard</i>	
<b>Rationale for Proposed Action Item:</b>			
Flooding of the Elk Creek waterway could cause severe damage to critical town infrastructure, including the potable water headgate.			
<b>Ideas for Implementation:</b>			
<ol style="list-style-type: none"> <li>1. Obtain outside contract proposals (RFP)</li> <li>2. Seek funding sources</li> </ol>			
<b>Coordinating Organization:</b>		Town of New Castle	
<b>Internal Partners:</b>		<b>External Partners:</b>	
Public Works dept.		DOLA; CDPHE	
<b>Timeline:</b>		<b>If available, estimated cost:</b>	
<u>Short Term</u> (0-2 years)	<u>Long Term</u> (2-4 or more years)	<b>\$185,000</b>	
	XXX		
<b>Form Submitted by:</b>		<b>John Wenzel</b>	
Action Item Status: New Action (2011)			

<b>Proposed Action Item:</b>		<b>Alignment with Plan Goals:</b>	
Construct a pressurized effluent system to discharge at the wastewater treatment plant		Goal 2: Reduce damage to county assets. Goal 3: Reduce County costs of disaster response and recovery. <i>Flood Hazard</i>	
<b>Rationale for Proposed Action Item:</b>			
Flooding of the Colorado River could cause severe damage to critical town infrastructure, including the wastewater effluent channel.			
<b>Ideas for Implementation:</b>			
<ol style="list-style-type: none"> <li>1. Map areas of concern</li> <li>2. Obtain outside contract proposals (RFP)</li> <li>3. Seek funding sources</li> </ol>			
<b>Coordinating Organization:</b>		Town of New Castle	
<b>Internal Partners:</b>		<b>External Partners:</b>	
Public Works dept.		DOLA; CDPHE	
<b>Timeline:</b>		<b>If available, estimated cost:</b>	
<u>Short Term</u> (0-2 years)	<u>Long Term</u> (2-4 or more years)	<b>\$185,000</b>	
	XXX		
<b>Form Submitted by:</b>		<b>John Wenzel</b>	
Action Item Status: New Action (2011)			

<b>Proposed Action Item:</b>		<b>Alignment with Plan Goals:</b>	
Continue compliance with the National Flood Insurance Program (NFIP) through the enforcement of local floodplain ordinances.		Goal 1: Reduce the loss of life and personal injuries from natural hazard events. Goal 5: Reduce damage to personal property  <i>Flood Hazard</i>	
<b>Rationale for Proposed Action Item:</b>			
The National Flood Insurance Program provides communities with federally backed flood insurance to homeowners, renters, and business owners, provided that communities develop and enforce adequate floodplain management ordinances. The benefits of adopting NFIP standards for communities are a reduced level of flood damage in the community and stronger buildings that can withstand floods. According to the NFIP, buildings constructed in compliance with NFIP building standards suffer approximately 80 percent less damage annually than those not built in compliance.			
<b>Ideas for Implementation:</b>			
<ul style="list-style-type: none"> <li>Actively participate with State Office of Emergency Management and FEMA during Community Assistance Visits. The Community Assisted Visit (CAV) is a scheduled visit to a community participating in the NFIP for the purpose of 1) conducting a comprehensive assessment of the community's floodplain management program; 2) assisting the community and its staff in understanding the NFIP and its requirements; and 3) assisting the community in implementing effective flood loss reduction measures when program deficiencies or violations are discovered.</li> <li>Conduct an assessment of the town's floodplain ordinances to ensure they reflect current flood hazards.</li> <li>Coordinate with the county to ensure that floodplain ordinances and NFIP regulations are maintained and enforced. Continue to assess the need for updated ordinances.</li> <li>Mitigate areas that are prone to flooding and/or have the potential to flood.</li> </ul>			
<b>Coordinating Organization:</b>		Town of New Castle	
<b>Internal Partners:</b>		<b>External Partners:</b>	
Town engineer; Building & Planning dept.		Garfield County; OEM; FEMA	
<b>Timeline:</b>		<b>If available, estimated cost:</b>	
Short Term (0-2 years)	Long Term (2-4 or more years)	<b>\$20,000</b>	
	XXX		
<b>Form Submitted by:</b>		<b>Jeff Simonson by Tim Cain</b>	
Action Item Status: New Action (2011)			

<b>Proposed Action Item:</b>		<b>Alignment with Plan Goals:</b>	
Update the town's Flood Insurance Rate Maps (FIRMs) if funding becomes available.		Goal 4: Minimize economic losses Goal 5: Reduce damage to personal property  <i>Flood Hazard</i>	
<b>Rationale for Proposed Action Item:</b>			
The town has Flood Mitigation Rate Maps current as of 1976. However, if funding becomes available, the FIRMs should be updated to address new information and new vulnerabilities, as well as any new land use developments occurring in the community.			
<b>Ideas for Implementation:</b>			
If there are areas that need to be revised for the flood map, complete the MT-2 Forms Package (Application Forms for Conditional Letters of Map Revision and Letters of Map Revision). The forms and instructions are designed to assist requesters (community officials or individuals via community officials) in gathering the data that the FEMA needs to determine whether the effective NFIP map and Flood Insurance Study report for a community should be revised.			
<b>Coordinating Organization:</b>		Town of New Castle	
<b>Internal Partners:</b>		<b>External Partners:</b>	
Town engineer; Building & Planning dept.		OEM; FEMA	
<b>Timeline:</b>		<b>If available, estimated cost:</b>	
<u>Short Term</u> (0-2 years)	<u>Long Term</u> (2-4 or more years)	<b>\$55,000</b>	
	XXX		
<b>Form Submitted by:</b>		<b>Jeff Simonson by Tim Cain</b>	
Action Item Status: New Action (2011)			

<b>Proposed Action Item:</b>		<b>Alignment with Plan Goals:</b>	
Armor the flood banks surrounding the Grand River Park		Goal 3: Reduce County costs of disaster response and recovery. <i>Flood Hazard</i>	
<b>Rationale for Proposed Action Item:</b>			
Seasonal flooding of the Colorado River is slowly eroding the flood banks that protect the Grand river Park. Armoring the flood banks will protect public property and parkland infrastructure.			
<b>Ideas for Implementation:</b>			
1) Engineering design 2) Seek funding sources			
<b>Coordinating Organization:</b>		Town of New Castle	
<b>Internal Partners:</b>		<b>External Partners:</b>	
Public Works dept.		Schmueser Gordon Meyer engineers/surveyors and Conservation Trust Fund	
<b>Timeline:</b>		<b>If available, estimated cost:</b>	
<u>Short Term</u> (0-2 years)	<u>Long Term</u> (2-4 or more years)	<b>\$100,000</b>	
	XXX		
<b>Form Submitted by:</b>	<b>John Wenzel</b>		
Action Item Status: New Action (2011)			

<b>Proposed Action Item:</b>		<b>Alignment with Plan Goals:</b>	
Construct diversions and barricades to control debris flows from Mt. Medaris and Grand Hogback Mountain.		Goal 1: Reduce the loss of life and personal injuries from natural hazard events. Goal 3: Reduce County costs of disaster response and recovery. <i>Landslide / Debris Flow Hazard</i>	
<b>Rationale for Proposed Action Item:</b>			
High rain fall events cause debris to flow and large rocks to fall into residential, commercial, and public areas.			
<b>Ideas for Implementation:</b>			
<ol style="list-style-type: none"> <li>1. Map areas of concern</li> <li>2. Develop engineered design</li> <li>3. Seek funding for improvements to be constructed</li> <li>4. Development review approval process to include action item</li> </ol>			
<b>Coordinating Organization:</b>		Town of New Castle	
<b>Internal Partners:</b>		<b>External Partners:</b>	
Public Works dept.		DOLA; CDOT; Garfield County	
<b>Timeline:</b>		<b>If available, estimated cost:</b>	
<u>Short Term</u> (0-2 years)	<u>Long Term</u> (2-4 or more years)	<b>\$580,000</b>	
	XXX		
<b>Form Submitted by:</b>		<b>John Wenzel</b>	
Action Item Status: New Action (2011)			

<b>Proposed Action Item:</b>		<b>Alignment with Plan Goals:</b>	
Continue to educate citizens about ways to weatherize their homes, as well as safe emergency heating equipment.		Goal 1: Reduce the loss of life and personal injuries from natural hazard events. Goal 4: Minimize economic losses Goal 5: Reduce damage to personal property <i>Severe Weather Hazard</i>	
<b>Rationale for Proposed Action Item:</b>			
Severe winter storms can bring extreme cold, snow, and ice, causing power outages and breaks in un-insulated water lines. Power outages can lead to heat loss, potentially harming citizens. Educating citizens about ways to weatherize their homes, as well as safe emergency heating equipment, can reduce the effects of extreme cold and inform residents of how to properly heat their homes in the event of a power outage.			
<b>Ideas for Implementation:</b>			
<ul style="list-style-type: none"> <li>• Use energy audits, cash rebates, and tax credits to help homeowners weatherize their homes.</li> <li>• Coordinate efforts with home improvement businesses to educate citizens about weatherizing homes and providing safe emergency heating equipment.</li> <li>• Coordinate education efforts with local electric companies to educate citizens about weatherization.</li> <li>• Coordinate with the local Fire Districts to develop a list of emergency heating information.</li> <li>• Advertise weatherization tax credits to serve as an incentive for people to weatherize their homes and reduce their heating bills.</li> </ul>			
<b>Coordinating Organization:</b>		Town of New Castle	
<b>Internal Partners:</b>		<b>External Partners:</b>	
Building & Planning dept.		CLEER; Xcel; BMFPD	
<b>Timeline:</b>		<b>If available, estimated cost:</b>	
<u>Short Term</u> (0-2 years)	<u>Long Term</u> (2-4 or more years)	\$7,500	
	XXX		
<b>Form Submitted by:</b>		Tim Cain	
Action Item Status: New Action (2011)			





## **Attachment 3:**

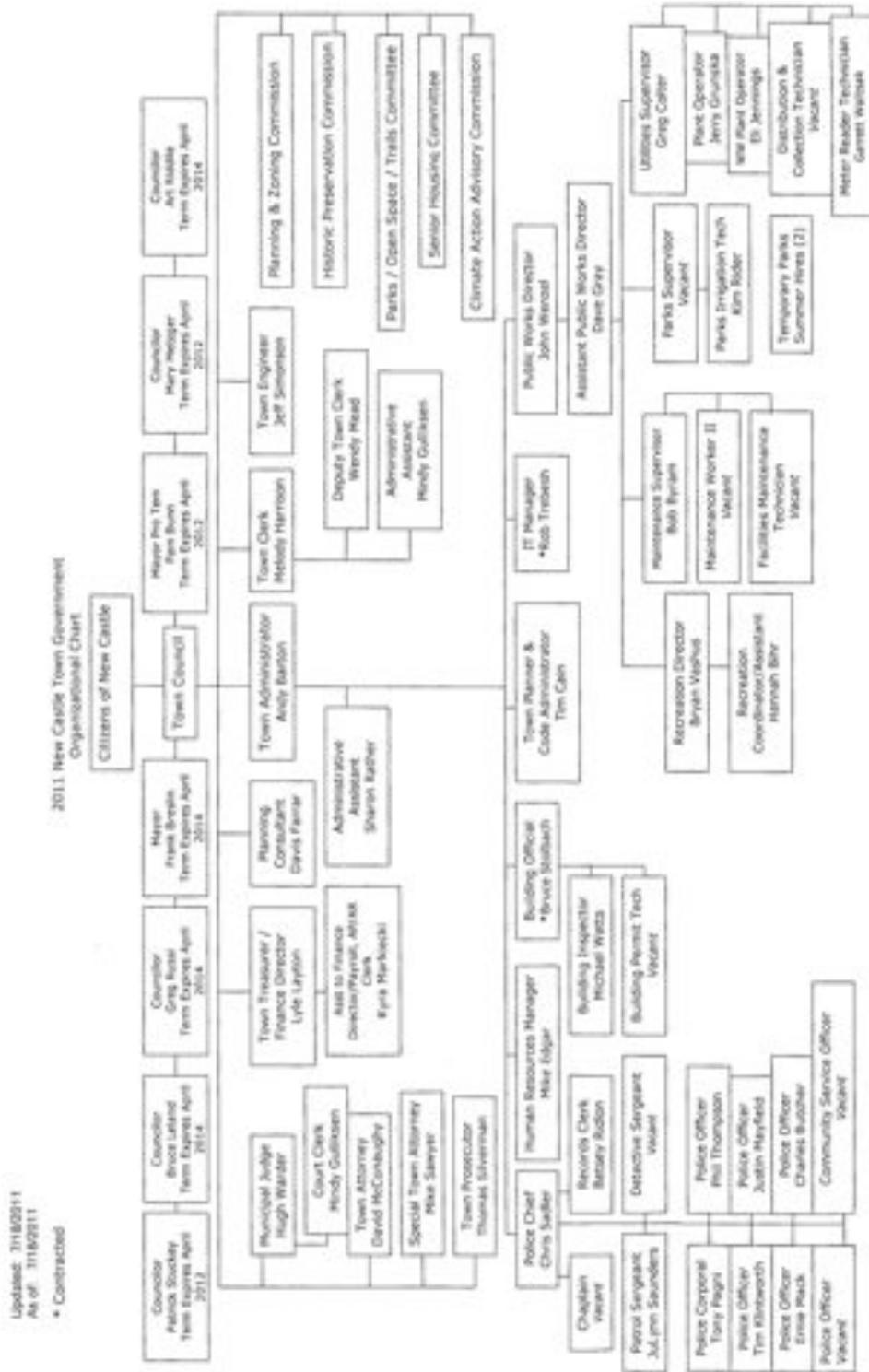
### **Town of New Castle Critical Infrastructure Map**

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A significant component of the Natural Hazard Mitigation Plan is identifying where and how critical infrastructure and key resources could be impacted by natural hazards. The Garfield County GIS department developed maps of New Castle that identify public facilities, utilities, agriculture and natural resources, water supply and treatment infrastructure, oil and gas facilities, and transportation facilities. These maps contribute to the understanding of community vulnerability. Due to the sensitive nature of some of the information included in this map, the map is not available upon request from New Castle Planning Department, the Garfield County Manager, or the Garfield County GIS Department.



# Attachment 4: Town of New Castle Organizational Chart



Updated: 3/18/2011  
As of: 3/18/2011  
\* Contracted



## **Attachment 4:**

### **Town of New Castle Documentation**

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This Attachment includes documentation of the public meetings where the Natural Hazard Mitigation Plan and the planning process were discussed. Community input contributed to the New Castle NHMP as well as influenced the development of the actions that will guide hazard mitigation over the next 5-year time frame.



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# Agenda

## New Castle Town Council Meeting

### Tuesday, July 19, 2011, 7:00 p.m., Town Hall

#### **Call to Order**

Mayor Breslin called the meeting to order at 7:03 p.m.

#### **Pledge of Allegiance**

#### **Roll Call**

Present	Mayor Breslin
	Councilor Russi
	Councilor Metzger
	Councilor Bunn
	Councilor Stuckey
Absent	Councilor Riddile
	Councilor Leland

Also present at the meeting was Administrator Andy Barton, Town Clerk Melody Harrison, Finance Director Lyle Layton, Planner/Code Administrator Tim Cain, Consultant Planner Davis Farrar and Consultant Attorney David Smith.

#### **Meeting Notice**

Clerk Harrison verified that her office gave notice of the meeting in accordance with Resolution TC-2011-1.

#### **Conflicts of Interest**

There were no conflicts of interest.

#### **Citizen Comments on Items NOT on Agenda**

There were no citizen comments.

#### **Consultant Reports**

Consultant Attorney – David Smith provided an update on CVR Filing 10. Attorney Smith told council that he had contacted by Aaron Atkinson of Castle Valley Ranch and told him what needed to be done to complete the SIA and Final Plat.

Consultant Planner – Davis Farrar told council that the BOCC continued to deliberate on the county comprehensive plan and would be meeting again on it on August 15, 2011. Attorney Smith said he would attend the meeting, and Consultant Farrar suggested that a staff member go as well. Mayor Breslin said that Consultant Attorney David McConaughy told him that by statute, comprehensive plans are advisory. The BOCC had added language in their comp plan that specifically said it was not binding. Councilor Russi asked how New Castle had made their plan mandatory. Attorney Smith stated that any comp plan can be made mandatory in its adoption. He also said that the county was looking to revise their land use code.

Consultant Farrar told council that the Town's comprehensive plan called for an annual review of the plan. Since there had been very little on recent P&Z agendas, he asked if the comp plan should go to P&Z for that review. The council agreed, provided the costs were no more than a few hundred dollars.

1 Consultant Engineer – not present. Councilor Russi said he had spoken with Engineer  
2 Simonson and he had nothing to report but would gladly attend if needed.  
3  
4  
5  
6

## 7 **Items for Consideration**

### 8 9 **2010 Audit Results**

10 John Cutler – of John Cutler and Associates, LLC.

11 Mr. Cutler told the council that the audit had been done in May, 2011, and that it was an  
12 unqualified independent report. He complimented the council on a general fund increase  
13 for 2010, and for keeping within budget. Councilor Russi asked about the Town's long-  
14 term debt profile. Mr. Cutler said that it had gone up some, but compared to other towns  
15 of the same size, it is not bad. In general obligation debt, the town was very low at  
16 \$658,000.00. He suggested watching the utility fund closely even though it was in fair  
17 financial condition. Mr. Cutler said that although he is not a financial advisor, he advised  
18 that the Town carefully analyze future spending. Mayor Breslin asked about the Town's  
19 lack of a policy regarding custodial credit risk for deposits. Mr. Cutler said that in Colorado  
20 it was not necessary to have a policy as the Town was protected by the Colorado Public  
21 Deposit Act, and the statement regarding the lack of policy was standard. Mayor Breslin  
22 also asked about an investment policy and Mr. Cutler said the Town's investments were  
23 pretty simple, but a policy was something that could be done. Mayor Breslin asked if the  
24 capital assets would decrease in 2011 because of the property tax decrease, and Mr.  
25 Cutler said it would only affect the property tax, not capital assets.

26 **MOTION: Councilor Bunn made a motion to accept the 2010 Audit and Financial**  
27 **Statements by John Cutler and Associates, LLC. Councilor Russi seconded the**  
28 **motion and it passed unanimously.**

29  
30 The council briefly discussed lease versus purchase regarding town equipment and  
31 vehicles.  
32

### 33 **Lakota Canyon Ranch Golf Club and Recreation Center Liquor license Transfer -** 34 **Request for extension of temporary license**

35 Mayor Breslin opened the public hearing at 7:49 p.m.

36 There were no public comments.

37 Mayor Breslin closed the public hearing at 7:50 p.m.

38 **MOTION: Councilor Russi made a motion to extend the temporary liquor licenses**  
39 **for Lakota Canyon Ranch Recreation Center and Golf Course Clubhouse for a**  
40 **period of sixty days. Councilor Stuckey seconded the motion and it passed**  
41 **unanimously.**

### 42 43 44 **Consideration of Major PUD Amendment**

45 Purpose: PUD Amendment to allow for a sign elevation of 51 feet

46 Legal Description: Walters Center PUD Lot 5

47 Applicant: Schlosser Signs

48 Landowner: McDonalds Corporation

49 Consultant Planner Farrar presented a slide show, which showed the McDonalds sign from  
50 various points on i-70 both east and west bound. He also provided a comparison to the  
51 Rifle McDonalds sign. He said that the applicant had been asked to provide information or

1 documentation on what the higher sign would do for them, and they had not provided it,  
2 so Consultant Farrar took the photos and created the slideshow.

3 **MOTION: Councilor Russi made a motion to deny the McDonalds Major PUD**  
4 **Amendment application to allow a sign elevation of 51 feet. Councilor Metzger**  
5 **seconded the motion and it passed unanimously.**

### 6 7 **Consent Agenda**

8 Liquor License Renewal - Burning Mountain Bowl

9 **MOTION: Councilor Russi made a motion to approve the consent agenda.**  
10 **Councilor Bunn seconded the motion and it passed unanimously.**

### 11 12 **Council Comments**

13 Mayor Breslin commented that the suicide rate in Garfield County was quite high, and he  
14 asked how the council and staff felt about providing some training for suicide prevention.  
15 He suggested using Ms. Donnalyne Lagiglia. Police Chief Chris Sadler said he had been  
16 part of a suicide prevention team in the past, and it was a great organization, although  
17 quite taxing on a personal level. Council agreed it would be a valuable effort.

18 Councilor Metzger stated that Mr. Mike Reiger had agreed in his CUP application to install  
19 a stop sign at 8th Street, and she asked when it would be done, and Planner Cain said he  
20 would touch base with public works. Councilor Metzger also stated that the Castle Valley  
21 real estate sign had not been removed when council requested its removal a month  
22 earlier, and she asked what measures could be taken to prevent council requests from  
23 being missed or forgotten. Administrator Barton assured council that he would take steps  
24 to prevent items such as these from being missed in the future. Councilor Metzger also  
25 asked that the Planning & Zoning Commission meeting agendas be sent to the council.  
26 Clerk Harrison agreed to add council to the P&Z agenda e-mail list.

27 Councilor Stuckey asked about weed control in Lakota Canyon Ranch and was concerned  
28 about the number of thistles coming up. Planner/Code Administrator Tim Cain said he  
29 would go out there and look.

30 Council briefly discussed the recent real estate trend of selling properties wholesale.

### 31 32 33 **Staff Reports**

34 **Public Works Director** - not present

35 **Town Clerk** - Clerk Harrison told council that she had spoken with Sam Garcia's  
36 daughter, Carina, regarding his business plan. Ms. Garcia indicated she would be writing  
37 the plan and they would be ready with the plan at the next council meeting.

38 **Town Administrator** - Administrator Barton told council that public works had reported  
39 a problem with the sewer above D Avenue and that the Town would be using a contract  
40 plumber to make repairs. He also said that public works would be striping the parking  
41 spaces in front of Town Hall to provide spaces specifically for Town Hall customers to use.  
42 There had been a complaint from a handicapped citizen that there is almost no handicap  
43 parking in the downtown area, and staff would be addressing the issue the following  
44 morning at the quarterly management retreat. Administrator Barton told council that the  
45 council retreat on August 13 would be a major topic of discussion at the management  
46 retreat, and asked if they had anything they would like to add to the retreat agenda.  
47 Councilor Metzger asked that the special event application for the town be looked at, as  
48 she had received several complaints about how onerous it was. Clerk Harrison said she  
49 was working on an ordinance to provide the town with the authority to require a special  
50 events applications, and that the application itself would be reviewed as well. Mayor  
51 Breslin asked that maps of the parks and community center for special events applicants  
52 be added to the application. Councilor Russi asked that Capital Project Transportation

1 funding be added to the council retreat agenda, and whether the Town would have a  
2 representative at those meetings.

3 **Town Planner** - Tim Cain told council that the County Public Works Director, Betsy  
4 Suerth, had attended a recent council meeting, asking the Town to participate in the  
5 County All-Hazards Mitigation Plan. Planner Cain stated that in order for FEMA to approve  
6 the plan, it had to be advertised as well be part of public meetings. In order for FEMA to  
7 approve plan they require a lot of public outreach. Planner Cain asked that the item be  
8 placed on the next council agenda, and that information regarding the meeting be put on  
9 the town web page and access channel.

10  
11  
12 **MOTION: Councilor Metzger made a motion to adjourn. Councilor Stuckey**  
13 **seconded the motion and it passed unanimously.**

14  
15 **Adjourn, 8:45 p.m.**

16  
17  
18 Respectfully submitted;

19  
20  
21 \_\_\_\_\_  
22 Mayor Frank Breslin

23 \_\_\_\_\_  
24 Town Clerk Melody Harrison

## July 20, 2011 Management Retreat Follow-up Notes

- **Twice Monthly Meetings with Department Heads**
  - It was decided that every 2 weeks Andy will meet with each Department Director to review a list of projects. Sharon will arrange the meetings. Department Heads will be required to bring a list of projects (indicating status) to each meeting. The meetings will be no longer than 30 minutes.
  
- **Suicide Prevention Event**
  - Sharon will make the initial contact with the presenter, after which Sharon, Chris, Bryan, Melody and Andy will orchestrate the event.
  
- **Discussion Items for Council Retreat**
  - CDOT funding (bridge across 1-70--discuss with Jeff Simonson the possibility of attending CDOT meetings for the purpose of acquiring future funding for bridge improvements)
  - Procedures for special events
  - Incentives for water conservation
  - Service expectations
  - "Homework" for Council Retreat--answering five questions in outline form. Andy will prepare an example and will transmit it to staff before the end of this week. Outlines from Department Directors will be due no later than August 5<sup>th</sup>.
  - Andy will arrange meetings with Department Heads to discuss outlines prior to the Council Retreat.
  
- **New Castle Mitigation Plan**
  - Development Work by Tim, Mike, John, Andy and other staff as needed.
  
- **Capital Expenditure Funding**
  - Each department is to develop a list of their capital needs for the budget, and to the extent possible, identify funding sources.
  
- **Employee Workspace Optimization Suggestions:**
  - Move Chambers and Municipal Court to the Community Center
  - Recreation Dept. move to Public Works building
  - Liquidating Town properties for funding resources
  - Evaluate town properties and building sites for suitability for Police station
  - Use modular construction for Police Station
  - Move staff to other buildings based on need
  - Chris to do needs assessment as a requisite to further discussion



**TOWN OF NEW CASTLE**  
450 W MAIN ST • PO BOX 90  
NEW CASTLE, COLORADO 81647

PH 970 984 2311  
EMAIL INFO@NEWCASTLECOLORADO.ORG  
WEB NEWCASTLECOLORADO.ORG

750 \*\*\*\*\*AUTO\*\*5-DIGIT 81647 T2  
P2

TOTAL AMOUNT  
[REDACTED]  
ACCOUNT NUMBER  
[REDACTED]

Service Address:  
[REDACTED]

7/01/2011 7/31/2011 31

Water - Minimum  
Metered Usage  
Sewer  
Trash  
Delinq./Admin Chg

Current Billing

Previous Balance  
Payments  
Adjustments

Thank you for your payment

TOTAL CHARGES DUE BY 8/25/2011

PAYMENTS MADE AFTER THE END OF THE MONTH WILL NOT BE REFLECTED ON THIS SERVICE BILL

**ATTENTION CITIZENS:**

Watering restrictions are in effect.  
odd and even days based on your address  
and calendar date. you may water from  
midnight to 10am and 6pm-midnight.  
maximum of four (4) hours on the allotted day.

In an effort to increase resilience to Nat. Hazards.  
GARCO, N.C., and other towns are dev. a  
Nat. Hazards Mitigation Plan.  
For more information please call Town Hall 984-2311.  
Visit us by our website [www.newcastlecolorado.org](http://www.newcastlecolorado.org)

**FOR WATER RATES LOOK ON BACK OF BILL**

# Transmittal Memo

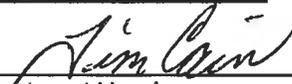
**To:** Andy Barton  
**From:** Tim Cain  
**Date:** July 27, 2011  
**Re:** NC Mitigation Plan

---

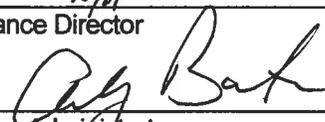
**Recommendation:** None at this time

**Policy Implications:** New Castle will continue with ongoing preparation for natural hazard disaster

**Budget Implications:** None at this time

  
\_\_\_\_\_  
Department Head

*NA*  
\_\_\_\_\_  
Finance Director

  
\_\_\_\_\_  
Town Administrator

**Consultant needed at Council Meeting? Whom? Estimated cost, if known.**

None

**Background:** Town Council approved a process by which the Town and Garfield County would work together to develop a multi-jurisdictional Natural Hazard Mitigation Plan (other cities and towns include Silt, Rifle and Glenwood Springs). The New Castle team is composed of John Wenzel, Tim Cain, Mike Edgar and Chris Sadler. Together we are drafting a plan that will be an addendum to the Garfield County Mitigation Plan. Our focus is to target natural hazards that are unique to New Castle that pose a risk to our town and are not necessarily the same risks as formulated by Garfield County's Mitigation Plan. We are identifying areas within the Town's corporate limits as well as in unincorporated Garfield County. This is a plan that is different from our Emergency Operations Plan (EOP) in that the EOP is more of a response to a disaster and the Mitigation Plan is one in which the team identifies risks and then devise an action plan to help mitigate those risks.

Posted 7/27/um  
Remove 8/03/2011

## **NOTICE OF PUBLIC HEARING New Castle Town Council**

**The New Castle Town Council, as part of the FEMA requirements, will be taking public comment and opinions.**

**Date: August 2, 2011**

**Time: 7:00 PM**

**Place of hearing: New Castle Town Hall, 450 West Main Street, New Castle, CO**

**Brief description  
of Hearing:**

**The Town of New Castle, along with Garfield County and other local municipalities, is developing a natural hazards mitigation plan. This is an effort to increase the community's resilience to Natural Hazards such as wildfire, flood landscape and debris flows.**

**CONTACT: Town of New Castle  
Planner/Code Enforcement Tim Cain- 970-984-2311**

**All interested persons are invited to appear and state their views, protests or objections. If you cannot appear personally at such hearing, then you are urged to state your views by letter to the Town of New Castle, P.O. Box 90, New Castle, CO 81647.**



# City of Rifle

Addendum to the Garfield County Natural  
Hazards Mitigation Plan

2012



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## **Attachments**

- Attachment 1: Action item Forms
- Attachment 2: Risk Assessment Map
- Attachment 3: Critical Infrastructure Map



# Section 1: Planning Process

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## Overview

The City of Rifle developed this addendum to the Garfield County multi-jurisdictional Natural Hazards Mitigation Plan in an effort to increase the community's resilience to natural hazards. The addendum focuses on the natural hazards that could affect Rifle, which include wildfire, flood, landslide and debris flow, earthquake, and severe weather. The addendum also addresses hazardous materials spills, which are possible secondary hazards resulting from wildfires, landslides, and transport accidents that can affect drinking water, public safety and wildlife habitat.

This addendum has the following attachments:

- Attachment 1 provides detailed action items for risk reduction
- Attachment 2 provides a map which is the output of a risk assessment discussion early in the process of plan development
- Attachment 3 provides critical infrastructure maps, generated by Garfield County Geographic Information Systems (GIS) staff, using best available digital data

It is impossible to predict exactly when disasters may occur, or the extent to which they will affect the city. However, with careful planning and collaboration among public agencies, private sector organizations, and citizens within the community, it is possible to minimize the losses that can result from natural hazards.

The addendum provides a set of actions that aim to reduce the risks posed by natural hazards through education and outreach programs, the development of partnerships, and the implementation of preventative activities. These may include the following:

- Hazard Identification in the City's Comprehensive Plan;
- Building and Land Use Codes;
- Community Emergency Operations Plan;
- Water System Operations Plan;
- Web Site Information (GIS Mapping and Publications)
- Multi-Jurisdiction Public Safety Officials Meetings

The actions described in the addendum are intended to be implemented through existing plans and programs within the City.

## *How was the Addendum developed?*

The City of Rifle developed this addendum in a collaborative process that Garfield County initiated in April of 2011. At that time, the County Risk Assessment had been completed in draft form, using data that covered many of the County's jurisdictions and all of its unincorporated areas. The County had initiated the

process of developing its action items. The County organized an initial outreach meeting, held in April of 2011, and invited all towns and cities, fire districts, school districts, and other overlapping districts. State of Colorado Division of Emergency Management (DEM) and Federal Emergency Management Agency (FEMA) representatives described the mitigation planning process and plan requirements. The City of Rifle opted to create an addendum to the County Plan after that meeting.

The County then organized an intensive workshop for the jurisdictions developing addendums (including Rifle) and invited a broad range of participation from City staff. The purpose of the workshop, which was held on June 27, 2011, was to identify areas in the jurisdictions where risk was greater than that identified in the County Risk Assessment, and to begin to develop action items. One of the maps that was the output of this workshop and focused on community-level risk is included in this plan addendum as Attachment 2. Participants from Rifle included:

- Matt Sturgeon, Assistant to City Manager.
- Daryl Meisner, Police Chief

The agenda for the workshop follows:

Agenda item	Topic	Time
Presentation / Intro	<ul style="list-style-type: none"> <li>• What is a multi-jurisdictional plan; requirements from FEMA</li> <li>• County Risk Assessment and Community profile</li> <li>• Questions / Discussion</li> </ul>	9:00 – 10:00
Breakout #1, by jurisdiction	<ul style="list-style-type: none"> <li>• Addendum document: overview and discussion</li> <li>• How is risk in your jurisdiction greater than the risk in the County?</li> </ul>	10:00 – 11:30
Breakout #2, by jurisdiction	<ul style="list-style-type: none"> <li>• Action item development: What steps will we take to reduce risk?</li> </ul>	12:30 to 2:00
Presentation	<ul style="list-style-type: none"> <li>• Plan adoption requirements</li> <li>• Plan maintenance and update process</li> <li>• Outreach at jurisdictional level</li> <li>• Next steps</li> <li>• Discussion / questions</li> </ul>	2:00 to 3:00

Prior to and following the workshop, the City of Rifle developed its action items by:

- Joint meetings with staff from Public Health, Fire, Sheriff, and City agencies;
- Outreach to City Council and Planning and Zoning Commission, and;
- Internal City staff evaluation

The following plans, reports, and studies were reviewed in the development of this addendum:

- Public outreach survey of Garfield County residents
- Garfield County Risk Assessment
- Census and other demographic and economic data
- Garfield County Community Wildfire Protection Plan
- City of Rifle Comprehensive Plan and Development Code

Citizens of Rifle contributed to the development of this plan as follows:

- During plan development:
  - The County developed an on-line survey, which was advertised on its website, and via email in multiple list serves. In the initial distribution, 106 people took the survey. 42 of those who took the survey indicated that they either live or work in Area 3, the area in which Rifle is located. Of those 42 people, 38 indicated that they were most familiar with Area 3 and were then asked about the overall risk assessment for that area. 25 people indicated that the risk assessment was either “very accurate” or “somewhat accurate”
  - Additionally, the Plan was discussed at a meeting of the Rifle Rotary Club and at several public meetings including the Rifle Planning and Zoning Commission and at the Rifle City Council meetings.
- The public was also given an opportunity to comment on the draft addendum document, as follows:
  - The final draft addendum document was posted on the City’s website, and also on the County website, which clearly included a phone number and email address for provision of comments. The City received X comments, which were [addressed, incorporated into document, etc.]
  - A work session was held with the Board of County Commissioners to review the draft County NHMP including the Rifle Addendum and to take public comment on March 13, 2012.
  - The public was provided an opportunity to comment when the plan was adopted via resolution, in a public meeting, on [DATE].

### ***Plan Maintenance and Implementation***

The jurisdiction is adopting the plan maintenance and implementation process outlined in the County Natural Hazard Mitigation Plan.

[Rifle will participate directly in the update and maintenance schedule outlined in the County Plan by participating on the Public Safety Council subcommittee responsible for ongoing update of the Plan.

### ***Adoption***

*This section will be filled out at a later date, following adoption*

FEMA approved the County Plan on [DATE]. The City of Rifle adopted this addendum to the Garfield County Natural Hazard Mitigation Plan via resolution on [date].



## Section 2: Community Profile

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The following section describes the City of Rifle from a number of perspectives to define and describe Rifle's sensitivity and resilience to natural hazards. Sensitivity factors can be defined as those assets and characteristics that may be impacted by natural hazards, (e.g., special populations, economic factors, and historic and cultural resources). Resilience factors can be defined as the ability to manage risk and adapt to hazard event impacts (e.g., governmental structure, agency missions and directives, and plans, policies, and programs). The information in this section represents a snapshot in time of the current sensitivity and resilience factors when the plan was developed. The information documented below, along with the risk assessments in Section 3 below, should be used as the local level rationale for the risk reduction actions identified in the plan.

### *Geography, population, and demographics*

Rifle is located in Garfield County and it about 4.3 square miles in area.

Rifle's population grew from about 6,784 people in 2000 to 9,172 people in 2010, an increase of more than 2,300 people at an average annual growth rate of 3.1%. Rifle's population grew faster than Garfield County, accounting for 15% of the County's population in 2000 and 16% of County population in 2010.<sup>1</sup>

The following highlights Rifle's population characteristics:<sup>2</sup>

- **Younger than the County.** The median age of Rifle's population was 30 years old in 2009, compared with the County average of 34.2 years old. The age-distribution of Rifle's population grew younger since 2000, when the median age was 30.9 years. About 68% of Rifle's population was under 40 years old in 2009, compared with 59% of the County's population. Rifle had a smaller proportion of people over 60 years old (8%) than the County (13%).
- **More ethnically diverse.** Since 2000, Rifle grew more ethnically diverse. In 2000, 16% of Rifle's population was Hispanic (1,150 people). By 2009, about 28% of Rifle's population was Hispanic (2,400 people). This trend is similar to increasing ethnic diversity in Garfield County, where Hispanic population increased from 17% to 24% of the population between 2000 and 2009.
- **In poverty less frequently as the County.** The poverty rate in Rifle (5.0% of people living below the federal poverty line) was lower than the County's poverty rate (8.1%) in 2009.

---

<sup>1</sup> Colorado Division of Local Government, State Demography Office

<sup>2</sup> Based on data from U.S. Census, 2000 and U.S. Census American Community Survey 2005-2009

## **Employment and economics**

Consideration of Rifle's economy is important in recovery planning. In comparison to Garfield County, Rifle's economy had:<sup>3</sup>

- **Similar mix of industries.** Rifle's major employment sectors, accounting for 10% or more of employment each, were: Construction, Leisure Activities (e.g., Accommodations, Food Service, or Entertainment), Retail Trade, Health Care and Social Assistance, and Government.
- **Higher household income.** Rifle's median household income in 2009 (about \$71,650) was more than \$6,800 higher than the County (about \$64,800).
- **More short commutes.** More than 50% of Rifle's workers commuted for fewer than 15 minutes, compared with about one-third of workers in Garfield County. Nearly 40% of Rifle's workers commuted 30 minutes or more, consistent with the County average of 40%. This is an indicator of the importance of the transportation infrastructure within the City and the connection to County infrastructure for the local economy.

## **Housing**

Understanding the characteristics of Rifle's housing stock is important to recovery planning. Housing that is in poor condition is more likely to be at-risk in recovery than housing in good condition. Some indicators of condition include housing tenure and housing age, with older renter-occupied housing is more likely to be in poor condition than newer owner-occupied housing. In comparison to Garfield County, Rifle's housing stock was:<sup>4</sup>

- **More renter-occupied.** About 41% of Rifle's housing was renter-occupied, compared with about one-third of Garfield County. About 59% of Rifle's housing was owner-occupied, compared with two-thirds of the County's housing stock.
- **About the same age.** The median year build of Rifle's housing stock was 1983, compared with 1984 in Garfield County. Rifle had a larger share of housing stock built between 1970 and 1989 (44%) than Garfield County (38%) and a smaller share of housing built since 1990, 37% of the City's housing stock compared with 40% of the County's stock.
- **Fewer mobile homes and more attached housing.** The predominant housing type in Rifle was single-family detached (58%), consistent with the County's housing stock (60% single-family detached). Rifle had a

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<sup>3</sup> Based on data from U.S. Census American Community Survey 2005-2009

<sup>4</sup> Based on data from U.S. Census American Community Survey 2005-2009

smaller share of mobile and manufactured housing (6%) compared to the County (13%). Rifle had a larger share of attached housing of all types (35%) compared with the County (27%).

### ***Land use and development***

Rifle maintains a fairly compact urban form. The original town site is located north of I-70 and the Colorado River. The majority of the residential districts are within 1-mile of the historic Central Business District. Employment centers are located on Airport Road south of I-70 and west of town along Hwy 6. Regional commercial and lodging is also found south of I-70 adjacent to Airport Road.

North Rifle, comprised mainly of single-family residential, is bisected by Highway 13. Highway 13 is one of the most heavily used Hazardous Material shipping routes in the State of Colorado. This section of highway also serves as part of the east-west alternate route through the State when I-70 is closed by severe weather or accident.

### ***Transportation***

The City of Rifle serves as gateway to Northwest Colorado. Rifle is served by Interstate 70 (east/west) and Highway 13 (north/south). The State maintains two interchanges and several bridges in Rifle. The City maintains four bridge structures critical to local traffic circulation. Garfield County Regional Airport is located in southeast Rifle. Finally, Union Pacific operates its east-west rail corridor through Rifle.

Highway 13 passes through Rifle, and is one of the highest volume hazardous materials routes in the State. This route passes in close proximity to important community assets, including a school, police and fire stations, and commercial areas.

### ***Critical facilities and infrastructure***

Rifle's potable water supply comes directly from the Colorado River. The City's water intake pond is located within the 100-year floodplain and can be threatened by large run-off events. It is also vulnerable to potential train derailment.

Additionally, the County NHMP identifies vulnerability and risk incurred by critical facilities and infrastructure in each Study Area. Rifle is included in Study Area 3.

### ***Historic and cultural resources***

Rifle, through a "local" historic preservation ordinance, listed the Post Office, Rifle House, Mclearn Building, and Ute Theatre as historic structures. In addition, the Rifle Post Office is listed on the U.S. National Register of Historic Places. All of the listed structures are located in the Rifle Central Business District. The only identified natural hazard threat is failure of the Rifle Gap Dam.

## ***Administrative structure***

The City of Rifle operates under a City Council – City Manager form of government. The City is a Home Rule municipality. The City Council is comprised of seven (7) members elected at-large for four (4) year terms. Following each election, the Council appoints a Mayor. The City Manager is hired to serve at the will of City Council and manage day-to-day City operations.

## ***Community organizations and programs***

Rifle could call upon the following community organizations/programs to assist in implementing mitigation measures:

- Garfield County Public Safety Council
- Oil & Gas Community Investment Programs
- Colorado Department of Local Affairs

## Section 3: Risk Assessment

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This section expands on Garfield County's Natural Hazards Mitigation Plan by addressing Rifle's unique risks to the following natural hazards:

- Flood
- Wildfire
- Landslide and debris flow
- Earthquake
- Severe Weather
- Hazardous Materials (as a secondary hazard to the natural hazards outlined above)

### Flood

The City has identified the following geographic areas and related vulnerabilities in which local flood risk is greater than the risk described in the County's risk assessment, and in which additional actions are warranted to reduce the risk to life and property from flooding:

- Failure of Rifle Gap Dam holds back an active reservoir capacity of 12,168 acre-feet. Complete dam failure would result in serious impacts to the City of Rifle. Waters would submerge and inundate the downtown area and two schools; police and fire stations; grocery stores; City Hall; and major transportation infrastructure (I-70, Hwy 6, and the railroad). This would result in isolation of residential populations. The County NHMP includes the dam inundation maps.
- The intake pond for the City's water supply is susceptible to failure during significant flood events. The pond is also adjacent to the Union Pacific Rail line that carries hazardous materials.
- The waste treatment center is located in the 100-year floodplain.
- The City's hospital and medical center is within a 100-year floodplain and situated near an alluvial fan with potential debris flow opportunity. The facility was built in compliance with floodplain development standards and engineered to mitigate anticipated potential impacts. The floodplain has not experienced a 100-year or greater event since the construction of the facility.
- Some of the City's major commercial retail outlets are impacted by a 100-year floodplain, including a Wal-Mart that serves a regional market and some industrial employment base.
- Housing located along the river near the interchange with I-70 is located in the Colorado River floodplain, and has experienced flooding in the past. The homes were built in early 1900s and experience

flooding about once every 10 – 15 years. The flooding impacts have grown with the introduction I-70 and associated drainage structures.

- Residents along Rifle Creek immediately west and north of the Central Business District experience flash flooding. Tributaries of Rifle Creek (Government Creek and Hubbard Gulch) are prone to flooding during the monsoon season (July and August). This historically occurs every 7 – 10 years.

**Mitigation successes**

The City of Rifle is not new to risk reduction and mitigation activities, though this is its first adopted and FEMA-approved mitigation plan. The following projects show a track record of success in implementation:

- Construction of the Slaughter House Gulch retention structure;
- Evaluation and cost assessment for Government Creek floodwater mitigation;
- Preparation of evacuation plan for Garfield RE-2 School District in the event of a catastrophic failure on Rifle Gap Dam;
- Rifle Creek flood mitigation along Acacia Ave through Deerfield Subdivision; and
- Flood mitigation on Rifle Creek through Centennial Park design.

**The National Flood Insurance Program (NFIP)**

The Flood Insurance and Mitigation Administration, a component of the Federal Emergency

Management Agency (FEMA) manages the National Flood Insurance Program (NFIP). The three components of the NFIP are: 1) Flood Insurance; 2) Floodplain Management; 3) Flood Hazard Mapping.

The City of Rifle participates in the NFIP by adopting and enforcing floodplain management ordinances to reduce future flood damage. In exchange, the NFIP makes federally backed flood insurance available to homeowners, renters, and business owners in these communities. Preliminary Flood Insurance Study (FIS) Flood Insurance and Rate Maps (FIRM) are current and effective as of 1/03/86. There are no repetitive flood loss properties in City of Rifle.

City of Rifle – NFIP Participation Information			
Category	Data	Category	Data
Date Joined NFIP	06/15/1973	Number of Policies in force	58
CRS class/discount	N/A	Insurance in Force	\$10,729,400
CAV date	07/22/2009	Number of Paid Losses	5
CAC date	05/03/1993	Total Losses Paid	44,686.15
Date of Current FIRM	01/03/1986	Substantial Damage claims since 1978	1

Notes: CAC = Community Assistance Contact; CAV = Community Assistance Visit; CRS = Community Rating System; FIRM = Flood Insurance Rate Map; NFIP = National Flood Insurance Program

## ***Wildfire***

In general, the County's Risk Assessment does an adequate job of describing the risk from wildfires within the areas surrounding the City of Rifle, given the data currently available. However, the County is also in the process of updating its Community Wildfire Protection Plan (CWPP), and more accurate and detailed risk assessment data will be available in the early years of implementing this natural hazard mitigation addendum. The City of Rifle will work with the County and the surrounding rural fire protection districts to evaluate and understand the implications of the CWPP to the City's wildfire risk and action items.

With this mitigation plan addendum, the City wishes to acknowledge the following geographic areas and related vulnerabilities in which local risk is greater than the risk described in the County's risk assessment, and in which additional actions are warranted to reduce the risk to life and property:

- The northernmost portion of the City, which is currently undeveloped, is expected to be developed with residential uses in the future. This area is vulnerable to wildfires.
- Along the City's western border, and part of the southern border, wildland-urban interface fires may spread into urbanized areas.

## ***Landslide and debris flow***

Some geographic areas and related vulnerabilities experience local landslide and debris flow risk that is greater than the risk described in the County's risk assessment. Participants in the plan process from Rifle highlighted that a commercial and industrial employment area located at the base of a debris flow area at Ramsey Gulch and could be impacted.

## ***Earthquake***

The Garfield County Natural Hazard Mitigation Plan adequately describes the causes and characteristics, hazard history, and impacts of earthquakes in the City of Rifle. In general, the risk is low in Garfield County for this type of event.

## ***Severe weather***

The Garfield County NHMP adequately describes the causes and characteristics, hazard history, and impacts of severe weather in the City of Rifle. In general, severe weather events are frequent occurrences in the County and residents are aware and prepared. Existing programs target risk reduction and education related to severe weather. The only discussion from plan participants was related to the importance of regional transportation infrastructure that serves northwest Colorado (Highway 13 and I-70), which could both be shut down in a major snow event.

## ***Hazardous materials***

The Garfield County risk assessment describes hazardous materials spills as possible secondary hazard events resulting from landslides or debris flows / rock falls, wildfires, or earthquakes that impact storage areas. Additionally, several

hazardous materials transfer routes (most notably I-70 and the rail line) bisect the County; spills or accidents along these lines, which also run near the Colorado River, could result in contamination of the source of drinking water for many communities in the County, including Rifle.

In Rifle, the risk from hazardous materials spills is amplified by the intersection of three major hazardous materials routes: Highway 13, I-70, and the railroad. Highway 13 runs through town, and adjacent to important City critical infrastructure, including a school, a dispatch center, the County Health and Human Services Medical Clinic, and the historic commercial district.

## Section 4: Action Items

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### *Mitigation Action Items*

Short and long-term action items identified through the planning process are an important part of the mitigation plan. Action items are detailed recommendations for activities that local departments, citizens and others could engage in to reduce risk.

#### **Multi Hazard**

- Assess the resilience of the wastewater treatment plant and water intake pond and develop improvements accordingly as part of the capital facilities plans for water and wastewater infrastructure.
- Review comprehensive plan and development codes for opportunities to more effectively reduce risks to new development.
- Develop a catastrophic recovery plan.

#### **Flood**

- Continue compliance with the National Flood Insurance Program (NFIP) through the enforcement of local floodplain ordinances
- Update the city's Flood Insurance Rate Maps (FIRMs) if funding becomes available.
- Evaluate flow capacity beneath the 14th St. Bridge, and, if necessary, replace.
- Evaluate historic and potential future property loss along Rifle Creek and its tributaries to determine whether mitigation or property acquisition is warranted.
- Develop an inundation evacuation plan related to the failure of the Rife Gap Dam.

#### **Wildfire**

- Coordinate with Rifle Fire Protection District to review development codes and improve opportunities to mitigate wildfires near residential communities.



# Summary of Multi-Jurisdictional NHMP Action Items

Proposed Action Title	Coordinating Organization	Internal Partners	External Partners	Timeline	1) Reduce the loss of life and personal injuries from natural hazard events.	2) Reduce damage to County assets	3) Reduce County costs of disaster response and recovery.	4) Minimize economic losses.	5) Reduce damage to personal property.
<i>City of Rifle</i>									
Assess the resilience of the wastewater treatment plant and water intake pond and develop improvements accordingly as part of the capital facilities plans for water and wastewater infrastructure.	City of Rifle Utility Director	City Engineer, Planning Dept, and City Council	Colorado Department of Public Health and Environment	Short Term	X				
Review comprehensive plan and development codes for opportunities to more effectively reduce risks to new development.	City of Rifle Planning Department	City Engineer, City Council	Garfield County	Short Term	X				X
Continue compliance with the National Flood Insurance Program (NFIP) through the enforcement of local floodplain ordinances	City Engineer	Planning Department, City Attorney.	Garfield County	Short Term	X				
Update the city's Flood Insurance Rate Maps (FIRMs) if funding becomes available.	City Engineer	Rifle Geographic Information Coordinator	Garfield County Geographic Information Systems Department	Long Term	X	X	X	X	X
Coordinate with Rifle Fire Protection District to review development codes and improve opportunities to mitigate wildfires near residential communities.	Rifle Fire		Rifle Planning Department, Garfield County, Rifle Police Department	Short Term	X				X
Evaluate flow capacity beneath the 14th St. Bridge, and, if necessary, replace.	City Engineer	City of Rifle Public Works	FEMA, Colorado Department of Transportation	Long Term		X			
Evaluate historic and potential future property loss along Rifle Creek and its tributaries to determine whether mitigation or property acquisition is warranted.	City Engineer	Planning and Development Dept.	Property owners, Garfield County, FEMA, State OEM	Long Term					X
Develop an inundation evacuation plan related to the failure of the Rifle Gap Dam.	City of Rifle Planning Department	Engineering Department	Garfield County	Long Term	X				
Develop a catastrophic recovery plan.	City of Rifle Planning Department	Engineering Department	Garfield County	Long Term	X				



# Attachment 1:

## City of Rifle Action Item Worksheets

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Short and long-term action items identified through the planning process are an important part of the mitigation plan. Action items are detailed recommendations for activities that local departments, citizens and others could engage in to reduce risk.

### Multi Hazard

- Assess the resilience of the wastewater treatment plant and water intake pond and develop improvements accordingly as part of the capital facilities plans for water and wastewater infrastructure.
- Review comprehensive plan and development codes for opportunities to more effectively reduce risks to new development.
- Develop a catastrophic recovery plan.

### Flood

- Continue compliance with the National Flood Insurance Program (NFIP) through the enforcement of local floodplain ordinances
- Update the city's Flood Insurance Rate Maps (FIRMs) if funding becomes available.
- Evaluate flow capacity beneath the 14th St. Bridge, and, if necessary, replace.
- Evaluate historic and potential future property loss along Rifle Creek and its tributaries to determine whether mitigation or property acquisition is warranted.
- Develop an inundation evacuation plan related to the failure of the Rife Gap Dam.

### Wildfire

- Coordinate with Rifle Fire Protection District to review development codes and improve opportunities to mitigate wildfires near residential communities.

<b>Proposed Action Item:</b>		<b>Goal Alignment/ Hazards Addressed:</b>	
Assess the resilience of the wastewater treatment plant and water intake pond and develop improvements accordingly as part of the capital facilities plans for water and wastewater infrastructure.		Goal 1: Reduce the loss of life and personal injuries from natural hazard events. All Hazards	
<b>Rationale for Proposed Action Item:</b>			
<p>The water intake pond and wastewater treatment plant are in the 100 year floodplain and are subject to flood inundation and damage.</p> <p>This would include a focus on drinking water availability and resilience in addition to existing actions for the sewage plant.</p>			
<b>Ideas for Implementation:</b>			
<p>Conduct an assessment of the sewage treatment plant and drinking water intake for potential impacts from flood risk.</p> <p>Contract with an engineer to assess potential of inundation and propose alternative mitigation options including a cost-benefit analysis.</p> <p>Seek funding from FEMA to develop improvements of the sewage treatment plant and water treatment facility, if needed.</p>			
<b>Coordinating Organization:</b>		City of Rifle Utility Director	
<b>Internal Partners:</b>		<b>External Partners:</b>	
City Engineer, Planning Dept, and City Council		Colorado Department of Public Health and Environment	
<b>Timeline:</b>		<b>If available, estimated cost:</b>	
<u>Short Term</u> (0-2 years)	<u>Long Term</u> (2-4 or more years)		
XX			
<b>Form Submitted by:</b>		City of Rifle	
Action Item Status: New Action (2011)			

<b>Proposed Action Item:</b>		<b>Goal Alignment/ Hazards Addressed:</b>	
Review comprehensive plan and development codes for opportunities to more effectively reduce risks to new development.		Goal 1: Reduce the loss of life and personal injuries from natural hazard events. Goal 5: Reduce damage to personal property All Hazards	
<b>Rationale for Proposed Action Item:</b>			
The Comprehensive Plan provides the long-term vision and City policies for implementing plans and land use regulations, this is one of the best places to implement mitigation because risks can be eliminated before development occurs.			
<b>Ideas for Implementation:</b>			
Incorporate new hazard information in the Comprehensive Plan's Periodic Review process.			
Review latest vulnerability assessment information and policies that address hazards. Information can be obtained from the risk assessment portion of the Garfield County Natural Hazard Mitigation Plan (NHMP) and other state agencies.			
<b>Coordinating Organization:</b>		City of Rifle Planning Department	
<b>Internal Partners:</b>		<b>External Partners:</b>	
City Engineer, City Council		Garfield County	
<b>Timeline:</b>		<b>If available, estimated cost:</b>	
<u>Short Term</u> (0-2 years)	<u>Long Term</u> (2-4 or more years)		
XX			
<b>Form Submitted by:</b>		City of Rifle	
Action Item Status: New Action (2011)			

<b>Proposed Action Item:</b>		<b>Goal Alignment / Hazards Addressed:</b>	
Develop a catastrophic recovery plan.		Goal 1: Reduce the loss of life and personal injuries from natural hazard events. Multi Hazard	
<b>Rationale for Proposed Action Item:</b>			
<p>Failure of the Rifle Gap dam would cause significant flooding in downtown Rifle within 20 minutes. Commercial property, public infrastructure, and personal property would all be devastated. Additionally, wildfires are a frequent occurrence and a severe fire incident could significantly damage the city's public and private development.</p> <p>Developing a catastrophic recovery plan will allow the community to identify priorities for rebuilding the community follow an incident of this magnitude and facilitate the recovery process</p>			
<b>Ideas for Implementation:</b>			
<ul style="list-style-type: none"> <li>- Conduct an impact assessment to determine how the town would be affected by this incident</li> <li>- Host community workshops to identify community values and characteristics as the foundation of the recovery plan.</li> <li>-</li> </ul>			
<b>Coordinating Organization:</b>		City of Rifle Planning Department	
<b>Internal Partners:</b>		<b>External Partners:</b>	
Engineering Department		Garfield County	
<b>Timeline:</b>		<b>If available, estimated cost:</b>	
<u>Short Term</u> (0-2 years)	<u>Long Term</u> (2-4 or more years)		
	XX		
<b>Form Submitted by:</b>		City of Rifle	
Action Item Status: New Action (2011)			

<b>Proposed Action Item:</b>		<b>Goal Alignment / Hazards Addressed:</b>	
Continue compliance with the National Flood Insurance Program (NFIP) through the enforcement of local floodplain ordinances		Goal 1: Reduce the loss of life and personal injuries from natural hazard events. Flood Hazard	
<b>Rationale for Proposed Action Item:</b>			
<p>The National Flood Insurance Program provides communities with federally backed flood insurance to homeowners, renters, and business owners, provided that communities develop and enforce adequate floodplain management ordinances. The benefits of adopting NFIP standards for communities are a reduced level of flood damage in the community and stronger buildings that can withstand floods. According to the NFIP, buildings constructed in compliance with NFIP building standards suffer approximately 80 percent less damage annually than those not built in compliance.</p> <p>Rife is currently participating in the new flood mapping project of the Colorado River and watershed.</p>			
<b>Ideas for Implementation:</b>			
<ul style="list-style-type: none"> <li>Actively participate with State of Colorado Emergency Management and FEMA during Community Assistance Visits. The Community Assisted Visit (CAV) is a scheduled visit to a community participating in the NFIP for the purpose of 1) conducting a comprehensive assessment of the community's floodplain management program; 2) assisting the community and its staff in understanding the NFIP and its requirements; and 3) assisting the community in implementing effective flood loss reduction measures when program deficiencies or violations are discovered.</li> <li>Conduct an assessment of the city's floodplain ordinances to ensure they reflect current flood hazards.</li> <li>Coordinate with the county to ensure that floodplain ordinances and NFIP regulations are maintained and enforced. Continue to assess the need for updated ordinances.</li> <li>Mitigate areas that are prone to flooding and/or have the potential to flood.</li> </ul>			
<b>Coordinating Organization:</b>		City Engineer	
<b>Internal Partners:</b>		<b>External Partners:</b>	
Planning Department, City Attorney,		Garfield County	
<b>Timeline:</b>		<b>If available, estimated cost:</b>	
<u>Short Term</u> (0-2 years)	<u>Long Term</u> (2-4 or more years)		
xx			
<b>Form Submitted by:</b>		City of Rifle	
Action Item Status: New Action (2011)			

<b>Proposed Action Item:</b>		<b>Goal Alignment / Hazards Addressed:</b>	
Update the city's Flood Insurance Rate Maps (FIRMs) if funding becomes available.		All goals Flood Hazard	
<b>Rationale for Proposed Action Item:</b>			
The city has Flood Mitigation Rate Maps current as of 1986. However, if funding becomes available, the FIRMs should be updated to address new information and new vulnerabilities, as well as any new land use developments occurring in the community.			
<b>Ideas for Implementation:</b>			
If there are areas that need to be revised for the flood map, complete the MT-2 Forms Package (Application Forms for Conditional Letters of Map Revision and Letters of Map Revision). The forms and instructions are designed to assist requesters (community officials or individuals via community officials) in gathering the data that the FEMA needs to determine whether the effective NFIP map and Flood Insurance Study report for a community should be revised.			
In 2012, the update of these maps is underway.			
<b>Coordinating Organization:</b>		City Engineer	
<b>Internal Partners:</b>		<b>External Partners:</b>	
Rifle Geographic Information Coordinator		Garfield County Geographic Information Systems Department	
<b>Timeline:</b>		<b>If available, estimated cost:</b>	
<u>Short Term</u> (0-2 years)	<u>Long Term</u> (2-4 or more years)		
	xx		
<b>Form Submitted by:</b>		City of Rifle	
Action Item Status: New Action (2011)			

<b>Proposed Action Item:</b>		<b>Goal Alignment / Hazards Addressed:</b>
Evaluate flow capacity beneath the 14 <sup>th</sup> St. Bridge, and, if necessary, replace.		Goal 2: Reduce damage to county assets. Flood Hazard
<b>Rationale for Proposed Action Item:</b>		
Flows, particularly when debris catches, can cause backwater flooding and impact property and City streets.		
<b>Ideas for Implementation:</b>		
Evaluate proper sizing for this facility. Seek funding assistance to replace.		
<b>Coordinating Organization:</b>	City Engineer	
<b>Internal Partners:</b>		<b>External Partners:</b>
City of Rifle Public Works		FEMA, Colorado Department of Transportation
<b>Timeline:</b>		<b>If available, estimated cost:</b>
<u>Short Term</u> (0-2 years)	<u>Long Term</u> (2-4 or more years)	<b>Evaluation Cost: \$20,000-\$30,000</b> <b>Replacement Cost: \$600,000 – 1M</b>
	XX	
<b>Form Submitted by:</b>	City of Rifle	
Action Item Status: New Action (2011):		

<b>Proposed Action Item:</b>		<b>Goal Alignment / Hazards Addressed:</b>
Evaluate historic and potential future property loss along Rifle Creek and its tributaries to determine whether mitigation or property acquisition is warranted.		Goal 5: Reduce damage to personal property Flood Hazard
<b>Rationale for Proposed Action Item:</b>		
<p>There has been a history of flood events between 16<sup>th</sup> St. and Hwy 6 and 24 along Rifle Creek causing property damage. The risk of flash flood is greatest in the summer month. Also, even though current development code accounts for this flood risk, historic area and infill / redevelopment in those areas remain vulnerable. A 1999 study of creeks in the area recommended that flood basins be built to reduce the flooding on Government Creek, which could alleviate the flood on downstream waterways such as Rifle Creek.</p> <p>The Creek is included in the new FIRM mapping effort that is underway in 2012.</p>		
<b>Ideas for Implementation:</b>		
<ul style="list-style-type: none"> <li>*Use City GIS to map sites / study area and show property valuations</li> <li>*Review historic damage / claims</li> <li>*Cost –benefit analysis for detention and / or property acquisition</li> <li>*Implement mitigation and / or acquisition</li> </ul>		
<b>Coordinating Organization:</b>	City Engineer	
<b>Internal Partners:</b>		<b>External Partners:</b>
Planning and Development Dept.		Property owners, Garfield County, FEMA, State OEM
<b>Timeline:</b>		<b>If available, estimated cost:</b>
<u>Short Term</u> (0-2 years)	<u>Long Term</u> (2-4 or more years)	<b>\$1M - \$4M</b>
	XX	
<b>Form Submitted by:</b>	City of Rifle	
Action Item Status: New Action (2011)		

<b>Proposed Action Item:</b>		<b>Goal Alignment / Hazards Addressed:</b>	
Develop an inundation evacuation plan related to the failure of the Rife Gap Dam.		Goal 1: Reduce the loss of life and personal injuries from natural hazard events. Dam Inundation Hazard	
<b>Rationale for Proposed Action Item:</b>			
Failure of the Rifle Gap dam would cause significant flooding in downtown Rifle within 20 minutes. Identification of evacuation routes and high ground area will ensure that people are able to escape rising water levels,			
<b>Ideas for Implementation:</b>			
<ul style="list-style-type: none"> <li>- Utilize existing topographical maps to identify routes and high-ground areas.</li> <li>- Collaborate with Garfield County GIS to produce maps to be used in outreach and education about the evacuation route.</li> </ul>			
<b>Coordinating Organization:</b>		City of Rifle Planning Department	
<b>Internal Partners:</b>		<b>External Partners:</b>	
Engineering Department		Garfield County	
<b>Timeline:</b>		<b>If available, estimated cost:</b>	
<u>Short Term</u> (0-2 years)	<u>Long Term</u> (2-4 or more years)		
	XX		
<b>Form Submitted by:</b>		City of Rifle	
Action Item Status: New Action (2011)			

<b>Proposed Action Item:</b>		<b>Goal Alignment/ Hazards Addressed:</b>	
Coordinate with Rifle Fire Protection District to review development codes and improve opportunities to mitigate wildfires near residential communities.		Goal 1: Reduce the loss of life and personal injuries from natural hazard events. Goal 5: Reduce damage to personal property Wildfire Hazard	
<b>Rationale for Proposed Action Item:</b>			
Wildfires beginning in Garfield County near the urban fringe could easily spread to the City. Reviewing City development codes to develop ways to mitigate wildfires will reduce the likelihood that wildfires will spread through neighborhoods.			
<b>Ideas for Implementation:</b>			
Review City development codes together with the Rifle FPD to identify potential wildfire issues. Develop strategies for addressing these issues. Strategies could include conducting education and outreach with the public on wildfire risks and mitigation actions. Strategies could also include updates to development code that would affect new developments.			
Coordinate efforts with the Garfield County Community Wildfire Protection Plan Steering Committee			
Show the wild fire zones directly in the comprehensive plan			
<b>Coordinating Organization:</b>		Rifle Fire	
<b>Internal Partners:</b>		<b>External Partners:</b>	
		Rifle Planning Department, Garfield County, Rifle Police Department	
<b>Timeline:</b>		<b>If available, estimated cost:</b>	
Short Term (0-2 years)	Long Term (2-4 or more years)	minimal	
XX			
<b>Form Submitted by:</b>		City of Rifle	
Action Item Status: New Action (2011)			





## **Attachment 3:**

### **City of Rifle Critical Infrastructure Map**

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A significant component of the Natural Hazard Mitigation Plan is identifying where and how critical infrastructure and key resources could be impacted by natural hazards. The Garfield County GIS department developed maps of Rifle that identify public facilities, utilities, agriculture and natural resources, water supply and treatment infrastructure, oil and gas facilities, and transportation facilities. These maps contribute to the understanding of community vulnerability. Due to the sensitive nature of some of the information included in this map, the map is not available upon request from Rifle Planning and Development Department, the Garfield County Manager, or the Garfield County GIS Department.





# Town of Silt

Addendum to the Garfield County Natural  
Hazards Mitigation Plan

2012



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## **Attachments**

- Attachment 1: Action item Forms
- Attachment 2: Risk Assessment Map
- Attachment 3: Critical Infrastructure Map



# Section 1: Planning Process

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## Overview

The Town of Silt developed this addendum to the Garfield County multi-jurisdictional Natural Hazards Mitigation Plan in an effort to increase the Town's resilience to natural hazards. The addendum focuses on the natural hazards that could affect the Town of Silt, which include flash flooding of drainage basins and the Colorado River. It is impossible to predict exactly when disasters may occur, or the extent to which they will affect the Town of Silt. However, with careful planning and collaboration among public agencies, private sector organizations, and citizens within the Town, it is possible to minimize the losses that can result from natural hazards. The addendum also addresses hazardous materials spills, which are possible secondary hazards resulting from wildfires, landslides, and transport accidents that can affect drinking water and wildlife habitat.

This addendum has the following attachments:

- Attachment 1 provides detailed action items for risk reduction
- Attachment 2 provides a map which is the output of a risk assessment discussion early in the process of plan development
- Attachment 3 provides critical infrastructure maps, generated by Garfield County Geographic Information Systems (GIS) staff, using best available digital data

The addendum provides a set of actions that aim to reduce the risks posed by natural hazards through education and outreach programs, the development of partnerships, and the implementation of preventative activities through the Town's land use code, the Town's storm water management practices and through BEST management practices regarding construction of roadways, on-site drainages and creation of subdivisions. The actions described in the addendum are intended to be implemented through existing plans and programs within the Town of Silt.

## *How was the Addendum developed?*

The Town of Silt developed this addendum in a collaborative process that Garfield County initiated in April of 2011. At that time, the County Risk Assessment had been completed in draft form, using data that covered many of the County's jurisdictions and all of its unincorporated areas. The County had initiated the process of developing its action items. The County organized an initial outreach meeting, held in April of 2011, and invited all towns and cities, fire districts, school districts, and other overlapping districts. State of Colorado Division of Emergency Management (DEM) and Federal Emergency Management Agency (FEMA) representatives described the mitigation planning process and plan requirements. The Town of Silt opted to create an addendum to the County Plan after that meeting.

The County then organized an intensive workshop for the jurisdictions developing addendums (including Silt) and invited a broad range of participation from Town staff. The purpose of the workshop, which was held on June 27, 2011, was to

identify areas in the jurisdictions where risk was greater than that identified in the County Risk Assessment, and to begin to develop action items. One of the maps that was the output of this workshop and focused on community-level risk is included in this plan addendum as Attachment 2. Participants from Silt included:

- Police Chief Levy Burris
- Public Works Director Gerry Pace.

The agenda for the workshop follows:

Agenda item	Topic	Time
Presentation / Intro	<ul style="list-style-type: none"> <li>• What is a multi-jurisdictional plan; requirements from FEMA</li> <li>• County Risk Assessment and Community profile</li> <li>• Questions / Discussion</li> </ul>	9:00 – 10:00
Breakout #1, by jurisdiction	<ul style="list-style-type: none"> <li>• Addendum document: overview and discussion</li> <li>• How is risk in your jurisdiction greater than the risk in the County?</li> </ul>	10:00 – 11:30
Breakout #2, by jurisdiction	<ul style="list-style-type: none"> <li>• Action item development: What steps will we take to reduce risk?</li> </ul>	12:30 to 2:00
Presentation	<ul style="list-style-type: none"> <li>• Plan adoption requirements</li> <li>• Plan maintenance and update process</li> <li>• Outreach at jurisdictional level</li> <li>• Next steps</li> <li>• Discussion / questions</li> </ul>	2:00 to 3:00

Following the workshop, the Town of Silt further developed its action items through departmental research conducted by: Janet Aluise, Planner; Gerry Pace, Public Works Director; and Levy Burris, Police Chief.

The following plans, reports, and studies were reviewed in the development of this addendum:

- Public outreach survey of Garfield County residents
- Garfield County Risk Assessment
- Census and other demographic and economic data
- Garfield County Community Wildfire Protection Plan
- 1987 Floodplain Management Study - Soil Conservation Service
- 2006 Adopted FEMA Mapping for Colorado River
- Town of Silt Municipal Code (Land Use Code)
- Town of Silt Public Works Manual
- Town of Silt Comprehensive Plan

Citizens of Silt contributed to the development of this plan as follows:

- The public was provided an opportunity to comment when the plan was discussed and initially adopted on August 8, 2011. The Town meeting was a public meeting, with public notice and public access to the material one week prior to the meeting. Announcements of the meetings are published via email to a subscribed group of interested persons as well as posted to the Town website.

- Additionally, Garfield County developed an on-line survey, which was advertised on its website, and via email in multiple list servs. In the initial distribution, 106 people took the survey. 21 of these respondents lived in Area 2 (the area in which Silt is located), 11 worked in the Area, and 18 claimed that Area 2 was the area with which they were most familiar (i.e. spend most of their time). Of those 18 respondents who associate most directly with Area 2, nearly 65% of them (11 people) agreed that the County's Risk Assessment of Area 2 was "accurate" or "very accurate".

The public was also given an opportunity to comment on the draft addendum document, as follows:

- The final draft addendum document was posted on the Town's website, and also on the County website, which clearly included a phone number and email address for provision of comments. The City received X comments, which were [addressed, incorporated into document, etc.]
- Announcement of the addendum was included in an announcement on public access television, including how to obtain material and provide comment to the Community Development Director.
- T the public was provided an opportunity to comment when the plan reviewed by the Town Council on January 3rd, 2012.
- A work session was held with the Board of County Commissioners to review the draft County NHMP including the Rifle Addendum and to take public comment on March 13, 2012.
- The public was provided an opportunity to comment when the plan was adopted via resolution, in a public meeting, on [DATE].

### ***Plan Maintenance and Implementation***

The Town of Silt is adopting the plan maintenance and implementation process outlined in the Garfield County Natural Hazard Mitigation Plan.

### ***Adoption***

The Town of Silt adopted this addendum to the Garfield County Natural Hazard Mitigation Plan via resolution on August 8, 2011. The Town of Silt re-adopted this addendum following FEMA approval of the plan on {DATE}

FEMA approved the County Plan on [DATE].

## Section 2: Community Profile

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The following section describes the Town of Silt from a number of perspectives in order to help define and understand the Town's sensitivity and resilience to natural hazards. Sensitivity factors can be defined as those assets and characteristics that may be impacted by natural hazards, (e.g., special populations, economic factors, and historic and cultural resources). Resilience factors can be defined as the ability to manage risk and adapt to hazard event impacts (e.g., governmental structure, agency missions and directives, and plans, policies, and programs). The information in this section represents a snapshot in time of the current sensitivity and resilience factors when the plan was developed. The information documented below, along with the risk assessments in Section 3 below, should be used as the local level rationale for the risk reduction actions identified in the plan.

### *Geography and climate*

The Town of Silt is approximately 2.8 square miles in area. The community enjoys a fairly mild climate in the spring, fall and winter, with moderate temperatures and low rainfall and snowfall. However, wind can affect the area greatly, by producing dust storms in the spring and summer, and wind chill factor situations in the winter. Occasionally, spring flooding will occur both in terms of storm water (irrigation ditches and other channels overflowing) and main waterways like the Colorado River. This flooding general occurs during run-off and can cause significant damage to riparian vegetation and can scour riverbanks, especially in the designated and observed floodway, flood fringe and floodplain areas. The Town's storm water drainages include the 1st Street drainage, the 7th Street drainage, the 16th Street drainage, the Painted Pastures/Davis Point drainage and the Cactus Valley Ditch.

The Silt Mesa area has developed greatly with residential units in the last 15 to 20 years, and presents an interface with the more urbanized and the more rural area of that part of the County. Due to its generally dry summer months, the County and the Town high desert area is subject to wildfire, occasionally sparked by lightning, but oftentimes started by human activity. Since a volunteer fire district serves the area, response times may not be as great as a full-service fire district. Houses in rural areas should minimize their wildfire risk by thinning or avoiding planting trees adjacent to structures.

### *Population and demographics*

Silt's population grew from about 1,740 people in 2000 to 2,930 people in 2010, an increase of nearly 1,200 people at an average annual growth rate of 5.3%. Silt's population grew faster than Garfield County, accounting for 4% of the County's population in 2000 and 5% of County population in 2010.<sup>1</sup>

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<sup>1</sup> Colorado Division of Local Government, State Demography Office

The most vulnerable components of the population in a disaster are women, children, minorities, and the poor. In comparison to the County, Silt's population was:<sup>2</sup>

- **Younger than the County.** The median age of Silt's population was 30 years old in 2009, compared with the County average of 34.2 years old. The age-distribution of Silt's population has gotten younger since 2000, when the median age was 31.4 years. About 67% of Silt's population was under 40 years old in 2009, compared with 59% of the County's population. Silt had a smaller proportion of people over 60 years old (7%) than the County (13%).
- **About as ethnically diverse.** Since 2000, Silt grew more ethnically diverse. In 2000, 16% of Silt's population was Hispanic (270 people). By 2009, 24% of Silt's population was Hispanic (605 people). This trend is similar to increasing ethnic diversity in Garfield County, where Hispanic population increased from 17% to 24% of the population between 2000 and 2009.
- **In poverty less frequently than the County.** The poverty rate in Silt (6.5% of people living below the federal poverty line) was lower than the County's poverty rate (8.1%) in 2009.

## ***Employment and economics***

Consideration of Silt's economy is important in recovery planning. The Town has historically had very little manufacturing, limited commercial growth, and low overall employment of the Town's residents. In fact, most of the Town's adult residents find employment in the upper valley towns and cities of Vail, Eagle, Snowmass, Carbondale, Aspen and Basalt, and for this reason, the Town of Silt has been called a "bedroom community". In the last five to seven years, Garfield County has had a fair amount of natural gas drilling activity, and this has led to the formation of a number of support businesses in the natural gas industry, such as excavation companies, water-hauling companies and man-camp support businesses. The median household income reported in 2010 was \$44,632, and the average 2010 salary was \$31,000.

## ***Housing***

Silt has a variety of housing types, but the most prevalent housing unit is the single-family dwelling located on between 5,000 to 8,000 square feet of property, and includes site-built units, modular housing units, HUD manufactured housing and mobile homes. Duplexes (two-family structures) are sprinkled throughout the Town, as well as planned in specific multi-family communities. Multi-family dwellings have been approved in greater numbers in the last few years, but the Town has not seen many of the units actually built. There is one apartment building, a two-story structure, located on Main Street between 7th Street and 8th Street, as well as upper-level apartments located in some commercial zone districts, which would not

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<sup>2</sup> Based on data from U.S. Census, 2000 and U.S. Census American Community Survey 2005-2009

necessarily challenge the fire district should a fire erupt, since the maximum building height is just over thirty (30) feet. Overall, there are 1,077 residential units, according to the 2010 census.

### ***Land use and development***

The Town has approved approximately 325 additional residential units between 2005 and 2011. Many of the newer residential units have had difficulty in getting started, due to the tightening national and local economies. The Town has granted a number of time extensions in order for developers to obtain financing to construct infrastructure to serve proposed lots, but the Town should be careful not to decrease safety infrastructure within the subdivisions in an effort to save the developer money. Recently, the Town has had serious interest from commercial developers, and has produced a fiscal impact analysis in order to describe the Town's demographics and economic climate, including the filling of a wetlands area between 10th Street and 16th Street and relocating such a wetlands to the Town's Silt River Preserve in order to decrease the proximity of West Nile mosquito habitat within residential areas.

### ***Transportation***

The Town of Silt does not have extensive public transit facilities. There are two bus stops, one located at the Silt Trade Center on the eastern edge of Town along Highway 6, and the other located at the Burning Mountains Fire Protection District parking lot at 7th Street and Main Street. The Roaring Fork Transit Authority (RFTA) operates the bus route through Town, called the Hogback Route. Only a morning and an evening bus service serve the Town at this time, and take travelers from Rifle to Aspen along Highway 6, Interstate-70 and Highway 82. The Town is not a member of RFTA, but has expressed some interest in expanding the bus service. Most residents use their personal vehicles to get from Point A to Point B.

The Union Pacific Railroad goes through the Town of Silt south of Front Street. Construction supplies, chemical vats, coal hoppers and materials loads are just some of the items that travel through at 35 miles per hour within Town limits. The Town of Silt has no railroad crossings through a Town public street, but there is one crossing in the County on South 16th Street, and could present a problem for Town residents if there is a train/auto collision or in the case that a chemical vat rolls off a rail car and into the river or on the surface of the railway.

Since Interstate-70 is a major traffic artery on the south side of the Town, it is quite possible to see problems with ice, snow and large amounts of water on the roadway, causing accidents over the Colorado River bridges, potentially including vehicles entering the Colorado River.

### ***Critical facilities and infrastructure***

The Silt Town Hall is located at 231 N. 7th Street, on the southwest corner of 7th Street and Grand Avenue. The Town Hall is approximately 8,000 square feet of finished floor area, and can serve as an emergency meeting hall, if need be. The Burning Mountains Fire Protection District is located on the southeast corner of Main Street (Highway 6) and 6th Street. This building has been used as a civic

building by many non-profit groups for fund-raising and regular meetings, and could serve as a community-meeting hall or a temporary emergency shelter in case of a catastrophic event.

The Town built a 750,000 gallons per day activated sludge wastewater treatment plant in 2003, which remains at less than half its intended capacity.

The Town built a microfiltration water plant in 2005 that can treat up to .9 million gallons per day. This is a state of the art facility that notifies the Water/Wastewater Director if there is an upset condition of water quality outside of acceptable standards.

The Town's treated water is also available at two separate bulk water facilities, one located on the east side of South 7th Street and the other located between the 500 and 600 block of Front Street. Many County residents utilize these bulk water facilities due to poor water quality and quantity at their residence, and the Town could indeed serve many more county residents in case of an aquifer contamination outside of Town limits. The Town has its source water on the Colorado River and seeks to protect this watershed.

### ***Historic and cultural resources***

The Silt area was originally home to the Northern Ute Indians, known as the "Blue Sky People", the only Native American tribe truly native to the area. In the 18th century, the Spanish explored the area, trading extensively with the Ute. Shortly thereafter, fur trappers came to the area in search of beaver and a temperate climate. In the 1880's, the Silt area saw many waves of immigrants from Italy, Wales, Ireland, Austria and Germany, with the majority of these immigrants finding work in the local coal mines, beet farms and cattle ranches.

The Town of Silt has endured many downtown fires and cannot boast many commercial buildings that over a century old, as they were nearly all destroyed in 1917 and in the 1950's. However, the Town's Community Center, first known as the Congregational Church, is one of the oldest buildings, having been built in 1909, and serving as a meeting place for generations of Silt residents.

### ***Administrative structure***

A Board of Trustees, with an elected mayor and six (6) additional members govern the Town of Silt. The Board of Trustees appoints key positions such as the Town Administrator, the Police Chief, the Town Treasurer and the Town Clerk. The Town Administrator administers the budget and the municipal code, through his/her designated staff members.

The Town of Silt is a home-rule municipal corporation that is not entirely subject to specific state statutes.

### ***Existing plans and policies***

The Town of Silt recently adopted its first amendment to the 2009 Comprehensive Plan, which detailed potential residential densities and more specific land uses for undeveloped property both inside and outside of the Town of Silt municipal

boundaries. This document is a guide for the Town's Planning & Zoning Commission and Board of Trustees to refer to during the annexation and development processes.

### ***Community organizations & programs***

The Town of Silt participates in the senior program Meals on Wheels, which assists seniors with hot meals at least once per day. The Town is also a member of the Chamber of Commerce, and helps to organize such events as Silt Hey Days, recreational events and holiday celebrations.

## Section 3: Risk Assessment

This section expands on Garfield County’s Natural Hazards Mitigation Plan by addressing Silt’s unique risks to the following hazards:

- Wildfire
- Flood
- Landslide and debris flow
- Earthquake
- Severe Weather
- Hazardous Materials (as a secondary hazard resulting from the natural hazards above)

Additionally, the Town of Silt has included secondary hazards that can impact the ability of the Town and residents to mitigation, prepare, respond and recover for natural hazard incidents. These hazards include:

- Transportation Accidents & Water Quantity and Quality

### Flood

#### The National Flood Insurance Program (NFIP)

The Flood Insurance and Mitigation Administration, a component of the Federal Emergency

Management Agency (FEMA) manages the National Flood Insurance Program (NFIP). The three components of the NFIP are: Flood Insurance; Floodplain Management; and Flood Hazard Mapping

The Town of Silt participates in the NFIP by adopting and enforcing floodplain management ordinances to reduce future flood damage. In exchange, the NFIP makes federally backed flood insurance available to homeowners, renters, and business owners in these communities. Preliminary Flood Insurance Study (FIS) Flood Insurance and Rate Maps (FIRM) are current and effective as of August 2, 2006. There are no repetitive loss properties in the Town of Silt.

Town of Silt – NFIP Participation Information			
Category	Data	Category	Data
Date Joined NFIP	04/01/1987	Number of Policies in force	3
CRS class/discount	N/A	Insurance in Force	\$1,158,900.00
CAV date	10/25/2007	Number of Paid Losses	0
CAC date		Total Losses Paid	0
Date of Current FIRM	08/02/2006	Substantial Damage claims since 1978	0

Notes: CAC = Community Assistance Contact; CAV = Community Assistance Visit; CRS = Community Rating System; FIRM = Flood Insurance Rate Map; NFIP = National Flood Insurance Program

Participants in the mitigation planning process noted the following geographic areas and related vulnerabilities in which local flood risk is greater than the risk described in the County's risk assessment, and in which additional actions are warranted to reduce the risk to life and property from flooding:

- The City's sewage and water treatment plant are both located in the 100-year floodplain. Flooding that damaged these facilities could impact their ability to function, affecting the City's supply of clean drinking water as well as the downstream water quality.
- The Lower Cactus Valley irrigation ditch, which runs through town roughly parallel to I-70, intersects with the floodplains for several smaller tributaries to the Colorado. A large rainstorm on First Street or on 7th Street would likely cause the Cactus Valley Ditch to breach its dike and flood. On 16th Street, a similar event is likely to cause flooding in Silt Trade Center
- The City's water main runs under I-70 through the 100-year floodplain. In a major flood event, this could become problematic.
- Some residential development in the southeastern corner of the City is in the 100-year floodplain, and could be affected by flooding.
- The Town of Silt owns two passive recreation areas along the Colorado River, one known as "Doggie Park" and the other known as the "Silt River Preserve". Each of these parks is closely monitored during run-off and is closed if conditions warrant due to flooding and unstable banks.

**Mitigation Success:**

The Town's Engineer, through various correspondences with FEMA, determined that the Town's various tributaries to the Colorado River were actually storm water drainage pathways that could be managed as such, thereby reducing the comprehensive detailed Town plans and funds needed for floodplain mapping through FEMA. Therefore, in 2005, the Town of Silt began to require developers to submit detailed engineering plans on a site-specific basis, for inclusion in the Town's overall drainage plan. All properties located adjacent to, upstream or downstream from the 1st Street drainage, 16th Street drainage, the 7th Street drainage, the Painted Pastures/Davis Point drainage, and adjacent to the Cactus Valley Ditch are required to submit detailed site specific and drainage specific engineering plans prior to development.

Also, in 2006, the Town of Silt, with FEMA cooperation, mapped the Colorado River floodplain in order to identify those areas that were at risk for moderate to severe damage due to flooding of the Colorado River and its tributaries. As a result, the Town's land use code was modified in order to restrict or prohibit development in this floodplain, and to mitigate the problems associated with development currently located in the floodplain. The Town still utilizes the Soil Conservation Service and U.S. Army Corps of Engineer floodplain study from 1987.

## **Wildfire**

In general, the County's Risk Assessment does an adequate job of describing the risk from wildfires with the areas surrounding the Town of Silt, given the data currently available. By some measures, the wildfire risk in Silt is lower than it is in other communities in the County, because of the surrounding topography and vegetation types.

However, the County is also in the process of updating its Community Wildfire Protection Plan (CWPP), and more accurate and detailed risk assessment data will be available in the early years of implementing this natural hazard mitigation addendum. Silt will work with the County and the surrounding rural fire protection districts to evaluate and understand the implications of the CWPP to the Town's wildfire risk and action items.

Participants in a mitigation-planning workshop from the Town of Silt noted that the portion of the town east of 7<sup>th</sup> street at the northern end of town is subject to the possible spread of wildfires from the wildland-urban interface and into Silt. This area is primarily developed with residential uses; some remains undeveloped at this point.

A secondary issue associated with wildfire is water quality. Major fires that affect the water quality in the Colorado River, the City's source of drinking water, could also affect the water treatment facility's ability to supply clean water to Silt's businesses and residents.

### **Mitigation Success:**

The Town's land use code provides for fire hydrants to be located within one hundred and fifty (150) feet of a lot line, but further measures will be implemented in the future for areas where wildfire would be especially prevalent.

## **Landslide and debris flow**

The Garfield County Natural Hazard Mitigation Plan adequately describes the causes and characteristics, hazard history, and impacts of landslides and debris flows in the Town of Silt.

Participants in the mitigation planning process noted that the risk from landslides is generally lower in Silt than it may be in other communities in Garfield County, but that there is some potential for landslides in the following areas:

- North of Orchard Avenue just west of 7th St.
- Skyline Cemetery, located to the north of the Richards Addition between 7th Street and 5th Street and north of Richards Street, has a very steep incline for an entrance, and the road cut is a sheer vertical slope to the south, overlooking residential dwelling units. To minimize the chances of a landslide, the Town ensures that road maintenance is done with BEST Management Practices and that vegetation is maintained above the roadway.
- Stoney Ridge Planned Unit Development entrance west of 16th Street. This steep slope has been vegetated and the Town monitors the amount of irrigation applied to the hillside.

It is standard practice in the Town of Silt that debris is removed from culverts, ditches and storm water pathways on an event basis, in order to minimize a large storm or run-off event's impact to the community.

## ***Earthquake***

While rare, earthquakes do happen in the region. The Town has adopted a building code that requires that all construction acknowledge the region's earthquake hazards.

The Garfield County Natural Hazard Mitigation Plan adequately describes the causes and characteristics, hazard history, and impacts of earthquakes in the Town of Silt. In general, the risk is low in Garfield County for this type of event.

## ***Severe weather***

The Garfield County Natural Hazard Mitigation Plan adequately describes the causes and characteristics, hazard history, and impacts of severe weather in the Town of Silt. In general, severe weather events are frequent occurrences in the County that residents are aware of and prepared for. Existing programs target risk reduction and education related to severe weather.

### **Mitigation Success:**

To facilitate emergency notification, Garfield County has implemented the reverse 911 system in order to communicate with residents about adverse weather conditions and to advise of shelters and emergency actions. The Town of Silt has a siren system, located at the Silt Town Hall, for use in times of emergency for notifying large numbers of residents.

## ***Hazardous materials***

The Garfield County risk assessment describes hazardous materials spills as possible secondary hazard events resulting from landslides or debris flows / rock falls, wildfires, or earthquakes that impact storage areas. Additionally, several hazardous materials transfer routes (most notably I-70 and the rail line) bisect the County; spills or accidents along these lines, which also run near the Colorado River, could result in contamination of the source of drinking water for many communities in the County. In Silt, the railroad tracks run near the town's commercial core and residential development; spills there from accidents could result in economic loss and impact the health and safety of residents and retail patrons in this area. The Town's drinking water source is the Colorado River. Upstream events could affect the Town's drinking water.

## ***Additional hazards***

### **Transportation issues**

#### **▪ Interstate-70 Accidents**

The Town of Silt has organized Adopt-A-Highway clean-up events along Interstate-70 in order to keep the state right-of-way in good shape in the event of a catastrophic multi-car accident related to ice, snow or fog. The

Town of Silt makes CDOT aware of any dangerous conditions along a two-mile stretch of Interstate-70 on a quarterly basis.

- **Railroad Crossings**

Although the Town has no railroad crossing within Town limits, there is a railroad crossing located in S. 16th Street, within the county and a short ways from town limits. The crossing has lights on both sides of the crossing, but has no protective arms and should be considered dangerous to cross. Heavy equipment and large vehicles typically cross at this juncture. In order to minimize the chances of an accident, the Town will monitor the crossing to ensure that the lights are functioning at the time of a train on the tracks at that location. The Town will report any non-functioning lights to the Union Pacific Railroad for repair.

### **Water quality and quantity**

- The Town of Silt monitors the quality of its source water, the Colorado River. As a result, the Town is aware of concentrations of dissolved organic solids, inorganic compounds such as toluene and benzene, and other contaminants that affect water quality. Hazardous materials could enter the Colorado River due to a rail accident or a fire, which could result in loss of power at the water plant for a prolonged period. Additionally, the Town has only one ten-inch (10”) water main that fills the domestic water tanks with treated water from the water plant. In the event of a problem with this water line, the Town could be out of water for the duration of the repair.

The Town also provides treated water for county residents that have problems with quantity and/or quality of water at their residences.



## Section 4: Action Items

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### *Mitigation Action Items*

Action items identified through the planning process are an important part of the mitigation plan. Action items are detailed recommendations for activities that local departments, citizens and others could engage in to reduce risk.

#### **Multi-hazard**

- Collaborate with regional, state, and federal agencies, and private industry to increase the extent of data available for hazard mapping, e.g., floodplain, landslide and debris flow, fire hazard, hazardous or volatile material.
- Develop a secondary source of domestic water

#### **Flood Hazard**

- Continue compliance with the National Flood Insurance Program (NFIP) through the enforcement of local floodplain ordinances
- Apply for grant funding to allow for an update of the Town's Flood Insurance Rate Maps (FIRMs).

#### **Wildfire Hazard**

- Increase coordination among mitigation planning efforts and actions with the soon-to-be-developed County-wide Community Wildfire Protection Plan (CWPP). Coordinate future updates of the mitigation plan with the CWPP updates.



## Summary of Multi-Jurisdictional NHMP Action Items

Proposed Action Title	Coordinating Organization	Internal Partners	External Partners	Timeline	1) Reduce the loss of life and personal injuries from natural hazard events.	2) Reduce damage to County assets	3) Reduce County costs of disaster response and recovery.	4) Minimize economic losses.	5) Reduce damage to personal property.
<i>Town of Silt</i>									
Collaborate with regional, state, and federal agencies, and private industry to increase the extent of data available for hazard mapping, e.g., floodplain, landslide and debris flow, fire hazard, hazardous or volatile material.	Silt Community Development Department	Town Administration	Garfield County GIS, FEMA, Oil and Gas industry, Bureau of Land Management, University of Colorado	Ongoing	X	X	X	X	X
Develop a secondary source of domestic water	Town of Silt Public Works	Silt Police	Garfield County, Colorado Department of Environment Quality	Short Term	X				
Continue compliance with the National Flood Insurance Program (NFIP) through the enforcement of local floodplain ordinances	Town Administration	Town Public Works		Short Term	X				X
Apply for grant funding to allow for an update of the Town's Flood Insurance Rate Maps (FIRMs).	Town of Silt Public Works	Town Administration	Garfield County Geographic Information Systems Department; NFIP	Short Term	X				X
Increase coordination among mitigation planning efforts and actions with the soon-to-be-developed County-wide Community Wildfire Protection Plan (CWPP). Coordinate future updates of the mitigation plan with the CWPP updates.	Emergency Manager		Fire Protection Districts	Short Term	X		X		



## **Attachment 1:**

### **Town of Silt Action Item Worksheets**

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Short and long-term action items identified through the planning process are an important part of the mitigation plan. Action items are detailed recommendations for activities that local departments, citizens and others could engage in to reduce risk.

#### **Multi-hazard**

- Collaborate with regional, state, and federal agencies, and private industry to increase the extent of data available for hazard mapping, e.g., floodplain, landslide and debris flow, fire hazard, hazardous or volatile material.
- Develop a secondary source of domestic water

#### **Flood Hazard**

- Continue compliance with the National Flood Insurance Program (NFIP) through the enforcement of local floodplain ordinances
- Apply for grant funding to allow for an update of the Town's Flood Insurance Rate Maps (FIRMs).

#### **Wildfire Hazard**

- Increase coordination among mitigation planning efforts and actions with the soon-to-be-developed County-wide Community Wildfire Protection Plan (CWPP). Coordinate future updates of the mitigation plan with the CWPP updates.

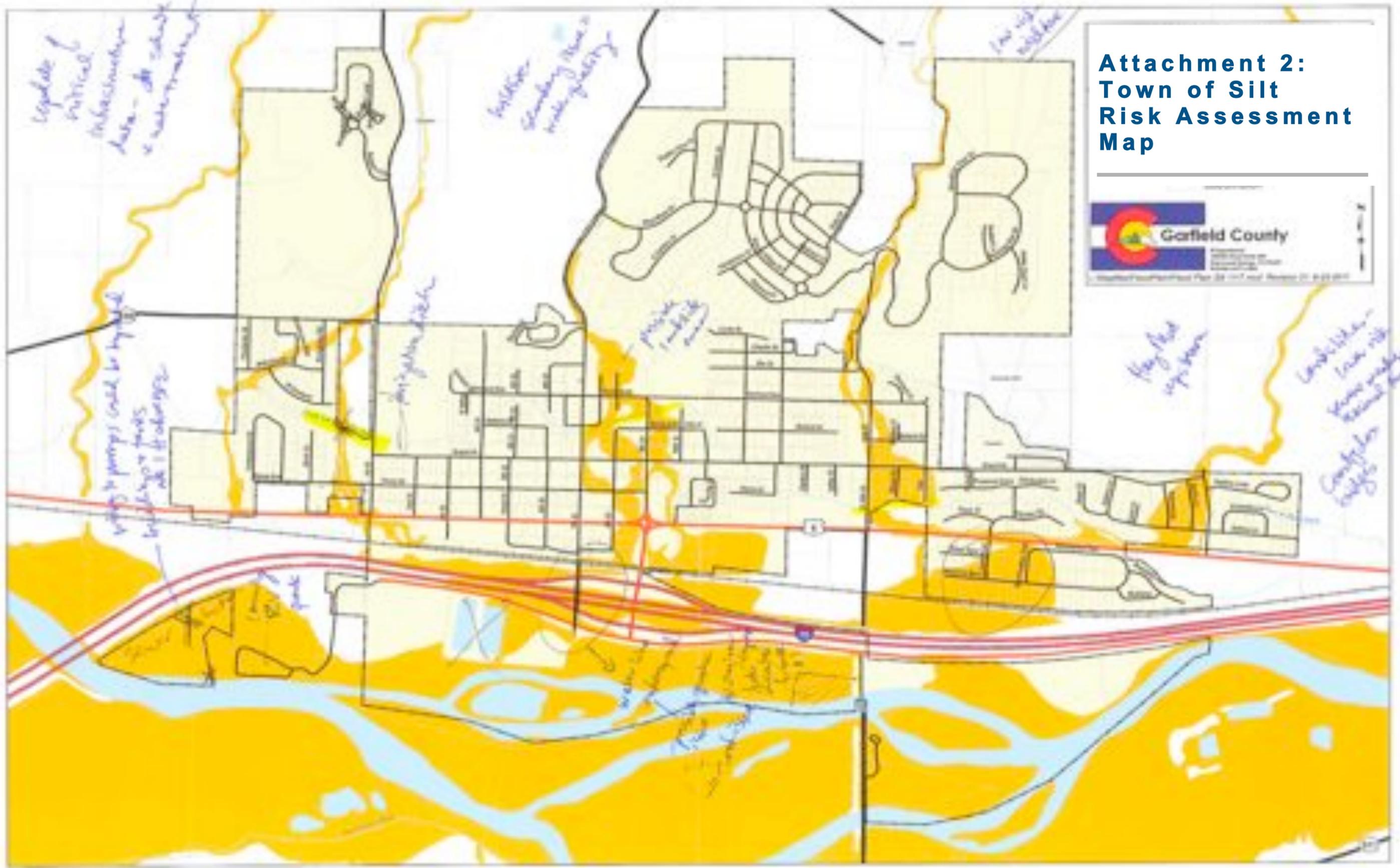
<b>Proposed Action Item:</b>		<b>Goal Alignment / Hazards Addressed:</b>
Collaborate with regional, state, and federal agencies, and private industry to increase the extent of data available for hazard mapping, e.g., floodplain, landslide and debris flow, fire hazard, hazardous or volatile material.		Multi-hazard All Goals
<b>Rationale for Proposed Action Item:</b>		
<p>The Disaster Mitigation Act of 2000 requires that communities identify their vulnerability to the hazards that affect the community, and how the community will be impacted [201.6(c)(2)(ii)(A)]. More current and accurate data will provide better estimates of vulnerability allow the County to better identify mitigation strategies that can assist the County in reducing its risk to earthquakes.</p> <p>Additionally, during the initial development of the County Risk Assessment, several key pieces of data were missing and were included as estimates only. Specifically, the geologic hazard information for the I-70 corridor was included as an estimate. The national, regional, and local significance of the railroad and highway that run through the canyon makes the I-70 a high priority for LIDAR mapping.</p>		
<b>Ideas for Implementation:</b>		
<ul style="list-style-type: none"> <li>• Coordinate with the CWPP process to ensure that data layers are available in a format that's useful to future Risk Assessment updates.</li> <li>• Prioritize landslide hazard areas for LIDAR mapping</li> <li>• Prioritize areas of future development for LIDAR mapping</li> </ul>		
<b>Coordinating Organization:</b>	Silt Community Development Department	
<b>Internal Partners:</b>		<b>External Partners:</b>
Town Administration		Garfield County GIS , FEMA, Oil and Gas industry, Bureau of Land Management, University of Colorado
<b>Timeline: (ongoing)</b>		<b>If available, estimated cost:</b>
<u>Short Term</u> (0-2 years)	<u>Long Term</u> (2-4 or more years)	
<b>Form Submitted by:</b>		
Action Item Status: New Action (2011)		

<b>Proposed Action Item:</b>		<b>Goal Alignment / Hazards Addressed:</b>	
Develop a secondary source of domestic water		Goal 1: Reduce the loss of life and personal injuries from natural hazard events.  Multi Hazard (Flood Hazard, Wildfire Hazard, Water Quality / Quantity Issue)	
<b>Rationale for Proposed Action Item:</b>			
The Town's current domestic water source, the Colorado River, is highly susceptible to contamination due to a toxic spill from an overturned tanker truck on Interstate-70 or a County Road, from a wildfire, from oil/gas extraction seep in a tributary to the Colorado River.			
<b>Ideas for Implementation:</b>			
In order to avoid a potential major calamity in the future, the Town of Silt is planning to drill domestic wells to the north of State Highway 6 to provide a secondary source of domestic water.  The Town of Silt requests that Garfield County and other state and federal agencies keep the Town apprised of any problems with contamination of the Colorado River upstream of the Town's water intake.			
<b>Coordinating Organization:</b>		Town of Silt Public Works	
<b>Internal Partners:</b>		<b>External Partners:</b>	
Silt Police		Garfield County, Colorado Department of Environment Quality	
<b>Timeline:</b>		<b>If available, estimated cost:</b>	
<u>Short Term</u> (0-2 years)	<u>Long Term</u> (2-4 or more years)		
XX			
<b>Form Submitted by:</b>			
Action Item Status: New Action (2011)			

<b>Proposed Action Item:</b>		<b>Goal Alignment / Hazards Addressed:</b>
Continue compliance with the National Flood Insurance Program (NFIP) through the enforcement of local floodplain ordinances		Goal 1: Reduce the loss of life and personal injuries from natural hazard events. Goal 5: Reduce damage to personal property Flood Hazard
<b>Rationale for Proposed Action Item:</b>		
The National Flood Insurance Program provides communities with federally backed flood insurance to homeowners, renters, and business owners, provided that communities develop and enforce adequate floodplain management ordinances. The benefits of adopting NFIP standards for communities are a reduced level of flood damage in the community and stronger buildings that can withstand floods. According to the NFIP, buildings constructed in compliance with NFIP building standards suffer approximately 80 percent less damage annually than those not built in compliance.		
<b>Ideas for Implementation:</b>		
<ul style="list-style-type: none"> <li>Actively participate with State OEM and FEMA during Community Assistance Visits. The Community Assisted Visit (CAV) is a scheduled visit to a community participating in the NFIP for the purpose of 1) conducting a comprehensive assessment of the community's floodplain management program; 2) assisting the community and its staff in understanding the NFIP and its requirements; and 3) assisting the community in implementing effective flood loss reduction measures when program deficiencies or violations are discovered.</li> <li>Conduct an assessment of the town's floodplain ordinances to ensure they reflect current flood hazards.</li> <li>Coordinate with the county to ensure that floodplain ordinances and NFIP regulations are maintained and enforced. Continue to assess the need for updated ordinances.</li> <li>Mitigate areas that are prone to flooding and/or have the potential to flood.</li> </ul>		
<b>Coordinating Organization:</b>	Town Administration	
<b>Internal Partners:</b>	<b>External Partners:</b>	
Town Public Works		
<b>Timeline:</b>	<b>If available, estimated cost:</b>	
<u>Short Term</u> (0-2 years)	<u>Long Term</u> (2-4 or more years)	
XX		
<b>Form Submitted by:</b>		
Action Item Status: New Action (2011)		

<b>Proposed Action Item:</b>		<b>Goal Alignment / Hazards Addressed:</b>	
Apply for grant funding to allow for an update of the Town's Flood Insurance Rate Maps (FIRMs).		Goal 1: Reduce the loss of life and personal injuries from natural hazard events. Goal 5: Reduce damage to personal property Flood Hazard	
<b>Rationale for Proposed Action Item:</b>			
The Town has not been able to FEMA map its floodplain of the Colorado River tributaries north of Interstate-70.  Updated FIRMs would address new information and new vulnerabilities, as well as any new land use developments occurring in the community.			
<b>Ideas for Implementation:</b>			
The Town intends to apply for FEMA grant monies in order to accomplish this task, which could help to mitigate some of the problems anticipated for floodplain properties.  If there are areas that need to be revised for the flood map, complete the MT-2 Forms Package (Application Forms for Conditional Letters of Map Revision and Letters of Map Revision). The forms and instructions are designed to assist requesters (community officials or individuals via community officials) in gathering the data that the FEMA needs to determine whether the effective NFIP map and Flood Insurance Study report for a community should be revised.			
<b>Coordinating Organization:</b>		Town of Silt Public Works	
<b>Internal Partners:</b>		<b>External Partners:</b>	
Town Administration		Garfield County Geographic Information Systems Department; NFIP	
<b>Timeline:</b>		<b>If available, estimated cost:</b>	
<u>Short Term</u> (0-2 years)	<u>Long Term</u> (2-4 or more years)		
XX			
<b>Form Submitted by:</b>			
Action Item Status: New Action (2011)			

<b>Proposed Action Item:</b>		<b>Goal Alignment / Hazards Addressed:</b>
Increase coordination among mitigation planning efforts and actions with the soon-to-be-developed County-wide Community Wildfire Protection Plan (CWPP). Coordinate future updates of the mitigation plan with the CWPP updates.		Goal 1: Reduce the loss of life and personal injuries from natural hazard events. Goal 3: Reduce County costs of disaster response and recovery.  Wildfire Hazard
<b>Rationale for Proposed Action Item:</b>		
<p>The Healthy Forests Restoration Act of 2003 requires at-risk WUI communities to develop CWPPs in order to be eligible to receive certain federal funds for mitigation projects. Being eligible for federal funds can assist the county in funding WUI fire mitigation projects, assisting the county in reducing its overall WUI fire risk.</p> <p>The CWPP is a targeted planning effort that mitigates against wildfire risk by identifying actions that fire districts can take, in collaboration with all jurisdictions within Garfield County, to reduce the risk to life and property from wildland fires. It will evaluate in detail issues such as access road codes, rural water supplies, and expected development patterns in the wildland urban interface and identify specific actions that will reduce opportunities for ignition and property damage. The actions identified by the County CWPP that relate to the Town of Silt should be incorporated into the mitigation plan when they are developed, to address wildfire risk.</p>		
<b>Ideas for Implementation:</b>		
<ul style="list-style-type: none"> <li>- As requested, participate in the CWPP plan development process.</li> <li>- Coordinate fire mitigation priorities with the Burning Mountain Fire Protection District.</li> </ul>		
<b>Coordinating Organization:</b>	Emergency Manager	
<b>Internal Partners:</b>		<b>External Partners:</b>
		Fire Protection Districts
<b>Timeline:</b>		<b>If available, estimated cost:</b>
<u>Short Term</u> (0-2 years)	<u>Long Term</u> (2-4 or more years)	
XX		
<b>Form Submitted by:</b>		
Action Item Status: New Action (2011)		



**Attachment 2:  
Town of Silt  
Risk Assessment  
Map**





## **Attachment 3:**

### **Town of Silt Critical Infrastructure Map**

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A significant component of the Natural Hazard Mitigation Plan is identifying where and how critical infrastructure and key resources could be impacted by natural hazards. The Garfield County GIS department developed maps of Silt that identify public facilities, utilities, agriculture and natural resources, water supply and treatment infrastructure, oil and gas facilities, and transportation facilities. These maps contribute to the understanding of community vulnerability. Due to the sensitive nature of some of the information included in this map, the map is not available upon request from Silt Community Development Department, the Garfield County Manager, or the Garfield County GIS Department.



## **Attachment 4:**

### **Town of Silt Documentation**

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This Attachment includes documentation of the public meetings where the Natural Hazard Mitigation Plan and the planning process were discussed. Community input contributed to the Silt NHMP as well as influenced the development of the actions that will guide hazard mitigation over the next 5-year time frame.



**TOWN OF SILT  
 PLANNING AND ZONING COMMISSION WORKSHOP AGENDA  
 TUESDAY, JANUARY 3, 2012– 6:30 P.M.  
 MUNICIPAL COUNCIL CHAMBERS**

<b>ESTIMATED TIME</b>	<b>ELECTRONIC AGENDA ITEM</b>	<b>PUBLIC HEARING /ACTION ITEM</b>	<b>ELECTRONIC LOCATION AND PRESENTOR</b>
	<b>Agenda</b>		<b>Tab 1</b>
<b>6:30 P.M.</b>	<b>Call to order</b>		<b>Chairman Rinehart</b>
	<b>Roll call</b>		<b>Rec. Secretary Dyke</b>
	<b>Pledge of Allegiance</b>		
<b>6:32 P.M.</b>	<b>Consent agenda</b> Minutes of the December 6, 2011 Planning and Zoning Commission Meeting	<b>Action Item</b>	<b>Tab 2</b>
<b>6:35 P.M.</b>	<b>Public Comments</b> - A "Sign In Sheet" is available in the Council Chambers. <b>Each speaker will limit comments to no more than three (3) minutes, with a total time of 30 minutes allotted to public comments, pursuant to Section 2.28.020 of the Silt Municipal Code</b>		
<b>6:45 P.M.</b>	<b>Agenda changes</b>		
<b>7:00 P.M.</b> 30 min	<b>CAMARIO PLANNED UNIT DEVELOPMENT PHASE II ANNEXATION, ZONING &amp; SKETCH/PRELIMINARY PLAN</b> (Continued Public Hearing from 12/6/11)	<b>Public Hearing</b>	<b>Tab 3</b> <b>Director Aluise</b>
<b>7:30 P.M.</b> 30 min	<b>DOLLAR GENERAL COMMERCIAL SITE PLAN</b> (Recommendation to Board of Trustees)	<b>Action Item</b>	<b>Tab 4</b> <b>Director Aluise</b>
<b>8:00 P.M.</b> 10 min	<b>GARFIELD COUNTY NATURAL HAZARDS MITIGATION PLAN</b> <b>WITH ASSOCIATED SILT ADDENDUM</b>	<b>FYI</b>	<b>Tab 5</b> <b>Director Aluise</b>
<b>8:10 P.M.</b> 5 min	<b>Future Business</b>		
<b>8:15 P.M.</b> 5 min	<b>Other Business</b>		
<b>8:20 P.M.</b>	<b>Adjourn</b>		

The next regularly scheduled meeting of the Silt Planning & Zoning Commission is tentatively set for Tuesday, February 7, 2012. Items on the agenda are approximate and intended as a guide for the Planning and Zoning Commission. "Estimated Time" is subject to change, as is the order of the agenda. For deadlines and information required to schedule an item on the agenda, please contact Community Development Director Janet Aluise at 876-2353, Ext. 14. Please be aware that this agenda is given to the public and to the Commission in electronic form. If you require a hard-copy, please request one before or after the scheduled meeting. Normal Town copying charges may apply. Thank you.



**TOWN OF SILT  
REGULAR BOARD OF TRUSTEES AGENDA  
MONDAY, AUGUST 8, 2011 – 7:00 P.M.  
MUNICIPAL COUNCIL CHAMBERS**

<b>ESTIMATED TIME</b>	<b>AGENDA ITEM</b>	<b>PUBLIC HEARING or ACTION ITEM</b>	<b>STAFF PRESENTOR</b>
	<b>Agenda</b>		<b>Tab A</b>
<b>7:00</b>	<b>Call to order</b>		
	<b>Roll call</b>		
	<b>Pledge of Allegiance and Moment of Silence</b>		
<b>7:05</b>	<b>Consent agenda –</b>  1. Minutes of the July 25, 2011 Board of Trustees meeting	<b>Action Item</b>	<b>Tab B</b>
	<b>Conflicts of Interest</b>		
<b>7:10</b>	<b>Public Comments</b> - A "Sign In Sheet" is available in the Council Chambers. <b>Each speaker will limit comments to no more than three (3) minutes, with a total time of 30 minutes allotted to public comments, pursuant to Section 2.28.020 of the Silt Municipal Code</b>		
<b>7:25</b>	<b>Agenda Changes</b>		
	<b>Convene as the Local Liquor Licensing Authority</b>		
<b>7:25 5 min</b>	<b>Gofer Foods – Renewal of 3.2 beer license</b>	<b>Action Item</b>	<b>Tab C S. McIntyre</b>
	<b>Reconvene as the Board of Trustees</b>		
<b>7:30 30 min</b>	<b>Garfield Clean Energy Long-term Structure and 2012 funding</b>	<b>Action Item</b>	<b>Tab D T. Baker</b>
<b>8:00 30 min</b>	<b>Resolution No. 18, Series 2011</b> , A RESOLUTION OF THE BOARD OF TRUSTEES OF THE TOWN OF SILT, COLORADO APPROVING A FIRST AMENDMENT TO THE 2009 COMPREHENSIVE PLAN FOR THE TOWN	<b>Action Item</b>	<b>Tab E G. Pace J. Aluise</b>
<b>8:30 15 min</b>	<b>Resolution No. 17, Series 2011</b> , A RESOLUTION TO ENCOURAGE ECONOMIC DEVELOPMENT WITHIN THE TOWN OF SILT BY TEMPORARILY RELAXING THE TOWN OF SILT SIGN CODE, OTHERWISE KNOWN AS CHAPTER 17.60 FOR A PERIOD NOT TO EXCEED ONE YEAR	<b>Action Item</b>	<b>Tab F G. Pace</b>
<b>8:45 5 min</b>	<b>Resolution No. 20, Series 2011</b> , A RESOLUTION TO FORMALLY ADOPT THE GARFIELD COUNTY NATURAL HAZARDS MITIGATION PLAN AND THE SILT ADDENDUM TO SUCH PLAN	<b>Action Item</b>	<b>Tab G L. Burris G. Pace</b>
<b>8:50 5 min</b>	Second reading of <b>Ordinance No. 7, Series 2011</b> , AN ORDINANCE OF THE TOWN OF SILT, COLORADO AMENDING TITLE 13 OF THE SILT MUNICIPAL CODE AND ADDING A NEW CHAPTER 13.16 REGARDING DELINQUENT UTILITY PAYMENTS AND COLLECTION THEREOF	<b>Public Hearing</b>	<b>Tab H P. Woods</b>

<b>8:55 5 min</b>	<b>Resolution No. 16, Series 2011</b> , A RESOLUTION APPROPRIATING ADDITIONAL SUMS OF MONEY TO DEFRAID EXPENSES IN EXCESS OF AMOUNTS BUDGETED FOR THE TOWN OF SILT, COLORADO FOR THE 2011 BUDGET YEAR	<b>Public Hearing</b>	<b>Tab I P. Woods</b>
<b>9:00 10 min</b>	<b>Staff reports</b>		<b>Tab J</b>
<b>9:10 10 min</b>	<b>Updates from Board / Board Comments</b>		
<b>9:20</b>	<b>Adjournment</b>		
<p>The next regularly scheduled meeting of the Silt Board of Trustees is Monday, August 22, 2011. Items on the agenda are approximate and intended as a guide for the Board of Trustees. "Estimated Time" is subject to change, as is the order of the agenda. For deadlines and information required to schedule an item on the agenda, please contact the Silt Town Clerk at 876-2353.</p>			

TOWN OF SILT  
RESOLUTION NO. 20  
SERIES OF 2011

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**A RESOLUTION TO FORMALLY ADOPT THE GARFIELD COUNTY  
NATURAL HAZARDS MITIGATION PLAN AND THE SILT ADDENDUM TO  
SUCH PLAN**

**WHEREAS**, Garfield County (the "County") created the Garfield County Natural Hazards Mitigation Plan (the "Plan") in order to identify natural hazards, consolidate the County's risk assessment and all-hazards mitigation goals, strategies and activities into one document, and to apply sensible and appropriate risk management techniques in order to reduce the negative outcomes from natural hazard events; and

**WHEREAS**, the Federal Emergency Management Agency ("FEMA") requires that counties and municipalities create a mitigation plan that incorporates all the criteria of The Disaster Mitigation Act of 2000, and that all FEMA guidelines are met; and

**WHEREAS**, the County requested that the Town of Silt ("Town") participate in the Plan by creating a region-specific Addendum to the Plan, to identify the natural hazards in the Town's region and to state the Town's intended mitigation efforts; and

**WHEREAS**, the Board of Trustees ("Board") of the Town of Silt ("Town") recognizes that natural hazard identification and mitigation can save lives, decrease property loss and preserve public funds; and

**WHEREAS**, the Board agrees that the Town's Addendum to the Plan helps the County to identify potential partner organizations to help to mitigate any natural hazard, such as flooding of the Colorado River and its tributaries, storm water events, landslides, debris flow, Interstate-70 accidents, Colorado River hazards, contamination of the Town's water source, railroad crossings, wildfires, earthquakes and extreme weather; and

**WHEREAS**, the Board supports the County in their disaster mitigation efforts, and hopes that the Town's Addendum will help create a more cohesive and efficient disaster recovery effort, should a natural hazard affect the Town and/or the region.

**NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF TRUSTEES OF THE TOWN OF SILT COLORADO, that:**

Section 1. The Board of Trustees of the Town of Silt hereby formally adopts the Garfield County Natural Hazards Mitigation Plan.