Analysis of Brownfields Cleanup Alternatives

Grim Hotel
301 North State Line Avenue
Texarkana, Texas 77501

City of Texarkana, TX

Preliminary Evaluation
June 2017
Brownfields Agreement: BF-00F62501

Stanley Consultants INC.
A Stanley Group Company
Engineering, Environmental and Construction Services - Worldwide

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APPENDICES

Section 1

Introduction & Background

1.1 Introduction

The City of Texarkana, Texas (City) developed this Analysis of Brownfields Cleanup Alternatives (ABCA) to evaluate options for the cleanup of asbestos and lead-based paint contamination within the Grim Hotel, and soil and groundwater contamination on the approximately 0.89-acre property (Project) located at 301 North State Line Avenue in Texarkana (Site). The City plans to provide funding assistance for the cleanup through the U.S. Environmental Protection Agency (EPA) Revolving Loan Funds (RLF) agreement BF-00F62501 modification 1 dated August 10, 2016. Additional funding for redevelopment activities will be provided by the City through a U.S, Department of Housing and Development (HUD) Section 108 Loan. Due to the historical significance of the building, Sari and Company (Developer) is coordinating the cleanup and redevelopment of the Site with the Texas Historical Commission.

1.2 Background

Built in 1925, the Grim Hotel was originally an eight-story hotel with a basement and approximately 103,000 square feet of floor space. When completed, the building was the second tallest building in Texarkana and was the hub of downtown and community activity. The building was added to the National Historic Registry in 2015 for its local historic significance and distinct architecture. Several businesses were formerly in operation within the Grim Hotel, including a barber shop, drug store, and cigar store. The building has been vacant since 1990, when the building was boarded up with some furnishings left in place. Vandalism and a compromised roof have led to damage of interior surfaces including asbestos and lead contamination of debris throughout the building. The Grim Hotel is located on the southern portion of the site, and on the northern portion is vacant lot enclosed by chain-link fencing. The Site location is included on Figures 1 and 2 in Appendix A.

1.3 Site Assessment Findings

The following previous environmental site assessments (ESAs), investigation and cleanup plans have been completed for the Site:

Phase I Environmental Site Assessment – Grim Hotel
Terracon Consultants, Inc., August 25, 2014

The Phase I ESA states that the Site was developed as early as 1885 and was occupied by various dwellings/boarding houses and businesses. In the early 1900s, the Site was utilized as a cotton yard and associated cotton storage operations. The southern portion of the Site was constructed with the Grim Hotel in approximately 1925 and operated until the 1990s. At the time of the Phase I ESA, the hotel was boarded up and in a dilapidated state, including structural roof damage. Trash and debris, consisting primarily of building construction materials, and furniture were observed throughout the structure. Several unlabeled 55-gallon drums were noted throughout the structure and an electric boiler system was observed in the basement. In addition, elevators were observed; however, Terracon was unable to observe elevator components due to the dilapidated state of the building. The northern portion of the Site was occupied by an automotive repair, filling station and battery storage from approximately 1924 to 1951. Concrete pads likely from these structures remain in the northern portion of the Site. The northern portion of the Site appears to have been vacant since at least 1969.

The Phase I ESA identified the following recognized environmental conditions (RECs) associated with the Site:

- Historic on-site cotton yard and associated storage operations identified across the Site from 1905 to 1909
- Historic on-site automotive repair, battery storage and filling station identified on the north portion of the site from approximately 1924 to 1951.
- Historic printing operations associated with the Texarkana Gazette located approximately 75 feet west of the Site from approximately 1960 to present.
- Elevators observed within the on-site structure are potential for a release related to hydraulic components

The Phase I ESA stated that due to the age of the building, it is possible that building materials could contain asbestos. In addition, painted surfaces were observed to be in poor condition. Based on the date of construction, it is possible that the original layers of paint may contain lead.

The Phase I ESA recommended further investigation (soil testing, groundwater sampling, etc.) at the Site regarding potential environmental impact from the RECs. Further evaluation/testing regarding potential asbestos and lead-based paint at the Site was also recommended.

Property-Specific Sampling and Analysis Plan (PSAP) – Grim Hotel
Terracon Consultants, Inc., November 20, 2014

The PSAP was completed to describe the type and frequency of soil and groundwater samples that would be collected at the Site. The plan included four soil borings with collection of two soil samples and one groundwater sample at each boring location. The sampling summary included proposed laboratory analysis of volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), total petroleum hydrocarbons (TPH), Resource Conservation and Recovery Act (RCRA) metals, pesticides, and herbicides. Asbestos sampling and lead-based paint sampling was also included in the PSAP.

Phase II Environmental Site Assessment – Grim Hotel
Terracon Consultants, Inc., May 27, 2015

The Phase II ESA includes soil and groundwater samples collected by Terracon on the northern half of the Site, a limited asbestos survey conducted within the Grim Hotel building by HEC Environmental Group, and a lead-containing paint survey conducted within the Grim Hotel building by Terracon.

Soil and groundwater sampling included the advancement of four soil borings converted into groundwater monitoring wells. Terracon concluded that metals (mercury, arsenic, and lead) concentrations exceeded the Texas Commission on Environmental Quality (TCEQ) action levels in soil, and lead concentrations exceeded the TCEQ action level in groundwater.

The limited asbestos survey conducted by HEC Environmental Group concluded that the entire Grim Hotel should be considered asbestos contaminated for demolition and asbestos abatement purposes due to the observed loose or deteriorated air cell thermal system insulation (ASTSI) debris inside pipe chases, crawlspaces, exposed hotel room walls, along exposed corridors throughout the building interior, and ACTSI loose debris laying on corridor floors where "tracking" has occurred. HEC Environmental Group stated that plaster walls and ceilings must be demolished to properly gain access to the vertical pipe chases and crawlspaces.

The lead-containing paint survey determined that five of seven paint samples collected contained lead at concentrations greater than 5,000 parts per million (ppm) standard. The other two samples contained lead concentrations below the 5,000-ppm standard for lead-based paint, but were still considered lead-containing paint, and could be considered hazardous if waste is generated during renovation.

Phase I Environmental Site Assessment – Grim Hotel
Daniel B. Stephens & Associates (DB&A) for the TCEQ, February 21, 2017

The Phase I ESA identified the following RECs associated with the Site:

- A US Brownfields listing of the Site which identified asbestos and lead paint contamination confirmed within the Grim Hotel building as well as on-site soil and groundwater affected by elevated metal (arsenic, lead and mercury) concentrations.

- Historic off-site printing operations associated with the Texarkana Gazette, including an identified leaking petroleum storage tank (LPST) located approximately 75 feet west of the site at the southwest corner of the intersection of West 4th Street and Pine Street. According to the TCEQ LPST Database, a petroleum storage tank leak was discovered in April of 1991. Final concurrence was issued and the case has been closed. However, the former LPST represents a REC due to the absence of an underground storage tank (UST) removal documents and lack of tank closure confirmation soil sampling data.
- Dang Good Used Cars represents a recognized environmental condition since this property is located up-gradient (401 W 7th Street) from the Site with respect to groundwater flow and its release (LPST) has caused groundwater to be affected.

And the following historical REC associated with the Site:

- Except for Dang Good Used Cars and Texarkana Gazette, sites listed in the PST/LTANKS database represent a historical recognized condition due to their proximity to the Site. Those sites include E-Z Mart #167, Union Pacific Railroad, Beals Service, 999 Station, Texarkana Uniform, The TRAHC Building, Montgomery Ward, Griffin Shell, UPRR Former St. Louis and Used Car Lot

1.4 Project Goal

The goal of the Project is to address environmental concerns so that the Site can be redeveloped into affordable housing for the City's residents and commercial space on the first level. The Grim Hotel is a historic building on the National Register of Historic Places and a local icon, and preservation of the historic element of the building is important to the community. Cleanup of the Site is scheduled to begin in the Fall of 2017.

Section 2

Applicable Regulations and Cleanup Standards

2.1 Cleanup Oversight

Cleanup and redevelopment of the Site will be conducted in accordance with applicable EPA and State regulations. The Developer, Sari and Company, will have primary responsibility for implementation of the cleanup. The asbestos and lead-based paint abatement activities will be conducted under the oversight of the Texas Department of State Health Services (TDSHS). A notification will be filed with the TDSHS at least ten working days prior to commencement of the asbestos abatement. The soil and groundwater contamination will be addressed under the TCEQ Texas Risk Reduction Program (TRRP) rules. EPA Region 6 and the City of Texarkana are conducting general project oversight.

Sari and Company will hire qualified contractors to complete the selected cleanup activities. A qualified consultant will be hired to evaluate remedial alternatives and develop specifications for the cleanup of lead-based paint, asbestos, and other potential hazards within the building, as well as the soil and groundwater contamination. The consultant will oversee and monitor all cleanup activities conducted on-site. Cleanup will be carried out by a qualified contractor with appropriate certifications/licenses in the handling of materials containing lead and asbestos, and contaminated groundwater and soil.

2.2 Cleanup Standards

Asbestos – Final clearance air monitoring will be performed after the asbestos and asbestos contaminated debris is removed. Clearance air monitoring must be completed for all abatement projects except where demolition will commence immediately following completion of abatement and successfully passed final visual clearance. The final air clearance will be conducted using aggressive air sampling techniques as defined in the EPA Asbestos Hazard Emergency Response Act AHERA regulation 40 Code of Federal Registry (CFR) 763, Subpart E, Appendix A. The final clearance requirements will be one of the following:

- National Institute for Occupational Safety and Health (NIOSH) Phase Contrast Microscopy (PCM) Method for PCM sampling and analysis using NIOSH Manual of Analytical Methods (NMAM) Method 7400: The fiber concentration inside the abated regulated area, for each airborne sample, shall be less than 0.01 f/cc. The abatement inside the regulated area is considered complete when every PCM final clearance sample is below the clearance limit. If any confirmation sample result is greater than 0.01 f/cc, abatement is incomplete and cleaning shall be repeated. Upon completion of any required recleaning, re-sampling with results to meet the above clearance criteria shall be done.
- EPA Transmission Electronic Microscopy (TEM) Method - EPA Method specified in 40 CFR 763 Appendix A. The abatement inside the regulated area is considered complete when the arithmetic mean asbestos concentration of the five inside samples is less than or equal to 70 structures per square millimeter (S/mm). When the arithmetic mean is greater than 70 S/mm, the three blank samples shall be analyzed. If the three blank samples are greater than 70 S/mm, resampling shall be done. If less than 70 S/mm, the five outside samples shall be analyzed and a Z-test analysis performed. When the Z-test results are less than 1.65, the decontamination shall be considered complete. If the Z-test results are more than 1.65, the abatement is incomplete and cleaning shall be repeated. Upon completion of any required recleaning, resampling with results to meet the above clearance criteria shall be done.

Lead-based paint- Lead-based paint is defined by the EPA as any paint that contains more than 5,000 milligrams per kilogram (mg/kg or ppm) or 0.5 percent lead by weight. HUD Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing were used a guideline for the development of the following clearance criteria.

Building Interior:
Floors - 40 micrograms/square foot.
Interior Window Sills - 250 micrograms/square foot.
Window Troughs - 800 micrograms/square foot.

During abatement or demolition, air monitoring and respiratory protection must be provided in accordance with 29 CFR 1926.62 if to prevent workers exposed to lead concentrations above the permissible exposure limit (PEL) of 50 micrograms/cubic meter (µg/m3).

Waste that contains lead may be considered a hazardous waste, depending on the leachability of the lead. Lead that is leachable above a concentration of 5 milligrams/liter (mg/L) as determined using the Toxicity Characteristic Leach Procedure (TCLP) analysis is subject to RCRA hazardous waste handling and disposal requirements (40 CFR 261, Subpart C).

Soil and groundwater – The cleanup standards for soil and groundwater will be determined by the response action. The TCEQ Action Levels identified in previous reports include the Tier 1 protective concentration level (PCL) – The lower of the TCEQ Residential Tier 1 Protective Concentration Levels for a 0.5-acre source area protective of combined human exposures or soil migration to groundwater. For certain metals in the soil, the Texas-specific background concentration (TSBC) may be used as the PCL. Evaluation of exposure pathways and/or property restrictions could allow contaminants to be managed in place at current concentrations.

2.3 Laws & Regulations

Laws and regulations that are applicable to this cleanup include the Federal Small Business Liability Relief and Brownfields Revitalization Act, the Federal Davis-Bacon Act, HUD, EPA, Occupational Safety and Health Administration (OSHA), Texas laws, and the City of Texarkana laws and regulations. Federal, state, and local laws regarding procurement of contractors to conduct the cleanup will be followed. In addition, all appropriate permits (*e.g.*, notify before you dig, soil transport/disposal manifests) will be obtained prior to the work commencing.

Asbestos – The TDSHS regulates asbestos abatement performed in Texas. Asbestos is a regulated substance and the following laws and regulations apply:

- AHERA - Although AHERA regulations apply to abatement in schools, the same standards are generally used for all abatement projects.
- Toxic Substances Control Act (TSCA) Section 6 – Regulates certain hazardous chemical substances including asbestos, and authorizes EPA to take regulatory action to protect against the unreasonable risk of injury to human health or the environment.
- National Emission Standards for Hazardous Air Pollutants (NESHAP) Regulation 40 CFR Part 61, Subpart M - specify work practices for asbestos during demolitions and renovations of buildings. The regulations require the owner of the building or the operator to notify the appropriate state agency before any demolition, or before any renovations of buildings that could contain a certain threshold amount of asbestos or asbestos-containing material.
- Clean Air Act (CAA) (42 U.S. Code § 7401 et seq.) - EPA's responsibilities for protecting and improving the Nation's air quality and the stratospheric ozone layer and includes provisions for the EPA to set national emission standards for hazardous air pollutants, including asbestos.
- Texas Asbestos Health Protection Rules (TAHPR)-Texas Administrative Code, Title 25, Part 1 Chapter 295 Subchapter C – Texas Asbestos Health Protection – Regulations to control and minimization of public exposure to airborne asbestos fibers.
- Texas Occupational Code -Asbestos Health Protection Act – Title 12 Subtitle B Chapter 1954 – Provides health protection from asbestos.
- OSHA 29 CFR 1910.1001 - Asbestos General Standard—Specifies permissible exposure limits, engineering controls, worker training, labeling, respiratory protection, and disposal of asbestos waste.
- OSHA 29 CFR 1926.1101 - Asbestos Construction Standard—Covers construction work involving asbestos, including work practices during demolition and renovation, worker training, disposal of asbestos waste, and specification of permissible exposure limits.

Lead-based paint –

- Texas Environmental Lead Reduction Rules (TELRR) - TDSHS
- Environmental Protection Agency Guidance on Residential Lead-Based Paint, Lead-Contaminated Soil (60 Federal Register 47248 (1995).

- OSHA Lead Construction Standard 29 CFR 1926.62 -Renovation/demolition regulations and permissible exposure limit for lead construction workers, including workers performing demolition, salvage, or renovation of a building

Soil and groundwater contamination -

- Texas Administrative Code (TAC) Title 30 – Texas Commission on Environmental Quality

Section 3

Evaluation of Cleanup Alternatives

The objective of the Project is to reduce exposure of asbestos, lead-based paint, and soil and groundwater contamination at the Site. Prior to recommending the corrective action defined in Section 3.5, three cleanup alternatives were considered for both the interior building cleanup of asbestos and lead-based paint and the exterior soil and groundwater contamination. Due to the poor condition of the asbestos and lead materials and contaminated material spread throughout the building, maintenance of the asbestos in place was not considered as an option.

3.1 Asbestos and Lead-Based Paint Cleanup Alternatives

Asbestos contamination is present on all floors of the building and loose or deteriorated asbestos-containing material has been spread throughout the interior causing contamination of building debris and furnishings. Lead-based paints are present on all floors of the building on walls, ceilings, columns, pillars, trim, doors, windows and railing. The lead-based paints are in poor condition with extensive flaking, peeling and chalking.

3.1.1 Alternative 1: No Action

Alternate 1 is to take no action. In this option, no cleanup would occur and the Grim Hotel building would remain in the current state and continue to deteriorate.

The advantages of this alternative are:

- No to low immediate cost

The disadvantages of this alternative are:

- Contamination including asbestos and lead-based paint remains in place
- The risk to human health remains for people entering the building, and as the building deteriorates the threat could migrate outside of the building
- The building remains aesthetically unpleasant, a blight to the community
- The abandoned building would require security to deter trespassing

- The building cannot be redeveloped, resulting in a loss of tax base to the City

3.1.2 Alternative 2: Removal of Hazardous Materials and Demolition

Alternate 2 is to remove asbestos and lead-based paint contaminated material to a level acceptable for demolition. Contaminated materials would be taken to a landfill that accepts asbestos containing material (ACM) waste. The building would then be demolished.

The advantages of this alternative are:

- Asbestos and lead-based paint will be safely removed from the Site and properly disposed
- The Site can be redeveloped into any structure

The disadvantages of this alternative are:

- The City would lose a historic landmark
- There is a high cost of demolition and disposal of building material; the building is concrete and well built
- There is the potential for exposure of environmental hazards during demolition, transport, and disposal of hazardous materials
- There would be a negative environmental impact with generation of a large amount of building material to be disposed in local landfills and heavy equipment emissions during the demolition

3.1.3 Alternative 3: Abatement of Hazardous Material and Renovation

Alternate 3 is to abate asbestos and lead-based paint and then renovate the building as affordable family apartments with ground floor retail/office space. This option includes removal and disposal of asbestos-containing material, debris, and furniture, and decontamination of interior surfaces, and the removal of lead contaminated debris, building components, and flaking lead-based paint. To meet historic preservation goals, some surfaces may be partially stripped of lead-based paint and sealed. Asbestos and lead abatement contractors would perform the removals in accordance with applicable regulations.

The advantages of this alternative are:

- The Site can be redeveloped as downtown housing and commercial space
- The Grim Hotel remains as a historical landmark and a local attraction for the City
- The health hazards of asbestos and lead-based paint are removed
- The Grim Hotel building is a well-built concrete-reinforced building that if redeveloped and maintained could last for many years
- This is in line with smart growth initiatives that encourage redevelopment of brownfields to revitalize neighborhoods, keep housing affordable, and limit urban sprawl

The disadvantages of this alternative are:

- There is a moderate to high cost for the abatement and renovation activities
- There is a potential for exposure during transport and disposal of ACM

3.2 Comparison of Asbestos and Lead-based Paint Alternatives

3.2.1 Effectiveness

Alternate 1: No Action

No Action is not effective in preventing the exposure to asbestos and lead-based paint. As the building continues to deteriorate, the potential for human exposure to Site contaminants will increase.

Alternative 2: Removal of Hazardous Materials and Demolition

This alternative is effective; however, it would destroy a historic building. Demolition of the building and off-site disposal of contaminated material would eliminate the threat to human health and the environment.

Alternative 3: Abatement of Hazardous Materials and Renovation

This alternative is effective and meets the Project goal. Abatement and off-site disposal of contaminated material will eliminate threat to human health and the environment.

3.2.2 Implementability

Alternate 1: No Action

No Action is easy to implement since no actions will be conducted. Site controls would be necessary to limit people from entering the building.

Alternative 2: Removal of Hazardous Materials and Demolition

This alternative is the most difficult to implement. The building is a historic eight-story concrete structure in the center of a downtown area. Demolition would create a massive amount of building materials that would have to be disposed.

Alternative 3: Abatement of Hazardous Materials and Renovation

This alternative is moderately difficult to implement but is a feasible option. Asbestos and lead abatement contractors often work in similar conditions and can adequately abate the contaminated material to provide a safe living environment.

3.2.3 Cost

Alternate 1: No Action

There is no cost for No Action.

Alternative 2: Removal of Hazardous Materials and Demolition

There would be a high cost for hazardous materials removal followed by demolition due to the well-built concrete structure. In addition, the building is listed on the National Register of Historic Places and therefore the EPA would likely not approve funding for cleanup activities for this alternative.

Alternative 3: Abatement of Hazardous Materials and Renovation

The overall project cost for renovation is estimated at 20 million with 12-13 million in construction costs.

3.3 Soil and Groundwater Metals Alternatives

Metals have been detected in the soil and groundwater on the Site at concentrations exceeding state action levels. Mercury, arsenic, and lead were detected in soil collected from 1-2 feet below the ground surface, and lead was detected in the on-site groundwater.

3.3.1 Alternative 1: No Action

Alternate 1 is to take no action. In this option, no additional investigation or cleanup would occur

The advantages of this alternative are:

- No to low immediate cost

The disadvantages of this alternative are:

- May not meet regulatory compliance
- Contaminants remain and may cause a health risk
- Contamination limits redevelopment potential

3.3.2 Alternative 2: Confirmation Soil and Groundwater Sampling

Alternate 2 is to collect current soil and groundwater samples to confirm the presence or absence of contamination. Soil samples would be collected and analyzed for the appropriate contaminant of concern to determine if Tier 2 PCLs can be calculated using the pH value and TRRP Soil-to-Groundwater PCL Equation. If the detected concentrations of metals are below the Tier 2 PCLs additional investigation would not be required; however; if concentrations in surface soils exceed the Tier 2 PCLs, then additional investigation may be required. Further assessment of the shallow groundwater bearing unit at the Site would be conducted to determine the groundwater bearing unit class so that potential COC concentrations can be compared to the appropriate TRRP PCL. Sampling techniques should assure a representative groundwater sample free of sediment is collected.

The advantages of this alternative are:

- Confirmation sampling will determine whether additional investigation or cleanup is needed
- Limited scope can be completed relatively quickly and easily

The disadvantages of this alternative are:

- If contamination is identified, additional sampling may be required to determine the extent of contamination

3.3.3 Alternative 3: Regulatory Closure through TCEQ

Pursuing regulatory closure from the TCEQ requires the Site owner to enter a program such as the Voluntary Cleanup Program (VCP) or the Corrective Action Program. The TCEQ would work with the Site owner to develop a plan to pursuing a Certificate of Completion (COC) from the VCP or a No Further Action (NFA) from the Corrective Action Program.

The advantages of this alternative are:

- TCEQ oversight would result in either a NFA or COC classification of the Site

- The VCP provides a release of liability to future property owners

The disadvantages of this alternative are:

- Working through the TCEQ program can be a slow process with added time to prepare, submit, and review the application, planning, and reporting documents

3.4 Comparison of Soil and Groundwater Alternatives

3.4.1 Effectiveness

Alternate 1: No Action

No Action is not effective because it does nothing to address the metals in soil and groundwater identified at the Site. In addition, No Action may not meet regulatory compliance.

Alternative 2: Confirmation Soil and Groundwater Sampling

This alternative is effective if the result of the sampling confirms that concentrations no longer exist at the Site above TCEQ action levels. If sampling shows that elevated concentrations remain, then additional investigation may be required.

Alternative 3: Regulatory Closure through TCEQ

This alternative is highly effective. TCEQ oversight of assessment and cleanup activities would result in a COC or NFA classification of the Site.

3.4.2 Implementability

Alternate 1: No Action

No Action is easy to implement since no actions will be conducted.

Alternative 2: Confirmation Soil and Groundwater Sampling

Confirmation sampling is relatively easy to implement. The sampling could be conducted in one mobilization, and results compared to TCEQ action levels.

Alternative 3: Regulatory Closure through TCEQ

This alternative is moderately difficult to implement due to time constraints. Working through the TCEQ program can be a slow process with added time to prepare, submit, and review application, planning, and reporting documents, and the Developer plans to begin Site cleanup in the next few months.

3.4.3 Cost

Alternate 1: No Action

There is no cost for No Action.

Alternative 2: Confirmation Soil and Groundwater Sampling

The cost of confirmation sampling of soil and groundwater is relatively low, estimated around $25,000.

Alternative 3: Regulatory Closure through TCEQ

The cost of regulatory closure through TCEQ will depend on the investigation and corrective action required by TCEQ to obtain the COC or NFA classifications. The costs are estimated between $50,000 - $150,000 and could be higher if contamination extends off-site.

3.5 Recommended Alternatives

3.5.1 Asbestos and Lead-based Paint

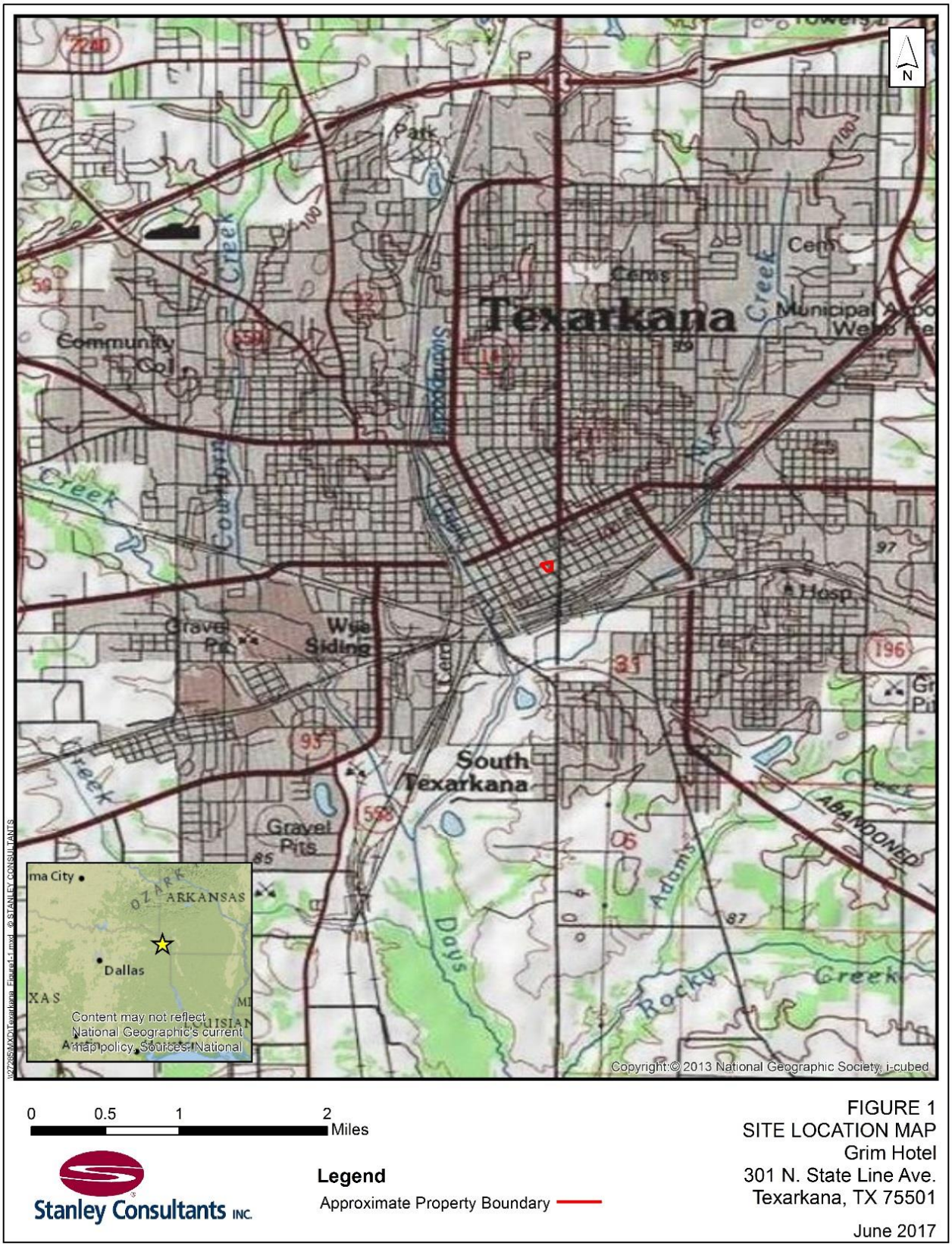
The recommended cleanup alternative is Alternative #3: Abatement of Hazardous Materials and Renovation. Alternative #1: No Action cannot be recommended since it does not address Site risks to human health and the environment. Alternative #2: Removal of Hazardous Materials and Demolition, addresses the Site asbestos and lead-based paint contamination; however, would result in the loss of an historical landmark and potentially a loss of cleanup funding. Alternate #3 meets the City's goals of removing environmental hazards to redevelop the Site into affordable housing and preserving a historical building. Additionally, Alternative #3 is aligned with smart growth initiatives that reuse brownfields Sites to revitalize neighborhoods and provide affordable housing while reducing urban sprawl. Alternative #3: Abatement of Hazardous Materials and Renovation is the recommended alternative.

3.5.2 Soil and Groundwater

The recommended cleanup alternative is Alternative #2: Confirmation Soil and Groundwater Sampling. Alternative #1: No Action cannot be recommended since it does not address Site risks to human health and the environment. Alternative #3: Regulatory Closure through TCEQ is a feasible alternative but does not meet the schedule of the Project due to the nature of the TCEQ program. Alternate #2 meets the City's goals of addressing environmental hazards to redevelop the Site into affordable housing and preserving a historical building if confirmation sampling results are below action levels, and meets the time frame goals of the Project. Alternative #2: Confirmation sampling of soil and groundwater is the recommended alternative.

Appendix A

Figures



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Stanley Consultants INC.

Legend

Approximate Property Boundary

FIGURE 1
SITE LOCATION MAP
Grim Hotel
301 N. State Line Ave.
Texarkana, TX 75501

June 2017

FIGURE 2
SITE DETAIL MAP
Grim Hotel
301 N. State Line Ave.
Texarkana, TX 75501

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