

Draft Tiered Site-Specific Environmental Assessment

Nettleton School District Middle School Safe Room

Jonesboro, Craighead County, Arkansas

HMGP DR-1819-AR PROJECT #44

October 2011



FEMA

Federal Emergency Management Agency
Department of Homeland Security
500 C Street, SW
Washington, DC 20472

I. Background

In accordance with 44 Code of Federal Regulations (CFR) for the Federal Emergency Management Agency (FEMA), Subpart B, Agency Implementing Procedures, Part 10.9, a Programmatic Environmental Assessment (PEA) for Hazard Mitigation Safe Room Construction was prepared and a Finding of No Significant Impact (FONSI) was issued in on June 2, 2011, pursuant to Section 102 of the National Environmental Policy Act (NEPA) of 1969, as implemented by the regulations promulgated by the President's Council on Environmental Quality (CEQ; 40 CFR Parts 1500-1508). This Tiered Site-Specific Environmental Assessment (SEA) is being prepared in accordance the June 2011 PEA. The focus of this Tiered SEA is on those areas of concern requiring additional discussion or analysis that are beyond the scope of the PEA.

II. Purpose and Need

Nettleton School District has applied for Hazard Mitigation Grant Program (HMGP) funding through the Arkansas Division of Emergency Management (ADEM) under application number HMGP-DR-1819-AR Project #44. Section 404 (HMGP) of the Robert T. Stafford Relief and Emergency Assistance Act, 42 U.S.C. § 5121 et seq., authorizes FEMA to provide funding to eligible grant applicants for cost effective activities that have the purpose of reducing or eliminating risks to life and property from hazards and their effects. Mitigation grant program regulations and guidance that implement these authorities identify various types of hazard mitigation projects or activities that meet this purpose and may be eligible for funding. These projects represent a range of activities that protect structures, the contents within those structures, and/or the lives of their occupants.

In extreme wind events where the threat posed affords little to no warning to allow the general population to leave the area of immediate impact and the time of protection is 2 hours, immediate life safety protection is needed. Arkansas is ranked sixteenth in the nation in the number of tornados, third in tornado fatalities, and fifth in tornado related injuries¹. Since 1950, the National Climatic Data Center has documented 29 reports of tornadoes and 9 high wind events in Craighead County, including a 1968 tornado, a 1973 F4 tornado, and a 2008 tornado in the City of Jonesboro. In 2008, FEMA approved the Craighead County, Arkansas Multi-Jurisdictional Hazard Mitigation Plan. The purpose of the plan was to make Craighead County and its citizens less vulnerable to the effects of natural hazards through a coordinated approach to mitigation policy and state and local mitigation planning activities. Protecting lives and property from the risk of tornadoes has been identified as a priority need in the mitigation plan. In addition, protecting students, faculty, and staff from tornado risks is a high priority mitigation action for the Nettleton School District.

¹ Information derived from information provided in the FEMA document "Arkansas' Tornado Shelter Initiative for Residences and Schools Mitigation Case Study", March 2008 and the National Oceanic and Atmospheric Administration (NOAA) Storm Prediction Center (<http://www.spc.noaa.gov/>).

III. Alternatives

Two project alternatives are proposed in this SEA: 1) No Action and 2) Proposed Action Alternative- Construction of a Stand-Alone Safe Room at Nettleton Middle School Campus.

Under the No Action Alternative, nothing would be done to address the risk of tornadoes in the project area. A safe room would not be constructed. As a consequence, the students, faculty, and staff at Nettleton Middle School and the residents near the proposed project site would remain at risk and would continue to be in danger when quickly arising storms target the project area.

The Proposed Action Alternative is the construction of a new stand-alone safe room on the Nettleton Middle School campus, located at 2305 Promise Lane (Latitude: 35.81613; Longitude: -90.65346), Jonesboro, Craighead County, AR. It will be constructed on a vacant yard area between a parking lot and the north entry of Nettleton Middle School building (see Figure 1). The facility will be 6,063 gross square feet, with 5,025 square feet of usable safe room space (see Figure 2). The safe room will provide protection for approximately 1,000 students, faculty, and staff of the school and the residents that live and work in close proximity to the safe room. Existing utilities will be extended to the proposed site for use by the facility. No additional parking or driveways will be constructed as part of the project as an existing parking lot and access roads are already in place at the school campus. When not in use as a safe room, the facility will be utilized for multi-purpose educational uses. The safe room will be connected to the existing school by sidewalks, ramps, and covered walkways. The total acreage of ground disturbance will be less than one acre for the entire project. The safe room will be built in accordance with FEMA 361: Design and Construction Guidance for Community Safe Rooms (FEMA, 2008).

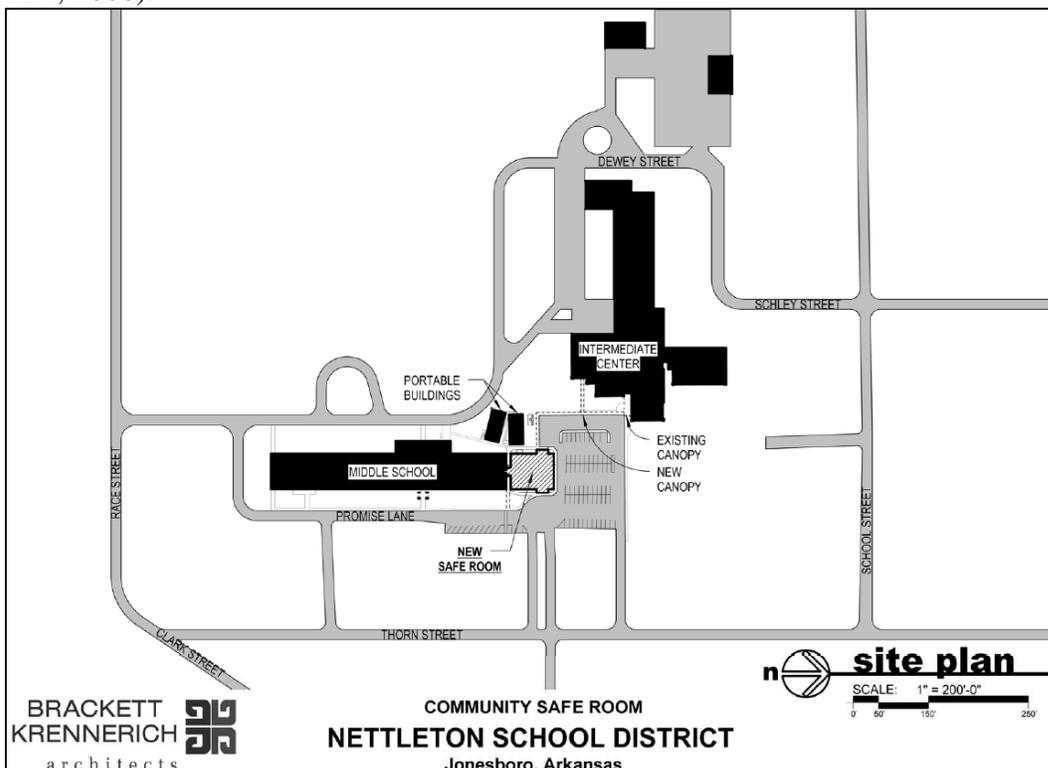


Figure 1: Site Plan for Proposed Action Alternative.

Source: Brackett Krennerich Architects.

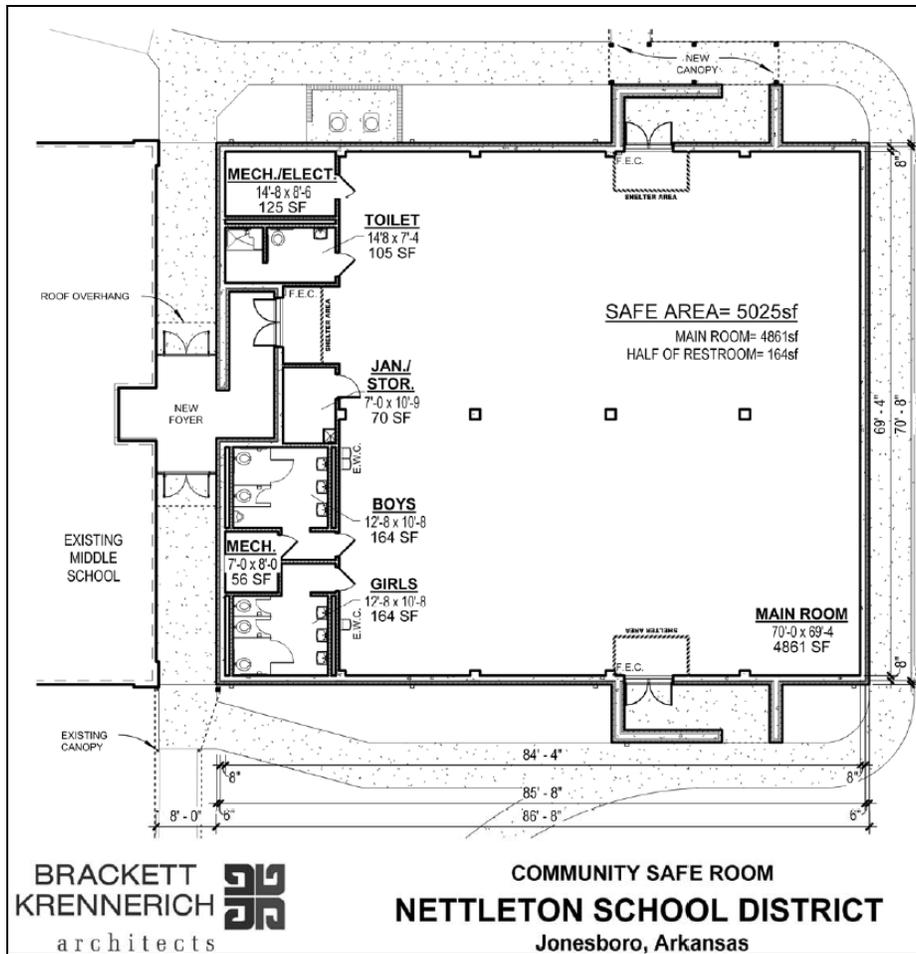


Figure 2: Floor Plan for Proposed Action Alternative.
Source: Brackett Krennerich Architects

IV. Environmental Impacts

Discussion of the environmental impacts associated with the No Action Alternative is included in the June 2011 PEA. This document incorporates the PEA by reference. The PEA can be found in FEMA’s electronic library at <http://www.fema.gov/library/viewRecord.do?id=4670>.

FEMA’s environmental planning and historic preservation review reveals that all environmental areas of concern are appropriately accounted for in the PEA with the exception of floodplain impacts. Table 1 provides a summary of the findings for the environmental areas of concern that FEMA typically reviews.

Table 1: Summary of Other Environmental Areas of Concern

Area of Concern	No Action Impacts	Proposed Action Impacts
Land Use	No effect.	No effect. Project will occur in a previously developed area and will disturb less than one acre of land.
Geology, Soils, and Seismicity	No effect.	The proposed safe room is located a in the New Madrid seismic zone and damage could occur. The State of Arkansas has adopted the 2006 International Codes, including the 2006 International Building Code (IBC), into its state code, the Arkansas Fire Prevention Code. The state code is mandatory and applicable to all buildings, including the proposed safe room. Construction in Jonesboro is subject to the adopted state codes. In addition to building in accordance with FEMA 361: Design and Construction Guidance for Community Safe Rooms (2008), the Nettleton School District will build the safe room in compliance with the requirements in IBC 2006 in order to mitigate the seismic risk associated with constructing a new safe room in the New Madrid zone. Chapter 16 Section 1613 of the IBC specifically addresses structural design criteria for earthquake loads (ICC, 2006).
Water Quality and Resources	No effect.	Minor temporary effects to water quality that would be at or below water quality standards or criteria.
Wetlands	No effect.	No effect. Project located outside of designated wetlands.
Biological Resources	No effect.	Project will have No Effect on threatened and endangered species and will not adversely modify or otherwise affect critical habitat. No effect on native species, their habitats, and the natural processes sustaining them.
Human Health and Safety	Students, faculty, staff, and residents would remain vulnerable to tornado hazards.	All residents in the area will benefit from the safety provided by the facility.
Minority and Low-Income Populations	Students, faculty, staff, and residents would remain vulnerable to tornado hazards.	No adverse impact on minority or low-income portions of the population is anticipated. All residents in the area will benefit from the safety provided by the facility.
Historic Properties	No effect.	FEMA determined in accordance with CFR 36 Part 800.4(d)(1) that there would be no effect to historic properties due to the Proposed Action Alternative. The State Historic Preservation Office (SHPO) concurred with this determination in a response letter dated June 22, 2010.
Air Quality	No effect.	Minor short-term effects.
Noise	No effect.	Minor to moderate effects during construction.

In compliance with FEMA regulations implementing Executive Order 11988, Floodplain Management, FEMA is required to carry out the 8-step decision-making process for actions that are proposed in the floodplain per 44 CFR §9.6. Step 1 is to determine whether the project is located in the floodplain. FEMA has determined that the Proposed Action Alternative is located in a 100-year floodplain, Zone AE, (EL 252 feet) as depicted on Preliminary Flood Insurance Rate Map (FIRM) Community Panel 05031C0260D, dated January 29, 2010 (see Figure 3). Based on interpolations from the Flood Insurance Study, the 500-year elevation at the safe room site is approximately 253.4feet.

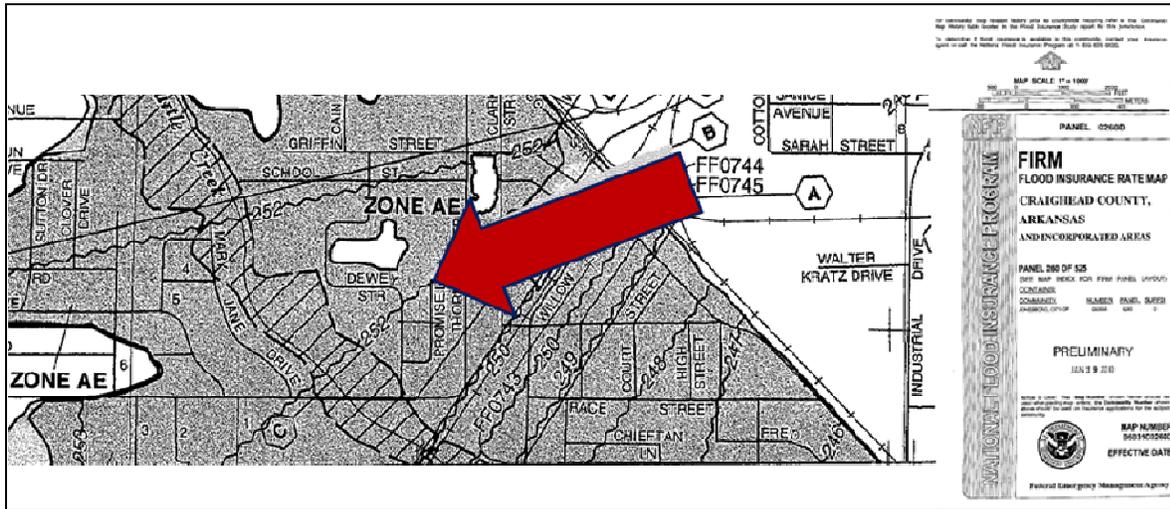


Figure 3: Preliminary FIRM with Safe Room Site Indicated.
Source: FEMA.

Step 2, is to notify and involve the public in the decision-making process, which will be incorporated into the notice of availability for this SEA.

Step 3 is to identify and evaluate practicable alternatives to locating the proposed project in the floodplain, including alternative sites and actions outside of the floodplain.

Alternative Location Outside the AE Zone – The primary occupants for this shelter are intermediate and middle school children at the Nettleton school campus. The proposed shelter location has a direct connection with the middle school and is approximately two hundred and fifty feet (via covered walkways) away from the intermediate school. Moving the shelter out of this area, and out of the floodplain, would result in a significantly greater travel distance for the intermediate school children, which could endanger their safety. Therefore no practicable alternative location outside of the floodplain exists.

Alternative Action Outside the AE Zone – Another alternative considered by the Nettleton School District was to harden a portion of the existing Nettleton Intermediate Center, which is located in Zone X and is outside of the 100-year and 500-year floodplain. However, this alternative would have been cost prohibitive and there is not adequate unused space within the Nettleton Intermediate Center for use as a safe room. Therefore, no practicable alternative action outside of the floodplain exists.

Step 4 is to identify impacts associated with occupancy and modification of the floodplain and support of floodplain development that could result from pursuing the Proposed Action

Alternative. Building the safe room in the floodplain could potentially increase the risk of structural damage due to flooding. It is not anticipated that the Proposed Action Alternative will result in an increased base discharge nor should it increase the flood hazard potential to other structures. The current project site is already developed and it is not anticipated that the Proposed Action Alternative will encourage future development in the floodplain.

Step 5 is to develop measures to minimize the impacts and restore and preserve the floodplain. In order to reduce the impacts identified in Step 4 of flooding on the proposed new structure and its occupants, the structure and its supporting utilities will be elevated above the 500-year elevation because the construction of a safe room is considered a critical action. The finished floor will be at an elevation of 253.5 feet, which is above the 500-year flood elevation of 253.4 feet. In addition, Nettleton School District will be required to coordinate with the local floodplain administrator and obtain required permits prior to initiating work. All coordination pertaining to these activities and applicant compliance with any conditions should be documented and copies forwarded to the state and FEMA for inclusion in the permanent project files.

Step 6 is to determine whether the proposed action is practicable and to reevaluate alternatives. Per the discussion above, including (1) elevating to mitigate flood risk to the safe room; (2) the need to locate the safe room adjacent to the target population; and (3) the unavailability of a location outside of the floodplain, the Proposed Action Alternative is the only practicable alternative.

Step 7 requires that the public be provided with an explanation of any final decision that the floodplain is the only practicable alternative. In accordance with 44 CFR §9.12, the Nettleton School District must prepare and provide a final public notice 15 days prior to the start of construction activities. Documentation of the final public notice is to be forwarded to FEMA for inclusion in the permanent project files.

V. Mitigation

1. The Nettleton School District must build the safe room in compliance with FEMA 361: Design and Construction Guidance for Community Safe Rooms (2008) and the requirements in International Building Code (IBC) 2006 in order to mitigate the seismic risk associated with constructing a new safe room in the New Madrid zone.
2. Nettleton School District must coordinate with the local floodplain administrator and obtain required permits prior to initiating work. All coordination pertaining to these activities and applicant compliance with any conditions should be documented and copies forwarded to the state and FEMA for inclusion in the permanent project files.
3. Nettleton School District must elevate the safe room at or above the 500-year floodplain elevation of 253.4 feet.
4. In accordance with 44 CFR §9.12, Nettleton School District must publish a public notice 15 days prior to the start of construction activities. Documentation of the public notice is to be forwarded to FEMA for inclusion in the permanent project files.

In addition, Nettleton School District will be required to comply with the conditions that are stated in the PEA FONSI, dated June 2, 2011, for the Proposed Action Alternative (see Appendix A).

VI. Agencies Consulted (see Appendix B)

Arkansas State Historic Preservation Office
Arkansas Natural Resources Commission

VII. Public Comment

A public notice advertising the availability of this Draft SEA for public review and comment will be posted in the local newspaper of record and at <http://www.fema.gov/plan/ehp/envdocuments/ea-region6.shtm>. The Draft SEA will be available at a local repository, electronically by request from FEMA Region 6, and at <http://www.fema.gov/plan/ehp/envdocuments/ea-region6.shtm>. A 15-day public comment period will commence on the initial date of the public notice. FEMA will consider and respond to all public comments in a Final SEA. If no substantive comments are received, the Draft SEA will become final and a Finding of No Significant Impact (FONSI) will be issued for the project.

VIII. List of Preparers/Reviewers

Dorothy Weir, Principal Preparer, Environmental Specialist, FEMA Region 6
Kevin Jaynes, CHMM, Principal Reviewer, Regional Environmental Officer, FEMA Region 6

IX. References

Federal Emergency Management Agency (FEMA). 2008. Design and Construction Guidance for Community Safe Rooms. FEMA 361, Second Edition. Available on-line at <http://www.fema.gov/library/viewRecord.do?id=1657>. Accessed August 18, 2011.

International Code Council (ICC). 2006. International Building Code. Available on-line at <http://publicecodes.citation.com/icod/ibc/2006f2/index.htm>. Accessed August 18, 2011.

U.S. Geological Survey (USGS). 2011. National Seismic Hazard Mapping Project. Available on-line at <http://earthquake.usgs.gov/hazards/>. Accessed August 18, 2011.

USGS. 2009. *Earthquake Hazard in the New Madrid Seismic Zone Remains a Concern*. Fact Sheet 2009-3071. Available on-line at <http://pubs.usgs.gov/fs/2009/3071/>. Accessed August 18, 2011.

Appendix A

Finding of No Significant Impact (FONSI)

Final Programmatic Environmental Assessment for Hazard Mitigation Safe Room Construction

Appendix B
Agency Consultation