



Draft Environmental Assessment  
Waverly Shell Rock Elementary School  
Waverly, Iowa  
April 17, 2009



# FEMA

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## ABBREVIATIONS AND ACRONYMS

CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CMU	Concrete Masonry Unit
EA	Environmental Assessment
EO	Executive Order
ESA	Endangered Species Act
FEMA	Federal Emergency Management Agency
FIRMS	Flood Insurance Rate Maps
FPPA	Farmland Protection Policy Act
NEPA	National Environmental Policy Act
NFIP	National Flood Insurance Program
NHPA	National Historic Preservation Act
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
ROI	Region of Influence
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service

# 1. INTRODUCTION

The city of Waverly is located in the North-East portion of the state of Iowa and is the seat of Bremer County. Beginning on June 9th 2008, the Washington Irving Elementary School experienced extensive damage from the flooding of the Dry Run Creek and the Cedar River which flooded most of the City of Waverly. The Washington Irving Elementary School which houses grades 5 and 6 and has a student population of 250. The current location of the Washington Irving Elementary School was at 213 6th St SW in Waverly, Iowa

The school experienced complete flooding of the two (2) subterranean levels and approximately 12 inches throughout the 1st floor for three (3) days starting on June 9th. The lowest subterranean level contains building electrical and mechanical service equipment, and the upper subterranean level houses the school cafeteria, commercial equipment kitchen, a stage area that doubles as a music room, and an elevator equipment room that services a single cab hydraulic elevator between that level and the first floor above. While the first floor flooding receded rapidly following the Cedar River's crest the two lower subterranean floors persisted in being subjected to inflow while undergoing continuous pumping operation at the time of inspection on July 8. It is the early suspicion of a hydrologist retained by the applicant that high underground hydrostatic pressure due to a raised water table or new underground water veins caused the resulted in leakage through basement floor and/or walls into the building.

The Washington Irving Elementary School building is a 34,400 SF, single-story Concrete Masonry Unit (CMU) constructed structure with brick facade built in 1951. It experienced minor flooding in 1993. A remediation effort after the flood water receded was immediately undertaken by the applicant through contracting with certified environmental testing and restoration firms.

The extent of damages is significant in the subterranean levels from prolonged submersion in contaminated water. All mechanical and electrical equipment and systems in the lowest level were impacted, as well as the kitchen, cafeteria, stage area, and the elevator system in the upper subterranean level.

On May 27, 2008, President Bush declared a major disaster in the State of Iowa (DR-1763-IA) pursuant to the Robert T. Stafford Disaster Relief and Emergency Assistance Act, as amended, 42 U.S.C. Section 5121-5206. The incident period began on May 25, 2008 and closed August 13, 2008.

The proposed site of the new Waverly Shell Rock Elementary School is located at 326 16<sup>th</sup> Street SW in Waverly, Iowa 50677 (figure 1, appendix A).

The National Environmental Policy Act (NEPA) requires that Federal agencies evaluate the environmental effects of their proposed and alternative actions before deciding to fund an action. The President's Council on Environmental Quality (CEQ) has developed a series of regulations for implementing the NEPA. These regulations are included in Title 40 of the Code of Federal Regulations (CFR), Parts 1500–1508. They require the preparation of an Environmental Assessment (EA) that includes an evaluation of alternative means of addressing the problem and a discussion of the potential environmental impacts of a proposed Federal action. An EA provides the evidence and

analysis to determine whether the proposed Federal action will have a significant adverse effect on human health and the environment. An EA, as it relates to the FEMA program, must be prepared according to the requirements of the Stafford Act and 44 CFR, Part 10. This section of the Federal Code requires that FEMA take environmental considerations into account when authorizing funding or approving actions. This EA was conducted in accordance with both CEQ and FEMA regulations for the NEPA.

This EA will address the environmental issues associated with the FEMA grant funding is applied towards construction of a new Waverly Shell Rock Elementary School at the proposed site.

## 2. PURPOSE AND NEED

Pursuant to Section 406 of the Robert T. Stafford Disaster and Emergency Assistance Act of 1988, as amended, the Waverly-Shell Rock School District has requested funding through FEMA Public Assistance Program. FEMA's Public Assistance Program provides supplemental Federal disaster grant assistance for the repair, replacement, or restoration of disaster damaged, publicly owned facilities.

The purpose of this project is to assist the students of the Waverly-Shell Rock School District and the citizens of Waverly and Bremer County in their recovery from the natural disaster by using the FEMA Public Assistance Program to contribute funding towards the construction of new Waverly Shell Rock Elementary School

The need for the project is to replace and upgrade the Waverly Shell Rock Elementary School in response to a devastating flooding that struck Waverly, Bremer County, Iowa, beginning on June 9<sup>th</sup>, 2008. Currently, the Waverly Shell Rock Elementary School operates out a temporary facility as the current structure was extensively damaged. The current location of the Washington Irving Elementary School was at 213 6th St SW in Waverly, Iowa. The Waverly Shell Rock Elementary School provides important services that are required for the education of the students of the Waverly-Shell Rock school district, but also the quality of life to the citizens of the region. If the Waverly Shell Rock Elementary School were not rebuilt, the quality of educational facilities for the students would be undermined.

## 3. ALTERNATIVES

NEPA requires the investigation and evaluation of reasonable project alternatives as part of the project environmental review process. Two alternatives are addressed in this EA: the No-action Alternative, where no FEMA grant funding is applied towards construction of a new Waverly Shell Rock Elementary School, and the Proposed Action, where FEMA grant funding is applied towards construction of Waverly Shell Rock Elementary School in Waverly, Bremer County, Iowa. The discussion includes Alternatives Analyzed and Dismissed.

### 3.1 NO-ACTION;

Under this alternative, no FEMA grant funding is applied towards construction of a new Waverly Shell Rock Elementary School. The City of Waverly will continue to use the temporary location for elementary students.

### 3.2 PROPOSED ACTION: FEMA GRANT FUNDING IS APPLIED TOWARDS CONSTRUCTION OF A NEW WAVERLY SHELL ROCK ELEMENTARY SCHOOL AT THE PROPOSED SITE

This alternative provides FEMA grant funding is applied towards construction of a new Waverly Shell Rock Elementary School. The Waverly-Shell Rock School District has contracted the design work to STRUXTURE Architects. The construction is anticipated to start in the 2nd quarter of 2009 with completion and occupancy on January 1<sup>st</sup>, 2011.

### **3.3 ALTERNATIVE CONSIDERED AND DISMISSED: REPAIR EXISTING WASHINGTON IRVING ELEMENTARY SCHOOL TO PRE-DISASTER CONDITIONS**

This alternative would repair the existing Washington Irving Elementary School at their current location at the 213 6th St SW in the city of Waverly, Iowa. The existing Washington Irving Elementary School has been extensively damaged by the flooding beginning on June 9<sup>th</sup>, 2008. The repair of the existing Washington Irving Elementary School would require bringing the facility up to the current codes and standards. This alternative was dismissed as being unfeasible due to the complexities in repairing the facility because of the destruction and that in order to be in compliance with the Americans with Disabilities Act standards. This alternative was also dismissed because the existing Washington Irving Elementary School is located in the floodway and is prone to frequent flooding.

## 4. SUMMARY OF IMPACTS AND MITIGATION

Two alternatives were evaluated in this EA:

- No-action Alternative
- Proposed Action

Table 4-1 summarizes the potential environmental impacts expected with each of the two alternatives. Additional information is located in Section 5.

As shown in table 4-1, the No-action Alternative could result in no environmental impacts on the environment.

As shown in table 4-1, the selection of Proposed Action would result in minor environmental impacts from the temporary increase in noise and the production of fugitive dust during construction.

Table 4-1: Summary of Impacts and Mitigation

<b>Environmental Resource</b>	<b>No-action</b>	<b>Proposed Action</b>
Air Quality	No impact	Fugitive dust would result from all construction activities; the project would be of short duration and would not require large amounts of heavy equipment; best management practices would be implemented
Biological Resources	No impact	No impact; threatened or endangered species are not present in the project area
Executive Order 11990/Wetlands	No impact	No significant impact; best management practices would be used to protect wetlands during construction. If required, a Section 404 permit from USACE would be obtained
Threatened and or Endangered Species	No impact	No impact; threatened or endangered species are not present in the project area
Geology and Soils	No impact	No significant impacts; construction activities would clear existing vegetation and expose soil in the area proposed construction area
Radon	No impact	The contractor will use radon resistant construction techniques to minimize the potential for radon gas to migrate into the proposed elementary school.
Land Use and Planning	No impact	No impacts. 75 acres of land was purchased for use as the Waverly Shell Rock Elementary School. The land is currently zoned agricultural and commercial
Noise	No impact	Construction activities would increase the noise levels in the immediate area of the construction project; activities are assumed to take place during daylight hours and no sensitive noise receptors are located near the project area
Executive Order 12898, Environmental Justice	No impact	Implementation of this alternative would have little likelihood of having disproportionate impacts on any low-income or minority groups
Transportation	No impact	Flagmen and possibly escort vehicles would be utilized; construction the Waverly Shell Rock Elementary School would temporarily disrupt local traffic within the project area
Water Quality/Water Resources	No impact	Implement construction best management practices. Install silt fences/straw bales to reduce soil erosion and sedimentation. Construction contractor to implement requirements of NPDES storm water discharge permit, if required.
Cumulative Impacts	No impact	Designing and constructing the Waverly Shell Rock Elementary School is necessary and needed facility for the students of the Waverly-Shell Rock School District and the citizens of Waverly and Bremer County.

Notes:

NPDES National Pollutant Discharge Elimination System  
 USACE U.S. Army Corps of Engineers  
 USFWS U.S. Fish and Wildlife Service

# 5. AFFECTED ENVIRONMENT AND IMPACTS

Chapter 5 describes the existing environmental conditions that may be affected by the proposed FEMA grant funding being applied towards construction of a new Waverly Shell Rock Elementary School. The environmental impacts of the No-action alternative were also analyzed.

This chapter also describes the potential environmental consequences of the proposed alternatives by comparing them with the potentially affected environmental components. Proposed activities were also evaluated against existing environmental documentation on current and planned actions and information on anticipated future projects to determine the potential for cumulative impacts. The potential for significant environmental consequences was evaluated utilizing the context and intensity considerations as defined in CEQ regulations for implementing the procedural provisions of NEPA (40 CFR 1508.27).

## 5.1 AIR QUALITY

The National Ambient Air Quality Standards established by the U.S. Environmental Protection Agency define the allowable concentrations of pollutants that may be reached but not exceeded in a given time period to protect human health (primary standard) and welfare (secondary standard) with a reasonable margin of safety. These standards include maximum concentrations for ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide, lead, and particulate matter with a diameter of 10 microns or less.

The nearest Air Quality Monitoring System location is located in Waterloo in Linn County approximately 20 miles away and is administered by the Linn County Health Department. Bremer County is considered an attainment area for all criteria pollutants listed above. Air quality in the project and the surrounding area currently complies with Federal and State air quality standards as indicated by the entire state of Iowa being within an Air Quality Attainment Area.

### 5.1.1 NO-ACTION

The No-action Alternative would not affect air quality. No construction activities would occur with the selection of the No-action Alternative.

### 5.1.2 PROPOSED ACTION

The Proposed Action would require the excavation of soil for the construction of the Waverly Shell Rock Elementary School, which would result in the production of some fugitive dust. Best management practices would be utilized during construction to minimize dust. The proposed project would require approximately 18 months of construction and some heavy equipment including bulldozers, scrapers, and backhoes.

Construction activities would produce a minor, temporary, and localized impact from vehicle emissions and dust particles. Equipment use would temporarily increase emissions; however, no long-term air quality impacts are anticipated. Federal or state air quality attainment levels would not be exceeded. Based upon this information, there would be minimal impacts to air quality due to the implementation of the Proposed Action.

## 5.2 BIOLOGICAL RESOURCES

Native or naturalized vegetation, wildlife, and the habitats in which they occur are collectively referred to as biological resources. Existing information on plant and animal species and habitat types in the vicinity of the proposed site was reviewed with special emphasis on the presence of any species listed as threatened or endangered by Federal or State agencies to assess their sensitivity to the effects of the alternatives.

Biological studies consisting of literature review, field reconnaissance, agency consultation, and map documentation were performed. A site visit was conducted on March 20<sup>th</sup>, 2009. For the purpose of discussion, biological resources have been divided into the areas of protected species and habitats.

### 5.2.1 PROTECTED SPECIES AND HABITAT

The Endangered Species Act (ESA) of 1973 establishes a Federal program to conserve, protect, and restore threatened or endangered plants and animals and their habitats. ESA specifically charges Federal agencies with the responsibility of using their authority to conserve threatened or endangered species.

All Federal agencies must ensure any action they authorize, fund, or carry out is not likely to jeopardize the continued existence of an endangered or threatened species or result in the destruction of critical habitat for these species. During the field survey of March 20<sup>th</sup>, 2009, the following list and description of threatened or endangered species that may occur in Bremer County was produced.

Table 5-1: Threatened and Endangered Species of Bremer County, Iowa

Common Name	Scientific Name	Status	Potential Occurrence at Site	Reason
Western prairie fringed orchid	Platanthera praeclara	Threatened	No	No habitat
Prairie bush clover	Lespedeza leptostachya	Threatened	No	No habitat

#### 5.2.1.1 NO-ACTION

The No-action Alternative would not impact vegetation or wildlife in the project area. No construction activities would occur with the selection of the No-action Alternative.

#### 5.2.1.2 PROPOSED ACTION

The proposed FEMA grant funding being applied towards construction of a new Waverly Shell Rock Elementary School effect on threatened and endangered species has been determined to be “no effect”. No remaining native habitats are present on the site as the site had been utilized as agricultural fields for the past 150 years. The school will be installed in areas that have been previously disturbed.

FEMA reviewed lists from both U.S. Fish and Wildlife Service (USFWS) and the Iowa Department of Wildlife and Parks for threatened and endangered species with potential to occur in Bremer County. It was determined from documentation review and a field survey of the project that threatened or

endangered species identified as having potential to occur in Bremer County were not present in the area or would be impacted by the project. In the event that threatened or endangered species are encountered in the project area, the FEMA Regional Environmental Officer shall request a Section 7 consultation with the USFWS.

### **5.3 CULTURAL RESOURCES**

In addition to review under NEPA, consideration of impacts to cultural resources is mandated under Section 106 of the National Historic Preservation Act (NHPA), as amended and implemented by 36 CFR Part 800. Requirements include the identification of significant cultural resources that may be impacted by the alternatives. Cultural resources are prehistoric and historic sites, structures, districts, buildings, objects, artifacts, or any other physical evidence of human activity considered important to a culture, subculture, or community for scientific, traditional, religious, or other reasons.

Only those cultural resources determined to be potentially significant under NHPA are subject to protection from adverse impacts resulting from an undertaking. To be considered significant, a cultural resource must meet one or more of the criteria established by the National Park Service that would make that resource eligible for inclusion in the National Register of Historic Places (NRHP). The term “eligible for inclusion in the NRHP” includes all properties that meet the NRHP listing criteria, which are specified in the Department of Interior regulations Title 36, Part 60.4 and NRHP Bulletin 15. Sites not yet evaluated may be considered potentially eligible for inclusion in the NRHP and, as such, are afforded the same regulatory consideration as nominate properties. Whether prehistoric, historic, or traditional, significant cultural resources are referred to as “historic properties.”

For the purposes of this analysis, the term region of influence (ROI) is synonymous with the “area of potential effect” as defined under cultural resources legislation. In general, the ROI for cultural resources at each alternative’s site encompasses areas requiring ground disturbance (e.g. areas of grading, cut and fill, etc) associated with the proposed development of the Waverly Lift Station.

According to the Iowa State Historic Preservation Office, there are no known structures within the area of potential effect. According to the Iowa State Historic Preservation Office, there are known archaeological sites within the project site of the Proposed Action.

#### **5.3.1 ARCHEOLOGICAL**

##### **5.3.1.1 NO-ACTION**

The No-action Alternative would not impact vegetation or wildlife in the project area. No construction activities would occur with the selection of the No-action Alternative.

##### **5.3.1.2 PROPOSED ACTION**

The Area of Potential Effects (APE) for this undertaking is sensitive for the presence of prehistoric archaeological sites. As a result, FEMA will require the applicant to undertake an archeological survey of the proposal action. The survey must be in accordance with guidelines for archeological investigations in Iowa and conducted by an archeologist who meets the Secretary of the Interior’s professional qualifications standard. Upon receipt, FEMA will consult with the State Historic Preservation Office (SHPO) in accordance with the Section 106 of the National Historic Preservation Act. Work cannot begin until the results of the survey have been received and accepted by FEMA and the SHPO with a concurrence of no adverse effect.

## **5.3.2 HISTORIC**

### **5.3.2.1 NO-ACTION**

The No-action Alternative would have no significant effect on cultural resources within the project area. No construction activities would occur with the selection of the No-action Alternative.

### **5.3.2.2 PROPOSED ACTION**

FEMA Historic Preservation Specialists have reviewed the inventory of the Iowa State Historic Preservation Office for Bremer County, Iowa. There is no National Register of Historic Places (NRHP) listed, or previously determined eligible for listing on the NRHP properties within the Area of Potential Effect (APE) of the proposed project. A field inspection was made to the proposed construction site to determine if there are any previously unevaluated and potentially eligible for listing on the NRHP properties within the APE.

It was determined that no Historic Properties would be affected by the project as proposed. It needs to be understood that the existing Washington Irving Elementary School building has not been evaluated for its NRHP eligibility. Section 106 review would need to be completed on the existing school building. The potential abandonment and/or anticipatory demolition of the building would constitute an adverse effect if FEMA in consultation with SHPO should determine it meets any of the criteria for evaluation of its potential for listing on the NRHP. Adverse effects would require mitigation through the negotiation of a Memorandum of Agreement pursuant to 36 CFR 800.6.

## **5.4 GEOLOGY AND SOILS**

The topography of the proposed Waverly Shell Rock Elementary School is flat with a few lower depressions. Information from the U.S. Department of Agriculture Natural Resources Conservation Service shows that five soil types are present on the site. Soils found at the proposed Waverly Shell Rock Elementary School project area are Kenyon loam, Clyde silty clay loam, Waukee loam, Dinsdale silty clay loam and Lawler loam. The symbols that accompany the soil descriptions correspond with those found on the Soils Survey Legend of the Soil Survey of Bremer County, Iowa.

Kenyon loam is found with 2 to 5 percent slope. The Kenyon series consists of very deep moderately well drained soils. Kenyon Loam has a depth to water table of about 48 to 72 inches and is not prone to frequent flooding.

Clyde silty clay loam is found with 0 to 3 percent slope. The Clyde silty clay loam consists of very deep poorly drained soils. Clyde silty clay loam has a depth to water table of about 0 to 12 inches and is not prone to frequent flooding.

Waukee loam is found with 2 to 5 percent slope. The Waukee loam consists of very deep poorly drained soils. Waukee loam has a depth to water table of more than 80 inches and is rarely prone to frequent flooding.

Dinsdale silty clay loam is found with 2 to 5 percent slope. The Dinsdale silty clay loam consists of very deep moderately well drained soils. Dinsdale silty clay loam has a depth to water table of more than 80 inches and is not prone to frequent flooding.

Lawler loam is found with 0 to 2 percent slope. The Lawler loam consists of somewhat poorly drained soils. Lawler loam has a depth to water table of more than 80 inches and is rarely prone to frequent flooding. (U.S. Department of Agriculture, 1986)

The Farmland Protection Policy Act (FPPA) was enacted in 1981 (P.L. 98-98) to minimize the unnecessary conversion of farmland to nonagricultural uses as a result of Federal actions. In addition, the act seeks to ensure that Federal programs are administered in a manner that will be compatible with State and Local policies and programs that have been developed to protect farmland. The policy of the Natural Resources Conservation Service (NRCS) is to protect significant agricultural lands from conversions that are irreversible and that result in the loss of essential food and environmental resources. The NRCS has developed criteria for assessing the efforts of Federal actions on converting farmland to other uses, including Farmland Conversion Impact Rating form AD-1066 that documents a site-scoring evaluation process to assess its potential agricultural value. In accordance with Section 1541 of the FPPA, the alternatives were reviewed for potential impacts on prime farmlands. The Prime Farmland map of Bremer County was consulted and indicates that Prime Farmlands are in the immediate vicinity of the Proposed Action. However, the U.S. Department of Agriculture states that proposed projects on land already in urban development or water storage are not subject to the provisions FPPA. (U.S. Department of Agriculture, 1986)

#### **5.4.1 NO-ACTION**

The No-action Alternative would have no significant effect on geology or soils. This alternative would not involve any construction, improvements, or ground disturbance to the project area.

#### **5.4.2 PROPOSED ACTION**

The Proposed Action would have no significant impact to geology and soils. Construction activities would expose soil in the area proposed for the Waverly Shell Rock Elementary School. Best management practices would be implemented during and after construction to control erosion. This would include, but not be limited to, the use of silt fences during construction.

### **5.5 RADON**

Radon is a naturally occurring radioactive gas that is produced by the decay of uranium found within soil, rocks, and groundwater. The U.S. Environmental Protection Agency (USEPA) currently considers residential radon exposure at or above 4.0 pico Curies per liter (pCi/L) as a public health risk. The EPA created a map for each county in the U.S. which identifies the potential for elevated indoor radon levels, with Zone 1 having the highest potential for predicted average indoor screening levels greater than 4.0 pCi/L. According to the EPA's Map of Radon Zones, Dickinson County is mapped within Zone 1 (USEPA 2008b). The information reviewed is limited in nature and should not be used other than as a guide to anticipating radon levels in any specific location. Site specific radon testing would need to be performed prior to construction of the proposed facility in order to determine whether or not radon levels are elevated. Radon-resistant construction techniques may vary for different foundations and site requirements, but in general include five key concepts:

- Gas Permeable Layer – Usually a 4-inch layer of clean gravel used beneath the slab or flooring system to allow soil-gas to move freely.
- Plastic sheeting – Polyethylene sheeting is placed on top of the gas permeable layer and under the slab to help prevent migration of the soil gas from entering the facility.

- Vent Pipe – A PVC pipe runs from the gas permeable layer up through the structure to the roof to safely vent radon above the facility.
- Junction Box – An electrical junction box is installed in case an electrical venting fan is needed later.
- Sealing and Caulking – Openings in the concrete foundation are sealed to prevent soil gas from entering the facility.

#### **5.4.1.2 NO-ACTION**

The No Action alternative would not involve any movement or excavation of soil therefore there would be no potential for adverse effects caused by elevated concentrations of radon gas.

#### **5.4.1.3 PROPOSED ACTION**

With the movement and excavation of the shallow soils associated with the construction of this facility there is a potential for encountering elevated concentrations of radon gas at the site. Therefore the contractor will use applicable radon-resistant construction techniques to minimize the potential for radon gas to migrate into the proposed elementary school.

### **5.6 LAND USE AND PLANNING**

The current land use for the city of Waverly includes developed land (residential and commercial), street, highway, and agricultural lands. The proposed site of the Waverly Shell Rock Elementary School is currently a vacant parcel of land. Immediately west of the subject site are residential properties. The city of Waverly's land use and zoning regulations are administered and enforced by the Mayor and City Council. The proposed location of the new Waverly Shell Rock Elementary School is currently owned by the Waverly-Shell Rock School District and is zoned for commercial use.

#### **5.6.1 NO-ACTION**

The No-action Alternative would have no significant effect on land use and planning. This alternative would not involve any construction, improvements, or ground disturbance to the project.

#### **5.6.2 PROPOSED ACTION**

Land required for the Proposed Action would involve property already owned by the City of Waverly and would be located at a site that was previously used as the residential homes. Approximately 75 acres of land was purchased for use as the Waverly-Shell Rock Elementary School. The land is currently vacant and is zone commercial and agricultural.

### **5.7 NOISE**

The Noise Control Act was enacted in 1972 (P.L. 92-574). Inadequately controlled noise presents a growing danger to the health and welfare of the nation's population. The major sources of noise include transportation vehicles and equipment, machinery, appliances, other products in commerce, climate, and recreation. Sounds, which disrupt normal activities or otherwise diminish the quality of the environment, are designated as noise. Noise can be stationary or transient, intermittent or continuous.

#### **5.7.1 NO-ACTION**

The No-action Alternative would not affect noise levels within the project area or the surrounding community. No construction activities would occur with the selection of the No-action Alternative.

## 5.7.2 PROPOSED ACTION

The Proposed Action would increase the levels of noise in the vicinity of the project area during the construction of the Waverly Shell Rock Elementary School. The proposed project would require approximately 18 months of construction and the use of some heavy equipment. These noise levels would not be significant, as the increased level of sound would be similar to the increased construction activities occurring in the local area. No sensitive noise receptors are located near the project area. It is anticipated that all construction activities would occur during daylight hours. Based upon this information, there would be minimal impacts to noise due to the implementation of the Proposed Action.

## 5.8 SOCIOECONOMIC ISSUES

Waverly is a city in Bremer County, Iowa. The population was 8,968 at the 2000 census. It is the county seat of Bremer County and is part of the Waterloo- Cedar Falls Metropolitan Statistical Area. Waverly has one state highway; Iowa 3, entering the city from the east and west and one federal highway, Hwy 218 entering the city from the north and south. As of the census of 2000, there were 8,968 people, 3,238 households, and 2,143 families residing in the city. The population density was 803.4 people per square mile (310.3/km<sup>2</sup>). There were 3,394 housing units at an average density of 304.0/sq mi (117.4/km<sup>2</sup>). The racial makeup of the city was 97.11% WHITE, 1.05% AFRICAN AMERICAN, 0.11% NATIVE AMERICAN, 0.87% ASIAN, 0.01% PACIFIC ISLANDER, 0.12% from OTHER RACES, and 0.72% from two or more races. HISPANIC or LATINO of any race were 0.61% of the population.

There were 3,238 households out of which 30.6% had children under the age of 18 living with them, 57.1% were married couples living together, 6.8% had a female householder with no husband present, and 33.8% were non-families. 28.4% of all households were made up of individuals and 13.7% had someone living alone who was 65 years of age or older. The average household size was 2.36 and the average family size was 2.90.

In the city the population was spread out with 21.5% under the age of 18, 20.4% from 18 to 24, 21.5% from 25 to 44, 20.3% from 45 to 64, and 16.3% who were 65 years of age or older. The median age was 34 years. For every 100 females there were 88.2 males. For every 100 females age 18 and over, there were 82.4 males.

The median income for a household in the city was \$39,587, and the median income for a family was \$52,656. Males had a median income of \$36,369 versus \$22,031 for females. The per capita income for the city was \$18,285. About 2.1% of families and 6.3% of the population were below the POVERTY LINE, including 2.0% of those under age 18 and 5.8% of those ages 65 or over.

Table 5-2: Population Statistics 1980 through 2000

Jurisdiction	1980	1990	2000
Iowa	2,913,808	2,776,755	2,926,324
Bremer County	24,820	22,813	23,325
City of Waverly	8,444	8,539	8,968

### **5.8.1 NO-ACTION**

The No-action Alternative would have no impact to the socioeconomics of the local area because no construction activity would occur.

### **5.8.2 PROPOSED ACTION**

Activities associated with the implementation of the Proposed Action would be considered a positive impact with an influx of construction workers needed for the approximately 18 months of construction activities. Construction personnel would provide short-term benefits to the local businesses, which would include the purchase of food, gas, and other services. The Proposed Action will also complete a need service for the Waverly-Shell Rock students and the Waverly residents and businesses. The Proposed Action would not displace or adversely affect any nearby residents during the construction phase.

### **5.8.3 EXECUTIVE ORDER 12898, ENVIRONMENTAL JUSTICE**

On February 11, 1994, President Clinton signed Executive Order (EO) 12898, "*Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations.*" The EO directs Federal agencies to focus attention on human health and environmental conditions in minority and/or low-income communities. Its goals are to achieve environmental justice, fostering non-discrimination in Federal programs that substantially affect human health or the environment, and to give minority or low-income communities greater opportunities for public participation in and access to public information on matter relating to human health and the environment. Also identified and addressed, as appropriate, are disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations in the United States. Based on the findings in this EA, implementation of any of the proposed alternatives would have little likelihood of having disproportionate impacts on any low-income or minority groups. After construction, the improvements created by the proposed action would be beneficial and would not cause adverse environmental or economic impacts specific to any groups or individuals.

## **5.9 TRANSPORTATION**

Currently, the project site does not interfere with normal traffic circulation in the City of Waverly.

### **5.9.1 NO-ACTION**

With the No-action Alternative, the damaged Waverly Shell Rock Elementary School would not be repaired and there would be no impact to the existing traffic and circulation for the city of Waverly because there would not be any construction activities.

### **5.9.2 PROPOSED ACTION**

The construction of the Waverly Shell Rock Elementary School at the proposed site would temporarily disrupt the traffic flow on 16th SW during the approximately construction period. Local traffic would need to slow down or stop to accommodate equipment, such as bulldozers, backhoes, and graders, used during construction. Flagmen and possibly escort vehicles would be utilized to sustain traffic flow while maintaining safe working and traffic conditions. This activity would have a short-term effect on the level of service for the connecting roads during the construction period. This level of service would, however, be expected to return to normal at the completion of the project.

## **5.10 WATER RESOURCES**

The U.S. Army Corps of Engineers (USACE) is responsible for permitting and enforcement functions dealing with building in U.S. waters and discharging dredged or fill material into U.S. waters. USACE regulations for building or working in navigable waters of the United States are authorized by the Rivers and Harbors Act of 1899. These regulations often go hand in hand with Section 404 of the Clean Water Act, which establishes the USACE permit program for discharging dredged or fill material. The regulations are often used together because building in navigable waters of the United States also constitutes discharging dredged or fill material into water of the United States. In addition to regulating construction or work being done in navigable water of the United States, USACE regulates discharging into wetlands through the Section 404 permit program (see section 5.10.1, Wetlands).

### **5.10.1 WETLANDS**

The Clean Water Act, as amended in 1977, established the basic framework for regulating discharges of pollutants into the waters of the United States. The USACE regulates the discharge of dredged or filled material into waters of the U.S., including wetlands, pursuant to Section 404 of the Clean Water Act. Additionally, Executive Order (EO) 11990 (Protection of Wetlands) requires federal agencies to avoid, to the extent possible, adverse impact of wetlands.

#### **5.10.1.1 NO-ACTION**

The No-action Alternative would not affect wetlands. No construction activities would occur with the selection of the No-action Alternative.

#### **5.10.1.2 PROPOSED ACTION**

A review of the National Wetlands Inventory Map indicates no wetlands are located on or immediately adjacent to the proposed project site. A wetland delineation was conducted by the 1987 *Corps of Engineers Wetlands Delineation Manual*. The Corps manual requires the presence of all three parameters (greater than 50% dominance of hydrophytic vegetation, evidence of hydric soils, and presence of hydrologic indicators) for an area to be considered a wetland.

The Contractor would implement specific best management practices to reduce or eliminate runoff impacts during proposed construction activities of the Proposed Action and to reduce the potential for soil erosion after construction, regardless of whether a National Pollutant Discharge Elimination System (NPDES) Permit or a waiver from the permit requirement is secured (U.S. Department of Homeland Security, 2007). In addition, if required in consultation with the USACE a Section 404 permit would be obtained.

### **5.10.2 FLOODPLAINS**

EO 11988 (Floodplain Management) requires that a Federal agency avoid direct or indirect support of development within the 100-year floodplain whenever there is a practicable alternative. FEMA uses Flood Insurance Rate Maps (FIRMs) to identify the regulatory 100-year floodplain for the National Flood Insurance Program (NFIP). Bremer County, Iowa is a participant in the NFIP.

Consistent with EO 11988, FIRMs were examined during the preparation of this EA. Per Flood Insurance Rate Map 19017C0276D, dated 03/04/2008, the current school is located in Zone AE in the Floodway, Special Flood Hazard Area (SFHA) inundated by the 1% Annual Chance Flood, within

an area that includes the channel of a river or other watercourse; Base Flood Elevations (BFEs) determined.

The FIRMs for Iowa have been updated since the 1993 Flood Disaster to more accurately delineate flood zones – these FIRMS are preliminary and are currently under review by FEMA.

See FIGURE 3: Firm Map for existing and proposed Site for the Waverly-Shell Rock Elementary School

#### **5.10.2.2 NO ACTION**

Alternative is not a viable alternative for the Waverly Shell Rock Elementary School due to its location in Zone AE Floodway, Special Flood Hazard Area.

#### **5.10.2.2 PROPOSED ACTION**

The proposed new site is located in Zone X, areas of 0.2% annual chance areas of 0.1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

### **5.11 CUMULATIVE IMPACTS**

EO 11988 (Floodplain Management) requires that a Federal agency avoid direct or indirect support of development within the 100-year floodplain whenever there is a practicable alternative. FEMA uses Flood Insurance Rate Maps (FIRMs) to identify the regulatory 100-year floodplain for the National Flood Insurance Program (NFIP). Bremer County, Iowa is a participant in the NFIP.

The FIRMs for Iowa have been updated since the 1993 Flood Disaster to more accurately delineate flood zones – these FIRMS are preliminary and are currently under review by FEMA.

Consistent with EO 11988, FIRMs were examined during the preparation of this EA. Site information is as follows:

FIRM Panel # 1900730001C

Dated 07/16/1996,

Zone AE (1% Annual Chance Flood)

100-year floodplain, within an area that includes the channel of a river or other watercourse; Base Flood Elevations determined.

### **5.12 COORDINATION AND PERMITS**

Local agencies were contacted and consulted during the preparation of this EA. The following coordination and/or permits may be required before implementation of the alternatives identified below.

#### **5.12.1 NO-ACTION**

No-action Alternative is not a viable alternative for the Waverly Shell Rock Elementary School.

#### **5.12.2 PROPOSED ACTION**

1. In the event that threatened or endangered species are observed in the project area, the FEMA Regional Environmental Officer shall request a Section 7 consultation with the USFWS (Section 5.2.1.2, Protected Species and Habitats).
2. If cultural resources (particularly human remains) are unexpectedly discovered during construction, activities would cease in the immediate area and the Iowa State Historic Preservation Officer and the FEMA Regional Environmental Officer would be notified before work would continue (section 5.3.1.2, Cultural Resources).
3. Best management practices as recommended by the Iowa Department of Health would be implemented during and after construction to control erosion, with the selection of the Proposed Action (section 5.4.2, Geology and Soils).
4. A General NPDES Permit, or a waiver of the permit, could be required to be obtained from the Iowa Department of Health and Environment and if required in consultation with the USACE a Section 404 permit would be obtained.

# 6. PARTIES CONSULTED AND REFERENCES

## 6.1 PARTIES CONSULTED

### Waverly-Shell Rock School District

Jere Vyverburg

Superintendent

## 6.2 REFERENCES

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# 7. LIST OF PREPARERS

## 7.1 GOVERNMENT PREPARERS

Ken Sessa, Regional Environmental Officer, Federal Emergency Management Agency, Region VII  
Eric Wieland, Environmental Specialist, Federal Emergency Management Agency, Region VII

# APPENDIX

FIGURE 1: Site Plan for Proposed Waverly-Shell Rock Elementary School



**FIGURE 2: Soils Map for proposed Site for the Waverly-Shell Rock Elementary School**



Map Unit Symbol	Map Unit Name	Acres in Area of Interest	Percent of Area of Interest
83B	KENYON LOAM, 2 TO 5 PERCENT SLOPES	2.3	7.9%
84	CLYDE SILTY CLAY LOAM, 0 TO 3 PERCENT SLOPES	0.3	1.0%
178B	WAUKEE LOAM, 2 TO 5 PERCENT SLOPES, RARELY FLOODED	11.4	39.2%
377B	DINSDALE SILTY CLAY LOAM, 2 TO 5 PERCENT SLOPES	5.5	18.9%
1226	LAWLER LOAM, 0 TO 2 PERCENT SLOPES, RARELY FLOODED	9.6	33.0%
Totals for Area of Interest		29.1	100.0%

**FIGURE 3: Firm Map for existing and proposed Site for the Waverly-Shell Rock Elementary School**

