

Environmental Assessment
Winfield-Foley FPD Proposed Fire Station
Winfield, MO
EMW-2009-FC-02948R
February 2010



FEMA

FEMA Region VII
9221 Ward Parkway, Suite 300
Kansas City, MO 64114



ENVIRONMENTAL ASSESSMENT

**PROPOSED FIRE STATION
EMW-2009-FC-02948R
3931 EAST HIGHWAY 47
WINFIELD, MISSOURI**

For Submittal to:

**FEDERAL EMERGENCY MANAGEMENT AGENCY
U.S. DEPARTMENT OF HOMELAND SECURITY
9221 WARD PARKWAY, SUITE 300
KANSAS CITY, MISSOURI 64114**

Prepared for:

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**February 2010
Contract C-10009**

QUALITY ASSURANCE/QUALITY CONTROL

Project: **Environmental Assessment**
 Proposed Fire Station
 3931 East Highway 47
 Winfield, Missouri

Project No.: **Contract C-10009**

This report has been prepared on behalf of and for the exclusive use of Winfield-Foley Fire Protection District solely for the purpose of documenting the above-titled project. This report and all documents contained herein shall not, in whole or in part, be disseminated or conveyed to any other party, nor used by any other party in whole or in part, without written consent of NPN Environmental Engineers, Inc. and Winfield-Foley Fire Protection District. However, NPN Environmental acknowledges and agrees that the report being submitted to Federal Emergency Management Agency may be conveyed as public information.

As part of NPN Environmental's QA/QC practices and procedures, this report has been reviewed and approved by the following:

Project Manager:

_____ *Ruth C. Mannebach*

QA/QC Manager:

_____ *Kimberly A. Polacek*

It is the professional opinion of David B. Row, P.E., a Registered Professional Engineer licensed to practice in the State of Missouri, that good environmental engineering practices were employed on this project.

Name: David B. Rowe, P.E.
Title: Principal

Signature: _____

Date: _____

Missouri Registration Number
E-24039

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LIST OF ACRONYMS AND ABBREVIATIONS

CFR	Code of Federal Regulations
CWA	Clean Water Act
EA	Environmental Assessment
FEMA	Federal Emergency Management Agency
MDNR	Missouri Department of Natural Resources
NEPA	National Environmental Policy Act
NPDES	National Pollutant Discharge Elimination System
SHPO	State Historic Preservation Office
USACE	United States Army Corps of Engineers
USEPA	United States Environmental Protection Agency
USDA	United States Department of Agriculture
USFWS	United States Fish and Wildlife Service

INTRODUCTION

The Winfield-Foley Fire Protection District (FPD) serves the towns of Winfield, Foley, and surrounding areas in Lincoln County, Missouri. The district has four existing fire stations located throughout their geographic service area. The town of Winfield is considered a bedroom community of St. Louis, Missouri and has experienced significant population growth over the last decade. This new population growth, combined with a recent catastrophic flood in June 2008 which forced many residents living east of Winfield to evacuate, has resulted in a general population shift and new development of residences, commercial buildings, and schools to areas west of Winfield.

The existing fire station located at 195 East Walnut Street in the eastern part of Winfield and on the east side of a busy railroad line is proposed for replacement. The station is located within the flood plain and was significantly damaged during the 2008 flood. Although repairs were made and the station is functioning, it is a small 2-bay facility with low ceilings, which limits the size and type of fire apparatus that can be housed and does not contain living quarters. Expansion and upgrades to this station house are not possible due to physical site restrictions and FEMA flood plain management regulations. The lack of 24-hour staffing, inability to house modern apparatus, and increased response time due to population shifts has degraded the Winfield-Foley FPD's ability to respond not only locally, but as a mutual aid partner to neighboring communities.

The Winfield 20/20 Long Term Community Recovery Plan identified the need for a new station with appropriately placed apparatus as a top priority for the Winfield area. The project site acquired by the Winfield-Foley FPD for the proposed new fire station is consistent with these program priorities as well as long-term regional planning objectives and will significantly increase response capabilities to the community.

NEPA requires that Federal agencies consider the environmental consequences of proposed actions before deciding to fund an action. The intent of NEPA is to protect, restore, or enhance the environment through well-informed decision making. The Council on Environmental Quality was established under NEPA to implement and oversee Federal policy in this process and implemented the procedural provisions of NEPA codified at 40 CFR 1500-1508. An Environmental Assessment (EA) related to a FEMA program must be prepared according to the requirements of the Stafford Act and 44 CFR Part 10. This EA has been prepared to evaluate the potential effects to the natural and human environment from relocation and construction of a new fire station.

PURPOSE AND NEED

This EA provides information to support the Department of Homeland Security's Assistance to Firefighters Fire Station Construction Grants process. The purpose of the proposed action is to provide funding for construction of a new fire station under the

American Recovery and Reinvestment Act to the Fire Station Construction Grant program.

The Winfield-Foley FPD proposed fire station is needed to provide effective and timely fire protection and emergency services to an area that has experienced rapid growth of commercial and residential properties and population. The proposed fire station will replace an existing station that is obsolete in function due to location, age, and configuration and unsafe and uninhabitable due to prior flood damage. Critical flaws of the existing station cannot feasibly be corrected due to physical property constraints and FEMA flood plain management regulations. The proposed new station will significantly reduce overall distance and response time to a growing community as well as enhance the FPD's ability to respond to crises involving critical infrastructure in the district including the railway, Mississippi Lock and Dam 25, petroleum pipelines, and levees by allowing consolidation of critical apparatus including the district's only ladder truck and rescue boat.

ALTERNATIVES

NEPA requires the investigation and evaluation of reasonable project alternatives, including impacts to the natural and human environment as part of the planning process. This EA addresses two alternatives, the No Action alternative and the Proposed Action. Prior to selecting and acquiring the property for the Proposed Action, the Winfield-Foley FPD considered two other alternative locations which were ultimately dismissed.

No Action Alternative

The No Action alternative would result in no construction of a new fire station on the west side of Winfield and continued reliance on the existing station. This action would leave emergency response times to this area of the community unchanged and likely to increase with future population growth and development. Past risk evaluations conducted by the Winfield-Foley FPD indicate this area of Winfield is underserved by the location of the present fire station. The No Action alternative would result in lower level of overall public safety than the proposed alternative.

Proposed Action

The Proposed Action would result in construction of a new fire station on property currently owned by the Winfield-Foley FPD at 3931 East Highway 47, within the city limits of Winfield, Missouri, as shown on *Figure 1 – Vicinity Map* in *Appendix A – Figures*. The preliminary design calls for an approximately 7600 square foot fire station with 3 drive-through vehicle bays and 1 back-in bay (*Appendix B – Draft Facility Layout*). An equipment and gear storage room and decontamination area will be located in the bay area, and vehicle exhaust will be vented to the outdoors with a NFPA 1500 compliant exhaust extraction system. The living quarters will include a kitchen, day room, restrooms, bedrooms, fitness center, mechanical room, and utility room. A training

room will also be provided and during times of disaster, may be used as an Emergency Operations Center. A final design has not been completed; however, the building will incorporate "green design" features. All utilities are currently available to the site and the building will be tied into existing city water and sewer and the local electric utility. A backup generator system will also be installed to support building functions during power outages. All necessary building permits have been obtained from the City of Winfield.

Photographs of the subject property and adjacent properties taken on January 25, 2010 are included in *Appendix C – Site Photographs*.

Alternatives Considered and Dismissed

The Winfield-Foley FPD has been considering and exploring options for funding a new fire station since 1993; however, due to budget constraints and limited alternate sources of funding, these efforts have not progressed. In spring 2009, the FEMA Long Term Community Recovery Program selected Winfield, Missouri to assist in developing a vision plan. The Winfield 20/20 plan identified a new fire house as a top priority. In reaching this goal, the Winfield-Foley FPD considered several properties in the Winfield area before purchasing the parcel at 3931 East Highway 47. Chief Bill Byram indicated adjacent vacant property to the west and a vacant parcel further west on Highway 47 were considered. The adjacent parcel was determined to have potential drainage issues and a suitable price was unable to be agreed upon with the owner of the other parcel. For these reasons, the alternative parcels were dismissed from consideration.

AFFECTED ENVIRONMENT AND POTENTIAL IMPACTS

The City of Winfield is a small community in Lincoln County located in the east-central portion of Missouri. The city (located at the junction of State Highway 47 and State Highway 79) has a total land area of 0.6 square miles. The 2000 United States Census Bureau population included 723 people with 319 housing units; however, significant population growth has recently occurred, with an estimated 2008 population of 1138 people. Much of this expansion has taken place on the west side of the city, with several large residential subdivisions, commercial establishments, and schools being constructed within the past decade.

The proposed Winfield-Foley fire station will be located on a 2.88-acre parcel of vacant ground within the city limits, as shown on *Figure 2 – 2007 Aerial Photograph*. The ground is prior farmland that lies in a commercial corridor bounded to the north by Eagle Bluff Estates subdivision (single-family residential) and to the south by State Highway 47 and the Winfield R-IV School District High School. Commercial parcels adjacent to the west and east of the project site are currently undeveloped; however, a grocery store/strip shopping plaza and bank are located nearby.

This section discusses the existing environmental conditions at the proposed project site including descriptions of the physical, biological, and socioeconomic resources throughout the general area and the proposed action site. The characterization of existing conditions provides a baseline for assessing the potential environmental impacts from activities associated with the proposed action.

Physical Resources

The elevation of the subject property is approximately 530 feet above mean sea level, as depicted on the *1972 Mary Knoll, MO.* and *1996 Winfield, MO. USGS 7.5 minute Quadrangle Maps.* The subject site and surrounding properties slope gently to the north. Stormwater flow is routed over land by sheet flow to a stormwater detention basin on adjacent property to the east. A copy of this map (*Figure 1*) is included at the end of the text.

Geology and Soils

The general stratigraphy of the subject site is characterized by the Meramecian Series of the Mississippian System in the Paleozoic Era, which contains three formations consisting mainly of limestone and some dolomite: Warsaw, Salem, and St. Louis. The Warsaw Formation (ranging in thickness from 40 to 100 feet) is composed of fine-to-coarse crystalline, fossiliferous limestone that may contain geodes. The Salem Formation (ranging in thickness from 100 to 160 feet) has two sections. The lower section is composed of light gray-to-white, fossiliferous, argillaceous, oolitic limestone. The upper section contains blue-gray, argillaceous, oolitic, dolomitic limestone with an abundance of speckled gray and tan chert. The St. Louis Formation (ranging in thickness from 0 to 100 feet) is composed of gray, lithographic-to-fine crystalline, medium to massively bedded limestone.

The subject site is located on Menfro silt loam (7B) with 2 to 5 percent slopes. Menfro silt loam (7B) is a gently sloping, well drained soil found on high loess-covered terraces and ridgetops. Individual areas are irregular in shape and range in size from 10 to 40 acres. Typically, the surface layer is dark brown silt loam about 10 inches thick. The subsurface layer is brown silt loam approximately 5 inches thick. The subsoil extends to a depth of about 45 inches. The upper part is brown silt loam and the lower part dark yellowish-brown and yellowish-brown silty clay loam. In some areas on the lower side slopes, gray mottles are in the lower part of the subsoil. Permeability of this soil complex is moderate and surface runoff is medium to very rapid. Natural fertility of the soil is medium, organic matter content is moderately low, and available water capacity is high. The Menfro silt loam is classified as prime farmland.

In accordance with Section 1541 of the Farmland Protection Policy Act, the proposed alternative was reviewed for impacts to prime farmland. Mr. Dave Skaer (Soil Scientist, USDA, Natural Resources Conservation Service) completed a Farmland Conversion Impact Rating (Form AD-1006) to determine the current value of the proposed project

site as farm ground (*Appendix D – Agency Consultation Correspondence*). The total points assigned the subject property was 90 out of a possible 260. Per 7 CFR 658.4, sites receiving a total score of less than 160 need not be given further consideration for protection and no additional sites need to be evaluated. Based on the Farmland Conversion Impact Rating, the proposed alternative will not impact prime farmland.

The proposed action will not significantly impact geology or soils at the site. All construction activity will incorporate practices to minimize soil erosion during the construction phase, including the use of best management practices such as installation of silt fencing and straw bales and proper staging of construction equipment. Following completion of the construction phase, the site will be landscaped with decorative and cover vegetation, reducing the potential for soil erosion.

Geology and soils will not be impacted by the No Action alternative as no construction activities would occur.

Air Quality

The USEPA is required under the Clean Air Act to set National Ambient Air Quality Standards for pollutants harmful to public health and the environment. Primary standards protective of human health and secondary standards protective of public welfare have been established for ozone (O₃), carbon monoxide (CO), nitrogen dioxide (NO₂), sulfur dioxide (SO₂), lead (Pb), particulate matter with a diameter of 10 microns or less (PM₁₀), and particulate matter with a diameter of 2.5 microns or less (PM_{2.5}).

MDNR operates an air quality monitoring station for ozone in Foley, Missouri approximately 4 miles north of the project site. Currently, the City of Winfield and Lincoln County, Missouri are considered an attainment area for the criteria pollutants listed above and air quality at the project site and surrounding area currently complies with Federal and Missouri air quality standards.

The proposed action will require short-term construction activities including soil excavation and grading, cutting and filling, and soil placement. Heavy equipment including bulldozers, graders, and backhoes will be used during construction. These activities are likely to create fugitive dust; however, best management practices would be used to minimize dust and construction would be completed within a year. Once construction is complete and the facility is operational, the only anticipated source of air emissions would be from vehicle exhaust. As the proposed project is for construction of a new fire station and does not include acquisition of new vehicles or apparatus, no net increase of emissions over current local levels would occur.

Air quality will not be impacted by the No Action alternative as no construction activities would take place and no air emissions would occur.

Water Resources

The USACE is responsible for administration of functions regarding navigable waters and wetlands of the United States under the Rivers and Harbors Act of 1899 and Section 404 of the CWA.

A site reconnaissance conducted on January 25, 2010 did not observe any natural surface water bodies (rivers, creeks, ponds, or wetlands) on or adjacent to the project location. The Menfro silt loam present at the property is characterized as a well drained soil and is not classified by the USDA as a hydric soil, one of the three criteria required for determining the presence of wetlands. Therefore, the site does not contain waters of the United States.

A constructed stormwater detention basin located on adjacent property to the east of the proposed project site collects stormwater runoff from the proposed project site and adjacent commercially-zoned parcels along East Highway 47. A stormwater inlet structure tied to the detention basin is located on the northeast corner of the project site and provides local stormwater drainage from the property.

Water Quality

Disturbance of soils at the project site during construction activity could result in erosion and runoff, which in turn could impact local surface water quality.

To minimize erosion and stormwater runoff during construction, a General NPDES Permit for construction activities (or waiver of the permit) will be required by MDNR. The General NPDES Permit is obtained by submitting a Notice of Intent for coverage to MDNR and developing a Storm Water Pollution Prevention Plan implementing best management practices to reduce or eliminate runoff impacts during construction. The Winfield-Foley FPD will complete these activities during the engineering and design phase of the construction project.

During construction of the proposed action, best management practices will be utilized to minimize water quality impacts from site activities. Following construction, the site will be landscaped and vegetated to reduce the potential for soil erosion. The proposed action will have no significant impacts on water quality of waters of the United States and no Section 404 permitting will be required.

Water quality will not be impacted by the No Action alternative as no construction activities would take place.

Wetlands

Lands subject to regulation as wetlands under Section 404 of the CWA (jurisdictional wetlands) are defined as: "Those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions." Typically, lands that exhibit characteristics of hydrology, support predominantly hydrophytic vegetation, and have a substrate that is predominantly undrained hydric soil are classified as jurisdictional wetlands. The USACE is responsible for administration of Section 404 and the issuance of permits for disturbance of wetlands, including discharge of dredged and fill material. Under Executive Order 11990, Protection of Wetlands, Federal agencies are required to take action to minimize the destruction or modification of wetlands.

The project site is located on Menfro silt loam, which is characterized as a well drained, non-hydric soil. A wetlands map for the subject property prepared by the USFWS on-line map service was reviewed (*Appendix E – Additional Documentation*). No designated wetlands were identified on or adjacent to the subject property. In addition, no areas containing wetland characteristics were observed on or adjacent to the subject property during the site investigation; therefore, the proposed action would have no impacts to wetlands.

Wetlands will not be impacted by the No Action alternative as no construction activities would take place.

Floodplains

Floodplains provide numerous beneficial environmental functions including flood abatement, stream flow mediation, filtering, and water quality enhancement. Federal agencies are required to minimize the occupancy and modification of floodplains under Executive Order 11988, Floodplain Management. Under this order, construction within the 100-year floodplain (500-year floodplain for critical facilities) is prohibited from receiving Federal funding unless there are no practical alternatives.

According to FEMA Flood Insurance Rate Map Community Panel 2908690145C, the project site is located in an area classified as Zone X, outside defined floodplains (*Appendix E*). As such, the proposed action would not have an impact on floodplains.

Under the No Action alternative, construction activities would not take place and there would be no potential impacts to wetlands.

Biological Resources

Under the Endangered Species Act of 1973, Federal agencies must review proposed actions to ensure they are not likely to jeopardize the continued existence of a listed species or to destroy or adversely modify its critical habitat.

Threatened/Endangered Species and Critical Habitat

The USFWS lists the following four species in Lincoln County, Missouri:

- Indiana bat (endangered) – caves/mines, small stream corridors with well developed riparian woods, upland forests
- Running buffalo clover (endangered) – disturbed bottomland meadow
- Decurrent false aster (threatened) – disturbed alluvial soils
- Spectaclecase (candidate) – Mississippi River

A Heritage Review Report of Federal and State listed species and critical habitats was requested from the Missouri Department of Conservation Policy Coordination Unit. The Heritage Review Report indicated no wildlife preserves, no designated wilderness areas or critical habitats, and no Federal or State endangered list species are located within two miles of the site or within five miles downstream on streams draining the project site.

The USFWS was also contacted for review of the proposed action. The USFWS reviewed the proposed action and determined that no Federally listed species, candidate species, or designated critical habitat occurs within the project area. Furthermore, the USFWS determined the proposed action will have negligible impacts on wetlands, migratory birds, and other priority fish and wildlife resources. Agency correspondence is included in *Appendix D*.

Based on agency correspondence, construction of the proposed action will have no adverse affect on Federal or state-listed threatened or endangered species or critical habitat.

Under the No Action alternative, construction activities would not take place and there would be no potential impacts to biological resources.

Wildlife and Fish

The project site is a 2.88-acre upland lot located between East Highway 47 and a residential subdivision. The site is vegetated with herbaceous ground cover and has been historically disturbed by adjacent construction activities (including a gravel construction haul road on the west side of the site). No habitats conducive to wildlife are present at the site and any wildlife using or crossing the property would be transitory in nature. There are no surface water bodies present so no fish are located on the site. Thus, the proposed action will have no adverse affect on wildlife or fish.

Under the No Action alternative, construction activities would not take place and there would be no potential impacts to wildlife or fish.

Cultural Resources

Under Section 106 of the National Historic Preservation Act, Federal agencies must consider the potential effects of their actions on historical properties and cultural resources and consult with the MDNR SHPO to resolve any effects.

Historic Properties

NPN Environmental submitted a Section 106 Project Information Form to the MDNR SHPO to initiate review of the proposed action. In a Cultural Resource Assessment dated February 3, 2010, Mr. Mark Miles (Deputy State Historic Preservation Officer) determined that adequate documentation has been provided and there will be "no historic properties affected" by the current project. Agency correspondence is included in *Appendix D*.

Based on the MDNR SHPO review, the proposed action will have no adverse effect on cultural or historic resources. Should any evidence of cultural resources (artifacts or human remains) be discovered during construction activities, work would cease and the MDNR SHPO would be notified.

Historic properties will not be impacted by the No Action alternative as no construction activities would take place.

American Indian Cultural/Religious Sites

The State of Missouri does not have a separate Tribal Historic Preservation Officer authorized by the National Park Service. Review of American Indian cultural and religious sites in Missouri is under the purview of the MDNR SHPO.

Based on the MDNR SHPO review, the proposed action will have no adverse effect on cultural or historic resources. Should any evidence of cultural resources (artifacts or human remains) be discovered during construction activities, work would cease and the MDNR SHPO would be notified.

Historic properties will not be impacted by the No Action alternative as no construction activities would take place.

Socioeconomic Resources

The 2000 census indicates the population of Winfield consisted of 98.62% white, 0.14% African American, 0.28% Native American, 0.41% Asian, and 0.55% from two or more races. Hispanic or Latino of any race was 0.28% of the population. The median income

for a household in the city was \$36,167 and the median income for a family was \$45,536. About 10.0% of families and 15.8% of the population were below the poverty line, including 19.0% of those under age 18 and 13.5% of those aged 65 or over.

Environmental Justice

Executive Order 12898 requires that Federal agencies focus on achieving environmental justice by identifying and addressing, as appropriate, 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 discussions with the Winfield-Foley FPD, the proposed action will result in significant upgrades to and enhancement of the district's ability to respond quickly and effectively to all residents and establishments of the community of Winfield, as well as providing mutual aid to neighboring districts. As such, the proposed action will have no adverse effect on environmental justice.

Under the No Action alternative, construction activities would not take place, eliminating the potential for positive socioeconomic benefits to the community.

Noise

The Noise Control Act (NCA) of 1972 provides federal regulation of noise, which is defined as undesirable sound. The NCA gives the USEPA authority to establish guidelines for acceptable ambient noise levels. Under USEPA guidelines, outdoor sound levels in excess of 55 decibels (dB) are considered "normally unacceptable" for noise-sensitive land uses such as residences, schools, and hospitals.

The project site is located in the Highway 47 corridor zoned for commercial development and is bordered by single-family residences to the north and a public high school to the south. Temporary short-term impacts due to noise are anticipated during the construction period. To reduce noise levels during this period, construction activities will take place during normal daylight business hours.

The proposed action will introduce long-term operational impacts to adjacent residences and school. Fire equipment and station alarms during an emergency can range from approximately 95 to 120 dB. This intermittent elevated noise would be above acceptable levels but would only be sustained for extremely short durations. This impact cannot be mitigated due to NFPA 1901 and State Fire Marshal requirements for minimum sound-warning requirements for fire equipment when responding to an emergency.

Under the No Action alternative, short-term construction activities and long-term use of alarms would not take place and noise impacts would not occur.

Traffic

The proposed action is located in an area along the Highway 47 corridor zoned for commercial development. Development of the project site with the new fire station would be compatible with this zoning classification. The Missouri Department of Transportation's (MDOT) 2008 average annual daily traffic volume on this stretch of Highway 47 is 7346 vehicles.

The new fire station will be located at 3931 East Highway 47 and would not adversely affect average daily traffic volume on adjacent roads or general area traffic and circulation. The new fire station would result in short-term, intermittent effects to traffic on Highway 47 during fire response actions. MDOT was contacted regarding State requirements for emergency vehicle access. Mr. Brian Untiedt (District Engineer) indicated MDOT guidelines state consideration may be given to establishment of emergency signals but they are not required. He stated MDOT will install standard emergency vehicle warning signs after the facility is constructed but based on low traffic volumes and excellent visibility conditions in the vicinity of the proposed fire station, no other warning devices or traffic signals are recommended by MDOT.

Under the No Action alternative, no impacts to traffic flow would occur.

Public Service and Utilities

The project site is located within a highway corridor zoned for commercial development. All utilities (electric, telephone, water, and sewer) run along Highway 47 and are available to the site. A limited amount of trenching and installation of underground lines and connections to the utilities will be required. The proposed action will place an additional, limited demand on utilities in the area; however, the utility infrastructure has been designed to accommodate the planned commercial development of the area.

The No Action alternative would result in no construction activities and would not impact local utilities.

Cumulative Impacts

Cumulative impacts represent the impact on either the natural or human environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions.

The proposed alternative would occur on a project site located in an area planned and zoned for increasing commercial development. Recent construction in this corridor includes a bank, grocery store with strip shopping, and school. Construction of the new fire station represents the replacement of an existing, obsolete fire station and would not introduce an additional facility to the area that would potentially result in an increase in cumulative impacts. The new fire station design will incorporate "green building"

features that meet stringent environmental standards and energy efficiencies that will lower the overall impact of the new building on the environment.

Under the No Action alternative, no new construction would occur and there would be no net increase in cumulative impacts to the Winfield area.

SUMMARY OF IMPACTS

Table 1 – Summary of Affected Environments and Impacts summarizes the potential impacts of the proposed project and, where appropriate, mitigation measures to minimize the impacts. Further discussion of the affected environment is provided in sections following the table.

Table 1 – Summary of Affected Environments and Impacts

Affected Environment	Impacts from Proposed Action	Mitigation
Geology and Soils	Disturbance of shallow soils during construction activities	Implement stormwater best management practices during construction to minimize erosion; landscape after construction to prevent erosion
Air Quality	Minor and temporary impacts from construction vehicle exhaust and fugitive dust during construction activities	Air pollution will be minimized through proper equipment maintenance and dust suppression techniques.
Water Quality	Minor and temporary impacts from soil disturbance (erosion and runoff) during construction activities	Obtain general permit from MDNR for land disturbing activities, implement stormwater best management practices during construction to minimize erosion, and landscape after construction to prevent erosion
Wetlands	The proposed action would not impact waters of the United States or wetlands.	Not applicable
Floodplains	The proposed action is not located in a floodplain.	Not applicable
Threatened/Endangered Species	No threatened or endangered species or critical habitats are located near the proposed action.	Not applicable
Wildlife and Fish	No critical habitats or surface water bodies are located near the proposed action.	Not applicable

Table 1 – Summary of Affected Environments and Impacts (cont.)

Affected Environment	Impacts from Proposed Action	Mitigation
Cultural Resources	Coordination with SHPO concluded there will be no historic properties affected by the proposed action.	Not applicable
Environmental Justice	The proposed action would benefit all citizens equally.	Not applicable
Noise	Short-term construction noise impacts and intermittent long-term impact from emergency equipment sirens	Construction activities will be restricted to normal daylight hours and equipment properly maintained. Mitigation not possible for emergency equipment sirens.
Traffic	Intermittent increase of emergency equipment on State Highway 47	Emergency vehicle warning signs will be installed by MDOT.
Public Service and Utilities	The proposed action will not place significant demands on in place utility infrastructure.	Not applicable
Cumulative Impacts	The new fire station will be constructed on commercially zoned property and will incorporate energy efficient design.	Not applicable

PUBLIC INVOLVEMENT

The availability of this EA will be advertised by public notice in the Lincoln County Journal and Troy Free Press newspaper. Copies of the EA will be placed at the Winfield-Foley FPD's main office at 2663 East Highway 47 in Winfield and the Powell Memorial Library at 951 West College Street, Troy, Missouri. The public comment period will extend for a period of 30 days. The EA can also be viewed and downloaded from FEMA's website at <http://www.fema.gov/plan/ehp/envdocuments/index.shtm>. If no substantive comments are received, the EA will become final and the initial public notice will also serve as the final public notice. The EA will then be archived on FEMA's website at <http://www.fema.gov/plan/ehp/envdocuments/archives-index.shtm>.

MITIGATION MEASURES AND PERMITS

Construction of the new fire station will be completed in general accordance with the following mitigation measures to lessen impacts to the local community.

During construction, the applicant will water down construction areas as necessary to prevent fugitive dust emissions that would impact local air quality. Additionally, construction equipment will be operated with factory-equipped vehicle emissions controls.

Prior to construction, a General NPDES Permit for construction activities (or waiver of the permit) will be required by MDNR. Submittal of a Notice of Intent for coverage under the general permit and development of a Storm Water Pollution Prevention Plan implementing best management practices to reduce or eliminate runoff impacts during construction will be completed during the engineering and design phase of the construction project. Following construction, the site will be landscaped and vegetated to reduce the potential for soil erosion.

Construction noise will be temporary and will be mitigated by limiting construction to normal daylight hours. Construction equipment will be operated with factory-equipped vehicle emissions controls including mufflers.

Permits required for the proposed project site will include a building permit issued by the City of Winfield, Missouri.

AGENCY COORDINATION AND REFERENCES

Mr. Kevin Story
Archimages, Inc.
143 West Clinton Place
St. Louis, MO 63122

DigitalGlobe Imagery
2007 Aerial Photograph

Federal Emergency Management Agency
Flood Insurance Rate Map Online Mapping Service
<http://msc.fema.gov/>

Lincoln County, MO
Online GIS Mapping Service
<http://www.lincolncomogis.com/lincoln/>

Policy Coordination Section
Missouri Department of Conservation
PO Box 180
Jefferson City, MO 65102-0180
Heritage Review Report

Missouri Department of Natural Resources
State Historic Preservation Office
Section 106 Review
PO Box 176
Jefferson City, MO 65102-0176
Cultural Resource Assessment, Section 106 Review

Ms. Phyllis Halley
Missouri Department of Transportation
Troy Area Engineers Office
636-528-3163

Mr. Brian Untiedt
Missouri Department of Transportation
District 3 Traffic Engineers Office
573-248-6284

Missouri Department of Transportation
District 3 Traffic Volume and Commercial Vehicle Count Map
2008

Missouri Geological Survey
Geologic Map of Missouri
2003
United States Census Bureau
<http://www.census.gov>

Mr. Dave Skaer
Dave.Skaer@mo.usda.gov
United States Department of Agriculture
Hillsboro Regional Office
Form AD-1006, Farmland Conversion Impact Rating

United States Department of Agriculture
Soil Conservation Service
Soil Survey of Lincoln County, Missouri
March 1990

United States Department of the Interior Geological Survey
Topographic Maps
Mary Knoll, MO. USGS 7.5 minute Quadrangle
1972
Winfield, MO. USGS 7.5 minute Quadrangle
1996

Mr. Charles Scott
United States Department of the Interior
Fish and Wildlife Service
Columbia Ecological Services Office
101 Park DeVille Drive, Suite A
Columbia, MO 65203

United States Department of the Interior
Fish and Wildlife Service
National Wetlands Inventory Online Mapper
<http://wetlandsfws.er.usgs.gov/wtlnds/launch.html>

United States Department of the Interior
Fish and Wildlife Service
State and County Distribution Lists
http://www.fws.gov/midwest/angered/lists/cty_indx.html#missouri

Chief Bill Byram
Winfield-Foley Fire Protection District
PO Box 118
Winfield, MO 63389
636-566-8406

LIST OF PREPARERS

Those responsible for preparation of this document include:

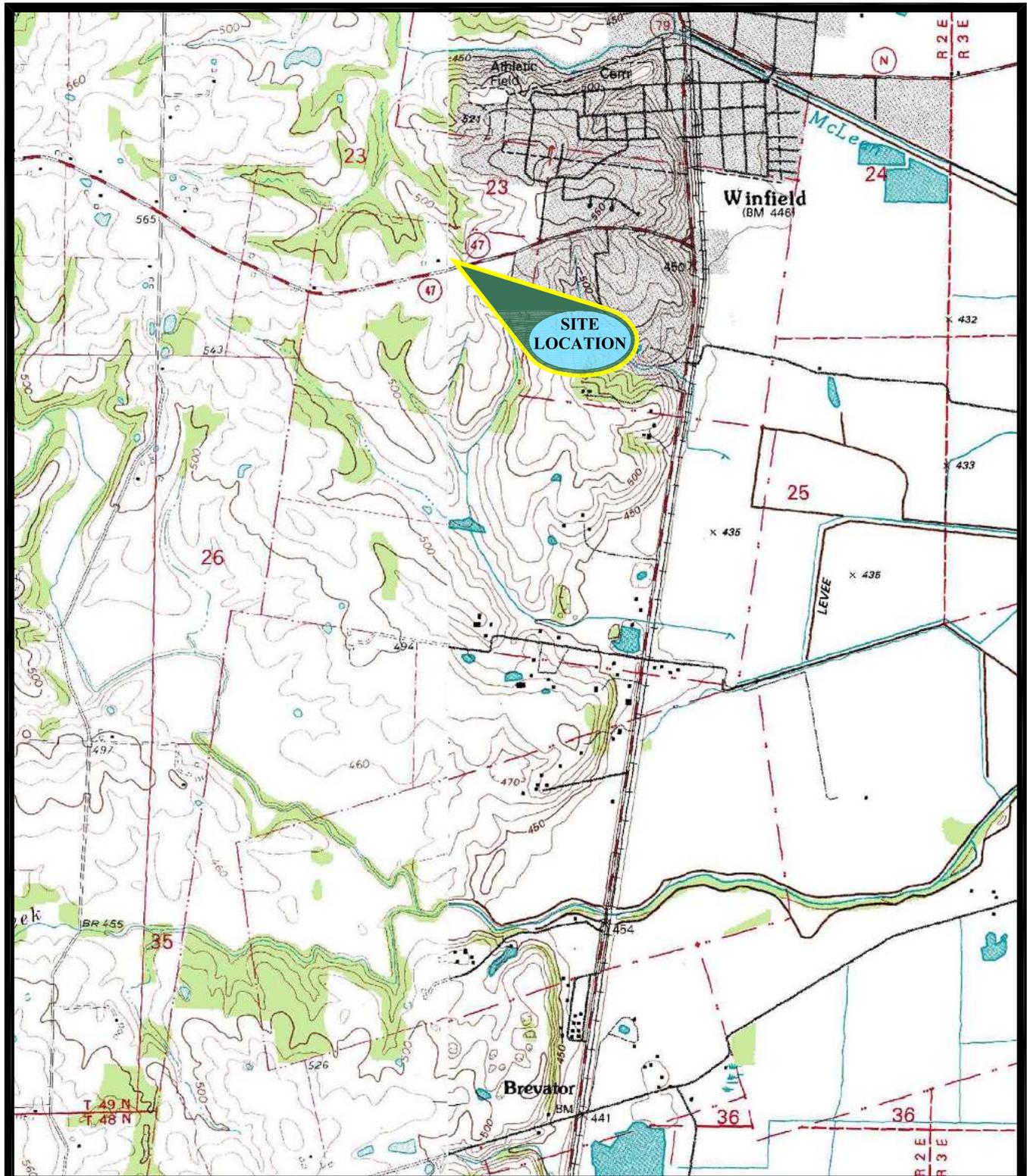
Ruth C. Mannebach, Senior Environmental Scientist
NPN Environmental Engineers, Inc.

Bill Byram, Chief/Fire Marshal
Winfield-Foley Fire Protection District

Ruth C. Mannebach was the principal preparer of this document, in consultation with Mr. Bill Byram as well as the other individuals and agencies identified in this document.

APPENDIX A

Figures



*Adapted from Mary Knoll & Winfield, MO.
USGS 7.5 minute Quadrangle Maps
1972 & 1996*

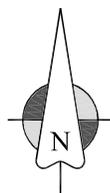
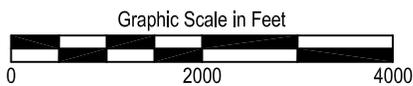
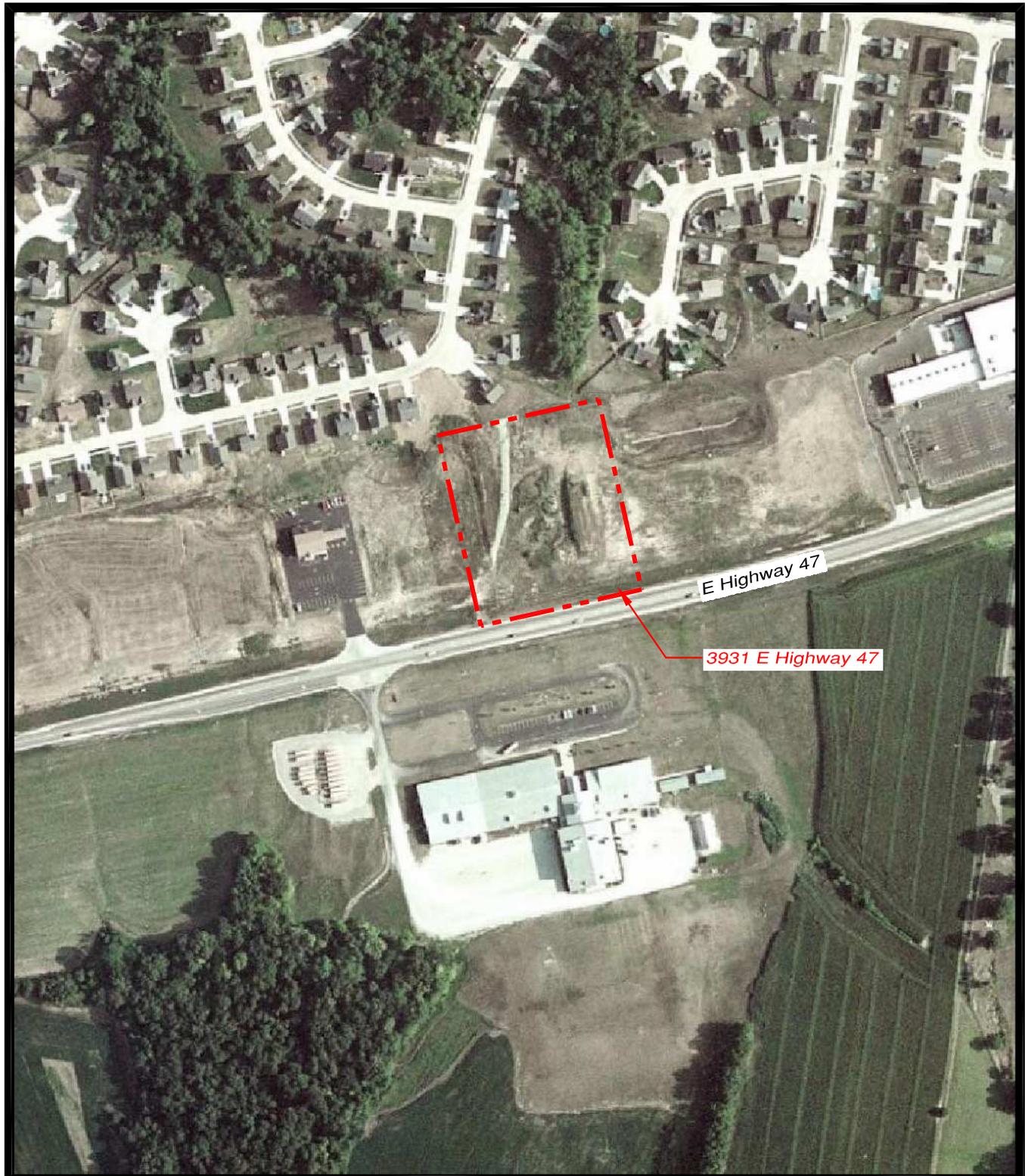


FIGURE 1
Vicinity Map

3931 E Highway 47 - Winfield, MO

Project No. C-10009	Date Feb. 2010	Scale AS SHOWN	Drawn By: SRR	Checked By:
------------------------	-------------------	-------------------	------------------	-------------



*Adapted from DigitalGlobe Imagery
2007 Aerial Photograph*

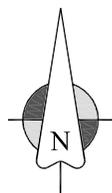


FIGURE 2
2007 Aerial Photograph

3931 E Highway 47 - Winfield, MO

Project No. C-10009	Date Feb. 2010	Scale AS SHOWN	Drawn By: SRR	Checked By:
------------------------	-------------------	-------------------	------------------	-------------

APPENDIX B

Draft Facility Layout

APPENDIX C

Site Photographs

Photo No: 1	Date: 1-25-10
Viewing Angle: North	
Description: Project site (grassy field)	



Photo No: 2	Date: 1-25-10
Viewing Angle: East	
Description: Project site (grassy field)	



Photo No: 3	Date: 1-25-10
Viewing Angle: South	
Description: Project site (grassy field)	



Photo No: 4	Date: 1-25-10
Viewing Angle: West	
Description: Project site (grassy field)	



Photo No: 5	Date: 1-25-10
Viewing Angle: North	
Description: Single-family residences adjacent to north	



Photo No: 6	Date: 1-25-10
Viewing Angle: East	
Description: Vacant, grassy lots and grocery store adjacent to east	



Photo No: 7	Date: 1-25-10
Viewing Angle: South	
Description: East Highway 47 and high school adjacent to south	

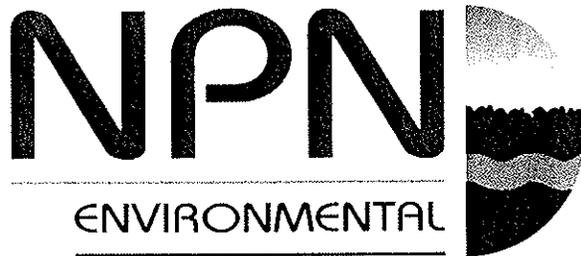


Photo No: 8	Date: 1-25-10
Viewing Angle: West	
Description: Vacant, grassy lot and Peoples Bank adjacent to west	



APPENDIX D

Agency Consultation Correspondence



January 26, 2010
Contract C-10009

VIA CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Policy Coordination Section
Missouri Department of Conservation
P.O. Box 180
Jefferson City, MO 65102-0180

RE: Request for Information
3931 East Highway 47
Winfield, MO 63389
Latitude 38.9906, Longitude -90.7500

Winfield Foley Fire Protection District has retained NPN Environmental to prepare an Environmental Assessment in accordance with the Federal Emergency Management Agency (FEMA) regulations at 44 CFR Part 10 and Council on Environmental Quality Regulations at 40 CFT Part 1500-1508. As part of the Environmental Assessment for the above-referenced site, the following information is requested:

- Rare, threatened, or endangered species on or within one-half mile radius of site
- Commercially or recreationally important flora or fauna on or within one-half mile radius of site
- Wilderness, natural areas, critical habitat, preserves and forests, wildlife refuges, terrestrial breeding areas, and wildlife or game management areas on or within one-half mile radius of the site

The 2.9-acre project site is currently a vacant and undeveloped, formerly agricultural site as shown on *Figure 1 – Vicinity Map* and *Figure 2 – 2007 Aerial Photograph*. The Winfield Foley Fire Protection District proposes to construct a new fire station and associated paved parking and driveways on the project site.

Missouri Department of Conservation
January 26, 2010
Page 2 of 2

Thank you for your prompt consideration of our request. If you have any questions or require additional information, please contact me at 636-343-1300.

Sincerely,



Ruth C. Mannebach
Senior Environmental Scientist

Enclosures Figure 1 – Vicinity Map
 Figure 2 – 2007 Aerial Photograph



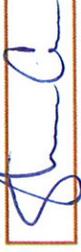
Missouri Department of Conservation Heritage Review Report

February 2, 2010 -- Page 1 of 2

Policy Coordination Unit
P. O. Box 180
Jefferson City, MO 65102
Prepared by: Shannon Cave
shannon.cave@mdc.mo.gov
573-522-4115X3250

Ms. Ruth C. Mannebach NPN Environmental 1631 Headland Drive St. Louis, MO 63026	<p>Project type: Site development and building</p> <p>Location/Scope: Winfield, 38.9906°N 90.7500°W</p> <p>County: Lincoln</p> <p>Query reference: 3931 East Highway 47</p> <p>Query received: February 1, 2010</p>
--	--

This NATURAL HERITAGE REVIEW is not a site clearance letter. Rather, it identifies public lands and sensitive resources known to have been located close to and/or potentially affected by the proposed project. On-site verification is the responsibility of the project. Heritage records were identified at some date and location. This report considers records near but not necessarily at the project site. Animals move and, over time, so do plant communities. To say "there is a record" does not mean the species/habitat is still there. To say that "there is no record" does not mean a protected species will not be encountered. These records only provide one reference and other information (e.g. wetland or soils maps, on-site inspections or surveys) should be considered. Look for additional information about the biological and habitat needs of records listed in order to avoid or minimize impacts. More information may be found at www.mdc.mo.gov/nathis/landangered/ and [mfdc4.mdc.mo.gov/applications/mofwis/mofwis_search1.aspx](http://www.mdc.mo.gov/applications/mofwis/mofwis_search1.aspx). Contact information for the department's Natural History Biologist is online at <http://www.mdc.mo.gov/nathis/contacts/>.

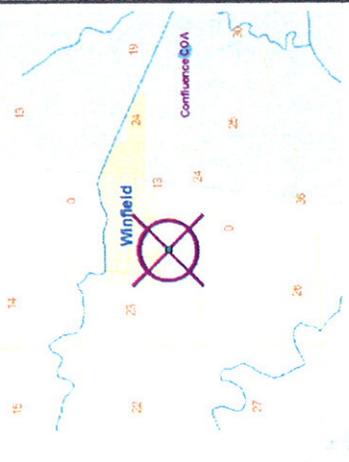


2-2-10

Level 3 (federal-listed) and Level 2 (state listed) issues: Records of listed species or critical habitats:

Heritage records identify no wildlife preserves, no designated wilderness areas or critical habitats, no state or federal endangered-list species records within two miles of the site or within five miles downstream on streams draining the project site.

The project should be managed to minimize erosion and sedimentation/runoff to nearby streams and lakes, including adherence to any "Clean Water Permit" conditions. Revegetate areas in which the natural cover is disturbed to minimize erosion using native plant species compatible with the local landscape and wildlife needs. Pollutants, including sediment, can have significant impacts far downstream. Use silt fences and/or vegetative filter strips to buffer streams and drainages, and monitor those after rain events and until a well-rooted ground cover is reestablished.



FEDERAL LIST species/habitats are protected under the Federal Endangered Species Act. Consult with U.S. Fish and Wildlife Service, 101 Park Deville Drive Suite A, Columbia, Missouri 65203-0007, 573-234-2132

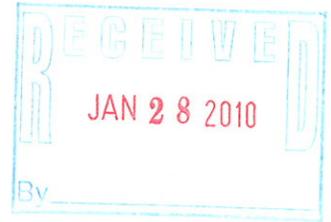
General recommendations related to this project or site, or based on information about the historic range of species (unrelated to any specific heritage records):

- The project area is in a county with known karst geologic features (e.g. caves, springs, and sinkholes, all characterized by subterranean water movement). Few karst features are recorded in heritage records, and ones not noted here may be encountered at the project site or affected by the project. Cave fauna (many of which are species of conservation concern) are influenced by changes to water quality, so check your project site for any karst features and make every effort to protect groundwater in the project area. See http://mdc.mo.gov/nathis/caves/manag_construc.htm for best management information.

- Streams in the area should be protected from soil erosion, water pollution and in-stream activities that modify or diminish aquatic habitats. Best management recommendations relating to streams and rivers may be found at <http://mdc.mo.gov/79>.
- Invasive exotic species are a significant issue for fish, wildlife and agriculture in Missouri. Seeds, eggs, and larvae may be moved to new sites on boats or construction equipment, so inspect and clean equipment thoroughly before moving between project sites.
 - ◆ Remove any mud, soil, trash, plants or animals from equipment before leaving any water body or work area.
 - ◆ Drain water from boats and machinery that has operated in water, checking motor cavities, live-well, bilge and transom wells, tracks, buckets, and any other water reservoirs.
 - ◆ When possible, wash and rinse equipment thoroughly with hard spray or HOT water ($\geq 104^{\circ}$ F, typically available at do-it-yourself carwash sites), and dry in the hot sun before using again.

These recommendations are ones project managers might prudently consider based on a general understanding of species needs and landscape conditions. Heritage records largely reflect only sites visited by specialists in the last 30 years. This means that many privately owned tracts could host unknown remnants of species once but no longer common.

Pre-screen heritage review requests at <http://tinyurl.com/heritagereview>. A "Level 1 response" will make further submission to MDC or USFWS unnecessary.



January 26, 2010
Contract C-10009

**VIA CERTIFIED MAIL
RETURN RECEIPT REQUESTED**

Mr. Charles Scott
U.S. Fish and Wildlife Service
Columbia Ecological Services Office
101 Park DeVille Drive, Suite A
Columbia, MO 65203

**RE: Request for Information
3931 East Highway 47
Winfield, MO 63389
Latitude 38.9906, Longitude -90.7500**

Mr. Scott:

Winfield Foley Fire Protection District has retained NPN Environmental to prepare an Environmental Assessment in accordance with the Federal Emergency Management Agency (FEMA) regulations at 44 CFR Part 10 and Council on Environmental Quality Regulations at 40 CFT Part 1500-1508. As part of the Environmental Assessment for the above-referenced site, the following information is requested:

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- Wilderness, natural areas, critical habitat, preserves and forests, wildlife refuges, terrestrial breeding areas, and wildlife or game management areas on or within one-half mile radius of the site

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Mr. Charles Scott
January 26, 2010
Page 2 of 2

Thank you for your prompt consideration of our request. If you have any questions or require additional information, please contact me at 636-343-1300.

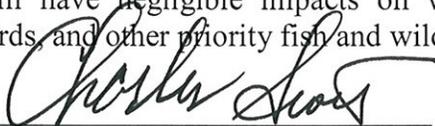
Sincerely,



Ruth C. Mannebach
Senior Environmental Scientist

Enclosures Figure 1 – Vicinity Map
 Figure 2 – 2007 Aerial Photograph

“The U.S. Fish and Wildlife Service (Service) has reviewed the proposed action and determined that no federally listed species, candidate species, or designated critical habitat occurs within the project area. Furthermore, the Service has determined that this action will have negligible impacts on wetlands, migratory birds, and other priority fish and wildlife resources.”



Field Supervisor

Date



MISSOURI DEPARTMENT OF NATURAL RESOURCES
STATE HISTORIC PRESERVATION OFFICE
SECTION 106 PROJECT INFORMATION FORM

Submission of a completed Project Information Form with adequate information and attachments constitutes a request for review pursuant to Section 106 of the National Historic Preservation Act of 1966 (as amended). We reserve the right to request more information. **Please refer to the CHECKLIST on Page 2 to ensure that all basic information relevant to the project has been included.** For further information, refer to our Web site at: <http://www.dnr.state.mo.us/shpo> and follow the links to Section 106 Review.

NOTE: Section 106 regulations provide for a 30-day response time by the Missouri State Historic Preservation Office from the date of receipt.

PROJECT NAME

FEDERAL AGENCY PROVIDING FUNDS, LICENSE, OR PERMIT

APPLICANT

TELEPHONE

CONTACT PERSON

TELEPHONE

ADDRESS FOR RESPONSE

LOCATION OF PROJECT

COUNTY: _____

STREET ADDRESS: _____ CITY: _____

GIVE LEGAL DESCRIPTION OF PROJECT AREA (TOWNSHIP, RANGE, SECTION, ¼ SECTION, ETC.)

*USGS TOPOGRAPHIC MAP QUADRANGLE NAME _____

YEAR: _____ TOWNSHIP: _____ RANGE: _____ SECTION: _____

*SEE MAP REQUIREMENTS ON PAGE 2

PROJECT DESCRIPTION

- Describe the overall project in detail. If it involves excavation, indicate how wide, how deep, etc. If the project involves demolition of existing buildings, make that clear. If the project involves rehabilitation, describe the proposed work in detail. Use additional pages if necessary.

ARCHAEOLOGY (Earthmoving Activities)

Has the ground involved been graded, built on, borrowed, or otherwise disturbed?

- Please describe in detail: (Use additional pages, if necessary.) Photographs are helpful.

Will the project require fill material? Yes No

- Indicate proposed borrow areas (source of fill material) on topographic map.

Are you aware of archaeological sites on or adjacent to project area? Yes No

- If yes, identify them on the topographic map.

STRUCTURES (Rehabilitation, Demolition, Additions to, or Construction near existing structures)

To the best of your knowledge, is the structure located in any of the following?

An Area Previously Surveyed for Historic Properties A National Register District A Local Historic District
If yes, please provide the name of the survey or district:

- Please provide photographs of all structures, see photography requirements.
- **NOTE:** All photographs should be labeled and keyed to one map of the project area.
- Please provide a brief history of the building(s), including construction dates and building uses. (Use additional pages, if necessary.)

ADDITIONAL REQUIREMENTS

Map Requirements: Attach a copy of the relevant portion (8½ x 11) of the current USGS 7.5 min. topographic map **and**, if necessary, a large scale project map. Please do not send an individual map with each structure or site. While an original map is preferable, a good copy is acceptable. USGS 7.5 min. topographic maps may be ordered from Geological Survey and Resource Assessment Division, Department of Natural Resources, 111 Fairground, Rolla, MO 65402, Telephone: (573) 368-2125, or printed from the website <http://www.topozone.com>.

Photography Requirements: Clear black & white or color photographs on photographic paper (minimum 3" x 5") are acceptable. Polaroids, photocopies, emailed, or faxed photographs are not acceptable. **Good quality photographs are important for expeditious project review.** Photographs of neighboring or nearby buildings are also helpful. All photographs should be labeled and keyed to one map of the project area.

CHECKLIST: Did you provide the following information?

- | | |
|--|--|
| <input type="checkbox"/> Topographic map 7.5 min. (per project, not structure) | <input type="checkbox"/> Other supporting documents (If necessary to explain the project) |
| <input type="checkbox"/> Thorough description (all projects) | <input type="checkbox"/> For new construction, rehabilitations, etc., attach work write-ups, plans, drawings, etc. |
| <input type="checkbox"/> Photographs (all structures) | <input type="checkbox"/> Is topographic map identified by quadrangle and year? |

Return this Form and Attachments to:

**MISSOURI DEPARTMENT OF NATURAL RESOURCES
STATE HISTORIC PRESERVATION OFFICE
Attn: Section 106 Review
P.O. BOX 176
JEFFERSON CITY, MISSOURI 65102-0176**

CULTURAL RESOURCE ASSESSMENT
Section 106 Review

CONTACT PERSON/ADDRESS

C:

Ruth Mannebach
NPN Environmental Engineers
1631 Headland drive
St. Louis, Missouri 63026

Roger Benson, FEMA

PROJECT:

New Fire Station, 3931 East Hwy 47, Winfield

FEDERAL AGENCY

FEMA

COUNTY:

LINCOLN

The State Historic Preservation Office has reviewed the information submitted on the above referenced project. Based on this review, we have made the following determination:

After review of initial submission, the project area has a low potential for the occurrence of cultural resources. A cultural resource survey, therefore, is not warranted.

Adequate documentation has been provided (36 CFR Section 800.11). There will be "no historic properties affected" by the current project.

An adequate cultural resource survey of the project area has been previously conducted. It has been determined that for the proposed undertaking there will be "no historic properties affected".

For the above checked reason, the State Historic Preservation Office has no objection to the initiation of project activities. PLEASE BE ADVISED THAT, IF THE CURRENT PROJECT AREA OR SCOPE OF WORK ARE CHANGED, A BORROW AREA IS INCLUDED IN THE PROJECT, OR CULTURAL MATERIALS ARE ENCOUNTERED DURING CONSTRUCTION, APPROPRIATE INFORMATION MUST BE PROVIDED TO THIS OFFICE FOR FURTHER REVIEW AND COMMENT. Please retain this documentation as evidence of compliance with Section 106 of the National Historic Preservation Act, as amended.

By: 
Mark A. Miles, Deputy State Historic Preservation Officer

February 3, 2010
Date

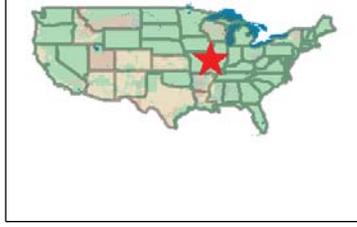
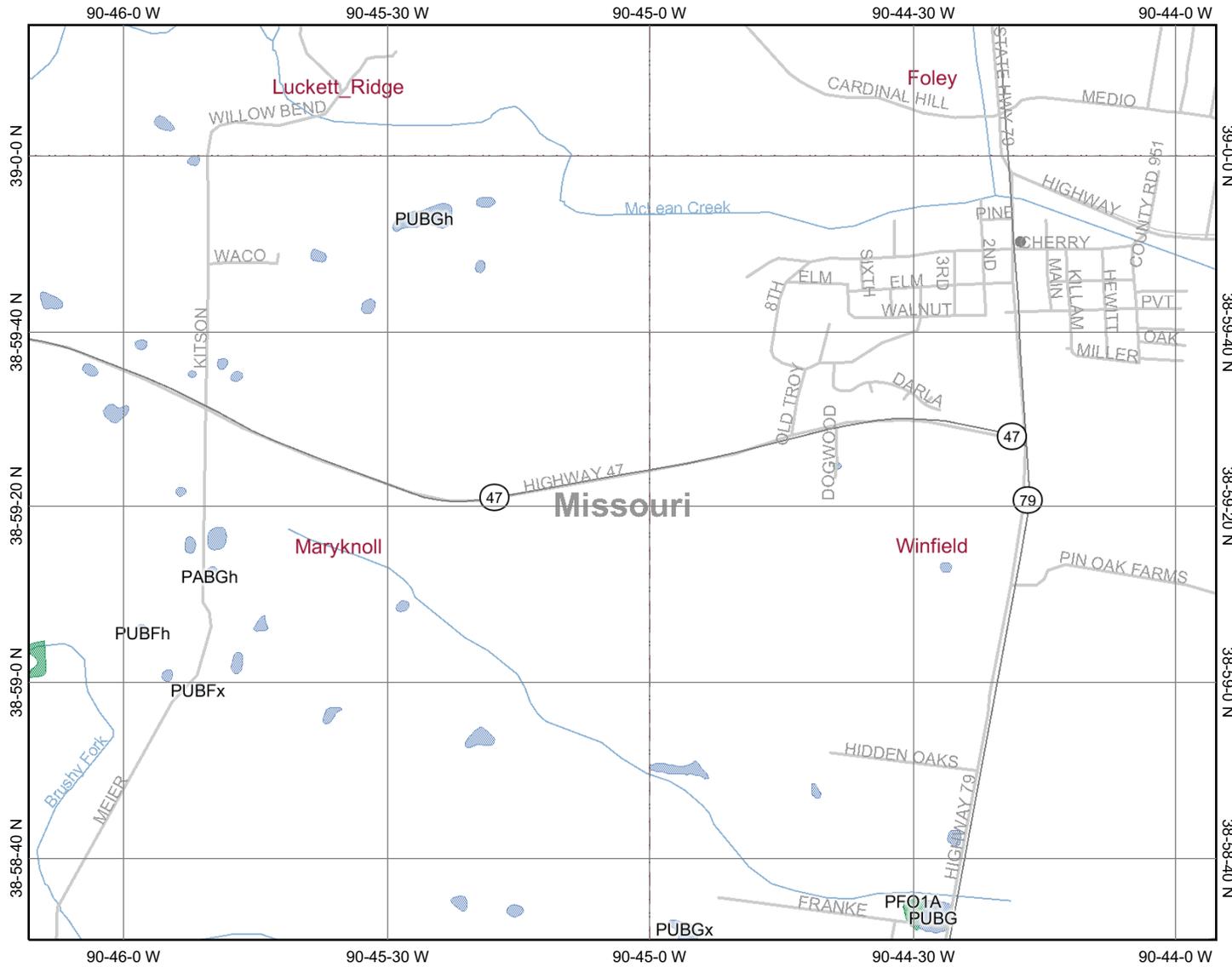
MISSOURI DEPARTMENT OF NATURAL RESOURCES
STATE HISTORIC PRESERVATION OFFICE
P.O. Box 176, Jefferson City, Missouri 65102

For additional information, please contact Judith Deel, (573) 751-7862. Please be sure to refer to the project number:
009-LN-10

APPENDIX E

Additional Documentation

3931 East Highway 47, Winfield, MO



Legend

Ohio_wet_scan

- 0
- 1
- Out of range

Interstate

Major Roads

- Other Road
- Interstate
- State highway
- US highway

Roads

- Cities
- USGS Quad Index 24K

Lower 48 Wetland Polygons

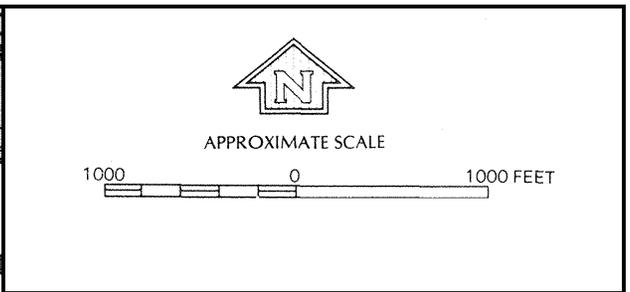
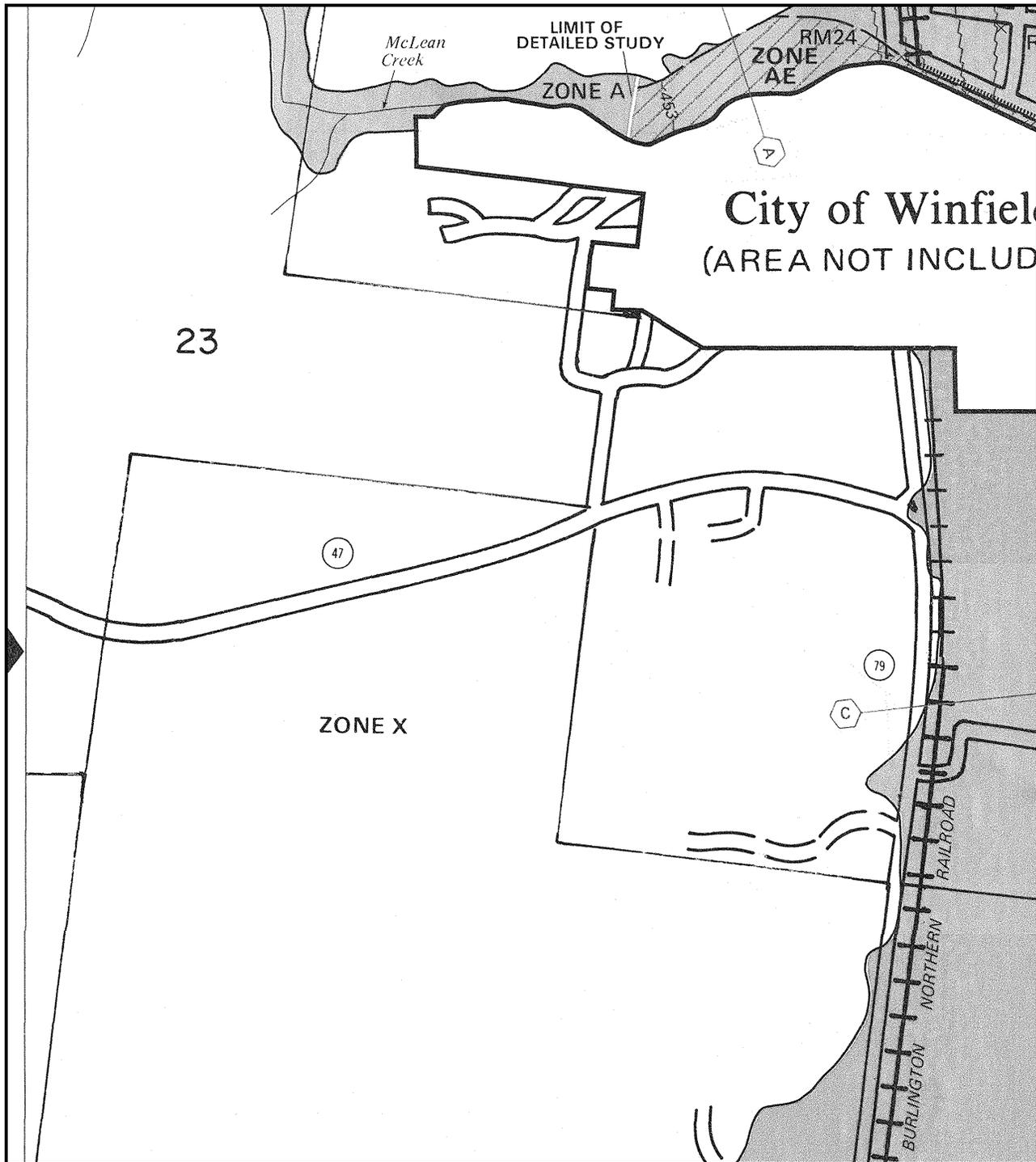
- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine
- NHD Streams
- Counties 100K
- States 100K
- South America
- North America

N

Scale: 1:22,563

Map center: 38° 59' 23" N, 90° 45' 3" W

This map is a user generated static output from an Internet mapping site and is for general reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable. THIS MAP IS NOT TO BE USED FOR NAVIGATION.



NATIONAL FLOOD INSURANCE PROGRAM

FIRM
FLOOD INSURANCE RATE MAP

**LINCOLN COUNTY,
MISSOURI**
(UNINCORPORATED AREAS)

PANEL 145 OF 225
(SEE MAP INDEX FOR PANELS NOT PRINTED)

PANEL LOCATION

COMMUNITY-PANEL NUMBER
290869 0145 C

MAP REVISED:
APRIL 2, 1993

Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov