



Appendix A COUNTY MITIGATION ACTIONS

The following mitigation actions have been adopted by Jefferson County. A summary list of these actions, as well as the goals they apply to, can be found in Table 5.1 in Chapter 5. Actions for specific jurisdictions may be found in their respective jurisdictional annex.

1. Create a Community Wildfire Protection Plan (CWPP)

Issue/Background: Much of Jefferson County is considered to be in the Wildland Urban Interface (WUI). All but one of the Fire Districts located in the WUI have CWPPs. There is approximately 50 square miles of land in the county that is not part of a fire district. We call that area “no-mans land” Our goal is to create a countywide CWPP that covers the no-man’s land properties that is also an “umbrella” plan for the Fire Districts CWPPS. Verify that existing CWPPs are updated/verified to be compliant with current CSFS CWPP guidelines.

Other Alternatives: This project is required under a new Colorado law created under Senate Bill 09-20.

Responsible Office: Jefferson County Office of Emergency Management

Priority (High, Medium, Low): High

Cost Estimate: \$60,000

Benefits (Avoided Losses): Improved understanding of the WUI risk in Jeffco. Identification of critical fuel reduction projects.

Potential Funding: Stimulus money through the Coalition for the Upper South Platte.

Schedule: Will be completed in 2010.

2. Fairmount Drainage Improvement Program

Issue/Background: This project provides for the construction of a combination of channels and culverts to convey runoff from McIntyre Street east to Eldridge Street near 4th Avenue. Currently the existing drainageway has areas that are significantly undersized or not existing.

Other Alternatives:

- Don’t construct drainage improvements
- Construct an underground storm sewer within the right-of-way for Indiana and Eldridge to Clear Creek at a very high expense.

Responsible Office: Jefferson County Transportation and Engineering, City of Wheat Ridge, Urban Drainage Flood Control District, Colorado Department of Transportation.

Priority (High, Medium, Low): Medium

Cost Estimate: \$200,000 (design), \$900,000 right-of-way, \$1,350,000 (construction) within the County possible storm sewer and pond upgrades needed in Wheat Ridge.

Benefits (Avoided Losses): Improvements will reduce flooding in the area and flooding damage to the County Street system and State Highway 58.

Potential Funding: Urban Drainage Flood Control District up to 50%. Possible funding from County Capital Improvements Plan or impact fees would need Board's approval.

Schedule: Design 2010, Construction is on the 5-year Capital Improvements Plan.

3. Drake Outfall

Issue/Background: This project provides for the construction of a combination of channels and culverts to convey runoff from 52nd Avenue and Indiana Street east and southeasterly to Youngfield Street near 50th Avenue.

Other Alternatives:

- Don't construct drainage improvements.
- Construct an underground storm sewer within the ROW for Indiana and Eldridge to Clear Creek at a very high expense.

Responsible Office: Jefferson County Transportation and Engineering, City of Wheat Ridge, City of Arvada, Urban Drainage Flood Control District, Colorado Department of Transportation.

Priority (High, Medium, Low): Medium

Cost Estimate: \$300,000 (design), \$1,400,000 r-o-w, \$1,000,000 (construction) within the County.

Benefits (Avoided Losses): Improvements will reduce flooding in the area and flooding damage to the County Street system.

Potential Funding: Urban Drainage Flood Control District up to 50%. Possible funding from County Capital Improvements Plan or impact fees would need Board's approval.

Schedule: Design 2010, Construction is on the 5-year Capital Improvements Plan.

4. Beer Sisters Reservoir Rehabilitation

Issue/Background: This project provides for the study of the existing Beer Sisters Reservoir and construction of improvements to insure the integrity and safety of this facility as a regional detention facility.

Currently this reservoir acts as a regional detention facility that greatly reduces the amount of runoff onto downstream properties in the County. The dam was constructed in 1966 as an irrigation water storage reservoir. The State Engineer's Office has identified several areas of concern that should be studied and upgraded to assure the safety of this facility. Failure of this 21 foot high by 750' long dam would be catastrophic to downstream citizens.

Other Alternatives: Emptying the reservoir by breaching the dam. This would require a letter of map revision approved by FEMA and would put more homes in the floodplain. It also may not be approved by FEMA since it would impact existing homes.

Lowering the water level on the reservoir will temporary satisfy the State Engineer's Office but will not eliminate the threat of a breach of the dam.

Responsible Office: Ownership is Foothills Park and Recreation. The project will be administered by Urban Drainage Flood Control District and Jefferson County Highways and Transportation.

Priority (High, Medium, Low): High

Cost Estimate: \$200,000 design, \$1,500,000 construction

Benefits (Avoided Losses): The project will eliminate the threat of a dam breach due to an inadequate spillway for current conditions. The project will also allow for the flood protection from the existing reservoir. This will help protect the downstream properties from flooding.

Potential Funding: Urban Drainage Flood Control District up to 50% the total cost.

5. North Branch of Coon Creek Culvert at Miller Street

Issue/Background: The existing metal culvert backs water up at Miller Street to a depth of more than 15 feet. This creates unsafe conditions which result in the adjacent residence being in the 100-year floodplain. Should Miller Street breach, the downstream flooding could be catastrophic to the residences and the assisted care living center.

Other Alternatives: Leave existing culvert in place until it corrodes though and replace at that time. Road may need to be closed if culvert fails.

Responsible Office: Jefferson County Transportation and Engineering and Road and Bridge.

Priority (High, Medium, Low): Medium

Cost Estimate: \$500,000 construction, Design is already completed

Benefits (Avoided Losses): The project will result in the replacement of a metal culvert that is not only undersized, but more than 30-years old and could be subject to failure in the next few years. An emergency repair would be the sole responsibility of the County. The project will also greatly reduce the threat of flooding from backwater from the culvert and a catastrophic breach of Miller Street.

Potential Funding: County and Urban Drainage Flood Control District

Schedule: Construction 2010, design is completed

6. South Weir Gulch Rehabilitation

Issue/Background: This project provides for the construction of a combination of channel improvements and drop structures to control severe erosion and safely convey runoff from Union Boulevard east to Pierson Street south of Florida Avenue. Currently this section of the South Wier Gulch drainageway is very steep and is rapidly eroding the existing channel. This has resulted in a portion of the channel with almost vertical walls 15-20 feet deep. This erosion has progressed to the rear yard fences of adjacent residences.

Other Alternatives: Do nothing, do a smaller scale project that may not last due to an unstable channel up and down stream of the impact area.

Responsible Office: Jefferson County Transportation and Engineering, Urban Drainage Flood Control District. (The property is privately owned)

Priority (High, Medium, Low): Medium

Cost Estimate: \$200,000 Design; 2,500,000 Construction

Benefits (Avoided Losses): Reduction of erosion, improve long term water quality of the stream. Reduction of property loss in area and it will eliminate a safety hazard in the area.

Potential Funding: Urban Drainage Flood Control District up to 50% of the cost.

Schedule: Both design and construction are on the 5 year capital improvements plan.

7. National Flood Insurance Program (NFIP) and Community Rating System (CRS) Participation

Issue/Background: This project provides for the continual participation in both the NFIP and CRS floodplain management programs, which enables properties within the county to get flood insurance at reduced rates. In addition the floodplain management regulations reduce the flood risks for new and reconstructed buildings within the county.

Other Alternatives: Not to participate in the programs, this would have a major negative impact to over 1,000 properties within the flood plain because federal flood insurance would not be available. Properties outside of the floodplain would also not be able to get federal flood insurance.

Responsible Office: Jefferson County Planning and Zoning

Priority (High, Medium, Low): Medium

Cost Estimate: Within current county budget.

Benefits (Avoided Losses): Programs will reduce flood losses for new construction within the county and allow older properties access to flood insurance to help protect existing buildings.

Potential Funding: Programs are funded from the counties general fund.

Schedule: NFIP participation is ongoing, CRS current rating class 9, projected increase in class rating(effective October 2010)

8. Multi-Jurisdictional Storm Ready Program Participation

Issue/Background: This is a National Weather Service (NWS) Program helps communities to better prepare to save lives from the onslaught of severe weather through advanced planning, education and awareness. This is an accredited program through the National Oceanic & Atmospheric Administration & the National Weather Service.

Other Alternatives: Currently, we meet about 85% of the guidelines. To meet the accreditation, we would enhance our current program to meet 100% of the guidelines.

Responsible Office: Jefferson County Office of Emergency Management

Priority: Low

Cost Estimate: None (Unless upgrades to Emergency Preparedness infrastructure is needed to qualify as a Storm Ready Community). \$5,000, if it is necessary to upgrade equipment, training, staff hours, OT hours, and/or host trainings.

Benefits (Avoided Losses): Once Application has been submitted to the NWS, the application is reviewed and the Storm Ready chair will assign a team to visit the applicant and discuss options. The end result being a Certified Storm Ready Office and serving residents and County Offices better.

Potential Funding: Our funding would be from our EMPG grant. An off shoot to this is, once a Community is certified as Storm Ready the Insurance Services Organization can provide Community Rating System points which may be applied to lower National Flood Insurance Program (NFIP) flood insurance rates.

Schedule: 2010 Apply and depending on results, implement in 2011

9. Bi-lingual publications for Jeffco Residents

Issue/Background: This program will allow publications Colorado Life Trak, Jeffco Emergency Preparedness guides, pamphlets to be translated for our Spanish speaking residents of Jeffco.

Note. A language assessment should be completed to see if other translations are needed for our residents.

Other Alternatives: Consider having the Jeffco Emergency Management (most of publications are on this site) website in Spanish.

Responsible Office: Jefferson County Office of Emergency Management

Priority: Medium

Cost Estimate:

- \$10,000 for the translation
- \$2,000 for the assessment

Benefits (Avoided Losses): Giving the Jefferson county bi-lingual speaking communities a resource to use in preparing their homes/families for potential hazards.

Potential Funding: Possible Grants with 50/50 match

Schedule: 2010 - apply and purchase with a start in mid-2010 and finish in 2012

10. Provide National Oceanic Atmospheric Administration (NOAA) Radios to Facilities in Jefferson County

Issue/Background: This is an ongoing project to provide a NOAA radio to schools, pre-schools, hospitals, and special needs facilities in high risk locations. This will help the community to better prepare for severe weather watches and warnings.

Other Alternatives: Rely on TV/Radio warnings (Emergency Broadcast System) or Warning sirens.

Responsible Office: Jefferson County Office of Emergency Management

Priority: High

Cost Estimate: With this years grant, we purchased 300 NOAA Radios for a cost of \$7100.00. Each year we look for grants to fund more radios.

Benefits (Avoided Losses): Early warning to imminent severe weather can help prevent injuries and possibly save lives. By having a weather radio, along with appropriate training, these facilities that house high risk populations can receive watches, warnings and other emergency messages much faster.

Potential Funding: EMPG Grants (50/50 match)

Schedule: 2009 we received the money and will distribute radios in Dec. 09 and early 2010.

11. Public Awareness for those in Dam Inundation Areas.

Issue/Background: There are 17 High Hazard and 19 Significant Risk dam in Jefferson County. Currently there is no notification system to those living “downstream” of the dam or information that they live in a potentially hazardous area. Our goal is to create and distribute a pamphlet notifying home and business owners that are in a dam inundation area. It will be similar to the mailer distributed to people that live in flood plains.

Part of this project is to create digital map layers of the inundation maps that can be incorporated into the county’s GIS database.

Other Alternatives: Create a website that will show dam inundation areas where citizens can look up their address and see if they are in an inundation zone. (May be a viable alternative) Digitizing maps will still be required.

Responsible Office: Jefferson County Office of Emergency Management

Priority: High

Cost Estimate: \$45,000

Benefits (Avoided Losses): Notification of those living in dam inundation areas will increase their awareness that they are in a higher hazard area. Or hope is that this awareness will improve preparedness for those in the area. This, along with better mapping will improve warning capabilities that will potentially save lives in case of a disaster.

Potential Funding: Possible CDEM/PDM Grants

Schedule: To be completed by end of 2012

12. Fire Danger Operating Plan

Issue/Background: Large wind driven/weather dependent wildfires have become more common in the Colorado Front Range. County resources are dispatched to respond to these because of their proximity and quality work output. These fires can rapidly overwhelm local resources that are managing them due to firefighter safety, evacuations, public safety, information, and proximity to the WUI. Developing this plan will use the best available science through accurate weather measurements to help prepare agencies to safely manage wildfires year-round.

Add additional Remote Automated Weather Stations (RAWS) to the Jeffco network.

Other Alternatives: Partner up with the USFS and get Jefferson County added to an existing FDOP. Not likely.

Responsible Office: Jefferson County Office of Emergency Management

Priority: Medium

Cost Estimate: \$50,000 + \$18,000 for each weather station.

Benefits (Avoided Losses): To be better prepared for the next “Big One” and the un-quantified losses resulting from a Hayman type fire over a major WUI (i.e. Evergreen, Conifer). JCSO and local fire departments will be able to determine go/no-go days for pile burning. Staffing recommendations are an inherent application of this plan. These recommendations can be passed to local agencies by JCSO Fire Management to take a proactive approach to preparedness and pre-planning.

Potential Funding: County funding, EMPG or PDM grants?

Schedule: Will be completed by 2013

13. Geographic Information System Layer Updates

Issue/Background: Much of Jefferson County is considered to be in the Wildland Urban Interface (WUI). With diversity of land ownership in Jeffco it has been a challenge to develop GIS layers for wildfires and completed fire management (fuels reduction) projects.

Other Alternatives: No viable alternatives.

Responsible Office: Jefferson County Office of Emergency Management

Priority: Medium

Cost Estimate: \$35,000

Benefits (Avoided Losses): Having these layers available will be useful during wildfire events, developing future fuels reduction projects and reevaluating completed projects for maintenance/reentry.

Potential Funding: There is some potential to use stimulus money through the Coalition for the Upper South Platte as part of the 2009 ARRA grants.

Schedule: Will be completed in 2011

14. Evaluate all power/backup power systems for police, fire (etc) and repeater tower sites

Issue/Background: Evaluate County/City locations to see which fire/police locations have emergency power and the status of those who don't (Many locations already have back-up power). Prioritize locations and plan for emergency power either through city or county

Other Alternatives: None

Responsible Office: Jefferson County Emergency Management

Priority (High, Medium, Low): Low

Cost Estimate: Per Unit cost of Generator (Type/load)

Benefits (Avoided Losses): Reduced down time of Fire/Police stations when computers and other emergency equipment would be down due to power loss.

Potential Funding: Possibly in existing budget

Schedule: Within 2 years

15. Evaluate Possible Mountain Pine Beetle Infestation

Issue/Background: Mountain pine beetle (MPB), *Dendroctonus ponderosae*, is native to the forests of western North America. Periodic outbreaks of the insect, previously called the Black Hills beetle or Rocky Mountain pine beetle, can result in losses of millions of trees. Outbreaks develop irrespective of property lines, being equally evident in wilderness areas, mountain subdivisions and back yards. Even windbreak or landscape pines many miles from the mountains can succumb to beetles imported in infested firewood.

Mountain pine beetles are the most important insect pest of Colorado's pine forests. MPB often kill large numbers of trees annually during outbreaks. Trees that are not growing vigorously due to old age, crowding, poor growing conditions, drought, fire or mechanical damage, root disease and other causes are most likely to be attacked. For a long-term remedy, thin susceptible stands. Leave well-spaced, healthy trees. For short-term controls, spray, cover, burn or peel attacked trees to kill the beetles. Preventive sprays can protect green, unattacked trees.

Other Alternatives:

- Natural controls of mountain pine beetle include woodpeckers and insects such as clerid beetles that feed on adults and larvae under the bark. However, during outbreaks these natural controls often fail to prevent additional attacks.
- No action.

Responsible Office: Jefferson County Weed and Pest Management

Priority (High, Medium, Low): Medium

Cost Estimate:

Benefits (Avoided Losses): Reduced tree kill in urban areas increases green space aesthetic. In WUI areas, reduction of fuels can reduce the start or spread of wildfires.

Potential Funding:

Schedule: Within 3-5 years.



Appendix B HMPC

Table B.1 HMPC Contact List

Name	Jurisdiction or stakeholder	Title	Phone	Email
County Participants				
Mike Salazar	Jefferson County	Senator	303-271-8264	msalazar@jeffco.us
Kate Newman	Jefferson County	Special Projects Coord.	303-271-8567	Knewman@jeffco.us
Faye Griffin	Jefferson County	County Commissioner		
Mike Chadwick	Jefferson County		303-271-8704	mchadwick@jeffco.us
Kathy Hartman	Jefferson County	County Commissioner	303-271-8525	khartman@jeffco.us
Jacki Kelley	Jefferson County	County PIO	303-271-5697	jkelly@jeffco.us
Todd Leopold	Jefferson County	Administrative Services		tleopold@jeffco.us
Jeff Danielson	Jefferson County		303-271-8065	jdaniels@jeffco.us
Scott Halladay	Jefferson County ARES		303-356-8520	shallada@jeffco.us
Louis D'Aurio	Jefferson County Assessor			
Jeff Ricklefs	Jefferson County Building Dept		303-271-8263	jricklef@jeffco.us
Becky Baker	Jefferson County Building Dept.			Bbaker@jeffco.us
Russ Heckler	Jefferson County Building Dept.		303-271-8212	rheckler@jeffco.us
Mark Danner	Jefferson County Fairgrounds	Director	303-271-6600	mdanner@jeffco.us
Scot Lewis	Jefferson County Highways and Transportation		303-271-8491	slewis@jeffco.us
Jim Smith	Jefferson County ITS		303-271-8042	jsmith@jeffco.us
David Monahan	Jefferson County ITS		303-271-8605	dmonohan@jeffco.us
Calli Broom	Jefferson County ITS	GIS Programmer Analyst	303-271-8777	cbroom@jeffco.us
Cindy Phillips	Jefferson County Library			cphillip@jefferson.lib.co.us
Karen Maguire	Jefferson County Library	Special Projects Coordinator	303-275-6235	kmaguire@jefferson.lib.co.us
Stanton LaBreche	Jefferson County Open Space	Manager of Park Services	303-271-5980	slebrech@jeffco.us

Name	Jurisdiction or stakeholder	Title	Phone	Email
Thea Rock	Jefferson County Open Space		303-271-5902	trock@jeffco.us
Ralph Schell	Jefferson County Open Space			rschell@jeffco.us
Mike Schuster	Jefferson County Planning			cbarthel@jeffco.us
John Wolforth	Jefferson County Planning and Zoning			jwolfort@jeffco.us
Ross Klopf	Jefferson County Planning and Zoning		303-271-8733	rklopf@jeffco.us
Beth Greer	Jefferson County Risk Management		303-271-8564	bgreer@jeffco.us
Lou Anderson	Jefferson County Roads and Bridges	Road and Bridge	303-271-5205	landerson@jeffco.us
Cory Day	Jefferson County Roads and Bridges	Road and Bridge	303-271-5205	
Tim McSherry	Jefferson County Sheriff - Emergency Management	Director	303 271-4901	jmcsherr@jeffco.us
Carol Small	Jefferson County Sheriff - Emergency Management	Asst. Director	303 271-4903	csmall@jeffco.us
Rocco Snart	Jefferson County Sheriff - Emergency Management	Fire Management Officer	303 271-4902	rsnart@jeffco.us
Ron Celentano	Jefferson County Sheriff - Emergency Management	Plans & Exercise Coord.	303 271-4905	rcelentano@co.jefferson.co.us
Ralph Schell	Jefferson County Sheriff's Office		303-271-5931	rschell@jeffco.us
Jim Shires	Jefferson County Sherrif's Office		303-435-2395	jshires@jeffco.us
Dan Householder	Jeffeson County Communications		303-271-5588	wdhouse@jeffco.us
Municipalities				
Paul Lillagore	Arvada Fire Protection District		303-908-0851	paul.lillagore@arvadafire.com
John Simpson	Arvada Fire Protection District		303-472-1606	john.simpson@arvadafire.com
Jim Lancy	City of Arvada		720-898-6875	jlancy@arvada.org

Name	Jurisdiction or stakeholder	Title	Phone	Email
Mike Marchese	City of Edgewater Police Department	Commander	303-235-0502	Mmarchese@edgewater.com
Frank Dearborn	City of Evergreen Fire	Chief	303-679-4746	fdearborn@evergreenfirerescue.com
Garry Dejong	City of Evergreen Fire		303-674-3145	gdejong@evergreenfirerescue.com
Darrell Hollingsworth	City of Golden			dhollings@cityofgolden.net
Bill Kilpatrick	City of Golden Fire		303-384-8033	bkilpatr@ci.golden.co.us
Cris Brewer	City of Golden Fire Department		303-435-8888	cbrewer@cityofgolden.net
Jermy Stricter	City of Golden Fire Department		303-384-8093	jstricker@cityofgolden.net
Bob Burrell	City of Golden Fire Department		303-278-1672	rburrell@q.com
Brian Nielson	City of Lakewood		303-987-7192	brinie@lakewood.org
Tim Gelston	City of Lakewood		303-987-7548	timgel@lakewood.org
Jerry Smith	City of Morrison		303-697-8749	jerrysmith36@comcast.net
Joe Leo	City of Morrison Police Department		303-697-4810	corporal@town.morrison.co.us
Gene Barnes	City of Mountain View			mountainviewco@att.net
Wade Hammond	City of Wheat Ridge			whammond@ci.wheatridge.co.us
Mark A. Westberg	City of Wheat Ridge - Public Works Department	Projects Supervisor	303-235-2863	mwestberg@ci.wheatridge.co.us
David Bell	Lakeside Police Department		303-455-1985 X 305	dbell@town.lakeside.co.us
Districts/Agencies				
Glenn Grove	Adams/Jeffco Hazmat		303-271-4909	ggrove@jeffco.us
Roger Krautkremer	Alpine Rescue Team		303-674-2642	
Phil Luethy	Alpine Rescue Team		303-232-1617	philluethy@juno.com
Bob Burrell -Also Golden Fire	American Red Cross		303-278-1672	rburrell@q.com
Joe Page	Elk Creek Fire		303-718-8460	jpage@elkcreekfire.org
Melody Mesmer	Elk Creek Fire		970-389-0461	melody@cmretac.org
Sam Parson	Fairmount Fire		303-279-2928	sparsons@fairmountfire.org
Scott Mefford	Genessee Fire and Rescue		303-237-8865	smefford@comcast.net
Kelly Sorvig	Golden Gate Fire		303-475-2379	ksorvig@earthlink.net

Name	Jurisdiction or stakeholder	Title	Phone	Email
Don Shoenbien	Indian Hills	Fire Chief	303-667-0665	chief@indianhillsfirerescue.org
Emery Carson	Indian Hills		303-697-4568	rogerkoy@peopleco.com
Bill Lucatuorto	Inter-Canyon Fire		303-697-4413	bill.lucatuorto@yahoo.com
Robert Gordanier	Lakeside			rgordani@ci.aurora.co.us
David Bell	Lakeside Police Department		303-455-1785	dbell@town.lakeside.co.us
Roland Seno	Littleton Fire		303-795-3906	rseo@littletongov.org
John G. Roscoe	LMWD		303-252-0702	
H, Court Young	Lookout Mountain Water District	Director	303-726-8320	info@tmcco.com
John Graves	North Fork Fire Protection District		303-838-7254	pjocar@aol.com
Meike Gelski	Salvation Army		303-906-4902	kbopud@comcast.net
Kevin Stewart	UDFCD			kstewart@udfcd.org
Michael Murphy	West Metro Fire		303-989-4307 x 517	mmurphy@westmetrofire.org
Bruce kral	West Metro Fire		303-973-6257	bkual@westmetrofire.org
Gary Armstrong	West Metro Fire		303-641-6011	garmstrong@westmetrofire.org
State/Local Stakeholders				
Elbert Hunt	CDOT		303-757-9420	elbert.hunt@dot.state.co.us
Pat McLaughlin	CO State Forest Service - Golden District		303-279-9757	pcmlaugh@lamar.colostate.edu
Marilyn Gally	Colorado Division of Emergency Management		303-273-1712	marilynn.gally@state.co.us
Karen Berry	Colorado Geological Survey		303-866-2611 x8815	
Bob Glancy	National Weather Service			robert.glancy@noaa.gov
Vista Exline	VOI		303-202-2196	vexline@msn.com
Federal Stakeholders				
Nan Johnson	FEMA Region 8		303-235-4838	nan.johnson@dhs.gov
Gary Shaffer	USFS		303-275-5632	gshaffer@fs.fed.us
Bob Jarrett	USGS Geological Survey			rjarrett@usgs.gov

Name	Jurisdiction or stakeholder	Title	Phone	Email
Other Stakeholders and information sources				
Darrell Root	Lockheed Martin		303-977-4179	darrell.t.root@lmco.com
Kenneth Maenpa	Rocky Mountain Airport	Airport Manager		kmaenpa@flymma.com
Nick Condon	Rocky Mountain Municipal Airport		303-271-4873	ncondon@flymma.com
Deb Watts	XCEL Energy		303-571-7140	debbie.watts@excelenergy.com
AMEC planning team				
Jeff Brislawn	AMEC Earth and Environmental	Consultant/Project manager	303-742-5313	jeff.brislawn@amec.com
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Cassandra Stelter	AMEC Earth and Environmental	Consultant/Mitigation Planner	720-277-2553	castelter@gmail.com
Greg Moser	AMEC Earth and Environmental	Consultant/Mitigation Planner	303-589-7812	moser32@comcast.net
Alyssa Carrier	AMEC Earth and Environmental			alyssa.carrier@amec.com
Judy Peratt	AMEC Earth and Environmental	Consultant	970-324-5910	jpconsulting@comcast.net



Appendix C PLAN ADOPTION

Note: The records of adoption will be incorporated as an electronic appendix. When the plan is adopted in 2010 the jurisdictions and adoption date will be noted here, but scanned versions of all adoption resolutions will be kept on file with Jefferson County Emergency Management. A sample adoption resolution is provided here.

Multi-Hazard Mitigation Plan Adoption Sample Resolution

Resolution # _____

**Adopting the Jefferson County, Colorado
Multi-Hazard Mitigation Plan 2010**

Whereas, (name of county or community) recognizes the threat that natural hazards pose to people and property within our community; and

Whereas, undertaking hazard mitigation actions will reduce the potential for harm to people and property from future hazard occurrences; and

Whereas, an adopted Multi-Hazard Mitigation Plan is required as a condition of future funding for mitigation projects under multiple FEMA pre- and post-disaster mitigation grant programs; and

Whereas, (name of county or community) resides within the Planning Area, and fully participated in the mitigation planning process to prepare this Multi-Hazard Mitigation Plan; and

Whereas, the Colorado Division of Emergency Management and Federal Emergency Management Agency, Region VIII officials have reviewed the Jefferson County Multi-Hazard Mitigation Plan and approved it contingent upon this official adoption of the participating governing body; and

Now, therefore, be it resolved, that the (name of board or council), hereby adopts the Jefferson County Multi-Hazard Mitigation Plan, as an official plan; and

Be it further resolved, Jefferson County Emergency Management will submit this Adoption Resolution to the Colorado Division of Emergency Management and Federal Emergency Management Agency, Region VIII officials to enable the Plan's final approval.

Passed: _____ (date) _____

Certifying Official



Appendix D REFERENCES

Beaufort Wind Scale. National Oceanographic and Atmospheric Association,
<http://www.spc.noaa.gov/faq/tornado/beaufort.html>

City of Arvada. www.ci.arvada.co.us

City of Edgewater. www.edgewaterco.com

City of Golden. www.ci.golden.co.us

City of Lakewood. www.ci.lakewood.co.us

City of Wheat Ridge. www.ci.wheatridge.co.us

Coal and Clay Mine Hazard Study and Estimated Unmined Coal Resources, Jefferson County, Colorado by Amuedo and Ivey, 1978. http://inside.mines.edu/fs_home/tboyd/Coal/activity.html

Colorado Avalanche Information Center. <http://avalanche.state.co.us>

Colorado Department of Labor and Employment. <http://lmigateway.coworkforce.com>

Colorado Department of Local Affairs. www.dola.colorado.gov

Colorado Division of Emergency Management. www.dola.state.co.us/dem/index.html

Colorado Division of Minerals and Geology. <http://mining.state.co.us/>

Colorado Drought Mitigation and Response Plan (2002).
<http://cwcb.state.co.us/NR/rdonlyres/E7B41604-5766-4FDD-B7B2-3F0A09A86606/0/ColoradoDroughtResponsePlan.pdf>

Colorado Earthquake Hazards – Colorado Earthquake Mitigation Council 2008.
http://www.dola.state.co.us/dem/public_information/earthquake.htm

Colorado Geological Survey. <http://geosurvey.state.co.us>

Colorado Geological Survey Earthquake Report.
http://www.dola.state.co.us/dem/mitigation/plan_2007/Earthquake%20Evaluation%20Report.pdf

Colorado Geological Survey Department of Natural Resources, *A Guide to Swelling Soils for Colorado Homebuyers and Homeowners*. (Denver, Colorado.) 1997. p 15-16.

Colorado Health Information Dataset. www.cdphe.state.co.us/cohid

Colorado Landslide Hazard Mitigation Plan (2002).

http://dola.colorado.gov/dem/mitigation/plan_2007/2002_Landslide_Update.pdf

Colorado Levee Report (2009).

Colorado State Natural Hazard Mitigation Plan (2008).

www.dola.state.co.us/dem/mitigation/plan_2007/2008_plan.htm

Colorado State Forest Service. [http:// forestry.state.co.us](http://forestry.state.co.us)

Colorado Water Conservation Board. <http://cwcb.state.co.us>

Community Rating System. www.fema.gov/business/nfip/crs.shtm

Denver Regional Council on Governments. www.drcog.org

Denver Regional Council on Governments Natural Hazard Mitigation Plan.

www.drcog.org/index.cfm?page=NaturalHazardMitigation89

Directory of Colorado State Register Properties. www.coloradohistory-oahp.org/programareas/register/1503/

Drake, Brian, *Estimating Increased Erosion and Sediment Delivery Caused by Wildfires*.

http://www.crwr.utexas.edu/gis/gishydro06/Introduction/TermProjects/FinalReport_Drake.htm

Drought and Water Supply Assessment (2004).

<http://cwcb.state.co.us/Conservation/RelatedInformation/Publications/ColoradoDroughtWaterSupplyAssessmentDWSA/CWCBDroughtWaterSupplyAssessment.htm>

Enhanced Fujita Scale. National Oceanic and Atmospheric Administration Storm Prediction Center, www.spc.noaa.gov/faq/tornado/ef-scale.html

Evergreen Fire Protection District. [udfcd.org/downloads/pdf/publications/fhad_new/Clear Creek FHAD Denver and Jeffco 2007.pdf](http://udfcd.org/downloads/pdf/publications/fhad_new/Clear_Creek_FHAD_Denver_and_Jeffco_2007.pdf)

Exploring Watershed Sustainability. <http://www.clearcreekwater.org/pdfs/CCWF-2007-report-optimized.pdf>

Federal Emergency Management Agency. www.fema.gov

FEMA Multi-Hazard Identification and Risk Assessment (1997).

www.fema.gov/library/viewRecord.do?id=2214

Flood Hazard Area Delineation (Lena Gulch).

http://www.udfcd.org/downloads/pdf/publications/fhad_new/Lena%20Gulch%20Lower%20FHAD%202007.pdf

Flood Hazard Area Delineation (Lakewood Gulch).

http://www.udfcd.org/downloads/pdf/publications/fhad_new/Lakewood%20Gulch%20FHAD%201979.pdf

Fox News Online Photo Gallery. www.kdvr.com

Front Range Pine Beetle Working Group. <http://www.frontrangepinebeetle.org/>

Front Range Watershed Protection Data Refinement Workgroup Executive Summary. www.jw-associates.org/Projects/Front_Range/Front_Range.html

Fujita Scale. National Oceanic and Atmospheric Administration Storm Prediction Center, www.spc.noaa.gov/faq/tornado/f-scale.html

Genesee Foundation MPB Action Plan.

http://www.geneseefoundation.org/geneseeEco/pdf/5_26_09%20Provisional_MPB%20Plan.pdf

Guide to Construction and Administration of Dams in Colorado,

<http://water.state.co.us/damsafety/damguide.pdf>.

GSA Field Guide 1 Colorado and Adjacent Areas (1999).

“Hayman Fire Impacts” handout produced by the Wildland Fire Lessons Learned Center.

http://www.wildfirelessons.net/documents/Hayman_Fire_Impacts_FMT_Vol65_1.pdf

Indian Hills Fire Protection District. www.indianhillsfirerescue.org

Insurance Service Office, Inc. <http://www.iso.com/>

Jefferson County. www.co.jefferson.co.us

Jefferson County Archives and Records.

http://www.co.jefferson.co.us/archives/archives_T77_R66.htm

Jefferson County Assessor’s Office. [http:// jeffco.us/assessor/index.htm](http://jeffco.us/assessor/index.htm)

Jefferson County Office of Emergency Management.

www.co.jefferson.co.us/sheriff/sheriff_T62_R191.htm

Jefferson County Emergency Preparedness Guide.

www.co.jefferson.co.us/health/health_T111_R214.htm

Jefferson County Land Use Plan. www.co.jefferson.co.us/planning/planning_T59_R71.htm

Lookout Mountain Water District. www.lookoutmountainwaterdistrict.org

Martin, Deborah A., and Moody, John. “*Hydrologic and Erosion Responses of Burned Watersheds.*” April 4, 2007, http://wwwbr.cr.usgs.gov/projects/Burned_Watersheds

Mc Kee et al. (1993); NOAA (1990); High Plains Regional Climate Center (1996) Albers Equal Area Projection.

National Bridge Inventory. www.nationalbridges.com

National Climactic Data Center. www.ncdc.noaa.gov

National Drought Mitigation Center. www.drought.unl.edu

National Environmental Policy Act. www.epa.gov/compliance/nepa

National Fire Danger Rating System. www.wrh.noaa.gov/sew/fire/olm/nfdrs.htm

National Flood Insurance Program. www.fema.gov/business/nfip

National Lightning Safety Institute. www.lightningsafety.com

National Oceanic and Atmospheric Agency. www.noaa.gov

National Performance of Dams Program. <http://npdp.stanford.edu>

National Register of Historic Places. www.nps.gov/history/nr

National Resource Conservation Service Emergency Watershed Program.
<http://www.nrcs.usda.gov/programs/ewp/>

National Weather Association (NWA) Online Glossary. <http://www.weather.gov/glossary/>

National Weather Service. www.nws.noaa.gov

National Weather Service Pueblo Lightning Page. <http://www.crh.noaa.gov/pub/?n=ltg.php>

Noe, David C. *Heaving –Bedrock Hazards, Mitigation, and Land-Use Policy: Front Range Piedmont, Colorado.* Published 1997, http://www.surevoid.com/surevoid_web/soils/pub45.html

North Fork Fire Protection District. www.northforkfire.org

PERI Presidential Disaster Declaration Site. www.peripresdecusa.org/mainframe.htm

Planning and Flood Hazard Delineation Area for Clear Creek Drainageway
[http://udfcd.org/downloads/pdf/publications/fhad_new/Clear Creek FHAD Denver and Jeffco 2007.pdf](http://udfcd.org/downloads/pdf/publications/fhad_new/Clear_Creek_FHAD_Denver_and_Jeffco_2007.pdf)

Pleasant View Metropolitan District. www.pleasantviewfire.org

Precipitation Runoff Modeling System. http://cmd.gsfc.nasa.gov/records/USGS_PRMS.html

Rocky Mountain Insurance Information Association. www.rmiaa.org

Rocky Mountain News. www.rockymountainnews.com

Rogers, W.P.; Ladwig, L.R.; Hornbaker, A.L.; Schwochow, S.D.; Hart, S.S.; Shelton, D.C.; Scroggs, D.L.; and Soule, J.M. Guidelines and Criteria for Identification and Land-Use Controls of Geologic Hazard and Mineral Resource Areas (Special Publication 6, Colorado Geological Survey, 1974. Reprinted in 1979.) pp 71-72.

Seven News. <http://www.thedenverchannel.com/index.html>

Small Business Administration. www.sba.gov

Small Site Erosion and Sediment Control Manual published by the Jefferson County Planning and Zoning Division.

http://co.jefferson.co.us/jeffco/planning_uploads/guides/small_site_erosion.pdf

Spatial Hazard Events and Losses Database for the United States.

<http://webra.cas.sc.edu/hvri/products/sheldus.aspx>

State of Colorado Natural Hazard Mitigation Plan, 2004.

www.dola.state.co.us/dem/mitigation/excrevision04.pdf

State of Colorado Natural Hazard Mitigation Plan, 2008.

https://www.dola.state.co.us/dem/mitigation/plan_2007/2008_plan.htm

Studies of Post-Fire Erosion in the Colorado Front Range Benefit the Upper South Platte Watershed Protection and Restoration Project – Deborah Martin USGS 2000,

http://watershed.org/news/win_00/5_postfire.htm).

Topographic Map Valley Features in Jefferson County, Colorado.

<http://www.topozone.com/states/Colorado.asp?county=Jefferson&feature=Valley>

Town of Lakeside.

Town of Morrison. <http://town.morrison.co.us>

Town of Mountain View. <http://home.att.net/~mvpd>

United States Army Corps of Engineer. www.usace.army.mil

United States Bureau of Labor Statistics. www.bls.gov/

United States Census Bureau. www.census.gov

United States Department of Agriculture. www.usda.gov

United States Fish and Wildlife Service. www.fws.gov

U.S. Fish and Wildlife Service Mountain-Prairie Region. <http://www.fws.gov/mountain-prairie/co.html>

United States Forest Service. www.usfs.gov

United States Geological Survey. www.usgs.gov

U.S. Seasonal Drought Outlook (housed by the Climate Prediction Center).
www.cpc.ncep.noaa.gov/products/expert_assessment/seasonal_drought.html

University of Colorado at Boulder ATOC Weather Lab. <http://foehn.colorado.edu/weather>

Urban Drainage and Flood Control District. www.udfcd.org

USGS Earthquake Hazards Program
<http://earthquake.usgs.gov/regional/states/colorado/hazards.php>

USGS Mountain Ground Water Resources Study.
co.jefferson.co.us/jeffco/planning_uploads/reports/mgwrs_sum1_report.pdf

USGS publication “*Distinguishing between Debris Flows and Floods from Field Evidence in Small Watersheds.*” http://vulcan.wr.usgs.gov/Projects/FS2004-3142/FS2004-3142_tabloid_layout.pdf

Wildland Fire Susceptibility Index.
<http://www.westwideriskassessment.com/data/wwagisdata.html>

XCEL Energy. www.xcelenergy.com

Jefferson County Multi- Jurisdictional Multi-Hazard Mitigation Plan

Public Participation Plan

June 29, 2009

**Prepared by
AMEC Earth and Environmental, Inc.**

Purposes of the Public Participation Plan

The basic purpose for a public participation plan is to provide for a meaningful process through which Jefferson County and the participating jurisdictions' citizens, public officials, and stakeholder groups may effectively participate in the development of the Jefferson County Multi-Jurisdictional Multi-Hazard Mitigation Plan. This plan will be developed based upon the understanding that citizens and groups are the source of tremendous creativity, and that their creativity and input will produce better planning decisions. The emphasis is to recognize every citizen's right to participate in the process of making local government decisions. Significant energy investments such as time, financial support, and data gathering on the part of the participants will be needed to complete the planning effort. Given these investments, broad public participation throughout the planning process is regarded as an essential strategy for developing a plan that withstands the test of an actual event.

A wide variety of public participation methods, representing distinct purposes, will be employed to provide for broad public participation. These purposes of public participation are as follows:

- **Public Awareness** - to share information and to promote awareness of planning process, including ways the public can participate
- **Public Education** - to educate citizens and help them make more informed choices
- **Public Input** - to provide citizens and groups with opportunities to inject ideas into the planning process
- **Public Interaction** - to exchange views and ideas as a means of reaching consensus
- **Public Partnership** - to involve citizens in the decision making process

Objectives of the Public Participation Plan

1. Recognizing that there are many levels of public participation, to provide for an effective mix of participation opportunities that include the above bulleted purposes.
2. Recognizing that not everyone participates in the same way or at the same time, to include a mix of participation strategies that provides for a broad and diverse set of participation opportunities that considers the diversity of the planning area.
3. Recognizing Jefferson County and the participating jurisdictions' history of past public participation with planning projects, the designated Jefferson County lead will continue to provide the public with opportunities to review, clarify, and update previously generated information, as well as generate new policies, goals, objectives, and information.
4. To build public support for, and ultimately ownership of, the Jefferson County Multi-Jurisdictional Multi-Hazard Mitigation Plan.

Project Website

The Hazard Mitigation Planning Committee (HMPC) is made up of representatives from the jurisdictions participating in the update of the mitigation plan. The plan lead agency, Jefferson County Emergency Management, will be providing direction and input throughout the planning process. A project website has been developed by the planning contractor, AMEC Earth and Environmental, Inc. to share relevant information regarding the planning process to both the HMPC and public. The website URL is:

http://im.na.amec.com/JeffCo_HazardMitigation

Included with this site is a home page for the public to learn about the process and provide feedback. The content of public home page and survey will change as the planning process progresses.

Local Government Public Outreach/Involvement Responsibilities

The requirements related to public involvement in hazard mitigation plans according to the Disaster Mitigation Act of 2000 are listed below:

Requirement §201.6(b): *In order to develop a more comprehensive approach to reducing the effects of natural disasters, the planning process shall include:*

- (1) *An opportunity for the public to comment on the plan during the drafting stage and prior to plan approval;*
- (2) *An opportunity for neighboring communities, local and regional agencies involved in hazard mitigation activities, and agencies that have the authority to regulate development, as well as businesses, academia and other private and non-profit interests to be involved in the planning process; and*
- (3) *Review and incorporation, if appropriate, of existing plans, studies, reports, and technical information.*

Requirement §201.6(c)(1): *[The plan shall document] the planning process used to develop the plan, including how it was prepared, who was involved in the process, and how the public was involved.*

Requirement §201.6(c)(4)(iii): *[The plan maintenance process shall include a] discussion on how the community will continue public participation in the plan maintenance process.*

To meet these requirements, and the goals of the Public Participation Plan, local governments are expected to assist with public outreach and feedback efforts, which can include:

- Assisting in distributing press releases and information to local media
- Sharing public input/comment with the HMPC
- Provide report on progress/activities related to public involvement, as requested by the County and/or AMEC
- Reviewing public input for incorporation in plan, as appropriate
- Assisting with holding public workshops as requested, including providing meeting space and advertising meeting.
- Announcing the planning effort at other public and civic meetings, or holding additional public meetings, if desired by the jurisdiction.
- Announce how the plan can be accessed during the public review period. This can include providing links from the jurisdiction's website to the project website, or providing hardcopy of the plan in a public location such as a library or municipal building.
- Follow the recommendations for continued public involvement as designated in the implementation chapter of the plan.

The following public participation steps and specific activities are outlined in conjunction with the hazard mitigation steps to give a better picture of how they are linked in the process. This is a working document that will be updated throughout the process, and serve to document the efforts made to involve the public during the plan update.

Timeframe	Mitigation Planning Steps	Public Participation Steps/Ideas	Specific Activities/Actions
April – June 2009	<ol style="list-style-type: none"> 1. Getting Organized 2. Plan for public involvement 3. Coordinate with other departments and agencies 	<ul style="list-style-type: none"> • Build public awareness through media channels • Website for public access • Invite media to future public meetings • Local jurisdiction public outreach • Outreach through other groups, Private, Non-Profit, Non-governmental organizations • Possible public groups include: Local media, LEPC, Chambers of Commerce • Possible private/business groups include: Coors, Lockheed Martin, Dam owners 	<ul style="list-style-type: none"> • Hazard Mitigation Planning Committee formed • Develop content and feedback forms for project website • Develop backgrounder fact sheet for public • Stakeholders invited to kickoff meeting set for April 23, 2009
July-Sept 2009	<ol style="list-style-type: none"> 4. Identify the hazards 5. Assess the risks 	<ul style="list-style-type: none"> • Hold a regional public workshop to review draft risk assessment findings • Provide maps and info materials at meetings • Share public input with HMPC • Cooperative review of public input • Announce workshops • Build contact list of interested citizens to inform of future activities 	<ul style="list-style-type: none"> • Announcement of upcoming public workshop through various media channels • Public Workshop #1 Late Sept, after HMPC meeting #2. TBD • Build link to project website from County Transparency Website • Discuss planning process at LEPC meeting, TBD.
Oct-Dec 2009	<ol style="list-style-type: none"> 6. Set planning goals 7. Review mitigation alternatives 8. Draft an action plan 	<ul style="list-style-type: none"> • Continue to build public awareness through various media channels • Host public workshop to allow comment on draft mitigation plan goals, objectives, and actions. • Develop awareness by outreach through schools • Develop awareness by outreach through utility bills • Outreach through local radio, local Channel 8 	<ul style="list-style-type: none"> • Announcement of upcoming public workshop through various media channels • Public workshop #2 November 18 2009 in Conifer
Jan-Jun 2010	<ol style="list-style-type: none"> 9. Adopt the plan 10. Implement the plan, evaluate its worth, and revise as needed 	<ul style="list-style-type: none"> • Provide Internet access for public info and draft plan review and comment • Place 1st draft plan in local libraries • Participating jurisdictions submission of comments for review and incorporation • Encourage public review of final draft • Final draft to participating jurisdictions for adoption 	<ul style="list-style-type: none"> • Announcement of upcoming public workshop through various media channels • Utilize Libraries throughout Jefferson County to post announcements about the plan and hardcopies of the draft plan • Develop links from County and city websites to project website, encourage review and comment on draft plan. • Public workshop #3 Jan. 14 • Final plan submission Feb 5, 2010



Appendix F. PLANNING PROCESS DOCUMENTATION

Figure F.1. Project Website Announcement

Date: June 10, 2009

**To: Jefferson County Multi-Jurisdictional Multi-Hazard Mitigation
Planning Committee**

Re: Website activation!

A project website has been set up by AMEC to share information about the 2009 update of the Jefferson County Multi-Jurisdictional Multi-Hazard Mitigation Plan. On this website you will find information related to the planning process, including updates and announcements on planning activities, the plan update schedule, relevant documents, and planning team contact information. The website is setup to allow download and upload of documents relevant to the planning process. On this site you can download the data collection guide and other materials that were handed out at the kickoff meeting. This site will be a living webpage that will be periodically updated with announcements and materials.

Each of you will be receiving an email in the next few days with details on the website and how to access it. Your login will be your email address, and you will need to create a password for access.

More details will be forthcoming.

Figure F.2. Website Home Page

Jefferson County Multi-Jurisdictional Multi-Hazard Mitigation Plan

Welcome to the project website for the 2009 update of the Jefferson County Multi-Jurisdictional Multi-Hazard Mitigation Plan. On this homepage, you will find information on the following:

- Announcements
- Site Purpose
- Brief Overview
- Plan Update Schedule
- Jefferson County Hazard Mitigation Planning Committee
- Documents (to download or upload)
- Project Contacts

Announcements

Data Collection Guide:

Each participating jurisdiction should have received and completed the data collection guide by May 15, 2009. If it hasn't been completed yet, please do so by following the download process on the Forms and Resources tab, then email it to Laura.Nay@amec.com.

From data submitted, we will create and update as necessary, a master list of critical facilities in the County. This list will be posted for your review on this website at a later date.

Date of next meeting. September 23, 2009

Site Purpose

The purpose of this website is to allow members of the HMPC and other stakeholders in the Hazard Mitigation Plan to access information about the planning process, to share data and reports, and to review and comment on plan drafts. The site is password protected and can only be accessed by allowed users.

Brief Overview

- **What is Mitigation?**
The word "mitigation" comes from the Latin word *mitigare* "to lessen"; It is to relieve, to alleviate, or capable of being lessened;
- **Hazard Mitigation** is any action taken to eliminate or reduce the long-term risk to human life, property and the environment from natural hazards. Successful planning identifies the vulnerabilities associated with natural disaster, recognizes the impacts on the specific geographic uniqueness of an area, and distinguishes the risks to populations based on their proximity to a hazard-prone area.
- **Why is Hazard Mitigation planning necessary?**
A governing body is usually responsible for the safety and welfare of the public within its jurisdiction. Planning for better public safety and protection is always a smart thing to do, but the benefits outweigh the efforts. Once all of the hazards, risks and vulnerabilities are identified, then goals, objectives and actions can be set. The intent is to implement priority actions in a timely manner to create a community that is more disaster resistant. When a community is more disaster resistant it provides a level of security for its constituents and it costs the governing body less to recover from disaster impacts.
- **Why is this different than other plans?**
Hazard Mitigation planning focuses on community involvement, rather than limited "subject matter expert" input. ***A successful Hazard Mitigation Plan serves as a base document for the governing body to make future decisions directly related to the protection of citizens, property and the environment, but it also allows the citizens to be informed and participate in the process used to addresses these issues.*** Everyone involved can have a say.
- **Disaster Mitigation Act of 2000 (DMA) and Flood Mitigation Assistance (FMA) Program compliant means:** A Federal Emergency Management Agency (FEMA) approved Hazard Mitigation plan ensures the participating jurisdictions eligibility for certain federal disaster assistance programs.
- **How much time dedication will be involved on the part of the participant?**
AMEC realizes how important time is to those that already work with a full plate. The majority of data collection is done via email, although aggressive work-sessions are used to focus on synchronizing the efforts of participants, which augments the planning progression and reduces time spent in unproductive meetings.

Plan Update Schedule

Activity	Date
HMPC Kickoff Meeting	April 23, 2009
Collection of local data collection guides	May 15, 2009
Public Participation Plan	June 15, 2009
Establish project website	June 15, 2009
Integration of DRCOG plan	June 15, 2009
Draft HAZUS results – flood and earthquake	July 30, 2009
Draft Risk Assessment in advance of risk assess. meeting	August 21, 2009
Draft mitigation capability in advance of risk assess. mtg.	August 21, 2009
Draft local annexes in advance of risk assess. mtg.	August 21, 2009
Facilitation of planning team meeting on risk assessment	September 22, 2009
Facilitate public meeting #1	September 24, 2009
Facilitation of planning team meeting on goals	October 6, 2009
Facilitation of planning team meeting on mitigation strategy	October 8, 2009
Facilitate public meeting #2	October 14, 2009
Integration of new or revised mitigation projects	November
Complete first draft for HMPC review	December 11, 2009
HMPC comments back	January 6, 2010
Public review draft with team and constituent comments	January 13, 2010
Facilitate public meeting #3	January 14, 2009
Final plan submitted for State/FEMA review	February 5, 2010
Project completion (FEMA approval, adoption resolutions incorporated).	June 30, 2010

Jefferson County Hazard Mitigation Planning Committee

A list of HMPC members and their contact information can be referenced on the Users tab.

Documents

Important forms, documents, and resources can be downloaded from this tab, including copies of handouts and presentations provided during HMPC meetings.

Project Contacts

Jefferson County Emergency Management is leading the planning effort, with professional planning assistance from AMEC Earth and Environmental, Inc.

Hazard Mitigation Planning Committee Chair:

Ron Celentano, Plans & Exercise Coordinator
Jefferson County Sheriff - Emergency Management
200 Jefferson County Pkwy
Golden, CO 80401-2697
Ph 303 271-4904; Fax 303 271-4905

AMEC project manager

Jeff Brislaw
Hazard Mitigation Lead/Sr. Project Manager
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Figure F.3. Jefferson County Mitigation Plan Backgrounder

**Jefferson County Multi-Jurisdictional Multi-Hazard Mitigation Plan
2009 Plan Development**

Background Information

What is Hazard Mitigation?

The Federal Emergency Management Agency (FEMA) defines hazard mitigation as, "any sustained action taken to reduce or eliminate long-term risk to life and property from natural hazards." Another way to understand hazard mitigation is as the prevention component of the emergency management process.

- Preparedness activities are the emergency plans, training, drills, and exercises that individuals, communities and first responders participate in on almost daily basis. These are things done to get ready for an emergency or disaster before it happens.
- Response is the short-term, emergency actions taken to address the immediate impacts of a hazard.
- Recovery is the longer-term process of restoring the community back to normal or pre-disaster conditions.
- Mitigation activities are actions that will reduce or eliminate losses, for anticipated future events. Mitigation can reduce or eliminate the need for an emergency response and greatly reduce the recovery period.



Emergency Management Cycle

Many types of mitigation actions are things done on a daily basis without much forethought such as purchasing insurance to protect a vehicle investment, putting on your seatbelt, or putting in gutters around a roof to better direct rain runoff. The same concepts apply to community level hazard mitigation planning. Mitigation planning is a process for county and local governments to identify community-level policies and actions that will reduce the impacts of natural hazards.

Why is Natural Hazard Mitigation Important?

Most people who live or work in Jefferson County or its jurisdictions have been affected by natural hazards in one way or another. Some of the natural hazards that can affect Jefferson County include flash flooding, wildfire, severe weather, landslide and rockfall. Jefferson County has had much experience with disasters and emergencies in recent past. A highlighted few include: the Black Mountain, Schoonover, Snaking, and Hayman wildfires of 2002 as well as two Winter Storm Emergency Declarations that occurred in March of 2003, and over the Christmas and New Year's holidays of 2006-2007. In addition to these large events, almost every year there are smaller, isolated weather events that cause localized property damage and losses significant to the people affected. The planning process will evaluate the potential for future damaging events and work toward solutions to help mitigate their impacts in the future.

Hazard Mitigation Plans

The rising costs associated with disaster response and recovery has caused federal, state, and local governments to focus on addressing natural hazards before they occur. The acts of "Mother Nature" cannot be prevented, but the impacts thereby can be reduced and sometimes prevented altogether. It takes, on the part of a community, a cohesive planning effort from all sectors in identifying the hazards, risks and vulnerabilities of natural disasters on specific geographic areas within a jurisdiction. That is how a Multi-Jurisdictional Multi-Hazard Mitigation Plan is developed. A community comes together as a team (Hazard Mitigation Planning Committee, HMPC) in a facilitated forum to gather data that is then organized into a plan which identifies goals, objectives and actions pertaining to mitigating impacts from identified natural hazards. As the plan is developed, the HMPC reviews the data for accuracy and the public at large has an opportunity to comment and have their comments incorporated before a final draft is completed. FEMA realizes the importance of mitigation planning and offers incentives to communities that

Project website: http://im.na.amec.com/JeffCo_HazardMitigation/

develop one. By following FEMA guidelines for a plan approval process, participating communities can be eligible for grant funding intended for mitigation projects. It is an opportunity for communities to take advantage of funds they would not have been able to tap into previously.

Plan Process

Jefferson County has received a FEMA Pre-Disaster Mitigation grant to support this planning effort with Jefferson County Emergency Management taking the lead. They have hired a consultant, AMEC Earth and Environmental, Inc. to manage the project. AMEC will facilitate the planning process, collect necessary data, and perform other technical services, including writing the risk assessment and plan document.

A planning team has been organized and meets on a regular basis, working through varying levels of review, revision, and update of the following elements of the plan:

- Identify hazards that may impact or have impacted the community;
- Profiles of the most recent hazard events;
- Assessment of the vulnerability to those hazards;
- Assessment of the communities' capabilities to mitigate the hazards;
- Mitigation goals and objectives;
- Specific mitigation actions and projects;
- Implementation strategy for the plan;
- Plan maintenance and update process;
- Plan approval and adoption.

The planning team includes representatives from various County Departments and the participating jurisdictions that include Arvada, Bow Mar Edgewater, Golden, Lakewood, Lakeside, Morrison, Mountain View and Wheat Ridge. Special districts such as fire protection and water districts are involved as well. Stakeholders include representatives from state and federal agencies, the Urban Drainage and Flood Control District, and private industry.

How Can You Get Involved?

Members of the community have a very important role in this process. The planning team regards broad public participation in the planning process as an essential strategy for developing a plan that will be effective, supported by the public, and ultimately implemented. The process will provide a range of opportunities for Jefferson County and its participating jurisdictions' citizens, public officials, and stakeholder groups to participate and give input in the plan update. A project website has been created to allow the public and stakeholders to stay informed of upcoming activities, review drafts of the plan, and to provide feedback. That website is:

http://im.na.amec.com/JeffCo_HazardMitigation/

For more information on the plan or the planning process, please contact:

Jefferson County Sheriff Emergency Mgt. Ron Celentano Plans & Exercise Coordinator 200 Jefferson County Parkway Golden, CO 80401-2697 Ph (303) 271-4904; Fax (303) 217-4905 rcelenta@jeffco.us	AMEC project manager Jeff Brislawn Hazard Mitigation Lead/Sr Project Manager AMEC Earth and Environmental, Inc. 355 S Teller St, Suite 300, Lakewood, CO 80226 Ph (303)742-5313; Fax (303) 935-6575; jeff.brislawn@amec.com
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Project website: http://im.na.amec.com/JeffCo_HazardMitigation/

Figure F.4. Jefferson County MHMP Fact Sheet

Jefferson County Multi-Jurisdictional Mitigation Plan Fact Sheet

- **What is Mitigation?**

It comes from the Latin word *mitigare* “to lessen”; It is to relieve, to alleviate, or capable of being lessened;
As an example; using sandbags to keep a street from flooding is a mitigation action; cutting down dead trees to reduce the amount of fire fuels in a forested area is a mitigation action; creating a flyer to raise the public awareness about flood or fire threat can also be a mitigation action; building a tornado shelter won’t keep the tornado from coming, but it will protect lives against the storm which is a mitigation action – to lessen the number of lives lost from natural disaster.
- **Why is Mitigation planning necessary?**

A governing body is usually responsible for the safety and welfare of the public within its jurisdiction. Planning for better safety and protection is always the smart thing to do, however there are other benefits to a jurisdiction that conducts mitigation planning. There are project grant funds that become available when a plan is FEMA approved, but better yet, mitigation planning identifies the vulnerabilities associated with natural disaster, recognizes the impacts on the specific geographic uniqueness of an area, and distinguishes the risks to populations based on their proximity to a hazard-prone area. For example; there might be a drainage that remains dry most of the year, but during wetter weather patterns it may cause localized flooding and put residents and businesses at risk for property damage or loss of life; or wildfire danger may be exacerbated by drought conditions and beetle infestation, which puts residents and businesses at risk that choose to live in forested areas. Identifying that the problem exists can start discussion about what solutions are feasible and if it is a priority for the community. Once all of the hazards, risks and vulnerabilities are identified, then goals, objectives and actions can be applied with the intent of implementing them to make the community more disaster resistant. When a community is more disaster resistant it provides a level of security for its constituents and it costs the governing body less to recover from disaster impacts.
- **Why is this different than other plans?**

Mitigation planning focuses on inviting, encouraging and involving participation from the whole community, not just “subject matter experts”. For example; homeland security or emergency management planning involves the responder professionals; storm water planning involves those whose profession is specific to storm water and its systems; effective planning for reducing the impacts of natural disaster should include residents, home owner associations, volunteers, business owners, media, school districts, fire and water districts as well as local, state and federal government operations agencies and departments. **A Mitigation Plan serves as a base document for the governing body to make future decisions directly related to the protection of citizens, property and the environment, but it also allows the citizens to be informed and participate in the process their government uses to addresses these issues.**
- **How much time dedication will be involved on the part of the participant?**

AMEC realizes how important time is to those that already work with a full plate, and so AMEC has perfected a process that reduces the amount of work load by providing information gathering questionnaires and worksheets that zeros in on the pertinent information that is necessary to the plan development. The majority of this is done through email. Aggressive work-session meetings are scheduled to guide the progression of the planning process and coordinate the flow of information and data collection in a timely manner so AMEC can, not only stay on task and schedule, but also to reduce the number of meetings and eliminate unproductive meeting time for the local planning team members. AMEC encourages participants to ask questions at anytime.

Figure F.5. Workshop Questionnaire

Please complete this questionnaire and return to: Fax: 303 935-6575 Attn: Laura Nay
Laura.nay@amec.com
AMEC Earth & Environmental, Inc.
355 S. Teller St., Ste. 300
Lakewood, CO 80226

Jefferson County Multi-Hazard Mitigation Plan

website: http://im.na.amec.com/JeffCo_HazardMitigation/

1. The hazards addressed in the Multi-Hazard Mitigation Plan are listed below. Please indicate the level of significance, in Jefferson County that you perceive for each hazard. Please rate these hazards 1 through 3 as follows: 1=low, 2=moderate, 3=high.

- | | |
|---|--|
| <input type="checkbox"/> Dam Failure | <input type="checkbox"/> Severe Cold |
| <input type="checkbox"/> Drought | <input type="checkbox"/> Severe Heat |
| <input type="checkbox"/> Flood | <input type="checkbox"/> Severe Winter Storm |
| <input type="checkbox"/> Fog | <input type="checkbox"/> Tornado |
| <input type="checkbox"/> Hailstorm | <input type="checkbox"/> Wildfire |
| <input type="checkbox"/> Landslides/Sinkholes/Erosion | <input type="checkbox"/> Windstorm |
| <input type="checkbox"/> Lightning | <input type="checkbox"/> Other: |

2. Do you have information on specific hazard issues/problem areas that you would like the planning committee to consider?

3. Review the types of mitigation actions being considered in Jefferson County. Please place a check next to the types of mitigation actions that you think should have the highest priority in the Jefferson County Multi-Hazard Mitigation Plan.

- | | |
|--|--|
| <input type="checkbox"/> Indoor/Outdoor Warning | <input type="checkbox"/> Planning/Zoning |
| <input type="checkbox"/> Power line Maintenance/Upgrades | <input type="checkbox"/> Public Education/Awareness |
| <input type="checkbox"/> Continued Participation in the National Flood Insurance Program | <input type="checkbox"/> |
| <input type="checkbox"/> Floodprone Property Buyout | <input type="checkbox"/> Saferoom Construction (school and community tornado shelters) |
| <input type="checkbox"/> Installation of Generators | |

4. Please comment on any other pre-disaster strategies that the planning committee should consider for reducing future losses caused by natural disasters (use the back of this form if needed).

5. Provide your name and email address if you would like to be added to a distribution list for upcoming activities related to the planning process:

As part of the initial hazard identification process, members of the HMPC used a hazards worksheet to identify and rate the significance of a variety of possible hazards. Significance was measured in general terms, focusing on key criteria such as the geographic extent of the hazard, the probability of an event occurring, and the likely magnitude and severity levels. **Table 4.1** shows the results of the hazard identification worksheet.

Table F.1. Jefferson County Preliminary Hazards Identification Worksheet

Hazard	Geographic Extent	Potential of Future Occurrence	Potential Severity/Magnitude	Overall Significance
Avalanche	Limited	Unlikely	Negligible	Low
Dam Failure	Limited	Occasional	Critical	Medium
Drought	Limited	Likely	Limited	Low
Earthquake	Significant	Occasional	Catastrophic	High
Erosion and Deposition	Limited	Likely	Negligible	Low
Expansive Soils	Limited	Likely	Negligible	Low
Extreme Temperatures	Extensive	Occasional	Negligible	Low
Flood	Limited	Likely	Limited	High
Fog	Limited	Occasional	Negligible	Low
Hailstorm	Limited	Likely	Negligible	Low
Landslides, Debris flows, Rockfall	Limited	Likely	Limited	Medium
Lightning	Limited	Highly Likely	Negligible	Low
Subsidence	Limited	Likely	Negligible	Low
Severe Winter Storms	Significant	Highly Likely	Limited	High
Tornado	Limited	Occasional	Critical	Medium
Volcano	Limited	Unlikely	Negligible	Low
Wildfire	Significant	Highly Likely	Critical	High
Windstorm	Significant	Highly Likely	Negligible	Medium

Hazard	Geographic Extent	Potential of Future Occurrence	Potential Severity/Magnitude	Overall Significance
	<p>Geographic Extent</p> <p><u>Negligible</u>: Less than 10 percent of planning area or isolated single-point occurrences</p> <p><u>Limited</u>: 10 to 25 percent of the planning area or limited single-point occurrences</p> <p><u>Significant</u>: 25 to 75 percent of planning area or frequent single-point occurrences</p> <p><u>Extensive</u>: 75 to 100 percent of planning area or consistent single-point occurrences</p> <p>Magnitude/Severity</p> <p><u>Negligible</u>: Less than 10 percent of property is severely damaged, facilities and services are unavailable for less than 24 hours, injuries and illnesses are treatable with first aid or within the response capability of the jurisdiction.</p> <p><u>Limited</u>: 10 to 25 percent of property is severely damaged, facilities and services are unavailable for between 1 and 7 days, injuries and illnesses require sophisticated medical support that does not strain the response capability of the jurisdiction, or results in very few permanent disabilities.</p> <p><u>Critical</u>: 25 to 50 percent of property is severely damaged, facilities and services are unavailable or severely hindered for 1 to 2 weeks, injuries and illnesses overwhelm medical support for a brief period of time, or result in many permanent disabilities and a few deaths.</p> <p><u>Catastrophic</u>: More than 50 percent of property is severely damaged, facilities and services are unavailable or hindered for more than 2 weeks, the medical response system is overwhelmed for an extended period of time or many deaths occur.</p>			<p>Probability of Future Occurrences</p> <p><u>Unlikely</u>: Less than 1 percent probability of occurrence in the next year, or has a recurrence interval of greater than every 100 years.</p> <p><u>Occasional</u>: Between a 1 and 10 percent probability of occurrence in the next year, or has a recurrence interval of 11 to 100 years.</p> <p><u>Likely</u>: Between 10 and 90 percent probability of occurrence in the next year, or has a recurrence interval of 1 to 10 years</p> <p><u>Highly Likely</u>: Between 90 and 100 percent probability of occurrence in the next year, or has a recurrence interval of less than 1 year.</p> <p>Significance</p> <p><u>Low</u>: Two or more of the criteria fall in the lower classifications or the event has a minimal impact on the planning area. This rating is also sometimes used for hazards with a minimal or unknown record of occurrences and impacts or for hazards with minimal mitigation potential.</p> <p><u>Medium</u>: The criteria fall mostly in the middle ranges of classifications and the event's impacts on the planning area are noticeable but not devastating. This rating is also sometimes utilized for hazards with a high impact rating but an extremely low occurrence rating.</p> <p><u>High</u>: The criteria consistently fall along the high ranges of the classification and the event exerts significant and frequent impacts on the planning area. This rating is also sometimes utilized for hazards with a high psychological impact or for hazards that the jurisdiction identifies as particularly relevant.</p>

Figure F.6. Risk Assessment Meeting Invitation

**Jefferson County Multi-Jurisdictional Multi-Hazard Mitigation Plan
Progress Update
&
Invitation**

What? Risk Assessment Hazard Mitigation Planning Meeting
When? September 24, 2009 Time: 1:30 - 3:30 PM
Where? Jefferson County Emergency Management Office
800 Jefferson County Parkway - Dakota Building 2nd Floor Classroom
Golden, CO 80401
Point of Contact Ron Celentano rcelenta@jeffco.us or Carol Small csmall@jeffco.us

What does this mean for you?

Back in April many of you were invited to a Hazard Mitigation kick-off meeting to discuss a mitigation planning process that Jefferson County and its municipalities were beginning. AMEC Earth and Environmental, Inc. is the contractor facilitating the process and assembling the information into a plan. There was a big turn out and many may have been confused about how they fit into the process.

Mitigation planning starts with identifying what natural hazards can impact the communities involved in the planning area. Once they are identified then a Risk Assessment is conducted to further identify the geographical areas that are impacted the most by that natural hazard. It is the Risk Assessment that drives the whole planning process. The information presented from the Risk Assessment will help the participating jurisdictions recognize areas of vulnerability. The presentation will be interesting and very informative. Participants usually learn a great deal about the community they live in. This process urges dialogue that formulates the planning efforts, which will be directed at developing mitigation goals and actions. Goals are general, like; "Reduce the impacts of natural hazards." Goals will be set during a follow-up workshop in early October. Each jurisdiction will set goals relative to their specific jurisdictional Risk Assessment. The workshops are meant to be interactive with an aggressive agenda, so by the end of the workshop, the goals are established. Setting the goals drive the development of identifying actions. Actions are more specific, like; "Develop a wildfire hazard brochure." Actions will be developed during a follow-up workshop to the goals workshop in mid-October. From the goals and actions the Hazard Mitigation Plan can be drafted.

The Risk Assessment presentation will be given by Jeff Brislawn, Laura Nay, Cassandra Stelter, and Greg Moser. They will highlight the 4 or 5 main hazards that affect the planning area using maps, power point and some actual event video clips. It will be very interesting. We hope that you will "Save the Date" and plan on participating in this important step in the Hazard Mitigation planning process.

Thank you,
Ron Celentano

Figure F.7. Goals and Objectives Workshop Meeting Invitation

**Jefferson County Multi-Jurisdictional Multi-Hazard Mitigation Plan
HMPC Meeting/Workshop #3
Invitation**

What? Mitigation Capabilities, Goals & Objectives Workshop
When? October 15, 2009 Time: 1:30 - 3:30 PM
Where? 200 Jefferson Prkwy., Training Rm.
Golden, CO 80401 (see attached map)
Point of Contact Ron Celentano rcelenta@jeffco.us

What will be covered?

Many of you have been participating in the ongoing mitigation planning process for Jefferson County and its municipalities. There was a good turnout for the Risk Assessment meeting on September 24. Thank you for your attention to detail and the comment feedback.

As we move forward, the upcoming meeting will focus on existing mechanisms in place, which means existing codes, policies, procedures and regulations where mitigation practices can be identified. We will need your input in identifying other ongoing mitigation activities. From this, common goals and objectives that span across these mechanisms can help direct the development of new goals and objectives for the plan. This will be done on a county-wide basis first and narrowed down to the specific jurisdictions as we continue the development of the plan. The jurisdictional annexes will be in very draft format with place-holders for additional information and analyses. We will need your assistance in filling in accurate information in these areas. The first, preliminary draft will be sent out as the Risk Assessment Chapter of the plan for your review. It will include hazard profiles, risk assessment, and vulnerability. We urge you to take the time to read through it and make notes and comments for us to incorporate. This will prepare you for the Goals & Objectives part of the workshop. Setting goals and objectives help to further refine the specific action items you want in the plan. Actions will be identified in the workshop on October 22, at the same location stated above. From the workshops, the Hazard Mitigation Plan can be drafted.

We hope that you will "Save the Date" and plan on participating in this important step in the Hazard Mitigation planning process.

Thank you,

Ron Celentano

Figure F.8. HMPC Draft Press Release

PRESS RELEASE

The Jefferson County Multi-Jurisdictional Multi-Hazard Mitigation Plan HMPC first draft is complete and ready for review. Stakeholders from Jefferson County, Arvada, Lakewood, Wheat Ridge, Golden, Edgewater, Mountain View, and Lakeside along with special Fire Protections Districts and Water and Sanitation Districts have participated for nine months providing critical data for the development of a county-wide mitigation plan. This plan will serve as a vital mechanism for the implementation of mitigation actions that have been identified for each participating jurisdiction in efforts to create disaster resistant communities across Jefferson County. A website has been developed to allow the Hazard Mitigation Planning Committee and the public to review the document prior to the final published edition so comments, concerns and corrections can be incorporated. http://im.na.amec.com/JeffCo_HazardMitigation

Please visit the website and click on the Documents tab, then select the Review Draft for HMPC December 11, 2009 folder. In the folder click on the JeffCo-HMPC Draft Combined (PDF) document. You must either download or save the document to view it. Any comment can be sent to laura.nay@amec.com or Ron Celentano at rcelenta@co.jefferson.co.us.

A public meeting will be held January 14, 2010 at the Jefferson County Admin/Courts Bldg. (Taj) Tri-plex, Rm. 1554 from 6pm-7pm for the public at large to attend. An overview of the plan development and its contents will be presented. The Risk and Vulnerability Assessment sections contain specific information for each jurisdiction's risks, and the Mitigation Strategy section identifies actions to be implemented to address those risks. It has been a very successful project and we encourage the public to embrace the proactive measures their community has taken by reviewing the plan and submitting comments. The plan will also be available at libraries across Jefferson County, which will be named at the public meeting in January, should anyone choose to view it through their library services.

Thank you,
Jefferson County Office of Emergency Management

JEFFERSON COUNTY MULTI-HAZARD MITIGATION PLAN KICKOFF MEETING

Thursday, April 23rd, 2009 1:00-3:00
Jefferson County District Attorney's Office (Training Room)
500 Jefferson County Parkway, Golden, CO

- 1) Opening Remarks
- 2) Introductions
- 3) Local Hazard Mitigation Plan Purpose and Requirements
- 4) Multi-Jurisdictional Participation and the Hazard Mitigation
- 5) Planning Committee
- 6) Hazard Identification Process
- 7) Coordinating with Other Agencies\ Related Planning Efforts
- 8) Planning for Public Involvement
- 9) Data Collection Needs
- 10) Project Schedule and Next Steps

**Notes from Jefferson County Hazard Mitigation Plan Kick off meeting
4-23-2009, 1:00-3:15pm
Jefferson County District Attorney's Office (Training Room)
500 Jefferson County Parkway, Golden, CO**

1) Opening Remarks

Welcome remarks were presented by Tim McSherry, Jefferson County Office of Emergency Management.

2) Introductions

Over 50 persons representing a mix of Jefferson County, Cities of Morrison, Arvada, Golden, Littleton, Elk Creek, Evergreen, Edgewater, Lakeside, Westminster and Wheatridge were present and documented on a sign in sheet. Other stakeholders present included the Urban Drainage and Flood Control District, Jefferson County Fire, Library, Colorado Department of Transportation, FEMA Region 8, Colorado Division of Emergency Management, Fairgrounds, Jefferson County Roads and Bridges. Three staff from AMEC Earth and Environmental, the consulting firm hired to facilitate the planning process and develop the draft plan, were present.

3) Mitigation, Disaster Mitigation Act (DMA) Requirements, and the Planning Process

A PowerPoint presentation was presented by Jeff Brislawn, the project manager from AMEC Earth and Environmental. The plan is intended to identify hazards, assets at risk, and ways to reduce impacts through long-term, sustainable mitigation projects. The plan will also maintain eligibility for FEMA mitigation grant funding. This planning could contribute credits towards CRS, thus potentially lowering the cost of flood insurance for the residents of these jurisdictions. This plan is being funded in part by a Pre Disaster Mitigation planning grant from FEMA.

4) Multi-Jurisdictional Participation and the Hazard Mitigation Planning Committee (HMPC)

Jefferson County, the incorporated municipalities and special districts that participate in the plan and will maintain eligibility for FEMA mitigation funds by doing so. This meeting is the first meeting of the Jefferson County HMPC. A definition of participation in the planning process was provided that includes:

- Attend and participate in HMPC meetings
- Provide available data requested of the HMPC coordinator
- Review and comment on plan drafts
- Advertise and assist with public input process
- Coordinate formal adoption

5) Hazard Identification and Data Collection Needs

A list of potential natural hazards was discussed, based on hazards from State and FEMA lists, as well as the DRCOG Hazard Mitigation Plan. The focus is on natural hazards, since manmade hazards are not required by DMA 2000 regulations and often dealt with in separate planning mechanisms. The hazards that will be profiled in the plan include:

- Avalanche
- Dam and Levee Failure
- Drought
- Earthquake
- Erosion and Deposition
- Extreme Temperatures
- Expansive soils
- Flooding
- Hailstorm
- Landslides/Mud and Debris Flows/Rockfall
- Lightning
- Severe Winter Storms
- Subsidence
- Tornado
- Wildfire
- Windstorm

The HMPC was asked to gauge the overall significance of each hazard for the purposes of focusing the hazard profiles and risk assessment. The committee noted that wildfire, flood, dam/levee failure, winter storm, windstorm, drought, subsidence, landslide/rockfall were the most significant hazards. The rest were considered less significant. It was noted that the significance of each hazard may vary across the planning area, particularly the flood, dam/levee failure, subsidence and wildfire hazards. The City of Wheat Ridge noted that they have been impacted by a dam failure.

Other hazards that were discussed included impacts from asteroids and space debris, and volcanoes. The likelihood of these hazards impacting the planning area is extremely remote, and options for mitigation extremely limited, thus they will be mentioned but not profiled in the plan. Fog was also discussed, but the impacts were limited enough that the group felt it did not warrant a full hazard profile. Water quality issues from acid mine drainage was also discussed as a hazard. While water quality issues are outside the scope of this plan, they will be captured to a degree in the flood hazard profile.

A data collection guide was distributed to certain members of HMPC that is designed to facilitate gathering information on hazards, past events, vulnerable assets, and capabilities. Ideally each participating governmental entity (County, city, or special district) should complete the form, reflecting input from several departments such as public works, road and bridge, planning, building, etc. The team was asked to focus on the hazard identification, vulnerability, and capability worksheets and return to Alyssa Carrier by May 15th, 2009.

6) Coordinating with other Agencies and Departments

A discussion was held on how to coordinate this planning process with other agencies and departments in order to meet one of the DMA planning requirements. Part of this coordination is making other relevant entities aware of the process and providing them an opportunity to participate, if they choose to do so. Outreach could include inviting to future meetings, soliciting data and information relevant to the plan, or soliciting review of the draft plan.

A list of stakeholders that were invited to participate was shown in a PowerPoint slide. Several of these entities were represented at the meeting. Feedback from the planning team included a number of other potential agencies/ stakeholders to involve. These are listed below.

Local Stakeholders

- RTD
- Water and Sanitation Metro Districts
- Denver Water (invited but not present)
- School District (invited but not present)

Coordination with other Plans/Policies suggested by the HMPC:

- County Wildfire Plan
- Individual district's Community Wildfire Protection Plans (CWPP's)
- Public Health ERP
- Local EOP's
- Water District Target Hazard Plans
- Colorado State Hazard Mitigation Plan
- Comprehensive Plans
- CDOT
- Capital Improvement Plans
- Drainage Plans
- Flood mitigation Plans
- Local Emergency Action Plans
- Denver Regional Council of Governments Hazard Mitigation Plan

7) Planning for Public Involvement

The planning team was queried for ideas on how the public could be involved in this process. Ideas included:

- Local Channel 8 television station
- Utilize Libraries throughout Jefferson County to post announcements about the plan and hardcopies of the draft plan
- City Websites
- County Transparency Website
- Make draft plan available on the County website

-
- Local radio
 - Notices in utility bills
 - Outreach through schools

Three public meetings will be held, two in the middle of the process and another will be held later in the process when the draft will be distributed for public review and comment.

8) Project Schedule and Next Steps

The plan will be developed over the next several months, with at least three more meetings of the HMPC. An email group and project website will be developed for the HMPC for sharing information on upcoming meetings. AMEC will be drafting the risk assessment in the next few months. The next meeting will be in September and will cover the results of the risk assessment. A complete draft for internal HMPC review is targeted to be complete by mid December 2009. A public review draft will be made available in mid January, with the State/FEMA review draft submitted in late February. The approved plan, conditional upon local adoption, should be in place by late April 2010.

Minutes prepared by Alyssa Carrier, AMEC Earth and Environmental.

Jefferson County Sheriff's Office, Emergency Management

DATE:	04/23/09	MEETING:	Jeffco Multi-Hazard Mitigation Plan Kick-off Meeting	
		LOCATION	Bldg 500, DA Office	HOURS: 2
NAME	Agency	Email	Phone #	
Darrell Root	UMSSC	darrell.z.root@jeffco.com	303 917 4179	
Jerry Smith	Morrison	jerry.smith.36@comcast.net	303 697 8749	
MIKE SALAZAR	JEFFERSON County	MSALAZAR@JEFFCO.US	3 271 8264	
DON SCHENBERG	JEFFCO INDIAN HILLS	DJS62150@MSN.COM	3036670665	
Nick Condon	Airport	ncondon@flyjeffco.com	3-271-4873	
Jim Lamy	Arvada	jlamy@arvadacolorado.gov	7-898-6825	
Nan Johnson	FEMA R8	nan.johnson@dhs.gov	3-235-4838	
Beth Greer	Jeffco	bgreer@jeffco.us	3271-8514	
Kate Newman	Jeffco	knewman@jeffco.us	303 271 8567	
Bob Deeds	City of Littleton	odeeds@littletongov.org	3/95/3865	
Calli Broome	Jeffco ITS	cbroome@jeffco.us	303-271-8777	
Bruce Beckman	Littleton TD	bbeckman@littletongov.org	303 795 3875	
Stanton DeBrecht	Jeffco Open Space	sdebrecht@jeffco.us	3 271-5980	
Bill Kuepfer	Golden PD		3384-8033	
Kathy Hartman	Jeffco	khartman@jeffco.us	3.271.8525	
Ralph Scatell	JEFFCO O.S.	RSCE@JEFFCO.US	3-271-5931	

Jefferson County Sheriff's Office, Emergency Management

DATE:	04/23/09	MEETING:	Jeffco Multi-Hazard Mitigation Plan Kick-off Meeting		
		LOCATION	Bldg 500, DA Office	HOURS:	2
NAME	Agency	Email	Phone #		
Cindy Phillips	Library	cphillip@jefferson.lib.co.us	303-275-2224		
Cassandra Selter	AMEC	Caster@amail.com	720-277-2573		
John G. Rasco	CMWD	johnrasco@cmwd.com	303-526-0762		
Elbert Hunt	CDOT	elbert.hunt@cdot.state.co.us	303-757-9420		
Jeff Ricklefs	Building	Jricklef@jeffco.us	3-271-8263		
Joe Page	Elk Creek	jpage@elkcreekfire.org	3-718-8460		
Paul Lillagore	Arvada Fire	paul.lillagore@arvadafire.com	3-908-0851		
Joe Leo	Morrison PD	corporate@town.morrison.co.us	3-697-4810		
Greg Moser	AMEC	moseg32@comcast.net	3-588-7812		
Marilyn Gally	CDEM	marilyn.gally@state.co.us	3-273-1712		
Wade Hamman	WRPD	wahamman@wrpd.com	235-2918		
MARK WESTER	WRPW	mwest@wrpw.com	275-2803		
JEFF DANIELSON	JEFFCO	JDANIELS@JEFFCO.US	3/271-8065		
Todd Leopold	Jeffco	tleopold@jeffco.us	3/271/8597		
Bruce Kral	West Metro Fire	bkral@westmetrofire.org	303-973-6257		
FRANK DEARBORN	Evergreen Fire	fdearborn@evergreenfire.com	303-679-4740		

Jefferson County Sheriff's Office, Emergency Management

DATE:	04/23/09	MEETING:	Jeffco Multi-Hazard Mitigation Plan Kick-off Meeting
		LOCATION	Bldg 500, DA Office
		HOURS:	2

NAME	Agency	Email	Phone #
Mark Danner	Faregrounds	mdanner@jeffco.us	3-271-1600
David Bell	Lakeside PD	dbell@town.lakeside.co.us	3034551785x305
Jenny Stricker	COFD	jstricker@cityofgolden.net	303-584-8093
Jacki Kelley	Jeffco PID	JKelley@jeffco.us	3-271-815697
Karen Berry	CGS Jeffco CD	Karen.Berry@jeffco.us	3/866.2611 ext 8815
Jim Smith	FT Services	jsmith@jeffco.us	3/271-8042
H COURT Yourell	Lookout with WATER DIST	INFO@tmcco.com	303826 8320
SCOT Lewis	Jeffco HIT	slewis@jeffco.us	303-271-8471
Mike Reddy	City of Westminster	Mike.Reddy@cityofwestminster.us	303-658-4550
Jaye Huffman	Jeffco	Bcommish1@jeffco.us	
Alyssa Carrer	AMEC	alyssa.carrer@amec.com	

Jefferson County Sheriff's Office, Emergency Management

DATE:	04/23/09	MEETING:	Jeffco Multi-Hazard Mitigation Plan Kick-off Meeting	
		LOCATION	Bldg 500, DA Office	HOURS: 2
NAME	Agency	Email	Phone #	
MIKE MARCHESE	EDGEWATER P.D.	MMARCHESE@EDGEWATER.PD.CO.A	303-235-0502	
Vesta Exline	VOI	vexline@msa.com	3-202-2196	
CRIS BREWER	GOLDEN FIRE	CBREWER@CITYOFGOLDEN.CO	303-215-8888	
JIM SHIRES	JCSO	JSHIRES@JEFFCO.US	3-435.2395	
KEVIN STEWART	UDFCD	kstewart@udfcd.org		
LOU ANDERSON	JEFFCO R+D	landerson@JEFFCO.US	3/271/5205	

Agenda
Jefferson County Multi-Jurisdictional Multi-Hazard Mitigation
Plan
HMPC Meeting #2
Risk Assessment Overview

September 24, 2009 1:30 - 3:30 pm
Jefferson County Emergency Management Office
800 Jefferson County Parkway – Dakota Bldg. 2nd Fl. Classroom
Golden, CO 80401

Point of Contact Ron Celentano rcelenta@jeffco.us or Carol Small csmall@jeffco.us

- 1) Opening Remarks and Introductions 1:30 – 1:40
- 2) Risk Assessment Presentation and Discussion 1:40 – 3:10
 - a. Highlight of Major Hazards affecting Jefferson County
 - i. Flood
 - ii. Wildfire
 - iii. Winter Storm
 - iv. Hail
 - v. Geologic Hazards
 1. Earthquake
 2. Rockfall
 3. Landslide
 4. Mudslides and Debris Flow
 5. Expansive Soils
 6. Erosion (brief overview)
 7. Subsidence (brief overview)
 - vi. Brief Discussion of Remaining Hazards
 1. Avalanche
 2. Dams & Levee Failure
 3. Drought
 4. Extreme Temperatures
 5. Lightning
 6. Tornado
 7. Windstorm
- 3) Mitigation Capability Assessment 3:10 – 3:20
- 4) Next Steps 3:20 – 3:30
 - a. HMPC Goals meeting #3 - Setting Mitigation Goals and Objectives
 - b. HMPC Action meeting #4 - Identifying Specific Mitigation Actions
- 5) Adjourn 3:30

Jefferson County Hazard Mitigation Plan Update Risk Assessment Overview Meeting Summary

September 24, 2009 from 1:30 to 3:30 pm
Jefferson County Emergency Management Office
800 Jefferson County Parkway – Dakota Building, 2nd Floor Classroom
Golden, CO 80401

Introductions and Opening Remarks

Welcome remarks and Introduction to Hazard Mitigation were presented by Tim McSherry, Director of Jefferson County Emergency Management, and Project Manager Jeff Brislaw from AMEC. Jeff asked everyone around the room to introduce themselves. 33 persons from across the entire planning area were present. Specific organizations represented include: Clear Creek, Information Security for Jefferson County, CDOT, Public Works, West Metro Fire, Pike National Forest, Jefferson County Building, City of Wheat Ridge, AMEC, Xcel Energy, Evergreen Fire Rescue, Jefferson County OEM, Jefferson County Assessor's Office, Lakewood Police Department, Jefferson County Roads and Bridges, Count Administrator, Golden Fire, County Open Space, County IT, Fairmount Fire, USGS, City of Arvada, Lakewood, Genesee Fire and Rescue, Jefferson County GIS, Golden Police, Westminster Fire and Rescue.

Risk Assessment Presentation

Overview of the Planning Process

Jeff discussed the 10-Step Planning Process for the planning effort and highlighted the current steps under discussion in the meeting. He noted current progress on the plan, including the convening of the Hazard Mitigation Planning Committee (HMPC) in April, the collection of data collection guides, GIS comprehensive plans, and other input from the HMPC and other stakeholders, the development of the Risk Assessment draft documents, and the opening stages of the capabilities assessment.

Discussion of the Risk Assessment Methodology

Jeff then turned the discussion over to Cassandra Stelter, Mitigation/Emergency Management planner, to review the specific methodology used in the Risk Assessment. Cassandra discussed the elements of the hazard identification process and the elements of the vulnerabilities assessment conducted for all medium- and high-hazard profiles in the County. She also emphasized that the rating of 'low', 'medium' and 'high' was a relative measurement used to prioritize hazards and action items, not to determine danger levels. She reminded the HMPC that all hazards profiled in the plan were possible in the County, and encouraged review and feedback of the profiles for accuracy and relevance. She then presented the preliminary ranking of the hazards. (See Slide 8 in the PowerPoint for this list.)

Highlights of Major Hazards affecting the County

Cassandra turned the discussion over to senior mitigation specialist Laura Nay for the discussion of the flood hazard in the county. Laura facilitated the discussion by examining the flood history in the planning area by watershed and asked for feedback from the audience. Kevin Stewart with UDFCD noted that the estimated fatalities from flooding in the Bear Creek Watershed alone are about 45 individuals. Laura then discussed the meaning of the 100 Year Floodplain, and critical infrastructures in the floodplains. Laura asked Shelby Hudson, the lead GIS Technician on the project with AMEC, to discuss use of HAZUS, integration of DFIRM, loss estimation, and location-specific analysis. Shelby also addressed displaced population data (based on the 2000 Census). Laura and Shelby also discussed the flood losses based on data provided by the Assessor's Office. Finally, Laura showed some clips about the impacts of flooding in the area.

Greg Moser, a planning specialist sub-contractor with AMEC, presented the Wildfire risk in the county. In particular, Greg noted the overall statistics of wildfires, discussed the major previous occurrences, and explained AMEC's methodology for calculating future probability of the hazard. Greg also showed a clip from the Hayman Fire and encouraged discussion of the data sources for wildfires in the region, the status of Community Wildfire Protection Plans (CWPP), and impact discussions. Greg also encouraged discussion about the impact of wildfires on the local watersheds.

Cassandra presented winter storms and hailstorms hazard overviews. Input from the committee included a discussion on the meaning of the word 'severe', and the need for more data on both hazards from the local communities to better assess impacts and establish events of record. Based on data analysis, AMEC selected the 2003 Blizzard as the event of record for modern impacts, but discussion also centered around the 1913 storm, which will be reflected in the updated hazard profile. A similar discussion related to the event of record for hailstorms in the County occurred, comparing the differences between the July 2009 and July 1990 storms, costs, impacts and damages. Cassandra showed a short video documenting the hailstorm from July 2009.

Jeff presented an overview of the geologic hazards for the region. The earthquake profile involved the bulk of this discussion, both at the request of the HMPC for a detailed assessment of risk and because the earthquake hazard profile was the most complete at the time of the meeting. Jeff outlined past histories, potential risks and impacts, and discussed modeling techniques and probabilities. A detailed discussion among participants followed, with a final recommendation that the hazard be classified as 'medium' despite the potentially catastrophic impacts due to the expense of mitigation and relatively low probability. Jeff also discussed data needs for swelling soils, erosion, landslides, rockfall, and subsidence and showed some selected maps from local planning efforts reflecting the data requested.

Cassandra finished the overview of the natural hazards, providing an overall picture of the relative rankings and some general vulnerabilities for the county. The committee noted the typo

on the disabled population statistics, which has been corrected in the distributed version of the PowerPoint.

Mitigation Capability Assessment

Laura discussed the content, purpose and overview of the capabilities assessment, including a discussion on how the assessment would be conducted and the data requirements AMEC requested for this portion of the plan. She clarified the difference between a hazard mitigation capabilities assessment and a homeland security-driven assessment. Jeff finished with a discussion of how this next process fits in the overall planning process.

Next Steps

The next meetings will discuss the goals and action item developments and are scheduled for the afternoons of Thursday, October 15, 2009 and Thursday, October 22nd. Times and locations will be distributed with agendas. In addition, there are three public meetings required during the planning process that will be scheduled in the upcoming weeks.

AMEC will complete the draft risk assessment and distribute it for review prior to the first upcoming meeting, and will work to complete the jurisdiction-specific annexes for review and distribution. The HMPC is requested to read the draft documents, provide comments and feedback, and begin to examine the risk assessment in terms of goals and action items.

Adjourn

The presentation and discussions concluded at 3:30pm with additional individual discussions between stakeholders following.

Summary prepared by Cassandra Stelter, AMEC Earth and Environmental.

Jefferson County Sheriff's Office, Emergency Management

DATE:	09/24/09	MEETING: #2	Jeffco Multi-Hazard Mitigation Plan Risk Assessment Meeting
		LOCATION Bldg 500, DA Office	HOURS: 2

NAME	Agency	Email	Phone #
JEFF BRISLAWN PROJECT MANAGER	AMEC	jeff.brislawn@amec.com	
Greg Moser	AMEC	moser32@comcast.net	303-589-7812
Tim McSherry	Jeffco	timsherry@jeffco.us	303-271-4401
Ron Celentano	Jeffco	rcelenta@jeffco.us	303-271-4104
LOUIS DAURIO	ASSESSOR		8639
John F. Roscoe	L.M.U.D	john.f.roscoe@col.ohio	303 525-0704
David Bell	Lakewood PD	dbell@town.lakewood.co.us	303 455-1985 x305
Cory Day	R+B		303-271-5415
LOUIS ANDERSON	R+B		303-271-5405
Kate Newman	County Admin	Knewman@jeffco.us	x 8567
CRIS BREWER	GOLDEN FIRE	cbrewer@cityofgolden.net	303-215-8888
Thea Rock	JC Open Space	trock@jeffco.us	303-271-5902
DAVID MORAN	IT	dmoran@jeffco.us	3/27/8605
SAM SPARSON	FAIRMOUNT FIRE	sparsan@fairmountfire.org	3.279.2128

Jefferson County Sheriff's Office, Emergency Management

DATE:	09/24/09	MEETING: #2	Jeffco Multi-Hazard Mitigation Plan Risk Assessment Meeting	
			LOCATION Bldg 500, DA Office	HOURS: 2

NAME	Agency	Email	Phone #
BOB JARRETT	USGS	RJARRETT@USGS.GOV	3-236-6447
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Russ Heckle	Jeffco building	rheckle@jeffco	3-271-8212
MARK WESTBERG	WEAT RIMMIE	mwestberg@ci.wheatridge.co.us	3-235-2005
Tim Getston	City of Lakewood	timgel@lakewood.org	3-987-7548
Scott Metford	Genesee Fire + Resc	smetford@cmccmt.net	3-237-8865
Calh Broome	Jeffco ITS	cbroome@jeffco.us	3-271-8777
DANIEL HOLLINGSWORTH	GOLDEN P.D.	dhollingsworth@cityofgolden.net	307-384-8032
Brian Wietan	Inkwood	brim@inkwood.net	314-87-7142
Mark Danner	Jeffco	mdanner@jeffco.us	3-271-6000
Kathy Hartman	Jeffco	khartman@jeffco.us	3-271-8525
Mike Chadwick	Jeffco	mchadwick@jeffco.us	3-271-8704

Jefferson County Multi- Jurisdictional, Multi-Hazard Mitigation Plan HMPC Meeting #3

Capabilities Assessment Overview and Goals and Objectives Development Meeting

Date: October 15, 2009
Time: 1:30 pm - 3:30pm
Location: 200 Jefferson Parkway, Golden, Colorado 80401
Contact: Ron Celentano - rcenta@co.jefferson.co.us

Agenda

- 1) Opening remarks, introduction and review (1:30-1:45)
- 2) Overall County Mitigation Capabilities Assessment (1:45- 2:00)
 - a. Existing mechanisms (plans, procedures, codes, regulations)
- 3) Relationship with Other Planning Efforts (2:00-2:15)
 - a. Common Goals and Objectives
- 4) Develop Specific Goals and Objectives (group process 2:15 – 3:15)
- 5) Discuss Next Steps (3:15-3:30)
 - a. Hand-out for developing Actions Items for next meeting
 - b. HMPC Meeting #4, Oct. 22, 2009, 1:00 – 4:00 pm (same location)
- 6) Adjourn (3:30)

Jefferson County Natural Hazard Mitigation Planning Committee meeting #3

Natural Hazard Mitigation Plan Goals and Objectives Development Meeting Meeting Summary

- Time: Oct. 15, 2009, 1:30-3:30
- Location: Jefferson County Sheriff's Facility, 200 Jefferson Parkway, Golden, CO
- Attendance: (see attached)

Old Business:

- Jeff Brislaw (AMEC) reviewed the draft hazard documents from the previous meeting:
- Participants asked if changes to hazard significance ratings (especially regarding earthquake hazards) had been made
- Draft documents on the hazards have been e-mailed and will be uploaded onto the project web page.
- Jeff requested the planning team review and provide feedback on the current draft documents.
- CDOT (Elbert Hunt) noted an inconsistency in the probability methodology (different timeframes for different hazards). Both methodologies (common time frame or records-based) skews data. He suggested we include a caveat on probability methodologies.
- Laura Nay (AMEC) discussed the need to review various other community plans (Master Plan, Land Use Plan, Development Plan, etc.), to identify relevant planning efforts that may have possible linkages to mitigation planning. These plans may also have studies and information in them (such as the Hazards section in one of the draft Jeffco Land Use plan).
- Laura requested the planning team review and identify plans we may not have previously discovered.
- Jeff request planning team members to identify current capabilities, plans, and mitigation efforts; what is working, what needs work?
 - Main effort is currently the CWPP/fire mitigation plan.
- Jeffco Planning confirmed the Land Use Plan and Jeffco Master Plans are the same thing (but apply only to unincorporated Jeffco). Each municipality has its own Master Plan. These may/may not be coordinated with the county's master plan.

New Business:

- Jeff-The Main goal of today's meeting is to identify specific hazards mitigation goals.
- Goals are broad/general and apply to all jurisdictions.
- Brian Nielsen (Lakewood) asked if funding was a goal. Since funding projects is a goal of HMGP, maintaining funding eligibility for HMGP grants can be a goal. Improving jurisdictional funding/project support may also be a goal.
- Not all projects may receive or be eligible for federal funding.
- There may be other grants, state, or local funding options.

-
- Jeff lead the “Goals Development” exercise that led to the development of draft goals and objectives by collecting HMPC input on sticky notes. The sticky notes were arranged by themes. The following are the generalized themes emerged:
 - Increase Public Awareness
 - Reduce Impacts
 - Strengthen Partnerships
 - From the exercise AMEC will summarize the goal statements and supporting objectives that reflect the HMPC’s input. These will be developed for review and acceptance at the Oct 22 meeting.

Next Step:

- We discussed the need for the planning team to identify specific projects to support the goals and objectives.
- Several additional handouts were provided to support planning team preparation for the next meeting scheduled for Oct 22, 2009, 1-4pm; same location.

Prepared by: Greg Moser, AMEC, moser32@comcast.net, (303) 589-7812

Jefferson County Sheriff's Office, Emergency Management

DATE: 10/15/09 MEETING: #3 Jeffco Multi-Hazard Mitigation Plan, Goals Meeting

LOCATION: Bldg 200, Sheriffs Office, Center Classroom HOURS: 2

NAME	Agency	Email	Phone #
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LOUIS DAURIC	Assessor		8639
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Shea Rock	JC OpenSpace	trock@jeffco.us	303 271-5902
DAVID MONAHAN	Jeffco ITS	dmonahan@jeffco.us	3/271-8065
Ross Klopff	JC Planning and Zoning	rklopff@jeffco.us	3/271-8733
Brian Nielsen	Inkwood	brini@inkwood.org	3/987-7192

Jefferson County Multi-Jurisdictional, Multi-Hazard Mitigation Plan HMPC Meeting #4

Mitigation Strategy Development Meeting

Date: October 22, 2009
Time: 1:00 pm – 4:00pm
Location: 200 Jefferson Parkway, Golden, Colorado 80401
Contact: Ron Celentano rcenta@co.jefferson.co.us

Agenda

- 1) Opening remarks and introductions
- 2) Review the planning process and key issues from the risk assessment
- 3) Finalize goals and objectives
- 4) Review types of mitigation actions
- 5) Discuss criteria for mitigation action selection and prioritization
- 6) Brainstorming Session/Development of mitigation actions (group process)
- 7) Prioritize mitigation actions (group process)
- 8) Discuss plan implementation and maintenance
- 9) Discuss next steps

Jefferson County Hazard Mitigation Plan Mitigation Action Workshop Summary

**October 22, 2009 from 1:00 to 4:00 pm
Jefferson County Training Room
200 Jefferson County Parkway
Golden, CO 80401**

Introductions and Opening Remarks

Welcome remarks and Introduction to Hazard Mitigation were presented by Tim McSherry, Director of Jefferson County Emergency Management, and Project Manager Jeff Brislaw from AMEC. Jeff introduced Laura Nay – Asst. Project Manager and Greg Moser, Emergency. Jefferson County Hazard Mitigation Planning Committee members introduced themselves. Organizations and agencies represented were captured on a sign in sheet.

Overview of the Planning Process and Remaining Risk Assessment and Capability Assessment discussion

Jeff discussed the 10-Step Planning Process highlighting the actions that would be covered in the day's workshop. Jefferson County Planning raised questions about the hazard risk of subsidence with discussion about its impact on population and that planning considered it a higher risk category than "low". They suggested it should be on the same level of significance as the other geologic hazards. Laura Nay noted the concern for further data collection and research. AMEC is finalizing a GIS assessment of the exposure to the geologic hazards that will help quantify the risk.

The Jefferson County Community Land Use and Master Plans updates were discussed. Planning updated the group on their progress. The plan update had a "Hazards" section that was copied and used for a handout to show good examples of Goals, Objectives and Actions already in place to be used as a guide for the day's process.

Finalize Mitigation Plan Goals and Objectives

Jeff reviewed the Goals and Objectives with discussion on whether any should be changed or modified. Laura Nay noted those changes and all present concurred with those changes.

Review of Types of Mitigation Actions

The rest of the meeting focused on the development of specific mitigation actions designed to meet the plan's goals. Each HMPC member was provided with the following list of categories of mitigation measures, which originate from the National Flood Insurance Program's Community Rating System:

-
- Prevention
 - Property Protection
 - Structural Projects
 - Natural Resource Protection
 - Emergency Services
 - Public Information

The HMPC members were also provided with several lists of alternative multi-hazard mitigation actions for each of the above categories. Another handout showed the various hazard mitigation alternatives that could be utilized for each hazard identified in the plan. Greg Moser also discussed the four typical ways to mitigate hazards: alter, avoid, avert, and adapt.

Mitigation Action Requirements

In order to meet the Disaster Mitigation Act and Flood Mitigation Assistance regulations the following requirements were discussed:

- Plan must have at least one action for every hazard
- Plan must have at least one action for each participating jurisdiction
- Plan must demonstrate continued compliance with NFIP/floodplain management
- Actions must be prioritized
- Actions must have detail on implementation and administration
- Actions must be cost-effective and technically feasible
- Actions must address existing and future development

Mitigation Actions Exercise

Jeff explained how the exercise would work and that the result would identify actions specific to each jurisdiction and allow AMEC to put together the overall plan draft. This began with a brainstorming session and discussion on mitigation alternatives and ideas for each of the high significance hazards. Greg listed the identified hazards on the white board and sticky post-it notes were handed out to the HMPC. Jeff explained that each person should write ideas for mitigation actions on their sticky notes and when finished they should post it under the hazard that fit the mitigation action.

Once the mitigation actions were identified, the HMPC members were provided with several sets of decision-making tools, including FEMA's recommended criteria, STAPLE/E (which considers social, technical, administrative, political, legal, economic, and environmental constraints and benefits), to assist with prioritizing the identified actions.

- Social: Does the measure treat people fairly?
- Technical: Will it work? (Does it solve the problem? Is it feasible?)
- Administrative: Is there capacity to implement and manage the project?

-
- Political: Who are the stakeholders? Did they get to participate? Is there public support? Is political leadership willing to support the project?
 - Legal: Does your organization have the authority to implement? Is it legal? Are there liability implications?
 - Economic: Is it cost-beneficial? Is there funding? Does it contribute to the local economy or economic development? Does it reduce direct property losses or indirect economic losses?
 - Environmental: Does it comply with environmental regulations or have adverse environmental impacts?

In accordance with the DMA requirements, an emphasis was placed on the importance of a benefit-cost analysis in determining project priority (the 'economic' factor of STAPLE/E). Other criteria used to recommend what actions might be more important, more effective, or more likely to be implemented than another included:

- Does action protect lives?
- Does action address hazards or areas with the highest risk?
- Does action protect critical facilities, infrastructure or community assets?
- Does action meet multiple objectives (Multiple Objective Management)?

Colored sticky dots were also passed out after the actions were identified, then committee members could place dots on the actions they felt were of most importance. It was agreed by the HMPC that all public outreach and education actions were high priority as this is a key goal of the plan, so HMPC members were instructed to use their dots to vote on other types of actions. Dots were placed by the members on which actions they felt was most important and thereby solidified a priority mechanism for the actions.

After mitigation actions were written and placed, Jeff and Greg held a discussion on what they had identified as actions and under what Goal they should be appropriately placed. Jeff had listed the three Goals on Post-it Easel note pads so actions could be placed under the appropriate Goal. The results of this exercise are included as an attachment to this summary. They also assigned HMPC members responsibility to complete a more detailed action write up to include in the plan.

Action Worksheet

Jeff went through an explanation of a mitigation action worksheet and assigned various members of the HMPC to fill one out for each identified mitigation project. These will need to be provided to AMEC by November 13th, so the new projects can be incorporated into the plan. He also instructed that a jurisdiction could have as many actions as they wanted, but at least one was required, and that the exercise today was an illustration of how to determine what types of actions a jurisdiction should focus on.

Plan Implementation

Jeff discussed suggestions for how the plan will be implemented over time. Plan Implementation suggestions by the HMPC included:

- Meet annually on the progress of the plan and get a status report on local actions
- Discuss mitigation action implementation at regular meetings of the existing flood and wildfire task forces
- October time frame was suggested for the annual meeting of the HMPC
- Apply for FEMA PDM Planning grant funds in year 3 of the 5 year cycle.
- Keep public involved
- Revise plans as necessary
- Implement through other related plans, i.e. land use plan
- Integrate actions into staff work plans

The above items will be captured in an implementation chapter in the plan.

Next Steps and Schedule

Jeff discussed the following next steps and schedule:

- Review draft risk assessment - Comments due end of October
- Review draft local annexes - Comments due November 13
- Mitigation Actions worksheet due November 13
- Public meeting in Conifer on November 18
- Assist with advertising public meetings
- 1st complete draft target December 11
- Comments due to AMEC January 6th
- January 13 Public review draft
- January 13-29 Public & Stakeholder review of draft plan
- Public meeting in mid January
- Final draft target Feb 5 to Colorado Division of Emergency Management
- March 1 submit to FEMA
- Mid April – begin adoptions following FEMA conditional approval
- June 30th - adoptions and project completion

Adjourn

The presentation and discussions concluded at 4:00.

Summary prepared by Laura Nay, AMEC Earth and Environmental.

Jefferson County Multi-Jurisdictional Multi-Hazard Mitigation Plan

October 22, 2009 - Mitigation Actions Workshop Results

During the workshop on October 22, 2009, the HMPC identified the following action items. They were then placed under the most appropriate Goal. AMEC suggests setting a scale of priority to gauge action importance to the communities:

- 0-1 dot - low
- 2-3 dots – medium
- 4 or more dots – high

Note – Public education actions were considered high priority by the group by default. Some separate but related action suggestions have been grouped together (i.e. public education, dam monitoring).

Goal 1: Increased Awareness

High Priority: (4 + dots)

4 Dots

- Emergency Warning System (Siren) in Wheat Ridge for dam failure/flood/hailstorm/tornado/windstorm/wildfire
- Public Education Program
 - Public Education developed in a multi-lingual program
 - Public Education Outreach that includes special needs.
 - Public education regarding dams

Medium Priority: (2-3 dots)

3 Dots

- Lightning detection warning systems at Parks and Recreations Areas
 - Lightning education for Jefferson County Open Space Recreationist Safety
- Increases Structural Triage capacity for Wildfire

Low Priority: (0-1 dot)

1 Dot

- Warning sirens in parks and Jefferson County Open-space (all-hazards)
- Channel 8 Website in Wheat Ridge for Drought, Extreme Temperatures and Winter Weather

0 Dots

- NOAA Radios in High-Risk Facilities
- Dam Failure Exercises
- Hailstorm Warning System
- Channel 8 Website Information on Winter Storms
- Public Education Program on tree trimming, planning and types based on all-hazards

Goal 2: Reduce Impacts

High Priority: (4+ dots)

10 Dots

- Continue CWPP Efforts and Implementation, wildfire fuel breaks, wildfire safe zones and defensible space, fuels reduction and biomass use.

8 Dots

- Storm Drainage Utility Fee

5 Dots

- Evaluate all power/backup power systems for police, fire (etc) and repeater tower sites

4 Dots

- Underground power lines to city of Lakewood and the radio repeater on Green Mountain
- NFIP/CRS and Flood drainage participation
- Additional “Slash Collection” sites for wildfire mitigation
- Water Supply Cistern Improvement Study
- Wildfire Evacuation Route Studies and Improvement

Medium Priority: (2-3 Dots)

3 Dots

- Stormwater program that addresses erosion and deposition, or stream bank annual maintenance to prevent erosion/deposition
- Lena Gulch Channelization Project
- Address culvert issues where flooding is of greatest risk, and evaluate culvert and bridge conditions
- Conduct Tree Maintenance or develop a hazardous tree inventory, removal/replacement, and re-vegetation strategy.
- Flood warning system and flood monitors
- Power line improvement for critical facilities

2 Dots

- Dam Monitoring Equipment
 - Establish water levels that are a ‘danger zone’ indicating a dam failure, and develop a system to warn of dangerous levels of water. If this is already in effect, the process should be upgraded.
 - Emergency warning systems for dams
 - Fairmount drainage improvement program
- Purchase forestry equipment (exp: mastication head tractors to chew up trees and slash)

Low Priority: (0-1 Dot)

1 Dot

- Identify ways to mitigate impacts of a dam failure at Beers Sisters Dam (Level II), including response, dam repair or improvement
- Culvert improvements for flooding
- Address power line issues in regards to tree branch distance and breakages during windstorms

0 Dots

- New construction of roofs and windows for public buildings to mitigate hail damage
- Power line improvements
- Address ice and snow issues in subdivisions, incl. build up of ice and the removal process
- Cultivate ways to improve and upgrade snow removal operations

Goal 3: Strengthen Partnerships

High Priority: (4 dots)

- Dam Failure: Integrate with flood and floodplain conditions as applied to Lookout Mountain Water District and its relationship to Jefferson County and Clear Creek County (being restricted in areas, population, and general hazards)

Low Priority (0 dots)

- Multi-Jurisdiction Storm Ready Program participation

**All Hazards Mitigation Meeting
October 22, 2009**

NAME	AGENCY	PHONE	E-MAIL ADDRESS
Tim McSherry	Jeffco DEPT	3-271-4901	jmcsherr@jeffco.us
John Roscoe	DEPT of Public Works	303-526-0700	
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Ross Klopff	Jefferson County Planning + Zoning	3-271-8733	r.klopff@jeffco.us
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Calli Broome	Jeffco ITS	3-271-8777	cbroome@jeffco.us
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GRA MOSER	AMEC	3-588-7872	moser.32@amec.com
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Laura Nay	AMEC	3 742-5307	laura.nay@amec.com

Conifer Town Hall Meeting – November 18, 2009, 7-9 pm

Jefferson County Multi-Jurisdictional Multi-Hazard Mitigation Plan

- Jefferson County awarded Pre-Disaster Mitigation Plan grant funds
- AMEC Earth & Environmental, Inc. was hired to develop the plan.
- The benefits of having a Mitigation Plan
 - It acts as a basic decision-making document for advancing a mitigation strategy
 - It will be FEMA approved, which positions the covered communities for grant funding opportunities like the Pre-Disaster Mitigation grant program (PDM); Flood Mitigation Assistance grant program (FMA); Hazard Mitigation Grant Program (HMGP, after federally declared disasters only); Severe Repetitive Loss grant program (SRL); FEMA Fire Assistance grant program.
 - A Hazard Mitigation Planning Committee (HMPC) was developed with representation from all participating communities and special districts
 - The plan includes a natural hazard profile, a comprehensive risk assessment, a vulnerability assessment, a mitigation capabilities assessment, and mitigation goals, objectives and actions for each community.
- Multi-Jurisdictional means the unincorporated county and the municipalities that want to participate will be covered by the plan.
- AMEC provides a website so that the community can view what has been done to date. http://im.na.amec.com/JeffCo_HazardMitigation
- AMEC researches the existing mitigation capabilities or other planning mechanisms in place, like a Master Plan or the Comprehensive Land Use Plan and looks for the common goals and objectives so that the Mitigation Plan serves as an enhancement to some of the other policies, procedures and regulations already in place.
 - Going above and beyond typical floodplain regulations
 - Building codes that require certain types of fire resistant materials
 - Defensible spacing requirements
 - GIS mapping hazard overlays
- Goals and Objectives
- First draft due Dec. 11 to HMPC and first draft for public review Jan. 13
- Declaration process for catastrophic events
- Questions and inquiries can be directed to laura.nay@amec.com

Thank you for allowing us to present tonight.

Congress Area Council
Town Hall Meeting
Nov. 18, 2009

Name

Lisa Walter

Alison Walter

Laurie Johnston

Billie Kelley

Scott Eddy

DALE WIZIEN

ROB BAKER

Susan Lanning

Pinky Kupfer

Kay Graham

chuck Lake

DAN Imming

Vin Terpstra

PAT Bouchard

Angela Bassano

Conifer Area Council
Town Hall Meeting
Nov. 18, 2009
Sign In Sheet

Name ← Julianen Mountain
Resource
Center

Rich Blodgett

Cheri Gerou

Roddy Soodgates

Suzanne Nelson

John Riedel

Kaura Nay Amec

Stephen Havelson

Debi Evans

~~Esther Kiefer~~ dup

~~Kay Kline~~ dup

~~M. BARTLEY~~ dup

Suzann Guilfoinn

AK PETERSON

JOHN WOLFORTH

Peter Barkman

Conifer Area Council
Sign In Sheet
Town Hall Meeting

11/18/09

Name

Paul OrWeb

Tim McSherry

Vickie Lytle

Robert Blackwell

JOHN McMichael

Jennifer Blackwell

KURT BALANTYNE

Matt SUEBA

M. BARTLET

Bret Roller

Jane Kaemmerly

Bob & Susan Vial

Harvey Peterson

Jeff & Vi Polk

GALEN PEARSON

MARILYN PEARSON

IRV SALTZMAN

Yvonne Ludwig

Mary Ellen Wickham

Andy Wickham

L. Dreding

Frances Ray-Disc

Karl Doo

FIRE COUNCIL ATTENDANCE ROSTER

DATE: June 3, 2009

FIRE DEPT.	NAME	TELEPHONE	EMAIL
Arvada Fire	John Simpson	303 472-1606	john.simpson@arvadafire.com
Coal Creek Fire			
Edgewater Fire			
Elk Creek Fire	Melody Mesmer	970 389 0461	Melody@cmrnet.org
Evergreen Fire	Gary DeJoss	303/679-4744	gdejos@evergreenfire.com
Fairmount Fire			
Foothills Fire			
Genesee Fire			
Golden Fire	Bob Surrell	3/278-1672	RBURRELL@Q.COM
Golden Gate Fire	Kelly Sorvik	303 475 2379	ksorvig@earthlink.net
Indian Hills Fire	DON SCHENBERG	303 697 4568	CHIEF@IHF.ORG
Inter-Canyon Fire	BILL LUCAUORTO	3-697-4413	bill.lucauorto@yahoo.com
INDIAN HILLS	EMERY CARSON	3-697-4568	EMERY@IHF.ORG
ALPINE CLASSIC TEAM	BOB KRATKEBERG	3-697-2642	BOB.KRATKEBERG@PCCS.COM
Lakeside Fire	Bob Goldman/IEP	3 739 6481	bgoldman@iepa.com
Littleton Fire	Roland Seno	303-795-3906	r.seno@littleton.org
Lockheed Martin Fire			
North Fork Fire	John Graves	303-838-7254	ajdca@AOL.com
North Metro Fire			
Platte Canyon Fire			
Pleasant View Fire			
West Metro Fire	Gary Armstrong	7-641-6011	GARMSTRONG@WESTMETROFIRE.ORG
Westminster Fire			
Wheat Ridge Fire			

FIRE COUNCIL ATTENDANCE ROSTER

DATE: June 3, 2009

OTHER AGENCIES	NAME	TELEPHONE	EMAIL
Adams/Jeffco Hazmat	GROVE CANOVE	303 271-4909	grove@jeffco.us
Alpine Rescue Team, Inc.	LOGAN KRANTZBERG	303 774-2012	LOGAN.KRANTZBERG@ALPINE-RT.COM
American Red Cross	BOB BURSELL	3/278-1672	BBURSELL@ARC.COM
CSFS Golden District	PAT McLAUGHLIN	303 279-9757	pmclaugh@hmar.colostate.edu
Denver Mountain Parks			
Highland Rescue Team			
Jeffco ARES	SCOTT HALLADAY	303-356-8520	SHALLADA@JEFFCO.US
Jeffco Building Division	Beeley Baker	303 271 8281	blaker@jeffco.us
Jeffco Communications	DAN HOUSEHOLDER	303 271-5588	INDHOUSE@JEFFCO.US
Jeffco Critical Incident Response			
Jeffco Emergency Management	Coral Small	303 271-4903	Csmall@jeffco.us
AMEC Earth + Environmental	JEFF BRISLAWN	303-742-5313	jeff.brislawn@ames.com
Jeffco Open Space			
Pike National Forest	Gary Shaffer	303-275-5632	gshaffer@pfd.us
Salvation Army	MIKE GELSKI	303-906-4695	KBO@PVDCCOMCAST.NET
USDA Forest Service			

JCSO Fire Crews
 ALPINE RESCUE TEAM
 Colorado State FS
POCCO SARAH
 PHIL LUETHY
 Colo

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 303-232-1617

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