

Environmental Assessment
Kansas City FD, Proposed Fire Station No. 39
Kansas City, MO
EMW-2009-FC-05790R
September 2010



FEMA

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



ENVIRONMENTAL ASSESSMENT

PROPOSED FIRE STATION NO. 39 EMW-2009-FC-05790R NWC EAST 47TH STREET AND STERLING AVENUE KANSAS CITY, MISSOURI

For Submittal to:

**FEDERAL EMERGENCY MANAGEMENT AGENCY
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**September 2010
Contract C-10164**

QUALITY ASSURANCE/QUALITY CONTROL

Project: **Environmental Assessment**
 Proposed Fire Station No. 39
 EMW-2009-FC-05790R
 NWC East 47th Street and Sterling Avenue
 Kansas City, Missouri

Project No.: **Contract C-10164**

This report has been prepared on behalf of and for the exclusive use of Kansas City Fire Department 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 Kansas City Fire Department. 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:

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QA/QC Manager:

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It is the professional opinion of David B. Rowe, 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 Kansas City Fire Department (FD) serves the City of Kansas City, Missouri. The department has 34 existing fire stations located throughout their first-due response area, which encompasses 322 square miles in Jackson, Clay, Platte, and Cass Counties. The existing Fire Station No. 39 is located near the eastern edge of Kansas City at 10003 East 47th Street. This small fire station constructed in 1964 is proposed for replacement.

The Kansas City FD's *Strategic Plan – November 2003 and Deployment Analysis – December 2003* identified the need for repositioning several fire stations to better allocate the fire department's personnel and equipment resources to meet the ever increasing need for emergency response, as well as upgrading or replacing other stations to accommodate current staffing, equipment, and apparatus requirements. Existing Fire Station No. 39 was one of 5 stations identified as needing immediate replacement. The project site acquired by the Kansas City FD for the proposed new Fire Station No. 39 is consistent with all fire department 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 Kansas City FD's proposed fire station is needed to provide continued effective and timely fire protection and emergency services to an area that is stable in 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 structurally deteriorating past the point of cost-effective repair. Additionally, the existing fire station has living accommodations that are substandard, non-gender segregated, and non-ADA compliant. The existing station does not have capacity to house Fire Station No. 39's treatment and transport ambulance. Currently, the

ambulance is located at the neighboring Raytown Fire Department. Critical flaws of the existing station cannot feasibly be corrected due to physical property constraints. The proposed new station will enhance the FD's ability to respond to the local community and to crises involving critical infrastructure in the district including two interstate highways, two professional sports venues, a major shopping center, hospital, correctional facility, public schools, two high-rise senior living facilities, and several industrial facilities.

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 Kansas City FD considered one other alternative location which was ultimately dismissed.

No Action Alternative

The No Action alternative would result in no construction of a new fire station on the east side of Kansas City 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. The No Action alternative would result in lower level of overall public safety than the proposed alternative, as the existing fire station cannot accommodate modern aerial apparatus and has limited capacity to house fire department personnel.

Proposed Action

The Proposed Action would result in construction of a new fire station on property currently owned by the Kansas City FD at the northwest corner of East 47th Street and Sterling Avenue, within the city limits of Kansas City, Missouri, as shown on *Figure 1 – Vicinity Map* in *Appendix A – Figures*. The preliminary design calls for an approximately 10,000 square foot fire station with 3 vehicle bays to house the pumper truck and aerial apparatus, as well as a treatment and transport ambulance (*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, dayroom/training area, gender-segregated restrooms and bedrooms, fitness center, and mechanical/utility rooms. A final design has not been completed; however, the building will incorporate "green design" and energy efficient features, with the goal of obtaining LEED Silver Certification. All utilities are currently available to the site and the building will be tied into existing city water and sewer and the local electric, natural gas, telephone, and cable utilities. A backup generator system will also be installed to support building functions during power outages.

Photographs of the subject property and adjacent properties taken on July 26, 2010 are included in *Appendix C – Site Photographs*.

Alternatives Considered and Dismissed

A commercially-developed parcel adjoining the existing fire station is vacant and on the market. The Kansas City FD considered this site due to its close proximity; however, the adjoining site is just under 0.4 acres, not large enough for construction of a modern facility. Combining the existing fire station site with the adjoining site would not provide sufficient acreage for a new station. For these reasons, the alternative parcel was dismissed from consideration.

AFFECTED ENVIRONMENT AND POTENTIAL IMPACTS

The City of Kansas City is a major metropolitan city in Jackson, Clay, Platte, and Cass Counties located on the western edge of Missouri. The city has a total land area of 318 square miles. The 2000 United States Census Bureau population included 441,545 people with 202,334 housing units; however, significant population growth has occurred, with an estimated 2009 population of 482,299 people. When existing Fire Station No. 39 was constructed in the early-1960s, the response area was principally a medium-density suburban residential area. Today, the response area is a densely populated mixed use area with numerous commercial, institutional, and industrial establishments.

The proposed Fire Station No. 39 will be located on an approximately 1.8-acre parcel of vacant ground within the city limits, as shown on *Figure 2 – 2010 Aerial Photograph*. The property is located on a former golf course and is zoned as a Neighborhood Retail Business District. Surrounding properties are zoned for one-family dwellings, medium density, and are developed with single-family residences to the north, south, and west and by the Sterling Acres Baptist Church and single-family residences to the east. The property is bordered by East 47th Street to the south, East 46th Street to the north, and Sterling Avenue to the east. The property is located approximately ½ mile east of existing Fire Station No. 39.

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 ranges from approximately 1,010 feet above mean sea level (amsl) at the northwest corner to 1,030 feet amsl at the southeast corner, as depicted on the *1996 Independence, MO. USGS 7.5 minute Quadrangle Map*. The

subject site and surrounding properties slope gently to the west/northwest. 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 Kansas City Group of the Missourian Series within the Pennsylvanian System in the Paleozoic Era, which is divided into three subgroups: Bronson, Linn, and Zarah. The Bronson subgroup (approximately 80 feet thick) contains the Hertha, Ladore, Swope, Galesburg, and Dennis formations. The Linn subgroup (approximately 70 feet thick in the Kansas City area) consists of the Cherryvale, Drum, Chanute, and Iola formations. The Zarah subgroup (130 feet thick) consists of the Lane, Wyandotte, and Bonner Springs formations. These subgroups represent cyclic deposits of limestone and shale with minor sandstone and coal.

The subject site is located on Sibley-Urban Land complex (60C) with 5 to 9 percent slopes. These soils formed in silty loess that is several feet thick. The complex consists of deep, moderately sloping, well drained Sibley soil and Urban land on moderately wide, convex side slopes. Individual areas are irregular in shape and range from 40 to 500 acres.

Typically, the Sibley soil has a surface layer of very dark grayish-brown, friable silt loam about 7 inches thick. The subsurface layer (about 19 inches thick) is dark brown, friable silt loam in the upper part and very dark grayish-brown, friable, silty clay loam in the lower part. The subsoil is about 39 inches thick. The upper part is very dark brown, friable, silty clay loam. The substratum (to a depth of about 70 inches) is dark yellowish-brown, friable silt loam. In places, the dark soil layers are less than 24 inches thick and grayish-brown mottles are at a depth of less than 36 inches.

The Urban land part of this complex is covered by streets, driveways, parking lots, buildings, and other structures. These structures obscure or alter the soil so identification of the soil series is not feasible.

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 two air quality monitoring stations for primary air pollutants in Jackson County. Currently, Jackson County, Missouri is considered a maintenance area for ozone and an attainment area for the remaining criteria pollutants listed above.

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 July 26, 2010 did not observe any natural surface water bodies (rivers, creeks, ponds, or wetlands) on or adjacent to the project location. The Sibley-Urban Land 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.

Storm flow from adjacent streets is directed by curbs and gutters and enters inlets on East 47th Street and Sterling Avenue. Drainage along East 47th Street enters a storm inlet near the southwest corner of the site and flows south. A storm sewer inlet is located on the northwest corner of the property. Flow from this inlet drains to the northwest toward Riss Lake. Adjacent properties do not appear to drain onto the subject site.

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 Kansas City FD 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 Sibley-Urban Land, 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 D – 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 2901730105B, the project site is located in an area classified as Zone C, outside defined floodplains (*Appendix D*). 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 floodplains.

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 three species in Jackson County, Missouri:

- Eastern massasauga rattlesnake (candidate species) – wet areas including wet prairies, marshes, and low areas along rivers and lakes
- Pallid sturgeon (endangered) – Mississippi and Missouri Rivers
- Western prairie fringed orchid (threatened) – wet prairies and sedge meadows

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 one mile 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 E – Agency Consultation Correspondence*.

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 an approximately 1.8-acre upland lot located at the northwest corner of East 47th Street and Sterling Avenue. The site is vegetated with mature trees and herbaceous ground cover and has been historically disturbed by prior development as a golf course. 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 August 2, 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 E*.

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 Kansas City, Missouri consisted of 60.7% white, 31.2% African American, 0.5% Native American, 1.9% Asian, and 2.4% from two or more races. Hispanic or Latino of any race was 6.9% of the population. The median income for a household in the city was \$37,198 and the median income for a family was \$46,012. About 11.1% of families and 14.3% of the population were below the poverty line.

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 Kansas City FD, 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 commercial establishments within the designated response area of Fire Station No. 39, 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 at the corner of East 47th Street and Sterling Avenue in an area zoned for planned commercial development and is bordered by a church and single-family residences to the north, south, east, and west. 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 church. 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 East 47th Street (primarily residentially developed) with the proposed project site zoned for commercial use. Development of the project site with the new fire station would be compatible with this zoning classification. East 47th Street is under the jurisdiction of the Kansas City Public Works Department. Sterling Avenue is under the jurisdiction of the Kansas City Parks and Recreation Department. Average annual daily traffic counts are not available for East 47th Street or Sterling Avenue.

The new fire station will be located at the northwest corner of East 47th Street and Sterling Avenue, an intersection controlled by 4-way traffic lights. The new fire station would not adversely affect average daily traffic volume on adjacent roads or general area traffic and circulation but would result in short-term, intermittent effects to traffic at the intersection during fire response actions. Proposed design plans include access drives to both roadways. Mr. Eric Bosch (Kansas City Capital Improvements Management Office) stated emergency vehicle access to the intersection will be controlled by an Opticom emergency vehicle preemption system which will be activated by the fire station when an emergency alarm signals to provide emergency vehicles with green-light right-of-way to the intersection. Additionally, standard yellow and black emergency vehicle warning signs will be installed on both roadways.

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

Public Service and Utilities

All utilities (electric, telephone, water, sanitary sewer, and storm sewer) run along East 47th Street and Sterling Avenue 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 future residential and commercial expansion 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 primarily developed with single-family residences but near commercial and industrial development. 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 Kansas City 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
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.

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

Affected Environment	Impacts from Proposed Action	Mitigation
Traffic	Intermittent increase of emergency equipment on East 47 th Street and Sterling Avenue and at intersection	City of Kansas City will install emergency vehicle warning signs and Opticom emergency vehicle preemption system
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 Daily Record-Kansas City newspaper. Copies of the EA will be placed at the Kansas City FD's existing Fire Station No. 39 at 10003 East 47th Street, Kansas City, Missouri and at Mid-Continent Public Library at 6131 Raytown Road, Raytown, Missouri. The public comment period will extend for a period of 15 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 Kansas City, Missouri.

AGENCY COORDINATION AND REFERENCES

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

Jackson County, MO
Online GIS Mapping Service
<http://gis.jacksongov.org/>

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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

Missouri Geological Survey
Geologic Map of Missouri
2003

United States Census Bureau
<http://www.census.gov>

United States Department of Agriculture
Farm Service Agency
2010 Aerial Photograph

United States Department of Agriculture
Soil Conservation Service
Soil Survey of Jackson County, Missouri
September 1984

United States Department of the Interior Geological Survey
Topographic Maps
Independence, MO. USGS 7.5 minute Quadrangle
1996

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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/endangered/lists/cty_indx.html#missouri

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Those responsible for preparation of this document include:

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

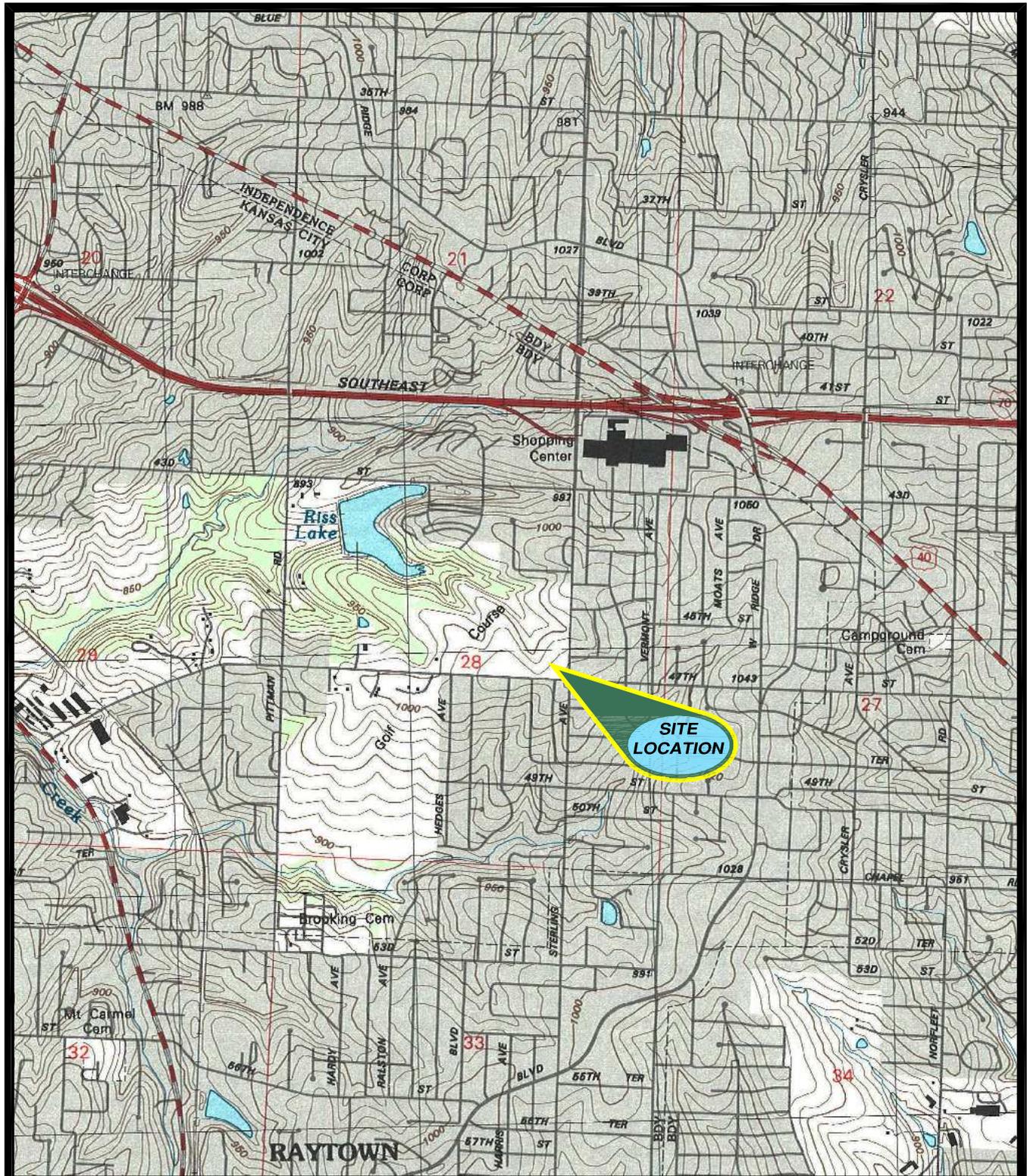
Eric P. Bosch, Manager of Architecture
Kansas City Capital Improvements Management Office

Michael Moore, Asset Manager
Kansas City Fire Department

Ruth C. Mannebach was the principal preparer of this document, in consultation with Eric P. Bosch and Michael Moore as well as the other individuals and agencies identified in this document.

APPENDIX A

Figures



Adapted from Independence, MO.
 USGS 7.5 minute Quadrangle Map
 1996

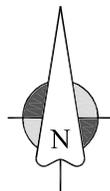
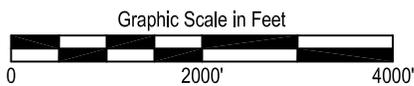
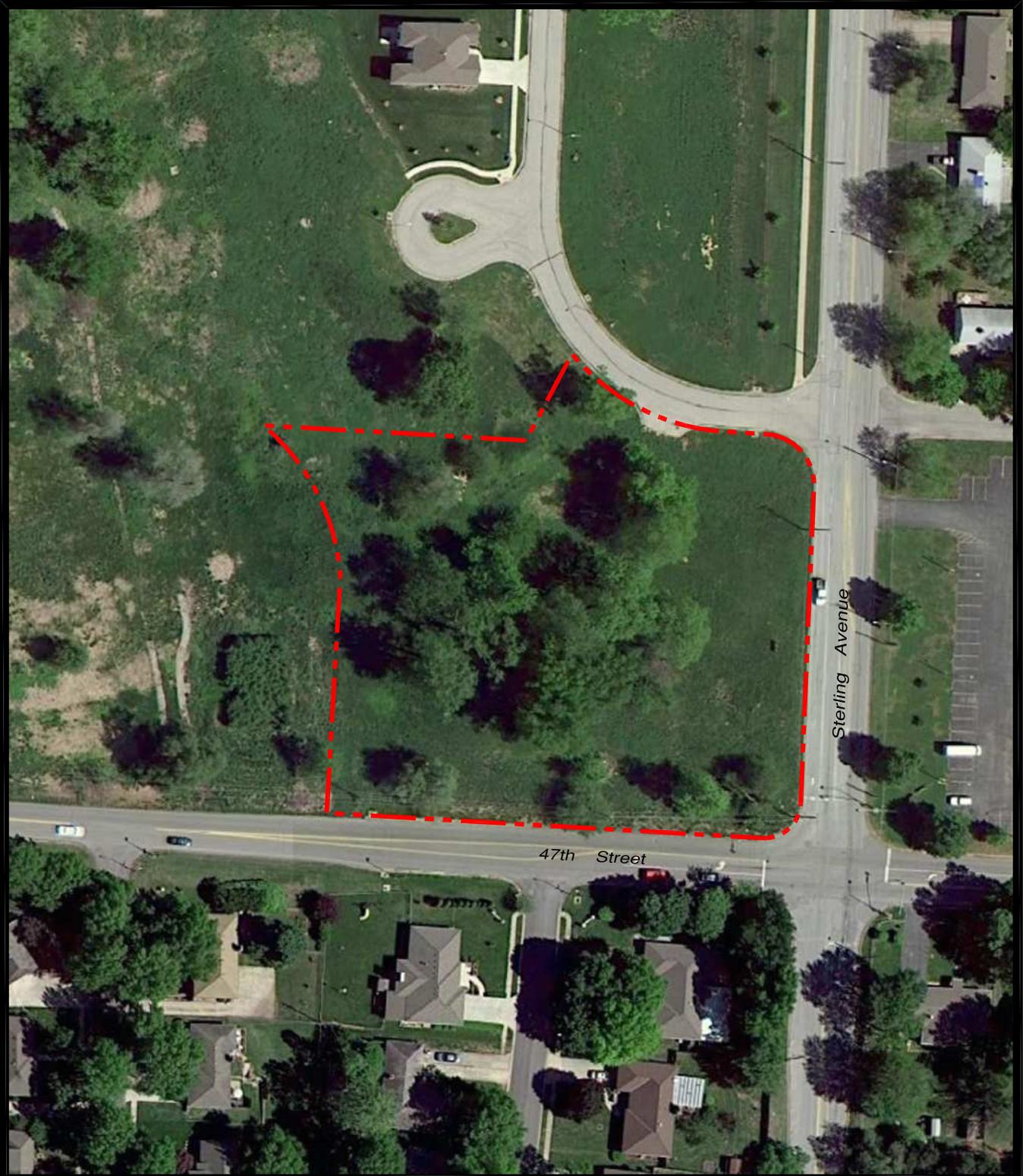


FIGURE 1
 Vicinity Map

East 47th St and Sterling Ave - Kansas City, MO

Project No.	Date	Scale	Drawn By:	Checked By:
C-10164	Sept. 2010	1" = 2000'	SRR	RCM



*Adapted from USDA Farm Service Agency
2010 Aerial Photograph*

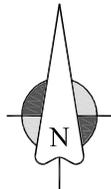


FIGURE 2
2010 Aerial Photograph

East 47th St and Sterling Ave - Kansas City, MO

Project No.	Date	Scale	Drawn By:	Checked By:
C-10164	Sept. 2010	1" = 2000'	SRR	RCM

APPENDIX B

Draft Facility Layout

APPENDIX C

Site Photographs

Photo No: 1	Date: 07-26-10
Viewing Angle: North	
Description: Project site (vacant, grassy, former golf course)	



Photo No: 2	Date: 07-26-10
Viewing Angle: East	
Description: Project site (vacant, grassy, former golf course)	



Photo No: 3	Date: 07-26-10
Viewing Angle: South	
Description: Project site (vacant, grassy, former golf course)	



Photo No: 4	Date: 07-26-10
Viewing Angle: West	
Description: Project site (vacant, grassy, former golf course)	



Photo No: 5	Date: 07-26-10
Viewing Angle: North	
Description: Undeveloped property, East 46 th Street, and Villas of Royal View Meadows subdivision adjacent to north of subject site	



Photo No: 6	Date: 07-26-10
Viewing Angle: East	
Description: Sterling Avenue and Sterling Acres Baptist Church adjacent to east of subject site	



Photo No: 7	Date: 07-26-10
Viewing Angle: South	
Description: East 47 th Street and residential subdivision adjacent to south of subject property	

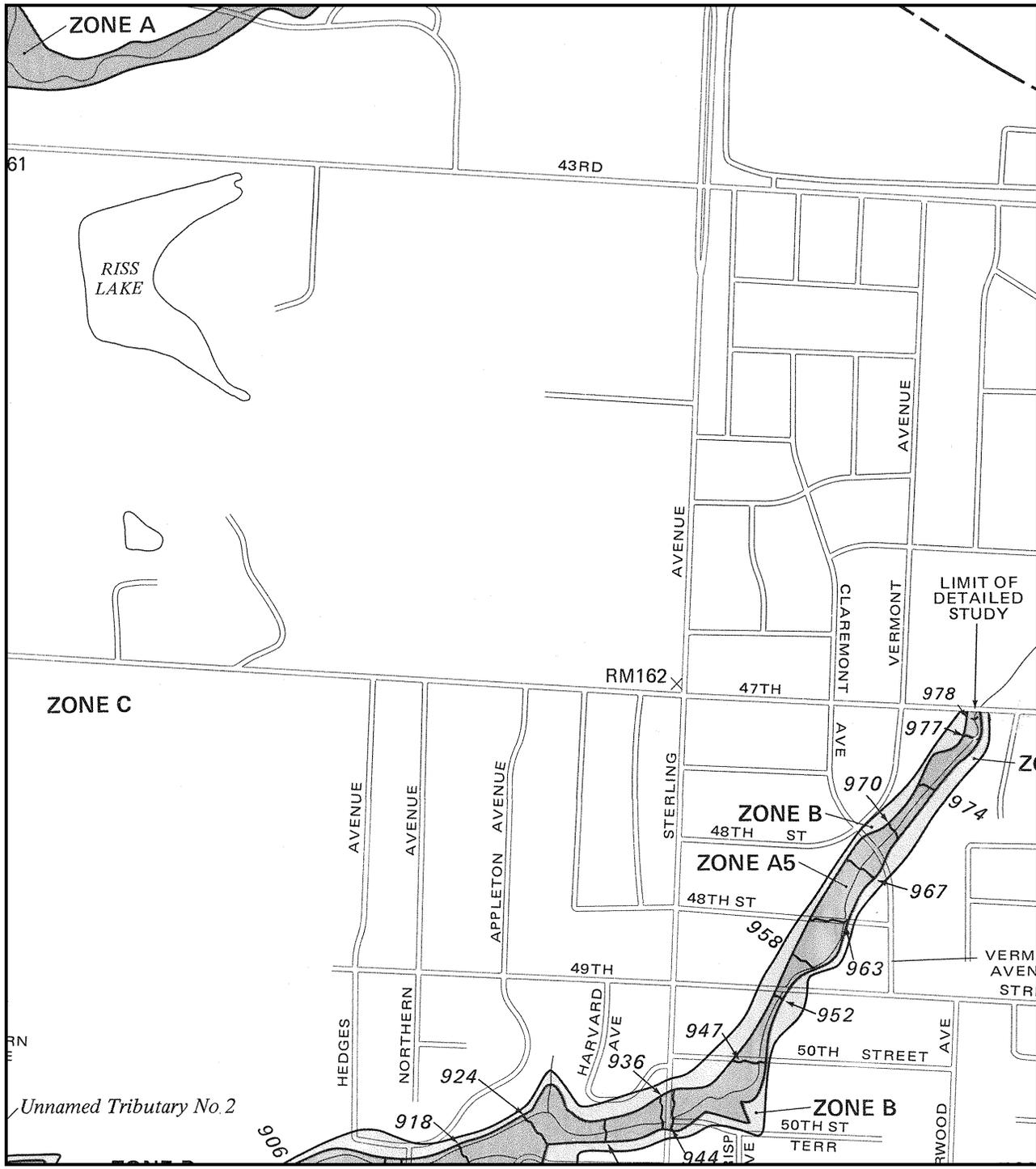


Photo No: 8	Date: 07-26-10
Viewing Angle: West	
Description: Vacant undeveloped property (former golf course) adjacent to west of subject property	

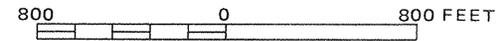


APPENDIX D

Additional Documentation



APPROXIMATE SCALE



NATIONAL FLOOD INSURANCE PROGRAM

FIRM
FLOOD INSURANCE RATE MAP

CITY OF
KANSAS CITY, MISSOURI
CLAY, PLATTE AND JACKSON COUNTIES

PANEL 105 OF 145

COMMUNITY-PANEL NUMBER
290173 0105 B

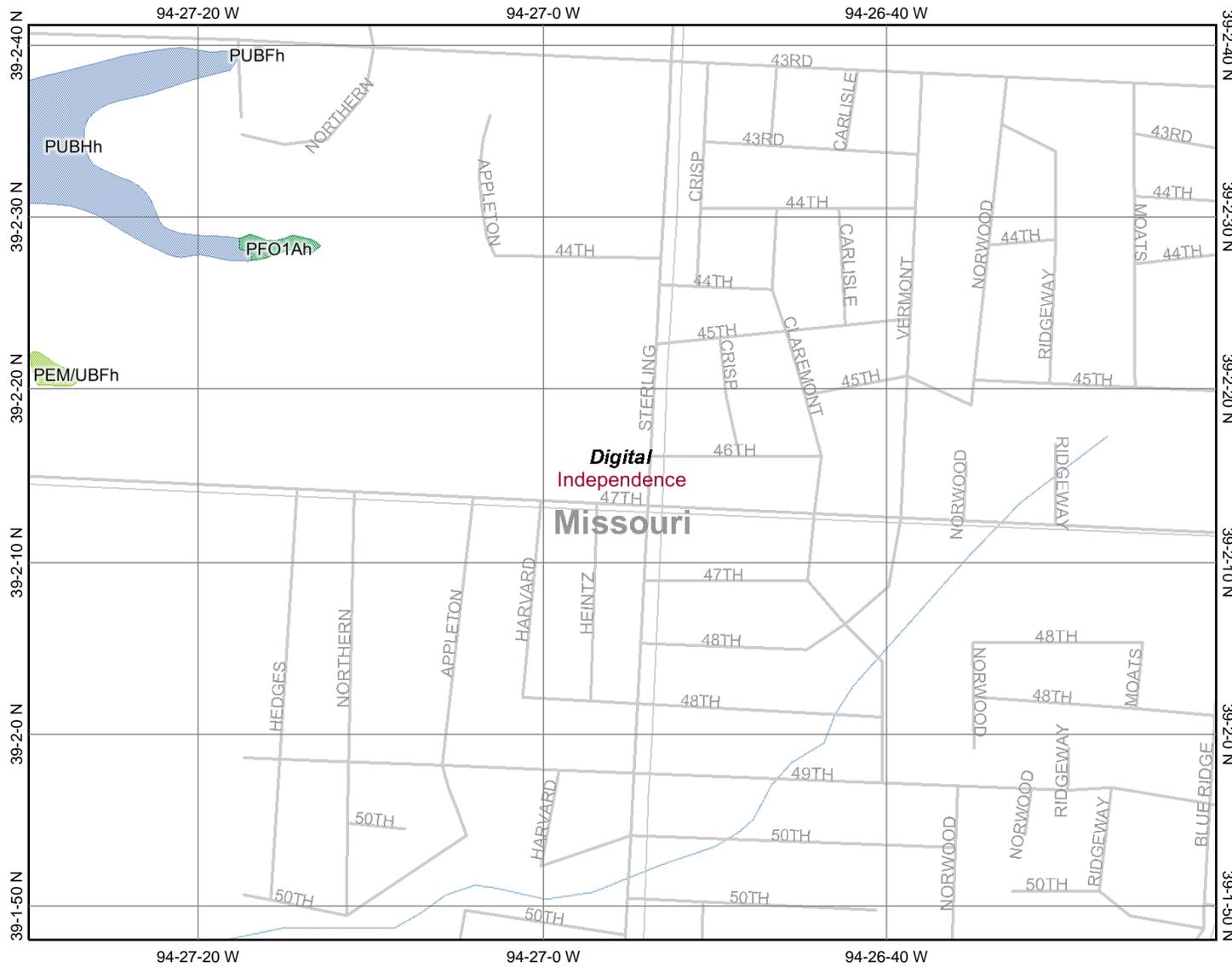
MAP REVISED:
AUGUST 5, 1986



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

NWC E 47th St and Sterling Ave



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
- Lower 48 Available Wetland Data**
- Non-Digital
- Digital
- No Data
- Scan
- NHD Streams
- Counties 100K
- States 100K
- South America
- North America



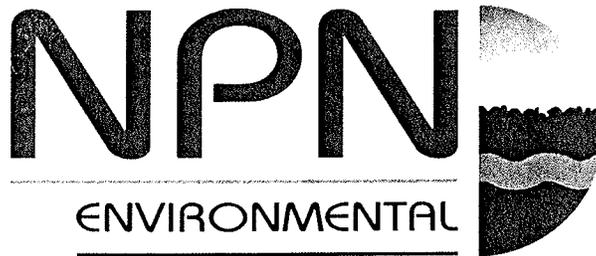
Scale: 1:11,485

Map center: 39° 2' 15" N, 94° 26' 55" 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.

APPENDIX E

Agency Consultation Correspondence



FILE COPY

July 28, 2010
Contract C-10164

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
NWC of East 47th Street and Sterling Avenue
Kansas City, MO 64133
Latitude 39.0374, Longitude -94.4487

McCownGordon Construction and the Kansas City Fire Department have 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 CFR 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 approximately 1.8-acre project site is currently a vacant and undeveloped, former public golf course as shown on *Figure 1 – Vicinity Map* and *Figure 2 – 2010 Aerial Photograph*. The Kansas City Fire Department proposes to construct a new fire station and associated paved parking and driveways on the project site.

Missouri Department of Conservation
July 28, 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 – 2010 Aerial Photograph



Missouri Department of Conservation Heritage Review Report

July 30, 2010 -- Page 1 of 2

Policy Coordination Unit
P. O. Box 180
Jefferson City, MO 65102
heritage.review@mdc.mo.gov
573-522-4115 X 3367

Ms. Ruth C. Mannebach
Senior Environmental Scientist
NPN Environmental
1631 Headland Drive
St. Louis, MO 63026

Project type: Fire Station Construction

Location/Scope: Latitude 39.0374, Longitude – 94.4487 (Section 28 of T49N R32W)

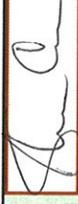
County: Jackson

Query reference: NWC of East 47th Street and Sterling Avenue – Fire Station

Query received: July 29, 2010

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 http://mdc.mo.gov/discover-nature/places-go/natural-areas-and-mdc4.mdc.mo.gov/applications/mofwis/mofwis_search1.aspx. Contact information for the department's Natural History Biologist is online at <http://mdc.mo.gov/contact-us>.


7-30-2010
Prepared by: Shannon Cave

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 one mile of the site, or in the public land survey section listed above or sections adjacent, 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):

- 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.

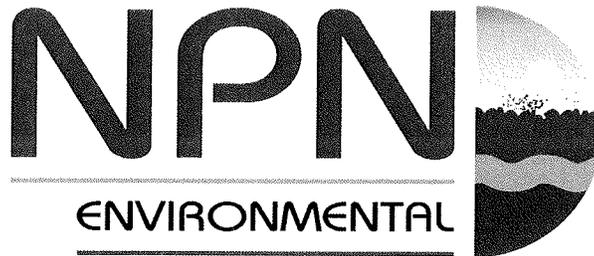
These recommendations are ones project managers might prudently consider based on a general understanding of species needs and landscape conditions. Heritage records largely reflect only sites visited by specialists in the last 30 years. This means that many privately owned tracts could host unknown 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.

CONSERVATION DEPARTMENT



MISSOURI



JUL 29 2010

July 28, 2010
Contract C-10164

**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
NWC of East 47th Street and Sterling Avenue
Kansas City, MO 64133
Latitude 39.0374, Longitude -94.4487**

Mr. Scott:

McCownGordon Construction and the Kansas City Fire Department have 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 CFR 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
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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

The approximately 1.8-acre project site is currently a vacant and undeveloped, former public golf course as shown on *Figure 1 – Vicinity Map* and *Figure 2 – 2010 Aerial Photograph*. The Kansas City Fire Department proposes to construct a new fire station and associated paved parking and driveways on the project site.

*see next
page →*

Mr. Charles Scott
July 28, 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.

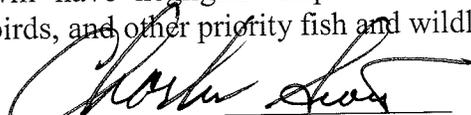
Sincerely,



Ruth C. Mannebach
Senior Environmental Scientist

Enclosures Figure 1 – Vicinity Map
 Figure 2 – 2010 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.”

 8/6/10

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

New Fire Station Construction

FEDERAL AGENCY PROVIDING FUNDS, LICENSE, OR PERMIT

FEMA Assistance to Firefighters Grant Program

APPLICANT

NPN Environmental Engineers on behalf of Kansas City Fire Department

TELEPHONE

(636) 343-1300

CONTACT PERSON

Ruth Mannebach, Senior Environmental Scientist, NPN Environmental Engineers

TELEPHONE

(636) 343-1300

ADDRESS FOR RESPONSE

Ruth Mannebach
 NPN Environmental Engineers, Inc.
 1631 Headland Drive
 St. Louis, MO 63026

LOCATION OF PROJECT

COUNTY: Jackson

STREET ADDRESS: NWC East 47th Street & Sterling Avenue CITY: Kansas City, MO

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

*USGS TOPOGRAPHIC MAP QUADRANGLE NAME Independence, MO

YEAR: 1996 TOWNSHIP: 49N RANGE: 32W SECTION: SE1/4SEC28

*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.

The Kansas City Fire Department (KCFD) proposes to construct a new approximately 10,000 square foot fire station with 3 vehicle bays on a 1.8-acre vacant parcel at the northwest corner of East 47th Street and Sterling Avenue. KCFD currently owns the parcel.

Historically, the project site was developed with Stayton Meadows Golf Course and later Royal Meadows Golf Course. Two small structures (possibly storage buildings or restrooms) were formerly present on the project site but were removed prior to 1990. The golf course ceased operating in 2002 and the City of Kansas City purchased the property for the KCFD in 2005. Development on adjacent properties to the east has historically been a church, and to the south, single-family residential. Adjacent properties to the north and west were part of the golf course and new residences are located to the north. Property to the west is undeveloped.

Excavation at the project site will be limited to utilities, shallow building foundations and footings, driveways, and parking areas. The building will not have a basement. A topographic map, aerial photograph, proposed site plan (not final), and site photographs are attached.

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.

Yes. The project site was originally developed with a golf course and two small structures. By 1990, the structures had been removed and by 2002, the golf course had closed. The project site was likely graded and disturbed during golf course construction.

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 checked="" type="checkbox"/> Topographic map 7.5 min. (per project, not structure) | <input checked="" type="checkbox"/> Other supporting documents (If necessary to explain the project) |
| <input checked="" type="checkbox"/> Thorough description (all projects) | <input checked="" type="checkbox"/> For new construction, rehabilitations, etc., attach work write-ups, plans, drawings, etc. |
| <input checked="" type="checkbox"/> Photographs (all structures) | <input checked="" 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, Inc.
1631 Headland Drive
St. Louis, Missouri 63026

Roger Benson, FEMA
Brad Wolf, KC

PROJECT:

New Fire Station, East 47th Street & Sterling Avenue, Kansas City

FEDERAL AGENCY

FEMA

COUNTY:

JACKSON

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

August 2, 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:
320-JA-10