

**PROCEDURES FOR  
DEVELOPING SCOPES OF WORK FOR  
THE ACQUISITION AND RELOCATION OF  
FLOODPRONE STRUCTURES**

**January, 2005**

<b>PROCEDURES</b>	<b>SAMPLE DATA FOR THE SCOPE OF WORK</b>
<p data-bbox="201 285 974 448"><b>PROCEDURES FOR DEVELOPING SCOPES OF WORK FOR THE ACQUISITION AND RELOCATION OF FLOODPRONE STRUCTURES</b></p> <p data-bbox="201 472 447 508"><b>1. PURPOSE</b></p> <p data-bbox="201 548 995 980">The Federal Emergency Management Agency (FEMA) administers three grant programs to assist communities in mitigating the effects of natural hazards: the Flood Mitigation Assistance (FMA) Program, the Hazard Mitigation Grant Program (HMGP), and the Pre-Disaster Mitigation (PDM) grant program. State, Tribal, and local government agencies may apply through the States to receive funds for these programs. FEMA requires these applicants to meet a specific set of requirements when applying for the funds to ensure that proposed projects meet the program requirements, Federal environmental laws and regulations, and cost-effectiveness requirements.</p> <p data-bbox="201 1019 995 1268">The purpose of this document is to provide guidance for applicants applying for funding under FEMA’s mitigation grant programs, including collection of the administrative and technical data FEMA requires as part of the grant review and approval process. This document is designed to compliment the FEMA electronic grants (e-Grants) management system accessible at:</p> <p data-bbox="201 1276 974 1308"><a href="https://portal.fema.gov/famsVu/dynamic/mitigation.html">https://portal.fema.gov/famsVu/dynamic/mitigation.html</a></p>	

<p style="text-align: center;"><b>PROCEDURES</b></p>	<p style="text-align: center;"><b>SAMPLE DATA FOR THE SCOPE OF WORK</b></p>
<p>By submitting the data described in Section 2, the applicant facilitates both State and FEMA review of the funding application. SOWs without the data may result in delays or a decline of project funding. An example application exhibiting the components described in this guidance is included.</p> <p>The information in the left column (Procedures) provides information on the format and requirements for an applicant to provide technical and other data in support of their request for funding. The right column (Sample Data) provides an applicant with examples of data and the presentation or format of the data that the State and FEMA will need to review during their evaluation of the application.</p> <p>Specific information regarding the administrative and eligibility requirements for mitigation programs is not presented here. Furthermore, this represents a summary of areas that should be covered in a SOW for a mitigation project application. Some areas can be significantly expanded via FEMA or other guidance for implementing specific programs and conducting an environmental review and a benefit-cost analysis (BCA) to determine cost-effectiveness. The State Hazard Mitigation Officer (SHMO) or FEMA Regional Office should be contacted for additional information.</p> <p>One method of reducing future damage from floods is for the community to acquire a property and relocate an existing floodprone structure to a new site outside the 100-year floodplain. If space and ground elevations allow, a structure may be moved to another location on the same piece of property. In cases involving lake flooding, owners should be</p>	

<p style="text-align: center;"><b>PROCEDURES</b></p>	<p style="text-align: center;"><b>SAMPLE DATA FOR THE SCOPE OF WORK</b></p>
<p>discouraged from relocating elsewhere on the same property due to potential long-term inundation.</p> <p><b>2. DEVELOPING THE SCOPE OF WORK FOR AN ACQUISITION AND RELOCATION PROJECT</b></p> <p>One of the primary goals of FEMA’s mitigation programs is to reduce future flood damage, particularly to structures that are insured under the National Flood Insurance Program (NFIP). To achieve this goal, FEMA may provide funding to communities for the relocation of floodprone structures. For this type of project, the community purchases existing floodprone real property from their owners on a voluntary basis. In return, the floodprone structures are relocated (or physically moved to an area) outside of the flood hazard areas identified on FEMA Flood Insurance Rate Maps (FIRMs). Once the relocations are complete, the community agrees to maintain the purchased land in perpetuity as open space with limited allowable uses enumerated on pages 11-18 and 11-19 of the FEMA HMGP Desk Reference.</p> <p>In general, single-story, wood frame structures over a crawlspace or basement foundation are easiest to relocate. Multi-story and solid masonry structures are the most difficult to relocate because their greater size and weight requires additional lifting equipment and makes them more difficult to stabilize during the move. Slab-on-grade foundations complicate the relocation process because they make the installation of lifting equipment more difficult. Due to cracking or peeling, brick and stone veneer may need to be removed prior to moving and replaced after the structure is</p>	

<p style="text-align: center;"><b>PROCEDURES</b></p>	<p style="text-align: center;"><b>SAMPLE DATA FOR THE SCOPE OF WORK</b></p>
<p>attached to the new foundation. In some cases, it may be more economical to cut the structure into sections.</p> <p>Although the relocation process is complex, expensive, and requires extensive pre-move planning, it may be a cheaper alternative than acquiring and demolishing a floodprone structure. The process involves lifting the house off its foundation, placing it on a heavy-duty flatbed trailer, hauling it to the new site, and lowering it onto a new, conventional foundation.</p> <p>This guidance pertains to the relocation of floodprone structures. However, FEMA may also approve funding for the relocation of structures that are threatened by other hazards, such as landslides. The documentation submitted to support an application for these other projects would be similar to that presented here.</p> <p><b>Summary of Required Application Information</b></p> <p>When a community applies for funding for a relocation project, the following information must be submitted with the application:</p> <ol style="list-style-type: none"> <li>1. Basic applicant, contact, and community information. (Section 2.1).</li> <li>2. Information regarding the applicable Hazard Mitigation Plan for the jurisdiction in which the project is being implemented. (Section 2.1).</li> <li>3. Descriptions of the hazard, the problem, and the project.</li> </ol>	<p>The City has followed the FEMA Required Application Information checklist in providing and organizing the data to support the funding request.</p>

<p style="text-align: center;"><b>PROCEDURES</b></p>	<p style="text-align: center;"><b>SAMPLE DATA FOR THE SCOPE OF WORK</b></p>
<p>(Section 2.1).</p> <ol style="list-style-type: none"> <li>4. Information regarding the FIS and FIRM. (Section 2.2).</li> <li>5. Building inventory. (Section 2.3).</li> <li>6. Description of the decision-making process and evaluation of alternatives. (Section 2.4).</li> <li>7. BCA and supporting documentation. (Section 2.6).</li> <li>8. Detailed SOW, which includes a project description and identifies the components involved with the move of the structure to the new site. (Section 2.7).</li> <li>9. Sources of the Cost Share. (Section 2.7).</li> <li>10. Schedule for completing the scope of work and for maintaining open space once the work is completed. (Section 2.8).</li> <li>11. Cost estimate. (Section 2.8).</li> <li>12. Description of environmental considerations and supporting documentation. (Section 2.9).</li> </ol> <p><b>Internet Resources for Applicants</b></p> <p>The FEMA website (<a href="http://www.fema.gov">www.fema.gov</a>) and the e-Grants portal (<a href="https://portal.fema.gov/famsVu/dynamic/mitigation.html">https://portal.fema.gov/famsVu/dynamic/mitigation.html</a>) have a wealth of useful information to assist applicants through the funding request process. These include:</p>	

PROCEDURES	SAMPLE DATA FOR THE SCOPE OF WORK
<ul style="list-style-type: none"> <li>• FEMA Mitigation Division, Education and Training (<a href="http://www.fema.gov/fima/education">www.fema.gov/fima/education</a>).</li> <li>• FEMA Mitigation Division, Mitigation Grant Programs, FMA, (<a href="http://www.fema.gov/fima/fma">www.fema.gov/fima/fma</a>).</li> <li>• FEMA Mitigation Division, Mitigation Grant Programs, HMGP, (<a href="http://www.fema.gov/fima/hmgp">www.fema.gov/fima/hmgp</a>).</li> <li>• FEMA Mitigation Division, Mitigation Grant Programs, PDM, (<a href="http://www.fema.gov/fima/pdm">www.fema.gov/fima/pdm</a>).</li> <li>• FEMA Mitigation Division, Best Practices and Case Studies, (<a href="http://www.fema.gov/fima/bp.shtm">http://www.fema.gov/fima/bp.shtm</a> )</li> <li>• Flood Hazards (<a href="http://www.fema.gov/hazards/floods">www.fema.gov/hazards/floods</a>)</li> <li>• Flood Hazard Mapping (<a href="http://www.fema.gov/fhm">www.fema.gov/fhm</a>)</li> <li>• Floodplain Management (<a href="http://www.fema.gov/fima/floodplain">www.fema.gov/fima/floodplain</a>)</li> <li>• FEMA Environmental and Historic (<a href="http://www.fema.gov/ehp">www.fema.gov/ehp</a>)</li> <li>• FEMA BCA (<a href="http://www.fema.gov/txt/fima/guidelines%20for%20bca.txt">/www.fema.gov/txt/fima/guidelines for bca.txt</a>)</li> <li>• FEMA BCA Helpline (toll free at 866-222-3580) or via e-mail at <a href="mailto:bchelpine@dhs.gov">bchelpine@dhs.gov</a>.</li> </ul>	

PROCEDURES	SAMPLE DATA FOR THE SCOPE OF WORK															
<p><b>2.1 STEP 1: OBTAIN BASIC PROJECT INFORMATION</b></p> <p>The applicant must obtain the following basic information to apply for funds for a relocation project:</p> <ul style="list-style-type: none"> <li>• Information regarding the organization applying for the grant, including:                             <ul style="list-style-type: none"> <li>- Legal status and function.</li> <li>- State and Federal employer tax identification numbers.</li> <li>- Program eligibility category - that is, State, Tribal, or local government, special government district, or eligible private nonprofit group or agency.</li> <li>- State and Federal legislative district information.</li> </ul> </li> <li>• Information for primary and alternate State and local contacts. Contacts for data clarification or additional data and all consultants should also be clearly identified.</li> </ul>	<p><b><u>Applicant:</u></b> City of Adversity, located in Prosperity County in the State of Any State (AS).</p> <p><b>State Employer Tax Identification Number:</b> 4576-3456-7782</p> <p><b>Federal Employer Tax Identification Number:</b> 8897-5643-7743</p> <p><b><u>Program Eligibility Category:</u></b> Local government</p> <p><b><u>Legislative Districts:</u></b> 1<sup>st</sup> Congressional District; 2<sup>nd</sup> State Assembly District; 3<sup>rd</sup> State Senate District</p> <p><b>Primary Local Point of Contact:</b></p> <table border="0"> <tr> <td>Taylor Gilmour</td> <td>Job Title:</td> <td>Director of City Services</td> </tr> <tr> <td>City of Adversity, AS</td> <td>Telephone:</td> <td>(111) 711-0022</td> </tr> <tr> <td>City Hall, Room 410</td> <td>Fax:</td> <td>(111) 711-0333</td> </tr> <tr> <td>35003 Tornado Alley</td> <td>Email:</td> <td><a href="mailto:tgilmour@adv.as.us">tgilmour@adv.as.us</a></td> </tr> <tr> <td>Adversity, AS 40009</td> <td></td> <td></td> </tr> </table>	Taylor Gilmour	Job Title:	Director of City Services	City of Adversity, AS	Telephone:	(111) 711-0022	City Hall, Room 410	Fax:	(111) 711-0333	35003 Tornado Alley	Email:	<a href="mailto:tgilmour@adv.as.us">tgilmour@adv.as.us</a>	Adversity, AS 40009		
Taylor Gilmour	Job Title:	Director of City Services														
City of Adversity, AS	Telephone:	(111) 711-0022														
City Hall, Room 410	Fax:	(111) 711-0333														
35003 Tornado Alley	Email:	<a href="mailto:tgilmour@adv.as.us">tgilmour@adv.as.us</a>														
Adversity, AS 40009																

PROCEDURES	SAMPLE DATA FOR THE SCOPE OF WORK
	<p><b>Alternate Local Point of Contact:</b></p> <p>James Koff                      Job Title:    Chief Engineer</p> <p>City of Adversity, AS        Telephone:   (111) 711-0045</p> <p>City Hall, Room 312        Fax:            (111) 711-0335</p> <p>35003 Tornado Alley        Email:        <a href="mailto:jkoff@adv.as.us">jkoff@adv.as.us</a></p> <p>Adversity, AS 40009</p> <p><b>Primary State Point of Contact</b></p> <p>Andrea Leonard              Job Title:    AS SHMO</p> <p>Emergency                      Telephone:   (222) 822-4466</p> <p>Management Agency        Fax:            (222) 822-1100</p> <p>AS EMA, Room 11002        Email:        <a href="mailto:aleonard@ema.as.us">aleonard@ema.as.us</a></p> <p>1734 Governor’s              Highway                      Email:        <a href="mailto:aleonard@ema.as.us">aleonard@ema.as.us</a></p> <p>Capital City, AS 40028</p> <p><b>Alternate State Point of Contact:</b></p> <p>Susan Smith                    Job Title:    Senior EMA Planner</p> <p>Emergency                      Telephone:   (222) 822-4456</p> <p>Management Agency        Fax:            (222) 822-1100</p> <p>AS EMA, Room 11002        Fax:            (222) 822-1100</p>

PROCEDURES	SAMPLE DATA FOR THE SCOPE OF WORK
<ul style="list-style-type: none"> <li>NFIP community name, Community Identification Number (CID), participation status, and compliance history.</li> </ul>	<p>1734 Governor’s Highway                      Email: <a href="mailto:sesmith@ema.as.us">sesmith@ema.as.us</a>                      Capital City, AS 40028</p> <p><b>Application Preparer:</b></p> <p>Pat Keach                      Job Title: Community Development Specialist                      City of Adversity, AS                      Telephone: (111) 711-0671                      City Hall, Room 430                      Fax: (111) 711-0600                      35003 Tornado Alley                      Email: <a href="mailto:pkeach@adv.as.us">pkeach@adv.as.us</a>                      Adversity, AS 40009</p> <p><b><u>NFIP Community Name:</u></b> City of Adversity, located in Prosperity County in the State of Any State (AS); CID = 006006.</p> <p><b><u>NFIP Participation Status:</u></b> Participating since June 1974. Last Community Assistance Visit conducted in January 2000.</p> <p><b><u>Compliance History:</u></b> The City has adopted the minimum floodplain management criteria required under the NFIP. Although uncontrolled construction of homes occurred prior to the establishment of the floodplain regulations, current enforcement of these regulations has eliminated construction of new or substantially improved homes in floodplains. The City’s zoning includes buffers around floodplains and only allows for recreational or open space use within floodplains.</p>

<p style="text-align: center;"><b>PROCEDURES</b></p>	<p style="text-align: center;"><b>SAMPLE DATA FOR THE SCOPE OF WORK</b></p>
<ul style="list-style-type: none"> <li>• Insurance information for properties insured under the NFIP, including claim amounts that will be protected by the project; and Repetitive Loss properties insured under the NFIP. Repetitive Loss properties are those that have experienced at least two claim payments of over \$1,000 each within any 10-year rolling period. Loss dates within 10 days of each other are counted as a single claim. A primary focus for FEMA’s mitigation programs is reduction of costs under the NFIP, particularly through the elimination of repetitive loss properties. The applicant may obtain repetitive loss information through the State.</li>   <li>• Information clearly defining the location of the proposed project, including latitude and longitude. Attach mapping showing the location of the project. Acceptable formats include recent topographic mapping or aerial photographs, and U.S. Geological Survey (USGS) quadrangle maps. Also, note the existence of any deeds or restrictions that might limit Federal funding for the project.</li>   <li>• Identification of any FEMA grant funds previously received for the project. For example, if the facility was damaged during an event that the President declared to be a disaster, the applicant may have received a grant to repair the facility under the FEMA Individual Assistance program.</li>   <li>• A description of any projects or components of this project, whether funded by FEMA or another entity, that will be completed in the vicinity of the project. Projects in the same watershed should be considered. FEMA must</li> </ul>	<p>(Include all NFIP policy numbers, with addresses, in a table similar to the Sample Property Inventory Summary).</p> <p>The project is located in the southwestern section of the City of Adversity, within the Hillcrest subdivision. The attached aerial map (dating from 1997) shows the locations of project, with GPS coordinates given for each.</p> <p>The City has not previously received disaster assistance for repair or restoration of the structures proposed to be relocated.</p> <p>No other projects are currently proposed for the project area or the watershed in which the project is to be implemented.</p>

<p style="text-align: center;"><b>PROCEDURES</b></p>	<p style="text-align: center;"><b>SAMPLE DATA FOR THE SCOPE OF WORK</b></p>
<p>evaluate cumulative effects of projects when conducting the environmental review.</p> <ul style="list-style-type: none"> <li>• A description of the proposed mitigation project that is the preferred solution (i.e., Solution No. 1). If the structure is to be relocated outside of the Special Flood Hazard Area (SFHA), the regulations outlined in the 44 Code of Federal Regulations, Section 60.3 would not apply, and there would not be any compliance concerns. However, if the structure is to be moved to an SFHA representing less hazard, local building officials should be certain that the residential structure’s lowest floor (including basement) and all utilities are elevated above the 100-year or Base Flood Elevation (BFE).</li>   <li>• A description of the problem that will be solved through implementation of the acquisition and relocation project.</li>   <li>• A description of how the proposed relocation project will solve the problem.</li>   <li>• The scheduled completion date for the project.</li> </ul>	<p><u>Solution #1 (Preferred Solution)</u></p> <p>The proposed project would move six residential structures located in the Hillcrest subdivision in the southwestern area of the City to owner selected sites outside of the floodplain. These properties sustained more than 50 percent damage in the 2002 floods, are located in the floodway or the 100-year floodplain, and have sustained at least 10 percent damage in at least three other floods over the past 30 years. To date, 4 of the affected property owners in the Hillcrest area have expressed an interest in selling their property to the City and relocating outside the floodplain.</p> <p>By relocating the proposed structures, the City of Adversity will remove floodprone structures from the floodway and floodplain, thereby eliminating future damages and health and safety risks for those homeowners and any potential rescuers. This includes eliminating the need to provide emergency response services, subsidized flood insurance, and Federal disaster assistance to the residents. The relocations will also bring cost savings to the NFIP.</p> <p>Future flood damages will be eliminated for six structures in the Hillcrest Subdivision.</p> <p>The future flood damages will be eliminated through the relocation of the structures and the conversion of the properties into green space.</p> <p>The City anticipates completing the project by October 2006. This assumes approval of the grant application by October 2005.</p>

<p style="text-align: center;"><b>PROCEDURES</b></p>	<p style="text-align: center;"><b>SAMPLE DATA FOR THE SCOPE OF WORK</b></p>
<ul style="list-style-type: none"> <li>• If applicable, the community’s Community Rating System (CRS) status and the status of the FMA plan. This information should include the date that FEMA approved the FMA plan and a reference of how this project is included in the plan.</li> <li>• If applicable, the status of the community’s multi-hazard mitigation plan should be provided. If the community has a plan, but no recorded approval such as a letter from FEMA, a copy of the plan may be required.</li> <li>• If the community has an approved multi-hazard plan, the application should reference how the plan recommends mitigating the problem.</li> </ul> <p>Additional information that will be required to support the project application is described below. Include any information, such as photographs, newspaper accounts, damage surveys, substantial damage determinations, homeowner receipts for repairs, or NFIP claims information.</p>	<p>The City is a signatory to the multi-jurisdictional plan prepared for Prosperity County. The City adopted the plan on July 1, 2003, and the plan was approved by FEMA on September 1, 2003. This plan includes a specific section addressing flood mitigation and repetitive loss properties.</p> <p>The July 1, 2003, multi-jurisdictional plan for Prosperity County referenced reduction of the flood hazard in the Hillcrest subdivision as one of the mitigation action items for the City of Adversity.</p>

PROCEDURES	SAMPLE DATA FOR THE SCOPE OF WORK
<p><b>2.2 STEP 2: GATHER HAZARD INFORMATION FOR THE PROJECT AREA</b></p> <p><b>2.2.1 NFIP Flood Hazard Data</b></p> <p>Information regarding flood hazards can usually be obtained from the NFIP maps for the community in which the project is located. Floodplain boundaries and flood elevations are shown on the FIRM for the community. Additional information, including flood profiles (a graph showing the relationship of the water surface elevation of a flood event to a location along a body of water) and supporting technical information, may be found in the accompanying Flood Insurance Study (FIS) report. FIRMs and FIS reports may be obtained through the FEMA Map Service Center at <a href="http://www.msc.fema.gov">www.msc.fema.gov</a> or by calling a toll free number at <b>800-358-9616</b>.</p> <p>FISs and FIRMs provide information regarding the 100-year flood, also known as the base flood, which is the flood having a 1 percent chance of being equaled or exceeded in any given year. On FIRMs, the 100-year floodplain in areas where riverine flooding sources have been studied by detailed methods is designated Zone AE (or on older maps, the designation may be a numbered Zone A, such as “Zone A1”). The 100-year floodplain in coastal areas is designated Zone VE (or as a numbered Zone V on older maps). Areas of ponding (depth up to 3 feet) are designated as Zone AH; and areas of shallow flooding (sheet flow with an average depth of up to 3 feet) are designated as Zone AO.</p> <p>FIRMs may also show the Base Flood Elevation (BFE), which</p>	<p>The proposed project location, the Hillcrest subdivision in southwestern Adversity, is a relatively flat lowland area with an overall slope towards the river. The land adjacent to the river is 1 to 5 feet above normal (non-flood) river level, with a sharp rise adjacent to the water. Two properties are located within the FEMA-designated floodway for the Quake River, and the remaining four lie within the 100-year floodplain shown on the FIRM.</p> <p>The effective FIRM for the project area is from the FIS for the City</p>



<p style="text-align: center;"><b>PROCEDURES</b></p>	<p style="text-align: center;"><b>SAMPLE DATA FOR THE SCOPE OF WORK</b></p>
<p>suffix. The FIRM should be copied at the same scale as other maps of the project area. The applicant should determine if the community has requested a revision to these maps that has not yet been incorporated, and if so, whether the change would affect the property.</p> <ul style="list-style-type: none"> <li>• A copy of the FIS profile with the location(s) of the structures to be relocated clearly marked. In cases where local flooding or ponding appear on the FIRM, it is likely that the flood hazard was identified by approximate methods, and no flood profile exists.</li> <li>• The data used to develop the BFE if the floodplain was determined by approximate methods on the FIRM. The BFE should be used to delineate the corresponding floodplain on the topographic map for the applicant’s area.</li> <li>• An analysis of the project’s effects on flood hazards. This analysis must include hydrologic and hydraulic analyses identifying the extent to which flood hazards are reduced.</li> </ul> <p>To determine the discharge of a river at a given location, a hydrologic model, such as a rainfall-runoff model; or a simplified method, such as use of U.S. Geological Survey (USGS) regression equations, can be used. To determine the flood elevations for the stream, hydraulic models or other normal depth calculations can be used. A qualified professional engineer or hydrologist must prepare this information.</p>	<p>with project site marked in red on each map.</p> <p>There are no previous or pending FEMA map revisions requested for the Quake River.</p> <p>A copy of the flood profile from the FIS for the City of Adversity (Panel 04P, dated March 6, 1994) for the Quake River is attached. The profile has been marked in red to show the upstream and downstream boundaries of the project site.</p> <p>(No information is required here if the flood data from the FIS is used to determine the BFEs for the project site).</p> <p>The proposed project involves the relocation of six structures to areas outside of a designated floodplain and will not adversely affect the existing flood hazards at the project site.</p>

<p style="text-align: center;"><b>PROCEDURES</b></p>	<p style="text-align: center;"><b>SAMPLE DATA FOR THE SCOPE OF WORK</b></p>
<p><b>2.2.2 Flood History</b></p> <p>The applicant should document the history of flooding problems in the project area. Essential information includes date(s) of flooding events, flood characteristics, flood location, duration and extent of flooding, and cost of damage. Other key data include:</p> <ul style="list-style-type: none"> <li>Flood elevation, discharge, and flood frequency data including the source and methodology used to determine the frequency. Also, include nearby high watermarks (if available) and any interior highwater marks that show the depth of flooding above the first floor elevation (FFE) in the structure(s).</li> </ul>	<p>Many residents in Adversity live on or near the river, and approximately 1,500 property owners have suffered flood damage since records have been kept. Approximately 500 property owners suffer damage or fight rising waters regularly (every 5 to 10 years). Most recently, the Quake River flooded in March 2002, causing substantial damage to over 500 residential properties.</p> <p>Due to Adversity’s proximity to the Quake River, the community has experienced flooding on an average of once every 3 to 5 years for over half a century.</p> <p>Additionally, the cost of damage from each flood event is increasing from an average of \$2.4 million between April 1954 and February 1970, to an average of \$14.4 million between March 1970 and March 2002. (See the attached FIS data for a more detailed history of the flooding.)</p> <p>There was only one flood exceeding the 100-year flood elevation of 110 feet between April 1954 and May 1978, but three floods have exceeded this level since 1970, which suggests that the severity of the flooding is increasing. The largest recorded floods include (frequencies were estimated by a State hydrologist):</p> <p><b>04/05/54</b> – Peak flood elevation of 114.5, 18,800 cfs, 120-year flood</p> <p><b>07/20/63</b> – Peak flood elevation of 97.1, 8,500 cfs, 40-year flood</p> <p><b>05/25/78</b> – Peak flood elevation of 102.3, 13,400 cfs, 70-year flood</p> <p><b>03/12/96</b> – Peak flood elevation of 101.9, 12,000 cfs, 65-year flood</p>

PROCEDURES	SAMPLE DATA FOR THE SCOPE OF WORK
<ul style="list-style-type: none"> <li>• Cost of damage to buildings, contents, and infrastructure (broken out by each of these three components, if possible).</li>   <li>• Whether use of structures, public services, utilities, roads or bridges was lost, and if so for how long.</li>   <li>• Depth-damage functions (that is, percent damage of the building replacement value at each flood depth) for the structures to be relocated, if available.</li>   <li>• Specific data for the structures to be relocated (discussed in more detail in Section 2.3).</li> </ul>	<p><b>03/28/02</b> – Peak flood elevation of 99.0, 11,200 cfs, 50-year flood</p> <p><b>Note:</b> The amounts listed below represent total damages reported (combined buildings, contents, and infrastructure).</p> <p><b>04/05/54</b> – Reported damages of \$488,800.</p> <p><b>07/20/63</b> – Reported damages of \$325,000.</p> <p><b>05/25/78</b> – Reported damages of \$866,800.</p> <p><b>03/12/96</b> – Reported damages of \$2,236,000.</p> <p><b>03/28/02</b> – Reported damages of \$2,756,000.</p> <p>Average loss of public services is 3 days per event.</p> <p>Average loss of electricity, water, and natural gas is 7 days per event.</p> <p>Two bridges were out of service during the 1978, 1996, and 2002 floods, with average detour of 20 minutes per trip (40 minutes per round trip), for a distance of 10 miles for approximately 75 one-way vehicle trips per day.</p> <p>The depth damage functions in the FEMA Riverine Full Data BCA module are representative of the damages for this project.</p>

<b>PROCEDURES</b>	<b>SAMPLE DATA FOR THE SCOPE OF WORK</b>
<p>The FEMA FIS may provide historical flood information. However, other potential sources of this information include:</p> <ul style="list-style-type: none"><li>• Association of State Flood Plain Managers (ASFPM), (<a href="http://www.floods.org">www.floods.org</a>)</li><li>• National Weather Service (NWS), (<a href="http://www.nws.noaa.gov">www.nws.noaa.gov</a>)</li><li>• Natural Resources Conservation Service (NRCS), (<a href="http://www.nrcs.usda.gov">www.nrcs.usda.gov</a>)</li><li>• U.S. Army Corps of Engineers (USACE), (<a href="http://www.usace.army.mil">www.usace.army.mil</a>)</li><li>• U.S. Bureau of Reclamation (BOR), (<a href="http://www.usbr.gov">www.usbr.gov</a>)</li><li>• U.S. Geological Survey (USGS), (<a href="http://www.usgs.gov">www.usgs.gov</a>)</li><li>• State water resources agencies.</li></ul> <p><b>Note:</b> The Federal agency website addresses above are for the agency national headquarters. The websites contain links to agency offices or districts within individual States. The ASFPM website contains mitigation information and links to State NFIP Coordinating offices (which may also have useful flood data) and State agencies.</p>	

PROCEDURES	SAMPLE DATA FOR THE SCOPE OF WORK
<p><b>2.3 STEP 3: PREPARE A PROPERTY INVENTORY</b></p> <p>An inventory of buildings that are to be relocated must be developed. This inventory should be updated as new information is collected or property owners decline to participate in the program.</p> <p>Property owners may initially express interest in the relocation program but subsequently decide not to take part. In some cases, these withdrawals occur after FEMA has approved grant funding. Consequently, the inventory should include alternate buildings that may be relocated when withdrawals occur.</p> <p>For each property, the community should complete a Property Owner Questionnaire. Record all relevant information that led the community to decide to include this structure in the project, attaching at least two color photographs of the main structure (from two different sides). Specific data regarding the structure and its flooding history should be collected, including:</p> <ul style="list-style-type: none"> <li>• NFIP insurance policy number.</li> <li>• Building type, number of stories, foundation type (slab, basement, pier or post, crawl space) and floor area.</li> </ul>	<p><b>Note:</b> Sample data is for one structure while the property inventory will contain similar information for all structures to be relocated.</p> <p><b>Property:</b> Parcel No. 301-0011-008, 1375 Hurricane Way</p> <p><b>Property owner and co-owner information:</b> Jerome Cress</p> <p><b>Mailing address:</b> P.O. Box 7510, Adversity, AS 40233</p> <p><b>Daytime Telephone Number:</b> (111) 228-7725.</p> <p><b>NFIP Policy Number:</b> 8973987468</p> <p>This property is a two-story, single-family home without a basement. It was built in 1971 on a concrete slab foundation. The total area of the house is 1,680 square feet. There was one building permit issued for the residence in 1992 to add an outdoor deck onto</p>

PROCEDURES	SAMPLE DATA FOR THE SCOPE OF WORK
<ul style="list-style-type: none"> <li>Elevation data for each structure. Determine the lowest floor elevation (excluding basement) above ground level, and the lowest adjacent grade of the ground of each building in the project area, and compare them to the corresponding BFE.</li> </ul> <p>If a structure includes a basement, provide the elevation of the basement floor and determine whether the basement is a fully finished, livable space. For substantial improvement requirements, the basement floor should be considered the lowest floor for compliance. However, for a BCA, the basement should only be used as the lowest floor if it is a fully finished, livable space.</p> <p>A state Licensed Land Surveyor (LLS) or state registered Professional Engineer (PE) must obtain and record this elevation information. If first floor elevations or flood elevations are estimated from available sources, the community must document the way in which the estimates were derived and submit the documentation.</p> <ul style="list-style-type: none"> <li>The water depth above the lowest floor for each flood.</li> <li>The amount of damage, as a percentage of the pre-event building replacement value (BRV) that would result in demolition. The standard amount of damage used in a</li> </ul>	<p>the house.</p> <p><b>Note:</b> The elevation data for 1375 Hurricane Way was obtained from the FEMA Elevation Certificate on file with the City. Elevation data for other structures in the Property Inventory were either obtained from the Elevation Certificates on file or by licensed land surveyors for this project.</p> <p>The BFE along the Quake River for this structure is 102.0 NGVD 1929.</p> <p>The lowest floor elevation is 91.0 feet NGVD 1929.</p> <p>The FFE for the building is 91.0 feet NGVD 1929.</p> <p>The lowest adjacent grade to the structure is 89.3 feet NGVD 1929.</p> <p>The flood elevation for the 2002 flood was 99 feet NGVD 1929.</p> <p>1978 – 1.5 feet of water above the first floor</p> <p>1996 – 0.3 feet of water above the first floor</p> <p>2002 – 8 feet of water above the first floor</p> <p>The amount of damage that would result in demolition is the FEMA standard value of 50 percent.</p>

<p style="text-align: center;"><b>PROCEDURES</b></p>	<p style="text-align: center;"><b>SAMPLE DATA FOR THE SCOPE OF WORK</b></p>
<p>BCA, for structures not on the National Registry of Historic Structures, is 50 percent. Values other than 50 percent must be documented and justified.</p> <ul style="list-style-type: none"> <li>• Replacement value of contents and the method used for determining the value. The standard FEMA value for residential structures is 30 percent of BRV of the structure, or a minimum of \$20,000, whichever is greater. Contents values that exceed 30 percent should include documentation, such as homeowner receipts for replacement contents, as justification.</li> <li>• Loss information, including all documented NFIP claims.</li> <li>• Information for Repetitive Loss properties insured under the NFIP. The applicant should provide data for subject properties that have previously been identified on the Repetitive Loss property lists that FEMA shares with the States. FEMA will verify the status of the identified properties on the Repetitive Loss list for the State. Repetitive Loss properties are those that have experienced at least two claim payments of over \$1,000 each within any 10-year rolling period. Loss dates within 10 days of each other are counted as a single claim.</li> <li>• If possible, the community should collect latitude and longitude for each property to assist FEMA with future tracking of mitigation projects.</li> </ul> <p><b>Note:</b> Some of these properties will not be substantially damaged, but may be repetitive loss properties that have</p>	<p>The standard FEMA contents replacement value of 30 percent of the building replacement value of the structure was used in the analyses.</p> <p>Copies of NFIP and other insurance claim data for each structure in the Property Inventory are attached (when available).</p> <p>The structures in this application that appear on the State Repetitive Loss property list are identified by “(RL)” next to the street address in the attached Property Inventory Summary.</p> <p>Latitude and longitude are only available for the structures surveyed for this project and not for that structure that had FEMA Elevation Certificates on file (data attached).</p>

<p style="text-align: center;"><b>PROCEDURES</b></p>	<p style="text-align: center;"><b>SAMPLE DATA FOR THE SCOPE OF WORK</b></p>
<p>caused a drain on the NFIP.</p> <p><b>2.4 STEP 4: DEVELOP ALTERNATIVE SOLUTIONS TO THE PROBLEM</b></p> <p>FEMA will evaluate the project for feasibility and cost-effectiveness, and the applicant must describe why the proposed project is the best solution to the problem. In addition, because the project will be considered for funding under a Federal program, it will be subject to review under the National Environmental Policy Act (NEPA) and Executive Order 11898, both of which require that any reasonable alternative be evaluated along with their impacts. Consequently, the applicant should document the alternatives that were considered for meeting the purpose and need for the project. NEPA and other environmental requirements are further discussed on Section 2.9 of this document.</p>	<p><b>Solution #2: Structure Elevation</b></p> <p>Elevation would reduce the damages associated with the flooding problem if the houses were raised above the 100-year flood elevation. This would move much of the homeowner’s real and personal property above the flood. However, some of the properties eligible for relocation have suffered damage from floodwaters up to 8 feet.</p> <p>Furthermore, elevation does not eliminate the need for emergency rescue, nor does it eliminate the need to repair damaged infrastructure, such as the sewer system or utility lines, which also can be damaged by floods. These services and repairs would further raise the total damage of any future event.</p> <p>The elevation option would reduce, but not eliminate, the risk of both physical danger and property damage. Residents could still be trapped by rapidly rising waters, causing the need for emergency evacuation. Utility lines would still be required for decent and sanitary living. Therefore, the high likelihood remains that the City, State, and Federal Governments will repeatedly be asked to spend funds on emergency disaster assistance and repairs of infrastructure.</p> <p>An appropriate estimate for elevating a medium-sized brick or concrete slab house is \$30,000. It would cost approximately \$185,000 to raise the six houses, considering their sizes and variations in building materials.</p>

<p style="text-align: center;"><b>PROCEDURES</b></p>	<p style="text-align: center;"><b>SAMPLE DATA FOR THE SCOPE OF WORK</b></p>
<p>Typically, at least three alternative solutions to the problem should be considered. One of the alternatives should be the proposed relocation project. The analysis should also consider the “no-action” alternative; this alternative reflects conditions that would exist if no further action were taken. For example, what would be the consequences if the structures in question were not relocated or otherwise mitigated? Finally, consider at least one additional alternative. For example, could the structures in question be elevated above the BFE to protect them from flooding?</p> <p>For each alternative, consider the local hazard mitigation goals, the project cost, economic benefits, potential for repetitive damage, environmental impacts, and public health and safety risks. Document alternatives that are not preferred over the proposed alternative and provide reasons.</p>	<p>Rescue services and utility repairs can cost up to \$22,000 per event. Assuming one event every five years, and assuming disaster and repair services cost from \$26,000-\$90,000 per event, over a project lifetime of 100 years, these services would total approximately \$960,000.</p> <p><b>Solution #3: No Action</b></p> <p>Calculations based on the history of flooding in Adversity indicate that, with no action, Adversity could expect to suffer further damage, injury, or death of even greater magnitude in the future. Assuming property owners would collect a similar amount of disaster assistance every five years, and assuming a 100-year lifetime of the project, the no action alternative could result in future disaster assistance payments of approximately \$2,435,000 over the next 100 years.</p> <p>The No Action option does nothing to reduce or eliminate future risk to City residents or damage to their property, nor does it offer a means to reduce or eliminate the need for future disaster assistance.</p>

<p style="text-align: center;"><b>PROCEDURES</b></p>	<p style="text-align: center;"><b>SAMPLE DATA FOR THE SCOPE OF WORK</b></p>
<p><b>2.5 STEP 5: ESTABLISH A METHOD FOR DETERMINING BUILDING VALUES</b></p> <p>When funding relocation projects, FEMA requires communities to establish and document a Fair Market Value (FMV) derived from a reasonable methodology that has been applied consistently throughout the community. The community must also decide if the pre- or post-flood value of the property is to be used for determining building values. Two methods of calculating FMV are acceptable:</p> <ul style="list-style-type: none"> <li>• <b>Appraisal.</b> Professional appraisals typically yield the most accurate results. Methods include inspections, comparisons with similar properties in the neighborhood, checking building permit information, and reviewing documentation of recent improvements. Appraisals must show the breakdown of the value of the structures and the value of land. For relocation projects, the applicant may only use the value of the structure for the FMV and cannot include the land value.</li> </ul> <p>The community must allow homeowners to dispute the appraisal and provide a second appraisal. Typically, the community requires the homeowner to pay for a second appraisal.</p> <ul style="list-style-type: none"> <li>• <b>Use of tax assessor’s records.</b> Because tax assessments are not usually computed annually, they tend to be lower than the true value. Therefore, use of tax assessment data requires a percent adjustment factor based on the normal adjustment procedures used in the county or community</li> </ul>	<p>The FMVs will be based on pre-disaster building values. The City of Adversity used property tax assessment data to estimate a working budget. However, we plan to base final purchase offers on appraisals completed by a certified professional appraiser from Prosperity County. For those property owners who are interested in obtaining a second appraisal, the City will provide a list of appraisers from the County whose appraisals will be considered acceptable.</p> <p>Certified appraisals will be used for the final purchase price.</p> <p>Copies of tax records for each property in the project are attached. This data includes the adjusted tax value for the current year and the multiplier used to estimate the FMV.</p>

<p style="text-align: center;"><b>PROCEDURES</b></p>	<p style="text-align: center;"><b>SAMPLE DATA FOR THE SCOPE OF WORK</b></p>
<p>where the structure is located. The percent adjustment factor updates the assessed tax value to the current FMV.</p> <p>The selected method for determining building values must be used consistently for all participating property owners. Generally, pre-event market value is only used up to one year after the disaster occurs.</p> <p>If the owner bought the property after a flood, the community cannot offer the new property owner more than the post-flood value of the property, regardless of whether other property owners will be offered pre-flood market value.</p> <p><b>2.6 STEP 6: PREPARE A BENEFIT-COST ANALYSIS</b></p> <p>A BCA is FEMA’s method for determining whether relocation projects are cost-effective, and therefore, a viable option for flood mitigation. It is recommended that a preliminary BCA be completed using rough estimates of the project costs and benefits to evaluate the project. Once a detailed scope of work had been determined, a more thorough and precise BCA should be prepared using specific data. A complete BCA is required for all FEMA-funded mitigation projects.</p> <p>The BCA is completed using the flood hazard information and flood history for the project area, the property inventory, and the estimated project costs. All information used to prepare the BCA must be documented, including data sources, dates, assumptions, and analysis procedures. Data from recognized sources such as FEMA FISs, the USGS, the USACE, and State agencies have a high degree of credibility. When local</p>	<p>All properties involved in this project were purchased prior to the 2002 flood by the owners that indicated they will probably participate in the relocation project.</p>

<p style="text-align: center;"><b>PROCEDURES</b></p>	<p style="text-align: center;"><b>SAMPLE DATA FOR THE SCOPE OF WORK</b></p>
<p>data are used, supporting documentation from an engineer or other qualified source must be submitted.</p> <p>The following information presents general guidance regarding the application of BCAs to relocation projects. More detailed information regarding BCAs may be obtained from the FEMA website at <a href="http://www.fema.gov/fima/pdm.shtm">www.fema.gov/fima/pdm.shtm</a> or by obtaining <i>FEMA’s Mitigation BCA Toolkit CD</i>, dated January 2005</p> <p>FEMA has also established a BCA Helpline, which can be reached through a toll free number <b>866-222-3580</b>, or by email at <a href="mailto:bchelpine@dhs.gov">bchelpine@dhs.gov</a>.</p> <p>Along with the BCA for each property or group of similar aggregated properties, the applicant should include a completed Data Documentation Template (DDT) to support the values used in the BCA. The DDTs are available on the <i>FEMA Mitigation BCA Toolkit CD</i>, dated January 2005.</p> <p>During 2003, FEMA introduced a pilot program that allows a simplified, alternate, FEMA-approved methodology to conduct BCAs for certain repetitively flooded properties insured under the NFIP. This pilot effort is designed to support the mitigation of these NFIP-insured structures by providing a framework that allows States, Tribal, or local government applicants to use NFIP-provided data to determine the “benefits” portion of the BCA to demonstrate cost-effectiveness of proposed mitigation projects.</p>	<p>The City did not use the alternate BCA approach because the City had no properties on the FEMA Repetitive Loss list that accompanied the guidance.</p>

<p style="text-align: center;"><b>PROCEDURES</b></p>	<p style="text-align: center;"><b>SAMPLE DATA FOR THE SCOPE OF WORK</b></p>
<p>Applicants requesting mitigation funds may use this alternative cost-effectiveness methodology and data for any project meeting the guidelines described herein from the date of this memorandum through September 30, 2004, or until the pilot NFIP repetitive loss properties list is superseded by updated data.</p> <p>Generally, applicants use a FEMA-approved software-based BCA to determine the cost-effectiveness of projects. The pilot alternate methodology applies to all FEMA Mitigation Grant Programs including: FMA, HMGP, PDM, and Supplemental Mitigation Grants. Projects submitted for consideration under any of these programs must adhere to all requirements set forth in the various governing statutes and program regulations.</p> <p>Applicants requesting mitigation funds may use this alternative cost-effectiveness methodology and data for any project meeting the guidelines described herein from the date of this memorandum through September 30, 2004, or until the pilot NFIP repetitive loss properties list is superseded by updated data.</p>	

<p style="text-align: center;"><b>PROCEDURES</b></p>	<p style="text-align: center;"><b>SAMPLE DATA FOR THE SCOPE OF WORK</b></p>
<p><b>2.6.1 Using FEMA’s BCA Modules</b></p> <p>FEMA has developed software and guidance to prepare BCAs in accordance with agency requirements. The BCA software involves modules for different hazards, including floods. Applicants are encouraged to use the FEMA BCA software to ensure that the calculations and methods are standardized. Alternative BCA software may be used only if approved by FEMA in advance of submitting an application based on the alternative software.</p> <p>Many of the FEMA BCA modules contain standard or default data. Use of such data is acceptable as long as the data are applicable to the specific relocation project being proposed. Several of the modules are applicable for structure relocation projects.</p> <p>The <b>Riverine Limited Data Module</b> is a frequency-damage module that can be used for areas without quantitative flood hazard data, such as areas outside of mapped floodplains on the FIRM, areas studied by approximate methods, or situations where lowest floor elevation data are not available. The information needed to complete this module may include, but is not limited to:</p> <ul style="list-style-type: none"> <li>• Documentation of event frequency.</li> <li>• Damage and losses in high frequency events (1- to 10-year recurrence interval); moderate frequency events (10- to</li> </ul>	<p>The standard FEMA Riverine Full Data BCA module was used for all BCAs associated with this project.</p> <p>The default values in the FEMA Riverine Full Data BCA module were used in the analyses for this project.</p> <p>See the information cited in Flood History and the attached copies of the effective FIRM and FIS flood profiles which have been marked in red to show the property locations.</p> <p>See the information cited in Flood History and the attached copies of City and State damage estimates, contractor estimates for repairs,</p>

<p style="text-align: center;"><b>PROCEDURES</b></p>	<p style="text-align: center;"><b>SAMPLE DATA FOR THE SCOPE OF WORK</b></p>
<p>50-year recurrence interval); and low frequency events (greater than a 50-year recurrence interval).</p> <ul style="list-style-type: none"> <li>• Damages or losses with high value. Possible sources of information include damage surveys, substantial damage determinations, homeowner receipts for repairs, and NFIP claims amounts.</li> <li>• Estimates of deaths and injuries due to flood events.</li> </ul> <p>The <b>Riverine, Coastal A-Zone, and Coastal V-Zone Full Data Modules</b> use quantitative data to determine the frequency and severity of flood events, and engineering data to calculate damages and losses before and after mitigation. Given the proper input data, the results are more accurate than those obtained with the Limited Data Module. Common data inputs may include, but are not limited to:</p> <ul style="list-style-type: none"> <li>• Building data for structures to be protected by the project, including:             <ul style="list-style-type: none"> <li>○ Type of building (residential, commercial, public).</li> <li>○ Building size (area in square feet).</li> <li>○ Building replacement value or BRV (\$ per square foot).</li> </ul> </li> </ul>	<p>and homeowner receipts (by Tax Parcel ID number) for expenses associated with the last two flood events (03/12/96 and 03/28/02).</p> <p>The damages were not broken out as high or low damages.</p> <p>There were no deaths and documentation for the injuries is explained under the “Benefits” category below. The values used for injuries were in accordance with the guidance provided on the <i>FEMA Mitigation BCA Toolkit CD</i>, dated January 2005.</p> <p>The FEMA Full Data Riverine BCA module was used for the BCAs prepared for this project. The FEMA default values for the depth damage functions and the percentage of damage resulting in relocation were used in the analyses.</p> <p>The City has developed an inventory of residences in the project area. The inventory includes replacement value (developed using tax assessor’s information) but does not include specific information about size or elevation. All of the homes are of similar construction (one- or two-story wood frame homes with two car garages built slab-on-grade) and size (approximately 1,500 to 2,400 square feet, depending on number of stories). Estimates of adjacent ground elevations have been taken from available topographic mapping.</p>

<p style="text-align: center;"><b>PROCEDURES</b></p>	<p style="text-align: center;"><b>SAMPLE DATA FOR THE SCOPE OF WORK</b></p>
<ul style="list-style-type: none"> <li>○ Replacement value of contents and the method used for determining the value. The standard FEMA value for residential structures is 30 percent of the BRV of the structure, or a minimum of \$20,000, whichever is greater. Contents values that exceed 30 percent should include documentation, such as homeowner receipts for replacement contents.</li> <li>○ Lowest floor elevation (excluding basement, unless the basement is a fully-finished, livable space), and lowest adjacent grade to the structure. Ideally, FEMA Elevation Certificates should be prepared by either a state Licensed Land Surveyor (LLS) or a state registered Professional Engineer (PE). If these elevations are estimated from available sources, the community must document the way in which the estimate was derived and submit the documentation.</li> <li>● Flood elevation data (typically 10-, 50-, 100-, and 500-year flood elevations), which can be found using the flood profiles in the FIS or in other acceptable sources of flood information from the USACE, NRCS, USGS, or State water resources agencies.</li> <li>● Flood discharge data, which can be found in the FIS or obtained from other Federal or State agencies.</li> <li>● FEMA Elevation Certificates or other elevation documentation, certified by a state LLS or a state registered PE should be provided as support data for all FFEs. The LLS or PE must be licensed in the State where</li> </ul>	<p>The City used the FEMA standard contents value of 30 percent of the BRV.</p> <p>See the information cited in Flood History and the attached copies of the effective FIRM and FIS flood profiles which have been marked in red to show the property location.</p> <p>The FIS flood discharge data was used for the analyses.</p> <p>FEMA Elevation Certificates that provide the FFEs are included for the six structures involved in the proposed project.</p>

<p style="text-align: center;"><b>PROCEDURES</b></p>	<p style="text-align: center;"><b>SAMPLE DATA FOR THE SCOPE OF WORK</b></p>
<p>the proposed project will occur.</p> <ul style="list-style-type: none"> <li>• Depth-damage functions (if BCA default data are not used).</li> <li>• Building damage percentage resulting in demolition or relocation. The standard amount of damage used in a BCA for structures not on the National Registry of Historic Structures is 50 percent. Values other than 50 percent must be documented and justified.</li> <li>• Displacement times and costs for displaced tenants (if default values are not used).</li> <li>• Net business income (if the building houses commercial activities).</li> <li>• Annual operating budget (if the building houses public/non-profit services).</li> </ul> <p><b>2.6.2 Preparing the BCA</b></p> <p>Considerations for preparing the BCA are described below. It should be noted that net social benefits and total costs (both Federal and local share), as opposed to the benefits and costs to the Federal Government, should be the basis for evaluating whether a project is cost-effective. Therefore, all social benefits would be considered for minor structural flood control projects, not just benefits for repetitive loss properties.</p>	<p>The default BCA values for the depth-damage function were used.</p> <p>All of the interested property owners have agreed to 50 percent as the amount of damage per structure that would result in relocation.</p> <p>The average displacement time for the six structures in this project was 18 days during the 1996 flood and 25 days during the 2002 flood.</p> <p>There are no businesses or public/non-profit agencies involved in this project.</p>

<p style="text-align: center;"><b>PROCEDURES</b></p>	<p style="text-align: center;"><b>SAMPLE DATA FOR THE SCOPE OF WORK</b></p>
<p><b>2.6.2.1 Benefits</b></p> <p>The benefits of relocating structures are equivalent to the avoided damages, losses, and casualties that would occur if the structures remained in the same location. For example, if the project area has been flooded 10 times, and the roads, public utilities, and homes have been repaired or replaced each time, then clearing the project area and using it as an open space will remove the need to repair and replace these structures in the future.</p> <p>Examples of common benefits include avoided (or reduced):</p> <ul style="list-style-type: none"> <li>• Damages to the residences and contents, as well as damage to nearby roads and other infrastructure serving the residences.</li> <li>• Displacement costs incurred by residents living elsewhere while homes are repaired.</li> <li>• Emergency response costs for police, fire, and other public services when the residences are flooded.</li> <li>• Removal of debris from streets and public areas such as municipal parking lots and recreation areas.</li> <li>• Loss of utility services to the residences, as well as repairs to damaged utilities.</li> <li>• Economic losses resulting from displacement of commercial or light industrial uses of the structures.</li> </ul>	<p>The benefits claimed for residential structure and contents damages, displacement costs, emergency response costs, damaged utilities, economic losses by businesses, and injuries (there were no deaths) are documented with the attached benefits data. The data followed the guidance from the Data Documentation Templates on the <i>FEMA Mitigation BCA Toolkit CD</i>, dated January 2005.</p>

<p style="text-align: center;"><b>PROCEDURES</b></p>	<p style="text-align: center;"><b>SAMPLE DATA FOR THE SCOPE OF WORK</b></p>
<ul style="list-style-type: none"> <li>• Deaths and injuries. Casualty benefits cannot be counted for flooding, except in flash flooding or dam failures, because residents are usually given sufficient warning time to evacuate their homes. Refer to the Mitigation BCA Toolkit for current statistical values for deaths, major injuries, and minor injuries.</li> </ul> <p>“Multiplier” effects cannot be counted. A multiplier effect is an indirect or secondary benefit. For example, if the open space created following the relocation of structures attracts visitors, the economic benefits to the community from the visits cannot be counted, as they are not a direct effect of the project.</p> <p><i>2.6.2.2 Project Costs</i></p> <p>All costs should be reflected in the project SOW. Only costs that are relevant to the implementation of the project should be counted in the total project cost. Project costs should:</p> <ul style="list-style-type: none"> <li>• Include all costs associated with the relocation of the structure. These costs should be shown in an itemized cost estimate and include the negotiated purchase price of the property, appraisal fees, permits, relocation costs, debris removal, site restoration to green space and standard real estate costs for deed filing, title search, and title insurance.</li> <li>• Be based on a reasonable estimate – that is, there should be no obvious over- or underestimate of the true cost of the project. If construction will be completed using a contractor, all elements of the contractor’s costs, including</li> </ul>	<p>The benefits claimed here do not involve secondary benefits.</p> <p>A detailed breakdown of the project costs is attached. All costs are relevant to the project (per guidance from the FEMA Regional Office)</p> <p>Yes.</p>

PROCEDURES	SAMPLE DATA FOR THE SCOPE OF WORK
<p>overhead and profit, should be included.</p> <ul style="list-style-type: none"> <li>• Include separate relocation costs for each structure within the project.</li> <li>• The costs should be separated into categories for property acquisition costs, structure moving costs, other moving related costs (police, temporary removal of overhead power lines, etc.), new location preparation costs, and old location restoration costs.</li> <li>• Be based on the same methodology, approach, and local cost multipliers used for other structures within the project.</li> </ul> <p><b>Note:</b> For acquisition and relocation projects, the “project costs” are based on the <i>fair market value (FMV)</i> of the structure. However, FEMA BCAs are based on the <i>building replacement value (BRV)</i>, which is the cost for labor and materials to build a similar structure in the same location.</p> <ul style="list-style-type: none"> <li>• Be calculated using present-day dollars.</li> <li>• Reflect current project information.</li> <li>• Be well documented and from a credible source.</li> <li>• Reflect the total project cost, not just the FEMA share.</li> </ul> <p>The cost should reflect the total project cost, not just the</p>	<p>Property address and Tax ID number in the detailed project cost list the relocation costs.</p> <p>Copies of tax records for each property in the project are attached. This data includes the adjusted tax value for the current year and the tax multiplier used to estimate FMV. Five of the interested owners provided their own certified appraisals (which were within 10 percent of the City determined FMVs for those five structures).</p> <p>Yes.</p> <p>Yes.</p> <p>Yes.</p>

<p style="text-align: center;"><b>PROCEDURES</b></p>	<p style="text-align: center;"><b>SAMPLE DATA FOR THE SCOPE OF WORK</b></p>
<p>FEMA share. Costs for a relocation project include those costs that are eligible for Federal reimbursement, such as appraisals, property acquisition, and relocation; and non-Federal costs, such as costs for the community to implement the open space plan and restore the open space. Although maintenance costs for open space must be included in the BCA, they are not eligible program costs.</p> <p>The additional costs for relocating substantially damaged structures may be covered under the NFIP’s Increased Cost of Compliance (ICC) insurance coverage. This additional level of insurance coverage exceeds the standard coverage to assist homeowners that are required to bring their pre-FIRM structures into compliance with the NFIP. In some cases, ICC claims may be used to supplement a mitigation-funding request so that additional structures can be relocated. Homeowners can only receive an ICC claim if the community floodplain administrator has determined that their structure has been substantially damaged due to flooding. Information on the ICC can be found in FEMA publication No. 301, <i>Interim Guidance for State and Local officials, Increased Cost of Compliance Coverage</i>. Additional information regarding ICC can be found on FEMA’s website (<a href="http://www.fema.gov">www.fema.gov</a>, search word is “ICC”).</p>	

<p style="text-align: center;"><b>PROCEDURES</b></p>	<p style="text-align: center;"><b>SAMPLE DATA FOR THE SCOPE OF WORK</b></p>
<p><b>2.6.3 Cost-Effectiveness</b></p> <p>As with all mitigation projects, a structure relocation project is considered cost-effective if the ratio of benefits to costs is 1.0 or greater. FEMA does not fund projects with a benefit-cost ratio (BCR) less than 1.0. Some States may use the BCR as a ranking factor for selecting projects to submit to FEMA for funding when the number of projects is greater than the available funds. When used as a ranking factor, a project with a higher BCR is considered to be more cost-effective than a project with a lower BCR.</p> <p>If there is more than one BCA submitted for the project, the applicant should include a calculation page showing how the overall project BCR was determined. The overall BCR involves dividing the total benefits of all structures by the total costs of all structures.</p>	<p>The overall project BCR (total documented benefits divided by total documented costs) is 1.36. There were six properties involved in this project, each with a separate BCA. A spreadsheet is attached that shows the benefits and costs determined for each property. The benefits from the six properties were added together and then divided by the total costs to provide an overall project BCR of 1.36.</p>

<p style="text-align: center;"><b>PROCEDURES</b></p>	<p style="text-align: center;"><b>SAMPLE DATA FOR THE SCOPE OF WORK</b></p>
<p><b>2.7 STEP 7: PREPARE A SCOPE OF WORK FOR THE PROJECT</b></p> <p>The scope of work serves as the basis for FEMA’s review of eligibility, feasibility, and cost-effectiveness, and establishes the framework for expenditure of grant funds. The scope of work is described below and should include all elements for implementing the project, from design through project completion.</p> <p><b>2.7.1 Prioritization and Preparation</b></p> <ul style="list-style-type: none"> <li>• Determine the criteria for prioritizing properties to be relocated and the policies guiding the relocation, including procedures for determining FMVs (as described above), conducting appraisals, and transferring responsibility for property taxes. Develop policies for appeals, tenant relocation, salvage, and purchase of mobile homes. Criteria will depend on the specific FEMA grant program. For FMA, all projects are considered by FEMA based on cost-effectiveness and future savings to the NFIP.</li> <li>• Initiate public involvement and contact with property owners. Develop explanatory materials for public distribution and guidance for applying to participate in the process. Conduct interviews with property owners to evaluate their willingness to participate and to address concerns. If they are not interested in participating in the relocation program, document the declined offer and reasons for declining participation.</li> </ul>	<p>The City’s criteria for prioritizing properties are attached. There is also an alternate list in case some of the properties on the initial list decline to participate in the relocation project.</p> <p>The City has used newsletters, newspaper articles, and a neighborhood meeting to announce and discuss the relocation program. An additional public outreach process will be initiated after the grant is awarded and before the final plans are put out for construction bid. Property owners will be informed throughout the process via two town meetings followed by individual letters and meetings with each property owner as desired. Additionally, the Community Development Specialist will contact all tenants to ensure that they understand the process, timeframe, and guidelines</p>

<p style="text-align: center;"><b>PROCEDURES</b></p>	<p style="text-align: center;"><b>SAMPLE DATA FOR THE SCOPE OF WORK</b></p>
<ul style="list-style-type: none"> <li>• Prioritize properties to be relocated. Factors include damage history, location relative to flood hazards, willingness of the owners to relocate, preliminary BCAs, potential for contamination with hazardous or toxic materials, and the amount of open space acreage the community wishes to create. The relocation plan should be consistent with the local FMA, CRS, or Hazard Mitigation Plan, as appropriate.</li>   <li>• The community should identify the first floor elevations for any structures to be relocated.</li>   <li>• Establish a financial tracking system for incoming grant funds, local matching funds, payments to property owners, and payments for services.</li> </ul>	<p>for requesting relocation assistance. He/she will also be responsible for maintaining all files and budget tracking for the project.</p> <p>The City’s criteria for prioritizing properties are attached. The general criteria were based on (in order of importance):</p> <ul style="list-style-type: none"> <li>• Owners willing to participate.</li> <li>• Properties located within the floodway.</li> <li>• Properties with 2 to 3 losses that exceed the FMV or 4 or more losses since 1978.</li> <li>• Properties with 2 or more insured losses within any 10-year period.</li> <li>• Substantially damaged properties.</li> <li>• Properties with the highest BCRs using the FEMA BCA module.</li> <li>• Properties with the largest amount of damages.</li> <li>• Properties with the highest depth of flooding above the FFE during the 2002 flood.</li> </ul> <p>The First Floor Elevations (FFE) of these properties range from 89 to 102 feet National Geodetic Vertical Datum of 1929 (NGVD).</p> <p>A copy of the City’s initial spreadsheet for tracking finances is attached.</p>

<p style="text-align: center;"><b>PROCEDURES</b></p>	<p style="text-align: center;"><b>SAMPLE DATA FOR THE SCOPE OF WORK</b></p>
<ul style="list-style-type: none"> <li>• Prepare bid packages for any services that will be contracted, including site investigations, surveys, and relocation.</li> </ul> <p><b>2.7.2 Property Acquisition for Relocation</b></p> <ul style="list-style-type: none"> <li>• Retain outside legal counsel to assist with relocations if the city or county attorney is not responsible for the process.</li> <li>• Determine the FMV of the structure. If appropriate, initiate a contract with a professional, licensed appraiser to establish the value for each structure.</li> </ul> <p><b>Note:</b> For acquisition and relocation projects, the “project costs” are based on the <i>fair market value (FMV)</i> of the structure. However, FEMA BCAs are based on the <i>building replacement value (BRV)</i>, which is the cost for labor and materials to build a similar structure in the same location.</p> <ul style="list-style-type: none"> <li>• Conduct research regarding the duplication of benefits for the property. Adjust the FMV based on the results of the investigation, if appropriate. This only applies if the community is using pre-event FMVs. Duplication of benefits searches only go one year back and then forward from the date that the pre-event FMV was established.</li> </ul>	<p>The City will be using city, county, and private services for additional elevation and property surveys, site investigation, and relocation. The City has obtained preliminary cost estimates from three construction companies. A draft bid package for relocation work is attached.</p> <p>Outside legal counsel will be retained to assist with the relocation process. This will include conducting title searches and dealing with property deeds, liens, mortgages, and other encumbrances. The counsel will also be responsible for monitoring the County appraisers’ activity and data.</p> <p>A professional, licensed appraiser will be retained to establish the final offer for relocating each structure. If the owner does not agree with the appraisal, the City will provide a list of acceptable alternate appraisers that the owners may use at their own expense.</p> <p>Each property will also be investigated for possible duplication of benefits, and the FMV will be adjusted accordingly.</p>

<p style="text-align: center;"><b>PROCEDURES</b></p>	<p style="text-align: center;"><b>SAMPLE DATA FOR THE SCOPE OF WORK</b></p>
<ul style="list-style-type: none"> <li>• Conduct title searches and appraisals for each property to ensure that the owner relocating the structure is also the titleholder. Ensure that the title is clear at the time of relocation, that is, that no mortgages, outstanding liens, incompatible easements, or other encumbrances exist on the property.</li>   <li>• Conduct additional surveys, as necessary, such as lot line surveys or detailed investigations for the presence of hazardous or toxic materials.</li>   <li>• Make a detailed, written offer to the structure owner. The offer will include a purchase price for the clear title to the land, a determination of compensation for the relocation, a statement that the relocation is voluntary, and an explanation of the right of the property owner to appeal.</li>   <li>• The structure owner must accept the community’s offer if the process is to proceed. If the structure owner accepts the offer, inspect the property to ensure hazardous materials have been abated.</li>   <li>• Conduct the closing on the land and the acceptance of the relocation offer. The community will pay the fees for the title transfer, recording fees, transfer taxes, and evidence of title and legal description. The property owner will pay the fees for clearing existing mortgages, liens, and encumbrances on the deed, as well as past or present property taxes.</li> </ul>	<p>A title search will be conducted for each property to ensure that the owner relocating the structure is also the titleholder.</p> <p>A professional land surveyor will conduct a survey for each lot where property boundaries are in question. Given the land use history of the project area, hazardous or toxic materials are not expected to be present. Therefore, a detailed investigation for the presence of hazardous or toxic materials will not be required.</p> <p>Once all the appraisals, searches, and investigations are complete, the City will extend a written offer to the property owner.</p> <p>The owner must sign a statement of voluntary participation in the relocation program. If the structure owner accepts the offer, the property will be inspected.</p> <p>Closing will be conducted. The City will pay the fees for the title transfer, recording fees, transfer taxes, and evidence of title and legal description. The property owner will pay the fees for clearing existing mortgages, liens and encumbrances on the deed, as well as past or present property taxes. The properties will be transferred to the city. The land will become deed restricted using the FEMA model deed restriction.</p>

PROCEDURES	SAMPLE DATA FOR THE SCOPE OF WORK
<ul style="list-style-type: none"> <li>• If any of the structures are occupied by renters, provide relocation assistance, if the tenants are eligible, and require that the property be vacated within a set time period.</li> </ul> <p><b>2.7.3 Structure Relocation</b></p> <p>In general, the steps required for relocating a building are similar for most projects.</p> <p>Prior to funding approval:</p> <p><b>Step 1</b> – The owner, local building official, and a professional mover that specializes in structure relocations meet to evaluate the suitability of the structure for moving; the risks for the structure and owner; the qualities of the new site for utilities, natural hazard risks, and temporary and permanent access to the new site; and an estimate of probable cost for the move. The structure and the proposed site should be evaluated for compliance with historic preservation regulations (see Sections 2.9.1 and 2.9.2).</p> <p><b>Step 2</b> – The local building official and mover assist the owner in identifying the permits and various State and local agency approvals required for the move. This includes the temporary closing of streets or roads and use of police for safety and traffic control.</p> <p><b>Step 3</b> – The local building official, emergency manager, police and mover discuss the proposed moving route, including the need for the temporary removal of overhead power lines, traffic signals, and possibly street lights. All</p>	<p>Of the six identified properties, two have tenants. Once closing has been completed, tenants will be given 90 days to vacate the property. Up to \$6,000 in relocation assistance will be provided. Services covered include temporary lodging.</p>

<p style="text-align: center;"><b>PROCEDURES</b></p>	<p style="text-align: center;"><b>SAMPLE DATA FOR THE SCOPE OF WORK</b></p>
<p>existing risks or potential problems along the route must be identified. The route risks include overhanging trees, narrow roads, turns that are inadequate for large and wide loads, weight limitations for bridges and culverts, low clearances, traffic circles, minimum speed limits, traffic volumes, time of day, potential weather conditions, and existing structures that are too close to the edge of the road. Communities are encouraged to develop a step-by-step action plan so that all parties, including the owner understand the moving process.</p> <p>After funding approval:</p> <p><b>Step 4</b> – The foundation at the new location is constructed to accommodate the dimensions of the structure to be moved. The new foundation and the moved structure will need to meet all applicable local building requirements.</p> <p><b>Step 5</b> – The occupants temporarily relocate to another structure.</p> <p><b>Step 6</b> – All movable items (furniture, appliances, personal belongings, etc.) are removed from the structure and moved separately to the new site.</p> <p><b>Step 7</b> – All loose or unsupported exterior features of the structure such as porches, decks, overhanging roofs, downspouts, antennas, satellite dishes and chimneys are removed or detached from the structure.</p> <p><b>Step 8</b> - The structure is detached from its foundation.</p> <p><b>Step 9</b> - A cradle of steel beams is inserted under (or through)</p>	

PROCEDURES	SAMPLE DATA FOR THE SCOPE OF WORK
<p>the structure.</p> <p><b>Step 10</b> - Jacks are used to raise both the beams and the structure to the desired height.</p> <p><b>Step 11</b> - A special use flatbed trailer is moved under the raised structure and the structure is then lowered onto the flatbed.</p> <p><b>Step 12</b> - The trailer and structure are slowly moved over public roads to the new location.</p> <p><b>Step 13</b> - The structure is removed from the flatbed and connected to the new foundation and the utilities are connected to the structure.</p> <p><b>Step 14</b> – The old site must be restored according to local regulations. This usually involves demolishing and removing the old foundation; filling-in basements; removing driveway pavement, patio concrete, or wood decking and porches; backfilling the old basement; removing all abandoned utilities; and restoring or stabilizing the ground vegetation.</p> <p>Additional considerations:</p> <ul style="list-style-type: none"> <li>• As a safety precaution, the community should consider the installation of fencing that restricts entrance onto the site and placement of signage to secure the property.</li> <li>• Coordinate utility disconnections with electricity, gas, and water companies.</li> </ul>	<p>The contractor will fill basements with soil and grade and seed all grounds after demolition is complete and debris removed.</p> <p>Signs and fences will be installed to secure the property.</p> <p>The City Public Works Department will be responsible for disconnecting electricity, gas, and water.</p>



<p style="text-align: center;"><b>PROCEDURES</b></p>	<p style="text-align: center;"><b>SAMPLE DATA FOR THE SCOPE OF WORK</b></p>
<p>centers.</p> <p>Steps to develop open space include the following:</p> <ul style="list-style-type: none"> <li>• Describe how the land will be used and maintained.</li> <li>• The plan may include a reference to an existing open space plan already adopted in a comprehensive plan or a floodplain management plan.</li> <li>• If the property will be part of a large open space system such as a park, the plan should include information on how other plans will be updated to include the deed restrictions for the project property.</li> <li>• Prepare a scope of work, schedule, and budget, for development and future management and maintenance.</li> <li>• Provide annual documentation to FEMA that the property continues to be maintained in a manner consistent with the provisions of the grant and the deed restriction.</li> </ul>	<p>A committee of residents and other interested parties will be formed to evaluate options for use of the open space. The committee will hold two public meetings and will be empowered to retain a planner/architect through the Department of Parks and Recreation to assist with planning and design. The committee must present a plan to the City’s Planning Commission within six months of the relocation of the last structure.</p> <p>Once the Planning Commission has reviewed the plan and any changes have been made, the City Council will approve the plan and provide for implementation by the Department of Parks and Recreation. Parks and Recreation will then assume responsibility for the site.</p> <p>The City will provide an annual letter to FEMA demonstrating that the properties are maintained in a manner consistent with the grant provisions.</p>

PROCEDURES	SAMPLE DATA FOR THE SCOPE OF WORK
<p><b>2.8 STEP 8: PREPARE A COST ESTIMATE AND SCHEDULE</b></p> <p><b>2.8.1 Cost Estimate</b></p> <p>The application must be accompanied by a cost estimate for completion of the project. Elements of the cost estimate are described below. For all of these items (with the exception of FMV), reasonable costs can be obtained by contacting two or three potential vendors and then applying the average cost for a single property to all properties involved in the relocation project. Another alternative for determining costs is to contact nearby communities that may have recently undertaken a relocation project.</p> <ul style="list-style-type: none"> <li>• <b>FMV.</b> As described in Step 5, the FMV must be determined for each structure to be relocated. If the FMV is set using the pre-flood value of a structure, the relocation offer must be reduced by the total value of disaster-related repair assistance and NFIP insurance payments paid to the owner to avoid duplication of benefits. This reduction does not apply if the owner can show that the assistance was actually used to complete repairs, or if the post-flood market value of the property is used.</li> <li>• <b>Appraisal.</b> To determine the actual purchase price, an appraisal should be conducted by a professional State-certified or State-licensed appraiser. The cost of the appraisal is eligible for grant funding.</li> </ul>	<p>A detailed cost estimate has been prepared by the City and is included with the other support data.</p> <p>The FMVs will be based on pre-disaster building values. The City of Adversity used property tax assessment data to estimate a working budget. However, we plan to base final purchase offers on appraisals completed by a certified professional appraiser from Prosperity County. For those property owners who are interested in obtaining a second appraisal at their expense, the City will provide a list of appraisers from the County whose appraisals will be considered acceptable.</p>

<p style="text-align: center;"><b>PROCEDURES</b></p>	<p style="text-align: center;"><b>SAMPLE DATA FOR THE SCOPE OF WORK</b></p>
<ul style="list-style-type: none"> <li>• <b>Property Surveys.</b> Survey costs may vary depending on historical and environmental considerations. If hazardous materials are present, an Environmental Site Assessment may be required. The number of properties requiring survey will vary depending on the community’s land use history. Additional surveys may be required to determine or confirm lot boundaries prior to the sale of the property.</li>   <li>• <b>Closing Costs.</b> Closing costs include title searches and preparation of documents for closing. Contact title companies or real estate attorneys for estimates.</li>   <li>• <b>Structure Relocation.</b> Relocation costs include:                     <ul style="list-style-type: none"> <li>- Relocation of the structure (including elevation, movement onto the flatbed trailer, temporary utility relocations, police assistance, and placement onto the new foundation).</li> <li>- Removal and disposal of debris.</li> <li>- Special handling and disposal requirements for household hazardous materials, contaminants such as asbestos, and elements such as septic tanks.</li> <li>- Filling in basements or demolishing foundations, removing pavement, and capping or removing utilities.</li> <li>- On-site best management practices and mitigation measures such as silt fencing.</li> </ul> </li> </ul>	<p>Standard closing and relocation costs are included in the detailed project cost estimate.</p>



<b>PROCEDURES</b>	<b>SAMPLE DATA FOR THE SCOPE OF WORK</b>
<p>Matching funds from other sources must be identified.</p> <p><b>2.8.2 Schedule</b></p> <p>A schedule for completing the work must be submitted with the application. This schedule must include the time frame for all actions described in the Scope of Work, from initial public meetings through relocation of the last structure. The duration of each phase of the project should be identified. The schedule may be presented in terms of time frames following certain activities; for example, offers will be made to property owners within 1 month of notification that funds for the project have been approved. A schedule for implementing the open space plan and maintaining the open space should also be included.</p> <p><b>2.9 STEP 9: CONSIDER ALL ENVIRONMENTAL AND HISTORIC PRESERVATION IMPACTS</b></p> <p><b>2.9.1 National Environmental Protection Act (NEPA)</b></p> <p>NEPA requires FEMA to evaluate the effects of its actions and actions it funds, on the natural and human environments. FEMA must also ensure that its actions comply with all other applicable Federal environmental laws and regulations, such as the Endangered Species Act and the National Historic Preservation Act (NHPA). Although FEMA is responsible for ensuring Federal-level compliance, the applicant must provide information required for the compliance process. The applicant is also responsible for ensuring that the project complies with applicable State, tribal and local environmental</p>	<p>The project work schedule is attached.</p>

<p style="text-align: center;"><b>PROCEDURES</b></p>	<p style="text-align: center;"><b>SAMPLE DATA FOR THE SCOPE OF WORK</b></p>
<p>laws and permitting requirements.</p> <p>Specific considerations are outlined below. The information requested is the minimum required, and should not constrain applicants from providing more information where potential impacts are identified. Lack of documentation may delay completion of FEMA’s review or cause the application to be declined.</p> <p>For purposes of environmental and historic preservation review, the applicant should not only evaluate the potential impacts of the project itself, but also of any associated construction activities, such as temporary access roads, staging yards, borrow areas, and site restoration or remediation. All costs associated with avoidance and minimization measures must be included in the project cost estimate (see Step 8).</p> <p>Temporary impacts, such as heavy equipment crossing over wetlands or floodplain areas, economic losses due to closed roads, and detour costs should be discussed and documented within the application. The applicant should also explain their intent to avoid or mitigate these impacts.</p> <p>As part of the NEPA environmental review FEMA has determined that certain categories of action normally have no significant effect on the human environment and, therefore, can be categorically excluded from the preparation of environmental impact statements and environmental assessments except if extraordinary circumstances as defined below. The following are exclusion categories that might be</p>	

<p style="text-align: center;"><b>PROCEDURES</b></p>	<p style="text-align: center;"><b>SAMPLE DATA FOR THE SCOPE OF WORK</b></p>
<p>relevant to acquisition and relocation projects:</p> <ul style="list-style-type: none"> <li>iii. Studies that involve no commitment of resources other than manpower and funding. (Level 1)</li>   <li>vii. Acquisition of properties and associated demolition/removal when the acquired property will be dedicated in perpetuity to uses that are compatible with open space, recreational, or wetland practices. (Level 2)</li>   <li>ix. Acquisition, installation, or operation of utility and communication systems that use existing distribution systems or facilities, or currently used infrastructure rights-of-way. (Level 2)</li>   <li>xi. Planting of indigenous vegetation. (Level 1)</li>   <li>xii. Demolition of structures and other improvements or disposal of uncontaminated structures and other improvements to permitted off-site locations, or both. (Level 2)</li>   <li>xv. Repair, reconstruction, restoration, elevation, retrofitting, upgrading to current codes and standards, or replacement of any facility in a manner that substantially conforms to the preexisting design, function, and location. (Level 2)</li>   <li>xvi. Improvements to existing facilities and the construction of small scale hazard mitigation measures in existing developed areas with substantially</li> </ul>	

<p style="text-align: center;"><b>PROCEDURES</b></p>	<p style="text-align: center;"><b>SAMPLE DATA FOR THE SCOPE OF WORK</b></p>
<p>completed infrastructure, when the immediate project area has already been disturbed, and when those actions do not alter basic functions, do not exceed capacity of other system components, or modify intended land use; provided the operation of the completed project will not, of itself, have an adverse effect on the quality of the human environment. (Level 3)</p> <p>The documentation required varies depending on whether the CATEX is a Level 1, Level 2, or Level 3.</p> <p>Level 1. The project file should indicate the CATEX for which the project or action qualifies and justification, if necessary.</p> <p>Level 2. Requires indication and justification of the specific CATEX(s) being used. Also requires an indication that there are no extraordinary conditions or, where appropriate, documentation of consultations.</p> <p>Level 3. CATEX xvi requires full review, consultation and documentation as appropriate and as described in the NEPA Desk Reference for:</p> <ul style="list-style-type: none"> <li>• National Historic Preservation Act and</li> <li>• Archeological &amp; Historical Preservation Act;</li> <li>• Endangered Species Act;</li> <li>• Farmlands Protection Policy Act;</li> </ul>	

<p style="text-align: center;"><b>PROCEDURES</b></p>	<p style="text-align: center;"><b>SAMPLE DATA FOR THE SCOPE OF WORK</b></p>
<ul style="list-style-type: none"> <li>• Section 404 of the Clean Water Act;</li> <li>• Executive Orders 11988, 11990, 12898;</li> <li>• Any other environmental laws and executive orders if they apply and;</li> <li>• Extraordinary circumstances</li> </ul> <p>If one or more of the following extraordinary circumstances exist and may be impacted by the project, the project may no longer qualify as a CATEX and an Environmental Assessment will need to be prepared.</p> <p>(i) Greater scope or size than normally experienced for a particular category of action;</p> <p>(ii) Actions with a high level of public controversy;</p> <p>(iii) Potential for degradation, even though slight, of already existing poor environmental conditions;</p> <p>(iv) Employment of unproven technology with potential adverse effects or actions involving unique or unknown environmental risks;</p> <p>(v) Presence of endangered or threatened species or their critical habitat, or archaeological, cultural, historical or other protected resources;</p> <p>(vi) Presence of hazardous or toxic substances at levels which exceed Federal, State or local regulations or standards</p>	

<p style="text-align: center;"><b>PROCEDURES</b></p>	<p style="text-align: center;"><b>SAMPLE DATA FOR THE SCOPE OF WORK</b></p>
<p>requiring action or attention;</p> <p>(vii) Actions with the potential to affect special status areas adversely or other critical resources such as wetlands, coastal zones, wildlife refuge and wilderness areas, wild and scenic rivers, sole or principal drinking water aquifers;</p> <p>(viii) Potential for adverse effects on health or safety; and</p> <p>(ix) Potential to violate a Federal, State, local or tribal law or requirement imposed for the protection of the environment.</p> <p>(x) Potential for significant cumulative impact when the proposed action is combined with other past, present and reasonably foreseeable future actions, even though the impacts of the proposed action may not be significant by themselves.</p> <p><b>2.9.2 Historic Properties: Structures</b></p> <p>Under Section 106 of the National Historic Preservation Act, FEMA must consider the effects of its finding on buildings, structures, sites, districts, and objects that are listed or eligible for listing on the National Register of Historic Places. Consultation with the State or Tribal Historic Preservation Officer (SHPO/THPO), other consulting parties and the public is required as part of this consideration.</p> <p>Even if the property is not listed on a National Register, FEMA must evaluate properties, typically 50 years or older, for their historic significance and determine whether the property is eligible for listing in the National register. The</p>	

<p style="text-align: center;"><b>PROCEDURES</b></p>	<p style="text-align: center;"><b>SAMPLE DATA FOR THE SCOPE OF WORK</b></p>
<p>applicant should provide information to FEMA supporting this evaluation.</p> <p>Determine if any of the structures to be relocated are potentially historic or adjacent to or within close proximity to historic properties or to a historic district. The preferred source of information to determine the original age of a structure is a review of building permit data, engineering documents, or tax or land records. The SHPO/THPO, relevant local government agency, historic commission, or historical society may be contacted to obtain information on identification of structures, local or State surveys and the presence of historic districts encompassing or adjacent to the proposed relocation structures.</p> <p><b>If any nearby structures are over 50 years old or located within a known or potential historic district provide:</b></p> <ul style="list-style-type: none"> <li>• The property address, date of original construction, and source of documentation for each structure.</li> <li>• At least two color photographs showing at least three sides of the structure. If outbuildings are present, such as a separate garage or barn, provide photographs of two sides of these structures as well.</li> <li>• Documentation associated with the structure being listed or determined eligible for listing on the National Register of Historic Places.</li> </ul>	<p>None of the structures in the project are 50 years or more in age and have no historic significance. The SHPO concurred with this finding (letter attached).</p>

<p style="text-align: center;"><b>PROCEDURES</b></p>	<p style="text-align: center;"><b>SAMPLE DATA FOR THE SCOPE OF WORK</b></p>
<ul style="list-style-type: none"> <li>• A detail of the property location (s) or proximity to a historic district on 1:24,000 scale USGS topographic map.</li> <li>• Documentation of coordination with the SHPO/THPO or other parties.</li> </ul> <p><b>2.9.3 Historic Properties: Archaeological Resources and Historic Sites</b></p> <p>Consideration of effects to historic properties is not limited to buildings and other built-environment features. Previously undisturbed or agricultural areas may also be significant, either because archaeological resources may exist at the site or because the site is in an area where a historic event occurred, including sites significant to Native Americans.</p> <p>Determine if the relocation and site remediation require ground-disturbing activities. If so, provide documentation of:</p> <ul style="list-style-type: none"> <li>• The area of the disturbance on a 1:24,000 USGS topographic map, including dimensions and location, and site maps.</li> <li>• Past uses of the area to be disturbed, including the results of a literature search to determine if known archaeological sites exist in the area.</li> </ul>	<p>There is high probability that prehistoric or historic archaeological resources are located in the project area. There are several documented archaeological sites on the same land forms in surrounding areas. However, according to the SHPO (see letter dated 05/05/04 in Attachments), the project should have no effect on these resources as long as off-site fill is used to fill the house foundations and no grading occurs of the previously undisturbed soil surrounding the house foundations. It has also been determined by SHPO that the site where the structures will be relocated to is not on an archaeological site. A map of the new site for the homes is attached.</p>

<p style="text-align: center;"><b>PROCEDURES</b></p>	<p style="text-align: center;"><b>SAMPLE DATA FOR THE SCOPE OF WORK</b></p>
<ul style="list-style-type: none"> <li>• Coordination with the SHPO/THPO or other parties.</li> </ul> <p><b>2.9.4 Endangered Species and Biological Resources</b></p> <p>Under Section 7 of the Endangered Species Act (ESA), FEMA must evaluate the effects of its actions on federally listed threatened and endangered species and their habitat. While acquisition and relocations projects are often undertaken in urban areas that are unlikely to have suitable habitat for listed species, any project dealing with rivers and streams must be carefully evaluated for potential impacts on aquatic species and species associated with riparian habitat. Additionally, aspects of a project such as access roads and staging may have effects on nearby biological resources that should be evaluated. The applicant can speed the review process by obtaining species information and initiating contact with appropriate State wildlife agencies, the U.S. Fish and Wildlife Service (USFWS) and, if ocean-going fish are affected, with the National Marine Fisheries Service (NMFS). However, any formal consultation with Federal agencies must be handled by FEMA.</p> <p>Another law that addresses waterways and associated species with a particular interest in the effects brought about by changes in hydrology is the Fish and Wildlife Coordination Act. Since this act is also overseen by the USFWS and NMFS, it should be handled at the same time as the ESA.</p> <p>Potential effects on biological resources should be evaluated if aspects of the project:</p>	<p>The proposed relocation project will relocate six homes to an area previously unused by the city. This area has been surveyed and it was determined that no species will be affected by the placement of homes or utilities in this area. An acknowledgement letter from the U.S. Fish and Wildlife Service is attached.</p>

<p style="text-align: center;"><b>PROCEDURES</b></p>	<p style="text-align: center;"><b>SAMPLE DATA FOR THE SCOPE OF WORK</b></p>
<ul style="list-style-type: none"> <li>• Are located within or adjacent to (typically within 200 feet) a body of water, such as a perennial, intermittent, or seasonal stream; drainage swale; seasonally wet area; pond; lake; creek; or coastal waterway.</li> <li>• Result in the removal of vegetation.</li> <li>• Are located within or adjacent to identified critical habitat for federally listed species known to occur in the project area; locations of critical habitat can be obtained from the USFWS and NMFS.</li> <li>• Affect the hydrology or hydraulics of the waterway.</li> </ul> <p>If biological resources have the potential to be affected, submit:</p> <ul style="list-style-type: none"> <li>• A map showing the nearby water body, its dimensions, the proximity of the project to the water body, and the expected and possible changes to the water body, if any. Identify all water bodies regardless whether there may be an effect.</li> <li>• Documentation and map showing the amount and type of vegetation affected. Discuss the presence of critical habitat or other significant feature with Federal or State wildlife agencies before undertaking extensive field work or mapping.</li> <li>• Documentation of species and its range in or near the project area.</li> </ul>	

<p style="text-align: center;"><b>PROCEDURES</b></p>	<p style="text-align: center;"><b>SAMPLE DATA FOR THE SCOPE OF WORK</b></p>
<ul style="list-style-type: none"> <li>• Documentation of coordination with the USFWS or NMFS, or both, regarding the potential occurrence of federally listed species and potential impacts to species.</li> </ul> <p>If a reviewing agency suggests redesign of the project or use of measures to reduce effects on species, the application scope of work, budget, and project decision-making description should address the suggested changes.</p> <p><b>2.9.5 Clean Water Act and Protection of Wetlands</b></p> <p>Waters of the United States and designated wetlands are protected through the Federal Clean Water Act (CWA) and through Executive Order 11990, Protection of Wetlands. Applicable resources include rivers, streams, ponds, lakes, and coastal waterways and include seasonal as well as perennial bodies of water. As with biological resources, relocation projects often occur in developed areas and do not have any effect on waterways or wetlands. However, floodprone structures may be located adjacent to water bodies or wetlands, and activities such as staging, disposal of debris, and site remediation may have effects that must be considered. Permits for work in waters of the United States are issued by the USACE under Section 404 of the Clean Water Act. The applicant is also responsible for obtaining any permits required under State law such as the CWA section 101 water quality certification and the National Pollution Discharge Elimination System (NPDES) permit.</p> <p>If the relocation involves disposal, excavation, fill placement or other modifications to water bodies or wetlands, submit:</p>	<p>There are no natural waters located near the area where homes will be relocated. Best management practices will be used during relocation to prevent discharge of silt and other materials into storm sewers. Therefore, there will be no impact to water resources in the area.</p>

<p style="text-align: center;"><b>PROCEDURES</b></p>	<p style="text-align: center;"><b>SAMPLE DATA FOR THE SCOPE OF WORK</b></p>
<ul style="list-style-type: none"> <li>• Documentation of coordination with the USACE regarding potential for wetlands, and applicability of permitting requirements.</li> <li>• Map showing the relationship of the project to National Wetlands Inventory information or other available wetlands delineations.</li> <li>• Documentation of the alternatives considered to eliminate or minimize impacts to wetlands. For example, if earthwork during site remediation could result in silt-laden runoff, water quality could be affected; a plan for reducing erosion and runoff should therefore be included.</li> <li>• Documentation that applicable permits have been applied for or obtained at time of project application.</li> </ul> <p><b>2.9.6 Floodplain Management</b></p> <p>Executive Order 11988, Floodplain Management, states that each Federal agency shall provide leadership and shall take action to reduce the risk of flood loss, to minimize the impact of floods on human safety, health and welfare, and to restore and preserve the natural and beneficial values served by floodplains in carrying out its responsibilities for (1) acquiring, managing, and disposing of Federal lands, and facilities; (2) providing federally undertaken, financed, or assisted construction and improvements; and (3) conducting Federal activities and programs affecting land use, including</p>	<p>Copies of the required permits, including a letter from the USACE determining that there was no impact under their jurisdiction, are attached. (The support data for all of the permits have not been attached, but is on file at the city and can be provided upon request).</p> <p>The project will remove all possibility of future damage to structures in the area and will in no way alter the natural floodplain in the area. Therefore, there are no impacts to the floodplain management in this area.</p>

<p style="text-align: center;"><b>PROCEDURES</b></p>	<p style="text-align: center;"><b>SAMPLE DATA FOR THE SCOPE OF WORK</b></p>
<p>but not limited to water and related land resources planning, regulating, and licensing activities. In accordance with Executive Order 11988, FEMA must ensure that its actions avoid to the extent possible the long and short-term adverse impacts associated with the occupancy and modification of floodplains. By definition, removal of floodprone structures from the floodplain is consistent with the requirements of this Executive Order.</p> <p>The project application must include flood hazard data, including a floodplain map, as described in Step 2. However, if the project involves additional work in the floodplain after the structures are relocated, such as the placement of fill as part of the site remediation, submit documentation of:</p> <ul style="list-style-type: none"> <li>• Analysis regarding the means or the alternatives considered to eliminate or minimize impacts of post-project activities in the floodplain.</li> <li>• Hydrologic and hydraulic information from a qualified engineer or hydrologist to demonstrate how drainage and flood flow patterns would be changed and to identify any upstream and downstream effects.</li> <li>• Consultation with the USACE with regard to Section 404 of the Clean Water Act.</li> <li>• Coordination with the corresponding State agency, if applicable, with jurisdiction over modification of waterways.</li> </ul>	



<p style="text-align: center;"><b>PROCEDURES</b></p>	<p style="text-align: center;"><b>SAMPLE DATA FOR THE SCOPE OF WORK</b></p>
<p>property. Contamination may result from previous uses of the property or from commercial and light industrial uses found in residential areas, such as auto repair. Properties eligible for relocation may contain common hazardous materials, including lead, asbestos, home septic systems, home heating oil tanks, and household hazardous materials such as solvents and paints. FEMA must ensure that the applicant takes steps to handle or dispose of such materials properly when the structure is relocated.</p> <p>Site contamination may be of concern if:</p> <ul style="list-style-type: none"> <li>• Current or past land uses of the property or the adjacent properties are associated with hazardous or toxic materials.</li> <li>• Studies, investigations, or enforcement actions exist for the property.</li> </ul> <p>If contamination is suspected:</p> <ul style="list-style-type: none"> <li>• Provide any relevant documentation regarding the contamination. It may be necessary to conduct an Environmental Site Assessment to formally identify hazardous materials concerns.</li> <li>• Consult with the appropriate State or local agency to obtain permit and requirements for handling, disposing of, or addressing the effects of hazardous or toxic materials.</li> </ul> <p>The SOW description for the project must describe foundation demolition or basement filling and the plan for disposing of</p>	<p>foundation, either the construction contractor will dispose of them appropriately or the City will extend the SOW for a special contractor.</p>

<p style="text-align: center;"><b>PROCEDURES</b></p>	<p style="text-align: center;"><b>SAMPLE DATA FOR THE SCOPE OF WORK</b></p>
<p>debris. The plan must include steps for proper disposal of household hazardous waste, including compliance with any State or local requirements.</p> <p><b>2.9.10 Effects on Minority and Low-Income Populations</b></p> <p>Executive Order 12898, Environmental Justice, requires Federal agencies to identify and address, where appropriate, adverse human health, environmental, economic, and social effects when they disproportionately affect minority or low-income populations. The Executive Order also directs Federal agencies to avoid excluding persons from receiving the benefits of programs because of their race, color, or national origin. Further, Federal agencies are encouraged to integrate this Executive Order with the NEPA process to identify potential effects and related mitigation measures in consultation with affected communities. Consequently, the effects of acquisition and relocation projects that are undertaken in communities with a high proportion of minority or low-income residents must be evaluated. It is very unlikely that adverse disproportional effects could be caused by the relocation projects, but if those effects could be identified then it would be necessary to determine if the conditions of this Executive Order are triggered.</p> <p>Two conditions are indicators of the presence of minority or low-income population: 1) if the community is predominately minority or low income or 2) if the demographic profile of the area impacted by the relocation project has a significantly higher minority or low income percentage than the surrounding area which is not impacted. A third factor to consider is whether the affected population has a high</p>	<p>There are no minority families living in the project area. Some properties are owned by low-income residents; however, it is the position of the City that relocation of their homes will benefit them by providing an opportunity to reside in a location where they will not have to live with the damages, displacement, fear, and trauma associated with living in a floodplain</p>

<p style="text-align: center;"><b>PROCEDURES</b></p>	<p style="text-align: center;"><b>SAMPLE DATA FOR THE SCOPE OF WORK</b></p>
<p>proportion of limited-English speakers. These conditions can be evaluated using data collected by the U.S. Census Bureau or by local entities such as social services agencies or redevelopment authorities. It is very unlikely that adverse disproportional effects could be caused by the relocation of floodprone structures, but if those effects could be identified then it would be necessary to address the effects. If adverse effects are evenly distributed among a population there are no disproportionate high and adverse effects and the Executive Order is not triggered.</p> <p>If the Executive Order is triggered, it is necessary to communicate with the affected population to determine what mitigation measures can be taken to minimize or avoid the adverse impacts. In areas where a high proportion of the affected persons are limited-English speakers, public notices, public documents, and other key communication tools must be translated to ensure participation by limited-English speaking persons.</p> <p><b>2.9.11 Land Use and Socioeconomic Effects</b></p> <p>Under NEPA, the potential effects of the relocation project on the community must be evaluated. Determine if the project will:</p> <ul style="list-style-type: none"> <li>• Disrupt the physical and economic arrangement of an established community. For example, if homes are removed from the middle of a block, will the aesthetics of the community be affected? If a significant portion of the</li> </ul>	<p>The County has no economic concerns or issues because no business areas are affected by this project. However, two tenants living in project properties will probably qualify as low-to-moderate income and may require additional relocation assistance.</p>

<p style="text-align: center;"><b>PROCEDURES</b></p>	<p style="text-align: center;"><b>SAMPLE DATA FOR THE SCOPE OF WORK</b></p>
<p>residents in a small town relocate, will the tax base suffer?</p> <ul style="list-style-type: none"> <li>• Affect fire or police protection, schools, maintenance of public facilities, or other governmental services.</li> <li>• Interrupt utilities and service systems. For example, what costs are associated with removing residences from the water utility?</li> <li>• Be consistent with the zoning and the general plan of the jurisdiction. It may be necessary to adopt changes to zoning ordinances to accommodate the change in land use from residential to open space after the relocation is completed, as described in Section 2.7.4.</li> </ul>	

<b>Sample Property Inventory Summary</b>					
See subsequent pages for additional properties.					
<b>Project #</b>	<b>Lot or Parcel #</b>	<b>NFIP Policy #</b>	<b>Property Owner's Name</b>	<b>Property Address &amp; Zip Code</b>	<b>Estimated FMV*</b>
1	301-0011-008	8973987468	Mr. Jerome Cress	1375 Hurricane Way, 40241 (RL)	\$170,000
2	301-0011-010	0960123876	Mr. and Mrs. Mehrdad Mostovich	1377 Hurricane Way, 40241	\$165,800
3	301-0011-013	1019273490	Geoffrey and Aimee Flaxman	1382 Hurricane Way, 40241	\$156,500
4	301-0011-016	2034978458	Ms. Patrice Brome	1385 Hurricane Way, 40241 (RL)	\$176,350
5	301-0011-018	9090780078	Richard Turkanis	1387 Hurricane Way, 40241	\$388,725
6	301-0011-021	5795690765	Sharon Tubbs	1390 Hurricane Way, 40241	\$191,300
Total Estimated FMVs this page					<b>\$1,248,675</b>

\* FMV = fair market value

**(FROM STEP 7): SAMPLE COST ESTIMATE AND SCHEDULE****Cost Estimate**

	<b>Unit Cost</b>	<b># of Units</b>	<b>Total Cost</b>
Property acquisition	Lump Sum	---	\$ 245,000
Appraisal	\$ 500	6	\$ 3,000
Property survey	\$ 500	6	\$ 3,000
Title search, inspection, and closing	\$ 1,000	6	\$ 3,000
Structure relocation and site remediation	Lump Sum	---	525,000
Tenant relocation assistance	\$ 6,000	6	\$ 36,000
Legal fees			\$ 11,750
<b>Total Cost Estimate</b>			<b>\$ 829,750</b>

**Schedule**

<b>Projected Work Schedule</b>	
<b>Task</b>	<b>Estimated time to complete</b>
Announce receipt of grant	1-2 weeks
Update list of interested property owners	2-4 weeks
Appraise properties	6-10 weeks
Distribute offer letters	3-6 weeks
Accept any second appraisals	4-6 weeks
Begin closing proceedings	1-2 weeks
Close on properties	4-8 weeks
Relocate structures and remediate properties	8-16 weeks
Implement open space plan	12-24 weeks
Maintain open space	Ongoing
<b>Total Time Estimate:</b>	<b>9-18 months</b>
Some tasks may overlap or occur simultaneously.	

Sample Damage and BRV Table								
Owner's Name	NFIP Policy #	Total NFIP Losses in Previous 10 Years	Estimated BRV	Est. \$ Loss in 2002	% Damage	\$ Loss in 1996	% Damage	Est. BRV as of June 2002
1. Cress	8973987468	\$67,500	\$154,630	\$100,500	65%	\$20,100	13%	\$151,898
2. Mostovich	0960123876	\$73,500	\$150,724	\$108,500	72%	\$13,565	9%	\$147,680
3. Flaxman	1019273490	\$63,450	\$141,850	\$75,200	53%	\$31,207	22%	\$138,920
4. Brome	2034978458	\$67,800	\$160,012	\$88,000	55%	\$16,000	10%	\$156,411
5. Turkanis	909078078	\$157,800	\$356,104	\$181,613	51%	\$28,490	8%	\$343,298
6. Tubbs	579569765	\$132,100	\$173,908	\$121,700	70%	\$26,090	15%	\$169,473
<b>Totals</b>			<b>\$1,137,228</b>	<b>\$636,300</b>		<b>\$135,452</b>		<b>\$1,107,680</b>