



The Jefferson County Risk Assessment and Mitigation Planning Committee of Jefferson County Homeland Security and Emergency Management meets each year to monitor the progress of this plan. The plan is updated on a 5-year rotation. This report is distributed to the Jefferson County Commission, WV Division of Homeland Security and Emergency Management, and FEMA, Region III.

## 2016 Annual Review of Risk Assessment & Mitigation Plan

Jefferson County,  
West Virginia

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Jefferson County Homeland Security and Emergency Management  
Risk Assessment & Mitigation Planning Committee  
September 8, 2016  
Annual Review of Mitigation Plan

Jefferson County Homeland Security and Emergency Management’s Risk Assessment and Mitigation Planning Committee met at the Jefferson County Maintenance Department at 10:00 a.m. on September 8, 2016. Present were: Jennifer Brockman, Jefferson County Planning Department; Barbara Miller, Director, Jefferson County Homeland Security and Emergency Management; Steve Allen, Deputy Director Jefferson County Homeland Security and Emergency Management; Brandon Vallee, AA/PIO/VC Jefferson County Homeland Security and Emergency Management; Todd Wilt; Charles Town Planning and Zoning; Andy Blake, Ranson City Administrator; Sue Lawton and Travis Markley, Jefferson County Public Service District; Lee Snyder and Stephanie Reel , Jefferson Utilities, Sandy Hite, Threat Preparedness Coordinator, Jefferson County Department of Health and LEPC Chair; Rachel Snavelly, Region 9 Planning and Development Council; John Sherwood, Chair, Jefferson County Homeland Security and Emergency Management Steering Committee. Comments were also received from Todd Fagan, Jefferson County GIS Department.

Director Miller opened the meeting and entertained introductions.

**Old/New Business**

Ms. Miller explained the purpose of the Risk Assessment and Mitigation Planning Committee annual review of each goal and objective. These projects, which were identified by the committee and adopted along with the plan by the Jefferson County Commission and the Municipalities in Jefferson County, beginning on page #83 of the plan. Some of the goals and objectives are not able to be accomplished to due lack of funding. However, many have been accomplished and will be reported on today. Organizations with a responsibility that could not attend today’s meeting may send a written report. Also, anyone who thinks of anything additional should submit additional information to Director Miller by email. It was noted that the entire plan can be accessed on-line at:

[www.jeffersoncountywv.org](http://www.jeffersoncountywv.org), (Click on Floodplain Information; then on Jefferson County All Hazard Risk Assessment and Mitigation Plan)

**GOAL 1: Reduce the potential for significant damages as a result of dam failures in Jefferson County.**

**Objective 1.1 Reduce the probability of significant flood damage and loss of life as a result of a dam failure.**

*Strategy 1.1.1: During all new dam construction, encourage the completion of a critical flood engineering analysis by a professional engineer licensed in the State of West Virginia.*

The State of West Virginia Dam Safety Office regulates dams and dam safety, construction rules, etc. Dam Safety engineers (From the West Virginia Dam Safety Office) inspect dams under construction and conduct safety review of existing dams.

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*Strategy 1.1.2 Coordinate with the WVDEP-Dam Safety Office, to conduct regular safety inspections of existing dams in Jefferson County.*

According to the WVDEP, public safety is accomplished by ensuring that dams are constructed, maintained, operated or removed in a safe manner. Program activities by the WVDEP include:

- Inspections of existing dams
- Dams under construction
- Review of design plans
- Response to emergencies

*Strategy 1.1.3: Develop a notification system that can be utilized to notify residents downstream of large dams, of actions to take before a dam failure, if lead time exists.*

Notification procedures are outlined in the Dam Safety Monitoring and Emergency Action Plans that are required to be developed by the owners of the dam. Emergency Action Plan (EAP) review and approval is an important aspect of the Dam Safety program. Owners of High Hazard Potential Dams are required to develop an EAP. (Hazard potential is not related to the structural integrity of a dam, but strictly to the potential for downstream flooding.)

The monitoring portion of the plan sets forth a frequency of owner inspections that varies according to weather conditions. As heavy rainfall occurs, the inspection frequency increases. If an imminent danger is identified, the emergency action portion of the plan is designed to notify downstream persons to evacuate to safe areas.

Dam Safety provides an example EAP to dam owners for guidance in developing emergency procedures and assists the owners in coordinating with county authorities.

It was noted at the 2015 meeting that long-time State Dam Safety Officer, Brian Long retired. Delbert Shriver and Aaron Tonkery, as well as, Anita Chapman, have replaced him.

**2016 Update: Delbert Shriver is the Acting Dam Safety Officer for the state.**

**Goal 2: Protect Jefferson County's agricultural assets and local water supply from the negative effects of drought.**

**Objective 2.1 Increase the stability of the public drinking water supply in Jefferson County.**

*Strategy 2.1.1: Provide for an emergency backup power supply at all water treatment facilities in Jefferson County.*

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ON-GOING. Generators have been installed at some of the water and wastewater treatment facilities. A Prime Power Survey was completed for all facilities within Jefferson County PSD, Charles Town Utilities, and the Corporation of Shepherdstown.

**2016 Update:** Ms. Lawton reported in 2016 that the PSD has stationed extra propane in Glen Haven, and Cavaland now has a generator. The PSD has also stocked extra propane at Glen Haven. They need to complete a new Prime Power Survey for this site. Mr. Snyder reported that Jefferson Utilities has back up on their Meadowbrook system, part of the Walnut Grove system. They have portable generator that can run one system at a time on 480. Anticipate buying several more generators, but need funding. Ms. Miller explained the importance of having the Prime Power Surveys, as generators may be available from the state; they have generators from overseas that are being reworked.

**Objective 2.2 Increase public awareness as to the agricultural effects of drought, as well as the ramifications to the public water supply.**

*Strategy 2.2.1: Develop an informational brochure to distribute to local farmers and residents, encouraging citizens to take water saving measures.*

ON-GOING NRCS, Farm Services and USDA distribute information regularly. Public service announcements are also made regularly on local radio stations.

*Strategy 2.2.2: Consider passing ordinances to prioritize or control water use, particularly for emergency situations such as firefighting.*

ON-GOING A copy of the Extension Service's Drought Management Handbook was obtained. The Jefferson County Emergency Operations Plan now has a drought annex.

**Objective 2.3: Increase water supply potential across the county by encouraging water utilities to undertake partnerships.**

*Strategy 2.3.1: Develop interoperability and system interconnects between the water systems to ensure continuity of water distribution capabilities.*

*Shepherdstown had considered interconnecting with Berkeley County as an alternate source of water, however, they have a secondary source of water now (Town Run). This update was provided in 2015 by Frank Welch.*

**2016 update:** All of the water providers in the County have completed Source Water Protection Plans this year. These plans identify alternate sources of water in case of emergencies with their primary sources. Ms. Snavelly from Region 9 indicated that all of the Source Water Protection Plans are available to view on Region 9 Planning and Development Council's website at: <http://www.region9wv.com/plans--studies.html>

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Mr. Snyder indicated that there are existing interconnections with the JUI owned and operated Briar Run and Meadowbrook WTPs. In the future, JUI may also develop an interconnection with the JUI owned and operated Burr Industrial Park. They have talked with Charles Town Utilities about interconnection.

**GOAL 3: Increase preparedness throughout Jefferson County regarding the potential effects of earthquakes.**

**Objective 3.1 Educate the public as to the potential for earthquakes in West Virginia, specifically Jefferson County.**

*Strategy 3.1.1 Develop a section of the website explaining the potential for earthquakes, as well as the potential damages from those earthquakes. The information should include measures to take to safe-proof homes and other structures from the potential effects of earthquakes.*

COMPLETED & ON-GOING. Informational brochures have been developed and displayed at various civic events. A link to FEMA's earthquake information has been added to the JCHSEM website.

*Strategy 3.1.2: Encourage the implementation of structural mitigation techniques such as wall bracing, reinforcing walls with fiber materials, the installation of dampers or vibration isolation bearings in new construction.*

DELETED: The CPC has elected to remove this strategy.

*Strategy 3.2.1: Install sensory systems that immediately shut off the flow of gas to critical infrastructure throughout the county as soon earth movements are felt.*

The development authorities located in the Region 9 Planning and Development Council counties are working to extend natural gas into Jefferson County. In 2015, Matthew Pennington of Region 9 sent JCHSEM a Gas Line Feasibility Study that was prepared by Thrasher Group.

**2016 Update: Ms. Snively of Region 9 Planning and Development Council reported that the feasibility study referred to above was rejected. Now, however, there is a plan to bring the gas line across the Potomac River into U.S. Silica in Morgan County, through Berkeley County, and into Jefferson County. Mr. Blake indicated that this should be done by 2018.**

*Strategy 3.2.2: Coordinate with WVDEP-Dam Safety Office to inspect all dams following an earthquake. Required by DEP, but is the owner's responsibility.*

**Goal 4: Reduce the negative effects of flooding in Jefferson County**

**Objective 4.1 Target owners of properties within identified hazard areas for additional outreach regarding mitigation and disaster preparedness.**

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*Strategy 4.1.1:* Distribute letters to all property owners in the county regarding potential flood hazards as required for participation in the Community Rating System (CRS).

COMPLETED AND ON-GOING. Completed yearly, the JCHSEM, as a part of their requirements for the CRS of the NFIP, mails letters of notice to residents within the floodplain on repetitive loss areas about property protection and flood insurance.

***2016 Update:*** Mr. Allen reported that JCHSEM sent out over 500 letters to residents that live in or near a floodplain, including the properties that are repetitive loss properties, that gives them information about flood insurance, mitigation techniques, and contact information for floodplain permit information and ordinance information. Ms. Miller said that this is a part of the Community Rating System of the National Flood Insurance Program that the County is involved in.

*Strategy 4.1.2:* Continue to hold local courses on National Flood Insurance Program (NFIP) for realtors, bankers, and insurers.

COMPLETED AND ON-GOING: Held as often as the courses are available, Insurance Services Office (ISO) comes to the community, as requested and paid for by the County to teach courses about the NFIP to Insurance Agencies, Real Estate Agents and Banking institutions.

**Objective 4.2 Evaluate and update existing floodplain ordinances to meet or exceed the NFIP Standards.**

*Strategy 4.2.1:* Work with the municipalities to update all floodplain ordinances adopted prior to 1987.

COMPLETED. The county's new ordinance is being used as the model ordinance for the state. It was reported that new ordinances were adopted December 18, 2009 by the Jefferson County Commission, as well as, all municipalities.

WVDHSEM's NFIP department, Richard reported that Bolivar updated—(exact date was not on the form), 2010; Charles Town, updated 12/18/09; Harpers Ferry, updated 12/18/09; Shepherdstown, updated 12/18/09; Ranson, updated 12/18/09.

**Objective 4.3: Improve the enforcement of existing floodplain regulations.**

*Strategy 4.3.1:* Provide additional training to county and municipal development officials on NFIP requirements.

COMPLETED AND ON-GOING: A workshop for local officials was held in January, 2011, all County and Municipalities in Jefferson and the Eastern Panhandle were invited. A meeting was also held in January of 2010 regarding new digital maps on FEMA's website. A Risk Map Meeting was held In June, 2012, attended by JCHSEM, Engineering Department, Planning Department, municipal representatives, as well as FEMA.

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The State of WV now has state code requiring floodplain managers to have a certain number of training hours each year.

*Strategy 4.3.2: Initiate storm water management projects that tie into the Chesapeake Bay Watershed initiatives.*

*Regulations require water quality regulations. Strengthen for a 1 inch capture to slow runoff down. Matt Pennington reported others in Harpers Ferry, Ranson, Charles Town, and Shepherdstown. Will do Phase 2, which is a 1 inch capture.*

*Fairfax Blvd, green infrastructure. A few great programs involved-Cacapon Institute can increase trees with their CTREES program. Matthew Pennington of Region 9 Planning and Development Council has offered the following update to this project:*

*Please find the link to all completed CTREE tree plantings.*

*<http://cacaponinstitute.org/Forestry/CTreeProjects.htm>*

*Please see the link to the current CTREE projects:*

*[http://cacaponinstitute.org/Forestry/CTree\\_Current\\_Projects.htm](http://cacaponinstitute.org/Forestry/CTree_Current_Projects.htm)*

*The Region 9 Coordinator provides technical and hands-on support to the CTREE Program to Jefferson County and the Region. Region 9 will continue to engage local communities on the program.*

*Fall 2014 and Spring 2015, the Region 9 Coordinator assisted the Deerfield Village Community on two CTREE planting events.*

*Fall 2015, the City of Charles Town and the Leetown Chapter of the Izaak Walton League planted a mix of 24 shade, flowering, and evergreen trees along the Craighill Walking Trail in Charles Town.*

*Fall 2015, Page Jackson Elementary School planted a mix of 24 shade trees along the walking trails at their school in Charles Town.*

**2016 Update:** *Ms. Miller said that Bill Polk, County Maintenance Director gave a report about planting trees in some of the open areas of County Property, including the Hunter House picnic area, and some of the Parks and Recreation areas. Ms. Brockman also reported that Mr. Fagan in GIS has also worked with Tanner Haid of the Cacapon Institute to identify places for tree plantings. Matt Pennington reported in 2016 that the tree program is continuing. Todd Wilt reported that Charles Town Parks & Recreation did tree planting last year and is planning to plant additional kits at Jefferson Memorial Park. Andy Blake said that trees are a part of the Fairfax Street expansion in Ranson. Additionally, Matt Pennington reported that the following communities voluntarily, yet formally, adopted ordinances that include a 1" capture requirement. Completing objectives identified in the Chesapeake Bay Watershed Implementation Plan: page. 50-52:*

*Harpers Ferry – Effective 2/1/15.*

*Charles Town – Effective 8/3/15*

*Shepherdstown – Approved 5/10/16*

Objective 4.4: Ensure that flood Insurance Policies remain affordable through county and municipal government programs.

*Strategy 4.4.1: Support Jefferson County's efforts to continue the CRS program.*

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COMPLETED AND ON-GOING. Jefferson County submitted an application to enter the CRS Program in 2005. A letter was received, stating the County was being recommended to FEMA for entry into the program in 2006. County has been named a CRS Community as a Class 9. The Governor presented the County Commission with a plaque in the Spring of 2012 as a Class 8 CRS Community.

***2016 Update: Ms. Miller reported that Jefferson County continues their efforts in CRS. The County will have their 5-year audit of the program this year that will include looking at the entire process of how permits are handled, elevation certificates, looking at properties in the floodplains, etc. The committee is hoping to increase their number of points and to move up a level, but the rules have changed since the last evaluation process. Ms. Miller also recognized the work of Matt Pennington of Region 9 in working with various municipalities in the region to encourage them to become a part of the CRS program, in addition to the Counties.***

*Strategy 4.4.2: Provide training to municipalities on the CRS program and encourage them to participate.*

COMPLETED AND ON-GOING. Jefferson County has been upgraded to a Class 8 Community, for a 10% reduction to flood insurance premiums. CRS was covered in a workshop that was held in January, 2011. Region 9 staff is working with municipalities to encourage them to become involved with the program.

**2016 Update: Matt Pennington, Region 9 Planning and Development Council continues to encourage municipalities to get involved with the CRS program.**

*Strategy 4.4.3: Obtain updated information on the number of NFIP policyholders in Jefferson County And its municipalities.*

ON-GOING This information is received yearly from the WV Division of Homeland Security and Emergency Management's Mitigation Recovery Branch. The report (AW-242 Form) is generated by the WVDHSEM.

*Strategy 4.4.4: Coordinate with the USGS on the installation of river gauges in the Potomac River near Shepherdstown.*

Sandee Niles, JCHSEM reported that at the National Weather Service Hydrology Meeting held in Sterling, that it was reported that a new gage will be installed by USGS in 2016.

**2016 Update:** Jason Elliott, NWS has inquired to USGS to find out the latest status of the gauge. The bottom line is there is not a gauge in yet. Multiple agencies expressed interest in providing temporary funding for the gauge (it's estimated it will only need to be funded for 2-4 years before its cost can be absorbed) but the last it was left was that those agencies were trying to determine what share to pay. Given the fiscal year, his suspicion is if it's going to get put back in, it will happen in the next 4-6 weeks; and if it doesn't happen in the next 4-6 weeks, it's not getting re-started.

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Objective 4.5: Identify all repetitive loss structures throughout the County.

Strategy 4.5.1: Collect updated information of the number and location of all repetitive loss properties throughout the county and the municipalities.

COMPLETED AND ON-GOING. Conducted yearly. An updated list repetitive loss properties was obtained from ISO (Insurance Services Office) for properties located in the unincorporated areas of the County: ISO operates the National Flood Insurance Program for FEMA. There are 20 properties identified as repetitive loss properties. Of these, two properties cannot be identified by their descriptions, one no longer has a structure on the property as it was destroyed in the last flood, four owners were offered mitigation, but were not interested, three are not primary residences, three were acquired under HMGP #DR-1168 and are now managed as open space, one was elevated to the Base Flood Elevation (BFE) under HMGP #DR-1168, one owner has shown no interest in mitigation efforts, another was elevated to the BFE, paid for by the property owner. The remaining properties are mostly second homes, the rest could be candidates for mitigation if the property owners are interested and if funding is available. Staff of JCHSEM visits each repetitive loss property to map them, take pictures, and gather additional information. Additionally, staff confirms open space compliance during these visits.

**2016 Update:** *This was last completed in August, 2016.*

Strategy 4.5.2: Develop a database of information on all repetitive loss properties including maps.

Completed. This project has been completed by the Jefferson County GIS/Addressing Office with information given to them by JCHSEM staff.

Strategy 4.5.3: Identify owners of repetitive loss properties who are interested in participating in future property acquisition and relocation projects.

HMGP funds could become available statewide for mitigation projects after each Federally-declared disaster. Properties would need to meet FEMA Cos/Benefit Ratio, and the owner would need to request mitigation. All considered projects must be approved by WVDHSEM, FEMA, and the local jurisdiction. New projects will need to be considered through the Engineering Department. One additional property was mitigation in 2011, the property was returned to its natural condition and will be managed as open space.

**2016 Update:** *Ms. Miller discussed potential buy outs with Brian Penix of WVDHSEM Mitigation Division. However, Mr. Penix said that the state is no longer doing buy out projects. They are instead doing projects where they remove the old house and rebuild a new one under the new codes and floodplain ordinances. Because of the severe flooding in 14 Counties in Southern West Virginia in June, 2016, projects from those areas are the greatest need.*

Objective 4.6 Update flood hazard mapping.

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*Strategy 4.6.1:* Work with FEMA and WVDHSEM on the Map Modernization Program to improve FIRMS. COMPLETED AND ON-GOING. FEMA mapping has been completed. The Map Modernization Program has been replaced with the RiskMAP program at FEMA. This program provides communities with flood information and tools they can use to enhance their mitigation plans and better protect their citizens. GIS Director, Todd Fagan spoke about having 3 CFMs in the County. 2015 Update: Jefferson County is a part of the Conococheague/Opequon Watershed Group with FEMA. Their next meeting is in early winter. Sandee Niles also discussed the NWS Hydrology Meeting that she attended recently in Sterling and that there are some updates that will be happening in the future. They also reported that USGS will be putting the gage back in on the Potomac in 2016. This gage is used for river forecasting.

Objective 4.7: Assess vulnerability of transportation systems and assets located in hazard areas.

*Strategy 4.7.1:* Work with WV Division of Highways to identify areas of frequent roadways flooding and develop mitigation strategies.

This strategy is complete.

**GOAL 5: Take measures to lessen the probability and severity of hazardous materials incidents in Jefferson County and the Cities of Charles Town and Ranson.**

**Objective 5.1 Conduct a Hazardous Materials Survey or Commodity Flow Study to better Understand the nature and extent of hazardous materials risks throughout the county.**

*Strategy 5.1.1:* Apply for Hazardous Materials Emergency Preparedness (HMEP) grant from WVSERC to finance the development of a Commodity Flow Study to determine what hazardous materials are used, stored, and shipped through the county.

COMPLETED/on-going

The Jefferson County LEPC conducted a countywide Commodity Flow Study in 2007 to identify all hazardous materials that are either stored or traveling through the county and its municipalities. That plan was updated in 2012 and was shared with the emergency responder community. A new Hazardous Materials Response Plan was developed and exercised by the LEPC in 2013.

***2016 UPDATE: Jefferson County LEPC's project for 2016 was a revised Commodity Flow Study that included commodities by both highway and rail.***

*Strategy 5.1.2:* Identify strategies to mitigate risks from the transportation and/or storage of hazardous materials in Jefferson County and the City of Ranson.

COMPLETED. The Jefferson County LEPC conducted a commodity flow study in 2007. Using the results of the study, the LEPC decided to develop a Propane Risk Assessment, which was completed in 2008 and

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2009. The Commodity Flow Study was updated in 2012 and again in 2016. A new Hazardous Materials Response Plan was developed and exercised by the LEPC in 2013.

**Objective 5.2 Increase public safety and awareness with regards to hazardous materials incidents.**

*Strategy 5.2.1:* Increase education and awareness about shelter-in-place opportunities. Jefferson County LEPC to develop and deliver information to all county residents through community groups and/or Publications, information on how to shelter in place and when it is appropriate to do so.

COMPLETED AND ON-GOING. The Jefferson County Board of Education has developed a School Crisis Plan for man-made or acts of God disaster events. Two new sections have been added to the Plan-Terrorism and Sheltering in Place. Additionally, they are training school personnel about sheltering in place and have ordered supplies to keep in the schools for such emergencies. An exercise for shelter in place is being held when the teachers and students get back to school in August. Exercises were held at the schools each year.

*Strategy 5.2.1: Consider the installation of a Dynamic Message Board on the new section of Route 9.*  
COMPLETED. 2 Dynamic Message Boards have been installed. One is on Rt. 9; the other on Rt. 340.

Strategy 5.2.3: Install Uninterruptible Power Supply (UPS) systems on traffic signals.

***2016 Update: Mr. Wilt of Charles Town reported that they do not have these on any of their devices. They use portable stop signs if the lights are going to be out for a given period of time.***

**Objective 5.3 Ensure adequate training and resources for emergency organizations and personnel.**

*Strategy 5.3.1:* Teach Community Emergency Response Team (CERT) classes in Jefferson County.

COMPLETED AND ON-GOING: The CERT Program Coordinator reported that this is an on-going strategy.

***2016 Update: Ms. Miller indicated that RESA offers many classes for local Emergency Responders and advertises them on their site. Additionally, each Homeland Security Region maintains their own training calendar. WVDHSEM maintains a calendar of the trainings that they offer, and WVDMAPS maintains the state's CourseMill program that includes an entire series on Floodplain Management Courses.***

**Goal 6: Protect Jefferson County's population and critical assets from Landslides.**

**Objective 6.1 Enact ordinances to limit development in areas prone to landslide.**

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Strategy 6.1.1: Develop ordinances requiring logging companies to clean and replant areas that they log. The ordinance should include the amount of replanting that is expected.

The Director of Planning and Zoning reported that there is a buffer requirement. Also there is an RFQ for stormwater management with the Chesapeake Bay requirements. This is covered in the Subdivision Ordinances. Division of Forestry regulates logging.

2016 Update: Submitted by Jennifer Brockman, Jefferson County Planning Department. Sec. 20.302 Subdivision Plat General Review Standards<sup>4</sup>

A. General. This section sets forth the design review criteria and the body charged with making the determination. Stormwater Management Plans may be required for inclusion based upon applicability standards defined in the Jefferson County Stormwater Management Ordinance. In conducting a review, the staff shall make a report and recommendations on design, and the Planning Commission shall make a decision, based on the following:

B. Natural Resources. The subdivision plat works with the natural conditions of the property so as to minimize destruction of the natural resources (including but not limited to floodplains, hillsides, wetland, sinkholes; See environmental protection standards in the Zoning Ordinance). The subdivision plat protects the site's natural resources as required by the Zoning Ordinance and these Regulations.

1. The staff shall advise whether the minimum standards are met.

2. The Planning Commission may

a. Require adjustment to the lot and street layout to better achieve the level of protection by maintaining linked open space.

b. Adjust the location of the open space to protect areas of the resource that are most valuable or of highest quality. The location may also be adjusted to protect water quality by better buffering streams or water bodies.

C. Determine if it is generally desirable that one on-site resource be protected at a greater level than another on-site resource due to the unique conditions of the property. The Planning Commission may recommend the developer seek a waiver of the resource protection standards in order to provide greater protection for the identified on-site resource.

Sec. 20.303 Site Plan General Review Standards<sup>4</sup>

The site plan process occurs on existing lot(s) with no public roads being built but where private drives, circulation, and parking will be needed. Utility systems that the County will rely on to serve the new development and drainage are also required. Site plans create an area where people will live and work. Site plan review involves the technical and engineering aspects of the proposed site plan in order to ensure that a safe and efficient neighborhood is created. The design of the site is also important to ensure that the site plan achieves the intended results. This section sets forth the design review criteria and the body charged with making the determination Stormwater Management Plans may be required for inclusion based upon applicability standards defined in the Jefferson County Stormwater Management Ordinance. In conducting a review, the staff shall make a report and recommendations on design, and the Planning Commission shall make a decision, based on the following:

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A. Natural Resources. The site plan works with the natural conditions of the property so as to minimize destruction of the natural resources and maximize the value of the lots for the developer and eventual residents or users. The site plan protects the site's natural resources as required by the Zoning Ordinance.

1. Staff shall advise whether the minimum standards are met.
2. The Planning Commission shall review:
  - a. The lot and internal circulation layout to better achieve the level of protection by maintaining linked open space.
  - b. Adjust the location of the open space or landscaped surface area to protect areas of the resource that are most valuable or of highest quality. The location may also be adjusted to protect water quality by better buffering streams or water bodies.
  - c. If it is generally desirable that one on-site resource be protected at a greater level than another on-site resource due to the unique conditions of the property, the Planning Commission may recommend the developer seek a waiver of the resource protection standards in order to provide greater protection for the identified on-site resource.

Sec. 22.504 Protection of Resources

The protection of natural resources shall comply with all environmental protection requirements in the Zoning Ordinance and these Regulations. Before construction begins, these areas shall be protected from siltation. Staff shall inspect the proposed means of protection prior to permitting the construction to proceed.

A. Hillside Development.

1. General. This section applies to all lands east of the Shenandoah River and all lands in natural conditions within 1000 feet of the Potomac and Shenandoah Rivers and Opequon Creek. Hillside slopes of 10 percent or more are sensitive areas which are frequently not able to tolerate subdivision development as it is practiced on flatter land. The instability of such areas requires careful planning and design before development takes place. Natural slopes, trees, rock formations, and other features such as views can best be preserved if subdivision development is allowed to be flexible and creative. In general, the integrity and durability of a hillside is inversely related to the amount of construction activity (particularly earthwork) that takes place on the hillside.

2. Principles and Guidelines. Hillside subdivision proposals will be reviewed and considered on an individual, independent basis. The natural features of each hillside will determine final subdivision design configuration. The most informal development, consistent with principles of good access, proper drainage, and resource conservation, shall be considered.

Planning Commission review of hillside subdivision proposals shall be guided by the following considerations:

- a. Minimize the alteration of natural terrain and the removal of topsoil and vegetative cover.
- b. Allow flexibility in density, lot size, lot shape, and setback so that the more buildable areas of a hillside can be developed, and the less buildable areas left in a natural condition. Use of the cluster concept.
- c. Consider narrow rights-of-way and roads (possibly one-way roads with convenient pull-offs) so that earthwork may be minimized.
- d. Consider roadside parking bays.

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- e. Design and construct roads that are parallel to contour lines; preferably design and construct roads on ridges and in valleys to minimize cuts and fill. Use retaining walls where possible to minimize cuts and fill.
- f. Consider lot layouts which minimize on-site (on-lot) grading and earthwork for access, parking and building construction.
- g. Design, engineer, and construct entrances to individual lots before lots are sold.
- h. Select building sites and areas for the construction of septic system drainfields before lots are sold.
- i. Include provisions within deeds of sale that require property owners to protect the hillside, woodland, etc. from destruction.

In the event a parcel subject to the provisions of this section has been cleared of trees or otherwise had its natural terrain altered beyond the percentages permitted in Table 22.504, no subdivision will be permitted until the original terrain has been restored and stabilized with healthy vegetation or until a period of five years has passed from the date that said alterations were documented and identified by the Planning Commission.

3. Natural Areas. Hillside subdivision developments shall include the retention of land in a natural, undisturbed condition. The following table shall be used to determine the area of land that must be maintained in a substantially natural condition (no clearing, cutting, filling):

Table 22.504 Retention of Land in Hillside Development

Weighted Average Slope of Land Percent	Percentage of Land To Be Maintained in a Natural Condition
Less 10	No land required
10 – 14.9	25%
15 – 19.9	40%
20 – 24.9	55%
25 – 29.9	70%
30 – 34.9	85%
35+	100

The weighted average slope shall be determined using the grid cell method or other method as approved by the County Engineer. A grid of cells each scaled at 200' x 200' shall be placed over the subdivision topographic map. Within each cell the average slope shall be determined by measurement using the longest line that can be drawn perpendicular to topographic contour lines passing through the cell. Measured slopes for the grids will be averaged to obtain the mean. If grids vary in size, the averaging will include weighting based on grid sizes.

B. Riparian Buffer. A riparian buffer is a transition zone between water and upland environments to protect the aquatic environment from pollution and sedimentation. It is measured from the top of the bank of the stream, or the wetland boundary. If wetlands or hillsides abut or are within the riparian buffer in 1 to 4 below, then they shall be included even when the distance exceeds the buffer in 1 to 4 below. The buffer width is as follows:

1. Lakes and Ponds - 75 feet.
2. Ephemeral Streams with stream channels - 50 feet (100 feet when located in the Elk Run and Elk Branch watersheds).
3. Potomac River and Shenandoah Rivers – 300 feet (unless a greater standard is required by the Zoning Ordinance)

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4. Opequon Creek and Perennial Streams - 100 feet.
5. Wetlands, Marl - 75 feet.
6. Wetlands, Farmed - 10 feet.
7. Wetlands - 50 feet.
8. Hillsides 15 to 25 percent - to the top of the slope where it falls below 15 percent or 400 feet, whichever is less.
9. Hillsides 25 percent or more - to the top of the slope where it falls below 15 percent or 600 feet, whichever is less.

This buffer may overlap the Hillside Development protection standards. Where conflicts with the Jefferson County Stormwater Management Ordinance exist, the requirements of this section shall take precedence.

**Objective 6.2 Provide information to the public on best methods to protect mountainous properties from landslides.**

*Strategy 6.2.1:* Develop and distribute educational materials concerning erosion and sediment control and slope stabilization to assets located in landslide prone areas, including the proper installation of erosion control blankets, turf reinforcement mats, silt fences, filter bags, channel dikes and dams and turbidity barriers.

ON-GOING: The Blue Ridge Watershed Coalition and the Elk Run Watershed Group have initiated this strategy. This issue is covered in the County's sub-division ordinance.

**2016 Update: The Watershet Coalition was set up at the Jefferson County Fair in Building #2 with quite a display with plenty of materials for educating the public.**

*Strategy 6.3.1:* Consider implementing open space designations in landslide prone areas, to keep those areas undeveloped.

Objective 6.4: Consider developing vegetation placement and management plans.

Strategy 6.4.1: Consider planting various types of vegetation in landslide prone areas to increase soil stability through root length and strength and by absorbing precipitation.

Status: No progress, but it was noted at the annual meeting in 2014 that there are some funding opportunities through the Chesapeake Bay Program for this strategy.

**Goal 7 Reduce the potential for damages as a result of Land Subsidence**

**Objective 7.1 Protect critical infrastructure.**

*Strategy 7.1.1:* Conduct a detailed vulnerability analysis on the county's infrastructure to see what losses could be incurred during a land subsidence event (in pertinent areas).

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UNCHANGED: This strategy has not yet been initiated, as a funding source has not been identified.

*Strategy 7.1.2:* Establish a long-term monitoring program to track the occurrence and distribution of subsidence. Even if groundwater withdrawals were reduced to the level of estimated annual recharge in the near future, primary and residual subsidence would continue for 5 to 10 years.

DELETED: THE CPC has decided to delete this strategy.

Objective 7.2: Restrict future development in land subsidence prone areas.

*Strategy 7.2.1 Consider implementing open space designations in land subsidence prone areas, to keep those areas undeveloped.*

*If anyone submits a plat, that is something that should be identified on the plat.*

**2016 Update: Jennifer Brockman said that if you are submitting for new development, you have to show where floodplain and sinkholes, etc. as a part of the process.**

Objective 7.3: Conduct Hydrological Monitoring in land subsidence prone areas.

Strategy 7.3.1: Develop a system to monitor groundwater levels in subsidence-prone areas, as groundwater levels directly influence karst topography, which may lead to sinkholes and subsidence issues.

**Goal 8 Reduce damages from severe thunderstorms and hail in Jefferson County.**

**Objective 8.1 Increase public awareness that a severe thunderstorm and/or hailstorm is imminent.**

*Strategy 8.1.1:* Coordinate with the National Weather Service (NWS) to warn residents of impending severe thunderstorm conditions.

COMPLETED AND ON-GOING. The National Weather Service has a new program called Weather Ready Nation. Weather radios and local media are used to warn resident. JCECC went live with a new Computer Aided Dispatch system in September, 2014. JCHSEM uses NIXLE as a service that residents can sign up to receive emergency alerts via email and/or text message.

*Strategy 8.1.2:* Encourage the use of NOAA Weather Radios among residents that continuously broadcast NWS forecasts and provide direct warnings to the public.

COMPLETED AND ON-GOING: Utilization of Weather Ready Nation and local media outlets. JCECC went live on a new CAD system and JCHSEM is utilizing NIXLE.

*Strategy 8.1.3:* Continue to conduct National Weather Service Storm Spotter classes.

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COMPLETED AND ON-GOING: JCHSEM continues to sponsor storm spotter classes as often as the NWS can provide them. A Flood Storm Spotter Class was held in March, 2012. A Basic Storm Spotter Class was held in March of 2011, and a Winter Storm Spotter Class was held in November 2010. The was a Basic class held in February, 2014, and a Flood Class held in September, 2015.

*Strategy 8.1.4:* Ensure that surge protection, such as surge protectors and grounding, has been Installed on all critical electronic equipment owned by county government.

COMPLETED: Surge protection has been installed. The County also added a generator onto the Mason Building, where their server and the back-up EOC is located.

**Objective 8.2 Decrease the probability of utility failures as a direct result of severe thunderstorms.**

*Strategy 8.2.1:* Coordinate with the power company to periodically trim trees near power lines to prevent limb breakage and power failures.

ON-GOING. The power company continues to make efforts to clear right of ways.

Objective 8:3: Minimize damage to public and private structures as a result of hailstorms.

*Strategy 8.3.1:* Encourage the use of laminated glass in window panes during all new construction.

ON-GOING during new construction.

**Goal 9: Reduce damage from severe wind and tornadoes in Jefferson County**

**Objective 9.1 Increase public awareness that severe wind and tornadoes are imminent.**

*Strategy 9.1.1:* Coordinate with the National Weather Service (NWS) to warn residents of impending severe winds and possible tornado conditions.

COMPLETE AND ON-GOING: Jefferson County utilizes the NWS, NOAA, EAS, Nixle, Facebook, and Twitter to warn local residents.

*Strategy 9.1.2:* Conduct upgrades on the Sheriff's Mobile Command Center vehicle.

COMPLETE AND ON-GOING: Radio consoles and other equipment have been installed. A new roof was put on the vehicle in 2015. It is equipped with CAD, radios, and has dispatching capabilities. It will soon have a cache of SORN radio batteries in it so that deputies can change out their radio batteries as needed.

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Objective 9.2: Minimize future damage from severe wind or tornadoes throughout Jefferson County by increasing control over construction activities.

*Strategy 9.2.1: Reduce the risk of mobile home damage by suggesting the use of tie-downs with ground anchors appropriate for the soil type.*

COMPLETE AND ON-GOING: Current building codes require tie downs for mobile homes.

Objective 9.3: Evaluate existing shelters to determine adequacy for current and future populations.

*Strategy 9.3.1: Ensure that all shelters have adequate emergency power resources. Churches and other facilities that may be used as shelters should consider installing backup generators.*

ON-GOING: The local chapter of the ARC and the Schools no longer have MOUs in place for the use of shelters. JCHSEM has MOUs in place with the School system for uses identified by the Emergency Manager. The ARC will be using churches as shelters as much as possible. There is a need to complete Prime Power Surveys for all ARC shelter facilities. It was reported that Prime Power Surveys have been completed on county schools. The Jefferson County Health Department has Point of Dispensing (POD) sites located throughout the county.

*Strategy 9.3.2: Establish a protocol for the sharing of annual shelter survey information between the Local Red Cross Chapter and the JCHSEM.*

The American Red Cross maintains information on the site of each approved shelter. They also have information on how many people can be housed or fed at the site and availability of back-up power resources/available there. They are prepared to meet with the JCHSEM on an annual basis, if requested

**Goal 10 Reduce the effects of severe winter storms in Jefferson County.**

Objective 10.1: Minimize future damage from severe winter storms throughout Jefferson County by increasing response capabilities.

Strategy 10.1.1: Coordinate with local private contractors to develop mutual aid agreements for emergency snow removal, also develop a Debris Management Plan that can be implemented following a disaster occurrence.

Status: COMPLETED & ON-GOING During the December 2010 snowstorm, the EOC was able to gather a good list of private local contracts that were willing to move snow, no official MOUs are in place. These resources have also been added to the Jefferson County Resource Database. MOUs are the responsibility of each government (County or municipality), various agencies and private businesses.

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Objective 10.2: Educate the general public on proper procedures to take to prepare for a winter storm.

Strategy 10.2.1: Develop a part of the website that describes the proper procedures to take to safeguard against and prepare for winter storms.

Status: COMPLETED & ON-GOING Jefferson County included weather related preparedness brochures as well as Business Continuity Planning information in their display at the 2003-2016 Jefferson County Fairs and other public events. Information included the FEMA Business Disaster Planning Guide, a booklet that was prepared for the Business Continuity Planning Workshops locally and information from the Institute for Business and Home Safety.

Strategy 10.2.2: Work with WVDHSEM and FEMA to develop a long term recovery plan.

Status: NEW STRATEGY

2015 Update: There is still no state plan or standards have been developed by the state.

Objective 10.3: Ensure a backup power supply for major agricultural producers and dairies.

Strategy 10.3.1: Encourage agricultural producers and dairies to plan for power outages and install backup power supplies. Conduct an assessment of the applicability of renewable energy sources as a potential backup power supply.

Status: NEW STRATEGY, no updates.

Strategy 10.3.2: Pre-wire critical facilities for generators, and provide backup generators for fire departments that do not yet have them.

Status: All Fire Departments and the ESA, now have generators.

Strategy 10.3.3: Conduct prime power surveys for all critical infrastructure.

Status: 61 completed, the rest are on-going.

Goal 11: Protect the general public in Jefferson County from potential biological, chemical, or Weapons of Mass Destruction (WMD) terrorist events.

**Objective 11.1 Increase countywide preparedness for terrorist attacks.**

*Strategy 11.1.1: Develop and/or enhance terrorist incident response annexes in the county Emergency Operations Plan (EOP).*

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COMPLETED: The EOP is updated annually and each annex is updated at least every 5 years.

*Strategy 11.1.2:* Increase the knowledge of the general public concerning preparedness through the preparation of informational brochures, town meetings, training seminars, etc.

COMPLETED and On-GOING: Informational brochures are distributed at fairs, festivals, public speaking engagements, and during National Preparedness Month in September.

*Strategy 11.1.3: Coordinate with local media to alert the public as to the current threat status.*

2012: This strategy had to do with the old Color Codes used by US Homeland Security. They do not use these any longer.

DELETED: The CPG decided to delete this strategy

**Objective 11.2 Enact response programs to cope with terrorist attacks should they occur.**

*Strategy 11.2.1:* Establish trauma centers to offer medical attention and counseling to affected populations in the event of a terrorist event.

COMPLETED: WVU Healthcare-Jefferson Medical Center has a level 4 trauma center, which can be utilized to stabilize patients and divert. The hospital can keep 25 people daily, and a surge plan has been developed by them.

*Strategy 11.2.2:* Continue education and training efforts of first responders and emergency personnel.

ON-GOING: This is conducted countywide on an ongoing schedule through RESA. There are also additional classes available through the WVDMAPS CourseMill and other opportunities on various websites. Regional Exercises are held.

Strategy 11.2.3: Consider providing heightened security at public gatherings, special events, hazardous materials facilities and critical community facilities and industries.

Status: UNCHANGED: A discussion about the PCII-Protected Critical Information on Schools was had amongst CPC members, and how information becomes PCII and is protected.

*Strategy 11.2.4: Make arrangements or other wise establish mass morgue facilities to be used following potential mass casualty events.*

ON-GOING: The Health Department is currently in the process of developing a mass fatality plan and a GAP analysis. A Mass Fatality Planning Committee has also been established, spearheaded by the Jefferson County Health Department. The LEPC held a Mass Fatalities Conference in October, 2013 where classes were offered in several areas surrounding mass fatalities.

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**Goal 12 Protect Jefferson County’s population, critical infrastructure and forests from wildfires.**

**Objective 12.1 Educate the public on how to avoid starting wildfires.**

*Strategy 12.1.1:* Create displays for children’s programs that teach safety. Examples of information to be used would be similar to that on the FEMA for kids CD and/or the Sparky Fire Safety Program.

COMPLETED and ON-GOING: The JCHSEM booth at the Jefferson County Fairs has included information on Fire Safety (NFPA Sparky the Fire Dog Coloring and Activity Books). Disaster Preparedness Coloring Books, and coloring books from the Home Safety Council.

*Strategy 12.1.2:* Encourage residents in rural areas to inspect and clean their chimneys at least once a year.

*Woodburning air quality with using dry wood. Encourage updating your woodstove to EPA compliant.*

*Strategy 12.1.3:* Encourage residents and businesses to maintain their property in or near forested areas (including short grass; thinned trees and removal of low hanging branches, cleaning of dead or dry leaves, needles, twigs, etc.), and to create a buffer zone (defensible space) between structures and adjacent forests.

COMPLETED AND ON-GOING: A Property Safety Ordinance was adopted on January 7, 1999 and amended on May 20, 2010.

**Goal 13 Reduce or eliminate the negative effects of various other hazards in Jefferson County, and improve upon the protection of the citizens of Jefferson County from all natural and man-made hazards.**

**Objective 13.1 Develop and distribute public awareness materials about natural hazard risks, preparedness, and mitigation.**

*Strategy 13.1.1:* Create displays for use at public events (health fair, public awareness day, and county fair). This display would include pictures and information, such as that contained in FEMA’s Retrofitting for Homeowners Guide, Elevating Your Flood Prone Home, Elevating Residential Structures, and information on the NFIP.

COMPLETE AND ON-GOING: JCHSEM’s display at the Jefferson County Fair includes mitigation information. The display highlights the Jefferson County Risk Assessment and Mitigation Plan, flood homeowner’s and business mitigation information, information about elevating homes, retrofitting information, and National Flood Insurance Information. Flooding handouts include: Are You Protected from the Next Flood? Coping a Flood- Before, During and After, Answers to Questions about the NFIP, Avoiding Flood Damage: A checklist for homeowners, Top 10 Facts about Flood Insurance, What you need to know about Federal Disaster Assistance and National Flood

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Insurance, Myths and Facts about the NFIP, How the NFIP works, NFIP Insurance Agent's Lowest Floor Guide, NFIP Increased Cost of Compliance Coverage, things you should know about flood insurance, An Ounce of Prevention is Worth a Pound of Cure, Floods, The Awesome power, Tropical Cyclones and Inland Flooding, Homeowners Guide to Retrofitting. The JCHSEM has a 10'X10' display and two tabletop display boards that are used for events. Flood Mitigation materials are available any time that the display is up, as well as from the Homeland Security Office.

An Animal in Disaster Display was developed and used at the Jefferson County Fair. It includes information about domestic pets, agricultural animals and horses. In addition to the display board, brochures were available, including: The American Red Cross/The Humane Society of the United States, "Pets and Disasters-GET PREPARED"; The Humane Society of the United States, "Disaster Preparedness for Pets"; The Humane Society of the United States, "Disaster Preparedness for Horses"; The Humane Society of the United States, "Disaster Preparedness for Livestock"; The National Humane Education Society's, "Disaster and Your Pets"; The Veterinary Medical Association's, "Saving the Whole Family" and the Jefferson County Animals in Disaster Plan. The new table top display was used at the Jefferson County Fair and at Furry Fun Fest at Briggs Animal Adoption Center in 2004.

In addition to the information booth at the fairs and festivals, the JCHSEM also conducts lunch and learn sessions during national preparedness month. The county won the "United We Stand" award from FEMA Region III in 2010.

*Strategy 13.1.2:* Create materials that are targeted towards tourist populations. Work with the Jefferson County Convention and Visitors Bureau, the US Park Service and others to alert tourists to potential natural hazard areas and what to do if a natural or man-made hazard occurs during their visit to Jefferson County.

ON-GOING: This strategy has been initiated, however; is still a work in progress.

*Strategy 13.1.3:* Send news releases to local newspapers, radio and TV stations about pre-Disaster information. Our media strategies are designed to reach all areas of Jefferson County Ms. Miller noted this strategy is ongoing.

COMPLETED and ON-GOING: The following media is used for distribution of information/press releases:

a. Radio – WVEP (88.9 FM), WSHC (89.7 FM), WINC (92.5 FM), WKMZ (95.9 EM – EAS), WLTF (97.5 FM – EAS), KISS (98.3 FM), WUSQ (102.5 FM), WRNR (106.5 FM), WWEG (106.9 FM), WRNR (740 AM), WEPM (1340 AM – EAS), WMRE (1550 AM)

b. Television – WHAG (Channel 11), WWPB (Channel 31), WWPX (Channel 60) –  
Note: These are Comcast stations.

c. Newspapers – The Shepherdstown Chronicle, The Spirit of Jefferson, The Journal

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(Martinsburg), The Shepherdstown Observer

d. Social Media – Nixle, Facebook, Twitter

*Strategy 13.1.4: Create a public speaking series to include topics such as types of natural disaster and risk, how to develop a family disaster plan, how to develop a family disaster supply kit, how to develop a business continuity plan, simple type of mitigation projects for homeowners, etc. these speaking engagements will be offered to civic groups such as Rotary and Kiwanis Clubs, the Chamber of Commerce, Church and interfaith groups, Boy and Girl Scouts, etc.*

COMPLETE and ON-GOING: There are several program topics available to groups.

*Strategy 13.1.5: Ensure that the Red Cross citizen's disaster course is held on a frequent basis.*

COMPLETE AND ON-GOING: Red Cross Classes are now available on-line. Additionally, a shelter training and exercise was held in Berkeley County for the region in July, 2014. The ARC holds a variety of courses, including Adult, infant, and child CPR, AED, Basic First Aid.

2016 Update: Most Red Cross courses are now on-line.

*Strategy 13.1.6: Update the county website to provide hazard related information that is easily accessible. The County Commission website has information about disaster preparedness and related activities. The plan is to expand and update the website as needed and as appropriate in a timely manner to benefit all County residents.*

COMPLETED AND ON-GOING: The County Website is at [www.jeffersoncountywv.org](http://www.jeffersoncountywv.org). A new website was launched in the fall of 2015.

*Strategy 13.1.7: Continue to work with the Jefferson County school system to promote hazard mitigation education and awareness and discuss ways to better integrate mitigation into the curriculum.*

COMPLETE AND ON-GOING: This strategy is ongoing through the Disaster Ready Kids Program in the Summer months.

*Strategy 13.1.8: Continue to work with non- governmental organizations (youth services, Professional, religious) to promote mitigation education and awareness.*

COMPLETE and ON-GOING: These programs and workshops have been held in a variety of settings (i.e. Resilient Neighbors Network). Most recently they have focused on Whole of Community; Whole of Nation initiative that DHS/FEMA is promoting. Jefferson County was named as a Pilot Community of the Resilient Neighbors Network.

*Strategy 13.1.9: Establish all-hazard resource centers to be located in the main office of the county*

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*And cities. The centers will act as a repository for information on local hazard identification, Preparedness and mitigation strategies for use by citizens, realtors, and lenders.*

COMPLETE AND ON-GOING: These resource centers have been established in the local libraries as a requirement for the Community Rating System activities. Additionally, there is a media center within the Homeland Security and Emergency Management office that contains a section on flooding, with additional sections on Disaster Preparedness, Fire and Fire Safety, Weather, a Children's section, Counter Terrorism and other mitigation.

**Objective 13.2 Provide protections for domestic pets, livestock and wildlife during and following disasters in Jefferson County.**

*Strategy 13.2.1: Develop adequate emergency shelter and evacuation plans for animals (domestic Pets, livestock, and wildlife). Establish a committee representative of all areas of the county that will include vets, pet store owners, the Humane Society, animal shelters, the WVU Extension Service and other interested parties to work on animal -specific evacuation and sheltering needs.*

*The County purchased an Animals in Disaster Trailer with supplies that is for use in WVHS Region 3 as a Rapid Response Trailer for pets. A training was held for the region in Jefferson County in 2013 to teach how to set up an Emergency Animal Shelter for disasters. It was taught by Florida SARC. A regional Animals in Disaster Plan was developed within WV Homeland Security Region 3.*

*Strategy 13.3.1: Meet with groups of potential volunteers to attempt to increase the number of trained responders. Groups will include all county fire departments, doctors, nurses and EMS personnel who may become first responders in a bio-terrorism event.*

COMPLETE AND ON-GOING: JCHSEM has encouraged volunteers to take training from the ARC and MRC. CERT classes are taught by JCHSEM to local residents. The Sheriff's Department has a volunteer Reserve Unit. All of Jefferson County's Fire Companies are Volunteer Agencies.

*Strategy 13.3.2: Incorporate Light Detection and Ranging (LIDAR) mapping into current GIS Mapping.*

Status: COMPLETE: In 2012 FEMA developed LIDAR. We have the data available, but we struggle with time to be able to use it.

**Objective 13.4 Provide training for local first responders.**

*Strategy 13.4.1: Conduct annual tabletop disaster exercises with local law enforcement, emergency Managers, city and county officials, and other disaster response agencies.*

COMPLETE AND ON-GOING: JCHSEM has been involved with numerous exercises over the years. The most recent include: Cold As Ice Series, A Train Kept A Rollin'. Jefferson participated in an exercise with

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WV Hospital Association Region 8 and 9 Exercise in December, 2014., Cold as Ice, 2014, Something in the Air, 2015, and Clandestine Chaos TTX, Functional and Full Scale exercises in 2015.  
2016 Update: The TTX, Functional, and Full Scale Exercise, Dark Grid in 2016.

*Strategy 13.4.2:* Provide information about local, regional, state, and federal training opportunities to fire departments, EMS, ambulance services, and other emergency responders.

COMPLETED AND ON-GOING: A list of all known training was developed and is listed in the JCHSEM Public Awareness, Education and Training Strategies, as well as the county website. Training for first responders is available through RESA.

**Objective 13.5 Direct new development away from high hazard areas.**

*Strategy 13.5.1:* Review existing regulations to ensure adequacy in reducing the amount of future development in identified hazard areas.

ON-GOING: Ordinances continue to be reviewed and revised.

*Strategy 13.5.2:* Review all comprehensive plans to ensure that designated growth areas are not in hazard areas.

ON-GOING: Jennie Brockman, JC Planning Director reported that the Comprehensive Plan was finalized and adopted in January, 2015. It includes protection of sink holes, steep slopes. Charles Town's Comprehensive Plan was last updated in 2006.

*Strategy 13.5.3:* Review all capital improvement plans to ensure that infrastructure improvements are not directed towards hazardous areas.

ON-GOING Ordinances continue to be reviewed and revised. The only CAP plans are for County Government Buildings. The County doesn't own any roads or utilities.

**Objective 13.6 Improve emergency preparedness in Jefferson County and its incorporated Municipalities.**

*Strategy 13.6.1:* Review the existing Jefferson County Emergency Operations Plan (EOP) and update where necessary based on the recommendations of the Jefferson County Hazard Mitigation Plan.

*One annex is reviewed, updated, or developed each year.*

*13.6.2: Coordinate with the Eastern Panhandle Homeowners Association (HOAs) for their inclusion into the 911 Addressing compliance program.*

13.6.2—It is complete. GIS Department coordinated this.

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**Objective 13.7 Improve coordination and communication among disaster response organizations, local, and county governments.**

*Strategy 13.7.1:* Expand the mission and membership of the Jefferson County Local Emergency Planning Committee (LEPC) to act as a countywide disaster task force.

DELETED: The CPC decided to delete this strategy.

**Objective 13.8 Update equipment at the Emergency Communications Center**

*Strategy 13.8.1:* Develop a plan to implement the Needs Assessment recommendations developed by the Public Safety System Consultant.

ON-GOING: Jefferson County constructed a new Emergency Operations Center and Emergency Communications Center in 2008. CAD went live in September, 2014.

**Objective 13.9 Develop public/private partnerships toward the protection of private properties.**

*Strategy 13.9.1:* Continue to support initiatives established under the Jefferson County Project Impact.

COMPLETED AND ONGOING. Jefferson County was recently named as one of the pilot communities for the Resilient Neighbors Network, which works well with the concept of the Project Impact Program and the Whole of Community efforts.

*Strategy 13.9.2:* Evaluate the feasibility of the continuation of a funded Project Impact Coordinator position in Jefferson County.

DELETED. THE CPC has decided to delete this strategy.

**Objective 13.10 Improve coordination of mitigation efforts between the National Park Service and the Town of Harpers Ferry.**

*Strategy 13.10.1:* Establish a formal process for the Town of Harpers Ferry and the Park Service to coordinate disaster related efforts, which will include defining boundaries and establishing responsibilities.

*The Town and the National Park Service worked well during the 2012 June Derecho to get the Harpers Ferry Water Plant back up and operational after the storm.*

*Strategy 13.10.2:* Conduct training exercises that include representatives from the Town of Harpers Ferry and the Park Service to facilitate increased coordination.

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COMPLETED: CSX Railroad held training and exercise in early part of 2007; the park service has participated in several exercises over the past 10 years.

**Objective 13.11 Identify and protect historic structures throughout the county that are at risk from Hazards.**

*Strategy 13.11.1: Conduct a survey of all historic sites that are located in hazard areas and develop Mitigation strategies to protect any at-risk historic properties.*

COMPLETED

This strategy was completed in 2010 by the Jefferson County GIS/Addressing Office.

**Objective 13.12 Ensure measures are being taken to address hazard risks with regards to commercial and commuter rail lines.**

*Strategy 13.12.1: Contact representatives of rail lines to collect information about emergency planning and risks associated with rail services in the county.*

COMPLETED and ON-GOING. The JCHSEM Director indicated that this strategy has been completed and is considered to be on-going.

Objective 13.13: Educate local government officials on the benefits of planning for all hazards.

Strategy 13.13.1: Educate and inform local government and elected officials of the need to consider hazard mitigation in policy and budgetary planning and decision-making processes.

The group reviewed the projects for the local municipalities. Please note that none of the municipalities are CRS (Community Rating System of the National Flood Insurance Program) Communities.

**Town of Bolivar:**

Goal A1: Reduce the amount of potential damage from flash flooding in and around the Town of Bolivar.

Objective A1.1: Increase storm water capabilities in and around the Town of Bolivar.

Strategy A1.1.1: Create new sidewalks and rain gardens to assist with storm water runoff as part of the Chesapeake Bay Watershed Initiative.

Strategy: This project is complete. Rain Garden was installed in community park to capture runoff from pavilion. Training conducted and project was completed in September, 2013. A full report can be provided upon request from Matt Pennington, Region 9 Planning and Development Council. Following

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the demonstration project in the Bolivar park, the West Virginia Conservation District initiated a Rain Garden Rebate Program <http://www.elksrunwatershed.org/residential-community-rain-garden-rebates/>

2016 Update: Rachel Snavelly, Region 9, reported that the Rain Garden has been removed.

**City of Charles Town:**

Goal B1: Reduce the overall flooding potential in the City of Charles Town.

Objective B1.1: Reduce the potential for flooding and flash flooding in the City of Charles Town.

Strategy B1.1.1: Target areas for recreation that is interconnected with trails and parkland, beyond the required floodplain and wetland areas, and layout a strategy for green space protection.

Status: On-Going. West End plan was developed fall, 2014 that talks about a greenway for floodplain area. There is on-going discussion about parks and trails. Seth said that he is interested in finding out about the state's mitigation projects. More land has been acquired within the floodplain. A large swath of those lands are now in the possession of the city.

Strategy B1.1.2: Encourage the use of natural drainage swales over engineered storm water management channels where practical.

Status: Charles Town is incorporating LID and capturing the first 1 inch rain event has included in the storm water ordinance. Ordinance was adopted July, 2015.

Strategy B1.1.3: Work jointly with the City of Ranson on a storm water management project for Evitts Run Park.

Status: On-going. Grant funding has been secured for this project and it is progressing.

Strategy B1.1.4: Place utilities underground as part of a street-scaping project.

2016 Update: Not able to achieve that on the Fairfax/George Street Project.

Goal: B2: Reduce the potential for losses as a result of land subsidence and sinkholes.

Objective B2.1: Identify land subsidence prone areas in the City of Charles Town.

Strategy B2.1.1: Require special geotechnical exploration when locating large facilities such as schools, hospitals, community buildings, and other institutions. Ground penetrating radar, seismic and, electrical resistance surveys, and exploratory drilling are a few of the techniques currently used.

Status: Acknowledged the technologies, but no progress.

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Strategy B2.1.2: Establish a sinkhole management plan.

Status: No progress on this strategy

Goal B3: Reduce the potential for environmental issues resulting from hazardous waste.

Objective B3.1: Cleanup sites where hazardous waste is currently present.

Strategy B3.1.1: Cleanup SuperFund site located in or near the City of Charles Town.

Status: On-going. 2015 Update: Continuing to look at Brownfield opportunities. Charles Town has updated their Subdivision Ordinance to capture the first 1" of rainfall on site into quality, not quantity controls. This means that instead of pushing all the water to one location on the site for quantity control, there is an expectation that there will be quality control in the form of simple open swales with grass to something as elaborate as rain gardens. Reported by Seth Rivard, 2015.

2016: Expecting further progress this fall.

### **Town of Harpers Ferry:**

Goal C1: Reduce the negative effects of flooding in the Town of Harpers Ferry.

Objective C1.1: Ensure a public drinking water supply following flooding events in the Town of Harpers Ferry.

Strategy: C1.1.1: Reroute an eight inch (8") water main near Elk Run, as the line is currently exposed in two (2) locations where it crosses Elk Run. The line is in danger of being broken by large debris in Elk Run in a flooding situation.

Status: In 2016, Josh Carter, Harpers Ferry Water reported that this project is a part of the projected \$6.2 Million upgrade. Awaiting funding approval from USDA (first needs approval of Harpers Ferry National Park Service). Estimated time frame of at least 18 months from 2015. Harpers Ferry Water only uses the Potomac as a Back-up water source. Their main water source is the Elk Run.

### **City of Ranson:**

Goal D1: Reduce damage as a result of flooding throughout the City of Ranson.

Objective D1.1: Reduce the potential for flooding and flash flooding in the City of Ranson.

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Strategy D1.1.1 Maintain green space to protect Flowing Springs and its floodplain.

Status: Completed, reported by Andy Blake, 2016.

Objective: D1.2: Work jointly with the City of Charles Town on a storm water management project for Evitts Run Park.

Status: Planning Complete, The two cities are collaborating and jointly applied for a grant.

Goal D2: Decrease the impact of drought in the City of Ranson.

Strategy D2.1.1. Replace and upgrade water lines along Fairfax Boulevard as part of its upgrade and extension to Fairfax Crossing.

Status: Complete, 2015

Strategy D2.1.1 Review the need for additional water towers.

Status: 2016-The city doesn't have water. They are looking at Jefferson Utilities and Charles Town to do an interconnection for emergencies.

Goal D3: Ensure an uninterrupted power supply during times of severe storms.

Objective D3.1: Ensure that all emergency response agencies in the city have a backup power supply.

Strategy D3.1.1: Install fixed in place generators at City Hall and the police department that will power all computer systems.

Status: Complete, 2015

Goal D4: Reduce the potential for environmental issues resulting from hazardous waste.

Objective D4.1: Clean up sites where hazardous waste is currently present.

Strategy D4.1.1: Clean up Brownfield site at the Kidde Plant.

Status: Complete, 2015

**Corporation of Shepherdstown:**

Goal E1: Decrease the impact of drought in the Corporation of Shepherdstown

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Objective E1.1: Ensure a public drinking water supply during times of drought.

Strategy E1.1.1: Construct water tanks to increase water storage capabilities.

Status: This project was completed in August, 2013.

Strategy E1.1.2: Consider installing high service pumps for the water plant storage tanks.

Status: This project was completed in September, 2012.

**Strategy E1.1.3: Design and construct a new water plant with generator back-up power supply.**

**Status: This project is designed and the Town is working on financing for the project.**

**2016 Update by Frank Welch: This project is on hold, however they are working on a dedicated water line from the water plant to the water tanks.**

**Strategy E1.1.4: Expand sewage collection system.**

**Status: 2016 Update provided by Frank Welch: On Hold. Not Started. The Town is looking for a funding source for the project.**

Shepherdstown is also adding two more projects for 2016/2017:

E1.1.5 They are currently bidding out the replacement of our water meters. (Approximately 1700), and will be installing meters that can be read from a truck.

E. 1.1.6 Installing a replacement Pump Station at Cress Creek.

Ms. Miller reviewed the remainder of the Jefferson County Action Plan. Ms. Miller noted if anyone has any suggestions on goals or objectives to please let her know. Ms. Miller reported the minutes for today's meeting will be given to the County Commission, local media, WV Department of Homeland Security-Mitigation Division and FEMA Region III.

The meeting was adjourned at approximately 12:00 p.m.

The following people/agencies were contacted and provided additional updates following the meeting. These updates were incorporated into the report above:

Matthew Pennington, Region 9 Planning and Development Council (09/13/16)

Josh Carter, Water Plant Operator, Town of Harpers Ferry (09/12/2016)

Frank Welch, Shepherdstown Water/Wastewater (09/14/16)