

## **MEMORANDUM OF AGREEMENT FOR RECOVERY OF SIGNIFICANT INFORMATION**

**FROM HISTORIC PROPERTIES:** Gateway Refrigeration, Sang Fah Wholesale, and M&L Foods in St. Louis, Missouri, and yet to be identified archaeological sites in Missouri and Illinois  
**UNDERTAKING:** Construct new bridge over Mississippi River in St. Louis; relocate I-70 in Illinois and build a new I-70 interchange in Missouri to the new bridge  
**STATES:** Missouri and Illinois  
**AGENCY:** Federal Highway Administration

**Whereas,** the Federal Highway Administration (FHWA) has determined that the proposed New Mississippi River Bridge Project in the Saint Louis metropolitan area may have an adverse effect upon previously identified and yet unidentified cultural resources eligible for inclusion in the National Register of Historic Places (National Register), and has consulted with the Missouri State Historic Preservation Office (Missouri SHPO) and the Illinois State Historic Preservation Officer (Illinois SHPO) pursuant to 36 CFR Part 800, Protection of Historic Properties, regulations implementing Section 106 of the National Historic Preservation Act (NHPA); and,

**Whereas,** the original project was defined, and coordination with interested parties and the public discussed, in the documents *Mississippi River Crossing Relocated I-70 and I-64 Connector: Draft Environmental Impact Statement / Section 4(f) Evaluation* (April 2000) and *Mississippi River Crossing Relocated I-70 and I-64 Connector: Final Environmental Impact Statement / Section 4(f) Evaluation* (March 2001); and,

**Whereas,** the Advisory Council on Historic Preservation (ACHP) concurred with Illinois SHPO's determination that the original project will have no adverse effect on historic properties (6 March 1998) and determined that the ACHP did not need to participate in the consultation to develop a Memorandum of Agreement (MOA) to resolve adverse effects to historic properties in Missouri (16 May 2000); and,

**Whereas,** the original MOA developed and signed (January 2001) by the Missouri Division of FHWA, the Missouri SHPO, and the Missouri Department of Transportation (MoDOT) has expired; and,

**Whereas,** officials from the states of Missouri and Illinois announced in February 2008 that an agreement has been reached on the revised New Mississippi River Bridge Project that is defined, and coordination with interested parties and the public discussed, in the document *Final Design Report Addendum: New I-70 Mississippi River Bridge Crossing* (October 2008); and,

**Whereas,** the Missouri Highways and Transportation Commission (MHTC), acting by and through MoDOT, and the Illinois Department of Transportation (IDOT) have been invited to participate in the preparation of and be signatories to this MOA; and,

**Whereas**, the FHWA has determined that the following tribes, the Absentee-Shawnee Tribe of Indians of Oklahoma, Choctaw Nation of Oklahoma, Delaware Nation of Oklahoma, Eastern Shawnee of Oklahoma, Iowa Tribe of Kansas and Nebraska, Iowa Tribe of Oklahoma, Kaw Indian Tribe of Oklahoma, Kickapoo Tribe of Kansas, Miami Tribe of Oklahoma, Muscogee Creek Nation, Osage Nation, Peoria Tribe of Oklahoma, Ponca Tribe of Nebraska, Quapaw Tribe of Indians, Sac and Fox Tribe of the Missouri in Kansas and Nebraska, Sac and Fox Tribe of the Mississippi in Iowa, and Sac and Fox Tribe of Oklahoma, have interest in the project area, and FHWA shall consult with them on a government-to-government basis; and,

**Whereas**, based on currently available information, construction of the undertaking within the preferred alternative will not affect any locations known to include Native American burials, funerary objects, sacred objects, or objects of cultural patrimony as defined in the Native American Graves Protection and Repatriation Act (NAGPRA) (25 U.S.C. 3001 *et seq.*); and,

**Whereas**, the full impacts of this project on archaeological resources cannot be determined until the final design has been completed and access to private property currently within the project area granted; and,

**Now, therefore**, the FHWA shall ensure that the following terms and conditions will be implemented in a timely manner and with adequate resources in compliance with the NHPA of 1966, as amended (16 U.S.C. §§ 470 *et seq.*).

## **STIPULATIONS**

The FHWA, will ensure that the following stipulations are carried out prior to taking any action that could adversely affect a National Register eligible property:

- I.** FHWA, in consultation with the Missouri SHPO and the Illinois SHPO (within their respective states), has applied the Secretary of the Interior's Standards and Guidelines to evaluate buildings and bridges identified within the final project area of potential effects (APE) for eligibility for listing on the National Register of Historic Places (National Register). For archaeological sites of Native American origin, the consultation shall include the aforementioned tribes.
- II.** FHWA shall consult with the Missouri SHPO and the Illinois SHPO (within their respective states), to determine and document the area of potential effects, review existing information on cultural resources within the area of potential effects, seek appropriate information from consulting parties, other individuals, organizations, and Indian tribes likely to have knowledge of, or concerns with, cultural resources in the area.
- III.** FHWA shall consult with the Missouri SHPO and the Illinois SHPO (within their respective states), regarding the evaluation of adverse effects of the project on architectural resources identified in the APE as eligible for the National Register when design plans are available.

- IV. Buildings eligible for listing on the National Register and potentially affected by the project within Missouri include the Gateway Refrigeration building, the Sang Fah Wholesale building, and the M&L Foods building.
- A. Prior to demolition of any adversely affected, National Register-eligible architectural resource in Missouri, the following recordation measures will be carried out in consultation with SHPO:
1. MoDOT will provide 8X10 inch archival photographs taken, processed and labeled to National Register standards of the exterior facades, significant details, significant interior spaces, and features of the resources. A minimum of eight (8) photographs will be provided for each resource.
  2. MoDOT will provide a brief history of the tenants of the adversely affected buildings including name, type of business and period of occupation as determined through commercial directories.
  3. MoDOT will provide a written description of each adversely affected building including description of the exterior facades and significant interior features.
  4. MoDOT will attempt to locate and provide copies of historical floor plans of each building showing the original layout of the building's major interior space.
  5. MoDOT will provide a contextual history of industry and warehousing in the area bounded by Salisbury Avenue/McKinley Bridge, I-70, Dickson Avenue, and the Mississippi River as described in the Information to Accompany.
- B. FHWA will provide the recordation materials to Missouri SHPO for a thirty- (30) day comment period prior to the removal of the resource. If no comments are received, then removal may proceed.
- C. MoDOT will provide final copies of the above information to Missouri SHPO, St. Louis Cultural Resource Office, St. Louis Public Library Central Branch, and to the Landmarks Association of Saint Louis.
- V. FHWA shall consult with the Missouri SHPO and the Illinois SHPO regarding evaluation of adverse effects of the project on archaeological resources identified as eligible for the National Register of Historic Places within their respective states. For sites of Native American origin, this consultation shall include the aforementioned tribes.
- A. Due to this project's location in a major metropolitan area, the archaeological investigations will use a phased process, to identify and evaluate archaeological sites, evaluate the effects of the proposed undertaking on National Register eligible archaeological sites, and mitigate the adverse effects of the project on National Register eligible archaeological sites that cannot be avoided.

1. FHWA shall ensure that an adequate archaeological survey is conducted for the project's identified archaeological APE. The area to be surveyed shall take into consideration areas of hazardous waste concerns.
2. FHWA, in consultation with the Missouri SHPO or the Illinois SHPO (within their respective states) shall evaluate the National Register eligibility of all archaeological sites identified within the APE. If the site is of Native American origin, the consultation shall include the aforementioned tribes.
3. FHWA shall consult with the Missouri SHPO or the Illinois SHPO (within their respective states) and other consulting parties, to develop and evaluate alternatives or modifications to the undertaking that could avoid, minimize or mitigate project adverse effects on archaeological sites eligible to the National Register.
4. FHWA shall consult with the Missouri SHPO and other consulting parties, to develop an Archaeological Data Recovery Plan(s) to mitigate adverse effects on National Register eligible archaeological sites that cannot be avoided in Missouri.
5. FHWA shall ensure that IDOT utilizes the Archaeological Data Recovery Plan contained within the *Programmatic Agreement for the Treatment of Archaeological Properties* ratified by the Illinois SHPO and FHWA (19 September 2002) for the purpose of complying with Section 106 on National Register eligible non-mortuary archaeological sites that cannot be avoided in Illinois.
6. The FHWA recognizes that any human remains (other than from a crime scene or covered under RSMo 214 – Cemeteries) that may be discovered or excavated during archaeological investigations on state land in Missouri, and are therefore subject to the immediate control, possession, custody and jurisdiction of the Missouri SHPO, pursuant to the Missouri Unmarked Human Burials Sites Act (RSMo. 194.400-194.410). The excavation of human remains will follow guidance obtained through FHWA, Missouri SHPO, and the Indian Tribes consulted, depending under which Missouri Revised Statue applies. The FHWA shall ensure that the excavation and handling of any such human remains and associated funerary objects, sacred objects, or objects of cultural patrimony are excavated, handled, and processed in accordance with the SHPO instructions and pursuant to any provisions of the Native American Graves Protection and Repatriation Act (NAGPRA) applicable to such remains and artifacts found on non-federal lands.
7. The FHWA recognizes that any human remains (other than from a crime scene) that may be discovered or excavated during archaeological investigations located in Illinois that the Illinois SHPO and the Indian Tribes consulted will be notified. To fully satisfy coordination under 17 IAC 4170.300(d)(3) concerning

the encounter of burials, the notification of the discovery will be made to the county coroner and to the Illinois Historic Preservation Agency. If the burial is not a crime scene as determined by the coroner, then it and any associated burial artifacts will be removed following procedures for recordation and reporting in accordance with the provisions of the Human Skeletal Remains Protection Act (20 ILCS 3440, 17 IAC 4170).

- B. The FHWA shall ensure that a report(s) on the archaeological investigations conducted pursuant to this agreement is provided to the Missouri SHPO or the Illinois SHPO, and upon request to other interested parties.
  - C. FHWA shall ensure that procedures to be used for the processing, analysis, and curation of collected materials must be in accordance with the Advisory Council's Handbook Treatment of Archaeological Properties, Part 111 of the Secretary of the Interior's Guidelines and currently accepted standards for the analysis and curation of archaeological remains.
- VI. FHWA shall ensure that a determination, finding, or agreement is supported by sufficient documentation to enable any reviewing parties to understand its basis.
- VII. If any signatory determines the terms of the MOA cannot be carried out, has a dispute with it, or requests an amendment; the signatories shall consult to seek to amend the agreement. Said amendment shall be in writing, governed in accordance with 36 CFR 800.5(e), and executed by all parties to this MOA. If the signatories cannot agree, any one of the signatories may request the participation of the ACHP. If the MOA is not amended, any signatory may terminate it, at which time FHWA shall execute a new MOA.
- VIII. This Agreement shall commence upon having been signed by FHWA, Missouri SHPO, Illinois SHPO, IDOT, and MHTC and shall be null and void if its terms are not carried out within ten (10) years from the date of its execution, unless FHWA, Missouri SHPO, Illinois SHPO, IDOT, and MHTC agree in writing to an extension for carrying out its terms.

Execution of this MOA by FHWA, Missouri SHPO, Illinois SHPO, IDOT, and MHTC and implementation of its terms, evidence that FHWA has afforded the ACHP an opportunity to comment on the Project and its effects on historic properties, and that FHWA has taken into account the effects of the Project on historic properties.

**FEDERAL HIGHWAY ADMINISTRATION:**

By: *Peggy J. Ansey* Date: 1/7/09  
Title: *Environmental Projects Team Leader*

THE MISSOURI STATE HISTORIC PRESERVATION OFFICE:

By: Mark A Miller Date: 12/10/05  
Title: Deputy State Historic Preservation Officer

THE ILLINOIS STATE HISTORIC PRESERVATION OFFICER:

By: Anne Schauer Date: 1/05/09  
Title: DSHP O

THE ILLINOIS DEPARTMENT OF TRANSPORTATION:

By: Mary C Loomis Date: 12/30/08  
Title: Region 5 Deputy Director of Highways

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION:

By: Kevin Huts Date: 11-24-08  
Title: Chief Engineer

Attest:

Pamela J. Hall  
Commission Secretary

Approved as to form:

Byrd D. Hall  
Commission Counsel

**INFORMATION TO ACCOMPANY  
MEMORANDUM OF AGREEMENT  
FOR RECOVERY OF SIGNIFICANT INFORMATION**

**FROM HISTORIC PROPERTIES:** Gateway Refrigeration, Sang Fah Wholesale, and M&L Foods in St. Louis, Missouri, and yet to be identified archaeological sites in Missouri and Illinois

**UNDERTAKING:** Construct new bridge over Mississippi River in St. Louis; relocate I-70 in Illinois and build a new I-70 interchange in Missouri to the new bridge

**STATES:** Missouri and Illinois

**AGENCY:** Federal Highway Administration

**Project Background**

The **original New Mississippi River Bridge (NMRB) Project** was proposed to be a new eight-lane bridge connecting Missouri and Illinois just north of downtown St. Louis, and other associated roadway improvements including the relocation of I-70 and Illinois Route 3. The Federal Highway Administration (FHWA), the Illinois Department of Transportation (IDOT), and the Missouri Department of Transportation (MoDOT) jointly conducted an environmental study during the late 1990s for the construction of a new Mississippi River bridge between St. Louis, Missouri and the adjacent southwestern Illinois communities. The Draft Environmental Impact Statement, *Mississippi River Crossing: Relocated I-70 and I-64 Connector* was approved in April 2000 with the Final Environmental Impact Statement being approved in March 2001. A Record of Decision was signed in June 2001.

A series of public meetings were held on both sides of the Mississippi River for the original NMRB Project. At these meetings, the public has been asked to voice any concerns they may have on cultural resources that may be impacted by this undertaking. St. Louis news organizations have reported on this undertaking, as well as it being mentioned in a five-part series, *America's Lost Metropolis: the ancient civilization of Cahokia Mounds*, in the St. Louis Post-Dispatch newspaper. Federal Highway Administration (FHWA) sent letters to all the Indian tribes listed in the Native American Consultation Database with interests in St. Louis County in Missouri requesting if they would like to take part in consultation but received no responses.

The Missouri FHWA and the Missouri State Historic Preservation Office (SHPO) signed a Memorandum of Agreement addressing Section 106 of the National Historic Preservation Act on 1 January 2001. MoDOT signed the document as a concurring partner. Copies of the correspondence related to the original MOA from FHWA, SHPO, and the Advisory Council on Historic Preservation are attached at the end of this document. While a joint effort, MoDOT and IDOT each served as the lead agency for resources in their state. IDOT served as the overall lead agency on the original NMRB project. The original NMRB Project subsequently stalled due to funding disagreements.

In August 2005 a series of public meetings were held to inform the public about the need to cut project costs, and the purpose of the re-evaluation study. In November 2005 a second set of

public meetings was held to present the revised and relocated I-70 project including reduced project costs, traffic information, prior and proposed bridge concept comparisons, and a revised construction timeline. FHWA resubmitted consultation requests to interested tribes and received responses from the Osage Nation and the Peoria Tribe of Indians of Oklahoma. FHWA submitted revised project information and the results of previous archaeological investigations to these two tribes. The City of St. Louis Cultural Resources Office has been consulting with FHWA, SHPO and MoDOT regarding architectural resources.

On 28 February 2008, officials from Missouri and Illinois announced that an agreement has been reached on the revised **New Mississippi River Bridge Project**. The new bridge will have four lanes, two lanes in each direction, with room to expand to six lanes (<http://www.newriverbridge.org/>). The New Mississippi River Bridge will carry Interstate 70 traffic from Illinois to Missouri connecting I-70 at the I-55/I-64/I-70 interchange on the Illinois side to I-70 near Cass Avenue on the Missouri side (Figure 1). MoDOT will serve as the lead agency on the revised NMRB project. The new I-70 Mississippi River bridge is located within the study area of the original EIS. In May 2008, The Illinois and Missouri departments of transportation scheduled two joint public meetings to discuss the latest progress on the Mississippi River Bridge project and the present conceptual plans for bridge design.

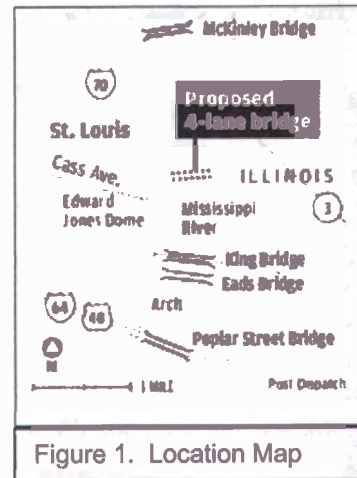


Figure 1. Location Map

The revised NMRB project (i.e., meeting the main element of the project's purpose and need) includes: 1) an improved I-55/I-64/I-70 interchange in Illinois (Tri-Level); 2) a new I-70

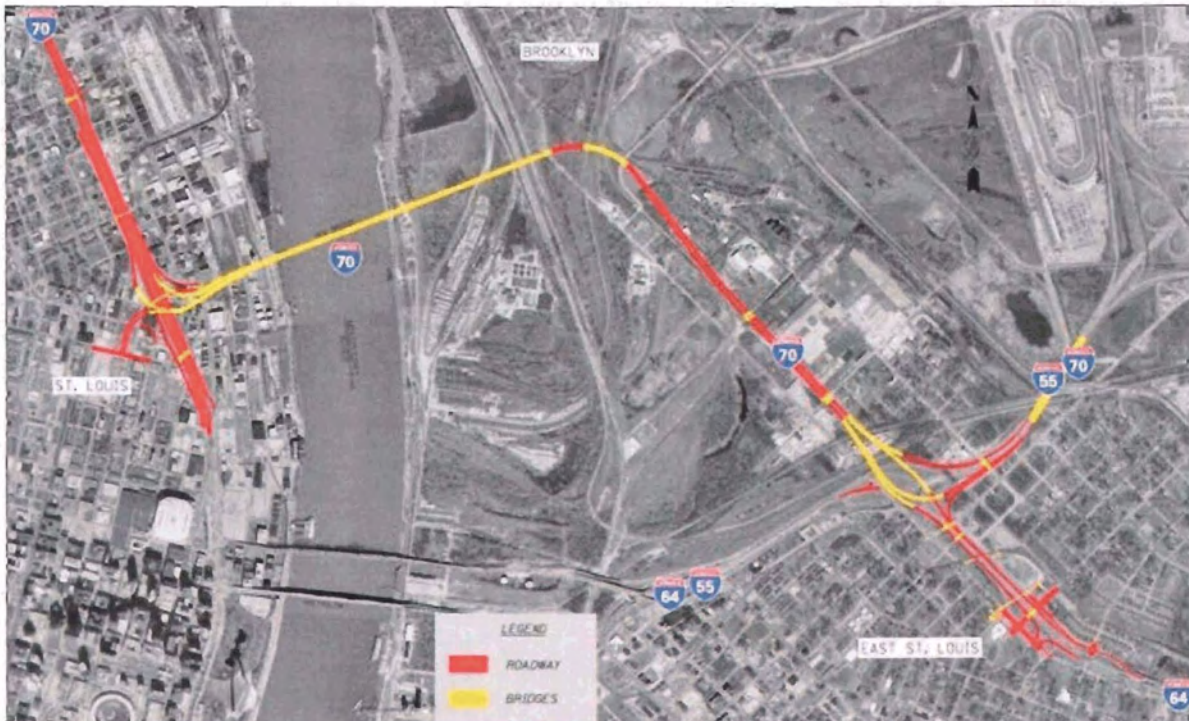


Figure 2. Revised New Mississippi River Bridge Project.



Mississippi River Bridge; and 3) a new interchange in Missouri with existing I-70 (Missouri North Interchange) (Figure 2). The Deferred Components of the revised NMRB project (i.e., components that are not essential to meeting the main element of the project's purpose and need that have been deferred until funding becomes available, which may not happen) include: 1) relocating I-70 in Illinois, north of its current location; 2) a connection between existing I-55/I-64/I-70 and the relocated I-70 (I-64 Connector) in Illinois; and 3) improvements to ramps at the west side of the existing I-55/I-64/I-70 Poplar Street Bridge (Missouri South Interchange).

### **Historic Architectural Resources in Missouri**

Cultural resources investigations for the original NMRB project are summarized in the report *Archival Search and Architectural Survey within the Area of Potential Effect for a New Mississippi River Bridge, St. Louis, Missouri* (Archaeological Center of St. Louis Inc, 1999). The architectural area of potential effects (APE) for the project included all parcels directly affected by the project and those parcels that were immediately adjacent to the project area. As the project has changed in scope, the APE has shrunk. The survey looked at the proposed new bridge location (Northern Study Area) and a disjointed section of proposed roadway improvements on I-64/55 at the Missouri end of the Poplar Street Bridge (Southern Study Area). The Southern Study Area has been dropped and is no longer part the revised NMRB Project.

The architectural survey photographed all buildings in the APE, and completed Missouri Historic Preservation Program, Architectural/Historical Inventory Survey Forms for all properties constructed before 1949 (the 50 year cut-off from the 1999 survey date). These inventory forms included building descriptions and histories.

The architectural survey identified 3 buildings listed on the National Register of Historic Places (NRHP) (all in the Southern Study Area) and 17 buildings in the APE that were eligible for listing on the NRHP (2 in the Southern Study Area; 15 in the Northern Study Area). No NRHP eligible-bridges were found in the project APE. As the project area was reduced in size only three buildings determined eligible for listing on the NRHP remain in the project APE. These determinations were made in consultation with the SHPO and the City of St. Louis Historic Preservation Office (Appendix A).

When the project was revived in 2008 MoDOT and SHPO staff revisited the project area to determine if the buildings that had been determined eligible were extant and if those that were retained enough integrity to be eligible for listing on the NRHP.

Four NRHP-eligible industrial properties were initially identified as being directly impacted by the project. The four industrial properties are: Gateway Refrigeration, Alpers Jobbing, Sang Fah Wholesale, and M&L Foods. Since that time the Alpers Jobbing building has been destroyed, and the property is no longer considered eligible for listing on the NRHP. The three remaining properties are considered NRHP-eligible under Criterion A because they "are associated with events that have made a significant contribution to the broad patterns of our history" and Criterion C because they also "embody the distinctive characteristics of a type, period, or method of construction."

- *Gateway Refrigeration* is a 1922 icehouse that is in good condition. The building demonstrates a special, uncommon form of icehouse construction where structural walls are doubled and an insulating cavity is left between the two, creating a "box within a box" (Figure 3). The brick building has minimal, but carefully articulated, fenestration. The building's brick exterior is articulated with pilasters (those on the rear wall have been removed) crowned with stone caps and a roofline parapet wall capped with stone (those on the rear wall have been removed).

In the vicinity of Gateway Refrigeration the project will include an elevated ramp, which will obscure the south façade of the building. In addition, a small piece of right of way or aerial easement will be required from the parking lot behind the building, but on the property. The indirect effects on this property include obscuring significant architectural elements.



Figure 3. Gateway Refrigeration

- The *Sang Fah Wholesale* warehouse, designed by Architect Thomas Saum, was built in 1913, and is in fair condition. The typical 1900s facade shows a simple blocklike massing with a tripartite organization, enlivened by exuberant terra cotta, glazed brick, and carved limestone trim (Figure 4). The building's front elevation includes brick pilasters with terra cotta capitals and bases, as well as terra cotta shields and diamonds on the corner bays. At the first floor level, ornately carved oval stone crests include fleur de lis, and the pedimented stone front door surround features a carved stone eagle. It exhibits both Craftsman and Neoclassical design traditions.

Project effects on this property are unknown until final design is completed. It is possible that no property will be needed from the parcel the Sang Fah warehouse sits on, or that the parcel will be needed, and the building demolished, to allow space for ramps.



Figure 4. Sang Fah Wholesale

- *M&L Foods*, designed by the architectural firm of Eugene & Eugene, with input by Norman Howard, was built in 1942, and is in good condition. The building demonstrates influences of Streamline Moderne and to a lesser extent the Art Deco on vernacular architecture (Figure 5). These influences appear in the radiused corners, the contrasting vitreous brick accents and window surrounds on the buff facade, and the horizontal emphasis of the facade, which is interrupted by contrasting vertical terra trim at the building's main entrance.

This building will be directly affected by the project, since it sits directly in the path of the new roadway. The building will be destroyed by the project.



Figure 5. M&L Foods

As project design precedes the SHPO and City of St. Louis Historic Preservation Office will be consulted regarding the effects of the project on these three buildings. Both agencies have participated in consultation regarding appropriate mitigation measures for the project, and their input is reflected in the mitigation measures presented in Appendix B, in particular the scope of the industrial context that will be developed for the north of downtown area.

### **Historic Architectural Resources in Illinois**

Pedestrian survey of the proposed rights-of way to identify historic standing structures did not reveal any significant properties of this type (see Illinois SHPO concurrence dated January 10, 2008 – Appendix C). Much of this formerly industrial area was devoted to railroads and stockyards. Most of the buildings associated with these activities were demolished in the late 20th century when the stockyards closed and many rail lines were abandoned.

### **Archaeological Resources in Missouri**

Archaeological resources were also considered in the document *Archival Search and Architectural Survey within the Area of Potential Effect for a New Mississippi River Bridge, St. Louis, Missouri* as well as subsequent archival reviews. No archaeological fieldwork was conducted during the initial study in 1999; however, the report summarized previous archaeological testing within the project area, and assessed the potential of both historical and prehistoric sites. The study documents that the prehistoric Big Mound (23SL3) and the northern extent of the St. Louis Mound Group (23SL4) were located in the Northern Study Area. In addition, 18<sup>th</sup>- and 19<sup>th</sup>-century historic St. Louis was located in this area. Subsequent historic development has profoundly changed the modern landscape in this area. No NRHP-eligible prehistoric or historic archaeological resources have been identified in the NMRB archaeological APE, which is defined as the project footprint, but surveys and studies acknowledge that significant prehistoric and historical archaeological deposits could be preserved beneath the current built environment.

All archaeological investigations will consider the potential impact of hazardous waste concerns. Much of the project APE has been the site of various industrial and commercial activities for more than a century. Soil samples taken within the project area for hazardous waste studies identified potential contamination involving volatile organic compounds, heavy metals, polynuclear aromatic hydrocarbons, and asbestos. Archaeologists will consult with hazardous waste specialists to determine the safety of any archaeological investigations at various locations. Archaeological investigations will not be conducted in areas of significant hazardous waste concerns.

The location of the NMRB in the vicinity of the St. Louis Mound Group (23SL4) raises the potential for intact, significant prehistoric archaeological remains to be present in the project APE (Figure 6). Historic development throughout this area appears to have largely, if not entirely, obliterated the prehistoric archaeological remains. Big Mound of the St. Louis Mound Group is reported to have measured 319 by 158 feet with a height of 34 feet (Peale 1862:391). In 1869, city development led to the mound being leveled and an indeterminate amount of surrounding surface soil being removed for street and building construction. Photographs by

Thomas Easterly during the mound's destruction (Missouri Historical Society collection) show what has been interpreted as the break between the site's living surface and the mound fill (Figures 7 & 8). Based on the complete removal of all mound fill and at least a portion of the original ground surface, there is little likelihood of identifying intact archaeological remains of the St. Louis mounds within the project APE.

Further archaeological investigations in the project area or monitoring of construction activities will watch for and consider the potential presence of prehistoric archaeological remains. Although the mounds may have been removed, the identification of prehistoric deposits relating to or predating the mound group remains possible. If any intact prehistoric remains are encountered, FHWA and MoDOT will consult with the SHPO and appropriate Indian Tribes to evaluate the significance of the remains and their mitigation if necessary.

The project area is in an area with much historic development. Archaeological investigations of historic remains focus on areas having intact archaeological deposits (as evidenced by the presence of numerous features) relating to the lives of the working-class citizens of 19<sup>th</sup>-century St. Louis. Figure 9 highlights areas considered to have intact and significant archaeological deposits and areas that may have significantly higher concentrations of archaeological features. This evaluation is based upon an examination of historical documents including maps, census records, deeds, and probate records. If these assessments are confirmed, archeological mitigation will focus primarily on these areas (hatched in green). Property types within these areas include tenements; single and multiple family homes; store fronts such as grocers and jewelers; churches; lumber mills; and carriage factories.

As the results of subsurface archaeological survey and testing investigations are determined, FHWA and MoDOT shall consult with the SHPO to evaluate the significance of the remains identified and determine the appropriate mitigation that may be required to resolve adverse project effects to the remains.

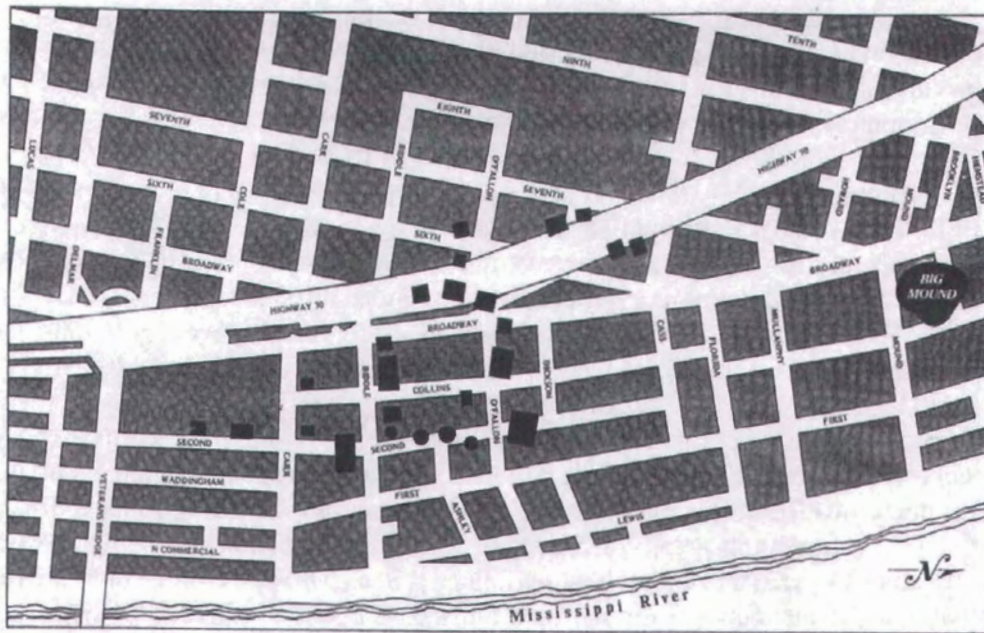


Figure 16. A map once used at the St. Louis Museum of Science and Natural History, created by superimposing mound locations based on Peale and Say's map on a then-modern street grid.

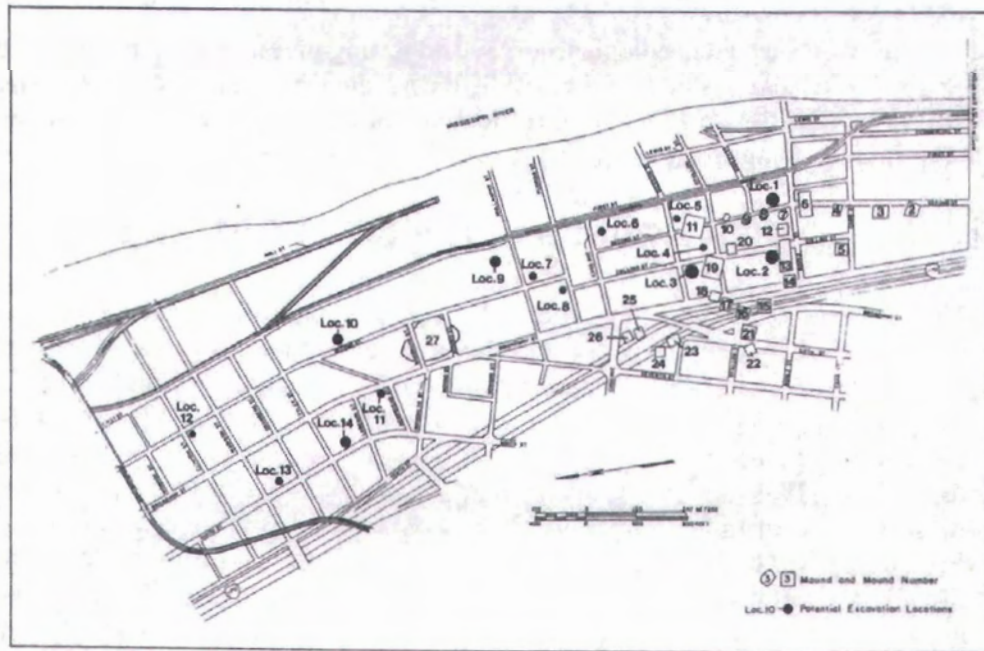


Figure 17. 1987 Army Corps of Engineers map of the St. Louis mound group (Rogers and Pulcher 1987:20).

Figure 6. St. Louis Mound Group in relation to modern roads (from Marshal 1992:67)



Figure 6. Big Mound Prior to 1869 (The contact line shows the break between the natural soil and the artificial mound above; photograph from Missouri Historical Society).

Figure 7. (Easterly photograph in Williams and Goggin 1956:17)

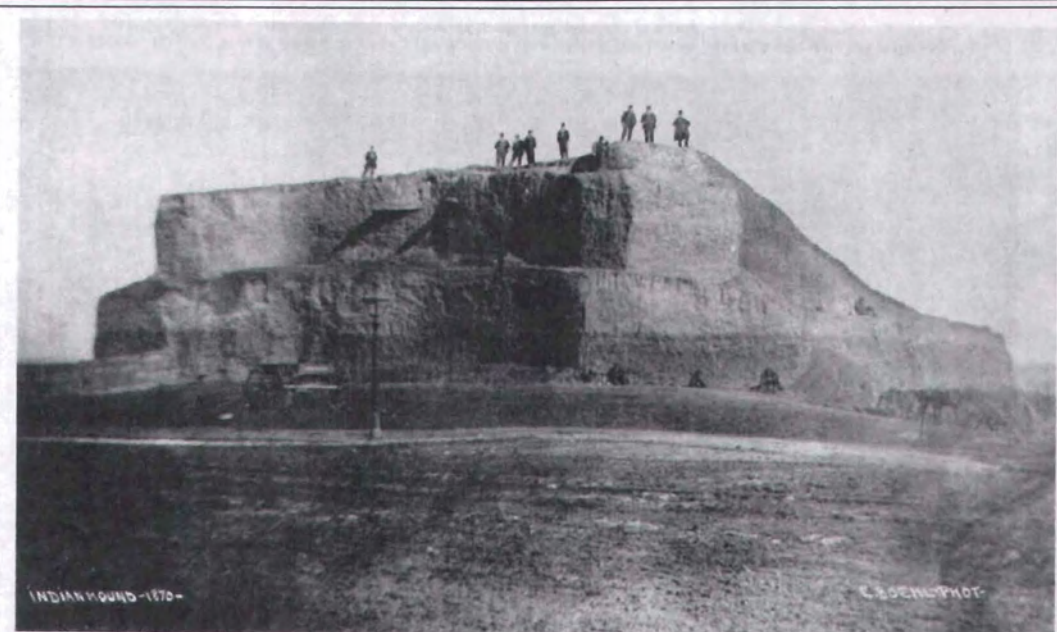


Figure 7. Looking East from Broadway and Mound Streets at Big Mound During Its Destruction, Spring, 1869 (Old photograph from Missouri Historical Society, erroneously dated 1870, showing final excavations which destroyed the mound).

Figure 8. (Easterly photograph in Williams and Goggin 1956:18; also in Marshall 1992:62)

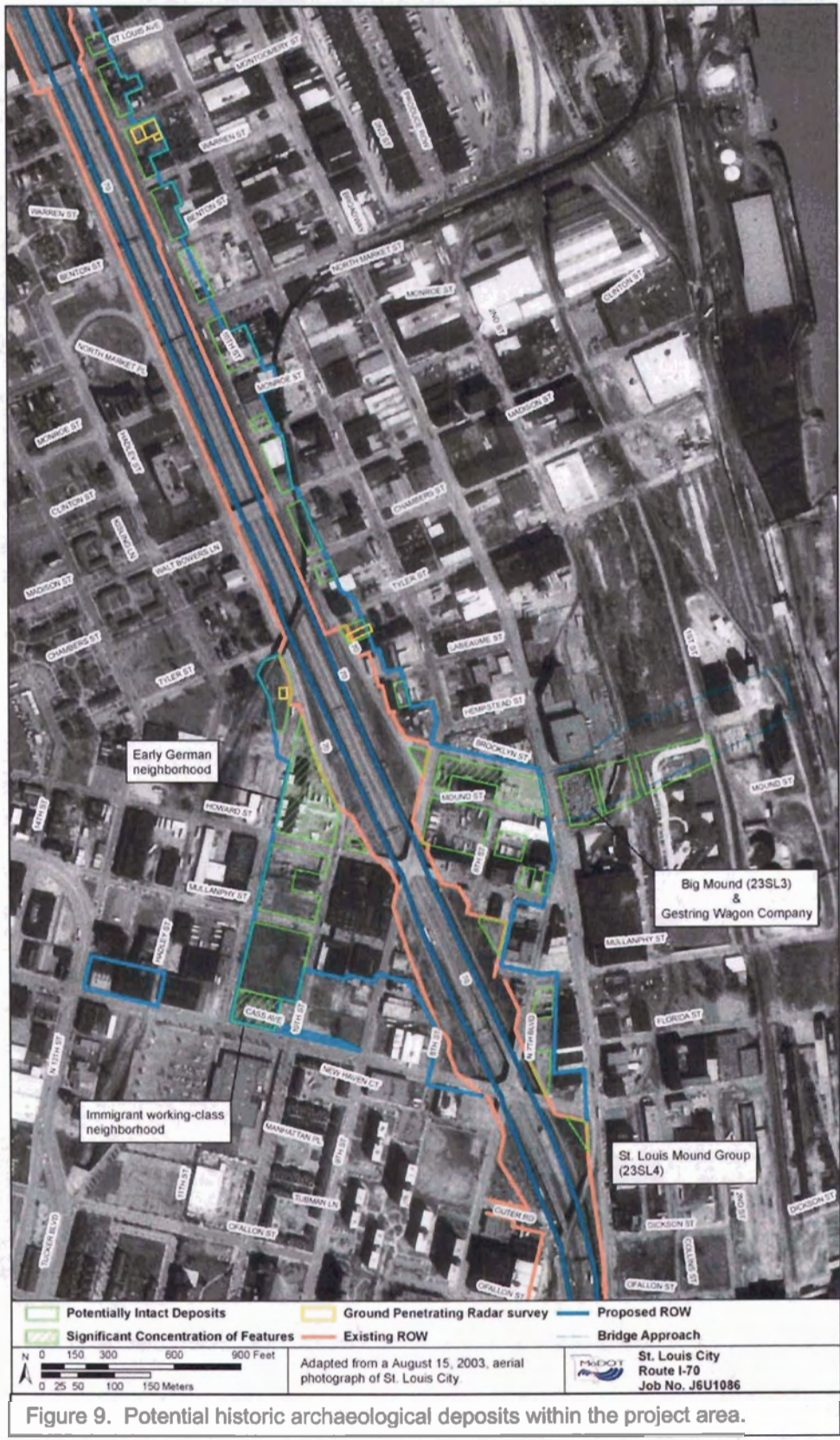


Figure 9. Potential historic archaeological deposits within the project area.



## Archaeological Resources in Illinois

The proposed New Mississippi River Bridge Project covers a portion of northern East St. Louis, as well as nearby railyards and abandoned stockyards. The East St. Louis Mound Center (11S706), the second largest Mississippian period mound group in North America, also falls within the NMRB project limits. The locations of a number of mounds are known and can be seen on Figure 2 in Appendix D. What cannot be determined from surface inspection is the location of possible prehistoric habitation zones between or around the mounds. Areas of High/Low potential for archaeological deposits in the Illinois project area are shown in Figure 4 in Appendix D.

From the summary of *Summary of Potential Historic Resources Impact in the Proposed IDOT I-64/I-55/70 Tri-level and I-64 Connector Areas of the New Mississippi River Bridge Crossing Project, East St. Louis, St. Clair County, No.2* (Fortier, Galloy, and Kolb 2008), which is attached as Appendix D:

“None of the area within the construction areas of the proposed Tri-level and I-64 / 70 connector has been tested archaeologically since the area typically is in private ownership and densely covered by historic fill and urban construction. However, excavations have been conducted in the immediate vicinity and have revealed intact and buried prehistoric resources. Moreover, mounds have been identified within the general project areas. Limited geomorphic coring has also been conducted in areas adjacent to the Tri-level and I-64/70 connector corridors. A number of man-made soils have been identified of probable prehistoric construction. Assessment of these areas will require further trenching and coring.

The ESTL Mound Group is the second largest Mississippian center in the United States. Because it is mostly buried under historic debris, its full extent is not known, but the proposed Tri-level area falls within the heart of the center. Much of this area has been leveled and paved, but previous work in nearby areas has revealed that cultural resources can be found beneath modern features. The area within the proposed I-64/70 connector is largely unknown. It is an artificial man-made surface (National City Stockyards and rail yards) covering portions of the Horseshoe Lake meander that in turn contains a point bar complex and buried sand island. This area is poorly understood geomorphologically and has never been archaeologically investigated. Its close proximity to the ESTL Mound Group is noted. Finally, the greatest potential for buried resources lies in the old Stockyard area between St. Clair and Exchange Avenues. Nearby mound locations are known. Habitation resources can be expected between mound areas.”

## References

Archaeological Center of St. Louis Inc

1999 *Archival Search and Architectural Survey within the Area of Potential Effect for a New Mississippi River Bridge, St. Louis, Missouri.* Report on file at the Missouri State Historic Preservation Office.

Fortier, Andrew C., Joseph M. Galloy, and Michael F. Kolb

2008 *Summary of Potential Historic Resources Impact in the Proposed IDOT I-64/I-55/70 Tri-level and I-64 Connector Areas of the New Mississippi River Bridge Crossing Project, East St. Louis, St. Clair County, No.2.* Illinois Transportation Archaeological Research Program Research Reports No. 116.

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1862 "Ancient Mounds at St. Louis, Missouri, in 1819." Annual report, Board of Regents of the Smithsonian Institution for the Year 1861:386-91. Washington: Government Printing Office

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1869 "Origin of the Big Mound of St. Louis." Paper presented to the St. Louis Academy of Science, September 6, 1869. Mercantile Library Collection.

Williams, Stephen and J.M. Goggin

1956 The Long Nosed God Mask in Eastern United States. *The Missouri Archaeologist* Volume 18, Number 3.

**Appendix A:**  
**Missouri SHPO Concurrence Letters**

STATE OF MISSOURI  
DEPARTMENT OF NATURAL RESOURCES

Mel Carnahan, Governor • Stephen M. Mahfood, Director

DIVISION OF STATE PARKS

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17 December 1999

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Missouri Department of Transportation  
P.O. Box 270  
Jefferson City, Missouri 65102

Re: Route I-70, Mississippi River Bridge, MoDOT Job No. J610984 (FHWA) City of St. Louis and St. Louis County, Missouri

Dear Mr. Yamell:

Thank you for submitting information on the above referenced project for our review pursuant to Section 106 of the National Historic Preservation Act (P.L. 89-665, as amended).

Staff of the Historic Preservation Program, Missouri Department of Natural Resources had reviewed the additional documentation provided as had been agreed to in the 18 July 1999 meeting concerning the above referenced project. We had responded in a letter dated 14 October 1999 (copy enclosed), in which we had concurred with your determination that Property N3 (1801 Broadway) and Property N106 (200 Brooklyn) are not eligible for inclusion in the National Register of Historic Places. Again, please note that the requested information to determine if 1801 Broadway was designed by an architect was specific to this property, and that future evaluation for eligibility should not rest solely on the association of an architect with the construction of a property.

We understand that with the recent reorganization with your agency that correspondence has not always arrived at the proper location in a timely manner. Please feel free to call Cathy Sala, Review and Compliance Assistant, at 573/751-7860, to check on the status of any project for which you have not received a response by the 30 day review period specified by 36 CFR Part 800. We will transmit a copy of any delayed correspondence by fax or by electronic attachment.

If you have any questions, please write or call Judith Deel at 573/751-7862.

Sincerely,

HISTORIC PRESERVATION PROGRAM



Claire F. Blackwell  
Director and Deputy State  
Historic Preservation Officer

Enclosure: As Stated

CFB:jd

- c Mr. Stephen Mahfood, Director, Missouri Department of Natural Resources
- Dr. Doug Eiken, Director, Division of States Parks, MDNR
- Mr. Don Neumann, Program Engineer, Federal Highway Administration
- Dr. Bob Reeder, Cultural Resources Coordinator, Missouri Department of Transportation
- Mr. John Howland, Environmental Studies Coordinator, Missouri Department of Transportation
- Mr. Randy Dawdy, Cultural Resources Section, Missouri Department of Transportation



copied D 1-18-00

STATE OF MISSOURI  
DEPARTMENT OF NATURAL RESOURCES

Mel Carnahan, Governor • Stephen M. Mahfood, Director

DIVISION OF STATE PARKS

P.O. Box 176 Jefferson City, 65102-0176 (573) 751-2479

FAX (573) 751-8656

14 October 1999

Mr. Fred A. Martin  
Division Engineer, Preliminary Studies  
Missouri Department of Transportation  
P.O. Box 270  
Jefferson City, Missouri 65102

Re: Route I-70, Mississippi River Bridge, MoDOT Job No. J610984 (FHWA) City of St. Louis, Missouri

Dear Mr. Martin:

Thank you for submitting information on the above referenced project for our review pursuant to Section 106 of the National Historic Preservation Act (P.L. 89-665, as amended).

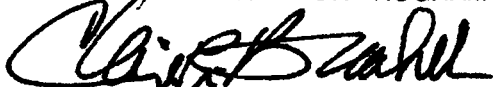
Staff of the Historic Preservation Program, Missouri Department of Natural Resources have reviewed the information provided as agreed to in the 18 July 1999 meeting concerning the above referenced project. We concur with your determination that Property N3, 1801 Broadway, and property N106, 200 Brooklyn, are not eligible for inclusion in the National Register of Historic Places. Please take note that the requested information to determine if 1801 Broadway was designed by an architect was specific to this property, and that future evaluations for eligibility should not rest solely on the association of an architect with the construction of a property.

Please be advised that this project is at a stage where it would be advisable to begin work on drafting a Memorandum of Agreement to address effects on historic architecture that has been determined to be eligible or that is listed in the National Register of Historic Places; and to develop the methodology for identification and evaluation of historic and prehistoric archaeological properties.

If you have any questions, please write or call Lee Gilleard at 573/751-5367, or Judith Deel at 573/751-7862.

Sincerely,

HISTORIC PRESERVATION PROGRAM



Claire F. Blackwell  
Director and Deputy State  
Historic Preservation Officer

CFB:jd

- c Mr. Stephen Mahfood, Director, Missouri Department of Natural Resources
- Dr. Doug Eiken, Director, Division of States Parks, MDNR
- Mr. Don Neumann, Program Engineer, Federal Highway Administration
- Dr. Bob Reeder, Cultural Resources Coordinator, Missouri Department of Transportation
- Mr. John Howland, Environmental Studies Coordinator, Missouri Department of Transportation

STATE OF MISSOURI  
**DEPARTMENT OF NATURAL RESOURCES**

Mel Carnahan, Governor • Stephen M. Mahfood, Director

DIVISION OF STATE PARKS

P.O. Box 176 Jefferson City, 65102-0176 (573) 751-2479

FAX (573) 751-8656

May 12, 1999

Mr. Fred Martin, Division Engineer  
 Missouri Department of Transportation  
 PO BOX 270  
 Jefferson City, MO 65102

RE: Archival Search [Archaeology] and Architectural Survey Report, Preliminary Studies, Route 70, New Mississippi Bridge, Job No. J610984 (FHWA/MoDOT), St. Louis City

Dear Mr. Martin:

Thank you for submitting the above referenced information for our review pursuant to Section 106 of the National Historic Preservation Act (P.L. 89-665, as amended) and the Advisory Council on Historic Preservation's regulation 36 CFR Part 800, which requires identification and evaluation of cultural resources.

We appreciate the completion of requested revisions, which has assisted our review of this report. Having completed our review of the assessment of eligibility, we have outlined our opinions on National Register eligible buildings on the attached list. We concur with your assessment of National Register eligibility of 16 buildings; we do not agree that N63 is National Register eligible. We also believe that several other buildings/structures are National Register eligible, as enumerated on the attached list.

As information on the exact locations of the roadway has not yet been provided, it is premature for us to comment formally on potential effects. However, information provided to date indicates that the project has a high potential for adverse effects on historic buildings. In addition, archaeological issues for this project may be complex, since the project involves construction and excavation located near the former "Big Mound," the St. Louis Mound Group and the Old French Village of St. Louis.

We recommend that discussions about a Memorandum of Agreement for this complex and high profile project be initiated as soon as possible. If you have any questions, please contact Ms. Laura Sparks at (573) 751-9501.

Sincerely,

HISTORIC PRESERVATION PROGRAM



Claire F. Blackwell  
 Director and Deputy State  
 Historic Preservation Officer

Enclosure

- c Mr. Tom McCulloch, Advisory Council on Historic Preservation  
 Mr. Don Neumann, Federal Highway Administration  
 Mr. John Howland, Missouri Department of Transportation  
 Mr. Bob Reeder, Missouri Department of Transportation  
 Mr. Stephen Mahfood, Department of Natural Resources  
 Mr. Doug Eiken, Division of State Parks  
 Ms. Kate Shea, St. Louis Heritage and Urban Design Commission

**MISSOURI SHPO OPINION  
REGARDING ELIGIBLE BUILDINGS  
RT. 70 BRIDGE OVER THE MISSISSIPPI RIVER (Job No. J6I0984)  
May 12, 1999**

It is our opinion that the following properties are eligible for listing in the National Register of Historic Places:

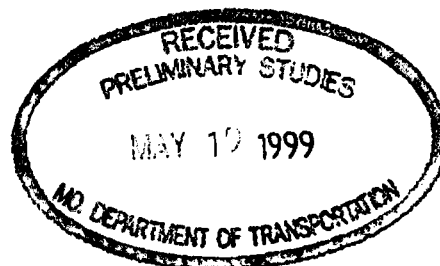
Survey Number, Address, (FHWA/MoDOT-recommended criteria) [SHPO-recommended criteria].

\*FHWA/MoDOT recommended as eligible

Bridge B2 (none) [A] (This is actually the approach to the National Register-eligible McKinley Bridge. There is no information to indicate that the approach to the bridge should be considered separately from the bridge itself.)

N1 1608-10 N. Broadway (none) [A] (see also N106)  
N2\* 1800 N. Broadway (A, C)  
N21\* 1333 N. 6<sup>th</sup> Street (A, C)  
N23 815 Cass Avenue (none) [C]  
N31\* 1520 N. 13<sup>th</sup> Street (C)  
N34\* 1201-25 Cass Avenue (C) [A, C]  
N35\* 1450 N. 13<sup>th</sup> Street (C) [C]  
N44\* 1212 N. 13<sup>th</sup> Street (C) [A, C]  
N50\* 927 Tyler Street (C)  
N61\* 2923-25 N. 9<sup>th</sup> Street (C) [A, C]  
N73\* 1412-28 N. Broadway (C)  
N86\* 1500-06 N. Broadway (A, C) [A]  
N87\* 1510-18 N. Broadway (A, C) [A]  
N91\* 1717-35 N. Broadway (C)  
N96\* 230 Cass Avenue (A, C) [A]  
N98, N100-102  
1917-19, 915, 913, 911 Montgomery (none) [C]  
N106 Actually an outbuilding for N1  
N109\* 913-17 LeBeaume (none) [C]  
S10\* 753-65 S. 2<sup>nd</sup> Street/210-13 Gratoit [C]  
S15\* 731 S. 1<sup>st</sup>/721-29 X. 1<sup>st</sup> [C]

Building N3, 1801 Broadway, appears to be an architecturally-designed building, but no architect has been associated with it. It does not appear that all potential sources of information for this building have been consulted. For example, there is no indication that the trade magazine "Missouri Builder" was consulted for possible information about this building and its architect. This magazine contains useful information about many buildings in Missouri. The magazine, and any other potential sources of information beyond building permits should be researched before this building is finally evaluated.



**Appendix B:**  
**General Guidelines for Historic Context of North of Downtown Industrial Area**

The context study was developed in negotiations between the SHPO, St. Louis Cultural Resource Office and MoDOT to determine a geographic area, time frame to be considered, and expectations for the scope of work. The scope below is the result of those negotiations.

*Boundary for context area:*

North: McKinley Bridge/Salisbury Avenue

West: I-70 Corridor

South: Dickson Avenue

East: Mississippi River

*Core Time period:* 1910-1941

*Description:*

The MoDOT will provide a historic context of industry and warehousing for the north of downtown industrial area bounded by McKinley Bridge/Salisbury Avenue on the north, the I-70 Corridor on the west, Dickson Avenue on the south, and the Mississippi River on the east (see attached map). The context will focus on the second generation of building construction, occurring approximately between 1910 and 1941.

The context will include a brief discussion of the first generation of industrial development to provide a basic understanding of the type of development that was already occurring in the area before the turn of the twentieth century. The focus of the context will be on the period between 1910 and 1941 but will also briefly discuss the ramp up of industrial production in the area for World War II and the decline of industry in the area.

Included with the context will be a reconnaissance level architectural survey of the context area. Buildings that are representative of property types associated with warehousing and industrial development and possessing integrity will be photographed. MoDOT will not make any recommendations of eligibility for listing on the National Register of Historic Places. Photographs may be tied into a GIS system compatible with State Historic Preservation Office (SHPO) and City of St. Louis Cultural Resource Office (CRO) architectural surveys.

The context will build off of previous studies done by the City of St. Louis and the St. Louis Landmarks Association, and will reference other studies done in the vicinity of the context area of a similar nature.

Sources that will be utilized in preparing the context will include, but not be limited to: St. Louis CRO, Landmarks Association of St. Louis, Missouri Historical Society and the St. Louis Public Library Central Branch.

The SHPO and St. Louis CRO will be provided the opportunity to participate in the development of the context document and the identification of representative properties. They will also be provided the opportunity to comment on a draft of the context document before it is finalized. A



copy of the final document (paper and electronic) will be supplied to the SHPO, St. Louis CRO, Landmarks Association, and the St. Louis Public Library Central Branch. Electronic copies will be available for other parties on request.



Appendix C:  
Illinois SHPO Concurrence Letter



**Illinois Department of Transportation**

2300 South Dirksen Parkway / Springfield, Illinois / 62764

January 8, 2008

St. Clair County  
I-55/70 Tri-Level Connector  
I-55/64 to Mississippi River  
Project: P-98-088-91

IDOT Seq # 33  
ITARP #05104

Ms. Anne Haaker  
Deputy State Historic Preservation Officer  
Illinois Historic Preservation Agency  
Springfield, Illinois 62701

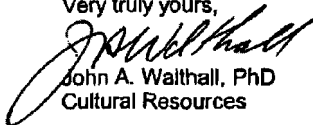
Dear Ms. Haaker:

Enclosed are two copies of an Archaeological Report and Phase I summary statement completed by University of Illinois personnel concerning historical and archaeological properties and sites potentially to be impacted by the proposed project referenced above. No historical standing structures are located in the proposed right-of-way which meet the criteria for listing on the National Register of Historic Places.

Large portions of the project area, particularly the northern and western segments, consist of abandoned floodplain channels, active creeks or lakes, swamps, and large areas disturbed by 19<sup>th</sup> and 20<sup>th</sup> century industrial activities. The portion of the project area around the proposed I-55/70 Tri-Level interchange falls partially with the historical limits of the East St. Louis prehistoric site (S-706). It cannot be determined from surface inspection if intact cultural deposits are present in this area. Once hazardous waste studies have been completed, a program of machine-aided subsurface testing will be conducted.

In accordance with the established procedure for coordination of Illinois Department of Transportation projects, we request the concurrence of the State Historic Preservation Officer in our determination that if intact deposits relating to S-706, a cultural property subject to protection under Section 106 of the National Historic Preservation Act of 1966, as amended, are located a report will be forwarded to your office with a recommendation for further coordination under an existing Programmatic Agreement, or under a project-specific memorandum of agreement.

Very truly yours,

  
John A. Walthall, PhD  
Cultural Resources

**CONCUR**

By:   
Deputy State Historic Preservation Officer

Date: 1/10/08

**Appendix D:**

*Summary of Potential Historic Resources Impact in the Proposed IDOT I-64/I-55/70 Tri-level and I-64 Connector Areas of the New Mississippi River Bridge Crossing Project, East St. Louis, St. Clair County, No.2*

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***Summary of Potential Historic Resources  
Impact in the Proposed IDOT I-64/I-55/70  
Tri-level and I-64 Connector Areas of the New  
Mississippi River Bridge Crossing Project,  
East St. Louis, St. Clair County, No. 2***

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**Prepared by  
Dr. Andrew C. Fortier  
Dr. Joseph M. Galloy  
Dr. Michael F. Kolb**



**ILLINOIS  
TRANSPORTATION  
ARCHAEOLOGICAL  
RESEARCH PROGRAM**

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Research Reports  
No. 116

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**Summary of Potential Historic Resources Impact in the Proposed IDOT  
I-64/I-55/70 Tri-level and I-64 Connector Areas of the New Mississippi  
River Bridge Crossing Project, East St. Louis, St. Clair County**

*Prepared by Drs. Andrew C. Fortier, Joseph M. Galloy, and Michael F. Kolb,  
ITARP, University of Illinois, November 2007*

The proposed I-55/70-I-64 Tri-level and I-64 Connector project areas within the overall New Mississippi River Bridge Project cover a portion of the north East St. Louis (ESTL) metropolitan area as well as the nearby rail yards and abandoned stockyards (Figure 1). The East St. Louis Mound Center (S-706), the second largest Mississippian period mound group in North America also falls within the limits of this project. Our knowledge of this site is based on early 19<sup>th</sup> century travel accounts and historic maps as well as pioneer and more recent archaeological investigations. This prehistoric site was heavily impacted by the industrial development of the East St. Louis metropolitan area and the vast majority of the mounds have been partially leveled and the surrounding occupation areas buried. However, recent investigations by ITARP in this area for IDOT have revealed buried, intact archaeological resources dating to the 11<sup>th</sup> to 13<sup>th</sup> centuries after Christ (Pauketat 2005; Fortier 2007). The areal extent of this buried mound center, however, is not known and its delineation will require a deep testing strategy.

The locations of a number of mounds are known and can be seen on the attached figure (Figure 2). What we cannot determine from surface inspection is the location of possible prehistoric habitation zones between or around the mounds. ITARP excavations in 1999-2000 along existing I-55/70 revealed extensive habitation remains representing 12<sup>th</sup>-13<sup>th</sup> century A.D. houses, storage pits, and large pits holding massive posts. In addition, excavations demonstrated that the basal portions of mounds were still intact, as were the constructed plazas between the mounds. In at least one case a mound was found that did not appear on the 19<sup>th</sup> century map of this area made by a local resident, Dr. Patrick. Given the high number of mounds (ca 40-50) originally observed in 1814 (Brackenridge 1814), and the diminished number observed

by Dr. Patrick in the late 1880s it can be assumed that intact basal portions of unmapped mounds may still lie across most of the area of the ESTL site. The proposed construction areas in the Tri-level and I-64 connector lie just east and north of the main ESTL mound and plaza area. It can be presumed that these areas have a high potential for buried prehistoric resources (such as mound bases), especially given their proximity to the central portion of the ESTL Mound Center.

The proposed I-64 Tri-level project area consists of a series of tiered ramps, and curved off- and on-ramps located at the juncture of existing I-64 and I-55/70, about a half mile east of downtown East St. Louis (Figure 1). In some cases new roads are planned, in other areas existing roads will be resurfaced and/or widened. Most of the Tri-level project area falls within existing paved interstate right-of-way, but a number of on-off ramps will be constructed over non-road areas. The Tri-level area covers the east end of the buried ESTL Mound Center (three mounds of the E mound Group) and the southern-most mound of the ESTL Mound Center I Group (I-1). Each of these four mound locations was leveled and paved over in 1958 during construction of I-55/70. None of this area has been directly tested by archaeologists. Extensive excavations west of this area, however, have been undertaken and reported as part of two IDOT mitigation projects (Pauketat 2005; Fortier 2007). Deeply buried evidence of mound fill soils, plazas and house/pit features lie intact beneath a meter of historically deposited overburden. Some evidence from geomorphic coring performed north and south of the Tri-level indicates a potential for finding buried and intact prehistoric resources. The preliminary findings from high potential cores have yet to be ground-truthed by archaeological excavations.

The highest potential for buried historic resources lies in the area just west and south of existing I-64-I-55/70 intersection (east of Pennsylvania Ave. area and near 7<sup>th</sup>-9<sup>th</sup> avenues). Another high probability area lies just east of the aforementioned intersection. Several ramp areas and small connectors are planned in this area, crossing through vacant lots or small streets (10<sup>th</sup> Street to Exchange Ave.). No cores or tests have ever been conducted in these sections of the project, but several of these proposed roads or connectors are 100-200m

south and east of the I-1 mound location. Prehistoric ritual and habitation activity would be expected in the vicinity of any prehistoric mound in this area. Another high probability area coincides with a ramped area paralleling Collinsville Ave., west of the main Tri-level. This area lies directly south of several known mound locations and not far from the famous cache of stone hoes found by Mr. Rau at 9<sup>th</sup> Street and Pennsylvania Ave. (Kelly 1994). Private excavations by a local archaeologist, John Kelly, in the late 1990s about one block south of the proposed ramp (Morelock's lot) exposed several Mississippian period wall trench structures nearly one meter below the surface (Michael Morelock, personal communication 1998). These structures are presumably associated with the ESTL Mound Center.

Finally, at the far east end of the Tri-level project area, roadwork paralleling an east-west CSX rail line extends across Collinsville Ave. and ends near Lake Ave. The eastern-most extension of this roadwork ends less than a block from one of the McCarty Group mounds (M-1). The potential for associated habitation and ritual remains is high in this area of proposed work.

The proposed I-64 connector is roughly 3.2 kilometers long and extends between the Tri-level area, located at the intersection of I-64 and I-55/70, to the Mississippi River (Figure 1). This section of highway runs northwest to southeast and crosses through both the ESTL rail yard and the National Stockyard areas. The main corridor falls between Exchange Ave, and St. Clair Ave. At the north end of National City the corridor turns 90 degrees to the west where it approaches the river. Although geomorphic coring has been undertaken in a number of places north of the Tri-level, no archaeological investigations have been attempted. Most of the I-64 connector falls within the old paleochannel of Horseshoe Lake, but there are potential ridges buried within this channel that could have supported human occupation. Extensive testing along this corridor would be needed in order to evaluate the existence of such archaeological resources. The connector lies about 1000 m northeast of ITARP's 1999-2000 excavations along I-55/70 that produced extensive evidence of deeply buried mound and plaza fills as well as houses and pits. The full extent of the ESTL Mound Center north of our investigations is not fully known at this time.

The proposed corridor lies about 500m west of the I-Mound group of the East St. Louis Mound Center. Based on the Patrick map of this area mounds were reported at two locations, one (I-3) at the intersection of Exchange Ave. and 2<sup>nd</sup> Street, and another (I-4) near the intersection of Exchange Ave. and 1st Street. A third mound (I-5) was reported several hundred meters to the north in the old National Stockyards, but was reported destroyed in 1908 (Throop 1928). Roadwork would not directly affect any of these reported mound locations, but it is important to point out that intervening areas between all of these mounds would have high potential for producing prehistoric habitation remains.

### **Project Area Geomorphological Assessment**

The following report is a preliminary, but more detailed, geomorphic assessment of the proposed I-70/55 interchange and I-64/70 corridor in East St Louis, Illinois to determine the potential for buried archaeological deposits. Most of the proposed corridor is covered with various thicknesses of historic fill so most prehistoric sites present will be buried. Due to the extensive historic fill the primary goal of the preliminary assessment is to map the alluvial landscape and sedimentary environments below the historic fill. This is accomplished using stratigraphic data obtained from cores in and near the proposed corridor taken for ITARP over the last 10 years (Figure 3). Geomorphic potential for buried archaeological deposits is determined by examining the sedimentary environments, age of the deposits, and the nature of the soils formed in the deposits. Historic landscape modification that may have removed or disturbed archaeological deposits is also considered.

The proposed corridor is located in the low sinuosity channel belt which, at between 2000 and 2400 years old, is the youngest Mississippi River channel belt in the American Bottom. Landforms that constitute the buried alluvial landscape vary in age depending on their landscape position and depositional/erosional history but are not older than 2400 years.

Non-anthropogenic sedimentary environments beneath the historic fills are all alluvial. They consist of clayey abandoned channel deposits, crevasse



splays/abandoned channel plugs, and ridges and swales on island bars and point bars. The better-drained elevated landforms have higher potential for buried archaeological deposits that resulted from occupation but the lower parts of the landscape have potential for non-occupation types of archaeological deposits or even prehistoric anthropogenic fills.

### **Double-Deuce Clover Leaf Locality**

Double Deuce Lounge (now abandoned) is on Collinsville Ave just south of the proposed ramp (Figure 4). Geomorphic investigations were conducted in this area to determine if a mound or remnants thereof are still present. Four cores were taken in 1996 in the vacant land behind the lounge. Results indicate historic fill is relatively thin ranging from approximately 0.9 m to 1.9 m. Buried soils are formed in silty and clayey vertical accretion deposits over sands and silts and are relatively undisturbed and non-hydric. The buried landform is an island bar or an older eroded point bar (associated with the high sinuosity channel belt) with a vertical accretion veneer. In either case the potential for buried archaeological deposits is high.

This locality has high archaeological potential due to non-hydric, relatively undisturbed soils. According to the Contaminated Sites and Wetlands map, and the 2003 draft PSI for the Tri-Level area, there are three underground storage tanks (USTs) in this area, along with multiple soil contaminants (mainly volatile organic compounds [VOCs] and lead). The specific contaminated areas do not appear to be large in horizontal extent, and the PSI notes that the then-current IDOT construction areas avoid direct impacts to the contaminated areas.

### **Rail Yard 1 Locality**

Rail Yard 1 Locality is just north of the interstate and south of the Siedel Property. Cores 250 and 251 are along the northern-most tracks. Core 250 has 2.96 m of historic fill over a buried soil formed in silty clay. Core 251 penetrated 3.96 m of historic fill without encountering a buried soil. Numerous cores taken to the east along these tracks exhibit a similar pattern consisting of various thicknesses of fill over a buried soil formed in clayey abandoned

channel deposits. Potential for buried archaeological deposits is low due to the low wet soil and sedimentary environments.

Cores taken along the southern-most track during the during the northside excavation at the East St Louis Mound Center indicate the proposed I-70 lanes closest to St Clair Ave cross fill over clayey swale/abandoned channel deposits that have low potential for buried archaeology. The eastern most proposed highway lanes along the southern-most tracks have 1-3 meters of historic fill over a buried soil formed in silty and sandy deposits indicating a better drained landform and high potential for buried archaeological deposits.

### **Siedel Locality**

Cores 362-366 were extracted at the Siedel property. Stratigraphy consists of historic fill ranging from 2- >2.6 m thick over buried soils formed in clayey or silty abandoned channel deposits. Buried soils, where encountered, are hydric. Core 364 is furthest south and closest to the RR tracks has a buried soil formed in splay consisting of silt loam over very fine sandy loam. Soils colors and lack of profile development indicate the deposits are in the abandoned channel (probably above the clay deposits) and have low potential for buried archaeological deposits

Significant contamination has been detected in this area. The NMRC PESA contaminated site number is 601-2IL-33 (United Rubber Div. of ROHO, Inc.). This area has had varying uses over time, including lead smelting and rubber manufacturing. This site is listed in the USEPA Toxic Release Inventory for known release of zinc into the environment. It also exceeded detection limits for the metals arsenic, beryllium and lead. Due to the low archaeological potential and serious contamination issues, the Siedel property (Section 81-I-11, ITARP Log #03140) has already been cleared by Don Booth in a letter to John Walthall dated February 10, 2004. This area may therefore be excluded from further study.

### **Baugh Avenue Locality**

The Baugh Avenue Locality extends from the RR tracks at the north side of the Siedel Locality to 1<sup>st</sup> Street. Cores in this area taken in 1996 indicate relatively thin historic fill (<0.5m – 1.5 m) over a buried soil formed in silty and clayey vertical accretion deposits over sands and sandy loams. Soils are non-hydric. Cores along 2<sup>nd</sup> Street to the east also indicate this area is a sandy landform with a thin vertical accretion cap under a thin unit of historic fill. Oxidized soil colors and sandy textured subsoil on a slightly raised landform indicate high potential for buried archaeological deposits.

This area has high archaeological potential because it consists of a slightly elevated landform with sandy, oxidized soils. There were several spots tested for contamination and reported on the 2004 PESA map that are in or immediately adjacent to this locality. According to the 2004 PESA report for FAU 9153, these include test holes marked 16–19; all but 18 contained metals such as arsenic and lead that exceed Tier 1 residential TACO objectives. However, testing produced no evidence for other contaminants such as VOCs, polychlorinated biphenyls (PCBs), or polyaromatic hydrocarbons (PAHs.)

### **Stockyard Locality**

Stockyard Locality is located along the proposed ROW between 1<sup>st</sup> and Packers Avenue. All of the cores in the Stockyard are NE of the proposed ROW except for Cores 216-218 near the intersection of the proposed ROW and 1<sup>st</sup> Street. These cores either did not penetrate rocky fill or encountered clay below the fill. Most of the stockyard is on a landform consisting of low relief ridge and swale topography. A sandy ridge located in cores NE of the proposed ROW and oriented WNW to ESE may cross the proposed ROW about the middle of the Stockyard Locality. There is no stratigraphic data for the majority of the proposed ROW in the Stockyard Locality. Data from nearby suggests the area has high potential for archaeological deposits buried beneath thin units of historic fill.

This locality is characterized by low-relief ridge and swale topography. Kolb notes that there is little stratigraphic data here, and more cores may be

warranted. Previously detected contaminated areas are limited to the northwest third of the alignment. The alignment passes through or immediately adjacent to RR3 PESA site numbers J25, J26, J27, J28, J29, J30 and J31. All of these are classified as high or moderate risk/non-hazardous special waste. J25 (Former North American Cold Storage) is high risk within the construction limits, and is contaminated with asbestos. Special handling of any excavated soil will be required, as will further testing to delineate the contaminated area. J26 (Former Auto Service Station) is a UST site that may contain fuels, automotive fluids, and waste oil, but the risk appears to be outside the construction limits. J27 (Former Filling Station) and J29 (Former National City Fire and Police Department) may also contain USTs, but the risk is outside the construction limits. J28 (Anchor Serum) is a retail veterinary supplier and former wagon house that has potential risks for lubricants, fuels and solvents; the contamination is classified as outside the construction limits. J30 (Petrachemical [sic]) is also outside the construction limits, but needs further testing if it to be impacted. J31 (Hog Houses) has high risk within the construction limits, requires additional testing, and any excavated material will require special handling.

#### **Old Cahokia Creek Horseshoe Lake Paleochannel Locality**

Old Cahokia Creek Locality extends from Packers Avenue north to Industrial Avenue in the area of the abandoned natural channel of Cahokia Creek and the modern channelized creek. Cahokia Creek flows in the abandoned Horseshoe Lake paleochannel where it has a meandering plan form but does not move laterally due to the very cohesive clayey abandoned channel deposits. Three cores placed in an agricultural field just southeast of Industrial Avenue at the north end of the locality produced stratigraphy consisting of clay over stratified silty sediments and very fine sand over stratified fine to very coarse sand to a depth of 4 meters. No buried soils were detected in the cores but incipient buried soils may exist in the upper clay sequence. The stratigraphic sequence is the result of the infilling of the abandoned Horseshoe Lake paleochannel. The coarser sands at the base of the sequence are channel sands that are overlain by stratified silty and sandy deposits that form a

channel plug which in turn are overlain by clayey lacustrine/abandoned channel deposits. The extent of the abandoned channel fill sequence is not known due to the lack of cores in the area of the proposed ROW and the presence of thick fills further to the south.

Two cores taken in National City (now abandoned) just west of the proposed ROW indicate it was built on a sandy landform. Seven additional cores are located south of National City west of the proposed ROW between the RR tracks and St. Clair Avenue. The two cores (289 and 290) closest to Packers Avenue have 4.8 and >5.8 m of fill over sandy deposits. These cores are believed to be in the old channel of Cahokia Creek. To the NW the fill thins and the deposits are clayey with a hydric buried soil in Core 291. North of Core 291 is an area of fill consisting of concrete building material that could not be penetrated with the Geoprobe (Cores 293 and 294) except right along the tracks where Core 295 is located. Stratigraphy consists of 1.25 m of historic fill over a buried soil formed in clay vertical accretion/abandoned channel deposits to 2.2 m below the surface, over laminated silt loam and very fine sandy loam to 4.87 m below the surface.

Most of the locality is in the Horseshoe Lake paleochannel that has been modified by post abandonment erosion and deposition. In general it has low potential for buried archaeological deposits due to wet conditions indicated by wet soil forming and sedimentary environments. However, landforms such as crevasse splays or levees may be present but have not been detected due the low density of subsurface data points. For example the sandy landform at National City just west of the proposed ROW may extend into the corridor and the banks of Cahokia Creek, that are certainly present in the corridor, have some potential for buried archaeological deposits.

Kolb indicates low potential in this area, where Cahokia Creek meanders through the clayey Horseshoe Lake paleochannel, due to wet sedimentary environments. However, no cores have yet been dug directly in the ROW, and there are large areas not covered, so additional coring needs to be performed here. The alignment crosses contaminated sites for most of its length in this area. These include RR3 PESA site numbers J35 (Frigid Corporation), J39

(Former American Agricultural Chemical Company), J41 (Darling International), J43 (National City Railroad & TRRA Yard), and J44 (Former Cahokia Canal Landfill). J35, J39 and J43 are classified as high risk, non-hazardous waste within the construction limits. J35 was formerly used as a meatpacking facility, and the northern portions of the facility might present a risk for solvents, acids, heavy metals, petroleum derivatives, pesticides, etc. J39 includes a former chemical plant that produced sulfuric acid, ammonia, etc. and might have USTs. J43 is a rail yard; potential risks include unrecorded spills, fuels, creosote, solvents, and metals. J41 is classified as moderate risk, non-hazardous, but outside the construction limits. This area serves as a rendering and hide-processing plant, and previously also as a fertilizer factory. Fuels, acids, herbicides and pesticides may be associated with these activities. J44 is high risk, non-hazardous, and also outside the construction limits. This area witnessed unsupervised dumping and it is unknown what types of waste might be present.

### **Brooklyn River Bank**

The Brooklyn River Bank Locality extends from just north of Industrial Avenue to the railroad tracks west of St Clair Avenue. According to early maps the bank of the Mississippi River was located at the edge of Brooklyn where the RR tracks are currently located. The boundaries of this locality are very tentative because of the lack of subsurface data and will be adjusted accordingly as more information is collected. Core 162 is located in the proposed corridor near the east end of the locality. Stratigraphy consists of 1.25 m of cindery fill over natural source fill (possibly prehistoric) to 1.83 m, over a buried soil formed is silty clay loam vertical accretion deposits over sandy loam and sand to a depth of 3.96 m. Cores 163 and 164 just south and east of Core 162 are different with thicker fill over stratified silty and clayey deposits. Core 162 may be on a ridge on the island bar landform that is present beneath Brooklyn, IL. Map evidence indicates that the bank of the Mississippi River may be in the western portion of the locality. No subsurface data is available to pin point the location. Overall the potential for buried

archaeological deposits is high due to the presence of a sandy landform and the riverbank setting.

More cores may be needed to better characterize this area (see below). There are no hazmat issues in this locality aside from NMRC PESA contaminated site #601-2IL-2 along Illinois Route 3, which marks the western edge of this locality.

### **Bloody Island**

The narrow northern end of Bloody Island probably extended into the proposed corridor. Early maps indicate that during or before 1866 dikes were constructed perpendicular to the shoreline to trap sediment and create dry ground. Additional filling has also taken place during the period of urbanization. Core 299, located in the proposed corridor in the Brooklyn Rail Yard consists of 1.4 meters of cinder fill over clay with sand and sandy loam interbeds over clay. The buried soil consists of a series of Cg horizons indicating the landscape surface is very young and/or truncated. Three cores in the Brooklyn Rail Yard south of the corridor exhibit a similar pattern with fill over stratified sands and clay over clay. The location of the cores, parallel the old river bank, the wet soil forming environment, and low energy sedimentary environment indicate this is a abandoned channel or flood basin which has low potential for buried archaeological deposits.

Farther west in the locality where Bloody Island was located the landscape was likely drier and sandier. The 1909 topographic map of the area indicates the presence of irregular ridges of moderate relief (1.0 -2.5 m). Whether these are products of urbanization or river engineering or natural is not known. Today they are buried and/or graded flat. No subsurface data is available for Bloody Island. It's position along the main channel of the river and the presence of a flood channel on the floodplain side of the island indicates it was a geomorphically dynamic landform. It likely flooded frequently causing erosion and down stream migration combined with spatially and temporally episodic deposition. The recent geomorphic instability resulted in young geomorphic surfaces and low potential for buried prehistoric archaeological deposits.

Historic river management and transportation related structures and artifacts could well be present.

Kolb's overall assessment of this area is that the potential for prehistoric archaeological deposits is low because it is geomorphically young and dynamic. The NMRC PESA lists this area as site #601-2IL-2 (Terminal Railroad Association, Norfolk & Southern Railroad, Gateway Western Railroad), which encompasses a segment of Route 3 (on both sides) and multiple sets of railroad tracks that run southeast away from Route 3. This is a UST/LUST site, and has probably witnessed unrecorded spills and deposition of other materials such as creosote. Detected materials in this area include VOCs and PAHs, and the PESA indicates that further evaluation is necessary.

#### **Interstate 64 South of Tri-level**

Six cores were taken in 1999 along the proposed route of a sewer main that parallels Interstate 64 in East St. Louis, Illinois. The entire area is or was heavily urbanized. Cores were extracted with a truck-mounted Geoprobe and described in the field using standard terminology from soils (Soil Survey Staff 1975) and geology (Folk 1974, Collinson and Thompson 1982).

#### **I-64/15th Street Locality**

Core 1 (127.66 m elevation) is located 3.7 m southwest of 0+149.95 in a previous proposed sewer ROW (Kolb 1999). It consists of 4 m of fill over stratified very fine sand. The sand is pedogenically unaltered and is not the surface of the sandy alluvial landform. The solum (A and B horizons) has been removed and fill was placed on the truncated surface. Archaeological deposits and features, if present, would have been destroyed by when the soil was truncated.

Core 2 (127.98 m elevation) consists of 1.05 m of fill over a truncated solum formed in very fine sand. The upper solum has been removed resulting in destruction of any archaeological deposits that may have existed at this locus.

Archaeological excavations and trenching at the I64/15th Street Locality (Fortier 1998) revealed a developed soil formed in either fine and very fine sand or in silty clay and silty clay loam over sand. The fine-grained parent material



is alluvium that accumulated in the low-relief swales. The soils are at and near the modern surface. They mark the surface of the landform prior to urbanization, even though they may have been altered some by urbanization. There is low potential for buried archaeological deposits at the I64/15th Street Locality.

#### **I-64/Underpass Locality**

I64/Underpass Locality is located beneath the I64 bridge over the now abandoned 18th Street. Core 3 (127.8 m elevation) consists of 52 cm of fill over a brick street. Beneath the brick the solum is intact and consists of an A-Bw-BC horizon sequence formed in fine-grained alluvium. The fine-grained alluvium overlies very fine sand at a depth of 2 m. The soil-sediment sequence may be: a shallow swale in the low-relief surface topography of the sandy alluvial landform, or the backslope down to a depression or large slough. Elevations at the top of the cores are close to the elevations of the cores at the I64/15th Street Locality which are level with the top of the sandy alluvial landform. This fact argues for the former explanation.

Core 4 (127.8 m elevation) consists of 68 cm of fill over a buried reworked A horizon formed in silty clay loam. Beneath the A horizon is the Bw horizon also formed in fine-grained alluvium. Very fine sand is at 148 cm below the surface. The solum is very similar to the one in Core 3 except the A horizon appears to be disturbed.

Due to the similar elevations the best-fit interpretation is that the buried A horizons in these cores are at the surface of the sandy alluvial landform. Therefore, based on soil-geomorphic criteria there is potential for archaeological deposits. The archaeological deposits are not expected to be deeply buried but may be preserved beneath the brick street in the area of Core 3 or beneath the fill in the area of Core 4 where the A horizon is minimally disturbed.

#### **I-64/25th Street Locality**

Core 17 (128.6 m elevation) consists of 2.7 m of fill over very fine sand. No solum is present and has likely been removed during construction of I 64 or the old sewer line. The sand minus the solum is at an elevation of 125.9 m. If

one assumes the solum, or missing solum plus C horizon, was 1 m to 1.5 m thick, the surface of the landform was at about 127.5 m elevation. This is consistent with the elevation of the surface of the sandy alluvial landform. At the point where the core was extracted the solum is gone as well as any contained archaeological deposits. The geographic distribution of the truncated soil relative to the proposed sewer line could not be determined due to the difficulty in obtaining cores at this locality.

Core 18 (130.47 m elevation) consists of 5.25 m of fill over an incipient soil over brick rubble. The incipient soil is dark brown silt loam with fine roots. It formed while a dump or building ruins containing construction bricks (some of the brick pieces had mortar attached) was exposed at the surface sometime prior to the construction of I 64. The natural surface of the landform is a depth below 5.55 m (124.92 m elevation).

Potential for buried archaeological deposits beneath the surface of the sandy alluvial landform in the I-64 South Tri-level area is low. Potential is also relatively low beneath the fill due to historic disturbance of the soil surface by urbanization and road construction.

### **Other Project Areas**

Other project areas include the I-55/70 crossing at Exchange Avenue, and the small ROW addition on the south side of I-55/70 parallel to 9<sup>th</sup> Street. There are no contaminated areas shown here on the NMRC/RR3 contaminated sites map. The other locality extends southeast from the Tri-Level along and adjacent to I-64. The main impacts here are associated with three crossings, the largest of which runs along 15<sup>th</sup> Street. The only contaminated site mapped in this area is NMRC PESA #601-2IL-58, which is on the west side of the interstate at a small vacant lot near the intersection of St. Clair Avenue and 16<sup>th</sup> Street. This lot was formerly occupied by an auto repair shop, and it is already within IDOT ROW. This site did not contain any detected waste materials, but more testing may be necessary.

### **Areas of High and Low Archaeological Potential**

Based on previous geomorphic coring, the corridor has been divided into several high and low archaeological potential segments. In the Tri-level sector we have designated the Bowman IDOT Yard as having low potential for archaeological resources. However, the next 1000 m north of Bowman is considered to have high archaeological potential. This sector essentially parallels St. Clair Ave., about 200 m east of that road. This is directly adjacent to the East St. Louis Mound Center where historic debris currently covers an old ridge and swale environment that may have supported prehistoric occupation. This area will need to be tested by track hoe trench and block excavations to expose old buried surfaces. The corridor then moves north and traverses ca 1100 m of a portion of old Cahokia Creek and Horseshoe Lake Paleomeander channels that has very low potential for prehistoric habitation. At the point that the corridor turns to the west, the proposed road crosses the so-called Brooklyn River bank surface, which has high potential for archaeological resources. This area extends for about 400 m to the west. The remaining sector of the corridor west of this area to the river represents Bloody Island and has low potential for archaeological resources.

There are some smaller areas of high potential within the Tri-level interchange area and one area just south and east of the Tri-level near Collinsville Ave. These are designated on Figure 3.

### **Summary of Cultural Resource Potential in the Proposed Tri-level and I-64/70 Connector Project Areas**

None of the area within the construction areas of the proposed Tri-level and I-64/70 connector has been tested archaeologically since the area typically is in private ownership and densely covered by historic fill and urban construction. However, excavations have been conducted in the immediate vicinity and have revealed intact and buried prehistoric resources. Moreover, mounds have been identified within the general project areas. Limited geomorphic coring has also been conducted in areas adjacent to the Tri-level and I-64/70 connector corridors. A number of man-made soils have been

identified of probable prehistoric construction. Assessment of these areas will require further trenching and coring.

The ESTL Mound Group is the second largest Mississippian center in the United States. Because it is mostly buried under historic debris, its full extent is not known, but the proposed Tri-level area falls within the heart of the center. Much of this area has been leveled and paved, but previous work in nearby areas has revealed that cultural resources can be found beneath modern features. The area within the proposed I-64/70 connector is largely unknown. It is an artificial man-made surface (National City Stockyards and rail yards) covering portions of the Horseshoe Lake meander that in turn contains a point bar complex and buried sand island. This area is poorly understood geomorphologically and has never been archaeologically investigated. Its close proximity to the ESTL Mound Group is noted. Finally, the greatest potential for buried resources lies in the old Stockyard area between St. Clair and Exchange Avenues. Nearby mound locations are known. Habitation resources can be expected between mound areas.

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**Maps:**

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- 2004 *New Mississippi River Crossing / Relocated Route 3, PESA Locations.* 34" x 43" aerial photo. May 25, 2004.
- 2004 *New Mississippi River Crossing / Relocated Route 3, PSI Locations.* 34" x 43" aerial photo. May 25, 2004.

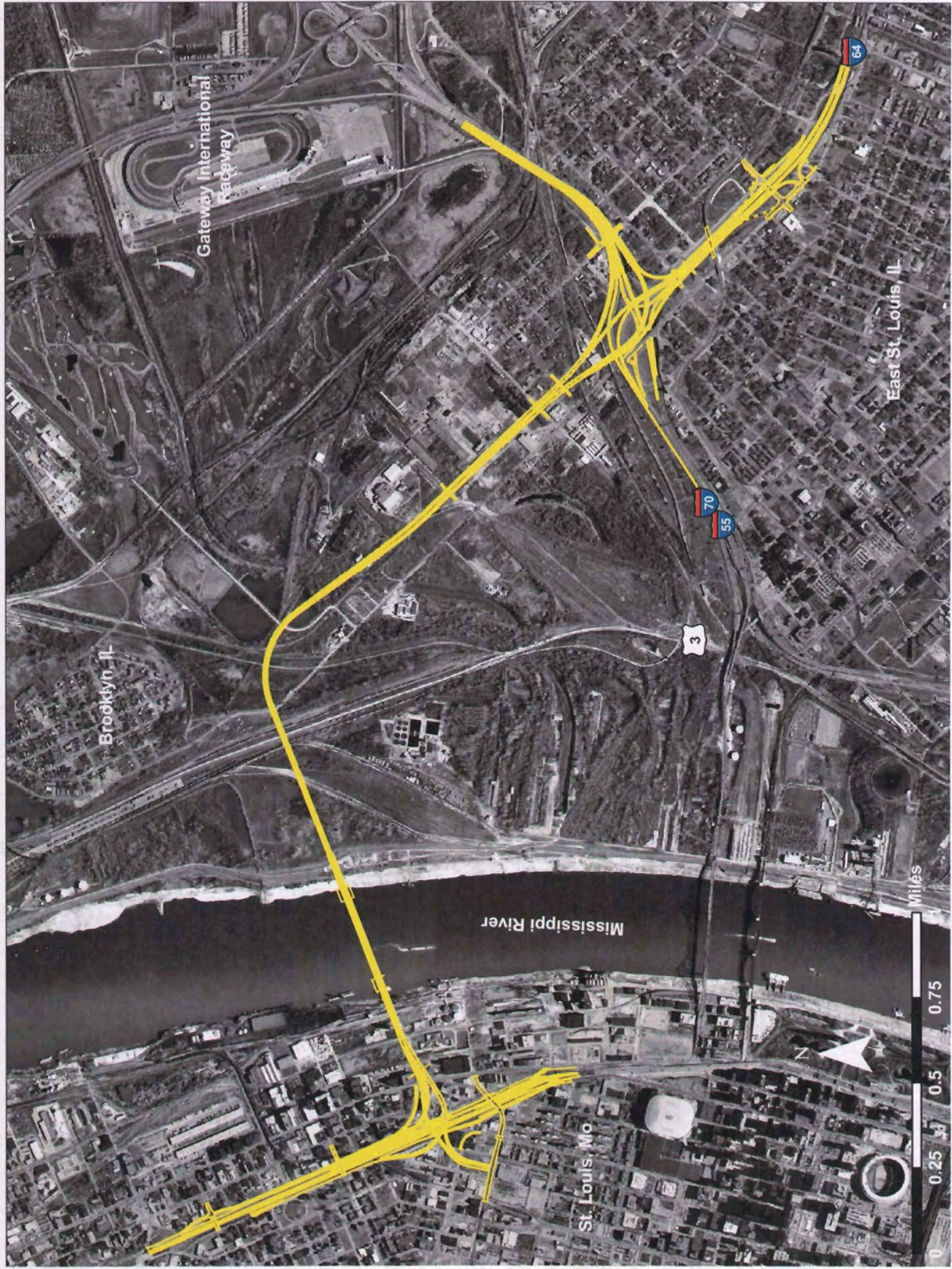


Figure 1. I-55/70 Tri-level and I-64 Connector Project Area.



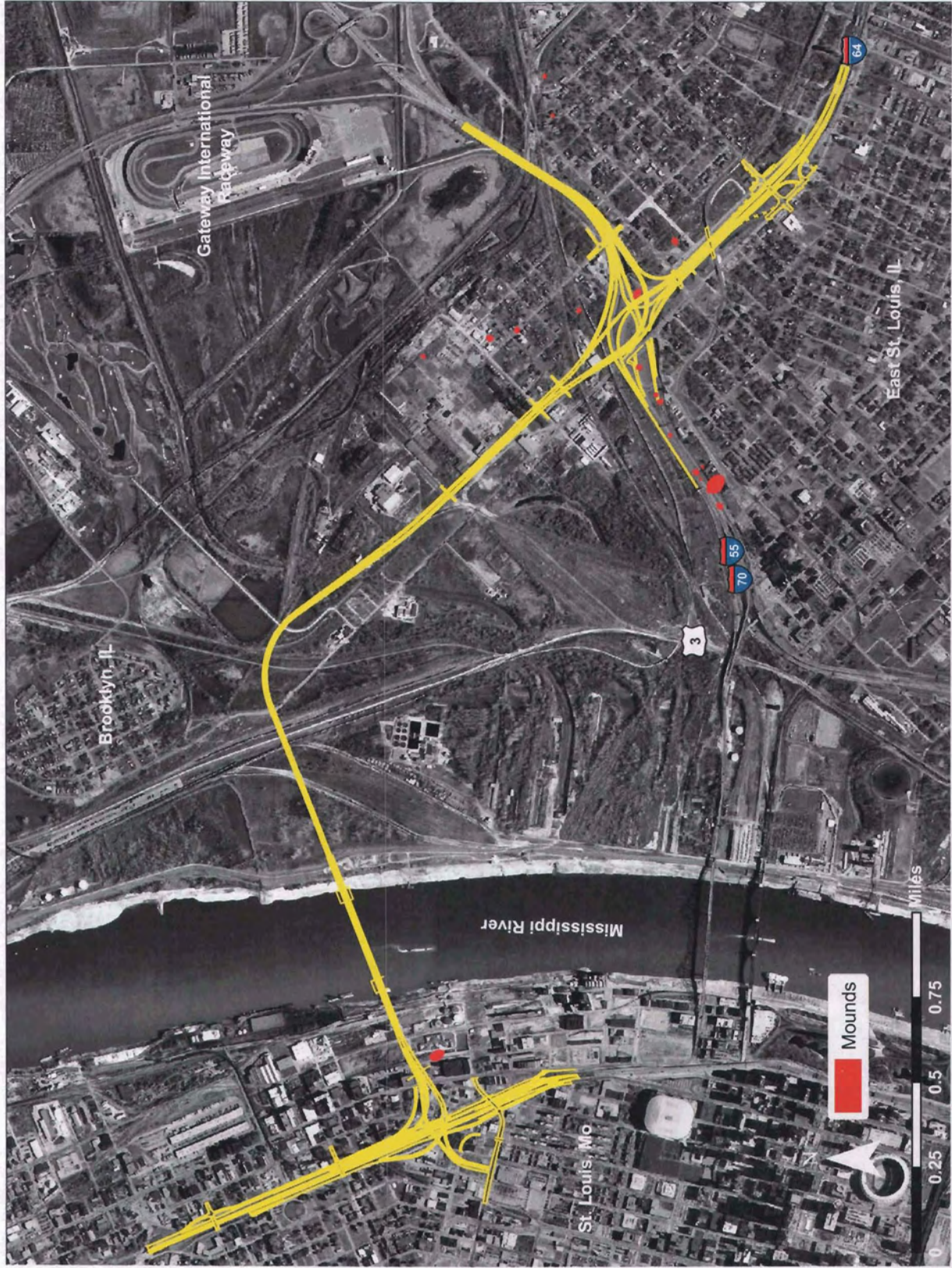


Figure 2. Known Prehistoric Mound Locations in the Project Area and Vicinity.

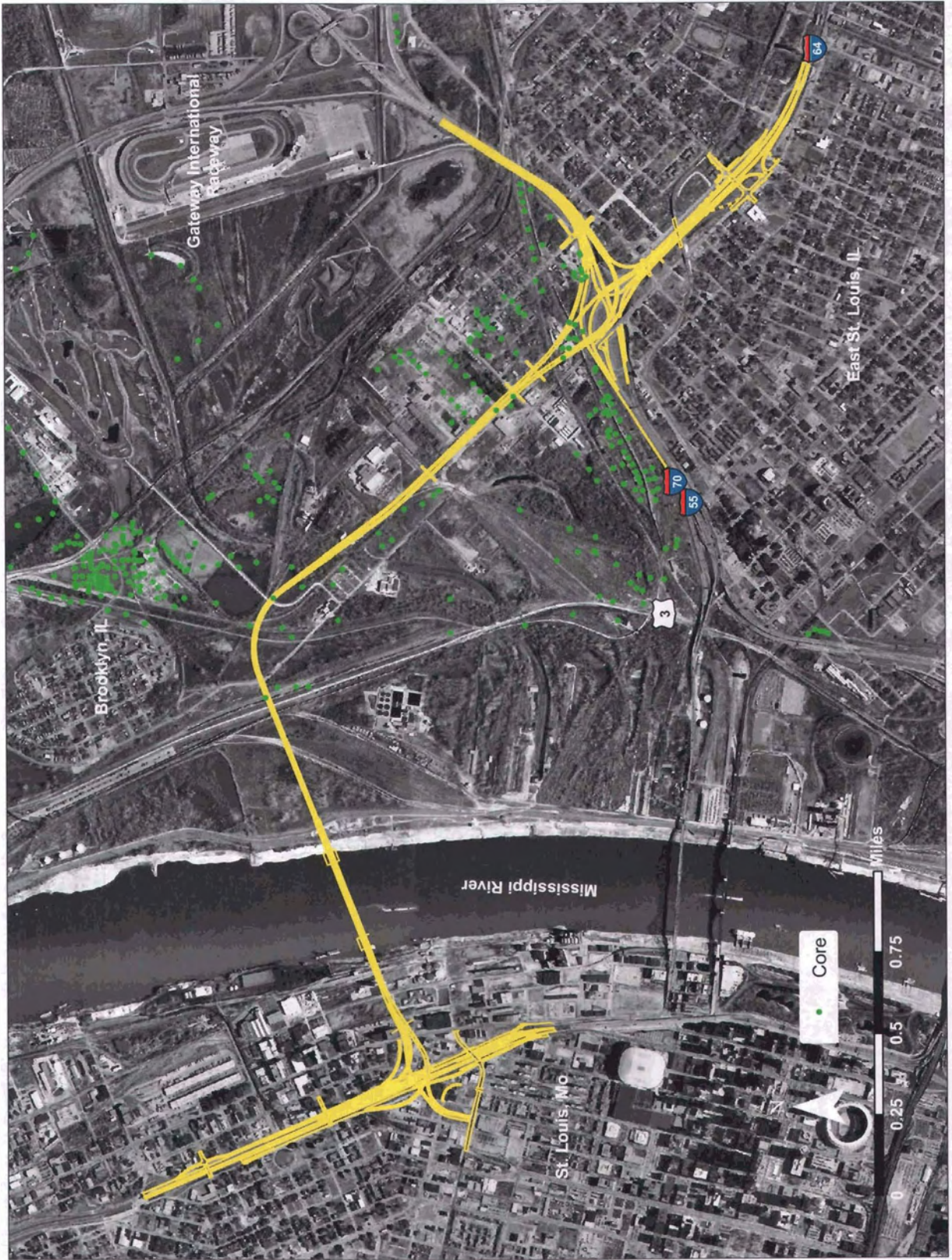


Figure 3. ITARP Geomorphic Cores in the Project Area and Vicinity.

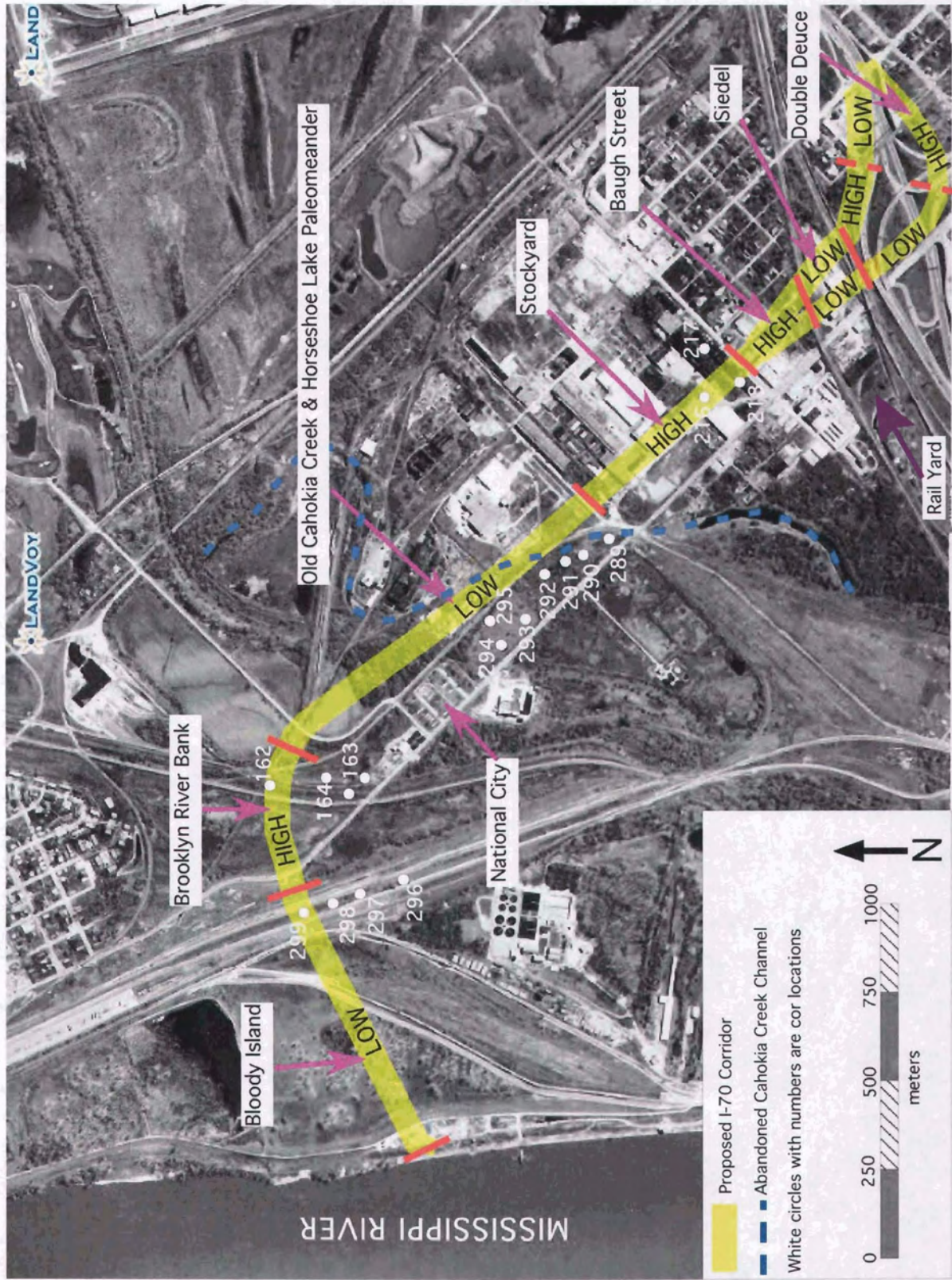


Figure 4. Areas of High/Low Potential for Archaeological Resources in the Tri-level and Connector Project Area.