SITE-SPECIFIC ENVIRONMENTAL ASSESSMENT – PHASE 2

Proposed Construction and Operation of the
Cape Canaveral National Cemetery
Mims, Brevard County, Florida

Department of Veterans Affairs
425 1 Street, NW
Washington, DC 20001
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SITE-SPECIFIC ENVIRONMENTAL ASSESSMENT ABSTRACT

LEAD AGENCY: Department of Veterans Affairs (VA)

COOPERATING AGENCIES: None

TITLE OF PROPOSED ACTION: Proposed Cape Canaveral National Cemetery – Phase 2

AFFECTED JURISDICTION: Brevard County, Florida

POINT OF CONTACT: Fernando Fernandez, VA Environmental Engineer, 425 I Street NW, Room 6W317D, Washington, DC 20001; Comm. Tel.: (202) 632-5529

PROONENTS: VA

DOCUMENT DESIGNATION: Final Public Draft Site-Specific Environmental Assessment (SEA)

ABSTRACT: This Site-Specific Environmental Assessment (SEA) analyzes the potential environmental effects of the Department of Veterans Affairs (VA) Proposed Action to construct and operate Phase 2 of the National Cemetery on approximately 52-acres of the overall 318-acre Cape Canaveral National Cemetery (CCNC) site in Scottsmoor, an unincorporated community located in Brevard County, Florida. This Mims site was chosen because it was the only location that met the site selection screening criteria as described in the Final Programmatic Environmental Assessment of the Proposed Site Selection, Construction, and Operation of the East Central Florida National Cemetery completed by VA on July 17, 2012 (Final PEA), as part of the National Cemetery site acquisition process.

This SEA evaluates two preliminary design alternatives: 1) the Preferred Action Alternative (i.e., Proposed Action) – implement VA’s proposed Phase 2 design, and 2) the No Action Alternative - do not develop Phase 2 of National Cemetery at this site.

This SEA was derived from the Final PEA (VA 2012a) and consistent with the May 2014 SEA which included the construction and operation of Phase 1. The Final PEA specified that VA would prepare a SEA to more precisely analyze and evaluate the potential effects of the construction and operation of the proposed National Cemetery at the selected site when site-specific design information became available. The Final PEA also identified environmental Best Management Practices (BMPs) to minimize and mitigate potential impacts. These BMPs have been subsequently incorporated into VA’s site-specific Proposed Action.

This Phase 2 SEA evaluates possible effects to aesthetics; air quality; geology, topography and soils; water resources; wildlife and habitat; noise; solid and hazardous materials; transportation and parking; and utilities. Technical resource areas that VA sufficiently analyzed through the Final PEA process and therefore do not require further analysis in this SEA include cultural resources, land use, socioeconomics, community services, and environmental justice.

This Phase 2 SEA concludes there would be no significant direct, indirect, or cumulative adverse effect on the local environment or quality of life associated with implementing the Preferred Action Alternative as summarized in Table 2 in Chapter 5.
EXECUTIVE SUMMARY

This Site-Specific Environmental Assessment (SEA) is derived from the Final Programmatic Environmental Assessment of the Proposed Site Selection, Construction, and Operation of the East Central Florida National Cemetery completed by VA on July 17, 2012 (Final PEA) for site acquisition. The Final PEA analyzed the potential environmental effects of acquiring the Mims Site for the construction and operation of a National Cemetery. The Final PEA identified that VA would prepare a subsequent SEA to more precisely analyze and evaluate the potential effects of the Proposed Action when site-specific design information became available. The Final PEA also identified environmental best management practices (BMPs) to minimize and mitigate potential impacts. These BMPs have been subsequently incorporated into VA’s site-specific Proposed Action.

This SEA analyzes the latest design information associated with Phase 2 of the project. This SEA has been prepared to identify, analyze, and document the potential physical and environmental effects associated with the Department of Veterans Affairs’ (VA’s), Proposed Action. The Proposed Action is the construction and operation of Phase 2 of a National Cemetery on approximately 52-acres of a 318-acre site acquired by VA in Mims, an unincorporated town in Brevard County, Florida (i.e., the Site). Construction of the National Cemetery was initiated in approximately 2014 and would be completed in phases over a period of 100 years or more. This SEA is prepared 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] Parts 1500-1508), 38 CFR Part 26 (Environmental Effects of the Department of Veterans Affairs Actions), and the VA NEPA Interim Guidance for Projects, dated 30 September 2010 (VA 2010).

The original Master Plan for this cemetery was completed as part of the Phase 1 Scope of Work (SOW) in 2014. The Phase 2 area of the original Master Plan has been revised in January 2019. It is the basis for this CD-2 Plan submittal. These Phase 2 Plans are the outcome of design requirements and operational needs of the National cemetery Administration.

Purpose and Need

The purpose of the Proposed Action is to enable the National Cemetery Administration to continue providing interment benefits to eligible Veterans and their family members by further extending the longevity of the CCNC.

The Proposed Action is needed to meet the VA’s National Cemetery Administration’s goal of increasing burial options in areas with an underserved Veteran population of at least 80,000. Burial at a National Cemetery is an earned benefit provided to Veterans through the VA. In addition, the expansion of the National Cemetery will enable the Department of Veterans Affairs to comply with the Civil Relief Act.
Alternatives

After VA acquired the 318-acre property on July 31, 2012, VA initiated an extensive, five-step Master Planning Process to determine the optimal configuration of the proposed National Cemetery. As part of that Master Planning Process, VA identified ten screening criteria to guide detailed conceptual design for the proposed facility. VA developed these site-specific screening criteria based on the physical, operational, and location requirements of the Proposed Action, as well as cost, environmental issues, and other relevant factors. Satisfaction of VA’s screening criteria would provide locations and facilities best suited to meet the purpose of and need for the Proposed Action, while minimizing overall project costs and environmental effects.

This process led to the development of 11 design alternatives. Each of the design alternatives that were developed were evaluated against the screening criteria identified in Section 2.3.1. Through the five-major iterations of the design process (MP1 through MP5), VA evaluated the design alternatives and incorporated the design options that best met VA’s screening criteria and needs. Throughout the design process, VA ensured that each design alternative that was considered avoided, to the extent possible, sensitive environmental resources, such as wetlands, natural waterways, 100-year floodplains, or significant or protected biological resources. The current proposed design avoids all of these resources to the greatest extent practicable. Through application of the screening criteria, only two (2) of these 11 design alternatives were considered viable and are thus analyzed in depth within this SEA. Those two (2) are:

**Preferred Action Alternative** - Under the Preferred Action Alternative, the Proposed Action would be implemented. VA would construct and operate Phase 2 of the Cape Canaveral National Cemetery, in accordance with VA’s National Cemetery Administration (NCA) Facilities Design Guide, on a 52-acre section of the overall 318-acre site in unincorporated Mims, in Brevard County, Florida (Figure 1). The new phase of the National Cemetery would continue to help balance the currently unequal geographic distribution of VA National Cemeteries within the State of Florida (see Figure 2). Development would include approximately 32,320 gravesites including approximately 12,320 columbarium niches, 7,700 full-casket and 12,300 cremains gravesites; a 4.75-acre retention pond with an aerated fountain; interior roads; and associated utilities and infrastructure. Other infrastructure to support the burial expansion includes landscaped areas, signage, irrigation, the connecting roads, parallel parking at the columbarium plazas and a roundabout at the Warrior Avenue/maintenance area drive intersection. This roundabout provides a convenient turn around for visitors to reverse direction at the end of the Phase 2 development. It will also aid traffic flow and wayfinding as the cemetery continues to expand on east past Dixie Way. Design and general guidance for this project follow original master plan concepts, RFP guidelines, NCA Facility Design Guide Criteria, VA Program Guide PG 18-15 Volume D, and VA Signage Design Guide Chapter 12 National Cemetery Signs. This development would provide all facilities necessary to maintain and operate the cemetery in addition to providing interment sites for approximately 10 years. Future phases of cemetery development would be analyzed under separate NEPA documents prior to construction and operation of those phases.

**No Action Alternative** - Under the No Action Alternative, the Proposed Action would not be implemented. Veterans and their families residing in central eastern Florida would continue to
be underserved; in many cases, this would continue to require Veterans and their families to travel more than 75 miles to reach the nearest National Cemetery in Bushnell, Florida (Florida National Cemetery). The distribution of National Cemeteries in the region would continue to be unequal, and VA would not be in compliance with the requirements of the Service Members Civil Relief Act. The absence of a National Cemetery in central east Florida could prevent eligible Veterans and their families from obtaining the earned benefit of a no-cost burial at a National Cemetery, resulting in undue hardship and lost recognition to those individuals. 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.

Affected Environment and Environmental Consequences

The Affected Environment of the Preferred Action Alternative and its immediate surroundings, or the region of influence (ROI), is discussed in Chapter 3 of this SEA. The Preferred Action and the No Action Alternatives are evaluated in this SEA to determine their potential direct, indirect, and cumulative effect(s) on the physical, environmental, cultural, and socioeconomic aspects of the Proposed Action’s ROI. VA determined that five technical resources areas were sufficiently analyzed in the Final PEA and did not require further analysis in this SEA, including cultural resources, land use, socioeconomics, community services, and environmental justice.

Chapter 3 contains in-depth analyses of the Proposed Action’s potential effects to the following technical resource areas:

- Aesthetics
- Air Quality
- Geology, Topography, and Soils
- Water Resources (Surface Waters and Wetlands; Floodplains; Groundwater; Coastal Zone Management)
- Wildlife and Habitat
- Noise
- Solid and Hazardous Wastes
- Transportation and Parking
- Utilities

The following table summarizes the potential environmental impacts of the Proposed Action and No Action alternatives:
### Table 1: Technical Resource Area Summary

<table>
<thead>
<tr>
<th>Technical Resource Area</th>
<th>Anticipated Effect of Proposed Action</th>
<th>Anticipated Effect of No Action</th>
<th>Notes</th>
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<tr>
<td>Aesthetics</td>
<td>Beneficial and adverse, less than significant</td>
<td>No impact</td>
<td>Beneficial effects related to conversion of agricultural fields to a Natural Shrine. Short term effects from construction, loss of agricultural land, and minor tree loss.</td>
</tr>
<tr>
<td>Air Quality</td>
<td>Adverse, less than significant</td>
<td>No impact</td>
<td>Short term effects from construction vehicles, fugitive dust, and minor tree loss.</td>
</tr>
<tr>
<td>Cultural Resources</td>
<td>No impact</td>
<td>No impact</td>
<td>No effect on cultural resources</td>
</tr>
<tr>
<td>Geology, Topography, and Soils</td>
<td>Adverse, less than significant</td>
<td>No impact</td>
<td>Long-term effects to topography due to increasing the elevation at selected areas of the site where fill is needed to raise gravesites above the seasonal high-water table. Short term effects to soil from erosion and sedimentation during construction, but no long-term effects. Long-term effects to soil from reduction in area farmland.</td>
</tr>
<tr>
<td>Water Resources</td>
<td>Adverse, less than significant</td>
<td>No impact</td>
<td>There are no natural surface waters, on-site wetlands/Waters of the U.S., or floodplains in the Phase 2 area. During construction, short term effect from run-off to adjacent surface water, wetlands, floodplains; however, creation of stormwater management structures (e.g. new stormwater retention ponds) will benefit the quality of stormwater if discharged from the Site. Short term effects to groundwater from accidental release of vehicle operating fluids.</td>
</tr>
<tr>
<td>Wildlife and Habitat</td>
<td>Adverse, less than significant</td>
<td>No impact</td>
<td>No long-term effects to listed species is anticipated; however, long-term effects from the reduction of habitat available to common species is expected.</td>
</tr>
<tr>
<td>Noise</td>
<td>Adverse, less than significant</td>
<td>No impact</td>
<td>Short term effects from general construction noise, and long-term operational noise effects to the ROI, primarily associated with three to five rifle salutes during committal ceremonies.</td>
</tr>
<tr>
<td>Land Use</td>
<td>Beneficial, less than significant</td>
<td>No impact</td>
<td>Beneficial by preserving open space within the region of influence and developing the Site consistent with local zoning ordinances.</td>
</tr>
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No significant adverse direct, indirect, or cumulative effects to these resources are anticipated during construction or operation of the Proposed Action.

As noted above in Table 1, no effects to utilities, cultural resources, environmental justice or community services would be anticipated during construction or operation of the Proposed Action. Any potential minimal effects to these technical resource areas, as well as potential adverse effects to the additional resource areas discussed above, would be further reduced or avoided through implementation of standard environmental BMPs, or management measures, incorporated into this Proposed Action, and discussed in Chapter 3 and summarized in Table 2 in Chapter 5. Furthermore, less-than-significant beneficial effects to aesthetics, land use, and socioeconomics would be anticipated during construction or operation of the Proposed Action.

### Agency and Public Involvement

**Programmatic Environmental Assessment**

During development of the PEA, the VA held an informational meeting with local veterans to introduce the VA team, explain the general process that will be involved with the design, construction and operation of the Proposed Action, and gather input about the project.

Additionally, VA, as the Federal proponent of this Proposed Action, published and distributed the Draft PEA on June 1, 2012, for a 30-day public comment period. No public comments were received. The Final PEA and associated FONSI were published on July 17, 2012.

**Site-Specific Environmental Assessment**

The overall conceptual design of the National Cemetery presented at the PEA informational meeting and in the Draft PEA for public comment has not substantively changed to date. For Phase
1, public involvement for the Draft SEA Preferred Action Alternative and No Action Alternative involved a 30-day public comment period between March 17, 2014 and April 17, 2014, announced by a Notice of Availability (NOA) published in the *Florida Today* newspaper on March 17, 22, 23 and 24, 2014. Review copies of the Draft SEA were made available for public review at the Mims Public Library, Oak Hill Public Library, and on the VA website. During the 30-day public comment period, a public meeting was held on March 27, 2014 at the Titusville VFW to present and obtain public comment on the Draft SEA. A NOA for the public meeting was published with the aforementioned NOA. Public comments obtained during the meeting and received by mail within the 30-day public comment period were reviewed and addressed, as warranted, and incorporated into the Final Phase 1 SEA.

VA, as the Federal proponent of this Proposed Action, has published and distributed the Draft SEA for a 30-day public comment period; a copy of the Notice of Availability (NOA) is provided in Appendix A of this Final SEA. Printed copies are available for public review at the Mims Scottsmoor Public Library and the Oak Hill Public Library, and a copy is available for download electronically at the VA website [http://www.cem.va.gov/cem/EA.asp](http://www.cem.va.gov/cem/EA.asp).

**Conclusion**

The evaluation performed in this SEA concludes there would be no significant adverse direct, indirect or cumulative effect to the local environment or quality of life associated with implementation of the Preferred Action Alternative, provided the identified BMPs to minimize and manage potential impacts are implemented as part of the Proposed Action.
1. INTRODUCTION

This Site-Specific Environmental Assessment (SEA) has been prepared to identify, analyze, and document the potential physical, environmental, cultural, and socioeconomic effects associated with Phase 2 of the Department of Veterans Affairs’ (VA), Proposed Action, the construction and operation of a National Cemetery on 52-acres of a 318-acre site in unincorporated Mims in Brevard County, Florida (the Site; see Figure 1). Construction of the National Cemetery was initiated in 2014 and will be completed in multiple phases extending for the next 100 years or more.

This SEA derived from the Final Programmatic EA (PEA) completed by VA on July 17, 2012, as part of the site acquisition process. The Final PEA analyzed the potential environmental effects of acquiring a site in unincorporated Mims for the Proposed Action of constructing and operating a National Cemetery. The Final PEA identified that VA would prepare this subsequent, phase-specific SEA to more precisely analyze and evaluate the potential effects of the Proposed Action when site-specific design information became available. The Final PEA also identified environmental best management practices (BMPs) to minimize and mitigate potential impacts that have been subsequently incorporated into VA’s site-specific Proposed Action.

This SEA has been prepared to analyze and evaluate the potential effects of the construction and operation of the proposed National Cemetery using the latest design information for the project, which was unavailable at the time the Final PEA was prepared. This SEA is prepared 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 Environmental Regulations [CFR] Parts 1500-1508), 38 CFR Part 26 (Environmental Effects of the Department of Veterans Affairs Actions), and VA’s NEPA Interim Guidance for Projects (VA 2010).

This Chapter presents 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; identifies relevant environmental documents; provides a summary of public and agency involvement (and key issues and concerns identified); and identifies Federal, State, and local regulations and permits applicable to the Proposed Action.
1.1 Purpose and Need

The purpose of the Proposed Action is to enable VA to provide eligible Veterans and their families in central east Florida with a new National Cemetery of sufficient size and capacity to serve the projected needs in this region for at least the next 100 years. The establishment of such a cemetery would help VA comply with the Service Members Civil Relief Act.

The Proposed Action is needed to meet the VA’s National Cemetery Administration’s goal of increasing burial options in areas with an unserved Veteran population, as specified by Congress, of at least 80,000. Burial at a National Cemetery is an earned benefit provided to Veterans through the VA. In addition, the new National Cemetery is needed for VA to comply with the service members Civil Relief Act.

VA has established three objectives that define outcomes for VA burial programs. One of these objectives 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 burial option, where reasonable access to a burial option is...
defined as “...a first interment option (whether for casketed remains or cremated remains, either in-ground or in columbaria) in a National or State Veterans Cemetery...available within 75 miles of the Veteran’s place of residence.” VA established a 75-mile service area standard because NCA data show that more than 80 percent of persons interred in National Cemeteries resided within 75 miles of the cemetery at the time of death. The NCA estimated an unserved Veteran population of over 163,000 living within the central east Florida area in 2010, included in the 75-mile radius for this proposed National Cemetery. The new cemetery would provide additional capacity, as well as improved access to Veterans and their families (i.e., reduced travel time to a National Cemetery), and would balance the currently unequal geographic distribution of VA National Cemeteries within the State of Florida (see Figure 2). The Proposed Action will provide burial facilities for eligible Veterans in central east Florida with a Veteran population currently not served by an open National Cemetery.

In the independent Evaluation of the VA Burial Benefits Program (August 2008), NCA reviewed where it has been and reflected on future burial strategy to continue meeting the needs of our Nation’s Veterans. This evaluation also noted that there is a gap between the size of population centers served by a National Cemetery and state cemeteries. Hence, based upon that study, Congress established a new Veteran population threshold to increase access to a burial option where the underserved Veteran population is at least 80,000. The Veteran population in central east Florida meets this threshold for eligibility to establish a new National Cemetery.

In accordance with the Service Members Civil Relief Act, also known as the Veteran’s Benefit Act of 2010, Public Law 111-275, Sec. 503, Reports on Selection of New National Cemeteries (38 USC 2400), VA was directed to establish five new National Cemeteries, including a cemetery in central east Florida.

Thus, the construction and operation of the proposed National Cemetery at the Site acquired in July 2012 following the completion of the Final PEA (VA 2012a) meets the VA’s purpose and need set forth above.
1.2 Background

On July 17, 2012, VA finalized a PEA that identified, analyzed, and documented the potential physical, environmental, cultural, and socioeconomic effects associated with VA’s proposed selection and acquisition of a site for the future establishment of a National Cemetery in Mims, Brevard County, Florida (VA 2012a). This Final PEA is available through the VA website (www.cem.va.gov\cem\EA.asp). The reader is referred to that document for additional background information.

As a result of the PEA process, on July 31, 2012 VA selected and acquired a 318-acre site from First Equity Development Group, Inc. in Brevard County, Florida (see Figure 1) for future construction and operation of a National Cemetery. The PEA assessed the potential effects of site selection and generally assessed the potential effects of constructing and operating a National Cemetery at that location. Although the site for the proposed National Cemetery was selected through that process, VA had not yet developed a detailed engineering design and could not analyze site-specific potential effects associated with construction and operations of the cemetery. Based in part on the PEA, VA has now completed the final master plan (herein Master Plan 5, or MP5; VA 2013a) for establishment of a National Cemetery at this site.
A SEA associated with the Final PEA analyzed the site-specific, potential environmental effects that could occur at the Site and within the Proposed Action’s region of influence (ROI) based on the final MPS design. That SEA (May 2014) addressed the detailed engineering design for the site along with the construction and operation of Phase 1.

This SEA addresses the construction and operation of Phase 2 of CCNC and is in full compliance with CEQ Regulations that state that NEPA documents should be “analytic rather than encyclopedic” (40 CFR Part 1502.2a) and that scoping should be used to “identify and eliminate from detailed study the issues which are not significant or which have been covered by prior environmental review (40 CFR Part 1506.3), narrowing the discussion of these issues in the statement [EA] to a brief presentation of why they would not have a significant effect on the human environment or providing a reference to their coverage elsewhere” (40 CFR Part 1501.7(a)(3)). As such, VA is using "Incorporation by Reference" per 40 CFR Part 1502.21 and from 40 CFR Part 102.20 to reduce the volume of this SEA and rely on the information previously developed and analyzed as part of the Final PEA.

Through this process, and by incorporating into the site-specific Proposed Action the BMPs, or environmental management measures, identified in the Final PEA and determined to be consistent following reanalysis during the SEA, VA determined that the following technical resource areas were sufficiently analyzed in the Final PEA and do not require further analysis in the Phase 2 SEA:

- Cultural Resources
- Land Use
- Socioeconomics
- Community Services
- Environmental Justice

Table 1 identifies all technical resource areas considered per the VA NEPA Interim Guidance for Projects, dated 30 September 2010 (VA 2010), and succinctly provides the rationale as to why each technical resource area was either retained for further analysis or eliminated from this SEA, referencing the Final PEA (VA 2012a) where appropriate.
Table 2. Technical Resource Areas Retained for or Eliminated from Further Analysis in this SEA.

<table>
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<tr>
<th>Technical Resource Area</th>
<th>Retained for Further Analysis</th>
<th>Reasoning</th>
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<tr>
<td>Aesthetics</td>
<td>Yes</td>
<td>Final PEA concluded visual effects during construction, limited tree clearing and elevation regrading, would be less-than-significant. The SEA analyzes additional site-specific MP5 construction and operation information, including beatification of Site to a National Shrine. See Section 3.1 for more information.</td>
</tr>
<tr>
<td>Air Quality</td>
<td>Yes</td>
<td>Final PEA concluded less-than-significant air quality effects from construction activities, including construction vehicle emissions and local visitors’ vehicle emissions. The SEA analyzes additional site-specific MP5 construction and operation information. See Section 3.2 for a detailed discussion.</td>
</tr>
<tr>
<td>Cultural Resources</td>
<td>No</td>
<td>Final PEA concluded less-than-significant cultural resource effects based on the results of a Phase 1 Cultural Resources Survey (Atkins 2012) and consultation with Florida SHPO and Native American Tribes that no adverse effects to archeological resources or historic structures eligible for or listed on the National Register of Historic Places (NRHP) would occur within the Proposed Action’s Area of Potential Effect (APE). Any potential effects that may occur would be reduced or avoided with the implementation of the BMP’s identified in Table 2. As such, the issue is not analyzed in depth in this SEA.</td>
</tr>
<tr>
<td>Geology, Topography, and Soils</td>
<td>Yes</td>
<td>Final PEA concluded less-than-significant effects from land clearing and that regrading would cause direct soil erosion and indirect sedimentation impacts on water quality during construction. Construction and operation would have no effect on geology based on two on-site geotechnical investigations and absence of karst. The SEA analyzes additional site-specific MP5 construction and operation information. See Section 3.3 for a detailed discussion.</td>
</tr>
<tr>
<td>Water Resources</td>
<td>Yes</td>
<td>Final PEA concluded less-than-significant impacts from construction and operation on surface waters and ground water, but additional analysis needed based on MP5 design information. Additionally, Final PEA concluded less-than-significant impacts through design to avoid potential wetlands/Waters of the United States (33 CFR part 328), and 100-year floodplains. The SEA analyzes the additional site-specific MP5 construction and operation information, including an on-site survey for Federally-designated wetlands, including design avoidance measures, See Section 3.4 Water Resources for a detailed discussion.</td>
</tr>
</tbody>
</table>
### Wildlife and Habitat
Yes  
Final PEA concluded avoidance and management measures would reduce potential significant impacts on biological resources to less-than-significant levels. The SEA analyzes additional site-specific MP5 construction and operation information, including an on-site survey for specific listed species and habitat. See Section 3.5 for a detailed discussion.

### Noise
Yes  
Final PEA concluded less-than-significant noise impacts from construction and vehicle traffic, and from routine maintenance during operations. The SEA analyzes additional site-specific CD2 construction and operation information, including rifle salutes during committal services. See Section 3.6 for a detailed discussion.

### Land Use
No  
Final PEA concluded long-term positive land use effects by preserving open space within the ROI and developing the Site consistent with local zoning ordinances. Construction dust and noise would cause less-than-significant effects and would be reduced or avoided with implementation of the BMPs identified for Aesthetics (Section 3.1), Air Quality (Section 3.2), and Noise (Section 3.6) as summarized in Table 2. As such, this issue is not analyzed in depth in this SEA.

### Socioeconomics
No  
Final PEA concluded positive effects on socioeconomics due to increased local employment and personal income during construction, and indirect positive effects to the local economy during operation. There would be no effect on health or safety risks to children during construction or operation. As such, this issue is not analyzed in depth in this SEA.

### Community Services
No  
Final PEA concluded no effect on community services during construction and operation, including fire, police, or other public services. As such, this issue is not analyzed in depth in this SEA.

### Solid and Hazardous Materials
Yes  
Final PEA concluded less-than-significant effects during construction and operation, including release of vehicle fluids and maintenance materials, and use of municipal potable water to avoid probable presence of ethylene dibromide (EDB) in groundwater. The SEA analyzes additional site-specific CD2 construction and operation information, including chemical analysis of on-Site groundwater. See Section 3.7 for a detailed discussion.

### Transportation and Parking
Yes  
Final PEA concluded less-than-significant transportation effects from construction vehicles, and visitor traffic on local roadways during operation. The SEA analyzes additional site-specific CD2 construction and operation information, including results from an on-Site Traffic Impact Analysis. See Section 3.8 for a detailed discussion.
Utilities | Yes | Final SEA concluded less-than-significant effects on utility consumption during construction and operation. The SEA analyzes additional site-specific CD2 construction and operation information, including a reassessment of municipal utilities available at the Site. See Section 3.9 for a detailed discussion.

Environmental Justice | No | Final PEA concluded no effects on Environmental Justice during construction and operation because no specific concentrations of minority or low-income populations are located in the vicinity of the Site. As such, this issue is not analyzed in depth in this SEA.

1.3 Decision-making

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.

The purpose of this SEA is to inform Federal decision-makers and the public of the potential environmental effects of the Proposed Action and its considered alternatives, prior to making a Federal decision to move forward with the Proposed Action. In this manner, the Federal decision-makers can make a fully informed decision, aware of the potential environmental effects of the Proposed Action. Overall, this EA’s purpose is to:

- Inform decision-makers and the public of the possible environmental effects of the Proposed Action and its considered alternatives, as well as methods to reduce these effects.
- Document the NEPA process. Allow for public input into the decision-making process.
- Allow for informed decision-making by the Federal government.

This Federal decision-making includes identifying the actions that the Government would commit to undertake to minimize environmental effects, as required under the NEPA, CEQ Regulations, and 38 CFR Part 26.

The decision to be made is whether, having taken potential physical, environmental, cultural, and socioeconomic effects into account, VA should implement the Proposed Action and, as appropriate, carry out measures to reduce effects on resources. Implementation of the BMPs identified in the Final PEA and additional BMPs identified herein, summarized in Table 2, and incorporated into the Proposed Action would ensure direct, indirect, and significant cumulative effects would not occur.
2. DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

This Chapter provides the reader with necessary general 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 is described, providing the reader with an understanding of VA’s rationale in ultimately retaining for analysis one action alternative, the Preferred Action Alternative, that best meets VA’s purpose of and need for the Proposed Action.

2.1 Proposed Action

2.1.1 Site-Specific National Cemetery Components

Cemetery Elements

Based on current master planning data, the proposed National Cemetery would be constructed in multiple phases over the next 100 or more years. All phases of development have been designed to avoid environmentally constrained areas (e.g., wetlands, floodplains), which would be left undeveloped and remain as scenic locations at the cemetery. Specifically, an approximately 18-acre wetland located east of Dixie Way would not be developed. Additionally, areas within the 100-year floodplain would not be developed, including an approximately 32-acre area located east of Dixie Way, and an approximately 2.6-acre area located on the eastern side of the northern end of Dixie Way. Areas within the 100-year floodplain would not be developed but would instead be reserved for possible use as future surface water bodies.

Phase 2 is approximately 52 acres in the central portion of the Site (Figure 3). There are no Federally-designated wetlands or 100-year floodplains in the Phase 2 area (USACE JD 2010 [SAJ-2010-02735 NPR, re-issued 27 January 2020]). The Phase 2 area would include the construction of the cemetery roads, one 4.75-acre stormwater retention pond, and approximately 32,320 internment sites (Figure 3). Construction access to the Phase 2 area would be provided by an access road extending from Huntington Avenue to an equipment lay-down area. The Phase 2 construction would take place within one year and will be done within approximately two years.
Additionally, prior to construction and operation of future phases, a new and separate NEPA analysis would be performed to assess potential impacts and identify any warranted management and/or mitigation actions for each future phase. Each subsequent phase of future cemetery development would add interment sites until the proposed cemetery could accommodate approximately 150,000 total interment sites at full build-out (Figure 4). Approximate numbers of burial sites include 67,233 double-depth, pre-placed crypts in 3’ x 7′-8” sites; approximately 3 pre-placed urn vaults in 4’ x 4’ sites; approximately 59,768 columbarium niches; approximately 4,588 gravesites (4’ x 10’ with a beam for headstones) for private vaults; and approximately 1,202 oversized, pre-placed crypts (in 4’ x 10’ sites). No additional ossuaries would be constructed in the future phases. Three additional committal service shelters would be constructed during future phases (for a total of 5 committal service shelters at the Site after full build-out).

Based on the final CD2 design of the Phase 2 area, development would provide all facilities necessary to maintain, operate, and provide interment sites for at least 10 years. In total, the Phase 2 area would include approximately 32,394 gravesites, including approximately 300 over-sized crypts; 7,470 pre-placed crypts; in-ground crypts; 12,320 columbarium niches; and 12,304 pre-placed urn vaults in 4’ X4’ sites.

Figure 3. Proposed Phase 2 for the Cape Canaveral National Cemetery
Other Site-Specific Elements (from the final CD2 design)

Night-time Lighting

The cemetery would not include street lighting. The only lighting proposed would be associated with the flagpole, as well as security lighting at the Maintenance Building, Administration/PIC building and at the front entry to the cemetery on U.S. Highway 1.

Use

Areas of the Site not developed during Phase 2 would be left in their current state. VA would remove dead and dying/unhealthy trees from the Site, as well as potentially re-plant grassland portions of the Site with native species.

Buffers

VA would maintain forested buffers along all Site boundaries, except for the western entrance boundary (improved with signage), to minimize effects to the surrounding

Figure 4. Proposed Build-out (Phases 1-7) for the Cape Canaveral National Cemetery
residential community. The proposed contractor site access road connecting to Huntington Avenue would be carefully sited to ensure appropriate line-of-sight for oncoming traffic.

**Avoidance of Environmentally Sensitive Areas**

Based on the analyses and findings of the Final PEA (VA 2012a), and review of the MP5 design, VA has designed the proposed National Cemetery to avoid designated 100-year floodplains and on-site jurisdictional wetlands/Waters of the US, including appropriate buffers around these areas to the greatest extent possible. No Federally-designated wetlands are present west of Dixie Way (USACE JD 2010 [SAJ-2010-02735 NPR, re-issued 27 January 2020]). VA has also designed the proposed National Cemetery to retain and maintain as many healthy, mature, native trees as possible. Please see Sections 3.2, 3.6, 3.7, and 3.10 of this SEA for more information.

**Proposed Use Levels**

Upon completion of the Phase 2 development, the National Cemetery would typically be used every day throughout the year. Approximately 150 visitors could be expected on a daily basis, with six staff members present on site on weekdays. Up to 12 funeral processions per weekday (average 30 cars per procession), generating approximately 500 vehicles on a busy day would be anticipated. The cemetery would be closed to the public at night.

**Stormwater Management**

To accommodate known stormwater management issues at the site, VA plans to design and construct an active (wet) stormwater retention pond in the Phase 2 area, in addition to the existing pond 6 within Phase 2. These ponds would contain aeration modules to maintain high water quality. Additionally, retention ponds could be an additional source of water for the ground’s irrigation system. The full build-out of the master plan concept would include a total of eight ponds at the overall Site.

**Utility Requirements - Electricity, Natural Gas, Telecommunications, Sewer, and Potable and Irrigation Water Supply**

Operation of the proposed National Cemetery would require consumption of utilities from Mims and/or Brevard County. VA would continue to coordinate with local service providers to ensure that any increase in consumption would remain within available local capacities. During preparation of the SEA, VA contacted service providers about the availability of the respective utilities at the Site. The Final PEA conclusions that electricity and telecommunications services would be available and suitable for the National Cemetery remain consistent. The SEA determined that sanitary septic sewerage, natural gas, and water (potable, irrigation, fire suppression) services are not available from local utility providers. The SEA analysis for these utilities is described as follows:
• Sanitary Waste Disposal – The Scottsmoor area is serviced by individual on-site septic systems. There is no available option for sanitary sewer service from a public utility. Septic tanks and two drainfields associated with Phase 1 have been previously constructed. No septic is proposed as part of Phase 2.

• Natural Gas – no natural gas is available in the Scottsmoor area, and the use of underground natural gas tanks serve two natural gas-fuelled emergency generators in Phase 1. The development of Phase 2 will not require the use of natural gas.

• Potable Water, Irrigation Water, Fire Suppression Water – The Scottsmoor area is serviced by individual on-site potable water wells. There is no available option for potable water from a public utility. Potable water would be obtained from on-site groundwater wells. Irrigation water would be obtained form, the stormwater retention ponds and/or the on-site groundwater wells. Fire suppression water would be obtained from the stormwater retention ponds connected to dry hydrants throughout the site.

With the completion of Phase 2, the cemetery is estimated to use over 730,000 gallons per day (GPD) at peak season, 79.8 million gallons per year (GPY) used annually, with a daily annual average of 215,889 GPD. Based on the proposed irrigation plan, The Phase 2 area includes approximately 13.5 newly irrigated acres, and 11.75 acres of irrigation renovation.

Sustainability Considerations

As part of the design process, VA would specifically comply with the USEPA's Technical Guidance on Implementing the Stormwater Run-off Requirements for Federal Projects under Section 438 of the EISA (USEPA 2009).

2.1.2 Environmental Best Management Practices, Permits, and Approvals

Land improvement activities associated with implementation of the Proposed Action would include land clearing, excavation, soil stockpiling, grading, installing various site improvements, creating roads, creating stormwater retention ponds, and extending selected utilities to serve the National Cemetery.

Prior to constructing any component of the Proposed Action, VA would obtain all required Federal and State permits and approvals necessary to comply with applicable laws. Furthermore, VA would attempt to comply to the best extent possible with the guidelines of applicable local permits.
In addition, VA would implement the BMPs listed in Table 2 as part of the Proposed Action. These include measures that serve to proactively mitigate adverse environmental effects, as identified through the PEA and this SEA process.

2.2 Alternatives Analysis

The NEPA, CEQ Regulations, and 38 CFR Part 26 require that all reasonable alternatives be rigorously 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 the purposes of this analysis, an alternative was considered “reasonable” only if it would enable VA to accomplish the primary mission of providing a suitable National Cemetery site that meets the purpose of and need for the Proposed Action. “Unreasonable” alternatives would not enable VA to meet the purpose of and need for the Proposed Action.

2.2.1 Initial Alternatives Design Development (Screening Criteria)

After VA acquired the Site, VA initiated an extensive five-step Master Planning Process to determine the optimal configuration of the proposed National Cemetery. As part of that Master Planning Process, VA identified the following ten primary screening criteria to guide the detailed conceptual design for the proposed facility. VA developed these site-specific criteria based on the physical, operational, and location requirements of the Proposed Action, as well as cost, environmental issues, and other factors, as described below. Satisfaction of VA’s screening criteria would provide locations and facilities best suited to meet the purpose of and need for the Proposed Action, while minimizing overall project costs and environmental effects. These criteria included:

1. Components. The components of the proposed National Cemetery should meet the minimum requirements set forth in NCA guide (VA 2008) and described in Section 2.1.1.

2. Capacity. The proposed National Cemetery should provide sufficient capacity for the needs of Veterans and their families within the region for at least 100 years. Based on VA’s calculations, this included minimum capacity for up to 6,800 interments every 10 years in 10 distinct phases, with each phase having a 10-year capacity. A minimum total of 68,000 interments should be provided.

3. Availability. The design of the first phase of the proposed National Cemetery should ensure that Phase 2, or a portion of Phase 2, is available as quickly as possible, preferably by 2020. Phase 2 should include all required basic cemetery components, as well as the initial roadway and utility infrastructure. Phase 2 should be sited in the central portion of the Site directly adjacent to Phase 1, allowing a logical pattern for future phases of development.

4. Aesthetic Buffers/Land Use Compatibility. The design of the proposed National Cemetery should incorporate sufficient, tree-lined buffers along the southern and northern boundaries to provide an aesthetic screen for adjacent residential areas.
5. **Stormwater Management.** The design of the proposed National Cemetery should not increase flooding of adjacent lands and should serve to properly manage on-site stormwater, potentially reducing flooding in the area in compliance with Section 438 of the EISA.

6. **Maximize Use of Disturbed Areas and Existing Topography.** The design of the proposed National Cemetery should incorporate existing topography to the maximum extent possible to minimize required earthwork and should focus development in previously grazed/disturbed on-site grasslands to minimize the need for tree removal. Existing mature, native, and healthy trees should be incorporated into the site design to the maximum extent possible.

7. **Avoid Sensitive Environmental Areas.** The design of the proposed National Cemetery should avoid on-site 100-year floodplains, and wetlands/Waters of the United States (33 CFR part 328), to the maximum extent possible, including retaining sufficient buffers around these areas. The design should comply with applicable State and Federal environmental permitting requirements and processes, as well as consider local permitting guidelines. (The final CD2 design for the Phase 2 area would not impact floodplains or wetlands.)

8. **Cost.** The design of the proposed National Cemetery should result in the most cost-effective development of the Site, including minimizing required cut-and-fill and other construction costs.

9. **Access.** The primary access to the Site should be from U.S. Highway 1, with a secondary service access road connecting the southeastern side of the Phase 2 area to Dixie Way. Both access roads should be sited and installed to ensure proper traffic line-of-sight and to minimize traffic. A construction/contractor access road should be from Huntington Avenue (northern portion of the Site) and extend south to the Phase 2 area.

10. **Utilities.** The design of the proposed National Cemetery should ensure that facilities requiring utilities are sited as proximate as possible to existing utility infrastructure to reduce construction costs.

### 2.2.2 Evaluated Alternatives

**Preferred Action Alternative**

VA identified one reasonable alternative (MP5) that best met all of VA’s screening criteria, and purpose and need for the Proposed Action. This alternative is shown in Figure 4 and described in Section 2.1.2.
No Action Alternative

Under the No Action Alternative, the Proposed Action would not be implemented. Veterans and their families residing in central east Florida would continue to be underserved; in many cases, this would continue to require Veterans and their families to travel more than 75 miles to reach a National Cemetery. The distribution of National Cemeteries in the region would continue to be unequal, and VA would not be in compliance with the requirements of the Service Members Civil Relief Act.

While the No Action Alternative does not meet the purpose and need for the Proposed Action, this alternative was retained, as it reflects the status quo and serves as a benchmark against which the effects of the Proposed Action can be evaluated, as required under the CEQ Regulations (40 CFR Part 1502.14).
3. AFFECTED ENVIRONMENT & ENVIRONMENTAL CONSEQUENCES

This Chapter describes the baseline (existing) physical, environmental, cultural, and socioeconomic conditions within Phase 2 of the proposed National Cemetery site in Mims, Brevard County, Florida, and its general vicinity, with emphasis on those resources potentially affected by the Proposed Action.

In this SEA, effects are identified as either significant, minor (i.e., common effects that would not be of the context or intensity to be considered significant under the NEPA or CEQ Regulations), or no effect. Where appropriate and clearly discernible, each effect is identified as either adverse or beneficial.

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

- Context refers to the significance of an effect on 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 SEA, 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 Technical Resource Area. Significance criteria for technical resource areas considered in depth in this SEA are as follows:

- Aesthetics - An alternative could significantly affect visual resources if it resulted in abrupt changes to the complexity of the landscape and skyline (i.e., in terms of vegetation, topography, or structures) when viewed from points readily accessible by the public.

- Air quality - An alternative could have a significant air quality effect if it would result in substantially higher air pollutant emissions or cause established air quality standards to be exceeded.

- Geology, Topography and Soils - If an alternative would result in an increased geologic hazard or a change in the availability of a geologic resource, it could have a significant effect. Such geologic and soil hazards would include, but not be limited to, seismic vibration, land subsidence, and slope instability (Figures 5 and 6).

- Water Resources (Surface Waters and Wetlands; Floodplains; Groundwater; Coastal Zone Management) - If an alternative would result in a reduction in the quantity or quality of water resources for existing or potential future use; if the demand exceeded the capacity of the potable water system; if it would cause substantial flooding or erosion; if it would subject people or property to flooding or erosion; if it would adversely affect a significant water body, such as a stream, lake, floodplain, or coastal zone; or if it would cause measurable degradation of wetlands it could have a significant effect.
Figure 5. Topography Map of the Proposed Cape Canaveral National Cemetery
Figure 6. Site Soils Map for the Proposed Phase 2 of the Cape Canaveral National Cemetery

- Wildlife and Habitat - The effect of an alternative on biological resources and ecosystems could be significant if it would disrupt or remove any endangered or threatened species or its designated critical habitat. The loss of a substantial number of individuals of any plant or animal species (sensitive or non-sensitive species) that could affect the abundance or diversity of that species beyond normal variability could also be considered significant.

- Noise – If an alternative would result in significantly adverse increases in ambient noise levels at sensitive receptors or result in excessive ground-borne vibration to persons or property, it could have a significant effect.

- Solid and hazardous waste - An alternative could have a significant effect if it would result in a substantial increase in the generation of hazardous substances, 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.
• Transportation and parking - An alternative could have a significant effect on transportation and parking if it would increase the volume of traffic beyond the existing roadway capacity, cause parking availability to fall below minimum local standards.

• Utilities - An alternative could have a significant effect on utility infrastructure if it would increase demand over capacity, requiring a substantial system expansion or upgrade, or if it would result in substantial system deterioration over the current condition.

3.1 Aesthetics

Phase 2 is an approximately 52-acre portion of the approximately 318-acre Site situated in a predominantly low-density residential and agricultural area in Mims, Brevard County, Florida (see Figure 1). Phase 2 is comprised of improved pastures, man-made ditches, and a mixed hardwood/coniferous forest along the ditches. No buildings are located on the Site. The Site is currently zoned Agricultural Residential (AU) with a future land use designation of Residential 1 (one dwelling unit per acre).

The adjacent area located to the north of the Site currently includes undeveloped wooded land, unimproved farmland, scattered commercial properties (along U.S. Highway 1), and a residential neighborhood. The adjacent area located to the east of the Site is currently occupied by a small private airfield (Tradewinds Aerodrome Airport) and Florida East Coast Railroad tracks, beyond which is the Indian River Lagoon. The adjacent area located to the south of the Site, beyond phase 1, is currently undeveloped land, unimproved farmland, and scattered residential and commercial properties (along U.S. Highway 1). The adjacent area located to the west of the Site includes currently undeveloped land and residential properties.

3.1.1 Effects of the Preferred Action Alternative

During the construction periods associated with Phase 2 and each future phase through full build-out of the final CD2 design, there would be minor short term, adverse, effects. Construction activities including excavation, grading, and vehicle travel on paved and unpaved surfaces could generate fugitive dust emissions that can lead to nuisance concerns, such as reduced visibility on nearby roadways. During construction, fugitive dust emissions would be controlled and limited by implementing the BMPs for dust control and construction operations (e.g. limit vehicle speed; road wetting; tarp-covered haulers) identified in Table 2. Additionally, soils exposed during construction would be reseeded or replanted once grading activities are completed.

Following construction and during operation of the National Cemetery, there would be long-term, beneficial aesthetic effects. The Preferred Action Alternative would change the aesthetic quality of the Site by beatification from agricultural fields to a permanent National Shrine improved with park-like landscaping, a tree-lined and fenced perimeter, water features, formal entrance signage, and grounds under continuous maintenance (Figure 4).
3.1.2 Effects of the No Action Alternative

Under the No Action Alternative, the National Cemetery would not be constructed at the Site and no adverse or beneficial aesthetics effects would result. Should the Site ultimately be developed for another use, aesthetic effects could result from that changed land use. Based on current zoning of the Site, future development could be more extensive than proposed by VA and could result in greater aesthetics effects than the Preferred Action Alternative. Any future development of the Site, however, would also be required to comply with local land development permitting processes.

3.1.3 Mitigation/Management Measures

Based on the final MP5 design, the Final PEA (VA 2012a) conclusions that construction and operation would produce less-than-significant minor short term, adverse, visual aesthetic effects remain consistent. The BMPs as described in the Final PEA and presented in this SEA in Table 2 also remain consistent for the final MP5 design and are as follows:

- Incorporate existing large trees into the cemetery design wherever possible.
- Maintain and add trees to the existing tree-lined Site perimeter to obstruct views of construction.
- Create and routinely maintain landscaped areas, buildings, roadways, and signage.
- Implement the construction-related BMPs for dust control described for Air Quality below.

3.2 Air Quality

According to the Florida Department of Environmental Protection (FDEP), Division of Air Resource Management, Brevard County is currently designated as a full attainment area (FDEP 2011), meaning the ROI, including the Site, has good ambient air quality, and a Conformity Determination is not required.

Given the current land use of the Site, no sources of regulated air emissions exist (e.g., from boilers, emergency generators, or other minor equipment). As such, the VA as the Site owner does not have, and is not required to have, a Title V operating permit based on current conditions.

Sensitive air quality receptors in the vicinity of the Site are limited and include local residential land uses (Figures 1 and 4). Outward Bound School (3558 Sunset Avenue) is located approximately 0.5 mile north of the Site. There are no other schools or hospitals located within 0.5 mile of the Site. No other sensitive air quality receptors were identified.

3.2.1 Effects of the Preferred Action Alternative

The Final PEA concluded that construction and operation of a typical National Cemetery would be expected to have minor direct and indirect, short- and long-term adverse impacts to the existing air quality environment around the Site.
Based on the final CD2 design, during operation of Phase 2 and future phases, sources of air emissions would solely include vehicles visiting the Site. Although a greater number of vehicles would be present on-Site compared to the No Action Alternative, the Proposed Action would result in less vehicle emissions in the region because Veterans and their families would not be required to travel greater distances to other National Cemeteries in Florida.

### 3.2.2 Effects of the No Action Alternative

Under the No Action Alternative, the National Cemetery would not be constructed; therefore, no significant adverse air quality impacts would result at the Site. However, greater vehicle emissions would be generated in the region by visitors’ vehicles because Veterans and their families would be required to travel greater distances to other National Cemeteries in Florida. Should the Site ultimately be developed for another use, air quality impacts could result from that changed land use and would depend upon the nature of the development.

### 3.2.3 Mitigation/Management Measures

Based on the final MP5 design, the Final PEA (VA 2012a) conclusions that construction and operation would produce less-than-significant minor short term, adverse, air quality effects remain consistent. The BMPs as described in the Final PEA and Table 2 also remain consistent for the final MP5 design and are as follows:

- Use appropriate dust suppression methods during on-Site construction activities. Available methods include application of water, dust palliative, or soil stabilizers; use of enclosures, covers, silt fences, or wheel washers; and suspension of earth-moving activities during high wind conditions.
- Maintain an appropriate speed, between 5-10mph, to minimize dust generated by vehicles and equipment on unpaved surfaces.
- Cover haul trucks with tarps.
- Stabilize previously disturbed areas through re-vegetation or mulching if the area would be inactive for several weeks or longer.
- Visually monitor all construction activities regularly, particularly during extended periods of dry weather, and implement dust control measures including water trucks abiding by common construction practices.

### 3.3 Geology, Topography, and Soils

The Final PEA (Section 3.5) presented background information on geology, topography, and soils. The Final PEA described potential impacts to these resources from construction and operation of a National Cemetery, as well as BMPs to mitigate potential impacts. The following subsections present the SEA analysis of site-specific final CD2 design information regarding geology, topography and soils.
3.3.1 Geology

The Site is located in an area where karst conditions are present but relatively uncommon and minimal (VA 2012a). No karst conditions were encountered on-site during either of the two previous on-Site geotechnical investigations (TTL 2011; Nodarse 2013), nor the more recent Phase 2 specific investigation (Terracon 2019).

3.3.2 Topography

The U.S. Geological Survey topographical map for this area (Oak Hill Quadrangle, 1997) identifies the site as having elevations of approximately 15-20 feet NGVD. The Site is relatively flat with minimal topographical relief. The highest elevation is approximately 20 feet above mean sea level (amsl) on the western portion of the Site, and the lowest elevation is approximately 15 feet amsl on the eastern portion of the Site. The Site generally slopes to the east.

3.3.3 Soils

In February 2019, a geotechnical investigation was performed in the Phase 2 area at the Site (Terracon 2019). The investigation included 15 borings completed to a depth between 15 to 20 feet below grade in the Phase 2 area. The geotechnical investigation findings for the Phase 2 area are summarized below:

- Soil conditions observed consisted of mostly sands with inclusions of various amounts of silt and shell. Difficult excavations may be experienced due to relatively shallow dense layers observed. This generally occurs in thin layers. It is expected that this material will be broken up by conventional excavation equipment, but in rare cases specialized equipment may be required.
- Groundwater is located at depths between 2.5 to 6 feet below the existing grade throughout the site. Normal seasonal high groundwater levels are generally expected to vary from about 1 to 2 feet below existing grade.
- Small, lightly loaded structures can be supported on conventional shallow foundations, following adequate site preparation. Based on the borings performed, an allowable bearing capacity of 2,000 psf is feasible with a minimum bearing depth of 18 inches.
- The site appears suitable for support of conventional concrete and asphalt pavements. Stabilizing material will likely be necessary for the construction of pavement subgrades.
- The use of a normally wet detention pond appears to be most suitable for the treatment of stormwater runoff. Shallow dry retention swales may be feasible if constructed in well-draining materials and elevated sufficiently above wet season groundwater levels.
- Temporary dewatering may be required for construction of the stormwater pond and other excavations during development of the site. In addition, depending on proposed final grades and groundwater levels at the time of construction, dewatering may be required for preparation of foundation bearing soils.
Prime Farmland

According to the USDA NRCS, Brevard County contains approximately 217,580 acres characterized as prime, unique, or locally important farmland (NRCS 2010). Upon acquisition of the property, the VA leased farmland at the site for cattle grazing. No active lease currently occurs within Phase 2, and the development of Phase 2 will not impact Prime Farmland.

3.3.4 Effects of the Preferred Action Alternative

Geology

Based on the final MP5 design, the Final PEA (VA 2012a) conclusion that the Preferred Action Alternative would have no significant impact on geology remains consistent.

Topography

Based on the final CD2 design, minor changes to topography would be required to accommodate selected burial areas (Figure 5). The on-site geotechnical investigations (Terracon, 2019) indicated the depth to groundwater in the Phase 2 area generally ranged from approximately 2.5 to 6 feet bgs, with a reported high water table of approximately 1 to 2 feet bgs. A standard burial depth requires approximately 10 feet of soil above the water table; therefore, approximately 2 feet of fill would be used to raise the grade of selected burial areas to minimize the impacts of the high groundwater. Excess on-Site soil generated during the excavation for the four stormwater retention ponds in the Phase 2 area would be used as the fill material along with the adjacent stockpile on-site north of Phase 2. This will eliminate the need to obtain and transport off-Site fill to the site.

The long-term topographic changes would result in less-than-significant adverse effects. Drainage changes, caused by modifying the Site topography, resulting in any increase in stormwater run-off would attenuated by the stormwater management system and the stormwater retention ponds in the Phase 2 area. Additionally, the aesthetic effects of the changes in topography would not be visible from adjacent properties due to the tree-lined border, as previously described in Section 3.1.

Soils

Based on the final CD2 design, construction of the approximately 52-acre Phase 2 area would include land clearing/grubbing, excavation, regrading, installation of interior roadways and parking areas, and stormwater pond creation. Regrading would occur throughout the entirety of the Phase 2 area.

Soils exposed during construction are susceptible to surface run-off, which has the potential to result in increased sedimentation in the on-Site stormwater management systems, and the potential for off-Site discharges of sediment-laden run-off. The exposed soil would also be susceptible to erosion by wind, increasing the amount of dust.
(particulates) in the air, causing a potential short-term respiratory hazard and a visual nuisance (dust on local roads). Potential releases of hydraulic fluids from construction equipment could impacts soils. General construction practice BMPs identified below and summarized in Table 2 in Chapter 5 would be implemented to avoid such impacts and releases (e.g. inspect and maintain equipment in good working order), and/or limit the extent of impacts should a release occur (use spill kits to contain releases).

After the Phase 2 area construction is completed, operation of the National Cemetery would have no long-term erosion and sedimentation impacts. The National Cemetery will be landscaped, and native drought-resistant grasses would be planted for aesthetic value and for erosion control purposes.

It is estimated that approximately 13.5 acres will be permanently irrigated after construction is completed in the Phase 2 area (along with 11.75 acres of irrigation renovation). The remaining area is for stormwater retention ponds and roadways. The irrigation plan will ensure that exposed soils will quickly be re-vegetated and have a healthy ground cover year-round. The landscaping design includes a variety of trees and shrubs adapted to the specific climate of central east Florida and avoids non-native and invasive species (VA 2013a).

The construction-related soil erosion and sedimentation effects during construction of the Phase 2 area during future phases would cease once construction of each phase is completed. As such, soil erosion and sedimentation effects, though adverse, would be minor and short term. These effects would be further reduced through implementation of general construction BMPs identified below and summarized in Table 2, and adherence to the terms of the FDEP NPDES General Permit for Construction Activity and the SJRWMD Environmental Resource Permit (ERP).

Operation of the National Cemetery would have no adverse significant soil erosion and sedimentation effects. No long-term soil erosion impacts would occur as a result of increased impervious surfaces on-Site; these effects would be further reduced by the final CD2 design stormwater system, which includes operation of stormwater retention ponds constructed within the Phase 2 area. Impervious paved areas would drain to the stormwater retention ponds.

Based on the final CD2 design, the Phase 2 area does not include any soil within a 100-year floodplain. Additionally, future phases avoid development within 100-year floodplain areas located in the northeastern and eastern portions of the Site. The floodplain topic is discussed in further detail in Section 3.4.2.

**Prime Farmland**

Construction and operation of the Phase 2 area would not result in any loss of farmland on-site. Later phases are still being leased for use as agricultural operations and will be addressed as part of a future SEA associated with a future Phase.
3.3.5 Effects of the No Action Alternative

Under the No Action Alternative, no construction by VA would occur. No impacts to geology, topography, or soils would occur. Should the Site ultimately be developed for another use, impacts would result from that new development, and would depend upon the nature of the development.

3.3.6 Mitigation/Management Measures

Geology

No management measures are necessary for geology.

Topography

Create and maintain a tree-lined border to further minimize visual minor impacts of topographical changes.

Soils

Implementing construction BMPs to reduce erosion and sedimentation impacts during construction would further minimize the potential impacts on local soils and water quality. Prior to construction of the Phase 2 area, the construction contractor would develop, submit to the FDEP, and have approved, an NPDES permit for the Proposed Action. The NPDES permit would require stormwater run-off and erosion management using BMPs such as earth berms, detention basins, vegetative buffers and filter strips, and vehicle-equipment spill prevention and management techniques. The construction contractor would implement the following BMPs as appropriate and necessary to protect surface water quality, as part of the NPDES permit:

- Design paved areas to drain to the stormwater management system.
- Use results from the detailed geotechnical analysis at the Site to locate stormwater management systems in on-Site sand areas with adequate recovery.
- Install and monitor erosion-prevention measures (BMPs), such as silt fences and water breaks, detention basins, filter fences, sediment berms, interceptor ditches, straw bales, rip-rap, and/or other sediment control structures; re-spread stockpiled topsoil; and seed/re-vegetate areas temporarily cleared of vegetation.
- Retain on-Site vegetation to the maximum extent possible.
- Plant and maintain soil-stabilizing vegetation on disturbed areas.
- Use native vegetation to re-vegetate disturbed soils.
- The construction contractor would obtain all required permits before any proposed construction activities commence and would adhere to permit conditions during all on-Site construction activities.

If measures in the NPDES permit are approved and correctly utilized for Site development, soil erosion and resulting indirect sedimentation effects would be minor. Successful implementation of these measures would ensure that the Proposed Action is in
compliance with State and Federal water quality standards and minimizes both the short and long-term potential for erosion and sedimentation.

Prime Farmland

No management measures are necessary to address loss of Prime Farmland.

3.4 Water Resources (Surface Waters and Wetlands; Floodplains; Groundwater; Coastal Zone Management)

3.4.1 Surface Waters and Wetlands

As described in the Final PEA (Section 3.6.1), a forested wetland complex in the eastern portion of the Site on the tract east of Dixie Way was identified by the USFWS Online Wetland Mapper; it is noted that the Phase 2 area is not located within the tract east of Dixie Way. In addition, man-made drainage canals are shown on the Oak Hill and Mims, Florida USGS Topographic Quadrangle maps. All of the manmade drainage channels at the site appeared to be surficially connected to Big Flounder Creek.

The VA retained Mabbett Inc. and AECOM Technical Services, Inc. to complete a federal jurisdictional wetland determination for the tract west of Dixie Way in October 2013. The on-Site wetlands survey indicated that the tract west of Dixie Way did not contain any wetlands subject to the regulatory authority of the United States Army Corps of Engineers (USACE) (AECOM 2013b). ESI has since updated the ACOE Approved Jurisdictional Determination (USACE JD 2010 [SAJ-2010-02735 NPR, re-issued 27 January 2020]), and no surface waters or wetlands were in Phase 2 boundaries. Forested floodplain wetlands are located along the eastern boundary of the tract east of Dixie Way as indicated in Figure 7. The locations of the floodplains are identified on Figure 8 and described in further detail in Section 3.4.2. In addition, an extensive man-made ditch network was excavated in the 1970’s to control water for agricultural purposes. The majority of the ditches were excavated more than six feet deep, which intersected with groundwater. Ditches currently flood to depths ranging from 0.1 to 3 feet seasonally. The locations of these man-made surface water features are identified on Figure 9.
Figure 7. Wetlands and FEMA Flood Zones for the Proposed Phase 2 of the Cape Canaveral National Cemetery
3.4.2 Floodplains

As indicated in the Final PEA (Section 3.10.2), the Federal Emergency Management Agency (FEMA) floodplain mapping (FIRM Map Number 12009C0040F, dated August 18, 1992), indicates that the eastern approximately 50 acres (16%) of the Site includes areas within the 100-year floodplain (Zone AE). In addition, approximately 2.6 acres (1%) located in the north east central portion of the Site are within the 100-year floodplain (Zone A). The remaining portions of the Site, including the Phase 2 area, are not located in the 100-year or 500-year floodplain (Zone X). Areas adjacent to the north, northeast, east, and southeast of the Site are also included in the 100-year floodplain. The locations of the floodplains are identified on Figure 8.

3.4.3 Groundwater

As described in the Final PEA (Section 3.5.3), the on-Site geotechnical investigation (TTL 2011) indicated that groundwater was encountered across the Site at depths generally
ranging from 3 to 5 feet bgs with a reported high water table of approximately 10 inches bgs. Additional groundwater measurements in December 2013 confirmed that shallow groundwater was encountered at approximately 2.6 to 12.8 feet bgs, with an average of approximately 6 feet bgs (AECOM 2014, Mabbett 2014). The 2019 geotechnical investigations specific to Phase 2 found typical groundwater levels between 2.5 to 6 feet bgs. A standard burial depth requires approximately 10 feet of soil above the water table; therefore, several feet of fill would be required to raise the grade of the Site in select burial areas to minimize the impacts of the high groundwater table.

3.4.4 Coastal Zone Management

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. The entire State of Florida is located within a designated Coastal Zone (NOAA 2011).

In Florida, the CZMA is administered by the FDEP-Coastal Management Program (CMP), a State agency that has a current, comprehensive CMP validated by NOAA. Accordingly, the Draft SEA and final MP5 design plans were submitted on March 24, 2014 to the FDEP-CMP (via the Florida State Clearinghouse) to ensure that the Proposed Action is consistent with the CMP’s Coastal Zone Management Program.

3.4.5 Effects of the Preferred Action Alternative

Surface Waters and Wetlands

The Preferred Action would not result in adverse effects to surface water or wetlands resources. The overall Site includes surface waters and wetlands discussed above and shown in Figure 7. However, there are no natural surface water bodies and no wetlands within the Phase 2 area as determined by ACOE. There is a 6.33-acre man-made storm water pond in the eastern portion of the Phase 2 site which is complete and will not be altered in anyway during the construction of Phase 2. Furthermore, development of future phases of final MP5 design also incorporates environmentally sensitive site design and good engineering practices, and will involve consultation with pertinent Federal, State, and local regulatory agencies, to ensure that potential surface water and wetlands effects would be avoided or managed by avoiding placing any structure near them. Additionally, a separate NEPA analysis would be performed in advance of construction of future phases of the final MP5 design to assess and ensure potential impacts to any surface water or wetlands in those areas remain at less-than-significant levels.

Floodplains

The majority of the Site is not located in the 100-year or 500-year floodplain (Zone X). According to Federal Emergency Management Agency (FEMA) floodplain mapping,
approximately 50 acres (16%) of the Site includes areas within the 100-year floodplain. As indicated in Figure 8, these floodplains are located in the eastern portion of the Site (outside of the Phase 2 area). Development of Phase 2 will have no impact on floodplains, as the entirety of Phase 2 falls within Floodplain Zone X.

Groundwater

It is not anticipated that groundwater would be affected by the Preferred Action. Groundwater at the Site is present at depths ranging from 2.5 to 6 feet bgs. Where areas of deeper excavation are required, or excavation is required in areas of the Site where groundwater is shallower, appropriate groundwater engineering controls would be utilized during construction to ensure no long-term adverse effects to groundwater. Potential short-term effects on groundwater quality from releases of construction vehicle operating fluids would be minimized by maintaining spill kits and training relevant staff on spill clean-up procedures. As such, effects to groundwater as a result of construction activities are anticipated to be minor.

Groundwater quality would not be affected by normal operation of the cemetery. Based on standard modern burial practices, it is unlikely that 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 would be installed during 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. Additionally, as selection of either cremains interment or columbaria placement increases, the potential for soil or groundwater contamination commensurately decreases as no embalming fluids are used. Additionally, a standard burial depth requires approximately 10 feet of soil above the water table; therefore, several feet of fill would be used raise the grade of the Site in select burial areas to avoid potential contact with the high groundwater table.

Stormwater

According to a preliminary comparison of the predevelopment and post-development conditions for a variety of storm events, the post-development stormwater run-off was shown to be significantly reduced compared to the predevelopment run-off values. The stormwater management facilities would ensure that the post-development discharge conditions would be less than, or equal to, predevelopment conditions.

Coastal Zone Management

On May 13, 2014, the FDEP-CMP (via the Florida State Clearinghouse) informed the VA in writing that the overall Proposed Action including Phase 2 was consistent with the CMP’s Coastal Zone Management Program.
Overall, as described above, the final MP5 design for Phase 2 and future phases coupled with good engineering practices, and consultation with pertinent Federal, State, and local regulatory agencies, avoids placement of any roads, structures, or other man-made effects in or near water resources at the Site. The Phase 2 area has no wetlands or floodplains, and the final MP5 design for future phases also avoids wetlands/Waters of the US and floodplains. Therefore, overall potential effects on water resources would be less-than-significant.

3.4.6 Effects of the No Action Alternative

Under the No Action Alternative, no construction by VA would occur and no effects to water resources would occur. Should the Site ultimately be developed for another use, effects would result from that new development, and would depend upon the nature of the development. Based on current zoning of the Site, future development could be more extensive than proposed by VA and could result in greater water resources effects than the Preferred Action.

3.4.7 Mitigation/Management Measures

No project specific mitigation measures are required. VA would implement the following avoidance and management measures to reduce potential adverse effects to water resources. These measures are fully developed as part of this SEA, concurrent with the site design efforts.

The final MP5 design located the Phase 2 area where there are no wetlands or floodplains. General construction practice BMPs would also be implemented to prevent or contain any potential hydraulic oil spills from construction vehicles from reaching surface water resources.

To minimize potential adverse effects to water resources, the final CD2 design has considered the following:

- Avoidance of on-Site (per the jurisdictional determination from USACE) and adjacent wetlands and surface waters and floodplains.
- Balance of pre/post stormwater retention and/or treatment.
- Inspect and maintain construction vehicles in good working order and maintain a spill kit.

In being good environmental stewards, the VA has considered the following State and local (Brevard County) policies and has incorporated them to the greatest extent possible in the final CD2 design as follows:

- Pre/post 100-year volume stormwater retention in association with any proposed future development of the Site.
- Stormwater Management Facilities (SWMFs) and other related stormwater management infrastructure for the Site. The SWMFs would be designed to
accommodate excess run-off generated by the proposed cemetery and, if necessary, treat it prior to discharge.

- The potential for sinkhole formation and the potential for direct discharge to the aquifer (i.e., groundwater).

In addition, to further minimize potential adverse effects to the Site, the BMPs indicated in Table 2 in Chapter 5 will be implemented.

Consideration and possible implementation of these management measures and BMPs would ensure identified water resources effects are maintained at less-than-significant levels.

### 3.5 Wildlife and Habitat

#### 3.5.1 Threatened and Endangered Species

As part of the preparation of the PEA, the USFWS, FDEP, FWC, and Florida Natural Areas Inventory (FNAl) were contacted to identify any potential for the presence of state or federally listed threatened or endangered species on or in the vicinity of the Site. The following list provides a summary of the information provided by these agencies:

- USFWS stated that the Site may include habitat for a number of threatened or endangered species. USFWS recommended that a wildlife survey be conducted on the Site.
- FFWCC stated a number of listed species have the potential to occur on or near the Site, including the following: Gopher tortoise (*Gopherus polyphemus*), Florida pine snake (*Pituophis melanoleucus mugitus*), American alligator (*Alligator mississippiensis*), and Florida scrub-jay (*Aphelocoma coerulescens*). FFWCC recommend that a species-specific wildlife survey be conducted on the Site. Furthermore, FFWCC recommended the applicant coordinate with USFWS regarding those federally listed species (Florida scrub-jay) that may occur on Site.

As part of the initial SEA process, AECOM ecologists in 2013 conducted on-Site surveys comprised of pedestrian and All-Terrain Vehicle (ATV) belt transects for the state-listed gopher tortoise. The surveys were conducted in accordance with the required methods listed in Appendix 4 of the Gopher Tortoise Permitting Guidelines (hereinafter Guidelines, FWC 2013), specific to a development site. Burrows were not observed in the shrub and brushland vegetative community. The vegetative assemblage in this community is comprised of species that are not suitable forage for the gopher tortoise, therefore these areas are not considered suitable for occupation by gopher tortoises. During the October 2019 SEA for Phase 2 performed by Environmental Services, Inc. (ESI), special attention was given to the potential for gopher tortoises utilizing areas within Phase 2. At no point were any gopher tortoise, or gopher tortoise burrows were observed within the phase’s boundary.

AECOM ecologists also conducted surveys in 2013 to evaluate the presence or absence of Florida scrub-jays both east and west of Dixie Way (AECOM 2013a). Surveys were
conducted in accordance with the Scrub-Jay Survey Guidelines (USFWS 2007). Accordingly, vegetation types were evaluated and mapped to facilitate the identification of potential scrub habitat capable of supporting the Florida scrub-jay. Vegetation types and associated FLUCFCS codes are shown on Figure 9. Uplands on this site primarily consist of improved (fallow) pasture, and a small area of overgrown mixed hardwood/conifer forest, both listed in the USFWS Guidelines as habitat types to be sampled for the presence of Florida scrub-jays. In general, habitat throughout the tract west of Dixie Way has not been maintained for several years and is severely overgrown. Pastures are currently grazed by cattle on the tract east of Dixie Way. Based on the absence of vegetation and soil types conducive to supporting suitable scrub habitat within the improved pastures, surveys were limited to the mixed hardwood/conifer forest areas, which contained limited habitat capable of supporting Florida scrub-jay activity. Florida Scrub-Jays were not observed during any of the surveys performed for this assessment. A detailed description of the survey methodology and results for each species is included in the Listed Species Survey Report (AECOM 2013a). In addition to the 2013 investigation, no Scrub-Jays were observed in the Phase 2 boundaries, or elsewhere on site during the October 2019 SEA for Phase 2.

ESI conducted a SEA for Phase 2 in October 2019. At no point during the site investigations were any listed species observed on-site, though a Florida Sandhill Crane (*Grus canadensis*), which is a state threatened species, was observed within the previously developed pond 4’s littoral fringe (see Figure 9). The previously developed pond will not be altered, nor will the existing pond 6 within Phase 2’s corridor. No adverse effect is expected on this species from the continuation of this development.
Figure 9. Species observed during the October 2019 SEA for the Proposed Phase 2 of the Cape Canaveral National Cemetery

The Site is located west of the MINWR, a 140,000-acre federal refuge. It is anticipated that use of the Site as a National Cemetery would not have any direct impacts to listed species habitat at the MINWR. However, a MINWR outparcel is immediately adjacent to the Site east of Dixie Way. No information was available regarding the long-term plans for this MINWR outparcel. It is currently unmanaged, vacant, and shown as part of the Indian River Lagoon Blueway (IRLB) acquisition project. This IRLB project spans five counties approximately 150 miles along the east and west sides of the Indian River Lagoon. Marine tidal marsh and maritime hammock cover the majority of the IRLB project. These habitat types do not occur at proposed National Cemetery Site.

3.5.2 Habitat

As described in the Final PEA (Section 3.7.1), the majority of the Site has been converted for agricultural purposes. In the PEA it was determined that potential suitable habitat for two species, the state-listed gopher tortoise and the federally-listed Florida scrub-jay could occur on the Site. As previously described in Section 3.5.1, in October 2019 ESI
ecologists evaluated the habitat on the Site to determine the extent suitable for occupation by the state-listed gopher tortoise and to assess suitability for the federally-listed Florida scrub-jay. As part of this assessment, ESI ecologists reviewed available background information including previous environmental assessments and associated listed species survey data, as well as current and historic aerial photography, land use information, and physiographic and soils data.

The Site is currently comprised of five vegetative communities which have been characterized using Florida Land Use, Cover, and Form Classification System (FLUCFCS) designations (FDOT 1999) as indicated in Figure 9. The majority of Phase 2 (29.67 acres) can be classified as mixed rangeland (FLUCFCS 330). It is located in the central and western portions of the property north of the main east-west roadway bisecting the Phase. No significant canopy species are present. The shrub strata consisted of scattered slash pine (*Pinus elliottii*), saltbush (*Baccharis halimifolia*), and wax myrtle (*Morella cerifera*). The herbaceous layer was dominated by opportunistic species including cogon grass (*Imperata cylindrica*), thistle (*Cirsium horridulum*), black berry (*Rubus sp.*), chalky bluestem (*Andropogon capillipes*), ragweed (*Ambrosia artemisiifolia*), dog fennel (*Eupatorium sp.*), dollar weed (*Hydrocotyle sp.*), golden rod (*Solidago sp.*), and Spanish needles (*Bidens sp.*).

A vegetated ditch (FLUCFCS 510) approximately 0.62 acres in size runs north-south between the northern Phase boundary and the main east-west roadway bisecting the phase. There is no outfall to the north of the phase, and it appears the ditch drains into the permitted stormwater system at the southern terminus of the ditch. The vegetation within the ditch is composed canopy species including slash pine, and cabbage palm (*Sabal palmetto*), with sub canopy species of Brazilian pepper (*Schinus terebinthifolius*), and wax myrtle. The herbaceous layer was scarce with primrose willow (*Ludwigia sp.*), and cana lilly (*Canna sp.*) located near the ends of the ditch.

In addition to the ditch system, a storm water retention area (FLUCFCS 530) associated with the cemetery development has already been constructed within the Phase 2 footprint. It is approximately 6.21 acres in size and located in the eastern portion of the project footprint.

Approximately 12.19 acres of the Phase 2 section can be classified as cemetery (FLUCFCS 148). This is an improved, mowed, and maintained area on the southern extent of the phase.

### 3.5.3 Effects of the Preferred Action Alternative

The Proposed Action at the Site would have minor adverse effects on biological resources. Some of the natural vegetation communities on the Site, comprised of coniferous/hardwood uplands and mixed forested wetlands, represent original native communities and the vast majority of these natural habitats would remain intact on the Site. The remainder of the Site has been converted to improved and unimproved pastures.
The Listed Species Survey conducted at the Site did not identify populations of federally threatened or endangered, plant or animal species and indicated that the plant communities at the Site are highly altered, in many cases dominated by non-native species and not optimal as habitat for threatened and endangered species (AECOM 2013a). A population of the state-listed gopher tortoise was present on the site but this species has been relocated off-site to permitted recipient sites as authorized by the FFWCC. VA anticipates that through environmentally sensitive site design and following good engineering practices, potential effects to biological resources would be managed to minor levels.

The cemetery design was accomplished in consonance with the existing habitats on the Site. Generally, the forested areas would not be developed. Management measures and BMPs described in Table 2 would be implemented to ensure effects remain at less-than-significant levels.

3.5.4 Effects of the No Action Alternative

Under the No Action Alternative, no construction by VA would occur. No effects to vegetation or wildlife habitat would occur. Should the Site ultimately be developed for another use, effects would result from that new development, and would depend upon the nature of the development. Based on current zoning of the Site, future development could be more extensive than proposed by VA and could result in greater biological resources effects than the Preferred Action.

3.5.5 Mitigation/Management Measures

No project specific mitigation measures are required. VA would implement the following avoidance and management measures to reduce potential adverse effects to protected wildlife and habitat to acceptable, less-than-significant levels. VA would continue to consult with the USFWS to minimize adverse effects to protected habitat and wildlife resources prior to and during construction.

The final CD2 design would implement the following management measures and BMPs to reduce biological resources effects during construction and operation of the Proposed Action:

- Construction should be timed to avoid nesting periods of migratory birds potentially on the Site and protected under the MBTA. The MBTA prohibits the taking of migratory birds, their nests, and eggs. Thus, it is recommended that tree removal in the Phase 2 area be conducted outside the migratory bird nesting seasons of December through July so that potential nests are not disturbed.
- Native species would be used to the extent practicable when re-vegetating land disturbed by construction to avoid the potential introduction of non-native or invasive species.

Implementation of these management measures and BMPs would ensure potential effects to biological resources are maintained at less-than-significant levels.
3.6 Noise

The Final PEA described the existing background noise environment and noise sources at the Site and in the surrounding area. Based on a typical National Cemetery design, the Final PEA concluded that minor adverse, short term noise impacts to the surrounding community would be generated during construction and operation of a National Cemetery. However, the Final PEA did not evaluate operational noise impacts generated from M-16 rifle blank salutes during committal ceremonies. Accordingly, this SEA and the Phase 1 SEA analyze potential noise effects based on this new information and the final CD2 design.

3.6.1 Effects of the Preferred Action Alternative

The Final PEA analyzed the noise impact during construction and operation of a National Cemetery at the Site, and concluded that there would be minor short term, adverse noise impacts. During construction of the Phase 2 area, noise would be from construction vehicles entering and exiting the site and associated with land preparation and grading, and from construction of buildings, roads and other infrastructure. Based on the final CD2 design, the Final PEA analysis of construction noise remains consistent.

During operation of the National Cemetery, the primary source of noise would be from three to five salutes from M-16 rifle (5.56 caliber) blank rounds during committal services. The salutes would occur at committal service shelters. The number of salutes depends on the rank of the deceased Veteran. The US Army has predicted peak sound levels for M-16 rifle blanks at target distances ranging from approximately 160 to 5,200 feet (VA 2013b).

In addition to effects resulting from committal ceremonies, daily cemetery operations would cause noise effects from traffic entering and exiting the National Cemetery, ongoing landscaping and grounds maintenance during normal business hours, and HVAC noise from buildings constructed on-Site. However, the additional noise generated from these operational activities would not increase the overall less-than-significant noise effect.

3.6.2 Effects of the No Action Alternative

Under the No Action Alternative, the National Cemetery would not be constructed and the noise environment surrounding the Site would not change. No adverse noise effects presently occur. The noise environment of the Site would not be altered by activities of VA; however, the likely ultimate development of the Site by others would produce similar (or greater) construction and operation noise effects as identified under the Proposed Action.

3.6.3 Mitigation/Management Measures

As previously described, the Final PEA analyzed noise impacts from constructing a National Cemetery at the Site, and concluded that minor short term, adverse construction noise impacts would occur. The Final PEA presented management measures to further...
reduce construction-related noise impacts, including limiting construction hours and turning off loud construction-related equipment when that equipment is not in use. The Final PEA analysis and management measures for construction-related noise impacts remain consistent based on the final CD2 design. These management measures are provided in Table 2 and are as follows:

- Coordinate proposed construction activities in advance with adjacent sensitive receptors (residents). Let the local residents know what operations would be occurring at what times, including when operations would start and when they would finish each day. Post signage, updated daily, 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 up to 65 decibels to occur between 7:00 a.m. and 5:00 p.m. or dusk during normal, weekday work hours. This measure would reduce noise effects during sensitive nighttime hours.
- Locate stationary 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 noisy equipment per manufacturer’s recommendations.
- Encourage construction personnel to operate equipment in the quietest manner practicable (e.g., speed restrictions, retarder brake restrictions, engine speed restrictions, etc.).

During operation of the National Cemetery, salutes using M-16 rifle blanks during committal services would generate minor long-term, adverse noise impacts. The following management measures would be performed to further reduce these operational noise impacts to nearby residential receptors.

- Limit the salutes using M-16 rifle blanks during committal ceremonies to the hours of 7:00 AM to 4:00 PM.
- Limit the number of salutes to 3-5 rifles during an individual committal ceremony.
- Maintain the tree-lined Site perimeter to further reduce noise impacts beyond the Site.

Implementation of these BMPs and management measures for construction and operational noise impacts would further reduce the less-than-significant minor, adverse noise impacts, notably to nearby sensitive receptors (i.e. residential areas near the Site).

3.7 Solid and Hazardous Materials

As described in the Final PEA the VA conducted a Phase I ESA in July 2011 (WBC 2011) to assess whether solid and hazardous wastes were present at the Site. The Phase I ESA did not identify any solid or hazardous wastes at the Site but did identify two recognized environmental conditions (RECs) at the Site. The two RECs were (1) the presence of Ethylene Dibromide (EDB), a soil fumigant, in nine separate drinking water wells in the vicinity of the Site in excess of applicable cleanup criteria; and (2) the presence of Chemko Technical Services, a Resource Conservation and Recovery Act (RCRA) Corrective Action Activity Site, located approximately 650...
feet south of the southwestern corner of the Site. The Phase I ESA concluded that neither REC warranted further action or investigation, as groundwater impacts from Chemko Technical Services are classified by EPA as “under control”; and based on the assumption that municipal water was provided to the Site and vicinity. However, the SEA has confirmed that municipal water is not provided to the Site and vicinity.

The Final PEA indicated that EBD-contaminated groundwater underlying the Site was probable given its presence in vicinity of the Site. Groundwater underlying the Site would be used as a potable water source and potentially for the on-Site irrigation system. If the underlying groundwater is contaminated with EDB or other hazardous substances, the irrigation system could spread potential contaminants at the Site. As such, the Final PEA recommended that the VA conduct an investigation to assess whether groundwater underlying the Site contains environmental contaminants, including EDB, as well as concentrations of drinking water parameters and groundwater quality parameters.

In December 2013, the VA completed the groundwater investigation at the Site. The investigation is described in the Aquifer Pump Test Report (AECOM 2014). Briefly, in December 2013, VA installed a monitoring well (“APT1”) screened at 5-15 feet below the ground surface in the shallow aquifer in the western portion of the Phase 1 development area. Groundwater at this location and screen interval is representative of groundwater that may be used for irrigation during operation of the National Cemetery. Between December 10 and 20, 2013, three separate groundwater samples were collected, and each was submitted for EDB (EPA Method 8011) and environmental contaminant parameter analysis, one sample was also analyzed for ground water quality parameters. The laboratory reported analytical results indicated that none of the collected groundwater samples contained EDB above the laboratory method reporting limit at 0.003 micrograms per liter (µg/l), and none of the detected environmental contaminants were detected above FDEP Surface Water criteria. The groundwater quality data indicated that the groundwater was suitable for use as on-Site irrigation water. Additionally, a groundwater sample was collected from an existing on-Site groundwater monitoring well (“Well #3”) and analyzed for drinking water parameters. The laboratory analytical data indicated that the groundwater was suitable for drinking water. Based on these site-specific data, there are no solid or hazardous substances in groundwater at the Site. Additionally, the Aquifer Pump Test findings demonstrated that pumping groundwater from the APT1 well at a rate of up to 6 gallons per minute had a range of influence of approximately 116 feet from the APT1 well, suggesting that offsite groundwater potentially contaminated with EDB was not drawn onto the Site in the shallow aquifer (0-15 feet below grade).

No other solid and hazardous materials were identified as being present at the Site.

3.7.1 Effects of the Preferred Action Alternative

The Final PEA conclusion that construction and operation of a National Cemetery at the site would result in minor short-term adverse effects, remain consistent based on the final CD2 design.

The increased potential for presence and use of solid and hazardous materials during construction of the National Cemetery would result in minor short-term adverse effects.
Additionally, a small increase in construction vehicle traffic would increase the potential for release of vehicle operating fluids at the site during the construction period. Such releases would be immediately addressed by site safety spill prevention and control measures to minimize potential impacts.

It is anticipated that the operation of the National Cemetery will result in no significant long-term adverse impacts. There would be no substantial increase in the generation of solid, hazardous, or waste substances. There would be no increase in the presence of hazardous or toxic chemicals in the environment on site, and no substantial restrictions on the property use due to hazardous waste, materials, or site remediation. All solid or hazardous materials needed to operate the National Cemetery would be managed in accordance with VA's solid and hazardous materials SOP’s and all applicable Federal and State laws. In addition, the VA has no plans of using embalming fluid during the burial process.

3.7.2 Mitigation/Management Measures

To manage the short-term, adverse, less-than-significant effects associated with construction and operation of the National Cemetery, the VA would implement existing standard construction BMPs. These include:

- During construction and operation of the National Cemetery, comply with existing VA standard operating procedures (SOPs) and applicable Federal and State laws governing the use, generation, storage, or transportation of solid or hazardous materials.
- If hazardous substances are released to the Site during construction or operation, applicable Federal and State requirements must be followed in response and cleanup.
- Avoid or limit the use of hazardous materials, including building material products, during construction and operation of the National Cemetery. If hazardous materials are required during construction and/or operation of the National Cemetery, store these materials in locations designated for hazardous materials (e.g. locked and labeled cabinets).

3.8 Transportation and Parking

The Final PEA described the transportation and parking characteristics at and in vicinity of the Site. Using this information, the Final PEA concluded that a National Cemetery would likely have minor adverse effects to transportation and parking. However, the Final PEA recommended that a Traffic Impact Analysis be performed to obtain site-specific information for analysis in the SEA.

As such, in July 2013 a Traffic Impact Analysis report was prepared (England 2013). The following sections address the impacts and applicable BMP’s described in the Final PEA, as well as the potential impacts based on the site-specific final CD2 design and results of the Traffic Impact Analysis.

The Traffic Impact Analysis provided site-specific conditions for the transportation corridor between Flounder Creek Road and Sunset Avenue (England 2013). The report indicated that the
Space Coast Transportation Planning Organization designated this corridor as a rural principle arterial in a transitioning area with a minimum level of service (LOS) of C, and confirmed that the corridor currently is operating at LOS of B. The posted speed within the limits of the study is 60 mph. The FDOT has designated this section of U.S. Highway 1 as Access Management Class 3, indicating medians are restrictive. Manual and machine traffic counts recorded on U.S. Highway 1 indicated that the roadway segments and intersections functioned at an acceptable level of service on a daily basis, and both in the morning and afternoon peak periods. Approximately 400-500 vehicles were counted during AM and PM peak travel times on U.S. Highway 1, and the annual average daily traffic count was between 4,250 and 5,700 (England 2013). Ambient traffic levels have been growing at less than 1% per year. The report indicated that fewer crashes at the intersections within the transportation corridor have occurred in comparison to the estimate in the American Association of State Highway and Transportation Officials Highway Safety Manual.

3.8.1 Effects of the Preferred Action Alternative

During construction of the Phase 2 area, increased traffic would consist of trucks, workers’ personal vehicles, and construction equipment. Based on current and predicted future traffic volumes on roadways around the Site (England 2013), the likely increase in construction traffic volumes during morning and evening peak travel periods, as well as potential delays/rerouting caused by utility work at the Site, would result in minor short term, adverse effects on local residents’ travel or degradation of road quality.

During operation, visitors would travel to and from the National Cemetery at various times during the day during daylight hours, likely outside of peak travel times. Staff at the National Cemetery would commute to and from work during peak travel hours (i.e., at 8 a.m. and 5 p.m.). Funeral processions could have periodic, short-term traffic impacts at peak times.

Based on the Traffic Impact Analysis, the average annual daily traffic volume on U.S. Highway 1 was between 4,250 and 5,700 (England 2013). The Traffic Impact Analysis estimated 465 vehicles per day would visit the National Cemetery by 2020 (based on approximately 14,800 occupied burial sites), and 685 vehicles per day by 2030. This increase in traffic volume during operations is less than 20% above current traffic volumes and would not produce a significant long-term, adverse impact to local traffic conditions as defined at 38 CFR 26(2)(ii); this regulation defines a significant traffic impact as “an increase in average daily traffic volume of at least 20% on access roads to the Site or the major roadway network.” As such, the increase in traffic from workers and visitors to the National Cemetery would have no significant adverse effects.

3.8.2 Effects of the No Action Alternative

Under the No Action Alternative, no construction by VA would occur and therefore no impacts to transportation and parking would be anticipated. However, should the Site ultimately be developed by others, impacts similar to those identified under the Preferred Action Alternative could occur. The type and magnitude of transportation effects would be dependent upon that proposed future use.
3.8.3 Mitigation/Management Measures

The Proposed Action would have no adverse effect on parking. As part of the Proposed Action, transportation impacts would be maintained at less-than-significant minor levels through implementation of the following BMPs:

- Use results presented in the Traffic Impact Analysis (TIA) for the Proposed Action to identify transportation conditions and recommended improvements.
- Coordinate with the Florida Department of Transportation (FDOT) to ensure that construction and operational traffic are considered in the planning of future transportation improvements in this vicinity.
- Coordinate with FDOT to identify and implement roadway improvements, as necessary, such as turn lanes and signals.
- Ensure debris and/or soil is not deposited on local roadways during the construction period.
- Ensure construction activities do not adversely affect traffic flow on local roadways; construction would be timed to avoid peak travel hours.
- VA would coordinate with local officials and the FDOT to ensure that construction and operational traffic are considered in the planning of any future transportation improvements in this vicinity.

3.9 Utilities

The Final PEA (VA 2012a) identified utilities that would be needed during construction and operation of a National Cemetery at the Site. These utilities included electricity, natural gas, telecommunications (data/telephone), sanitary septic sewerage, and water (potable, irrigation, fire protection). During the PEA process, local utility service providers were contacted to determine availability of each service at the Site. The Final PEA concluded the increased consumption of these utilities during construction and operation of a National Cemetery would have no significant adverse impacts. However, the Final PEA indicated that each utility provider would need to review the final CD2 design for the National Cemetery to confirm their preliminary findings and to provide approval for connection/extension requirements to service the National Cemetery.

Based on the final CD2 design, utilities that would be required during the construction and operation of the National Cemetery include potable water, electricity, natural gas, telecommunication services, septic system services, irrigation water, and fire protection water. However, during the SEA analysis of the final CD2 design, the municipal utility service providers indicated that no municipal service to the Site is available for water, natural gas, or sanitary septic sewerage. A summary of the updated SEA analysis is provided below.

1. Water: The Brevard County Utilities (BCU) does not supply potable water to the Site or vicinity. Based on the final CD2 design, potable water would be provided by an on-Site well and package water treatment plant. Irrigation water would be provided by the stormwater retention ponds, and if necessary, by an on-Site well. Fire protection water would be provided by the stormwater retention pond with connections to dry hydrants throughout the Site.
2. **Sanitary Waste Disposal** - The BCU does not supply septic sewer service to the Site or vicinity. Based on the final CD2 design, no septic service is needed within Phase 2.

3. **Electricity:** Florida Light and Power (FLP). FPL supplies electric service to the Site and vicinity. According to FLP, the electrical service in the vicinity of the Site is adequate for the Proposed Action. Proposed Action design plans would require approval from FLP prior to development activities.

4. **Natural Gas:** The Florida City Gas Company (FCGC) does not supply natural gas to the Site area. A natural gas tank installed at the Site would be serviced on an as needed basis by one or more of several available local vendors. No natural gas supply is required for the construction and operation of Phase 2.

5. **Communication/Data:** Brighthouse Networks and AT&T provide telecommunication services to the Site and vicinity. The Proposed Action is likely to require minimal telecommunication services; therefore, the telecommunications services in the Site and vicinity are likely to be adequate for the Proposed Action.

### 3.9.1 Effects of the Preferred Action Alternative

Based on the response from utility services, the only available utilities supplied by off-Site providers include electricity, and telecommunications services. No other utilities would be obtained from municipal service providers.

Based on the final CD2 design, electricity needs would be minimal, as Phase 2 would not include street lighting. No telecommunication services will be necessary within the Phase 2 footprint.

Based on the final CD2 design, the increased consumption of these utilities would have no significant effect on the service providers.

If the stormwater retention ponds in the final CD2 design are not sufficient for irrigation needs, the on-Site groundwater wells may be used to provide a supplemental water source. Based on the final CD2 design, the Proposed Action would require large volumes of irrigation water to maintain landscaped areas and the cemetery grounds. With the completion of Phase 2, the cemetery is estimated to use over 730,000 gallons per day (GPD) at peak season, 79.8 million gallons per year (GPY) used annually, with a daily annual average of 215,889 GPD. Based on the proposed irrigation plan, The Phase 2 area includes approximately 13.5 newly irrigated acres, and 11.75 acres of irrigation renovation.

Based on the SEA analysis of the final CD2 design, construction and operation of the National Cemetery would have no significant effect on consumption of utilities.
3.9.2 Effects of the No Action Alternative

Under the No Action Alternative, no construction by VA would occur; therefore, there would be no effect on consumption of utilities at the Site. However, should the Site ultimately be developed by others, impacts similar to those identified under the Proposed Action could occur. The type and magnitude of utility effects would be dependent upon that proposed future use.

3.9.3 Mitigation/Management Measures

Potential effects to utilities would be maintained at acceptable levels through the implementation of the following management measure:

- Submit design plans to each applicable utility provider to determine and implement any specific connection requirements.

3.10 Cumulative Effects

3.10.1 Considered Cumulative Actions

The Proposed Action would retain many of the current features at the Site, while preserving natural resources through environmentally sensitive development. The unincorporated town of Mims in Brevard County is not expected to undertake any new construction or transportation-related projects in the near future or over the next century (Brevard County Planning Department, 2014). Therefore, cumulative impacts associated with the Proposed Action would not be anticipated.

3.10.2 Effects of Cumulative Actions on the Preferred Action Alternative

Should unanticipated projects be developed in the surrounding area during the lifetime of the Proposed Action cumulative impacts could result. However, as described throughout Chapter 3, impacts associated with the Proposed Action were identified as less-than-significant and minor. These included potential less-than-significant minor impacts to aesthetics (short term); air quality (short term); topography and soils (short and long term); water resources (surface water, wetlands, floodplains, groundwater) (short term); wildlife and habitat (short and long term); noise (short and long term); solid and hazardous materials (short term); and transportation (short term). All of these adverse, less-than-significant minor impacts are further reduced through careful coordination and implementation of general BMPs, avoidance and management measures, and compliance with regulatory requirements as identified throughout Chapter 3 and summarized in Table 2 in Chapter 5. Additionally, no effects to geology, coastal zone management, parking, utilities, cultural resources, or community services would be anticipated during construction or operation of the Proposed Action. Furthermore, less-than-significant beneficial effects to aesthetics, land use, and socioeconomic would be anticipated during construction or operation of the Proposed Action. Given the nature of the Proposed Action, and the lack of other current or planned future projects nearby, no significant cumulative adverse effects to any of these resource
areas are anticipated. As such, no cumulative adverse effects to any of these resource areas would be anticipated. Additionally, following construction and operation of Phase 2, and prior to construction and operation of future phases in the final MP5 design, a new and separate NEPA analysis would be performed to assess any potential impacts associated with each separate future phase and identify any warranted management and/or mitigation actions necessary to reduce or maintain potential impacts at less-than-significant levels.

Close coordination between the Federal, State, and local representatives would serve to manage and control any potential cumulative effects within the region, including managing regional transportation increases with adequate infrastructure. Implementation of land use and resource management plans would serve to control the extent of environmental impacts, and proper planning would ensure future socioeconomic conditions maintain, if not improve, the local standard of living. Implementation of effective resource management plans and programs should minimize or eliminate any potential cumulative degradation of the natural ecosystem.

3.10.3 Effects of Cumulative Actions Under the No Action Alternative

Under the No Action Alternative, adverse cumulative effects from other, future development of the Site could be greater than under the Preferred Action Alternative, depending upon the type, nature, and extent of that future development and use. Without implementation of the Proposed Action, it is anticipated that VA would sell the property, and the property would be developed in consonance with local zoning and applicable regulations. Additionally, beneficial less-than-significant effects during operation of the Proposed Action would not occur to aesthetics (creation of a National Shrine), land use (preservation of open space), and socioeconomics (increased local employment and indirect long-term economic benefit). Based on the absence of development trends in the ROI, this future development would likely remain agricultural or residential. Failure to implement the Proposed Action would result in a regional, potentially significant, adverse cumulative socioeconomic effect on those Veterans in central east Florida. Specifically, VA would not be able to provide these Veterans with a suitable, relatively local National Cemetery for proper burial. These Veterans would be required to use another National Cemetery, if available, or another burial option, and possibly would not be able to exercise the earned benefit of no-cost burial at a National Cemetery. Due to the speculative nature of proposed future Site development under the No Action Alternative, a detailed cumulative effects analysis is not possible.

3.11 Potential for Generating Substantial Public Controversy

As discussed in Chapter 4, VA has solicited input from various Federal, State, and local government agencies regarding the Proposed Action. During the PEA process, several of these agencies provided input; none of the input has identified opposition or controversy related to the proposed National Cemetery at the Site. In addition, the VA published and distributed the PEA, as a Draft, for a 30-day public comment period beginning June 1, 2012. No comments were received. Accordingly, the Final PEA was finalized and a PEA FONSI issued on July 23, 2012. Likewise, and as discussed further in Chapter 4 below, during the SEA process for Phase 1 the VA requested
input from these same agencies during a 30-day public comment period beginning March 17, 2014. No local government agencies provided comment. One Federal and one State agency provided comment that indicated no opposition to the Proposed Action. During a public hearing for the Proposed Action held on March 27, 2014, no member of the general public expressed opposition to the Proposed Action.

It is not anticipated that there will be substantial public controversy regarding construction and operation of Phase 2 of the National Cemetery based on positive effects of the Proposed Action and absence of oppositional or controversial responses during the previous PEA and SEA public involvement periods. Since the planned development of the Site would occur in a manner consistent with local zoning and local plans, the findings of this SEA (no significant adverse environmental effect), and the absence of identified opposition during the previous PEA and SEA processes, it is not anticipated that there would be substantial public controversy regarding the Proposed Action.
4. PUBLIC INVOLVEMENT

This chapter describes the public, agency, and Native American consultation process associated with development of the CCNC Phase 2 SEA.

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 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 public involvement and agency coordination associated with this SEA is provided in Appendix A and B in this Final SEA.

4.1.1 Public Scoping Process

During the PEA process, VA held a public scoping meeting to discuss and receive input concerning the Proposed Action; details of the PEA public scoping meeting are provided in the Final PEA (VA 2012a). As no controversy or resistance to the PEA was noted during the initial public scoping meeting, a Phase 2 public meeting is not warranted. The PEA public meeting covered the entirety of the proposed action, including Phase 2. The specifics of Phase 2 are consistent with the overall PEA, and therefore, no additional meeting has been deemed necessary. The project is still subject to public comment via the required public review process where the draft SEA will be available via the VA website, at the cemetery administration building, and at the local library.

4.1.2 Agency Coordination

Interagency and Intergovernmental Coordination for Environmental Planning (IICEP) is a federally mandated process for informing and coordinating with other governmental agencies regarding Federal Proposed Actions. CEQ Regulations require intergovernmental notifications prior to making any detailed statement of environmental effects. Through the IICEP process, VA notifies relevant Federal, State, and local agencies and allows them sufficient time to make known their environmental concerns specific to a Proposed Action. Comments and concerns submitted by these agencies during the IICEP process are subsequently incorporated into the analysis of potential environmental effects conducted as part of the PEA and SEA processes. This coordination fulfills requirements under EO 12372 (superseded by EO 12416, and subsequently supplemented by EO 13132), which requires Federal agencies to cooperate with and consider State and local views in implementing a Federal proposal. It also constitutes the IICEP process for this document.

VA consulted with the following agencies during the preparation of the Final PEA, and during this SEA via a written request for comment on the Draft SEA mailed on 27 February
2020 (a copy of the written request for comment during the SEA process is provided in Appendix B of this SEA):

- The US Fish and Wildlife Service (USFWS) Southeast Region;
- US Environmental Protection Agency (USEPA) Region IV;
- US Army Corps of Engineers (USACE) Jacksonville District;
- Florida Fish and Wildlife Conservation Commission (FFWCC);
- Florida Department of Environmental Protection (FDEP) (Office of the Ombudsman and Public Service and Coastal Management Program);
- Florida Department of Transportation (FDOT);
- St. Johns River Water Management District (SJRWMD);
- Florida Division of Historical Resources (State Historic Preservation Office, or SHPO);
- Brevard County Fire Rescue (BCFR);
- Brevard County Planning and Development Department (BCPDD);
- Brevard County Natural Resources Department (BCNRD);
- Brevard County Public Works Department (BCPA); and
- Brevard County Economic Development Department (BCED).

4.1.3 Public Review

VA, as the Federal proponent of this Proposed Action, has published and distributed the Draft SEA for a 30-day public comment period; a copy of the Notice of Availability (NOA) is provided in Appendix A of this Final SEA. Printed copies are available for public review at the Mims Scottsmoor Public Library and the Oak Hill Public Library, and a copy is available for download electronically at the VA website [http://www.cem.va.gov/cem/EA.asp](http://www.cem.va.gov/cem/EA.asp).

4.2 Native American Consultation

For Federal proposed actions, Federal agencies are required to consult with federally recognized Native American Tribes in accordance with the NEPA, the NHPA, the Native American Graves Protection and Repatriation Act (NAGPRA), and EO 13175. As part of the Final PEA (VA, 2012), VA identified six Native American Tribes as having possible ancestral ties to the Proposed Action's ROI (i.e., Brevard County, Florida), and invited each Native American Tribe to consult on this Proposed Action. VA identified these Tribes based on the Native American Consultation Database and the Florida SHPO. VA conducted all Native American Tribe correspondence by certified letters. During preparation of the PEA, the Seminole Tribe of Florida responded to VA’s invitation to consult and requested that a Cultural Resources Assessment be conducted on the Site (VA 2012a). VA conducted this survey in April 2012 (Atkins 2012). As of the date of the Final PEA (July 17, 2012), VA did not receive any correspondence from the Seminole Tribe regarding the Cultural Resources Assessment (Atkins 2012).

During the SEA process, VA sent certified letters inviting these six Native American Tribes to consult on the Draft SEA; a copy of the letter is provided in Appendix B of this Final SEA.
5. MANAGEMENT AND MITIGATION MEASURES

This Chapter summarizes the management measures identified in Chapter 3 that are proposed to minimize and maintain adverse effects of the Proposed Action at acceptable, minor levels. Anticipated avoidance and management measures for the Proposed Action, based on the analysis in this SEA, are presented below and are summarized in Table 2. “Management measures” are defined as routine BMPs and/or regulatory compliance measures that are regularly implemented as part of proposed activities, as appropriate, across Florida. Per established protocols, procedures, and requirements, VA (and VA’s design and construction contractors) would implement BMPs and would satisfy all applicable regulatory requirements in association with the design, construction, and operation of the Proposed Action.

In general, implementation of management measures, as identified in Table 2, would maintain effects at acceptable less-than-significant levels for all technical 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 effects to less-than-significant levels.

Table 2 provides a summary of BMPs/Environmental Protection Measures included in the Proposed Action to ensure adverse, minor less-than-significant effects are controlled and/or further reduced. These measures are based on the analysis in the Final PEA (VA 2012a) and the site-specific SEA analysis of the final CD2 design and information that became available after the Final PEA was completed.

Table 3. Best Management Practices/Environmental Protection Measures Incorporated into the Proposed Action

<table>
<thead>
<tr>
<th>Technical Resource Area</th>
<th>Best Management Practice/Environmental Protection Measure</th>
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<tbody>
<tr>
<td><strong>Aesthetics</strong></td>
<td>Incorporate existing large trees into the cemetery design wherever possible.</td>
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<td></td>
<td>Maintain and add trees to the existing tree-lined Site perimeter to obstruct views of construction.</td>
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<td></td>
<td>Create and routinely maintain landscaped areas, buildings, roadways, and signage.</td>
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<td></td>
<td>Implement the construction-related BMPs for dust control described for Air Quality.</td>
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<tr>
<td><strong>Air Quality</strong></td>
<td>Use appropriate dust suppression methods during on-Site construction activities. Available methods include application of water, dust palliative, or soil stabilizers; use of enclosures, covers, silt fences, or wheel washers; and suspension of earth-moving activities during high wind conditions.</td>
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<td></td>
<td>Maintain an appropriate speed to minimize dust generated by vehicles and equipment on unpaved surfaces.</td>
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<td></td>
<td>Cover haul trucks with tarps.</td>
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<td></td>
<td>Stabilize previously disturbed areas through re-vegetation or mulching if the area would be inactive for several weeks or longer.</td>
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<td></td>
<td>Visually monitor all construction activities regularly, particularly during extended periods of dry weather, and implement dust control measures when appropriate.</td>
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<tr>
<td>Cultural Resources</td>
<td>Should human remains or other cultural items as defined by NAGPRA be discovered during project construction, the construction contractor would immediately cease work until VA, a qualified archaeologist, and the SHPO and Native American Tribes are contacted to properly identify and appropriately treat discovered items in accordance with applicable State and Federal law(s).</td>
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<tr>
<td>Geology, Topography, and Soils</td>
<td>Create and maintain a tree-lined border to minimize visual impacts of topographical changes.</td>
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<td>Design paved areas to drain to the stormwater management system to reduce soil erosion.</td>
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<td></td>
<td>Use results from detailed geotechnical analysis at the Site to locate stormwater management systems in on-Site sand areas with adequate recovery.</td>
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<td></td>
<td>Install and monitor erosion-prevention measures (BMPs), such as silt fences and water breaks, detention basins, filter fences, sediment berms, interceptor ditches, straw bales, rip-rap, and/or other sediment control structures; re-spread stockpiled topsoil; and seed/re-vegetate areas temporarily cleared of vegetation.</td>
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<td></td>
<td>Retain on-Site vegetation to the maximum extent possible.</td>
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<td></td>
<td>Plant and maintain soil-stabilizing vegetation on disturbed areas.</td>
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<td></td>
<td>Use native vegetation to re-vegetate disturbed soils.</td>
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<td>The construction contractor would obtain all required permits before any proposed construction activities commence and would adhere to permit conditions during all on-Site construction activities.</td>
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<td></td>
<td>Maintain areas of the Site for agricultural use (via lease) until those areas are needed for development of each future phase of the final MP5 design.</td>
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<tr>
<td>Water Resources (Surface Waters and Wetlands; Floodplains; Groundwater; Coastal Zone Management)</td>
<td>Avoid development within on-Site wetlands/Waters of the US.</td>
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<td></td>
<td>Adequately addresses permit(s) from, the USACE, State agencies (SJRWMD and FDEP), and attempt to address local agencies (Brevard County), to minimize adverse effects to wetlands/Waters of the US prior to construction.</td>
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<td></td>
<td>Develop a site design that avoids on-Site and adjacent wetlands, surface waters and floodplains to the maximum extent possible.</td>
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<td>Maintain a buffer of undisturbed land around wetlands/Waters of the US.</td>
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<td>Develop a site design that accounts for pre/post 100-year volume stormwater drainage.</td>
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<td></td>
<td>Implement pre/post 100-year volume stormwater retention.</td>
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<td>Implement Stormwater Management Facilities (SWMFs) and other related stormwater management infrastructure for the Site.</td>
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<td>Address the potential for sinkhole formation and the potential for direct discharge to the aquifer (i.e., groundwater table).</td>
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<td></td>
<td>Develop a site design that avoids interaction and prevents surface water run-off to the on-Site and adjacent surface waters.</td>
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</tbody>
</table>
Inspect and maintain construction vehicles in good working order and maintain a spill kit.

Raise the elevation (using excess on-Site soils) of select burial areas to avoid contact with the high groundwater table.

### Wildlife and Habitat

| Construction should be timed to avoid nesting periods of migratory birds on the Site and protected under the MBTA. This Act prohibits the taking of migratory birds, their nests, and eggs. Thus, it is recommended that tree removal at the Site be conducted outside the migratory bird nesting seasons of December through July so that nests are not disturbed. If it is not practical to clear the Site 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. |
| Native species would be used to the extent practicable when re-vegetating land disturbed by construction to avoid the potential introduction of non-native or invasive species. |
| A sensitive design approach has been implemented to allow for the avoidance of wetlands/Water of the US (see Section 3.4). |
| Continue to consult with the USFWS to minimize adverse effects to protected wildlife resources prior to and during construction. |

### Noise

| Coordinate proposed construction activities in advance with adjacent sensitive receptors (residents). Let the local residents know what operations would be occurring at what times, including when operations would start and when they would finish each day. Post signage, updated daily, at the entry points of the site provide current construction information, including schedule and activity. |
| Limit, to the extent possible, construction and associated heavy truck traffic to occur between 7:00 a.m. and 10:00 p.m. during normal, weekday work hours. This measure would reduce noise effects during sensitive nighttime hours. |
| Locate stationary 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. |
| Encourage construction personnel to operate equipment in the quietest manner practicable (e.g., speed restrictions, retarder brake restrictions, engine speed restrictions, etc.). |
| Limit M-16 rifle salute noise impacts from ceremonial rifle salutes by conducting salutes during daytime hours between 7:00 AM and 4:00 PM. |
| Limit the number of salutes to 3-5 rifles during an individual committal ceremony. |
| Maintain the tree-lined Site perimeter to further reduce noise impacts beyond the Site. |
| **Solid and Hazardous Materials** | Comply with existing VA Standard Operating Procedures (SOPs) and applicable Federal and State laws governing the use, generation, storage, or transportation of solid or hazardous materials.  
If hazardous substances are released to the Site during construction or operation, these applicable Federal and State requirements must be followed in response and cleanup.  
Avoid or limit the use of hazardous materials, including building material products, during construction and operation of the National Cemetery. If hazardous materials are required during construction and/or operation of the National Cemetery, store in locations designated for hazardous materials (locked and labeled metal cabinets). |
| **Transportation and Parking** | Use results presented in the Traffic Impact Analysis for the Proposed Action to identify transportation conditions and recommended improvements.  
Coordinate with the Florida Department of Transportation (FDOT) to ensure that construction and operational traffic are considered in the planning of future transportation improvements in this vicinity.  
Coordinate with FDOT to identify and implement roadway improvements, as necessary, such as turn lanes and signals.  
Ensure debris and/or soil is not deposited on local roadways during the construction period.  
Ensure construction activities do not adversely affect traffic flow on local roadways; construction would be timed to avoid peak travel hours. |
| **Utilities** | Submit design plans to each utility provider to determine specific connection requirements and implement the necessary connection requirements. |

### 5.1 Management Measures

With implementation of the routine “management measures” described in Table 2, the Preferred Action Alternative would not result in significant adverse effects to, and would reduce any identified potential adverse effects to, the current environment.

### 5.2 Mitigation Measures

Since the Proposed Action does not present any significant adverse effects on the technical resource areas evaluated, specific mitigation measures were not required. Several BMPs have been recommended for specific resource areas to assist in maintaining possible effects of the Proposed Action to no effect or minor less-than-significant effects. These BMPs are identified in detail in Chapter 3 and in Table 2.
6. CONCLUSIONS

This SEA analyzed the potential environmental effects of VA’s Proposed Action to construct and operate Phase 2 of the National Cemetery in Mims, Brevard County, Florida. As described in Section 1.2, this SEA has been derived from a Final PEA prepared by VA on July 17, 2012 (VA 2012a).

This SEA evaluated two alternatives: (1) Preferred Action Alternative – implement VA’s proposed Phase 2 design, and 2) the No Action Alternative - do not develop Phase 2 of National Cemetery at this site.

This SEA evaluated possible effects to aesthetics; air quality; cultural resources; geology, topography and soils; water resources (surface water, wetlands, groundwater, floodplains, and coastal zone management); wildlife and habitat; noise; land use; socioeconomics; community services; solid and hazardous materials; transportation and parking; utilities; and environmental justice.

The SEA concludes there would be no significant adverse direct, indirect, or cumulative effect on the local environment or quality of life associated with implementing the Preferred Action, provided the management measures (BMPs) identified in Table 2 and discussed in Chapter 3 are implemented. Therefore, this SEA concludes that a FONSI is appropriate and that an EIS is not required.
7. LIST OF PREPARERS

Department of Veterans Affairs Staff

Fernando Fernandez
Environmental Engineer
U.S. Department of Veterans Affairs Office of Construction & Facilities Management

Environmental Services, Inc. a Terracon Company

<table>
<thead>
<tr>
<th>Name</th>
<th>Role</th>
<th>Years of Experience</th>
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<tbody>
<tr>
<td>G. Howalt, PWS</td>
<td>Principal in Charge, Subject Matter Expert, Document Review, QA/QC</td>
<td>41</td>
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<tr>
<td>B. Anderson</td>
<td>Project Manager, Document Preparation and Review</td>
<td>15</td>
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<tr>
<td>S. Fahey</td>
<td>Environmental Scientist, Document Preparation</td>
<td>2</td>
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8. REFERENCES CITED


FDEP 2011. Florida Department of Environmental Protection. 2011


VA 2012b. VA Master Plan 1 for the Central East Florida National Cemetery. 2012.


VA 2013b. VA Noise from M-16 Rifle. Email December 2013.

Weaver Boos 2011. Phase I Environmental Site Assessment (ESA), Approximately 318 Acres Along U.S. Highway 1, Between Pearl Street and Johns Road, Scottsmoor, Brevard County, Florida. July 2011.
9. LIST OF ACRONYMS AND ABBREVIATIONS

<table>
<thead>
<tr>
<th>Acronym</th>
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<td>above mean sea level</td>
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</table>
10. AGENCIES AND INDIVIDUALS CONSULTED

Native American Tribes

Coushatta Tribe of Louisiana
Linda Langley, THPO
PO Box 10
Elton, Louisiana 70532

Misccosukee Tribe of Indians
Fred Dayhoff, THPO
HC61SR68 Old Loop Road
Ochopee, Florida 34141

Muscogee Nation of Florida
Tribal Historic Preservation Officer
278 Church Road
Bruce, Florida 32455-4402

Poarch Band of Creek Indians of Alabama
Robert Thower, THPO
5811 Jack Springs Road
Atmore, Alabama 36502

Ponca Tribe of Nebraska
Randy Teboe, THPO

Seminole Tribe of Florida
William Steele, Compliance Officer
6300 Stirling Road
Hollywood, Florida 33024

Federal Agencies

U.S. Army Corps of Engineers – Jacksonville
Public Affairs Office
701 San Marco Boulevard
Jacksonville, Florida 32207

U.S. Army Corps of Engineers – Cocoa
Regulatory Field Office
400 High Point Drive, Suite 600
Cocoa, Florida 32926

U.S. Environmental Protection Agency, Region 4
Office of Public Affairs
Sam Nunn Atlanta Federal Center
61 Forsyth Street SW
Atlanta, Georgia 30303

U.S. Fish and Wildlife Service – Southeast Region
Office of External Affairs
1875 Century Boulevard
Atlanta, Georgia 30345

State Agencies

Florida Department of Environmental Protection
Office of the Ombudsman and Public Services
Attention: Public Records Custodian
3900 Commonwealth Boulevard, MS 49
Tallahassee, Florida 32399

Florida Department of Environmental Protection
Coastal Management Program
3900 Commonwealth Boulevard, MS 47
Tallahassee, Florida 32399

Florida Division of Historical Resources
State Historic Preservation Office
500 S. Bronough Street
Tallahassee, Florida 32399
Florida Department of Transportation
Ms. Stephanie C. Kopelousos
Secretary of Transportation
605 Suwannee Street
Tallahassee, Florida 32399

Florida Wildlife Commission
3900 Drane Field Road
Lakeland, Florida 33811

Florida Natural Areas Inventory
1018 Thomasville Road
Tallahassee, Florida 32303

Florida Fish and Wildlife Conservation Commission
620 S. Meridian Street, MS 5B5
Tallahassee, Florida 32399

Florida Fish and Wildlife Conservation Commission
Species Conservation Planning Section
8535 Northlake Boulevard
West Palm Beach, Florida 33412

St. Johns River Water Management District
P.O. Box 1429
Palatka, Florida 32178

St. Johns River Water Management District
Palm Bay Service Center
525 Community College Parkway SE
Palm Bay, Florida 32909

County Agencies

Brevard County Division of Parks and Recreation
2725 Judge Fran Jamieson Way, B203
Viera, Florida 32940

Brevard County Economic Development Commission
597 Haverty Court, Suite 40
Rockledge, Florida 32955

Brevard County Fire Rescue Department
1040 S. Florida Avenue
Rockledge, Florida 32955

Brevard County Health Department
2575 N. Courtenay Parkway
Merritt Island, Florida 32953

Brevard County Natural Resources Management Office
2725 Judge Fran Jamieson Way, Building A
Viera, Florida 32940

Brevard County Property Appraiser
400 South Street, 5th Floor
Titusville, Florida 32780

Brevard County Planning & Development Department
Martha Deneher
2725 Judge Fran Jamieson Way, Building A
Viera, Florida 32940

Brevard County Public Works Department
2725 Judge Fran Jamieson Way, Building A
Viera, Florida 32940
Appendix A:

Draft Notice of Availability
The Department of Veterans Affairs (VA) announces the availability of a Draft Site-Specific Environmental Assessment (SEA) for the proposed construction and operation of Phase 2 of the Cape Canaveral National Cemetery located at 5525 US-1, Mims, Florida 32754. The Draft SEA was prepared in accordance with the National Environmental Policy Act (NEPA) to determine the potential environmental, cultural, and socioeconomic impacts associated with the completion of Phase 2 of the Cape Canaveral National Cemetery. The Phase 2 development of the Cape Canaveral National Cemetery will consist of the creation of approximately 32,320 gravesites including approximately 12,320 columbarium niches, 7,700 full-casket and 12,300 cremains gravesites. In addition to the gravesites, Phase 2 will include the development of a 4.75-acre retention pond with an aerated fountain; interior roads; and associated utilities and infrastructures. The Draft SEA concludes that no significant impacts to the environment would result, and the VA is proposing to issue a Finding of No Significant Impact (FONSI). The VA intends to issue a FONSI following a thirty (30) day comment period in accordance with the Council of Environmental Quality Regulations for implementing NEPA, Section 1508.13 and the VA NEPA Interim Guidance for Projects providing there are no substantive comments that warrant further evaluation. You may view the Draft SEA at http://www.cem.va.gov/cem/EA.asp, the Mims Scottsmoor Public Library (3615 Lionel Road, Mims, Florida 32754) or at the Oak Hill Public Library (125 East Halifax Avenue, Oak Hill, Florida 32759). Comments on the Draft SEA should be addressed to: Fernando Fernandez at Fernando.Fernandez@va.gov or at (202) 876-7608, or mail comments to Department of Veterans Affairs Office of Construction & Facility Management, 425 I Street Northwest, Suite 6W471A, Washington D.C., 20001.
Appendix B:

Stakeholder, NEPA and Section 106 Letters
U.S. Army Corps of Engineers - Jacksonville

John Campbell
Public Affairs Office
701 San Marco Boulevard
Jacksonville, FL  32207

RE:  Department of Veterans Affairs

       Site Specific Environmental Assessment for Cape Canaveral National Cemetery
       Phase 2
       Mims, Brevard County, Florida

Dear Mr. Campbell,

The Department of Veterans Affairs (VA) intends to prepare a Site-Specific Environmental Assessment for the proposed Phase 2 expansion of the Cape Canaveral National Cemetery (CCNC) in Mims, Brevard County, Florida. The cemetery is located at 5525 US Highway 1, Mims, Florida 32754.

The purpose of the Phase 2 expansion is to continue to enable the VA to provide eligible Veterans and their families with a national cemetery of sufficient size and capacity to serve the projected needs of the region. The proposed project sets out to expand the existing cemetery facility by approximately 52 acres and represents a continuation of an anticipated seven phase cemetery build-out. In total, the Phase 2 area would include 20,074 gravesites (included both preplaced crypts and urn crypts) in 20 sections. Other improvements include stormwater retention areas, interior roads, utilities and infrastructure, and signage. The land proposed for development is owned by the VA and is currently a mix of improved and unimproved cleared lands, stormwater ponds, and interior roadways.

The entirety of the CCNC was subject to both a Programmatic Environmental Assessment in 2012 and a previous Site-Specific Environmental Assessment 2014 associated with Phase 1. Now that Phase 2 is under development, the VA is soliciting input on any concerns or applicable
information regarding Phase 2. Information received will be incorporated into the Phase 2 SEA. There will be a public comment period once the draft SEA for Phase 2 is complete.

The VA appreciates your assistance in this matter and ask that you inform the VA if you an interest in the proposed project within 30 days from the date of this letter. If you would like to comment on the proposed project, please contact Fernando Fernandez at Fernando.Fernandez@va.gov or at (202) 632-5529, or mail comments to Department of Veterans Affairs, 425 I Street Northwest, Suite 6W.317D, Washington D.C., 20420.

Sincerely,

Fernando L. Fernández
Environmental Engineer
U.S. Department of Veterans Affairs
Construction and Facilities Management Office
Dear Mr. Palmer,

The Department of Veterans Affairs (VA) intends to prepare a Site-Specific Environmental Assessment for the proposed Phase 2 expansion of the Cape Canaveral National Cemetery (CCNC) in Mims, Brevard County, Florida. The cemetery is located at 5525 US Highway 1, Mims, Florida 32754.

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The VA appreciates your assistance in this matter and ask that you inform the VA if you an interest in the proposed project within 30 days from the date of this letter. If you would like to comment on the proposed project, please contact Fernando Fernandez at Fernando.Fernandez@va.gov or at (202) 632-5529, or mail comments to Department of Veterans Affairs, 425 I Street Northwest, Suite 6W.317D, Washington D.C., 20420.

Sincerely,

Fernando L. Fernández
Environmental Engineer
U.S. Department of Veterans Affairs
Construction and Facilities Management Office
Brevard County Division of Parks and Recreation
Mary Ellen Donner, Director
2725 Judge Fran Jamieson Way, B203
Viera, FL 32940

RE: Department of Veterans Affairs
   Site Specific Environmental Assessment for Cape Canaveral National Cemetery
   Phase 2
   Mims, Brevard County, Florida

Dear Ms. Donner,

The Department of Veterans Affairs (VA) intends to prepare a Site-Specific Environmental Assessment for the proposed Phase 2 expansion of the Cape Canaveral National Cemetery (CCNC) in Mims, Brevard County, Florida. The cemetery is located at 5525 US Highway 1, Mims, Florida 32754.

The purpose of the Phase 2 expansion is to continue to enable the VA to provide eligible Veterans and their families with a national cemetery of sufficient size and capacity to serve the projected needs of the region. The proposed project sets out to expand the existing cemetery facility by approximately 52 acres and represents a continuation of an anticipated seven phase cemetery build-out. In total, the Phase 2 area would include 20,074 gravesites (included both preplaced crypts and urn crypts) in 20 sections. Other improvements include stormwater retention areas, interior roads, utilities and infrastructure, and signage. The land proposed for development is owned by the VA and is currently a mix of improved and unimproved cleared lands, stormwater ponds, and interior roadways.

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The VA appreciates your assistance in this matter and ask that you inform the VA if you an interest in the proposed project within 30 days from the date of this letter. If you would like to comment on the proposed project, please contact Fernando Fernandez at Fernando.Fernandez@va.gov or at (202) 632-5529, or mail comments to Department of Veterans Affairs, 425 I Street Northwest, Suite 6W.317D, Washington D.C., 20420.

Sincerely,

Fernando L. Fernández
Environmental Engineer
U.S. Department of Veterans Affairs
Construction and Facilities Management Office
Brevard County Economic Development Commission

Frank Abbate, County Manager
597 Haverty Court, Suite 40
Rockledge, FL 32955

RE:  Department of Veterans Affairs
Site Specific Environmental Assessment for Cape Canaveral National Cemetery
Phase 2
Mims, Brevard County, Florida

Dear Mr. Abbate,

The Department of Veterans Affairs (VA) intends to prepare a Site-Specific Environmental Assessment for the proposed Phase 2 expansion of the Cape Canaveral National Cemetery (CCNC) in Mims, Brevard County, Florida. The cemetery is located at 5525 US Highway 1, Mims, Florida 32754.

The purpose of the Phase 2 expansion is to continue to enable the VA to provide eligible Veterans and their families with a national cemetery of sufficient size and capacity to serve the projected needs of the region. The proposed project sets out to expand the existing cemetery facility by approximately 52 acres and represents a continuation of an anticipated seven phase cemetery build-out. In total, the Phase 2 area would include 20,074 gravesites (included both preplaced crypts and urn crypts) in 20 sections. Other improvements include stormwater retention areas, interior roads, utilities and infrastructure, and signage. The land proposed for development is owned by the VA and is currently a mix of improved and unimproved cleared lands, stormwater ponds, and interior roadways.

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The VA appreciates your assistance in this matter and ask that you inform the VA if you an interest in the proposed project within 30 days from the date of this letter. If you would like to comment on the proposed project, please contact Fernando Fernandez at Fernando.Fernandez@va.gov or at (202) 632-5529, or mail comments to Department of Veterans Affairs, 425 I Street Northwest, Suite 6W.317D, Washington D.C., 20420.

Sincerely,

Fernando L. Fernández  
Environmental Engineer  
U.S. Department of Veterans Affairs  
Construction and Facilities Management Office
Brevard County Fire Rescue Department

Mark Schollmeyer, Fire Chief

1040 S. Florida Avenue

Rockledge, FL  32955

RE:  Department of Veterans Affairs

Site Specific Environmental Assessment for Cape Canaveral National Cemetery

Phase 2

Mims, Brevard County, Florida

Dear Mr. Schollmeyer,

The Department of Veterans Affairs (VA) intends to prepare a Site-Specific Environmental Assessment for the proposed Phase 2 expansion of the Cape Canaveral National Cemetery (CCNC) in Mims, Brevard County, Florida. The cemetery is located at 5525 US Highway 1, Mims, Florida 32754.

The purpose of the Phase 2 expansion is to continue to enable the VA to provide eligible Veterans and their families with a national cemetery of sufficient size and capacity to serve the projected needs of the region. The proposed project sets out to expand the existing cemetery facility by approximately 52 acres and represents a continuation of an anticipated seven phase cemetery build-out. In total, the Phase 2 area would include 20,074 gravesites (included both preplaced crypts and urn crypts) in 20 sections. Other improvements include stormwater retention areas, interior roads, utilities and infrastructure, and signage. The land proposed for development is owned by the VA and is currently a mix of improved and unimproved cleared lands, stormwater ponds, and interior roadways.

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The VA appreciates your assistance in this matter and ask that you inform the VA if you an interest in the proposed project within 30 days from the date of this letter. If you would like to comment on the proposed project, please contact Fernando Fernandez at Fernando.Fernandez@va.gov or at (202) 632-5529, or mail comments to Department of Veterans Affairs, 425 I Street Northwest, Suite 6W.317D, Washington D.C., 20420.

Sincerely,

Fernando L. Fernández
Environmental Engineer
U.S. Department of Veterans Affairs
Construction and Facilities Management Office
Brevard County Health Department

Maria Stahl, DNP, RN
2575 N. Courtenay Parkway
Merritt Island, FL  32953

RE:  Department of Veterans Affairs

Site Specific Environmental Assessment for Cape Canaveral National Cemetery

Phase 2

Mims, Brevard County, Florida

Dear Ms. Stahl,

The Department of Veterans Affairs (VA) intends to prepare a Site-Specific Environmental Assessment for the proposed Phase 2 expansion of the Cape Canaveral National Cemetery (CCNC) in Mims, Brevard County, Florida. The cemetery is located at 5525 US Highway 1, Mims, Florida 32754.

The purpose of the Phase 2 expansion is to continue to enable the VA to provide eligible Veterans and their families with a national cemetery of sufficient size and capacity to serve the projected needs of the region. The proposed project sets out to expand the existing cemetery facility by approximately 52 acres and represents a continuation of an anticipated seven phase cemetery build-out. In total, the Phase 2 area would include 20,074 gravesites (included both preplaced crypts and urn crypts) in 20 sections. Other improvements include stormwater retention areas, interior roads, utilities and infrastructure, and signage. The land proposed for development is owned by the VA and is currently a mix of improved and unimproved cleared lands, stormwater ponds, and interior roadways.

The entirety of the CCNC was subject to both a Programmatic Environmental Assessment in 2012 and a previous Site-Specific Environmental Assessment 2014 associated with Phase 1. Now that Phase 2 is under development, the VA is soliciting input on any concerns or applicable information regarding Phase 2. Information received will be incorporated into the Phase 2 SEA. There will be a public comment period once the draft SEA for Phase 2 is complete.
The VA appreciates your assistance in this matter and ask that you inform the VA if you an interest in the proposed project within 30 days from the date of this letter. If you would like to comment on the proposed project, please contact Fernando Fernandez at Fernando.Fernandez@va.gov or at (202) 632-5529, or mail comments to Department of Veterans Affairs, 425 I Street Northwest, Suite 6W.317D, Washington D.C., 20420.

Sincerely,

Fernando L. Fernández
Environmental Engineer
U.S. Department of Veterans Affairs
Construction and Facilities Management Office
18 February 2020

Brevard County Natural Resources Management Office
Virginia Barker, Director
2725 Judge Fran Jamieson Way, Building A
Viera, FL 32940

RE: Department of Veterans Affairs
Site Specific Environmental Assessment for Cape Canaveral National Cemetery
Phase 2
Mims, Brevard County, Florida

Dear Ms. Barker,

The Department of Veterans Affairs (VA) intends to prepare a Site-Specific Environmental Assessment for the proposed Phase 2 expansion of the Cape Canaveral National Cemetery (CCNC) in Mims, Brevard County, Florida. The cemetery is located at 5525 US Highway 1, Mims, Florida 32754.

The purpose of the Phase 2 expansion is to continue to enable the VA to provide eligible Veterans and their families with a national cemetery of sufficient size and capacity to serve the projected needs of the region. The proposed project sets out to expand the existing cemetery facility by approximately 52 acres and represents a continuation of an anticipated seven phase cemetery build-out. In total, the Phase 2 area would include 20,074 gravesites (included both preplaced crypts and urn crypts) in 20 sections. Other improvements include stormwater retention areas, interior roads, utilities and infrastructure, and signage. The land proposed for development is owned by the VA and is currently a mix of improved and unimproved cleared lands, stormwater ponds, and interior roadways.

The entirety of the CCNC was subject to both a Programmatic Environmental Assessment in 2012 and a previous Site-Specific Environmental Assessment 2014 associated with Phase 1. Now that Phase 2 is under development, the VA is soliciting input on any concerns or applicable information regarding Phase 2. Information received will be incorporated into the Phase 2 SEA. There will be a public comment period once the draft SEA for Phase 2 is complete.
The VA appreciates your assistance in this matter and ask that you inform the VA if you an interest in the proposed project within 30 days from the date of this letter. If you would like to comment on the proposed project, please contact Fernando Fernandez at Fernando.Fernandez@va.gov or at (202) 632-5529, or mail comments to Department of Veterans Affairs, 425 I Street Northwest, Suite 6W.317D, Washington D.C., 20420.

Sincerely,

Fernando L. Fernández
Environmental Engineer
U.S. Department of Veterans Affairs
Construction and Facilities Management Office
DEPARTMENT OF VETERANS AFFAIRS  
OFFICE OF CONSTRUCTION AND FACILITIES MANAGEMENT  
WASHINGTON DC 20420  

18 February 2020  

Brevard County Property Appraiser  
Dana Blickley  
400 South Street, 5th Floor  
Titusville, FL 32780  

RE: Department of Veterans Affairs  

Site Specific Environmental Assessment for Cape Canaveral National Cemetery  

Phase 2  

Mims, Brevard County, Florida  

Dear Ms. Blickley,  

The Department of Veterans Affairs (VA) intends to prepare a Site-Specific Environmental Assessment for the proposed Phase 2 expansion of the Cape Canaveral National Cemetery (CCNC) in Mims, Brevard County, Florida. The cemetery is located at 5525 US Highway 1, Mims, Florida 32754.  

The purpose of the Phase 2 expansion is to continue to enable the VA to provide eligible Veterans and their families with a national cemetery of sufficient size and capacity to serve the projected needs of the region. The proposed project sets out to expand the existing cemetery facility by approximately 52 acres and represents a continuation of an anticipated seven phase cemetery build-out. In total, the Phase 2 area would include 20,074 gravesites (included both preplaced crypts and urn crypts) in 20 sections. Other improvements include stormwater retention areas, interior roads, utilities and infrastructure, and signage. The land proposed for development is owned by the VA and is currently a mix of improved and unimproved cleared lands, stormwater ponds, and interior roadways.  

The entirety of the CCNC was subject to both a Programmatic Environmental Assessment in 2012 and a previous Site-Specific Environmental Assessment 2014 associated with Phase 1. Now that Phase 2 is under development, the VA is soliciting input on any concerns or applicable information regarding Phase 2. Information received will be incorporated into the Phase 2 SEA. There will be a public comment period once the draft SEA for Phase 2 is complete.
The VA appreciates your assistance in this matter and ask that you inform the VA if you an interest in the proposed project within 30 days from the date of this letter. If you would like to comment on the proposed project, please contact Fernando Fernandez at Fernando.Fernandez@va.gov or at (202) 632-5529, or mail comments to Department of Veterans Affairs, 425 I Street Northwest, Suite 6W.317D, Washington D.C., 20420.

Sincerely,

Fernando L. Fernández
Environmental Engineer
U.S. Department of Veterans Affairs
Construction and Facilities Management Office
Brevard County Planning & Development Department

Ms. Martha Deneher

2725 Judge Fran Jamieson Way, Building A

Viera, FL  32940

RE:    Department of Veterans Affairs
       Site Specific Environmental Assessment for Cape Canaveral National Cemetery
       Phase 2
       Mims, Brevard County, Florida

Dear Ms. Deneher,

The Department of Veterans Affairs (VA) intends to prepare a Site-Specific Environmental Assessment for the proposed Phase 2 expansion of the Cape Canaveral National Cemetery (CCNC) in Mims, Brevard County, Florida. The cemetery is located at 5525 US Highway 1, Mims, Florida 32754.

The purpose of the Phase 2 expansion is to continue to enable the VA to provide eligible Veterans and their families with a national cemetery of sufficient size and capacity to serve the projected needs of the region. The proposed project sets out to expand the existing cemetery facility by approximately 52 acres and represents a continuation of an anticipated seven phase cemetery build-out. In total, the Phase 2 area would include 20,074 gravesites (included both preplaced crypts and urn crypts) in 20 sections. Other improvements include stormwater retention areas, interior roads, utilities and infrastructure, and signage. The land proposed for development is owned by the VA and is currently a mix of improved and unimproved cleared lands, stormwater ponds, and interior roadways.

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The VA appreciates your assistance in this matter and ask that you inform the VA if you an interest in the proposed project within 30 days from the date of this letter. If you would like to comment on the proposed project, please contact Fernando Fernandez at Fernando.Fernandez@va.gov or at (202) 632-5529, or mail comments to Department of Veterans Affairs, 425 I Street Northwest, Suite 6W.317D, Washington D.C., 20420.

Sincerely,

Fernando L. Fernández
Environmental Engineer
U.S. Department of Veterans Affairs
Construction and Facilities Management Office
Brevard County Public Works Department

Corrina Gumm
2725 Judge Fran Jamieson Way, Building A
Viera, FL 32940

RE: Department of Veterans Affairs
Site Specific Environmental Assessment for Cape Canaveral National Cemetery
Phase 2
Mims, Brevard County, Florida

Dear Ms. Gumm,

The Department of Veterans Affairs (VA) intends to prepare a Site-Specific Environmental Assessment for the proposed Phase 2 expansion of the Cape Canaveral National Cemetery (CCNC) in Mims, Brevard County, Florida. The cemetery is located at 5525 US Highway 1, Mims, Florida 32754.

The purpose of the Phase 2 expansion is to continue to enable the VA to provide eligible Veterans and their families with a national cemetery of sufficient size and capacity to serve the projected needs of the region. The proposed project sets out to expand the existing cemetery facility by approximately 52 acres and represents a continuation of an anticipated seven phase cemetery build-out. In total, the Phase 2 area would include 20,074 gravesites (included both preplaced crypts and urn crypts) in 20 sections. Other improvements include stormwater retention areas, interior roads, utilities and infrastructure, and signage. The land proposed for development is owned by the VA and is currently a mix of improved and unimproved cleared lands, stormwater ponds, and interior roadways.

The entirety of the CCNC was subject to both a Programmatic Environmental Assessment in 2012 and a previous Site-Specific Environmental Assessment 2014 associated with Phase 1. Now that Phase 2 is under development, the VA is soliciting input on any concerns or applicable information regarding Phase 2. Information received will be incorporated into the Phase 2 SEA. There will be a public comment period once the draft SEA for Phase 2 is complete.
The VA appreciates your assistance in this matter and ask that you inform the VA if you an interest in the proposed project within 30 days from the date of this letter. If you would like to comment on the proposed project, please contact Fernando Fernandez at Fernando.Fernandez@va.gov or at (202) 632-5529, or mail comments to Department of Veterans Affairs, 425 I Street Northwest, Suite 6W.317D, Washington D.C., 20420.

Sincerely,

Fernando L. Fernández
Environmental Engineer
U.S. Department of Veterans Affairs
Construction and Facilities Management Office
U.S. Environmental Protection Agency, Region 4  
Brandi Jenkins  
Office of Public Affairs  
Sam Nunn Atlanta Federal Center  
61 Forsyth Street SW  
Atlanta, GA 30303  

RE: Department of Veterans Affairs  
Site Specific Environmental Assessment for Cape Canaveral National Cemetery  
Phase 2  
Mims, Brevard County, Florida  

Dear Ms. Jenkins,  
The Department of Veterans Affairs (VA) intends to prepare a Site-Specific Environmental Assessment for the proposed Phase 2 expansion of the Cape Canaveral National Cemetery (CCNC) in Mims, Brevard County, Florida. The cemetery is located at 5525 US Highway 1, Mims, Florida 32754.

The purpose of the Phase 2 expansion is to continue to enable the VA to provide eligible Veterans and their families with a national cemetery of sufficient size and capacity to serve the projected needs of the region. The proposed project sets out to expand the existing cemetery facility by approximately 52 acres and represents a continuation of an anticipated seven phase cemetery build-out. In total, the Phase 2 area would include 20,074 gravesites (included both preplaced crypts and urn crypts) in 20 sections. Other improvements include stormwater retention areas, interior roads, utilities and infrastructure, and signage. The land proposed for development is owned by the VA and is currently a mix of improved and unimproved cleared lands, stormwater ponds, and interior roadways.

The entirety of the CCNC was subject to both a Programmatic Environmental Assessment in 2012 and a previous Site-Specific Environmental Assessment 2014 associated with Phase 1. Now that
Phase 2 is under development, the VA is soliciting input on any concerns or applicable information regarding Phase 2. Information received will be incorporated into the Phase 2 SEA. There will be a public comment period once the draft SEA for Phase 2 is complete.

The VA appreciates your assistance in this matter and ask that you inform the VA if you an interest in the proposed project within 30 days from the date of this letter. If you would like to comment on the proposed project, please contact Fernando Fernandez at Fernando.Fernandez@va.gov or at (202) 632-5529, or mail comments to Department of Veterans Affairs, 425 I Street Northwest, Suite 6W.317D, Washington D.C., 20420.

Sincerely,

Fernando L. Fernández
Environmental Engineer
U.S. Department of Veterans Affairs
Construction and Facilities Management Office
Florida Department of Environmental Protection

John Calhoun, Director
Office of the Ombudsman and Public Services
3900 Commonwealth Boulevard, MS 49
Tallahassee, FL 32399

RE: Department of Veterans Affairs
Site Specific Environmental Assessment for Cape Canaveral National Cemetery
Phase 2
Mims, Brevard County, Florida

Dear Mr. Calhoun,

The Department of Veterans Affairs (VA) intends to prepare a Site-Specific Environmental Assessment for the proposed Phase 2 expansion of the Cape Canaveral National Cemetery (CCNC) in Mims, Brevard County, Florida. The cemetery is located at 5525 US Highway 1, Mims, Florida 32754.

The purpose of the Phase 2 expansion is to continue to enable the VA to provide eligible Veterans and their families with a national cemetery of sufficient size and capacity to serve the projected needs of the region. The proposed project sets out to expand the existing cemetery facility by approximately 52 acres and represents a continuation of an anticipated seven phase cemetery build-out. In total, the Phase 2 area would include 20,074 gravesites (included both preplaced crypts and urn crypts) in 20 sections. Other improvements include stormwater retention areas, interior roads, utilities and infrastructure, and signage. The land proposed for development is owned by the VA and is currently a mix of improved and unimproved cleared lands, stormwater ponds, and interior roadways.

The entirety of the CCNC was subject to both a Programmatic Environmental Assessment in 2012 and a previous Site-Specific Environmental Assessment 2014 associated with Phase 1. Now that Phase 2 is under development, the VA is soliciting input on any concerns or applicable
information regarding Phase 2. Information received will be incorporated into the Phase 2 SEA. There will be a public comment period once the draft SEA for Phase 2 is complete.

The VA appreciates your assistance in this matter and ask that you inform the VA if you an interest in the proposed project within 30 days from the date of this letter. If you would like to comment on the proposed project, please contact Fernando Fernandez at Fernando.Fernandez@va.gov or at (202) 632-5529, or mail comments to Department of Veterans Affairs, 425 I Street Northwest, Suite 6W.317D, Washington D.C., 20420.

Sincerely,

Fernando L. Fernández
Environmental Engineer
U.S. Department of Veterans Affairs
Construction and Facilities Management Office
Florida Department of Environmental Protection  
Alex Reed  
Coastal Management Program  
3900 Commonwealth Boulevard, MS 47  
Tallahassee, FL 32399  

RE: Department of Veterans Affairs  
Site Specific Environmental Assessment for Cape Canaveral National Cemetery  
Phase 2  
Mims, Brevard County, Florida

Dear Mr. Reed,

The Department of Veterans Affairs (VA) intends to prepare a Site-Specific Environmental Assessment for the proposed Phase 2 expansion of the Cape Canaveral National Cemetery (CCNC) in Mims, Brevard County, Florida. The cemetery is located at 5525 US Highway 1, Mims, Florida 32754.

The purpose of the Phase 2 expansion is to continue to enable the VA to provide eligible Veterans and their families with a national cemetery of sufficient size and capacity to serve the projected needs of the region. The proposed project sets out to expand the existing cemetery facility by approximately 52 acres and represents a continuation of an anticipated seven phase cemetery build-out. In total, the Phase 2 area would include 20,074 gravesites (included both preplaced crypts and urn crypts) in 20 sections. Other improvements include stormwater retention areas, interior roads, utilities and infrastructure, and signage. The land proposed for development is owned by the VA and is currently a mix of improved and unimproved cleared lands, stormwater ponds, and interior roadways.

The entirety of the CCNC was subject to both a Programmatic Environmental Assessment in 2012 and a previous Site-Specific Environmental Assessment 2014 associated with Phase 1. Now that Phase 2 is under development, the VA is soliciting input on any concerns or applicable
information regarding Phase 2. Information received will be incorporated into the Phase 2 SEA. There will be a public comment period once the draft SEA for Phase 2 is complete.

The VA appreciates your assistance in this matter and ask that you inform the VA if you an interest in the proposed project within 30 days from the date of this letter. If you would like to comment on the proposed project, please contact Fernando Fernandez at Fernando.Fernandez@va.gov or at (202) 632-5529, or mail comments to Department of Veterans Affairs, 425 I Street Northwest, Suite 6W.317D, Washington D.C., 20420.

Sincerely,

Fernando L. Fernández
Environmental Engineer
U.S. Department of Veterans Affairs
Construction and Facilities Management Office
Florida Division of Historical Resources
Timothy Parsons, PhD
State Historic Preservation Office
500 S. Bronough Street
Tallahassee, FL  32399

RE:  Department of Veterans Affairs
    Site Specific Environmental Assessment for Cape Canaveral National Cemetery
    Phase 2
    Mims, Brevard County, Florida

Dear Dr. Parsons,

The Department of Veterans Affairs (VA) intends to prepare a Site-Specific Environmental Assessment for the proposed Phase 2 expansion of the Cape Canaveral National Cemetery (CCNC) in Mims, Brevard County, Florida. The cemetery is located at 5525 US Highway 1, Mims, Florida 32754.

The purpose of the Phase 2 expansion is to continue to enable the VA to provide eligible Veterans and their families with a national cemetery of sufficient size and capacity to serve the projected needs of the region. The proposed project sets out to expand the existing cemetery facility by approximately 52 acres and represents a continuation of an anticipated seven phase cemetery build-out. In total, the Phase 2 area would include 20,074 gravesites (included both preplaced crypts and urn crypts) in 20 sections. Other improvements include stormwater retention areas, interior roads, utilities and infrastructure, and signage. The land proposed for development is owned by the VA and is currently a mix of improved and unimproved cleared lands, stormwater ponds, and interior roadways.

The entirety of the CCNC was subject to both a Programmatic Environmental Assessment in 2012 and a previous Site-Specific Environmental Assessment 2014 associated with Phase 1. Now that Phase 2 is under development, the VA is soliciting input on any concerns or applicable
information regarding Phase 2. Information received will be incorporated into the Phase 2 SEA. There will be a public comment period once the draft SEA for Phase 2 is complete.

The VA appreciates your assistance in this matter and ask that you inform the VA if you an interest in the proposed project within 30 days from the date of this letter. If you would like to comment on the proposed project, please contact Fernando Fernandez at Fernando.Fernandez@va.gov or at (202) 632-5529, or mail comments to Department of Veterans Affairs, 425 I Street Northwest, Suite 6W.317D, Washington D.C., 20420.

Sincerely,

Fernando L. Fernández
Environmental Engineer
U.S. Department of Veterans Affairs
Construction and Facilities Management Office
Florida Department of Transportation
Stephanie Kopelousos
Secretary of Transportation
605 Suwannee Street
Tallahassee, FL 32399

RE: Department of Veterans Affairs
Site Specific Environmental Assessment for Cape Canaveral National Cemetery
Phase 2
Mims, Brevard County, Florida

Dear Ms. Kopelousos,

The Department of Veterans Affairs (VA) intends to prepare a Site-Specific Environmental Assessment for the proposed Phase 2 expansion of the Cape Canaveral National Cemetery (CCNC) in Mims, Brevard County, Florida. The cemetery is located at 5525 US Highway 1, Mims, Florida 32754.

The purpose of the Phase 2 expansion is to continue to enable the VA to provide eligible Veterans and their families with a national cemetery of sufficient size and capacity to serve the projected needs of the region. The proposed project sets out to expand the existing cemetery facility by approximately 52 acres and represents a continuation of an anticipated seven phase cemetery build-out. In total, the Phase 2 area would include 20,074 gravesites (included both preplaced crypts and urn crypts) in 20 sections. Other improvements include stormwater retention areas, interior roads, utilities and infrastructure, and signage. The land proposed for development is owned by the VA and is currently a mix of improved and unimproved cleared lands, stormwater ponds, and interior roadways.

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information regarding Phase 2. Information received will be incorporated into the Phase 2 SEA. There will be a public comment period once the draft SEA for Phase 2 is complete.

The VA appreciates your assistance in this matter and ask that you inform the VA if you an interest in the proposed project within 30 days from the date of this letter. If you would like to comment on the proposed project, please contact Fernando Fernandez at Fernando.Fernandez@va.gov or at (202) 632-5529, or mail comments to Department of Veterans Affairs, 425 I Street Northwest, Suite 6W.317D, Washington D.C., 20420.

Sincerely,

Fernando L. Fernández
Environmental Engineer
U.S. Department of Veterans Affairs
Construction and Facilities Management Office
18 February 2020

Florida Wildlife Commission
Melody Kilborn
Office of Public Affairs
3900 Drane Field Road
Lakeland, FL  33811

RE: Department of Veterans Affairs

Site Specific Environmental Assessment for Cape Canaveral National Cemetery
Phase 2
Mims, Brevard County, Florida

Dear Ms. Kilborn,

The Department of Veterans Affairs (VA) intends to prepare a Site-Specific Environmental Assessment for the proposed Phase 2 expansion of the Cape Canaveral National Cemetery (CCNC) in Mims, Brevard County, Florida. The cemetery is located at 5525 US Highway 1, Mims, Florida 32754.

The purpose of the Phase 2 expansion is to continue to enable the VA to provide eligible Veterans and their families with a national cemetery of sufficient size and capacity to serve the projected needs of the region. The proposed project sets out to expand the existing cemetery facility by approximately 52 acres and represents a continuation of an anticipated seven phase cemetery build-out. In total, the Phase 2 area would include 20,074 gravesites (including both preplaced crypts and urn crypts) in 20 sections. Other improvements include stormwater retention areas, interior roads, utilities and infrastructure, and signage. The land proposed for development is owned by the VA and is currently a mix of improved and unimproved cleared lands, stormwater ponds, and interior roadways.

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The VA appreciates your assistance in this matter and ask that you inform the VA if you an interest in the proposed project within 30 days from the date of this letter. If you would like to comment on the proposed project, please contact Fernando Fernandez at Fernando.Fernandez@va.gov or at (202) 632-5529, or mail comments to Department of Veterans Affairs, 425 I Street Northwest, Suite 6W.317D, Washington D.C., 20420.

Sincerely,

Fernando L. Fernández
Environmental Engineer
U.S. Department of Veterans Affairs
Construction and Facilities Management Office
Florida Natural Areas Inventory
Dan Hipes, Director
Office of Public Affairs
1018 Thomasville Road
Tallahassee, FL  32303

RE:     Department of Veterans Affairs
        Site Specific Environmental Assessment for Cape Canaveral National Cemetery
        Phase 2
        Mims, Brevard County, Florida

Dear Mr. Hipes,

The Department of Veterans Affairs (VA) intends to prepare a Site-Specific Environmental Assessment for the proposed Phase 2 expansion of the Cape Canaveral National Cemetery (CCNC) in Mims, Brevard County, Florida. The cemetery is located at 5525 US Highway 1, Mims, Florida 32754.

The purpose of the Phase 2 expansion is to continue to enable the VA to provide eligible Veterans and their families with a national cemetery of sufficient size and capacity to serve the projected needs of the region. The proposed project sets out to expand the existing cemetery facility by approximately 52 acres and represents a continuation of an anticipated seven phase cemetery build-out. In total, the Phase 2 area would include 20,074 gravesites (included both preplaced crypts and urn crypts) in 20 sections. Other improvements include stormwater retention areas, interior roads, utilities and infrastructure, and signage. The land proposed for development is owned by the VA and is currently a mix of improved and unimproved cleared lands, stormwater ponds, and interior roadways.

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The VA appreciates your assistance in this matter and ask that you inform the VA if you an interest 
in the proposed project within 30 days from the date of this letter. If you would like to comment 
on the proposed project, please contact Fernando Fernandez at Fernando.Fernandez@va.gov or 
at (202) 632-5529, or mail comments to Department of Veterans Affairs, 425 I Street Northwest, 

Sincerely,

Fernando L. Fernández 
Environmental Engineer 
U.S. Department of Veterans Affairs 
Construction and Facilities Management Office
Florida Fish and Wildlife Conservation Commission
Susan Neel, Director
Office of Public Affairs
620 S. Meridian Street, MS 5B5
Tallahassee, FL  32399

RE:  Department of Veterans Affairs
Site Specific Environmental Assessment for Cape Canaveral National Cemetery
Phase 2
Mims, Brevard County, Florida

Dear Ms. Neel,

The Department of Veterans Affairs (VA) intends to prepare a Site-Specific Environmental Assessment for the proposed Phase 2 expansion of the Cape Canaveral National Cemetery (CCNC) in Mims, Brevard County, Florida. The cemetery is located at 5525 US Highway 1, Mims, Florida 32754.

The purpose of the Phase 2 expansion is to continue to enable the VA to provide eligible Veterans and their families with a national cemetery of sufficient size and capacity to serve the projected needs of the region. The proposed project sets out to expand the existing cemetery facility by approximately 52 acres and represents a continuation of an anticipated seven phase cemetery build-out. In total, the Phase 2 area would include 20,074 gravesites (including both preplaced crypts and urn crypts) in 20 sections. Other improvements include stormwater retention areas, interior roads, utilities and infrastructure, and signage. The land proposed for development is owned by the VA and is currently a mix of improved and unimproved cleared lands, stormwater ponds, and interior roadways.

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The VA appreciates your assistance in this matter and ask that you inform the VA if you an interest in the proposed project within 30 days from the date of this letter. If you would like to comment on the proposed project, please contact Fernando Fernandez at Fernando.Fernandez@va.gov or at (202) 632-5529, or mail comments to Department of Veterans Affairs, 425 I Street Northwest, Suite 6W.317D, Washington D.C., 20420.

Sincerely,

Fernando L. Fernández
Environmental Engineer
U.S. Department of Veterans Affairs
Construction and Facilities Management Office
Florida Fish and Wildlife Conservation Commission  
Thomas Reinert, Ph.D., Regional Director 
Species Conservation Planning Section  
8535 Northlake Boulevard 
West Palm Beach, FL 33412

RE: Department of Veterans Affairs  
Site Specific Environmental Assessment for Cape Canaveral National Cemetery  
Phase 2  
Mims, Brevard County, Florida

Dear Dr. Reinert,

The Department of Veterans Affairs (VA) intends to prepare a Site-Specific Environmental Assessment for the proposed Phase 2 expansion of the Cape Canaveral National Cemetery (CCNC) in Mims, Brevard County, Florida. The cemetery is located at 5525 US Highway 1, Mims, Florida 32754.

The purpose of the Phase 2 expansion is to continue to enable the VA to provide eligible Veterans and their families with a national cemetery of sufficient size and capacity to serve the projected needs of the region. The proposed project sets out to expand the existing cemetery facility by approximately 52 acres and represents a continuation of an anticipated seven phase cemetery build-out. In total, the Phase 2 area would include 20,074 gravesites (included both preplaced crypts and urn crypts) in 20 sections. Other improvements include stormwater retention areas, interior roads, utilities and infrastructure, and signage. The land proposed for development is owned by the VA and is currently a mix of improved and unimproved cleared lands, stormwater ponds, and interior roadways.

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Sincerely,

Fernando L. Fernández
Environmental Engineer
U.S. Department of Veterans Affairs
Construction and Facilities Management Office
St. Johns River Water Management District
Erich Marzolf, Division Director
Office of Public Affairs
P.O. Box 1429
Palatka, FL  32178

RE:  Department of Veterans Affairs
    Site Specific Environmental Assessment for Cape Canaveral National Cemetery
    Phase 2
    Mims, Brevard County, Florida

Dear Mr. Marzolf,

The Department of Veterans Affairs (VA) intends to prepare a Site-Specific Environmental Assessment for the proposed Phase 2 expansion of the Cape Canaveral National Cemetery (CCNC) in Mims, Brevard County, Florida. The cemetery is located at 5525 US Highway 1, Mims, Florida 32754.

The purpose of the Phase 2 expansion is to continue to enable the VA to provide eligible Veterans and their families with a national cemetery of sufficient size and capacity to serve the projected needs of the region. The proposed project sets out to expand the existing cemetery facility by approximately 52 acres and represents a continuation of an anticipated seven phase cemetery build-out. In total, the Phase 2 area would include 20,074 gravesites (included both preplaced crypts and urn crypts) in 20 sections. Other improvements include stormwater retention areas, interior roads, utilities and infrastructure, and signage. The land proposed for development is owned by the VA and is currently a mix of improved and unimproved cleared lands, stormwater ponds, and interior roadways.

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The VA appreciates your assistance in this matter and ask that you inform the VA if you are interested in the proposed project within 30 days from the date of this letter. If you would like to comment on the proposed project, please contact Fernando Fernandez at Fernando.Fernandez@va.gov or at (202) 632-5529, or mail comments to Department of Veterans Affairs, 425 I Street Northwest, Suite 6W.317D, Washington D.C., 20420.

Sincerely,

Fernando L. Fernández
Environmental Engineer
U.S. Department of Veterans Affairs
Construction and Facilities Management Office
St. Johns River Water Management District

Jeff Prather, Division Director

Palm Bay Service Center

525 Community College Parkway SE

Palm Bay, FL  32909

RE:  Department of Veterans Affairs

Site Specific Environmental Assessment for Cape Canaveral National Cemetery

Phase 2

Mims, Brevard County, Florida

Dear Mr. Prather,

The Department of Veterans Affairs (VA) intends to prepare a Site-Specific Environmental Assessment for the proposed Phase 2 expansion of the Cape Canaveral National Cemetery (CCNC) in Mims, Brevard County, Florida. The cemetery is located at 5525 US Highway 1, Mims, Florida 32754.

The purpose of the Phase 2 expansion is to continue to enable the VA to provide eligible Veterans and their families with a national cemetery of sufficient size and capacity to serve the projected needs of the region. The proposed project sets out to expand the existing cemetery facility by approximately 52 acres and represents a continuation of an anticipated seven phase cemetery build-out. In total, the Phase 2 area would include 20,074 gravesites (included both preplaced crypts and urn crypts) in 20 sections. Other improvements include stormwater retention areas, interior roads, utilities and infrastructure, and signage. The land proposed for development is owned by the VA and is currently a mix of improved and unimproved cleared lands, stormwater ponds, and interior roadways.

The entirety of the CCNC was subject to both a Programmatic Environmental Assessment in 2012 and a previous Site-Specific Environmental Assessment 2014 associated with Phase 1. Now that Phase 2 is under development, the VA is soliciting input on any concerns or applicable
information regarding Phase 2. Information received will be incorporated into the Phase 2 SEA. There will be a public comment period once the draft SEA for Phase 2 is complete.

The VA appreciates your assistance in this matter and ask that you inform the VA if you an interest in the proposed project within 30 days from the date of this letter. If you would like to comment on the proposed project, please contact Fernando Fernandez at Fernando.Fernandez@va.gov or at (202) 632-5529, or mail comments to Department of Veterans Affairs, 425 I Street Northwest, Suite 6W.317D, Washington D.C., 20420.

Sincerely,

Fernando L. Fernández
Environmental Engineer
U.S. Department of Veterans Affairs
Construction and Facilities Management Office
U.S. Fish and Wildlife Service – Southeast Region
Jeffrey Fleming
Deputy Regional Director
Office of External Affairs
1875 Century Boulevard
Atlanta, Georgia 30345

RE: Department of Veterans Affairs
Site Specific Environmental Assessment for Cape Canaveral National Cemetery
Phase 2
Mims, Brevard County, Florida

Dear Mr. Fleming,

The Department of Veterans Affairs (VA) intends to prepare a Site-Specific Environmental Assessment for the proposed Phase 2 expansion of the Cape Canaveral National Cemetery (CCNC) in Mims, Brevard County, Florida. The cemetery is located at 5525 US Highway 1, Mims, Florida 32754.

The purpose of the Phase 2 expansion is to continue to enable the VA to provide eligible Veterans and their families with a national cemetery of sufficient size and capacity to serve the projected needs of the region. The proposed project sets out to expand the existing cemetery facility by approximately 52 acres and represents a continuation of an anticipated seven phase cemetery build-out. In total, the Phase 2 area would include 20,074 gravesites (included both preplaced crypts and urn crypts) in 20 sections. Other improvements include stormwater retention areas, interior roads, utilities and infrastructure, and signage. The land proposed for development is owned by the VA and is currently a mix of improved and unimproved cleared lands, stormwater ponds, and interior roadways.

The entirety of the CCNC was subject to both a Programmatic Environmental Assessment in 2012 and a previous Site-Specific Environmental Assessment 2014 associated with Phase 1. Now that
Phase 2 is under development, the VA is soliciting input on any concerns or applicable information regarding Phase 2. Information received will be incorporated into the Phase 2 SEA. There will be a public comment period once the draft SEA for Phase 2 is complete.

The VA appreciates your assistance in this matter and ask that you inform the VA if you an interest in the proposed project within 30 days from the date of this letter. If you would like to comment on the proposed project, please contact Fernando Fernandez at Fernando.Fernandez@va.gov or at (202) 632-5529, or mail comments to Department of Veterans Affairs, 425 I Street Northwest, Suite 6W.317D, Washington D.C., 20420.

Sincerely,

Fernando L. Fernández
Environmental Engineer
U.S. Department of Veterans Affairs
Construction and Facilities Management Office
Coushatta Tribe of Louisiana
Linda Langley
THPO
PO Box 10
Elton, Louisiana  70532

RE:   Department of Veterans Affairs

Site Specific Environmental Assessment for Cape Canaveral National Cemetery Phase 2
Mims, Brevard County, Florida

Dear Ms. Langley,

The Department of Veterans Affairs (VA) intends to prepare a Site-Specific Environmental Assessment for the proposed Phase 2 expansion of the Cape Canaveral National Cemetery (CCNC) in Mims, Brevard County, Florida. The cemetery is located at 5525 US Highway 1, Mims, Florida 32754.

The purpose of the Phase 2 expansion is to continue to enable the VA to provide eligible Veterans and their families with a national cemetery of sufficient size and capacity to serve the projected needs of the region. The proposed project sets out to expand the existing cemetery facility by approximately 52 acres and represents a continuation of an anticipated seven phase cemetery build-out. In total, the Phase 2 area would include 20,074 gravesites (included both preplaced crypts and urn crypts) in 20 sections. Other improvements include stormwater retention areas, interior roads, utilities and infrastructure, and signage. The land proposed for development is owned by the VA and is currently a mix of improved and unimproved cleared lands, stormwater ponds, and interior roadways.

The entirety of the CCNC was subject to both a Programmatic Environmental Assessment in 2012 and a previous Site-Specific Environmental Assessment 2014 associated with Phase 1. Now that Phase 2 is under development, the VA is soliciting input on any concerns or applicable
information regarding Phase 2. Information received will be incorporated into the Phase 2 SEA. There will be a public comment period once the draft SEA for Phase 2 is complete.

The VA appreciates your assistance in this matter and ask that you inform the VA if you an interest in the proposed project within 30 days from the date of this letter. If you would like to comment on the proposed project, please contact Fernando Fernandez at Fernando.Fernandez@va.gov or at (202) 632-5529, or mail comments to Department of Veterans Affairs, 425 I Street Northwest, Suite 6W.317D, Washington D.C., 20420.

Sincerely,

Fernando L. Fernández
Environmental Engineer
U.S. Department of Veterans Affairs
Construction and Facilities Management Office
Coushatta Tribe of Louisiana  
Linda Langley, THPO  
PO Box 10  
Elton, Louisiana 70532  

RE: Initiation of Section 106 Consultation for Phase 2 Expansion of the Cape Canaveral National Cemetery, Brevard County, Mims, Florida  

Dear Ms. Langley,

Pursuant to Section 106 of the National Historic Preservation Act (54 USC 306108), the Cape Canaveral National Cemetery (CCNC) in Mims, FL, is initiating section 106 consultation with the Coushatta Tribe of Louisiana for the referenced project. The CCNC is located at 5525 US Highway 1, Mims, Florida 32754. The Phase 2 Expansion Project looks to expand the interment areas and enable the U.S. Department of Veterans Affairs (VA) to provide eligible Veterans and their families in central Florida with a new National Cemetery of sufficient size and capacity to serve the projected needs in this region for at least the next 100 years.

Undertaking

The CCNC has determined that the undertaking is defined as the expansion of the existing cemetery facility by approximately 52 acres and represents a continuation of an anticipated seven phase cemetery build-out. In total, the Phase 2 area would include 20,074 gravesites (included both preplaced crypts and urn crypts) in 20 sections. Other improvements include stormwater retention areas, interior roads, utilities and infrastructure, and signage. The land proposed for development is owned by the VA and is currently a mix of improved and unimproved cleared lands, stormwater ponds, and interior roadways.

Area of Potential Effect

The CCNC has determined that the Area of Potential Effect (APE) for this undertaking includes all adjacent properties and CCNC’s Phase II development tract. The CCNC has previously conducted Phase I cultural resource assessment surveys for the overall boundary of the approximately 318-acre CCNC development in which the CCNC’s Phase II tract is nested (Attachment A).
Identification of Historic Properties

The CCNC conducted two Phase I cultural resource assessment surveys of the Phase I and II CCNC tract in April and May of 2012. As a result, two archaeological sites were encountered, both of which are outside the CCNC Phase II tract. One site is within the overall CCNC tract (8BR2937), and the other is approximately 3,000-feet west-northwest of CCNC’s Phase II tract (BR00567) (Attachment B). Between CCNC’s Phase II tract and resource BR00567, there are many residential home plots and the four lane US-1 highway creating a visual and auditory buffer from development to the resource. Resource 8BR2937 is within the overall project boundary of CCNC and was a previously unrecorded archaeological site until discovery by the Phase I cultural resource assessment survey (Attachment C). This resource is approximately 1,360-feet north of the CCNC phase II tract. Both resources were determined ineligible for listing in the National Register of Historic Places with previous concurrence with the SHPO. Please see the Phase I cultural resource assessment report, and previous concurrence with the SHPO in Attachment D for reference.

Determination of Findings

Therefore, pursuant to 36 CFR 800.4(d)(1), the CCNC has determined that no historic properties within the APE will be affected by this undertaking and requests the Tribe’s concurrence on the agency’s finding per 36 CFR Part 800.

Should you require further information, please contact William E. Hooker III at (202) 632-6631 or William.Hooker@va.gov. Thank you in advance for your consideration.

Sincerely,

W. Edward Hooker, III
Historic Architect/ Cultural Resources Manager
U.S. Department of Veterans Affairs
National Cemetery Administration
Design and Construction Service

Attachments:
A. CCNC APE
B. Location of BR00567
C. Location of 8BR2937
D. Phase I report and SHPO concurrence

CC: Douglas Pulak, Federal Preservation Officer, U.S. Department of Veterans Affairs
Fernando Fernandez, Environmental Engineer, Department of Veterans Affairs, OCFM
Gary Howalt, PWS, Department Manager, Environmental Services Inc., a Terracon Company
Florida Division of Historical Resources  
State Historic Preservation Office  
Timothy Parsons, PhD  
500 S. Bronough Street  
Tallahassee, Florida 32399

RE: Initiation of Section 106 Consultation for Phase 2 Expansion of the Cape Canaveral National Cemetery, Brevard County, Mims, Florida

Dear Dr. Parsons,

Pursuant to Section 106 of the National Historic Preservation Act (54 USC 306108), the Cape Canaveral National Cemetery (CCNC) in Mims, FL, is initiating section 106 consultation with the State Historic Preservation Office (SHPO) for the referenced project. The CCNC is located at 5525 US Highway 1, Mims, Florida 32754. The Phase 2 Expansion Project looks to expand the interment areas and enable the U.S. Department of Veterans Affairs (VA) to provide eligible Veterans and their families in central Florida with a new National Cemetery of sufficient size and capacity to serve the projected needs in this region for at least the next 100 years.

Undertaking

The CCNC has determined that the undertaking is defined as the expansion of the existing cemetery facility by approximately 52 acres and represents a continuation of an anticipated seven phase cemetery build-out. In total, the Phase 2 area would include 20,074 gravesites (included both preplaced crypts and urn crypts) in 20 sections. Other improvements include stormwater retention areas, interior roads, utilities and infrastructure, and signage. The land proposed for development is owned by the VA and is currently a mix of improved and unimproved cleared lands, stormwater ponds, and interior roadways.

Area of Potential Effect

The CCNC has determined that the Area of Potential Effect (APE) for this undertaking includes all adjacent properties and CCNC’s Phase II development tract. The CCNC has previously conducted Phase I cultural resource assessment surveys for the overall boundary of the approximately 318-acre CCNC development in which the CCNC’s Phase II tract is nested (Attachment A).
Identification of Historic Properties

The CCNC conducted two Phase I cultural resource assessment surveys of the Phase I and II CCNC tract in April, and May of 2012. As a result, two archaeological sites were encountered, both of which are outside the CCNC Phase II tract. One site is within the overall CCNC tract (8BR2937), and the other is approximately 3,000-feet west-northwest of CCNC’s Phase II tract (BR00567) (Attachment B). Between CCNC’s Phase II tract and resource BR00567, there are many residential home plots and the four lane US-1 highway creating a visual and auditory buffer from development to the resource. Resource 8BR2937 is within the overall project boundary of CCNC and was a previously unrecorded archaeological site until discovery by the Phase I cultural resource assessment survey (Attachment C). This resource is approximately 1,360-feet north of the CCNC phase II tract. Both resources were determined ineligible for listing in the National Register of Historic Places with previous concurrence with the SHPO. Please see the Phase I cultural resource assessment report, and previous concurrence with the SHPO in Attachment D for reference.

Determination of Findings

Therefore, pursuant to 36 CFR 800.4(d)(1), the CCNC has determined that no historic properties within the APE will be affected by this undertaking and requests the SHPOs concurrence on the agency’s finding per 36 CFR Part 800.

Should you require further information, please contact William E. Hooker III at (202) 632-6631 or William.Hooker@va.gov. Thank you in advance for your consideration.

Sincerely,

W. Edward Hooker, III
Historic Architect/ Cultural Resources Manager
U.S. Department of Veterans Affairs
National Cemetery Administration
Design and Construction Service

Attachments:
A. CCNC APE
B. Location of BR00567
C. Location of 8BR2937
D. Phase I report and SHPO concurrence

CC: Douglas Pulak, Federal Preservation Officer, U.S. Department of Veterans Affairs
Fernando Fernandez, Environmental Engineer, Department of Veterans Affairs, OCFM
Gary Howalt, PWS, Department Manager, Environmental Services Inc., a Terracon Company
18 February 2020

Misccosukee Tribe of Indians
Fred Dayhoff
THPO
HC61SR68 Old Loop Road
Ochopee, Florida  34141

RE:  Department of Veterans Affairs

Site Specific Environmental Assessment for Cape Canaveral National Cemetery Phase 2
Mims, Brevard County, Florida

Dear Mr. Dayhoff,

The Department of Veterans Affairs (VA) intends to prepare a Site-Specific Environmental Assessment for the proposed Phase 2 expansion of the Cape Canaveral National Cemetery (CCNC) in Mims, Brevard County, Florida. The cemetery is located at 5525 US Highway 1, Mims, Florida 32754.

The purpose of the Phase 2 expansion is to continue to enable the VA to provide eligible Veterans and their families with a national cemetery of sufficient size and capacity to serve the projected needs of the region. The proposed project sets out to expand the existing cemetery facility by approximately 52 acres and represents a continuation of an anticipated seven phase cemetery build-out. In total, the Phase 2 area would include 20,074 gravesites (included both preplaced crypts and urn crypts) in 20 sections. Other improvements include stormwater retention areas, interior roads, utilities and infrastructure, and signage. The land proposed for development is owned by the VA and is currently a mix of improved and unimproved cleared lands, stormwater ponds, and interior roadways.

The entirety of the CCNC was subject to both a Programmatic Environmental Assessment in 2012 and a previous Site-Specific Environmental Assessment 2014 associated with Phase 1. Now that Phase 2 is under development, the VA is soliciting input on any concerns or applicable
information regarding Phase 2. Information received will be incorporated into the Phase 2 SEA. There will be a public comment period once the draft SEA for Phase 2 is complete.

The VA appreciates your assistance in this matter and ask that you inform the VA if you an interest in the proposed project within 30 days from the date of this letter. If you would like to comment on the proposed project, please contact Fernando Fernandez at Fernando.Fernandez@va.gov or at (202) 632-5529, or mail comments to Department of Veterans Affairs, 425 I Street Northwest, Suite 6W.317D, Washington D.C., 20420.

Sincerely,

Fernando L. Fernández
Environmental Engineer
U.S. Department of Veterans Affairs
Construction and Facilities Management Office
RE: Initiation of Section 106 Consultation for Phase 2 Expansion of the Cape Canaveral National Cemetery, Brevard County, Mims, Florida

Dear Ms. Butler,

Pursuant to Section 106 of the National Historic Preservation Act (54 USC 306108), the Cape Canaveral National Cemetery (CCNC) in Mims, FL, is initiating section 106 consultation with the Muscogee (Creek) Nation Tribe for the referenced project. The CCNC is located at 5525 US Highway 1, Mims, Florida 32754. The Phase 2 Expansion Project looks to expand the interment areas and enable the U.S. Department of Veterans Affairs (VA) to provide eligible Veterans and their families in central Florida with a new National Cemetery of sufficient size and capacity to serve the projected needs in this region for at least the next 100 years.

Undertaking

The CCNC has determined that the undertaking is defined as the expansion of the existing cemetery facility by approximately 52 acres and represents a continuation of an anticipated seven phase cemetery build-out. In total, the Phase 2 area would include 20,074 gravesites (included both preplaced crypts and urn crypts) in 20 sections. Other improvements include stormwater retention areas, interior roads, utilities and infrastructure, and signage. The land proposed for development is owned by the VA and is currently a mix of improved and unimproved cleared lands, stormwater ponds, and interior roadways.

Area of Potential Effect

The CCNC has determined that the Area of Potential Effect (APE) for this undertaking includes all adjacent properties and CCNC’s Phase II development tract. The CCNC has previously conducted Phase I cultural resource assessment surveys for the overall boundary of the approximately 318-acre CCNC development in which the CCNC’s Phase II tract is nested (Attachment A).
Identification of Historic Properties

The CCNC conducted two Phase I cultural resource assessment surveys of the Phase I and II CCNC tract in April and May of 2012. As a result, two archaeological sites were encountered, both of which are outside the CCNC Phase II tract. One site is within the overall CCNC tract (8BR2937), and the other is approximately 3,000-feet west-northwest of CCNC’s Phase II tract (BR00567) (Attachment B). Between CCNC’s Phase II tract and resource BR00567, there are many residential home plots and the four lane US-1 highway creating a visual and auditory buffer from development to the resource. Resource 8BR2937 is within the overall project boundary of CCNC and was a previously unrecorded archaeological site until discovery by the Phase 1 cultural resource assessment survey (Attachment C). This resource is approximately 1,360-feet north of the CCNC phase II tract. Both resources were determined ineligible for listing in the National Register of Historic Places with previous concurrence with the SHPO. Please see the Phase 1 cultural resource assessment report, and previous concurrence with the SHPO in Attachment D for reference.

Determination of Findings

Therefore, pursuant to 36 CFR 800.4(d)(1), the CCNC has determined that no historic properties within the APE will be affected by this undertaking and requests the Tribe’s concurrence on the agency’s finding per 36 CFR Part 800.

Should you require further information, please contact William E. Hooker III at (202) 632-6631 or William.Hooker@va.gov. Thank you in advance for your consideration.

Sincerely,

W. Edward Hooker, III
Historic Architect/ Cultural Resources Manager
U.S. Department of Veterans Affairs
National Cemetery Administration
Design and Construction Service

Attachments:
A. CCNC APE
B. Location of BR00567
C. Location of 8BR2937
D. Phase 1 report and SHPO concurrence

CC: Douglas Pulak, Federal Preservation Officer, U.S. Department of Veterans Affairs
Fernando Fernandez, Environmental Engineer, Department of Veterans Affairs, OCFM
Gary Howalt, PWS, Department Manager, Environmental Services Inc., a Terracon Company
18 February 2020

Muscogee (Creek) Nation
RaeLynn Butler
THPO
PO Box 580
Okmulgee, OK 74447

RE: Department of Veterans Affairs
Site Specific Environmental Assessment for Cape Canaveral National Cemetery Phase 2
Mims, Brevard County, Florida

Dear Ms. Butler,

The Department of Veterans Affairs (VA) intends to prepare a Site-Specific Environmental Assessment for the proposed Phase 2 expansion of the Cape Canaveral National Cemetery (CCNC) in Mims, Brevard County, Florida. The cemetery is located at 5525 US Highway 1, Mims, Florida 32754.

The purpose of the Phase 2 expansion is to continue to enable the VA to provide eligible Veterans and their families with a national cemetery of sufficient size and capacity to serve the projected needs of the region. The proposed project sets out to expand the existing cemetery facility by approximately 52 acres and represents a continuation of an anticipated seven phase cemetery build-out. In total, the Phase 2 area would include 20,074 gravesites (included both preplaced crypts and urn crypts) in 20 sections. Other improvements include stormwater retention areas, interior roads, utilities and infrastructure, and signage. The land proposed for development is owned by the VA and is currently a mix of improved and unimproved cleared lands, stormwater ponds, and interior roadways.

The entirety of the CCNC was subject to both a Programmatic Environmental Assessment in 2012 and a previous Site-Specific Environmental Assessment 2014 associated with Phase 1. Now that Phase 2 is under development, the VA is soliciting input on any concerns or applicable
information regarding Phase 2. Information received will be incorporated into the Phase 2 SEA. There will be a public comment period once the draft SEA for Phase 2 is complete.

The VA appreciates your assistance in this matter and ask that you inform the VA if you an interest in the proposed project within 30 days from the date of this letter. If you would like to comment on the proposed project, please contact Fernando Fernandez at Fernando.Fernandez@va.gov or at (202) 632-5529, or mail comments to Department of Veterans Affairs, 425 I Street Northwest, Suite 6W.317D, Washington D.C., 20420.

Sincerely,

Fernando L. Fernández
Environmental Engineer
U.S. Department of Veterans Affairs
Construction and Facilities Management Office
Muscogee (Creek) Nation
RaeLynn Butler
THPO
PO Box 580
Okmulgee, OK 74447

RE: Initiation of Section 106 Consultation for Phase 2 Expansion of the Cape Canaveral National Cemetery, Brevard County, Mims, Florida

Dear Ms. Butler,

Pursuant to Section 106 of the National Historic Preservation Act (54 USC 306108), the Cape Canaveral National Cemetery (CCNC) in Mims, FL, is initiating section 106 consultation with the Muscogee (Creek) Nation Tribe for the referenced project. The CCNC is located at 5525 US Highway 1, Mims, Florida 32754. The Phase 2 Expansion Project looks to expand the interment areas and enable the U.S. Department of Veterans Affairs (VA) to provide eligible Veterans and their families in central Florida with a new National Cemetery of sufficient size and capacity to serve the projected needs in this region for at least the next 100 years.

Undertaking

The CCNC has determined that the undertaking is defined as the expansion of the existing cemetery facility by approximately 52 acres and represents a continuation of an anticipated seven phase cemetery build-out. In total, the Phase 2 area would include 20,074 gravesites (included both preplaced crypts and urn crypts) in 20 sections. Other improvements include stormwater retention areas, interior roads, utilities and infrastructure, and signage. The land proposed for development is owned by the VA and is currently a mix of improved and unimproved cleared lands, stormwater ponds, and interior roadways.

Area of Potential Effect

The CCNC has determined that the Area of Potential Effect (APE) for this undertaking includes all adjacent properties and CCNC’s Phase II development tract. The CCNC has previously conducted Phase I cultural resource assessment surveys for the overall boundary of the approximately 318-acre CCNC development in which the CCNC’s Phase II tract is nested (Attachment A).
Identification of Historic Properties

The CCNC conducted two Phase I cultural resource assessment surveys of the Phase I and II CCNC tract in April and May of 2012. As a result, two archaeological sites were encountered, both of which are outside the CCNC Phase II tract. One site is within the overall CCNC tract (8BR2937), and the other is approximately 3,000-feet west-northwest of CCNC’s Phase II tract (BR00567) (Attachment B). Between CCNC’s Phase II tract and resource BR00567, there are many residential home plots and the four lane US-1 highway creating a visual and auditory buffer from development to the resource. Resource 8BR2937 is within the overall project boundary of CCNC and was a previously unrecorded archaeological site until discovery by the Phase 1 cultural resource assessment survey (Attachment C). This resource is approximately 1,360-feet north of the CCNC phase II tract. Both resources were determined ineligible for listing in the National Register of Historic Places with previous concurrence with the SHPO. Please see the Phase 1 cultural resource assessment report, and previous concurrence with the SHPO in Attachment D for reference.

Determination of Findings

Therefore, pursuant to 36 CFR 800.4(d)(1), the CCNC has determined that no historic properties within the APE will be affected by this undertaking and requests the Tribe’s concurrence on the agency’s finding per 36 CFR Part 800.

Should you require further information, please contact William E. Hooker III at (202) 632-6631 or William.Hooker@va.gov. Thank you in advance for your consideration.

Sincerely,

W. Edward Hooker, III
Historic Architect/ Cultural Resources Manager
U.S. Department of Veterans Affairs
National Cemetery Administration
Design and Construction Service

Attachments:
A. CCNC APE
B. Location of BR00567
C. Location of 8BR2937
D. Phase 1 report and SHPO concurrence

CC: Douglas Pulak, Federal Preservation Officer, U.S. Department of Veterans Affairs
Fernando Fernandez, Environmental Engineer, Department of Veterans Affairs. OCFM
Gary Howalt, PWS, Department Manager, Environmental Services Inc., a Terracon Company
18 February 2020

Poarch Band of Creek Indians of Alabama

Robert Thrower

THPO

5811 Jack Springs Road

Atmore, Alabama 36502

RE: Department of Veterans Affairs

Site Specific Environmental Assessment for Cape Canaveral National Cemetery Phase 2

Mims, Brevard County, Florida

Dear Mr. Thrower,

The Department of Veterans Affairs (VA) intends to prepare a Site-Specific Environmental Assessment for the proposed Phase 2 expansion of the Cape Canaveral National Cemetery (CCNC) in Mims, Brevard County, Florida. The cemetery is located at 5525 US Highway 1, Mims, Florida 32754.

The purpose of the Phase 2 expansion is to continue to enable the VA to provide eligible Veterans and their families with a national cemetery of sufficient size and capacity to serve the projected needs of the region. The proposed project sets out to expand the existing cemetery facility by approximately 52 acres and represents a continuation of an anticipated seven phase cemetery build-out. In total, the Phase 2 area would include 20,074 gravesites (included both preplaced crypts and urn crypts) in 20 sections. Other improvements include stormwater retention areas, interior roads, utilities and infrastructure, and signage. The land proposed for development is owned by the VA and is currently a mix of improved and unimproved cleared lands, stormwater ponds, and interior roadways.

The entirety of the CCNC was subject to both a Programmatic Environmental Assessment in 2012 and a previous Site-Specific Environmental Assessment 2014 associated with Phase 1. Now that Phase 2 is under development, the VA is soliciting input on any concerns or applicable
information regarding Phase 2. Information received will be incorporated into the Phase 2 SEA. There will be a public comment period once the draft SEA for Phase 2 is complete.

The VA appreciates your assistance in this matter and ask that you inform the VA if you an interest in the proposed project within 30 days from the date of this letter. If you would like to comment on the proposed project, please contact Fernando Fernandez at Fernando.Fernandez@va.gov or at (202) 632-5529, or mail comments to Department of Veterans Affairs, 425 I Street Northwest, Suite 6W.317D, Washington D.C., 20420.

Sincerely,

Fernando L. Fernández
Environmental Engineer
U.S. Department of Veterans Affairs
Construction and Facilities Management Office
31 January 2020

Poarch Band of Creek Indians of Alabama
Robert Thrower
THPO
5811 Jack Springs Road
Atmore, Alabama 36502

RE: Initiation of Section 106 Consultation for Phase 2 Expansion of the Cape Canaveral National Cemetery, Brevard County, Mims, Florida

Dear Mr. Thrower,

Pursuant to Section 106 of the National Historic Preservation Act (54 USC 306108), the Cape Canaveral National Cemetery (CCNC) in Mims, FL, is initiating section 106 consultation with the Poarch Band of Creek Indians of Alabama for the referenced project. The CCNC is located at 5525 US Highway 1, Mims, Florida 32754. The Phase 2 Expansion Project looks to expand the interment areas and enable the U.S. Department of Veterans Affairs (VA) to provide eligible Veterans and their families in central Florida with a new National Cemetery of sufficient size and capacity to serve the projected needs in this region for at least the next 100 years.

Undertaking

The CCNC has determined that the undertaking is defined as the expansion of the existing cemetery facility by approximately 52 acres and represents a continuation of an anticipated seven phase cemetery build-out. In total, the Phase 2 area would include 20,074 gravesites (included both preplaced crypts and urn crypts) in 20 sections. Other improvements include stormwater retention areas, interior roads, utilities and infrastructure, and signage. The land proposed for development is owned by the VA and is currently a mix of improved and unimproved cleared lands, stormwater ponds, and interior roadways.

Area of Potential Effect

The CCNC has determined that the Area of Potential Effect (APE) for this undertaking includes all adjacent properties and CCNC’s Phase II development tract. The CCNC has previously conducted Phase I cultural resource assessment surveys for the overall boundary of the approximately 318-acre CCNC development in which the CCNC’s Phase II tract is nested (Attachment A).
Identification of Historic Properties

The CCNC conducted two Phase I cultural resource assessment surveys of the Phase I and II CCNC tract in April and May of 2012. As a result, two archaeological sites were encountered, both of which are outside the CCNC Phase II tract. One site is within the overall CCNC tract (8BR2937), and the other is approximately 3,000-feet west-northwest of CCNC’s Phase II tract (BR00567) (Attachment B). Between CCNC’s Phase II tract and resource BR00567, there are many residential home plots and the four lane US-1 highway creating a visual and auditory buffer from development to the resource. Resource 8BR2937 is within the overall project boundary of CCNC and was a previously unrecorded archaeological site until discovery by the Phase I cultural resource assessment survey (Attachment C). This resource is approximately 1,360-feet north of the CCNC phase II tract. Both resources were determined ineligible for listing in the National Register of Historic Places with previous concurrence with the SHPO. Please see the Phase I cultural resource assessment report, and previous concurrence with the SHPO in Attachment D for reference.

Determination of Findings

Therefore, pursuant to 36 CFR 800.4(d)(1), the CCNC has determined that no historic properties within the APE will be affected by this undertaking and requests the Tribe’s concurrence on the agency’s finding per 36 CFR Part 800.

Should you require further information, please contact William E. Hooker III at (202) 632-6631 or William.Hooker@va.gov. Thank you in advance for your consideration.

Sincerely,

W. Edward Hooker, III
Historic Architect/ Cultural Resources Manager
U.S. Department of Veterans Affairs
National Cemetery Administration
Design and Construction Service

Attachments:
A. CCNC APE
B. Location of BR00567
C. Location of 8BR2937
D. Phase I report and SHPO concurrence

CC: Douglas Pulak, Federal Preservation Officer, U.S. Department of Veterans Affairs
Fernando Fernandez, Environmental Engineer, Department of Veterans Affairs, OCFM
Gary Howalt, PWS, Department Manager, Environmental Services Inc., a Terracon Company
18 February 2020

Ponca Tribe of Nebraska
Randy Teboe
THPO
100 Bluff Street
Winnebago, Nebraska  68071

RE:  Department of Veterans Affairs
Site Specific Environmental Assessment for Cape Canaveral National Cemetery Phase 2
   Mims, Brevard County, Florida

Dear Mr. Teboe,

The Department of Veterans Affairs (VA) intends to prepare a Site-Specific Environmental Assessment for the proposed Phase 2 expansion of the Cape Canaveral National Cemetery (CCNC) in Mims, Brevard County, Florida. The cemetery is located at 5525 US Highway 1, Mims, Florida 32754.

The purpose of the Phase 2 expansion is to continue to enable the VA to provide eligible Veterans and their families with a national cemetery of sufficient size and capacity to serve the projected needs of the region. The proposed project sets out to expand the existing cemetery facility by approximately 52 acres and represents a continuation of an anticipated seven phase cemetery build-out. In total, the Phase 2 area would include 20,074 gravesites (included both preplaced crypts and urn crypts) in 20 sections. Other improvements include stormwater retention areas, interior roads, utilities and infrastructure, and signage. The land proposed for development is owned by the VA and is currently a mix of improved and unimproved cleared lands, stormwater ponds, and interior roadways.

The entirety of the CCNC was subject to both a Programmatic Environmental Assessment in 2012 and a previous Site-Specific Environmental Assessment 2014 associated with Phase 1. Now that Phase 2 is under development, the VA is soliciting input on any concerns or applicable
information regarding Phase 2. Information received will be incorporated into the Phase 2 SEA. There will be a public comment period once the draft SEA for Phase 2 is complete.

The VA appreciates your assistance in this matter and ask that you inform the VA if you an interest in the proposed project within 30 days from the date of this letter. If you would like to comment on the proposed project, please contact Fernando Fernandez at Fernando.Fernandez@va.gov or at (202) 632-5529, or mail comments to Department of Veterans Affairs, 425 I Street Northwest, Suite 6W.317D, Washington D.C., 20420.

Sincerely,

Fernando L. Fernández
Environmental Engineer
U.S. Department of Veterans Affairs
Construction and Facilities Management Office
Ponca Tribe of Nebraska  
Randy Teboe  
THPO  
100 Bluff Street  
Winnebago, Nebraska 68071

RE: Initiation of Section 106 Consultation for Phase 2 Expansion of the  
Cape Canaveral National Cemetery, Brevard County, Mims, Florida

Dear Mr. Teboe,

Pursuant to Section 106 of the National Historic Preservation Act (54 USC 306108), the Cape Canaveral National Cemetery (CCNC) in Mims, FL, is initiating section 106 consultation with the Ponca Tribe of Nebraska for the referenced project. The CCNC is located at 5525 US Highway 1, Mims, Florida 32754. The Phase 2 Expansion Project looks to expand the interment areas and enable the U.S. Department of Veterans Affairs (VA) to provide eligible Veterans and their families in central Florida with a new National Cemetery of sufficient size and capacity to serve the projected needs in this region for at least the next 100 years.

Undertaking

The CCNC has determined that the undertaking is defined as the expansion of the existing cemetery facility by approximately 52 acres and represents a continuation of an anticipated seven phase cemetery build-out. In total, the Phase 2 area would include 20,074 gravesites (included both preplaced crypts and urn crypts) in 20 sections. Other improvements include stormwater retention areas, interior roads, utilities and infrastructure, and signage. The land proposed for development is owned by the VA and is currently a mix of improved and unimproved cleared lands, stormwater ponds, and interior roadways.

Area of Potential Effect

The CCNC has determined that the Area of Potential Effect (APE) for this undertaking includes all adjacent properties and CCNC’s Phase II development tract. The CCNC has previously conducted Phase I cultural resource assessment surveys for the overall boundary of the approximately 318-acre CCNC development in which the CCNC’s Phase II tract is nested (Attachment A).
Identification of Historic Properties

The CCNC conducted two Phase I cultural resource assessment surveys of the Phase I and II CCNC tract in April and May of 2012. As a result, two archaeological sites were encountered, both of which are outside the CCNC Phase II tract. One site is within the overall CCNC tract (8BR2937), and the other is approximately 3,000-feet west-northwest of CCNC’s Phase II tract (BR00567) (Attachment B). Between CCNC’s Phase II tract and resource BR00567, there are many residential home plots and the four lane US-1 highway creating a visual and auditory buffer from development to the resource. Resource 8BR2937 is within the overall project boundary of CCNC and was a previously unrecorded archaeological site until discovery by the Phase I cultural resource assessment survey (Attachment C). This resource is approximately 1,360-feet north of the CCNC phase II tract. Both resources were determined ineligible for listing in the National Register of Historic Places with previous concurrence with the SHPO. Please see the Phase I cultural resource assessment report, and previous concurrence with the SHPO in Attachment D for reference.

Determination of Findings

Therefore, pursuant to 36 CFR 800.4(d)(1), the CCNC has determined that no historic properties within the APE will be affected by this undertaking and requests the Tribe’s concurrence on the agency’s finding per 36 CFR Part 800.

Should you require further information, please contact William E. Hooker III at (202) 632-6631 or William.Hooker@va.gov. Thank you in advance for your consideration.

Sincerely,

W. Edward Hooker, III
Historic Architect/ Cultural Resources Manager
U.S. Department of Veterans Affairs
National Cemetery Administration
Design and Construction Service

Attachments:
A. CCNC APE
B. Location of BR00567
C. Location of 8BR2937
D. Phase I report and SHPO concurrence

CC: Douglas Pulak, Federal Preservation Officer, U.S. Department of Veterans Affairs
    Fernando Fernandez, Environmental Engineer, Department of Veterans Affairs, OCFM
    Gary Howalt, PWS, Department Manager, Environmental Services Inc., a Terracon Company
18 February 2020

Seminole Tribe of Florida
William Steele
Compliance Officer
6300 Stirling Road
Hollywood, Florida  33024

RE:  Department of Veterans Affairs
Site Specific Environmental Assessment for Cape Canaveral National Cemetery Phase 2
Mims, Brevard County, Florida

Dear Mr. Steele,

The Department of Veterans Affairs (VA) intends to prepare a Site-Specific Environmental Assessment for the proposed Phase 2 expansion of the Cape Canaveral National Cemetery (CCNC) in Mims, Brevard County, Florida. The cemetery is located at 5525 US Highway 1, Mims, Florida 32754.

The purpose of the Phase 2 expansion is to continue to enable the VA to provide eligible Veterans and their families with a national cemetery of sufficient size and capacity to serve the projected needs of the region. The proposed project sets out to expand the existing cemetery facility by approximately 52 acres and represents a continuation of an anticipated seven phase cemetery build-out. In total, the Phase 2 area would include 20,074 gravesites (included both preplaced crypts and urn crypts) in 20 sections. Other improvements include stormwater retention areas, interior roads, utilities and infrastructure, and signage. The land proposed for development is owned by the VA and is currently a mix of improved and unimproved cleared lands, stormwater ponds, and interior roadways.

The entirety of the CCNC was subject to both a Programmatic Environmental Assessment in 2012 and a previous Site-Specific Environmental Assessment 2014 associated with Phase 1. Now that Phase 2 is under development, the VA is soliciting input on any concerns or applicable
information regarding Phase 2. Information received will be incorporated into the Phase 2 SEA. There will be a public comment period once the draft SEA for Phase 2 is complete.

The VA appreciates your assistance in this matter and ask that you inform the VA if you an interest in the proposed project within 30 days from the date of this letter. If you would like to comment on the proposed project, please contact Fernando Fernandez at Fernando.Fernandez@va.gov or at (202) 632-5529, or mail comments to Department of Veterans Affairs, 425 I Street Northwest, Suite 6W.317D, Washington D.C., 20420.

Sincerely,

Fernando L. Fernández
Environmental Engineer
U.S. Department of Veterans Affairs
Construction and Facilities Management Office
31 January 2020

Seminole Tribe of Florida
William Steele
Compliance Officer
6300 Stirling Road
Hollywood, Florida 33024

RE: Initiation of Section 106 Consultation for Phase 2 Expansion of the Cape Canaveral National Cemetery, Brevard County, Mims, Florida

Dear Mr. Steele,

Pursuant to Section 106 of the National Historic Preservation Act (54 USC 306108), the Cape Canaveral National Cemetery (CCNC) in Mims, FL, is initiating section 106 consultation with the Seminole Tribe of Florida for the referenced project. The CCNC is located at 5525 US Highway 1, Mims, Florida 32754. The Phase 2 Expansion Project looks to expand the interment areas and enable the U.S. Department of Veterans Affairs (VA) to provide eligible Veterans and their families in central Florida with a new National Cemetery of sufficient size and capacity to serve the projected needs in this region for at least the next 100 years.

Undertaking

The CCNC has determined that the undertaking is defined as the expansion of the existing cemetery facility by approximately 52 acres and represents a continuation of an anticipated seven phase cemetery build-out. In total, the Phase 2 area would include 20,074 gravesites (included both preplaced crypts and urn crypts) in 20 sections. Other improvements include stormwater retention areas, interior roads, utilities and infrastructure, and signage. The land proposed for development is owned by the VA and is currently a mix of improved and unimproved cleared lands, stormwater ponds, and interior roadways.

Area of Potential Effect

The CCNC has determined that the Area of Potential Effect (APE) for this undertaking includes all adjacent properties and CCNC’s Phase II development tract. The CCNC has previously conducted Phase I cultural resource assessment surveys for the overall boundary of the approximately 318-acre CCNC development in which the CCNC’s Phase II tract is nested (Attachment A).
Identification of Historic Properties

The CCNC conducted two Phase I cultural resource assessment surveys of the Phase I and II CCNC tract in April and May of 2012. As a result, two archaeological sites were encountered, both of which are outside the CCNC Phase II tract. One site is within the overall CCNC tract (8BR2937), and the other is approximately 3,000-feet west-northwest of CCNC’s Phase II tract (BR00567) (Attachment B). Between CCNC’s Phase II tract and resource BR00567, there are many residential home plots and the four lane US-1 highway creating a visual and auditory buffer from development to the resource. Resource 8BR2937 is within the overall project boundary of CCNC and was a previously unrecorded archaeological site until discovery by the Phase I cultural resource assessment survey (Attachment C). This resource is approximately 1,360-feet north of the CCNC phase II tract. Both resources were determined ineligible for listing in the National Register of Historic Places with previous concurrence with the SHPO. Please see the Phase I cultural resource assessment report, and previous concurrence with the SHPO in Attachment D for reference.

Determination of Findings

Therefore, pursuant to 36 CFR 800.4(d)(1), the CCNC has determined that no historic properties within the APE will be affected by this undertaking and requests the Tribe’s concurrence on the agency’s finding per 36 CFR Part 800.

Should you require further information, please contact William E. Hooker III at (202) 632-6631 or William.Hooker@va.gov. Thank you in advance for your consideration.

Sincerely,

W. Edward Hooker, III
Historic Architect/ Cultural Resources Manager
U.S. Department of Veterans Affairs
National Cemetery Administration
Design and Construction Service

Attachments:
A. CCNC APE
B. Location of BR00567
C. Location of 8BR2937
D. Phase I report and SHPO concurrence

CC: Douglas Pulak, Federal Preservation Officer, U.S. Department of Veterans Affairs
Fernando Fernandez, Environmental Engineer, Department of Veterans Affairs, OCFM
Gary Howalt, PWS, Department Manager, Environmental Services Inc., a Terracon Company
Appendix C:

ACOE Permit and Phase 2 Resource Avoidance Report
Mr. Fernando Fernandez
Department of Veteran’s Affairs
425 I Street NW
Washington DC 20001

Mr. Fernandez,

Reference is made to the application for a Department of the Army (DA) permit for a Jurisdictional Determination. The proposed project site is located at 5525 US Highway 1, in Section 54, Township 20 South, Range 34 East, Mims, Brevard County, Florida. The application has been assigned the file number SAJ-2010-02735. The evaluation of this jurisdictional determination involved many factors and may have included a field visit, review of aerial photographs, geological quad sheets, county soils maps, and site specific information provided by you. A copy of the approved jurisdictional determination form and depiction of the geographic extent of Federal jurisdiction are enclosed. A Department of the Army permit may be required for work in areas identified as waters of the United States.

This letter contains an approved jurisdictional determination for your subject site. If you object to this determination, you may request an administrative appeal under Corps regulations at 33 CFR Part 331. Enclosed you will find a Notification of Appeal Process (NAP) fact sheet and Request for Appeal (RFA) form. If you request to appeal this determination you must submit a completed RFA form to the South Atlantic Division Office at the following address:

Mr. Phillip A. Shannin
South Atlantic Division
U.S. Army Corps of Engineers
CESAD-CM-CO-R, Room 9M15
60 Forsyth St., SW.
Atlanta, Georgia 30303-8801.

Mr. Shannin can be reached by telephone number at 404-562-5136, or by facsimile at 404-562-5138.
In order for an RFA to be accepted by the Corps, the Corps must determine that it is complete, that it meets the criteria for appeal under 33 CFR Part 331.5, and that it has been received by the Division office within 60 days of the date of the RFA. Should you decide to submit an RFA form, it must be received at the above address by March 27th, 2020. It is not necessary to submit a RFA form to the Division Office if you do not object to the determination in this letter.

The determination shown on the enclosed information represents the upland/wetland boundary for purposes of determining the Corps jurisdictional line. As depicted on the enclosed drawings, the property encompasses waters of the United States, which are not subject to regulation by the Corps. Please be advised that the jurisdictional determination shown is based on the Corps of Engineers Wetlands Delineation Manual (1987) or current regional supplement, and is valid for a period no longer than 5 years from the date of this letter unless new information warrants a revision of the determination before the expiration date. If, after the 5-year period, the Corps has not specifically revalidated this jurisdictional determination, it shall automatically expire. Any reliance upon this jurisdictional determination beyond the expiration date may lead to possible violation of current Federal laws and/or regulations. You may request revalidation of the jurisdictional determination prior to the expiration date. Any revalidation or updating will be considered under the method of jurisdictional determination and other applicable regulations in use at the time of the request. Additionally, this determination has been based on information provided by you or your agent; should we determine that the information was incomplete or erroneous this delineation would be invalid.

This determination has been conducted to identify the limits of the Corps Clean Water Act jurisdiction for the particular site identified in this request. This determination may not be valid for the wetland conservation provisions of the Food Security Act of 1985, as amended. If you or your tenant are U.S. Department of Agriculture (USDA) program participants, or anticipate participation in USDA programs, you should request a certified wetland determination from the local office of the Natural Resources Conservation Service prior to starting work.

You are cautioned that work performed below the mean high water line or ordinary high water line in waters of the United States; and/or, the discharge of dredged or fill material into any areas identified on the enclosed information as within Federal jurisdiction, without a Department of the Army permit could subject you to enforcement action. Receipt of a permit from the Department of Environmental Protection or the Water Management District does not obviate the requirement for obtaining a Department of the Army permit.
The Corps' Jacksonville District Regulatory Division is committed to improving service to our customers. We strive to perform our duty in a friendly and timely manner while working to preserve our environment. We invite you to visit http://corpsmapu.usace.army.mil/cm_apex/f?p=regulatory_survey and complete our automated Customer Service Survey. Your input is appreciated – favorable or otherwise. Please be aware this Internet address is case sensitive and should be entered as it appears above.

Thank you for your cooperation with our permit program. If you have any questions concerning this matter please contact Corey Maier by mail at the letterhead address, by electronic mail at corey.m.maier@usace.army.mil, or by telephone at 321-504-3771.

Sincerely,

for Shawn H. Zinszer
Chief, Regulatory Division

Enclosures

cc: (w/o encls)
NOTIFICATION OF ADMINISTRATIVE APPEAL OPTIONS AND PROCESS AND REQUEST FOR APPEAL

Applicant: Fernando Fernandez
File Number: SAJ-2010-02735
Date: 20200127

Attached is: See Section below

<table>
<thead>
<tr>
<th>A</th>
<th>INITIAL PROFFERED PERMIT (Standard Permit or Letter of permission)</th>
</tr>
</thead>
<tbody>
<tr>
<td>B</td>
<td>PROFFERED PERMIT (Standard Permit or Letter of permission)</td>
</tr>
<tr>
<td>C</td>
<td>PERMIT DENIAL</td>
</tr>
<tr>
<td>X</td>
<td>APPROVED JURISDICTIONAL DETERMINATION</td>
</tr>
<tr>
<td>D</td>
<td>PRELIMINARY JURISDICTIONAL DETERMINATION</td>
</tr>
</tbody>
</table>

SECTION I - The following identifies your rights and options regarding an administrative appeal of the above decision. Additional information may be found at [http://www.usace.army.mil/CECW/Pages/reg_materials.aspx](http://www.usace.army.mil/CECW/Pages/reg_materials.aspx) or Corps regulations at 33 CFR Part 331.

A: INITIAL PROFFERED PERMIT: You may accept or object to the permit.

- **ACCEPT:** If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.

- **OBJECT:** If you object to the permit (Standard or LOP) because of certain terms and conditions therein, you may request that the permit be modified accordingly. You must complete Section II of this form and return the form to the district engineer. Your objections must be received by the district engineer within 60 days of the date of this notice, or you will forfeit your right to appeal the permit in the future. Upon receipt of your letter, the district engineer will evaluate your objections and may: (a) modify the permit to address all of your concerns, (b) modify the permit to address some of your objections, or (c) not modify the permit having determined that the permit should be issued as previously written. After evaluating your objections, the district engineer will send you a proffered permit for your reconsideration, as indicated in Section B below.

B: PROFFERED PERMIT: You may accept or appeal the permit

- **ACCEPT:** If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.

- **APPEAL:** If you choose to decline the proffered permit (Standard or LOP) because of certain terms and conditions therein, you may appeal the declined permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

C: PERMIT DENIAL: You may appeal the denial of a permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

D: APPROVED JURISDICTIONAL DETERMINATION: You may accept or appeal the approved JD or provide new information.

- **ACCEPT:** You do not need to notify the Corps to accept an approved JD. Failure to notify the Corps within 60 days of the date of this notice, means that you accept the approved JD in its entirety, and waive all rights to appeal the approved JD.

- **APPEAL:** If you disagree with the approved JD, you may appeal the approved JD under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.
E: PRELIMINARY JURISDICTIONAL DETERMINATION: You do not need to respond to the Corps regarding the preliminary JD. The Preliminary JD is not appealable. If you wish, you may request an approved JD (which may be appealed), by contacting the Corps district for further instruction. Also you may provide new information for further consideration by the Corps to reevaluate the JD.
SECTION II - REQUEST FOR APPEAL or OBJECTIONS TO AN INITIAL PROFFERED PERMIT

REASONS FOR APPEAL OR OBJECTIONS: (Describe your reasons for appealing the decision or your objections to an initial proffered permit in clear concise statements. You may attach additional information to this form to clarify where your reasons or objections are addressed in the administrative record.)

ADDITIONAL INFORMATION: The appeal is limited to a review of the administrative record, the Corps memorandum for the record of the appeal conference or meeting, and any supplemental information that the review officer has determined is needed to clarify the administrative record. Neither the appellant nor the Corps may add new information or analyses to the record. However, you may provide additional information to clarify the location of information that is already in the administrative record.

POINT OF CONTACT FOR QUESTIONS OR INFORMATION:

If you have questions regarding this decision and/or the appeal process you may contact:

Project Manager as noted in letter

If you only have questions regarding the appeal process you may also contact:

Mr. Phillip A. Shannin
404-562-5136

RIGHT OF ENTRY: Your signature below grants the right of entry to Corps of Engineers personnel, and any government consultants, to conduct investigations of the project site during the course of the appeal process. You will be provided a 15 day notice of any site investigation, and will have the opportunity to participate in all site investigations.

Signature of appellant or agent.
Date:
Telephone number:
This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

SECTION I – BACKGROUND INFORMATION:

A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD):

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: CESAJ-NC, Department of Veterans Affairs, SAJ-2010-02735

C. PROJECT LOCATION AND BACKGROUND INFORMATION:

   State: Florida  
   County/parish/borough: Brevard  
   City: Mims

   Center coordinates of site (lat/long in degree decimal format) – Latitude: 28.76006°  
   Longitude: 80.8646°

   Universal Transverse Mercator:

   Name of nearest waterbody: Big Flounder Creek ditch

   Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: Indian River

   Name of watershed or Hydrologic Unit Code (HUC): East Florida Coastal, #03080202

   X Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.
   [ ] Check if other sites (e.g., offsite mitigation sites, disposal sites, etc…) are associated with this action and are recorded on a different JD form.

D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):

   [ ] Office (Desk) Determination Date: 
   X Field Determination Date(s): 16 September 2010, 03 October 2019

SECTION II – SUMMARY OF FINDINGS:

A. RHA SECTION 10 DETERMINATION OF JURISDICTION.

   There Are No “navigable waters of the U.S.” within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [Required]

   [ ] Waters subject to the ebb and flow of the tide
   [ ] Waters are presently used, have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.

   Explain:

B. CWA SECTION 404 DETERMINATION OF JURISDICTION

   There Are No “waters of the U.S.” within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [Required]

   1. Waters of the U.S.
      a. Indicate presence of waters of U.S. in review area (check all that apply): 1
         [ ] TNWs, including territorial seas
         [ ] Wetlands adjacent to TNWs
         [ ] Relatively permanent waters2 (RPWs) that flow directly or indirectly into TNWs
         [ ] Non-RPWs that flow directly or indirectly into TNWs
         [ ] Wetlands directly abutting RPWs that flow directly or indirectly into TNWs
         [ ] Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs
         [ ] Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs
         [ ] Impoundments of jurisdictional waters
         [ ] Isolated (interstate or intrastate) waters, including isolated wetlands

      b. Identify (estimate) size of waters of the U.S. in the review area:
         Non-wetland waters: linear feet: width (ft) and/or acres
         Wetlands: acres

      c. Limits (boundaries) of jurisdiction based on: Pick List
         Elevation of established OHWM (if known):

   2. Non-regulated waters/wetlands (check if applicable): 3

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1 Boxes checked below shall be supported by completing the appropriate sections in Section III below.
2 For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least “seasonally” (e.g., typically 3 months).
3 Supporting documentation is presented in Section III.F.
Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional. Explain: The site contains three non-jurisdictional ditches. While some portions of the ditches are incised into the groundwater table, the discharge points for Ditches 2 and 3 are very high and appear to preclude seasonal flow. Ditch 1 has a fabriform weir at the southeast corner of the property which also precludes seasonal discharge.

SECTION III – CWA ANALYSIS:

A. TNWs AND WETLANDS ADJACENT TO TNWs

The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW, complete Section III.A.1 and Section III.D.1, only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections III.A.1 and 2 and Section III.D.1.; otherwise, see Section III.B below.

1. Identify TNW:

Summarize rationale supporting determination:

2. Wetland adjacent to TNW

Summarize rationale supporting conclusion that wetland is “adjacent”:

B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):

This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under Rapanos have been met.

The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are “relatively permanent waters” (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.

A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation. Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.

If the waterbody is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.

1. Characteristics of non-TNWs that flow directly or indirectly into TNW

(i) General Area Conditions:

Watershed size: Pick List
Drainage area: Pick List
Average annual rainfall: 55 inches
Average annual snowfall: inches

(ii) Physical Characteristics:

(a) Relationship with TNW:

☐ Tributary flows directly into TNW.
☐ Tributary flows through 2 tributaries before entering TNW.

Project waters are 1-2 river miles from TNW.
Project waters are 1 (or less) river miles from RPW.
Project waters are 1 (or less) aerial (straight) miles from TNW.
Project waters are 1 (or less) aerial (straight) miles from RPW.
Project waters cross or serve as state boundaries. Explain:

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Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.
Identify flow route to TNW:\5
Tributary stream order, if known:  .

(b) General Tributary Characteristics (check all that apply):
Tributary is:  □ Natural
□ Artificial (man-made). Explain:  Man Made Ditches
□ Manipulated (man-altered). Explain:

Tributary properties with respect to top of bank (estimate):
Average width: 20 feet
Average depth: 5 feet
Average side slopes: 3:1
Primary tributary substrate composition (check all that apply):
□ Silts
□ Sands
□ Concrete
□ Cobbles
□ Gravel
□ Muck
□ Bedrock
□ Vegetation Type/% cover: 100
□ Other – Explain:

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain:
Presence of run/riffle/pool complexes. Explain:
Tributary geometry: Relatively Straight
Tributary gradient (approximate average slope):  

(e) Flow:
Tributary provides for: Ephemeral Flow
Describe flow regime: Only during extreme events.

Other information on duration and volume:
Surface flow is: Confined. Characteristics:
Subsurface flow: Pick List. Explain findings:
□ Dye (or other) test performed:

Tributary has (check all that apply):
□ Bed and banks
□ OHWM\6 (check all indicators that apply):
□ clear, natural line impressed on the bank
□ changes in the character of soil
□ shelving
□ vegetation matted down, bent, or absent
□ leaf litter disturbed or washed away
□ sediment deposition
□ water staining
□ other (list):
□ Discontinuous OHWM.\7 Explain:

If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):
□ High Tide Line indicated by:
□ Mean High Water Mark indicated by:
□ oil or scum line along shore objects
□ fine shell or debris deposits (foreshore)
□ physical markings/characteristics
□ tidal gauges
□ other (list):

(iii) Chemical Characteristics:
Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.).
Explain:
Identify specific pollutants, if known:

---

5 Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.
6 A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody’s flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.
7 Ibid.
(iv) Biological Characteristics. Channel supports (check all that apply):
- Riparian corridor. Characteristics (type, average width):
- Wetland fringe. Characteristics:
- Habitat for:
  - Federally Listed species. Explain findings:
  - Fish/spawn areas. Explain findings:
  - Other environmentally-sensitive species. Explain findings:
  - Aquatic/wildlife diversity. Explain findings:

2. Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW

(i) Physical Characteristics:
(a) General Wetland Characteristics:
  Properties:
  - Wetland size: acres
  - Wetland type. Explain:
  - Wetland quality. Explain:

(b) General Flow Relationship with Non-TNW:
  Flow is: Pick List. Explain:
  Surface flow is: Pick List
  Characteristics:

Subsurface flow: Pick List. Explain findings:
- Dye (or other) test performed:

(c) Wetland Adjacency Determination with Non-TNW:
- Directly abutting
- Not directly abutting
  - Discrete wetland hydrologic connection. Explain:
  - Ecological connection. Explain:
  - Separated by berm/barrier. Explain:

(d) Proximity (Relationship) to TNW
  Project wetlands are Pick List river miles from TNW.
  Project waters are Pick List aerial (straight) miles from TNW.
  Flow is from: Pick List
  Estimate approximate location of wetland as within the Pick List floodplain.

(ii) Chemical Characteristics:
  Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain:
  Identify specific pollutants, if known:

(iii) Biological Characteristics. Wetland supports (check all that apply):
- Riparian buffer. Characteristics (type, average width):
- Vegetation type/percent cover. Explain:
- Habitat for:
  - Federally Listed species. Explain findings:
  - Fish/spawn areas. Explain findings:
  - Other environmentally-sensitive species. Explain findings:
  - Aquatic/wildlife diversity. Explain findings:

3. Characteristics of all wetlands adjacent to the tributary (if any)
   All wetland(s) being considered in the cumulative analysis: Pick List
   Approximately ( ) acres in total are being considered in the cumulative analysis.
For each wetland, specify the following:

- Directly abuts? (Y/N)
- Size (in acres)
- Directly abuts? (Y/N)
- Size (in acres)

Summarize overall biological, chemical and physical functions being performed:

C. SIGNIFICANT NEXUS DETERMINATION

A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical, and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.

Draw connections between the features documented and the effects on the TNW, as identified in the Rapanos Guidance and discussed in the Instructional Guidebook. Factors to consider include, for example:

- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to carry pollutants or flood waters to TNWs, or to reduce the amount of pollutants or flood waters reaching a TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to transfer nutrients and organic carbon that support downstream foodwebs?
- Does the tributary, in combination with its adjacent wetlands (if any), have other relationships to the physical, chemical, or biological integrity of the TNW?

Note: the above list of considerations is not inclusive and other functions observed or known to occur should be documented below:

1. Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs. Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D:

2. Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs. Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:

3. Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW. Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:

D. DETERMINATIONS OF JURISDICTIONAL FINDINGS – THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY):

1. TNWs and Adjacent Wetlands. Check all that apply and provide size estimates in review area:
   - TNWs: linear feet width (ft), Or, acres
   - Wetlands adjacent to TNWs: acres

2. RPWs that flow directly or indirectly into TNWs.
   - Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial:
   - Tributaries of TNW where tributaries have continuous flow “seasonally” (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally:

       Provide estimates for jurisdictional waters in the review area (check all that apply):
       - Tributary waters: linear feet width (ft)
       - Other non-wetland waters: acres

   - Identify type(s) of waters:

3. Non-RPWs\(^8\) that flow directly or indirectly into TNWs.

\(^8\)See Footnote # 3.
If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.

Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.

Prior to the Jan 2001 Supreme Court decision in “SWANCC,” the review area would have been regulated based solely on the “Migratory Bird Rule” (MBR).

Waters do not meet the “Significant Nexus” standard, where such a finding is required for jurisdiction. Explain: .

Other: (explain, if not covered above): .

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):

- Non-wetland waters (i.e., rivers, streams): linear feet width (ft)
- Lakes/ponds: acres
- Other non-wetland waters: acres. List type of aquatic resource:
- Wetlands: acres

Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the “Significant Nexus” standard, where such a finding is required for jurisdiction (check all that apply):

- Non-wetland waters (i.e., rivers, streams): 13,000 linear feet, width (ft)
- Lakes/ponds: acres
- Other non-wetland waters: acres. List type of aquatic resource:
- Wetlands: acres

SECTION IV – DATA SOURCES:

A. SUPPORTING DATA: Data reviewed for JD (check all that apply - checked items shall be included in case file and, where checked and requested, appropriately reference sources below):

- Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant:
- Office concurs with data sheets/delineation report.
- Office does not concur with data sheets/delineation report.
- Data sheets prepared by the Corps:
- Corps navigable waters’ study:
- U.S. Geological Survey Hydrologic Atlas:
  - USGS NHD data
  - USGS 8 and 12 digit HUC maps
- U.S. Geological Survey map(s). Cite scale & quad name: Oak Hill
- USDA Natural Resources Conservation Service Soil Survey. Citation:
- National wetlands inventory map(s). Cite name:
- State/Local wetland inventory map(s):
- FEMA/FIRM maps:
- 100-year Floodplain Elevation is: (National Geodetic Vertical Datum of 1929)
- Photographs: Aerial (Name & Date):
  - or Other (Name & Date):
- Previous determination(s). File no. and date of response letter:
- Applicable/supporting case law:
- Applicable/supporting scientific literature:
- Other information (please specify):

B. ADDITIONAL COMMENTS TO SUPPORT JD:
Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional waters within the review area (check all that apply):

- Tributary waters: linear feet width (ft)
- Other non-wetland waters: acres

Identify type(s) of waters:

4. Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.
   - Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.
   - Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW:

   - Wetlands directly abutting an RPW where tributaries typically flow “seasonally”. Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW:

   Provide acreage estimates for jurisdictional wetlands in the review area: acres

5. Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs.
   - Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

   Provide acreage estimates for jurisdictional wetlands in the review area: acres

6. Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.
   - Wetlands adjacent to such waters, and have when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

   Provide estimates for jurisdictional wetlands in the review area: acres

7. Impoundments of jurisdictional waters.  
   - As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional.
   - Demonstrate that impoundment was created from “waters of the U.S.” or
   - Demonstrate that water meets the criteria for one of the categories presented above (1-6), or
   - Demonstrate that water is isolated with a nexus to commerce (see E below).

E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):  
   - which are or could be used by interstate or foreign travelers for recreational or other purposes.
   - from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.
   - which are or could be used for industrial purposes by industries in interstate commerce.
   - Interstate isolated waters. Explain:
   - Other factors. Explain:

   Identify water body and summarize rationale supporting determination:

   Provide estimates for jurisdictional waters in the review area (check all that apply):

   - Tributary waters: linear feet width (ft)
   - Other non-wetland waters: acres
   - Wetlands: acres

F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):

---

9 To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.
10 Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA Memorandum Regarding CWA Act Jurisdiction Following Rapanos.
If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.

Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.

Prior to the Jan 2001 Supreme Court decision in “SWANCC,” the review area would have been regulated based solely on the “Migratory Bird Rule” (MBR).

Waters do not meet the “Significant Nexus” standard, where such a finding is required for jurisdiction. Explain: 

Other: (explain, if not covered above): 

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):

- Non-wetland waters (i.e., rivers, streams): linear feet width (ft)
- Lakes/ponds: acres
- Other non-wetland waters: acres. List type of aquatic resource:
- Wetlands: acres

Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the “Significant Nexus” standard, where such a finding is required for jurisdiction (check all that apply):
- Non-wetland waters (i.e., rivers, streams): 13,000 linear feet width (ft)
- Lakes/ponds: acres
- Other non-wetland waters: acres. List type of aquatic resource:
- Wetlands: acres

SECTION IV – DATA SOURCES:

A. SUPPORTING DATA: Data reviewed for JD (check all that apply - checked items shall be included in case file and, where checked and requested, appropriately reference sources below):

- Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant:
- Data sheets prepared/submitted by or on behalf of the applicant/consultant.
  - Office concurs with data sheets/delineation report.
  - Office does not concur with data sheets/delineation report.
- Data sheets prepared by the Corps:
- Corps navigable waters’ study:
- U.S. Geological Survey Hydrologic Atlas:
  - USGS NHD data
  - USGS 8 and 12 digit HUC maps
- U.S. Geological Survey map(s). Cite scale & quad name: Oak Hill
- USDA Natural Resources Conservation Service Soil Survey. Citation:
- National wetlands inventory map(s). Cite name:
- State/Local wetland inventory map(s):
- FEMA/FIRM maps:
- 100-year Floodplain Elevation is: (National Geodetic Vertical Datum of 1929)
- Photographs: Aerial (Name & Date):
  or Other (Name & Date):
- Previous determination(s). File no. and date of response letter:
- Applicable/supporting case law:
- Applicable/supporting scientific literature:
- Other information (please specify):

B. ADDITIONAL COMMENTS TO SUPPORT JD:
Ditches 1, 2, and 3 are not within Corps jurisdiction.

Ditch 3

Ditch 2

Ditch/swale - does not appear to discharge.

Big Flounder Creek - RPW

Indian River - TNW

Fabriform Wair

Jan 23, 2009

Imagery Date: Nov 18, 2008

28°45'36.46" N 80°51'24.82" W

© 2010 Google
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Eye alt 11648 ft
RESOURCES AVOIDANCE REPORT

CAPE CANAVERAL NATIONAL CEMETERY – PHASE 2 CEMETERY EXPANSION
BREVARD COUNTY, FLORIDA

OCTOBER 2019

For

U.S. Department of Veteran Affairs Attn: Mr. Kevin Dix, PE
VACFM National Region PM
425 I Street, NW
Room 6W.417B
Washington, DC 20001

HK197321

Environmental Services, Inc., A Terracon Company
7220 Financial Way, Suite 100
Jacksonville, Florida 32256
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1. INTRODUCTION

This Resource Avoidance Report (RAR) has been prepared by Environmental Services Inc., a Terracon Company (ESI), for the U.S. Department of Veterans Affairs (VA) Phase 2 cemetery expansion of the Cape Canaveral National Cemetery (CCNC), located at 5525 US 1, Scottsmoor, Florida, 32754. More specifically, this phase is located within Section 54, Township 20 south, and Range 34 east at the approximate central coordinates of 28.7599° north latitude and 80.8643° west longitude in Brevard County, Florida (Figure 1). The proposed expansion will include new burial capacity and other physical infrastructure to be developed in an effort to extend the longevity of CCNC for Veterans and their eligible family members in central Florida.

In 2012, a National Environmental Policy Act (NEPA) Environmental Assessment (EA) was prepared for the entirety of the CCNC project (approximately 318 acres). Multiple alternatives were reviewed as part of this EA. Ultimately, it was determined that each alternative would result in a Finding of No Significant Impact (FONSI). In 2014, a site-specific Environmental Assessment (SEA) was prepared for the Scottsmoor site based on the final master plan design, including Phase I. The SEA also found that no significant direct, indirect, or cumulative adverse effect on the local environment or quality of life would be associated with the implementation of the cemetery. Construction of the cemetery began in 2015.

On 16 October 2018, a kick off meeting was held for the initiation of the proposed Phase 2 Expansion north and east of the existing Phase 1. Accordingly, a SEA is being prepared to analyze and evaluate the potential effects of the implementation of the Phase 2 Construction.

The purpose of this RAR is to identify the natural and physical site resources within the proposed expansion area. The study area for the proposed expansion area is approximately 52 acres.

2. RESOURCE ANALYSIS

2.1 Wetlands and Waters of the U.S.

The U.S. Army Corps of Engineers (ACOE) has regulatory jurisdiction over Waters of the United States, including wetlands pursuant to Section 404 of the Clean Water Act and Navigable Waters of the United States pursuant to Section 10 of the 1899 Rivers and Harbors Act. Jurisdictional wetlands are delineated based upon the presence of hydric soils, hydrologic indicators, and hydrophytic vegetation in accordance with the Regional Supplement to the Corps of Engineers Wetlands Delineation Manual for the Atlantic and Gulf Coastal Plain Region (USACE 2010).

On 20 September 2010, the Cocoa Permits Section of ACOE issued an Approved Jurisdictional Determination for the property comprising all of Phase 2. The permit number was SAJ-2010-02735 (JD-JSC) and was issued to First Equity Development Group, Inc., the previous landowner. The approved jurisdictional determination found that no wetlands were present within the project boundary and the ditches on-site do not constitute Waters of the U.S. Specifically, the site contained three ditches, but the due to the elevation of the
discharge points and control structures along the ditches, seasonal discharge is precluded and therefore they do not meet the federal definition of a jurisdictional water body. A copy of this determination is included with this RAR.

The jurisdictional determination was valid for five years and has since expired. ESI reviewed the property on 3 October 2019 and determined conditions on-site have not changed in regards to jurisdictional wetlands, and it is not anticipated ACOE will claim jurisdiction over any areas within the Phase 2 boundary. In October 2019, ESI has contacted the ACOE Cocoa Permits Section to re-evaluate and re-issue the previous jurisdictional determination. At the time of completion of this RAR, ESI has not received confirmation from the ACOE Cocoa Permits Section.

2.2 Floodplains

Upon review of the available Federal Emergency Management Agency (FEMA) Flood Zone Maps (Figure 4), the entirety of the study area is outside of both the 100 and 500-year floodplains. No further action will be required.

2.3 Cultural Resources

In May 2012, ESI reviewed the entire 318-acre CCNC property as part of the overall NEPA EA process. Based on the review, ESI found one previously unrecorded archaeological site (8BR2937) within the project area during the investigation. The unrecorded site was determined to be a low-density historic refuse site that did not warrant listing in the National Register of Historic Places. ESI recommended no further investigation of the parcel. This information was provided to the State of Florida’s Division of Historical Resources (SHPO) in August 2012 and SHPO concurred with ESI’s recommendations in official correspondence dated 4 December 2012. A copy of this letter is included with this RAR.

For all federally proposed actions, federal agencies are required to consult with federally recognized Native American Tribes in accordance with NEPA regulations. Based on ESI’s 2012 review, no indications of any Native American sacred places are known to exist within the study area. As part of the Phase 2 SEA, all applicable federally-recognized Native American tribes will be consulted as part of the NEPA process. As part of the public outreach effort, letters will be disseminated to these Native American tribes to solicit their interest in the proposed action.

2.4 Karst Topography, Sinkholes, and Depressions

Sinkholes are common where the subsurface rock formations are comprised of limestone, carbonate rock, or other surface that can dissolved by groundwater. According to the Florida Department of Environmental Protection (FDEP), no known sinkholes or karst topography is present within the boundary of Phase II. FDEP indicates the project area falls within “Area 2”, which is defined as “Few sinkholes, shallow and small diameter that develop gradually”. Additionally, a geotechnical investigation involving subsurface
borings and test pits within the Phase II portion of the property was conducted in March 2019. No karst or sinkholes were identified. A copy of the geotechnical report has been included with this report.

2.5 Soils

The Soil Survey of Brevard County, Florida (U.S. Department of Agriculture, Soil Conservation Service) identifies five soil types within the Phase 2 project boundary (Figure 5). The soils map appears to be somewhat accurate based upon field observations, although both historic and recent land activities have altered soil properties to some degree. A description of the soil types can be found below:

Copeland-Bradenton-Wabasso Complex, limestone substratum (16). This soil is nearly level, and very poorly drained. This complex is a mixture of Copeland, Bradenton, and Wabasso soils that are so intermixed that it is not logical to separate them in a map. This soil complex consists of beds of sandy and loamy marine sediments over limestone, which typically can be found at a depth of 30 inches. The water table of this soil is typically within 10 inches of the surface for around six months out of the year and within 10 to 30 inches for the remainder. The Copeland and Bradenton components are generally meet the criteria for hydric soils, with the Wabasso component not meeting the hydric soil criteria.

Riviera Sand, 0 to 2 Percent Slopes (19). This soil has a slope between 0 to 2 percent and is poorly drained. The parent material consists of sandy and loamy marine deposits with a water table typically within 3 to 18 inches deep. This is generally meet hydric soil criteria.

Myakka Sand, 0 to 2 Percent Slopes (36). This soil type has slopes between 0 to 2 percent and is poorly drained. Myakka sand consists of parent materials of sandy marine deposits and can be found within flatwoods on marine terraces. The water table is typically within 6 to 18 inches in depth, and this soil does not generally meet the criteria of a hydric soil.

Pompano Sand, 0 to 2 Percent Slopes (51). Pompano sand is a poorly drained soil with slopes between 0 to 2 percent. The parent material consists of sandy marine deposits and can typically be located in drainageways on flats of marine terraces. The water table can typically be found between 3 to 18 inches in depth and after heavy rains may have flooding for around 2 to 7 days. This soil generally meets hydric soil criteria.

Wabasso Sand, 0 to 2 Percent Slopes (71). Wabasso sand is a nearly level, poorly drained sandy soil with slopes between 0 to 2 percent. This soil can be located in the broad areas of flatwoods and the low ridges of floodplains. This soil has parent materials of sandy and loamy marine deposits. The water table can be found between 6 to 18 inches throughout the year with potential for short term flooding after heavy rains. Generally, Wabasso sand does not meet the hydric soil criteria.
2.6 Land Use and Vegetative Cover

This phase consists of five generalized community types or land uses (Figure 6). A breakdown of each community found on-site, as defined by both the Florida Land Use, and Forms Classification System (FLUCFCS) can be found below.

Cemeteries (FLUCFCS 148). Approximately 12.19 acres of the Phase 2 section can be classified as cemetery. This is an improved, mowed, and maintained area on the southern extent of the phase.

Mixed Rangeland (FLUCFCS 330). The majority of Phase 2 (29.67 acres) can be classified as mixed rangeland. It is located in the central and western portions of the property north of the main east-west roadway bisecting the Phase. No significant canopy species are present. The shrub strata consisted of scattered slash pine (*Pinus elliottii*), saltbush (*Baccharis halimifolia*), and wax myrtle (*Morella cerifera*). The herbaceous layer was dominated by opportunistic species including cogon grass (*Imperata cylindrica*), thistle (*Cirsium horridulum*), black berry (*Rubus sp.*), chalky bluestem (*Andropogon capillipes*), ragweed (*Ambrosia artemisiifolia*), dog fennel (*Eupatorium sp.*), dollar weed (*Hydrocotyle sp.*), golden rod (*Solidago sp.*), and Spanish needles (*Bidens sp.*)

Streams and Waterways (FLUCFCS 510). A vegetated ditch approximately 0.62 acres in size runs north-south between the northern Phase boundary and the main east-west roadway bisecting the phase. There is no outfall to the north of the phase, and it appears the ditch drains into the permitted stormwater system at the southern terminus of the ditch. The vegetation within the ditch is composed canopy species including slash pine, and cabbage palm (*Sabal palmetto*), with sub canopy species of brazilian pepper (*Schinus terebinthifolius*), and wax myrtle. The herbaceous layer was scarce with primrose willow (*Ludwegia sp.*), and cana lilly (*Canna sp.*) located near the ends of the ditch.

Reservoirs (FLUCFCS 530). A storm water retention area associated with the cemetery development has already been constructed within the Phase 2 footprint. It is approximately 6.21 acres in size and located in the eastern portion of the project footprint.

Roads and Highways (FLUCFCS 814). Approximately 3.62 acres of paved and dirt roads traverse the Phase 2 footprint allowing access to the northern and eastern portions of the property.

2.7 Wildlife

Consultation with both state and federal agencies regarding protected wildlife on-site at CCNC occurred between 2012 and 2014 as part of the NEPA EA and SEA reviews. It was determined the project would have minimal impact to biological resources, and site wide issues were addressed. For Phase 2, ESI initiated a wildlife review with a literature search of the listed species known to occur in this portion of Brevard County, Florida. The literature consulted included lists supplied by the Florida Fish and Wildlife Conservation Commission (FWC), the U.S. Fish and Wildlife Service (FWS), and the Florida Natural
Areas Inventory (FNAI) along with technical publications and field guides. Based on this information, and knowledge of the specific habitat requirements for the individual listed species, the probability of each species occurrence on the site was considered.

ESI performed a field review of Phase 2 of CCNC on 3 October 2019. No state or federally protected species were noted utilizing the Phase 2 portion of the property. During ESI’s site visit, multiple non-protected species were observed including black vulture (*Coragyps atratus*), northern cardinal (*Cardinalis cardinalis*), American white ibis (*Eudocimus albus*), killdeer (*Charadrius vociferus*), osprey (*Pandion haliaetus*), and various songbirds.

Table 1 below is a comprehensive list of all known state and federally protected wildlife species known to occur in Brevard County. For each species, the table indicates whether habitat is present for the species on-site, and whether the species was noted on the property by ESI during the wildlife review. More information is provided for any species with potential habitat on-site.

**Wading Birds.** The species with the most potential to utilize this property are wading birds including the Wood Stork (*Mycteria americana*), Roseate Spoonbill (*Platalea ajaja*), Reddish Egret (*Egretta rufescens*), Tricolored Heron (*Egretta tricolor*), and Little Blue Heron (*Egretta caerulea*) due to the existing stormwater reservoir on the eastern portion of the study area, and the additional storm water reservoirs outside the study area. The stormwater reservoirs offer foraging opportunity for these species, but the mowed and maintained littoral fringes of the pond do not provide nesting habitat. There is potential for these species to utilize the property in a transient fashion, but permanent roosting is unlikely. The complete development of Phase 2 will be a net benefit to these species as additional foraging habitat will be created through the construction of an additional stormwater treatment reservoir.

The wood stork is the sole federally protected wading bird species known to occur within Brevard County. Phase 2 of CCNC is partially within the defined Core Foraging Area (CFA) of the Orlando Wetlands Park wood stork rookery (Figure 3). ESI has reviewed the FWS Wood Stork Determination Key to determine whether the proposed action will detrimentally impact the species. Based on the key, the project is “Not Likely to Adversely Affect” the species.
<table>
<thead>
<tr>
<th>Common Name</th>
<th>Scientific Name</th>
<th>Federal Status</th>
<th>State Status</th>
<th>Habitat Typically Utilized By Species</th>
<th>Habitat Present?</th>
<th>Observed on site?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lewton's Polygala</td>
<td>Polygala lewtonii</td>
<td>E</td>
<td>FE</td>
<td>Oak scrub and high pine, and transitional areas between these community types</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Carter's Mustard</td>
<td>Werea carteri</td>
<td>E</td>
<td>FE</td>
<td>Sandhill, scrubby flatwoods, inland and coastal scrub</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Piping Plover</td>
<td>Charadrius melodus</td>
<td>T</td>
<td>FT</td>
<td>Open sandy beaches and on tidal mudflats and sandflats</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Red-Cockaded Woodpecker</td>
<td>Picoides borealis</td>
<td>E</td>
<td>FE</td>
<td>Open, mature pine woodlands</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Audobon's Crested Caracara</td>
<td>Polyborus planucus audubonii</td>
<td>T</td>
<td>FT</td>
<td>Open country, including dry prairie, pasture lands with cabbages, palmhills, oak hammocks, and shallow</td>
<td>Marginal</td>
<td>No</td>
</tr>
<tr>
<td>Wood Stork</td>
<td>Mysteria americana</td>
<td>T</td>
<td>FT</td>
<td>Freshwater and estuarine wetlands, freshwater marshes, tidal creeks</td>
<td>Marginal</td>
<td>No</td>
</tr>
<tr>
<td>Florida Scrub-jay</td>
<td>Aphetoloma coeruleuscens</td>
<td>T</td>
<td>FT</td>
<td>Dry-dominated, low-growing oak scrub found on well-drained sandy soils</td>
<td>Marginal</td>
<td>No</td>
</tr>
<tr>
<td>Florida Burrowing Owl</td>
<td>Athene cuniculrris floridana</td>
<td>-</td>
<td>ST</td>
<td>Dry prairie and sandhill, high, sparsely vegetated, sandy ground</td>
<td>Marginal</td>
<td>No</td>
</tr>
<tr>
<td>Roseate Spoonbill</td>
<td>Platalea ajaja</td>
<td>-</td>
<td>ST</td>
<td>Salt and freshwater marshes and sloughs, and marine tidal flats and ponds</td>
<td>Marginal</td>
<td>No</td>
</tr>
<tr>
<td>Reddish Egret</td>
<td>Egretta rufescens</td>
<td>-</td>
<td>ST</td>
<td>Coastal habitats with shallow water foraging grounds</td>
<td>Marginal</td>
<td>No</td>
</tr>
<tr>
<td>Tricolored Heron</td>
<td>Egretta tricolor</td>
<td>-</td>
<td>ST</td>
<td>Forested and open water wetlands, streams, lakes, and swamps</td>
<td>Marginal</td>
<td>No</td>
</tr>
<tr>
<td>Little Blue Heron</td>
<td>Egretta caerulea</td>
<td>-</td>
<td>ST</td>
<td>Shallow freshwater lakes, marshes, swamps and streams</td>
<td>Marginal</td>
<td>No</td>
</tr>
<tr>
<td>American Oystercatcher</td>
<td>Haematopus palliatus</td>
<td>-</td>
<td>ST</td>
<td>Large areas of beach, sandbar, mud flat, and shellfish beds</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Black Skimmer</td>
<td>Rynchops niger</td>
<td>-</td>
<td>ST</td>
<td>Coastal waters, beaches, bays, estuaries, sandbars, tidal creeks and inland waters including large</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Florida Sandhill Crane</td>
<td>Grus canadensis</td>
<td>-</td>
<td>ST</td>
<td>Prairies, freshwater marshes, and pasture lands</td>
<td>Marginal</td>
<td>Yes</td>
</tr>
<tr>
<td>Least Tern</td>
<td>Sterula antillarum</td>
<td>-</td>
<td>ST</td>
<td>Coastal areas, beaches, lagoons, bays, and estuaries</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Gopher Tortoise</td>
<td>Gopherus polyphemus</td>
<td>C</td>
<td>ST</td>
<td>Dry upland habitats; also disturbed habitats such as pastures, oldfields, and road shoulders</td>
<td>Marginal</td>
<td>No</td>
</tr>
<tr>
<td>Florida Pine Snake</td>
<td>Pituophis melanoleucus migitus</td>
<td>-</td>
<td>ST</td>
<td>Dry upland habitats such as sandhills and scrubby flatwoods; also oldfields and pastures</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Eastern Indigo Snake</td>
<td>Drymarchon cornis couperi</td>
<td>T</td>
<td>FT</td>
<td>Broad range including scrub, sandhill, wet prairies, and mangrove swamps</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Atlantic Salt Marsh Snake</td>
<td>Nerodia clarkii tenuata</td>
<td>T</td>
<td>FT</td>
<td>Saltmarsh tidal flats that contain grasses such as glasswort, Spartina, and Juncus</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>American Alligator</td>
<td>Alligator mississippiensis</td>
<td>T</td>
<td>FT</td>
<td>Freshwater lakes, slow moving rivers, and brackish water habitats</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Green Sea Turtle</td>
<td>Chelonia mydas</td>
<td>T</td>
<td>FE</td>
<td>Estuarine and marine coastal and oceanic waters</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Hawksbill Sea Turtle</td>
<td>Erethmochelys imbricata</td>
<td>E</td>
<td>FE</td>
<td>Marine coastal and oceanic waters</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Kemps Ridley Sea Turtle</td>
<td>Lepidochelys kempii</td>
<td>E</td>
<td>FE</td>
<td>Marine coastal waters, usually with sand or mud bottoms</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Leatherback Sea Turtle</td>
<td>Dermochelys corvacea</td>
<td>E</td>
<td>FE</td>
<td>Oceanic waters</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Loggerhead Sea Turtle</td>
<td>Caretta caretta</td>
<td>T</td>
<td>FT</td>
<td>Marine coastal and oceanic waters</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Southeastern Beach Mouse</td>
<td>Peronemys palustrinus</td>
<td>T</td>
<td>FT</td>
<td>Primary, secondary, and occasionally tertiary sand dunes with moderate cover of grasses</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>West Indian Manatee</td>
<td>Trichechus manatus</td>
<td>T</td>
<td>FT</td>
<td>Coastal waters, bays, rivers, and occasional lakes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>North Atlantic Right Whale</td>
<td>Eubalaena glacialis</td>
<td>E</td>
<td>FE</td>
<td>Atlantic Ocean</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Atlantic Sturgeon</td>
<td>Acipenser oxyrinchus oxyrinchus</td>
<td>E</td>
<td>FE</td>
<td>Marine and intercoastal waters</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

**Definitions of above terms:**
- **T** - Threatened
- **E** - Endangered
- **FE** - State Listed as Federally-designated Endangered
- **FT** - State Listed as Federally-designated Threatened
- **ST** - State Listed as Threatened
- **DL** - Delisted
- **SSC** - Species of Special Concern
- **C** - Candidate

**Table Sources:**
- [FNAI] Florida Natural Areas Inventory. [FNAI Tracking List.][1]

*Table 1 - Comprehensive List of Endangered and Threatened Species - Brevard, Florida (Source: FWC, FNAI, and USFWS)*
**Florida Sandhill Crane.** The Florida sandhill crane is not a federally listed species, but the State of Florida lists the species as threatened. The species typically inhabits freshwater marshes, prairies, and pastures. Foraging habitat can be found throughout the property as the species will utilize both uplands and littoral fringes for feeding. However, the species typically utilizes freshwater ponds or marshes for nesting. No marsh habitat is located on-site. Freshwater ponds are present, but the mowed and maintained edges are not suitable for long-term nesting.

One sandhill crane was noted within the overall boundary of the CCNC (Figure 3), but the species was not located within the Phase 2 boundary. At no point during ESI’s investigation were any nests or ideal nesting habitat noted within the Phase 2 boundary.

**Burrowing Owl.** The burrowing owl is Florida’s smallest owl, and utilizes open prairies that have very little understory vegetation. Currently, the southern portions of Phase 2 offer marginal habitat, but active mowing and maintaining of the southern portions of Phase 2 preclude any realistic opportunity for the species. At no point did ESI note any burrowing owls or associated burrows on the property.

**Audubon’s Crested Caracara.** Audubon’s crested caracara is a large raptor species found throughout southern and central Florida. The species typically inhabits dry or wet prairie areas with scattered cabbage palms, along with semi-improved pasture. The species is predominantly found in southern central Florida and is rarely sighted as far north as Brevard County. Phase 2 of CCNC offers very limited habitat for the species as the pasture and prairie areas lack any significant presence of cabbage palms that the species utilizes for nesting. Cabbage palms within Phase 2 of CCNC were visually inspected on the 3 October 2019 site visit by ESI and no nests were noted. At no point during the investigation were any crested caracaras noted on-site.

**Florida Scrub Jay.** The Florida scrub jay is a state and federally protected species found in central and southern Florida. It typically inhabits low-growing oak scrub and scrubby flatwoods, but could potentially utilize the central and northern areas of Phase 2 classified as mixed rangeland on Figure 6. A scrub jay survey consistent with FWS guidelines was performed in 2013 to determine the potential presence of the species on-site. Based on the survey, no evidence of the species was noted. Based on the 3 October 2019 review, no scrub habitat is present on-site and no evidence of the species was noted within Phase 2. It is not anticipated that the development of Phase 2 will affect the species.

**Gopher Tortoise.** The gopher tortoise is a state-threatened species that typically inhabits areas with well-drained sandy soils and low-growing vegetation for forage. Based on a review of the mapped soil types, it was determined there was potential for the species on-site. The site was surveyed for gopher tortoises on 22 July 2014, and a permit was issued for the relocation of the identified tortoises by FWC on 27 March 2015 (GTC-14-00171B). A total of 47 tortoises were subsequently relocated off-site to a permitted long-term recipient site.
In October 2019, ESI re-reviewed the areas within Phase 2 that contained suitable soils and forage for the species, but no burrows were located. It is anticipated the development of Phase 2 will not impact the species.

American Alligator. The American alligator is a federally protected species due to the similarity of appearance to the American Crocodile. It typically inhabits freshwater lakes and slow moving rivers, associated wetlands, but can also utilize storm water retention areas such as the ponds within and directly adjacent to Phase 2 of CCNC. At no point during ESI’s investigation were any American alligators or evidence of alligators noted, but ESI staff has been made aware of multiple sightings of American alligators in the storm water ponds within the overall CCNC boundary by cemetery staff. However, it is not anticipated the project will impact the species, and the creation of additional storm water retention will provide additional habitat.

2.7.1 Bald Eagle Review

Although not formally listed under the Endangered Species Act, the bald eagle is afforded federal protection through the Bald and Golden Eagle Protection Act. The species is common in Florida and typically nests in live pine trees with a nearby water source for hunting and foraging. ESI reviewed the list of known bald eagle nests provided by FWC and determined no known eagle nests lie within or directly adjacent to CCNC. ESI visually inspected potential nest trees within and directly adjacent to CCNC Phase 2 and did not identify any bald eagle nests, nor were any bald eagles noted in and around the property. It is not anticipated the development of Phase 2 will affect the species.

2.7.2 Critical Habitat

The study area was reviewed for any critical habitat as designated by FWS. ESI reviewed FWS’s Information for Planning and Consultation (IPAC) tool and determined no designated critical habitat falls within the boundaries of Phase 2. A copy of the IPAC report is included with this RAR.

3. SUMMARY

ESI has completed this RAR to determine if any conditions or resources on-site could potentially be affected by the development of CCNC Phase 2. The report was informed by previous investigations and consultations associated with the EA and SEA performed for the entire CCNC project in 2012 and 2014, along with additional research and a 2019 site review.

It was previously determined by ACOE that no Waters of the U.S. are present on-site based on an approved jurisdictional determination issued in 2010. The determination has since expired, but based on the 2019 review, it is anticipated ACOE will remain consistent with previous findings that no areas on site are federally jurisdictional. ESI will continue to coordinate with ACOE to acquire an updated approved jurisdictional determination.
Cultural resource concerns were previously addressed as part of the original NEPA EA for the entirety of CCNC. SHPO concurred with ESI’s findings in 2012 that the unrecorded site did not warrant listing on the NRHP and no further investigation was required.

Based on ESI’s 2019 review of Phase 2 of CCNC, no federal or state protected wildlife species should be adversely affected by the development of the project site. Protected wading birds and Florida sandhill cranes could utilize the property in a transient nature for foraging along the existing littoral fringe of the stormwater pond in Phase 2, but permanent residence is unlikely due to the maintained nature of the pond edge. Florida scrub jays have been previously surveyed for and not found to be present on-site, and current conditions do not support the likelihood of the species utilizing the property. Gopher tortoises were relocated from the property under FWC permit GTC-14-00171B. The 2019 review confirmed no gopher tortoise burrows within the boundaries of Phase 2.
Attachment 1

Figures

Figure 1 – Location
Figure 2 – Aerial Photograph
Figure 3 – Wildlife
Figure 4 – Natural Resources
Figure 5 – Soils
Figure 6 – Existing Site Conditions
Disclaimer: The information depicted on this figure is for conceptual purposes only, serves to aid a licensed engineer or geologist in rendering professional services, and is subject to review and approval by appropriate regulatory agencies.

Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCan, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

Project Location
Cape Canaveral National Cemetery - Phase 2
Brevard County, Florida
Endangered Species

Cape Canaveral National Cemetery - Phase 2

Brevard County, Florida

Source(s): ESRI World Imagery Basemap

Disclaimer: The information depicted on this figure is for conceptual purposes only, serves to aid a licensed engineer or geologist in rendering professional services, and is subject to review and approval by appropriate regulatory agencies.

ENVIRONMENTAL SERVICES, INC.
7220 Financial Way, Suite 100
Jacksonville, Florida 32256
(904) 470-2200
(904) 470-2112 Fax
www.environmentalservicesinc.com

Project: HK197321
Date: Oct 2019
Drawn By: AA
Checked By: JRN
Approved By: BAA
Figure: 3
Natural Resources

Cape Canaveral National Cemetery - Phase 2

Brevard County, Florida

FEMA Flood Hazard Zones

- 1% Annual Chance Flood Hazard
- Regulatory Floodway
- Special Floodway
- Area of Undetermined Flood Hazard
- 0.2% Annual Chance Flood Hazard
- Future Conditions 1% Annual Chance Flood Hazard
- Area with Reduced Risk Due to Levee

Source(s): FEMA Flood Hazard Zones; FWS Wetlands; Bing Aerial Maps

Disclaimer: The information depicted on this figure is for conceptual purposes only, serves to aid a licensed engineer or geologist in rendering professional services, and is subject to review and approval by appropriate regulatory agencies.
Disclaimer: The information depicted on this figure is for conceptual purposes only, serves to aid a licensed engineer or geologist in rendering professional services, and is subject to review and approval by appropriate regulatory agencies.

Source(s): USDA Soils Survey of Brevard County, FL.; ESRI World Imagery Basemap

NRCS Soils
Cape Canaveral National Cemetery - Phase 2
Brevard County, Florida

Project Boundary

Soils
16, Copeland-Bradenton-Wabasso complex, limestone substratum
19, Riviera sand, 0 to 2 percent slopes
36, Myakka sand, 0 to 2 percent slopes
51, Pompano sand, 0 to 2 percent slopes
71, Wabasso sand, 0 to 2 percent slopes
Attachment 2

Approved Jurisdictional Determination (Expired)
SAJ-2010-02735 (JD-JSC)
September 20, 2010

First Equity Development Group, Inc.
c/o Mr. Roger Smith
5300 South Orange Avenue
Orlando, Florida 32809

Dear Mr. Smith:

Reference is made to information submitted to the U.S. Army Corps of Engineers (Corps) regarding the potential extent of federal jurisdiction on the Roger Smith/Scottsmoor project site. The site is located in Scottsmoor within Brevard County, Florida (Section 8, Township 20 South, Range 35 East). The evaluation of this jurisdictional determination involved many factors, including a field visit (September 16, 2010), review of aerial photographs, geological quad sheets, county soils maps, and site specific information provided by you. A copy of the approved jurisdictional determination form and any information used by our office to support our decision is enclosed. A Department of the Army permit will be required for any areas identified within that information as waters of the United States.

Instructions for Objecting to an Approved Jurisdictional Determination: Enclosed you will find a Notification of Appeal Process fact sheet and Request for Appeal (RFA) form. If you object to this determination, you may request an administrative appeal under Corps' regulations at 33 CFR Part 331. If you request to appeal this determination, you must submit a completed RFA form to the South Atlantic Division Office at the following address:

Mr. Michael F. Bell
South Atlantic Division
U.S. Army Corps of Engineers
In order for an RFA to be accepted by the Corps, the Corps must determine that it is complete, that it meets the criteria for appeal under 33 CFR Part 331.5, and that it has been received by the Division office within 60 days of the date of the RFA. Should you decide to submit an RFA form, it must be received at the above address by November 19, 2010.

The determination shown on the enclosed information represents the upland/wetland boundary for purposes of determining the Corps jurisdictional line. As depicted on the enclosed drawing, it has been determined that the on-site ditches do not constitute waters of the United States and are not subject to regulation by the Corps. Please be advised that the jurisdictional determination shown is based on the Corps of Engineers Wetlands Delineation Manual (1987) or current regional supplement, and is valid for a period no longer than 5 years from the date of this letter unless new information warrants a revision of the determination before the expiration date. If, after the 5-year period, the Corps has not specifically revalidated this jurisdictional determination, it shall automatically expire. Any reliance upon this jurisdictional determination beyond the expiration date may lead to possible violation of current Federal laws and/or regulations. You may request revalidation of the jurisdictional determination prior to the expiration date. Any revalidation or updating will be considered under the method of jurisdictional determination and other applicable regulations in use at the time of the request. Additionally, this determination has been based on information provided by you or your agent; should we determine that the information was incomplete or erroneous this delineation would be invalid.

This determination has been conducted to identify the limits of the Corps Clean Water Act jurisdiction for the particular site identified in this request. This determination may not be
valid for the wetland conservation provisions of the Food Security Act of 1985, as amended. If you or your tenant are U.S. Department of Agriculture (USDA) program participants, or anticipate participation in USDA programs, you should request a certified wetland determination from the local office of the Natural Resources Conservation Service prior to starting work.

The Corps' Jacksonville District Regulatory Division is committed to improving service to our customers. We strive to perform our duty in a friendly and timely manner while working to preserve our environment. We invite you to take a few minutes to visit the following link and complete our automated Customer Service Survey: http://per2.nwp.usace.army.mil/survey.html. Your input is appreciated - favorable or otherwise. Please be aware this web address is case sensitive and should be entered as it appears above.

Thank you for your cooperation with our permit program. If you have any questions concerning this matter please contact Jeffrey S. Collins by mail at the letterhead address, by electronic mail at Jeffrey.s.collins@usace.army.mil, or by telephone at 321-504-3771.

Sincerely,

Donald W. Kinard
Chief, Regulatory Division

Enclosures
APPROVED JURISDICTIONAL DETERMINATION FORM
U.S. Army Corps of Engineers

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

SECTION I: BACKGROUND INFORMATION
A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD): September 17, 2010
B. DISTRICT OFFICE, FILE NAME, AND NUMBER: CESAJ-NC, First Equity Dev Group, Inc./Scottsmoor JD, SAJ-2010-02735
C. PROJECT LOCATION AND BACKGROUND INFORMATION:
   State: County/parish/borough: City:
   Center coordinates of site (lat/long in degree decimal format): Lat. 28.76006°, Long. 80.8646°
   Universal Transverse Mercator:
   Name of nearest waterbody: Big Flounder Creek ditch
   Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: Indian River
   Name of watershed or Hydrologic Unit Code (HUC): East Florida Coastal, #03080202
   Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.
   Check if other sites (e.g., offsite mitigation sites, disposal sites, etc...) are associated with this action and are recorded on a different JD form.
D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):
   Office (Desk) Determination. Date:
   Field Determination. Date(s): 16 September, 2010

SECTION II: SUMMARY OF FINDINGS
A. RHA SECTION 10 DETERMINATION OF JURISDICTION.
   There “navigable waters of the U.S.” within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [Required]
   Waters subject to the ebb and flow of the tide.
   Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.
   Explain:
B. CWA SECTION 404 DETERMINATION OF JURISDICTION.
   There “waters of the U.S.” within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [Required]
   1. Waters of the U.S.
      a. Indicate presence of waters of U.S. in review area (check all that apply): 1
         TNWs, including territorial seas
         Wetlands adjacent to TNWs
         Relatively permanent waters (RPWs) that flow directly or indirectly into TNWs
         Non-RPWs that flow directly or indirectly into TNWs
         Wetlands directly abutting RPWs that flow directly or indirectly into TNWs
         Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs
         Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs
         Impoundments of jurisdictional waters
         Isolated (interstate or intrastate) waters, including isolated wetlands
      b. Identify (estimate) size of waters of the U.S. in the review area:
         Non-wetland waters: linear feet: width (ft) and/or acres.
         Wetlands: acres.
      c. Limits (boundaries) of jurisdiction based on: 2
         Elevation of established OHWM (if known):
   2. Non-regulated waters/wetlands (check if applicable): 3
      Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional.
      Explain: The site contains three non-jurisdictional ditches. While some portions of the ditches are incised into the groundwater table, the discharge points for Ditches 2 and 3 are very high and appear to preclude seasonal flow. Ditch 1 has a fabriform weir at the southeast corner of the property which also precludes seasonal discharge.

---

1 Boxes checked below shall be supported by completing the appropriate sections in Section III below.
2 For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).
3 Supporting documentation is presented in Section III.F.
SECTION III: CWA ANALYSIS

A. TNWs AND WETLANDS ADJACENT TO TNWs

The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW, complete Section III.A.1 and Section III.D.1. only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections III.A.1 and 2 and Section III.D.1.; otherwise, see Section III.B below.

1. TNW

Identify TNW: ...

Summarize rationale supporting determination:

2. Wetland adjacent to TNW

Summarize rationale supporting conclusion that wetland is "adjacent":

B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):

This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under *Rapanos* have been met.

The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are "relatively permanent waters" (RPWs), i.e., tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.

A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation. Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.

If the waterbody is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.

1. Characteristics of non-TNWs that flow directly or indirectly into TNW

   (i) General Area Conditions:

   Watershed size:

   Drainage area:

   Average annual rainfall: 55 inches
   Average annual snowfall: inches

   (ii) Physical Characteristics:

      (a) Relationship with TNW:

      □ Tributary flows directly into TNW.
      ☒ Tributary flows through tributaries before entering TNW.

      Project waters are river miles from TNW.
      Project waters are river miles from RPW.
      Project waters are aerial (straight) miles from TNW.
      Project waters are aerial (straight) miles from RPW.
      Project waters cross or serve as state boundaries. Explain:

      Identify flow route to TNW: Ditches 1-2 may discharge during extreme events to the Big Flounder Creek Ditch (southeast corner of property). Similarly, Ditch 3 could discharge to ditch on the north side of Huntington Ave.

---

*Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.*

*Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.*
Tributary stream order, if known: 

(b) General Tributary Characteristics (check all that apply):

Tributary is:  □ Natural  
□ Artificial (man-made). Explain: Man-made ditches.  
□ Manipulated (man-altered). Explain:  

Tributary properties with respect to top of bank (estimate):

Average width: 20 feet  
Average depth: 5 feet  
Average side slopes: 45°  

Primary tributary substrate composition (check all that apply):

□ Silts  □ Sands  □ Concrete  
□ Cobbles  □ Gravel  □ Muck  
□ Bedrock  □ Vegetation. Type/cover: 100  
□ Other. Explain:  

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain:  
Presence of run/riffle/pool complexes. Explain: N/A.  
Tributary geometry:  
Tributary gradient (approximate average slope): %  

(c) Flow:

Tributary provides for:  
Estimate average number of flow events in review area/year:  
Describe flow regime: Only during extreme events.  
Other information on duration and volume:  
Surface flow is:  
Subsurface flow:  
Dye (or other) test performed:  

Tributary has (check all that apply):

□ Bed and banks  
□ OHWM (check all indicators that apply):

□ clear, natural line impressed on the bank  
□ changes in the character of soil  
□ shelving  
□ vegetation matted down, bent, or absent  
□ leaf litter disturbed or washed away  
□ sediment deposition  
□ water staining  
□ other (list):  
□ Discontinuous OHWM. Explain:  

If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):

□ High Tide Line indicated by:  
□ Mean High Water Mark indicated by:  

Oil or scum line along shore objects  
Fine shell or debris deposits (foreshore)  
Physical markings/characteristics  
Tidal gauges  
Other (list):  

(iii) Chemical Characteristics:

Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.).  
Explain: Generally tanic water where water was present in the ditches.  
Identify specific pollutants, if known: No known pollutants.  

* A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.  
†Ibid.
(iv) Biological Characteristics. Channel supports (check all that apply):

- □ Riparian corridor. Characteristics (type, average width):
- □ Wetland fringe. Characteristics:
- □ Habitat for:
  - □ Federally Listed species. Explain findings:
  - □ Fish/spawn areas. Explain findings:
  - □ Other environmentally-sensitive species. Explain findings:
  - □ Aquatic/wildlife diversity. Explain findings:

2. Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW

(i) Physical Characteristics:
   (a) General Wetland Characteristics:
      Properties:
      - Wetland size: acres
      - Wetland type. Explain:
      - Wetland quality. Explain:
      Project wetlands cross or serve as state boundaries. Explain:

   (b) General Flow Relationship with Non-TNW:
      Flow is: Explain:
      Surface flow is: Explain:
      Subsurface flow: Dye (or other) test performed:

   (c) Wetland Adjacency Determination with Non-TNW:
      □ Directly abutting
      □ Not directly abutting
      - □ Discrete wetland hydrologic connection. Explain:
      - □ Ecological connection. Explain:
      - □ Separated by berm/barrier. Explain:

   (d) Proximity (Relationship) to TNW
      Project wetlands are river miles from TNW.
      Project waters are aerial (straight) miles from TNW.
      Flow is from: Estimate approximate location of wetland as within the floodplain.

(ii) Chemical Characteristics:
      Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain:
      Identify specific pollutants, if known:

(iii) Biological Characteristics. Wetland supports (check all that apply):
      □ Riparian buffer. Characteristics (type, average width):
      □ Vegetation type/percent cover. Explain:
      □ Habitat for:
        - □ Federally Listed species. Explain findings:
        - □ Fish/spawn areas. Explain findings:
        - □ Other environmentally-sensitive species. Explain findings:
        - □ Aquatic/wildlife diversity. Explain findings:

3. Characteristics of all wetlands adjacent to the tributary (if any)
   All wetland(s) being considered in the cumulative analysis:
   Approximately ( ) acres in total are being considered in the cumulative analysis.
For each wetland, specify the following:

<table>
<thead>
<tr>
<th>Directly abuts? (Y/N)</th>
<th>Size (in acres)</th>
<th>Directly abuts? (Y/N)</th>
<th>Size (in acres)</th>
</tr>
</thead>
</table>

Summarize overall biological, chemical and physical functions being performed:

C. SIGNIFICANT NEXUS DETERMINATION

A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.

Draw connections between the features documented and the effects on the TNW, as identified in the Rapanos Guidance and discussed in the Instructional Guidebook. Factors to consider include, for example:

- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to carry pollutants or flood waters to TNWs, or to reduce the amount of pollutants or flood waters reaching a TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to transfer nutrients and organic carbon that support downstream foodwebs?
- Does the tributary, in combination with its adjacent wetlands (if any), have other relationships to the physical, chemical, or biological integrity of the TNW?

Note: the above list of considerations is not inclusive and other functions observed or known to occur should be documented below:

1. Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs. Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D:

2. Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs. Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:

3. Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW. Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:

D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY):

1. TNWs and Adjacent Wetlands. Check all that apply and provide size estimates in review area:

   - TNWs: linear feet width (ft), Or, acres.
   - Wetlands adjacent to TNWs: acres.

2. RPWs that flow directly or indirectly into TNWs.
Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial.

Tributaries of TNW where tributaries have continuous flow “seasonally” (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally.

Provide estimates for jurisdictional waters in the review area (check all that apply):

- Tributary waters: linear feet width (ft).
- Other non-wetland waters: acres.

Identify type(s) of waters:

3. Non-RPWs that flow directly or indirectly into TNWs.

Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional waters within the review area (check all that apply):

- Tributary waters: linear feet width (ft).
- Other non-wetland waters: acres.

Identify type(s) of waters:

4. Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.

Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.

Provide acreage estimates for jurisdictional wetlands in the review area: acres.

5. Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs.

Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide acreage estimates for jurisdictional wetlands in the review area: acres.

6. Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.

Wetlands adjacent to such waters, and have when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional wetlands in the review area: acres.

7. Impoundments of jurisdictional waters.

As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional.

Demonstrate that impoundment was created from “waters of the U.S.,” or

Demonstrate that water meets the criteria for one of the categories presented above (1-6), or

Demonstrate that water is isolated with a nexus to commerce (see E below).

E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):

---

See Footnote # 3.

To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.

Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA Memorandum Regarding CWA Act Jurisdiction Following Rapanos.
Identify water body and summarize rationale supporting determination:

Provide estimates for jurisdictional waters in the review area (check all that apply):
- Tributary waters: linear feet width (ft).
- Other non-wetland waters: acres.
- Wetlands: acres.
- Identify type(s) of waters:

F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):
- If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.
- Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.
- Prior to the Jan 2001 Supreme Court decision in "SWANCC," the review area would have been regulated based solely on the "Migratory Bird Rule" (MBR).
- Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction. Explain:
- Other: (explain, if not covered above):

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):
- Non-wetland waters (i.e., rivers, streams): linear feet width (ft).
- Lakes/ponds: acres.
- Other non-wetland waters: acres. List type of aquatic resource:
- Wetlands: acres.

Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction (check all that apply):
- Non-wetland waters (i.e., rivers, streams): 13,000 linear feet width (ft).
- Lakes/ponds: acres.
- Other non-wetland waters: acres. List type of aquatic resource:
- Wetlands: acres.

SECTION IV: DATA SOURCES.

A. SUPPORTING DATA. Data reviewed for JD (check all that apply - checked items shall be included in case file and, where checked and requested, appropriately reference sources below):
- Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant:
- Data sheets prepared/submitted by or on behalf of the applicant/consultant.
- Office concurs with data sheets/delineation report.
- Office does not concur with data sheets/delineation report.
- Data sheets prepared by the Corps:
- Corps navigable waters’ study:
- U.S. Geological Survey Hydrologic Atlas:
- USGS NHD data.
- USGS 8 and 12 digit HUC maps.
- U.S. Geological Survey map(s). Cite scale & quad name: Oak Hill.
- USDA Natural Resources Conservation Service Soil Survey. Citation:
- National wetlands inventory map(s). Cite name:
- State/Local wetland inventory map(s):
- FEMA/FIRM maps:
- 100-year Floodplain Elevation is: (National Geodetic Vertical Datum of 1929)
- Photographs: Aerial (Name & Date): Google Earth, 2008.
- or Other (Name & Date): CIR DOQQ, 1994.
- Previous determination(s). File no. and date of response letter:
Applicable/supporting case law: 
Applicable/supporting scientific literature: 
Other information (please specify): 

B. ADDITIONAL COMMENTS TO SUPPORT JD: 
Applicant: First Equity Dev. Group Inc.  
File Number: SAJ-2010-02735  
Date: 9/17/2010

Attached is:  

<table>
<thead>
<tr>
<th>Permit Type</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>INITIAL PROFFERED PERMIT (Standard Permit or Letter of permission)</td>
<td>A</td>
</tr>
<tr>
<td>PROFFERED PERMIT (Standard Permit or Letter of permission)</td>
<td>B</td>
</tr>
<tr>
<td>PERMIT DENIAL</td>
<td>C</td>
</tr>
<tr>
<td>APPROVED JURISDICTIONAL DETERMINATION</td>
<td>D</td>
</tr>
<tr>
<td>PRELIMINARY JURISDICTIONAL DETERMINATION</td>
<td>E</td>
</tr>
</tbody>
</table>

**A: INITIAL PROFFERED PERMIT:** You may accept or object to the permit.

- **ACCEPT:** If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.

- **OBJECT:** If you object to the permit (Standard or LOP) because of certain terms and conditions therein, you may request that the permit be modified accordingly. You must complete Section II of this form and return the form to the district engineer. Your objections must be received by the district engineer within 60 days of the date of this notice, or you will forfeit your right to appeal the permit in the future. Upon receipt of your letter, the district engineer will evaluate your objections and may: (a) modify the permit to address all of your concerns, (b) modify the permit to address some of your objections, or (c) not modify the permit having determined that the permit should be issued as previously written. After evaluating your objections, the district engineer will send you a proffered permit for your reconsideration, as indicated in Section B below.

**B: PROFFERED PERMIT:** You may accept or appeal the permit

- **ACCEPT:** If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.

- **APPEAL:** If you choose to decline the proffered permit (Standard or LOP) because of certain terms and conditions therein, you may appeal the declined permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

**C: PERMIT DENIAL:** You may appeal the denial of a permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

**D: APPROVED JURISDICTIONAL DETERMINATION:** You may accept or appeal the approved JD or provide new information.

- **ACCEPT:** You do not need to notify the Corps to accept an approved JD. Failure to notify the Corps within 60 days of the date of this notice, means that you accept the approved JD in its entirety, and waive all rights to appeal the approved JD.

- **APPEAL:** If you disagree with the approved JD, you may appeal the approved JD under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

**E: PRELIMINARY JURISDICTIONAL DETERMINATION:** You do not need to respond to the Corps regarding the preliminary JD. The Preliminary JD is not appealable. If you wish, you may request an approved JD (which may be appealed), by contacting the Corps district for further instruction. Also you may provide new information for further consideration by the Corps to reevaluate the JD.
REASONS FOR APPEAL OR OBJECTIONS: (Describe your reasons for appealing the decision or your objections to an initial proffered permit in clear concise statements. You may attach additional information to this form to clarify where your reasons or objections are addressed in the administrative record.)

ADDITIONAL INFORMATION: The appeal is limited to a review of the administrative record, the Corps memorandum for the record of the appeal conference or meeting, and any supplemental information that the review officer has determined is needed to clarify the administrative record. Neither the appellant nor the Corps may add new information or analyses to the record. However, you may provide additional information to clarify the location of information that is already in the administrative record.

IF YOU HAVE QUESTIONS REGARDING THIS DECISION AND/OR THE APPEAL PROCESS YOU MAY CONTACT:

Project Manager as noted in letter

If you only have questions regarding the appeal process you may also contact:

Michael F. Bell
404-562-5137

RIGHT OF ENTRY: Your signature below grants the right of entry to Corps of Engineers personnel, and any government consultants, to conduct investigations of the project site during the course of the appeal process. You will be provided a 15 day notice of any site investigation, and will have the opportunity to participate in all site investigations.

Signature of appellant or agent.

Date:  
Telephone number:
Ditches 1, 2, and 3 are not within Corps jurisdiction.

- Ditch 3
- Ditch 2
- Indian River - TNW
- Ditch/swale - does not appear to discharge.
- Fabrif orm Weir
- Big Flounder Creek - RPW
LEGAL DESCRIPTION: 2

A PARCEL OF LAND BEING A PART OF THE WILLIAM GARVIN GRANT
LYING NORTH OF THE BERNARDO SEQUI GRANT, ALL LYING IN BREVARD
COUNTY, FLORIDA AND BEING MORE PARTICULARLY DESCRIBED AS
FOLLOWS:

BEGIN AT A POINT ON THE SOUTH LINE OF THE NORTH ½ OF WILLIAM
GARVIN GRANT AND THE EAST RIGHT OF WAY LINE OF US HIGHWAY NO.
1; THENCE N. 72°43'20" E., ALONG SAID SOUTH LINE, A DISTANCE OF
2181.10' TO THE INTERSECTION OF THE EAST RIGHT OF WAY OF SEMINOLE
DRIVE AND THE NORTH LINE OF THE SOUTH ½ OF WILLIAM GARVIN
GRANT; THENCE N. 15°07'30" W., ALONG SAID EAST RIGHT OF WAY, A
DISTANCE OF 2047.01' TO THE NORTHWEST CORNER OF TRACT 83, OF THE
PLAN OF SCOTT'S MOOR LITTLE FARMS AS RECORDED IN PLAT BOOK 03,
PAGE 63 OF THE PUBLIC RECORDS OF BREVARD COUNTY, FLORIDA;
THENCE N. 72°41'45" E., ALONG THE NORTH LINE OF SAID TRACT 83, A
DISTANCE OF 656.00' TO THE WEST LINE OF SAID PLAT OF SCOTT'S MOOR
LITTLE FARMS; THENCE N. 11°06'46" W. ALONG THE EAST LINE OF SAID
PLAT, A DISTANCE OF 427.16' TO THE SOUTH RIGHT OF WAY OF
HUNTINGTON AVENUE; THENCE N. 72°56'09" E., ALONG SAID SOUTH RIGHT
OF WAY, A DISTANCE OF 1747.53' TO THE WEST RIGHT OF WAY LINE OF
DIXIE WAY; THENCE S. 11°27'03" E., ALONG SAID WEST RIGHT OF WAY, A
DISTANCE OF 3172.09' TO THE NORTH LINE OF OFFICIAL RECORDS BOOK
3310, PAGES 3748 AND 4084 OF THE PUBLIC RECORDS OF BREVARD
COUNTY, FLORIDA; THENCE FOR THE NEXT 2 COURSES ALONG THE
BOUNDARY OF SAID OFFICIAL RECORDS BOOK; S. 79°02'25" W., A DISTANCE
OF 582.45'; S. 11°27'03" E., 521.62', TO THE NORTH LINE OF BERNARDO SEQUI
GRANT AND THE NORTH RIGHT OF WAY LINE OF JOHN'S ROAD; THENCE S.
79°02'58" W., ALONG SAID NORTH LINE, A DISTANCE OF 3803.05' TO THE
EAST RIGHT OF WAY LINE OF US HIGHWAY NO. 1; THENCE N. 15°11'17" W.,
ALONG SAID EAST RIGHT OF WAY OF US HIGHWAY NO. 1, A DISTANCE OF
729.76' TO THE POINT OF BEGINNING.

CONTAINING 218.34 ACRES (9,511,138 S.F.) MORE OR LESS. SUBJECT TO ANY
EASEMENTS AND/OR RIGHTS OF WAY OF RECORD.
# Map Unit Legend

<table>
<thead>
<tr>
<th>Map Unit Symbol</th>
<th>Map Unit Name</th>
<th>Acres in AOI</th>
<th>Percent of AOI</th>
</tr>
</thead>
<tbody>
<tr>
<td>16</td>
<td>Copeland-Bradenton-Wabasso complex, limestone</td>
<td>36.8</td>
<td>18.0%</td>
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<tr>
<td>18</td>
<td>Riviera sand</td>
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<td>6.7%</td>
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<td>36</td>
<td>Myakka sand</td>
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<td>48.9%</td>
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<td>Orsino fine sand</td>
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<td>49</td>
<td>Pomello sand</td>
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<td>Pompano sand</td>
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<td>St. Johns sand, depressional</td>
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<td>96</td>
<td>Tavares fine sand</td>
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<td>0.1%</td>
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<td>Anclote sand</td>
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<td>3.0%</td>
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<td><strong>Totals for Area of Interest</strong></td>
<td></td>
<td><strong>203.9</strong></td>
<td><strong>100.0%</strong></td>
</tr>
</tbody>
</table>
Attachment 3

Cultural Resource Documentation
December 4, 2012

Mr. Brent Handley
Environmental Associates, Inc.
7220 Financial Way, Suite 100
Jacksonville, Florida 32256

Re: DHR Project File No.: 2012-05060 / Received by DHR: October 29, 2012
A Cultural Resource Reconnaissance Survey of the Central East Florida National Cemetery Property, Brevard County, Florida

Dear Mr. Handley:

Our office received and reviewed the above referenced survey report in accordance with Section 106 of the National Historic Preservation Act of 1966 (Public Law 89-665), as amended in 1992, and 36 C.F.R., Part 800: Protection of Historic Properties, and Chapter 267, Florida Statutes, for assessment of possible adverse impact to cultural resources (any prehistoric or historic district, site, building, structure, or object) listed, or eligible for listing, in the National Register of Historic Places (NRHP).

In May 2012, Environmental Services, Inc. (ESI) conducted an archaeological and historical reconnaissance level survey of the proposed Central East Florida National Cemetery tract on behalf of the Department of Veterans Affairs National Cemetery Administration. ESI identified one previously unrecorded archaeological site (8BR2937) within the project area during the investigation.

ESI found that 8BR2937 is a low density historic refuse site that lacks sufficient research potential to warrant listing in the NRHP.

ESI determined that the proposed cemetery will have no effect on cultural resources listed, or eligible for listing, on the NRHP. ESI recommends no further investigation of the parcel.

Based on the information provided, our office concurs with these determinations and finds the submitted report complete and sufficient in accordance with Chapter 1A-46, Florida Administrative Code. However, we also note that our agency concurred with a previous determination of no effect on cultural resources in our letter dated May 30, 2012, after reviewing the report, A Cultural Resources Assessment of the Proposed 318-Acre Scottsmoor VA Cemetery Site, Brevard County, Florida.
For any questions concerning our comments, please contact Rudy Westerman, Historic Preservationist, by electronic mail at Rudy.Westerman@DOS.MyFlorida.com, or by phone at 850.245.6333. We appreciate your continued interest in protecting Florida’s historic properties.

Sincerely,

Robert F. Bendus, Director
Division of Historical Resources
and State Historic Preservation Officer
Survey Log Sheet
Florida Master Site File
Version 4.1 1/07

Consult Guide to the Survey Log Sheet for detailed instructions.

Identification and Bibliographic Information

Survey Project (name and project phase) Reconnaissance Survey of the proposed Veterans Affairs National Cemetery Property.

Report Title (exactly as on title page) A Cultural Resource Reconnaissance Survey of The Veterans Affairs National Cemetery Property, Brevard County, Florida

Report Authors (as on title page, last names first) 1. Handley, Brent 3. 2. Nelson, Blue 4.

Publication Date (year) 2012 Total Number of Pages in Report (count text, figures, tables, not site forms) 32

Publication Information (Give series, number in series, publisher and city. For article or chapter, cite page numbers. Use the style of American Antiquity.)

Supervisors of Fieldwork (even if same as author) Names Handley, Brent
Affiliation of Fieldworkers: Organization Environmental Services, Inc. City Jacksonville

Key Words/Phrases [Don't use county name, or common words like archaeology, structure, survey, architecture, etc.]
2. Johns Road 4. 6. 8.

Survey Sponsors (corporation, government unit, organization or person directly funding fieldwork)
Name The US Department of Veterans Affairs Organization

Recorder of Log Sheet Blue Nelson Date Log Sheet Completed 05/18/2012

Is this survey or project a continuation of a previous project? ☑ No ☐ Yes: Previous survey #s (FMSF only)

Mapping

Counties (List each one in which field survey was done; attach additional sheet if necessary)
1. Brevard 3. 5.
2. 4.

USGS 1:24,000 Map Names/Year of Latest Revision (attach additional sheet if necessary)
1. Name OAK HILL Year 2009 4. Name Year
2. Name Year 5. Name Year
3. Name Year 6. Name Year

Description of Survey Area

Dates for Fieldwork: Start 5-9-2012 End 5-16-2012 Total Area Surveyed (fill in one) hectares 318 acres
Number of Distinct Tracts or Areas Surveyed 2
If Corridor (fill in one for each) Width: meters feet Length: kilometers miles
Survey Log Sheet

Survey 

Research and Field Methods

**Types of Survey (check all that apply):**
- [x] archaeological
- [ ] architectural
- [ ] historical/archival
- [ ] underwater
- [x] damage assessment
- [ ] monitoring report
- [ ] other (describe)

**Scope/Intensity/Procedures**
Reconnaissance Survey; shovel tests (n=37) dug judgmentally; soil screened through 1/4 inch mesh, portable shaker screen. All Artifacts collected.

**Preliminary Methods (check as many as apply to the project as a whole)**
- [ ] Florida Archives (Gray Building)
- [ ] Florida Photo Archives (Gray Building)
- [x] Site File property search
- [x] Site File survey search
- [ ] library research - local/public
- [ ] library-special collection - nonlocal
- [ ] Public Lands Survey (maps at DEP)
- [ ] local property or tax records
- [ ] local informant(s)
- [ ] newspaper files
- [ ] literature search
- [ ] Sanborn Insurance maps
- [ ] aerial photography
- [ ] other (describe):

**Archaeological Methods (check as many as apply to the project as a whole)**
- [ ] Check here if NO archaeological methods were used.
- [ ] surface collection, controlled
- [ ] surface collection, uncontrolled
- [x] shovel test-1/4" screen
- [ ] shovel test-1/8" screen
- [ ] shovel test-1/16" screen
- [ ] shovel test-unscreened
- [ ] other (describe):
- [ ] shovel test-other screen size
- [ ] water screen
- [ ] posthole tests
- [ ] auger tests
- [ ] coring
- [ ] test excavation (at least 1x2 m)
- [ ] block excavation (at least 2x2 m)
- [ ] soil resistivity
- [ ] magnetometer
- [ ] side scan sonar
- [ ] pedestrian survey
- [ ] unknown

**Historical/Architectural Methods (check as many as apply to the project as a whole)**
- [ ] Check here if NO historical/architectural methods were used.
- [ ] building permits
- [ ] commercial permits
- [ ] interior documentation
- [ ] other (describe):
- [ ] demolition permits
- [ ] exposed ground inspected
- [ ] local property records
- [ ] neighbor interview
- [ ] occupant interview
- [ ] occupation permits
- [ ] subdivision maps
- [ ] tax records
- [ ] unknown

**Site Significance Evaluated?**
- [x] Yes
- [ ] No

**Count of Previously Recorded Sites**

**Count of Newly Recorded Sites**

**Precedently Recorded Site #"s with Site File Update Forms**
(List site #"s without "8". Attach additional pages if necessary.)

**Newly Recorded Site #"s (Are all originals and not updates? List site #"s without "8". Attach additional pages if necessary.)**

**Site Forms Used:**
- [ ] Site File Paper Form
- [x] Site File Electronic Recording Form

***REQUIRED: ATTACH PLOT OF SURVEY AREA ON PHOTOCOPY OF USGS 1:24,000 MAP(S)***

**SHPO USE ONLY**

- [ ] Grant Project #
- [ ] Compliance Review: CRAT #
- [ ] Academic
- [ ] Contract
- [ ] Avocational

- [ ] Archaeological Survey
- [ ] Historical/Architectural Survey
- [ ] Marine Survey
- [ ] Cell Tower CRAS
- [ ] Monitoring Report
- [ ] Overview
- [ ] Excavation Report
- [ ] Multi-Site Excavation Report
- [ ] Structure Detailed Report
- [ ] Library, Hist, or Archival Doc
- [ ] MPS
- [ ] MPA
- [ ] FG
- [ ] Other:

**Document Destination:**

**Plotability:**
A Cultural Resource Reconnaissance Survey of the Central East Florida National Cemetery Property
Brevard County, Florida

By: Brent M. Handley & Blue Nelson

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ON 934X20000

Prepared By:
ENVIRONMENTAL SERVICES, INC.
7220 Financial Way, Suite 100
Jacksonville, Florida 32256

23 August 2012
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I. INTRODUCTION

In May 2012, Environmental Services, Inc. (ESI) conducted a cultural resource reconnaissance survey of the approximately 318-acre Central East Florida National Cemetery property located in Brevard County, Florida (Figure 1.1). Specifically, the parcel is located in Section 54 of Township 20 South, Range 34 East, as shown on the Oak Hill USGS Quadrangle map (2009). This survey was undertaken in anticipation of a request from Florida's Division of Historical Resources (DHR) on behalf of the Department of Veterans Affairs who are in the planning and permitting stages of constructing a cemetery. The goal of the reconnaissance survey was to determine whether the tract contained evidence of past human occupation or site probability variables that would warrant an intensive cultural resource assessment survey.

The survey was conducted in accordance with Florida Statues Chapters 267 and 373, as set forth by the State of Florida, Florida Department of State. Chapter 267 mandates the identification and management of cultural resources that might occur within the lands of Florida. Impacts related to the project will include grading, leveling, and filling associated with the construction of a cemetery.

Fieldwork was conducted in order to locate cultural resources and to isolate areas where additional subsurface testing might encounter archaeological sites. The term "cultural resources" as used herein is meant to refer to sites or objects that are archaeological, architectural, and/or historical in nature. Cultural resources typically consist of historic and prehistoric archaeological sites, as well as structures. A reconnaissance survey is defined as a survey that provides a basis for "the formulation of estimates of the necessity, type, and cost of further identification work and the setting of priorities for the individual tasks involved." Further, "in some cases a reconnaissance survey may show that historic properties are so unlikely to occur that there is no need for more intensive survey. In other cases reconnaissance survey may permit further survey work to be focused only on particular sub-areas or types of properties" (Reconnaissance Survey Guidelines, Division of Historical Resources, Florida Department of State, n.d.).

This investigation included preliminary background research that focused on the history of the vicinity, as well as a review of archaeological investigations to determine whether the tract contained previously recorded archaeological sites. Fieldwork included pedestrian inspection coupled with shovel testing conducted judgmentally throughout the parcel. The fieldwork was conducted by Blue Nelson and Brent Handley, who also served as Principal Investigator.

The pedestrian survey was conducted in order to locate artifacts and/or historic structural remains in areas of exposed ground surface. Subsurface testing included 37 shovel tests dug in locations thought to represent the highest probability areas for encountering subsurface remains. Testing revealed the tract to be relatively flat and low lying with primarily poorly to very poorly drained soils.

While the vast majority of the tract is considered low probability for containing cultural deposits, one area along Huntington Avenue was considered higher probability due to the presence of a structure on the 1943, 1956, and 1973 aerial photographs taken of the general area. This structure no longer exists, however shovel testing in the general area yielded artifacts associated
USGS Topographic Map
Central East VA Cemetery
Brevard County, Florida

Project Boundary

Source(s): USGS Topographic Survey, Oak Hill, FL Quadrangle (1994).

Disclaimer: The information depicted on this flora is for conceptual purposes only; serve as a licensed engineer or prepare in rendering professional services, and is subject to review and approval by appropriate regulatory agency.
with a late 19th to early 20th century homestead. Site 8BR2937 consists of a low density historic artifact scatter and has a low probability of generating significant new data through additional work; it is therefore recommended that the proposed project be allowed to proceed without further concern for impact to significant cultural resources.
II. ENVIRONMENTAL SETTING

A number of considerations are important in the selection of a location for human settlement, or in the utilization of an area for the procurement of resources. Environmental factors relating to the geology, hydrology, and soil characteristics of an area often have a direct effect on the selection of sites for prehistoric and historic occupation, as do the presence or absence of natural resources (Almy 1978; Anderson 1990:198). It was not only subsistence-related resources that influenced these decisions, but the presence of raw materials (such as stone) was also a factor. In order to understand the ecological conditions and potential for human use of the study area, pertinent environmental characteristics of the vicinity are discussed below.

Physiography

The project area is located within Florida coastal lowlands. The Eastern Flatwoods District originated as a sequence of barrier islands and lagoons during Plio-Pleistocene and recent times. The project area ranges in elevation from 5 to 25 feet above mean sea level. Clayey sand and silty fine sand make up the lagoonal deposit, which occurred during the Late Pliocene. (Brooks 1981).

Hydrology

The project area does not contain any flowing water; however there are a number of dug ditches used to drain large portions of the property that were once low lying wet areas. The Indian River (Intracoastal Waterway) is located approximately 1,000 feet to the east.

Soils

According to the Brevard County USDA soil survey (Web soil survey, 2012); several soil types are depicted within the study area (Figure 2.1). Other than a small formation of well-drained soil in the westernmost portion of the property, the majority of the tract is depicted as poorly drained to very poorly drained soils.

Vegetation

The majority of the property is characterized by hyrdric lowlands. Most of the property is open field and cow pasture; however, portions of the project area consist primarily of saw palmetto (Serenoa repens) with pine (Pinus elliottii) and various oaks (Quercus spp.). A portion of the Turnbull Hummock enters the project area at its extreme eastern edge.

Modern Impacts

The majority of project area consists of low lying agricultural land. The western portion of the project area is characterized by over grown fields formerly used to cultivate watermelon (Figure 2.2). The eastern portion of the property is currently utilized as a cow pasture (Figure 2.3). Future impacts within the project area include grading, leveling, and filling associated with cemetery construction and maintenance.
Source(s): NRCS Soil Survey, Brevard County, Florida.

The information depicted on this figure is for conceptual purposes only, serves to aid a licensed engineer or geologist in rendering professional services, and is subject to review and approval by appropriate regulatory agencies.
Figure 2.2. Photograph of the Project Area, Western Half of Property Viewing North.

Figure 2.3. Photograph of Project Area, Eastern Half of Property Viewing North.
III. REGIONAL CULTURE HISTORY

The prehistoric chronology for Central East Florida was first summarized by Irving Rouse (1951). His seminal study focused on the archaeology of an approximately 30 mile wide coastal strip extending from near Cape Canaveral south to St. Lucie Inlet; a region he referred to as the Indian River culture area. A later overview of Florida archaeology, written almost thirty years later by Milanich and Fairbanks (1980), dropped the Indian River designation and incorporated the region within the larger East and Central Lake Florida archaeological district. Some researchers opposed the merger of potentially discrete regions, and argued that Rouse's Indian River region is a distinct and viable culture area (Sigler-Eisenberg and Russo 1986). Most recently, Milanich (1994) has recognized the Indian River region as a regional variant of the St. Johns culture area (Table 1). The following discussion will reflect this distinction.

Table 1: Indian River Culture Area Chronology (adapted from Milanich 1994)

<table>
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<tr>
<td>Early Archaic</td>
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</tr>
<tr>
<td>Middle Archaic</td>
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Paleoindian Period (12,000 - 8,000 BC)

The earliest evidence for human occupation in Florida dates to the Paleoindian Period, which began between 10,000 and 12,000 BC. Much of the information regarding the Paleoindian period has been obtained during underwater excavation of two inland spring sites in Sarasota County. Radiocarbon dates clustering at 10,000 BC have been obtained from Little Salt Spring (8SO18) and Warm Mineral Springs in Sarasota County (Milanich 1994: 44; Cockrell and Murphy 1978; Clausen et al. 1979). The Little Salt Spring site produced a sharpened wooden stake radiocarbon dated to 10,030 BC and an extinct giant tortoise to 11,450 BC years old (Koski et al 2006). In northwest Florida, Paleoindian artifact-bearing strata at Page/Ladson (8JE591), located in sinkholes below the floor of the Aucilla River, have yielded radiocarbon dates between 10,000-7,500 BC (Dunbar et al. 1988). Recent investigations at Harney Flats (8H1507), a deep sand lithic site in Hillsborough County, have supplied additional information about the cultural patterns of the period, as they existed in Central Florida (Daniel and Wisenbaker 1987; Daniel et al. 1986).

When Paleoindians first roamed Florida, the climate was warmer than the previous Ice Age, but cooler than the present (Carbone 1983; Watts and Hansen 1988). Sea levels and the inland water
table were much lower, and as a result peninsular Florida was about three times its present width. Thus, many of today's wetlands were nonexistent. Current settlement models, based on archaeological data, suggest that the scarcity of potable water played an integral part in the movement and spatial patterning of Paleoindian. According to the Oasis Model, human groups frequented deep cenotes and perched ponds to collect water and exploit the abundant flora and fauna that were also attracted to such wetland locales (Webb 1894; Dunbar 1991; Milanich 1994). Many of these same areas contained exposed chert outcroppings due to the lower water table.

Due to preservation biases in the archaeological record, lithic tools, generally associated with past hunting and butchering activities, are the most frequently recovered artifacts at Paleoindian sites. The most commonly recognized Paleoindian stone implement is the lanceolate projectile point. Diagnostic spear point types found in Florida include Clovis, Simpson, and Suwannee (Bullen 1975). Archaeological evidence also suggests that bone pins, stone knives, lithic scrapers, and atlatls were also used by Paleoindian hunters (Milanich 1994: 48-59).

Based on the recovery of diagnostic Paleoindian projectile points, the major areas of Paleoindian site concentration are within the Northern Panhandle and central Gulf Coast regions of Florida (Dunbar and Waller 1983; Dunbar 1991). Most finds have come from sinkholes and river beds in localities characterized by areas of exposed Tertiary age limestone. Several researchers have suggested that the location of high quality chert quarries, along with sinkholes, had primary influence on Paleoindian settlement (Dunbar and Waller 1983; Dunbar 1991).

Presently, the Paleoindian period is poorly known for the Atlantic coast of Florida. In the vicinity of Brevard County only a few of these early sites have been found. Sites 8VO104 in New Smyrna, 8BR44 in Melbourne and 8IR9 in Vero Beach are sites on the coastal strand that have been the subject of some controversy over the years. Early investigators reported human remains associated with Pleistocene faunal material in all three locations, but these reports were criticized by Hardlick (1918) and Rouse (1951). At the Lake Hell 'n Blazes site in the Upper St. Johns, lithic tools including fluted projectile points have been recovered (Edwards 1954).

Archaic Period (8,000 - 500 BC)

The environment of the Archaic Period was characterized by drier climatic conditions and higher sea levels that resulted in the emergence of a mesic oak-hickory forest (Milanich 1994). Pleistocene megafauna were unable to adapt to the more arid Holocene environment and eventually became extinct. Archaic period Indians focused their subsistence strategies on the procurement of smaller game, fish, wild plant foods, and in some cases, shellfish. Thus, the period seems to have been characterized by changes in human subsistence patterns, tool manufacturing techniques, and the surrounding environment itself.

The earliest Archaic populations seem to exhibit settlement patterns similar to those used by their predecessors, suggesting strong continuity between Early Archaic and previous Paleoindian lifeways (Milanich 1994:63). It is generally assumed that Early Holocene populations were composed of small, nomadic bands that followed seasonal rounds on the basis of resource abundance, therefore occupying disparate geographic resource extraction locales throughout the year (Hemmings and Kohler 1974; Smith 1986:16-18). Familiarity with a specific region probably resulted in seasonal reuse of the same resource locales.
In Florida, Early Archaic (8,000-5,000 BC) components are generally distinguished through the presence of distinct projectile point types such as Kirk, Bollen, Santa Fe, and Tallahassee (Bullen 1975; Milanich 1994:63). The greater incidence of these points in northwest Florida compared to the number of recovered Paleoindian artifacts has been interpreted by some as an indication of increased population (Milanich 1994:63-66). Comparatively, Archaic period stone tools are quite different from those of the earlier Paleoindian era in that, with some prominent exceptions, they appear to have been much more expediently produced. Paleoindian tools, on the other hand, were manufactured in specific shapes for specific tasks, and were repeatedly used until they were lost, broken, or worn out.

While many small lithic scatter sites potentially dated to the Archaic Period in Florida have been recorded, only a few large Archaic sites have been investigated archaeologically. The most well known artifacts of the Middle Archaic Period in Florida belong to a family of large, stemmed spear points that are variations of a basic design and include Hillsborough, Newnan, Alachua, Putnam and Marion types (Bullen 1975).

As the Archaic population became more sedentary, a variety of site types evolved, including base camps, short-term camps, procurement camps, and cemeteries (Milanich 1994:75-85). By about 6,500 BC, the Florida populace had developed a more sedentary, or semi-sedentary, settlement system wherein groups seem to have established permanent habitation sites of larger size than had been utilized previously. Dependence on large mammals for subsistence had waned by Archaic times, and the populace had turned to riverine, lacustrine, and coastal resources to supply their protein needs.

Past researchers have postulated that Middle Archaic (5,000-3,000 BC) peoples of Florida lived almost exclusively in the interior of the state, and made only occasional ventures to the Atlantic coast. As an outcome of recent surveys and test excavations along the northern Atlantic coast of Florida, however, it has become clear that preceramic groups were occupying the Atlantic coast on a regular basis during the Middle Archaic period (Russo 1988; Russo and Ste. Claire 1992; Bond 1992). Archaeological and ecological data from the Upper (or southern) St. Johns River basin, encompassing inland Brevard County, suggest that this region was not permanently occupied until about 1,050 BC, however (Sigler et al. 1985; Russo 1988; Sigler-Eisenberg 1988).

Two important sites with Middle Archaic components are Gauthier (8BR193) and Windover (8BR246). Both are cemeteries that were used over an extended period of time. The Gauthier site was located in a low hammock adjacent to a wetland. Use of this terrestrial cemetery is believed to have spanned the Middle and Late Archaic periods (Russo 1988). In contrast, the Windover site includes an early Archaic pond cemetery. Primary burials, initially placed in the subaqueous zone of a peat pond, were interred during the period ca. 7,000-6,000 BC (Doran and Dickel 1988). Neither cemetery site was associated with a nearby and contemporaneous village or base settlement.

The Late Archaic peoples of northeast Florida possessed essentially the same material culture as their predecessors, with the addition of fired-clay pottery occurring around 2,000 BC (Milanich 1994). This distinct ceramic type, known as Orange pottery, was tempered with plant fibers and molded by hand into bowls of various sizes and shapes (Griffin 1945; Bullen 1972). Orange
ceramics are widespread in Florida and are represented by two dominant styles: Orange Plain and Orange Incised.

As stated above, intensive occupation of the Upper St. Johns River basin and the Indian River area did not begin until around 3,000 B.P. or 1,050 BC (Sigler-Eisenberg et al. 1985; Sigler-Eisenberg and Russo 1986). Within the Indian River area, there are currently more Orange period data for the Upper St. Johns River basin than the Indian River area. Population density in the inland marshes is thought to have been low and environmental circumscription seems to have been a guiding factor in Orange period settlement. Because water levels were lower, wetland communities were reduced in size and probably less productive, meaning that groups were frequently on the move (Russo 1988; Sigler-Eisenberg 1988). This is reflected in the archaeological record, with Orange period sites manifested as small middens distributed in a linear pattern within the upper basin. Seasonal movements from the inland marshes to the coast may have occurred at this time.

St. Johns/Malabar I

In northeast Florida the Archaic culture gave way to the St. Johns culture (ca. 500 BC – AD 1565). In the Indian River region, the Malabar Period is contemporaneous with the St. Johns period to the north. Archaeological assemblages characterizing the Malabar region contain large amounts of undecorated sand tempered pottery in association with St. Johns pottery. Early researchers associated this pottery with Glades and Belle Glade traditions to the south; although archaeologists have since determined that the undecorated wares were manufactured from local clays and were therefore not introduced by Glades populations to the south (Milanich 1994:250).

The St. Johns tradition is most apparent in archaeological assemblages in the form of a chalky pottery made of clays containing fossil sponge spicules (Borremans and Shaak 1986). The St. Johns way of life seems to have developed out of the previous Orange culture, as evidenced by St. Johns chalky wares with designs similar to those on Orange incised pottery (Bullen 1972; Milanich and Fairbanks 1980). The Zabski site, located on Merritt Island, is a single component site that demonstrated a ceramic transition from Orange into early St. Johns (Atkins and MacMahan 1967).

The post-Archaic period witnessed an increase in population and settlement numbers compared to earlier times. Cultural traits of the St. Johns and Malabar periods included the construction of burial mounds; a continued reliance on coastal resources; the appearance of new ceramics styles; and an increase in plant cultivation (Milanich and Fairbanks 1980). Contact with other Indian groups, both within and beyond Florida helped to shape the St. Johns culture.

The St. Johns tradition in the Indian River area is divided into two major periods, Malabar I and Malabar II, which are further subdivided on the basis of observable changes in material culture (Rouse 1951). Pottery of the Malabar I period, 500 BC to AD 750, is mostly St. Johns Plain and an unnamed sand-tempered plain ware. Ann Cordell (1993) has conducted technological ceramic analysis of sherds from the Upper St. Johns River basin and has forwarded a tenuous chronology based on microscopically discerned changes in paste.

St. Johns chalky wares dominate throughout the Malabar I period, with sand-tempered wares most prevalent during the latter part of Malabar I. Based on microscopic analysis of sherds, some wares are sandy but contain sponge spicules, and are frequently referred to as sandy St. Johns.
Assemblages containing admixtures of St. Johns Plain, sandy St. Johns, and sand-tempered plain characterize the region and help set it apart from the St. Johns heartland to the north. More ceramic data and absolute dates are needed to verify and refine Cordell's preliminary ceramic chronology. This line of investigation is also applicable to the study of Malabar II pottery assemblages.

During Malabar times, aboriginal groups were occupying the freshwater marshes of the Upper St. Johns River basin and the Indian River and barrier islands of the Atlantic coast. Because these two environmentally distinct areas are in close proximity to each other, movement between them may have been part of the local subsistence-settlement schedule at that time (Milanich 1994:254). Researchers suggest that the Malabar groups were foragers who practiced a "logistical form of mobility" (Sigler-Eisenberg 1988; Russo 1992; Milanich 1994). This type of subsistence-settlement pattern is represented by few large base camps or residences and many, small diverse special-use and extraction sites (e.g., shellfish collection camp, fish processing station).

**Malabar II**

Subsistence activities characteristic of the Malabar I continue into the Malabar II (AD 750 to AD 1563), with emphasis on the capture of estuarine fish and shellfish along the coast and freshwater species along the river (Russo 1992b; Milanich 1994). It has been hypothesized that there was an increased dependence on horticulture in the St. Johns region at this time (Goggin 1952; Milanich and Fairbanks 1980). Early French and Spanish documents claim that beans, squash, and maize were heavily cultivated throughout the southeastern United States at the time of contact. Direct evidence of cultigens, however, is rare. The consensus among archaeologists up to the present time has been that agriculture was not part of the prehistoric subsistence system of the Indian River region (Rouse 1951; Sigler-Eisenberg 1988).

The St. Johns/Malabar II period begins around AD 750, and is recognized by the introduction of check stamping on St. Johns chalky wares. As with the preceding period, coastal sites are characterized by shell deposits composed mostly of oyster and bone middens. Along the Atlantic coast and inland rivers in the St. Johns heartland, large mounds of shell refuse are common (Goggin 1952:55). The mobile "logistic" lifestyle hypothesized for the Malabar I is suggested for Malabar II times as well. Burial mounds increase in use, some being quite large, while others are small. To the north, the rise in the number of St. Johns village and mound sites implies greater cultural complexity compared to that of the earlier St. Johns I period (Milanich and Fairbanks 1980:162).

Malabar settlements are found adjacent to wetland locations in both the coastal zone and the interior. Special-use sites occupied either ephemerally or intermittently are common in the interior. Some of these small sites probably articulated with larger village locations. The excavation of the Blue Goose Midden (8IR15) revealed a large Malabar II occupation with evidence of residential and cooking related structures (Handley and Chance 2000; Handley 2001). In the General vicinity of site 8IR15, several smaller less intensively occupied sites have been recorded (Sigler-Lavelle et al. 1985, Russo 1988).

**Ais**

By the first few decades of the 16th century native peoples in the Indian River region were known as the Ais. This group of coastal Indians was spread out in large villages and smaller camps throughout the Barrier Island and mainland of the Indian River Lagoon. The first contact
Europeans had with these groups is believed to have been in 1546 when a ship owned by Sardo wrecked near Cape Canaveral (Lyon 1986). A single survivor, a Basque named Bustincury, is later listed as an interpreter of the Ais language.

After the first shipwreck many others soon followed as shipping increased along the coast of Florida. The Ais Indians soon adapted to this newly discovered source of raw materials. Learning quickly how to salvage wrecks the Ais became excellent wreck divers. Survivors of the wrecks were killed in ritual ceremonies. This aspect of Ais culture was soon ended by a series of diplomatic attempts by Floridian Governors. Although many survivors did make it safely to St. Augustine, the Ais continued to be troublesome from time to time by killing representatives of the Spanish Governors. In reaction to these outbreaks of hostilities, the Spanish would punish the coastal Indians by burning villages.

This group of coastal Indians was remarkably independent and allowed no fort or missions to be built, nor did they convert to Christianity as other groups did. Although fiercely independent, the Ais still made contact with Europeans, causing disease to spread throughout their region. In 1697, when Jonathan Dickerson was shipwrecked on the barrier islands south of Cape Canaveral, the Ais were still a strong influence in the region. However, by the Revolutionary War there were no Ais left in the area, the population had been completely decimated by diseases.

**Historic Period**

The first Spanish period lasted from the initial settlement (1565) to 1763. During this period, the Spaniards introduced citrus cultivation, which continues to be a mainstay of the local economy. During the period of British occupation (1763-1784) Florida witnessed a remarkable population growth; in 1776, the population was approximately 3,000, and by 1784, it had increased to about 17,000. While the colonies to the north were rebelling against the British Crown, the Florida colonies remained loyal, and much of the population growth is attributed to Georgia and South Carolina immigrants who were evading the rebellion.

In 1784, Florida was transferred back to Spanish rule. During this period, the population of East Florida was composed of Spanish, Minorcan, Native American, Anglo settlers, and free and enslaved blacks. North of the Rock Creek property, two major settlements during the second Spanish period were those of Domingo Reyes and Joseph Delespine. The Reyes Grant was a 1,000-acre grant at the headwaters of the Indian River. In 1817, Joseph Delespine received the grant from Governor Jose Coppinger; it encompassed 43,000 acres and was one of the largest Spanish land grants in Florida.

In 1821, Florida was established as a United States Territory, and Andrew Jackson served as the first governor. It was not until 1835, however, that the Cocoa area experienced increased settlement. The fortification of Fort Ann was established in 1837-1838 during the Second Seminole War, and large plantations and farms were abandoned during the war, hastening the decline of the local economy.

During the Civil War, much of Florida's economy was based on cotton and tobacco production; however, this portion of Florida contained relatively infertile soils. During the period, many of the men left their farms and joined the Confederate Army. Following the war, the Florida East Coast retained an economy based largely on subsistence agriculture.
Brevard County has consisted of a vast area with boundaries that have changed many times in the past. At one time, the county included the eastern half of Polk, Highlands, Glades, and Palm Beach Counties, as well as all of present day Martin, St. Lucie, Okeechobee, and Indian River Counties. It also included the majority of Osceola County and parts of Orange County.

History Specific to Project Vicinity

Scottsmoor is the northernmost community in Brevard County. It is a bucolic area characterized by farming and cattle ranching. James Garvin is acknowledged as being the first settler in the area obtaining land through a Spanish Land Grant in 1821. Cattle ranching, citrus, and cultivating pineapples were the primary products of the area. In 1923, Scottsmoor garnered a reputation as a resort town when three wealthy Vermont entrepreneurs purchased a thousand acres in the area. Roads were built and the land was divided into lots 50 feet by 135 feet and sold to wealthy northerners for a thousand dollars each. Within three years, the town boasted two hotels, a hardware store, an automotive repair shop, a café, and three gasoline filling stations.

Prosperity was fleeting and development in the area came to a halt following the Great Miami Hurricane of 1926. It was described as the most destructive hurricane of its time and the destruction and death of that magnitude kept many northerners away from Florida. To compound the trauma, the Great Depression set in, and the area fell into disrepair. Homes were left abandoned and many became vandalized or were destroyed by "drifters". According to an undated article in the *Florida Today*, "In 1932, an entire city block sold for $15" (*Florida Today*, n.d.).

With the development of the space program in the 1950's, the area experienced a small growth spurt; however, it witnessed its greatest population growth in the 1980's when many people began to seek out cheap land, moderate climate, and peace and quiet.
IV. PREVIOUS RESEARCH

Prior to fieldwork, the Florida Master Site File (FMSF) was consulted to obtain information on previously recorded sites and surveys pertinent to the present study. As a result, no archaeological sites or historic structures have been recorded within the tract; however, when the search was expanded to a one-mile radius, one historic site (8BR567) was revealed (Figure 4.1). This site is located nearly a mile to the west of the current project area, and represented an unspecified mill and homestead dating to the 1920s.
V. RESEARCH DESIGN AND METHODOLOGY

The fieldwork for this project was preceded by: a review of the Florida Master Site File (FMSF) to determine the presence of previously recorded cultural resources within the study area; an examination of soil maps; the attainment of familiarity with topographic maps of the project area so that elevation data could be utilized; a review of 1943, 1956, and 1973 historic aerial photographs (PALMMS 2007); a review of the 1949 Grant topographical map (LABINS 2004); a review of historic topographic maps from the late 1800s and early 1900s (FCIT 2007) and an investigation of previous archaeological research pertaining to the region. In addition, data regarding past aboriginal settlement and subsistence patterns within Florida were considered. The Brevard County Property Appraiser website was also consulted to determine if structures were present within the project area.

The goal of this reconnaissance was to assess the potential for cultural resources to occur within the tract, including prehistoric and historic archaeological sites and historic structures. Following background research, historic and prehistoric archaeological sites can often be detected initially during a walkover inspection by looking for artifacts in disturbed or cleared areas. In the absence of surface visibility, shovel testing in the best locations within a given piece of property provides information from which to draw conclusions regarding site potential.

In order to assess the potential for sites in the present study area, limited shovel testing was conducted (n=37). These subsurface tests were distributed in areas that represented the highest probability for containing evidence of human occupation and intact deposits. Shovel tests measured 50 cm in diameter and were dug to 100 cmbs (centimeters below surface) whenever possible. All excavated material was sifted through 6.35 mm (1/4") mesh mounted upon a portable shaker screen. Locational accuracy in the field was maintained through the use of a survey map, aerials, and GPS units. All field notes, maps, and artifacts from this survey were transported to the ESI laboratory for curation.

Unexpected Discoveries

Archaeologists frequently encounter unanticipated features or sites that require efforts that exceed the scope of project expectations. In such cases it is sometimes necessary to reevaluate the research design and/or seek additional funding to address unexpected discoveries. Unexpected findings could occur during project development and might include the discovery of human remains, which would require additional coordination with the state archaeologist in compliance with Chapter 872.05, Florida Statues, or a medical examiner if the remains appear less than 75 years old.

It is our policy to amend a project research design as needed to ensure that proper treatment and evaluation are afforded to unexpected findings. Coordination with the office of the SHPO is a necessary step in such an approach.
Informant Interviews

Locating archaeological sites and gaining familiarity with the history of a project tract is often facilitated through interviewing local citizens that live or spend time within close proximity to the parcel. A field interview was conducted on May 16, 2012 with Mary-Ann Severson, a resident of more than a decade. According to Mrs. Severson, the general area had been utilized for watermelon cultivation; this was validated by Mike McCall, who has resided in the area since 1988.
VI. RESULTS

In May 2012, Environmental Services, Inc. performed a cultural resource reconnaissance survey of the 318-acre Central East Florida National Cemetery tract. Fieldwork included pedestrian inspection coupled with shovel testing (n=37) conducted judgmentally in areas with the highest probability for encountering cultural resources.

The pedestrian survey included an inspection of all subsurface disturbances and cleared areas. The inspection revealed a series of ditches throughout the tract, along with fences and pens. No material older than 50 years old were encountered.

In addition to the pedestrian inspection, 37 shovel tests were dug within the project area (Figure 6.1). Shovel testing throughout most of the tract revealed poorly drained soils, which typically consisted of three strata: Stratum I (0-30 cmbs) gray brown sand, Stratum II (30-55 cmbs) medium gray, and Stratum III (55-70) black sand underlain by spodic soils. The majority of the tract consisted of low lying vacant land.

As a result of the survey, one cultural resource over fifty years old was encountered. Located along the northern extant of the property, a shovel test was placed in an area that appeared on the current aerial as having been recently cleared. The test yielded two nails from approximately 20 to 40 cmbs. A review of historic aerial photographs (1943, 1956, and 1973) and a historic USGS topographic map (1949) depicted a structure around the area of the positive shovel tests (Figures 6.2 and 6.3). Additional tests were dug at 25 meter intervals that revealed more material ranging from the late 19th to early 20th century. This resource was designated site 8BR2937, and is discussed in more detail below. As for the remaining portions of the property, no further work is warranted.

Site 8BR2937 (Huntington Avenue Homestead Site)

**Temporal Affiliation:** late 19th-early 20th century  
**Size:** approximately 1,500 square meters  
**Shovel Tests:** three positive, six negative  
**Integrity:** disturbed upper level, good in Stratum II

**Site Description:** 8BR2937 is a mid to late 19th and early 20th century homestead site located along the northern extant of a large agricultural field and Huntington Avenue (Figure 6.4). Nine shovel tests were dug to determine the sites boundaries (as seen in Figure 6.1). Three were positive for historic materials (n=20) (Table 2) and six were negative. Diagnostic artifacts included cut nails (n=3). Artifacts related to building construction were also found, and included material such as flat glass (n=3), unidentifiable nails (n=2), mortar (n=1), earthenware sewer pipe (n=2), concrete (n=1), and a screw (n=1). Artifacts associated with foodways included, refined earthenware (n=1), stoneware with a Bristol glaze (n=2), olive green bottle glass (n=1), and brown bottle glass (n=1). Additional soil profiles appear to be consistent with mapped soils of the survey area. A representative profile of the site shows three Strata: Stratum I (0-35) dark gray, Stratum II (35-60) medium brown, Stratum III (60-70+) gray loamy clay.
Figure 6.2: 1943 Historic Aerial Photograph of Project Area

Figure 6.3: 1949 USGS Topographic Map of Project Area Indicating a Structure.
Table 2: Artifacts Recovered from Shovel Tests at 8BR2937.

<table>
<thead>
<tr>
<th>FS #</th>
<th>Cat #</th>
<th>Description</th>
<th>Ct.</th>
<th>Wt.</th>
<th>Notes</th>
<th>Provenience</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>flat glass</td>
<td>1</td>
<td>1.3</td>
<td></td>
<td>1000 N 1000 E</td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>unid nails</td>
<td>2</td>
<td>4.3</td>
<td></td>
<td>1000 N 1000 E</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>concrete</td>
<td>1</td>
<td>230.1</td>
<td>fragment</td>
<td>1012 N 1025 E</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>earthenware sewer pipe</td>
<td>2</td>
<td>93.4</td>
<td>glazed exterior</td>
<td>1012 N 1025 E</td>
</tr>
<tr>
<td>2</td>
<td>3</td>
<td>mortar</td>
<td>1</td>
<td>19.7</td>
<td>melted glass</td>
<td>1012 N 1025 E</td>
</tr>
<tr>
<td>2</td>
<td>4</td>
<td>clear glass</td>
<td>1</td>
<td>7.9</td>
<td></td>
<td>1012 N 1025 E</td>
</tr>
<tr>
<td>2</td>
<td>5</td>
<td>screw</td>
<td>1</td>
<td>11.3</td>
<td>approx 15 mm</td>
<td>1012 N 1025 E</td>
</tr>
<tr>
<td>2</td>
<td>6</td>
<td>cut nail</td>
<td>3</td>
<td>17.8</td>
<td>Type B cut nail, circa 1810s-1900s</td>
<td>1012 N 1025 E</td>
</tr>
<tr>
<td>2</td>
<td>7</td>
<td>unid stone ware</td>
<td>1</td>
<td>10.8</td>
<td>Bristol glazed int.</td>
<td>1012 N 1025 E</td>
</tr>
<tr>
<td>2</td>
<td>8</td>
<td>olive green glass</td>
<td>1</td>
<td>7.9</td>
<td>Rim; folded lip; bottle glass</td>
<td>1012 N 1025 E</td>
</tr>
<tr>
<td>2</td>
<td>9</td>
<td>flat glass</td>
<td>1</td>
<td>1.1</td>
<td>thin</td>
<td>1012 N 1025 E</td>
</tr>
<tr>
<td>3</td>
<td>1</td>
<td>unid stone ware</td>
<td>1</td>
<td>4.5</td>
<td>Bristol glazed int.</td>
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<tr>
<td>3</td>
<td>2</td>
<td>unid refined earthenware</td>
<td>1</td>
<td>2.5</td>
<td>possibly burnt</td>
<td>1000 N 1025 E</td>
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<tr>
<td>3</td>
<td>3</td>
<td>flat glass</td>
<td>1</td>
<td>1.3</td>
<td>thin</td>
<td>1000 N 1025 E</td>
</tr>
<tr>
<td>3</td>
<td>4</td>
<td>brown glass</td>
<td>1</td>
<td>1.5</td>
<td>bottle glass</td>
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<tr>
<td>3</td>
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<td>unid metal</td>
<td>1</td>
<td>17.1</td>
<td>fragment</td>
<td>1000 N 1025 E</td>
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</tbody>
</table>
As previously mentioned, the 1949 USGS topographic map and historic aerials confirm a structure near the location of 8BR2937 (as seen in Figure 6.2 and 6.3). Artifact types suggest that this was utilized as a habitation site. The site was bound with six shovel tests in all cardinal directions; however, testing to the north required a closer interval as the site is situated approximately 20 meters from Huntington Avenue.

Recommendations: This site would yield little, if any, new data regarding early to mid-20th century Florida home sites. It is therefore recommended that the proposed project be allowed to proceed without further concern for impact to significant cultural resources.
VII. SUMMARY AND CONCLUSIONS

In May 2012, Environmental Services, Inc. (ESI) conducted a cultural resource reconnaissance survey of the approximate 318-acre Central East Florida National Cemetery property in Brevard County, Florida. Specifically, the parcel is located in Section 54 of Township 20 South, Range 34 East, as shown on the Oak Hill USGS Quadrangle map (2009). This survey was undertaken in anticipation of a request during the permitting process from the Florida Division of Historical Resources. The survey was conducted on behalf of the Department of Veterans Affairs, National Cemetery Administration.

The goal of the reconnaissance was to determine whether the tract contained evidence of past human occupation or site probability variables that would warrant an intensive cultural resource assessment survey. Survey strategies included a detailed pedestrian inspection coupled with shovel test sampling (n=37) on a judgmental basis within the tract. The pedestrian inspection and subsurface testing revealed the tract to be poorly to very poorly drained and disturbed.

Based on the results of shovel testing, the tract's poor soil drainage characteristics and subsurface disturbance were noted throughout the property. Only one area exhibited site probability and was therefore subjected to further testing. As a result, one historic site was identified; however, it is unlikely to yield any significant data with future work. It is recommended that the proposed project proceed without further concern for impacts to cultural resources.
# REFERENCES CITED

<table>
<thead>
<tr>
<th>Author(s)</th>
<th>Year</th>
<th>Title</th>
<th>Source(s)</th>
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<tr>
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<tr>
<td>Archaeological Consultants, Inc.</td>
<td>2006</td>
<td>Cultural Resource Assessment Survey Report I-95 From North of CR 512 to South of SR 514 (Babcock Street) Indian River and Brevard Counties, Florida.</td>
<td>Manuscript on file with FMSF.</td>
</tr>
<tr>
<td>Christianson, Ann</td>
<td>2008</td>
<td>Personal Communication regarding history of the area.</td>
<td>4/2/08.</td>
</tr>
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</table>

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Brevard County VA Cemetery

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Smith, Bruce D.

Watts, William A. and Barbara C. Hansen

Webb, DeWitt
APPENDIX A

Survey Log Sheet
Attachment 4

Geotechnical Investigation
Geotechnical Engineering Report

Cape Canaveral National Cemetery Phase 2
Mims, Brevard County, Florida
March 20, 2019
Terracon Project No. H1185129

Prepared for:
Calibre Engineering
Highland Ranch, Colorado

Prepared by:
Terracon Consultants, Inc.
Winter Park, Florida
March 20, 2019

Calibre Engineering
9090 S. Ridgeline Boulevard, Suite 105
Highland Ranch, Colorado 80129

Attn: Mr. John Strandberg, P.E., Senior Project Manager
P: (303) 339-5409
E: JStrandberg@calibre-engineering.com

Re: Geotechnical Engineering Report
Cape Canaveral National Cemetery Phase 2
5525 US-1
Mims, Brevard County, Florida
Terracon Project No. H1185129

Dear Mr. Strandberg:

We have completed the Geotechnical Engineering services for the above referenced project. This report presents the findings of the subsurface exploration and provides geotechnical recommendations concerning earthwork and the design and construction of foundations, floor slabs, pavements, and stormwater pond for the proposed Phase 2 portion of the cemetery.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning this report or if we may be of further service, please contact us.

Sincerely,

Terracon Consultants, Inc.
Certificate of Authorization No. 8330

Shenna McMaster, P.E.                                         Jay W. Casper, P.E.
Senior Geotechnical Engineer                                    Principal
Florida PE #57537
REPORT TOPICS

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Note: This report was originally delivered in a web-based format. For more interactive features, please view your project online at client.terracon.com.

ATTACHMENTS

EXPLORATION AND TESTING PROCEDURES
SITE LOCATION AND EXPLORATION PLANS
EXPLORATION RESULTS
SUPPORTING INFORMATION

Note: Refer to each individual Attachment for a listing of contents.
# REPORT SUMMARY

<table>
<thead>
<tr>
<th>Topic</th>
<th>Overview Statement</th>
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<tbody>
<tr>
<td>Project Description</td>
<td>Multiple columbarium structures are planned in the eastern and northwestern portion of Phase 2. A stormwater pond is planned in the west-central portion of Phase 2. Roadways and burial plots are planned throughout Phase 2.</td>
</tr>
<tr>
<td>Geotechnical Characterization</td>
<td>Mostly sands with lenses of silty sand. Trace shell fragments at many locations. Groundwater levels within a few feet of current grades.</td>
</tr>
<tr>
<td>Earthwork</td>
<td>Normal site preparation anticipated</td>
</tr>
<tr>
<td>Shallow Foundations</td>
<td>Shallow foundations will be sufficient Allowable bearing pressure = 2,000 psf Expected settlements: &lt; 1-inch total, &lt; 3/4-inch differential Site preparation as noted in Earthwork.</td>
</tr>
<tr>
<td>Pavements</td>
<td>With subgrade prepared as noted in Earthwork.  ■ Pavement grades should be set to provide a minimum separation of 12 inches between the bottom of the base course and the seasonal high groundwater level. ■ Typical pavement sections are appropriate</td>
</tr>
<tr>
<td>Stormwater General Comments</td>
<td>A wet stormwater pond is anticipated in the central portion of the site.</td>
</tr>
<tr>
<td>General Comments</td>
<td>This section contains important information about the limitations of this geotechnical engineering report.</td>
</tr>
</tbody>
</table>

1. If the reader is reviewing this report as a pdf, the topics above can be used to access the appropriate section of the report by simply clicking on the topic itself.
2. This summary is for convenience only. It should be used in conjunction with the entire report for design purposes.
INTRODUCTION

This report presents the results of our subsurface exploration and geotechnical engineering services performed for the proposed Phase 2 of the National Cemetery located at 5525 US-1 in Mims, Brevard County, Florida. The purpose of these services is to provide information and geotechnical engineering recommendations relative to:

- Subsurface soil conditions
- Foundation design and construction
- Groundwater conditions
- Pavement design and construction
- Site preparation and earthwork
- Stormwater pond considerations

The geotechnical engineering Scope of Services for this project included the advancement of 15 test borings to depths ranging from 15 to 20 feet below existing site grades. During preliminary exploration of the overall cemetery property, 4 borings were performed within the Phase 2 area. During the field exploration for Phase 1, 4 additional borings were performed within the Phase 2 area. The results of borings performed during previous exploration within the Phase 2 area are included in this report.

Maps showing the site and boring locations are shown in the Site Location and Exploration Plan sections, respectively. The results of the laboratory testing performed on soil samples obtained from the site during the field exploration are included on the boring logs in the Exploration Results section.

SITE CONDITIONS

The following description of site conditions is derived from our site visit in association with the field exploration and our review of publicly available geologic and topographic maps.

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>Parcel Information</td>
<td>The Cape Canaveral National Cemetery is located at 5525 US-1 in Mims, Florida. Phase 2 is in the central portion of the overall cemetery property. Phase 1 is located immediately south of Phase 2. See Site Location</td>
</tr>
<tr>
<td>Item</td>
<td>Description</td>
</tr>
<tr>
<td>------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Current Ground Cover</td>
<td>Mostly pasture lands. However, some mass grading and earthwork has occurred during recent construction of Phase 1.</td>
</tr>
<tr>
<td>Existing Topography</td>
<td>The USGS topographic quadrangle map “Oakhill, Florida” the site is relatively flat with ground surface elevations near +15 to +20 feet. The site generally slopes to the east.</td>
</tr>
</tbody>
</table>

**Geology**

Brevard County is located on the Atlantic coastline of eastern, central peninsular Florida. White (1970) places Brevard County in the Mid-Peninsular Zone which is “characterized by discontinuous highlands in the form of sub-parallel ridges separated by broad valleys.” According to White (1970), the geomorphology of Brevard County consists of, on the east, the Atlantic Coastal Ridge and on the west, the Eastern Valley. Ten Mile Ridge is a discontinuous ridge trending northwest-southeast through the southeastern portion of the county. The project site is located along the Atlantic Coastal Ridge.

Near surface subsoil conditions consist of unconsolidated, quartz sands containing beds of coquina of Pleistocene and Recent Age. The thickness of this deposit ranges from less than 20 feet in the western portion of the county to more than 100 feet in the coastal ridge area. At this project site, the surficial deposits are about 50 feet in thickness. This upper, mostly sandy zone contains the surficial (water table) aquifer.

Below the surficial deposits are the upper Late Miocene or Pliocene Age deposits of fine sand, shells, clay and calcareous clay. A Miocene age deposit, the Hawthorn Group, frequently underlies the surficial sand and is typically composed of beds of sandy clays, shells, and clays with appreciable amounts of phosphates. This relatively impermeable formation ranges in thickness from about 10 feet in the northern portion of the county to about 220 feet in the southern portion of the county and serves as the confining layer for the underlying Floridan aquifer. The Floridan aquifer, composed of Eocene age Ocala and Avon Park Limestones, underlies the Hawthorn Group.

**General Potential for Sinkhole Development**

The USGS has prepared a map which identifies areas of sinkhole occurrence in Florida. This map, the Sinkhole Type, Development, and Distribution in Florida map (prepared by the USGS, in cooperation with state agencies, 1985), divides Florida into four areas based on the type and thickness of cover overlying soluble rock. These areas, designated I through IV, have varying potentials for sinkhole development as follows:
Area I – Sinkholes are few.

Area II – Sinkholes are few.

Area III – Sinkholes are numerous.

Area IV – Sinkholes are very few.

Review of the map listed above indicates the site is within Area II.

Area II typically has a cover of 30 to 100 feet over the limestone. Generally, the cover material is mostly non-cohesive and permeable sands. Sinkholes are generally few in number in Area II, and are generally shallow, of small diameter, and develop gradually. The most common type of sinkhole is a cover-subsidence sinkhole. Cover-subsidence sinkholes occur as overlying soil particles gradually erode into voids within the limestone, causing subsidence of the ground surface over time.

Certain potential sinkhole indicators, such as loss of circulation of drilling fluid, particularly loose/soft soils, and breaches in or the absence of a confining layer, were not encountered. The borings did not extend deep enough to encounter limestone. Therefore, we do not have sufficient/complete information with which to judge whether this particular site is at the same or a different level of risk of sinkhole development as compared to the surrounding areas. However, the site is located within an area generally considered to have very low risk sinkhole occurrence.

Soil Survey

The Soil Survey of Brevard County, Florida as prepared by the United States Department of Agriculture (USDA), Soil Conservation Service (SCS; later renamed the Natural Resource Conservation Service - NRCS), identifies the pre-development soil types at the subject site as:

- Copeland-Bradenton-Wabasso complex, limestone substratum (16)
- Riviera sand, 0 to 2 percent slopes (19)
- Myakka sand, 0 to 2 percent slopes (36)
- Pompano sand, 0 to 2 percent slopes (51)
- Wabasso sand, 0 to 2 percent slopes (71).

Soils on the site may have been altered by previous mass-grading operations. A Soils Map is included with this GeoReport, depicting the applicable Soil Survey map portion for the subject site.

16 – Copeland-Bradenton-Wabasso, limestone substratum. This soil complex consists of several nearly level and very poorly drained. It is typically found on low flats. This soil complex has a seasonal high groundwater table within a depth of 10 inches (0.8 feet) for more than 6 months. In dry seasons the water table is between depths of 10 and 30 inches (0.8 to 2.5 feet). This soil complex is flooded for 7 days to 1 month once in 5 to 20 years. This soil type exists as clayey sand (USCS Classification symbol SM) to a typical depth of 15 inches (1.3 feet). Thereafter, to a
typical depth of 22 inches (1.8 feet), this soil type exists as clayey sand (USCS Classification symbol SC). Thereafter, to a typical depth of about 30 inches, this soil type exists as marl, underlain by hard limestone or coquina rock. Typical permeability rates for this soil type are generally between 6 and 20 inches per hour (12 and 40 feet per day) to a typical depth of 15 inches. Thereafter, typical permeability rates for this soil type are generally between 0.6 and 2 inches per hour (1.2 and 4 feet per day) to a typical depth of 22 inches.

19 – Riviera fine sand. This soil type is nearly level and poorly drained. It is typically found on flats on marine terraces. During years of normal precipitation, this soil type has a seasonal high water table at 3 to 18 inches below the surface. This soil type is predominantly sandy to a typical depth of 28 inches. Thereafter, to a typical depth of 80 inches, this soil type exists as sandy loam and sandy clay loam.

36 – Myakka sand. This soil type is nearly level and poorly drained. It is typically found in broad areas in the flatwoods and in areas between sand ridges and sloughs and ponds. In its natural state, during years of normal rainfall, this soil type has a seasonal high water table within 10 inches (0.8 feet) of the surface for 1 to 4 months, receding to a depth of between 10 and 40 inches (0.8 and 3.3 feet) for more than 6 months, and deeper during dry seasons. This soil type is flooded for up to a week every 1 to 5 years. This soil type is predominantly sandy throughout the defined depth of 63 inches (5.3 feet). Typical permeability rates for Myakka sand are between 6 and 20 inches per hour (12 and 40 feet per day) between the ground surface and a typical depth of 22 inches (1.8 feet), between 0.6 and 2 inches per hour (1.2 and 4 feet per day) between typical depths of 22 and 46 inches (1.8 and 3.8 feet), and between 6 and 20 inches per hour between a typical depth of 46 inches and the maximum defined depth of 63 inches.

51 – Pompano sand. This soil type is nearly level and poorly drained. It is typically found on broad flats. During years of normal precipitation, this soil type has a seasonal high water table within 10 inches (0.8 feet) of the surface for 2 to 6 months. The water table recedes to between depths of 10 and 40 inches (0.8 and 3.3 feet) for 6 months or more. Following heavy rains, the water table occasionally rises above the surface for 2 to 7 days. This soil type is predominantly sand throughout the defined profile. Typical permeability rates for Pompano fine sand are generally greater than 20 inches per hour (40 feet per day) throughout the defined profile of 120 inches (10.0 feet).

71 – Wabasso sand. This soil type is nearly level and poorly drained. It is typically found in the flatwoods and on low ridges in the floodplains. During years of normal precipitation, this soil type has a seasonal high water table within 10 inches (0.8 feet) of the surface for 1 or 2 months and within 30 inches (2.5 feet) for most of the time. Wabasso sand is generally predominantly sandy to a typical depth of 34 inches (2.8 feet). Thereafter to the maximum defined depth of 65 inches (5.4 feet), EauGallie sand exists as silty sand to clayey sand (USCS Classification symbol SM to SC).
PROJECT DESCRIPTION

Our understanding of the project conditions is as follows:

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Information Provided</td>
<td>Conceptual site plan with requested boring locations provided by you</td>
</tr>
<tr>
<td>Project Description</td>
<td>Multiple columbarium structures are planned in the eastern and northwestern portion of Phase 2. A stormwater pond is planned in the west-central portion of Phase 2. Roadways and burial plots are planned throughout Phase 2.</td>
</tr>
<tr>
<td>Grading/Slopes</td>
<td>Fill – up to 2 feet of fill is anticipated. Cuts – not anticipated, except for construction of stormwater ponds.</td>
</tr>
<tr>
<td>Pavements</td>
<td>Roadways throughout Phase 2 are anticipated</td>
</tr>
<tr>
<td>Stormwater Management</td>
<td>A new stormwater pond is planned on the west-central portion of Phase 2. A stormwater pond constructed during Phase 1 is located on the eastern portion of Phase 2.</td>
</tr>
</tbody>
</table>

GEOTECHNICAL CHARACTERIZATION

Based on the results of the borings, subsurface conditions on the project site can be generalized as follows:

<table>
<thead>
<tr>
<th>Approximate Depth to Bottom of Stratum (feet)</th>
<th>Material Description</th>
<th>Consistency/Density</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deepest boring depth of 20 feet</td>
<td>Mostly sand (SP) and sand with silt (SP-SM), with occasional lenses of silty sand (SM)&lt;sup&gt;1,2&lt;/sup&gt;</td>
<td>Loose to Medium dense&lt;sup&gt;3&lt;/sup&gt;</td>
</tr>
</tbody>
</table>

1. Silty sand was found in several borings performed in the southern portion of the site at a depth of about 2 feet below existing grade.
2. Trace shell fragments were found in several borings at depths of 4 feet or more below existing grade. Cemented sand zones were also noted at a few locations.
3. Dense sand was observed in Borings C-7 and C-11 at depths of 13 feet or more below existing grade.

Conditions encountered at each boring location and results of laboratory testing are indicated on the individual boring logs. Stratification boundaries on the boring logs represent the approximate location of changes in soil types. The in-situ the transition between materials may be gradual. Details for each of the borings performed within Phase 2 during the recent and previous explorations can be found on the boring logs in the Exploration Results section of this report. Descriptions of our field exploration and laboratory testing procedures are included in the Exploration and Testing Procedures section of this report.
Groundwater Conditions

The boreholes were observed during drilling for the presence and level of groundwater. Groundwater was observed in the recent and previously performed borings, between depths of 2-1/2 and 6 feet below existing grade. Groundwater levels were not observed in some of the shallower borings performed to depths of 5 feet below existing grade during the previous exploration.

It should be recognized that fluctuations of the groundwater table will occur due to seasonal variations in the amount of rainfall, runoff and other factors not evident at the time the boring was performed. In addition, perched water can develop within higher permeability soils overlying less permeable soils. Therefore, groundwater levels during construction or at other times in the future may be higher or lower than the levels indicated on the boring logs.

Based on the USDA Soil Survey, naturally occurring seasonal high groundwater levels are expected to be within 1 foot of existing grade for most of the site. However, due to the relatively high permeability near surface soils observed and the presence of the drainage ditches throughout the site, normal seasonal high groundwater levels within the site in its current condition are expected to vary from about 1 foot to about 2 feet below existing grade.

The water levels observed in the borings performed within Phase 2 can be found on the boring logs in Exploration Results, and are summarized below along with the estimated normal seasonal high groundwater table.

<table>
<thead>
<tr>
<th>Boring Number</th>
<th>Ground Surface Elevation (el. ft)(^1)</th>
<th>Approximate depth to water table during drilling (feet)(^1)</th>
<th>Elevation of Observed Groundwater Table (el. ft.)</th>
<th>Approximate elevation of estimated normal seasonal high groundwater table (el. ft)(^1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>C-1</td>
<td>+15.5</td>
<td>4.9</td>
<td>+10.6</td>
<td>+12.5</td>
</tr>
<tr>
<td>C-2</td>
<td>+12.9</td>
<td>4.8</td>
<td>+8.1</td>
<td>+11.5</td>
</tr>
<tr>
<td>C-3</td>
<td>+11.3</td>
<td>4.2</td>
<td>+7.1</td>
<td>+9.5</td>
</tr>
<tr>
<td>C-4</td>
<td>+11.5</td>
<td>4.3</td>
<td>+7.2</td>
<td>+9.5</td>
</tr>
<tr>
<td>C-5</td>
<td>+10.0</td>
<td>4.1</td>
<td>+5.9</td>
<td>+8</td>
</tr>
<tr>
<td>C-6</td>
<td>+11.9</td>
<td>2.7</td>
<td>+9.2</td>
<td>+10.5</td>
</tr>
<tr>
<td>C-7</td>
<td>+13.0</td>
<td>3.7</td>
<td>+9.3</td>
<td>+12</td>
</tr>
<tr>
<td>C-8</td>
<td>+14.4</td>
<td>4.2</td>
<td>+10.2</td>
<td>+13</td>
</tr>
<tr>
<td>C-9</td>
<td>+16.1</td>
<td>4.3</td>
<td>+11.8</td>
<td>+14</td>
</tr>
<tr>
<td>C-10</td>
<td>+16.6</td>
<td>6.1</td>
<td>+10.5</td>
<td>+14</td>
</tr>
<tr>
<td>C-11</td>
<td>+17.4</td>
<td>3</td>
<td>+14.4</td>
<td>+16</td>
</tr>
<tr>
<td>Boring Number</td>
<td>Ground Surface Elevation (el. ft)¹</td>
<td>Approximate depth to water table during drilling (feet)¹</td>
<td>Elevation of Observed Groundwater Table (el. ft.)</td>
<td>Approximate elevation of estimated normal seasonal high groundwater table (el. ft)¹</td>
</tr>
<tr>
<td>---------------</td>
<td>-----------------------------------</td>
<td>--------------------------------------------------------</td>
<td>--------------------------------------------------</td>
<td>---------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>C-12</td>
<td>+16.7</td>
<td>3</td>
<td>+13.7</td>
<td>+16</td>
</tr>
<tr>
<td>C-13</td>
<td>+17.0</td>
<td>3.5</td>
<td>+13.5</td>
<td>+16</td>
</tr>
<tr>
<td>C-14</td>
<td>+17.1</td>
<td>4</td>
<td>+13.1</td>
<td>+15.5</td>
</tr>
<tr>
<td>C-15</td>
<td>+12.6</td>
<td>3.1</td>
<td>+9.5</td>
<td>+11.5</td>
</tr>
<tr>
<td>B-7</td>
<td>3</td>
<td>4.5</td>
<td>3</td>
<td>2³</td>
</tr>
<tr>
<td>B-10</td>
<td>3</td>
<td>5</td>
<td>3</td>
<td>2³</td>
</tr>
<tr>
<td>B-14</td>
<td>3</td>
<td>4</td>
<td>3</td>
<td>1.5³</td>
</tr>
<tr>
<td>B-15</td>
<td>3</td>
<td>4</td>
<td>3</td>
<td>1.5³</td>
</tr>
<tr>
<td>D-33</td>
<td>3</td>
<td>&gt;5</td>
<td>3</td>
<td>2³</td>
</tr>
<tr>
<td>D-34</td>
<td>3</td>
<td>4</td>
<td>3</td>
<td>2³</td>
</tr>
<tr>
<td>D-35</td>
<td>3</td>
<td>&gt;5</td>
<td>3</td>
<td>2³</td>
</tr>
<tr>
<td>D-36</td>
<td>3</td>
<td>&gt;5</td>
<td>3</td>
<td>2³</td>
</tr>
</tbody>
</table>

1. Measured and provided by the project surveyor.
2. Below ground surface at time the borings were performed. Grades may have been modified at B- and D- series borings since borings were performed prior to Phase 1 construction.
3. Ground surface elevations were not provided for borings performed during previous explorations. Estimated normal seasonal high groundwater levels presented as depth below existing grade at the time of the explorations.

Estimates of the normal seasonal high water table presented in this report are based on and limited by the data collected during our geotechnical exploration, and the referenced published documents. Estimates of the normal seasonal high assume normal precipitation volumes and distribution. The observed high water table in any particular year will vary depending upon whether that year is a “wet” year, a “dry” year, or a “normal” year. These seasonal water table estimates do not represent the temporary rise in water table that occurs immediately following a storm event, including adjacent to other stormwater management facilities. The normal seasonal high water table will be affected by any extreme weather changes, localized or regional flooding, karst activity, future grading, drainage improvements, or other construction that may occur on or around the site following the date of this report.
GEOTECHNICAL OVERVIEW

Based on the results of the recent and previous subsurface explorations, it appears the site is suitable for the proposed development as a cemetery. The following is a summary of geotechnical engineering evaluations and considerations:

- Soil conditions observed consisted of mostly sands with inclusions of various amounts of silt and shell. Groundwater was found at depths of 2-1/2 to 6 feet below existing grade throughout the site. Normal seasonal high groundwater levels are generally expected to vary from about 1 to 2 feet below existing grade throughout the site.

- Difficult excavations may be experienced due to relatively shallow dense layers observed. This generally occurs in thin layers. We expect that it can normally be broken up by conventional excavation equipment, but in rare cases may require specialized equipment.

- Small, lightly loaded structures can be supported on conventional shallow foundations, following adequate site preparation. Based on the borings performed, an allowable bearing capacity of 2,000 psf is feasible with a minimum bearing depth of 18 inches.

- The site appears suitable for support of conventional concrete and asphalt pavements. Stabilizing material will likely be necessary for the construction of pavement subgrades.

- Due to relatively high groundwater levels at the site, the use of a normally wet detention pond appears most feasible for treatment of stormwater runoff. Shallow dry retention swales may be feasible if constructed in well-draining materials and elevated sufficiently above wet season groundwater levels.

- Temporary dewatering may be required for construction of the stormwater pond and other excavations during development of the site. In addition, depending on proposed final grades and groundwater levels at the time of construction, dewatering may be required for preparation of foundation bearing soils.

The General Comments section provides an understanding of the report limitations.

EARTHWORK

Earthwork is anticipated to include clearing and grubbing, excavations, and fill placement. The following sections provide recommendations for use in the preparation of specifications for the work. Recommendations include critical quality criteria, as necessary, to render the site in the
state considered in our geotechnical engineering evaluation for foundations, floor slabs, and pavements.

Site Preparation

Prior to placing fill, all vegetation, topsoil, and any otherwise unsuitable material should be removed from the construction areas. Wet or dry material should either be removed or moisture conditioned and re-compacted. Once stripping is complete, the exposed subgrade should be observed and proofrolled with a medium or heavy weight roller (minimum 10,000 pounds static weight). If existing nearby structures or the prevailing groundwater table are a concern, proofrolling should be performed in static mode. Proofrolling aids in providing a firm base for compaction of new fill and delineating soft or disturbed areas that may exist at or near the exposed subgrade level, as well overall densification of the upper loose sands. Proofrolling should be performed in the presence of a Terracon representative in order to aid in evaluating unstable subgrade areas. Unstable areas observed at this time should be improved as recommended by the engineer based on field conditions and typically includes scarification and recompaction or by undercutting and replacement with suitable compacted fill.

Where fill is placed on existing slopes, we recommend that fill slopes be over filled and then cut back to develop an adequately compacted slope face. Slopes should be provided with appropriate erosion protection.

Fill Material Types

Fill required to achieve design grade should be classified as structural fill and general fill. Structural fill is material used below or within 10 feet of structures, pavements or constructed slopes. General fill is material used to achieve grade outside of these areas. Earthen materials used for structural and general fill should meet the following material property requirements:
### Soil Quality and Acceptable Location for Placement

<table>
<thead>
<tr>
<th>Soil Quality</th>
<th>USCS Classification</th>
<th>Acceptable Location for Placement</th>
<th>Maximum Lift Thickness (in.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preferred</td>
<td>SP (fines content &lt; 5%)</td>
<td>All locations and elevations</td>
<td>12 (^3)</td>
</tr>
<tr>
<td></td>
<td>SP-SM (fines content between 5 and 12%)</td>
<td>All locations and elevations other than beneath concrete pavements or where superior drainage is required. Strict moisture control will be required during placement, particularly during the rainy season.</td>
<td>8 to 12 (^3)</td>
</tr>
<tr>
<td>Limited</td>
<td>SM, SC (fines content &gt;12%)</td>
<td>Limited to mass fill greater than 2 feet below final grade; strict moisture control will be required during placement.</td>
<td>6 to 8 (^4)</td>
</tr>
</tbody>
</table>

1. Controlled, compacted fill should consist of approved materials that are free of organic matter and debris.
2. If fines contents are greater than 12 percent, special design and construction procedures may be necessary.
3. Loose thickness when heavy compaction equipment is used in vibratory mode. Lift thickness should be decreased if static compaction is being used, typically to no more than 8 inches, and the required compaction must still be achieved. Use 4 to 6 inches in loose thickness when hand-guided equipment (i.e. jumping jack or plate compactor) is required.
4. Static equipment should be used.

Generally, soils observed in the borings were mostly sand (SP) and sand with silt (SP-SM) which meet the above criteria for “preferred” fill. Lenses of silty sand (SM) were observed in some borings. Based on visual examination and limited laboratory testing of the recovered soil samples, the various materials may be used as follows:

- Fine sand (SP) and slightly silty fine sand (SP-SM) with occasional trace shell fragments. It is considered a “preferred” fill material. These materials should be suitable for unrestricted use as fill. These soils are suitable for use as roadway subgrade; although stabilization may be required. These are the predominant soil type present on the site.

- Silty fine sand (SM), with occasional trace shell, is also suitable for structural fill, but tends to retain moisture and requires more handling to dry, place and compact. Thinner lifts (8 to 12 inches loose thickness) may be required for placement and compaction of these soils. Due to the relatively high moisture content of these soils, it may be necessary to mix these soils with drier, cleaner granular soils prior to placement to increase the workability of these soils. Use of this soil for roadway subgrade is not recommended. This can be considered a “limited” fill material.
**Fill Compaction Requirements**

Structural and general fill should meet the following compaction requirements.

<table>
<thead>
<tr>
<th>Item</th>
<th>Structural Fill</th>
</tr>
</thead>
</table>
| Fill Lift Thickness              | 12 inches or less in loose thickness when heavy compaction equipment is used in vibratory mode. Lift thickness should be decreased if static compaction is being used, typically to no more than 8 inches, and the required compaction must still be achieved.  
4 to 6 inches in loose thickness when hand-guided equipment (i.e. jumping jack or plate compactor) is used. |
| Minimum Compaction Requirements  | 95 percent of the material’s maximum modified Proctor dry density (ASTM D 1557). |
| Moisture Content                 | Within ±2 percent of optimum moisture content as determined by the Modified Proctor test, at the time of placement and compaction. |
| Minimum Testing Frequency        | One field density test per 5,000 square feet or fraction thereof per 1-foot lift. |

1. We recommend that engineered fill be tested for moisture content and compaction during placement. Should the results of the in-place density tests indicate the specified moisture or compaction limits have not been met, the area represented by the test should be reworked and retested as required until the specified moisture and compaction requirements are achieved.

2. Specifically, moisture levels should be maintained low enough to allow for satisfactory compaction to be achieved without the cohesionless fill material pumping when proofrolled.

**Utility Trench Backfill**

All trench excavations should be made with sufficient working space to permit construction including backfill placement and compaction. Utility trenches are a common source of water infiltration and migration. All utility trenches that penetrate beneath the building should be backfilled with native soils to avoid creating a preferred flow path through the trenches.

**Grading and Drainage**

All grades must provide effective drainage away from the structures during and after construction. Final surrounding grades should be sloped away from the structure on all sides to prevent ponding of water. Roof drains, scuppers, downspouts, or other appropriate methods that direct water a minimum of 10 feet beyond the footprint of the proposed structures are recommended. Site grades should be set considering the estimated seasonal high groundwater presented in **Geotechnical Characterization**.

Where paving or flatwork abuts the structures, a maintenance program should be established to effectively seal and maintain joints and prevent surface water infiltration.
A drainage system below the crypt areas is recommended where the base of crypts may be below normal seasonal high groundwater levels, due to the relatively shallow groundwater conditions on the site. Use of a gravel blanket and perforated drainage pipe, with a positive outfall, is recommended below the crypt areas to keep shallow groundwater levels out of the crypts. Terracon would be pleased to evaluate the proposed crypt underdrain system as grading plans become available.

Earthwork Construction Considerations

After initial proofrolling and compaction, unstable subgrade conditions could develop during general construction operations, particularly if the soils are wetted and/or subjected to repetitive construction traffic. Upon completion of filling and grading, care should be taken to maintain the subgrade moisture content prior to construction of floor slabs and pavements. Construction traffic over the completed subgrade should be avoided to the extent practical. The site should also be graded to prevent ponding of surface water on the prepared subgrades or in excavations. If the subgrade should become desiccated, saturated, or disturbed, the affected material should be removed, or these materials should be scarified, moisture conditioned, and re-compacted prior to floor slab and pavement construction.

Trees or other vegetation whose root systems have the ability to excessively remove moisture or that may displace the foundations or flatwork should not be planted next to the structures (foundations, pavements, sidewalks, etc.).

As a minimum, all temporary excavations should be sloped or braced as required by Occupational Health and Safety Administration (OSHA) regulations to provide stability and safe working conditions. Temporary excavations will probably be required during grading operations. The grading contractor, by his contract, is usually responsible for designing and constructing stable, temporary excavations and should shore, slope or bench the sides of the excavations as required, to maintain stability of both the excavation sides and bottom. All excavations should comply with applicable local, state and federal safety regulations, including the current OSHA Excavation and Trench Safety Standards.

Construction site safety is the sole responsibility of the contractor who controls the means, methods, and sequencing of construction operations. Under no circumstances shall the information provided herein be interpreted to mean Terracon is assuming responsibility for construction site safety, or the contractor's activities; such responsibility shall neither be implied nor inferred.

Construction Observation and Testing

The earthwork efforts should be monitored under the direction of the Terracon Geotechnical Engineer. Monitoring should include documentation of adequate removal of vegetation and topsoil, proofrolling, and mitigation of areas delineated by the proofroll to require mitigation.
Each lift of compacted fill should be tested, evaluated, and reworked, as necessary, until approved by the Terracon Geotechnical Engineer prior to placement of additional lifts. Each lift of fill should be tested for density and water content at a frequency of at least one test for every 2,500 square feet of compacted fill in the building areas and 5,000 square feet in pavement areas. One density and water content test should be performed for every 50 linear feet of compacted utility trench backfill.

In areas of foundation excavations, the bearing subgrade should be evaluated under the direction of the Terracon Geotechnical Engineer. If unanticipated conditions are encountered, the Terracon Geotechnical Engineer should prescribe mitigation options.

In addition to the documentation of the essential parameters necessary for construction, the continuation of the Terracon Geotechnical Engineer into the construction phase of the project provides the continuity to maintain the Geotechnical Engineer’s evaluation of subsurface conditions, including assessing variations and associated design changes.

**SHALLOW FOUNDATIONS**

If the site has been prepared in accordance with the requirements noted in *Earthwork*, the following design parameters are applicable for shallow foundations.

**Design Parameters – Compressive Loads**

<table>
<thead>
<tr>
<th>Description</th>
<th>Column Footing</th>
<th>Wall Footing</th>
<th>Monolithic Slab Foundation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net allowable bearing pressure ¹</td>
<td>2,000 psf</td>
<td>2,000 psf</td>
<td>2,000 psf</td>
</tr>
<tr>
<td>Minimum width</td>
<td>30 inches</td>
<td>18 inches</td>
<td>12 inches</td>
</tr>
<tr>
<td>Minimum embedment below finished grade ²</td>
<td>18 inches</td>
<td>18 inches</td>
<td>12 inches</td>
</tr>
<tr>
<td>Compaction requirements</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Minimum Testing Frequency</td>
<td>One field density test per footing for a minimum depth of 1 foot below the footing subgrade.</td>
<td>One field density test per 50 linear feet for a minimum depth of 1 foot below the footing subgrade.</td>
<td>One field density test per 50 linear feet for a minimum depth of 1 foot below the footing subgrade.</td>
</tr>
<tr>
<td>Approximate total settlement ³</td>
<td>&lt;1 inch</td>
<td>&lt;1 inch</td>
<td>&lt;1 inch</td>
</tr>
<tr>
<td>Estimated differential settlement ³</td>
<td>&lt;(\frac{3}{4}) inch between columns</td>
<td>&lt;(\frac{3}{4}) inch over 40 feet</td>
<td>&lt;(\frac{3}{4}) inch over 40 feet</td>
</tr>
</tbody>
</table>
1. The recommended net allowable bearing pressure is the pressure in excess of the minimum surrounding overburden pressure at the footing base elevation. Assumes any unsuitable fill or soft soils, if encountered, will be undercut and replaced with engineered fill.

2. For erosion protection and to reduce effects of seasonal moisture variations in subgrade soils.

3. The foundation settlement will depend upon the variations within the subsurface soil profile, the structural loading conditions, the embedment depth of the footings, the thickness of compacted fill, and the quality of the earthwork operations. The above settlement estimates have assumed that the maximum footing width is 8 feet for column footings and 2 feet for continuous footings.

4. Turned-down portion of slab. For slab requirements see Floor Slabs

## Foundation Construction Considerations

As noted in Earthwork, the footing excavations should be evaluated under the direction of the Geotechnical Engineer. The base of all foundation excavations should be free of water and loose soil, prior to placing concrete. Concrete should be placed soon after excavating and compaction/verification of subgrade density to reduce bearing soil disturbance. Care should be taken to prevent wetting or drying of the bearing materials during construction. Excessively wet or dry material or any loose/disturbed material in the bottom of the footing excavations should be removed/reconditioned before foundation concrete is placed.

If unsuitable bearing soils are encountered at the base of the planned footing excavation, the excavation should be extended deeper to suitable soils, and the footings could bear directly on these soils at the lower level or on with engineered fill placed, as recommended in the Earthwork section in the excavations. This is illustrated on the sketch below.
FLOOR SLABS

Floor Slab Design Parameters

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Floor Slab Support ¹</td>
<td>Free draining granular material meeting the preferred fill specification ¹</td>
</tr>
<tr>
<td>Estimated Modulus of Subgrade Reaction ²</td>
<td>100 pounds per square inch per inch (psi/in) for point loads</td>
</tr>
</tbody>
</table>

1. We recommend subgrades be maintained in a relatively moist condition until floor slabs are constructed. If the subgrade should become desiccated prior to construction of floor slabs, the affected material should be removed or the materials scarified, moistened, and recompacted. Upon completion of grading operations in the building areas, care should be taken to maintain the recommended subgrade moisture content and density prior to construction of the building floor slabs.

2. Modulus of subgrade reaction is an estimated value based upon our experience with the subgrade condition, the requirements noted in Earthwork, and the floor slab support as noted in this table. It is provided for point loads. For large area loads the modulus of subgrade reaction would be lower.

The use of a vapor retarder should be considered beneath concrete slabs on grade covered with wood, tile, carpet, or other moisture sensitive or impervious coverings, or when the slab will support equipment sensitive to moisture. When conditions warrant the use of a vapor retarder, the slab designer should refer to ACI 302 and/or ACI 360 for procedures and cautions regarding the use and placement of a vapor retarder.

Saw-cut control joints should be placed in the slab to help control the location and extent of cracking. For additional recommendations refer to the ACI Design Manual. Joints or cracks should be sealed with a water-proof, non-extruding compressible compound specifically recommended for heavy duty concrete pavement and wet environments.

Where floor slabs are tied to perimeter walls or turn-down slabs to meet structural or other construction objectives, our experience indicates differential movement between the walls and slabs will likely be observed in adjacent slab expansion joints or floor slab cracks beyond the length of the structural dowels. The Structural Engineer should account for potential differential settlement through use of sufficient control joints, appropriate reinforcing or other means.

Floor Slab Construction Considerations

Finished subgrade, within and for at least 10 feet beyond the floor slab, should be protected from traffic, rutting, or other disturbance and maintained in a relatively moist condition until floor slabs are constructed. If the subgrade should become damaged or desiccated prior to construction of floor slabs, the affected material should be removed, and structural fill should be added to replace the resulting excavation, or the soils should be scarified, moisture-conditioned and recompacted. Final
conditioning and testing of the finished subgrade should be performed immediately prior to placement of the floor slab support course.

The Geotechnical Engineer should approve the condition of the floor slab subgrades immediately prior to placement of the floor slab support course, reinforcing steel, and concrete. Attention should be paid to high traffic areas that were rutted and disturbed earlier, and to areas where backfilled trenches are located.

LATERAL EARTH PRESSURES

Reinforced concrete walls with unbalanced backfill levels on opposite sides should be designed for earth pressures at least equal to those indicated in the following table. Earth pressures will be influenced by structural design of the walls, conditions of wall restraint, methods of construction and/or compaction and the strength of the materials being restrained. Two wall restraint conditions are shown. Active earth pressure is commonly used for design of free-standing cantilever retaining walls and assumes wall movement. The “at-rest” condition assumes no wall movement, such as a basement wall that is structurally confined at both the top and bottom of the wall. The recommended design lateral earth pressures do not include a factor of safety and do not provide for possible hydrostatic pressure on the walls.
Earth Pressure Conditions | Coefficient for Backfill Type | Equivalent Fluid Density (pcf) | Surcharge Pressure, $p_1$ (psf) | Earth Pressure, $p_2$ (psf) |
---|---|---|---|---|
Active (Ka) | Granular - 0.33 | 40 | $(0.33)S$ | $(40)H$ |
At-Rest (Ko) | Granular - 0.46 | 55 | $(0.46)S$ | $(55)H$ |
Passive (Kp) | Granular - 3.0 | 360 | --- | --- |

Applicable conditions to the above include:

- Uniform surcharge, where $S$ is surcharge pressure.
- In-situ soil backfill weight a maximum of 120 pcf.
- Horizontal backfill, compacted between 95 and 98 percent of modified Proctor maximum dry density.
- Loading from heavy compaction equipment not included.
- No hydrostatic pressures acting on wall.
- No dynamic loading.
- No safety factor included in soil parameters.

Backfill placed against structures should consist of granular soils. For the granular values to be valid, the granular backfill must extend out from the base of the wall at an angle of at least 45 and 60 degrees from vertical for the active and passive cases, respectively. To calculate the resistance to sliding, a value of 0.32 should be used as the ultimate coefficient of friction between the footing and the underlying soil.

To control hydrostatic pressure behind the wall we recommend that a drain be installed at the foundation wall with a collection pipe leading to a reliable discharge. If this is not possible, then combined hydrostatic and lateral earth pressures should be calculated for granular backfill using an equivalent fluid weighing 85 and 90 pcf for active and at-rest, respectively. These pressures do not include the influence of surcharge, equipment or floor loading, which should be added. Heavy equipment should not operate within a distance closer than the exposed height of retaining walls to prevent lateral pressures more than those provided.

**PAVEMENT GRADING**

Terracon anticipates that recommendations for both Portland cement concrete (PCC) pavements and asphalt concrete sections will be required. Following are recommendations for both PCC pavement and asphalt concrete pavement sections for a 20-year pavement design period. The design period is considered to be the interval over which, with proper maintenance, the pavement
will not require major repairs. A continuing regular maintenance program should be implemented to maintain satisfactory serviceability over the design life. The maintenance program should include sealing cracks and repairing minor deficiencies before they become major problems. The following sections present our recommendations for both rigid (concrete) pavement sections and flexible (asphalt) pavement sections.

Where dense lenses (limestone, coquina, hardpan) are observed within the pavement subgrade, over-excavation and pulverization or replacement may be required. Dense lenses should be over-excavated to a minimum of 2 feet below the pavement base or bottom of the concrete pavement and replaced with structural fill in accordance with the Fill Placement section of this report.

Design Considerations

We anticipate that traffic loads will be produced primarily by automobile traffic and occasional heavier trucks. The thickness of pavements subjected to heavy truck traffic should be determined using expected traffic volumes, vehicle types, and vehicle loads and should be in accordance with local, city, or county ordinances.

Pavement performance is affected by its surroundings. In addition to providing preventive maintenance, the civil engineer should consider the following recommendations in the design and layout of pavements:

- Final grade adjacent to paved areas should slope down from the edges at a minimum 2%;
- The subgrade and pavement surface should have a minimum 2% slope to promote surface drainage.
- Install below pavement drainage systems surrounding areas anticipated for frequent wetting.
- Install joint sealant and seal cracks immediately.
- Seal all landscaped areas in or adjacent to pavements to reduce moisture migration to subgrade soils.
- Place compacted, low permeability backfill against the exterior side of curb and gutter.
- Place curb, gutter and/or sidewalk directly on stabilized subgrade soils rather than on unbound granular base course materials.

The following minimum thicknesses were estimated based upon our estimated traffic loading, limited soils information, variation across the project area, and experience with similar projects and soil conditions.
Asphalt Concrete Design Considerations

<table>
<thead>
<tr>
<th>Traffic Area</th>
<th>Asphalt Surface</th>
<th>Base Course</th>
<th>Stabilized Subgrade</th>
<th>Total Thickness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Light Duty (Automobile Parking)</td>
<td>1.5</td>
<td>6.0</td>
<td>12.0</td>
<td>19.5</td>
</tr>
<tr>
<td>Heavy Duty (Drive Lanes/Entrances/Exits)</td>
<td>2.5</td>
<td>8.0</td>
<td>12.0</td>
<td>22.5</td>
</tr>
</tbody>
</table>

1. Also known at Stabilized Subbase.

The following items are applicable to asphalt concrete pavement sections.

- The upper 1 foot of pavement subgrade soils (also identified as stabilized subbase) should be stabilized to a minimum Limerock Bearing Ratio (LBR; Florida Method of Test Designation FM 5-515) value of 40 if they do not already meet this criterion, or replaced with new compacted fill that meets the minimum LBR value. This LBR criterion measures the “quality” of the soils. Although LBR testing has not been performed, our experience with similar soils indicates that the near surficial sands encountered in the soil borings are unlikely to meet this requirement.

- The stabilized subgrade course should be compacted to at least 98 percent of the Modified Proctor maximum dry density (AASHTO T-180). Any underlying, newly-placed subgrade fill need only be compacted to a minimum of 95 percent of the Modified Proctor maximum dry density.

- The subgrade and the pavement surface have a minimum ¼ inch per foot slope to promote effective surface drainage.

- Adequate separation should be provided between the bottom of the base course and the seasonal high water table. Terracon recommends a minimum separation of 12 inches for this purpose. If this separation cannot be maintained, underdrains may be required.

- The base course may be limerock, soil cement, or crushed concrete. It should be noted that soil cement base courses typically experience shrinkage cracking due to hydration curing of the cement. This shrinkage cracking typically propagates through the overlying...
asphalt course and reflects in the pavement surface. This reflective cracking is not necessarily indicative of a pavement structural failure, though it is sometimes considered to be aesthetically undesirable, particularly on roads that do not receive regular and significant traffic. Regular pavement maintenance should be employed such that this sort of cracking does not exacerbate into greater pavement degradation.

- Limerock base courses should be mined from a Florida Department of Transportation (FDOT) approved source, should have a minimum LBR value of 100, and be compacted to a minimum of 98 percent of the maximum dry density as determined by the Modified Proctor test. Limerock should be placed in uniform lifts not to exceed 6 inches loose thickness.

- Soil cement bases should have 7-day design strength of 300 psi. Soil cement base should be compacted to a minimum of 98 percent of the material’s maximum dry density as determined by the Standard Proctor Test for Soil Cement (AASHTO T-134). Higher design strengths may result in increased cracking.

- Crushed (recycled) concrete base should meet the current FDOT specification 911 for recycled materials.

- Asphalt should be compacted to a minimum of 95 percent of the design mix density. Asphalt surface courses should be Type SP, Type S, or other suitable mix design according to FDOT and local requirements.

- To verify thicknesses, after placement and compaction of the pavement courses, core the wearing surface to evaluate material thickness and composition at a minimum frequency of 3,000 square feet or two locations per day’s production.

- All curbing should be full depth. Use of extruded curb sections which lie on top of asphalt surface courses can allow migration of water between the surface and base courses, leading to rippling and pavement deterioration.

- Underdrains or strip drains should be considered along all landscaped areas in, or adjacent to pavements to reduce moisture migration to subgrade soils. Underdrains will also be required below pavement if the separation between the bottom of the base course and the seasonal high groundwater table is less than 1 foot.
Portland Cement Concrete Design Considerations

<table>
<thead>
<tr>
<th>Traffic Area</th>
<th>Portland Cement Concrete</th>
<th>Granular Base</th>
<th>Total Thickness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Light Duty (Automobile Parking)</td>
<td>5.0</td>
<td>12.0</td>
<td>17.0</td>
</tr>
<tr>
<td>Heavy Duty (Drive Lanes/Entrances/Exits)</td>
<td>6.0</td>
<td>12.0</td>
<td>18.0</td>
</tr>
<tr>
<td>Dumpster Pad</td>
<td>7.0</td>
<td>12.0</td>
<td>19.0</td>
</tr>
</tbody>
</table>

1. At least one foot of free-draining material should be included directly beneath rigid concrete pavement. Fill meeting the preferred fill requirements of this report may be considered free-draining for this purpose. Limerock should not be considered free draining for this purpose.

2. The trash container pad should be large enough to support the container and the tipping axle of the collection truck.

The following items are applicable to rigid concrete pavement sections.

- At least 18 inches of free-draining material should be included directly beneath rigid concrete pavement. Fill meeting the requirements presented in Earthwork Section of this report may be considered free-draining for this purpose. Limerock should not be considered free draining for this purpose.

- The PCC should be a minimum of 4,000 psi at 28 days. PCC pavements are recommended for trash container pads and in any other areas subjected to heavy wheel loads and/or turning traffic.

- The upper 1 foot of rigid pavement subgrade soils should be compacted to at least 98 percent of the Modified Proctor maximum dry density (AASHTO T-180 or ASTM D-1557). Compaction tests should be performed at a frequency of 1 test per 10,000 square feet or fraction thereof.

- Rigid PCC pavements will perform better than ACC in areas where short-radii turning, and braking are expected (i.e. entrance/exit aprons) due to better resistance to rutting and shoving. In addition, PCC pavement will perform better in areas subject to large or sustained loads. An adequate number of longitudinal and transverse control joints should be placed in the rigid pavement in accordance with ACI and/or AASHTO requirements. Expansion (isolation) joints must be full depth and should only be used to isolate fixed objects abutting or within the paved area.
The subgrade and the pavement surface have a minimum ¼ inch per foot slope to promote proper surface drainage.

Adequate separation should be provided between the bottom of the concrete and the seasonal high groundwater table. Terracon recommends that in no case should less than 1 foot of separation be provided.

Concrete pavement sections should include adequate details for joint spacing, joint reinforcement, and joint sealing be prepared in accordance with American Concrete Institute (ACI 330R-01 and ACI 325R.9-91). Portland cement concrete pavements should be provided with mechanically reinforced joints (doweled or keyed) in accordance with ACI 330R-01.

Sawcut patterns should generally be square or rectangular but nearly square and extend to a depth equal to a quarter of the slab thickness. If the bottom of the concrete pavement is separated from the seasonal high groundwater table by at least 1 foot, filter fabric will not be necessary beneath the expansion joints.

Pavements should also meet the requirements of the Land Development Code of Brevard County and any other applicable local jurisdictional requirements.

**Pavement Drainage**

Pavements should be sloped to provide rapid drainage of surface water. Water allowed to pond on or adjacent to the pavements could saturate the subgrade and contribute to premature pavement deterioration. In addition, the pavement subgrade should be graded to provide positive drainage. Underdrains should be considered around all landscape islands and all other irrigated areas to control groundwater intrusion into the pavement base.

**Pavement Maintenance**

The pavement sections represent minimum recommended thicknesses and, as such, periodic maintenance should be anticipated. Therefore, preventive maintenance should be planned and provided for through an on-going pavement management program. Maintenance activities are intended to slow the rate of pavement deterioration and to preserve the pavement investment. Maintenance consists of both localized maintenance (e.g. crack and joint sealing and patching) and global maintenance (e.g. surface sealing). Preventive maintenance is usually the priority when implementing a pavement maintenance program. Additional engineering observation is recommended to determine the type and extent of a cost-effective program. Even with periodic maintenance, some movements and related cracking may still occur, and repairs may be required.
Pavement performance is affected by its surroundings. In addition to providing preventive maintenance, the civil engineer should consider the following recommendations in the design and layout of pavements:

- Install below pavement drainage systems surrounding areas anticipated for frequent wetting.
- Install joint sealant and seal cracks immediately.
- Seal all landscaped areas in or adjacent to pavements to reduce moisture migration to subgrade soils.

**STORMWATER MANAGEMENT**

Design of the stormwater management system has not been completed yet, though we understand a stormwater pond is planned in the central portion of the Phase 2 area. Borings C-7 and C-8 were performed in the proposed pond location. Soil conditions in these borings consisted of mostly sand (SP). Trace shell was observed in both borings at depths of 8 feet or more below existing grade. Groundwater was found at depths of 3.7 to 4.2 feet below existing grade in these borings. The following presents the observed, estimated normal seasonal high, and estimated normal seasonal low groundwater levels in the borings performed within the pond location:

<table>
<thead>
<tr>
<th>Borings within Pond Location</th>
<th>Elevation of Observed Groundwater Table (ft.)</th>
<th>Estimated Normal Seasonal High Groundwater Elevation (el. ft.)</th>
<th>Average Wet Season Groundwater Elevation (el. ft.)</th>
<th>Estimated Normal Seasonal Low Groundwater Elevation (el. ft.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>C-7 and C-8</td>
<td>+9.3 to +10.2</td>
<td>+12.5</td>
<td>+11.5</td>
<td>+9.0</td>
</tr>
</tbody>
</table>

**GENERAL COMMENTS**

Our analysis and opinions are based upon our understanding of the project, the geotechnical conditions in the area, and the data obtained from our site exploration. Natural variations will occur between exploration point locations or due to the modifying effects of construction or weather. The nature and extent of such variations may not become evident until during or after construction. Terracon should be retained as the Geotechnical Engineer, where noted in this report, to provide observation and testing services during pertinent construction phases. If variations appear, we can provide further evaluation and supplemental recommendations. If variations are noted in the absence of our observation and testing services on-site, we should be immediately notified so that we can provide evaluation and supplemental recommendations.
Our Scope of Services does not include either specifically or by implication any environmental or biological (e.g., mold, fungi, bacteria) assessment of the site or identification or prevention of pollutants, hazardous materials or conditions. If the owner is concerned about the potential for such contamination or pollution, other studies should be undertaken.

Our services and any correspondence or collaboration through this system are intended for the sole benefit and exclusive use of our client for specific application to the project discussed and are accomplished in accordance with generally accepted geotechnical engineering practices with no third-party beneficiaries intended. Any third-party access to services or correspondence is solely for information purposes to support the services provided by Terracon to our client. Reliance upon the services and any work product is limited to our client and is not intended for third parties. Any use or reliance of the provided information by third parties is done solely at their own risk. No warranties, either express or implied, are intended or made.

Site characteristics as provided are for design purposes and not to estimate excavation cost. Any use of our report in that regard is done at the sole risk of the excavating cost estimator as there may be variations on the site that are not apparent in the data that could significantly impact excavation cost. Any parties charged with estimating excavation costs should seek their own site characterization for specific purposes to obtain the specific level of detail necessary for costing. Site safety, and cost estimating including, excavation support, and dewatering requirements/design are the responsibility of others. If changes in the nature, design, or location of the project are planned, our conclusions and recommendations shall not be considered valid unless we review the changes and either verify or modify our conclusions in writing.
ATTACHMENTS
EXPLORATION AND TESTING PROCEDURES

Field Exploration

The boring locations were laid out at the project site by Terracon personnel. The locations indicated on the attached diagram are approximate and were found using hand-held GPS devices. The locations of the borings should be considered accurate only to the degree implied by the means and methods used to define them.

The SPT soil borings were drilled with an ATV-mounted, rotary drilling rig equipped with an automatic hammer. The boreholes were advanced with a cutting head and stabilized with the use of bentonite (drillers’ mud). Soil samples were obtained by the split spoon sampling procedure in general accordance with the Standard Penetration Test (SPT) procedure. In the split spoon sampling procedure, the number of blows required to advance the sampling spoon the last 12 inches of an 18-inch penetration or the middle 12 inches of a 24-inch penetration by means of a 140-pound hammer with a free fall of 30 inches, is the standard penetration resistance value (N). This value is used to estimate the in-situ relative density of cohesionless soils and the consistency of cohesive soils. The sampling depths and penetration distance, plus the standard penetration resistance values, are shown on the boring logs.

A CME automatic SPT hammer was used to advance the split-barrel sampler in the borings performed on this site. A significantly greater efficiency is achieved with the automatic hammer compared to the conventional safety hammer operated with a cathead and rope. This higher efficiency has an appreciable effect on the SPT-N value. The effect of the automatic hammer's efficiency has been considered in the interpretation and analysis of the subsurface information for this report.

The hand auger boring procedure consisted of manually turning a 3 inch diameter, 6 inch long sampler into the soil until it is full. The sampler was then retrieved and the soils in the sampler were visually examined and classified. The procedure was repeated until the desired termination depth was achieved. Samples of representative strata were obtained for further visual examination and classification in our laboratory.

Portions of the samples from the borings were sealed in glass jars to reduce moisture loss, and then the jars were taken to our laboratory for further observation and classification. Upon completion, the boreholes were backfilled with the site soil.

Field logs of each boring were prepared by the drill crew. These logs included visual classifications of the materials encountered during drilling as well as the driller's interpretation of the subsurface conditions between samples. The boring logs included with this report represent an interpretation of the field logs and include modifications based on laboratory observation of the samples.
Laboratory Testing

The project engineer reviewed the field data and assigned laboratory tests to understand the engineering properties of the various soil strata, as necessary, for this project. Procedural standards noted below are for reference to methodology in general. In some cases, variations to methods were applied because of local practice or professional judgment. Standards noted below include reference to other, related standards. Such references are not necessarily applicable to describe the specific test performed.

- ASTM D2216 Standard Test Methods for Laboratory Determination of Water (Moisture) Content of Soil by Mass
- ASTM D1140 Standard Test Method for Amount of Material in Soils Finer than No. 200 (75-μm) Sieve

The laboratory testing program often included examination of soil samples by an engineer. Based on the material’s texture and plasticity, we described and classified the soil samples in accordance with the Unified Soil Classification System.
SITE LOCATION AND EXPLORATION PLANS

Contents:

Topographic Vicinity Map
Soils Map
Location Plan
U.S.D.A. SOIL SURVEY FOR BREVARD COUNTY, FLORIDA

SOIL LEGEND

2 ANCLOTE SAND, FREQUENTLY PONDED, 0 TO 1 PERCENT SLOPES
8 BRADENTON FINE SAND, LIMESTONE SUBSTRATUM
16 COPELAND-BRADENTON-WABASSO COMPLEX, LIMESTONE SUBSTRATUM
19 RIVIERA SAND, 0 TO 2 PERCENT SLOPES
36 MYAKKA SAND, 0 TO 2 PERCENT SLOPES
51 POMPAVO SAND, 0 TO 2 PERCENT SLOPES
55 ST JOHNS DEPRESSIONAL
63 TAVARES FINE SAND, 0 TO 5 PERCENT SLOPES
71 WABASSO SAND, 0 TO 2 PERCENT SLOPES
91 CANAVERAL-ANCLOTE COMPLEX

SCALE 1"=1000'

U.S. HIGHWAY 1
HUNTINGTON AVENUE

APPROXIMATE PHASE 2 LOCATION

SOILS MAP
GEOTECHNICAL ENGINEERING REPORT
CAPE CANAVERAL NATIONAL CEMETARY - PHASE 2
5525 US-1
MIMS, BREVARD COUNTY, FLORIDA

Project Mngr: SM
Drawn By: AS
Checked By: SM
Approved By: JWC
Project No.: H1185129
File No.: H1185129
Date: 3-15-19
Scale: AS SHOWN

Consulting Engineers and Scientists
1675 LEE ROAD
WINTER PARK, FLORIDA 32792
PH. (407) 740-6110
FAX. (407) 740-6112
EXPLORATION RESULTS

Contents:

Boring Logs (C-1 through C-15, B-7, B-10, B-14, B-15, D-33 through D-36)
### BORING LOG NO. C-1

**PROJECT:** Cape Canaveral National Cemetery Phase 2  
**SITE:** Cape Canaveral National Cemetery  
Cape Canaveral, FL  

**CLIENT:** Calibre Engineering  
Highlands Ranch, CO

**LOCATION**  
See Exploration Plan  
Latitude: 28.7575°  
Longitude: -80.8654°

**DEPTH**

<table>
<thead>
<tr>
<th>Depth (Ft.)</th>
<th>Sample Type</th>
<th>Field Test Results</th>
<th>Water Content (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.0</td>
<td>4-3-3-3</td>
<td>16</td>
<td>8</td>
</tr>
<tr>
<td>13.5</td>
<td>3-4-4-4</td>
<td>N=8</td>
<td></td>
</tr>
<tr>
<td>15.0</td>
<td>4-5-5</td>
<td>N=10</td>
<td></td>
</tr>
</tbody>
</table>

**Stratification lines are approximate. In-situ, the transition may be gradual.**

**Hammer Type:** Automatic

- **Water Level Observations:**
  - Water observed at 4.9 ft.

**Advancement Method:**

**Abandonment Method:**

**Notes:**

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (if any).

See Supporting Information for explanation of symbols and abbreviations.

**Boring Terminated at 15 Feet**

**Drill Rig:** Track  
**Driller:** Camoran

**Boring Started:** 02-28-2019  
**Boring Completed:** 02-28-2019

1675 Lee Rd  
Winter Park, FL

Project No.: H1185129
Boring Log No. C-2

Project: Cape Canaveral National Cemetery Phase 2
Client: Calibre Engineering
Location: Cape Canaveral National Cemetery

Depth

- SAND WITH SILT (SP-SM), gray-brown to dark brown
  - Depth: 4.0
- SAND (SP), gray-brown
  - Depth: 6.0
- SAND WITH SILT (SP-SM), brown
  - Depth: 13.5
- SAND (SP), reddish-brown
  - Depth: 15.0

Boring Terminated at 15 Feet

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Water observed at 4.8 ft.

Notes:
- Advancement Method:
- Abandonment Method:
- See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (if any).
- See Supporting Information for explanation of symbols and abbreviations.

WATER LEVEL OBSERVATIONS

- Water observed at 4.8 ft.

1675 Lee Rd
Winter Park, FL

Boring Started: 02-28-2019
Boring Completed: 02-28-2019
Drill Rig: Track
Driller: Camoran
Project No.: H1185129
**BORING LOG NO. C-3**

**PROJECT:** Cape Canaveral National Cemetery Phase 2  
**SITE:** Cape Canaveral National Cemetery  
**CLIENT:** Calibre Engineering  
**LOCATION:** See Exploration Plan  
Latitude: 28.7588° Longitude: -80.8635°

**DEPTH**

2.0

SAND WITH SILT (SP-SM), trace roots, dark gray

8.0

SAND WITH SILT (SP-SM), light gray-brown to orange-brown to gray  
Cemented sands

15.0

SAND (SP), gray

**Boring Terminated at 15 Feet**

**WATER LEVEL OBSERVATIONS**

Water observed at 4.2 ft.

**PERCENT FINES**

<table>
<thead>
<tr>
<th>Depth (Ft.)</th>
<th>Water Content (%)</th>
<th>Field Test Results</th>
<th>Sample Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.0</td>
<td>12</td>
<td>7-5-7-7</td>
<td>N=12</td>
</tr>
<tr>
<td>8.0</td>
<td>11</td>
<td>8-7-9-9</td>
<td>N=16</td>
</tr>
<tr>
<td>15.0</td>
<td></td>
<td>7-6-9</td>
<td>N=15</td>
</tr>
</tbody>
</table>

**Hammer Type:** Automatic

**Notes:**

- Advancement Method:
- Abandonment Method:
- See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (if any).
- See Supporting Information for explanation of symbols and abbreviations.

**Supporting Information**

- Hammer size and type
- Tools used for sampling
- Laboratory analysis methods
- Additional data points

**Project Information**

- Boring Started: 03-01-2019
- Boring Completed: 03-01-2019
- Drill Rig: Mini
- Driller: Mark. Cornele
- Location: 1675 Lee Rd, Winter Park, FL
- Project No.: H1185129
BORING LOG NO. C-4

PROJECT: Cape Canaveral National Cemetery Phase 2

SITE: Cape Canaveral National Cemetery
      Cape Canaveral, FL

CLIENT: Calibre Engineering
        Highlands Ranch, CO

LOCATION
Latitude: 28.7589° Longitude: -80.8623°

GRAPHIC LOG

DEPTH

SAND (SP), dark gray to light brown

15.0

SAND WITH SILT (SP-SM), trace shell, gray

6.0

Boring Terminated at 15 Feet

Stratification lines are approximate. In-situ, the transition may be gradual.

FIELD TEST RESULTS

SAMPLE TYPE

DEPTH (FT.)

WATER LEVEL OBSERVATIONS

WATER CONTENT (%)

PERCENT FINES

2-4-4-5
N=8

5-6-8-7
N=14

8-8-9-9
N=17

8-10-11-10
N=21

9-8-9-7
N=17

8-6-6
N=12

3

24

3

Boring Started: 03-01-2019
Boring Completed: 03-01-2019

Notes:

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (if any).

See Supporting Information for explanation of symbols and abbreviations.

Water observed at 4.3 ft.

Drill Rig: Mini
Driller: Mark. Cornele

1675 Lee Rd
Winter Park, FL

Project No.: H1185129
**BORING LOG NO. C-5**

**PROJECT:** Cape Canaveral National Cemetery Phase 2  
**SITE:** Cape Canaveral National Cemetery  
**SITE:** Cape Canaveral, FL

**LOCATION:** See Exploration Plan  
Latitude: 28.7589° Longitude: -80.8616°

---

### WATER LEVEL OBSERVATIONS

<table>
<thead>
<tr>
<th>DEPTH (FT)</th>
<th>WATER LEVEL OBSERVATIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.0</td>
<td>5-5-3-4 N=8</td>
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<tr>
<td></td>
<td>7-10-11-11 N=21</td>
</tr>
<tr>
<td>10-13-11-12 N=24</td>
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</tr>
<tr>
<td>9-9-9-9 N=18</td>
<td></td>
</tr>
<tr>
<td>8-9-11-9 N=20</td>
<td></td>
</tr>
<tr>
<td>9-8-7 N=15</td>
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</table>

**Boring Terminated at 15 Feet**

**FIELD TEST RESULTS**

<table>
<thead>
<tr>
<th>DEPTH (FT)</th>
<th>PERCENT FINES</th>
<th>WATER CONTENT (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.0</td>
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<td></td>
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<tr>
<td>5.0</td>
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<td>10.0</td>
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<td></td>
</tr>
<tr>
<td>15.0</td>
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</tbody>
</table>

**SAND (SP), dark brown to light brown**

**SAND WITH SILT (SP-SM), light gray to gray**

---

**WATER LEVEL OBSERVATIONS**

- Water observed at 4.1 ft.

---

**Notes:**

- Advancement Method: See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (if any).
- Abandonment Method: See Supporting Information for explanation of symbols and abbreviations.

---

**Hammer Type:** Automatic

---

**Location:**

- Latitude: 28.7589° Longitude: -80.8616°
- Location: See Exploration Plan

---

**Boring Started:** 03-01-2019  
**Boring Completed:** 03-01-2019

**Drill Rig:** Mini  
**Driller:** Mark. Cornele

**Project No.:** H1185129

---

**Copyright Notice:**

- This boring log is not valid if separated from original report. GeoSmart Log No. Well: H1185129 Cape Canaveral National Cemetery, FL 1675 Lee Rd Winter Park, FL 32789 11/15/11
PROJECT: Cape Canaveral National Cemetery Phase 2

SITE: Cape Canaveral National Cemetery
     Cape Canaveral, FL

LOCATION
Latitude: 28.7597° Longitude: -80.8638°

DEPTH
2.0
SAND WITH SILT (SP-SM), gray-brown

4.0
SILTY SAND (SM), cemented, orange-brown

13.5
SAND WITH SILT (SP-SM), trace shell, light brown

15.0
SAND WITH SILT (SP-SM), trace shell and phosphates, gray

FIELD TEST RESULTS

DEPTH (FL) WATER LEVEL OBSERVATIONS SAMPLE TYPE WATER CONTENT (%) PERCENT FINES
6-8-9-13 N=17
8-9-10-10 N=19
8-6-5-7 N=11
8-8-8-10 N=16
19 8
8-8-8 N=16

Boring Terminated at 15 Feet

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:

Abandonment Method:

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (if any).

See Supporting Information for explanation of symbols and abbreviations.

Notes:

WATER LEVEL OBSERVATIONS

Water observed at 2.7 ft.

Boring Started: 03-01-2019
Boring Completed: 03-01-2019

Drill Rig: Mini
Driller: Mark. Cornele

1675 Lee Rd
Winter Park, FL

Project No.: H1185129
Boring Log No. C-7

PROJECT: Cape Canaveral National Cemetery Phase 2
SITE: Cape Canaveral National Cemetery
Cape Canaveral, FL

LOCATION
Latitude: 28.7596° Longitude: -80.8648°

Hammer Type: Automatic

SAND (SP), dark brown to light brown

SAND (SP), trace shell, gray

Boring Terminated at 20 Feet

Stratification lines are approximate. In-situ, the transition may be gradual.

FIELD TEST RESULTS

\begin{tabular}{|c|c|}
\hline
DEPTH (FT) & WATER CONTENT \% \\
\hline
5 & 8.0 \\
10 & 10.0 \\
15 & 15.0 \\
20 & 20.0 \\
\hline
\end{tabular}

WATER LEVEL OBSERVATIONS

\begin{itemize}
\item Water observed at 3.7 ft.
\end{itemize}

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (if any).
See Supporting Information for explanation of symbols and abbreviations.

ADVANCEMENT METHOD:

Abandonment Method:

Notes:

Boring Started: 03-01-2019
Boring Completed: 03-01-2019

Drill Rig: Mini
Driller: Mark. Cornele

Project No.: H1185129
BORING LOG NO. C-8
PROJECT: Cape Canaveral National Cemetery Phase 2
SITE: Cape Canaveral National Cemetery
Cape Canaveral, FL
CLIENT: Calibre Engineering
Highlands Ranch, CO

LOCATION
Latitude: 28.7602° Longitude: -80.8657°

DEPTH

SAND (SP), gray to brown

SAND WITH SILT (SP-SM), light gray

SAND (SP), light gray

SAND (SP), trace shell, gray

Boring Terminated at 20 Feet

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

FIELD TEST RESULTS

WATER CONTENT (%)

DEPTH (FT.)

WATER LEVE

OBSERVATIONS

SAMPLE TYPE

PERCENT FINES

1.0

3.3-4.5
N=7

5.6-8.8
N=14

4.5-6.9
N=11

6.8-11.12
N=19

13.5

5.7-8.9
N=15

5.8-10
N=18

20.0

7.7-12
N=19

27
4

WATER LEVEL OBSERVATIONS

Water observed at 4.2 ft.

Notes:

Advancement Method:

Abandonment Method:

WATER LEVEL OBSERVATIONS

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (if any).

See Supporting Information for explanation of symbols and abbreviations.

Notes:

Boring Started: 03-01-2019
Boring Completed: 03-01-2019
Drill Rig: Track
Driller: Camoran
Project No.: H1185129

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GEO SMART LOG NO WELL H1185129 CAPE CANAVERAL NGP MODELAYER.GPJ 3/15/19

Calibre Engineering
Highlands Ranch, CO
PROJECT: Cape Canaveral National Cemetery Phase 2
SITE: Cape Canaveral National Cemetery
Cape Canaveral, FL

CALIBRE ENGINEERING CLIENT:

SAND (SP), gray to brown

SAND WITH SILT (SP-SM), light gray

SAND (SP), light gray

SAND (SP), trace shell, gray

Boring Terminated at 20 Feet

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

FIELD TEST RESULTS

WATER CONTENT (%)

DEPTH (FT.)

WATER LEVE

OBSERVATIONS

SAMPLE TYPE

PERCENT FINES

1.0

3.3-4.5
N=7

5.6-8.8
N=14

4.5-6.9
N=11

6.8-11.12
N=19

13.5

5.7-8.9
N=15

5.8-10
N=18

20.0

7.7-12
N=19

27
4

WATER LEVEL OBSERVATIONS

Water observed at 4.2 ft.

Notes:

Advancement Method:

Abandonment Method:

WATER LEVEL OBSERVATIONS

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (if any).

See Supporting Information for explanation of symbols and abbreviations.

Notes:

Boring Started: 03-01-2019
Boring Completed: 03-01-2019
Drill Rig: Track
Driller: Camoran
Project No.: H1185129

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GEO SMART LOG NO WELL H1185129 CAPE CANAVERAL NGP MODELAYER.GPJ 3/15/19
Boring Terminated at 15 Feet

SAND (SP), dark reddish-brown cemented sand at surface, orange-brown to light brown to gray-brown to dark gray-brown

WATER LEVEL OBSERVATIONS

<table>
<thead>
<tr>
<th>DEPTH (FT)</th>
<th>FIELD TEST RESULTS</th>
<th>WATER CONTENT (%)</th>
<th>PERCENT FINES</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>3-3-4-3 N=7</td>
<td>25</td>
<td>5</td>
</tr>
<tr>
<td>10</td>
<td>3-8-9-7 N=17</td>
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<td></td>
</tr>
<tr>
<td>15</td>
<td>5-5-6-7 N=11</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>4-5-7-6 N=12</td>
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<td></td>
</tr>
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<td>15</td>
<td>4-4-4-4 N=8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>4-5-8 N=13</td>
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</table>

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (if any).

See Supporting Information for explanation of symbols and abbreviations.

Notes:

Boring Started: 03-01-2019  Boring Completed: 03-01-2019

Drill Rig: Track  Driller: Camoran

Project No.: H1185129

1675 Lee Rd
Winter Park, FL
BOARING LOG NO. C-10

PROJECT: Cape Canaveral National Cemetery Phase 2
SITE: Cape Canaveral National Cemetery
Cape Canaveral, FL

LOCATION: See Exploration Plan
Latitude: 28.7595° Longitude: -80.8664°

DEPTH

SAND (SP), gray
2.0

SAND WITH SILT (SP-SM), orange-brown
4.0

SAND (SP), light brown
8.0

SAND WITH SILT (SP-SM), gray
13.5

SAND (SP), trace shell, gray
15.0

Boring Terminated at 15 Feet

FIELD TEST RESULTS

SAMPLE TYPE

WATER CONTENT (%)

DEPTH (FT.)

3-3-4-3 N=7

4-5-6-5 N=11

3-6-5-5 N=11

23 4

4-4-5-6 N=9

4-4-5-4 N=9

5-7-6 N=13

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (if any).

See Supporting Information for explanation of symbols and abbreviations.

Notes:

Advancement Method: See Exploration Plan
Abandonment Method: See Exploration Plan

WATER LEVEL OBSERVATIONS

Water observed at 6.1 ft.

Boring Started: 03-01-2019
Boring Completed: 03-01-2019

Drill Rig: Track
Driller: Camoran

Project No.: H1185129

Terracon
1675 Lee Rd
Winter Park, FL
SAND (SP), brown to light orange-brown to light brown to gray

SAND (SP), trace shell and phosphate, gray

Boring Terminated at 15 Feet

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

PROJECT: Cape Canaveral National Cemetery Phase 2
SITE: Cape Canaveral National Cemetery
Cape Canaveral, FL

LOCATION
Latitude: 28.7593° Longitude: -80.8668°

Boring Started: 02-28-2019
Boring Completed: 02-28-2019

Drill Rig: Track
Driller: Camoran
Project No.: H1185129
1675 Lee Rd
Winter Park, FL

WATER LEVEL OBSERVATIONS

\[ \text{Water observed at } 3 \text{ ft.} \]

FIELD TEST RESULTS

SAMPLE TYPE

DEPTH (FT.)

WATER CONTENT (%) PERCENT FINES

2-3-3-2
N=6

2-3-3-4
N=6

19
3

2-3-4-3
N=7

4-4-7-8
N=11

5-5-9-10
N=14

12-17-13
N=30

Calibre Engineering CLIENT: Highlands Ranch, CO

PROJECT: Cape Canaveral National Cemetery
Cape Canaveral, FL

ADVANCED REPORT TYPE: BORING LOG NO. C-11

This Boring Log is not valid if separated from original report.
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<th>PROJECT:</th>
<th>Cape Canaveral National Cemetery Phase 2</th>
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<tbody>
<tr>
<td>SITE:</td>
<td>Cape Canaveral National Cemetery</td>
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<tr>
<td></td>
<td>Cape Canaveral, FL</td>
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<tr>
<td>CLIENT:</td>
<td>Calibre Engineering Highlands Ranch, CO</td>
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</tbody>
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This boring log is not valid if separated from original report.
**BORING LOG NO. C-13**

**PROJECT:** Cape Canaveral National Cemetery Phase 2  
**SITE:** Cape Canaveral National Cemetery  
**CLIENT:** Calibre Engineering  
**LOCATION:** Cape Canaveral, FL

**SAND (SP),** dark gray to light brown to orange-brown to light gray

<table>
<thead>
<tr>
<th>DEPTH (Ft.)</th>
<th>WATER LEVEL OBSERVATIONS</th>
<th>FIELD TEST RESULTS</th>
<th>PERCENT FINES</th>
</tr>
</thead>
<tbody>
<tr>
<td>4-5-5-5</td>
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<td>N=10</td>
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<td>5-6-4-5</td>
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<td>5-5-6-6</td>
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<td>N=11</td>
<td></td>
</tr>
<tr>
<td>6-6-9-11</td>
<td></td>
<td>N=15</td>
<td></td>
</tr>
<tr>
<td>5-6-8-11</td>
<td></td>
<td>N=14</td>
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<tr>
<td>4-9-10</td>
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<td>N=19</td>
<td></td>
</tr>
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</table>

Boring Terminated at 15 Feet

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

**LOCATION** See Exploration Plan
Latitude: 28.7604° Longitude: -80.8673°

**FIELD TEST RESULTS**

**WATER CONTENT (%):**

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (if any).  
See Supporting Information for explanation of symbols and abbreviations.

**ADVANCEMENT METHOD:**

**ABANDONMENT METHOD:**

**WATER LEVEL OBSERVATIONS**

- Water observed at 3.5 ft.

**NOTES:**

- Boring Started: 03-01-2019
- Boring Completed: 03-01-2019
- Drill Rig: Track
- Driller: Camoran
- Project No.: H1185129

**VALUES OF THIS BORING LOG ARE NOT VALID IF SEPARATED FROM ORIGINAL REPORT.** GeoSmart Logs No. Well H1185129 Cape Canaveral NA GPJ MODELLAYER GPJ 3/15/19

1675 Lee Rd  
Winter Park, FL

**Terracon**
### BORING LOG NO. C-14

**PROJECT:** Cape Canaveral National Cemetery Phase 2  
**SITE:** Cape Canaveral National Cemetery  
**SITE:** Cape Canaveral, FL

**CLIENT:** Calibre Engineering  
Highlands Ranch, CO

---

**LOCATION**  
See Exploration Plan  
Latitude: 28.7607° Longitude: -80.867°

---

**GRAPHIC LOG**

<table>
<thead>
<tr>
<th>DEPTH</th>
<th>SAND (SP), trace roots at surface, gray-brown to orange-brown</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.0</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>DEPTH</th>
<th>SAND WITH SILT (SP-SM), orange-brown</th>
</tr>
</thead>
<tbody>
<tr>
<td>8.0</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>DEPTH</th>
<th>SAND (SP), light gray</th>
</tr>
</thead>
<tbody>
<tr>
<td>15.0</td>
<td></td>
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</table>

**Boring Terminated at 15 Feet**

---

**WATER LEVEL OBSERVATIONS**

- **Water observed at 4 ft.**
- **Water observed at 4 ft.**

---

**FIELD TEST RESULTS**

<table>
<thead>
<tr>
<th>SAMPLE TYPE</th>
<th>DEPTH (FT)</th>
<th>WATER CONTENT (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-3-4-5</td>
<td>5-5-6-7</td>
<td>22 9</td>
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<tr>
<td>4-5-6-5</td>
<td>6-8-10-11</td>
<td>18 9</td>
</tr>
<tr>
<td>7-8-8-9</td>
<td>7-9-11</td>
<td>20</td>
</tr>
</tbody>
</table>

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**Notes:**

- Advancement Method:  
- Abandonment Method:  
- Boring Started: 03-01-2019  
- Boring Completed: 03-01-2019  
- Drill Rig: Track  
- Driller: Camoran  
- Project No.: H1185129
BORING LOG NO. C-15

PROJECT: Cape Canaveral National Cemetery Phase 2
CLIENT: Calibre Engineering
Highlands Ranch, CO

SITE: Cape Canaveral National Cemetery
Cape Canaveral, FL

LOCATION
See Exploration Plan
Latitude: 28.7603° Longitude: -80.8634°

DEPTH

4.0
SAND WITH SILT (SP-SM), dark brown to orange-brown to gray

8.0
SAND (SP), light gray

15.0
SILTY SAND (SM), trace shell, gray

Boring Terminated at 15 Feet

Stratification lines are approximate. In-situ, the transition may be gradual.

FIELD TEST RESULTS

DEPTH (FL.)
5.0
10.0
15.0

FIELD TEST OBSERVATIONS
SAMPLE TYPE
5-4-5-3
N=9

5-7-6-6
N=13

7-7-6-8
N=13

6-8-8-10
N=16

7-7-8-11
N=15

23 15

9-9-11
N=20

WATER CONTENT (%)

PERCENT FINES

WATER LEVEL OBSERVATIONS

Water observed at 3.1 ft.

Hammer Type: Automatic

Advancement Method:
See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (if any).

Abandonment Method:
See Supporting Information for explanation of symbols and abbreviations.

Notes:

Boring Started: 03-01-2019
Boring Completed: 03-01-2019

Drill Rig: Mini
Driller: Mark. Cornele

1675 Lee Rd
Winter Park, FL

Project No.: H1185129
### BORING LOG NO. B-07

**PROJECT:** VA East Central Florida Cemetery  
**SITE:** Brevard County, Florida  
**PROJECT ENGINEER:** S. McMaster, P.E.

#### Graphic Log

**LOCATION**  
See Exhibit A-3  
Latitude: 28.7598°  
Longitude: 80.8611°

#### Depth

<table>
<thead>
<tr>
<th>Depth (ft)</th>
<th>Water Level Observations</th>
<th>Field Test Results</th>
<th>Organic Content (%)</th>
<th>Water Content (%)</th>
<th>Percent Fines</th>
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<tr>
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<td></td>
<td>4-4-5-4</td>
<td>N=9</td>
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<td>3</td>
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<td>4-3-3-4</td>
<td>N=6</td>
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<tr>
<td>4</td>
<td></td>
<td>5-4-4-3</td>
<td>N=8</td>
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<tr>
<td>5</td>
<td></td>
<td>5-6-7-9</td>
<td>N=13</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td></td>
<td>6-9-9</td>
<td>N=18</td>
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<td></td>
</tr>
</tbody>
</table>

**Boring Terminated at 15 Feet**

- Stratification lines are approximate. In-situ, the transition may be gradual.
- Hammer Type: Automatic

**Advancement Method:**  
Rotary drilling cutting head

**Abandonment Method:**  
Borings backfilled with soil cuttings upon completion.

**WATER LEVEL OBSERVATIONS**

- Estimated Seasonal High Water Table
- Observed Groundwater Level

**WATER LEVEL OBSERVATIONS**

- Abandonment Method:
  - Borings backfilled with soil cuttings upon completion.

**Notes:**

- Boring Started: 4/26/2012
- Boring Completed: 4/26/2012
- Drill Rig: CME 45
- Driller: Doug

---

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. TERRACON SMART LOG NO. WELL H125068-BORINGS.GPJ  TERRACON2012.GDT  5/23/12

---

1675 Lee Road
Winter Park, Florida

Project No.: H1125068
Exhibit A-7
## Boring Log No. B-10

**Project:** VA East Central Florida Cemetery  
**Site:** Brevard County, Florida  
**Client:**  
**Project Engineer:** S. McMaster, P.E.

### Location
- See Exhibit A-3
- Latitude: 28.7591°  
- Longitude: 80.8645°

### Graphic Log

- **Depth**

<table>
<thead>
<tr>
<th>Depth (ft)</th>
<th>Sample Type</th>
<th>Field Test Results</th>
<th>Organic Content (%)</th>
<th>Water Content (%)</th>
<th>Percent Fines</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td>2-3-4-3 N=7</td>
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<tr>
<td>2</td>
<td></td>
<td>2-4-4-3 N=8</td>
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<td>4-5-5-7 N=10</td>
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<tr>
<td>4</td>
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<td>4-6-9-7 N=13</td>
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<td></td>
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<tr>
<td>5</td>
<td></td>
<td>8-6-6-7 N=13</td>
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<tr>
<td>6</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>7</td>
<td></td>
<td>10-9-12 N=21</td>
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</tbody>
</table>

**Boring Terminated at 15 Feet**

Stratification lines are approximate. In-situ, the transition may be gradual.

**Hammer Type:** Automatic

### Advancement Method
- Rotary drilling cutting head

### Abandonment Method
- Borings backfilled with soil cuttings upon completion.

### Water Level Observations

- **Estimated Seasonal High Water Table**
- **Observed Groundwater Level**

**Notes:**
- See Exhibit A-4 for description of field procedures.
- See Appendix B for description of laboratory procedures and additional data, if any.
- See Appendix C for explanation of symbols and abbreviations.

**Advancements:**
- Boring Started: 4/26/2012  
- Boring Completed: 4/26/2012

**Equipment:**
- Drill Rig: CME 45  
- Driller: Doug

**Project No.:** H1125068  
**Exhibit:** A-10
**BORING LOG NO. B-14**

**PROJECT:** VA East Central Florida Cemetery

**SITE:** Brevard County, Florida

**PROJECT ENGINEER:** S. McMaster, P.E.

---

**LOCATION**  
See Exhibit A-3

<table>
<thead>
<tr>
<th>LATITUDE: 28.7608°</th>
<th>LONGITUDE: 80.8675°</th>
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</thead>
</table>

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**DEPTH**

<table>
<thead>
<tr>
<th>DEPTH</th>
<th>FIELD TEST RESULTS</th>
</tr>
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<tbody>
<tr>
<td>1</td>
<td>3-3-4-3 N=7</td>
</tr>
<tr>
<td>4</td>
<td>5-4-6-6 N=10</td>
</tr>
<tr>
<td>4</td>
<td>5-4-6-6 N=10</td>
</tr>
<tr>
<td>6</td>
<td>5-7-9-6 N=16</td>
</tr>
<tr>
<td>8</td>
<td>5-7-7-5 N=14</td>
</tr>
<tr>
<td>15</td>
<td>7-8-7 N=15</td>
</tr>
</tbody>
</table>

---

**FINE SAND (SP), light gray-brown**

- Boring Terminated at 15 Feet

---

**FINE SAND WITH SILT (SP-SM), light gray**

---

**SILTY FINE SAND (SM), gray-brown**

---

**WATER LEVEL OBSERVATIONS**

<table>
<thead>
<tr>
<th>DEPTH (ft)</th>
<th>ORGANIC CONTENT (%)</th>
<th>WATER CONTENT (%)</th>
<th>PERCENT FINES</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

**Abandonment Method:**  
Borings backfilled with soil cuttings upon completion.

**Advancement Method:**  
Rotary drilling cutting head

---

**Notes:**

- See Exhibit A-4 for description of field procedures.
- See Appendix B for description of laboratory procedures and additional data, (if any).
- See Appendix C for explanation of symbols and abbreviations.

---

**WATER LEVEL OBSERVATIONS**

- **Estimated Seasonal High Water Table**
- **Observed Groundwater Level**

---

**CLIENT:**

---

**PROJECT ENGINEER:**

---

**Boring Started:** 4/25/2012  
**Boring Completed:** 4/25/2012

---

**Drill Rig:** CME 45  
**Driller:** Doug

---

**Project No.:** H1125068  
**Exhibit:** A-14

---

**THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT.**

---

**TERRACON SMART LOG-NO WELL H125068-BORINGS.GPJ**  
**TERRACON2012.GDT**  
**5/23/12**
## BORING LOG NO. B-15

**PROJECT:** VA East Central Florida Cemetery  
**SITE:** Brevard County, Florida  
**CLIENT:**  
**PROJECT ENGINEER:** S. McMaster, P.E.

### GRAPHIC LOG

<table>
<thead>
<tr>
<th>DEPTH (ft)</th>
<th>LOCATION</th>
<th>WATER LEVEL OBSERVATIONS</th>
<th>FIELD TEST RESULTS</th>
<th>ORGANIC CONTENT (%)</th>
<th>WATER CONTENT (%)</th>
<th>PERCENT FINES</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.0</td>
<td></td>
<td>1-2-3-3 N=5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.0</td>
<td></td>
<td>4-3-4-4 N=7</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.0</td>
<td></td>
<td>3-4-5-4 N=9</td>
<td></td>
<td>20</td>
<td>13</td>
<td></td>
</tr>
<tr>
<td>6.0</td>
<td></td>
<td>6-7-6-6 N=13</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8.0</td>
<td></td>
<td>5-7-7-9 N=14</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10.0</td>
<td></td>
<td>9-8-9 N=17</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Boring Terminated at 15 Feet**

Stratification lines are approximate. In-situ, the transition may be gradual.  
**Hammer Type:** Automatic

### Advancement Method:
Rotary drilling cutting head

### Abandonment Method:
Borings backfilled with soil cuttings upon completion.

### WATER LEVEL OBSERVATIONS

- **Estimated Seasonal High Water Table**
- **Observed Groundwater Level**

See Exhibit A-4 for description of field procedures.

See Appendix B for description of laboratory procedures and additional data, if any.

See Appendix C for explanation of symbols and abbreviations.

### Notes:

- **Boring Started:** 4/25/2012  
- **Boring Completed:** 4/25/2012

- **Drill Rig:** CME 45  
- **Driller:** Doug  

- **Project No.:** H1125068  
- **Exhibit:** A-15

---

This boring log is not valid if separated from original report.
**BORING LOG NO. D-33**

**PROJECT:** Central Florida National Cemetery Phase 1 Design  
**CLIENT:**  
**SITE:** Brevard County, Florida

<table>
<thead>
<tr>
<th>GRAPHIC LOG</th>
<th>LOCATION</th>
<th>SEE EXHIBIT A-4</th>
</tr>
</thead>
<tbody>
<tr>
<td>DEPTH</td>
<td>WATER LEVEL OBSERVATIONS</td>
<td>FIELD RESULTS</td>
</tr>
<tr>
<td>2.0</td>
<td>SAND (SP), fine grained, gray</td>
<td></td>
</tr>
<tr>
<td>4.5</td>
<td>SAND WITH SILT (SP-SM), fine grained, reddish-brown</td>
<td></td>
</tr>
<tr>
<td>5.0</td>
<td>SAND (SP), fine grained, light brown</td>
<td></td>
</tr>
</tbody>
</table>

*Boring Terminated at 5 Feet*

Stratification lines are approximate. In-situ, the transition may be gradual.

**Notes:**

Advancement Method: See Exhibit A-5 for description of field procedures.  
Abandonment Method: Boring backfilled with soil cuttings upon completion.  
See Appendix B for description of laboratory procedures and additional data (if any).  
See Appendix C for explanation of symbols and abbreviations.

**WATER LEVEL OBSERVATIONS**

*Water Not Initially Observed To The Depth of 5.0'*

**Drill Rig:**  
**Driller:**  
**Boring Started:** 1/24/2013  
**Boring Completed:** 1/24/2013  
**Project No.: H1125068**  
**Exhibit:** A-38
**BORING LOG NO. D-34**

**PROJECT:** Central Florida National Cemetery Phase 1 Design  
**SITE:** Brevard County, Florida

<table>
<thead>
<tr>
<th>LOCATION</th>
<th>DEPTH (Ft.)</th>
<th>GRAPHIC LOG</th>
<th>WATER LEVEL OBSERVATIONS</th>
<th>FIELD TEST RESULTS</th>
<th>ORGANIC CONTENT (%)</th>
<th>WATER CONTENT (%)</th>
<th>ATTERBERG LIMITS</th>
<th>PERCENT FINES</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1.0</strong></td>
<td>SAND WITH SILT (SP-SM), fine grained, dark brown</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>SILTY SAND (SM), orange brown to gray brown</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>4.5</strong></td>
<td>SAND WITH SILT (SP-SM), fine grained, gray brown</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><em>Boring Terminated at 5 Feet</em></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Stratification lines are approximate. In-situ, the transition may be gradual.

**WATER LEVEL OBSERVATIONS**

- Water Initially Observed at 4.0’

**Advancement Method:**

See Exhibit A-5 for description of field procedures.

**Abandonment Method:**

Borings backfilled with soil cuttings upon completion.

**Notes:**

- See Appendix B for description of laboratory procedures and additional data (if any).
- See Appendix C for explanation of symbols and abbreviations.

- Boring Started: 1/24/2013  
- Boring Completed: 1/24/2013  
- Drill Rig:  
- Driller:  
- Project No.: H1125068  
- Exhibit: A-39
### Boring Log No. D-35

#### Location:
Brevard County, Florida

#### Graphic Log:
- **Depth (Ft.)**: Water Not Initially Observed To The Depth of 5.0'

#### Stratification Lines:
- **SAND WITH SILT (SP-SM)**, fine grained, gray brown
- **SILTY SAND (SM)**, fine grained, orange-brown to gray brown

**Boring Terminated at 5 Feet**

#### Water Level Observations:
- Depth (Ft.): 5
- **Water Initially Observed To The Depth of 5.0'**

#### Advancement Method:
- Abandonment Method:
  - Borings backfilled with soil cuttings upon completion.

#### Notes:
- See Exhibit A-5 for description of field procedures.
- See Appendix B for description of laboratory procedures and additional data (if any).
- See Appendix C for explanation of symbols and abbreviations.

#### Water Level Observations:
- **Water Not Initially Observed To The Depth of 5.0'**

---

**Terracron**

1675 Lee Road
Winter Park, Florida

**Drill Rig:**
- **Boring Started:** 1/24/2013
- **Boring Completed:** 1/24/2013
- **Driller:**
- **Exhibit:** A-40
- **Project No.:** H1125068

---

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. SEE SMART LOG NO. W: 512694 PHASE 1: BORINGS GPZ TERRA2012 GDT 2/15/13

---

Brevard County, Florida
SITE: Central Florida National Cemetery Phase 1 Design
PROJECT: Central Florida National Cemetery Phase 1 Design

---

### Boring Log No. D-35

#### Location:
Brevard County, Florida

#### Graphic Log:
- **Depth (Ft.)**: Water Not Initially Observed To The Depth of 5.0'

#### Stratification Lines:
- **SAND WITH SILT (SP-SM)**, fine grained, gray brown
- **SILTY SAND (SM)**, fine grained, orange-brown to gray brown

**Boring Terminated at 5 Feet**

#### Water Level Observations:
- Depth (Ft.): 5
- **Water Initially Observed To The Depth of 5.0'**

#### Advancement Method:
- Abandonment Method:
  - Borings backfilled with soil cuttings upon completion.

#### Notes:
- See Exhibit A-5 for description of field procedures.
- See Appendix B for description of laboratory procedures and additional data (if any).
- See Appendix C for explanation of symbols and abbreviations.

#### Water Level Observations:
- **Water Not Initially Observed To The Depth of 5.0'**

---

**Terracron**

1675 Lee Road
Winter Park, Florida

**Drill Rig:**
- **Boring Started:** 1/24/2013
- **Boring Completed:** 1/24/2013
- **Driller:**
- **Exhibit:** A-40
- **Project No.:** H1125068
## Boring Log No. D-36

### Project: Central Florida National Cemetery Phase 1 Design

**Site:** Brevard County, Florida

### Graphical Log

<table>
<thead>
<tr>
<th>Depth (Ft)</th>
<th>Sample Type</th>
<th>Water Level Observations</th>
<th>Laboratory Testing</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.0</td>
<td></td>
<td>Water Not Initially Observed To The Depth of 5.0'</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Stratification lines are approximate. In-situ, the transition may be gradual.**

**Advancement Method:**

See Exhibit A-5 for description of field procedures.

**Abandonment Method:**

Borings backfilled with soil cuttings upon completion.

**Notes:**

See Appendix B for description of laboratory procedures and additional data (if any).

See Appendix C for explanation of symbols and abbreviations.

**Water Level Observations**

- Water Not Initially Observed To The Depth of 5.0'

**WATER LEVEL OBSERVATIONS**

- Boring Started: 1/24/2013
- Boring Completed: 1/24/2013
- Drill Rig: 1675 Lee Road
- Driller: Winter Park, Florida
- Project No.: H1125068
- Exhibit: A-41
SUPPORTING INFORMATION

Contents:

General Notes
Unified Soil Classification System
## General Notes

### Description of Symbols and Abbreviations

<table>
<thead>
<tr>
<th>Sampling</th>
<th>Water Level</th>
<th>Field Tests</th>
</tr>
</thead>
<tbody>
<tr>
<td>Auger Cuttings</td>
<td>Water Initially Encountered</td>
<td>(HP) Hand Penetrometer</td>
</tr>
<tr>
<td>Rock Core</td>
<td>Water Level After a Specified Period of Time</td>
<td></td>
</tr>
<tr>
<td>Grab Sample</td>
<td>Water Level After a Specified Period of Time</td>
<td></td>
</tr>
<tr>
<td>No Recovery</td>
<td></td>
<td>(T) Torvane</td>
</tr>
<tr>
<td>Shelby Tube</td>
<td></td>
<td>(DCP) Dynamic Cone Penetrometer</td>
</tr>
<tr>
<td>Standard Penetration Test</td>
<td></td>
<td>(PID) Photo-Ionization Detector</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(OVA) Organic Vapor Analyzer</td>
</tr>
</tbody>
</table>

### Water Levels

Water levels indicated on the soil boring logs are the levels measured in the borehole at the times indicated. Groundwater level variations will occur over time. In low permeability soils, accurate determination of groundwater levels is not possible with short term water level observations.

### Descriptive Soil Classification

Soil classification is based on the Unified Soil Classification System. Coarse Grained Soils have more than 50% of their dry weight retained on a #200 sieve; their principal descriptors are: boulders, cobbles, gravel or sand. Fine Grained Soils have less than 50% of their dry weight retained on a #200 sieve; they are principally described as clays if they are plastic, and silts if they are slightly plastic or non-plastic. Major constituents may be added as modifiers and minor constituents may be added according to the relative proportions based on grain size. In addition to gradation, coarse-grained soils are defined on the basis of their in-place relative density and fine-grained soils on the basis of their consistency.

### Location and Elevation Notes

Unless otherwise noted, Latitude and Longitude are approximately determined using a hand-held GPS device. The accuracy of such devices is variable. Surface elevation data annotated with +/- indicates that no actual topographical survey was conducted to confirm the surface elevation. Instead, the surface elevation was approximately determined from topographic maps of the area.

### Field Tests

<table>
<thead>
<tr>
<th>Test</th>
<th>Symbol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hand Penetrometer</td>
<td>(HP)</td>
</tr>
<tr>
<td>Torvane</td>
<td>(T)</td>
</tr>
<tr>
<td>Dynamic Cone Penetrometer</td>
<td>(DCP)</td>
</tr>
<tr>
<td>Photo-Ionization Detector</td>
<td>(PID)</td>
</tr>
<tr>
<td>Organic Vapor Analyzer</td>
<td>(OVA)</td>
</tr>
</tbody>
</table>

### Strength Terms

#### Relative Density of Coarse-Grained Soils

<table>
<thead>
<tr>
<th>Descriptive Term (Density)</th>
<th>Automatic Hammer SPT N-Value (Blows/Ft.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very Loose</td>
<td>&lt; 3</td>
</tr>
<tr>
<td>Loose</td>
<td>3 - 8</td>
</tr>
<tr>
<td>Medium Dense</td>
<td>8 - 24</td>
</tr>
<tr>
<td>Dense</td>
<td>24 - 40</td>
</tr>
<tr>
<td>Very Dense</td>
<td>&gt; 40</td>
</tr>
</tbody>
</table>

#### Consistency of Fine-Grained Soils

<table>
<thead>
<tr>
<th>Descriptive Term (Consistency)</th>
<th>Unconfined Compressive Strength Qu. (psf)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very Soft</td>
<td>less than 500</td>
</tr>
<tr>
<td>Soft</td>
<td>500 to 1,000</td>
</tr>
<tr>
<td>Medium Stiff</td>
<td>1,000 to 2,000</td>
</tr>
<tr>
<td>Stiff</td>
<td>2,000 to 4,000</td>
</tr>
<tr>
<td>Very Stiff</td>
<td>4,000 to 8,000</td>
</tr>
<tr>
<td>Hard</td>
<td>&gt; 8,000</td>
</tr>
</tbody>
</table>

### Grains Size Terminology

<table>
<thead>
<tr>
<th>Major Component of Sample</th>
<th>Particle Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boulders</td>
<td>Over 12 in. (300 mm)</td>
</tr>
<tr>
<td>Cobbles</td>
<td>12 in. to 3 in. (300mm to 75mm)</td>
</tr>
<tr>
<td>Gravel</td>
<td>3 in. to #4 sieve (75mm to 4.75 mm)</td>
</tr>
<tr>
<td>Sand</td>
<td>#4 to #200 sieve (4.75mm to 0.075mm)</td>
</tr>
<tr>
<td>Silt or Clay</td>
<td>Passing #200 sieve (0.075mm)</td>
</tr>
</tbody>
</table>

### Plasticity Description

<table>
<thead>
<tr>
<th>Term</th>
<th>Plasticity Index</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-plastic</td>
<td>0</td>
</tr>
<tr>
<td>Low</td>
<td>1 - 10</td>
</tr>
<tr>
<td>Medium</td>
<td>11 - 30</td>
</tr>
<tr>
<td>High</td>
<td>&gt; 30</td>
</tr>
</tbody>
</table>

### Descriptive Soil Classification

#### Relative Proportions of Sand and Gravel

<table>
<thead>
<tr>
<th>Descriptive Term(s)</th>
<th>Percent of Dry Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trace</td>
<td>&lt; 15</td>
</tr>
<tr>
<td>With</td>
<td>15 - 29</td>
</tr>
<tr>
<td>Modifier</td>
<td>&gt; 30</td>
</tr>
</tbody>
</table>

#### Relative Proportions of Fines

<table>
<thead>
<tr>
<th>Descriptive Term(s)</th>
<th>Percent of Dry Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trace</td>
<td>&lt; 5</td>
</tr>
<tr>
<td>With</td>
<td>5 - 12</td>
</tr>
<tr>
<td>Modifier</td>
<td>&gt; 12</td>
</tr>
</tbody>
</table>
# Unified Soil Classification System

## Criteria for Assigning Group Symbols and Group Names Using Laboratory Tests

<table>
<thead>
<tr>
<th>Gravel Classification</th>
<th>Group Symbol</th>
<th>Group Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clean Gravels: More than 5% fines</td>
<td>Cu ≥ 4 and 1 ≤ Cc ≤ 3</td>
<td>GW</td>
</tr>
<tr>
<td>Gravels with Fines: More than 12% fines</td>
<td>Cu &lt; 4 and/or [Cc&lt;1 or Cc&gt;3]</td>
<td>GP</td>
</tr>
<tr>
<td>Gravels with 5 to 12% fines</td>
<td>Fines classify as ML or MH</td>
<td>GM</td>
</tr>
<tr>
<td>Fines classify as CL or CH</td>
<td>GC</td>
<td>Clayey gravel</td>
</tr>
<tr>
<td>Sands: 50% or more of coarse fraction passes No. 4 sieve</td>
<td>Cu ≥ 6 and 1 ≤ Cc ≤ 3</td>
<td>SW</td>
</tr>
<tr>
<td>Cu &lt; 6 and/or [Cc&lt;1 or Cc&gt;3]</td>
<td>SP</td>
<td>Poorly graded sand</td>
</tr>
<tr>
<td>Sands with Fines: More than 12% fines</td>
<td>Fines classify as ML or MH</td>
<td>SM</td>
</tr>
<tr>
<td>Fines classify as CL or CH</td>
<td>SC</td>
<td>Clayey sand</td>
</tr>
<tr>
<td>Silts and Clays: Liquid limit 50 or more</td>
<td>PI plots on or above “A” line</td>
<td>PI &gt; 7 and plots on or above “A” line</td>
</tr>
<tr>
<td>Inorganic:</td>
<td>PI ≤ 4 or plots below “A” line</td>
<td>PI ≤ 4 or plots below “A” line</td>
</tr>
<tr>
<td>Organic:</td>
<td>Liquid limit - oven dried</td>
<td>Liquid limit - not dried</td>
</tr>
<tr>
<td>Inorganic:</td>
<td>PI plots on or above “A” line</td>
<td>PI plots on or above “A” line</td>
</tr>
<tr>
<td>Organic:</td>
<td>Liquid limit - oven dried</td>
<td>Liquid limit - not dried</td>
</tr>
<tr>
<td>Organic:</td>
<td>Liquid limit - oven dried</td>
<td>Liquid limit - not dried</td>
</tr>
</tbody>
</table>

- **Highly organic soils**: Primarily organic matter, dark in color, and organic odor

### Equations

\[ Cu = \frac{D_{60}}{D_{10}} \]

\[ Cc = \frac{(D_{30})^2}{D_{10} \times D_{60}} \]

**Notes**:

- 1 If fines are organic, add “with organic fines” to group name.
- 2 If soil contains ≥ 15% gravel, add “with gravel” to group name.
- 3 If Atterberg limits plot in shaded area, soil is a CL-ML, silty clay.
- 4 If soil contains 15 to 29% plus No. 200, add “with sand” or “with gravel,” whichever is predominant.
- 5 If soil contains ≥ 30% plus No. 200 predominantly sand, add “sandy” to group name.
- 6 If soil contains ≥ 30% plus No. 200 predominantly gravel, add “gravelly” to group name.
- 7 If fines classify as CL-ML, use dual symbol GC-GM, or SC-SM.
- 8 PI ≥ 4 and plots on or above “A” line.
- 9 PI < 4 or plots below “A” line.
- 10 PI plots on or above “A” line.
- 11 PI plots below “A” line.

---

**Diagram**

For classification of fine-grained soils and fine-grained fraction of coarse-grained soils:

- Equation of “A” line: Horizontal at PL=4 to LL=25.5, then PL=0.73 (LL-20)
- Equation of “U” line: Vertical at LL=16 to PL=7, then PL=0.9 (LL-8)
Attachment 5

FWS IPAC Documentation
In Reply Refer To: Consultation Code: 04EF1000-2020-SLI-0094
Event Code: 04EF1000-2020-E-00175
Project Name: CCNC Phase II

October 21, 2019

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 et seq.).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 et seq.), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.
A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2) (c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 et seq.), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
- Migratory Birds
Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

North Florida Ecological Services Field Office
7915 Baymeadows Way, Suite 200
Jacksonville, FL 32256-7517
(904) 731-3336
Project Summary

Consultation Code: 04EF1000-2020-SLI-0094

Event Code: 04EF1000-2020-E-00175

Project Name: CCNC Phase II

Project Type: DEVELOPMENT

Project Description: Brevard County

Project Location:
Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/28.75925208733736N80.86418987635776W

Counties: Brevard, FL
Endangered Species Act Species

There is a total of 19 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

<table>
<thead>
<tr>
<th>NAME</th>
<th>STATUS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Southeastern Beach Mouse <em>Peromyscus polionotus niveiventris</em></td>
<td>Threatened</td>
</tr>
<tr>
<td>No critical habitat has been designated for this species.</td>
<td></td>
</tr>
<tr>
<td>Species profile: <a href="https://ecos.fws.gov/ecp/species/3951">https://ecos.fws.gov/ecp/species/3951</a></td>
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</tbody>
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<thead>
<tr>
<th>NAME</th>
<th>STATUS</th>
</tr>
</thead>
<tbody>
<tr>
<td>West Indian Manatee <em>Trichechus manatus</em></td>
<td>Threatened</td>
</tr>
<tr>
<td>There is final critical habitat for this species. Your location is outside the critical habitat.</td>
<td></td>
</tr>
<tr>
<td><em>This species is also protected by the Marine Mammal Protection Act, and may have additional consultation requirements.</em></td>
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</tr>
<tr>
<td>Species profile: <a href="https://ecos.fws.gov/ecp/species/4469">https://ecos.fws.gov/ecp/species/4469</a></td>
<td></td>
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</tbody>
</table>
## Birds

<table>
<thead>
<tr>
<th>NAME</th>
<th>STATUS</th>
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</table>
| **Audubon's Crested Caracara** *Polyborus plancus audubonii*  
  Population: FL pop.  
  No critical habitat has been designated for this species.  
  Species profile: [https://ecos.fws.gov/ecp/species/8250](https://ecos.fws.gov/ecp/species/8250) | Threatened |
| **Eastern Black Rail** *Laterallus jamaicensis ssp. jamaicensis*  
  No critical habitat has been designated for this species.  
  Species profile: [https://ecos.fws.gov/ecp/species/10477](https://ecos.fws.gov/ecp/species/10477) | Proposed/Threatened |
| **Everglade Snail Kite** *Rostrhamus sociabilis plumbeus*  
  There is final critical habitat for this species. Your location is outside the critical habitat.  
  Species profile: [https://ecos.fws.gov/ecp/species/7713](https://ecos.fws.gov/ecp/species/7713) | Endangered |
| **Florida Scrub-jay** *Aphelocoma coerulescens*  
  No critical habitat has been designated for this species.  
  Species profile: [https://ecos.fws.gov/ecp/species/6174](https://ecos.fws.gov/ecp/species/6174) | Threatened |
| **Piping Plover** *Charadrius melodus*  
  Population: [Atlantic Coast and Northern Great Plains populations] - Wherever found, except those areas where listed as endangered.  
  There is final critical habitat for this species. Your location is outside the critical habitat.  
  Species profile: [https://ecos.fws.gov/ecp/species/6039](https://ecos.fws.gov/ecp/species/6039) | Threatened |
| **Red Knot** *Calidris canutus rufa*  
  No critical habitat has been designated for this species.  
  Species profile: [https://ecos.fws.gov/ecp/species/1864](https://ecos.fws.gov/ecp/species/1864) | Threatened |
| **Red-cockaded Woodpecker** *Picoides borealis*  
  No critical habitat has been designated for this species.  
  Species profile: [https://ecos.fws.gov/ecp/species/7614](https://ecos.fws.gov/ecp/species/7614) | Endangered |
| **Wood Stork** *Mycteria americana*  
  Population: AL, FL, GA, MS, NC, SC  
  No critical habitat has been designated for this species.  
  Species profile: [https://ecos.fws.gov/ecp/species/8477](https://ecos.fws.gov/ecp/species/8477) | Threatened |
Reptiles

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<tr>
<th>NAME</th>
<th>STATUS</th>
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<tbody>
<tr>
<td>Atlantic Salt Marsh Snake <em>Nerodia clarkii taeniata</em></td>
<td>Threatened</td>
</tr>
<tr>
<td>No critical habitat has been designated for this species.</td>
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<tr>
<td>Species profile: <a href="https://ecos.fws.gov/ecp/species/7729">https://ecos.fws.gov/ecp/species/7729</a></td>
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<tr>
<td>Eastern Indigo Snake <em>Drymarchon corais couperi</em></td>
<td>Threatened</td>
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<tr>
<td>No critical habitat has been designated for this species.</td>
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<tr>
<td>Species profile: <a href="https://ecos.fws.gov/ecp/species/646">https://ecos.fws.gov/ecp/species/646</a></td>
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<tr>
<td>Gopher Tortoise <em>Gopherus polyphemus</em></td>
<td>Candidate</td>
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<tr>
<td>Population: eastern</td>
<td></td>
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<tr>
<td>No critical habitat has been designated for this species.</td>
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<tr>
<td>Species profile: <a href="https://ecos.fws.gov/ecp/species/6994">https://ecos.fws.gov/ecp/species/6994</a></td>
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<tr>
<td>Green Sea Turtle <em>Chelonia mydas</em></td>
<td>Threatened</td>
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<tr>
<td>Population: North Atlantic DPS</td>
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<tr>
<td>There is final critical habitat for this species. Your location is outside the critical habitat.</td>
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<tr>
<td>Species profile: <a href="https://ecos.fws.gov/ecp/species/6199">https://ecos.fws.gov/ecp/species/6199</a></td>
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<tr>
<td>Hawksbill Sea Turtle <em>Eretmochelys imbricata</em></td>
<td>Endangered</td>
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<tr>
<td>There is final critical habitat for this species. Your location is outside the critical habitat.</td>
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<tr>
<td>Species profile: <a href="https://ecos.fws.gov/ecp/species/3656">https://ecos.fws.gov/ecp/species/3656</a></td>
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<tr>
<td>Leatherback Sea Turtle <em>Dermochelys coriacea</em></td>
<td>Endangered</td>
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<tr>
<td>There is final critical habitat for this species. Your location is outside the critical habitat.</td>
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<tr>
<td>Species profile: <a href="https://ecos.fws.gov/ecp/species/1493">https://ecos.fws.gov/ecp/species/1493</a></td>
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</tr>
<tr>
<td>Loggerhead Sea Turtle <em>Caretta caretta</em></td>
<td>Threatened</td>
</tr>
<tr>
<td>Population: Northwest Atlantic Ocean DPS</td>
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<tr>
<td>There is final critical habitat for this species. Your location is outside the critical habitat.</td>
<td></td>
</tr>
<tr>
<td>Species profile: <a href="https://ecos.fws.gov/ecp/species/1110">https://ecos.fws.gov/ecp/species/1110</a></td>
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</table>

Flowering Plants

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<thead>
<tr>
<th>NAME</th>
<th>STATUS</th>
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<tbody>
<tr>
<td>Carter's Mustard <em>Warea carteri</em></td>
<td>Endangered</td>
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<tr>
<td>No critical habitat has been designated for this species.</td>
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<tr>
<td>Species profile: <a href="https://ecos.fws.gov/ecp/species/5583">https://ecos.fws.gov/ecp/species/5583</a></td>
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<tr>
<td>Lewton's Polygala <em>Polygala lewtonii</em></td>
<td>Endangered</td>
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<tr>
<td>No critical habitat has been designated for this species.</td>
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</tr>
<tr>
<td>Species profile: <a href="https://ecos.fws.gov/ecp/species/6688">https://ecos.fws.gov/ecp/species/6688</a></td>
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</tbody>
</table>

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE’S JURISDICTION.
Migratory Birds

Certain birds are protected under the Migratory Bird Treaty Act\(^1\) and the Bald and Golden Eagle Protection Act\(^2\).

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

2. The [Bald and Golden Eagle Protection Act](https://www.cfr.gov/text/Title16Part668) of 1940.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

The birds listed below are birds of particular concern either because they occur on the [USFWS Birds of Conservation Concern](https://ecos.fws.gov/ecp/species/Birds) (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ [below](https://ecos.fws.gov/ecp/species/Birds). This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the [E-bird data mapping tool](https://ebird.org) (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found [below](https://ecos.fws.gov/ecp/species/Birds).

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

<table>
<thead>
<tr>
<th>NAME</th>
<th>BREEDING SEASON</th>
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</thead>
</table>
| **American Kestrel** *Falco sparverius paulus*  
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA | Breeds Apr 1 to Aug 31 |
| **American Oystercatcher** *Haematopus palliatus*  
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.  
[https://ecos.fws.gov/ecp/species/8935](https://ecos.fws.gov/ecp/species/8935) | Breeds Apr 15 to Aug 31 |
<table>
<thead>
<tr>
<th>NAME</th>
<th>BREEDING SEASON</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Bald Eagle <em>Haliaeetus leucocephalus</em></td>
<td>Breeds Sep 1 to Jul 31</td>
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<tr>
<td>This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.</td>
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<td><a href="https://ecos.fws.gov/ecp/species/1626">https://ecos.fws.gov/ecp/species/1626</a></td>
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<tr>
<td>Black Rail <em>Laterallus jamaicensis</em></td>
<td>Breeds Mar 1 to Sep 15</td>
<td></td>
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<tr>
<td>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</td>
<td></td>
<td><a href="https://ecos.fws.gov/ecp/species/7717">https://ecos.fws.gov/ecp/species/7717</a></td>
</tr>
<tr>
<td>Black Skimmer <em>Rynchops niger</em></td>
<td>Breeds May 20 to Sep 15</td>
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<tr>
<td>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</td>
<td></td>
<td><a href="https://ecos.fws.gov/ecp/species/5234">https://ecos.fws.gov/ecp/species/5234</a></td>
</tr>
<tr>
<td>Clapper Rail <em>Rallus crepitans</em></td>
<td>Breeds Apr 10 to Oct 31</td>
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<tr>
<td>This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA</td>
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<tr>
<td>Common Ground-dove <em>Columbina passerina exigua</em></td>
<td>Breeds Feb 1 to Dec 31</td>
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<tr>
<td>This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA</td>
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<tr>
<td>Dunlin <em>Calidris alpina arctica</em></td>
<td>Breeds elsewhere</td>
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<tr>
<td>This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA</td>
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<td></td>
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<tr>
<td>King Rail <em>Rallus elegans</em></td>
<td>Breeds May 1 to Sep 5</td>
<td></td>
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<tr>
<td>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</td>
<td></td>
<td><a href="https://ecos.fws.gov/ecp/species/8936">https://ecos.fws.gov/ecp/species/8936</a></td>
</tr>
<tr>
<td>Least Tern <em>Sternula antillarum</em></td>
<td>Breeds Apr 20 to Sep 10</td>
<td></td>
</tr>
<tr>
<td>This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA</td>
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<tr>
<td>Lesser Yellowlegs <em>Tringa flavipes</em></td>
<td>Breeds elsewhere</td>
<td></td>
</tr>
<tr>
<td>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</td>
<td></td>
<td><a href="https://ecos.fws.gov/ecp/species/9679">https://ecos.fws.gov/ecp/species/9679</a></td>
</tr>
<tr>
<td>Limpkin <em>Aramus guarauna</em></td>
<td>Breeds Jan 15 to Aug 31</td>
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<tr>
<td>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</td>
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</tr>
<tr>
<td>NAME</td>
<td>BREEDING SEASON</td>
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<td>------</td>
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</tr>
</tbody>
</table>
| Nelson's Sparrow *Ammodramus nelsoni*  
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. | Breeds elsewhere |
| Prairie Warbler *Dendroica discolor*  
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. | Breeds May 1 to Jul 31 |
| Reddish Egret *Egretta rufescens*  
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.  
https://ecos.fws.gov/ecp/species/7617 | Breeds Mar 1 to Sep 15 |
| Ruddy Turnstone *Arenaria interpres morinella*  
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA | Breeds elsewhere |
| Semipalmated Sandpiper *Calidris pusilla*  
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. | Breeds elsewhere |
| Short-billed Dowitcher *Limnodromus griseus*  
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.  
https://ecos.fws.gov/ecp/species/9480 | Breeds elsewhere |
| Short-tailed Hawk *Buteo brachyurus*  
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA  
https://ecos.fws.gov/ecp/species/8742 | Breeds Mar 1 to Jun 30 |
| Swallow-tailed Kite *Elanoides forficatus*  
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.  
https://ecos.fws.gov/ecp/species/8938 | Breeds Mar 10 to Jun 30 |
| Willet *Tringa semipalmata*  
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. | Breeds Apr 20 to Aug 5 |
| Wilson's Plover *Charadrius wilsonia*  
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. | Breeds Apr 1 to Aug 20 |
| Yellow Warbler *Dendroica petechia gundlachi*  
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA | Breeds May 20 to Aug 10 |
Probability Of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ “Proper Interpretation and Use of Your Migratory Bird Report” before using or attempting to interpret this report.

Probability of Presence (●)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.

2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.

3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

Breeding Season (●)

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (●)

Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

No Data (●)

A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.

<table>
<thead>
<tr>
<th>SPECIES</th>
<th>JAN</th>
<th>FEB</th>
<th>MAR</th>
<th>APR</th>
<th>MAY</th>
<th>JUN</th>
<th>JUL</th>
<th>AUG</th>
<th>SEP</th>
<th>OCT</th>
<th>NOV</th>
<th>DEC</th>
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<tbody>
<tr>
<td>American Kestrel</td>
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</tr>
<tr>
<td>American Oystercatcher</td>
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Additional information can be found using the following links:


**Migratory Birds FAQ**

**Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.**

[Nationwide Conservation Measures](http://www.fws.gov/management/managed-species/birds-of-conservation-concern.php) describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures and/or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

**What does IPaC use to generate the migratory birds potentially occurring in my specified location?**

The Migratory Bird Resource List is comprised of USFWS [Birds of Conservation Concern (BCC)](http://www.fws.gov/management/managed-species/birds-of-conservation-concern.php) and other species that may warrant special attention in your project location.
The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the AKN Phenology Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?
The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets.

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go to the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?
To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: The Cornell Lab of Ornithology All About Birds Bird Guide, or (if you are unsuccessful in locating the bird of interest there), the Cornell Lab of Ornithology Neotropical Birds guide. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?
Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).
Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

**Details about birds that are potentially affected by offshore projects**

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the [Northeast Ocean Data Portal](#). The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the [NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf](#) project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the [Diving Bird Study](#) and the [nanotag studies](#) or contact [Caleb Spiegel](#) or [Pam Loring](#).

**What if I have eagles on my list?**

If your project has the potential to disturb or kill eagles, you may need to [obtain a permit](#) to avoid violating the Eagle Act should such impacts occur.

**Proper Interpretation and Use of Your Migratory Bird Report**

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ “What does IPaC use to generate the migratory birds potentially occurring in my specified location”. Please be aware this report provides the “probability of presence” of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the “no data” indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ “Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds” at the bottom of your migratory bird trust resources page.
Attachment 6

Gopher Tortoise Relocation Permit
Permittee Name: Department of Veterans Affairs
Permit Number: GTC-14-00171B

Permittee Address: 425 I (eye) Street, NW, Room 6W417a
WASHINGTON, DISTRICT OF COLUMBIA 20001 UNITED STATES

Agent Name: Kelley Peterman
Agent Address: 732 Riverbend Blvd
LONGWOOD, FLORIDA 32779 UNITED STATES

Effective Date: March 27, 2015
Expiration Date: September 24, 2015

IS AUTHORIZED TO:
Capture using bucket traps, hand shovel and backhoe excavation of tortoise burrows, remove and relocate all gopher tortoise (*Gopherus polyphemus*) hatchlings less than or equal to 60 mm carapace length (CL), and up to 60 (an additional 14) gopher tortoises greater than 60 mm CL by non-harmful means and to molest, damage or destroy gopher tortoise burrows while conducting these activities, subject to the following conditions and provisions, in association with development activities at the following site.

AUTHORIZED LOCATION(S): 112.5-acre Cape Canaveral National Cemetery site (T20S,R34E,S37; with Latitude 28° 45' 28.94'N and Longitude 80° 51' 58.59'W), Scottsmoor, Brevard County, relocated to and released at the 2,210.30-acre Brahma Island recipient site (T30S,R31E,S7,8,17-20; with Latitude 27° 52' 0'N and Longitude 81° 15' 0'W), in Osceola County, that is authorized to receive gopher tortoises under permit number GTLR-09-00006A.

Permittee Signature: ___________________________ Date: ___________________________
Not valid unless signed. By signature, confirms that all information provided to issue the permit is accurate and complete, and indicates acceptance and understanding of the provisions and conditions listed below. Any false statements or misrepresentations when applying for this permit may result in felony charges and will result in revocation of this permit.

Authorized By: Richard McCann  Authorized for: Nick Wiley, Executive Director

Authorizing Signature: ___________________________ Date: 03/27/2015
Species Conservation Planning Section
AUTHORIZED LOCATION(S) (CONTINUED)

This permit is an amendment of permit GTC-14-00171A, which expires on September 24, 2015, and supercedes all previous versions. All amended conditions and provisions of the previous permit (changed or new) are indicated in bold text.

PERMIT CONDITIONS AND PROVISIONS:

1  Authorization to conduct the specified activities in association with the relocation of gopher tortoises in Florida is subject to Rules 68A-9.002 and 68A-27 Florida Administrative Code (F.A.C.), and the Florida Fish and Wildlife Conservation Commission's (hereafter, "FWC") Gopher Tortoise Permitting Guidelines - April 2008 (revised February 2015), and the following provisions/conditions.

2  Tortoises may be captured and relocated only on the first day of a three-day period during which the low temperature during the entire three-day period is forecasted by the U.S. National Weather Service to be above 50° F. This three-day window of milder temperatures is necessary to allow the relocated tortoises to settle into the receiving area on the site. The Permittee shall cover all traps on days forecasted to not have a low temperature above 50° F. Authorizing the capture/relocation is otherwise predicated and conditioned on the information and assurances provided in the permittee's 08/18/2014 application (supplemented on 08/28/2014, 09/10/2014, and 09/19/2014); and the 03/09/2015 (supplemented on 03/13/2015) and 03/26/2015 amendment requests, the assurances of which are herein incorporated by reference.

3  Captured gopher tortoises that show signs of disease (i.e., nasal and ocular discharge, emaciation, etc.) should not be relocated off-site. At the Permittee's discretion, symptomatic tortoises may be: relocated on-site; transported to and quarantined at a FWC-licensed wildlife rehabilitation center (list available upon request) or licensed veterinary facility and observed for recovery and subsequent relocation along with others from the population; transported and donated to a FWC-permitted disease research program; or humanely euthanized by a licensed veterinarian when disease is advanced.

4  Gopher tortoises may be released into an enclosure constructed within a portion of a recipient site. The stocking rate within the enclosure may be up to 1.5 times the gopher tortoise density that is approved by the FWC for that entire recipient site parcel. However, the maximum number of tortoises approved by the FWC for release into the entire recipient site parcel shall not be exceeded.

5  This permit does not authorize Permittee access to any public or private properties. Any required permission must be secured from the appropriate landholders prior to undertaking any work on such properties.

6  Captures/relocations may be conducted only if written local government approvals have been obtained for land clearing or grading, or construction activities and provided to the Gopher Tortoise Permit Coordinator prior to commencing relocation activities. This permit is subject to revocation at any time pursuant to Chapter 120, Florida Statutes. It is non-transferable and must be readily available for inspection at all times while engaging in the permitted activities.

7  The activities authorized under this Permit must be carried out by the Authorized Gopher Tortoise Agent ("Authorized Agent") designated on this permit, or under the direct supervision and responsibility of that Authorized Agent. The Permittee and Authorized Agent shall be as fully responsible for any such activities to the same extent as if they had themselves carried out those activities under this Permit.

8  A gopher tortoise burrow survey covering 100% of the gopher tortoise habitat within the donor site must be conducted by the Authorized Agent and a burrow location map depicting the survey results shall be submitted to the FWC no more than 90 days and no fewer than 72 hours (excluding weekends and holidays) prior to commencing any gopher tortoise capture and relocation activities. Site preparation or development activities that disturb the vegetation or the ground which prevent the FWC from checking the accuracy of 100% gopher tortoise burrow surveys shall not be conducted until at least 72 hours (excluding weekends and holidays) after the 100% burrow survey results and burrow location map have been received by FWC.
The Permittee shall notify the Gopher Tortoise Permit Coordinator by fax at (850)921-1847, by phone at (850)921-1031, or by email at GTpermits@MyFWC.com at least 24 hours (excluding weekends and holidays) before initiating the tortoise relocation effort.

Either this original permit, or a complete copy, must be clearly posted at the affected site at all times while engaged in the permitted tortoises relocation activities.

Any gopher tortoise mortality or injury that occurs while conducting activities authorized under this permit shall be reported to the Gopher Tortoise Permit Coordinator (phone number 850-921-1031) within 48 hours of the occurrence. An injured gopher tortoise shall be promptly taken to either a licensed wildlife rehabilitation facility or a licensed veterinarian for evaluation and treatment. Contact information for the facility or veterinarian shall be included with the information reported.

The Permittee, by signing this permit, specifically agrees to allow authorized FWC personnel, upon presentation of credentials as may be required by law, access to the donor and recipient sites, at reasonable times, for the purpose of inspecting the capture/relocation activities authorized under this permit.

The Permittee shall submit a report detailing the capture/relocation to the Species Conservation Planning Section (SCPS) using the FWC's on-line gopher tortoise permitting system, or by mail delivery service to the Gopher Tortoise Permit Coordinator at the address listed on this permit's letterhead, with a copy provided to the recipient site landowner(s), within 30 days of release of the captured/relocated tortoises involved. A report form is attached for use in that regard. Any request for permit renewal or extension should be submitted at least 45 days prior to the expiration date of this permit.

Gopher tortoise commensals listed in Rule 68A-27 as either State-designated threatened species or species of special concern (this does not include the eastern indigo snake [Drymarchon couperi] and other Federally-designated Endangered and Threatened species) and encountered in the gopher tortoise capture operation should either be released on-site or allowed to escape unharmed, or be donated to an educational or research facility that possesses the appropriate FWC scientific collecting/educational use permit and is authorized to receive additional specimens of the captured species. Non-listed native commensals should either be allowed to escape unharmed or released on-site. Please refer to Appendix 9 of the Gopher Tortoise Permitting Guidelines (April 2008 – revised February 2015) for additional information on gopher tortoise commensals. If you have questions regarding the proper method of addressing gopher tortoise commensals encountered during capture operations, contact the Gopher Tortoise Permit Coordinator's office by calling 850-921-1031.

Non-native wildlife that are captured during gopher tortoise capture and relocation activities should either be humanely euthanized or placed with an individual, institution, or organization that is properly permitted to possess those species.

This permit does not authorize the take of Federally-designated Endangered and Threatened species. Only individuals who are in possession of a valid permit or authorization issued by the United States Fish and Wildlife Service (USFWS) to capture or possess an eastern indigo snake (Drymarchon couperi) or other Federally-designated Endangered and Threatened species may physically handle those species. If individuals without a USFWS permit or authorization encounter an eastern indigo snake during attempts to capture gopher tortoises or during subsequent land alteration or development activities within the property, all movement of heavy equipment and land alteration or development activities within the vicinity of the snake shall cease to allow the snake to vacate the area. No movement of heavy equipment, or land alteration or development activities within the vicinity of the snake shall resume until the snake has vacated the work area.

A person whose substantial interests are affected by FWC’s action may petition for an administrative proceeding (hearing) under sections 120.569 and 120.57 of the Florida Statutes. A person seeking a hearing on FWC’s action shall file a petition for hearing with the agency within 21 days of receipt of written notice of the decision. The petition must contain the information and otherwise comply with
section 120.569, Florida Statutes, and the uniform rules of the Florida Division of Administration, chapter 28-106, Florida Administrative Code. If the FWC receives a petition, FWC will notify the Permittee. Upon such notification, the Permittee shall cease all work authorized by this permit until the petition is resolved. The enclosed Explanation of Rights statement provides additional information as to the rights of parties whose substantial interests are or may be affected by this action.