




# Threshold Requirements Exhibit B

**RESILIENT**  
  
**SHELBY**

**Shelby County, Tennessee**  
**Greenprint for Resilience**  
**National Disaster Resilience Competition**  
**Phase Two – October 27, 2015**  
[ExhibitBThresholdShelbyCOTN.pdf](#)

## **EXHIBIT B – THRESHOLD REQUIREMENTS**

Shelby County, Tennessee meets all threshold requirements of the Notice of Funding Availability (NOFA) (Funding Opportunity Number FR-5800-N-29A2).

**a. Eligible Applicant.** Shelby County having been awarded a Phase 2 invitation from HUD, is a County-Level Eligible Applicant for Phase 2 as listed in the NDRC NOFA under Section III. A. and is identified as the applicant on the Crosswalk Checklist. This is the only application submitted by Shelby County, TN. (1) **Partners:** For every partner intending to participate in Shelby County's Phase 2 project, Partner Letters along with Phase 2 Partner Agreements (PA) have been provided signed by the executive of the Applicant (Shelby County Mayor Mark H. Luttrell, Jr. or designee thereof) and the executive of each partner entity. The PAs demonstrate a commitment to work collaboratively throughout the grant period. This documentation can be found in [Attachment A](#).

**b. Eligible County.** Shelby County is an eligible county on the basis of three powerful storms that occurred in 2011 resulting in Presidential disaster declarations: FEMA 1974-DR, 1978-DR and 1979-DR and is identified in the NDRC NOFA Appendix B list of Eligible Counties.

**c. Most impacted and distressed target area(s).** Noting the extent of most impacted and distressed characteristics, HUD pre-qualified Shelby County as a County Level eligible applicant for the NDRC (see HUD NDRC NOFA [Appendix A](#)).

Shelby County still faces URN in housing, infrastructure and environmental degradation caused by the 2011 storm events. **Housing:** During the three 2011 storms, 198 homes in Shelby County flooded and there has been no allocation of CDBG-DR funds for home repair. On February 5th, 2015 Shelby County officials completed a windshield survey of homes with remaining damage from the 2011 declared disaster. The survey found 80 homes with unmet

repair needs due to the 2011 storm events, and 37 vacant lots adjacent to these damaged properties. Further, county staff collected 26 signed affidavits from housing owners certifying that they were unable to repair the storm-related damage. *Infrastructure*: The 2011 storm events caused damage to permanent infrastructure across Shelby County. Shelby County identified \$2,828,632 in unmet infrastructure needs for Rodney Baber Park along the Wolf River in Memphis. *Environmental Degradation*: The 2011 storms left a scarring impact on President’s Island, affecting an industrial area, farmlands, and a wildlife refuge. ETI Corporation assessed damage to President’s Island at \$8,956,775 to address this URN. The 2011 storms resulted in bank destabilization and stream/creek bed damage in Bartlett, Germantown and Collierville. The cost of repairing the Fletcher Creek bed in Bartlett; Laterals C, D and G in Germantown; and the Center St. stream in Collierville is estimated at \$4,447,000. URN are described in greater detail in Exhibit D: Factor 2 – Need/Extent of the Problem.

**d. Eligible Activity.** The following table demonstrates that each activity proposed to be carried out with CDBG-NDR is eligible by listing the activity and corresponding eligible activity type. Shelby County is not requesting any eligibility waivers.

Project Activity	Eligible Activity	Citation
Development of wetlands	Public facilities and improvements	570.201 (c)
Flood protection infrastructure	Public facilities and improvements	570.201 (c)
Creation of greenspace for storm water management and recreation	Public facilities and improvements	570.201 (c)
Complete streets improvements	Public facilities and improvements	570.201 (c)

Land acquisition	Acquisition of real property and flood buyouts	570.201 (a)
Voluntary buyouts	Acquisition of real property and flood buyouts	570.201 (a); 570.606 (d); FR-5696-N-01
Replacement Housing	New Residential Construction	570.201 (m)
Small business and workforce development	Economic Development	570.203 (a)
Public safety and community gardens	Public Services	570.201 (e)
Administration and Planning	Administration and Planning and capacity building	570.205, 570.206

**e. Resilience Incorporated.** Severe storms and flooding remain the greatest disaster risk facing Shelby County. According to the National Centers for Environmental Information, from 2005 to 2015, Shelby County experienced approximately 95 flooding events, the equivalent of 9.5 events per year. The impact of the qualifying storm events in 2011 alone are estimated by the National Weather Service (NWS) to have cost more than \$2 billion. Excluding the 2011 events, on an annual basis during the 2005-2015 study period it is estimated that flooding cost Shelby County an average of \$13 million annually. Within the same 10 year period, the county also experienced 114 high wind/tornado events with estimated damage of \$105.67 million according to the NWS.

It is anticipated climate change will accelerate the intensity and frequency of these events. According to the National Climate Assessment, the Southeast region of the United States

has experienced a 27 percent increase in precipitation from 1958 to 2012. This trend is predicted to continue while “the amount of rain falling in very heavy precipitation events has been significantly above average”<sup>i</sup> meaning the impact of these normal rain occurrences has become more dramatic. Decadal averages of annual number of days per year where precipitation exceeded 2.99 inches has increased from 0.8 days to 1.6 days over the last 80 years. In addition to increased precipitation, communities like Shelby County are increasingly vulnerable to extreme heat. A recently completed study by the Tennessee Department of Transportation (TDOT) assessing impact of extreme weather on state transportation assets found Shelby County was one of two areas most vulnerable to extreme heat and extreme weather in the Memphis area could disrupt one of the key multimodal transportation hubs in the state and nation.<sup>ii</sup> Extreme heat also contributes to health problems increasing air pollution and thus asthma rates.

The county also experiences acute economic and social risks further stressed by disaster. Economically, the county depends on the strength of transportation and logistics, medical, and tourism sectors, all of which could be critically impacted by a disaster. Socially, the county and region have one of the highest poverty rates in the country, as well as some of the greatest health disparities. The Memphis region has the highest overall and under-18 poverty rates among metropolitan statistical areas (MSAs) with more than one million people. The overall poverty rate in the Memphis MSA is 20.3% and the under-18 rate is 30.8%. Shelby County’s rates are 22.9% and 35.5%, respectively. High vacancy rates county-wide exacerbate neighborhood challenges. In 2012, HUD ranked the City of Memphis sixth in the country for vacancy rates; overall, 47% of property in Memphis is vacant. This represents a challenge for social cohesion and a need to rethink land use in a more resilient way.

The Greenprint for Resilience Project is comprised of a set of interconnected activities that enhance community resilience to current and future threats described within the most impacted and distressed area and provides benefits to the county and region. The target communities will be protected from future flood events by a series of efforts to “make room for the river” including increased flood protection infrastructure, wetlands development and passive greenspace for the retention of stormwater. Residents within the South Cypress Creek target area will be offered voluntary buyouts and assistance to relocate to quality replacement housing out of harm’s way. The replanting of trees and development of wetlands will reduce the physical and social impacts of heat island effect. Additionally, the socio-economic burden of residents will be reduced through the development of greenways to support active transportation, recreational amenities, re-use of vacant lots to eliminate blight, new housing development, food production, and entrepreneur and job training in green infrastructure. A comprehensive regional plan for resilience will enhance understanding of the flooding vulnerabilities of the region, engage community participation in implementation of project activities and replicate successful interventions throughout the region.

**f. National Objective.** Activity locations were selected based upon a spatial analysis of data wherein LMI census tracts were overlaid with URN, flood prone areas, and the Greenprint network. The majority of populations in each target area is LMI. Thus all proposed activities using CDBG-NDR in this Greenprint for Resilience Project, other than general planning and administration (which are not subject to the national objective test), will meet the National Objective of benefit to LMI persons (area benefit). Since each activity, other than general planning and administration, address URN remaining from the Qualified Disasters, they also meet the National Objective of meeting a need(s) having a particular urgency (urgent need).

**g. Overall benefit.** Shelby County and its partners commit a significant portion of funding for project activities that provide benefits and co-benefits to LMI persons. These benefits will include protection against future storms and floods, access to greenspace, safe transportation alternatives, community health benefits through healthy food options, recreational amenities, and active transportation, better protected housing and blight eradication through a vacant lot program, and greater access to jobs, job training, and activity-related jobs. Population in census block groups directly surrounding project activity areas is estimated to be 66% LMI persons as referenced in Exhibit B ([ExhibitBCensusBlockGroupShelbyCOTN.pdf](#)). Since activities using CDBG-NDR in this Greenprint for Resilience Project, other than general planning and administration, will meet the National Objective of benefit to LMI persons (area benefit), more than 50% of the funds requested will provide benefit to LMI persons in the form of area benefit. The total project cost is \$117,711,957 with the NDR share of \$71,111,957 and direct leverage of \$46,600,000. Of the NDR share, \$69,040,735 will support project activities, not including general planning and administration. Shelby County estimates that 66% of NDR funds will provide an overall area benefit to LMI persons.

**h. Establish tie-back.** The activities proposed under the Greenprint for Resilience directly tie-back to impacts of the qualifying disasters ([FEMA 1974-DR, 1978-DR and 1979-DR](#)). The targeted areas of Big Creek, Wolf River, and South Cypress Creek were each impacted during the qualified disaster and are vulnerable to future flooding and repetitive damage to households, the economy, and the environment. In each of the three targeted activity areas, URN still exists today ([ProjectAreaMapFigure1.pdf](#)). A series of flood mitigation and restoration efforts including land elevation, land detention and creation of wetlands and passive greenspace along the three target area waterways to prevent future flooding from storms directly address impacts

from the qualifying disasters. Voluntary buyouts in two of the three areas will prevent residents from suffering future flooding. Had the proposed activities been in place prior to the 2011 disasters, the damage and unmet recovery the community experienced would have been prevented.

**i. Benefit-cost analysis.** Shelby County has submitted a benefit-cost analysis for its Covered Project in compliance with Phase 2 Appendix H. Benefits are demonstrated by the evidence submitted to justify the costs. The Greenprint for Resilience project has benefits totaling \$411,137,956 and costs of \$125,146,644 yielding a BCR of 3.29 across the Greenprint for Resilience Project. Details regarding this analysis can be found within [Exhibit E: Factor 3 - Soundness of Approach](#) and the full BCA is available in [Attachment F](#).

**j. CDBG-NDR Applicant Certifications.** Shelby County has included the CDBG-NDR Applicant Certifications ([AttachCCertificationShelbyCOTN.pdf](#)) as required in NDRC NOFA Appendix F in addition to meeting the specific electronic submission requirements in Section IV of the NOFA.

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<sup>i</sup> <http://nca2014.globalchange.gov/report/our-changing-climate/heavy-downpours-increasing#tab2-images>

<sup>ii</sup> Assessing the Vulnerability of Tennessee Transportation Assets to Extreme Weather, Final Report, February 13, 2015, Mark Abkowitz, Janey Camp, Leah Dundon, 3 Sigma Consultants, LLC. Tennessee Department of Transportation.