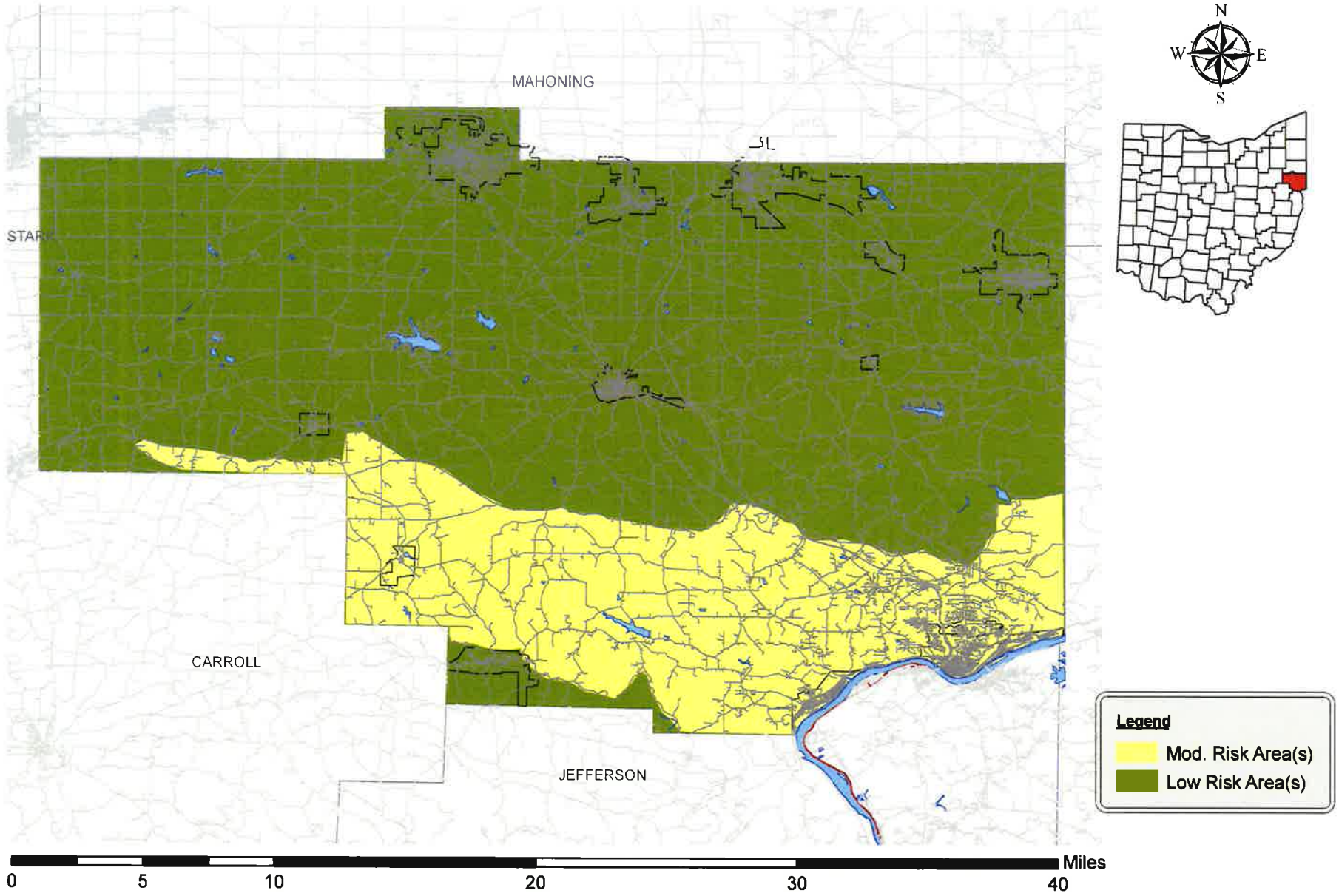
	Structure Use and Function Loss (Task A3)									
Name/Description of Asset	Average Daily Operating Budget ($)	X	Functional Downtime (# of days)	+	Displacement Cost per Day ($)	X	Displacement Time (Days)	=	Structure Use & Function Loss ($)	Structure + Contents + Function Loss
Act 1 Education Ctr. Jr. HS	$22,000	X	0	+	$0	X	0	=	$0	$413
American Spirit Academy K-12	$20,000	X	0	+	$0	X	0	=	$0	$450
Heartland Christian School K-12	$48,500	X	0	+	$0	X	0	=	$0	$1,363
St. Aloysius ES	$29,500	X	0	+	$0	X	0	=	$0	$500
St. Paul ES	$32,500	X	0	+	$0	X	0	=	$0	$465
American Standards Brands	$44,800	X	0	+	$11,200	X	0	=	$0	$1,063
Flex-N-Gate/Ventra Salem	$38,000	X	0	+	$9,500	X	0	=	$0	$1,500
Fresh Mark Inc.	$35,000	X	0	+	$8,000	X	0	=	$0	$875
Wal-Mart Stores Inc.	$109,600	X	0	+	$27,400	X	0	=	$0	$4,125
Pioneer Pottery Inc	$30,000	X	0	+	$7,000	X	0	=	$0	$275
Zarbana Industries	$50,000	X	0	+	$13,500	X	0	=	$0	$1,125
Miller Casting	$65,000	X	0	+	$14,000	X	0	=	$0	$1,625
Columbiana Foundry Company	$40,000	X	0	+	$10,000	X	0	=	$0	$1,125
Kensington PO	$1,800	X	0	+	$0	X	0	=	$0	$200
Summitville PO	$2,100	X	0	+	$0	X	0	=	$0	$140
Columbiana PO	$4,800	X	0	+	$0	X	0	=	$0	$525
New Waterford PO	$3,600	X	0	+	$0	X	0	=	$0	$163
Calcutta PO	$3,000	X	0	+	$0	X	0	=	$0	$150
Winona PO	$3,250	X	0	+	$0	X	0	=	$0	$175
Homeworth PO	$2,850	X	0	+	$0	X	0	=	$0	$138
East Liverpool PO	$5,000	X	0	+	$0	X	0	=	$0	$0
East Palestine PO	$3,450	X	0	+	$0	X	0	=	$0	$188
East Rochester PO	$3,650	X	0	+	$0	X	0	=	$0	$213
Hanoverton PO	$4,000	X	0	+	$0	X	0	=	$0	$200
Rogers PO	$3,650	X	0	+	$0	X	0	=	$0	$188
Salem PO	$6,000	X	0	+	$0	X	0	=	$0	$585
Salineville PO	$3,350	X	0	+	$0	X	0	=	$0	$0
Negley PO	$4,250	X	0	+	$0	X	0	=	$0	$213
North Georgetown PO	$3,200	X	0	+	$0	X	0	=	$0	$150
Leetonia PO	$3,300	X	0	+	$0	X	0	=	$0	$188
Lisbon PO	$5,650	X	0	+	$0	X	0	=	$0	$625

	Structure Use and Function Loss (Task A3)									
Name/Description of Asset	Average Daily Operating Budget ($)	X	Functional Downtime (# of days)	+	Displacement Cost per Day ($)	X	Displacement Time (Days)	=	Structure Use & Function Loss ($)	Structure + Contents + Function Loss
Elkton PO	$4,150	X	0	+	$0	X	0	=	$0	$174
Washingtonville PO	$4,100	X	0	+	$0	X	0	=	$0	$240
Wellsville PO	$3,450	X	0	+	$0	X	0	=	$0	$0
Carnegie Public Library	$1,600	X	0	+	$800	X	0	=	$0	$625
Columbiana Public	$12,000	X	0	+	$1,250	X	0	=	$0	$1,065
East Palestine Memorial Public Library	$9,500	X	0	+	$1,000	X	0	=	$0	$788
Leetonia Community Public Library	$22,000	X	0	+	$2,000	X	0	=	$0	$1,650
Lepper Library	$3,840	X	0	+	$500	X	0	=	$0	$688
Salem Public Library	$13,500	X	0	+	$1,500	X	0	=	$0	$1,200
Wellsville Public Library	$1,500	X	0	+	$750	X	0	=	$0	$0
Hiram Bell Farmstead	$0	X	0	+	$0	X	0	=	$0	$0
Burchfield Homestead	$0	X	0	+	$0	X	0	=	$0	$150
Richard L Cawood Residence	$0	X	0	+	$0	X	0	=	$0	$113
Cherry Valley Coke Ovens	$0	X	0	+	$0	X	0	=	$0	$0
Church Hill Road Covered Bridge	$0	X	0	+	$0	X	0	=	$0	$0
Diamond Historic District	$0	X	0	+	$0	X	0	=	$0	$0
East Liverpool Historic District	$0	X	0	+	$0	X	0	=	$0	$0
East Liverpool Pottery	$0	X	0	+	$0	X	0	=	$0	$0
Nicholas Eckis House	$0	X	0	+	$0	X	0	=	$0	$163
Elks Club	$0	X	0	+	$0	X	0	=	$0	$88
Sandy and Beaver Canal District	$0	X	0	+	$0	X	0	=	$0	$0
Godwin Knowles House	$0	X	0	+	$0	X	0	=	$0	$200
Hanna-Kenty House	$0	X	0	+	$0	X	0	=	$0	$175
Hanoverton Canal Town District	$0	X	0	+	$0	X	0	=	$0	$0
Franklin Harris Farmstead	$0	X	0	+	$0	X	0	=	$0	$195
Daniel Howell Hise House	$0	X	0	+	$0	X	0	=	$0	$135
Hostetter Inn	$0	X	0	+	$0	X	0	=	$0	$350
Ikirt House	$0	X	0	+	$0	X	0	=	$0	$88

	Structure Use and Function Loss (Task A3)									
Name/Description of Asset	Average Daily Operating Budget ($)	X	Functional Downtime (# of days)	+	Displacement Cost per Day ($)	X	Displacement Time (Days)	=	Structure Use & Function Loss ($)	**Structure + Contents + Function Loss**
Homer Laughlin House	$0	X	0	+	$0	X	0	=	$0	$100
Lisbon Historic District	$0	X	0	+	$0	X	0	=	$0	$0
Daniel McBean Farmstead	$0	X	0	+	$0	X	0	=	$0	$0
Odd Fellows Temple	$0	X	0	+	$0	X	0	=	$0	$163
Mary A. Patterson Memorial	$0	X	0	+	$0	X	0	=	$0	$0
Potters National Bank	$0	X	0	+	$0	X	0	=	$0	$275
Salem Downtown Historic District	$0	X	0	+	$0	X	0	=	$0	$0
Charles Nelson Schmick House	$0	X	0	+	$0	X	0	=	$0	$180
John Street House	$0	X	0	+	$0	X	0	=	$0	$135
Teegarden-Centennial Covered Bridge	$0	X	0	+	$0	X	0	=	$0	$0
Cassius Clark Thompson House	$0	X	0	+	$0	X	0	=	$0	$163
Travelers Hotel	$0	X	0	+	$0	X	0	=	$0	$625
YMCA	$0	X	0	+	$0	X	0	=	$0	$313
Residential	$0	X	0	+	$0	X	0	=	$0	$376,704
							Total Loss to Structure Use & Function		$0	$628,212

HAZARD MAPPING: EARTHQUAKE



2.2 PROFILING HAZARDS

2.2.4. Flooding

Flooding is defined as a general temporary condition of partial or complete inundation of normally dry land areas from: overflow of inland or tidal waters; unusual and rapid accumulation of runoff of surface water from any source; mudflows; or the sudden collapse of shoreline land. A flash flood is rapid flooding of low-lying areas, rivers, and streams that is caused by intense rainfall and is often associated with thunderstorms.

INTRODUCTION

Floods are the most prevalent hazard in the United States. Each year, floods cause more property damage in the United States than any other type of natural disaster, killing an average of 150 people a year. The history of flooding within Columbiana County indicates that flooding can occur at any time of the year. However, most floods in the Little Beaver Creek watershed occur from April through August, and these are associated with heavy rains falling over already saturated ground. Winter and spring rains, although of lesser intensity than summer and fall rains, are usually of longer duration and result in greater peak flows in streams.

Period of Occurrence:	Primarily April through August (history shows incidents occurring year-round). Flash Flood – At any time depending on recent weather conditions. Result of Dam Failure – At any time.
Number of Events to Date (2006 – 2012):	22
Probability of Event:	Frequent.
Warning Time:	River Flood – 3 to 5 days. Flash Flood – Minutes to hours. Dam Failure – None.
Potential Impacts:	Impacts to human life, health, and public safety. Utility damage and outages, infrastructure damage (transportation and communication systems), structural damage, fire, damaged or destroyed critical facilities, and hazardous material releases. Can lead to economic losses such as unemployment, decreased land values, and agrobusiness losses. Floodwaters are a public safety issue due to contaminants and pollutants.
Cause Injury or Death:	Injury and moderate risk of death.
Potential Facility Shutdown:	Days to Weeks.

Figure 2.4a

Several methods of research identified flooding as a hazard in Columbiana County, including reviews of FIRM maps, review of existing plans that have been compiled

including the Columbiana County Emergency Operations Plan (EOP), reviews of newspaper coverage, reviews of past disaster declarations, discussions with local floodplain coordinators and floodplain managers, and public input. The following Internet sites were also used to gain information on flooding.

- Federal Emergency Management Agency http://www.fema.gov/maps/
- Flood Risk and Map Information http://www.fema.gov/nfip/.htm
- Floodplain Management Association http://www.floodplain.org
- General Flood Information http://www.nfpa.org
- Latest Hydrological Information http://www.nws.noaa.gov
- Real-Time Hydrologic Data Page http://water.usgs.gov/realtime.html
- State Floodplain Managers http://www.floods.org
- USGS Streamflow Data Historical http://water.usgs.gov/usa/nwis/sw

Floods are described by their horizontal extents, the depth of the floodwaters and the probability of occurrence. Unfortunately, the probability of occurrence has historically been expressed in terms such as a "100 year flood", which the general public logically assumes means a flood that happens once in 100 years. In fact, the probability of occurrence is best interpreted as a percent chance of occurring. So, a 100 year flood is that flood level that has a 1 percent (1%) chance of occurring in any given year. The 100 year, or 1% flood, is often used for planning purposes. Smaller floods are more likely to occur, thus a 10 year flood has a 10% chance of occurring in any given year. Table 2.4a shows common flood probability terms.

Flood Recurrence Intervals	Chance of Occurrence in any Given Year
10 Year	10%
50 Year	**2%**
100 Year	1%
500 Year	0.2%

Table 2.4a

For the purposes of this Hazard Risk Assessment (HRA) it is assumed that Columbiana County has a moderate to high flooding risk. The risk of flooding is targeted to several different areas within the county. Identification of floodplain areas within the county and its municipalities is based on Flood Insurance Rate Map (FIRM) data produced by the National Flood Insurance Program (NFIP).

High Probability Low Impact	**High Probability Moderate Impact**	**High Probability High Impact**
Moderate Probability Low Impact	**Moderate Probability Moderate Impact**	**Moderate Probability High Impact**
Low Probability Low Impact	**Low Probability Moderate Impact**	**Low Probability High Impact**

Figure 2.4b

HAZARD IDENTIFICATION

Columbiana County's largest watershed, the Beaver Creek, drains the majority of the county via a number of creeks including; Little Beaver Creek – North, Middle and West Forks. The basin drains from northwest to southeast in the central part of the county, and from north to northeast in the eastern part. The North Fork begins north of East Palestine, flows east and crosses the Pennsylvania border, looping around the areas of Enon Valley and Darlington, Pennsylvania. It then flows southwest to Negley before turning south and joining the Little Beaver Creek, which flows into the Ohio River. Some of the southern townships of Columbiana County are drained by the Little Yellow Creek basin via Little Yellow Creek, which supplies both the Highlandtown and Wellsville Reservoirs. The county contains approximately 446 linear miles of major streams and rivers.

Flooding is arguably the highest priority hazard in Columbiana County as floods threaten nearly the entire county. Riverine flooding, which is usually caused by a significant amount of rainfall over a period of days and can be worsened by snowmelt conditions, is very likely to continue striking areas located along the banks of the Little Beaver (North, Middle and West) and Little Yellow Creeks. Some areas near the paths of the river are particularly low-lying areas. Local officials should consider strengthening, and/or developing building and/or development regulations in these areas.

Because the majority of Columbiana County is of relatively steep or gently rolling topography, flooding is usually a widespread event, as small creek and streams over fill their banks and flood large areas of agricultural fields and several rural roads. Flooding that occurs in or near the urban areas is often attributed to failing storm sewers and poor drainage systems. Excessive amounts of impermeable surfaces such as pavement can increase the amount and rate of water runoff. Development affects the runoff of storm water and snowmelt. When rain falls in an undeveloped area, as much as 90 percent (90%) of it will infiltrate the ground; in a highly developed area, as much as 90% of it will run off.

Flash flooding is difficult to mitigate against, as many urbanized areas may not actually be in designated floodplains, and are not subject to floodplain ordinances. However, residents and business owners in these areas should be warned of the potential for flash flooding, especially if the storm water system in their community is old.

There are properties within Columbiana County that have been the site of multiple loss claims due to flooding; these properties are referred to as repetitive loss properties. There are currently 10 listed "repetitive loss" properties and no Severe Repetitive Loss (SRL) properties in Columbiana County according to representatives with the Federal Emergency Management Agency (FEMA), Natural Hazards Program. Approximately 25 claims were filed on these 10 properties between 2006 and 2012 (period for which data is available). Table 2.4b below indicates the number of losses suffered, and the approximate location of the property. This information is legally privileged and confidential. Its use is protected under the privacy act of 1974, 5 U.S.C. Section 552(a). Use of this information should be restricted to applicable routine use.

Repetitive Loss Data – Columbiana County						
Community Name	**Number**	**Type of Structure**	**Number of Losses**	**Building Payments**	**Contents Payments**	**Total Payments**
Columbiana County	4	Residential	9	$116,781	$25,886	$142,667
	0	Non-Residential	0	$0	$0	$0
City of East Palestine	1	Residential	2	$12,355	$0	$12,355
	0	Non-Residential	0	$0	$0	$0
Village of Hanoverton	1	Residential	0	$27,644	$9,807	$37,451
	1	Non-Residential	2	$6,243	$0	$6,243
Village of Lisbon	1	Residential	2	$5,262	$1,686	$6,948
	0	Non-Residential	0	$0	$0	$0
Village of Wellsville	2	Residential	6	$16,101	$1,409	$17,510
	0	Non-Residential	0	$0	$0	$0
County & Juris. Totals	9	Residential	19	$178,143	$38,788	$216,931
	1	Non-Residential	2	$6,243	$0	$6,243

Table 2.4b

The table below (Table 2.4c) indicates when each of the jurisdictions in Columbiana County started participating in the National Flood Insurance Program (NFIP). The Village of Summitville does not currently participate in the program. Columbiana County and participating jurisdictions have adopted and implement floodplain management requirements, including regulating all and substantially improved construction in Special Flood Hazard Areas, and will continue to enforce regulations in the future. Floodplain mapping has also been developed for participating jurisdictions; the most current floodplain mapping was completed on May 2, 2012.

Jurisdiction	Initial FHBM Identified	Initial FIRM Identified	Current Effective Map Date	Reg Emer Date
Columbiana County	12/09/77	03/05/90	05/02/12	03/05/90
City of Columbiana	05/21/76	09/30/88	05/02/12(M)	09/30/88
City of East Liverpool	01/04/74	07/18/83	05/02/12(M)	07/18/83
Village of East Palestine	01/16/74	09/04/87	05/02/12(M)	09/04/87
Village of Hanoverton	08/09/74	09/01/87	05/02/12(M)	09/01/87
Village of Leetonia	05/03/74	08/19/87	05/02/12(M)	08/19/87
Village of Lisbon	04/12/74	09/30/88	05/02/12(M)	09/30/88
Village of New Waterford	04/05/74	05/01/87	05/02/12(M)	05/01/87
Village of Rogers	03/22/74	12/01/91	05/02/12(M)	12/01/91
City of Salem	05/03/74	09/27/85	05/02/12(M)	09/27/85
Village of Salineville	01/27/78	08/05/91	05/02/12	08/05/91
Village of Summitville	N/A	N/A	N/A	N/A
Village of Washingtonville	11/09/73	04/05/06	05/02/12(M)	04/05/06
Village of Wellsville	01/04/74	09/29/78	04/05/06	09/29/78

Source: FEMA's CIS database **Table 2.4c**

HISTORY OF EVENTS

According to the National Climatic Data Center (NCDC) Event Record Database there have been 22 flood events recorded in Columbiana County between 2006 and 2012, of those events 16 were considered river floods, and six (6) were considered flash floods. The NCDC Event Record Database also indicates that the months when the most flooding occurs are March, with eight (8) reported floods, and May, June, July and August all with three (3) reported floods.

The worst hazard events experienced in Columbiana County have been incidences of flooding. The following are brief descriptions of the significant floods that have occurred within the past six (6) years.

- August 1, 2003 – Flooding occurred in the areas of Hanoverton and Homeworth along the Beaver Creek Watershed. By Day three (3) of the event, the county requested assistance with debris clearance activities. A main east-west thoroughfare, U.S. route 30, was flooded from Hanoverton to East Rochester for days and a resident was reported stranded as she lost an access bridge between her home and the main road. As a result, Columbiana County received $502,533 in public assistance funding for this event.
- June 3, 2004 – A weather pattern consisting of scattered thunderstorms and heavy rain cells stalled over the eastern and southeastern portions of Ohio, including Columbiana County. Flooding began in Leetonia when the East Branch of the Middle Fork of Little Beaver Creek flooded the sewage treatment plant. Just east of Lisbon,

the Little Beaver Creek began covering State Route 154. Meanwhile, near Negley, the Leslie Run and Brush Run watersheds flooded over a two-day period. Flooding continued in northern and eastern parts of the county for days with the worst flooding along Little Beaver Creek, and its Middle and North forks. Flooding was also reported in East Palestine, Negley, and Washingtonville. As a result, Columbiana County received $1,535,678 in public assistance funding for this event.

- September 19, 2004 – A band of severe thunderstorms near the end of August 2004, followed by the remnants of Hurricanes Frances and Ivan during the middle of September 2004, brought intense rains to eastern Ohio, resulting in flooding throughout much of the area from August 27 through September 27, 2004. From August 27 through August 28, localized thunderstorms affected a small area of eastern Ohio, with parts of Columbiana County receiving more than seven inches (7") of rain during that 48-hour period. From September 8 through September 9, 2004, as remnants of Hurricane Frances passed over eastern Ohio, rain was widespread across the region. As a result, Columbiana County received $2,367,211 in public assistance funding for this event.
- February 15, 2005 – A low-pressure system with wide-spread heavy precipitation hovered over the entire state with an average of two inches (2"). Depending on latitude, this system brought a wide range of weather effects throughout the state, including rain, snow showers, freezing rain, sleet and snow. In Columbiana County, numerous roads were closed due to flooding, especially routes around East Liverpool. The Ohio River at Wellsville rose above its 11-foot flood stage and crested at 15 feet (15') within a few days. When the weather system moved out of the state, a total of 59 counties were Presidentially-declared disaster areas. Columbiana County received $96,615 in public assistance funding for this event.
- March 4 - 5, 2008 – Heavy rain combined with snow melt produced widespread flooding of streams, closing of roads and forcing the evacuation of residents in areas of Madison and Washington Townships by law enforcement. Columbiana County emergency Management Agency (CCEMA) also reported flooding and a mudslide closed SR 45 near Wellsville. Total property damage from this flood was estimated at $150,000.
- March 22, 2010 – Scattered severe thunderstorms and showers developed across eastern Ohio and the northern panhandle of West Virginia producing flash flooding in the area. The CCEMA reported multiple road closures throughout the county and a

bridge washout in Elkrun Township. This flash flooding resulted in approximately $210,000 in property damage.

- February 28, 2011 – Heavy rain combined with snow melt produced widespread flooding across eastern Ohio and western Pennsylvania. CCEMA reported extensive flooding countywide as most creeks were out of their banks and flooding roadways. Total property damage from this flood was estimated at $75,000.

HAZARD IMPACT

Flooding continues to be a frequent and damaging natural disaster as a result of the Little Beaver Creek (North, Middle and West) and its many tributaries; communities most often affect include Salem, Leetonia and Wellsville. Flooding is among the most costly natural hazard in Columbiana County, and has resulted in approximately $695,000 in property damage over the past six (6) years. Additional problems may occur from urban flooding, which results in high water from the lack of adequate drainage systems, such as flooded streets, basements, etc.

Flooding impacts to the community include injuries to citizens and public safety officials, damage to property, lost revenue and economic damages, and increased demand on public safety and infrastructure related services. Response activities include unanticipated overtime for Emergency Operation Center (EOC) activations, evacuations, sheltering of displaced people, rerouting traffic destined for impassible roads, bridge and road damage repairs, and rescue or medical missions related to motorists and isolated families. Private property damages to homes and vehicles as well as land erosion, river channel changes, agricultural damages and livestock losses resulting in significant rural economic impacts to local residents.

Hazards associated with flooding can be divided into: primary hazards that occur due to contact with water, secondary effects that occur because of the flooding, such as disruption of services and health impacts, and tertiary effects, such as changes in the position of river channels.

Primary Effects

- With higher velocities, streams are able to transport larger particles as suspended load. Such large particles include not only rocks and sediment, but, during a flood, such large objects as automobiles, houses, and bridges.

- Massive amounts of erosion can be accomplished by floodwaters. Such erosion can undermine bridge structures, levees, and buildings, causing their collapse.
- Water entering human-built structures causes damage. Even with minor flooding of homes, furniture is ruined, floors and walls are damaged, and anything that comes in contact with the water is likely to be damaged or lost. Flooding of automobiles usually results in damage that cannot easily be repaired.
- The higher velocity of floodwaters allows the water to carry more sediment as suspended load. When the floodwaters retreat, velocity is generally much lower and sediment is deposited. After retreat of the floodwaters, everything is usually covered with a thick layer of stream-deposited mud, including the interior of buildings.
- Flooding of farmland usually results in crop loss. Livestock, pets, and other animals are often carried away and drowned.
- Humans that get caught in high velocity floodwaters are often drowned.
- Floodwaters can concentrate garbage, debris, and toxic pollutants into small areas that can cause the secondary effects of health hazards.

Secondary and Tertiary Effects (Cascading Effects)

- Disruption of Services
  - Drinking water supplies may become polluted, especially if sewerage treatment plants are flooded.
  - Gas and electrical service may be disrupted.
  - Transportation systems may be disrupted, resulting in shortages of food and cleanup supplies.

Long-Term Effects (Tertiary effects)

- Location of river channels may change as the result of flooding; new channels develop, leaving the old channels dry.
- Sediment deposited by flooding may destroy farmland (although silt deposited by floodwaters could also help to increase agricultural productivity).
- Jobs may be lost due to the disruption of services, destruction of business, etc. (although jobs may be gained in the construction industry to help rebuild or repair flood damage).
- Destruction of wildlife habitat.

PAST MITIGATION EFFORTS

Past mitigation efforts to reduce the effects of flooding throughout Columbiana County include the following:

- Require applications for floodplain development permits for all development activities located within, or in contact with, an identified special flood hazard area. Such application shall be made by the owner of the property or his/her authorized agent, prior to the actual commencement of such construction. Where it is unclear whether a development site is in a special flood hazard area, the Floodplain Administrator may require an application for a floodplain development permit to determine the development's location. It shall be unlawful for any person to begin construction or other development activity, including but not limited to, filling; grading; construction; alteration, remodeling, or expanding any structure; or alteration of any watercourse wholly within, partially within or in contact with any identified special flood hazard area, until a floodplain development permit is obtained.
- Several jurisdictions have designated an "NFIP Coordinator". The NFIP Coordinator maintains the jurisdiction's floodplain ordinance and ensures that development is compliant with that ordinance (and, consequently, the NFIP).
- Working with FEMA and the Ohio Emergency Management Agency (OEMA) on the Map Modernization Program to improve FIRMs.
- Working with the municipalities to update all outdated floodplain ordinances.
- The development and distribution of public awareness materials concerning flood hazard risks, and updating the county's website to provide hazard related information that is easily accessible.

HAZARD MAPPING

See the Columbiana County Flood Map for a graphical representation of the hazard areas with regard to flooding. The green areas represent "low hazard areas," the yellow areas represent "moderate hazard areas," the orange areas represent "high hazard areas," and the red areas represent "extreme high hazard areas."

Hazard: Flooding

Type of Structure (Occupancy Class)	Number of Structures			Value of Structures			Number of People		
	# in Community	# in Hazard Area	% in Hazard Area	$ in Community	$ in Hazard Area	% in Hazard Area	# in Community	# in Hazard Area	% in Hazard Area
Residential	47,088	942	2%	$3,767,040,000	$7,800,000	0.21%	107,841	2,355	2%
Commercial	1,578	16	1%	$631,200,000	$400,000	0.06%	17,469	176	1%
Industrial	444	0	0%	$222,000,000	$0	0%	6,505	0	0%
Agricultural	4,120	412	10%	$721,000,000	$7,875,000	1%	3,090	618	20%
Religious/Non-Profit	103	0	0%	$20,600,000	$0	0%	4,120	0	0%
Government	45	0	0%	$18,000,000	$0	0%	1,350	0	0%
Education	46	0	0%	$17,250,000	$0	0%	18,276	0	0%
Utilities	20	5	25%	$30,000,000	$225,000	0.75%	60	15	25%
Total	**53,444**	**1,375**	**2.60%**	**$5,427,090,000**	**$16,300,000**	**0.30%**	**158,711**	**3,164**	**2%**

	Yes	No
1. Do you know where your greatest damages may occur in your hazard areas?	X	
2. Do you know whether your critical facilities will be operational after a hazard event?		X
3. Is there enough data to determine which assets are subject to the greatest potential damages?	X	
4. Is there enough data to determine whether significant elements of the community are vulnerable to potential hazards?	X	
5. Is there enough data to determine whether certain areas of historic, environmental, political, or cultural significance are vulnerable to potential hazards?	X	
6. Is there concern about a particular hazard because of its severity, repetitiveness, or likelihood of occurrence?	X	
7. Is additional data needed to justify the expenditure of community or state funds for mitigation initiatives?		X

Hazard: Flooding

	Structure Loss (Task A1)					Contents Loss (Task A2)				
Name/Description of Asset	Structure Replacement Value ($)	X	Percent Damage (%)	=	Loss to Structure ($)	Replacement Value of Contents ($)	X	Percent Damage (%)	=	Loss to Contents ($)
Columbiana County Courthouse	$1,850,000	X	0%	=	$0	$700,000	X	0%	=	$0
Columbiana City Hall	$1,250,000	X	0%	=	$0	$400,000	X	0%	=	$0
East Liverpool City Hall	$650,000	X	5%	=	$32,500	$325,000	X	10%	=	$32,500
East Palestine Village Offices	$425,000	X	0%	=	$0	$275,000	X	0%	=	$0
Hanoverton Village Offices	$375,000	X	0%	=	$0	$225,000	X	0%	=	$0
Salem City Hall	$976,800	X	0%	=	$0	$390,000	X	0%	=	$0
Salineville Village Offices	$311,900	X	0%	=	$0	$190,000	X	0%	=	$0
Wellsville Village Offices	$518,100	X	5%	=	$25,905	$300,000	X	10%	=	$30,000
Leetonia Village Offices	$335,000	X	0%	=	$0	$90,000	X	0%	=	$0
Lisbon Village Offices	$979,500	X	2%	=	$19,590	$395,000	X	5%	=	$19,750
New Waterford Village Offices	$265,000	X	0%	=	$0	$75,000	X	0%	=	$0
Washingtonville Village Offices	$250,000	X	0%	=	$0	$55,000	X	0%	=	$0
Elkrun Township Hall	$145,000	X	0%	=	$0	$70,000	X	0%	=	$0
Fairfield Township Hall	$360,000	X	0%	=	$0	$220,000	X	0%	=	$0
Madison Township Hall	$245,000	X	0%	=	$0	$165,000	X	0%	=	$0
Salem Township Hall	$310,000	X	2%	=	$6,200	$200,000	X	5%	=	$10,000
Bridges	$115,000,000	X	0.25%	=	$287,500	$0	X	0%	=	$0
Highways	$1,525,000,000	X	0.02%	=	$305,000	$0	X	0%	=	$0
Railroads	$85,000,000	X	0%	=	$212,500	$0	X	0%	=	$0
Columbiana County Airport	$679,200	X	0%	=	$0	$203,760	X	0%	=	$0
Columbiana County Port Authority	$595,000	X	0%	=	$0	$148,750	X	0%	=	$0
East Liverpool Water Works	$1,895,000	X	2%	=	$37,900	$3,550,000	X	5%	=	$177,500
East Palestine Sewer and Water	$3,165,000	X	2%	=	$63,300	$3,500,000	X	5%	=	$175,000
Leetonia Water Board	$1,750,000	X	2%	=	$35,000	$2,110,000	X	5%	=	$105,500
Salem Sewage Plant	$7,450,000	X	1%	=	$74,500	$6,250,000	X	2%	=	$125,000
Salineville Water Plant	$2,450,000	X	0%	=	$0	$3,000,000	X	0%	=	$0

	Structure Loss (Task A1)					Contents Loss (Task A2)				
Name/Description of Asset	Structure Replacement Value ($)	X	Percent Damage (%)	=	Loss to Structure ($)	Replacement Value of Contents ($)	X	Percent Damage (%)	=	Loss to Contents ($)
Washingtonville Water and Sewer	$9,355,000	X	0%	=	$0	$10,000,000	X	0%	=	$0
Wellsville Filtration Plant	$985,000	X	0%	=	$0	$1,255,000	X	0%	=	$0
Wellsville Sewage Disposal	$1,553,000	X	2%	=	$31,060	$2,875,000	X	5%	=	$143,750
Buckeye Water District	$3,650,000	X	2%	=	$73,000	$4,250,000	X	5%	=	$212,500
Columbiana City Water Works/Sewer Dept.	$2,655,000	X	2%	=	$53,100	$3,150,000	X	5%	=	$157,500
Leetonia Sewage Plant	$3,950,000	X	2%	=	$79,000	$4,550,000	X	5%	=	$227,500
Lisbon Village Water Dept.	$1,875,000	X	2%	=	$37,500	$2,000,000	X	5%	=	$100,000
New Waterford Water / Waste Water Plant	$2,455,000	X	2%	=	$49,100	$3,655,000	X	5%	=	$182,750
Salineville Sewer Plant	$5,650,000	X	0%	=	$0	$5,000,000	X	0%	=	$0
Columbiana County Sheriff	$350,000	X	0%	=	$0	$625,000	X	0%	=	$0
Columbiana County EMA	$565,000	X	0%	=	$0	$200,000	X	0%	=	$0
Columbiana County 911 Ctr.	$265,000	X	0%	=	$0	$635,000	X	0%	=	$0
Columbiana PD	$225,000	X	0%	=	$0	$325,000	X	0%	=	$0
East Liverpool PD	$215,000	X	0%	=	$0	$289,000	X	0%	=	$0
East Palestine PD	$210,000	X	0%	=	$0	$198,000	X	0%	=	$0
Leetonia PD	$235,000	X	5%	=	$11,750	$105,000	X	10%	=	$10,500
Lisbon PD	$979,500	X	5%	=	$48,975	$320,000	X	10%	=	$32,000
Liverpool Township PD	$200,000	X	0%	=	$0	$165,000	X	0%	=	$0
New Waterford PD	$310,000	X	0%	=	$0	$175,000	X	0%	=	$0
Ohio State Highway Patrol	$865,000	X	0%	=	$0	$455,000	X	0%	=	$0
Perry Township PD	$309,900	X	0%	=	$0	$170,000	X	0%	=	$0
Salem PD	$395,000	X	5%	=	$19,750	$265,000	X	10%	=	$26,500
Salineville PD	$311,900	X	0%	=	$0	$250,000	X	0%	=	$0
St. Clair Township PD	$295,000	X	0%	=	$0	$175,000	X	0%	=	$0
Washingtonville PD	$235,000	X	0%	=	$0	$145,000	X	0%	=	$0
Wellsville PD	$518,100	X	5%	=	$25,905	$325,000	X	10%	=	$32,500
Calcutta FD	$170,000	X	0%	=	$0	$645,000	X	0%	=	$0
Columbiana FD	$426,700	X	0%	=	$0	$890,000	X	0%	=	$0
East Liverpool FD	$135,300	X	5%	=	$6,765	$465,000	X	10%	=	$46,500

	Structure Loss (Task A1)					Contents Loss (Task A2)				
Name/Description of Asset	Structure Replacement Value ($)	X	Percent Damage (%)	=	Loss to Structure ($)	Replacement Value of Contents ($)	X	Percent Damage (%)	=	Loss to Contents ($)
East Palestine FD	$192,300	X	0%	=	$0	$385,000	X	0%	=	$0
Franklin Township VFD	$95,850	X	0%	=	$0	$245,000	X	0%	=	$0
Hanoverton VFD	$235,450	X	0%	=	$0	$300,000	X	0%	=	$0
Guilford Lake FD	$195,000	X	0%	=	$0	$345,000	X	0%	=	$0
Highlandtown VFD	$104,900	X	0%	=	$0	$295,000	X	0%	=	$0
Homeworth VFD	$113,900	X	0%	=	$0	$310,000	X	0%	=	$0
Leetonia FD/EMS	$124,500	X	2%	=	$2,490	$565,000	X	5%	=	$28,250
Lisbon FD	$325,000	X	5%	=	$16,250	$610,000	X	10%	=	$61,000
Dixonville FD	$84,500	X	5%	=	$4,225	$285,000	X	10%	=	$28,500
Lacroft VFD	$149,300	X	0%	=	$0	$365,000	X	0%	=	$0
Negley VFD/EMS	$110,200	X	0%	=	$0	$410,000	X	0%	=	$0
New Waterford FD	$150,900	X	0%	=	$0	$425,000	X	0%	=	$0
North Georgetown VFD	$100,100	X	0%	=	$0	$315,000	X	0%	=	$0
Perry Township VFD	$309,900	X	0%	=	$0	$565,000	X	0%	=	$0
Rogers Village FD	$161,000	X	0%	=	$0	$435,650	X	0%	=	$0
Salem FD	$215,500	X	0%	=	$0	$565,000	X	0%	=	$0
Salineville VFD	$311,900	X	0%	=	$0	$325,000	X	0%	=	$0
Wellsville VFD	$143,600	X	5%	=	$7,180	$415,000	X	10%	=	$41,500
West Point FD	$200,000	X	0%	=	$0	$365,000	X	0%	=	$0
Winona FD	$172,500	X	0%	=	$0	$375,000	X	0%	=	$0
Glenmoor VFD	$752,000	X	0%	=	$0	$650,000	X	0%	=	$0
Air Evac Lifeteam 81	$86,600	X	2%	=	$1,732	$0	X	5%	=	$0
EMT Ambulance	$112,200	X	2%	=	$2,244	$240,000	X	5%	=	$12,000
Lifeteam EMS Inc.	$135,000	X	0%	=	$0	$220,000	X	0%	=	$0
KLG Ambulance / MICU	$76,500	X	0%	=	$0	$182,000	X	0%	=	$0
North Star Critical Care	$84,900	X	0%	=	$0	$175,000	X	0%	=	$0
Maple-Cotton Funeral Home and EMS	$165,000	X	0%	=	$0	$200,000	X	0%	=	$0
Tri-County Ambulance	$118,600	X	0%	=	$0	$190,000	X	0%	=	$0
Columbiana EMS	$426,800	X	0%	=	$0	$350,000	X	0%	=	$0
Leetonia EMS	$185,000	X	2%	=	$3,700	$265,000	X	5%	=	$13,250
New Waterford EMS	$175,000	X	0%	=	$0	$215,000	X	0%	=	$0
East Palestine EMS	$265,000	X	2%	=	$5,300	$300,000	X	5%	=	$15,000
East Liverpool City Hospital	$16,750,000	X	0%	=	$0	$8,000,000	X	0%	=	$0
Salem Community Hospital	$17,250,000	X	0%	=	$0	$8,350,000	X	0%	=	$0

	Structure Loss (Task A1)					Contents Loss (Task A2)				
Name/Description of Asset	Structure Replacement Value ($)	X	Percent Damage (%)	=	Loss to Structure ($)	Replacement Value of Contents ($)	X	Percent Damage (%)	=	Loss to Contents ($)
Parkside Healthcare Center	$2,172,700	X	0%	=	$0	$410,000	X	0%	=	$0
Vista Center	$3,536,000	X	0%	=	$0	$475,000	X	0%	=	$0
Blossom Nursing and Rehab. Center	$1,650,000	X	0%	=	$0	$215,000	X	0%	=	$0
Calcutta Healthcare Center	$4,947,200	X	0%	=	$0	$500,000	X	0%	=	$0
East Liverpool Convalescent Center	$539,600	X	0%	=	$0	$275,000	X	0%	=	$0
Nentwick Convalescent Home	$2,109,100	X	2%	=	$42,182	$315,000	X	5%	=	$15,750
Essex of Salem #1	$1,768,800	X	0%	=	$0	$500,000	X	0%	=	$0
Essex of Salem #2	$1,882,800	X	0%	=	$0	$465,000	X	0%	=	$0
Essex of Salem #3	$1,569,900	X	0%	=	$0	$395,000	X	0%	=	$0
Pleasant view North Retirement	$1,243,300	X	0%	=	$0	$380,000	X	0%	=	$0
Salem Care Center	$1,443,900	X	0%	=	$0	$350,000	X	0%	=	$0
Assisted Living Ministry Services	$212,800	X	2%	=	$4,256	$185,000	X	5%	=	$9,250
Crossroads at Beaver Creek	$3,450,000	X	2%	=	$69,000	$550,000	X	5%	=	$27,500
Grace Woods Senior Living	$897,300	X	0%	=	$0	$365,000	X	0%	=	$0
The Renaissance at Vista	$3,536,000	X	0%	=	$0	$465,000	X	0%	=	$0
Sterling House of Salem	$325,000	X	0%	=	$0	$350,000	X	0%	=	$0
Whispering Pines Village	$415,000	X	0%	=	$0	$300,000	X	0%	=	$0
St. Mary's Alzheimer's Center	$650,000	X	0%	=	$0	$495,000	X	0%	=	$0
Adkins Nursing Home	$315,000	X	0%	=	$0	$256,000	X	0%	=	$0
Great Trail Care Center	$225,000	X	0%	=	$0	$195,000	X	0%	=	$0
Holander House	$200,000	X	0%	=	$0	$165,000	X	0%	=	$0
Twin Oaks Retirement Center	$600,000	X	0%	=	$0	$435,000	X	0%	=	$0
Covington Skilled Nursing & Rehab Ctr.	$795,000	X	0%	=	$0	$495,000	X	0%	=	$0
American Health Care	$435,000	X	0%	=	$0	$400,000	X	0%	=	$0
Harmony Village	$275,500	X	0%	=	$0	$165,000	X	0%	=	$0
Courtyard at Lexington	$595,000	X	0%	=	$0	$285,000	X	0%	=	$0

	Structure Loss (Task A1)					Contents Loss (Task A2)				
Name/Description of Asset	Structure Replacement Value ($)	X	Percent Damage (%)	=	Loss to Structure ($)	Replacement Value of Contents ($)	X	Percent Damage (%)	=	Loss to Contents ($)
Century House of Salem	$275,000	X	0%	=	$0	$250,000	X	0%	=	$0
Columbiana County Mental Health	$560,000	X	0%	=	$0	$325,000	X	0%	=	$0
Beaver Local HS	$4,756,100	X	0%	=	$0	$295,000	X	0%	=	$0
Beaver Local MS	$2,866,200	X	0%	=	$0	$255,000	X	0%	=	$0
Buckeye ES	$1,914,500	X	0%	=	$0	$195,000	X	0%	=	$0
Calcutta ES	$1,624,700	X	0%	=	$0	$165,000	X	0%	=	$0
Columbiana Co. Career and Technical Ctr.	$6,888,400	X	0%	=	$0	$1,250,000	X	0%	=	$0
Columbiana HS	$5,657,000	X	0%	=	$0	$355,000	X	0%	=	$0
Crestview ES	$200,000	X	0%	=	$0	$185,000	X	0%	=	$0
Crestview MS/HS	$12,341,800	X	0%	=	$0	$650,000	X	0%	=	$0
David Anderson Jr/Sr HS	$4,015,300	X	0%	=	$0	$565,000	X	0%	=	$0
DAW MS	$2,232,400	X	0%	=	$0	$245,000	X	0%	=	$0
East ES	$1,455,000	X	2%	=	$29,100	$195,000	X	5%	=	$9,750
East Liverpool Jr./Sr. HS	$12,683,000	X	1%	=	$126,830	$365,000	X	2%	=	$7,300
East Palestine ES	$1,365,000	X	0%	=	$0	$225,000	X	0%	=	$0
East Palestine MS	$3,450,000	X	0%	=	$0	$285,000	X	0%	=	$0
East Palestine HS	$5,000,000	X	0%	=	$0	$400,000	X	0%	=	$0
Garfield ES	$1,383,000	X	0%	=	$0	$225,000	X	0%	=	$0
Joshua Dixon ES	$1,622,900	X	0%	=	$0	$265,000	X	0%	=	$0
Lacroft ES	$4,765,600	X	2%	=	$95,312	$300,000	X	5%	=	$15,000
Leetonia K-12	$3,650,000	X	0%	=	$0	$415,000	X	0%	=	$0
Mckinley ES	$2,000,000	X	0%	=	$0	$150,000	X	0%	=	$0
North ES	$2,155,000	X	2%	=	$43,100	$165,000	X	5%	=	$8,250
Reilly ES	$2,566,500	X	0%	=	$0	$180,000	X	0%	=	$0
Rogers ES	$1,714,100	X	0%	=	$0	$155,000	X	0%	=	$0
Salem Jr./Sr. HS	$8,977,100	X	1%	=	$89,771	$455,000	X	2%	=	$9,100
South Side MS	$4,000,000	X	0%	=	$0	$235,000	X	0%	=	$0
Southeast ES	$2,975,700	X	0%	=	$0	$195,000	X	0%	=	$0
Southern Local K-12	$4,650,000	X	0%	=	$0	$300,000	X	0%	=	$0
United K-12	$9,694,000	X	0%	=	$0	$495,000	X	0%	=	$0
Wellsville HS	$7,347,800	X	0%	=	$0	$325,000	X	0%	=	$0
West Point ES	$614,200	X	0%	=	$0	$140,000	X	0%	=	$0
Westgate MS	$3,695,300	X	2%	=	$73,906	$280,000	X	5%	=	$14,000
Act 1 Education Ctr. Jr. HS	$900,100	X	0%	=	$0	$165,000	X	0%	=	$0

	Structure Loss (Task A1)					Contents Loss (Task A2)				
Name/Description of Asset	Structure Replacement Value ($)	X	Percent Damage (%)	=	Loss to Structure ($)	Replacement Value of Contents ($)	X	Percent Damage (%)	=	Loss to Contents ($)
American Spirit Academy K-12	$469,700	X	2%	=	$9,394	$180,000	X	5%	=	$9,000
Heartland Christian School K-12	$4,950,000	X	0%	=	$0	$545,000	X	0%	=	$0
St. Aloysius ES	$275,000	X	2%	=	$5,500	$200,000	X	5%	=	$10,000
St. Paul ES	$3,000,000	X	0%	=	$0	$155,000	X	0%	=	$0
American Standards Brands	$985,000	X	0%	=	$0	$425,000	X	0%	=	$0
Flex-N-Gate/Ventra Salem	$1,795,000	X	0%	=	$0	$500,000	X	0%	=	$0
Fresh Mark Inc.	$895,000	X	0%	=	$0	$350,000	X	0%	=	$0
Wal-Mart Stores Inc.	$6,985,000	X	0%	=	$0	$1,650,000	X	0%	=	$0
Pioneer Pottery Inc	$550,000	X	2%	=	$11,000	$110,000	X	5%	=	$5,500
Zarbana Industries	$455,000	X	0%	=	$0	$450,000	X	0%	=	$0
Miller Casting	$750,000	X	0%	=	$0	$650,000	X	0%	=	$0
Columbiana Foundry Company	$400,000	X	0%	=	$0	$375,000	X	0%	=	$0
Kensington PO	$315,000	X	0%	=	$0	$80,000	X	0%	=	$0
Summitville PO	$215,000	X	0%	=	$0	$56,000	X	0%	=	$0
Columbiana PO	$500,000	X	0%	=	$0	$175,000	X	0%	=	$0
New Waterford PO	$225,000	X	0%	=	$0	$65,000	X	0%	=	$0
Calcutta PO	$175,000	X	0%	=	$0	$60,000	X	0%	=	$0
Winona PO	$200,000	X	0%	=	$0	$70,000	X	0%	=	$0
Homeworth PO	$150,000	X	0%	=	$0	$55,000	X	0%	=	$0
East Liverpool PO	$436,400	X	2%	=	$8,728	$155,000	X	5%	=	$7,750
East Palestine PO	$244,500	X	0%	=	$0	$75,000	X	0%	=	$0
East Rochester PO	$230,000	X	0%	=	$0	$85,000	X	0%	=	$0
Hanoverton PO	$300,000	X	0%	=	$0	$80,000	X	0%	=	$0
Rogers PO	$325,000	X	0%	=	$0	$75,000	X	0%	=	$0
Salem PO	$596,600	X	2%	=	$11,932	$195,000	X	5%	=	$9,750
Salineville PO	$315,000	X	0%	=	$0	$65,000	X	0%	=	$0
Negley PO	$295,000	X	0%	=	$0	$85,000	X	0%	=	$0
North Georgetown PO	$250,000	X	0%	=	$0	$60,000	X	0%	=	$0
Leetonia PO	$134,800	X	2%	=	$2,696	$62,500	X	5%	=	$3,125
Lisbon PO	$614,300	X	2%	=	$12,286	$250,000	X	5%	=	$12,500
Elkton PO	$210,000	X	0%	=	$0	$69,500	X	0%	=	$0
Washingtonville PO	$265,000	X	0%	=	$0	$80,000	X	0%	=	$0

	Structure Loss (Task A1)					Contents Loss (Task A2)				
Name/Description of Asset	Structure Replacement Value ($)	X	Percent Damage (%)	=	Loss to Structure ($)	Replacement Value of Contents ($)	X	Percent Damage (%)	=	Loss to Contents ($)
Wellsville PO	$145,600	X	0%	=	$0	$67,500	X	0%	=	$0
Carnegie Public Library	$442,600	X	0%	=	$0	$250,000	X	0%	=	$0
Columbiana Public Library	$1,312,500	X	0%	=	$0	$355,000	X	0%	=	$0
East Palestine Memorial Public Library	$826,600	X	2%	=	$16,532	$315,000	X	5%	=	$15,750
Leetonia Community Public Library	$2,122,600	X	2%	=	$42,452	$550,000	X	5%	=	$27,500
Lepper Library	$580,000	X	0%	=	$0	$275,000	X	0%	=	$0
Salem Public Library	$1,184,400	X	2%	=	$23,688	$400,000	X	5%	=	$20,000
Wellsville Public Library	$367,900	X	2%	=	$7,358	$220,000	X	5%	=	$11,000
Hiram Bell Farmstead	$165,000	X	0%	=	$0	$0	X	0%	=	$0
Burchfield Homestead	$125,000	X	0%	=	$0	$50,000	X	0%	=	$0
Richard L Cawood Residence	$95,000	X	2%	=	$1,900	$45,000	X	5%	=	$2,250
Cherry Valley Coke Ovens	$85,000	X	0%	=	$0	$0	X	0%	=	$0
Church Hill Road Covered Bridge	$450,000	X	0%	=	$0	$0	X	0%	=	$0
Diamond Historic District	$3,000,000	X	2%	=	$60,000	$0	X	5%	=	$0
East Liverpool Historic District	$2,000,000	X	2%	=	$40,000	$0	X	5%	=	$0
East Liverpool Pottery	$215,000	X	0%	=	$0	$200,000	X	0%	=	$0
Nicholas Eckis House	$150,000	X	0%	=	$0	$65,000	X	0%	=	$0
Elks Club	$135,000	X	2%	=	$2,700	$35,000	X	5%	=	$1,750
Sandy and Beaver Canal District	$675,000	X	0%	=	$0	$0	X	0%	=	$0
Godwin Knowles House	$185,000	X	2%	=	$3,700	$80,000	X	5%	=	$4,000
Hanna-Kenty House	$140,000	X	0%	=	$0	$70,000	X	0%	=	$0
Hanoverton Canal Town District	$1,750,000	X	0%	=	$0	$0	X	0%	=	$0
Franklin Harris Farmstead	$200,000	X	0%	=	$0	$65,000	X	0%	=	$0
Daniel Howell Hise House	$95,000	X	0%	=	$0	$45,000	X	0%	=	$0
Hostetter Inn	$465,000	X	0%	=	$0	$140,000	X	0%	=	$0
Ikirt House	$85,000	X	2%	=	$1,700	$35,000	X	5%	=	$1,750
Homer Laughlin House	$110,000	X	2%	=	$2,200	$40,000	X	5%	=	$2,000

	Structure Loss (Task A1)					Contents Loss (Task A2)				
Name/Description of Asset	Structure Replacement Value ($)	X	Percent Damage (%)	=	Loss to Structure ($)	Replacement Value of Contents ($)	X	Percent Damage (%)	=	Loss to Contents ($)
Lisbon Historic District	$4,000,000	X	2%	=	$80,000	$0	X	5%	=	$0
Daniel McBean Farmstead	$225,000	X	2%	=	$4,500	$80,000	X	5%	=	$4,000
Odd Fellows Temple	$115,000	X	0%	=	$0	$65,000	X	0%	=	$0
Mary A. Patterson Memorial	$60,000	X	2%	=	$1,200	$0	X	5%	=	$0
Potters National Bank	$270,000	X	2%	=	$5,400	$110,000	X	5%	=	$5,500
Salem Downtown Historic District	$3,250,000	X	2%	=	$65,000	$0	X	5%	=	$0
Charles Nelson Schmick House	$90,000	X	0%	=	$0	$60,000	X	0%	=	$0
John Street House	$85,000	X	0%	=	$0	$45,000	X	0%	=	$0
Teegarden-Centennial Covered Bridge	$475,000	X	0%	=	$0	$0	X	0%	=	$0
Cassius Clark Thompson House	$120,000	X	2%	=	$2,400	$65,250	X	5%	=	$3,263
Travelers Hotel	$850,000	X	2%	=	$17,000	$250,000	X	5%	=	$12,500
YMCA	$465,000	X	2%	=	$9,300	$125,000	X	5%	=	$6,250
Residential	$3,767,040,000	X	0.01%	=	$376,704	$1,883,520,000	X	0%	=	$376,704
			Total Loss to Structure		$2,977,648			Total Loss to Contents		$2,714,492

Hazard: Flooding

Name/Description of Asset	Structure Use and Function Loss (Task A3)									Structure + Contents + Function Loss
	Average Daily Operating Budget ($)	X	Functional Downtime (# of days)	+	Displacement Cost per Day ($)	X	Displacement Time (Days)	=	Structure Use & Function Loss ($)	
Columbiana County Courthouse	$550,000	X	0	+	$5,000	X	0	=	$0	$0
Columbiana City Hall	$275,000	X	0	+	$4,200	X	0	=	$0	$0
East Liverpool City Hall	$250,000	X	0.5	+	$3,250	X	0	=	$125,000	$190,000
East Palestine Village Offices	$220,000	X	0	+	$3,000	X	0	=	$0	$0
Hanoverton Village Offices	$155,000	X	0	+	$2,100	X	0	=	$0	$0
Salem City Hall	$280,000	X	0	+	$3,400	X	0	=	$0	$0
Salineville Village Offices	$150,000	X	0	+	$1,500	X	0	=	$0	$0
Wellsville Village Offices	$165,000	X	0.5	+	$1,000	X	0	=	$82,500	$138,405
Leetonia Village Offices	$110,000	X	0	+	$1,000	X	0	=	$0	$0
Lisbon Village Offices	$290,000	X	0.5	+	$1,100	X	0	=	$145,000	$184,340
New Waterford Village Offices	$100,000	X	0	+	$1,000	X	0	=	$0	$0
Washingtonville Village Offices	$90,000	X	0	+	$1,000	X	0	=	$0	$0
Elkrun Township Hall	$95,000	X	0	+	$1,000	X	0	=	$0	$0
Fairfield Township Hall	$140,000	X	0	+	$1,000	X	0	=	$0	$0
Madison Township Hall	$125,000	X	0	+	$1,000	X	0	=	$0	$0
Salem Township Hall	$125,000	X	0.5	+	$1,000	X	0	=	$62,500	$78,700
Bridges	$0	X	0	+	$0	X	0	=	$0	$287,500
Highways	$0	X	0	+	$0	X	0	=	$0	$305,000
Railroads	$0	X	0	+	$0	X	0	=	$0	$212,500
Columbiana County Airport	$0	X	0	+	$0	X	0	=	$0	$0
Columbiana County Port Authority	$0	X	0	+	$0	X	0	=	$0	$0
East Liverpool Water Works	$1,000,000	X	0	+	$30,000	X	0	=	$0	$215,400
East Palestine Sewer and Water	$750,000	X	0	+	$20,000	X	0	=	$0	$238,300
Leetonia Water Board	$375,000	X	0	+	$35,000	X	0	=	$0	$140,500
Salem Sewage Plant	$12,000,000	X	0	+	$800,000	X	0	=	$0	$199,500
Salineville Water Plant	$410,000	X	0	+	$12,000	X	0	=	$0	$0

	Structure Use and Function Loss (Task A3)									
Name/Description of Asset	Average Daily Operating Budget ($)	X	Functional Downtime (# of days)	+	Displacement Cost per Day ($)	X	Displacement Time (Days)	=	Structure Use & Function Loss ($)	Structure + Contents + Function Loss
Washingtonville Water and Sewer	$13,450,000	X	0	+	$95,000	X	0	=	$0	$0
Wellsville Filtration Plant	$280,000	X	0	+	$9,000	X	0	=	$0	$0
Wellsville Sewage Disposal	$750,000	X	0	+	$18,000	X	0	=	$0	$174,810
Buckeye Water District	$2,350,000	X	0	+	$40,000	X	0	=	$0	$285,500
Columbiana City Water Works/Sewer Dept.	$1,675,000	X	0	+	$35,000	X	0	=	$0	$210,600
Leetonia Sewage Plant	$6,000,000	X	0	+	$65,000	X	0	=	$0	$306,500
Lisbon Village Water Dept.	$3,250,000	X	0	+	$48,000	X	0	=	$0	$137,500
New Waterford Water / Waste Water Plant	$3,000,000	X	0	+	$45,000	X	0	=	$0	$231,850
Salineville Sewer Plant	$8,650,000	X	0	+	$75,000	X	0	=	$0	$0
Columbiana County Sheriff	$14,400	X	0	+	$2,000	X	0	=	$0	$0
Columbiana County EMA	$2,200	X	0	+	$0	X	0	=	$0	$0
Columbiana County 911 Ctr.	$10,000	X	0	+	$0	X	0	=	$0	$0
Columbiana PD	$5,500	X	0	+	$0	X	0	=	$0	$0
East Liverpool PD	$3,000	X	0	+	$0	X	0	=	$0	$0
East Palestine PD	$2,600	X	0	+	$0	X	0	=	$0	$0
Leetonia PD	$7,000	X	0	+	$0	X	0	=	$0	$22,250
Lisbon PD	$6,000	X	0	+	$0	X	0	=	$0	$80,975
Liverpool Township PD	$3,200	X	0	+	$0	X	0	=	$0	$0
New Waterford PD	$4,000	X	0	+	$0	X	0	=	$0	$0
Ohio State Highway Patrol	$80,000	X	0	+	$0	X	0	=	$0	$0
Perry Township PD	$2,500	X	0	+	$0	X	0	=	$0	$0
Salem PD	$8,000	X	0	+	$0	X	0	=	$0	$46,250
Salineville PD	$9,000	X	0	+	$0	X	0	=	$0	$0
St. Clair Township PD	$5,500	X	0	+	$0	X	0	=	$0	$0
Washingtonville PD	$3,500	X	0	+	$0	X	0	=	$0	$0
Wellsville PD	$10,000	X	0	+	$0	X	0	=	$0	$58,405
Calcutta FD	$4,800	X	0	+	$0	X	0	=	$0	$0
Columbiana FD	$6,000	X	0	+	$0	X	0	=	$0	$0
East Liverpool FD	$4,200	X	0	+	$0	X	0	=	$0	$53,265

Name/Description of Asset	Structure Use and Function Loss (Task A3)									Structure + Contents + Function Loss
	Average Daily Operating Budget ($)	X	Functional Downtime (# of days)	+	Displacement Cost per Day ($)	X	Displacement Time (Days)	=	Structure Use & Function Loss ($)	
East Palestine FD	$3,800	X	0	+	$0	X	0	=	$0	$0
Franklin Township VFD	$3,000	X	0	+	$0	X	0	=	$0	$0
Hanoverton VFD	$4,500	X	0	+	$0	X	0	=	$0	$0
Guilford Lake FD	$6,000	X	0	+	$0	X	0	=	$0	$0
Highlandtown VFD	$4,800	X	0	+	$0	X	0	=	$0	$0
Homeworth VFD	$5,000	X	0	+	$0	X	0	=	$0	$0
Leetonia FD/EMS	$7,000	X	0	+	$0	X	0	=	$0	$30,740
Lisbon FD	$10,000	X	0	+	$0	X	0	=	$0	$77,250
Dixonville FD	$3,500	X	0	+	$0	X	0	=	$0	$32,725
Lacroft VFD	$4,500	X	0	+	$0	X	0	=	$0	$0
Negley VFD/EMS	$3,900	X	0	+	$0	X	0	=	$0	$0
New Waterford FD	$4,600	X	0	+	$0	X	0	=	$0	$0
North Georgetown VFD	$5,550	X	0	+	$0	X	0	=	$0	$0
Perry Township VFD	$8,000	X	0	+	$0	X	0	=	$0	$0
Rogers Village FD	$6,500	X	0	+	$0	X	0	=	$0	$0
Salem FD	$10,000	X	0	+	$0	X	0	=	$0	$0
Salineville VFD	$5,100	X	0	+	$0	X	0	=	$0	$0
Wellsville VFD	$4,600	X	0	+	$0	X	0	=	$0	$48,680
West Point FD	$4,800	X	0	+	$0	X	0	=	$0	$0
Winona FD	$5,000	X	0	+	$0	X	0	=	$0	$0
Glenmoor VFD	$12,000	X	0	+	$0	X	0	=	$0	$0
Air Evac Lifeteam 81	$100,000	X	0	+	$0	X	0	=	$0	$1,732
EMT Ambulance	$6,500	X	0	+	$0	X	0	=	$0	$14,244
Lifeteam EMS Inc.	$7,000	X	0	+	$0	X	0	=	$0	$0
KLG Ambulance / MICU	$5,800	X	0	+	$0	X	0	=	$0	$0
North Star Critical Care	$4,000	X	0	+	$0	X	0	=	$0	$0
Maple-Cotton Funeral Home and EMS	$3,200	X	0	+	$0	X	0	=	$0	$0
Tri-County Ambulance	$3,500	X	0	+	$0	X	0	=	$0	$0
Columbiana EMS	$8,000	X	0	+	$0	X	0	=	$0	$0
Leetonia EMS	$4,300	X	0	+	$0	X	0	=	$0	$16,950
New Waterford EMS	$4,000	X	0	+	$0	X	0	=	$0	$0
East Palestine EMS	$6,000	X	0	+	$0	X	0	=	$0	$20,300
East Liverpool City Hospital	$750,000	X	0	+	$104,000	X	0	=	$0	$0
Salem Community Hospital	$800,000	X	0	+	$120,000	X	0	=	$0	$0

	Structure Use and Function Loss (Task A3)									
Name/Description of Asset	Average Daily Operating Budget ($)	X	Functional Downtime (# of days)	+	Displacement Cost per Day ($)	X	Displacement Time (Days)	=	Structure Use & Function Loss ($)	Structure + Contents + Function Loss
Parkside Healthcare Center	$300,000	X	0	+	$30,000	X	0	=	$0	$0
Vista Center	$350,000	X	0	+	$35,000	X	0	=	$0	$0
Blossom Nursing and Rehab. Center	$300,000	X	0	+	$30,000	X	0	=	$0	$0
Calcutta Healthcare Center	$375,000	X	0	+	$40,000	X	0	=	$0	$0
East Liverpool Convalescent Center	$300,000	X	0	+	$30,000	X	0	=	$0	$0
Nentwick Convalescent Home	$425,000	X	0.5	+	$36,000	X	0	=	$212,500	$270,432
Essex of Salem #1	$450,000	X	0	+	$40,000	X	0	=	$0	$0
Essex of Salem #2	$425,000	X	0	+	$37,000	X	0	=	$0	$0
Essex of Salem #3	$375,000	X	0	+	$31,000	X	0	=	$0	$0
Pleasant view North Retirement	$415,000	X	0	+	$33,000	X	0	=	$0	$0
Salem Care Center	$400,000	X	0	+	$37,500	X	0	=	$0	$0
Assisted Living Ministry Services	$365,000	X	0.5	+	$34,000	X	0	=	$182,500	$196,006
Crossroads at Beaver Creek	$650,000	X	0.5	+	$43,000	X	0	=	$325,000	$421,500
Grace Woods Senior Living	$425,000	X	0	+	$39,500	X	0	=	$0	$0
The Renaissance at Vista	$500,000	X	0	+	$42,000	X	0	=	$0	$0
Sterling House of Salem	$435,000	X	0	+	$40,000	X	0	=	$0	$0
Whispering Pines Village	$395,000	X	0	+	$35,000	X	0	=	$0	$0
St. Mary's Alzheimer's Center	$465,000	X	0	+	$42,000	X	0	=	$0	$0
Adkins Nursing Home	$400,000	X	0	+	$35,000	X	0	=	$0	$0
Great Trail Care Center	$365,000	X	0	+	$30,000	X	0	=	$0	$0
Holander House	$370,000	X	0	+	$31,000	X	0	=	$0	$0
Twin Oaks Retirement Center	$550,000	X	0	+	$42,500	X	0	=	$0	$0
Covington Skilled Nursing & Rehab Ctr.	$565,000	X	0	+	$43,000	X	0	=	$0	$0
American Health Care	$415,000	X	0	+	$33,000	X	0	=	$0	$0
Harmony Village	$485,000	X	0	+	$36,000	X	0	=	$0	$0

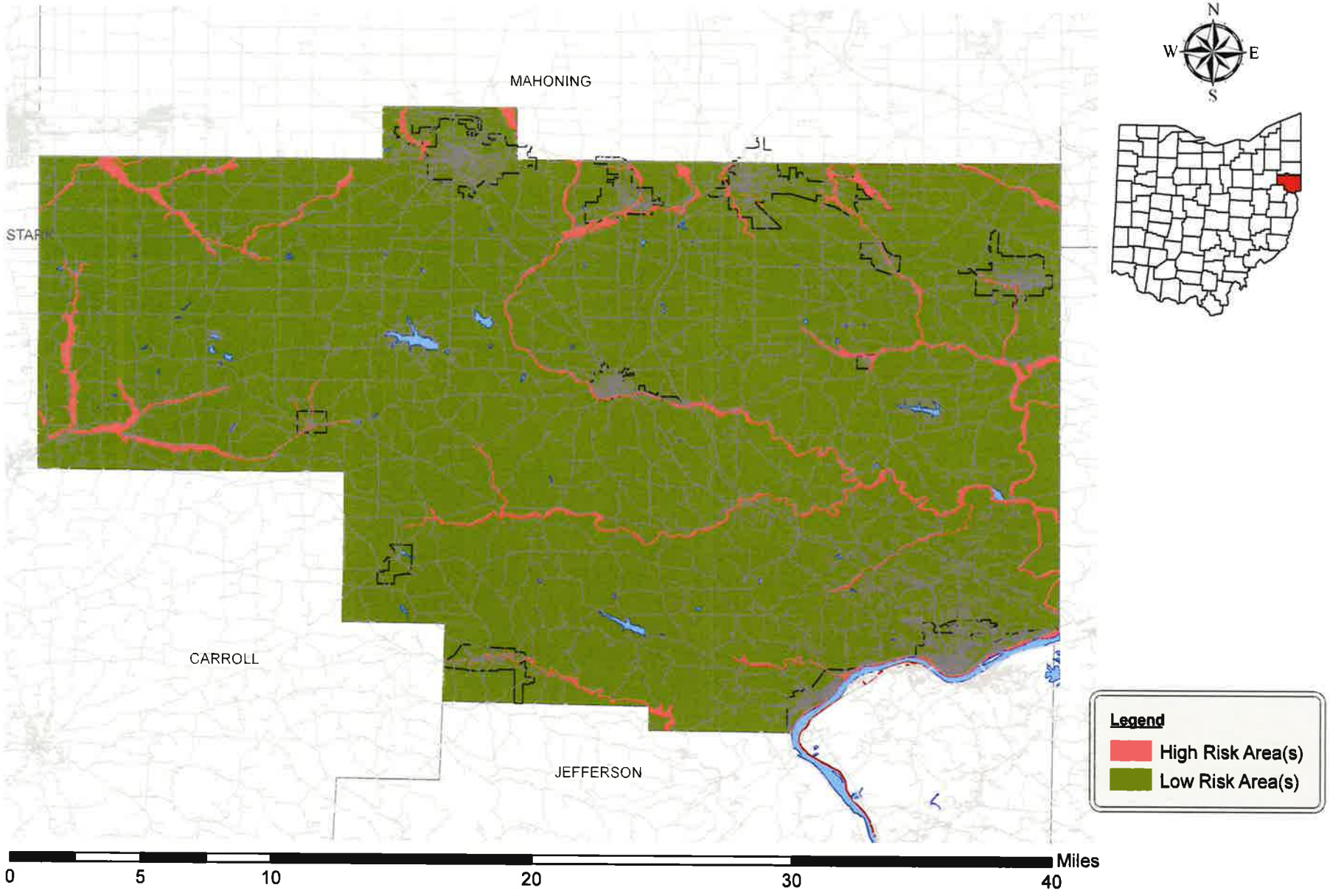
	Structure Use and Function Loss (Task A3)									
Name/Description of Asset	Average Daily Operating Budget ($)	X	Functional Downtime (# of days)	+	Displacement Cost per Day ($)	X	Displacement Time (Days)	=	Structure Use & Function Loss ($)	Structure + Contents + Function Loss
Courtyard at Lexington	$585,000	X	0	+	$43,500	X	0	=	$0	$0
Century House of Salem	$480,000	X	0	+	$35,500	X	0	=	$0	$0
Columbiana County Mental Health	$400,000	X	0	+	$31,000	X	0	=	$0	$0
Beaver Local HS	$43,000	X	0	+	$0	X	0	=	$0	$0
Beaver Local MS	$32,000	X	0	+	$0	X	0	=	$0	$0
Buckeye ES	$25,000	X	0	+	$0	X	0	=	$0	$0
Calcutta ES	$22,500	X	0	+	$0	X	0	=	$0	$0
Columbiana Co. Career and Technical Ctr.	$280,000	X	0	+	$0	X	0	=	$0	$0
Columbiana HS	$40,000	X	0	+	$0	X	0	=	$0	$0
Crestview ES	$25,000	X	0	+	$0	X	0	=	$0	$0
Crestview MS/HS	$75,000	X	0	+	$0	X	0	=	$0	$0
David Anderson Jr/Sr HS	$54,000	X	0	+	$0	X	0	=	$0	$0
DAW MS	$33,000	X	0	+	$0	X	0	=	$0	$0
East ES	$26,500	X	0.5	+	$0	X	0	=	$13,250	$52,100
East Liverpool Jr./Sr. HS	$38,000	X	0	+	$0	X	0	=	$0	$134,130
East Palestine ES	$23,000	X	0	+	$0	X	0	=	$0	$0
East Palestine MS	$35,000	X	0	+	$0	X	0	=	$0	$0
East Palestine HS	$40,000	X	0	+	$0	X	0	=	$0	$0
Garfield ES	$22,500	X	0	+	$0	X	0	=	$0	$0
Joshua Dixon ES	$26,000	X	0	+	$0	X	0	=	$0	$0
Lacroft ES	$35,000	X	0.5	+	$0	X	0	=	$17,500	$127,812
Leetonia K-12	$39,500	X	0	+	$0	X	0	=	$0	$0
Mckinley ES	$25,000	X	0	+	$0	X	0	=	$0	$0
North ES	$28,500	X	0.5	+	$0	X	0	=	$14,250	$65,600
Reilly ES	$30,000	X	0	+	$0	X	0	=	$0	$0
Rogers ES	$26,500	X	0	+	$0	X	0	=	$0	$0
Salem Jr./Sr. HS	$60,000	X	0.5	+	$0	X	0	=	$30,000	$128,871
South Side MS	$33,000	X	0	+	$0	X	0	=	$0	$0
Southeast ES	$23,500	X	0	+	$0	X	0	=	$0	$0
Southern Local K-12	$48,500	X	0	+	$0	X	0	=	$0	$0
United K-12	$70,000	X	0	+	$0	X	0	=	$0	$0
Wellsville HS	$65,000	X	0	+	$0	X	0	=	$0	$0
West Point ES	$31,000	X	0	+	$0	X	0	=	$0	$0
Westgate MS	$38,000	X	0.5	+	$0	X	0	=	$19,000	$106,906

Name/Description of Asset	Structure Use and Function Loss (Task A3)									Structure + Contents + Function Loss
	Average Daily Operating Budget ($)	X	Functional Downtime (# of days)	+	Displacement Cost per Day ($)	X	Displacement Time (Days)	=	Structure Use & Function Loss ($)	
Act 1 Education Ctr. Jr. HS	$22,000	X	0	+	$0	X	0	=	$0	$0
American Spirit Academy K-12	$20,000	X	0.5	+	$0	X	0	=	$10,000	$28,394
Heartland Christian School K-12	$48,500	X	0	+	$0	X	0	=	$0	$0
St. Aloysius ES	$29,500	X	0.5	+	$0	X	0	=	$14,750	$30,250
St. Paul ES	$32,500	X	0	+	$0	X	0	=	$0	$0
American Standards Brands	$44,800	X	0	+	$11,200	X	0	=	$0	$0
Flex-N-Gate/Ventra Salem	$38,000	X	0	+	$9,500	X	0	=	$0	$0
Fresh Mark Inc.	$35,000	X	0	+	$8,000	X	0	=	$0	$0
Wal-Mart Stores Inc.	$109,600	X	0	+	$27,400	X	0	=	$0	$0
Pioneer Pottery Inc	$30,000	X	0.5	+	$7,000	X	0	=	$15,000	$31,500
Zarbana Industries	$50,000	X	0	+	$13,500	X	0	=	$0	$0
Miller Casting	$65,000	X	0	+	$14,000	X	0	=	$0	$0
Columbiana Foundry Company	$40,000	X	0	+	$10,000	X	0	=	$0	$0
Kensington PO	$1,800	X	0	+	$0	X	0	=	$0	$0
Summitville PO	$2,100	X	0	+	$0	X	0	=	$0	$0
Columbiana PO	$4,800	X	0	+	$0	X	0	=	$0	$0
New Waterford PO	$3,600	X	0	+	$0	X	0	=	$0	$0
Calcutta PO	$3,000	X	0	+	$0	X	0	=	$0	$0
Winona PO	$3,250	X	0	+	$0	X	0	=	$0	$0
Homeworth PO	$2,850	X	0	+	$0	X	0	=	$0	$0
East Liverpool PO	$5,000	X	0	+	$0	X	0	=	$0	$16,478
East Palestine PO	$3,450	X	0	+	$0	X	0	=	$0	$0
East Rochester PO	$3,650	X	0	+	$0	X	0	=	$0	$0
Hanoverton PO	$4,000	X	0	+	$0	X	0	=	$0	$0
Rogers PO	$3,650	X	0	+	$0	X	0	=	$0	$0
Salem PO	$6,000	X	0	+	$0	X	0	=	$0	$21,682
Salineville PO	$3,350	X	0	+	$0	X	0	=	$0	$0
Negley PO	$4,250	X	0	+	$0	X	0	=	$0	$0
North Georgetown PO	$3,200	X	0	+	$0	X	0	=	$0	$0
Leetonia PO	$3,300	X	0	+	$0	X	0	=	$0	$5,821
Lisbon PO	$5,650	X	0	+	$0	X	0	=	$0	$24,786

	Structure Use and Function Loss (Task A3)									
Name/Description of Asset	Average Daily Operating Budget ($)	X	Functional Downtime (# of days)	+	Displacement Cost per Day ($)	X	Displacement Time (Days)	=	Structure Use & Function Loss ($)	**Structure + Contents + Function Loss**
Elkton PO	$4,150	X	0	+	$0	X	0	=	$0	$0
Washingtonville PO	$4,100	X	0	+	$0	X	0	=	$0	$0
Wellsville PO	$3,450	X	0	+	$0	X	0	=	$0	$0
Carnegie Public Library	$1,600	X	0	+	$800	X	0	=	$0	$0
Columbiana Public	$12,000	X	0	+	$1,250	X	0	=	$0	$0
East Palestine Memorial Public Library	$9,500	X	0.5	+	$1,000	X	0	=	$4,750	$37,032
Leetonia Community Public Library	$22,000	X	0.5	+	$2,000	X	0	=	$11,000	$80,952
Lepper Library	$3,840	X	0	+	$500	X	0	=	$0	$0
Salem Public Library	$13,500	X	0.5	+	$1,500	X	0	=	$6,750	$50,438
Wellsville Public Library	$1,500	X	0.5	+	$750	X	0	=	$750	$19,108
Hiram Bell Farmstead	$0	X	0	+	$0	X	0	=	$0	$0
Burchfield Homestead	$0	X	0	+	$0	X	0	=	$0	$0
Richard L Cawood Residence	$0	X	0	+	$0	X	0	=	$0	$4,150
Cherry Valley Coke Ovens	$0	X	0	+	$0	X	0	=	$0	$0
Church Hill Road Covered Bridge	$0	X	0	+	$0	X	0	=	$0	$0
Diamond Historic District	$0	X	0	+	$0	X	0	=	$0	$60,000
East Liverpool Historic District	$0	X	0	+	$0	X	0	=	$0	$40,000
East Liverpool Pottery	$0	X	0	+	$0	X	0	=	$0	$0
Nicholas Eckis House	$0	X	0	+	$0	X	0	=	$0	$0
Elks Club	$0	X	0	+	$0	X	0	=	$0	$4,450
Sandy and Beaver Canal District	$0	X	0	+	$0	X	0	=	$0	$0
Godwin Knowles House	$0	X	0	+	$0	X	0	=	$0	$7,700
Hanna-Kenty House	$0	X	0	+	$0	X	0	=	$0	$0
Hanoverton Canal Town District	$0	X	0	+	$0	X	0	=	$0	$0
Franklin Harris Farmstead	$0	X	0	+	$0	X	0	=	$0	$0
Daniel Howell Hise House	$0	X	0	+	$0	X	0	=	$0	$0
Hostetter Inn	$0	X	0	+	$0	X	0	=	$0	$0
Ikirt House	$0	X	0	+	$0	X	0	=	$0	$3,450

	Structure Use and Function Loss (Task A3)									
Name/Description of Asset	Average Daily Operating Budget ($)	X	Functional Downtime (# of days)	+	Displacement Cost per Day ($)	X	Displacement Time (Days)	=	Structure Use & Function Loss ($)	Structure + Contents + Function Loss
Homer Laughlin House	$0	X	0	+	$0	X	0	=	$0	$4,200
Lisbon Historic District	$0	X	0	+	$0	X	0	=	$0	$80,000
Daniel McBean Farmstead	$0	X	0	+	$0	X	0	=	$0	$8,500
Odd Fellows Temple	$0	X	0	+	$0	X	0	=	$0	$0
Mary A. Patterson Memorial	$0	X	0	+	$0	X	0	=	$0	$1,200
Potters National Bank	$0	X	0	+	$0	X	0	=	$0	$10,900
Salem Downtown Historic District	$0	X	0	+	$0	X	0	=	$0	$65,000
Charles Nelson Schmick House	$0	X	0	+	$0	X	0	=	$0	$0
John Street House	$0	X	0	+	$0	X	0	=	$0	$0
Teegarden-Centennial Covered Bridge	$0	X	0	+	$0	X	0	=	$0	$0
Cassius Clark Thompson House	$0	X	0	+	$0	X	0	=	$0	$5,663
Travelers Hotel	$0	X	0	+	$0	X	0	=	$0	$29,500
YMCA	$0	X	0	+	$0	X	0	=	$0	$15,550
Residential	$0	X	0	+	$0	X	0	=	$0	$753,408
							Total Loss to Structure Use & Function		**$1,292,000**	$6,984,140

HAZARD MAPPING: FLOODING (Data = 100-year Floodplain)



2.2 PROFILING HAZARDS

2.2.5. Hazardous Material Incident

A technological hazard refers to the origins of incidents that can arise from human activities such as the manufacture, transportation, storage, and use of hazardous materials.

INTRODUCTION

Hazardous Materials are defined as explosive, flammable, combustible, corrosive, oxidizing, toxic, infectious, or radioactive materials that, when involved in an accident and released in sufficient quantities, will place a segment of the general public in immediate danger from exposure, contact, inhalation, or ingestion. These are incidents involving either the release or potential release of a hazardous material as the result of accidental spills, leaks, or released airborne hazardous materials at transportation or fixed facilities.

Period of Occurrence:	At any time
Number of Events to Date:	Few small scale incidents; one major
Probability of Event:	Infrequent
Warning Time:	None
Potential Impacts:	Potential loss of human life, economic loss, environmental damage
Cause Injury or Death:	Injury and risk of multiple deaths
Potential Facility Shutdown:	Days to weeks

Figure 2.5a

Hazardous substances fall under two (2) definitions of hazard: ***Health Hazard*** – Means a chemical for which there is statistically significant evidence based on at least one (1) study conducted in accordance with established scientific principles that acute or chronic health effects may occur. Hazardous materials can enter the body in one (1) of four (4) ways. The four (4) routes of entry include inhalation, ingestion, injection, and skin absorption. ***Physical Hazard*** – Means a chemical for which there is scientifically valid evidence that it is a combustible liquid, a compressed liquid, a compressed gas, explosive, flammable, an organic oxide, an oxidizer, pyrophoric (ignites spontaneously), unstable (reactive), or water reactive.

Hazardous chemicals are prevalent throughout our society. While industry is the primary user and maintainer of hazardous chemicals, we also have them in our homes, in our cars, at our places of work and recreation. The geographic and economic characteristics of Columbiana County make it likely for a hazmat release to occur. For

the purposes of this Hazard Risk Assessment (HRA), it is assumed that Columbiana County has a moderate probability, moderate severity risk from hazmat incidents. The hazard of a hazmat incident is targeted to the northern portion of the county due to the large number of industrial facilities in that area of the county, as well as the fact that this is the area of the county that house the majority of the major transportation infrastructure to include highway, railway, waterway, and pipeline.

High Probability Low Impact	**High Probability Moderate Impact**	**High Probability High Impact**
Moderate Probability Low Impact	**Moderate Probability Moderate Impact**	**Moderate Probability High Impact**
Low Probability Low Impact	**Low Probability Moderate Impact**	**Low Probability High Impact**

Figure 2.5b

HAZARD IDENTIFICATION

The hauling, storage, and use of hazardous materials play a vital role in the economy of our nation. These materials are stored and handled at fixed facilities and are transported over highway, railway, and water transportation systems, as well as pipelines. It is estimated that over four (4) billion tons of hazardous materials are transported annually and that 100,000 trucks haul hazardous materials on the country's highways each day. Almost half of all freight trains carry hazardous materials. Ohio is a crossroads state into which, through which, or out of which travels virtually every one of the 50,000 chemicals known to be manufactured in the United States. There are 2,500 hazardous materials shipments per day on the highways across the state. There are two (2) large gas transmission/distribution pipelines that diagonally transects Columbiana County, from the southwest to the northeast, as well as new lines being constructed to connect a large fractionization plant near Kensington to Marcellus wells in the area. Recently a transmission line near the community of Hanoverton failed in a rural area with little danger or damage to residences or the public.

There are 24 facilities that handle, use, and/or store Extremely Hazardous Substances (EHSs) in Columbiana County, and Beaver Valley Nuclear Power Plant is located just to the east of Columbiana County in neighboring Beaver County, Pennsylvania. The transportation infrastructure utilized to move hazardous materials through Columbiana County is varied with SR 11, transecting the county north to south, as the main highway transportation artery for the county; rail lines located in the northern and eastern portions of the county; river ports located in the southeastern portion of the county that provide access to both rail and highway transportation.

An incident causing the accidental release of a hazardous material is spontaneous, with little time of warning. Further, the recovery and clean-up activities involved in a hazmat incident may require several hours, days, or even weeks to complete. According to the Environmental Protection Agency (EPA) there is one (1) site in Columbiana County that has been placed on the National Priorities List (NPL) as a superfund site. The Nease Chemical site is located 2.5 miles northwest of the City of Salem, Ohio in northern Columbiana County and covers approximately 44 acres.

The chemical, physical, and biological properties of hazardous materials pose a potential risk to life, health, the environment, and property when not properly contained. Hazardous materials incidents may be either generated from a fixed site or the result of a transportation-related accident or release. Hazardous substances are subject to regulation by a variety of state and federal agencies through an assortment of labor, environmental, and transportation laws.

The types of materials that can cause a hazmat release are wide ranging in nature and may include chlorine, sodium hydroxide, sulfuric acid, radioactive isotopes, anhydrous ammonia, gasoline and other hydrocarbons, as well as medical/biological waste from hospitals or clinics. Hazardous materials subject to reporting under the Emergency Planning and Community Right-to-Know Act (EPCRA) or Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA) include these four (4) groups:

- Extremely Hazardous Substances (EHS) – These are materials with acutely toxic properties that may do irreversible damage or cause death to people or harm the environment when released or used outside their intended use. Examples include: ammonia, chlorine, and sulfuric acid.
- Hazardous Substances – These are any materials posing a threat to human health and/or the environment, or any substance designated by the Environmental Protection Agency (EPA) to be reported if a designated quantity of the substance is spilled into the waters of the United States or is otherwise released into the environment.
- Hazardous Chemicals – If present at a chemical facility in certain amounts, these substances require a Material Safety Data Sheet (MSDS) under the Occupational Safety and Health Administration (OSHA) Hazard Communication Standard. Such substances are capable of producing fires and explosions or adverse health effects such as cancer, burns, or dermatitis.

- Toxic Chemicals – Chemicals or chemical categories that appear on the list because of their chronic or long-term toxicity.

HAZARD IMPACTS

Hazardous materials incidents are significant man-made hazards in Columbiana County. Hazardous materials in various forms have the potential to result in death, serious injury, produce long-lasting health effects, and damage buildings, homes, and other property. These events can occur rapidly over a large area.

Many factors determine the impact of a potential incident including quick and solid decision-making by emergency officials, location and type of release, evacuation and shelter-in-place needs, public health concerns, and relevant economic considerations. Additionally, while most incidents are generally brief, the resulting recovery and cleanup may take time to exact.

If evacuation is necessary due to a chemical emergency, road closures and traffic jams may result. If a large-scale evacuation is deemed necessary, it can pose serious long term economic consequences to the involved population area. A delay in the resumption of industry commerce may cause economic losses for both business owners and employees. In addition, an evacuation ordered on short-notice could cause serious problems for businesses requiring time to shut down specialized equipment.

There is also the monetary impact borne by responding public or private emergency response organization. These agencies may be challenged by the expenses dictated by a hazardous material release, and may need to wait an uncomfortable length of time for the responsible party to reimburse any outstanding costs, further straining the economic resources of the region.

A major incident involving significant injuries may severely tax regional medical services, as medical facilities aren't generally designed to handle mass amounts of victims on short notice. Consequently, in the event of a major incident, hospitals and other medical facilities must still be able to provide their customary level of service to all patients, regardless of whether they were incident victims or not.

PAST MITIGATION EFFORTS

Several emergency preparedness and response plans have been developed with regards to hazardous materials incidents for Columbiana County. The Columbiana County LEPC uses the CAMEO program to develop risk zone radii for each facility in

Columbiana County reporting Extremely Hazardous Substances (EHS). Due to widespread availability and ease of use, CAMEO has been selected and established as the standard for modeling releases of EHSs in Columbiana County.

Columbiana County also has established a Hazardous Materials Response Team. The team, which is a regional team, is based out of the East Liverpool fire Department will respond to requests from fire departments in Columbiana County and northern Hancock County, West Virginia for assistance with hazardous materials emergencies.

The EPA signed a document in 2008 called a Record of Decision which details the cleanup for soil and sediment in Little Beaver Creek. The cleanup was designed in 2011 using 2010 sampling results. The cleanup scheduled to begin in 2012 will entail:

- Removal of the most contaminated sediment in the Middle Fork of Little Beaver Creek.
- Removal of Feeder Creek sediment.
- Removal of the most contaminated floodplain surface soil.
- Disposal of soil and sediment at the old Nease Plant, where it will be covered with clean soil.

HAZARD MAPPING

See the Columbiana County Hazmat Map for a graphical representation of the hazard areas with regard to hazardous materials. The green areas represent "low hazard areas," the yellow areas represent "moderate hazard areas," the orange areas represent "high hazard areas," and the red areas represent "extreme high hazard areas."

Hazard: Hazardous Materials Incident

Type of Structure (Occupancy Class)	Number of Structures			Value of Structures			Number of People		
	# in Community	# in Hazard Area	% in Hazard Area	$ in Community	$ in Hazard Area	% in Hazard Area	# in Community	# in Hazard Area	% in Hazard Area
Residential	47,088	4,709	10%	$3,767,040,000	$1,600,000	0.04%	107,841	16,176	15%
Commercial	1,578	189	12%	$631,200,000	$840,000	0.13%	17,469	4,367	25%
Industrial	444	67	15%	$222,000,000	$450,000	0.20%	6,505	1,951	50%
Agricultural	4,120	412	10%	$721,000,000	$735,000	0.10%	3,090	309	10%
Religious/Non-Profit	103	10	10%	$20,600,000	$24,000	0.12%	4,120	618	15%
Government	45	5	12%	$18,000,000	$16,000	0.09%	1,350	270	20%
Education	46	6	12%	$17,250,000	$30,000	0.17%	18,276	2,741	15%
Utilities	20	10	50%	$30,000,000	$90,000	0.30%	60	21	35%
Total	**53,444**	**5,408**	**10%**	**$5,427,090,000**	**$3,785,000**	**0.07%**	**158,711**	**26,453**	**17%**

	Yes	No
1. Do you know where your greatest damages may occur in your hazard areas?		X
2. Do you know whether your critical facilities will be operational after a hazard event?		X
3. Is there enough data to determine which assets are subject to the greatest potential damages?	X	
4. Is there enough data to determine whether significant elements of the community are vulnerable to potential hazards?	X	
5. Is there enough data to determine whether certain areas of historic, environmental, political, or cultural significance are vulnerable to potential hazards?		X
6. Is there concern about a particular hazard because of its severity, repetitiveness, or likelihood of occurrence?	X	
7. Is additional data needed to justify the expenditure of community or state funds for mitigation initiatives?	X	

Hazard: Hazardous Materials Incident

	Structure Loss (Task A1)					Contents Loss (Task A2)				
Name/Description of Asset	Structure Replacement Value ($)	X	Percent Damage (%)	=	Loss to Structure ($)	Replacement Value of Contents ($)	X	Percent Damage (%)	=	Loss to Contents ($)
Columbiana County Courthouse	$1,850,000	X	0%	=	$0	$700,000	X	0.25%	=	$1,750
Columbiana City Hall	$1,250,000	X	0%	=	$0	$400,000	X	0%	=	$0
East Liverpool City Hall	$650,000	X	0%	=	$0	$325,000	X	0.25%	=	$813
East Palestine Village Offices	$425,000	X	0%	=	$0	$275,000	X	0%	=	$0
Hanoverton Village Offices	$375,000	X	0%	=	$0	$225,000	X	0%	=	$0
Salem City Hall	$976,800	X	0%	=	$0	$390,000	X	0.25%	=	$975
Salineville Village Offices	$311,900	X	0%	=	$0	$190,000	X	0.25%	=	$475
Wellsville Village Offices	$518,100	X	0%	=	$0	$300,000	X	0%	=	$0
Leetonia Village Offices	$335,000	X	0%	=	$0	$90,000	X	0.25%	=	$225
Lisbon Village Offices	$979,500	X	0%	=	$0	$395,000	X	0.25%	=	$988
New Waterford Village Offices	$265,000	X	0%	=	$0	$75,000	X	0%	=	$0
Washingtonville Village Offices	$250,000	X	0%	=	$0	$55,000	X	0%	=	$0
Elkrun Township Hall	$145,000	X	0%	=	$0	$70,000	X	0%	=	$0
Fairfield Township Hall	$360,000	X	0%	=	$0	$220,000	X	0%	=	$0
Madison Township Hall	$245,000	X	0%	=	$0	$165,000	X	0%	=	$0
Salem Township Hall	$310,000	X	0%	=	$0	$200,000	X	0.25%	=	$500
Bridges	$115,000,000	X	0%	=	$0	$0	X	0%	=	$0
Highways	$1,525,000,000	X	0%	=	$0	$0	X	0%	=	$0
Railroads	$85,000,000	X	0%	=	$0	$0	X	0%	=	$0
Columbiana County Airport	$679,200	X	0%	=	$0	$203,760	X	0.25%	=	$509
Columbiana County Port Authority	$595,000	X	0%	=	$0	$148,750	X	0.25%	=	$372
East Liverpool Water Works	$1,895,000	X	0%	=	$0	$3,550,000	X	0.25%	=	$8,875
East Palestine Sewer and Water	$3,165,000	X	0%	=	$0	$3,500,000	X	0.25%	=	$8,750
Leetonia Water Board	$1,750,000	X	0%	=	$0	$2,110,000	X	0.25%	=	$5,275
Salem Sewage Plant	$7,450,000	X	0%	=	$0	$6,250,000	X	0.25%	=	$15,625
Salineville Water Plant	$2,450,000	X	0%	=	$0	$3,000,000	X	0.25%	=	$7,500

	Structure Loss (Task A1)					Contents Loss (Task A2)				
Name/Description of Asset	Structure Replacement Value ($)	X	Percent Damage (%)	=	Loss to Structure ($)	Replacement Value of Contents ($)	X	Percent Damage (%)	=	Loss to Contents ($)
Washingtonville Water and Sewer	$9,355,000	X	0%	=	$0	$10,000,000	X	0.25%	=	$25,000
Wellsville Filtration Plant	$985,000	X	0%	=	$0	$1,255,000	X	0.25%	=	$3,138
Wellsville Sewage Disposal	$1,553,000	X	0%	=	$0	$2,875,000	X	0.25%	=	$7,188
Buckeye Water District	$3,650,000	X	0%	=	$0	$4,250,000	X	0.25%	=	$10,625
Columbiana City Water Works/Sewer Dept.	$2,655,000	X	0%	=	$0	$3,150,000	X	0.25%	=	$7,875
Leetonia Sewage Plant	$3,950,000	X	0%	=	$0	$4,550,000	X	0.25%	=	$11,375
Lisbon Village Water Dept.	$1,875,000	X	0%	=	$0	$2,000,000	X	0.25%	=	$5,000
New Waterford Water / Waste Water Plant	$2,455,000	X	0%	=	$0	$3,655,000	X	0.25%	=	$9,138
Salineville Sewer Plant	$5,650,000	X	0%	=	$0	$5,000,000	X	0.25%	=	$12,500
Columbiana County Sheriff	$350,000	X	0%	=	$0	$625,000	X	0%	=	$0
Columbiana County EMA	$565,000	X	0%	=	$0	$200,000	X	0%	=	$0
Columbiana County 911 Ctr.	$265,000	X	0%	=	$0	$635,000	X	0%	=	$0
Columbiana PD	$225,000	X	0%	=	$0	$325,000	X	0%	=	$0
East Liverpool PD	$215,000	X	0%	=	$0	$289,000	X	0.25%	=	$723
East Palestine PD	$210,000	X	0%	=	$0	$198,000	X	0%	=	$0
Leetonia PD	$235,000	X	0%	=	$0	$105,000	X	0%	=	$0
Lisbon PD	$979,500	X	0%	=	$0	$320,000	X	0%	=	$0
Liverpool Township PD	$200,000	X	0%	=	$0	$165,000	X	0%	=	$0
New Waterford PD	$310,000	X	0%	=	$0	$175,000	X	0%	=	$0
Ohio State Highway Patrol	$865,000	X	0%	=	$0	$455,000	X	0%	=	$0
Perry Township PD	$309,900	X	0%	=	$0	$170,000	X	0%	=	$0
Salem PD	$395,000	X	0%	=	$0	$265,000	X	0%	=	$0
Salineville PD	$311,900	X	0%	=	$0	$250,000	X	0%	=	$0
St. Clair Township PD	$295,000	X	0%	=	$0	$175,000	X	0%	=	$0
Washingtonville PD	$235,000	X	0%	=	$0	$145,000	X	0%	=	$0
Wellsville PD	$518,100	X	0%	=	$0	$325,000	X	0%	=	$0
Calcutta FD	$170,000	X	0%	=	$0	$645,000	X	0%	=	$0
Columbiana FD	$426,700	X	0%	=	$0	$890,000	X	0%	=	$0
East Liverpool FD	$135,300	X	0%	=	$0	$465,000	X	0.25%	=	$1,163