

# DATA DOCUMENTATION TEMPLATE INSTRUCTIONS

Appendix E-5-3

*Enhanced Portion: Assessment of Mitigation Actions*

***Commonwealth of Kentucky Hazard Mitigation Plan: 2013 Version***

Kentucky Emergency Management (KYEM)

University of Kentucky, Martin School of Public Policy and Administration

Hazard Mitigation Grants Program (UK-HMGP)

*The methodology used to assess mitigation actions involved calculating “Expected Annual Benefit,” or EAB. EAB is calculated as a function of a mitigation action’s “useful life.” Typically, “useful life” for a mitigation action falls into three (3) categories: 100 years, 50 years, and 30 years. This assessment of mitigation actions used the above three (3) categories. Below, then, is justification for the assumption of action “useful life” of 100 years for acquisition actions, 50 years for the one (1) lift station relocation action, and 30 years for the one (1) safe room action.*

# University of Kentucky Hazard Mitigation Grant Program

## Data Documentation Template (DDT) Instructions Damage-Frequency Assessment (DFA) Module

### General Information

The DFA module can be used for a number of natural hazards, such as windstorms, mud/landslides, severe ice storms, and floods. The DFA module is used when there is not enough technical data available to use the Full Data modules or if the project is for a non-building facility. As such, the DFA module is required for mitigation projects when one or more of the following conditions are met:

- Flood mitigation projects where the Flood Insurance Study (FIS) or comparable documented flood data from another agency, engineer, or hydrologist are not available;
- Flood mitigation projects where the first floor elevation of the structure is not documented;
- Flood mitigation projects related to flash flooding, alluvial fan flooding, debris or mud flows and landslides; and/or
- Flood, wind, or earthquake hazard mitigation projects for non-building facilities such as culverts, roads, bridges and utility systems.<sup>1</sup>

The accompanying data documentation template (DDT) is designed to assist Benefit-Cost analysts by recording needed data that is essential in conducting the benefit-cost analysis (BCA) as required by FEMA for regular projects. This information should be inserted in the spaces provided below the shaded areas. Please complete this form with concise, yet thorough information, thus providing a clear insight to the scope of damages incurred by the applicant. Clear, well-written explanations of damages will provide the benefit-cost analysts with information sufficient to determine cost-effectiveness of the proposed mitigation project. Attach any supplementary documents supporting your claims where appropriate.

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<sup>1</sup> *Benefit-Cost Analysis Course* manual. FEMA.

### **Scope of Project**

- Name: Insert the point of contact for the proposed mitigation project request.
- Community: Insert the name of the community where the proposed mitigation project will take place.
- Date: Insert the date (Month/Day/Year) the DDT for the proposed mitigation project was completed.
- Project name: Insert the name of the project (Example: Windy Hollow Acquisition, Atlantis Drive Elevation, Urban Creek Detention Basin, etc.).
- Project description: Insert a description of the proposed mitigation project, explaining the need and purpose of the project. Most importantly, discuss and explain how the project will mitigate natural hazards in the future.

**Cost Estimation Information**

- Project useful life: Enter the useful life of the project according to the following table:

<b>HMGP Project Useful Life Summary Table</b>		
<b>Project Type</b>	<b>Standard Value</b>	<b>Acceptable Limits (Documentation Required)</b>
<b>Acquisition/Relocation</b>	100	100
<b>Elevation</b>		
Residential	30	30
Non-Residential	25	25-50
Public	50	50-100
Historic	50	50-100
<b>Structural/Nonstructural Building Project</b>		
Residential Building Retrofit	30	30
Non-Residential Building Retrofit	25	25-50
Public Building Retrofit	50	50-100
Historic Building Retrofit	50	50-100
Roof Retrofit	30	30
<b>Tornado Safe Room</b>	30	30-50
<b>Infrastructure Projects</b>		
Concrete infrastructure, flood walls, roads, bridges, major drainage system	50	35-50
Culverts (with end treatment)	30	25-50
Culverts (without end treatment)	10	5-20
Pump stations, substations, wastewater systems structures	50	50
<b>Utility Mitigation Projects</b>		
Major (power lines, hardening gas, water, sewer lines, etc.)	50	50-100
Minor (back flow valves, etc.)	5	5-30
<b>Miscellaneous Equipment</b>		
Small, Portable	2	2-10
Heavy	30	5-30
<b>Vegetation Management (wildfire)</b>	2	2-15

- Mitigation project cost: Insert the total cost of the proposed mitigation project. This should reflect any costs associated with search/design/hydrology-hydraulic (H&H) or other engineering studies, labor, raw materials, and hazardous materials abatement. The mitigation project cost should be stated in current year dollars.
- Annual project maintenance: Insert the amount of annual maintenance that will be needed to maintain the property. For example, the annual project maintenance should reflect mowing and other maintenance-related activities conducted by the applicant to properly maintain the post-demolition green space. The annual project maintenance cost should reflect current year dollars.

## **Facility Type For Loss of Function**

### *Utilities*

- Utility facility description: Insert a brief description of the utility facility that experienced a loss of function due to the flood event, including the year construction was completed on the structure. Choose one or more facility types for loss of function, including: Utilities; Road/Bridges; Non-residential buildings; or Not Applicable. Provide photocopies of tax records, hard copy or electronic photos, appraisals or maps. If not applicable, insert “N/A” in the box.
- Type of service: Insert the type of utility service that experienced a loss of function due to the flood event. This includes Electric; Potable Water; Wastewater; or Other. If “Other” is selected, please describe the service.
- Number of customers served: Insert the number of customers served by the utility that experienced a loss of service due to the flood event. The number of customers served should equal the number of individuals affected by the loss of function at the specific area of event.
- Value Per Unit of Service: Only if “Other” is selected in the “Type of Service” box should a value be inserted here. FEMA standard values are used for loss of service for electric power, potable water, and wastewater services. If “Other” is selected, then insert the value for the unit of service per person, per day. This must be documented with a letter from the utility that is affected.

### *Roads/Bridges*

- Roads/Bridges facility description: Insert a brief description of the road/bridge that experienced a loss of function due to the flood event, including the year construction was completed. Provide photocopies of tax records, hard copy or electronic photos, appraisals or maps.
- Estimated daily one-way traffic trips: Insert the estimated number of one-way traffic trips that take place on this road or bridge each day. This information should come from a city planner or city/county engineer with signature authority or from KY DOT official traffic counts.
- Additional time per one-way trip: Insert the length of time (hh:mm) that it takes a motorist to navigate a detour route around the affected area. This information is available from a planner or city/county engineer with signature authority.
- Additional miles traveled: Insert the length (in miles) that it takes a motorist to navigate a detour route around the affected area. This information is available from a planner or city/county engineer with signature authority.

### *Non-residential Building*

- Non-residential building facility description: Insert a brief description of the non-residential building that experienced a loss of function due to the flood event. This should include the year which the structure was built. Provide photocopies of tax records, hard copy or electronic photos, appraisals or maps.
- Annual budget of the public agency: Insert the annual budget of the public agency that is associated with the building/structure. This is available from the agency providing the service or an agency's published annual report.
- Facility type: Insert the facility type of the structure to be acquired. Choose from a Fire station; Hospital; Police station; or Other.

If a fire station is selected, in a separate document please provide the number of people served by this fire department, the type of area served by this fire department (rural, urban, suburban, or wilderness), the distance in miles between this fire station and the fire station that would provide fire protection for the geographical area normally served by the fires station, and whether this fire station provides Emergency Medical Services (EMS).

If a hospital is selected, in a separate document please provide the number of people served by this hospital, the distance in miles between this hospital and the hospital that would be responsible for treating these people in the event this hospital was out of service, and the number of people normally served by the alternate hospital.

If a police station is selected, in a separate document please provide the number of people served by this police station, the type of area served by this police station (metropolitan, urban, or rural), the number of police officers that work at this police station, and the number of police officers that would serve the same area if the station were shut down due to a disaster.

If other is selected, in a separate document please provide the name of the facility, a description of the facility type (library, school, government), and its annual budget.

## **Damages Before Mitigation**

- When conducting a benefit-cost analysis in the DFA module, a minimum of three historic events when damages occurred must be submitted. In addition, at least one of these events must have occurred at least five years ago. This assists the benefit-cost analysts in determining the frequency with which these events occur. Each damage event must be supported by documentation from a credible source, such as FIS data; U.S. Geological Society (USGS) stream gauge data or National Oceanic and Atmospheric Administration (NOAA) tide gauge data; insurance records; newspaper accounts citing credible sources, such as a public agency; copies of engineering/technical expert records; or a letter from a subject matter expert who has independently calculated frequencies. Do not adjust any of the damages for inflation. Documentation must be provided before application submission.
- Year: Insert the year in which damages occurred.
- Damage to property: Insert the total amount of damage that occurred to real, personal property for the corresponding year. This includes any damages to a house or other structure on the property (including a garage or storage building), the earthen property (such as the erosion of a ditch-line), or a motor vehicle.
- Clean-up costs: Insert the total amount of money spent on any raw materials to clean and repair the affected area after the event occurred. This includes the purchase of any gravel, asphalt, concrete, etc. Also, include the amount spent to remove debris from the affected area.
- Personnel/Labor Costs: Insert the total amount of money spent on personnel/labor during the downtime due to flooding. This includes public works personnel placing signs to alert motorists of a road closure; the use of emergency personnel to monitor the area; and/or the dispatching of Fire/EMS/Rescue teams to the affected area due to accidents. Also, this includes any personnel/labor to clean and repair the affected area after the event.
- Contents damages: Insert the total amount of damage to the contents of any building affected by the flood event.
- Miscellaneous damages: Insert any remaining damages that occurred during the flood event for any particular year that did not apply to the other headings. Please explain any miscellaneous damages in a separate document accompanying this data documentation template (DDT).

**Please attach photos of all four sides of the structure(s) and PVA records for acquisition/demolition or structural elevation projects.**