



**Hazardous Materials and Waste Sites Summary  
Technical Report  
Kansas City Downtown Streetcar Project**



**September 19, 2012**

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Kansas City Downtown Streetcar Project**


September 2012

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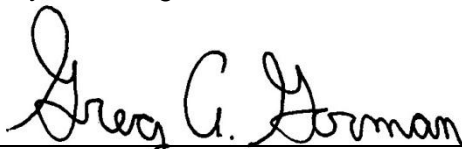
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September 19, 2012  
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Date

  
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September 19, 2012  
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## 1. INTRODUCTION

Environmental desktop reviews were conducted for the Streetcar route and the candidate Vehicle Maintenance Facility (VMF) sites (Options C, D, and E) under consideration as part of the Kansas City Downtown Streetcar Project.<sup>1</sup> An Environmental Data Resources (EDR) Database search was conducted of state, tribal, and federal environmental databases and historical aerial photos, historical topographic maps, city street directories, and Sanborn Fire Insurance maps. Site visits and Phase I Environmental Site Assessments (ESAs) were not conducted as part of these environmental desktop reviews. The purpose of the reviews was to identify historical and current sites with the potential to have impacted the soil and/or groundwater within and adjacent to the anticipated construction footprint of the Streetcar Project. Note that although certain aspects of the American Society for Testing and Materials (ASTM) 1527-05 Standard for Phase I Environmental Site Assessments were conducted as part of this review, the results of this review do not fully meet the requirements of the 1527-05 Standard or the All Appropriate Inquiry (AAI) regulation as codified at 40 CFR 312. Furthermore, this desktop review did not include any inquiry with respect to controlled substances, corporate environmental compliance, radon, methane, asbestos, lead paint, mold, wetlands, or vapor intrusion.

This Technical Report summarizes the results of the environmental desktop reviews and provides an evaluation of the effects of the identified sites on the proposed Streetcar Alternative. Separate Environmental Desktop Review Technical Reports were prepared for the Streetcar Route<sup>2</sup> and the Candidate Vehicle Maintenance Facility Sites<sup>3</sup>, as attached to this summary technical report.

## 2. METHODOLOGY

Government databases were searched in accordance with ASTM 1572-05 Sections 8.2.1 and 8.2.2 through EDR, a commercial provider of that service. The search distance provided to EDR for the database search included all three candidate VMF sites and the route for both revenue and non-revenue tracks along Main Street, Delaware Street, 2<sup>nd</sup> Street, 3<sup>rd</sup> Street, 5<sup>th</sup> Street, and Grand Boulevard. EDR provided a Radius Report containing U.S. Environmental Protection Agency (EPA), State, and Tribal environmental database information in accordance with ASTM defined search distances. EDR's Radius Report lists the Federal, State and Tribal databases searched, a description of the databases and the most recent release date of each database.

In addition to reviewing government database results, aerial photographs (1948-2008), Sanborn Fire Insurance Maps (1896-1969), historic topographic maps (1894-1996), and city directories (1920-2006)

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<sup>1</sup> The reviews were conducted under separate cover. Separate database searches were conducted, so the total number of sites listed by category in Table 1 may include the same sites for both the Streetcar Route and the candidate VMF Sites, depending on the overlap of the search areas.

<sup>2</sup> *Environmental Desktop Review Technical Report – Streetcar Route, Kansas City Downtown Streetcar Project*; Burns & McDonnell Engineering Company, Inc., September 19, 2012.

<sup>3</sup> *Environmental Desktop Review Technical Report – Vehicle Maintenance Facility Candidate Sites – Options C, D, and E, Kansas City Downtown Streetcar Project*; Burns & McDonnell Engineering Company, Inc., September 19, 2012.

were also reviewed to obtain information about the history of development along the Streetcar route and on and within close proximity to the candidate VMF sites.

Copies of the database reports, aerial photographs, fire insurance maps, topographic maps, and city directories reviewed are included in the attachments to both Environmental Desktop Review Technical Reports.

For the Streetcar Project, it was assumed construction of the majority of the improvements would be completed within existing rights-of-way, with ground disturbance occurring at depths no greater than approximately 18 inches below the existing pavement surface. Utility relocations, installation of catenary poles, and construction of the preferred VMF would involve excavations deeper than 18 inches.

Based on the collected information, sites were evaluated and the relative risk each could pose to the Streetcar Project was ranked either high, medium, or low based on the distance of the site from the right-of-way or candidate VMF property boundary, activities that were and/or are being conducted at the site, and the history of releases, spills, or violations for the site, as reported in the search documents. Sites were ranked with the following potential to affect the Streetcar Project:

High Potential	Sites ranked with a <b>high potential</b> to affect Streetcar Project construction are those located adjacent to the proposed route with either documented site activities that could have contaminated soil or groundwater on or in the vicinity of the site or that have a history of violations and/or known contaminated soil or groundwater that has not been remediated to the satisfaction of the responsible agency.
Medium Potential	Sites ranked with a <b>medium potential</b> to affect Streetcar Project construction are those located adjacent to the proposed route with documented current or historical activities that could have contaminated soil or groundwater; however documentation is unavailable regarding a specific release, violation, etc., or those located on adjacent land in proximity to the route with either documented site activities that could contaminate soil or groundwater or that have a history of violations and/or known contaminated soil or groundwater that has not been remediated to the satisfaction of the responsible agency.
Low Potential	Sites ranked with a <b>low potential</b> to affect Streetcar Project construction are those located adjacent to the proposed route or on land in the vicinity of the Streetcar route with no documented site activities that could have contaminated soil or groundwater and without a history of violations or releases.

### 3. RESULTS

EDR identified sites within or near the study area in State, Federal, or EDR Proprietary databases in addition to the ASTM required databases. Table 1 provides a summary of the ASTM Required Databases and the number of sites found by EDR in each database.

**Table 1: ASTM Required Database Search Results**

Database Name	Approximate Minimum Search Distance in Miles	Number of Sites*	
		Streetcar route	VMF Sites
Federal National Priorities List (NPL)	1.0	None	None
Federal Delisted NPL Site List	0.5	None	None
Federal Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) List	0.5	<b>5</b>	<b>1</b>
Federal CERCLIS NPL NFRAP Site List	0.5	<b>12</b>	<b>2</b>
Federal Resource Conservation and Recovery Act Treatment, Storage, and Disposal Facilities Listed on the Corrective Action Tracking System (RCRA CORRACTS TSD) Facilities List	1.0	<b>2</b>	<b>1</b>
RCRA non-CORRACTS TSD Facilities List	0.5	<b>1</b>	None
Federal RCRA Generators List Large Quantity Generator (LQG) Small Quantity Generator (SQG) Conditionally Exempt Small Quantity Generator (CESQG) Non-Generators (Non-Gen)	Study Area and Adjoining	<b>204</b>	<b>13</b>
Federal Institutional Control/Engineering Control Registries	Study Area Only	None	None
Federal Emergency Response Notification System (ERNS)	Study Area Only	None	None
State and Tribal Equivalent NPL	1.0	NA	NA
State and Tribal Equivalent CERCLIS List	0.5	None	None
State and Tribal Solid Waste Landfills and/or Solid Waste Disposal Site Lists (SWF/LF)	0.5	None	None
State and Tribal Leaking Storage Tank Lists (LUST and LAST)	0.5	<b>76</b>	<b>12</b>
State and Tribal Registered Storage Tank Lists (UST and AST)	Study Area and Adjoining	<b>85</b>	<b>3</b>
State and Tribal Institutional Control/Engineering Control Registries	Study Area Only	<b>5</b>	None
State and Tribal Voluntary Cleanup Sites	0.5	<b>28</b>	<b>4</b>
State and Tribal Brownfield Sites State Brownfields US Brownfields (considered optional by ASTM Standard)	0.5	<b>32</b>	<b>24</b>
*A given site may be reported on both the Streetcar route count and the VMF site count.			

Detailed listings of the sites identified by the search are included in the Environmental Desktop Review Technical Reports. Refer to Appendix B for the *Environmental Desktop Review Streetcar Route Technical Report* and Appendix C for the *Environmental Desktop Review Candidate Vehicle Maintenance Facility (VMF) Candidate Sites – Options C, D, and E Report*.

Groundwater flows in two distinct directions across the Streetcar study area. In the northern half of the study area, the overall flow direction of groundwater is generally northward toward the Missouri River

bluffs. In the southern half of the study area, groundwater flows generally southward into the alluvial valley occupied by Union Station. However locally, groundwater flow is diverted to topographic low points within the study area, particularly the narrow road cuts for I-70 in the north-central part of the study area and I-670 in the central part of the study area. The topography, which generally controls groundwater flow, varies considerably from north to south along the Streetcar route. The northern end of the Streetcar route, atop the northern edge of the downtown bluffs, is at an elevation of approximately 800 feet above mean sea level (msl), rising to the southward through downtown to an elevation of approximately 900 feet in the central portion of the route (around 12<sup>th</sup> Street). The I-70 road cut extends downward to a lowest approximate elevation of 820 feet,; while the I-670 cut extends downward to an approximate elevation of 830 feet. Groundwater from localized areas north of these cuts flows southward into the cut, and, conversely, groundwater flow from localized areas south of each cut flows northward into the cut. From the Streetcar route's topographical high point at approximately 12<sup>th</sup> Street, the topography drops off southward, such that the southern end of the Streetcar route is at approximately 800 feet above mean sea level. Groundwater flow in the southern area of the Streetcar route, south of the area influenced by the I-670 road cut, flows south toward the valley floor (at approximately 20<sup>th</sup> Street) at the southern end of the Streetcar route. Beneath the relatively flat valley floor, groundwater flow is likely generally eastward, downstream within the alluvium. No specific data is available on the depth to groundwater in the vicinity of the Streetcar route or candidate VMF sites. It is presumed that normal groundwater flow occurs well below the 18 inch maximum depth anticipated for construction of the Streetcar route.

In general, the study area was first developed prior to 1895. Initial development included dwellings, flats, stores, and municipal buildings. Over time, the area has been continuously redeveloped with streets, railroads, businesses, and industries that have produced, stored, sold, and/or transported a number of substances including chemicals and fuels. Because of the dense nature of the development and types of uses common to the study area, there is the potential that some of these historical activities may have affected the soils and groundwater through the release of hazardous materials or wastes. For most known contaminated properties, remediation has been completed or is currently underway.

The most commonly observed historical uses within the study area with the potential to affect Streetcar Project construction include filling stations, machine shops, printing shops, tin shops, and dry cleaners. These historical uses are considered to have a **medium potential** to affect the soil and/or groundwater along the Streetcar route and near the candidate VMF sites. Many of these businesses may have had underground storage tanks (USTs) that may still be present on property adjacent to the existing street right-of-way and that may or may not be registered in the Missouri Department of Natural Resources (MDNR) UST database. Some USTs may have been out of service for so long that their presence may not be known to current owners and/or occupants. Tanks at some sites may have been removed during redevelopment activities or at other times with or without appropriate cleanup activities. Even if a cleanup did occur, standards used for site cleanup have changed over the years and sites that had tanks removed more than 15 to 20 years ago may not meet current cleanup standards. If these former tanks were located immediately adjacent to the Streetcar route and/or candidate VMF sites, they could have potentially contaminated the soil and therefore would affect Streetcar Project construction.

- The ***Downtown Texaco Serv LUST site***, at 600 Main Street, is along the proposed Streetcar route. The Downtown Texaco Serv site is noted with a cleanup finished date of 10/28/1998 and the closed site notation. Based on the cleanup finished date provided, the site considered to have a **medium potential** to affect Streetcar Project construction.

The EDR reports identified four Voluntary Cleanup Sites (VCP) with the potential to impact soils and/or groundwater within the Streetcar route. These sites are either upgradient and/or immediately adjacent to the right-of-way proposed for construction of the Streetcar route. These sites include:

- The ***KC Live Entertainment VCP site*** is comprised of several addresses, including 1400 Main Street, which is along the proposed Streetcar route. The contaminants of concern at the site are not included in the EDR report; however, a certificate of completion has been issued by MDNR. The site is noted as having activity and use limitations (AULs) in place, specifically an Operations and Maintenance (O&M) Plan. Details of the O&M Plan are not known. There are no details available in the EDR report to indicate the contaminants of concern at the site, the remediation history of the site, or the exact physical location of the contamination on the site. For these reasons, this site is considered to have a **high potential** to affect Streetcar Project construction.
- The ***Frankel, Frank & Co VCP site*** is located to west of and within approximately one-eighth mile of the Streetcar route, reported at 807 Wyandotte. It applied to the VCP in June 2010 and is reportedly still under active remediation. The contaminants of concern are not included in the EDR report and there is no other information available regarding the site. There are no details available in the EDR report indicating the remediation history of the site, if any, or the exact physical location of the contamination on the site. Due to the lack of information, this site is considered to have a **high potential** to affect Streetcar Project construction.
- The ***Grand Boulevard Lofts VCP site*** is located east of and within approximately one-eighth mile of the Streetcar route, reported at 1006 Grand Boulevard. It applied to the VCP in July 2008 and is reported as inactive/withdrawn. The contaminants of concern are not included in the EDR report and there is no other information available regarding the site. There are no details available in the EDR report indicating the remediation history of the site, if any, or the exact physical location of the contamination on the site. Due to the lack of information, this site is considered to have a **high potential** to affect Streetcar Project construction.
- The ***McGrew Color Graphics VCP site*** is located east of and within approximately one-eighth mile of the Streetcar route, reported at 16<sup>th</sup> Street and Grand Boulevard. The date the site applied to the VCP is not included in the EDR report. The site status is given as inactive/application denied. Notes within the EDR report indicate that Phase I and Phase II investigations were conducted at the site. Notes indicate that although sample results indicated both total petroleum hydrocarbons (TPH) and Tetrachloroethylene (TCE) contamination in the soil and groundwater, the distribution and concentrations did not indicate that a release had occurred at the site. These previous investigation reports were not available for review as part of EDR search. There are no details available in the EDR report to indicate the remediation history of the site, if any, or the exact physical location of the contamination on the site. Although it appears that a release has not occurred at this specific site that could impact soils/groundwater within the vicinity of the site, there is the possibility that a release has occurred at an adjacent site, which has impacted this site as well as other surrounding land. This site is considered to have a **high potential** to affect Streetcar Project construction.

The MO The EDR reports identified 32 Brownfield sites within one-half mile of the candidate VMF sites and/or Streetcar route. Seventeen of the brownfield sites are unlikely to have impacted the candidate VMF sites and/or the Streetcar route due to their status and/or that the location of the sites are



downgradient or cross-gradient relative to the candidate VMF sites and/or the Streetcar route. These sites are considered to have a **low potential** to affect Streetcar Project construction.

One of the Brownfield sites is also identified as a VCP site (KC Live Entertainment site) which was previously discussed. Two of the Brownfield sites are located at the same address, but with different site names: Kemper Arena Garage and Heart Drive Inn are both reportedly located at 2 E. 9<sup>th</sup> Street. Cleanup is noted as required at these sites; however, no additional details are available. This address is on 9<sup>th</sup> Street but adjacent to the Main Street right-of-way where the streetcar route would be constructed. Because of the lack of information available regarding these sites, they are considered to have a **high potential** to affect the Streetcar Project construction.

The remaining twelve Brownfield sites are reported as having had Phase I ESAs conducted; however, no information is available through the search regarding the findings and conclusions of these reports. Based on the limited information available about these sites and their locations, these sites are considered to have a **medium potential** to affect Streetcar Project construction.

The EDR reports identified 10 drycleaner sites within one-quarter-mile of the candidate VMF sites and/or the Streetcar route. Four of the dry cleaner sites were determined to be cross-gradient from the candidate VMF sites and/or the Streetcar route and are therefore considered to have a **low potential** to affect Streetcar Project construction.

There is very limited information available for the remaining six drycleaner sites identified in the EDR reports. The Farhas Downtown Cleaners, at 709 Main Street, is located along the Streetcar route. It is noted to be a RCRA generator of hazardous waste, using the 'F002 spent halogenated solvents' waste code. Due to the location of this site, it is considered to have a **high potential** to affect Streetcar Project construction. Two sites, the Sta-Clean Cleaners and the Grand Cleaners sites, are both noted as "abandoned". The Royal Masters Cleaners site is noted as "active". There is no information available for the remaining sites: Dr. Jiang's Tradition and Prestige Cleaners. Dr. Jiang's Tradition and Grand Cleaners are both considered to have a **medium potential** to affect Streetcar Project construction based on their close proximity to the Streetcar route. The remaining sites (Sta-Clean Cleaners, Royal Masters Cleaners, and Prestige Cleaners) are considered to have a **low potential** to affect Streetcar Project construction based on their locations relative to the Streetcar route.

Historic activities on the candidate VMF sites Option C and E may have impacted soils and/or groundwater. The 1939 Sanborn map indicates that glue and painting activities were associated with the former Kansas City Show Case Works located on Option C. This former use of the parcel is considered to have a **medium potential** to affect construction of the VMF if Option C is selected as the preferred location. For Options E (720 E. 3<sup>rd</sup> Street), EDR identified the Allied Callaway site as a RCRA Non-generator. Several notices of violation are noted by EDR in relation to a Compliance Evaluation Inspection that was conducted for the property in 2009, all of which were brought into compliance shortly after being issued. The types of hazardous waste generated at the site are not noted in the EDR report. A history of hazardous waste generation on the Option E parcel has the potential to impact the site. The 1950 Sanborn map includes a structure identified as a motor freight station on the west half of the parcel and a smaller structure identified as an auto repair facility in the southeast corner of the parcel. These are likely the same structures that are still present today. These uses are considered to have a **high potential** to affect construction of the VMF if Option E is selected as the preferred location.

EDR also identified a LUST site at the intersection of Cherry and 4<sup>th</sup> Streets (south of Option D). The MO Highway & Transportation LUST site does not have a No Further Action (NFA) letter noted in the file;

however, a cleanup finished date of May 20, 1991 is noted. This site is located upgradient from Option D. Although the release and cleanup occurred more than twenty years ago, an NFA letter was never issued and cleanup standards have changed since the cleanup occurred. For these reasons, the site is considered to have a **high potential** to affect construction of the VMF if Option D is selected as the preferred location.

The 1939 and 1950 Sanborn maps show a motor freight station and auto repair facility with a gas tank at 611 E. 3<sup>rd</sup> Street, which is to the south and upgradient of Option C. The disposition of the gas tank is unknown and the site is considered to have a **medium potential** to affect construction of the VMF if Option C is selected as the preferred location.

## **4. EFFECTS OF THE ALTERNATIVES CONSIDERED**

### **4.1 No Build Alternative**

Under the No Build Alternative, no construction or excavation would occur within the right-of-way or on any of the VMF sites that would disturb any potentially impacted soils or groundwater. Any contaminants present would be left in place.

### **4.2 Streetcar Alternative**

The EDR search identified multiple potentially contaminated sites in the study area and adjacent to the right-of-way within which construction is proposed, but did not specifically identify any known contamination within the right-of-way or candidate VMF sites where Streetcar improvements are planned to be constructed. Construction of the Streetcar trackway and stops would involve ground disturbance to a depth of approximately 18 inches. Construction of the power substations and the VMF, installation of catenary poles, and utility relocations could involve excavations to depths greater than 18 inches. During utility upgrade or relocation work, excavations deeper than 18 inches could increase the risk of encountering contaminated materials. , but the risk would still be low.

For the Streetcar route, the likelihood is low of encountering contamination within the majority of the rights-of-way where streetcar construction is proposed. There are 10 locations that were identified through review of the EDR search where additional site-specific information would be useful to confirm that there is limited potential for encountering contaminated soils within the right-of-way. According to the EDR search, these 10 locations along the Streetcar route are associated with sites adjacent to or in the vicinity of the Streetcar route where previous Phase I and Phase II ESAs or site investigations have been conducted and/or where corrective actions may have taken place by the respective property owners as the properties have undergone redevelopment. The type and extent of the potential contamination and/or clean-up that has occurred on these sites was not identified in the EDR search.

Within the right-of-way where the Streetcar improvements would be constructed, potential contamination is less likely to be encountered within the top 18 inches below the street surface than at depths greater than 18 inches, because potential sources of contamination from these sites is likely set back substantially from the edge of the right-of-way and proposed streetcar tracks such that past releases would be unlikely to have migrated that distance horizontally.

Because the following 10 sites are located adjacent to or within close proximity to the Streetcar route or candidate VMF sites, they may contain contamination that lies adjacent to or has migrated into the right-of-way; they have a medium to high potential affect construction of the Streetcar Alternative. On behalf of the City, additional data has been requested from MDNR and/or EPA for the these sites:

- Stan Campbell site, 101 W. 3<sup>rd</sup> Street – LUST site
- Downtown Texaco Service Station site, 600 Main Street – LUST site
- MO Highway & Transportation site, Cherry & 4<sup>th</sup> – LUST site
- Kansas City Cold Storage site, 500 E. 3<sup>rd</sup> Street – LUST site
- KC Live Entertainment Site, 1400 Main (1401 Baltimore, 1415 Baltimore) – VCP site, Institutional Controls site
- Frankel, Frank Co. site, 807 Wyandotte 8<sup>th</sup> and Main – VCP site
- Grand Boulevard Lofts site, 1006 Grand Boulevard – VCP site
- McGrew Color Graphics site, 16<sup>th</sup> and Grand Boulevard – VCP site
- Kemper Arena Garage/Heart Drive Inn sites, 2 E. 9<sup>th</sup> Street – Brownfield sites
- Farhas Downtown Cleaners, 709 Main Street – Drycleaners site

The additional data obtained would be reviewed and used by the City to determine whether additional Phase I and/or Phase II investigations need to occur in and/or adjacent to the right-of-way to determine the potential for soil contamination within the proposed construction area. Should these investigations reveal the presence of hazardous materials, mitigation and clean up measures would be defined and required prior to initiating construction of the Streetcar Project.

Further investigation of the selected VMF site is required and would be conducted prior to acquisition of the property as a part of the customary due diligence that takes place during property acquisition. It is expected that the City would perform a site-specific Phase 1 ESA on the selected VMF site, and if warranted, a Phase II (subsurface) ESA which would include soil and groundwater testing, as appropriate. Should the Phase I ESA (and Phase II ESA if conducted) reveal the presence of hazardous materials, mitigation and clean up measures would be defined and required as part of the property purchase agreement.

If unanticipated sources of hazardous or regulated materials are encountered during construction activities, the construction manager or designee would immediately notify the City's Environmental Compliance Division. Specific mitigation activities, which address the type, level, and quantity of contamination encountered, would be immediately implemented. The handling, treatment, and disposal of any hazardous materials would occur in full compliance with all federal, state, and local requirements. The discharge of any wastewater suspected of containing hazardous/regulated materials is prohibited without first obtaining a National Pollution Discharge Elimination System (NPDES) Permit through the MDNR covering the one-time discharge of wastewater containing known and specific hazardous constituents. Such a permit may be obtained from the MDNR providing the discharge is well characterized, meets discharge standards, and does not pose a threat to the ultimate surface water body receiving the discharge. If fill material is required in construction of the proposed Streetcar facilities, the construction contractor would be required to ensure that the sources of any fill material are free of contamination.

## 5. CONCLUSION

The environmental desktop review conducted for the Streetcar Project indicates that there are 10 sites with medium or high potential to affect construction of the Streetcar Project because they are located adjacent to or in close proximity to the right-of-way and/or candidate sites for the VMF. Past activities on these sites may have contaminated soil, and possibly groundwater, on the sites and may have also affected soils within existing rights-of-way.

Further investigation for the selected VMF site is required as part of the customary due diligence conducted as part of the property acquisition process. It is expected that the City would perform a site-specific Phase 1 ESA on the selected VMF site, and if warranted, a Phase II (subsurface) ESA which would include soil and groundwater testing, as appropriate. Should the Phase I ESA (and Phase II ESA if conducted) reveal the presence of hazardous materials, mitigation and clean up measures would be defined and required as part of the property purchase agreement.

Although the likelihood is low of encountering contamination within the majority of the rights-of-way where streetcar construction is proposed, 10 locations have been identified through the EDR search where additional site-specific information is needed to determine if there is an increased potential for encountering contaminated soils within the right-of-way than in other areas not adjacent to known contaminated properties. These 10 locations are sites adjacent to the Streetcar route where previous Phase I and Phase II ESAs or site investigations were conducted by private parties and/or where corrective actions may have taken place (as directed by MDNR or USEPA), but where the type and extent of the potential contamination and/or clean-up was not identified as part of the EDR search. For these locations, MDNR has been contacted to obtain copies of previously completed studies, permits, and monitoring plans. This information would be used by the City to determine whether additional Phase I and/or Phase II investigations need to occur in and/or adjacent to the right-of-way to determine the potential for soil contamination. Should these additional investigations reveal the presence of hazardous materials within the right-of-way, mitigation and clean up measures would be defined and required prior to initiating construction.

With the No Build Alternative, there would be no construction or ground disturbance within the right-of-way or on any of the candidate VMF sites, so there would be no risk of disturbing potentially contaminated soils or groundwater. Existing contaminants would be left in place.

Although certain aspects of this report meet the ASTM 1527-05 Standard for Phase I ESAs, the results of this review do not fully meet the requirements of the Standard or the AAI regulation. If additional clarification is desired by The City, additional information may be obtained for sites identified with a **medium or high potential** to affect the Streetcar Project by conducting specific file reviews for each site at MDNR and/or the EPA. If The City is seeking liability protection, a full Phase I ESA under ASTM 1527-05 should be conducted for the Streetcar route or for specific, smaller properties and the VMF sites with a higher probability for contamination.



## **Appendix A**

### Preparer Qualifications



### Expertise

- Environmental Due Diligence
- Compliance Audits
- Environmental Permitting
- SPCC/SWPPP
- Hazardous Waste Management/ Remediation

### Education

- B.S. Chemical Engineering, University of Kansas, 1996
- M.S. in Environmental Engineering, University of Wyoming, 1999

### Organizations

- NSPE
- AWMA
- ASTM E1527 Task Group

### Registration

- Professional Engineer – Kansas

### Years Experience

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As an environmental engineer, Ms. Sizemore provides environmental site assessment and compliance assistance to industrial and government clients. Ms. Sizemore has conducted Phase I ESA's under the currently accepted ASTM Standards (ASTM 1527-05 and ASTM 2247-08), which satisfy the All Appropriate Inquiry regulations at 40 CFR 312, as well as the previous ASTM standards. Her Phase I ESA experience includes both developed and undeveloped sites. In addition, she provides air permitting and remediation assistance to industrial clients. Ms. Sizemore also has experience in preparing Compliance Audits, Spill Prevention, Control and Countermeasures Plans, Storm Water Pollution Prevention Plans and Risk Management Plans.

### PHASE I ENVIRONMENTAL SITE ASSESSMENT (ESA)

Ms. Sizemore completed more than 90 Phase I ESAs. The following are recent examples of these projects:

#### Perpetual Energy Systems

*Hollister, California, 2011*

Ms. Sizemore conducted Phase I ESAs for two Properties with solar array installations in the Hollister School District.

#### San Diego Gas & Electric

*El Cajon, California, 2011*

Ms. Sizemore conducted Phase I ESA update of a power generating station in El Cajon, California.

#### Tyr Energy, Inc.

*Multiple Sites, California, 2011*

Ms. Sizemore conducted Phase I ESA updates of four power generating stations owned by CalPeak Power, LLC in California.

#### Confidential Consumer Products Client

*Connecticut and West Virginia, 2011*

Ms. Sizemore managed the completion of Phase I ESAs for Properties in West Virginia and Connecticut for a Consumer Products Client. Properties in both states were utilized as a healthcare products distribution facility.

#### Confidential Consumer Products Client

*Florida and Georgia, 2011*

Ms. Sizemore completed Phase I ESAs for Properties in Florida and Georgia for a Consumer Products Client. The Florida Property was in use by a healthcare products manufacturing company. The Georgia Property was utilized as a truck trailer drop lot.

#### Perkins & Trotter, PLLC

*Cushing, Oklahoma, 2011*

Ms. Sizemore completed a Phase I ESA for property historically used as a petroleum storage tank farm in an area developed with petroleum refineries as early as the turn of the 20<sup>th</sup> century.

#### Kissel Properties, Inc.

*Kansas City, Missouri, 2011*

Ms. Sizemore completed a Phase I ESA for an approximately 3.1 acre property in an area of Kansas City, Missouri that was first developed in the late 1800s. Based on the results of the Phase I ESA, a Phase II investigation was conducted at the property.

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**Confidential Consumer Products Client**

*Houston, Texas, 2011*

Ms. Sizemore completed a Phase I ESA for property historically used as a machine shop in an industrial area of Houston, Texas. Based on the results of the Phase I ESA, a Phase II investigation was conducted at the property.

**Confidential Client**

*Crete, Nebraska, 2011*

Ms. Sizemore completed a Phase I ESA for an approximately 18-acre property in Crete, Nebraska. The property was partially developed as a warehouse and was a former homestead site. The City of Crete's former landfill was immediately adjacent to the property. Based on the results of the Phase I ESA, a Phase II investigation was conducted at the property.

**Renewable Energy Group**

*Ellenwood, Georgia, 2011*

Ms. Sizemore completed a Phase I ESA for an operational biodiesel facility in the Atlanta, Georgia area.

**Kuhn North America, Inc.**

*Hutchinson, Kansas, 2010*

Ms. Sizemore conducted a Phase I ESA on 30 acres of property used for manufacturing of farm equipment. The property was initially developed in the early decades of the 20<sup>th</sup> century and included a foundry.

**Confidential Client**

*Multiple Sites in Iowa, Nebraska, Kansas, Missouri, Oklahoma, 2010*

Ms. Sizemore managed the completion of 22 Phase I ESAs for a Confidential Client, including fertilizer, grain and soybean crushing facilities in a five state area.

**Confidential Client**

*Masontown, Pennsylvania, 2010*

Ms. Sizemore completed a Phase I ESA at an approximately 320-acre, active power generating station in Fayette, Pennsylvania. The area was historically used for oil and gas production.

**Confidential Client**

*Sussex, Virginia, 2010*

Ms. Sizemore conducted a Phase I ESA on approximately 1,200 acres of property used for timber harvesting.

**Confidential Client**

*Multiple Sites in Iowa, 2010*

Ms. Sizemore completed several Phase I ESAs for a Confidential Client, including fertilizer, grain and soybean crushing facilities.

**Sedgwick County, Kansas**

*Wichita, Kansas 2010*

Ms. Sizemore completed a Phase I ESA for the former Coleman Plant A Property in Wichita, KS. Coleman previously manufactured camping goods at the Property for the majority of the 1900's.



**Confidential Client**

*Lyons, Kansas, 2009*

Ms. Sizemore completed a Phase I ESA on 160-acres of agricultural land within the boundary of a salt mining company.

**Confidential Client**

*Hutchinson, Kansas, 2009*

Ms. Sizemore completed a Phase I ESA on approximately 3-acres of mixed residential and light industrial land.

**Confidential Client**

*Chesapeake, Virginia, 2009*

Ms. Sizemore completed a Phase I ESA for a fertilizer manufacturing facility located in Chesapeake, Virginia.

**Confidential Client**

*Illinois, 2009*

Ms. Sizemore managed a Phase I ESA update for a 10,000-acre wind farm project spread across approximately 26 square miles.

**Confidential Client**

*Atlanta, Georgia 2009*

Ms. Sizemore completed a Phase I ESA for an undeveloped, approximately 14.98-acre Property within an industrial park.

**Confidential Client**

*Denver, Colorado 2009*

Ms. Sizemore completed a Phase I ESA and a Phase II ESA for an approximately 4.5-acre Property owned by Union Pacific Railroad with multiple lease tenants.

**Confidential Client**

*Lyons, Kansas, 2009*

Ms. Sizemore completed a Phase I ESA on 160-acres of agricultural land within the boundary of a salt mining company.

**Confidential Client**

*Sheridan, New York 2009*

Ms. Sizemore completed a Phase I ESA for an undeveloped tract in an industrial park.

**Confidential Client**

*Oklahoma, 2008-09*

Ms. Sizemore completed Phase I ESAs for three sites in Oklahoma. All three sites were agricultural and/or farmstead sites with sizes ranging from 160 acres to 640 acres.

**Confidential Client**

*Illinois, 2008*

Ms. Sizemore managed a Phase I ESA for a 10,000-acre wind farm project spread across approximately 26 square miles.

**Confidential Client**

*Ft. Dodge, Iowa, 2008*

Ms. Sizemore completed a Phase I ESA on a property formerly used as a laundromat.



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**Confidential Client**

*Garner, North Carolina, 2008*

Ms. Sizemore conducted a Phase I ESA on an approximately 56.6 acres of property used for timber harvesting.

**Starwood Energy Global Group, LLC**

*Firebaugh, California, 2008*

Ms. Sizemore conducted a Phase I ESA on a property used as an equipment laydown yard.

**Confidential Client**

*Meadows of Dan, Virginia, 2007*

Ms. Sizemore completed a Phase I ESA on approximately 36.4 acres of property used for die manufacturing. Based on the results of the Phase I ESA, a Phase II investigation was conducted at the property.

**Confidential Client**

*Danville, Illinois, 2007*

Ms. Sizemore conducted a Phase I ESA on property being developed as a biodiesel refining facility.

**Confidential Client**

*Dendron, Virginia, 2007 and 2010*

Ms. Sizemore conducted a Phase I ESA on approximately 1,600 acres of property used for timber harvesting and agricultural purposes.

**Confidential Client**

*Cairo, Illinois, 2007*

Ms. Sizemore conducted a Phase I ESA on vacant property previously used for industrial purposes in Cairo, Illinois.

**Confidential Client**

*Sedalia, Missouri, 2007*

Ms. Sizemore conducted a Phase I ESA on an approximately 156 acre agricultural property used for biosolids application.

**Confidential Client**

*Hiawatha, Kansas, 2007*

Ms. Sizemore conducted a Phase I ESA on an approximately 450 acres agricultural property, including a house and associated outbuildings.

**Confidential Client**

*Summer Shade, Kentucky, 2007*

Ms. Sizemore conducted a Phase I ESA on property used as a liquid smoke manufacturing facility.

**Coffeyville Valve Company**

*Coffeyville, Kansas, 2006*

Ms. Sizemore conducted a Phase I ESA on property used by a valve refurbishing and repair company.

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**Confidential Consumer Products Client**

*Vernon, California, 2006*

Ms. Sizemore conducted a Phase I ESA on property used as a truck trailer staging area.

**City of Macon**

*Macon, Missouri, 2006*

Ms. Sizemore conducted a Phase I ESA on property being acquired for the airport's runway protection zone.

**Confidential Client**

*Denver, Colorado, 2006*

Ms. Sizemore completed a Phase I ESA on property historically used as an auto body shop and for construction equipment storage.

**Fuchs Lubricants**

*Detroit, Michigan, 2006*

Ms. Sizemore conducted a Phase I ESA on a property historically used for lubricant manufacturing and warehousing.

**City of Mountain View**

*Mountain View, Missouri, 2006*

Ms. Sizemore conducted a Phase I ESA on property being acquired for the airport's runway protection zone.

**Tyr Energy, Inc.**

*California, 2006*

Ms. Sizemore conducted Phase I ESA updates of five power generating stations owned by CalPeak Power, LLC in California.



### Expertise

- Phase I and II Environmental Site Assessments
- Hazardous Waste Management
- Solid Waste Management
- Remedial Investigation
- Industrial Wastewater
- Process Development
- RI/FS
- Multimedia Compliance Audits
- SPCC Plans
- Facility Response Plans
- Waste Minimization/Pollution Prevention
- PCBs

### Education

- B.S. in Chemical Engineering, Kansas State University, 1983
- M.S. in Environmental Health Engineering, University of Kansas, 1993

### Organizations

- American Institute of Chemical Engineers
- Kansas Engineering Society

### Registration

- Professional Engineer – ; Kansas, 1987;

### Years Experience

26

### Years With Other Firms

3

Mr. Gorman specializes in hazardous waste, industrial wastewater management activities, and the preparation of SPCC plans for industrial and utility clients. He has assisted in the remedial investigations and feasibility studies at various clean-up sites in the Midwest. He has served as the principle investigator for numerous compliance and environmental audits at manufacturing facilities.

### PHASE I & II ENVIRONMENTAL SITE ASSESMENTS

Mr. Gorman specializes in due diligence and environmental compliance assistance for industrial and utility clients. His Phase I environmental site assessment experience includes investigations of single undeveloped sites to multi site nationwide acquisitions. He has also performed numerous multimedia environmental compliance audits. His site assessment experience includes:

#### **Phase I Environmental Site Assessments, Redevelopment Site Clearing** *Kansas City, Missouri, 2006*

Mr. Gorman served as the Phase I Environmental Site Assessment Manager for the City of Kansas City's Sports Arena project in the city's downtown business district. The project included approximately 28 parcels located from Grand to Oak Streets and from 13<sup>th</sup> to 15<sup>th</sup> Streets. The results of the Phase I assessment was used to identify Phase II sampling locations which aided in determining the environmental issues associated with demolition and removal of the blighted commercial and industrial properties.

#### **Phase I and II Environmental Site Assessments, National Pet Foods Manufacturer**

*Nationwide, 2000 to present*

Manages the Phase I and II assessment program for the company's pet food manufacturing plants located throughout the United States. Over the years Mr. Gorman has completed more than 20 Phase I and II site assessments on properties ranging from open fields to manufacturing plants.

#### **Phase I Environmental Site Assessments, Bunge Corporation** *Nationwide and Canada, 2002 through 2006*

Mr. Gorman has managed the Phase I and II environmental site assessments for several company acquisitions. Included were the acquisitions of seven soybean processing facilities located in the United States and Canada, five grain elevators, and five food additive plants. The acquisition of soybean processing facilities included preparing cost estimates to address identified recognized environmental conditions to aid the in the company's negotiations with the seller.

#### **Phase I Environmental Site Assessments, Universal Environmental Services**

*Southwest United States, 2004*

Managed Phase I and II environmental site assessments associated with the company's acquisition of eight used oil recycling facilities located throughout the southwest United States. After completing the Phase I Environmental Assessments SPCC Plans and SWPPPs were prepared for the facilities as were used oil handling procedures.

#### **Phase I Environmental Site Assessments, NN Inc.**

*Four Locations, Nationwide, 2006*

Managed Phase I environmental site assessments associated with the company's acquisition of four metal fabrication shops located in Ohio and Arizona.

**Start Date**  
September 1986

**Phase I Environmental Site Assessments, Confidential Natural Gas Client**  
*Kansas City, Missouri, 2000*

Mr. Gorman served as Project Engineer/Manager for a Phase I real estate transfer assessment of two 50 mile long sections of pipeline passing through Kansas City, Missouri. The Phase I assessment was completed at the request of the buyer's attorney and met ASTM standards. During the Phase I investigation, four past spill sites were identified and recommendations were made to conduct Phase II investigations in the areas which were also conducted by Mr. Gorman. The Phase II investigations identified contamination at each of the spill areas and determined the extent of the contamination. This information was then used to develop clean up cost estimates which were used by the buyer during the transaction negotiations.

**Phase I Environmental Site Assessment, Coffeyville Valve Company**  
*Coffeyville, Kansas, 2006*

Mr. Gorman served as Project Manager for a Phase I ESA on property used by a valve refurbishing and repair company.

**Phase I Real Estate Transfer Assessment, Missouri Public Service Company**  
*Eastern and South Eastern, Missouri, 1997*

Project Engineer on a Phase I Real Estate Transfer Assessment of a 200 mile interstate natural gas pipeline. The assessment was performed for an attorney representing the buyer. The assessment met ASTM standards and included reconnaissance of the pipeline from an airplane.

**Phase I Environmental Site Assessments, DeBruce Agricultural Services**  
*Texas and Iowa, 2007*

Managed Phase I environmental site assessments associated with the company's refinancing of seven grain elevators/fertilizer dealers located in Iowa and Texas.

**Phase I and II Environmental Site Assessment & Compliance Audit, Trans World Airlines Overhaul Base**  
*Kansas City, Missouri, 2002*

Project Manager for an extensive two week environmental phase I site assessment and compliance audit the 400 acre TWA aircraft overhaul base located in Kansas City, Missouri. The assessment was performed to meet Kansas City Missouri requirements for lease holders and resulted in a Phase II investigation of eight areas of concern identified during the Phase I Site Assessment.

**Phase I Environmental Assessment and Compliance Audit, Hoosier Energy**  
*Terre Haute, Indiana, 2002*

Mr. Gorman as project manager and lead auditor for a compliance audit and Phase I Environmental Site Assessment associated with the refinancing of a coal fired power plant. The Phase I Environmental Assessment met ASTM requirements and the lending institutions requirements



## **Appendix B**

Environmental Desktop Review Technical Report - Streetcar Route  
Kansas City Downtown Streetcar Project

[PROVIDED UNDER SEPARATE COVER]



## **Appendix C**

Environmental Desktop Review Technical Report - Vehicle Maintenance Facility Candidate Sites –  
Options C, D, and E  
Kansas City Downtown Streetcar Project

[PROVIDED UNDER SEPARATE COVER]