

Damage Assessment Procedures for Goshen Fire and EMS

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CERTIFICATION STATEMENT

I hereby certify that this paper constitutes my own product, that where the language of other is set forth, quotation marks so indicate, and that appropriate credit is given where I have used the language, ideas, expressions, or writings of another.

Signed: Lee C. Hume

Abstract

The problem was Goshen Fire and EMS has not identified the need for a damage assessment procedure. The purpose of this research was to identify the need for a Goshen Fire and EMS damage assessment procedure. The descriptive research method was used to answer the following research questions. a) What components should be used in the development of a damage assessment procedure? b) Is there a county, state, or federal procedure established to conduct damage assessments? c) How do other fire departments in Ohio conduct damage assessments? d) What software is available in Clermont County (OH) to assist in documenting damage assessments? The literature review examined multiple sources which identified local, state, and federal standards and procedures for conducting damage assessments. Fire departments from across Ohio were surveyed to determine if and how other fire departments conduct damage assessments. Interviews with the Goshen Fire and EMS Chief and the Clermont County Emergency Management Agency Director were conducted to determine current procedures and capabilities. All combined, the results of the research showed that the current system for collecting damage assessment data is not efficient and could create delays in receiving additional aid. Lastly, the research was presented to Fire Chief Steve Pegram and Captain Kevin Lynch with a recommendation to create a standard operating procedure that includes a damage assessment survey route and standard method of data sharing.

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Damage Assessment Procedures for Goshen Fire and EMS

The National Weather Service (2016) reports that there were 6 fatalities and 9 injuries that resulted during 2015 hazardous weather events in Ohio. “Ohio has been pretty fortunate lately, when it comes to severe weather and major natural disasters. But we cannot become complacent and not be prepared,” said Sima Merick, executive director of the Ohio Emergency Management Agency (Ohio Emergency Management Agency, 2016, p. 1). The problem is Goshen Fire and EMS has not identified the need for a damage assessment procedure. The purpose of this research was to identify the need for a Goshen Fire and EMS damage assessment procedure. The descriptive research method was used to answer the following research questions. a) What components should be used in the development of a damage assessment procedure? b) Is there a county, state, or federal procedure established to conduct damage assessments? c) How do other fire departments in Ohio conduct damage assessments? d) What software is available in Clermont County (OH) to assist in documenting damage assessments?

This research will seek to identify what components should be in a damage assessment procedure, what the county, state, and federal procedures focuses on, and how can information be transferred to the county dispatch and emergency management agency more efficiently. If Merick is correct about potential complacency, the research will reveal deficiencies in Goshen Fire and EMS’s damage assessment procedures and provide potential opportunity for enhanced coordination with county officials.

Background and Significance

In 1947, the Goshen Community Fire Department was formed, which was an all-

volunteer private fire company. At the time, Goshen Township was predominately a rural farming community, however, has seen a shift over the years towards a more suburban bedroom community. “The Goshen Community Fire Department and the Goshen Township Life Squad served the citizens of Goshen Township until 1997 when Township Trustees decided that it would be best for the two departments to merge and form Goshen Township Fire and EMS” (Hasenmeier, 2015, p. 5). In 2015, a second firehouse was opened and staffed to decrease response times on the western side of the jurisdiction. The proud history and mission of the organization has continued through emergency and non-emergency operations that include, but are not limited to: fire suppression, emergency medical services (EMS), hazardous materials, rescue, fire code enforcement, and community risk reduction. This organization is a combination department that has 14 full-time members and 50 part-time members that play an integral role in daily and emergency operations. The department has one deputy chief, three captains, and three lieutenants under the supervision of the fire chief.

Critical Hazard Protection

Goshen Fire and EMS services a population of approximately 16,375 permanent residents within Goshen Township (Clermont County Economic Development, 2012). The jurisdiction has a combination of residential, commercial, and assembly occupancies in addition to large areas of land used for agricultural purposes and other areas of steep topography. Some critical infrastructure that Goshen Fire and EMS protects within its jurisdiction includes:

- Suburban Propane. A bulk storage distributor with 1 – 30,000 gallon and 2 – 17,000 gallon aboveground propane tanks.

- Cincinnati Bell. A central switching station for telephone and internet services in southwest Ohio. High voltage and hazardous chemical inventory is present.
- Goshen Local School District. Four buildings on one campus providing education for pre-kindergarten through 12th grades.
- O'Bannon Creek Golf Club. A championship 18 hole golf course with a 16,000 square foot clubhouse.

Additionally, State Route 28 is a state highway which connects several manufacturing and transportation hubs with Interstate 275. Much of the truck traffic is packaging, parts, raw materials, and jet fuel to support the Wilmington airport and the surrounding manufacturing and shipping facilities in the Cincinnati metro area (Hasenmeier, 2015). Lastly, there are two gas transmission pipelines which cross the township, a telephone switching location, several residential water and sewer treatment facilities, and several private air transportation runways.

Geographic Location

Goshen Township is located in Clermont County, Ohio and spans 34.4 square miles on the northeast side of the Cincinnati metropolitan area (City-Data, 2015). The majority of the township's land area is rural, which has contributed to the lack of fire hydrants and long response times. Additionally, the road system is comprised of many narrow, hilly, and winding roads.

Programs and Services

The researcher identified the following core programs provided to the Goshen Township residents and visitors, as well as the services that enable the agency to deliver their core programs (Hasenmeier, 2015):

Table 1: Core Programs

Emergency Medical Services	Fire Suppression
Rescue – Basic and Technical	Fire Prevention Education
Fire Inspection	First Aid/CPR Education
Hazardous Materials Mitigation	Public Information

Table 2: Support Services

Training	Communications
Logistics	Budget
IT	Health/Wellness
Township Legal	Township Fiscal Clerk
Goshen PD / Clermont County Sheriff's Office	Division of State Fire Marshal
Ohio Department of EMS	Mutual Aid
Electric Utilities	Gas Utilities
Township Trustees	Clermont County Dispatch
Water & Street Departments	Goshen Local Schools
Township Administration	Building Official
Great Oaks Career Center	Ohio Fire Academy
Goshen Fire and EMS Medical Director	Clermont County EMA
Greater Cincinnati Hazmat	Other State Agencies

Importance

This applied research project relates to the Executive Analysis of Fire Service Operations in Emergency Management course that intends “to prepare senior staff officers in the administrative functions necessary to effectively manage the operational component of a fire and rescue department” (FEMA, 2015, p. 1). Furthermore, the problem is not isolated to Goshen Fire and EMS; it is found throughout the fire service. Damage assessment procedures are directly linked to the United States Fire Administration (USFA) strategic goal 2, “improve local planning and preparedness” (USFA, 2010, p. 13) and the Executive Fire Officer Program (EFOP) Class 3 Executive Analysis of Fire Service Operations in Emergency Management, Unit 5: The Planning Process (FEMA, 2016).

Literature Review

The literature review for this applied research project was performed utilizing resources from the National Fire Academy's Learning Resource Center, Goshen Fire and EMS, and various web resources. Furthermore, books, journal articles, reports, and several Executive Fire Officer Applied Research Projects were reviewed. Interviews with Goshen Fire and EMS Fire Chief Steve Pegram and Clermont County Emergency Management Agency (EMA) Director Pam Haverkos were conducted. Attempts were made to use the most current resources while realizing some dated information still provided valuable insight.

The prevalence of disasters or catastrophic events that cause widespread damage and injuries and fatalities are more common today than ever before (Barishansky & Mazurek, 2011). "Most, although not all disasters (e.g. weather related) are predictable, they should be the easiest to plan for" (Fagel, 2011, p. 2). The frequency of events and impact is increasing, the need to place higher value on planning should be identified (Reddick & Rahm, 2010). Coincidentally, the efforts of the planning process prior to an event should be focused on most probable issues to be experienced and the capabilities and resources of responders (Moeller, 2008).

Balta's (2012) research showed the importance of built in flexibility and indicated that it was not financially feasible to maintain 100% storm readiness around the clock. Furthermore, some sort of advanced notice would allow departments to make preparations accordingly, such as increasing staffing (Balta, 2012). The recommendation was made to use a tiered preparedness system to ramp up preparedness and response capabilities.

In 2014, Clermont County completed a Hazard Analysis that outlines the top 11 natural hazards the county faces. “These hazards were ranked based on the probability of occurrence (frequency), vulnerability (percentage of population affected), and the severity of impact (injuries, fatalities, property and infrastructure damage)” (Clermont County Emergency Management Agency, 2015, p. 10). The hazards include: flooding, severe storms, winter storms, tornadoes, landslides, hazardous materials accident, dam failure, invasive species, utility failure, drought, and earthquakes (Clermont County EMA, 2015, p. 11).

In 2010, McCaslin developed a response plan for Tornados in the City of Allen, Texas. The damage assessment procedure included: each fire station shall report the status of their facilities, personnel, and equipment to the Battalion Chief immediately following the event, a windshield triage survey should be completed for high hazard and high population areas in the geographic areas affected, findings will be communicated to the emergency operations center (EOC) via cell phone if possible or a non-tactical radio channel, and ensure the survey does not stop to render aid unless there is obvious and immediate threat to life (McCaslin, 2010).

The fire service traditionally has been the lead local government agency responsible for rapidly assessing damage and providing assistance in the areas of life safety, incident stabilization, and property conservation after a disaster (FEMA, 2006). Newby (2014) states that units should notify the incident commander (IC) when their damage assessment is complete so the IC can assign them to operational requirements. He further recommends keeping this information concise, and include any resources that you determined were needed during the assessment (Newby, 2014). The primary means

of communicating this information during the disaster and during the damage assessments will be by mobile radio and secondary to cell phone (Newby, 2014).

Burnett (2014) describes that “the process of declaring a state of emergency starts with the local government responding with its resources including mutual aid partners” (p. 8). As the event expands, the state involvement occurs and if overwhelmed at that level, the state governor can request federal declaration. The Federal Emergency Management Agency (FEMA) will in turn evaluate the request and make a recommendation to the president whether to assist, or not (USFA, 2015).

Damage assessments are defined in the Clermont County Emergency Operations Plan as “the appraisal or determination of the destructive effects, private and public losses resulting from any hazard” (Clermont County Emergency Management Agency, 2015, p. 36). Additionally, the plan explains that these assessments should be occurring in the response phase of an event and information is to be forwarded to dispatch, the emergency management agency, or emergency operations center (EOC) if activated.

Assessments have several different names and aspects as outlined by the Emergency Management Institute (2016), they include: “damage assessment (DA), rapid needs assessment (RNA), initial damage assessment (IDA), preliminary damage assessment (PDA), rapid damage assessment (RDA), and joint preliminary damage assessment (JPDA)” (p. 4.5-4.18).

The Chatham County Emergency Management Agency (2012) emergency operations plan defines “damage assessments as an appraisal or determination of the number of injuries or deaths, damage to public or private property, status of critical

facilities, services, communication networks, public works and utilities, and transportation resulting from a man-made or natural disaster” (p. 363).

The National Fire Protection Association (NFPA) (2013) standard on disaster/emergency management and business continuity programs (NFPA 1600) defines damage assessment as an “appraisal or determination of the effects of the incident on humans, on physical, operational, economic characteristics, and on the environment” (p. 12). Furthermore, the federal publication, FEMA P-323 *Public Assistance Applicant Handbook*, describes in detail the eligibility requirements that are tied to the importance of a sound damage assessment program (FEMA, 2010).

FEMA (2016) uses the term damage assessments in the Executive Analysis of Fire Service Operations in Emergency Management (EAFSOEM) student manual and further defines primary factors for local (immediate) damage assessments as:

- Amount and type of damage (number of homes destroyed or with major damage)
- Impact on critical infrastructure (CI) facilities
- Imminent threats to public health and safety
- Impact to essential government services and functions
- Dispersion or concentration of damage (SM 4-5)

When local and state resources are overwhelmed FEMA has established criteria for requesting federal emergency management agency assistance. The importance of conducting damage assessments aligns with FEMA’s (2016) criteria for assistance which includes:

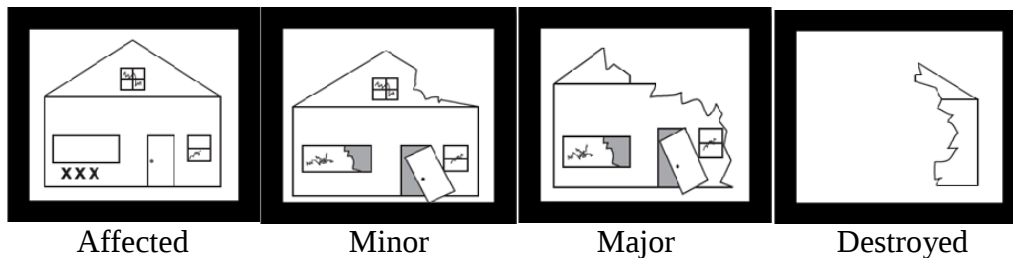
Federal disaster law restricts the use of mathematical formulas or other objective standards as the sole basis for determining the need for federal supplemental aid,

there must be a minimum of 25 homes and/or businesses with 40 percent uninsured damages, and structures with either destroyed or major degree of damage will meet the 40 percent uninsured damages criteria. (SM 4-9)

Conducting the damage assessment is by visual survey along preplanned routes that include critical infrastructure. FEMA (2016) uses four damage categories to assess damage: “destroyed – greater than 50 percent, major – 25-50 percent, minor – less than 25 percent, and affected – minimal” (SM 4-10).

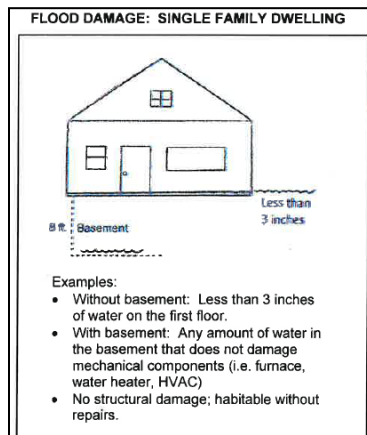
Another identification method for documenting damage levels is listed in the City of Olathe Fire Department’s (2013) rapid damage assessment plan. The levels include: “Affected – mainly cosmetic damage, repairable/can still be used, Minor – uninhabitable, can be repaired in less than 30 days, Major – Substantial structural damage, uninhabitable, requires extensive repairs, Destroyed – Total loss, not repairable” (p. 7).

The Iowa Department of Homeland Security and Emergency Management (IDHSEM) (2014) preliminary damage assessment field guide contains pictographs for single family dwelling wind damage (p. 4-5). These pictures are explained in the field guide and then provided for reference on operational damage assessment surveys completed by first responders.

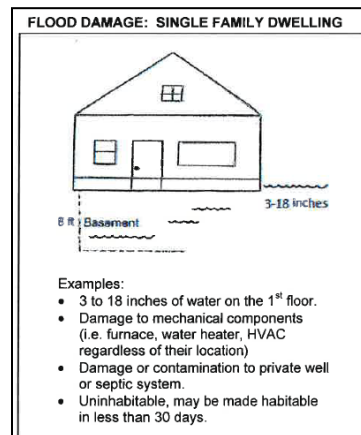


The researcher found similar wind damage pictographs in the Clermont County Emergency Management Agency damage assessment training PowerPoint. Additionally,

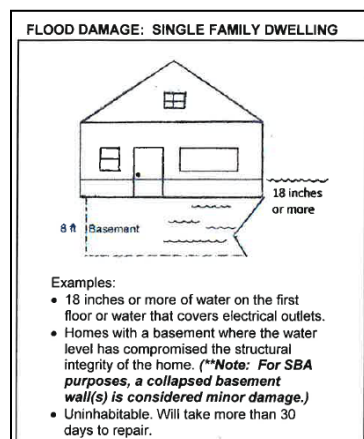
Clermont County (2015) provides flood damage examples for affected, minor, major, and destroyed levels as shown below.



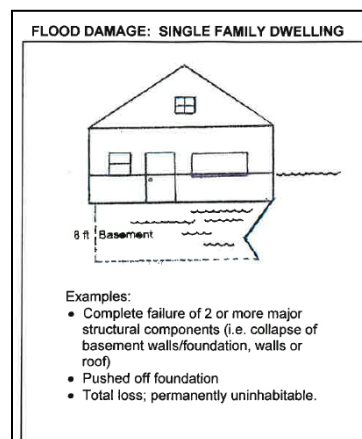
Affected



Minor



Major



Destroyed

The Ohio EMA (2015) recommends that each county EMA should identify and have trained (pre-event) teams to conduct damage assessments. “These teams can be comprised of public employees (auditor’s office, job and family services, etc.), volunteer organizations (e.g. CERT) or other public and private sector employees with experience in engineering, property assessments and other related fields” (Ohio EMA, 2015, p. 1). The Ohio EMA (2015) discourages the use of response personnel for individual assistance damage assessments because they may be performing life-saving actions.

During Hurricane Sandy the City of Norfolk, Virginia used a system call STORM to track, organize, record, and map. “The program was launched in 2011, and upgraded to incorporate the city’s Department of Public Works’ damage assessment database, cutting down the time the department spends compiling an assessment report from three days to less than 24 hours” (Heaton, 2012, para 2). The city also used the real time data to create situational reports to keep decision makers abreast of where weather-related incidents were happening, what needed addressed later, and where resources should be placed (Heaton, 2012).

In an interview with Goshen Fire and EMS Chief Steve Pegram, he acknowledged that Clermont County has a damage assessment procedure. The procedure is not readily available to crews and has not been utilized to its full extent. Chief Pegram said the Clermont County fire departments can use WEB EOC to track information on NIMS forms and damage assessment forms, which in turn can be viewed at the county emergency operations center and by the emergency management agency (EMA) (personal communications, March 16, 2016). This aspect has also been underutilized. Chief Pegram stated that the use of damage assessments is not necessary for the activation of the county EOC, however, they would be critical in getting proper resources as well as a disaster declaration.

After the initial interview with Chief Pegram, the researcher reviewed disaster documentation procedures and operations during and after an April 2, 2016 wind storm that resulted in 21 responses (wires down, trees into houses with or without entrapment, trees blocking roadways, medical responses) by Goshen Fire and EMS over the span of three hours. Chief Pegram advised he opened a local emergency operations center at the

firehouse so county dispatch could advise of runs without dispatching, and then the Goshen EOC would assign details to apparatus on a fireground channel (personal communications, April 2, 2016). Responses requiring outside resources such as; electric company, building inspector, road department were documented on a Microsoft Word document and faxed to the Clermont County dispatch center for further action.

An interview with Clermont County Emergency Management Agency Director Pam Haverkos on March 17, 2016 provided a great deal of information. She stated that Clermont County has a damage assessment annex in the emergency operations plan and it is undergoing an update currently. The three phases of damage assessment include: rapid damage assessment – completed by first response agencies to gather a situational awareness, individual assistance – completed by the county building department to identify how many structures have been impacted and to what extent, and public assistance damage assessment – completed by individual jurisdictions to determine expenses that affect debris removal, emergency protective measures, roads/bridges, water control facilities, buildings/equipment, utilities, and parks/recreation (personal communication, March 17, 2016).

The rapid damage assessments are generally communicated through dispatch in Clermont County, however, there is definitely room for improvement when sharing information on road closures, utility failures, etc. (personal communication, March 17, 2016). Director Haverkos acknowledges limited success with first responders entering damage assessments in the county's WebEOC board that is labeled Communications Center Damage Assessment. Primarily, first responders document damage on a piece of notebook paper and email or fax the information to dispatch and/or the EMA Director.

Director Haverkos also acknowledges a lack of communication between dispatch and field personnel after roads are reopened or specific utilities are restored.

Lastly, Director Haverkos explains that damage assessment information is critical for the EMA to determine if the incident will exceed capabilities of the local jurisdictions and require external resources (personal communications, March 17, 2016). It also helps to identify what types of agencies/resources need to be mobilized to the EOC. She states that there may not be a need to staff all EOC positions or the EMA may need to activate to support dispatch or a local incident commander.

The literature review showed many components of post event damage assessments procedures. More specifically, the initial damage assessments are primarily done by first responders in most systems. Lastly, the researcher found that using technology to process damage assessment data is a theme to get critical information to decision makers quicker.

Procedures

This research paper is formatted following the American Psychological Association Publication Manual, 6th Edition. The research methodology used to answer the research questions was descriptive research.

The procedures utilized for this research were designed to answer the four research questions: a) What components should be used in the development of a damage assessment procedure? b) Is there a county, state, or federal procedure established to conduct damage assessments? c) How do other fire departments in Ohio conduct damage assessments? d) What software is available in Clermont County (OH) to assist in documenting damage assessments? Research was initiated at the National Fire

Academy's Learning Resource Center in February of 2016. Attempts were made to use the most current resources while realizing some dated information still provided valuable insight.

To answer research question a) the following procedure was utilized: a literature review of Federal Emergency Management Agency, National Fire Protection Agency, and other peer reviewed literature was used to identify what components should be included in a damage assessment procedure.

To answer research question b) the following procedure was utilized: a literature review of Federal Emergency Management Agency, Ohio Emergency Management Agency, Clermont County Emergency Management Agency, and other peer reviewed literature was used to identify established procedures for conducting damage assessments.

To answer research question c) the following procedure was utilized: surveys were emailed to fire chiefs via email on March 16, 2016 from 116 fire departments within Ohio.

Survey Question Development and Fire Department Selection Procedures:

The survey questions (Appendix A) were developed with the assistance of fire service consultant Assistant Deputy Chief (Retired) Frank Cardinale (biography – Appendix C). The questions were field tested on a group of Executive Fire Officer Program students on March 23, 2016 while at the National Fire Academy.

Ohio fire departments were determined by contacting Erica Schortegen (member services coordinator for the Ohio Fire Chief's Association), who emailed the researcher the association's database of Ohio fire department demographics. Contact information

for the Ohio Fire Chiefs' Association was readily available on their website:
www.ohiofirechiefs.com.

To answer research question d) the following procedure was utilized: interviews were conducted with Goshen Fire and EMS Chief Steve Pegram and Clermont County Emergency Management Agency Director Pam Haverkos on March 16, 2016 and March 17, 2016. A follow-up observation and interview was conducted with Chief Pegram on April 2, 2016.

Interview Question Development and Interviewee Selection Procedures:

The interview questions (Appendix B) were developed with the assistance of fire service consultant Assistant Deputy Chief (Retired) Frank Cardinale (biography – Appendix C). The questions were field tested on a group of Executive Fire Officer Program students on March 23, 2016 while at the National Fire Academy.

The interviewees were selected because of their responsibility and authority in relation to emergency management in Goshen Township and Clermont County (Ohio).

Assumptions and Limitations

After interviewing Chief Pegram, it was determined that no standard procedure is used for collecting and sharing damage assessment data, so no baseline for measuring the effectiveness of a Goshen Fire and EMS damage assessment program can be determined.

Another limitation was the database provided by the Ohio Fire Chief's Association is from 2011 and was noted to be out of date by the member services coordinator.

Lastly, in the development of this applied research project it is noted that the interview results could have been significantly different or sought different information.

The researcher has limited experience in interview question writing, data compilation, and expressing said data in graphic format. Sufficient cooperation by fire officials during the interviews improved accuracy and eliminated the researcher from drawing conclusions, which was an initial unknown.

Results

For each of the four research questions, procedures sought internal and/or external insight and data. The first question was answered by reviewing literature and through the interviews originally thought to answer only question four. The literature showed that there are variations used in the development of a damage assessment procedure. Balta's (2012) research showed the importance of built in flexibility and indicated that it was not financially feasible to maintain 100% storm readiness around the clock. Furthermore, some sort of advanced notice would allow departments to make preparations accordingly, such as increasing staffing (Balta, 2012).

During the review of federal, state of Ohio, other states, and Clermont County damage assessment plans, it was found that most included pictographs to categorize damage. The levels include: "Affected – mainly cosmetic damage, repairable/can still be used, Minor – uninhabitable, can be repaired in less than 30 days, Major – Substantial structural damage, uninhabitable, requires extensive repairs, Destroyed – Total loss, not repairable" (City of Olathe Fire Department, 2013, p. 7). Furthermore, during an interview with Clermont County Emergency Management Agency Director Pam Haverkos, three phases of damage assessment in Clermont County were explained. They include: rapid damage assessment – completed by first response agencies to gather a situational awareness, individual assistance – completed by the county building

department to identify how many structures have been impacted and to what extent, and public assistance damage assessment – completed by individual jurisdictions to determine expenses that affect debris removal, emergency protective measures, roads/bridges, water control facilities, buildings/equipment, utilities, and parks/recreation (Pam Haverkos, personal communication, March 17, 2016). The form supplied by Director Haverkos to be used by first response agencies is supplied in Appendix F.

The second question for this applied research project was answered with a review of federal, state, county, and other peer reviewed materials. Traditionally, the fire service has been the lead local government agency responsible for rapidly assessing damage and providing assistance in the areas of life safety, incident stabilization, and property conservation after a disaster (FEMA, 2006). Whereas, the Ohio EMA (2015) discourages the use of response personnel for individual assistance damage assessments because they may be performing life-saving actions.

The damage assessment procedure in Allen, Texas included: each fire station shall report the status of their facilities, personnel, and equipment to the Battalion Chief immediately following the event, a windshield triage survey should be completed for high hazard and high population areas in the geographic areas affected, findings will be communicated to the emergency operations center (EOC) via cell phone if possible or a non-tactical radio channel, and ensure the survey does not stop to render aid unless there is obvious and immediate threat to life (McCaslin, 2010). The Clermont County plan explains that these assessments should be occurring in the response phase of an event and information is to be forwarded to dispatch, the emergency management agency, or emergency operations center (EOC) if activated.

The third question for the applied research project was answered with surveys that were distributed to fire departments across the state of Ohio. The damage assessment procedures that other departments in Ohio follow are wide-ranging and seem to be variable upon direction of local officials. All of the survey results are in Appendix E, however, a summary list includes:

- 64% of the departments surveyed do not do damage assessments
- 93% of the departments surveyed do not have a procedure for conducting damage assessments
- 42% of the departments surveyed gave a positive response to evaluating critical infrastructure first
- 40% of the departments surveyed gave a positive response to having their jurisdiction broken into geographic areas
- 50% of the departments surveyed use pen/paper to document any data collected and then forward on to the EMA or dispatch

The final and fourth question for the applied research project was answered with interviews of Goshen Fire and EMS Chief Steve Pegram and Clermont County Emergency Management Agency Director Pam Haverkos. Chief Pegram said the Clermont County fire departments can use WEB EOC to track information on NIMS forms and damage assessment forms, which in turn can be viewed at the county emergency operations center and by the emergency management agency (EMA) (personal communications, March 16, 2016). Director Haverkos acknowledges limited success with first responders entering damage assessments in the county's WebEOC board that is labeled Communications Center Damage Assessment (personal

communications, March 17, 2016). Clermont County has technology available to report damage assessment findings, however, both interviews confirm that it is underutilized by those in the field.

Discussion

The following compares the results of this applied research to the literature review, discusses agreements/disagreements, and highlights implications for Goshen Fire and EMS. First, when comparing what components are included in federal, state, county, and local damage assessment procedures, the similarities included pictographs for standard damage identification and the form available to those doing the damage assessments. The researcher was surprised to find that Clermont County did have the components of a damage assessment procedure in place, which included pictographs and a form to use. To this point, a disconnect between the county emergency management agency and Goshen Fire and EMS was apparent. It is the researcher's assumption that other local agencies may not be utilizing the county EMA's resources as well.

Second, when looking at the federal, state, and county procedures for damage assessments, varying specifics of who should conduct the damage assessments emerged. FEMA specifically acknowledges that the fire service is responsible for rapidly assessing damage, whereas, the Ohio EMA discourages the use of response personnel from performing assessments. Locally, the researcher found that in Clermont County, the intent is to utilize first responders from damage assessment is their jurisdictions.

Also, when comparing the different government levels of damage assessment procedure, there was varying terminology that could be confusing if a multi-agency assessment was being conducted. The researcher believes it would be prudent to follow

the procedures of the local EMA, so information required is collected and transmitted in an understandable manner. Take for example the procedure in Allen, Texas where fire department crews report their status, complete a windshield survey of damaged areas within their geographic area, and report findings to the EOC or dispatch. This approach in the researcher's area would provide a means to get an overall picture of potential needs and incident scope, rather than be in a first-emergency-first response mode.

Third, the survey responses from other Ohio fire departments were not surprising. A majority of those surveyed do not do damage assessments, and those that do them, don't have a procedure. The majority of survey responses advised the local county EMA does the damage assessments in their area. In reality, it seems more likely that local first responder's report damage after they are dispatched and county officials tabulate the data.

After gaining a greater understanding of Clermont County's damage assessment plan, the researcher is confident that other counties in Ohio have similar plans. It appears Clermont County's plan is well organized and can be rapidly operational if local responders understand its functionality. In its current state, the plan performance is subpar at best due to the lack of understanding. Furthermore, the other plans in Ohio could have similar effectiveness, but are currently lacking due to a preparedness aspect needing greater coordination between local and county agencies.

Lastly, in today's emergency response system, a high priority is often placed on technology. Both Chief Pegram and Clermont County EMA Director Haverkos shared insight into the WebEOC program available to fire departments in the county. Unless a threshold for a specific number of dispatched runs is established or a certain storm threat is established for mandated WebEOC use, then it will undoubtedly remain highly

underutilized. By using the WebEOC program to track, organize, record, and map damage, local agencies may be able to close the communication loop that Director Haverkos acknowledged was missing.

Recommendations

The current damage assessment procedures of Clermont County have shown to be underutilized. This underutilization should not be placed solely on Goshen Fire and EMS or the Clermont County EMA without acknowledging the low frequency of disaster responses, resulting in a level of complacency.

Goshen Fire and EMS can work to improve its usage of the Clermont County EMAs damage assessment procedure. Research into damage assessment procedures for Goshen Fire and EMS resulted in the following recommendations:

1. Create a Goshen Fire and EMS standard operating procedure that details how to complete a damage assessment windshield survey.
2. Ensure Goshen Fire and EMS personnel understand the damage assessment procedure.
3. Ensure damage assessment windshield survey forms are included on all apparatus.
4. Work with the county EMA to develop a procedure for when WebEOC should be utilized by county fire departments.
5. Create a training program for fire officers and those that work out of class detailing how to report damage assessment data via WebEOC.

All of these recommendations seek to reduce the duplication of efforts, close the communication loop between local and county officials, and ensure resources are assigned to areas that need immediate attention to save life and property.

Future research on this topic is recommended to effectively evaluate whether the county's current damage assessment plan can have an impact on Goshen Fire and EMS and the community. During this research, it should be determined what training at the Goshen Fire and EMS and at the communications center needs to occur to make the plan fully functional.

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Appendix A

Ohio Fire Departments Damage Assessment Survey

1. Does your organization conduct damage assessments after disasters? If not, does someone else?
2. Does your organization have a procedure for conducting damage assessments? If you are willing, please email the procedure to paul.hasenmeier@goshen-oh.gov
3. Is critical infrastructure identified in the procedure and evaluated first?
4. Is your jurisdiction broken into geographic areas for damage assessment teams to survey?
5. How does your organization document the data collected?

Appendix B

Goshen Fire and EMS Chief / Emergency Management Director Interview Questions

1. Does Clermont County have standard damage assessment procedure? Form to use?
2. What information should be obtained during damage assessments after a storm or disaster?
3. How should damage assessment results be communicated?
4. What software is available to Clermont County fire departments to document damage assessments?
5. Is damage assessment information critical for the activation of the Clermont County Emergency Operations Center?

Appendix C

Assistant Deputy Chief Frank Cardinale Biography

Assistant Deputy Chief Frank Cardinale has over thirty years of experience with the San Francisco Fire Department. He started his career as a Firefighter in 1975, promoted to Lieutenant in 1988, Captain in 1992, Battalion Chief in 1994, and Acting Division Chief in 2003. Chief Joanne Hayes-White appointed him Director of Training in 2009. Chief Cardinale is a native San Franciscan and attended St. Ignatius High School, City College of San Francisco, where he received a degree in Fire Science, and California State University Long Beach, where he received a degree in Vocational Education. Chief Cardinale is a certified Chief Officer through the California State Board of Fire Services. Chief Cardinale has attended many classes at the National Fire Academy and is an adjunct instructor in many Command and Control, High Rise, and Fire Protection Systems classes there. He helped update the curriculum for the National Fire Academy class *Incident Command for High Rise Operations*, and is currently working with both FIRESCOPE and the International Fire Service Training Association in developing new fire ground procedures for high rise firefighting. He is additionally qualified to teach many State Fire Marshal classes. (City and County of San Francisco, 2016)

Appendix D

Results of Goshen Fire Chief and EMA Director Interviews

Interviewee: Goshen Fire Chief Steve Pegram
 Interview Date / Time: March 16, 2016 – 0900 hours
 Interview Location: Goshen Fire and EMS – Station 18

Interviewee: Clermont County EMA Director Pam Haverkos
 Interview Date / Time: March 17, 2016 – via email due to maternity leave
 Interview Location: n/a

Q.1. Does Clermont County have standard damage assessment procedure?
 Form to use?

A.FC Yes

A.EMAD Yes, we have a damage assessment annex. Rapid damage assessments are completed by first response agencies. Individual assistance damage assessments are completed by the county building department. Public assistance damage assessments individual jurisdictions calculate their expenses and anticipated cost to repair.

Q.2. What information should be obtained during damage assessments after a storm or disaster?

A.FC Electrical issues, road closures, other needs.

A.EMAD A Clermont County PowerPoint (Appendix G) was provided that shows IA and PA damage assessment processes. The Ohio EMA Individual Damage Assessment form (Appendix F) outlines critical information needed.

Q.3. How should damage assessment results be communicated?

A.FC Via email or fax

A.EMAD The rapid damage assessment is generally communicated through dispatch. There is definitely room for improvement for sharing information on road closures, utility failures, etc. We have run into challenges with closing the loop once roads are reopened or utilities have been restored.

Q.4. What software is available to Clermont County fire departments to document damage assessments?

A.FC WebEOC can track a lot of incident forms including all of the NIMS forms, damage assessments.

A.EMAD Rapid damage assessments can be entered into WebEOC in the Comm Center Damage Board, but this is quite difficult during emergency response. Most of the time this information is shared via radio with dispatch or the EOC (once activated). During the 2012 Derecho, departments documented road closures, utility outages, and structural

impacts on notebook paper. This information was e-mailed or faxed directly.

Q.5. Is damage assessment information critical for the activation of the Clermont County Emergency Operations Center?

A.FC Not activation, but it is critical when requesting proper resources as well as a disaster declaration.

A.EMAD Yes, rapid situational awareness allows the EMA and the County to determine if the incident will exceed the capabilities of the local jurisdictions and require external resources. It also helps to identify what types of agencies/resources need to be mobilized to the EOC. We may not need all of the positions to be staffed. In some instances we may not need the EOC, but rather, the EMA will activate to support dispatch or local incident command (e.g. the March flood – a unified command post was established and EMA and communications provided support at the command post).

Appendix E

Results of Ohio Fire Departments Damage Assessment Surveys

116 surveys emailed, 14 surveys returned, 35 emails were returned to sender in error

Participating Fire Departments: Ashland (OH) Fire Division, Aurora (OH) Fire Department, Bazetta Township (OH) Fire Department, Canton Township (OH) Fire Department, Cuyahoga Falls (OH) Fire Department, Deerfield Township (OH) Fire Rescue Department, Hamilton Township (OH) Fire Rescue, Lancaster (OH) Fire Department, Madeira & Indian Hill (OH) JFD, Marietta (OH) Fire Department, Miami Township (OH) Fire & EMS, Perkins Township (OH) Fire Department, Perrysburg (OH) Fire Division, Seville-Guilford (OH) Fire & EMS (order of fire departments listed do not correspond with the order below)

Question 1 – Does your organization conduct damage assessments after disasters? If not, does someone else?

1. No
2. We do our own to get a gross feel for what has happened and guide the official damage assessment people (Summit County EMA).
3. Nothing formal, assisted by Wood County EMA. Perrysburg is currently in the process of formalizing the City's response to a disaster, either man-made or natural. We are looking at a team of assessors including one person from impacted disciplines: fire, police, streets, city engineer, water, sewer, etc.
4. No. The building department of our member cities and the Hamilton County Building Department conduct such assessments.
5. Yes
6. Yes, in coordination with the county EMA and Incident Command
7. We are responsible for conducting damage assessments after disasters. Assessments were conducted after a previous tornado in the 1990's, flooding several years ago, and multiple high-wind incidents.
8. No. EMA Director
9. No. Building department, service department, Protage County EMA
10. We will do preliminary assessments. Medina County EMA is the primary assessor.
11. No. Trumbull County EMA has trained amateur radio operators to perform this task.
12. No. County EMA
13. No. The local EMA does this function. The area fire and police departments report areas in our jurisdiction that have damage and the EMA investigates and reports.
14. No

Question 2 – Does your organization have a procedure for conducting damage assessments? If you are willing, please email the procedure to paul.hasenmeier@goshen-oh.gov

1. No
2. We do not have a procedure
3. Not at this time
4. N/A
5. We do not have a formal policy, we have provided minimal training on it other than tech rescue building collapse training. We plan to address this soon.
6. We use a “windshield assessment” tool to provide information and feedback to the County EMA and command post related to damage.
7. We do not currently have a procedure for damage assessments; assessments would be conducted by line personnel and officers. The current fire chief developed a rapid damage assessment plan for a previous EFO ARP; however, the plan has not been implemented into an SOG.
8. No
9. N/A
10. No formal procedure
11. No fire department procedure
12. N/A
13. N/A
14. No procedures in place

Question 3 – Is critical infrastructure identified in the procedure and evaluated first?

1. N/A
2. We always look at the critical infrastructure issues
3. Yes, each discipline does their facilities, roads, water, sewer, schools, designated Red Cross shelter locations, medical facilities, elderly residences (nursing homes, assisted living, senior housing), grocery stores, and fueling stations
4. We would advocate for that, for sure.
5. Critical infrastructure as identified in year three of the EFO program is evaluated first.
6. No answer
7. This would depend on the incident type and location. However, as previously stated there is no current SOG to dictate evaluation priorities.
8. N/A
9. N/A
10. Critical infrastructure is evaluated first
11. N/A
12. N/A
13. N/A
14. N/A

Question 4 – Is your jurisdiction broken into geographic areas for damage assessment teams to survey?

1. No
2. Not really – we look at the area effected to break up the area into manageable sections
3. Yes, that is our goal. Our city, when build, was surround by streets called East, South, and West boundary. Our main street (Louisiana Ave) divided east and west. So, we are set up in three districts: east, west, and “outside the boundaries”
4. No
5. Yes, response zones per district
6. We use our beats or response districts to make it easy. These also correspond to our run cards and districts.
7. Depending upon the incident, initial assessments would be based upon station coverage areas. Plans are currently being developed to separate further into quadrants. This would apply to wide spread damage. Assessments for more concentrated damage would obviously focus in on a targeted area.
8. N/A
9. N/A
10. Yes
11. N/A
12. N/A
13. N/A
14. N/A

Question 5 – How does your organization document the data collected?

1. N/A
2. Camera. Pen/Paper – Computer with Microsoft Word or Excel to drive the reports
3. Poorly at this time pencil and paper. We are trying to formalize a process that use technology.
4. N/A - *Note: The regional USAR task force has been involved in marking/noting/recording structural damage on several tornado incidents to which we have responded. This information we collect is recorded, most often on geo maps and routed back to the AHJ.
5. Currently on 214 forms.
6. There is no specific document used at this time.
7. Documentation occurs through the use of the “windshield assessment” form and through basic reporting. We can fill out any paper with the information, as we have not developed a true worksheet that gets filled out and turned in.
8. N/A
9. N/A
10. Documented on paper to be collected by county EMA
11. N/A
12. N/A
13. N/A

14. N/A

Appendix F

Ohio EMA Individual Assistance Street Sheet

INDIVIDUAL ASSISTANCE STREET SHEET										Page ____ of ____	
County	Area	Date			Assessor's Name/Phone Number						
Location (Street Address, Apt/Condo, Complex, MH Park)		Type of Structure	Status	Depth of Water	Insurance	Local Preliminary Determination			State Use Only		
						D	Maj	Min	A		
Comments:		SF __ MH __ Apt __ Condo __ Business __	Own __ Rent __	Basement __ ft __ in First Floor __ ft __ in Crawl Spc __ ft __ in	Flood __ Homeowners __ Renter __ Sewer B/U Rider __						
Comments:		SF __ MH __ Apt __ Condo __ Business __	Own __ Rent __	Basement __ ft __ in First Floor __ ft __ in Crawl Spc __ ft __ in	Flood __ Homeowners __ Renter __ Sewer B/U Rider __						
Comments:		SF __ MH __ Apt __ Condo __ Business __	Own __ Rent __	Basement __ ft __ in First Floor __ ft __ in Crawl Spc __ ft __ in	Flood __ Homeowners __ Renter __ Sewer B/U Rider __						
Comments:		SF __ MH __ Apt __ Condo __ Business __	Own __ Rent __	Basement __ ft __ in First Floor __ ft __ in Crawl Spc __ ft __ in	Flood __ Homeowners __ Renter __ Sewer B/U Rider __						
Comments:		SF __ MH __ Apt __ Condo __ Business __	Own __ Rent __	Basement __ ft __ in First Floor __ ft __ in Crawl Spc __ ft __ in	Flood __ Homeowners __ Renter __ Sewer B/U Rider __						
Total for page:											

Appendix G

Clermont County (OH) Damage Assessment Refresher

Damage Assessment Refresher



March 2015
Provided by Clermont EMA

What is Damage Assessment?

Process for determining the nature and extent of the loss, suffering, and/or harm to a community resulting from natural, accidental or human-caused disasters.

- ☐ Floods
- ☐ Wind Storms
- ☐ Tornadoes
- ☐ Earthquake
- ☐ Aviation Disaster
- ☐ Gas Explosion
- ☐ Terrorism Incident

Who, What, Where, and How

Why is it Important?

- ☐ Situational Awareness
- ☐ Planning for resource needs
- ☐ Local, State and Federal Disaster Declarations
- ☐ Public Information
- ☐ Identifies potential hazard mitigation projects

Rapid, Detailed & Accurate

Preliminary Damage Assessment (PDA)

Public Assistance	Individual Assistance
☐ Debris	☐ Primary Residences
☐ Protective Actions	☐ Mobile Homes
☐ Road Systems	☐ Condominiums
☐ Water Control Facilities	☐ Apartments
☐ Government	☐ Businesses
☐ Schools	☐ Agricultural
☐ Not for Profits	
☐ Public Utilities	
☐ Parks & Recreational	

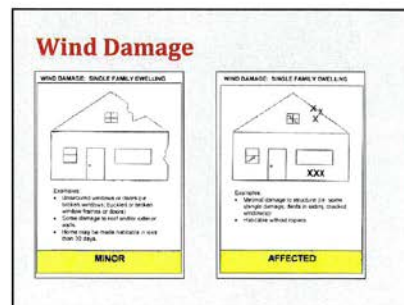
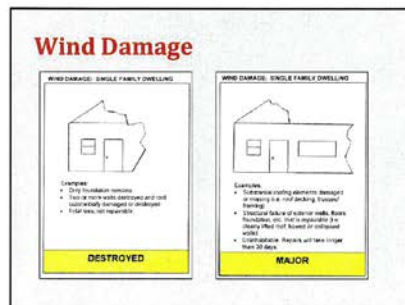
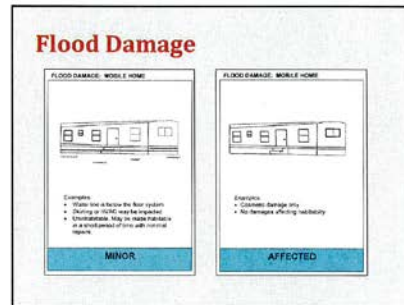
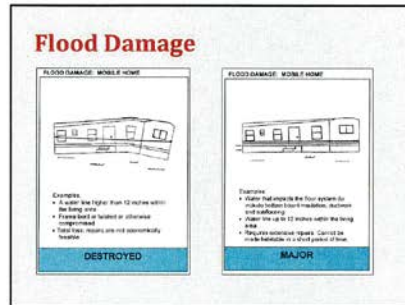
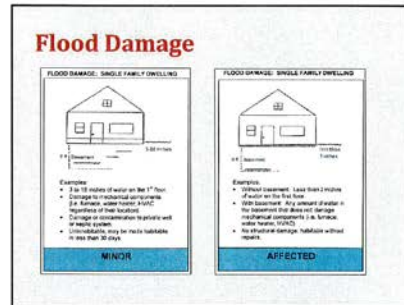
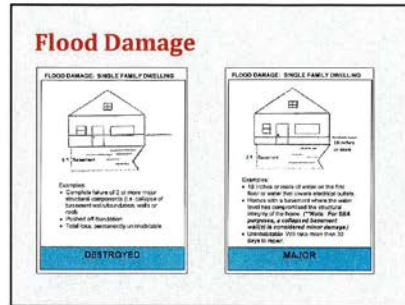
Individual Assistance (IA) PDA

Role & Purpose

- ☐ Quantify the # of primary residences & businesses impacted
- ☐ Record severity and magnitude of damage
- ☐ Identify 25+ homes and/or businesses with more than 40% of uninsured loss of fair market value

Degrees of Damage

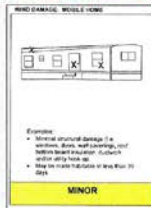
Destroyed ☐ Permanently uninhabitable ☐ Total loss ☐ Not repairable	Major ☐ Uninhabitable ☐ Extensive repairs required
Minor ☐ Uninhabitable ☐ Repairs can be made in 30 days	Affected ☐ Habitable without repairs



Wind Damage



Wind Damage



Planning Considerations

- ❑ Identify areas of damage concentration
 - Location of 9-1-1 calls
 - Location of rescues
 - Reports from First Responders
 - Media coverage
- ❑ Map out a route
- ❑ Take the proper paperwork
- ❑ Have a communication and safety plan

Individual Assistance Worksheet

[illegible]

How is this information used?

[illegible]

How is the information used?



Public Assistance (PA) PDA

Role & Purpose

To evaluate the impact on public entities:

- ☐ Townships
- ☐ Cities
- ☐ Villages
- ☐ Counties
- ☐ Schools
- ☐ Special Districts
- ☐ Certain Private Non-Profits
- ☐ State Agencies
- ☐ State Universities

Damage & Needs Assessment form to be submitted to Ohio EMA in 36 hours in order to determine if Federal Assistance is warranted.

Public Assistance Categories

- A. Debris Removal
- B. Emergency Protective Actions
- C. Roads & Bridges
- D. Water Control Facilities
- E. Buildings & Equipment
- F. Utilities
- G. Parks & Recreational

Damage & Needs Assessment Form

- ☐ Submitted within 36 hours of event
- ☐ Submitted to County EMA Office
- ☐ Information is compiled and submitted to Ohio EMA.

FEDERAL EMERGENCY MANAGEMENT AGENCY		DEPARTMENT OF HOMELAND SECURITY	
Form 1-100 (Rev. 10-2008)			
Incident Name		Incident Number	
Date		Time	
Location		County	
State		Zip	
Incident Type		Incident Category	
Incident Description		Incident Details	
Incident Status		Incident Priority	
Incident Impact		Incident Severity	
Incident Cause		Incident Effect	
Incident Response		Incident Outcome	
Incident Review		Incident Follow-up	
Incident Report		Incident Summary	
Incident Notes		Incident Comments	
Incident Signature		Incident Date	
Incident Initials		Incident Time	
Incident Location		Incident Address	
Incident Contact		Incident Phone	
Incident Email		Incident Fax	
Incident Website		Incident URL	
Incident Social Media		Incident Twitter	
Incident Facebook		Incident LinkedIn	
Incident YouTube		Incident Instagram	
Incident Snapchat		Incident TikTok	
Incident Other		Incident Total	

Category A: Debris Removal

Debris removal necessary to:

- ☐ Eliminate threats to life, public health and safety
- ☐ Eliminate additional damage to improved public or private property
- ☐ Ensure economic recovery of the affected community
- ☐ Mitigate risk to life or property by removing damaged structures
- ☐ Includes trees and woody debris, sand, mud, silt, gravel, etc.

Eligible Activities

- ☐ Debris removal from publicly-owned streets or highways
- ☐ Debris removal for disaster-related debris ONLY
- ☐ Private property debris brought to curb or right-of-way
- ☐ Debris located on improved property or right-of-way

Category A: Debris Removal

Costs incurred or projected for debris removal from:

- ☐ Public property
- ☐ Public roads within jurisdiction
- ☐ Right-of-Way

Estimate:

- ☐ Labor Costs (regular & overtime)
- ☐ Mutual Aid Labor Costs (regular & overtime)
- ☐ Equipment Costs using FEMA Schedule of Equipment Rates
- ☐ Material Costs

Do not include costs for private property, unless legally responsible to do so.

A. DEBRIS REMOVAL	
Public Property	\$
Public Property	\$
Other	\$
TOTAL	\$

Category B: Protective Measures

Measures taken to:

- ☐ Save lives
- ☐ Protect public health and safety
- ☐ Protect improved public and private property

*Improved public property - road, bridge, lake park, etc.
*Improved private property - University, eligible private non-profit, etc.

Eligible Activities

- ☐ EOC Activation
- ☐ Barricades, Signs, Announcements
- ☐ Fire/EMS, I.E. and Search & Rescue
- ☐ Shelters and emergency care
- ☐ Mutual Aid or donated resources
- ☐ Food, Water, and Ice
- ☐ Emergency Repairs
- ☐ Sandbagging
- ☐ Removal of health/safety hazards
- ☐ Volunteer hours

Category B: Protective Measures**Estimate:**

- ☐ Personnel Costs - LE, Fire/EMS, and Public Works (regular & overtime)
- ☐ Mutual Aid Costs (regular & overtime)
- ☐ Equipment Costs using FEMA Schedule of Equipment Rates
- ☐ Material Costs

B. PROTECTIVE MEASURES	
Response (if any/Price)	\$ _____
Protective Measures (sandbagging, etc.)	\$ _____
Public Works (sandbags, temporary repairs)	\$ _____
Emergency Power	\$ _____
Other	\$ _____
TOTAL	\$ _____

Capture all volunteer time. This may be counted toward the final local contribution.

Category C: Road Systems**Repair to:**

- ☐ Eligible facilities
- ☐ Public roads and bridges, not covered under a Federal-Aid System or under authority of another jurisdiction.

Eligible Activities

- ☐ Road surfaces, bases
- ☐ Shoulders, ditches, and guardrails
- ☐ Culverts
- ☐ Low water crossings
- ☐ Decking and pavement
- ☐ Slope protection
- ☐ Drainage structures
- ☐ Approaches
- ☐ Piers
- ☐ Girders and abutments

Category C: Road Systems**Estimate:**

- ☐ Cost to return to pre-disaster design, function, and capacity

If road or bridge has to be shut-down completely, estimate:

- ☐ Population affected
- ☐ Detour miles
- ☐ Time to complete repairs

C. ROAD SYSTEMS	
Roads (surface, signals, embankment, shoulders, etc.)	\$ _____
Bridges (damaged and destroyed)	\$ _____
Culverts (damaged and destroyed)	\$ _____
Access Problems YES or NO	\$ _____
TOTAL	\$ _____

Category D: Water Control Facilities**Repair to:**

- ☐ Irrigation systems
- ☐ Engineered drainage channels
- ☐ Pumping facilities
- ☐ Levees, dams and flood control channels

Eligible Activities

- ☐ Channel alignment
- ☐ Recreation
- ☐ Navigation
- ☐ Land reclamation
- ☐ Fish and wildlife habitat
- ☐ Interior drainage or irrigation
- ☐ Erosion prevention
- ☐ Flood control

Category D: Water Control Facilities**Estimate:**

- ☐ Cost to repair flood control, drainage, and irrigation facilities owned, operated, controlled or maintained by a local unit of government
- ☐ Damage or flooding to adjacent properties caused by the facility
- ☐ How many homes/properties had to be evacuated due to damage

D. WATER CONTROL FACILITIES	
Channel/Levee	\$ _____
Dam	\$ _____
Drainage Channels	\$ _____
Other	\$ _____
TOTAL	\$ _____

Category E: Building & Equipment**Repair or replacement to:**

- ☐ Eligible Public or Private Non-Profit Buildings
- ☐ Structural components
- ☐ Interior systems
- ☐ Equipment, vehicles, and contents

Eligible Activities

- ☐ Interior furnishings
- ☐ Consumable supplies and inventory
- ☐ Removal of mud, silt, sand, etc.
- ☐ Equipment and vehicles

Category E: Building & Equipment**Estimate:**

- ☐ Number of destroyed or damaged facilities
- ☐ Cost to repair facilities
- ☐ Cost to replace content
- ☐ Cost to replace equipment and vehicles damaged by event.
- ☐ Existing insurance coverage

E. PUBLIC BUILDINGS, FACILITIES, EQUIPMENT	
Public Buildings	\$ _____
Building Contents	\$ _____
Vehicles/Equipment	\$ _____
Insurance Coverage _____ %	
TOTAL LESS INSURANCE COVERAGE	\$ _____

Category F: Utilities**Repair to:**

- ☐ Eligible Public or Private Non-Profit Utilities

Eligible Activities

- ☐ Water treatment and delivery facilities
- ☐ Power generation facilities
- ☐ Sewer and treatment facilities
- ☐ Natural gas systems
- ☐ Communication systems
- ☐ Substations/power lines
- ☐ Restoration costs
- ☐ Temporary/permanent repair costs

Category F: Utilities**Estimate:**

- ☐ Cost to repair publicly or private non-profit owned utilities and utility systems
- ☐ Cost for emergency repairs
- ☐ Cost for permanent repair/replacement to return to pre-disaster design, function and capacity.
- ☐ Amount of insurance coverage

F. UTILITIES (PHYSICAL DAMAGE TO UTILITIES)	
Power transmission/distribution	\$ _____
Water/Sewer Treatment Plants	\$ _____
Sewers	\$ _____
Other	\$ _____
Insurance Coverage _____ %	
TOTAL LESS INSURANCE COVERAGE	\$ _____

Category G: Parks & Recreational**Repair to:**

- ☐ Public parks, recreational, and other facilities that impact a community's ability to respond and recover after event.

Eligible Activities

- ☐ Public mass transit facilities
- ☐ Playgrounds equipment
- ☐ Swimming pools
- ☐ Recreational fields & tennis courts
- ☐ Boat docks, ramps, & piers
- ☐ Public golf courses
- ☐ Fish hatcheries

Category G: Parks & Recreational**Estimate:**

- ☐ Cost to repair public parks and recreational facilities
- ☐ Cost to return to pre-disaster design, function and capacity.
- ☐ Amount of insurance coverage

G. PARKS AND RECREATIONAL (PUBLICLY OWNED)	
Parks (shelter houses, playgrounds, etc.)	\$ _____
Recreational (racetracks, athletic facilities, etc.)	\$ _____
Other	\$ _____
Insurance Coverage _____ %	
TOTAL LESS INSURANCE COVERAGE	\$ _____

H. Community Budget Information**Provide:**

- ☐ Annual Budget (Discretionary Funds)
- ☐ Road and Bridge Budget
- ☐ Public Works Budget
- ☐ Date Fiscal Year starts

H. CURRENT COMMUNITY BUDGET INFORMATION

- 1) Annual Budget
- 2) Road and Bridge Budget
- 3) Public Works Budget
- 4) Date Fiscal Year Begins

Resources

- ❑ FEMA, *Public Assistance Guide*, FEMA 322, June 2007
<http://www.fema.gov/pdf/government/grant/pa/paguide07.pdf>
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Questions?