

# ANNEX H: BUFFALO MOUNTAIN METROPOLITAN DISTRICT

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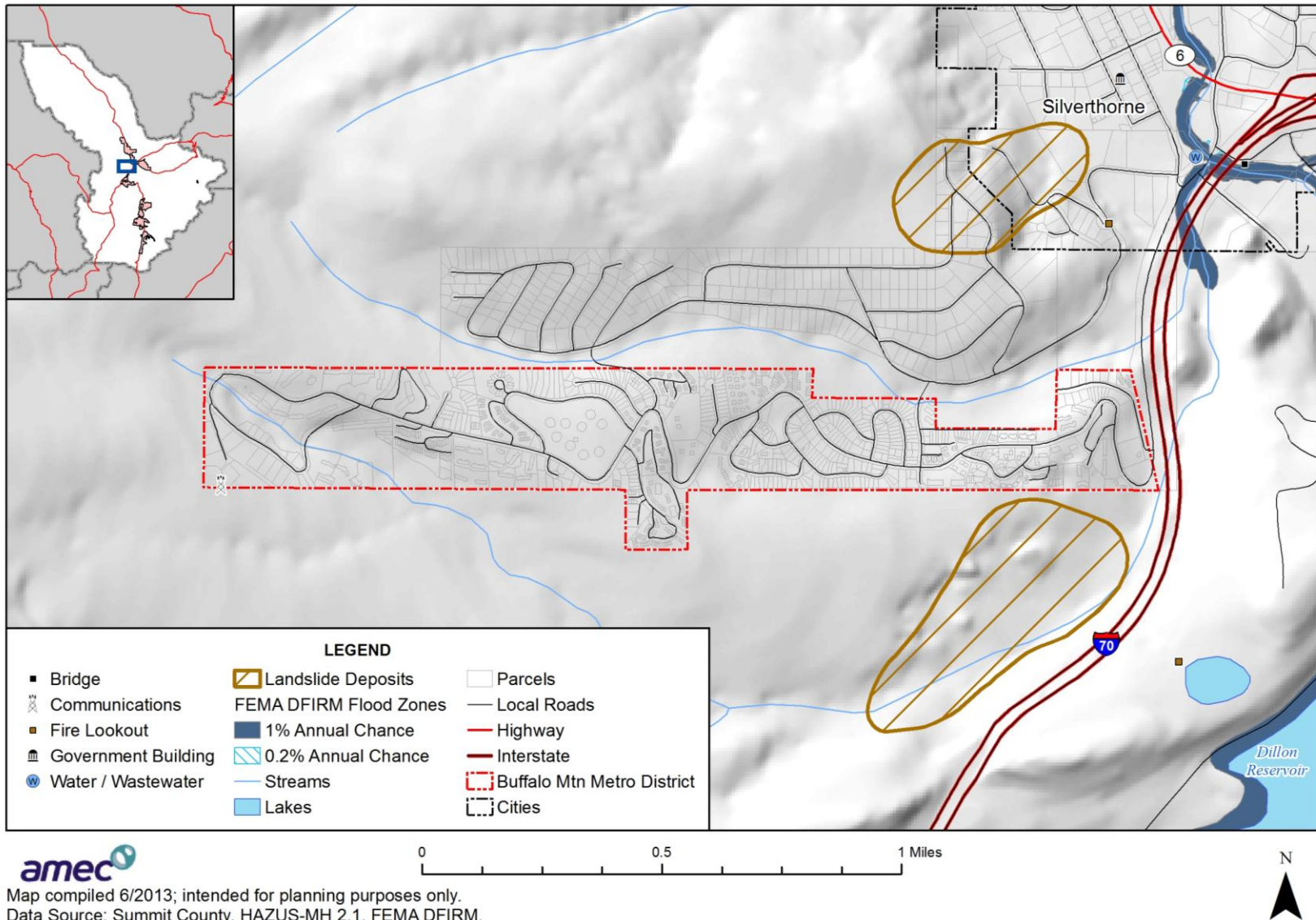
## H.1 Community Profile

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Buffalo Mountain Metropolitan District is a special district in Summit County, which provides services for the Wilderrest subdivision located on the southwest side of the Town of Silverthorne. The District provides water and sewer, road maintenance, and snow removal services and also functions as a homeowners' association providing architectural review and covenant enforcement. The District also coordinates with the U.S. Forest Service and Summit County, who own and manage most of the surrounding land.

The District operates under the direction of an elected Board of Directors that sets policy decisions. The District serves approximately 3,000 residential units located on 300 acres. Figure H.1 shows a base map of the Buffalo Mountain Metropolitan District and its location in Summit County. The map also shows critical facilities, flood hazards, and landslide deposits.

**Figure H.1. Map of Buffalo Mountain Metropolitan District**



Map compiled 6/2013; intended for planning purposes only.  
 Data Source: Summit County, HAZUS-MH 2.1, FEMA DFIRM,  
 Colton/USGS Earth Data Analysis Center

## H.2 Hazard Identification and Profiles

Representatives of the Buffalo Mountain Metropolitan District identified the hazards that affect the District and summarized their geographic location, probability of future occurrence, potential magnitude or severity, and planning significance specific to the District (see Table H.1). In the context of the countywide planning area, there are no hazards that are unique to the Buffalo Mountain Metropolitan District.

**Table H.1. Buffalo Mountain Metropolitan District—Hazard Summary**

Hazard Type	Geographic Extent*	Probability*	Magnitude*	Hazard Rating
Avalanche	Isolated	Unlikely	Negligible	Low
Dam Failure	Isolated	Unlikely	Limited	Low
Drought	Large	Likely	Limited	Moderate
Earthquake	Large	Occasional	Limited	Low
Erosion/Deposition	Small	Likely	Limited	Low
Flood	Isolated	Occasional	Limited	Low
Hazardous Materials Release (Transportation)	Isolated	Unlikely	Limited	Low
Landslide, Mudflow/Debris Flow, Rock Fall	Small	Occasional	Limited	Low
Lightning	Large	Likely	Limited	Low
Mountain Pine Beetle Infestation	Large	Highly Likely	Limited	Low
Severe Winter Weather	Large	Highly Likely	Critical	High
Wildfire	Large	Highly Likely	Critical	High
Windstorm	Large	Likely	Limited	Low

\*See Section 3.2 for definitions of these factors

Information on past events for each hazard can be found in Section 3.2 Hazard Profiles of the main plan.

## H.3 Vulnerability Assessment

The intent of this section is to assess the Buffalo Mountain Metropolitan District’s vulnerability separate from that of the planning area as a whole, which has already been assessed in Section 3.3 Vulnerability Assessment in the main plan. For more information about how hazards affect the County as a whole, see Chapter 3 Risk Assessment in the main plan.

### District Asset Inventory

Table H.2 shows the number of structures, land value, and assessed value of improvements to parcels in Buffalo Mountain Metropolitan District. Land values have been purposely excluded from the Total Value because land remains following disasters, and subsequent market devaluations are frequently short-term and difficult to quantify. Additionally, state and federal disaster assistance programs generally do not address loss of land or its associated value.

**Table H.2. Buffalo Mountain Metropolitan District—Building Exposure**

Land Use	Total Parcel Count	Improved Parcel Count	Land Value	Improvements Value	Estimated Content Value*	Total Value**
Government	1	0	\$0	\$0	\$0	\$0
Mixed Use	79	77	\$7,886,131	\$182,630,608	\$182,630,608	\$365,261,216
Open Space	44	11	\$89,805	\$108,412,157	\$108,412,157	\$216,824,314
Other	2	1	\$0	\$17,228,721	\$17,228,721	\$34,457,442
Residential	813	779	\$95,905,357	\$250,609,380	\$125,304,690	\$375,914,070
<b>Total</b>	<b>939</b>	<b>868</b>	<b>\$103,881,293</b>	<b>\$558,880,866</b>	<b>\$433,576,176</b>	<b>\$992,457,042</b>

Source: Summit County Assessor 2013

\*Content Value estimated; \*\* Improvements and Contents

Table H.3 lists critical facilities and other community assets identified by the District as important to protect in the event of a disaster.

**Table H.3. Buffalo Mountain Metropolitan District—Critical Facilities and Other Community Assets**

Name of Asset	Replacement Value (\$)	Occupancy/ Capacity #	Hazard Concerns
Water storage and delivery	\$9,200,000	2,000,000 gallons/7 miles	Fire, drought, landslide
Sewage collection	\$3,700,000	7 miles	Landslide
Roads and walkways	\$22,000,000	7 miles/3 miles	Fire and landslide
District Office, maintenance yard and maintenance staff housing	\$2,000,000		Drought, Flood

Source: Buffalo Mountain Metropolitan District

## Vulnerability by Hazard

This section analyzes existing and future structures and other assets at risk to hazards ranked of moderate or high significance that vary from the risks facing the entire planning area and estimates potential losses. For the District, this only includes wildfire.

### Wildfire

#### *Existing Development*

A wildfire threat ranking was developed for the Summit County Community Wildfire Protection Plan by the County, fire protection districts, and U.S. Forest Service. It is based on fuel hazards, risk of wildfire occurrence, essential infrastructure at risk, community values at risk, and local preparedness and firefighting capability and classifies the wildfire threat as low, medium, high, and extreme. The wildfire threat GIS layer, updated in 2011, was used to determine the number of acres in each wildfire threat zone and map the wildfire threat in the Buffalo Mountain Metropolitan District (see Table H.4). Figure H.2 shows a map of the wildfire threat ranking in

the Buffalo Mountain Metropolitan District. Figure H.3 shows the wildfire focus areas from the Summit County CWPP and treatment areas.

**Table H.4. Buffalo Mountain Metropolitan District—Acreage in Wildfire Threat Zones**

Low		Medium		High		Extreme		Total Acres
Acres	%Total	Acres	%Total	Acres	%Total	Acres	%Total	
13	4%	185	63%	95	32%	4	1.4%	<b>293</b>

Source: AMEC analysis with County data

Based on the methodology described for wildfire in Section 3.3.3 Vulnerability by Hazard, the property values in Buffalo Mountain Metropolitan District were separated into wildfire threat zones, as shown in Table H.5.

**Table H.5. Buffalo Mountain Metropolitan District—Property Values in Wildfire Threat Zones**

Threat Zone	Land Use	Improved Parcel Count	Land Value	Improved Value	Estimated Content Value	Total Value
<b>Low</b>	Mixed Use	3	\$229,000	\$1,941,942	\$1,941,942	\$3,883,884
	Open Space	1	\$0	\$6,218,158	\$6,218,158	\$12,436,316
	Residential	31	\$3,527,046	\$7,519,653	\$3,759,827	\$11,279,480
	<b>Total</b>	<b>35</b>	<b>\$3,756,046</b>	<b>\$15,679,753</b>	<b>\$11,919,927</b>	<b>\$27,599,680</b>
<b>Medium</b>	Mixed Use	48	\$4,242,916	\$149,492,073	\$149,492,073	\$298,984,146
	Open Space	8	\$81,769	\$54,974,799	\$54,974,799	\$109,949,598
	Residential	500	\$55,180,854	\$159,555,884	\$79,777,942	\$239,333,826
	<b>Total</b>	<b>556</b>	<b>\$59,505,539</b>	<b>\$364,022,756</b>	<b>\$284,244,814</b>	<b>\$648,267,570</b>
<b>High</b>	Mixed Use	26	\$3,414,215	\$31,196,593	\$31,196,593	\$62,393,186
	Open Space	2	\$8,036	\$47,219,200	\$47,219,200	\$94,438,400
	Other	1	\$0	\$17,228,721	\$17,228,721	\$34,457,442
	Residential	240	\$35,368,916	\$80,318,951	\$40,159,476	\$120,478,427
	<b>Total</b>	<b>269</b>	<b>\$38,791,167</b>	<b>\$175,963,465</b>	<b>\$135,803,990</b>	<b>\$311,767,455</b>
<b>Extreme</b>	Residential	8	\$1,828,541	\$3,214,892	\$1,607,446	\$4,822,338
	<b>Total</b>	<b>8</b>	<b>\$1,828,541</b>	<b>\$3,214,892</b>	<b>\$1,607,446</b>	<b>\$4,822,338</b>
<b>Grand Total</b>		<b>868</b>	<b>\$103,881,293</b>	<b>\$558,880,866</b>	<b>\$433,576,176</b>	<b>\$992,457,042</b>

Source: AMEC analysis with County data

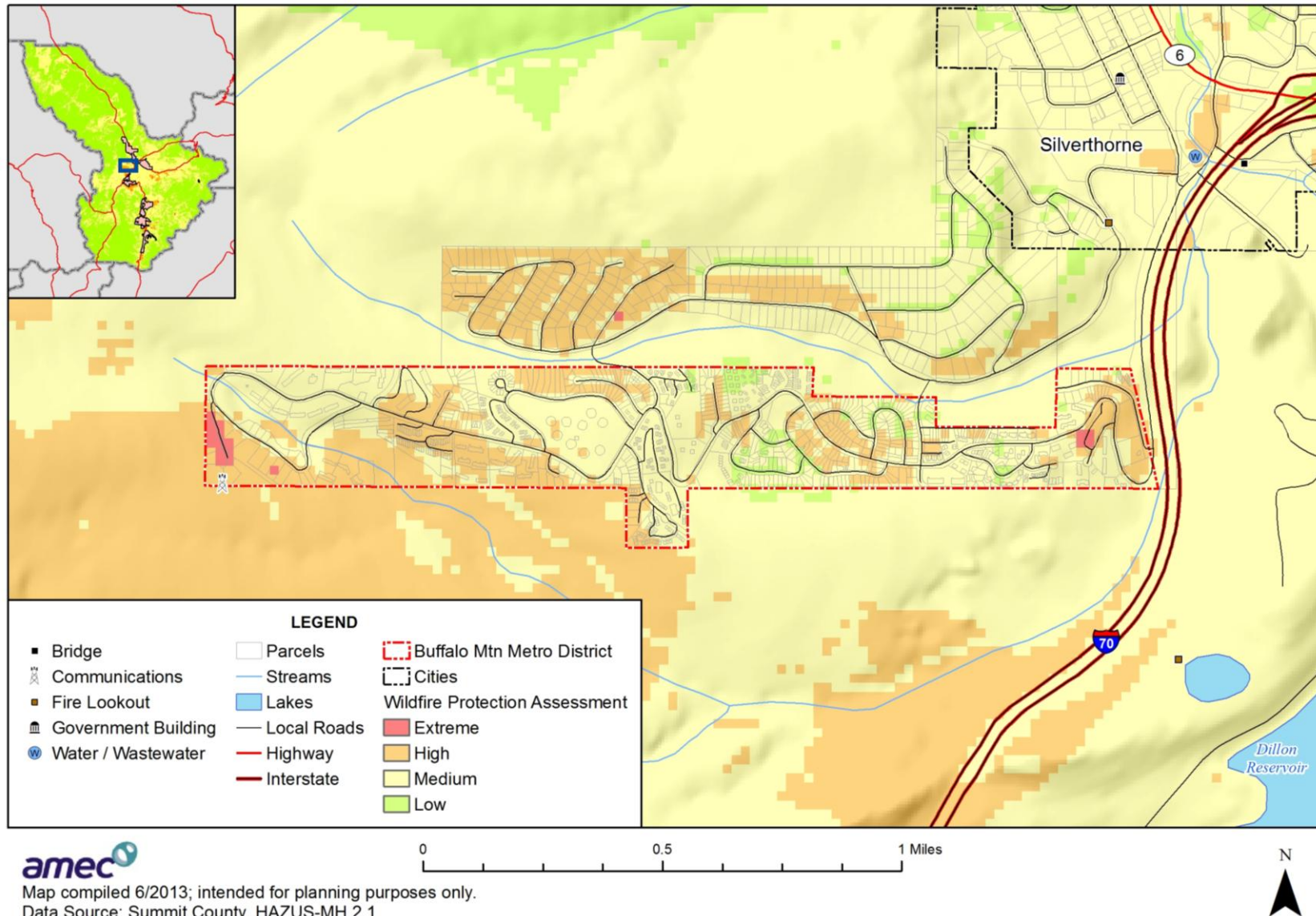
Most of the acreage in Buffalo Mountain Metropolitan District is in medium to high wildfire threat zones. These zones have the most property value at risk as well. Many residents in the Wilderrest subdivision in Buffalo Mountain Metropolitan District do not have access to private transportation in the event of an emergency, so evacuation is a concern for wildfire and other emergency events.

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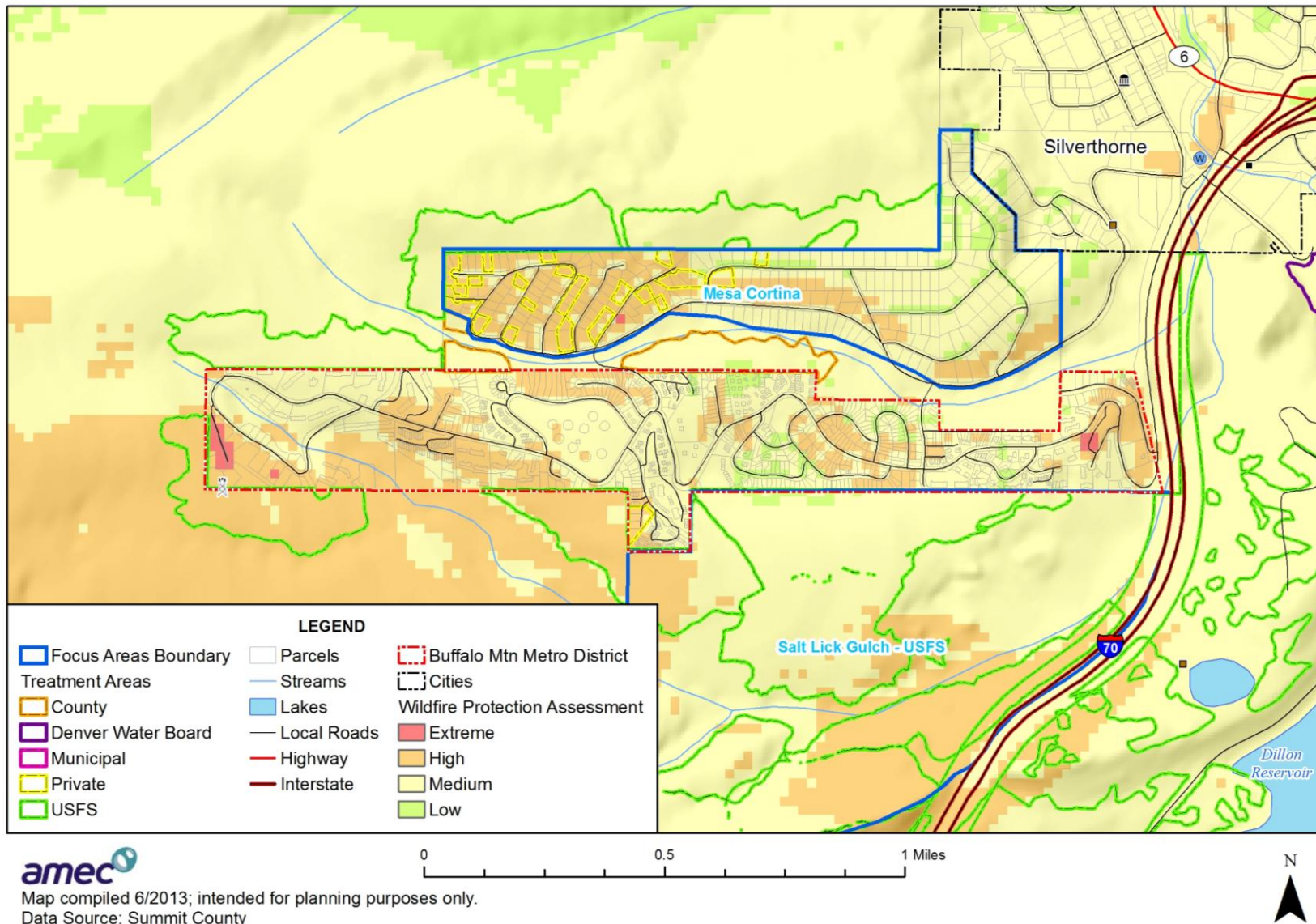
### ***Future Development***

The Wildernest subdivision has reached 95 percent buildout, so future development will be limited and subject to wildfire mitigation policies of Summit County. The District has experienced only a one percent development increase has occurred since 2008. There has been no pressure to develop hazardous areas, including wildfire zones.

**Figure H.2. Buffalo Mountain Metropolitan District Wildfire Threat and Critical Facilities**



**Figure H.3. Buffalo Mountain Metropolitan District Wildfire Focus Areas and Treatment Areas**





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## **Growth and Development Trends**

As previously stated, the Wilderrest subdivision is a high density residential neighborhood that has reached 95 percent buildout, so future development will be limited and subject to codes and ordinances of Summit County, as well as the subdivision covenant. Only a 1% development increase has occurred since 2008. There has been no pressure to develop hazardous areas.

## **H.4 Capability Assessment**

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Capabilities are the programs and policies currently in use to reduce hazard impacts or that could be used to implement hazard mitigation activities. The capabilities assessment is divided into five sections: regulatory mitigation capabilities, administrative and technical mitigation capabilities, fiscal mitigation capabilities, and mitigation outreach and partnerships.

### **Regulatory Mitigation Capabilities**

Regulatory mitigation capabilities include the planning and land management tools typically used by local jurisdictions to implement hazard mitigation activities. The District is governed under the policies and programs of Summit County, including its building codes and land use planning. There are architectural guidelines that are part of the site plan review requirements in the Wilderrest subdivision. The District also has a service plan, which includes information on the services the District has the authority to provide, and a long range financial plan.

### **Administrative/Technical Mitigation Capabilities**

The District works with Summit County departments of engineering, emergency management, and GIS on activities related to hazard mitigation and loss prevention within the District. Lake Dillon Fire Protection District provides wildfire protection within the Buffalo Mountain Metropolitan Service District. The District has one full-time employee, the district manager, and one part-time Administrator. Other services are contracted through a separate business.

### **Fiscal Mitigation Capabilities**

The District receives revenue from rates, fees, property taxes, and interest on investments. Fiscal mitigation capabilities are financial tools or resources that the Buffalo Mountain Metropolitan District could or already does use to help fund mitigation activities. These include the following:

- Capital improvements project funding
- Taxes for specific purposes
- Fees for water, sewer, and other services
- Impact fees for new development
- General obligation bonds

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## Mitigation Outreach and Partnerships

Other mitigation related activities include the following:

- Since 2004, the District's summer newsletter has included outdoor watering guidelines to promote water conservation.
- Since 2007, quarterly newsletters include fire safety, wildfire mitigation, and emergency preparedness information.
- The District has worked with property owners since 2005 to provide assistance with the removal of beetle-infested and dead trees to improve forest health and reduce wildfire risk. Over 4,000 trees have been removed.
- For the past four years, the District has assisted property owners in removing dead and fallen trees by offering free chipping services. As of 2013, 95% of the dead and fallen trees have been removed within the District boundaries.

## H.5 Mitigation Goals and Objectives

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The Buffalo Mountain Metropolitan District adopts the hazard mitigation goals and objectives developed by the Hazard Mitigation Planning Committee and described in Chapter 4 Mitigation Strategy.

## H.6 Mitigation Actions

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The Buffalo Mountain Metropolitan District identified and prioritized the following mitigation actions based on the risk assessment. Background information on how each action will be implemented and administered, such as ideas for implementation, responsible agency, potential funding, estimated cost, and timeline also are included.

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## Mitigation Action: Buffalo Mountain Metropolitan District—1 Defensible Space

<b>Jurisdiction:</b>	Buffalo Mountain Metropolitan District
<b>Action Title:</b>	Reduce the risk of wildfire in the Wilderrest subdivision by assisting property owners with the creation of defensible spaces around residential buildings.
<b>Priority:</b>	High
<b>Issue/Background:</b>	Wilderrest is a high-density residential subdivision of 2,970 living units on approximately 300 acres. It is heavily forested and surrounded by Summit County open space and national forest, both of which are also heavily forested. The District has identified approximately 2,500 trees within 10 feet of residential structures, putting these structures at high risk in the event of a forest fire.
<b>Ideas for Implementation:</b>	For the past three years, the District has provided assistance to property owners by chipping logs and branches removed from private property in addition to removing trees from rights-of-way within the subdivision. The District could provide greater assistance in creating defensible spaces if additional funding were available.
<b>Responsible Agency:</b>	Buffalo Mountain Metropolitan District
<b>Partners:</b>	Summit County
<b>Potential Funding:</b>	District revenue from rates, fees, property taxes, and interest on investments Summit County Wildfire Mitigation Grant Program FEMA Hazard Mitigation Grant Program and Pre-Disaster Mitigation Program
<b>Cost Estimate:</b>	\$250,000 to remove the estimated 2,500 trees from within 10 feet of residential structures.
<b>Benefits: (Losses Avoided)</b>	<ul style="list-style-type: none"><li>• Reduced risk of property damage and loss from wildfire. (Estimated replacement cost of all residential property in excess of \$500 million).</li><li>• Protection of public health and safety.</li></ul>
<b>Timeline:</b>	Create defensible spaces around residential structures within five years.
<b>Status:</b>	<p>This Defensible Space Mitigation Action plan has been implemented.</p> <p>For the past four years, the District has assisted property owners in removing dead and fallen trees by offering free chipping services. As of 2013, 95% of the dead and fallen trees have been removed within the District boundaries.</p> <p>Further, the District has incorporated a landscape maintenance requirement within the District Protective Covenants requiring all property owners to remove dead, dying, diseased, or insect-infested landscape materials as soon as possible after written notice by the Manager of such violation. The Protective Covenants include enforcement and penalty policy for non-compliance.</p>

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## Mitigation Action: Buffalo Mountain Metropolitan District—2 Digital Data and Maps

<b>Jurisdiction:</b>	Buffalo Mountain Metropolitan District
<b>Action Title:</b>	Enhance the ability to ensure continuity of water and sewer service during emergencies by converting paper as-built infrastructure drawings to digital format.
<b>Priority:</b>	Medium
<b>Issue/Background:</b>	As-built drawings for the approximately 14 miles of water and sewer mains in Wildernest exist only on 30-year old paper sheets. They are difficult to update, subject to loss or deterioration, and may not provide an appropriate level of detail during an emergency.
<b>Ideas for Implementation:</b>	Participate with other Summit County entities to obtain up-to-date aerial imagery, convert paper as-built drawings to digital format, field verify locations of water and sewer infrastructure components, and annotate digital drawings with critical infrastructure data.
<b>Responsible Agency:</b>	Buffalo Mountain Metropolitan District
<b>Partners:</b>	Other Summit County jurisdictions
<b>Potential Funding:</b>	District revenue from rates, fees, property taxes, and interest on investments,
<b>Cost Estimate:</b>	\$25,000 (\$2,000 for aerial imagery, \$16,000 for data conversion and field verification, \$7,000 for computer hardware and software).
<b>Benefits: (Losses Avoided)</b>	<ul style="list-style-type: none"><li>• Improve access to critical infrastructure data at all times, but especially during emergencies.</li><li>• Protect public health and safety.</li></ul>
<b>Timeline:</b>	Aerial imagery, data conversion, field verification, and annotation to be completed by 2010.
<b>Status:</b>	<p>The Digital Data and Maps Mitigation Action has been implemented.</p> <p>In early 2010, the District established a digital Geographical Information System (GIS) identifying all assets within the District Boundary.</p> <p>The District is now able to electronically identify all water, sewer, road, and critical facilities at any given time.</p>

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## Mitigation Action: Buffalo Mountain Metropolitan District—3 Backup Power for Critical Facilities

<b>Jurisdiction:</b>	Buffalo Mountain Metropolitan District
<b>Action Title:</b>	Obtain backup power for water pumping stations
<b>Priority:</b>	Low
<b>Issue/Background:</b>	The District provides water drawn from the Blue River alluvial to the Wilderrest subdivision by pumping to a series of underground storage tanks, the uppermost of which is approximately 1,200 feet higher in elevation than the treatment plant. There are five pumping stations, none of which have backup power. Providing backup power would improve continuity of services during emergencies requiring large volumes of water, such as forest fires, which may disrupt normal power supplies.
<b>Ideas for Implementation:</b>	Develop specification, identify suppliers, and purchase backup generators as funding allows.
<b>Responsible Agency:</b>	Buffalo Mountain Metropolitan District
<b>Partners:</b>	
<b>Potential Funding:</b>	District revenue from rates, fees, property taxes, and interest on investments. FEMA Hazard Mitigation Grant Program
<b>Cost Estimate:</b>	\$250,000 (five pumping stations at \$50,000 each)
<b>Benefits: (Losses Avoided)</b>	<ul style="list-style-type: none"><li>• Improve continuity of services during emergencies</li><li>• Reduce wildfire risk</li><li>• Protect public health and safety</li></ul>
<b>Timeline:</b>	Complete installation of five backup generators by 2015, subject to funding availability.
<b>Status:</b>	<p>The Backup Power for Critical Facilities Mitigation Action has not been implemented.</p> <p>The cost to purchase, install and maintain five back-up power generators has not been possible due to lack of funding. However, the District has identified five local companies that would rent back-up power generators to the District on an as needed basis.</p>

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## Mitigation Action: Buffalo Mountain Metropolitan District—4 Drainage Improvement

<b>Jurisdiction:</b>	Buffalo Mountain Metropolitan District
<b>Action Title:</b>	Develop drainage improvement strategy to reduce erosion and flooding to avert severe winter weather hazard
<b>Priority:</b>	High
<b>Issue/Background:</b>	The District topographical location includes steep grades, rising slopes, and varied terrain. During the spring snow melt and/or during summer thunderstorms, high volume water run-off occurs causing erosion to drainage ditches, undermining roadways, and flooding District properties.
<b>Ideas for Implementation:</b>	Engineer and build underground drainage culverts. Expand and/or build larger water quality ponds. Build concrete swell curb and gutter systems.
<b>Responsible Agency:</b>	Buffalo Mountain Metropolitan District – District Manager
<b>Partners:</b>	Summit County
<b>Potential Funding:</b>	FEMA Hazard Mitigation Grant Program, District revenue from rates, fees, and property taxes.
<b>Cost Estimate:</b>	\$5 million
<b>Benefits: (Losses Avoided)</b>	Provide flood protection. Protect District infrastructure. Maintain roads to allow citizens safe passage.
<b>Timeline:</b>	1-5 years.
<b>Status:</b>	New in 2013

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## Mitigation Action: Buffalo Mountain Metropolitan District—5 Wildfire Defensible Space Public Education

<b>Jurisdiction:</b>	Buffalo Mountain Metropolitan District
<b>Action Title:</b>	Continue to educate District constituents about wildfire defensible space actions by removal of beetle-infested trees.
<b>Priority:</b>	High
<b>Issue/Background:</b>	The District is a high-density residential subdivision of 2,970 living units on approximately 300 acres. It is heavily forested and surrounded by Summit County open space and national forest, both of which are also heavily forested.
<b>Ideas for Implementation:</b>	Continue to identify dead and fallen trees within the District boundaries and promote defensible space. Mandate property owner removal, pursuant to the District Rules and Regulations.
<b>Responsible Agency:</b>	Buffalo Mountain Metropolitan District – District Manager
<b>Partners:</b>	Other Summit County jurisdictions
<b>Potential Funding:</b>	FEMA Hazard Mitigation Grant Program, District revenue from rates, fees, and property taxes.
<b>Cost Estimate:</b>	\$20,000 annually
<b>Benefits: (Losses Avoided)</b>	Reduced risk of property damage and District facilities from wildfire and windstorm. Protection of public health and safety.
<b>Timeline:</b>	1-5 years (on-going)
<b>Status:</b>	New in 2013

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## **Mitigation Action: Buffalo Mountain Metropolitan District—6 Source Water Protection Plan**

<b>Jurisdiction:</b>	Buffalo Mountain Metropolitan District
<b>Action Title:</b>	Develop Source Water Protection Plan
<b>Priority:</b>	Medium
<b>Issue/Background:</b>	The program would encourage community-based protection and non-regulatory preventive management strategies to ensure that all District drinking water resources are kept safe from future contamination.
<b>Ideas for Implementation:</b>	Delineate the source water protection area, inventory potential sources of contamination, develop best management practices and implement protection measures.
<b>Responsible Agency:</b>	Buffalo Mountain Metropolitan District – District Manager
<b>Partners:</b>	Other Summit County jurisdictions
<b>Potential Funding:</b>	CO Department of Public Health and Environment’s SWAP Development and Implementation Grant.
<b>Cost Estimate:</b>	\$50,000
<b>Benefits: (Losses Avoided)</b>	Provide protection of natural resources from hazard impacts.
<b>Timeline:</b>	1-3 years
<b>Status:</b>	New in 2013



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## Mitigation Action: Buffalo Mountain Metropolitan District—7 Email Database for Emergency Communication with Public

<b>Jurisdiction:</b>	Buffalo Mountain Metropolitan District
<b>Action Title:</b>	Develop email database of District constituents to electronically communicate in cases of emergency.
<b>Priority:</b>	Medium
<b>Issue/Background:</b>	In cases of emergency, or the need for evacuation, the District needs to create another source of direct communication with District property owners by obtaining email addresses.
<b>Ideas for Implementation:</b>	Request email addresses through quarterly billing statements, newsletter communications, or direct phone contact.
<b>Responsible Agency:</b>	Buffalo Mountain Metropolitan District – District Manager
<b>Partners:</b>	Summit County - Possibly link with SCAAlert
<b>Potential Funding:</b>	District revenue from rates, fees, and property taxes.
<b>Cost Estimate:</b>	\$2,000 annually
<b>Benefits: (Losses Avoided)</b>	Protection of public health and safety.
<b>Timeline:</b>	On-going
<b>Status:</b>	New in 2013