ENVIRONMENTAL ASSESSMENT
OF THE PROPOSED LAND ACQUISITION
FOR THE EXPANSION OF THE
JEFFERSON BARRACKS NATIONAL
CEMETERY
ST. LOUIS COUNTY, MISSOURI

DEPARTMENT OF VETERANS AFFAIRS
425 I STREET, NW
WASHINGTON, DC 20001

PREPARED BY:
TTL Associates, Inc.

AUGUST 22, 2018
EXECUTIVE SUMMARY

This Environmental Assessment (EA) has been prepared to identify, analyze, and document the potential physical, environmental, cultural, and socioeconomic impacts associated with the Department of Veterans Affairs (VA) proposed acquisition of approximately 33.6 acres of land associated with the southern portion of the Sylvan Springs County Park (the Site) for the future expansion of the existing Jefferson Barracks National Cemetery (JBNC), located at 2900 Sheridan Road in an unincorporated area of St. Louis County, Missouri. As a Federal action, preparation of this EA is required by the National Environmental Policy Act of 1969 ([NEPA]; 42 United States Code [USC] 4321 et seq.), the President’s Council on Environmental Quality (CEQ) Regulations Implementing the Procedural Provisions of NEPA (40 Code of Federal Regulations [CFR] 1500-1508), and 38 CFR Part 26 (Environmental Effects of the Department of Veterans Affairs Actions). This EA has also been prepared in accordance with the VA NEPA Interim Guidance for Projects dated 30 September 2010.

VA intends to acquire the Site in 2018 and hold it until such date when the expansion of the JBNC becomes necessary. At that time and as part of the cemetery design process, VA will perform a supplemental NEPA analysis to reanalyze and reevaluate the potential effects of the construction and operation of the expanded cemetery at the Site. VA will incorporate the avoidance, management, and minimization measures identified in this EA into that future design process and supplemental NEPA analysis to minimize potential adverse environmental effects.

As such, this EA assesses the potential effects of acquiring the Site for the ultimate expansion of the JBNC, and preliminarily assesses the effects of the future proposed construction and operation of the cemetery on the Site. Potential effects of the construction and operation of the proposed expanded JBNC on the Site will be reanalyzed and reevaluated in a subsequent NEPA analysis concurrent with Site design, when the expansion of the JBNC becomes necessary.

PROPOSED ACTION

VA’s Proposed Action is to acquire land adjacent to the existing JBNC for the future expansion of the cemetery. The future JBNC expansion would provide VA additional capacity to continue providing national shrine burial benefits to the regional Veterans community.

VA estimates the existing JBNC land contains adequate space for burials for the next 10 years. VA would acquire the Site in 2018. The Site would continue to be used as a park for up to 10 years after VA’s acquisition until such a time that expansion of the JBNC is necessary. It is anticipated that cemetery design and initial development would begin in approximately 4 to 7 years. Design details of the proposed JBNC expansion do not exist at this time; however, future grave site expansion on to the Site would be designed to be similar in appearance to the existing national shrine grounds of JBNC, located adjacent to the Site.
PURPOSE AND NEED

The purpose of the Proposed Action is to expand the JBNC to provide a National Cemetery of sufficient size and capacity to serve the projected intermittent needs of Veterans in the St. Louis, Missouri region for up to 20 years after the current JBNC burial space is depleted.

A larger, expanded JBNC is needed to address the projected depletion of remaining interment capacity at JBNC. JBNC is one of the five busiest National Cemeteries in the country and is the only National Cemetery in the region that is open to new interments; the nearest National Cemetery to JBNC that is accepting new burials is Camp Butler National Cemetery, located more than 115 miles from JBNC in Springfield, Illinois. The 330-acre JBNC is nearing its capacity for new burials. Based on the VA National Cemetery Administration’s (NCA’s) Gravesite Burial Statistics Analytical Tool (GBSAT), VA estimates approximately 10 years of remaining burial capacity on existing JBNC land before additional land is needed to be able to continue providing national shrine burial benefits to the regional Veteran community.

One of the primary objectives of the VA burial program is to ensure that burial needs of Veterans and eligible family members are met. NCA further defines this objective on the assumption that the burial needs of a Veteran are met if they have reasonable access to a burial option (whether for caskets, remains or cremated remains, either in-ground or in columbarium) in a National or State Veterans Cemetery within 75 miles of the Veteran’s place of residence. The Proposed Action would provide VA additional capacity needed to meet its burial objectives for eligible Veterans in the regional St. Louis area.

ALTERNATIVES

VA considers adjacent/contiguous property to be the first and best option for cemetery expansion as it is the most cost effective and operationally efficient and reduces way finding confusion for visitors. Approximately 33.6 acres of land adjacent to the north of the JBNC, associated with the southern portion of the approximately 70-acre Sylvan Springs Park, has been offered to VA by St. Louis County for the cemetery expansion, as this part of the park is currently underutilized. VA reviewed the remaining land adjacent to and surrounding JBNC and found that the County-offered park land was the only remaining potentially feasible adjacent land option available for future cemetery expansion.

This EA examines in-depth two alternatives, the Preferred Action Alternative and the No Action Alternative, defined as follows:

- **Preferred Action Alternative**: VA would acquire approximately 33.6 acres of land adjacent to north of the JBNC that is associated with the southern portion of Sylvan Springs Park, for future expansion of the JBNC. Under an agreement with VA, St. Louis County would continue to operate the VA-acquired portion of the park (the Site) for up to 10 years, until VA has completed its design process and is preparing to start construction activities on the expanded JBNC. Upon closure of this portion of the park, VA would develop the Site as an expanded cemetery. The northern portion of Sylvan Springs Park, where the most prominent recreational facilities with the park are located, would not be acquired or altered by VA.
No Action Alternative: Under the No Action Alternative, the Proposed Action would not be implemented. Veterans and their families residing in the regional St. Louis area would continue to use the JBNC until space is no longer available. In the future, VA would likely seek other land to expand the JBNC, but may not be able to acquire land contiguous with or near the existing JBNC. The Site likely would remain an underutilized County park.

The Preferred Action Alternative effectively provides additional land necessary to meet the regional cemetery requirements of VA. The No Action Alternative would not enable VA to provide adequate, cemetery facilities in the St. Louis region. However, the No Action Alternative is assessed in this EA to provide a comparative baseline analysis, as required under the CEQ Regulations.

AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

The affected environment of the Preferred Action Alternative Site and its immediate surroundings, or the Region of Influence (ROI) of the Proposed Action is discussed in Section 3 of this EA.

The two considered alternatives, including the Preferred Action Alternative and the No Action Alternative, are evaluated in this EA to determine their potential direct or indirect impact(s) on the physical, environmental, cultural, and socioeconomic aspects of the Proposed Action’s ROI. Technical areas evaluated in this EA include:

- Aesthetics
- Air Quality
- Cultural Resources
- Geology, Topography, and Soils
- Hydrology and Water Quality
- Wildlife and Habitat
- Noise
- Land Use
- Floodplains, Wetlands, and Coastal Zone Management
- Socioeconomics
- Community Services
- Solid and Hazardous Materials
- Transportation and Parking
- Utilities
- Environmental Justice
- Cumulative Impacts
- Potential for Generating
  Substantial Controversy

Preferred Action Alternative

The Preferred Action Alternative would result in the impacts identified throughout Section 3 and summarized in Table 7 of this EA. These include potential adverse impacts to aesthetics, air quality, cultural resources, geology and soils, hydrology and water quality, wildlife and habitat, noise, land use, community services, solid and hazardous materials, transportation and parking, utilities, and environmental justice. With the exception of potential cultural resources impacts, all of these impacts are less-than-significant and would be further reduced through careful implementation of the general Best Management Practices (BMPs), management measures, and compliance with regulatory requirements as identified in Section 5.

The Preferred Action Alternative provides VA additional capacity to continue to provide national shrine burial benefits to the regional Veteran community, contiguous with the existing JBNC, a significant beneficial socioeconomic effect.
No Action Alternative

Under the No Action Alternative, the Proposed Action would not be implemented. Veterans and their families residing in the regional St. Louis area would continue to use the JBNC until space is no longer available. In the future, VA would likely seek other land to expand the JBNC, but may not be able to acquire land contiguous or near with the existing JBNC. The Site likely would remain an underutilized park.

Cumulative Impacts

The EA also examines the potential cumulative effects of implementing each of the considered alternatives. This analysis finds that the Preferred Action Alternative, with the implementation of the management and minimization measures specified in this EA, would not result in significant adverse cumulative impacts to onsite or regional natural or cultural resources, and would maintain the socioeconomic environment of the area through long-term provision of required cemetery facilities for regional Veterans. The No Action Alternative would not produce these potential positive socioeconomic gains.

AGENCY AND PUBLIC INVOLVEMENT

VA consulted with the following agencies during the preparation of this EA: US Fish and Wildlife Service (USFWS), US Environmental Protection Agency (USEPA), US Army Corps of Engineers (USACE), United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS), various departments of the Missouri Department of Natural Resources (MDNR), Missouri Department of Transportation (MDOT), Missouri Department of Conservation (MDC), various St. Louis County departments, the St. Louis Metropolitan Sewer District, the St. Louis Water Division, and the East-West Gateway Council of Governments. Responses were received from the MDNR State Historic Preservation Office (SHPO), various departments of the MDNR, MDC, USDA NRCS, various departments of St. Louis County, St. Louis County Parks, and St. Louis Metropolitan Sewer District, and are summarized in Section 4. Agency information and comments have been incorporated into this EA, as and where appropriate. Copies of relevant correspondence can be found in Appendix A.

Six Federally-recognized Native American tribes were identified as having possible ancestral ties to the area. VA invited these tribes to provide input regarding the Proposed Action. Tribal information and comments have been incorporated into this EA (Section 3.4) as appropriate. Tribal input is summarized in Section 4. Tribal correspondence is provided in Appendix B.

VA, as the Federal proponent of this Proposed Action, will publish and distribute the Draft EA for a 30-day public comment period as announced by a Notice of Availability (NOA) published in the St. Louis Post-Dispatch, a local newspaper of general circulation. A copy of the Draft EA will be made available for public review at a local public library and on the NCA NEPA website (www.cem.va.gov/cem/EA.asp). In addition, VA will hold a public meeting at the Jefferson Barracks VA Medical Center on September 5, 2018 to receive public comments on the Draft EA and the Proposed Action. VA will respond to provided comments regarding the Draft EA within the Final EA.
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SECTION 1: INTRODUCTION

1.1 Introduction

This Section provides the reader with necessary introductory and background information concerning the Proposed Action for proper analytical context; identifies the purpose of and need for the Proposed Action; describes the Federal decision to be made concerning the Proposed Action; and identifies relevant environmental documents. Section 4 provides a summary of public and agency involvement (and key issues and concerns identified). Section 11 identifies Federal, State, and local regulations applicable to the Proposed Action.

This Environmental Assessment (EA) has been prepared to identify, analyze, and document the potential physical, environmental, cultural, and socioeconomic effects associated with the Department of Veterans Affairs’ (VA’s) Proposed Action to acquire land adjacent to the existing Jefferson Barracks National Cemetery (JBNC), located at 2900 Sheridan Road in an unincorporated area of St. Louis County, Missouri for the future expansion of the cemetery.

Preparation of this EA is required in accordance with the National Environmental Policy Act of 1969 ([NEPA]; 42 United States Code [USC] 4321 et seq.), the President’s Council on Environmental Quality (CEQ) Regulations Implementing the Procedural Provisions of NEPA (40 Code of Federal Regulations [CFR] 1500-1508), and 38 CFR Part 26 (Environmental Effects of the Department of Veterans Affairs Actions). This EA has been prepared in accordance with VA’s NEPA Interim Guidance for Projects (2010).

VA intends to acquire the Site in 2018 and hold it until such date when the expansion of the JBNC becomes necessary. At that time and as part of the cemetery design process, VA will perform a supplemental NEPA analysis to reanalyze and reevaluate the potential effects of the construction and operation of the expanded cemetery at the Site. VA will incorporate the avoidance, management, and minimization measures identified in this EA into that future design process and supplemental NEPA analysis to minimize potential adverse environmental effects.

This approach is fully consistent with the NEPA and CEQ Regulations. In cases such as these, the CEQ Regulations establish and recommend a “tiered” approach to the environmental impact analysis process: “Agencies are encouraged to tier their environmental (documents)…to focus on the actual issues ripe for decision at each level of environmental review….Tiering may also be appropriate for different stages of actions” (40 CFR Part 1502.20). These regulations specify that such potentialities (i.e., the ultimate construction and operation of the expanded cemetery) should be introduced, but can be deferred to future analyses and documentation when they have “ripened,” or when more complete information becomes available.

As such, this EA assesses the potential effects of acquiring the Site for the ultimate expansion of the JBNC, and preliminarily assesses the effects of the future proposed construction and operation of the cemetery on the Site. Potential effects of the construction and operation of the proposed expanded JBNC on the Site will be reanalyzed and reevaluated in a supplemental
NEPA analysis concurrent with Site design, when the expansion of the JBNC becomes necessary.

1.2 Background

VA is proposing to acquire approximately 33.6 acres of land adjacent to the north of the JBNC (the Site) that is associated with the southern portion of St. Louis County’s approximately 70-acre Sylvan Springs Park. The Site is primarily unimproved grassy with a moderate amount of mature trees with two pavilions, a small concession stand, and paved and gravel covered parking lots. The Site is located south of Halsey Street and excludes the skate park, tennis courts, playground, splash pad, and historic Beverage Garden, which will remain part of Sylvan Springs County Park. The Site location and features are depicted on Figures 1 through 4. The Site, the southern portion of the park, is underutilized. Southern park operations are mostly passive; the restrooms in the pavilion have been abandoned/closed since 2013 and have been replaced by portable toilets (porta-potties), the concession building is shuttered, and the water fountains have been removed. All of the prominent recreational facilities of Sylvan Springs Park are located in the northern portion of the park (off-site).

The Site, originally part of the approximately 1,700-acre Jefferson Barracks Military Post, was transferred with other land totaling approximately 500 acres from the Federal Government to St. Louis County in 1950 and has been used as part of the 70-acre Sylvan Springs Park since 1954.

JBNC is one of the five busiest National Cemeteries in the country and is the only National Cemetery in the region that is open to new interments. In the early 2000s, VA identified that the JBNC was nearing capacity and sought opportunities to expand the JBNC on to adjacent/contiguous land. In 2012, the Veterans Health Administration (VHA) transferred approximately 15 acres of land formerly associated with the Jefferson Barracks VA Medical Center (Jefferson Barracks VAMC) to the VA National Cemetery Administration (NCA) to expand the JBNC. These 15 acres are anticipated to reach burial capacity in 2021. VHA has also agreed to transfer an additional 15 acres of land to NCA for the expansion of the JBNC in 2019. These additional 15 acres are anticipated to reach burial capacity in approximately 2028.

The Site has been offered to VA by St. Louis County, as the southern portion of the park is currently underutilized. VA is evaluating the Site to potentially acquire during 2018. The Site would continue to be used as a park for up to 10 years after VA’s acquisition until such time that expansion of the JBNC is necessary. It is anticipated that cemetery design and initial development would begin in approximately 4 to 7 years. Design details of the proposed JBNC expansion do not exist at this time; however, future gravesite expansion onto the Site would be designed to be similar in appearance to the existing national shrine grounds of the adjacent JBNC.

1.3 Purpose and Need

The purpose of the Proposed Action is to expand the JBNC to provide a National Cemetery of sufficient size and capacity to serve the projected interment needs of Veterans in the St. Louis, Missouri region for up to 20 years after the current JBNC burial space is depleted.
A larger, expanded JBNC is needed to address the projected depletion of remaining interment capacity at JBNC. JBNC is one of the five busiest National Cemeteries in the country and is the only National Cemetery in the region that is open to new interments; the nearest National Cemetery to JBNC that is accepting new burials is Camp Butler National Cemetery, located more than 115 miles from JBNC in Springfield, Illinois. The 330-acre JBNC is nearing its capacity for new burials. Based on NCA’s Gravesite Burial Statistics Analytical Tool (GBSAT), VA estimates approximately 10 years of remaining burial capacity on existing JBNC land before additional land is needed to be able to continue providing national shrine burial benefits to the regional Veteran community.

One of the primary objectives of the VA burial program is to ensure that burial needs of Veterans and eligible family members are met. NCA further defines this objective on the assumption that the burial needs of a Veteran are met if they have reasonable access to a burial option (whether for caskets, remains or cremated remains, either in-ground or in columbarium) in a National or State Veterans Cemetery within 75 miles of the Veteran's place of residence. The Proposed Action would provide VA additional capacity needed to meet its burial objectives for eligible Veterans in the regional St. Louis area.

1.4 Decision-Making

This EA has been prepared to identify, analyze, and document the potential physical, environmental, cultural, and socioeconomic effects associated with VA's proposed acquisition of approximately 33.6 acres of land located adjacent to the JBNC for the future expansion of the cemetery.

VA, as a Federal agency, is required to incorporate environmental considerations into their decision-making process for the actions they propose to undertake. This is done in accordance with the regulations identified in Section 1.1.

In accordance with the NEPA regulations described above, this EA: allows for public input into the Federal decision-making process for the actions they propose to undertake. This is done in accordance with the regulations identified in Section 1.1.

Ultimately, VA will decide, in part based on the analysis presented in this EA and after having taken potential physical, environmental, cultural, and socioeconomic effects into account, whether VA should implement the Proposed Action, and, as appropriate, carry out management, avoidance, and mitigation (if necessary) measures to reduce effects to the environment.
SITE

FIGURE 1
VICINITY LOCATION MAP

ENVIRONMENTAL ASSESSMENT
PROPOSED JEFFERSON BARRACKS
NATIONAL CEMETARY EXPANSION
ST. LOUIS COUNTY, MISSOURI

PREPARED FOR
U.S. DEPARTMENT OF VETERANS AFFAIRS
WASHINGTON D.C.

TTL PROJECT NO.
16399.01
SITE

FIGURE 2
TOPOGRAPHIC LOCATION MAP

ENVIRONMENTAL ASSESSMENT
PROPOSED JEFFERSON BARRACKS
NATIONAL CEMETERY EXPANSION
ST. LOUIS COUNTY, MISSOURI

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FIGURE 4
AERIAL SITE MAP

ENVIRONMENTAL ASSESSMENT
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ST. LOUIS COUNTY, MISSOURI

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WASHINGTON D.C.

TTL PROJECT NO.
16399.01
1.5 Related Environmental Documents

Related environmental documents include:


- Phase I Environmental Site Assessment, St. Louis National Cemetery Division, Jefferson Barracks Cemetery, Sylvan Springs Park, Environmental and Facility Consulting, LLC (EFC), April 25, 2012.
SECTION 2: DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

2.1 Introduction

This Section provides the reader with necessary information regarding the Proposed Action and its alternatives, including those that VA initially considered, but eliminated, and the reasons for eliminating them. The screening criteria and process developed and applied by VA to hone the number of reasonable alternatives are described, providing the reader with an understanding of VA’s rationale in ultimately retaining the Preferred Action Alternative, that best meets VA’s purpose of and need for the Proposed Action, for analysis.

2.2 Proposed Action

VA’s Proposed Action is to acquire land adjacent to the existing JBNC for the future expansion of the cemetery. The future JBNC expansion would provide VA additional capacity to continue providing national shrine burial benefits to the regional Veteran community.

VA estimates approximately 10 years of remaining burial capacity on existing JBNC land before additional land is needed. VA would acquire the Site in 2018. The Site would continue to be used as a park for up to 10 years after VA’s acquisition until such a time that expansion of the JBNC is necessary. It is anticipated that cemetery design and initial development would begin in approximately 4 to 7 years. Design details of the proposed JBNC expansion do not exist at this time; however, future gravesite expansion onto the Site would be designed to be similar in appearance to the existing national shrine grounds of the adjacent JBNC.

VA would follow the NCA Facilities Design Guide in the JBNC expansion design. Based on the Design Guide, the proposed JBNC expansion would generally include the following components:

- Roads connecting to the existing JBNC via Sheridan Road. Roadways would be approximately 28 feet wide and would wind throughout the cemetery in harmony with the natural grade and environmental features of the land. Roadways would loop back around the property to maintain a complete, simple traffic pattern around the cemetery. All of the roadways would have a speed limit of 15 miles per hour (mph).

- Permanent committal shelters would be constructed for ceremonies (there are no grave-side ceremonies at National Cemeteries). These shelters would be designed and located where there are scenic views, maximum weather protection, and minimal potential for noise disruption.
The acquired land would be developed in phases. Each phase would develop enough gravesites and columbarium niches as needed to accommodate approximately 5 to 10 years of burial demand. Cremation sites, casket gravesites, and columbarium would be developed in each subsequent phase. The size of each phase, and the total number of phases, is currently unknown.

Environmentally constrained areas, such as wetlands, and areas that are otherwise difficult to develop (e.g., steeper slopes) would be left undeveloped and remain as scenic locations at the cemetery. The utilized portions of the Site would be developed to within 20 feet of the Site boundaries.

The standard for NCA design is to achieve on-site cut-and-fill soil balance as much as practical. Proposed development would primarily be located in relatively level areas, following natural contours to the extent possible. Areas may be minimally leveled to develop a consistent grade with each phase. Development would include the installation of grave sites, which would consist of gravel base, drainage piping, and pre-placed concrete vault/crypt system. Approximately 20-22 inches of soil would be placed on top of each vault/crypt. This design would provide the most space-efficient option. Each grave site would be marked with a small, upright marble headstone.

Utilities, including potable and irrigation water, sewer, electric, and other supporting infrastructure would be extended throughout the site, as required.

Prior to construction, VA would obtain all applicable Federal, State, and local permits for the proposed cemetery development from appropriate government authorities. VA would avoid any significant onsite environmental resources through sensitive site design, including avoidance of significant natural resources.

### 2.3 Alternatives Analysis

The NEPA, CEQ Regulations, and 38 CFR Part 26 require reasonable alternatives to be explored and objectively evaluated. Alternatives that are eliminated from detailed study must be identified along with a brief discussion of the reasons for eliminating them. For purposes of analysis, an alternative was considered “reasonable” only if it would enable VA to accomplish the primary mission of providing a suitable expanded cemetery site that meets the purpose of and need for the Proposed Action, including availability at a price consistent with the fair market value based on an independent appraisal. “Unreasonable” alternatives would not enable VA to meet the purpose of and need for the Proposed Action.

#### 2.3.1 Alternatives Development

JBNC is one of the five busiest National Cemeteries in the country and is the only National Cemetery in the region that is open to new interments. VA estimates, with the additional land obtained/to be obtained from the VHA in 2012 and 2019, approximately 10 years of remaining burial capacity on the existing JBNC lands. Additional land is needed to continue providing national shrine burial benefits for area Veterans in the future.
The NCA Final Land Acquisition Fact Sheet, dated April 2012, states adjacent/contiguous property is considered to be the first and best option for cemetery expansion. National Cemetery expansion onto adjacent land is the most cost effective and operationally efficient manner to expand an existing National Cemetery. Doing so promotes efficiencies and allows the new gravesite areas to be operated by the same staff that operates the existing grounds, with no need for remote staff, remote buildings, and remote equipment. It also eliminates potential for visitor directional and wayfinding confusion that can occur with a remotely located property.

Additionally, the regional Veteran community has indicated that they strongly prefer and support the expansion of JBNC onto adjacent/contiguous property rather than expanding the National Cemetery elsewhere on remote “annex” land. As such, VA will only consider the closure of the JBNC and the acquisition and construction of a new JBNC Annex in a new remote location once all opportunities for the acquisition of adjacent/contiguous land have been exhausted.

VA sought various opportunities to expand the JBNC on to adjacent/contiguous properties. In approximately 2012, NCA opened discussions with the Mehlville School District (3131 Koch Road) adjoining to the east of the JBNC and the DOD Military Reserve Base adjoining to the north of the JBNC; however, both the school district and DOD indicated that none of their properties were available for sale. St. Louis County offered VA the southern approximately 33.6 acres of the northerly adjacent Sylvan Springs Park, which is underutilized as a park, for expansion of JBNC. VA reviewed the remaining land adjacent to and surrounding the existing JBNC and found that the County-offered park land was the only remaining potentially feasible adjacent land option available for future cemetery expansion.

2.3.2 Evaluated Alternatives

This EA examines in-depth two alternatives, the Preferred Action Alternative and the No Action Alternative, defined as follows:

**Preferred Action Alternative**

VA would acquire approximately 33.6 acres of land adjacent to north of the JBNC that is associated with the southern portion of Sylvan Springs Park, for future expansion of the JBNC. Under an agreement with VA, St. Louis County would continue to operate the VA-acquired portion of the park (the Site) for up to 10 years, until VA has completed its design process and is preparing to start construction activities on the expanded JBNC. Upon closure of this portion of the park, VA would develop the Site as an expanded cemetery. The Preferred Action Alternative would be implemented as described in Section 2.2. The northern portion of Sylvan Springs Park, where the most prominent recreational facilities with the park are located, would not be acquired or altered by VA.

The Preferred Action Alternative effectively provides additional land necessary to meet the regional cemetery requirements of VA.
No Action Alternative

Under the No Action Alternative, the Proposed Action would not be implemented. Veterans and their families residing in the regional St. Louis area would continue to use the JBNC until space is no longer available. In the future, VA would likely seek other land to expand the JBNC, but may not be able to acquire land contiguous with or near the existing JBNC. The Site likely would remain an underutilized County park.

While the No Action Alternative would not satisfy the purpose of or need for the Proposed Action, this alternative was retained to provide a comparative baseline against which to analyze the effects of the Proposed Action, as required under the CEQ Regulations (40 CFR Part 1502.14). The No Action Alternative reflects the status quo and serves as a benchmark against which the effects of the Proposed Action can be evaluated.

2.3.3 Alternatives Eliminated From Detailed Consideration

As described in Section 2.3.1, VA was presented the opportunity to acquire from St. Louis County approximately 33.6 acres of additional land adjacent to the north of the existing JBNC for future expansion of the cemetery. VA concluded that acquiring the Site in the short-term, while available, would secure the land necessary to meet its long-term cemetery needs. No other sites contiguous with the existing JBNC were offered to VA or identified as available for acquisition.

Closure of the JBNC when it reaches its capacity and acquisition and development of a new JBNC Annex at a remote location is not cost effective or operationally efficient, creates way finding confusion, and would only be considered once all opportunities for cemetery expansion on adjacent land have been exhausted.
SECTION 3: AFFECTED ENVIRONMENT & ENVIRONMENTAL CONSEQUENCES

3.1 Introduction

This Section describes the baseline (existing) physical, environmental, cultural, and socioeconomic conditions of the proposed JBNC expansion Site (see Figures 1-4) and its general vicinity (i.e., the Proposed Action’s Region of Influence (ROI)), with emphasis on those resources potentially affected by the Proposed Action. Appendix C provides photographs, with captions, of the Site and its vicinity. Under each resource area (Sections 3.2 through 3.16), the potential direct and indirect effects of the Preferred Action Alternative and the No Action Alternative are identified. Potential cumulative impacts are discussed in Section 3.17.

In this EA, impacts are identified as either significant, less than significant (i.e., common impacts that would not be of the context or intensity to be considered significant under the NEPA or CEQ Regulations), or no/negligible impact. As used in this EA, the terms “effects” and “impacts” are synonymous. Where appropriate and clearly discernible, each impact is identified as either adverse or beneficial.

The CEQ Regulations specify that in determining the significance of effects, consideration must be given to both “context” and “intensity” (40 CFR 1508.27):

**Context** refers to the significance of an effect to society as a whole (human and national), to an affected region, to affected interests, or to just the locality. In other words, the context measures how far the effect would be “felt.”

**Intensity** refers to the magnitude or severity of the effect, whether it is beneficial or adverse. Intensity refers to the “punch strength” of the effect within the context involved.

In this EA, the significance of potential direct, indirect, and cumulative effects has been determined through a systematic evaluation of each considered alternative in terms of its effects on each individual environmental resource component.

Resource areas considered in this EA are as follows:

- Aesthetics
- Air Quality
- Cultural Resources
- Geology and Soils
- Hydrology and Water Quality
- Wildlife and Habitat
- Noise
- Land Use
- Floodplains, Wetlands, and Coastal Zone Management
- Socioeconomics
- Community Services
- Solid and Hazardous Materials
- Transportation and Parking
- Utilities
- Environmental Justice
3.2 Aesthetics

The approximately 33.6-acre Site is situated in a mixed use area, within an unincorporated area in the southeastern portion of St. Louis County (Figures 1 and 2). The approximately 33.6-acre Site is adjacent to the north of the JBNC and is the southern portion of the 70-acre Sylvan Springs County Park (300 Halsey Street). The Site slopes from relatively high elevations along its eastern and western sides to an area of lower elevation near the Site’s center. The Site is primarily unimproved grassy land with a moderate amount of mostly mature trees with two pavilions, a small shuttered concession stand, and paved and gravel covered parking lots. The gravel parking lot is located in a level area in the southwestern portion of the Site. Paved parking lots are located in the north-central and south-central portions of the Site. The eastern portion of the Site is a grassy level area with a gravel drive. The Site features are depicted on Figure 4.

The area adjacent to the north of the Site is the remainder of Sylvan Springs County Park (approximately 36 acres), including the historic Beverage Garden and, across Halsey Street, a skate park, and tennis courts (northeast). Playground and splash pad areas of the park are at its northern end, approximately 1,200 feet north of the Site. The area adjacent to the east is currently occupied by a residential neighborhood. The boundary between the residences and the Site is mostly fenced. The area adjacent to the south, across Sheridan Road, is currently occupied by the JBNC. The area adjacent to the west, across Boundary Road, is currently occupied by a residential neighborhood (north) and commercial properties (south). The surrounding land uses are depicted on Figures 3 and 4.

3.2.1 Effects of the Preferred Action Alternative

The Site would continue to be used as a park for up to 10 years after VA’s acquisition. The continued use of the park while owned by VA would result in no aesthetic impacts.

Future expansion of the JBNC on the Site would produce visual changes, including the installation of roads, maintained grassy burial areas, and possibly one or two small, single-story structures. The proposed expanded cemetery design has not been completed, but it is anticipated that the cemetery expansion would be visually consistent with the existing, adjacent JBNC. VA would develop the Site in concert with the Site’s natural topography and features and would maintain some natural treed areas. No significant grade changes are anticipated. Landscaping would be installed along the eastern Site boundary to reduce visual impacts of the cemetery development on the adjacent residences.

The cemetery expansion would be designed to comply, to the extent practicable, with St. Louis County Zoning Code. By complying with the zoning ordinances, and given that the proposed cemetery would be designed to blend with the existing topography and landscape, no significant adverse aesthetics effects would occur.

3.2.2 Effects of the No Action Alternative

Under the No Action Alternative, no aesthetics impacts would result from VA’s actions. The likely continued use of the Site as a park would result in no aesthetic impacts.
3.3 Air Quality

3.3.1 Ambient Air Quality

The ambient air quality in an area can be characterized in terms of whether or not it complies with the primary and secondary National Ambient Air Quality Standards (NAAQS). The Clean Air Act, as amended (CAA and CAAA) requires the USEPA to set NAAQS for pollutants considered harmful to public health and the environment. NAAQS are provided for the principal pollutants, called “criteria pollutants”, which include carbon monoxide, lead, nitrogen oxides, ozone, particulate matter, and sulfur dioxide.

Areas are designated by the USEPA as “attainment”, “non-attainment”, “maintenance”, or “unclassified” with respect to the NAAQS. Regions in compliance with the standards are designated as “attainment” areas. In areas where the applicable NAAQS are not being met, a “non-attainment” status is designated. Areas that have been classified as “non-attainment”, but are now in compliance can be re-designated “maintenance” status if the state completes an air quality planning process for the area.

According to the USEPA Green Book (June 2018), St. Louis County is currently designated as a non-attainment area for 8-Hour Ozone (marginal) and Fine Particulate Matter (PM$_{2.5}$ – moderate).

3.3.2 State and Local Regulations

The Missouri Department of Natural Resources (MDNR) Air Pollution Control Division (APCD) coordinates State-wide air compliance and enforcement activities through the Missouri Revised Statutes, Chapter 643 (Air Conservation), which maintains the purity of the air resources of the State to protect the health, general welfare, and physical property of the people; ensure maximum employment and the full industrial development of the State; and prevent, abate, and control air pollution by all practical and economically feasible methods.

In addition, the APCD oversees the implementation of the Missouri Code of State Regulations, Title 10 (MDNR), Division 10 (Air Conservation Commission), Chapter 5 (Air Quality Standards and Air Pollution Control Rules Specific to the St. Louis Metropolitan Area), which details requirements for specific activities within the St. Louis Metropolitan Area.

The MDNR stated that there are two air quality rules specific to the St. Louis metropolitan area that should be noted, including the restriction of volatile organic compounds (VOCs) in liquefied cutback asphalt paving operations and the restriction of the idling of heavy-duty diesel vehicles. In addition, the MDNR stated that any open burning requires a permit from the MDNR and particulate matter resulting from construction activities should be contained within the Site boundaries.

St. Louis County maintains air quality through the Air Pollution Control Ordinance (Chapter 612 of the St. Louis County Code of Ordinances), which is overseen by the St. Louis Department of Public Health (DOPH) under the approval from the MDNR APCD. The Air Pollution Control Ordinance controls visible emissions from demolition and construction activities and establishes...
requirements for the removal of asbestos-containing materials (ACMs) from buildings prior to demolition.

### 3.3.3 Sensitive Receptors

Sensitive air quality receptors in the vicinity of the Site include the residential neighborhoods located adjacent to the east of the Site and west of the Site across Boundary Road (see Figure 4) and the remainder of Sylvan Springs Park located north of the Site. No other sensitive air quality receptors were identified within 0.25 mile of the Site.

### 3.3.4 Effects of the Preferred Action Alternative

Air emissions generated from the Proposed Action would be expected to have less-than-significant direct and indirect, short-term and long-term impacts to the air quality environment around the Site. No change to air quality is anticipated during the initial continued use of the Site as a park. Short-term increased air emission levels would occur as a result of the construction of each expansion area of the cemetery. Long-term emissions would occur during the operation of the expanded cemetery.

Demolition and construction activities would be performed in accordance with Federal and State air quality requirements. Demolition and construction-related emissions are generally short-term, but may still have adverse impacts on air quality, primarily due to the production of dust. Dust can result from a variety of activities, including excavation, grading, and vehicle travel on paved and unpaved surfaces. Dust from demolition and construction can lead to adverse health effects and nuisance concerns, such as reduced visibility on nearby roadways. The amount of dust is dependent on the intensity of the activity, soil type and conditions, wind speed, and dust suppression activities used. Implementing dust control measures (BMPs) significantly reduces dust emissions from construction. Construction-related emissions also include the exhaust from the operation of construction equipment, including diesel particulate matter (DPM). The use of newer construction equipment with emissions controls and minimizing the time that the equipment is idling (BMPs) reduce construction equipment exhaust emissions. Implementation of BMPs, discussed in Section 5, would minimize these anticipated less-than-significant adverse, short-term, construction-related, air quality impacts.

The structures at the Site may contain ACM. Predemolition asbestos surveys would be conducted for each of the structures to be demolished as part of the Proposed Action. The surveys would identify and quantify ACMs, which would be removed by licensed asbestos abatement contractors in accordance with the National Emission Standards for Hazardous Air Pollutants (NESHAP) and State of Missouri requirements prior to building demolition. Asbestos abatement procedures require the removal of ACM with various controls and monitoring to prevent asbestos emissions.

In the future, when the Site would be utilized to expand the JBNC, vehicle trips to the Site associated with interments would likely be similar to current conditions at the adjacent, existing JBNC; the rate of interments per week is not anticipated to increase as a result of the Proposed Action. As additional areas of the JBNC are developed at the Site, the number of visitors to the JBNC would increase; however, the increased number of vehicle trips associated with visitors is
likely to be minor. Increased vehicle air emissions associated with the expanded cemetery would be less-than-significant.

The Site is located in an 8-Hour Ozone (marginal) and Fine Particulate Matter (PM$_{2.5}$ – moderate) non-attainment area; as such, VA would be subject to the General Conformity Rule of the Clean Air Act. Based on preliminary air quality modeling of the short-term cemetery development construction activities, air emissions are anticipated to be well below the de minimis levels for marginal 8-hour ozone non-attainment areas (100 tons/year) and moderate PM$_{2.5}$ non-attainment areas (100 tons/year). As such, a Conformity Determination is unlikely to be necessary. VA would confirm this during the completion of Site design. VA would secure any required, individual minor air emissions permits from the MDNR APCD and St. Louis County, as appropriate, and based on the Site design.

3.3.5 Effects of the No Action Alternative

Under the No Action Alternative, no air quality impacts associated with VA’s Proposed Action would result. The likely continued use of the Site as a park would result in no/negligible air quality impacts.

3.4 Cultural Resources

The Site and surrounding area were originally known as Rock Springs and were the location of the first military establishment in the area. A temporary camp was established in the Site vicinity in 1826 by the First U.S. Infantry Regiment and was named Cantonment Adams, in honor of President John Quincy Adams. In September of 1826, a more permanent camp was started off-site along the Mississippi River and was called Jefferson Barracks, in honor of Thomas Jefferson. The Jefferson Barracks military reservation totaled approximately 1,700 acres. The Site was included as part of the Jefferson Barracks military reservation, but remained largely unused until 1939, when the area north of the Site, which includes the spring, was improved by the 6th Infantry as a Beverage Garden, remnants of which remain today. Other recreational facilities were developed in the Site area in the early 1930s and early 1940s, including baseball, football, and track fields, and an amphitheater, although the specific locations of each were not identified. Based on historic aerial photographs and topographic maps, the Site appeared to remain mostly wooded, although an athletic field appears to have been present in the southwestern portion of the Site (current gravel parking lot) and the amphitheater may have been located in the central portion of the Site. Barracks appear to have been present in the eastern portion of the Site (current level grassy area) in the late 1940s and early 1950s. The Site was transferred from the Federal Government to St. Louis County in 1950 and has been used as the Sylvan Springs County Park since 1954. The Ordnance Shelter (pavilion and restrooms) and the concession stand were constructed in the central portion on the Site in 1952 and 1956, respectively. The picnic pavilion (Wohlshlager Shelter) was constructed in the western portion of the Site in 1971.

R. Christopher Goodwin and Associates, Inc. (RC Goodwin) conducted an Initial Cultural Resources Impact Prediction (ICRIP) for the Site on behalf of VA in 2016. The ICRIP (July 2016) identified three properties within one mile of the Site, including the JBNC, the Jefferson Barracks Historic District, and the Jefferson Barracks Hospital Historic District. The JBNC
adjoins the Site to the south. The western boundary of the Jefferson Barracks Historic District is located approximately 600 to 1,200 feet east of the Site. The Jefferson Barracks Hospital Historic District is located approximately 4,000 feet southeast of the Site. Figure 5 depicts the historic districts.

The ICRIP included a records and literature search of Missouri State Historic Preservation Office (SHPO) files and review of a pedestrian archaeological survey of the Site completed in 2012. Neither the file review nor the 2012 pedestrian survey identified any recorded archeological sites at the Site.

An RC Goodwin architectural historian completed a survey of the Site and surrounding area as part of the 2016 ICRP. RC Goodwin concluded that Sylvan Springs Park, as a whole, does not retain sufficient integrity of materials, design, and workmanship for listing in the NRHP. However, two features of the park, the off-site Beverage Garden and the on-site Ordnance Shelter (pavilion and restrooms) were recommended for consideration for listing on the NRHP as historic properties. The ICRIP did not recommend any of the other on-site structures or neighboring properties for inclusion on the NRHP.

In June 2018, Environmental Research Group, LLC (ERG) completed a Phase I Archaeological Survey of the Site on behalf of VA. ERG conducted shovel testing on a 15-meter grid established across the Site. Positive shovel tests were bound with close-interval 5-meter shovel tests to determine potential archaeological site boundaries per SHPO guidelines. In total, ERG completed more than 550 shovel tests at the Site. The investigation identified four archaeological sites and six isolated finds with a total of 49 artifacts.

One of the four archaeological sites contained five pieces of prehistoric chipped stone and was considered a non-diagnostic lithic scatter. No other prehistoric artifacts were discovered. ERG concluded that the results of the archeological survey indicate that there was limited prehistoric use of the Site and the prehistoric flaked stone is not eligible for listing on the NRHP.

The remaining items from the archaeological sites and isolates were historic and consisted primarily of ceramic, glass, and nails from the mid-1800s to early 1900s. None of the artifacts were specifically military-related, and were considered to likely represent refuse and casual discards. ERG concluded that the findings of the archaeological investigation do not indicate that the original 1826 temporary camp (bivouac) associated with Rock Springs was located on the Site.

ERG stated that the Site lacks physical integrity due to the level of ground disturbance, and because of the absence of robust assemblages, sealed deposits, and historic cultural features, the found artifacts do not present an opportunity to research themes and questions important to the history of the Jefferson Barracks Military Reservation and the St. Louis area. Accordingly, ERG recommended that the identified historic archaeological resources not be eligible for listing on the NRHP. The results of the archaeology survey (in the form of an End of Fieldwork Memorandum) have been submitted to SHPO for review. The Phase I Archaeological Survey Report will be submitted to SHPO for review following the receipt of SHPO comments on the End of Fieldwork Memorandum.
FIGURE 5
JEFFERSON BARRACK HISTORIC DISTRICTS

ENVIRONMENTAL ASSESSMENT
PROPOSED JEFFERSON BARRACKS NATIONAL CEMETERY EXPANSION
ST. LOUIS COUNTY, MISSOURI

PREPARED FOR
U.S. DEPARTMENT OF VETERANS AFFAIRS
WASHINGTON D.C.

TTL PROJECT NO. 16399.01

DEPARTMENT OF VETERANS AFFAIRS

AFFECTED ENVIRONMENT/ENVIRONMENTAL CONSEQUENCES
3.4.1 Effects of the Preferred Action Alternative

The Proposed Action would have direct impacts on the 1952 Ordnance Shelter, located in the central portion of the Site and identified as potentially eligible for listing on the NRHP. VA would likely demolish the Ordnance Shelter to more fully utilize the Site as cemetery. VA would formally determine the eligibility of the Ordnance Shelter for listing on the NRHP and would determine the potential adverse effects of the proposed cemetery development in consultation with the SHPO. VA would also develop a plan to mitigate the adverse effects of the Ordnance Shelter demolition impacts in consultation with the SHPO. The mitigation measures would be formalized in a Memorandum of Agreement (MOA) under Section 106 of the National Historic Preservation Act with the Advisory Council on Historic Preservation (ACHP), the SHPO and other interested parties. With the completion of these measures, cultural resources impacts would be less-than-significant. Note: adverse effects and mitigation under NHPA have different definitions than significant impacts and mitigation under NEPA.

The Proposed Action would have no direct impacts on the historic 1939-1940 Beverage Garden, which is located approximately 50 feet north of the Site and is not included within the proposed JBNC expansion area. The cemetery development could have indirect (viewshed) impacts to the Beverage Garden. However, the redevelopment of the Site as part of the JBNC would represent a similar park-like setting to its current park use; as such, indirect visual impacts on the 1939-1940 Beverage Garden would be less-than-significant. VA would consult with the SHPO regarding indirect effects on the Beverage Garden and would design measures to minimize these effects.

The Proposed Action would have indirect impacts on the southerly adjacent NRHP-listed JBNC. However, the expansion of the JBNC onto the Site would be visually consistent with the existing cemetery. The impacts resulting from the expansion of the JBNC at the Site would be less-than-significant.

Due to their distances from the Site and visual barriers between the historic resources and the Site, the Proposed Action is not likely to have indirect impacts on other NRHP-listed properties/districts.

Based on the results of the archaeological survey (no NRHP-eligible resources identified), the Proposed Action is not likely to have significant adverse effects on archaeological resources.

3.4.2 Effects of the No Action Alternative

Under the No Action Alternative, no significant cultural resources impacts by VA would occur. The likely continued use of the Site as a park would result in no/negligible cultural resource impacts.

3.5 Geology and Soils

A review of the Webster Groves, Missouri United States Geological Survey (USGS) Topographic Quadrangle (dated 1998) indicates that surficial topography at the Site slopes from the eastern boundary [510 feet above mean sea level (amsl)] and western boundary (520 feet
amsl) toward the center of the Site (480 to 460 feet amsl) and central portion of the Site slopes gently toward the south. The nearest surface water depicted on the topographic map is a tributary to Martigney Creek, located approximately 400 feet south of the Site. See Figure 3.

According to the Physiographic Regions of Missouri, published by the MDNR and dated 1994, St. Louis is located in the Dissected Till Plains physiographic region of the Central Lowland physiographic division. According to the MDNR, the uppermost bedrock under the Site is Mississippian-aged St. Louis limestone, which can be more than 100 feet thick and lends itself to karst conditions (the creation of cavities due to water dissolving carbonate rock) as evidenced by many sinkholes in the Site area. The MDNR identified two sinkholes at the Site, one in the southwestern parking area (filled) and one in the northeastern corner (apparently filled/obscured), and stated that karstic areas present the possibility of potential collapse.

A review of *Sinkholes and Karst Areas for the St. Louis Metropolitan Area Map* (dated 2009), published by the East-West Gateway Council of Governments (EWGCOG), indicated that the Site is underlain by areas with a significant karst potential and numerous known sinkholes are located on the Site and in the vicinity. A 1922 topographic map (Figure 6) depicts sinkholes at the Site. These sinkholes have been filled in.

According to the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Web Soil Survey, the Site contains three soil types identified as Menfro silt loam, karst, 9 to 35 percent slopes (majority of site), Urban land-Harvester complex, karst, 2 to 9 percent slopes (southwestern and eastern portions), and Wilbur silt loam, 0 to 2 percent slopes, frequently flooded (south-central portion). Site soils are depicted on Figure 7. Previous investigations indicate that Site soils include sandy loam and clayey silt to at least 8 feet below ground surface (bgs), with some evidence of highly weathered bedrock at 5 to 7 feet bgs in upland and sloped areas of the Site. The MDNR stated that soil boring logs from the Site vicinity indicate that area soils consist of clay from 20 to at least 50 feet bgs.

The MDNR stated that the nearest seismic geologic feature to the Site is more than five miles away and would have little impact on the Site; however, several areas on the Site have been identified as having the potential for collapse, landslide, and liquefaction in the event of a major earthquake.

### 3.5.1 Prime and Unique Farmland Soils

Prime and Unique Farmlands are regulated in accordance with the Farmland Protection Policy Act (FPPA) (7 USC 4201, et seq.) to ensure preservation of agricultural lands that are of statewide or local importance. Soils designated as prime farmland are capable of producing high yields of various crops when managed using modern farming methods. Prime farmland is land that has the best combination of physical and chemical characteristics for producing food, feed, fiber, forage, oilseed, and other agricultural crops with minimum inputs of fuel, fertilizer, pesticides, and labor, and without intolerable soil erosion. Unique farmlands are also capable of sustaining high crop yields and have special combinations of favorable soil and climate characteristics that support specific high-value foods or crops.
The USDA NRCS stated that no prime, unique, statewide, or locally important farmland soils are present at the Site.

### 3.5.2 Effects of the Preferred Action Alternative

The Site would continue to be used as a park for up to 10 years after VA’s acquisition. The continued use of the park prior to the expansion of the JBNC at the Site would result in no/negligible geology and soils impacts.

The expansion of the JBNC at the Site is anticipated to result in less-than-significant impacts to geology and soils. No significant changes to topography or drainage are expected at the Site. The proposed cemetery expansion would be designed in concert with the natural topography and current drainage patterns. Paved areas would be designed to drain to a suitable, on-site, properly engineered and designed, stormwater management system, which would ultimately discharge to the existing storm sewer system at the Site.

During removal of the existing improvements and construction of the expanded cemetery, less-than-significant, direct and indirect, short-term soil erosion and sedimentation (E&S) impacts would be possible as existing buildings and drive/parking area are removed and parking areas, roadways, grave sites, and other cemetery components are constructed. Construction activities would disturb the soil surface and compact the soil. The soil would then be susceptible to erosion by wind and surface runoff. Exposure of the soils during construction has the potential to result in increased sedimentation to existing stormwater management systems and offsite discharges of sediment-laden runoff. However, such potential adverse E&S effects would be prevented through utilization of appropriate BMPs as described in Section 5 and adherence to the terms of approved National Pollutant Discharge Elimination System (NPDES) and land disturbance permits, including the development and implementation of a site-specific Stormwater Pollution Prevention Plan (SWPPP).

No long-term E&S impacts would be anticipated due to the nature of the Proposed Action. No long-term soil erosion impacts would occur as a result of increased impervious surfaces onsite; there would be limited impervious surfaces associated with the cemetery development and long-term soil erosion impact would be managed by maintaining appropriately designed stormwater management features associated with the proposed cemetery.

The Site is located in an area where karst conditions and associated sinkholes are common. Karst conditions at the Site would require geotechnical exploration and may require geotechnical management measures. VA would complete geotechnical investigations for the cemetery expansion during the design and development of the cemetery. Geotechnical recommendations would be incorporated into the cemetery design to ensure the stability of the development and appropriate stabilization of grave site areas. In addition, the site design would include management measures to reduce any potential sinkhole development.

No active significant faults are known extend through the subsurface geology in the Site area. As such, no significant impacts associated with seismic hazards are identified. No significant impacts to mineral resources are anticipated, as the Proposed Action would not involve the
commercial extraction of mineral resources, nor affect mineral resources considered important on a local, State, national, or global basis.

3.5.3 Effects of the No Action Alternative

Under the No Action Alternative, no impacts to soils, topography, or geology by VA would occur. The likely continued use of the Site as a park would result in no/negligible soils, topography, or geology impacts.
FIGURE 6
SINKHOLES MAP
ENVIRONMENTAL ASSESSMENT
PROPOSED JEFFERSON BARRACKS
NATIONAL CEMETERY EXPANSION
ST. LOUIS COUNTY, MISSOURI

PREPARED FOR
U.S. DEPARTMENT OF VETERANS AFFAIRS
WASHINGTON D.C.

TTL PROJECT NO.
16399.01

Source: 1922 Topographic Map
3.6 Hydrology and Water Quality

3.6.1 Surface Waters

The Site is located in the Mississippi River watershed. The Webster Grove, Missouri USGS Topographic Quadrangle indicates that the nearest surface water is a tributary of Martigney Creek, depicted approximately 400 feet south of the Site, which generally flows south approximately 0.75 mile to Martigney Creek, which flows east to the Mississippi River, located approximately 0.75 mile east of the Site.

A natural spring is located on the northerly adjacent property in the vicinity of the historic Beverage Garden. At the spring, groundwater vents from the subsurface and flows overland to a culvert/stormwater inlet located near the northern boundary of the Site. It flows through the stormwater system, entirely below grade, to the south through the central portion of the Site and onto the existing JBNC property where it discharges to the tributary of Martigney Creek. Based on historical maps, it appears that surface water from the spring formerly flowed overland through the central portion of the Site prior to the development of the park in the early 1950s.

Surface water runoff generally flows from the east and west Site boundaries through one partially stone-lined drainage channel and several semi-engineered and natural drainage channels to the central portion of the Site. Surface water runoff then discharges into an underground storm sewer system via inlets throughout the central portion of the Site.

3.6.2 Groundwater

During a previous investigation of the Site, shallow groundwater was encountered in the central portion of the Site at depths ranging from 3 to 4 feet bgs. Groundwater was not encountered within 8 feet bgs in higher elevation areas away from the central portion of the Site.

The MDNR recommended that extra care be taken around karst features to prevent the introduction of pollutants to sensitive groundwater resources. However, MDNR noted that even though the Site is located in a karst area, the proposed cemetery would have limited adverse effect of groundwater due to the low permeability clay soil and modern burial practices.

The MDNR stated that there are no known water wells within 100 feet of the Site; however, any wells found at the Site should be properly abandoned. The MDNR noted that JBNC has an irrigation well that is 1,400 feet deep with over 600 feet of casing to seal out shallow groundwater. The MDNR stated that stated that the Site is not located in a Public Drinking Water District and groundwater in the Site vicinity is not used as a drinking water source.

3.6.3 Effects of the Preferred Action Alternative

The Site would continue to be used as a park for up to 10 years after VA’s acquisition. The continued use of the park prior to the expansion of the JBNC at the Site would result in no/negligible hydrology and water quality impacts.
The future development of the expanded cemetery at the Site would not result in significant impacts to surface waters provided that the BMPs described in Section 5 are implemented. These BMPs would control construction-related impacts of soil erosion and sedimentation and would provide proper stormwater management following the development of the cemetery.

It is not anticipated that groundwater would be significantly impacted by the proposed cemetery expansion. Shallow groundwater at the Site is localized in the central portion of the Site, where it occurs at depths of 3 to 4 feet bgs. Groundwater in the remaining portions of the Site is greater than 8 feet bgs. If areas of deeper excavation are required, or excavation is required in areas of the Site where groundwater is shallow, appropriate groundwater engineering controls would be utilized during construction to ensure no long-term adverse effects to groundwater.

Based on standard modern burial practices, it is unlikely that toxic embalming fluid or other decomposition byproducts would be released into the soil and/or groundwater. The standard NCA design incorporates (for full casket burials) sub-surface concrete crypts, an entire section of which is installed during site construction. Using this technique, the caskets are not buried directly in the soil, rather set in a pre-placed concrete crypt (established turf and soil temporarily removed, crypt lid removed, casket placed, followed by the reverse process to complete). Modern embalming fluids are markedly less toxic as the primary active ingredients are no longer arsenic based. Modern embalming fluids are commonly biodegradable. Additionally, as selection of either cremain interment or columbaria placement increases, and green burials increase, the potential for soil or groundwater contamination commensurately decreases as no embalming fluids are used.

### 3.6.4 Effects of the No Action Alternative

Under the No Action Alternative, no impacts to hydrology or water quality by VA would occur. The likely continued use of the Site as a park would result in no/negligible hydrology or water quality impacts.

### 3.7 Wildlife and Habitat

#### 3.7.1 Vegetation and Wildlife

The Site is primarily unimproved, maintained grassy land with a moderate amount of mostly mature trees. Properties surrounding the Site consist of additional park land to the north, the JBN to the south, and mostly developed residential and commercial properties to the east and west. Vegetative communities on the Site and surrounding area support wildlife species associated with suburban areas of St. Louis.

#### 3.7.2 Threatened and Endangered Species

As part of the preparation of this EA, the US Fish and Wildlife Service (USFWS), the MDNR, and the Missouri Department of Conservation (MDC) were contacted to identify the potential for the presence of State or Federally-listed threatened or endangered species on or in the vicinity of the Site.
According to the USFWS Information for Planning and Conservation (IPaC) internet application, three Federally-protected wildlife species were identified for the Site vicinity: Indiana Bat, Northern Long-Eared Bat, and Gray Bat. One Federally-protected plant species was also identified for the Site area: Decurrent False Aster. The IPaC report did not identify critical habitat for these protected species at the Site.

Gray Bats roost in caves or mines year-round and use water features and forested riparian corridors for foraging and travel. Due to the absence of caves, mines, and riparian corridors at the Site, Gray Bats are not likely to be present at the Site. Decurrent False Aster occurs in moist sandy floodplains and prairie wetlands, conditions not present at the Site. Therefore, this plant is not likely to be present on the Site.

Some of the mature trees at the Site may support the presence of Indiana Bats and Northern Long-Eared Bats as summer roosting and foraging habitat.

The MDC provided a Natural Heritage Review Report for the Site that identified records for Federally and State-protected species. The Natural Heritage Review Report indicated that the three Federally-protected bat species identified in the IPaC report (two of which are also State-listed protected species) occur within 3.3 miles of the Site. The MDC recommended that streams not be degraded and caves not be disturbed as part of the Proposed Action and, whenever possible, recommended leaving tree snags standing and preserving the mature forest canopy. MDC also stated the any tree removal would require consultation with the USFWS. No other State-listed species or natural communities were identified in the vicinity of the Site.

MDC recommended that VA implement BMPs to minimize erosion and sedimentation runoff, and to revegetate disturbed areas with native species. MDC also recommended that construction equipment be cleaned prior to moving from one construction site to the next in order to prevent the spread of invasive aquatic species.

### 3.7.3 Effects of the Preferred Action Alternative

The Site would continue to be used as a park for up to 10 years after VA’s acquisition. The continued use of the park prior to the expansion of the JBNC at the Site would result in no/negligible wildlife and habitat impacts.

The development of the cemetery at the Site is not likely to have adverse effects on State or Federally-listed protected species or their critical habitats, provided that seasonal tree clearing is conducted to prevent impacts to Indiana Bats and Northern Long-Eared Bats, who may use the Site for summer roosting and foraging. Seasonal tree clearing (October 15 to March 31), while these bat species hibernate in off-site caves, would be conducted as part of the Proposed Action in consultation with the USFWS, as required. As such, wildlife and habitat impacts associated with the Proposed Action would be less-than-significant.
3.7.4 Effects of the No Action Alternative

Under the No Action Alternative, no construction by VA would occur. No impacts to vegetation or wildlife habitat would occur as a result of VA’s actions. The likely continued use of the Site as a park would result in no/negligible vegetation or wildlife habitat impacts.

3.8 Noise

The existing noise environment at the Site is a relatively quiet park setting with no significant noise generation sources. Minor noise is associated with surrounding roadways (Sheridan Road, Boundary Road and Halsey Street) and nearby residential and commercial land uses. In addition, ceremonial gun salutes associated with interments at the adjacent JBNC are audible at the Site and surrounding area. The short bursts of noise from the salutes are intermittent and only occur during weekday business hours. No other notable noise-generating sources are present in the immediate vicinity of the Site.

3.8.1 Sensitive Receptors

Sensitive noise receptors in the vicinity of the Site include the residences located adjacent to the east, the residences located across Boundary Street to the west, the JBNC to the south, and the remainder of the Sylvan Springs Park to the north of the Site.

3.8.2 Effects of the Preferred Action Alternative

Based on the proposed continued use of the Site as a park for up to 10 years and the future use of the Site as a cemetery, no long-term noise impacts would be anticipated. Noise generated from the Proposed Action would have short-term impacts to the existing noise environment during the removal of existing improvements and cemetery expansion construction activities. Noise generating sources during demolition and construction activities would be associated primarily with standard construction equipment and construction equipment transportation. These increased noise levels could directly affect the neighboring area, including the residential properties located adjacent to the east of the Site and west of the Site across Boundary Street.

Construction activities generate noise by their very nature and are highly variable, depending on the type, number, and operating schedules of equipment. Construction projects are usually executed in stages, each having its own combination of equipment and noise characteristics and magnitudes. Construction activities are expected to be typical of other similar construction projects and would include mobilization, site preparation, excavation, placing foundations, utility development, heavy equipment movement, and paving roadways and parking areas.

The most prevalent noise source at typical construction sites is the internal combustion engine. General construction equipment using engines includes, but is not limited to: heavy, medium, and light equipment such as excavators; roller compactors; front-end loaders; bulldozers; graders; backhoes; dump trucks; water trucks; concrete trucks; pump trucks; utility trucks; and lube, oil, and fuel trucks.
Peak noise levels vary at a given location based on line of sight, topography, vegetation, and atmospheric conditions. In addition, peak noise levels would be variable and intermittent because each piece of equipment would only be operated when needed. However, peak demolition and construction noise levels would be considerably higher than existing noise levels. Relatively high peak noise levels in the range of 93 to 108 dBA (decibels, A-weighted scale) would occur on the active construction site, decreasing with distance from the construction areas. Table 1 presents peak noise levels that could be expected from a range of construction equipment during proposed construction activities.

Generally speaking, peak noise levels within 50 feet of active construction areas and material transportation routes would most likely be considered “striking” or “very loud”, comparable to peak crowd noise at an indoor sports arena. At approximately 200 feet, peak noise levels would be loud - approximately comparable to a garbage disposal or vacuum cleaner at 10 feet. At 0.25 mile, construction noise levels would generally be quiet enough so as to be considered insignificant, although transient noise levels may be noticeable at times.

Combined peak noise levels, or worst-case noise levels when several loud pieces of equipment are used in a small area at the same time as described in Table 1, are expected to occur rarely, if ever, during the project. However, under these circumstances, peak noise levels could exceed 90 dBA within 200 feet of the construction area, depending on equipment being used.

Although noise levels would be quite loud in the immediate area, the intermittent nature of peak construction noise levels would not create the steady noise level conditions for an extended duration that could lead to hearing damage. Construction workers would follow standard Federal Occupational Safety and Health Administration (OSHA) requirements to prevent hearing damage.

Areas that could be most affected by noise from construction include those closest to the construction footprint, including the residential areas located east and west of the Site. However, indoor noise levels would be expected to be 15-25 decibels lower than outdoor levels. In addition, construction noise impacts would be temporary and would be minimized through BMPs outlined in Section 5.

Indirect impacts include noise from workers commuting and material transport. Area traffic volumes and noise levels would increase slightly as construction employees commute to and from work at the project area, and delivery and service vehicles (including trucks of various sizes) transit to and from the Site. Because trucks are present during most phases of construction and leave and enter the Site via local thoroughfares, truck noises tend to impact more people over a wider area. For this Proposed Action, persons in the residential area near the Site would experience temporary increases in traffic noise during day-time hours. These effects are not considered significant because they would be temporary and similar to existing traffic noise levels in the area.
Table 1. Peak Noise Levels Expected from Typical Construction Equipment

<table>
<thead>
<tr>
<th>Source</th>
<th>Peak Noise Level (dBA, attenuated)</th>
<th>Distance from Source (feet)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>0</td>
</tr>
<tr>
<td>Heavy Truck</td>
<td></td>
<td>95</td>
</tr>
<tr>
<td>Dump Truck</td>
<td></td>
<td>108</td>
</tr>
<tr>
<td>Concrete Mixer</td>
<td></td>
<td>108</td>
</tr>
<tr>
<td>Jack-hammer</td>
<td></td>
<td>108</td>
</tr>
<tr>
<td>Scraper</td>
<td></td>
<td>93</td>
</tr>
<tr>
<td>Bulldozer</td>
<td></td>
<td>107</td>
</tr>
<tr>
<td>Generator</td>
<td></td>
<td>96</td>
</tr>
<tr>
<td>Crane</td>
<td></td>
<td>104</td>
</tr>
<tr>
<td>Loader</td>
<td></td>
<td>104</td>
</tr>
<tr>
<td>Grader</td>
<td></td>
<td>108</td>
</tr>
<tr>
<td>Pile driver</td>
<td></td>
<td>105</td>
</tr>
<tr>
<td>Forklift</td>
<td></td>
<td>100</td>
</tr>
</tbody>
</table>

Worst-Case Combined Peak Noise Level (Bulldozer, Jackhammer, Scraper)

<table>
<thead>
<tr>
<th>Combined Peak Noise Level</th>
<th>Distance from Source (feet)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>50</td>
</tr>
<tr>
<td>103</td>
<td>97</td>
</tr>
</tbody>
</table>

Source: Tipler 1976

Proposed future operational activities of the expanded cemetery would include vehicle traffic to and from the Site, use of powered equipment for grave site preparation, maintenance, and upkeep, and periodic (during weekday, day-time hours) ceremonial rifle discharges. Estimated ceremonial rifle salute noise levels at varying distances based on US Army estimates are provided in Table 2. These activities would not produce excessive noise, are consistent with the existing adjacent JBNC, and would not produce a significant adverse noise impact on surrounding land uses. The facility would be a relatively quiet cemetery.

Table 2. Estimated M-16 Rifle Blank Noise Levels at Varying Distances

<table>
<thead>
<tr>
<th>Distance (meters)</th>
<th>A-Weighted Exposure Level (dBA)</th>
<th>A-Weighted Maximum Level (dBA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>50</td>
<td>67</td>
<td>76</td>
</tr>
<tr>
<td>100</td>
<td>61</td>
<td>70</td>
</tr>
<tr>
<td>200</td>
<td>54</td>
<td>63</td>
</tr>
<tr>
<td>400</td>
<td>40</td>
<td>49</td>
</tr>
<tr>
<td>800</td>
<td>32</td>
<td>41</td>
</tr>
<tr>
<td>1,600</td>
<td>22</td>
<td>31</td>
</tr>
</tbody>
</table>

Source: Tipler 1976
3.8.3 Effects of the No Action Alternative

Under the No Action Alternative, the noise environment surrounding the Site would not be altered by activities of VA. The likely continued use of the Site as a park would result in no/negligible noise impacts.

3.9 Land Use

The Site was included as part of the 1,700-acre Jefferson Barracks military reservation from 1826 to 1950, but remained largely unused until 1939 when the off-site area adjacent to the north of the Site was improved as a Beverage Garden, and other recreational facilities were developed in the Site area. The Site was transferred from the Federal Government to St. Louis County in 1950 and has been used as part of the approximately 70-acre Sylvan Springs County Park since 1954. The southern portion of the park (the Site) is underutilized. Park operations at the Site are mostly passive. The restrooms in the pavilion have been closed/abandoned since 2013, the concession building is shuttered, and the water fountains have been removed.

According to the St. Louis County Zoning Map, the Site is currently zoned Park and Scenic (PS). Cemeteries are not a listed permitted use under the current zoning designation for the Site; however, the Site has been offered to VA by St. Louis County for the intended use as a cemetery. St. Louis County stated that the St. Louis County Department of Parks master plan and the St. Louis Economic Development Partnership plan include the development of properties along Sheridan Road and Telegraph Road for the cemetery expansion.

The neighboring property to the north of the Site (remainder of Sylvan Springs Park) is also currently zoned PS. The neighboring properties to the east are currently zoned residential (R-5). The neighboring JBNC to the south is currently zoned Non-Urban (NU). The neighboring properties to the west across Boundary Road are currently zoned residential (R-5) and Shopping (C-2). Zoning designations for the Site and surrounding properties are shown on Figure 8.
SITE

RESIDENTIAL (R5)

PARK AND SCENIC (PS)

SHOPPING (C2)

PARK AND SCENIC (PS)

NON-URBAN (NU)

RESIDENTIAL (R5)

FIGURE 8

ZONING MAP

ENVIRONMENTAL ASSESSMENT
PROPOSED JEFFERSON BARRACKS NATIONAL CEMETERY EXPANSION
ST. LOUIS COUNTY, MISSOURI

PREPARED FOR

U.S. DEPARTMENT OF VETERANS AFFAIRS
WASHINGTON D.C.

TTL PROJECT NO. 16399.01
3.9.1 Effects of the Preferred Action Alternative

The Site would continue to be used as a park for up to 10 years after VA’s acquisition. The continued use of the Site as a park prior to the expansion of the JBNC cemetery would result in no land use impacts.

The expansion of the JBNC at the Site would have land use effects as the Site is converted from a park to a cemetery. However, this is not a significant impact as only the southern, underutilized portions of the park would be developed with the expanded cemetery. The most prominent recreational facilities associated with Sylvan Springs Park, including the playground, splash pad, tennis courts, skate park and historic Beverage Garden, are located in the northern portion of the park, which would be retained by St. Louis County and continued in its current configuration. In addition, the large Jefferson Barracks County Park is located less than 0.5 mile northeast of the Site.

As a Federal agency, VA is not subject to local zoning regulations. However, the proposed conversion of the Site is compliant with St. Louis County’s planned land use as the Site has been offered to VA by St. Louis County and is consistent with the St. Louis County Department of Parks master plan. In addition, future use of the Site as a cemetery would be compatible with the current surrounding land uses, and consistent with the southerly adjacent JBNC.

3.9.2 Effects of the No Action Alternative

Under the No Action Alternative, no land use impacts due to VA’s Proposed Action would occur. The likely continued use of the Site as a park would result in no land use impacts.

3.10 Wetlands, Floodplains, and Coastal Zone Management

3.10.1 Wetlands

This section discusses wetlands at or near the Site and surface waters (streams) as they pertain to wetlands. Additional information regarding surface waters is provided in Section 3.6.

No wetlands were identified at the Site during the Site reconnaissance. In addition, the USFWS National Wetland Inventory (NWI) Mapper did not identify any potential wetlands on or adjacent to the Site.

3.10.2 Floodplains

According to available FEMA floodplain mapping (FIRM Map Number 29189C0345K, dated February 4, 2015), the Site is not located in the 100-year or 500-year floodplain (Zone X). Areas adjacent to the Site are also not included in the 100-year or 500-year floodplain.
3.10.3 Coastal Zone

The Coastal Zone Management Act (CZMA) was promulgated to control nonpoint pollution sources that affect coastal water quality. The CZMA of 1990, as amended (16 USC 1451 et seq.) encourages States to preserve, protect, develop, and where possible, restore or enhance valuable natural coastal resources such as wetlands, floodplains, estuaries, beaches, dunes, barrier islands, and coral reefs, as well as the fish and wildlife using those habitats. According to the National Oceanic and Atmospheric Association (NOAA), St. Louis County is not located within a designated coastal zone (NOAA 2018).

3.10.4 Effects of the Preferred Action Alternative

The Preferred Action Alternative would not impact wetlands, floodplains or coastal zones.

3.10.5 Effects of the No Action Alternative

The No Action Alternative would result in no wetlands, floodplains, or coastal zones impacts.

3.11 Socioeconomics

The following subsections identify and describe the socioeconomic environment of St. Louis County, Missouri. Presented data provide an understanding of the socioeconomic factors that have developed the area. Socioeconomic areas of discussion include the local demographics of the area, regional and local economy, local housing, and local recreation activities. Data used in preparing this section were collected from the 2010 Census of Population and Housing (US Census Bureau 2010), subsequent US Census Bureau data, and the US Department of Commerce Bureau of Economic Analysis (BEA).

3.11.1 Demographics

St. Louis County’s estimated population in 2017 was 996,726 residents. The estimated population total for the State of Missouri in 2017 was 6,113,532 residents (Table 3). Age distribution and high school graduation rates are generally similar for St. Louis County and the State of Missouri. Minority populations for St. Louis County are higher than that of the State of Missouri as a whole. Minority population rates specific to the Site area are discussed in Section 3.16 (Environmental Justice).

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Missouri</td>
<td>6,113,532</td>
<td>22.6%</td>
<td>16.5%</td>
<td>18.8%</td>
<td>88.8%</td>
<td>438,100</td>
</tr>
<tr>
<td>St. Louis County</td>
<td>996,726</td>
<td>22.0%</td>
<td>17.7%</td>
<td>32.2%</td>
<td>93.0%</td>
<td>61,891</td>
</tr>
</tbody>
</table>

Source: US Census Bureau, 2010 Census, Profile of General Demographic Characteristics, 2012-2016. N/A – Not Available
3.11.2 Income

St. Louis County has a higher median household income and a lower population below the poverty line than the State of Missouri as a whole (Table 4). Household incomes specific to the Site area are discussed in Section 3.16.

<table>
<thead>
<tr>
<th>Area</th>
<th>Number of Households</th>
<th>Median Household Income</th>
<th>Population Below Poverty Level</th>
<th>Unemployment Rate May 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Missouri</td>
<td>2,372,362</td>
<td>$49,593</td>
<td>14.0%</td>
<td>3.6%</td>
</tr>
<tr>
<td>St. Louis County</td>
<td>401,716</td>
<td>$61,103</td>
<td>9.2%</td>
<td>3.1%</td>
</tr>
</tbody>
</table>


N/A – Not Available

3.11.3 Commuting Patterns

Residents of St. Louis County are largely dependent on personal automobiles for transportation to and from work. Other methods of transit include public transportation [Metro Transit – St. Louis (MTSTL)], carpooling, and walking. The average commuting time in St. Louis County was approximately 24 minutes in 2016.

3.11.4 Protection of Children

Because children may suffer disproportionately from environmental health risks and safety risks, EO 13045, *Protection of Children From Environmental Health Risks and Safety Risks*, was introduced in 1997 to prioritize the identification and assessment of environmental health risks and safety risks that may affect children and to ensure that Federal agencies’ policies, programs, activities, and standards address environmental risks and safety risks to children.

Children may be regularly present at the Site and northerly adjoining area due to their use as Sylvan Springs Park. However, children are typically present on the northern, off-site portion of the park where the playground, splash pad, and skate park are located. No park amenities specifically designed for use by children are present on the southern (Site) part of the park. Children may also be present in the residential areas adjoining or near the Site. No other schools or playgrounds are located within the immediate vicinity of the Site.

3.11.5 Effects of the Preferred Action Alternative

Continued use of the Site as a park for up to 10 years after VA acquisition would have no socioeconomic impact.

Future construction of the proposed cemetery at the Site is anticipated to result in minor short-term positive socioeconomic impacts to local employment and personal income by providing
temporary construction jobs. However, due to the intermittent and finite nature of these construction projects, no long-term impacts to the construction labor force are anticipated.

The Proposed Action would result in long-term significant beneficial socioeconomic impacts by providing a regionally proximate National Cemetery of sufficient size to US Veterans and their families.

No adverse health or safety risks to children are anticipated to result from construction or operation of the cemetery at the Site. Children would only be present at the Site as visitors. Construction areas would be secured to prevent unauthorized access by children from the nearby residential area. The construction contractor would limit and control construction dust and noise as discussed in Section 5, thereby minimizing adverse effects to children in the area.

3.11.6 Effects of the No Action Alternative

Under the No Action Alternative, the Site would likely continue to be used as a park with no socioeconomic change to the Site area. However, VA would not secure land necessary to meet its long-term cemetery needs for the region, which could result in a future significant adverse, long-term, impact to US Veterans and their families.

3.12 Community Services

The Site is located within the Mehlville School District. Mehlville School District offices and Beasley Elementary (3131 Koch Road) are located approximately 1,800 feet south of the Site. No other schools are located within one mile of the Site.

The St. Louis County Police and Sheriff’s Department provides police protection to the Site and its vicinity. The St. Louis County – Mehlville Fire Protection district provides fire protection and emergency medical services to the Site and its vicinity.

The Missouri Department of Transportation (MODOT) and the St. Louis County Department of Transportation (SLCDOT) provide local road and bridge maintenance to the Site and its vicinity.

Other than the Jefferson Barracks VAMC, located approximately 2,000 feet southeast of the Site, there are no major medical facilities located within five miles of the Site.

Public transportation in the St. Louis area is provided by Metro Transit – St. Louis (MTSTL). The nearest public transportation stops (Bus Routes 48 and 17) are located along Telegraph Road, approximately 500 feet west of the Site.

The Site and the northerly adjacent property comprise the 70-acre Sylvan Springs Park. Jefferson Barracks Park is located approximately 0.25-mile northeast of the Site. There are no other developed recreational facilities in the immediate vicinity of the Site.
3.12.1 Effects of the Preferred Action Alternative

No additional load is expected to be placed on the fire or police departments as the result of the Proposed Action. Use of other public or community services as a result of the proposed future cemetery development is not expected.

The proposed conversion of the Site from park land to a cemetery would reduce recreational facilities in the Site area. However, the proposed development of a cemetery at the Site is consistent with the St. Louis County Department of Parks master plan and the Site has been offered to VA by St. Louis County. The Site is underutilized for recreational purposes. The most prominent recreational facilities associated with Sylvan Springs Park are located in the northern portion of the park, which would be retained by St. Louis County and continued in its current configuration. In addition, the nearby, larger Jefferson Barracks Park provides additional recreational opportunities for area residents. The conversion of the southern portion of the park to a cemetery would have less-than-significant land use impact.

3.12.2 Effects of the No Action Alternative

Under the No Action Alternative, no community services impacts from VA would occur. The likely continued use of the Site as a park would result in no community services impacts.

3.13 Solid and Hazardous Materials

Hazardous and toxic materials or substances are generally defined as materials or substances that pose a risk (i.e., through either physical or chemical reactions) to human health or the environment.

The Site and surrounding area was originally known as Rock Springs and was the location of the first military establishment in the area. A temporary camp was established in the Site vicinity in 1826, but was replaced by a more permanent off-site camp along the Mississippi River September of 1826. The Site was included as part of the 1,700-acre Jefferson Barracks military reservation from 1826 to 1950, but remained mostly wooded and largely unused until the late 1930s/early 1940s, when the off-site area adjacent to the north of the Site was improved as a Beverage Garden, and other recreational facilities were developed in the Site area, including baseball, football and track fields and an amphitheater, although the specific locations of each were not identified. The Site remained mostly wooded during this timeframe; however, based on historic aerial photographs and topographic maps, it appears that athletic fields were present in the southwestern portion of the Site (in the current parking lot area) and the amphitheater may have been located in the central portion of the Site. In addition, barracks appear to have been located in the eastern portion of the Site (in the current level, grassy area) in the 1940s and early 1950s. The Site was transferred from the Federal Government to St. Louis County in 1950 and has been used as the Sylvan Springs County Park since 1954. Three structures are present at the site: the Ordnance Shelter (constructed in 1952 in the central portion of the site, pavilion and restrooms, restrooms abandoned/closed since 2013), the Round House/concession stand (constructed in 1956 in the central portion of the Site, approximately 450 square feet in size, abandoned/closed), and the Wohlschlaeger Shelter (constructed in 1971 in the western portion of the Site, open sided picnic pavilion).
Based on the identified historical uses of the Site and the Site reconnaissance conducted in July 2018, there is no evidence of current or former significant petroleum product or hazardous substance use, storage, or handling at the Site.

Environmental and Facility Consulting, LLC (EFC) completed a Phase I Environmental Site Assessment (Phase I ESA) for the Site in April 2012. The Phase I ESA did not identify any environmental concerns or recognized environmental conditions (RECs) for the Site.

### 3.13.1 Effects of the Preferred Action Alternative

The Site would continue to be used as a park for up to 10 years after VA’s acquisition. The continued use of the park prior to the expansion of the JBNC at the Site would result in no/negligible solid and hazardous materials impacts.

The structures to be demolished at the Site during the cemetery development may contain asbestos-containing building materials (ACM). Predemolition asbestos surveys by licensed inspectors would be conducted for each of the structures to be demolished as part of the Proposed Action. The surveys would identify and quantify ACMs, which would be removed by licensed asbestos abatement contractors in accordance with the National Emission Standards for Hazardous Air Pollutants (NESHAP) and State of Missouri requirements prior to building demolition to prevent release and exposure to asbestos during demolition.

The removal of existing improvements and cemetery expansion activities could also result in short-term, less-than-significant adverse impacts due to the increased presence and use of petroleum and hazardous substances during construction. A small increase in construction vehicle traffic would increase the likelihood for release of vehicle operating fluids (e.g., oil, diesel, gasoline, antifreeze, etc.) and maintenance materials. As such, a less-than-significant, direct, short-term adverse impact is possible. Implementation of standard construction BMPs (Section 5) would serve to ensure this impact is further minimized.

No significant adverse long-term impacts during operation of the expanded cemetery are anticipated. Long-term operational solid and hazardous materials would be managed in accordance with applicable Federal and State laws and VA’s SOPs. The Preferred Action Alternative would not result in a substantial increase in the generation of solid or hazardous substances or wastes, increase the exposure of persons to hazardous or toxic substances, increase the presence of hazardous or toxic materials in the environment, or place substantial restrictions on property use due to hazardous waste, materials, or site remediation. As noted in Section 3.6.3, based on standard modern burial practices, it is unlikely that embalming fluid would be released into the soil or groundwater.

### 3.13.2 Effects of the No Action Alternative

Under the No Action Alternative, no solid and hazardous materials use or effects from VA’s activities at the Site would occur. The likely continued use of the Site as a park would result in no/negligible solid and hazardous materials impacts.
3.14 Transportation and Parking

Access to the Site is currently provided from Sheridan Road (southern boundary), Boundary Road (western boundary), and Halsey Street (near the northern boundary). Primary access to the Site is provided by Sheridan Road via Telegraph Road, located approximately 500 feet west of the Site. Telegraph Road intersects with Interstate 255 approximately 0.5 mile south of Sheridan Road. Primary access to the existing JBNC is also provided by Sheridan Road via Telegraph Road. The main cemetery entrance is located near the southeast corner of the Site across Sheridan Road. Sheridan Road is a generally east-west oriented, two-lane, paved road with a current estimated Level of Service (LOS) rating of B or better. Telegraph Road is a generally north-south, four-lane paved road with a current estimated LOS rating of C. The intersection of Sheridan Road and Telegraph Road is fully signalized with dedicated turn lanes.

Boundary Road is a generally northeast-southwest oriented, two-lane, paved, road with a current estimated LOS rating of B or better. Halsey Street is a generally east-west oriented, two-lane, paved access road with a current estimated LOS rating of B or better. Average daily traffic (ADT) data from 2016 was obtained from MODOT for Telegraph Road (SR 213). According to SLCDOT, no ADT data is available for Sheridan Road, Boundary Road, or Halsey Street. Local roadway characteristics are shown in Table 5.

Traffic in the Site area is regulated by MODOT and SLCDOT. Under current conditions, all of the adjacent roadways appear to operate at acceptable LOS ratings.

<table>
<thead>
<tr>
<th>Type</th>
<th>Route</th>
<th>Direction</th>
<th>Road Width (feet)</th>
<th>Lanes</th>
<th>Average Daily Traffic (vehicles)</th>
<th>Estimated Level of Service</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collector Road</td>
<td>Sheridan</td>
<td>East-West</td>
<td>20</td>
<td>2</td>
<td>N/A</td>
<td>B or better</td>
</tr>
<tr>
<td>Collector Road</td>
<td>Boundary</td>
<td>Northeast-Southwest</td>
<td>20</td>
<td>2</td>
<td>N/A</td>
<td>B or better</td>
</tr>
<tr>
<td>Access Road</td>
<td>Halsey</td>
<td>East-West</td>
<td>25</td>
<td>2</td>
<td>N/A</td>
<td>B or better</td>
</tr>
<tr>
<td>Arterial</td>
<td>Telegraph (SR 231)</td>
<td>Northeast-Southwest</td>
<td>80</td>
<td>4</td>
<td>18,906</td>
<td>C or better</td>
</tr>
</tbody>
</table>

Traffic Volume Data: MODOT, 2016
N/A – not available
Other Data Source: TTL Site Reconnaissance, July 2018

1 Level of Service – LOS represents a set of qualitative descriptions of a transportation system’s performance. The Federal Highway Administration Highway Capacity Manual defines levels of service for intersections and highway segments, with ratings that range from A (best) to F (worst). Generally, a LOS of D or higher is considered acceptable by transportation planning agencies.
3.14.1 Effects of the Preferred Action Alternative

No short-term traffic impacts would be anticipated. The Site would continue to be used as a park for up to 10 years after VA's acquisition.

In the future, when the Site would be developed with the expanded cemetery, vehicle trips associated with burials would likely be similar to current conditions at the JBNC. The JBNC is currently handling an average of 19 burials per weekday, with more than 30 burials on Mondays and Fridays. With an average of 20 cars per burial, the JBNC is currently experiencing an estimated 760 one-way vehicle trips (380 vehicle round trips) associated with burials per average weekday. The main entrance to the JBNC is located along south side of Sheridan Road near the southeastern corner of the Site, with burial processions driving along the southern boundary of the Site from Telegraph Road. Burial traffic would continue to use this entrance and a new entrance to the north from Sheridan Road onto the Site, likely in the vicinity of the current park entrance, when the expanded cemetery would be developed. Based on the anticipated similar amount of burial traffic and traffic patterns as currently exists at the JBNC, the traffic impacts associated with burials at the expanded cemetery would be less-than-significant.

Currently, the JBNC experiences approximately 250 roundtrip visitor and staff trips per day. As additional areas of the JBNC are developed and utilized, the number of visitors is likely to increase; however, the increased number of vehicle trips associated with visitors is likely to be minor.

No significant parking impacts are anticipated. The proposed JBNC expansion would be designed and constructed to accommodate all cemetery parking on-site. The current parking lot on the northern portion of the Site, partially used by visitors to the off-site Beverage Garden and the skate park, would be eliminated. However, the off-site parking lot located along the northwestern side of the skate park would remain available to the off-site park users in this area.

3.14.2 Effects of the No Action Alternative

Under the No Action Alternative, no action by VA would occur and the existing traffic and parking conditions would remain. The likely continued use of the Site as a park would result in no/negligible traffic or parking impacts.

3.15 Utilities

Basic utilities in the Site area (i.e., water, sewer, electric, and natural gas) are provided by various utility providers. As part of the preparation of this EA, local utility providers were researched to determine the availability of required utilities in the vicinity of the Site.

The following identifies the utility providers to the Site:

**Missouri American Water (MAW)** supplies potable water to the Site. The potable water service at the Site is likely adequate for the Proposed Action. VA would irrigate the cemetery using groundwater obtained from the existing 1,400 feet deep irrigation well located at the JBNC. The
cemetery would require minimal potable water service. VA would coordinate with MAW to connect to the potable water service at the Site.

**Metropolitan St. Louis Sewer District (MSD)** supplies sanitary sewer service to the Site. The sanitary sewer service at the Site is likely adequate for the Proposed Action. The cemetery would require minimal sanitary sewer service. VA would coordinate with the MSD to connect to the existing sanitary sewer service at the Site.

MSD also supplies stormwater sewer service to the Site area. The stormwater sewer service at the Site is likely adequate for the Proposed Action as the proposed cemetery development would significantly increase impervious surfaces at the Site. VA would coordinate with the MSD regarding stormwater management and sewer service at the Site. It is anticipated that the cemetery would use the existing stormwater sewer system on the Site. The MSD provided two maps that depict the locations of existing sanitary and storm sewer routes at the Site (Appendix A). MSD stated that they would require several rounds of plan reviews, starting at the 60 percent point of completion.

**Ameren** supplies the electrical service to the Site. The electrical service at the Site is likely adequate for the Proposed Action. The cemetery would require minimal electrical service. VA would coordinate with Ameren prior to connecting to the electrical service at the Site.

**Laclede Gas** supplies the natural gas service to the Site area. It is not anticipated that natural gas service would be used at the expanded cemetery. VA would coordinate with Laclede Gas prior to expanding natural gas service to the Site, if necessary.

**AT&T** provides telecommunication services to the Site vicinity. The Proposed Action is likely to require minimal telecommunication services; therefore, the telecommunications services in the Site vicinity are likely to be adequate for the Proposed Action. VA would coordinate with AT&T to connect to the telecommunication service.

### 3.15.1 Effects of the Preferred Action Alternative

The Site would continue to be used as a park for up to 10 years after VA’s acquisition. The continued use of the park prior to the future expansion of the JBNC at the Site would result in no/negligible utility impacts.

Expansion of the JBNC at the Site would result in the consumption of utilities, including electricity, potable water, sanitary sewer discharges and stormwater sewer discharges. All major utility services are located at the Site or in close proximity to the Site. The proposed cemetery expansion would be anticipated to have generally minimal utility needs. Water is anticipated to have the largest demand due to the need for maintaining landscaped areas of the cemetery. However, the Site would be connected to the existing JBNC irrigation system, which uses groundwater from an irrigation well at the JBNC property. Irrigation of the Site would not impact local utilities.

The stormwater system at the Site includes an underground pipe in the central portion of the Site that conveys flow from the spring on the northerly adjacent property to the south, beneath
Sheridan Road, and onto the existing JBNC property, where it discharges to a tributary of Martigney Creek. Several stormwater inlets to the below grade system are located in the central portion of the Site, which receive stormwater flow from engineered, semi-engineered, and natural discharge channels that cross the Site. Stormwater runoff from the Site and off-site areas flows through these channels. It is anticipated that the cemetery design would retain these drainage features and would include new stormwater management features, as necessary, for the cemetery development. As such, the proposed cemetery development is anticipated to have less-than-significant stormwater management impacts.

3.15.2 Effects of the No Action Alternative

Under the No Action Alternative, no utility impacts by VA would occur. The likely continued use of the Site as a park would result in no/negligible utility impacts.

3.16 Environmental Justice

In 1994, EO 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, was issued to focus attention of Federal agencies on human health and environmental conditions in minority and low-income communities and to ensure that disproportionately high and adverse human health or environmental effects on these communities are identified and addressed.

According to the USEPA-developed EJSCREEN (an environmental justice mapping and screening internet application), the Site is located in an area with a higher concentration of low income populations (54 percent) than the State of Missouri (35 percent) as a whole. Minority populations in the Site area (17 percent) are similar to the State of Missouri (20 percent).

3.16.1 Effects of the Preferred Action Alternative

The Site would continue to be used as a park for up to 10 years after VA’s acquisition. The continued use of the park prior to the future expansion of the JBNC at the Site would result in no environmental justice impacts.

The proposed cemetery development at the Site would have less-than-significant environmental justice effects. Although the Site is located in areas with a larger than average low-income population, the Proposed Action would have only minor impacts on the residents in the area. During construction, effects on nearby residential land uses, such as through noise and dust, would be limited and controlled through BMPs described in Section 5, thereby minimizing adverse effects to populations within the ROI.

3.16.2 Effects of the No Action Alternative

Under the No Action Alternative, no action by VA would occur at the Site and there would be no environmental justice effect by VA. The likely continued use of the Site as a park would result in no environmental justice impacts.
3.17 Cumulative Impacts

As defined by CEQ Regulations in 40 CFR Part 1508.7, cumulative impacts are those which “result from the incremental impact of the Proposed Action when added to other past, present, and reasonably foreseeable future actions, without regard to the agency (Federal or non-Federal) or individual who undertakes such other actions.” Cumulative impact analysis captures the effects that result from the Proposed Action in combination with the effects of other actions taken during the duration of the Proposed Action in the same geographic area. Because of extensive influences of multiple forces, cumulative effects are the most difficult to analyze.

NEPA requires the analysis of cumulative environmental effects of a Proposed Action, or set of actions, on resources that may often be manifested only at the cumulative level, such as traffic congestion, air quality, noise, biological resources, cultural resources, socioeconomic conditions, utility system capacities, and others.

The approximately 33.6-acre Site is situated in a mixed use suburban area, located in an unincorporated portion of St. Louis County. The area adjacent to the south of the Site is currently occupied by the JBNC. The area adjacent to the north of the Site is currently occupied by additional portions of the Sylvan Springs County Park. The area adjacent to the east is currently occupied by a residential neighborhood. The area adjacent to the west, across Boundary Road, is currently occupied by a residential neighborhood and commercial properties.

The northerly adjacent part of Sylvan Springs Park was established in 1954; while the area south of the Site was developed as the JBNC in the early 2000s. Most of the residential and commercial development to the east and west of the Site occurred in the 1950s and 1960s. Further potential development in the area is limited due to the nearly fully developed nature of the area. Most potential future development in the area would likely be a result of the replacement of older developments that have reached the end of their effective useful lives. Other than proposed improvements to the northern portion of Sylvan Springs Park (no implementation timeline available), no additional specific development plans for the immediate Site area were identified. In 2012, VHA transferred approximately 15 acres of land to NCA for expansion of JBNC and plans to transfer an additional 15 acres of land to NCA in 2019. These expansion areas are located in the vicinity of the Jefferson Barracks VAMC, in the southeastern portion of JBNC, approximately one half mile from the Site.

The Preferred Action Alternative would result in the impacts identified in Section 3.2 through 3.16. These include potential impacts to aesthetics, air quality, cultural resources, geology and soils, hydrology and water quality, wildlife and habitat, noise, land use, community services, solid and hazardous materials, transportation and parking, utilities and environmental justice. All of these impacts are less-than-significant and would be further reduced through careful implementation of the general BMPs, management and minimization measures, and compliance with regulatory requirements as identified in Section 5. Given the nature of the Proposed Action, the limited potential future development in the immediate Site area, and distance of the other JBNC expansion areas from the Site, no significant cumulative adverse effects to any of these resource areas are anticipated. No adverse effects to wetlands, floodplains, or coastal zones or socioeconomics are anticipated. As such, no cumulative adverse effects to any of these resource areas are anticipated.
No significant adverse cumulative impacts to the environment, induced by the Proposed Action, are anticipated within the region. Coordination between VA, Federal and State agencies, St. Louis County, and community representatives would serve to manage and control cumulative effects within the region, including managing regional transportation increases with adequate infrastructure. Implementation of local land use and resource management plans would serve to control the extent of environmental impacts, and continued planning would ensure future socioeconomic conditions maintain the quality of life the area’s residents currently enjoy. Implementation of effective resource management plans and programs should minimize or eliminate any potential cumulative degradation of the natural ecosystem, cultural or human environment within the ROI of the Proposed Action.

Under the No Action Alternative, no cumulative impacts would likely occur, as the Site would likely remain an underutilized park.

3.18 Potential for Generating Substantial Public Controversy

As discussed in Section 4, VA has solicited input from various Federal, State, and local government agencies regarding the Proposed Action. Several of these agencies have provided input; none of the input was in opposition to the Proposed Action. However, St. Louis County stated that the Proposed Action could potentially generate a controversy from supporters of Sylvan Springs Park.

VA will publish and distribute the Draft EA for a 30-day public comment period. Public comments will be considered and addressed in the Final EA. VA understands that some members of the public may be disappointed that the southern portion of Sylvan Springs Park would close for the proposed cemetery expansion. However, the southern portion of the park is underutilized, and the buildings in this portion of the park are abandoned/closed. The most prominent recreational facilities associated with Sylvan Springs Park (playground, splash pad, tennis courts, and skate park) are located in the northern portion of the park and would be retained by St. Louis County for continued use. In addition, the Site has been offered to VA by St. Louis County and the proposed conversion of the Site to an expanded JBNC cemetery is part of the St. Louis County Department of Parks master plan. To address the potential public concern regarding the closure of park, VA has agreed to allow St. Louis County to continue operating the park for up to 10 years following VA’s purchase of the Site, until development of the Site is necessary to continue providing national shrine burial benefits to regional Veterans.
SECTION 4: PUBLIC INVOLVEMENT

4.1 Public and Agency Involvement

VA invites public participation in decision-making on new proposals through the NEPA process. Public participation with respect to decision-making on the Proposed Action is guided by 38 CFR Part 26, VA’s policy for implementing the NEPA. Additional guidance is provided in the VA’s NEPA Interim Guidance for Projects (VA 2010). Consideration of the views and information of all interested persons promotes open communication and enables better decision-making. Agencies, organizations, and members of the public with a potential interest in the Proposed Action, such as minority, low-income, and disadvantaged persons, are urged to participate. A record of agency coordination and public involvement associated with this EA is provided in Appendix A and Appendix E, respectively.

4.1.1 Public Review

VA, as the Federal proponent of this Proposed Action, will publish and distribute the Draft EA for a 30-day public comment period as announced by a Notice of Availability (NOA) published in the St. Louis Post-Dispatch, a local newspaper of general circulation. A copy of the Draft EA will be made available for public review at a local public library and on the NCA NEPA website (www.cem.va.gov/cem/EA.asp). In addition, VA will hold a public meeting at the Jefferson Barracks VA Medical Center on September 5, 2018 to receive public comments on the Draft EA and the Proposed Action. VA will respond to provided comments regarding the Draft EA within the Final EA.

4.1.2 Agency Coordination

VA consulted with the following agencies during the preparation of this EA: US Fish and Wildlife Service (USFWS), US Environmental Protection Agency (USEPA), US Army Corps of Engineers (USACE), United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS), various departments of the Missouri Department of Natural Resources (MDNR), Missouri Department of Transportation (MDOT), Missouri Department of Conservation (MDC), various St. Louis County departments, the St. Louis Metropolitan Sewer District, the St. Louis Water Division, and the East-West Gateway Council of Governments.

VA received responses from the following agencies: MDNR State Historic Preservation Office (SHPO), various departments of the MDNR, MDC, USDA NRCS, various departments of St. Louis County, St. Louis County Parks, and St. Louis Metropolitan Sewer District. Input provided by these agencies is addressed in the appropriate resource sub-sections of Section 3. Written correspondence from the agencies is provided in Appendix A. The following summarizes that input, which VA used to focus this EA's analysis:
• The MDNR SHPO requested that VA prepare a cultural resources report that assesses the built environment on the Site, the visual effects to the surrounding environment, and the association to and effects on NRHP historic districts resulting from the Proposed Action. The SHPO also requested an investigation of the archaeological resources of the Site and an evaluation of potential effects on historic and prehistoric archaeological sites. VA has conducted an archaeological investigation of the Site as requested. No NRHP-eligible archaeological sites were identified. VA also conducted an evaluation of the built resources at and within the area of potential effect of the proposed cemetery expansion at the Site. Consultation with the SHPO is ongoing.

• Various departments of the MDNR provided input in a consolidated letter. The MDNR stated the uppermost bedrock under the Site is Mississippian-aged St. Louis limestone, which can be more than 100 feet thick and lends itself to karst conditions as evidenced by many sinkholes in the Site area. The MDNR recommended that extra precautions be taken around karst features to prevent the introduction of pollutants to sensitive groundwater resources. The MDNR identified two sinkholes at the Site, one in the southwestern parking and one in the northeastern corner and stated that karst areas present the possibility of potential collapse. The MDNR stated that there are no known gaining or losing streams within seven miles of the Site and there are 15 known caves within the boundaries of the Webster Groves, Missouri United States Geological Survey (USGS) Topographic Quadrangle, which includes the Site.

The MDNR stated that monitoring well logs from the Site vicinity indicate that area soils consist of clay from 20 to more than 50 feet bgs. MDNR stated that even though the Site is located in a karst area, the proposed cemetery would have little adverse effect on groundwater due to the low permeability clay soil and modern burial practices.

The MDNR stated that groundwater in the Site vicinity is not used as a drinking water source; however, JBNC has an irrigation well that is 1,400 feet deep with over 600 feet of casing to seal out shallow groundwater. MDNR noted that water wells are required to be located at least 100 feet from the nearest grave. The MDNR stated that there are no known water wells within 100 feet of the Site; however, any wells found at the Site should be properly abandoned.

The MDNR stated that the nearest seismic geologic feature to the Site is more than five miles away and would have little impact on the Site; however, several areas on the Site have been identified as having the potential for collapse, landslide, and liquefaction in the event of a major earthquake.

The MDNR stated that stated that the Site is not located in a Public Drinking Water District; however, BMPs should be implemented to protect surface and groundwater resources. The MDNR also stated that there are no known Conservation Opportunity Areas or Sensitive Waters near the Site. The MDNR stated that the Site is located in the Mississippi River watershed and three unnamed tributaries are located to the northwest and south of the Site. The MDNR stated that there is a likelihood that freshwater wetlands, ponds, and riverine systems within riparian corridors of the Mississippi River in the area surrounding the Site.
The MDNR stated that measures should be implemented to avoid impacts with these features.

The MDNR stated that projects that have the potential to discharge fill or dredged materials into jurisdictional Waters of the US would require a Section 404 of the Clean Water Act (CWA) permit from the US Army Corps of Engineers (USACE) and Section 401 of the CWA Water Quality Certification from the MDNR. In addition, a National Pollutant Discharge Elimination System (NPDES) permit would be required for land disturbance of one acre or more. MDNR also provided a list of BMPs to minimize surface water impacts.

According to the MDNR, the Site is located near a Formerly Used Defense Site (FUDS), identified as the Jefferson Barracks Military Installation Former Post Dumping Grounds located on the Mississippi River that was remediated to address WWI era munitions. This area is located approximately 1,500 feet southeast of the Site. The MDNR stated that there does not appear to be any documented use of military munitions on the Site, but (based on the Site’s use as part of a military past) recommended VA take the necessary precautions for the Site, including contacting the USACE Kansas City Division FUDS Division, notifying contractors of potential hazards associated with legacy military munitions, and consulting with Jefferson Barracks Military Post environmental staff and Jefferson Barracks Community Council regarding the past military use of the Site. Based on available historical records, the Site area was briefly used as a temporary military encampment in 1826, but was otherwise mostly wooded and unused until the development of the recreational facilities in the area in the late 1930/early 1940s. MDNR also provided information regarding general disposal requirements for any unexpected buried waste that may be encountered during excavation work.

The MDNR stated that there are two air quality rules specific to the St. Louis metropolitan area that should be noted, including the restriction of volatile organic compounds (VOCs) in liquefied cutback asphalt paving operations and the restriction of the idling of heavy-duty diesel vehicles in the St. Louis Ozone Nonattainment Area. In addition, the MDNR stated that any open burning requires a permit from the MDNR and particulate matter resulting from construction activities should be contained within the Site boundaries.

The MDNR Environmental Emergency Response (EER) stated that there are no known petroleum or chemical spills in the Site vicinity.

- The MDC provided a Natural Heritage Review Report for the Site that identifies records for Federally-protected species under the Endangered Species Act and Missouri-protected species. The National Heritage Review Report indicated that three Federally-listed and State-protected bat species (Indiana Bats, Northern Long-Eared Bats, and Gray Bats) occur within 3.3 miles of the Site. The MDC recommended that streams not be degraded and caves not be disturbed as part of the Proposed Action and, wherever possible, recommended leaving tree snags standing and preserving the mature forest canopy. MDC also stated the any tree removal would require consultation with the USFWS. No other State-listed species or natural communities were identified in the vicinity of the Site.
MDC recommended that VA implement BMPs to minimize erosion and sedimentation runoff, and to revegetate disturbed areas with native species. MDC also recommended that construction equipment be cleaned prior to moving from one construction site to the next in order to prevent the spread of invasive aquatic species.

- The **USDA NRCS** stated that no known prime, unique, statewide, or local important farmland was listed for the Site.

- Various departments of **St. Louis County** provided input on the Proposed Action in a consolidated letter. St. Louis County stated that converting 33.6 acres of the 70-acre Sylvan Springs County Park into non-parkland could potentially invoke Section 4(f) of the U.S. Department of Transportation Act of 1966 regulating parkland and recreation facilities. However, Section 4(f) only applies to Federal DOT agencies, not VA. St. Louis County also noted that converting park land to non-parkland may require a land-swap under the requirements of the National Park Service (NPS), and the US Department of Interior.

St. Louis County stated that the St. Louis County Department of Parks master plan and the St. Louis Economic Development Partnership plan include the development of properties along Sheridan Road and Telegraph Road for the cemetery expansion. St. Louis County stated that the EA should account for the high level of significance in US history for both Sylvan Springs Park and Jefferson Barracks National Cemetery. St. Louis County also stated that the Proposed Action could potentially generate a controversy from supporters of Sylvan Springs Park and supporters of expanding the Jefferson Barracks National Cemetery.

St. Louis County stated that there should be limited air, noise, and traffic concerns associated with the Proposed Action, and noted that the St. Louis Economic Development Partnership plan included elements to improve traffic flow to JBNC.

St. Louis County also noted that there are incongruous land use elements adjacent to and in the vicinity of the cemetery and Sylvan Springs Park that potentially could be used for cemetery expansion or land swap.

- **St. Louis County Parks (SLCP)** stated that the Site is located in an area with karst topography and sinkholes and a spring is located at the north adjoining Rock Garden (Beverage Garden). St. Louis County Parks also noted the seasonal drainage (stormwater) at the Site, the potential for Indiana Bat habitat due to mature trees, the Site’s inclusion in the Mississippi Migratory Bird Flyway, the presence of the invasive Bush Honeysuckle, and the historical significance of the north adjoining Rock Garden (Beverage Garden) and associated spring, Jefferson Barracks Park, and the JBNC.

- The **St. Louis Metropolitan Sewer District (MSD)** provided two maps that depict the locations of existing sanitary and storm sewer routes in the Site vicinity and stated that they are not aware of any environmental issues for the Site. MSD stated that they would require several rounds of plan reviews, starting at the 60 percent point of completion.
4.1.3 Native American Consultation

VA is consulting with six Federally-recognized Native American tribes as part of this NEPA process, in accordance with 36 CFR Part 800.2 and EO 13175, Consultation and Coordination with Indian Tribal Governments, 6 November 2000. These tribes, identified as having possible ancestral ties to the area, were invited by VA to participate in the EA process as Sovereign Nations per EO 13175. VA sent a coordination and consultation letter to each of these tribes. A sample letter sent to the tribes is included in Appendix B. Section 10 contains a list of the tribes invited to consult. Written correspondence from the tribes is provided in Appendix B. As of the date of this EA, no tribal responses have been received.
SECTION 5: MANAGEMENT AND MINIMIZATION MEASURES

This section summarizes the management, minimization and mitigation measures, if any, that are proposed to minimize and maintain potential adverse effects of the Preferred Action Alternative at acceptable, less-than-significant levels. A supplemental NEPA analysis will be conducted for the construction and operation of the expanded cemetery in approximately 5 to 10 years, during the Site design. The management, minimization, and avoidance measures in this section would be included into the future process and analysis.

Per established protocols, procedures, and requirements, VA and its contractors would implement BMPs and would satisfy all applicable regulatory requirements in association with the design, construction, and operation of the expanded cemetery at the Site. These “management measures” are described in this EA, and are included as components of the Preferred Action Alternative. “Management measures” are defined as routine BMPs and/or regulatory compliance measures that are regularly implemented as part of proposed activities, as appropriate, across Missouri. In general, implementation of such management measures would maintain impacts at acceptable levels for all resource areas analyzed. These are different from “mitigation measures,” which are defined as project-specific requirements, not routinely implemented as part of development projects, necessary to reduce identified potentially significant adverse environmental impacts to less-than-significant levels.

The routine BMP, management measures and minimization measures summarized in Table 6 would be included in the Preferred Action Alternative to minimize and maintain adverse effects at less-than-significant levels.

<table>
<thead>
<tr>
<th>Technical Resource Area</th>
<th>Best Management Practice/Minimization Measure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aesthetics</td>
<td>Develop the cemetery in concert with the Site’s natural topography. Maintain some natural treed areas.</td>
</tr>
<tr>
<td></td>
<td>Use vegetative buffers to enhance viewscapes, particularly near adjacent residential properties.</td>
</tr>
<tr>
<td></td>
<td>Comply, to the extent practicable, with the development standards of the St. Louis County Code of Ordinances (SLCOO).</td>
</tr>
<tr>
<td>Technical Resource Area</td>
<td>Best Management Practice/Minimization Measure</td>
</tr>
<tr>
<td>-------------------------</td>
<td>-----------------------------------------------</td>
</tr>
<tr>
<td><strong>Air Quality</strong></td>
<td>Complete predemolition asbestos surveys and remove identified asbestos-containing materials (ACM) from Site buildings prior to demolition.</td>
</tr>
<tr>
<td></td>
<td>Use appropriate dust suppression methods (such as the use of water, dust, palliative, covers, suspension of earth moving in high wind conditions) during onsite demolition/construction activities.</td>
</tr>
<tr>
<td></td>
<td>Stabilize disturbed area through re-vegetation or mulching if the area would be inactive for several weeks or longer.</td>
</tr>
<tr>
<td></td>
<td>Implement measures to reduce diesel particulate matter (DPM) emissions from construction equipment, such as reducing idling time and using newer equipment with emissions controls.</td>
</tr>
<tr>
<td></td>
<td>Comply with the applicable Missouri Department of Natural Resources (MDNR) and St. Louis County Air Quality Regulations. Secure any required minor air emissions permits from MDNR, as appropriate and prior to construction.</td>
</tr>
<tr>
<td><strong>Cultural Resources</strong></td>
<td>Complete the Phase I Archaeological Survey report and submit to the Missouri State Historic Preservation Office (SHPO) for review and concurrence.</td>
</tr>
<tr>
<td></td>
<td>Formally determine the Ordnance Shelter’s eligibility for listing on the National Register of Historic Places (NRHP). Complete required Section 106 consultation with SHPO for potential effects to on-site (Ordnance Shelter) and off-site (Beverage Garden) historic properties. Complete a cemetery design that minimizes viewshed impacts on the off-site Beverage Garden. Enter into a Memorandum of Agreement (MOA) under Section 106 of the National Historic Preservation Act with the Advisory Council on Historic Preservation (ACHP), the SHPO and other interested parties to mitigate the adverse impacts associated with the planned demolition of the Ordnance Shelter.</td>
</tr>
<tr>
<td></td>
<td>Should potentially historic or culturally significant items be discovered during project construction, the construction contractor would immediately cease work until VA, a qualified archaeologist, and the SHPO are contacted to properly identify and appropriately treat discovered items in accordance with applicable State and Federal law(s).</td>
</tr>
</tbody>
</table>
Table 6. Best Management Practices and Minimization Measures Incorporated into the Proposed Action (continued)

<table>
<thead>
<tr>
<th>Technical Resource Area</th>
<th>Best Management Practice/Minimization Measure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Geology, Topography, and Soils</td>
<td>Complete a geotechnical evaluation of potential karst conditions and sinkholes at the Site during the cemetery expansion design and development. Surface depressions representing potential sinkholes would be explored and remediated as necessary to stabilize cemetery development areas and to reduce potential future sinkhole development.</td>
</tr>
<tr>
<td>Control soil erosion and sedimentation impacts during construction by implementing erosion prevention measures and complying with the St. Louis Metropolitan Sewer District (MSD) National Pollution Discharge Elimination System (NPDES) permitting process. Implement effective controls per a site-specific Stormwater Pollution Prevention Plan (SWPPP). The NPDES permit would require stormwater runoff and erosion management using BMPs, such as earth berms, vegetative buffers and filter strips, and spill prevention and management techniques. The construction contractor would implement the sedimentation and erosion control measures specified in the NPDES permit and the SWPPP to protect surface water quality.</td>
<td></td>
</tr>
<tr>
<td>Hydrology and Water Quality</td>
<td>Control soil erosion and sedimentation impacts during construction by complying with the MSD NPDES permit and the SWPPP.</td>
</tr>
<tr>
<td>Design cemetery to maintain existing Site drainage, including a buffer of undisturbed land around stormwater drainage channels.</td>
<td></td>
</tr>
<tr>
<td>Improvements would be designed in accordance with the requirements of EO 13514/EISA Section 438 with respect to stormwater runoff quantity and characteristics.</td>
<td></td>
</tr>
<tr>
<td>Ensure the design of the cemetery includes sufficient on-site stormwater management so as not to adversely affect the water quantity/quality in receiving waters and/or offsite areas. Obtain appropriate permits for off-site stormwater discharges.</td>
<td></td>
</tr>
<tr>
<td>Technical Resource Area</td>
<td>Best Management Practice/Minimization Measure</td>
</tr>
<tr>
<td>-------------------------</td>
<td>-----------------------------------------------</td>
</tr>
<tr>
<td><strong>Wildlife and Habitat</strong></td>
<td>Consult with the US Fish and Wildlife Service (USFWS) and conduct seasonal tree clearing (October 15 to March 31) in consultation with USFWS to prevent potential impacts to Indiana Bats and Northern Long-Eared Bats. Tree removal would be timed to avoid impacts to birds protected under the Migratory Bird Treaty Act. Tree removal would be conducted outside the migratory bird nesting season (March 1 through August 31) so that nests are not disturbed. If it is not practical to clear outside of this time frame, a qualified biologist should survey the Site prior to tree and brush clearing to ensure that no active nests are disturbed. Comply, to the extent practicable, with the SLCCO. Native species should be used to the extent practicable when re-vegetating land disturbed by construction to avoid the potential introduction of non-native or invasive species.</td>
</tr>
<tr>
<td><strong>Noise</strong></td>
<td>Coordinate proposed construction activities in advance with adjacent sensitive receptors. Let the local residents know what operations would be occurring at what times, including when they would start and when they would finish each day. Post signage at the entry points of the Site providing current construction information, including schedule and activity. Limit, to the extent possible, construction and associated heavy truck traffic to occur between 8:00 a.m. and 6:00 p.m. on Monday through Friday, or during normal, weekday, work hours. Locate stationary operating equipment as far away from sensitive receptors as possible. Select material transportation routes as far away from sensitive receptors as possible. Shut down noise-generating heavy equipment when it is not needed. Maintain equipment per manufacturer’s recommendations to minimize noise generation. Encourage construction personnel to operate equipment in the quietest manner practicable (e.g., speed restrictions, retarder brake restrictions, engine speed restrictions, etc.).</td>
</tr>
<tr>
<td><strong>Land Use</strong></td>
<td>After acquisition, continue use of the Site as a park until needed for cemetery expansion. Comply, to the extent practicable, with the SLCCO.</td>
</tr>
<tr>
<td><strong>Wetlands, Floodplains, and Coastal Zone Management</strong></td>
<td>None required.</td>
</tr>
<tr>
<td>Technical Resource Area</td>
<td>Best Management Practice/Minimization Measure</td>
</tr>
<tr>
<td>-------------------------</td>
<td>-----------------------------------------------</td>
</tr>
<tr>
<td>Socioeconomics</td>
<td>None required.</td>
</tr>
<tr>
<td>Community Services</td>
<td>After acquisition, continue use of the Site as a park until needed for cemetery expansion.</td>
</tr>
<tr>
<td>Solid and Hazardous Materials</td>
<td>Complete a predemolition asbestos survey and remove identified ACM from Site buildings prior to demolition. Comply with VA Standard Operating Procedures and applicable Federal and State laws governing the use, generation, storage, transportation, and disposal of solid and hazardous materials.</td>
</tr>
<tr>
<td>Transportation and Parking</td>
<td>Work with the Missouri Department of Transportation (MODOT) and St. Louis County, as applicable, during the cemetery expansion design to identify and implement roadway improvements, if necessary. Coordinate with the MODOT and St. Louis County to ensure that construction and operational traffic are considered in the planning of future transportation improvements in this vicinity. Ensure demolition and construction activities do not adversely affect traffic flow on local roadways; construction would be timed to avoid peak travel hours. Ensure debris and/or soil is not deposited on local roadways during the demolition and construction activities.</td>
</tr>
<tr>
<td>Utilities</td>
<td>Complete a Site design that retains existing stormwater drainage channels and includes new stormwater management features, as necessary, so as to not adversely affect water quality/quantity in receiving waters or off-site areas. Obtain appropriate permits for stormwater discharges. Submit detailed design plans to each utility provider to determine the specific connection/extension requirements and implement the necessary requirements.</td>
</tr>
<tr>
<td>Environmental Justice</td>
<td>None required.</td>
</tr>
</tbody>
</table>
SECTION 6: SUMMARY AND CONCLUSIONS

This Draft EA evaluates VA’s Proposed Action to acquire land adjacent to the existing JBNC, located at 2900 Sheridan Road, in an unincorporated area of St. Louis County, Missouri, for the future expansion of the cemetery. This EA discusses two alternatives: (1) **Preferred Action Alternative** – Acquire approximately 33.6 acres of land adjacent to the north of the JBNC that is associated with southern portion of the 70-acre Sylvan Springs County Park for the future expansion of the JBNC; and (2) the **No Action Alternative**. This EA evaluates possible effects to aesthetics; air quality; cultural resources; geology and soils; hydrology and water quality; wildlife and habitat; noise; land use; floodplains, wetlands, and coastal zone management; socioeconomics; community services; solid and hazardous materials; transportation and parking; utilities; and environmental justice.

This EA assesses the potential effects of acquiring the Site for the ultimate expansion of the JBNC, and preliminarily assesses the effects of the future proposed construction and operation of the cemetery on the Site. Potential effects of the construction and operation of the proposed expanded JBNC on the Site will be reanalyzed and reevaluated in a supplemental NEPA analysis concurrent with Site design. It is anticipated that cemetery design and initial development would begin in approximately 4 to 7 years. The management and minimization measures identified in this EA would be incorporated into that future process and analysis.

Table 7 provides a summary of the characteristics and potential environmental effects associated with the Preferred Action Alternative.

<table>
<thead>
<tr>
<th>Technical Resource Area</th>
<th>Preferred Action Alternative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aesthetics</td>
<td>Approximately 33.6 acres of mostly unimproved grassy land with moderate amounts of mostly mature trees, two pavilions, a small closed concession stand, and paved and gravel covered parking lots. Mixed use area consisting of residential and limited commercial properties (east and west), the JBNC (south), and the remainder of Sylvan Springs Park (north). No significant grade changes are anticipated. Some natural treed areas would be preserved. Landscaping would be installed along eastern boundary to reduce visual impacts to adjacent residents.</td>
</tr>
<tr>
<td></td>
<td>Less-than-significant Impacts</td>
</tr>
<tr>
<td>Air Quality</td>
<td>Short-term impacts due to construction dust and particulate matter (managed through BMPs) and long-term due to vehicle emissions (similar to existing conditions).</td>
</tr>
<tr>
<td></td>
<td>Less-than-significant Impacts</td>
</tr>
</tbody>
</table>
Table 7. Summary of Site Characteristics and Potential Impacts Associated with the Preferred Action Alternative (continued)

<table>
<thead>
<tr>
<th>Technical Resource Area</th>
<th>Preferred Action Alternative</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cultural Resources</strong></td>
<td>Two features at Sylvan Springs Park (on-site 1952 Ordnance Shelter and north-adjacent 1939 Beverage Garden) were recommended for consideration for listing on the NRHP as historic properties. An archaeological survey of the Site did not identify any archaeological resources potentially eligible for listing on the NRHP. Consultation with SHPO is ongoing.</td>
</tr>
<tr>
<td></td>
<td>The Ordnance Shelter would likely be demolished for the cemetery development. VA would enter into a MOA to mitigate effects of the demolition. Indirect viewshed impacts to Beverage Garden would be less than significant due to similar park-like setting of the cemetery. Viewshed impact minimization measures would be included in the site design.</td>
</tr>
<tr>
<td></td>
<td>Less-than-significant Impacts</td>
</tr>
<tr>
<td><strong>Geology, Topography, and Soils</strong></td>
<td>Site slopes from the eastern and western boundaries toward the center of the Site, and then slopes gently toward the south. Soil erosion and sediment impacts would be managed through BMPs.</td>
</tr>
<tr>
<td></td>
<td>Site is underlain by areas with a significant karst potential and known, filled sinkholes. Potential sinkholes would be geotechnically investigated and remediated (if necessary) during site design and construction.</td>
</tr>
<tr>
<td></td>
<td>Less-than-significant Impacts</td>
</tr>
<tr>
<td><strong>Hydrology and Water Quality</strong></td>
<td>No surface water features are located on the Site. A natural spring is located approximately 50 feet north of the Site, flows over land to a culvert/storm sewer inlet near the northern Site boundary, flows entirely below ground beneath the central portion of the Site, and discharges to a tributary of Martigney Creek approximately 400 feet south of the Site at JBNC. Stormwater from the Site and adjacent properties flows through engineered and natural channels to the central portion of the Site and discharges to the central storm sewer through a series of inlets. Cemetery design would retain existing stormwater drainage features and include new features, as necessary, so as not to adversely affect water quantity/quality of receiving waters or off-site areas.</td>
</tr>
<tr>
<td></td>
<td>Stormwater runoff during construction and CBOC operations would be managed through BMPs.</td>
</tr>
<tr>
<td></td>
<td>Less-than-significant Impacts</td>
</tr>
<tr>
<td><strong>Wildlife and Habitat</strong></td>
<td>Site is primarily unimproved grassy land with a moderate amount of mostly mature trees. The Site may support the presence of Indiana Bats and Northern Long-Eared Bats as summer roosting and foraging habitat. Tree clearing would be conducted during off-site bat hibernation (October 15 to March 31) in consultation with USFWS to prevent potential impacts to protected bats.</td>
</tr>
<tr>
<td></td>
<td>Less-than-significant Impacts</td>
</tr>
</tbody>
</table>
Table 7. Summary of Site Characteristics and Potential Impacts Associated with the Preferred Action Alternative (continued)

<table>
<thead>
<tr>
<th>Technical Resource Area</th>
<th>Preferred Action Alternative</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Noise</strong></td>
<td>Short-term noise impacts during cemetery development activities controlled through construction BMPs. Minor operational impacts associated with vehicle traffic and intermittent ceremonial rifle fire during weekday business hours. Less-than-significant Impacts</td>
</tr>
<tr>
<td><strong>Land Use</strong></td>
<td>Site is located in a mixed use area consisting of residential and commercial uses, park land, and the JBNC. Site consists of the southern, underutilized section of Sylvan Springs Park. Restrooms and concession stand have been abandoned/closed since 2013. Primary park amenities are located in the off-site, northern portion of the park, not to be acquired or disturbed by VA. Site is currently zoned Park and Scenic. Cemeteries are not a listed permitted use under the current zoning designation for the Site; however, the Site has been offered to VA by St. Louis County for the intended use as a cemetery. Conversion of the Site to cemetery use is part of the St. Louis County Department of Parks master plan. Site would remain a park until needed by VA for cemetery expansion. Less-than-significant Impacts</td>
</tr>
<tr>
<td><strong>Wetlands, Floodplains, and Coastal Zone Management</strong></td>
<td>No wetlands or floodplains located on-site or adjacent to the Site. St. Louis County is not located within a coastal zone. No/Negligible Impact</td>
</tr>
<tr>
<td><strong>Socioeconomics</strong></td>
<td>Minor beneficial impacts to local economy as a result of temporary construction jobs. Long-term significant beneficial socioeconomic impacts by providing a regionally proximate National Cemetery of sufficient size to US Veterans and their families.</td>
</tr>
<tr>
<td><strong>Community Services</strong></td>
<td>Community services provided to the Site area. Expanded JBNC would not put a significant additional load on these services. Conversion of the Site from park to a cemetery would reduce recreational facilities in the area. However, southern (Site) portion of Sylvan Springs Park is underutilized and does not include primary park amenities. Less-than-significant Impacts</td>
</tr>
</tbody>
</table>
Table 7. Summary of Site Characteristics and Potential Impacts Associated with the Preferred Action Alternative (continued)

<table>
<thead>
<tr>
<th>Technical Resource Area</th>
<th>Preferred Action Alternative</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Solid and Hazardous Materials</strong></td>
<td>The Site area was used as a temporary military camp in 1826 and was part of the 1,700-acre Jefferson Barracks military reservation from 1826 to 1950, but remained largely unused wooded land until 1939/early 1940s, when the Site area was developed with military recreational facilities. Barracks were also located on the eastern portion of the Site in the 1940s and early 1950s. The Site was transferred from the Federal Government to St. Louis County in 1950 and has been used as the Sylvan Springs County Park since 1954. No evidence of current or former significant petroleum or hazardous materials use, storage or handling identified. Phase I ESA of the Site identified no RECs. Potential impacts from petroleum/hazardous substance handling during construction and operation would be managed through standard BMPs and VA SOPs. ACM, if present, would be removed from buildings prior to demolition. Less-than-significant Impacts</td>
</tr>
<tr>
<td><strong>Transportation and Parking</strong></td>
<td>Primary access to the Site and JBNC is provided by Sheridan Road, via Telegraph Road. The main entrance to the JBNC is located along the southern side of Sheridan Road, near the Site’s southeastern corner. Cemetery traffic would continue to use this entrance and a new entrance north from Sheridan Road to the Site when the expanded cemetery would be developed. Traffic volumes and patterns are anticipated to be similar to those that currently exist at the JBNC. Expanded JBNC would include adequate on-site parking. The current parking lot in the northern portion of the Site, used by visitors to the off-site skate park and Beverage Garden would be eliminated. However, the off-site parking lot along the northwestern side of the skate park would remain available for off-site park users in this area. Less-than-significant Impacts</td>
</tr>
<tr>
<td><strong>Utilities</strong></td>
<td>Utilities likely adequate for the proposed expanded cemetery already located at the Site and/or surrounding area. Primary utility demand, irrigation water, would be obtained from the existing JBNC irrigation system, supplied by an existing irrigation well at JBNC. Less-than-significant Impacts</td>
</tr>
<tr>
<td><strong>Environmental Justice</strong></td>
<td>Site is located in an area with a larger than average low-income population. The Proposed Action would have only minor impacts on the residents in the area. Less-than-significant Impacts</td>
</tr>
</tbody>
</table>
SECTION 7: LIST OF PREPARERS

DEPARTMENT OF VETERANS AFFAIRS STAFF

Mr. Glenn Elliott  
Environmental Engineer  
Department of Veterans Affairs  
Office of Construction and Facilities Management

Mr. Glenn Madderom  
Chief, Cemetery Development & Improvement Service  
Department of Veterans Affairs  
National Cemetery Administration

Ms. Caitlin Cunningham  
Project Manager  
Department of Veterans Affairs  
CFM, Office of Real Property

TTL ASSOCIATES, INC. (CONSULTANTS)

<table>
<thead>
<tr>
<th>Name</th>
<th>Role</th>
<th>Degree</th>
<th>Years of Experience</th>
</tr>
</thead>
<tbody>
<tr>
<td>Robin J. Clark</td>
<td>Project Manager, Site Reconnaissance, Technical Lead Technical QA/QC Review, Program Management/Project Coordination</td>
<td>B.S., Aquatic Environments/Environmental Science, 1985</td>
<td>32</td>
</tr>
</tbody>
</table>
SECTION 8: REFERENCES CITED

ALTA/NSPS Land Title Survey, May 2018.
Association of Natural Burials, 2011 and 2012.
City of St. Louis, Missouri, 2018.
Council on Environmental Quality. 40 CFR Parts 1500-1508, Regulations for Implementing the
Procedural Provisions of the National Environmental Policy Act (NEPA).
End of Fieldwork Memorandum, Phase I Archeological Survey in Support of the Proposed Jefferson
Barracks National Cemetery Expansion Project, St. Louis County, Missouri, Environmental
Research Group, LLC (ERG), June 29, 2018.
EO 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income
EO 13175, Consultation and Coordination with Indian Tribal Governments. 6 November, 2000.
Federal Emergency Management Agency (FEMA), Flood Insurance Rate Map No. 26161C0262E, dated
3 April 2012.
Transportation, Federal Highway Administration.
Initial Cultural Resources Impact Prediction for the Proposed Expansion of the Jefferson Barracks
National Cemetery into Sylvan Springs Park, St. Louis County, Missouri, R. Christopher Goodwin
Missouri Department of Conservation, 2018.
Missouri Department of Natural Resources: Division of Environmental Quality, Air Pollution Control
Program, Environmental Services Program, Hazardous Waste Program, Water Protection
Missouri Department of Transportation, 2018.
Phase I Environmental Site Assessment, St. Louis National Cemetery Division, Jefferson Barracks
Cemetery, Sylvan Springs Park, Environmental and Facility Consulting, LLC (EFC), April 25,
2012.
St. Louis County, Missouri, 2018.
REFERENCES CITED

U.S. Environmental Protection Agency (USEPA), 2018.
U.S. Fish and Wildlife Service (USFWS), 2018.
USFWS National Wetlands Inventory Online Mapper, 2018.

Other internet searches and data (accessed June 2018-August 2018):

City of St. Louis: https://www.stlouis-mo.gov/
St. Louis County: https://www.stlouisco.com/
East-West Gateway Council of Governments: https://www.ewgateway.org/
Missouri Department of Natural Resources: https://dnr.mo.gov/
Missouri Department of Transportation: www.modot.org/
Missouri Department of Conservation: https://mdc.mo.gov/
US Army Corps of Engineers: http://www.usace.army.mil
National Wetlands Inventory: https://www.fws.gov/wetlands/Data/mapper.html
FEMA Flood Hazard Insurance Map: http://msc.fema.gov/portal
US Environmental Protection Agency: https://www.epa.gov
US Fish and Wildlife Service: https://www.fws.gov
Various mapping tools: www.maps.google.com, www.google.earth.com, etc.
## SECTION 9: LIST OF ACRONYMS AND ABBREVIATIONS

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>ACA</td>
<td>Air Compliance Assurance</td>
</tr>
<tr>
<td>ACHP</td>
<td>Advisory Council on Historic Preservation</td>
</tr>
<tr>
<td>ADA</td>
<td>Americans with Disabilities Act of 1990</td>
</tr>
<tr>
<td>AIRFA</td>
<td>American Indian Religious Freedom Act</td>
</tr>
<tr>
<td>amsl</td>
<td>above mean sea level</td>
</tr>
<tr>
<td>ARPA</td>
<td>Archaeological Resources Protection Act</td>
</tr>
<tr>
<td>AST</td>
<td>Aboveground Storage Tank</td>
</tr>
<tr>
<td>BEA</td>
<td>Bureau of Economic Analysis</td>
</tr>
<tr>
<td>BMP</td>
<td>Best Management Practice</td>
</tr>
<tr>
<td>CAA</td>
<td>Clean Air Act</td>
</tr>
<tr>
<td>CERCLA</td>
<td>Comprehensive Environmental Response, Compensation, and Liability Act</td>
</tr>
<tr>
<td>CEQ</td>
<td>Council on Environmental Quality</td>
</tr>
<tr>
<td>CFR</td>
<td>Code of Federal Regulations</td>
</tr>
<tr>
<td>CMP</td>
<td>Coastal Management Program</td>
</tr>
<tr>
<td>CO</td>
<td>Carbon Monoxide</td>
</tr>
<tr>
<td>CWA</td>
<td>Clean Water Act</td>
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<tr>
<td>CZMA</td>
<td>Coastal Zone Management Act</td>
</tr>
<tr>
<td>E&amp;S</td>
<td>Erosion and Sedimentation</td>
</tr>
<tr>
<td>EA</td>
<td>Environmental Assessment</td>
</tr>
<tr>
<td>EDR</td>
<td>Environmental Data Resources</td>
</tr>
<tr>
<td>EIS</td>
<td>Environmental Impact Statement</td>
</tr>
<tr>
<td>EO</td>
<td>Executive Order</td>
</tr>
<tr>
<td>ERP</td>
<td>Environmental Resource Permit</td>
</tr>
<tr>
<td>ESA</td>
<td>Endangered Species Act</td>
</tr>
<tr>
<td>EWGCOG</td>
<td>East-West Gateway Council of Governments</td>
</tr>
<tr>
<td>FEMA</td>
<td>Federal Emergency Management Agency</td>
</tr>
<tr>
<td>FIRM</td>
<td>Flood Insurance Rate Map</td>
</tr>
<tr>
<td>FONSI</td>
<td>Finding of No Significant Impact</td>
</tr>
<tr>
<td>FPPA</td>
<td>Farmland Protection Policy Act</td>
</tr>
<tr>
<td>HAP</td>
<td>Hazardous Air Pollutant</td>
</tr>
<tr>
<td>IICEP</td>
<td>Interagency and Intergovernmental Coordination for Environmental Planning</td>
</tr>
<tr>
<td>LOS</td>
<td>Level of Service</td>
</tr>
<tr>
<td>MDC</td>
<td>Missouri Department of Conservation</td>
</tr>
<tr>
<td>MDNR</td>
<td>Missouri Department of Natural Resources</td>
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<tr>
<td>MDOT</td>
<td>Missouri Department of Transportation</td>
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<tr>
<td>NAAQS</td>
<td>National Ambient Air Quality Standards</td>
</tr>
<tr>
<td>NAGPRA</td>
<td>Native American Graves Protection and Repatriation Act</td>
</tr>
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<td>NEPA</td>
<td>National Environmental Policy Act of 1969</td>
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<td>NHPA</td>
<td>National Historic Preservation Act</td>
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<tr>
<td>NOA</td>
<td>Notice of Availability</td>
</tr>
<tr>
<td>NOAA</td>
<td>National Oceanic and Atmospheric Association</td>
</tr>
<tr>
<td>NOx</td>
<td>Nitrogen Oxides</td>
</tr>
<tr>
<td>NPDES</td>
<td>National Pollution Discharge Elimination System</td>
</tr>
<tr>
<td>NPS</td>
<td>National Park Service</td>
</tr>
<tr>
<td>NRCS</td>
<td>Natural Resources Conservation Service</td>
</tr>
<tr>
<td>NRHP</td>
<td>National Register of Historic Places</td>
</tr>
<tr>
<td>NWI</td>
<td>National Wetland Inventory</td>
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<tr>
<td>O3</td>
<td>Ozone</td>
</tr>
<tr>
<td>OSHA</td>
<td>Occupational Safety and Health Administration</td>
</tr>
<tr>
<td>Pb</td>
<td>Lead</td>
</tr>
<tr>
<td>PBF</td>
<td>Public Buildings and Facilities</td>
</tr>
<tr>
<td>PM</td>
<td>Particulate matter</td>
</tr>
<tr>
<td>ppm</td>
<td>parts per million</td>
</tr>
<tr>
<td>PTE</td>
<td>Potential to emit</td>
</tr>
<tr>
<td>RCRA</td>
<td>Resource Conservation and Recovery Act</td>
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<td>RI</td>
<td>Remedial Investigation</td>
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<td>ROD</td>
<td>Record of Decision</td>
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<tr>
<td>RONA</td>
<td>Record of Non-applicability</td>
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<td>SFHA</td>
<td>Special Flood Hazard Area</td>
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<tr>
<td>SHPO</td>
<td>State Historic Preservation Office</td>
</tr>
<tr>
<td>SIP</td>
<td>State Implementation Plan</td>
</tr>
<tr>
<td>SLCDP</td>
<td>St. Louis County Department of Planning</td>
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<tr>
<td>SLCDPH</td>
<td>St. Louis County Department of Public Health</td>
</tr>
<tr>
<td>Acronym</td>
<td>Description</td>
</tr>
<tr>
<td>-----------</td>
<td>--------------------------------------------------</td>
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<tr>
<td>SLCDPW</td>
<td>St. Louis County Department of Public Works</td>
</tr>
<tr>
<td>SLCPRD</td>
<td>St. Louis County Parks and Recreation Department</td>
</tr>
<tr>
<td>SLCDOT</td>
<td>St. Louis County Department of Transportation</td>
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<tr>
<td>SLMSD</td>
<td>St. Louis Metropolitan Sewer District</td>
</tr>
<tr>
<td>SLWD</td>
<td>St. Louis Water Division</td>
</tr>
<tr>
<td>SO$_2$</td>
<td>Sulfur dioxide</td>
</tr>
<tr>
<td>SWPPP</td>
<td>Storm Water Pollution Prevention Plan</td>
</tr>
<tr>
<td>TPY</td>
<td>Tons per year</td>
</tr>
<tr>
<td>USACE</td>
<td>United States Army Corps of Engineers</td>
</tr>
<tr>
<td>USC</td>
<td>United States Code</td>
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<td>United States Environmental Protection Agency</td>
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<td>USFWS</td>
<td>United States Fish and Wildlife Service</td>
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<td>USGS</td>
<td>United States Geological Survey</td>
</tr>
<tr>
<td>VA</td>
<td>Department of Veterans Affairs</td>
</tr>
</tbody>
</table>
### Section 10: Agencies and Individuals Consulted

#### Agencies Consulted

<table>
<thead>
<tr>
<th>Agency Name</th>
<th>Office Name</th>
<th>Address</th>
<th>Phone Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>US Fish and Wildlife Service</td>
<td>Missouri Ecological Services Field Office</td>
<td>101 Park Deville Drive, Suite A</td>
<td>(573) 234-2132</td>
</tr>
<tr>
<td>US Environmental Protection Agency, Region 7</td>
<td></td>
<td>11201 Renner Boulevard, Lenexa, Kansas 66219</td>
<td>(913) 551-7003</td>
</tr>
<tr>
<td>US Army Corps of Engineers – St. Louis District</td>
<td>Regulatory Division</td>
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*Draft Environmental Assessment
Proposed Jefferson Barracks National Cemetery Expansion
St. Louis County, Missouri
August 2018*
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Native American Tribes Consulted

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SECTION 11: LIST OF ENVIRONMENTAL PERMITS REQUIRED

11.1 Regulatory Framework

This EA has been prepared under the provisions of, and in accordance with the NEPA, the CEQ Regulations Implementing the Procedural Provisions of NEPA, and 38 CFR Part 26. In addition, the EA has been prepared as prescribed in VA’s NEPA Interim Guidance for Projects (VA 2010b). Federal, State, and local laws and regulations specifically applicable to this Proposed Action are specified, where appropriate, within this EA, and include:

- Endangered Species Act (ESA) of 1973, as amended (7 USC 136; 16 USC 1531 et seq.).
- Executive Order 12898, Environmental Justice (11 February 1994).
- Farmland Protection Policy Act (FPPA) (7 USC 4201, et seq.)
- Federal Clean Air Act (CAA) of 1990 (42 USC 7401 et seq., as amended).
- Federal Clean Water Act (Federal Water Pollution Control Act) of 1948, as amended (1972, 1977) (33 USC 1251 et seq.); Sections 401 and 404.
• Native American Graves Protection and Repatriation Act, as amended (NAGPRA) (25 USC 3001 et seq.).

• National Historic Preservation Act (NHPA) of 1966, as amended (36 CFR Part 800).

• MDNR Air Quality Regulations.

• MDNR Water Protection Regulations.

• St. Louis County Code of Ordinances.

11.2 Environmental Permits Required

In addition to the regulatory framework of the NEPA, the CEQ Regulations Implementing the Procedural Provisions of NEPA, 38 CFR Part 26, and VA’s NEPA Interim Guidance for Projects, the following Federal, State, and/or local environmental permits are required as part of this Proposed Action, and include:

• St. Louis Metropolitan Sewer District, National Pollution Discharge Elimination System.

• MDNR Water Protection Program Land Disturbance Permit.
SECTION 12: GLOSSARY

100-Year Flood – A flood event of such magnitude that it occurs, on average, every 100 years; this equates to a one percent chance of its occurring in a given year.

Aesthetics – Pertaining to the quality of human perception of natural beauty.

Ambient - The environment as it exists around people, plants, and structures.

Ambient Air Quality Standards - Those standards established according to the CAA to protect health and welfare (AR 200-1).

Aquifer - An underground geological formation containing usable amounts of groundwater which can supply wells and springs.

Asbestos - Incombustible, chemical-resistant, fibrous mineral forms of impure magnesium silicate used for fireproofing, electrical insulation, building materials, brake linings, and chemical filters. Asbestos is a carcinogenic substance.

Attainment Area - Region that meets the National Ambient Air Quality Standard (NAAQS) for a criteria pollutant under the CAA.

Bedrock - The solid rock that underlies all soil, sand, clay, gravel and loose material on the earth's surface.

Best Management Practices (BMPs) - Methods, measures, or practices to prevent or reduce the contributions of pollutants to U.S. waters. Best management practices may be imposed in addition to, or in the absence of, effluent limitations, standards, or prohibitions (AR 200-1).

Commercial land use – Land use that includes private and public businesses (retail, wholesale, etc.), institutions (schools, churches, etc.), health services (hospitals, clinics, etc.), and military buildings and installations.

Compaction - The packing of soil together into a firmer, denser mass, generally caused by the pressure of great weight.

Contaminants - Any physical, chemical, biological, or radiological substances that have an adverse effect on air, water, or soil.

Council on Environmental Quality (CEQ) - An Executive Office of the President composed of three members appointed by the President, subject to approval by the Senate. Each member shall be exceptionally qualified to analyze and interpret environmental trends, and to appraise programs and activities of the Federal Government. Members are to be conscious of and responsive to the scientific, economic, social, aesthetic, and cultural needs of the Nation; and to formulate and recommend national policies to promote the improvement of the quality of the environment.

Criteria Pollutants - The CAA of 1970 required the USEPA to set air quality standards for common and widespread pollutants in order to protect human health and welfare. There are six "criteria pollutants": ozone (O₃), carbon monoxide (CO), sulfur dioxide (SO₂), lead (Pb), nitrogen dioxide (NO₂), and particulate matter.

Cultural Resources - The physical evidence of our Nation's heritage. Included are: archaeological sites; historic buildings, structures, and districts; and localities with social significance to the human community.

Cumulative Impact - The impact on the environment that results from the incremental impact of the action when added to other past, present, and reasonable foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time (40 CFR 1508.7).

Decibel (dB) - A unit of measurement of sound pressure level.

Direct Impact - A direct impact is caused by a Proposed Action and occurs at the same time and place.

Emission - A release of a pollutant.

Endangered Species - Any species which is in danger of extinction throughout all or a significant portion of its range.

Environmental Assessment (EA) - An EA is a publication that provides sufficient evidence and analyses to show whether a proposed system will adversely affect the environment or be environmentally controversial.
Erosion - The wearing away of the land surface by detachment and movement of soil and rock fragments through the action of moving water and other geological agents.

Farmland - Cropland, pastures, meadows, and planted woodland.

Fauna - Animal life, especially the animal characteristics of a region, period, or special environment.

Flora - Vegetation; plant life characteristic of a region, period, or special environment.

Floodplain - The relatively flat area or lowlands adjoining a river, stream, ocean, lake, or other body of water that is susceptible to being inundated by floodwaters.

FONSI - Finding of No Significant Impact, a NEPA document.

Fugitive Dust - Particles light enough to be suspended in air, but not captured by a filtering system. For this document, this refers to particles put in the air by moving vehicles and air movement over disturbed soils at construction sites.

Geology - Science which deals with the physical history of the earth, the rocks of which it is composed, and physical changes in the earth.

Groundwater - Water found below the ground surface. Groundwater may be geologic in origin and as pristine as it was when it was entrapped by the surrounding rock or it may be subject to daily or seasonal effects depending on the local hydrologic cycle. Groundwater may be pumped from wells and used for drinking water, irrigation, and other purposes. It is recharged by precipitation or irrigation water soaking into the ground. Thus, any contaminant in precipitation or irrigation water may be carried into groundwater.

Hazardous Substance - Hazardous materials are defined within several laws and regulations to have certain meanings. For this document, a hazardous material is any one of the following:

Any substance designated pursuant to section 311 (b)(2)(A) of the Clean Water Act.

Any element, compound, mixture, solution, or substance designated pursuant to Section 102 of Comprehensive Environmental Response, Compensation and Liability Act (CERCLA).

Any hazardous substance as defined under the Resource Conservation and Recovery Act (RCRA).

Any toxic pollutant listed under TSCA.

Any hazardous air pollutant listed under Section 112 of CAA.

Any imminently hazardous chemical substance or mixture with respect to which the EPA Administrator has taken action pursuant to Subsection 7 of TSCA.

The term does not include: 1) Petroleum, including crude oil or any thereof, which is not otherwise specifically listed or designated as a hazardous substance in a above. 2) Natural gas, natural gas liquids, liquefied natural gas, or synthetic gas usable for fuel (or mixtures of natural gas and such synthetic gas). A list of hazardous substances is found in 40 CFR Part 302.4.

Hazardous Waste - A solid waste which, when improperly treated, stored, transported, or disposed of, poses a substantial hazard to human health or the environment. Hazardous wastes are identified in 40 CFR Part 261.3 or applicable foreign law, rule, or regulation.

Hazardous Waste Storage - As defined in 40 CFR Part 260.10. “...the holding of hazardous waste for a temporary period, at the end of which the hazardous waste is treated, disposed of, or stored elsewhere”.

Hydric Soil - A soil that is saturated, flooded, or ponded long enough during the growing season to develop anaerobic (oxygen-lacking) conditions that favor the growth and regeneration of hydrophytic vegetation. A wetland indicator.

Indirect Impact - An indirect impact is caused by a Proposed Action that occurs later in time or farther removed in distance, but is still reasonably foreseeable. Indirect impacts may include induced changes in the pattern of land use, population density or growth rate, and related effects on air, water, and other natural and social systems. For example, referring to the possible direct impacts described above, the clearing of trees for new development may have an indirect impact on area wildlife by decreasing available habitat.

Industrial Land Use – Land uses of a relatively higher intensity that are generally not compatible with residential development. Examples include light and heavy manufacturing, mining, and chemical refining.

Isolated Wetland – Areas that meet the wetland hydrology, vegetation, and hydric soil characteristics, but do not have a direct connection to the Waters of the US.

Jurisdictional Wetland – Areas that meet the wetland hydrology, vegetation, and hydric soil characteristics, and have a direct connection to the Waters of the US. These wetlands are regulated by the USACE.
Listed Species - Any plant or animal designated as a State or Federal threatened, endangered, special concern, or candidate species.

Mitigation - Measures taken to reduce adverse impacts on the environment.

Mobile Sources - Vehicles, aircraft, watercraft, construction equipment, and other equipment that use internal combustion engines for energy sources.

Monitoring - A process of inspecting and recording the progress of mitigation measures implemented.

National Ambient Air Quality Standards (NAAQS) - Nationwide standards set up by the USEPA for widespread air pollutants, as required by Section 109 of the Clean Air Act (CAA). Currently, six pollutants are regulated by primary and secondary NAAQS: carbon monoxide (CO), lead (Pb), nitrogen dioxide (NO₂), ozone (O₃), particulate matter, and sulfur dioxide (SO₂).

National Environmental Policy Act (NEPA) - U.S. statute that requires all Federal agencies to consider the potential effects of Proposed Actions on the human and natural environment.

Non-attainment Area - An area that has been designated by the EPA or the appropriate State air quality agency as exceeding one or more National or State ambient air quality standards.

Parcel - A plot of land, usually a division of a larger area.

Particulates or Particulate Matter - Fine liquid or solid particles such as dust, smoke, mist, fumes, or smog found in air.

Physiographic Region - A portion of the Earth's surface with a basically common topography and common morphology.

Pollutant - A substance introduced into the environment that adversely affects the usefulness of a resource.

Potable Water - Water which is suitable for drinking.

Prime Farmland - A special category of highly productive cropland that is recognized and described by the US Department of Agriculture's Soil Conservation Service and receives special protection under the Surface Mining Law.

Remediation - A long-term action that reduces or eliminates a threat to the environment.

Riparian Areas - Areas adjacent to rivers and streams that have a high density, diversity, and productivity of plant and animal species relative to nearby uplands.

River Basin - The land area drained by a river and its tributaries.

Sensitive Receptors - Include, but are not limited to, asthmatics, children, and the elderly, as well as specific facilities, such as long-term health care facilities, rehabilitation centers, convalescent centers, retirement homes, residences, schools, playgrounds, and childcare centers.

Significant Impact - According to 40 CFR Part 1508.27, “significance” as used in NEPA requires consideration of both context and intensity.

Context. The significance of an action must be analyzed in several contexts such as society as a whole (human, national), the affected region, the affected interests, and the locality. Significance varies with the setting of the Proposed Action. For instance, in the case of a site-specific action, significance would usually depend upon the effects in the locale rather than in the world as a whole. Both short- and long-term effects are relevant.

Intensity. This refers to the severity of impact. Responsible officials must bear in mind that more than one agency may make decisions about partial aspects of a major action.

Small quantity generator - A generator who generates greater than 220 pounds but less than 2,200 pounds of hazardous waste in a calendar month and who does not accumulate more than 13,200 pounds of hazardous waste at any one time (if either threshold is exceeded, the generator becomes a large quantity generator). A small quantity generator may accumulate hazardous waste up to 180 days from the accumulation start date.

Soil - The mixture of altered mineral and organic material at the earth's surface that supports plant life.

Solid Waste - Any discarded material that is not excluded by section 261.4(a) or that is not excluded by variance granted under sections 260.30 and 260.31.

Threatened species - Any species that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.

Topography - The relief features or surface configuration of an area.

Toxic Substance - A harmful substance which includes elements, compounds, mixtures, and materials of complex composition.

Waters of the United States - Include the following: (1) All waters which are currently being used, were used in the past, or may be susceptible to use in interstate or foreign
commerce, including all waters which are subject to the ebb and flow of the tide. (2) All interstate waters including interstate wetlands. (3) All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds; the use, degradation or destruction of which could affect interstate or foreign commerce.

**Watershed** - The region draining into a particular stream, river, or entire river system.

**Wetlands** - Areas that are regularly saturated by surface or groundwater and, thus, are characterized by a prevalence of vegetation that is adapted for life in saturated soil conditions. Examples include swamps, bogs, fens, marshes, and estuaries.

**Wildlife Habitat** - Set of living communities in which a wildlife population lives.