Draft Environmental Assessment
Phase I Projects
Beaufort County Airport • Beaufort, South Carolina

TALBERT, BRIGHT & ELLINGTON
DRAFT ENVIRONMENTAL ASSESSMENT

Beaufort County
in cooperation with the
Federal Aviation Administration
and
South Carolina Aeronautics Commission

Phase I Projects
Beaufort, South Carolina

July 2016

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For the:

BEAUFORT COUNTY DEPARTMENT OF AIRPORTS

July 18, 2016
Date

Jonathan Rembold, Airports Director

This environmental document becomes a federal document when evaluated and signed by the responsible FAA official.

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Responsible FAA Official                Date
TABLE OF CONTENTS

1.0 PROPOSED ACTION ........................................................................................................... 1
  1.1 Proposed Action Overview ............................................................................................... 1
  1.2 Responsible Reviewing Agency ....................................................................................... 3
  1.3 Human and Natural Environment Impacts ...................................................................... 3
  1.4 Evaluated Impacts ............................................................................................................ 3
  1.5 Avoid and Minimize Impacts to the Human and Natural Environments ...................... 4

2.0 PURPOSE AND NEED FOR THE PROPOSED ACTION ............................................... 5
  2.1 Purpose and Need of the Proposed Action ..................................................................... 5
    2.1.1 Purpose of the Proposed Action .............................................................................. 5
    2.1.2 Need for the Proposed Action .............................................................................. 5
      2.1.2.1 Runway Safety Area Improvements ............................................................... 5
      2.1.2.2 Parallel Taxiway to Runway 25 ....................................................................... 7
      2.1.2.3 Expand Aircraft Parking Apron and Construct Two Helipads ....................... 7
      2.1.2.4 Fuel Farm Relocation ..................................................................................... 8
    2.2 Prior ARW Environmental Analyses ........................................................................... 8
    2.3 ARW Aircraft Operational Activity ............................................................................. 8

3.0 ALTERNATIVES ............................................................................................................... 10
  3.1 Alternatives Analysis ..................................................................................................... 10
  3.2 Reasonable Development Alternatives .......................................................................... 10
    3.2.1 No-Action Alternative ............................................................................................ 10
    3.2.2 Runway 07/25 RSA Improvements ........................................................................ 10
      3.2.2.1 Displacing Runway 07/25 Landing Thresholds ................................................ 11
      3.2.2.2 Extending RSA into the Warsaw Flats of St. Helena Sound ........................ 11
      3.2.2.3 RSA Improvements Proposed Action ............................................................ 12
    3.2.3 Parallel Taxiway to Runway 25 ................................................................................ 12
    3.2.4 Expand Aircraft Parking Apron and Construct Two Helipads ............................. 12
    3.2.5 Fuel Farm Relocation ............................................................................................. 13
    3.3 Reasonable Alternatives for the Proposed Action ...................................................... 13

4.0 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES .......... 15
  4.1 Air Quality ..................................................................................................................... 15
    4.1.1 Definition .............................................................................................................. 15
    4.1.2 Conformity Requirements .................................................................................... 17
    4.1.3 Existing Conditions ............................................................................................... 18
    4.1.5 Potential Air Quality Impacts ............................................................................... 18
    4.1.6 Potential Air Quality Construction Impacts ........................................................ 18
  4.2 Biological Resources ...................................................................................................... 19
    4.2.1 Definition .............................................................................................................. 19
    4.2.2 Biotic Communities ............................................................................................... 19
4.2.2.1 Pavement, Buildings and Mowed/Maintained Areas .................................................19
4.2.2.2 High Marsh ..............................................................................................................19
4.2.2.3 Wooded Critical Area ..............................................................................................21
4.2.2.3 Freshwater Wetlands ...............................................................................................21
4.2.3 Threatened and Endangered Species ........................................................................21
4.2.3.1 Plants ........................................................................................................................22
4.2.3.2 Birds ..........................................................................................................................22
4.2.3.2.1 Bald Eagle (Haliaetus leucocephalus) .................................................................22
4.2.3.2.2 Black Rail (Laterallus jamaicensis) ........................................................................24
4.2.3.2.3 MacGillvray's Seaside Sparrow (Ammodramus maritimus macgillvraii) .............24
4.2.3.2.4 Rufus Red Knot (Calidris canutus rufa) ..............................................................25
4.2.3.2.5 Wood Stork (Mycteria americana) ........................................................................25
4.2.3.3 Amphibians and Reptiles .........................................................................................26
4.2.3.3.1 Eastern Diamondback Rattlesnake (Crotalus adamanteus) .....................................26
4.2.3.3.2 Southern Hognose Snake (Heterodon simus) ......................................................27
4.2.3.4 Mammals .................................................................................................................27
4.2.3.4.1 West Indian Manatee .........................................................................................27
4.2.3.5 Summary ..................................................................................................................27
4.2.4 Migratory Birds ..........................................................................................................28
4.2.5 Invasive Species ..........................................................................................................31
4.2.6 Critical Habitat ...........................................................................................................31
4.2.7 Essential Fish Habitat Analysis ..................................................................................31
4.7.7.1 Habitat Classifications ...........................................................................................32
4.7.7.1.1 Salt Marshes .......................................................................................................32
4.7.7.1.2 Salt Flat ................................................................................................................32
4.7.7.1.3 Salt-Shrub Thicket ..............................................................................................32
4.7.7.2 Assessment ..............................................................................................................33
4.7.7.3 Mitigation .................................................................................................................33
4.7.7.4 Conclusion ...............................................................................................................33
4.3 Climate ...........................................................................................................................33
4.3.1 Definition ....................................................................................................................33
4.3.2 Greenhouse Gases and Climate Change ....................................................................34
4.3.3 Potential Greenhouse Gases Impact ..........................................................................35
4.4 Coastal Resources .........................................................................................................35
4.4.1 Definition ....................................................................................................................35
4.4.2 Coastal Zone Management Act ...................................................................................35
4.4.3 Coastal Barrier Resource Act ......................................................................................38
4.4.4 Potential Coastal Resources Impacts .........................................................................38
4.4.4.1 South Carolina Heritage Trust Program Preserves .................................................38
4.4.4.2 State Wildlife Preserves .........................................................................................40
4.4.4.3 State Parks ................................................................................................................40
4.4.4.4 Scenic Rivers ............................................................................................................40
4.4.4.5 Marine and Estuarine Sanctuaries .........................................................................40
<table>
<thead>
<tr>
<th>Section</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.2.5</td>
<td>South Carolina Coastal Zone Consistency Determination</td>
<td>42</td>
</tr>
<tr>
<td>4.5</td>
<td>Department of Transportation Act: Section 4(f)</td>
<td>42</td>
</tr>
<tr>
<td>4.5.1</td>
<td>Definition</td>
<td>42</td>
</tr>
<tr>
<td>4.5.2</td>
<td>Existing Conditions</td>
<td>43</td>
</tr>
<tr>
<td>4.5.3</td>
<td>Potential Section 4(f) Impacts</td>
<td>43</td>
</tr>
<tr>
<td>4.6</td>
<td>Farmlands</td>
<td>43</td>
</tr>
<tr>
<td>4.6.1</td>
<td>Definition</td>
<td>43</td>
</tr>
<tr>
<td>4.6.2</td>
<td>Existing Conditions</td>
<td>44</td>
</tr>
<tr>
<td>4.6.3</td>
<td>Potential Farmland Impacts</td>
<td>45</td>
</tr>
<tr>
<td>4.7</td>
<td>Hazardous Materials, Solid Waste, and Pollution Prevention</td>
<td>45</td>
</tr>
<tr>
<td>4.7.1</td>
<td>Hazardous Materials</td>
<td>45</td>
</tr>
<tr>
<td>4.7.1.1</td>
<td>Definition</td>
<td>45</td>
</tr>
<tr>
<td>4.7.1.2</td>
<td>Potential Hazardous Materials Impacts</td>
<td>46</td>
</tr>
<tr>
<td>4.7.1.2.1</td>
<td>On-Site Findings</td>
<td>46</td>
</tr>
<tr>
<td>4.7.1.2.2</td>
<td>Off-Site Findings</td>
<td>46</td>
</tr>
<tr>
<td>4.7.1.2.3</td>
<td>Summary</td>
<td>48</td>
</tr>
<tr>
<td>4.7.2</td>
<td>Solid Waste</td>
<td>48</td>
</tr>
<tr>
<td>4.7.2.1</td>
<td>Existing Conditions</td>
<td>48</td>
</tr>
<tr>
<td>4.7.2.2</td>
<td>Potential Solid Waste Impacts</td>
<td>48</td>
</tr>
<tr>
<td>4.7.3</td>
<td>Pollution Prevention</td>
<td>48</td>
</tr>
<tr>
<td>4.7.3.1</td>
<td>Definition</td>
<td>48</td>
</tr>
<tr>
<td>4.7.3.2</td>
<td>Existing Conditions</td>
<td>49</td>
</tr>
<tr>
<td>4.7.3.3</td>
<td>Potential Pollution Prevention Impacts</td>
<td>49</td>
</tr>
<tr>
<td>4.8</td>
<td>Historic, Architectural, Archaeological, and Cultural Resources</td>
<td>50</td>
</tr>
<tr>
<td>4.8.1</td>
<td>Definition</td>
<td>50</td>
</tr>
<tr>
<td>4.8.2</td>
<td>Cultural Resources Investigation</td>
<td>50</td>
</tr>
<tr>
<td>4.8.2.1</td>
<td>Previously Recorded Archaeological Sites</td>
<td>50</td>
</tr>
<tr>
<td>4.8.2.2</td>
<td>Previously Recorded Historic Resources</td>
<td>53</td>
</tr>
<tr>
<td>4.8.2.3</td>
<td>Results of Field Investigations</td>
<td>53</td>
</tr>
<tr>
<td>4.8.2.3.1</td>
<td>38BU150 Revisit</td>
<td>54</td>
</tr>
<tr>
<td>4.8.2.4</td>
<td>Summary and Recommendations</td>
<td>57</td>
</tr>
<tr>
<td>4.9</td>
<td>Land Use</td>
<td>58</td>
</tr>
<tr>
<td>4.9.1</td>
<td>Definition</td>
<td>58</td>
</tr>
<tr>
<td>4.9.2</td>
<td>Location</td>
<td>58</td>
</tr>
<tr>
<td>4.9.3</td>
<td>Existing Land Use and Zoning</td>
<td>58</td>
</tr>
<tr>
<td>4.9.4</td>
<td>Airport Overlay District</td>
<td>61</td>
</tr>
</tbody>
</table>
# Table of Contents

4.9.5 Comprehensive Plan Land Use.......................................................................................... 61
4.9.6 Potential Compatible Land Use Impacts........................................................................ 63
4.9.7 Future Land Use Changes ............................................................................................. 63
4.9.8 Beaufort County and City of Beaufort Land Use Consistency Determination ............ 63
4.10 Natural Resources and Energy Supply............................................................................ 63
4.10.1 Definition..................................................................................................................... 63
4.10.2 No-Action Alternative on Natural Resources and Energy Supply........................... 63
4.10.3 Proposed Action on Natural Resources and Energy Supply........................................ 63
4.11 Noise and Noise-Compatible Land Use.......................................................................... 64
4.11.1 Definition..................................................................................................................... 64
4.11.2 Noise Contour Mapping.............................................................................................. 64
4.11.3 Operational Activity.................................................................................................... 64
  4.11.3.1 Aircraft Operations.................................................................................................. 64
  4.11.3.2 Aircraft Operations Mix......................................................................................... 66
  4.11.3.3 Runway Utilization and Traffic Patterns.............................................................. 66
  4.11.3.4 Approach and Departure Profiles.......................................................................... 67
  4.11.3.5 Flight Tracks.......................................................................................................... 67
4.11.4 Noise Exposure Impacts............................................................................................. 67
4.11.5 Potential Compatible Land Use Impacts....................................................................... 67
4.11.6 Potential Construction Noise Impacts........................................................................ 70
4.12 Socioeconomic Impacts, Environmental Justice, and Children’s Environmental
  Health and Safety Risks........................................................................................................ 70
  4.12.1 Socioeconomic Impacts.............................................................................................. 70
    4.12.1.1 Socioeconomic Environment............................................................................. 70
    4.12.1.2 Potential Socioeconomic Impacts...................................................................... 71
    4.12.1.3 Secondary (Induced) Impacts............................................................................ 71
  4.12.2 Environmental Justice.............................................................................................. 74
    4.12.2.1 Definition............................................................................................................ 74
    4.12.2.2 Minority Populations........................................................................................... 75
    4.12.2.3 Low-Income Populations.................................................................................... 75
    4.12.2.4 No-Action Alternative Potential Impacts........................................................... 77
    4.12.2.5 Proposed Action Potential Impacts................................................................. 77
  4.12.3 Children’s Environmental Health and Safety Risks................................................... 78
    4.12.3.1 Definition............................................................................................................ 78
    4.12.3.2 No-Action Alternative (Existing 4,300-Foot Runway) ...................................... 78
    4.12.3.3 Proposed Action............................................................................................... 78
4.13 Visual Effects.................................................................................................................... 78
  4.13.1 Light Emissions.......................................................................................................... 78
    4.13.1.1 Existing Conditions............................................................................................ 78
    4.13.1.2 Potential Light Emissions Impacts.................................................................... 79
  4.13.2 Visual Impacts............................................................................................................. 79
    4.13.2.1 Existing Conditions............................................................................................ 79
    4.13.2.2 Potential Visual Impacts..................................................................................... 79
4.14 Water Resources............................................................................................................... 80
4.14.1 Wetlands ......................................................................................................................... 80
  4.14.1.1 Definition .................................................................................................................. 80
  4.14.1.2 Wetlands or Waters of the United States within the APE ........................................ 81
  4.14.1.3 Mitigation for Potential Wetlands or Waters of the United States Impacts ........... 81
  4.14.1.4 Pinckney Point Potential Mitigation Site ................................................................. 83
  4.14.1.5 Widgeon Point Potential Mitigation Site ................................................................. 84
  4.14.1.6 Lemon Island Potential Mitigation Site ................................................................. 84
  4.14.1.7 Burch Tract Potential Mitigation Site ................................................................. 84
  4.14.1.8 Burch Tract Conceptual Mitigation Plan ................................................................. 84
    4.14.1.8.1 Proposed Restoration ....................................................................................... 89
    4.14.1.8.2 Monitoring .................................................................................................... 91
    4.14.1.8.3 Success ......................................................................................................... 92
    4.14.1.8.4 Contingency ................................................................................................. 92
  4.14.2 Floodplains .................................................................................................................... 92
    4.14.2.1 Definition ............................................................................................................ 92
    4.14.2.2 Potential Floodplain Impacts ............................................................................. 94
  4.14.3 Surface Waters ............................................................................................................. 94
    4.14.3.1 Definition ............................................................................................................ 94
    4.14.3.2 Surface Water Resources .................................................................................... 94
  4.14.4 Groundwater ................................................................................................................ 96
    4.14.4.1 Floridan Aquifer ................................................................................................. 96
    4.14.4.2 Middendorf Aquifer .......................................................................................... 96
    4.14.4.3 Black Creek Aquifer ......................................................................................... 96
    4.14.4.4 Surficial Sands Aquifer .................................................................................... 96
    4.14.4.5 Potential Groundwater Resource Impacts ....................................................... 96
  4.14.5 Wild and Scenic Rivers ............................................................................................... 96
    4.14.5.1 Definition ............................................................................................................ 96
    4.14.5.2 Designated Federal Wild and Scenic Rivers in South Carolina ......................... 97
    4.14.5.3 Designated State Scenic Rivers in South Carolina ........................................... 97
    4.14.5.4 Potential Wild and Scenic River Impacts .......................................................... 99
  4.14.6 Potential Short-Term Impacts to Water Quality ....................................................... 99
  4.14.7 Potential Long-Term Impacts to Water Quality ....................................................... 99
  4.14.8 Potential Water Quality Impacts due to Construction ............................................ 100
  4.15 Cumulative Impacts ..................................................................................................... 101
  4.16 Irreversible and Irretrievable Commitment of Resources ........................................ 101
  4.17 Regulatory Permits and Concurrence ......................................................................... 103
  4.18 Conclusions and Summary ......................................................................................... 104

5.0 COMMENTS AND COORDINATION ............................................................................. 106
  5.1 Interagency Coordination ......................................................................................... 106
  5.2 Public Hearing .......................................................................................................... 106
5.2.1 August 18, 2016, Public Hearing ......................................................................................... 107

6.0 PREPARERS ................................................................................................................ 108
   6.1 Federal Aviation Administration ......................................................................................... 108
   6.2 South Carolina Aeronautics Commission ........................................................................ 108
   6.3 Beaufort County Airport .................................................................................................... 108
   6.4 Talbert, Bright & Ellington, Inc. ....................................................................................... 108
   6.5 Ward Edwards, Inc. .......................................................................................................... 109
   6.6 S&ME, Inc. ....................................................................................................................... 109
   6.7 Brockington and Associates, Inc. ..................................................................................... 109
   6.8 Newkirk Environmental, Inc. .......................................................................................... 109

APPENDICES

Appendix A – Correspondence ................................................................................................. A-1
Appendix B – Fish, Wildlife, and Plants ................................................................................... B-1
   B.1 Biological Assessment ...................................................................................................... B-3
   B.1.1 Correspondence ........................................................................................................... B-3
   B.1.2 Report ......................................................................................................................... B-13
   B.2 Essential Fish Habitat Survey ........................................................................................ B-49
   B.2.1 Correspondence .......................................................................................................... B-49
   B.2.2 Report .......................................................................................................................... B-53
Appendix C – Hazardous Materials .......................................................................................... C-1
Appendix D – Historic, Architectural, Archaeological, and Cultural Resources ......................... D-1
   D.1 Correspondence ............................................................................................................. D-3
   D.2 Report ............................................................................................................................ D-9
Appendix E – Wetlands ............................................................................................................ E-1
   E.1 Wetlands ........................................................................................................................ E-3
   E.1.1 Correspondence .......................................................................................................... E-3
   E.1.2 Report ......................................................................................................................... E-7
   E.2 Mitigation ........................................................................................................................ E-33
   E.2.1 Correspondence .......................................................................................................... E-33
   E.2.2 Report ........................................................................................................................ E-39

TABLES

2.3-1 Aviation Forecast Summary ............................................................................................ 9
3.2.2.1-1 Runway 07/25 Displaced Threshold Declared Distances ........................................... 11
3.2.2.2-1 Runway 07/25 Declared Distances .......................................................................... 12
3.3-1 Proposed Action Analysis Matrix .................................................................................. 14
### Table of Contents

1. **Phase I Projects Environmental Assessment**

#### FIGURES

1.1-1 Proposed Action Overview ........................................................................................................ 2

2.1-1 Proposed Action APE .................................................................................................................. 6

4.2.2.1 Proposed Action APE Biotic Communities .............................................................................. 20

4.2.4-1 Atlantic Flyway ......................................................................................................................... 30

4.4.2-1 Coastal Zone Map .................................................................................................................... 36

4.4.3-1 Coastal Barrier Resources ......................................................................................................... 39

4.4.4.6-1 Shellfish Areas ......................................................................................................................... 41

4.7.1.2-1 ESA Findings ......................................................................................................................... 47

4.8.2-1 Previously Recorded Historic and Archaeological Sites ......................................................... 51

4.8.2.3.1-1 Site 38BU150 ......................................................................................................................... 55

4.9.3-1 Land Use ................................................................................................................................ 59

4.9.3-2 Zoning ..................................................................................................................................... 60

4.9.4-1 Airport Overlay District ............................................................................................................. 62

4.11.1-1 Levels of Common Sounds ..................................................................................................... 65

4.11.4-1 Existing Noise Contours ........................................................................................................... 68

4.12.2.2-1 Environmental Justice Analysis Area .................................................................................... 76

4.14.1.2-1 Potential Wetland Impacts .................................................................................................. 82

4.14.1.4.1-1 Pinckney Point Potential Mitigation Site .............................................................................. 85

4.14.1.4.2-1 Widgeon Point Potential Mitigation Site ............................................................................. 86

4.1.1-1 National Ambient Air Quality Standards .................................................................................. 16

4.2.3-1 Protected Flora an Fauna Summary ........................................................................................... 23

4.2.4-1 Migratory Birds Found in Open Habitat .................................................................................... 29

4.6.2-1 Proposed Action APE Soils ......................................................................................................... 45

4.7.1.2.2-1 Off-Site Findings of Environmental Concern ........................................................................ 46

4.8.2.1-1 Previously Recorded Archaeological Sites within One Mile ............................................... 52

4.8.2.2-1 Previously Recorded Historic Resources within One Mile .................................................... 54

4.11.3-1-1 Aircraft Operations Mix ......................................................................................................... 66

4.11.3.3-1 Runway Usage (Percent) ........................................................................................................ 66

4.11.5-1 Compatible Land Use for Noise Level Ranges ........................................................................ 69

4.12.1-1 Population Projects .................................................................................................................. 71


4.12.1-3 Twenty Largest Employers in Beaufort County ..................................................................... 73

4.12.1-4 Labor Data for Beaufort County ............................................................................................. 73

4.12.2.1-1 USDHHS Poverty Guidelines .............................................................................................. 75

4.12.2.2-1 United States Census Minority Populations by Individuals (2010) ........................................ 77

4.12.2.3-1 United States Census Low-Income Populations by Individuals (2010) ................................. 77

4.19-1 Indirect/Cumulative Impacts Matrix .......................................................................................... 103

4.21-1 Impact Summary .......................................................................................................................... 105
## ACRONYMS AND ABBREVIATIONS

<table>
<thead>
<tr>
<th>acronym</th>
<th>definition</th>
</tr>
</thead>
<tbody>
<tr>
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</tr>
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</tr>
<tr>
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</tr>
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<td>ARS</td>
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</tr>
<tr>
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<td>Beaufort County Airport</td>
</tr>
<tr>
<td>ASDA</td>
<td>Accelerate Stop Distance Available</td>
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<td>AST</td>
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</tr>
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</tr>
<tr>
<td>AVGAS</td>
<td>Aviation Gasoline</td>
</tr>
<tr>
<td>BC-AO</td>
<td>Airport Overlay District</td>
</tr>
<tr>
<td>BFE</td>
<td>Base Flood Elevation</td>
</tr>
<tr>
<td>BGHPA</td>
<td>Bald and Golden Eagle Protection Act</td>
</tr>
<tr>
<td>BMP</td>
<td>Best Management Practice</td>
</tr>
<tr>
<td>CAGR</td>
<td>Compounded Annual Growth Rate</td>
</tr>
<tr>
<td>CBRA</td>
<td>Coastal Barriers Resources Act</td>
</tr>
<tr>
<td>CEQ</td>
<td>Council on Environmental Quality</td>
</tr>
<tr>
<td>CERCLA</td>
<td>Comprehensive Environmental Response. Compensation, and Liability Act</td>
</tr>
<tr>
<td>CFC</td>
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</tr>
<tr>
<td>CFR</td>
<td>Code of Federal Regulations</td>
</tr>
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</tr>
<tr>
<td>CO₂</td>
<td>Carbon Dioxide</td>
</tr>
<tr>
<td>CREC</td>
<td>Controlled Recognized Environmental Condition</td>
</tr>
<tr>
<td>CZMA</td>
<td>Coastal Zone Management Act</td>
</tr>
<tr>
<td>dBA</td>
<td>A-weighted Sound Level</td>
</tr>
<tr>
<td>DNL</td>
<td>Average Day-Night Sound Level</td>
</tr>
<tr>
<td>E</td>
<td>Endangered</td>
</tr>
<tr>
<td>EA</td>
<td>Environmental Assessment</td>
</tr>
</tbody>
</table>
EAC Early Action Compact
EFH Essential Fish Habitat
ESA Environmental Site Assessment
FAA Federal Aviation Administration
FAC Facultative
FACW Facultative Wetland
FEMA Federal Emergency Management Agency
FONSI Finding of No Significant Impact
FPPA Farmland Protection Policy Act
GAPC Geographical Area of Particular Concern
GHG Greenhouse Gas
GIS Geographical Information System
GWCI Groundwater Contamination Inventory
H₂O Water
HAP Hazardous Air Pollutant
HCFC Hydro Chlorofluorocarbon
HREC Historical Recognized Environmental Condition
Hz Hertz
IBA Important Bird Area
IFR Instrument Flight Rule
INM Integrated Noise Model
IPCC Intergovernmental Panel on Climate Change
LDA Landing Distance Available
LI Limited Light Industrial
LUST Leaking Underground Storage Tank
M11 Harbor Island
M12 St. Phillips Island
M13 Daufuski Island
m³ Cubic Meter
mg Milligram
MIRL Medium Intensity Runway Light
MITL Medium Intensity Taxiway Light
N No
N₂O Nitrous Oxide
NAAQS National Ambient Air Quality Standards
NASA National Aeronautics and Space Administration
NEPA National Environmental Policy Act
NH₃ Ammonia
NMFS National Marine Fisheries Service
NO₂ Nitrogen Dioxide
NOAA National Oceanic and Atmospheric Administration
NOₓ Nitrogen Oxide
NPDES National Pollution Discharge Elimination System
NRCS Natural Resources Conservation Service
NRHP  National Register of Historic Places
NRL   Noise Level Reduction
O₃    Ozone
OBL   Obligate Wetland
OPBA  Operations per Based Aircraft
P     Proposed for Listing
PAPI  Precision Approach Path Indicator
PARTNER Partnership for Air Transportation Noise and Emissions Reduction
Pb    Lead
PCB   Polychlorinated Biphenyls
PL    Public Law
PM    Particulate Matter
ppm   Parts per Million
PRM   Permittee Responsible Mitigation
PUD   Planned Unit Development District
R-1   Low Density Single-Family Residential District
RDC   Runway Design Code
REC   Recognized Environmental Condition
REIL  Runway End Indicator Light
RSA   Runway Safety Area
S1    Industrial
SAFMC South Atlantic Fisheries Management Council
SC02  Beaufort Memorial Hospital
SC-09P Hunting Island
SC-10P Turtle Island
SC71  Medical University of South Carolina
SCCMP South Carolina Coastal Management Program
SCDAH South Carolina Department of Archives and History
SCDHEC-BAQ South Carolina Department of Health and Environmental Control – Bureau of Air Quality
SCDHEC-Ow South Carolina Department of Health and Environmental Control – Office of Coastal Resource Management
SCDNR South Carolina Department of Natural Resources
SCDOT South Carolina Department of Transportation
SCIAA South Carolina Institute of Archaeology and Anthropology
SCSASP South Carolina State Airports System Plan
SCSHPO South Carolina State Historic Preservation Office
SF₆    Sulfur Hexafluoride
SO₂    Sulfur Dioxide
SOₓ    Sulfur Oxide
SPCC   Spill Prevention, Control, and Countermeasures Plan
SPL    Sound Pressure Level
T     Threatened
T2R   Rural
FLORA AND FAUNA

**Flora**

American chaffseed  
Schwalbea americana

bahia  
Paspalum notatum

Bermuda grass  
Cynodon dactylon

black needle rush  
Juncus roemerianus

broom grass  
Andropogon glomeratus.

cabbage palmetto  
Sabal palmetto

Canby's dropwort  
Oxypolis canby

eastern red cedar  
Junipers virginiana

evergreen goldenrod  
Solidago sempervirens

groundsel tree or sea myrtle  
Baccharis halimifolia

Johnson grass  
Sorghum halepense

large glasswort  
Salicornia europa

live oak  
Quercus virginiana

marsh elder  
Iva frutescens

marsh fimbry  
Fimbristylis castanea

needle grass  
Juncus roemarianus

needle rush  
Eleocharis acicularis

needle rush  
Juncus roemarianus

panic grass  
Panicum spp
Perennial glasswort  
Sarcocornia ambigua

pine  
Pinus teada

pondberry  
Lindera melissifolia

salt grass  
Distichlis spicata

salt hay  
Spatina patens

salt meadow cordgrass  
Spartina patens

saltwort  
Batis maritima

saw palmetto  
Serenoa repens

sea lavender  
Limonium carolinianum

sea oxeye daisy  
Burrichia frutescens

slash pine  
Pinus elliottii

smooth cordgrass  
Spartina alterniflora

soft rush  
Juncus effusus

Spanish moss  
Tillandsia usneoides

switch grass  
Panicum virgatum

tallow tree  
Sapium sebiferum

turtle weed  
Batis maritima

Virginia glasswort  
Salicornia virginica

wax myrtle  
Myrica cerifera

yaupon holly  
Ilex vomitoria

Fauna

American goldfinch  
Carduelis tristis

American pipit  
Anthus rubescens

bald eagle  
Haliaeetus leucocephalus

Baltimore oriole  
Icterus galbula

black rail  
Laterallus jamaicensis

blue grosbeak  
Guiraca caerulea

brown shrimp  
Farfantpenaeus aztecus

cattle egret  
Bubulcus ibis

cedar waxwing  
Bombycilla cedrorum

eastern diamondback rattlesnake  
Crotalus adamanteus

eastern kingbird  
Tyrannus tyrannus

evening grosbeak  
Coccothraustes vespertinus

frosted flatwoods salamander  
Ambystoma cingulatum

green sea turtle  
Chelonia mydas

hawksbill sea turtle  
Eretmochelys imbricata

indigo bunting  
Passerina cyanea

Kemps Ridley sea turtle  
Lepidochelys kempii

leatherback sea turtle  
Dermochelys coriacea

loggerhead sea turtle  
Caretta caretta

MacGillvray's seaside sparrow  
Ammodyramus maritimnus maggiillivraii

orchard oriole  
Icterus spurious
piping plover  
prairie warbler  
red knot  
red-cockaded woodpecker  
rough-winged swallow  
Rufa red knot  
Savannah sparrow  
song sparrow  
southern hognose snake  
swamp sparrow  
West Indian manatee  
white shrimp  
wood stork  
yellow-breasted chat  

Charadrius melodus  
Dendroica discolor  
Calidris canutus  
Picoides borealis  
Stelgidopteryx ruficollis  
Calidris canutus rufa  
Passerculus sandwichensis  
Melospiza melodia  
Heterodon simus  
Melospiza Georgiana  
Trichechus manatus  
Litopenaeus setiferus  
Mycteria americana  
Icteria virens
1.0 PROPOSED ACTION

This Environmental Assessment (EA) provides analysis of impacts to environmental resources resulting from the several of the Phase I projects illustrated on the approved Airport Layout Plan (ALP) at the Beaufort County Airport (ARW or the Airport), located on Lady’s Island, South Carolina. Projects include:

- Bringing the runway safety areas (RSAs) for Runway 07/25 into compliance with Federal Aviation Administration (FAA) design requirements
- Completing the parallel taxiway to Runway 25
- Expanding the aircraft parking apron and adding two helipads
- Relocating the existing fuel farm

As per federal guidelines, this EA has been prepared in accordance with United States Department of Transportation (USDOT), Federal Aviation Administration (FAA) Order 5050.4B – National Environmental Policy Act (NEPA) Implementing Instructions for Airport Projects,1 FAA Order 1050.1F – Environmental Impacts: Policies and Procedures,2 and 1050.1F Desk Reference.3 These documents provide instructions for addressing the environmental consequences for airport federally funded actions as required by the Council of Environmental Quality’s (CEQ) regulations for implementing the National Environmental Policy Act of 1969 and other laws and statutes. In addition, as part of the project formulation process, a scoping letter was sent to federal, state, and local regulatory agencies in April 2015 to ensure that the EA reflected appropriate environmental values and considerations (Appendix A, pages A-2 through A-8).

1.1 Proposed Action Overview

The Proposed Action is located on existing airport property and includes (Figure 1.1-1, page 2):

- Bringing the RSAs for Runway 07/25 into compliance with FAA design requirements
- Completing the parallel taxiway to Runway 25

- Expanding the aircraft parking apron and adding two helipads
- Relocating the existing fuel farm

### 1.2 Responsible Reviewing Agency

The FAA has accepted the role of lead agency for the Proposed Action, as the project would involve federal funding.

### 1.3 Human and Natural Environment Impacts

There may be a number of alternative solutions that accomplish the purpose and need of the Proposed Action. Each alternative would impact the human and natural environment differently, and each alternative would provide varying benefits. In developing the Proposed Action, impacts to the human and natural environment would be minimized when avoidance is not possible.

The purpose of the NEPA document is to provide decision makers with the best available information so an informed decision about the Proposed Action can be made. The intent of NEPA is to promote better decision making by agencies when they undertake actions that may have effects on the environment.

### 1.4 Evaluated Impacts

Impacts to the human and natural environment are studied through detailed analyses, as required by the CEQ. There are three types of impacts that may occur when an action takes place: direct, indirect, and cumulative.

- Direct impacts are caused by the Proposed Action and occur at the same time and place (e.g., sediment runoff associated with construction)

- Indirect impacts are caused by the Proposed Action and are later in time and farther removed in distance but are still reasonably foreseeable. Indirect impacts may include growth-inducing effects and other effects related to induced changes in the pattern of land use; population density; or growth rate and the related impacts on air, water, and other natural systems, including ecosystems (e.g., runoff associated with future runway/taxiway use)

- Cumulative impacts are impacts on the environment, which result from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or nonfederal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant
actions taking place over a period of time (e.g., impacts to wetlands associated with other aviation-related projects and/or private development projects)

1.5 Avoid and Minimize Impacts to the Human and Natural Environments

As alternatives meeting the purpose and need of the Proposed Action are identified, avoidance of impacts would be the first consideration. Where avoidance is not possible, impacts would be minimized to the extent practical. In seeking to minimize relevant impacts, reasonable mitigation measures that may improve the Proposed Action would be identified. If the Proposed Action has significant impacts, those impacts would be considered, and mitigation measures would be developed where appropriate.
2.0 PURPOSE AND NEED FOR THE PROPOSED ACTION

2.1 Purpose and Need of the Proposed Action

The purpose of the EA is to determine if several of the Phase I projects illustrated on the ALP for ARW would significantly impact the quality of environmental resources within the Proposed Action area of potential effect (APE, Figure 2.1-1, page 6). Beaufort County is seeking environmental acceptance from the FAA for several of the Phase I projects.

2.1.1 Purpose of the Proposed Action

Beaufort County proposes the following improvements at ARW (Figure 1.1-1, page 2):

- Bringing the RSAs for Runway 07/25 into compliance with FAA design requirements
- Completing the parallel taxiway to Runway 25
- Expanding the aircraft parking apron and adding two helipads
- Relocating the existing fuel farm

The purpose of these projects is to meet FAA standards and enhance operational safety of aircraft using ARW now and in the future (Section 2.1.2 – Need for the Proposed Action). The Proposed Action is required to ensure that ARW continues to provide general aviation service to Beaufort County, the region, and within the national air transportation system.

2.1.2 Need for the Proposed Action

Each proposed improvement of the Proposed Action at ARW has a different need, as discussed in the subsections below.

2.1.2.1 Runway Safety Area Improvements

According to FAA Advisory Circular (AC) 150/5300-13A – Airport Design, Change 1, RSAs for a runway with a B-II runway design code (RDC), which is ARW’s designation, is 150-feet wide by 300-feet long prior to the landing threshold and 300-feet long beyond runway end. The RSA shall be:

- Cleared, graded, and have no potentially hazardous ruts, humps, depressions, or other surface variations.

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- Drained by grading or storm sewers to prevent water accumulation.
- Capable, under dry conditions, of supporting snow removal equipment, aircraft rescue and firefighting equipment, and the occasional passage of aircraft without causing structural damage to the aircraft.
- Free of objects, except for objects that need to be located in the runway safety area because of their function.

Currently, the RSAs beyond the ends of Runway 07/25 at ARW are not to FAA design standards. The Runway 25 RSA currently provides approximately 130 feet off the end of the runway (170 feet short) and Runway 07 provides approximately 125 feet (175 feet short). The main impediment to providing the required safety area length is the presence of the salt marsh. Section 3.0, Alternatives (page 10) will discuss these deficiencies and potential options.

2.1.2.2 Parallel Taxiway to Runway 25

Runway 07/25 currently has a partial length parallel taxiway, Taxiway C, which extends from the departure end of Runway 07 to Taxiway A and the aircraft parking apron. Aircraft departing Runway 25 must taxi on the runway and use the turnaround at the end of Runway 25 to utilize the runway’s full length in this direction. This type of “back taxiing” is common at small airports. It was recommended in the Master Plan Update that the parallel taxiway be extended to the end of Runway 25 to increase safety. The taxiway should be designed to meet RDC B-II design standards of 35 feet wide. ARW’s existing taxiways are currently 35 feet wide, meeting FAA standards.

2.1.2.3 Expand Aircraft Parking Apron and Construct Two Helipads

Expansion of the aircraft parking apron and construction of two helipads will occur in the area west of the existing T-hangars. The aircraft parking apron expansion will be approximately 51,000 square feet, with two 82-foot by 82-foot helipads. Construction of two concrete helipads to the north of Taxiway B will accommodate both the medical evacuation helicopters and Beaufort County Sheriff’s Office helicopters, which are located at ARW.

ARW receives medical evacuation helicopters, which currently utilize the existing aircraft parking apron, which is asphalt. MeduCare is the medical evacuation company that operates between Beaufort Memorial Hospital (SC02) and the Medical University of South Carolina (SC71). MeduCare utilizes a Eurocopter EC-135, which is instrument flight rule (IFR) qualified and lands at ARW during times of inclement weather when access to SC02 is unavailable. The Sheriff’s Office has two Bell 206 helicopters, which are currently stored in the old fire station on United States (U.S.) Highway 21 (Sea Island Parkway), which is part of ARW property.

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5CDM Smith (January 2014), “Beaufort County Airport Master Plan Update,” prepared for Beaufort County (approved March 25, 2014) in association with Federal Aviation Administration (approved May 6, 2014) and South Carolina Aeronautics Commission.
2.1.2.4 Fuel Farm Relocation

Fuel is stored in a fuel farm located next to the terminal building and aircraft parking apron and provides self-serve fueling. The fuel farm has a capacity for 12,000 gallons of aviation gasoline (AVGAS) and 12,000 gallons of Jet A fuel. In addition, two fuel trucks are used to support aircraft fueling at the Airport. The fuel farm is being relocated to improve safety on the aircraft parking apron and allow for future expansion, as needed, to maintain an adequate level of service for users of ARW; as well as to accommodate the future expansion of the airport terminal.

2.2 Prior ARW Environmental Analyses

As part of the Master Plan Update, an environmental overview was conducted for the 20-year development program. The environmental overview served to document potential environmental actions per FAA Order 5050.4B – National Environmental Policy Act (NEPA) Implementing Instructions for Airport Projects and FAA Order 1050.1F Change 1 – Environmental Impacts: Policies and Procedures and identifies significant issues that would later be formally addressed in a more extensive environmental effort.

The information obtained as part of the environmental overview was gathered and verified with secondary sources of information. Although primarily used to point out areas of environmental concerns, the environmental overview is referenced herein. Overall, the environmental overview did not identify any significant environmental factors that would preclude the implementation of the Proposed Action.

2.3 ARW Aircraft Operational Activity

To accurately assess the current affected environment, baseline airport activity levels were reevaluated in comparison with the Master Plan Update aviation forecasts. This validated environmental impacts assimilated with aircraft noise impacts and the commitment of resources necessary to accommodate projected demand levels for both short- and long-term needs.

The forecasts of aviation activity developed as part of the Master Plan Update indicated a consistent growth in activity over the next 20 years. Table 2.3-1 (page 9) provides a summary of the forecasts for the Beaufort County Airport throughout the 20-year Master Plan Update planning period.

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6Ibid.
Table 2.3-1
Aviation Forecast Summary
Beaufort County Airport

<table>
<thead>
<tr>
<th>Year</th>
<th>Based Aircraft</th>
<th>Forecast</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>OPBA</td>
<td>FAA Hours Flown</td>
<td>SCSASP*</td>
<td>FAA TAF**</td>
</tr>
<tr>
<td>Actual</td>
<td>2008</td>
<td>56</td>
<td>41,000</td>
<td>41,000</td>
<td>38,500</td>
</tr>
<tr>
<td></td>
<td>2013</td>
<td>63</td>
<td>46,100</td>
<td>47,500</td>
<td>49,800</td>
</tr>
<tr>
<td></td>
<td>2018</td>
<td>72</td>
<td>52,700</td>
<td>55,100</td>
<td>65,400</td>
</tr>
<tr>
<td></td>
<td>2023</td>
<td>81</td>
<td>59,300</td>
<td>63,800</td>
<td>78,300</td>
</tr>
<tr>
<td></td>
<td>2028</td>
<td>92</td>
<td>67,300</td>
<td>74,100</td>
<td>91,100</td>
</tr>
<tr>
<td>Projected</td>
<td></td>
<td></td>
<td>2.5%</td>
<td>3.0%</td>
<td>4.4%</td>
</tr>
</tbody>
</table>

* Interpolation.
** Forecasts local civil operations at FAA facilities are based primarily on time series analysis.
CAGR – Compounded Annual Growth Rate
OPBA – Operations per Based Aircraft (732)
SCSASP – South Carolina State Airports System Plan
TAF – Terminal Area Forecast
Source: CDM Smith (January 2014), “Beaufort County Airport Master Plan Update,” prepared for Beaufort County (approved March 25, 2014) in association with Federal Aviation Administration (approved May 6, 2014) and South Carolina Aeronautics Commission.
3.0 ALTERNATIVES

3.1 Alternatives Analysis

Reasonable alternatives are those that meet the underlying purpose and need for the Proposed Action and that would cause a reasonable person to inquire further before choosing a particular course of action. If a large number of reasonable alternatives are identified, limited alternatives may be selected for detailed environmental analysis to a reasonable range or to a reasonable number of examples covering the full spectrum of alternatives.

3.2 Reasonable Development Alternatives

Reasonable alternatives were developed to meet the purpose and need of the Proposed Action; these included:

- No-Action Alternative
- Runway 07/25 RSA Improvements
  - Displacing the landing thresholds on each end of Runway 07/25
  - Extending RSA’s into the Warsaw Flats of St. Helena Sound
- Completing the parallel taxiway to Runway 25
- Expanding the aircraft parking apron and adding two helipads
- Relocating the fuel farm

3.2.1 No-Action Alternative

The No-Action Alternative is considered the basis of comparison for evaluating the benefits and impacts of other reasonable alternatives. The No-Action Alternative is also defined as the do nothing alternative, which means no implementation of the projects illustrated on the approved ALP and on Figure 1.1-1 (page 2). This alternative is mandated to be considered as part of this EA to provide baseline information and consider the ramifications of a decision not to perform the projects discussed in Section 1.1 – Proposed Action Overview (page 1) at ARW. This alternative would result in the least amount of impact to the natural environment; however, it would not meet the FAA design standards or the aviation needs at ARW.

3.2.2 Runway 07/25 RSA Improvements

Runway 07/25 at Beaufort County Airport is currently 3,434 feet in length and 75 feet wide, with a 130-foot Runway 25 RSA and 125-foot Runway 07 RSA.
3.2.2.1 Displacing Runway 07/25 Landing Thresholds

The RSAs for Runway 07/25 extend 125 feet and 130 feet beyond the ends of the runway, respectively. The RDC for ARW is B-II and FAA Advisory Circular 150/5300-13A – *Airport Design, Change 1* states that the RSA should extend 300-feet beyond the end of the runway for a B-II airport.

In order to comply with FAA AC 150/5300-13A – Airport Design, Change 1, Runway 07/25 thresholds would have to be displaced 175 feet and 170 feet respectively. However, FAA AC 150/5300-13A – *Airport Design, Change 1* also states threshold displacement should be undertaken only after a full evaluation reveals that displacement is the only practical alternative. Displacement of the thresholds would result in the following declared distances (Table 3.2.2.1-1).

<table>
<thead>
<tr>
<th>Description</th>
<th>Runway 07</th>
<th>Runway 25</th>
</tr>
</thead>
<tbody>
<tr>
<td>TORA</td>
<td>3,434’</td>
<td>3,434’</td>
</tr>
<tr>
<td>TODA</td>
<td>3,434’</td>
<td>3,434’</td>
</tr>
<tr>
<td>ASDA</td>
<td>3,259’</td>
<td>3,264’</td>
</tr>
<tr>
<td>LDA</td>
<td>3,259’</td>
<td>3,264’</td>
</tr>
</tbody>
</table>

TORA – Takeoff Run Available
TODA – Takeoff Distance Available;
ASDA – Accelerate Stop Distance Available
LDA – Landing Distance Available


Displacing the thresholds would require numerous expenses. In order to achieve a runway with uniform markings, the entire runway would need to be completely stripped of the existing airfield pavement markings and new pavement markings painted. It would also require new threshold lights and changing the lenses of the existing threshold lights and runway lights to indicate the displaced threshold. The existing Runway 25 runway end indicator lights (REIL) and precision approach path indicators (PAPI) on both runway ends would also need to be relocated due to the new threshold position.

3.2.2.2 Extending RSA into the Warsaw Flats of St. Helena Sound

This alternative requires extending the RSAs into the Warsaw Flats of St. Helena Sound (salt marsh) by 175 feet on the Runway 07 end and 170 feet on the Runway 25 end. Extending into

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the Warsaw Flats would require the placement of approximately 1.7 acres of fill into the South Carolina Department of Health and Environmental Control – Office of Coastal Resource Management (SCDHEC-OCRM) critical area; thereby requiring permitting in accordance with the Clean Water Act. Extension of the RSAs would result in the following declared distances (Table 3.2.2.2-1).

Table 3.2.2.2-1
Runway 07/25 Declared Distances
Beaufort County Airport

<table>
<thead>
<tr>
<th>Description</th>
<th>Runway 07</th>
<th>Runway 25</th>
</tr>
</thead>
<tbody>
<tr>
<td>TORA</td>
<td>3,434’</td>
<td>3,434’</td>
</tr>
<tr>
<td>TODA</td>
<td>3,434’</td>
<td>3,434’</td>
</tr>
<tr>
<td>ASDA</td>
<td>3,434’</td>
<td>3,434’</td>
</tr>
<tr>
<td>LDA</td>
<td>3,434’</td>
<td>3,434’</td>
</tr>
</tbody>
</table>

TORA – Takeoff Run Available
TODA – Takeoff Distance Available;
ASDA – Accelerate Stop Distance Available
LDA – Landing Distance Available

3.2.2.3 RSA Improvements Proposed Action

The Proposed Action for the RSA improvements would be the extension of the RSA’s into the Warsaw Flats of St. Helena Sound by 175 feet on the Runway 07 end and 170 feet on the Runway 25 end, as described in Section 3.2.2.2 – Extending RSA into the Salt Marsh.

3.2.3 Parallel Taxiway to Runway 25

Runway 07/25 currently has a partial length parallel taxiway, Taxiway C, which extends from the departure end of Runway 07 to Taxiway A and the aircraft parking apron. Aircraft departing Runway 25 must taxi on the runway and use the turnabout at the end of Runway 25 to utilize the runway’s full length in this direction. Extending the parallel taxiway to Runway 25 into the Warsaw Flats would require the placement of approximately 2.53 acres of fill into the SCDHEC-OCRM critical area; thereby requiring permitting in accordance with the Clean Water Act. Extension of the parallel taxiway removes the need for aircraft to back taxi when arriving and departing on Runway 25; thereby improving the safety of aircraft operations.

3.2.4 Expand Aircraft Parking Apron and Construct Two Helipads

The existing aircraft parking apron expansion will be approximately 51,000 square feet to accommodate two 82-foot by 82-foot (6,724 square feet) helipads. Construction of two concrete helipads will be to the north of Taxiway B and accommodate both the medical evacuation helicopters and Beaufort County Sheriff’s Office helicopters, which use ARW. Expansion of the existing aircraft parking apron would require the piping of approximately 0.25 acres freshwater ditch;
thereby requiring permitting in accordance with the Clean Water Act. Construction of the helipads provides a designated area for helicopter operations at ARW; thereby reducing the mixing of fixed wind and rotorcraft operations.

3.2.5 Fuel Farm Relocation

The fuel farm is being relocated to improve safety on the aircraft parking apron and allow for future expansion, as needed, to maintain an adequate level of service for users of ARW; as well as to accommodate the future expansion of the airport terminal. The designated fuel farm area removes the mixing of automobiles and aviation operations.

3.3 Reasonable Alternatives for the Proposed Action

Based on the alternatives analysis performed, no feasible and prudent alternatives were determined to comply with FAA design standards and avoid potential environmental impacts. Evaluation of the Proposed Action was conducted using qualitative descriptors of favorable or not favorable. Explanations of the descriptors are as follows:

- **Topography and Construction Considerations**
  - Favorable – utilizes conventional design and construction techniques
  - Not favorable – utilizes specialized design and construction techniques

- **Property Acquisition**
  - Favorable – no additional property required
  - Not favorable – property acquisition required

- **Environmental Requirements**
  - Favorable – obtainable environmental permits and avoidance of incompatible land use
  - Not favorable – strenuous environmental permitting and impacts to incompatible land use

- **Airspace and Obstructions**
  - Favorable – capable of achieving standard approach minimums or unobstructed approaches without initiating a clearing project
  - Not favorable – not capable of achieving standard approach minimums or unobstructed approaches via initiating a clearing project

- **Satisfies Aeronautical Demand**
  - Favorable – meets runway requirements for critical aircraft
Not favorable – does not meet runway requirements of critical aircraft

Table 3.3-1 illustrates each of the analysis criteria and its descriptor.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Topographic and Construction Considerations</td>
<td>F</td>
<td>F</td>
<td>F</td>
<td>F</td>
<td>F</td>
<td>F</td>
</tr>
<tr>
<td>Property Acquisition</td>
<td>F</td>
<td>F</td>
<td>F</td>
<td>F</td>
<td>F</td>
<td>F</td>
</tr>
<tr>
<td>Environmental Requirements</td>
<td>F</td>
<td>F</td>
<td>F</td>
<td>F</td>
<td>F</td>
<td>F</td>
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<tr>
<td>Airspace and Obstructions</td>
<td>F</td>
<td>F</td>
<td>F</td>
<td>F</td>
<td>F</td>
<td>F</td>
</tr>
<tr>
<td>Satisfies Aeronautical Demand</td>
<td>N</td>
<td>N</td>
<td>F</td>
<td>F</td>
<td>F</td>
<td>F</td>
</tr>
</tbody>
</table>

F = Favorable
N = Not favorable


Of the reasonable alternatives considered, the No-Action Alternative and Proposed Action were identified for further consideration and are evaluated separately in Section 4 – Affected Environment and Environmental Consequences (page 15). Although the Proposed Action involves more impacts than the No-Action Alternative, from an initial evaluation of environmental thresholds, the Proposed Action is not viewed as insurmountable by type or intensity.

Accordingly, the Proposed Action is viewed as offering the safest, most economically responsive, and most environmentally plausible alternative available to ARW for meeting Section 2 – Purpose and Need for the Proposed Action (page 5). Consequently, Section 4 – Affected Environment and Environmental Consequences (page 15) advances the Proposed Action as Beaufort County’s chosen alternative.
4.0 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

Potential impacts on the human and natural environment have been evaluated for the Proposed Action. Based on this evaluation, the following subsections describe the affected environment and potential impacts associated with implementation of the Proposed Action. Impacts considered to have long-term effects and would be an area of potential concern for the implementation of the Proposed Action have been addressed in the appropriate subsections through efforts to avoid, minimize, and mitigate these impacts.

The outline of this section is based on Appendix A – Analysis of Environmental Impact Categories in FAA Order 1050.1F – Environmental Impacts: Policies and Procedures and 1050.1F Desk Reference.

4.1 Air Quality

4.1.1 Definition

In accordance with the Clean Air Act of 1990 (as amended, 42 United States Code [USC] 7401 et seq.), the United States Environmental Protection Agency (USEPA) established the National Ambient Air Quality Standards (NAAQS), which defined six criteria pollutants and established ambient concentration limits to protect public health. Monitoring sites report data to the USEPA for the following six criteria air pollutants:

- Carbon monoxide (CO)
- Lead (Pb)
- Nitrogen dioxide (NO₂)
- Ozone (O₃)
- Particulate matter (PM₁₀ and PM₂.₅)⁸
- Sulfur dioxide (SO₂)

The South Carolina Department of Health and Environmental Control Bureau of Air Quality (SCDHEC-BAQ) was granted authority by the USEPA to administer the Clean Air Act in South Carolina.

The Clean Air Act established primary (protect public health) and secondary (protect public welfare) standards, which are based on a pollutant’s effect on plants and animals. Table 4.1.1-1 (page 16) illustrates the primary and secondary standards for the six criteria pollutants.

⁸PM₁₀ and PM₂.₅ are acronyms for particulate matter consisting of particles smaller than 10 and 2.5 micrometers, respectively.
### Table 4.1.1-1
#### National Ambient Air Quality Standards
Beaufort County Airport

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Primary/Secondary</th>
<th>Averaging Time</th>
<th>Level</th>
<th>Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carbon Monoxide (CO)</td>
<td>Primary</td>
<td>8-hour</td>
<td>9 ppm</td>
<td>Not to be exceeded more than once per year</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1-hour</td>
<td>35 ppm</td>
<td></td>
</tr>
<tr>
<td>Lead (Pb)</td>
<td>Primary and Secondary</td>
<td>Rolling 3 month average</td>
<td>0.15 µg/m³</td>
<td>Not to be exceeded</td>
</tr>
<tr>
<td>Nitrogen Dioxide (NO₂)</td>
<td>Primary</td>
<td>1-hour</td>
<td>100 ppb</td>
<td>98th percentile, averaged over three years</td>
</tr>
<tr>
<td></td>
<td>Primary and Secondary</td>
<td>Annual</td>
<td></td>
<td>Annual mean</td>
</tr>
<tr>
<td>Ozone (O₃)</td>
<td>Primary and Secondary</td>
<td>8-hour</td>
<td>0.075 ppm</td>
<td>Annual fourth-highest daily maximum 8-hr concentration, averaged over three years</td>
</tr>
<tr>
<td>Particulate Matter</td>
<td>PM₂.₅</td>
<td>Primary</td>
<td>12 µg/m³</td>
<td>Annual mean, averaged over three years</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Secondary</td>
<td>15 µg/m³</td>
<td>Annual mean, averaged over three years</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Primary and Secondary</td>
<td>24-hour</td>
<td>35 µg/m³</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PM₁₀</td>
<td>24-hour</td>
<td>150 µg/m³</td>
</tr>
<tr>
<td>Sulfur Dioxide (SO₂)</td>
<td>Primary</td>
<td>1-hour</td>
<td>75 ppb</td>
<td>99th percentile of 1-hour daily maximum concentrations, averaged over three years</td>
</tr>
<tr>
<td></td>
<td>Secondary</td>
<td>3-hour</td>
<td>0.5 ppm</td>
<td>Not to be exceeded more than once per year</td>
</tr>
</tbody>
</table>

Notes: ppb = parts per billion, ppm = parts per million, µg/m³ = micrograms per cubic meter of air

Federal Registers: 7 FR 76, 73 FR 66964, 75 FR 6474 and 61 FR 52852, 73 FR 16436, 78 FR 3086, 75 FR 35520, and 38 FR 25678

7 Final rule signed October 15, 2008. The 1978 lead standard (1.5 µg/m³ as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.

8 The official level of the annual NO₂ standard is 0.053 ppm, equal to 53 ppb, which is shown here for the purpose of clearer comparison to the 1-hour standard.

9 Final rule signed March 12, 2008. The 1997 ozone standard (0.08 ppm, annual fourth-highest daily maximum 8-hour concentration, averaged over 3 years) and related implementation rules remain in place. In 1997, EPA revoked the 1-hour ozone standard (0.12 ppm, not to be exceeded more than once per year) in all areas, although some areas have continued obligations under that standard (“anti-backsliding”). The 1-hour ozone standard is attained when the expected number of days per calendar year with maximum hourly average concentrations above 0.12 ppm is less than or equal to 1.

10 Final rule signed June 2, 2010. The 1971 annual and 24-hour SO₂ standards were revoked in that same rulemaking. However, these standards remain in effect until one year after an area is designated for the 2010 standard, except in areas designated nonattainment for the 1971 standards, where the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standard are approved.

Geographic areas of the United States have been divided into attainment and nonattainment areas. Attainment areas are defined as those areas where the NAAQS for each pollutant is not exceeded. Nonattainment areas are defined as any portion of an air quality control region for which any pollutant exceeds NAAQS for a particular pollutant. In nonattainment areas, regional goals for achieving attainment of the NAAQS are addressed in the State Implementation Plan (SIP), as approved by the USEPA. Beaufort County is an attainment area for all NAAQS pollutants.

USEPA collects emissions data for three criteria air pollutants:

- CO
- SO₂
- PM₁₀ and PM₂.₅

and three precursors/promoters of criteria air pollutants:

- Volatile organic compounds (VOC)
- NOₓ
- Ammonia (NH₃)

The Clean Air Act also lists 188 hazardous air pollutants (HAPs), which are known as toxic air pollutants or air toxics. However, monitoring of ambient concentrations of HAPs is not mandated by the Clean Air Act, but USEPA is developing regulations to limit HAP emissions, thereby preventing ambient HAP concentrations from reaching levels that would pose significant health risks.

4.1.2 Conformity Requirements

The FAA has established a listing of presumed to conform activities, including

...airfield construction projects that are presumed to conform involve areas of the airfield, generally referred to as apron areas, that accommodate aircraft for purposes of loading or unloading passengers or cargo, refueling, or aircraft parking. These types of airfield projects do not include projects intended to increase airport capacity or those that are otherwise defined as routine maintenance for existing apron areas. Taxiway construction projects are limited to improvements of existing taxiways that will not affect runway use, increase capacity, enable new aircraft types, or change existing airfield operations when complete....

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4.1.3 Existing Conditions

Beaufort County currently has no criteria pollutant monitoring sites; however, Beaufort County is considered an attainment area for all NAAQS pollutants.

4.1.5 Potential Air Quality Impacts

The No-Action Alternative would have no change in current operations and development and, therefore, would not result in any impact to the current air quality.

Based on the conformity requirements discussed in Section 4.1.2 – Conformity Requirements (page 17), an air quality is not required for the Proposed Action.

There would, however, be minor increases in dust and vehicle emissions during the construction phase of the Proposed Action. Minimal increases in airborne particulates from traffic in and around the site, including construction vehicles and workers’ vehicles traveling to and from the site, could be expected. However, these impacts would not interfere with the maintenance of long-term air quality standards. The site is easily accessible by major roads (e.g., U.S. Highway 21 [Sea Island Parkway] and Airport Circle) and should not have adverse impacts on traffic flow.

A number of mitigation measures are recommended to further aid in minimizing airborne dust during construction. Dust control would be monitored by project inspectors to ensure that the proper control measurements are used and project specifications are followed. These conditions are controllable through applying water to control dust during land clearing, grading, and construction; covering transported material; temporarily grassing disturbed areas; chemically/physically stabilizing areas brought to grade; fully or partially enclosing materials or stockpiles to prevent particulate matter from becoming airborne; and promptly removing earth or other materials tracked onto paved roads that could become airborne. Passive approaches, such as limiting the amount of exposed area and requiring dust control systems on equipment to assist in controlling dust and air pollutant emissions, are also recommended. In addition, for emissions from diesel equipment, it is suggested that alternatively fueled equipment be utilized, equipment should have applicable emission controls, equipment idling time should be reduced, and fugitive dust emissions should be minimized through good operating practices.

Based on the information provided and the proposed mitigation measures outlined above, the Proposed Action would not create any significant air quality impacts.

4.1.6 Potential Air Quality Construction Impacts

Air quality impacts could occur during construction of the Proposed Action due to dust and fumes from construction equipment, earthwork activities, and vehicles accessing the construction site. BMPs that limit dust generation could include vegetative cover, mulch, spray-on adhesive, calcium chloride application, water sprinkling, stone, tillage, wind barriers, and construction of a temporary graveled entrance/exit to the construction site. In an effort to limit the amount of dust that could be generated, construction activities could be staged. The contractor should also comply with county and/or other local air pollution regulations. In addition, for emissions from diesel equipment, it is
suggested that alternatively fueled equipment be utilized, equipment should have applicable emission controls, equipment idling time should be reduced, and fugitive dust emissions should be minimized through good operating practices.

The No-Action Alternative would have no construction development and, therefore, would not result in any impact to the current air quality.

Construction of the Proposed Action would implement BMPs to limit air quality impacts, as well as require the contractor to comply with county and/or other local air pollution regulations.

4.2 Biological Resources

4.2.1 Definition

For the purposes of this analysis, the term “biological resources” includes vegetation and forestry, wildlife, listed threatened and endangered species, and invasive species.

4.2.2 Biotic Communities

The Proposed Action APE is approximately 106.2 acres with four major habitats (Figure 4.2.2-1, page 20):

- Pavement, buildings and mowed/maintained areas (approximately 68 acres)
- High marsh (mowed/maintained (approximately 37 acres)
- Wooded critical area (approximately 5.5 acres)

4.2.2.1 Pavement, Buildings and Mowed/Maintained Areas

Analysis of the acreages obtained from geographic information system (GIS) estimates indicates that 64 percent of the Proposed Action APE is mowed/maintained, cleared, and pavement and buildings. The mowed areas consist of grasses such as bahia (*Paspalum notatum*) and common Bermuda grass (*Cynodon dactylon*).

4.2.2.2 High Marsh

The high marsh areas contain plants adapted to a saltwater environment and include, but are not limited to, saltwort (*Batis maritima*), sea oxeye daisy (*Burrichtia frutescens*), marsh elder (*Iva frutescens*), needle rush (*Eleocharis acicularis*), and salt hay (*Spatina patens*).

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10Ward Edwards, Inc. (July 30, 2015), “Biological Assessment, Beaufort County Airport (ARW), Lady’s Island, South Carolina,” prepared for Talbert, Bright & Ellington, Inc.
Affected Environment and Environmental Consequences
4.2.2.3 Wooded Critical Area

The wooded critical area contains woody plants including, but not limited to, slash pine (*Pinus elliottii*), marsh elder, groundsel tree or sea myrtle (*Baccharis halimifolia*), and wax myrtle (*Myrica cerifera*).

4.2.2.3 Freshwater Wetlands

Freshwater wetlands are located within the Proposed Action APE. Limited areas of freshwater wetlands exist adjacent to the existing hangar facilities located east and southeast of Runway 07/25. Wetlands were observed near the hangar area and appear to be fringe wetlands adjacent to SCDHEC-OCRM critical area and appear to consist of shrub/scrub vegetation including wax myrtle, sea myrtle, and pine (*Pinus teada*). Wetlands were also observed adjacent to the southeastern portion of Runway 07/25 and are connected to the critical area on the northern side via old ditches. These wetlands are mowed and maintained to provide an open safety area. Portions of these wetlands were inundated to a depth of six inches due to rainfall prior to the site visit. Plants include, but are not limited to, panic grass (*Panicum spp*), soft rush (*Juncus effusus*), immature sea myrtle, and wax myrtle.

Fringe freshwater wetlands were also observed in the scrub/scrub areas between the western side of Runway 07/25 and the SCDHEC-OCRM critical area. Plants in this area included sea myrtle and soft rush. The SCDHEC-OCRM critical area was defined by the USFWS as high marsh. The high marsh area contains sea myrtle, marsh elder, salt grass (*Distichlis spicata*), needle rush (*Juncus roemarianus*), and saltwort.

4.2.3 Threatened and Endangered Species

Prior to initiating the field investigations, a literature review of available local, state, and federal species records was conducted, including, but not limited to:

- USFWS Endangered and Threatened Species for the Southeastern United States
- USFWS South Carolina Endangered and Threatened Species List
- USFWS South Carolina List of At-Risk, Candidate, Endangered, and Threatened Species – Beaufort County
- South Carolina Department of Natural Resources (SCDNR) Natural Heritage Program List of Protected Species Rare
- SCDNR Threatened, and Endangered Species and Communities Known to Occur in Beaufort County, South Carolina (dated June 11, 2014)

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11Ibid.
• Internet distributed databases maintained by the regulatory agencies.

A table identifying threatened and endangered species known to occur in Beaufort County was developed using the above referenced lists. Appropriate U.S. Geologic Survey (USGS) 7.5-minute topographic quadrangles, available aerial photography, and the 1980 Soil Survey of Beaufort County, South Carolina were also reviewed for database information.

A list of state and federal threatened and endangered species was obtained for Beaufort County and screened to develop a target list of threatened and endangered species and their preferred habitat that could possibly exist within the Proposed Action APE (Table 4.2.3-1, page 23). In addition, “at risk species” and candidate species are included in the study. The following species exist in oceans, streams, rivers, bogs, seeps, or other types of habitat that do not exist within the Proposed Action APE: piping plover (*Charadrius melodus*), frosted flatwoods salamander (*Ambystoma cingulatum*), red-cockaded woodpecker (*Picoides borealis*), pondberry (*Lindera melissifolia*), Canby's dropwort (*Oxypolis canby*), American chaffseed (*Schwalbea americana*), Hawksbill sea turtle (*Eretmochelys imbricata*), leatherback sea turtle (*Dermochelys coriacea*), Kemps Ridley sea turtle (*Lepidochelys kempii*), green sea turtle (*Chelonia mydas*), and loggerhead sea turtle (*Caretta caretta*).

Based on the comments received from SCDNR and USFWS in responses to the threatened and endangered species study and USFWS response to a request for comments about proposed activities on the subject site, the following threatened or endangered species are included in this assessment: West Indian manatee (*Trichechus manatus*), red knot (*Calidris canus*), wood stork (*Mycteria americana*). In addition, MacGillvray's seaside sparrow (*Ammodramus maritimus macgillivraii*), black rail (*Laterallus jamaicensis*), eastern diamondback rattlesnake (*Crotalus adamanteus*), and southern hognose snake (*Heterodon simus*) are included as “at risk” species.

### 4.2.3.1 Plants

No habitat was observed that would support listed, candidate, or “at risk” species of plants.

### 4.2.3.2 Birds

#### 4.2.3.2.1 Bald Eagle (*Haliaeetus leucocephalus*)

The bald eagle (*Haliaeetus leucocephalus*) is not federal or state listed as threatened or endangered in Beaufort County. The bald eagle is protected by the Bald and Golden Eagle Protection Act of 1940. Adults possess a white head, white tail, and a large bright yellow bill, with the rest of the plumage dark colored. Immatures are dark with

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### Table 4.2.3-1
#### Protected Flora and Fauna Summary

<table>
<thead>
<tr>
<th>Species</th>
<th>State Status</th>
<th>Federal Status</th>
<th>Habitat Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Birds</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bald eagle (Haliaeetus leucocephalus)</td>
<td>T</td>
<td>BGEPA</td>
<td>Open areas, forest edges, and mountains near large lakes and rivers. Requires tall trees for nesting.</td>
</tr>
<tr>
<td>Black rail (Laterallus jamaicensis)</td>
<td>ARS</td>
<td>ARS</td>
<td>Fresh and saline marshes, wet meadows, and savanna. It occupies marshes with shallower water than other rallids and requires some tall vegetation to escape into.</td>
</tr>
<tr>
<td>MacGillvray's seaside sparrow (Ammodramus maritimus macgillivraii)</td>
<td>ARS</td>
<td>ARS</td>
<td>Salt and brackish marshes</td>
</tr>
<tr>
<td>Rufus Red Knot (Calidris canutus rufa)</td>
<td>ARS</td>
<td>P</td>
<td>Tidal flats, shores; tundra (summer). In migration and winter on coastal mudflats and tidal zones, sometimes on open sandy beaches. Nests on Arctic tundra, usually on rather high and barren areas inland from coast, but typically near a pond or stream</td>
</tr>
<tr>
<td>Wood stork (Mycteria americana)</td>
<td>E</td>
<td>E</td>
<td>Wet places (e.g., ponds, marshes, river edges, mangroves, and mud flats)</td>
</tr>
<tr>
<td><strong>Amphibians and Reptiles</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eastern diamondback rattlesnake (Crotalus adamanteus)</td>
<td>ARS</td>
<td></td>
<td>Dry sandy areas, palmetto or wiregrass flatwoods, pinewoods, coastal dune habitats, or hardwood hammocks</td>
</tr>
<tr>
<td>Southern hognose snake (Heterodon simus)</td>
<td>ARS</td>
<td></td>
<td>Sandhills, pine flatwoods, and coastal dune habitats</td>
</tr>
<tr>
<td><strong>Mammals</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Antillean manatee (Trichechus manatus manatus)</td>
<td>E</td>
<td>E</td>
<td>Shallow waters off the coast or in rivers and estuaries</td>
</tr>
<tr>
<td>Florida manatee (Trichechus manatus latirostris)</td>
<td>E</td>
<td>E</td>
<td>Shallow waters off the coast or in rivers and estuaries</td>
</tr>
</tbody>
</table>

**Note:**
- ARS – At risk species
- BGEPA – Bald and Golden Eagle Protection Act
- E – Endangered
- P – Proposed for Listing
- T – Threatened


Variable amounts of light splotching on the body, underwing coverts, flight feathers, and tail base. Adults average 31 to 37 inches in length with a wingspan of 70 to 90 inches. Breeding habitat most commonly includes areas close to coastal areas (within 2.5 miles), bays, rivers, lakes, or other bodies of water that provide primary food sources such as fish, waterfowl, and seabirds. Preferred foraging habitat is open water and open areas. Bald eagles generally roost in conifers or other sheltered sites in the winter months and typically select large
accessible trees. Nesting sites are generally found in tall trees or on cliffs near water. The Proposed Action APE does not contain suitable habitat for nesting. However, it is possible that eagles could forage on or near the site. It is important to note that airport personnel are licensed to use pyrotechnics and other methods to discourage bald eagle usage of the airport area.

Airport personnel are licensed to use pyrotechnics and other tools to deter avian use over the airport. Based on this factor, the determination for the bald eagle is that the Proposed Action may effect, but not adversely affect the species.

4.2.3.2.2 Black Rail (Laterallus jamaicensis)
The black rail (Laterallus jamaicensis) is an “at risk” species in Beaufort County. The black rail is approximately six inches in length with a dark gray to blackish head, gray neck and breast, and a black and white patterned back. Black rails occupy the upper zone of tidal marshes (high marsh), which are inundated only during extreme high tide events. Habitat which is suitable for the black rail appears to exist on in the high marsh scrub/shrub areas between Runway 07/25 and marsh area to the west. Although habitat does exist in that area, it does not appear to be a large enough area to support any population of black rail; and traffic on U.S. Highway 21 (Sea Island Parkway) may disturb the area enough to preclude use by the black rail. These areas also do not have enough large vegetation for the black rail to conceal for protection. In addition, conversations with SCDNR personnel who have canvassed for the black rail in the ACE Basin indicate that sightings are rare.

Construction in the high marsh on the Runway 07 end may affect black rail through habitat destruction; however, construction for the fueling location, parking lot, taxiway extension and northern runway extension should not affect black rail habitat. Based on the disturbance provided by U.S. Highway 21 (Sea Island Parkway) and the runway use, it is the determination for the black rail is that the proposed fill activity may effect, but not adversely affect the species.

4.2.3.2.3 MacGillvray's Seaside Sparrow (Ammodramus maritimus macgillivraii)
MacGillvray's seaside sparrow (Ammodramus maritimus macgillivraii) is a small songbird approximately five to six inches in length, with grayish olive plumage which is the same for both sexes. The seaside sparrow is listed as an “at risk” species in Beaufort County. The seaside sparrow nests above the mean high tide mark in salt water and brackish areas and forages in open stands of grass, shallow pannes, and shallow pools with vegetation that is sparse enough to allow them to move. The areas on the Proposed Action APE that are associated with the high marsh may provide habitat for the seaside sparrow, as well as the upland scrub shrub areas. No individuals were noted on the day of the site visit. However, any land disturbance activity for
the Proposed Action should be precluded by additional observations to insure the seaside sparrow is not present.

It is possible that the construction proposed for the ends of Runway 07/25 may destroy potential seaside sparrow nesting and foraging area. However, since the sparrow uses grasses on marsh edges, the nesting areas will shift to undisturbed areas. The other construction areas should not affect habitat for the seaside sparrow. Based on these factors, the determination for the seaside sparrow is that the proposed fill activity may effect, but not adversely affect the species.

4.2.3.2.4 Rufus Red Knot (*Calidris canutus rufa*)
The red knot (*Calidris canutus*) is a large sandpiper, 9 to 11 inches in length that feeds on arthropods, hard shelled mollusks, and larvae. The red knot breeds on islands in the Arctic regions of Canada. It winters along both the Pacific and Atlantic coasts from California and Massachusetts south to South America. The winter or basic plumage is uniformly pale grey. Foraging can occur in mudflats during migration. Sources indicate that the red knot prefers sandy areas for foraging and they return to the arctic tundra to breed. The Proposed Action APE and surrounding areas does not possess sandy beach areas preferred by the red knot for foraging. However, some areas associated with the tidal marsh to the east of ARW may possess some areas suitable for foraging.

Impacts to the sandy high marsh area on the Runway 07 end may destroy habitat, which could be used for foraging by the red knot. However, the high marsh in this area is directly adjacent to U.S. Highway 21 (Sea Island Parkway) and under the Runway 07 approach, which experiences a high volume of traffic daily, likely deters red knot use for foraging. Impacts proposed to the Runway 25 do not include habitat suitable for the red knot. The proposed construction of the taxiway extension, parking lot, and relocation of the fueling facility does not impact any areas, which could be used by the red knot.

Based on these factors, the determination for the red knot is that the Proposed Action activity may effect, but not adversely affect the species. Any construction activity at the southeastern end of the Airport could cause potential use by the red knot to be shifted to another area. In addition, mitigation for the impacts will provide additional preserved or reconstructed areas for future red knot usage.

4.2.3.2.5 Wood Stork (*Mycteria americana*)
The wood stork (*Mycteria americana*) is federal and state listed as endangered in Beaufort County. Mature wood storks are long-legged wading birds, approximately 127 cm in height, with a wingspan of 152 to 165 cm. Plumage is white with black primaries and secondaries and a short black tail. The head and neck are mostly un-feathered and dark
gray in color. The bill is black, thick at the base, and slightly decurved. The plumage of immature birds is dingy gray plumage and the decurved bill is yellow. Wood storks in South Carolina lay eggs from March to late May, with fledging occurring in July and August. Nests are frequently located in the upper branches of large cypress trees. Wood storks usually feed in freshwater marshes, narrow tidal creeks, or flooded tidal pools and are attracted to depressions in marshes or swamps where fish become concentrated during periods of falling water levels. Wood storks prefer water depths of six to ten inches as their prey location is tactile. Wood storks are highly colonial and may travel as far as 80 miles to find suitable foraging habitat.

The wood stork may use areas associated with the salt marsh and estuarine areas for foraging; however, no suitable nesting area was observed. Construction for the fueling station relocation, taxiway extension, and parking lot relocation should not affect the wood stork since they are all upland based and not located in critical habitat. Based on these factors, the determination for the wood stork is that the proposed fill activity may effect, but not adversely affect the species. Construction activity for the Proposed Action may cause wood storks to shift their foraging area until the construction is completed. In addition, some foraging habitat may be destroyed by placing fill at the Runway 25 end. It is anticipated that the wood stork will shift to other foraging areas and that the mitigation required by the USACE permit, if issued, would provide new habitat that will be preserved in perpetuity.

4.2.3.3 Amphibians and Reptiles

4.2.3.3.1 Eastern Diamondback Rattlesnake (*Crotalus adamanteus*)

The eastern diamondback rattlesnake (*Crotalus adamanteus*) is listed as an “at risk species” by the USFWS in Beaufort County. The eastern diamondback rattlesnake is poisonous and can reach sizes exceeding six feet in length and can be identified by a diamondback pattern along the snake's back. The preferred habitat includes grassland, old fields, savannas, shrub land, and both hardwood and pine dominated forests. Rattlesnakes become dormant during cold winter days, may often be found sunning during early spring, and are most active during early fall. No individuals were observed during site investigations. However, this species is transient, reclusive, and may exist on the site or move into the site.

Construction in the salt marsh areas, the parking lot relocation, and fuel farm relocation should not impact areas that would be used by the diamondback rattlesnake. It is possible that the upland construction at the Runway 25 end could impact rattlesnake habitat. However, experience has shown that the diamondback back will leave areas when disturbances begin. It is believed that once destruction activities begin, diamondbacks will leave the area. Based on these factors, the determination for the eastern diamondback rattlesnake is that the Proposed Action may effect, but not adversely affect the species.
4.7.3.3.2 Southern Hognose Snake (*Heterodon sinuatus*)
The southern hognose snake (*Heterodon sinuatus*) is listed as an “at risk species” by the USFWS in Beaufort County. The southern hognose snake is a small snake with a brownish to light brown color averages 18 inches in length and, can be identified by the upturned nose tip. They spend a significant amount of time burrowed in soil and inhabit open, xeric habitats with well-drained sandy or sandy loam soils. No individuals were observed during site investigations and any activity in the Proposed Action APE should have no effect on the population.

As with the diamondback rattlesnake, construction of the Runway 07/25 RSAs could disturb potential areas used by the hognose snake. However, the habitat in this area does not appear to be the preferred habitat for the hognose snake. Therefore, the determination for the hognose snake is that the proposed construction activity may effect, but not adversely affect the species.

4.7.3.4 Mammals

4.7.3.4.1 West Indian Manatee
The West Indian manatee is listed as endangered and includes two sub species: Florida manatee (*Trichechus manatus latirostris*) and Antillean manatee (*Trichechus manatus manatus*), and is also protected by the Marine Mammal Protection Act. Manatees have large, seal-shaped bodies with paired flippers and a round, paddle-shaped tail. They are typically grey in color (color can range from black to light brown) and occasionally spotted with barnacles or colored by patches of green or red algae.

Manatees feed on various plants associated with the estuarine regime, mature at four to five years of age, and breed throughout the year. Construction of the Runway 25 RSA could remove vegetation that the manatee feeds on. However, the area associated with the fill area does not possess waters deep enough for manatee access. In addition, the construction and fill in the other areas should have no effect on habitat or the manatee. The determination for the West Indian manatee is that the proposed fill activity may effect, but not adversely affect the species.

4.2.3.3 Summary

No federal or state listed threatened or endangered species as defined in the Endangered Species Act of 1973 were observed. In addition, the Proposed Action APE incurs significant
anthropogenic impacts such as noise, air traffic, vehicular traffic, and light industrial use. Conversation with Airport personnel also revealed that a Walmart Super Store is will be constructed adjacent to the Airport, which will provide additional disturbance to the area.

The areas that could disrupt use by the red knot, bald eagle, wood stork, seaside sparrow, eastern diamondback rattlesnake, and hognose snake are limited in area, and therefore limited in potential effect on each species. The fueling area and parking lot relocation are not located in areas that will be used by the species listed above, and the taxiway extension utilizes area that would possibly disrupt use by the hognose and diamondback snakes. Therefore, the impacts with potential for effects on the birds and manatee are located in the salt marsh fill areas located at ends of Runway 07/25. These potential impacts; however, are limited to the impact area. Although the impacts result in a loss of function through a loss of salt marsh area, mitigation required in an issued USACE permit will provide additional in kind resources within Beaufort County in the form of restored and preserved areas.

Any effects on the birds listed in Subsection 4.2.3.2 – Birds (page 22) would consist of shifting use of the areas to undisturbed areas. Finally, impacts on the manatee would be limited to secondary impacts, which could occur if sediment and erosion control barriers failed during construction.

Some threats due to the increase of stormwater runoff and petroleum contaminants could pose a threat to the larger action area. However, SCDHEC-OCRM regulations and policy are designed to insure that stormwater retention and filtering have enough capacity to survive a 100-year storm event and must be approved by SCDHEC-OCRM before the USACE permit is issued. Based on the observations on site, USFWS14 and SCDNR15 letters of opinion, and current SCDHEC-OCRM pollution control regulations, it appears that the Proposed Action may have an effect on selected species but the effect will not be adverse.

4.2.4 Migratory Birds

The Migratory Bird Treaty Act includes a list of species of birds native to North America that are protected by the Act. Executive Order 13186, Responsibilities of Federal Agencies to Protect Migratory Birds,16 requires federal agencies to identify and consider adverse impacts to migratory birds and, if adverse impacts are identified, to consult with the USFWS.


The Atlantic Flyway is a bird migration route that generally follows the Atlantic Coast of North America and Appalachian Mountains (Figure 4.2.4-1, page 30). The migration route tends to narrow considerably in the states of Virginia, North Carolina, South Carolina, Georgia, and Florida.

Once in Florida, the flyway diverges into a path over eastern Mexico and a longer path across the Caribbean Sea via Cuba and Jamaica. This route is used by birds typically because no mountains or even ridges of hills block this path over its entire extent.

Good sources of water, food, and cover exist over its entire length of the flyway. Migratory birds are birds that fly long distances from their winter habitat to their summer nesting grounds and back annually. Bird migrations occur in the spring and fall. Migratory bird species that may occur in the Proposed Action APE are listed in Table 4.2.4-1.

The Proposed Action APE is within the Atlantic Flyway, which is the migration route along the eastern seaboard of the United States used by migratory birds. Some of the species listed in Table 4.2.4-1 may temporarily use habitats within the Proposed Action APE for foraging and roosting for short periods of time as a stop-over habitat. Some species may stay for the winter or summer. However, development of the Proposed Action is not expected to create a barrier to movement of migratory birds.

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**Table 4.2.4-1**

Migratory Birds Found in Open Habitat

<table>
<thead>
<tr>
<th>Winter Residents</th>
<th>Summer Residents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cedar waxwing (<em>Bombycilla cedrorum</em>)</td>
<td>Eastern kingbird (<em>Tyrannus tyrannus</em>)</td>
</tr>
<tr>
<td>American pipit (<em>Anthus rubescens</em>)</td>
<td>Blue grosbeak (<em>Guiraca caerulea</em>)</td>
</tr>
<tr>
<td>Grasshopper sparrow (<em>Ammodramus savannarum</em>)</td>
<td>Indigo bunting (<em>Passerina cyanea</em>)</td>
</tr>
<tr>
<td>Song sparrow (<em>Melospiza melodia</em>)</td>
<td>Orchard oriole (<em>Icterus spurious</em>)</td>
</tr>
<tr>
<td>Swamp sparrow (<em>Melospiza Georgiana</em>)</td>
<td>Cattle egret (<em>Bubulcus ibis</em>)</td>
</tr>
<tr>
<td>Savannah sparrow (<em>Passerculus sandwichensis</em>)</td>
<td>Prairie warbler (<em>Dendroica discolor</em>)</td>
</tr>
<tr>
<td>Baltimore oriole (<em>Icterus galbula</em>)</td>
<td>Yellow-breasted chat (<em>Icteria virens</em>)</td>
</tr>
<tr>
<td>American goldfinch (<em>Carduelis tristis</em>)</td>
<td>Rough-winged swallow (<em>Stelgidopteryx ruficollis</em>)</td>
</tr>
<tr>
<td>Evening grosbeak (<em>Coccothraustes vespertinus</em>)</td>
<td>Rufa Red Knot (<em>Calidris canutus rufa</em>)</td>
</tr>
</tbody>
</table>

*Roadsides, hedgerows, farmlands, fallow fields, etc.


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Figure 4.2.4-1
Beaufort County Airport

Atlantic Flyway
4.2.5 **Invasive Species**

As outlined in Executive Order 13112, *Invasive Species*, federal agencies whose actions may affect the status of invasive species shall, to the extent practicable and permitted by law, are required to identify such actions; prevent the introduction of invasive species; detect and respond rapidly to and control populations of such species in a cost-effective and environmentally sound manner; monitor invasive species populations accurately and reliably; provide for restoration of native species and habitat conditions in ecosystems that have been invaded; conduct research on invasive species and develop technologies to prevent introduction and provide for environmentally sound control of invasive species; and promote public education on invasive species and the means to address them; and not authorize, fund, or carry out actions that it believes are likely to cause or promote the introduction or spread of invasive species in the United States.

Comparison of the USDA National Invasive Species Information Center *Species found in Beaufort County, South Carolina* and Section 4.2.2 – Biotic Communities (page 19) indicates that there are no invasive plant species located in the Proposed Action APE.

4.2.6 **Critical Habitat**

Both ends of Runway 07/25 and the western side of the airport consist of tidal salt marsh with vegetation dominated by smooth cordgrass (*Spartina alterniflora*). The tidal salt marsh provides nursery habitat for fish, shellfish, and foraging areas for avian species. The tidal salt marsh may provide foraging habitat for the red knot and wood stork. The estuarine areas may provide habitat for the West Indian manatee. Other potential critical habitat may exist in the scrub/shrub areas located the northwest and northeast of the airport. The seaside sparrow may possibly nest in grasses adjacent to the salt marsh edge as well as in the scrub/shrub areas.

4.2.7 **Essential Fish Habitat Analysis**

The area of the Proposed Action (Warsaw Flats portion of St. Helena Sound) has been identified by the South Atlantic Fisheries Management Council (SAFMC) as essential fish habitat (EFH) for two species of penaeid shrimp, as well as estuarine dependent species in the snapper-grouper complex, because larvae and juveniles concentrate in this area. Penaeid shrimp (white shrimp [*Litopenaeus setiferus*] and brown shrimp [*Farfantepenaeus aztecus]*) are dependent of the estuarine habitat around the Airport property for spawning and growth to maturity. In South Carolina, the nursery habitat areas for these species include high marsh areas with shell hash and mud bottoms. According to Volume

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20Ward Edwards, Inc. (July 30, 2015), “Biological Assessment, Beaufort County Airport (ARW), Lady’s Island, South Carolina,” prepared for Talbert, Bright & Ellington, Inc.
21Newkirk Environmental, Inc. (July 2015), “Essential Fish Habitat Assessment, Beaufort County Airport Project Site, Beaufort County, South Carolina,” prepared for Talbert, Bright & Ellington, Inc.
IV of the *Fishery Ecosystem Plan of the South Atlantic Region*\(^22\) nursery habitat serve a high function in the life cycle for these species.

The Proposed Action APE has also been classified as EFH for certain species within the snapper-grouper complex because of the use by larvae and juveniles of those species. The marshes of the St. Helena Sound act as a nursery to these species by providing food and protection from predation. According to Volume IV of the *Fishery Ecosystem Plan of the South Atlantic Region*,\(^23\) nursery habitat serves a high function in the life cycle for these species.

### 4.7.7.1 Habitat Classifications

The following is a description and classification of the major saltwater habitat/community type identified within the Proposed Action APE. Also noted with the description is an assessment of suitability for the listed species.

#### 4.7.7.1.1 Salt Marshes

The majority of the saltwater environment surrounding the ARW is classified as a salt marsh. Saltwater marshes are intertidal areas that are routinely inundated with tidal water for short portions of each day. These large expansive areas are limited in plant species and are dominated by smooth cordgrass with frequent occurrences of salt meadow cordgrass (*Spartina patens*), needle grass (*Juncus roemarianus*), marsh fimbry (*Fimbristylis castanea*), and seashore salt grass. This community is flooded at least twice a day, and even though these areas have little vegetative diversity, they offer a basis or foundation for a diverse ecosystem. Also covered in this community are mudflats. These areas offer similar values to the biodiverse ecosystem as the salt marsh; however, they lack the vegetative material. Both salt marsh communities offer nursery and feeding grounds for crustaceans, bivalves, and fish, which serve as food for many marine and migratory bird species.

#### 4.7.7.1.2 Salt Flat

The salt flat community usually floods once a day or by high spring tides. This community is normally open or covered by specialized vegetation adapted to the hyper-saline soils. Plant species found in this community include seashore salt grass, Virginia glasswort (*Salicornia virginica*), sea lavender (*Limonium carolinianum*), eastern red cedar (*Juniperus virginiana*), sea ox-eye daisy, seashore cordgrass, turtle weed (*Batis maritima*), large glasswort (*Salicornia europa*), and salt meadow cordgrass. This is a diverse community that provides loafing and feeding areas for wading birds and some fish species during high spring tides, as well as feeding areas for shorebirds when not flooded.

#### 4.7.7.1.3 Salt-Shrub Thicket

The salt shrub thicket community is a dense shrubby community normally found occupying narrow areas between the salt marsh or salt flat communities and the upland communities. Salt shrub thickets are dominated by shrub species which include groundsel tree, marsh

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\(^{23}\)Ibid.
elder, live oak (*Quercus virginiana*), loblolly pine, yaupon holly (*Ilex vomitoria*), saw palmetto (*Serenoa repens*), tallow tree (*Sapium sebiferum*), slash pine, sea ox-eye daisy, wax myrtle, cabbage palmetto (*Sabal palmetto*), and eastern red cedar. Also included are herbaceous species dominated by seashore salt grass, Spanish moss (*Tillandsia usneoides*), needle rush, evergreen goldenrod (*Solidago sempervirens*), salt marsh cordgrass, Virginia glasswort, sea lavender, salt meadow cordgrass, marsh fimbry, switch grass (*Panicum virgatum*), and broom grass (*Andropogon glomeratus*). Although lacking as a significant food source for wildlife, this community offers cover and nesting material for a number of mammals and birds in close proximity to feeding grounds, which is intensely important to the overall ecosystem.

4.7.7.2 Assessment

The EFH species of concern could be affected by the proposed RSA extensions due to the loss of marsh habitat, which is thought to be used by each of the shrimp species and perhaps by juvenile snapper-grouper species. However, the loss of salt marsh habitat by the Proposed Action will occur in the most common habitat type in the coastal zone of South Carolina (estimated to be greater than 150,000 acres). For this reason, it is unlikely that any of the species of concern would suffer any population setbacks due to the fact that salt marsh habitat is found so predominantly and in especially large quantities around the project site.

4.7.7.3 Mitigation

As stated above, it is not believed that impacts to EFH species will be great, but in event, as part of the Proposed Action, Beaufort County Airport will be obtaining appropriate permits from state and federal agencies and a part of that process will be offering compensatory mitigation. The mitigation offered will serve to offset any potential impacts to EFH species.

4.7.7.4 Conclusion

Due to the fact the current runway configuration utilizes available buildable land, there are no feasible alternatives to the necessary RSA extensions at the Beaufort County Airport. In order to accomplish the RSA extensions, salt marsh habitat would be impacted with fill dirt. Although the impacts will occur in habitat known to be used by certain EFH species, it is highly unlikely that these species will be permanently affected due to the high level of salt marsh habitat in the Proposed Action APE, as well as the proposed mitigation alternatives (Section 4.14.1.4 – Mitigation of Potential Wetlands and Waters of the United States Impacts, page 83). The direct impact to the EFH species would be temporary.

4.3 Climate

4.3.1 Definition

In response to Executive Order 13514 Focused on Federal Leadership in Environmental, Energy, and Economic Performance (October 5, 2009), the CEQ developed Federal Greenhouse Gas Accounting and Reporting Guidance (October 6, 2010), which serves as the federal government’s
official greenhouse gas (GHG) reporting protocol. GHGs result primarily from combustion of fuels, and there is a direct relationship between fuel combustion and metric tons of carbon dioxide (CO₂).

### 4.3.2 Greenhouse Gases and Climate Change

The impact of proposed projects on climate change is of increasing concern. Greenhouse gases (GHGs) are those that trap heat in the earth's atmosphere. Both naturally occurring and anthropogenic (man-made) GHGs include water vapor (H₂O), carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), and O₃.

Research has shown that there is a direct link between fuel combustion and GHG emissions. Therefore, sources that require fuel or power at an airport are the primary sources that would generate GHGs. Aircraft are probably the most often cited air pollutant source, but they produce the same types of emissions as cars. Aircraft jet engines, like many other vehicle engines, produce CO₂, H₂O, NOₓ, CO, SOₓ; unburned or partially combusted hydrocarbons (also known VOCs); particulates; and other trace compounds.

According to most international reviews, aviation emissions comprise a small but potentially important percentage of anthropogenic (man-made) GHGs and other emissions that contribute to global warming. The Intergovernmental Panel on Climate Change (IPCC) estimates that global aircraft emissions account for about 3.5 percent of the total quantity of GHGs from human activities. In terms of United States contribution, the United States General Accounting Office (USGAO) reports that aviation accounts for about 3 percent of total U.S. greenhouse gas emissions from human sources compared with other industrial sources, including the remainder of the transportation sector (23 percent) and industry (41 percent).

The scientific community is developing areas of further study to more precisely estimate aviation's effects on the global atmosphere. The FAA is currently leading or participating in several efforts intended to clarify the role that commercial aviation plays in GHGs and climate change. The most comprehensive and multi-year program quantifying climate change effects of aviation is the Aviation Climate Change Research Initiative (ACCRI) funded by FAA and National Aeronautics and Space Administration (NASA). The ACCRI will reduce key scientific uncertainties in quantifying aviation-related climate impacts and provide timely scientific input for policy-making decisions. FAA also funds Project 12 of the Partnership for Air Transportation Noise and Emissions Reduction (PARTNER) Center of Excellence research initiative to quantify the effects of aircraft exhaust and

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25 All greenhouse gas inventories measure carbon dioxide emissions, but beyond carbon dioxide, different inventories include different GHGs.
26 Several classes of halogenated substances that contain fluorine, chlorine, or bromine are also greenhouse gases, but they are, for the most part, solely a product of industrial activities. For example, chlorofluorocarbons (CFCs) and hydrochlorofluorocarbons (HCFCs) are halocarbons that contain chlorine, while halocarbons that contain bromine are referred to as bromofluorocarbons (i.e., halons) or sulfur (sulfur hexafluoride: SF₆).
contrails on global and U.S. climate and atmospheric composition. Finally, the Transportation Research Board’s (TRB) Airport Cooperative Research Program completed project 02-06, publishing ACRP Report 11: *Guidebook on Preparing Airport Greenhouse Gas Emission Inventories.* While not policy, airports use this as a resource to assist them in preparing GHG emission inventories when applicable.

### 4.3.3 Potential Greenhouse Gases Impact

Based on FAA data, aircraft operational activity (January 2015 through December 2015) at ARW represents less than 0.0007 percent of U.S. aviation activity. Therefore, assuming that GHGs occur in proportion to the level of activity, GHG emissions, associated with existing and future aviation activity at ARW, would be expected to represent less than 0.0007 percent of U.S.-based GHGs. Therefore, it is not expected that the emissions of GHGs from the Proposed Action would be significant.

### 4.4 Coastal Resources

#### 4.4.1 Definition

Federal activities involving or affecting coastal resources are governed by the Coastal Zone Management Act (CZMA), Coastal Barriers Resources Act (CBRA), and Executive Order 13089, *Coral Reef Protection.*

#### 4.4.2 Coastal Zone Management Act

The Coastal Zone Management Act of 1972 (Public Law [PL] 104-150, as amended) requires that development projects in the coastal zone comply to the maximum extent practicable with approved state coastal management programs. SCDHEC-OCRM is the federally approved coastal zone management authority and administers the South Carolina Coastal Management Program (SCCMP, South Carolina Coastal Management Act of 1977). SCDHEC-OCRM has direct permitting authority over tidelands, coastal waters, beaches, and beach/dune systems (critical areas) east of U.S. Highway 17. Based on the location of ARW, any development at the Beaufort County Airport would have to be in compliance with the SCCMP (Figure 4.4.2-1, page 36).

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The South Carolina coastal zone (tan) is comprised of coastal waters and submerged bottoms seaward to the state's jurisdictional line as well as the lands and waters of the eight coastal counties. The critical area (red) is defined as all tidelands, coastal waters, beaches, and oceanfront sand dune systems.

Source: <http://www.scdhec.gov/environment/ocrm/>
SCDHEC-OCRM has certification authority over federal and state permits within the coastal zone, which includes Beaufort County. This includes United States Army Corps of Engineers (USACE) and United States Coast Guard (USCG) permits. The guidelines for SCDHEC-OCRM certification for airport projects are contained in the SCCMP. Review of the SCCMP identified the following policies and recommendations with regard to airport projects:

- To the extent feasible, the best available techniques and methods shall be used during design, construction, and maintenance of airports to avoid erosion or sedimentation problems and prevent concentrated runoff water from aircraft use areas, parking areas, and support facilities from directly entering and degrading adjacent surface water bodies or underground resources
- Proposals for airport facilities must demonstrate that they will meet applicable federal and state air quality and noise control guidelines
- Consideration of the existing and planned transportation system or network in the area, for example, relationship to other airports and access to adequate transportation service by other modes
- Encouragement of joint use of regional airport facilities where feasible (for example, joint military and civilian airports)
- Compatibility with character and use of the area. Local governments are encouraged to develop plans and procedures, which maintain appropriate compatible use areas around existing airports
- Alignment of approach corridors and corresponding noise zones during airport planning should consider any bird rookeries located in the area

Twelve (12) categories of geographical areas of particular concern (GAPC) are listed in the Plan that should be avoided when possible; these are:

- South Carolina Heritage Trust Program Preserves
- State Wildlife Preserves
- State Parks
- Scenic Rivers
- Marine and Estuarine Sanctuaries
- Shellfish Areas
- Groundwater Resources
- Threatened and Endangered Species Habitats
- State Ports
Throughout the planning stages of the proposed improvements, efforts should be made to adhere to the policies and recommendations of the SCCMP, as well as avoidance of the GAPCs listed in the SCCMP, where practicable.

### 4.4.3 Coastal Barrier Resource Act

The Coastal Barrier Resource Act of 1982 (CBRA, PL 97-348, 16 USC 3501 et seq.), Coastal Barrier Improvement Act of 1990, and Coastal Barrier Resources Reauthorization Act of 2000 prohibit the use of federal funds for projects that would impact undeveloped coastal barrier units in the Coastal Barrier Resources System. Coastal barriers are unique land forms that provide protection for diverse aquatic habitats and serve as the first line of defense against the impacts of severe coastal storms and erosion. Located at the interface of land and sea, the dominant physical factors responsible for shaping coastal land forms are tidal range; wave energy; and sediment supply from rivers and older, preexisting coastal sand bodies. Relative changes in local sea level also profoundly affect coastal barrier diversity. CBRA units have been designated, and maps showing their locations are on file with the United States Fish and Wildlife Service (USFWS).³³

There are five units designated in Beaufort County (Figure 4.4.3-1, page 39):

- M11 (Harbor Island)
- SC-09P (Hunting Island)
- M12 (St. Phillips Island)
- M13 (Daufuski Island)
- SC-10P (Turtle Island)

### 4.4.4 Potential Coastal Resources Impacts

#### 4.4.4.1 South Carolina Heritage Trust Program Preserves

There are no preserves in the APE. However, there are two within a ten mile radius of ARW:

- South Bluff Heritage Preserve (cultural), located 4.8 miles north of the APE, and consists of 24 acres in Beaufort County. The South Bluff shell rings are one of 15 known site complexes of this type in the state. The rings contain a crescent-shaped ring and another that was once a complete ring. Because of a reduced level of erosion, South Bluff is one of the most well-preserved shell ring complexes in the state.

JOHN H. CHAFFEE COASTAL BARRIER RESOURCES SYSTEM
SOUTH CAROLINA

Figure 4.4.3-1
Beaufort County Airport
Coastal Barrier Resources

Number of CBRS Units: 23
Number of System Units: 16
Number of Otherwise Protected Areas: 7
Total Acres: 202,253
Upland Acres: 17,358
Associated Aquatic Habitat Acres: 182,895
Shoreline Miles: 115

Boundaries of the John H. Chaffee Coastal Barrier Resources System (CBRS) shown on this map were transferred from the official CBRS maps for this area and are depicted on this map (as well for informational purposes only. The official CBRS maps are created by Congress via the Coastal Barrier Resources Act, as amended, and are maintained by the U.S. Fish and Wildlife Service. The official CBRS maps are available for download at http://www.fws.gov/habitats/reservation/coastal_barrier.html.
Fort Frederick Heritage Preserve (cultural), located 3.3 miles southwest of the APE, and is a 3-acre property located in Port Royal, Beaufort County. Situated along the Beaufort River, the preserve contains the remains of a tabby fort built by the British between 1730 and 1734 to defend against a possible attack from the Spanish at St. Augustine.

These sites would not be directly impacted by the No-Action Alternative or the Proposed Action.

4.4.4.2 State Wildlife Preserves

There are two wildlife management areas in the vicinity of the APE:

- Donnelley Wildlife Management Area, located ten miles east of the APE, has been designated as an important bird area (IBA) in South Carolina. The purpose of the IBA program is to identify sites that provide vital habitat for birds using a scientific set of criteria for the conservation of bird populations.

- Old Island Heritage Preserve/Wildlife Management Area (natural), located 9.3 miles southeast of the APE, is a 400-acre site located in coastal Beaufort County, near Hunting Island State Park. The property consists of seven coastal habitat types and feeding areas for the wood stork and bald eagle.

These sites would not be directly impacted by the No-Action Alternative or the Proposed Action.

4.4.4.3 State Parks

There are no state parks in the vicinity of the APE; therefore, there is no impact by the No-Action Alternative or the Proposed Action. The closest state park to the APE is Hunting Island State Park, which is 14.4 miles east of ARW on U.S. Highway 21 (Sea Island Parkway).

4.4.4.4 Scenic Rivers


4.4.4.5 Marine and Estuarine Sanctuaries

There are no marine and estuarine sanctuaries in the vicinity of the APE; therefore, there is no impact by the No-Action Alternative or the Proposed Action.

4.4.4.6 Shellfish Areas

Figure 4.4.4.6-1 (page 41) represents shellfish areas in the vicinity of the APE. Areas bordered in red are public shellfish grounds and are open for recreational harvest only. Areas bordered in green are state shellfish grounds, which are available for recreational and commercial harvest. Areas labeled ‘C’ represent culture permits, which are needed to harvest on these areas. Shading denotes SCDHEC harvest classifications. Recreational harvest is not allowed in areas colored...
Figure 4.4.6-1
Beaufort County Airport
Shellfish Areas
red or orange. Areas colored yellow may be closed to shellfishing after heavy rainfall. There are no shellfish areas in the vicinity of the APE; therefore, there is no impact by the No-Action Alternative or the Proposed Action.

4.4.4.7 Groundwater Resources

4.4.4.8 Threatened and Endangered Species Habitats
Section 4.2.3 – Threatened and Endangered Species, page 21.

4.4.4.9 State Ports
There are no state ports in the vicinity of the APE; therefore, there is no impact by the No-Action Alternative or the Proposed Action.

4.4.4.10 Navigation Channels
There are no navigation channels in the vicinity of the APE; therefore, there is no impact by the No-Action Alternative or the Proposed Action.

4.4.4.11 Mining Operations
There are no mining operations in the vicinity of the APE; therefore, there is no impact by the No-Action Alternative or the Proposed Action.

4.4.4.12 Areas of Special Historic, Archaeological, or Cultural Significance
Section 4.8 – Historic, Architectural, Archaeological, and Cultural Resources, page 50.

4.4.4.13 Coastal Barrier Resource Act
Based on review of CBRA unit location map (Figure 4.4.3-1, page 39), it has been determined that the Proposed Action at the Beaufort County Airport would not impact the CBRA units in the vicinity of the APE.

4.2.5 South Carolina Coastal Zone Consistency Determination
Concurrence with the South Carolina Coastal Zone Consistency Program has been requested.

4.5 Department of Transportation Act: Section 4(f)

4.5.1 Definition
Section 4(f) of the USDOT Act of 1966 states that the Secretary of Transportation shall not approve any program or project, which requires the use of any publicly owned land from a public park;
recreation area; wildlife and waterfowl refuge of national, state, or local significance as determined by federal, state, or local officials having jurisdiction thereof; or any land from an historic structure of national, state, or local significance as so determined by such officials unless:

- There is no feasible and prudent alternative to the use of such land
- The project includes all possible planning to minimize harm to the land resulting from such use

4.5.2 Existing Conditions

There are no historic or archaeological properties within the Proposed Action APE (Section 4.8 – Historic, Architectural, Archaeological, and Cultural Resources, page 50). In addition, there are no parks, recreational areas, or other Section 4(f) resources or lands purchased with Land and Water Conservation Fund Act funds within the Proposed Action APE.

4.5.3 Potential Section 4(f) Impacts

The No-Action Alternative and Proposed Action would not impact Section 4(f) facilities as there are none located within the APE.

4.6 Farmlands

4.6.1 Definition

The United States Department of Agriculture (USDA) oversees the Farmland Protection Policy Act of 1981 (FPPA, PL 97-98). The purpose of the FPPA is to minimize the extent to which federal programs contribute to the unnecessary and irreversible conversion of farmland to nonagricultural uses. The FPPA establishes the protocol and criteria to be used by federal agencies to:

- Identify and take into account the adverse effects of their programs on the preservation of farmland
- Consider alternative actions, as appropriate, that could lessen adverse effects
- Ensure that their programs are compatible with state and units of local government and private programs and policies to protect farmland

The FPPA does not provide authority to withhold federal assistance for projects that convert farmland to nonagricultural uses. For the purposes of implementing the FPPA, farmland is defined as prime or unique farmlands or farmland that is determined by the state or unit of local government.
agency to be farmland of statewide or local importance. The Natural Resources Conservation Service (NRCS) farmland definitions are:

- **Prime farmland** is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oil seed crops and that is available for these uses. It has the combination of soil properties, growing season, and moisture supply needed to produce sustained high yields of crops in an economic manner if it is treated and managed according to acceptable farming methods. In general, prime farmland has an adequate and dependable water supply from precipitation or irrigation, a favorable temperature and growing season, an acceptable level of acidity or alkalinity, an acceptable content of salt or sodium, and few or no rocks. Its soils are permeable to water and air. Prime farmland is not excessively eroded or saturated with water for long periods of time, and it either does not flood frequently during the growing season or is protected from flooding.

- **Unique farmland** is land other than prime farmland that is used for the production of specific high-value food and fiber crops. It has the special combination of soil quality, location, growing season, and moisture supply needed to economically produce sustained high quality and/or high yields of a specific crop when treated and managed according to acceptable farming methods.

- **Statewide or local importance** is land, in addition to prime and unique farmlands, that is of statewide or local importance for the production of food, feed, fiber, forage, and oil seed crops. Criteria for defining and delineating this land are to be determined by the appropriate state agency or agencies. Generally, additional farmlands of statewide or local importance include those that are nearly prime farmland and economically produce high yields of crops when treated and managed according to acceptable farming methods. Some may produce as high a yield as prime farmlands if conditions are favorable.

### 4.6.2 Existing Conditions

The Proposed action APE is predominantly cleared, open land with marsh on the southwest and northeastern portions of the Airport property. Surrounding properties consist of marsh (north, east, and west), open land, several small structures (south and southwest), and a large structure (southwest). Soils within the APE are poorly drained (Table 4.6.2-1, page 45).

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### Table 4.6.2-1

**Proposed Action APE Soils**  
**Beaufort County Airport**

<table>
<thead>
<tr>
<th>Soil Series</th>
<th>Drainage</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bohicket Association</td>
<td>Very Poor</td>
<td>Tidal flats</td>
</tr>
<tr>
<td>Bladen Fine Sandy Loam</td>
<td>Poor</td>
<td>Broad, low areas</td>
</tr>
<tr>
<td>Capers Association</td>
<td>Very Poor</td>
<td>Tidal flats</td>
</tr>
<tr>
<td>Tomotley Loamy Fine Sand</td>
<td>Poor</td>
<td>Low flats and slight depressions</td>
</tr>
<tr>
<td>Yemassee Loamy Fine Sand</td>
<td>Somewhat Poor</td>
<td>Low ridges of lower marine terraces</td>
</tr>
</tbody>
</table>

Source: USDA Natural Resources Conservation Services (NRCS) Web Soil Survey  

### 4.6.3 Potential Farmland Impacts

As defined in the FPPA, land is not considered prime or unique farmland if it has been committed to urban development. Prime or unique farmland committed to urban development includes land that has been designated for commercial, industrial, or residential use and is not intended at the same time to protect farmland in either a

- Zoning code or ordinance adopted by a unit of government or
- Comprehensive land use plan

The No-Action Alternative would have no impact on undeveloped land and, therefore, would not result in any farmland impacts.

The Proposed Action will have no impact on farmland because of the presence of zoning and land use ordinances for Beaufort County and City of Beaufort. Therefore, there would be no impact to farmland.

### 4.7 Hazardous Materials, Solid Waste, and Pollution Prevention

#### 4.7.1 Hazardous Materials

**4.7.1.1 Definition**

The purpose of a Phase I Environmental Site Assessment (ESA) is to identify, to the extent feasible, pursuant to American Society of Testing and Materials (ASTM) E 1527-00, Recognized Environmental

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36Beaufort County, “Beaufort County Community Development Code,”  

37City of Beaufort, “Beaufort, South Carolina Unified Development Ordinance,” adopted January 28, 2003, revised September 14, 2012,  
Conditions (RECs), the RECs in connection with the property. The ASTM Standard Practice E 1527-00 defines good commercial and customary practice for conducting an environmental site assessment of a parcel of commercial real estate with respect to the range of contaminants within the scope of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) and to petroleum products. This practice is intended to permit a user to satisfy one of the requirements to qualify for the innocent landowner defense to CERCLA liability.

4.7.1.2 Potential Hazardous Materials Impacts

Figure 4.7.1.2-1 (page 47) illustrates the locations of potential hazardous material sites. A copy of the results of the Phase I ESA is provided in Appendix C (page C-1 through C-174).

4.7.1.2.1 On-Site Findings
No on-site findings of environmental concern were identified during the ESA.

4.7.1.2.2 Off-Site Findings
The following off-site findings of environmental concern were identified during the ESA (Table 4.7.1.2.2-1). Based on current regulatory status, distance from the Proposed Action, and topographic relationship, the listed regulated facilities are not considered a REC in connection with the Proposed Action at this time and a vapor encroachment condition (VEC) can be ruled out.

Table 4.7.1.2.2-1
Off-Site Findings of Environmental Concern
Beaufort County Airport

<table>
<thead>
<tr>
<th>Facility</th>
<th>Record</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Former Lady's Island Fire Department</td>
<td>430 ft. SW Down-gradient</td>
<td>AST</td>
</tr>
<tr>
<td>Lady's Island Airport</td>
<td>320 ft. S Cross-gradient</td>
<td>UST, LUST, AST</td>
</tr>
<tr>
<td>Lady's Island Middle School</td>
<td>1,300 ft. NW Down-gradient</td>
<td>UST, LUST</td>
</tr>
<tr>
<td>Former Ann's Grocery</td>
<td>2,650 ft. NW Down-gradient</td>
<td>UST, LUST, GWCI</td>
</tr>
</tbody>
</table>

AST – Aboveground Storage Tank
UST – Underground storage tank
LUST – Leaking Underground Storage Tank List
GWCI – Groundwater Contamination Inventory

Source: S&ME, Inc. (June 22, 2015), “Phase I Environmental Site Assessment Beaufort County Airport Site, Airport Circle, Beaufort, Beaufort Co., South Carolina,” prepared for Talbert, Bright & Ellington, Inc.

38S&ME, Inc. (June 22, 2015), “Phase I Environmental Site Assessment Beaufort County Airport Site, Airport Circle, Beaufort, Beaufort Co., South Carolina,” prepared for Talbert, Bright & Ellington, Inc.
Figure 4.7.1.2-1
Beaufort County Airport

ESA Findings
4.7.1.2.3 Summary
In summary, the results of the Phase I ESA identified no evidence of RECs, controlled recognized environmental conditions (CRECs), or historical recognized environmental conditions (HRECs) relative to current or former off-site uses of nearby sites. In addition, a VEC can be ruled out at this time.

4.7.2 Solid Waste

4.7.2.1 Existing Conditions
Existing buildings and hangars generate solid waste for disposal, which is the responsibility of the occupants of the facilities. The collection and disposal of solid waste are provided by private companies that contract with businesses and residents on the Island to collect waste and remove it to disposal facilities. Solid waste is disposed of at the Hickory Hill Landfill in Jasper County, which has an estimated 20-year life span remaining. Construction and demolition material is disposed of at either Barnwell Resources in Beaufort County or the Oakwood Landfill in Jasper County.

4.7.2.2 Potential Solid Waste Impacts
The No-Action Alternative would not result in the increased generation of solid waste.

The Proposed Action would not have a direct effect on solid waste collection or disposal, other than during actual removal of vegetation, which will be the responsibility of the contractor performing the work. Construction debris would be disposed of off-site at either Barnwell Resources in Beaufort County or the Oakwood Landfill in Jasper County.

4.7.3 Pollution Prevention

4.7.3.1 Definition
ARW must comply with applicable regulations pertaining to the use, storage, and disposal of hazardous materials as outlined in FAA Order 1050.10B – Prevention, Control and Abatement of Environmental Pollution at FAA Facilities; FAA Order 1050.14A – Polychlorinated Biphenyls (PCB) in the National Airspace System; FAA Order 1050.15A – Underground Storage Tanks at FAA Facilities; FAA Order 1050.18 – Chlorofluorocarbons and Halon Use at FAA Facilities; and FAA AC 150/5320-15 – Management of Airport Industrial Wastes. This compliance can be in the form of a SPCC.39

Although each SPCC is unique to the facility, there are certain elements that must be included in order for the SPCC to comply with the provisions of 40 Code of Federal Regulations (CFR) 112, Oil Pollution Prevention. Three areas, which should be addressed in the Plan, are:

1) Operating procedures the facility implements to prevent oil spills

2) Control measures installed to prevent oil from entering navigable waters or adjoining shorelines

3) Countermeasures to contain, clean up, and mitigate the effects of an oil spill that has an impact on navigable waters or adjoining shorelines. Other important elements of a SPCC include, but are not limited to, the following: professional engineer certification, notification requirements in the event of a spill, and reporting requirements for spills of various quantities.

The Plan must follow the sequence of 40 CFR 112.7 – General Requirements for Spill Prevention, Control, and Countermeasures Plans or provide cross-references to the requirements in 40 CFR 112.7 – General Requirements for Spill Prevention, Control, and Countermeasures Plans:

- Facility diagram
- Oil spill predictions
- Facility drainage
- Facility inspections
- Site security
- Five-year plan review
- Management approval
- Appropriate secondary containment or diversionary structures
- Loading/unloading requirements and procedures for tank trucks
- Personnel training and oil discharge prevention briefings
- Bulk storage container compliance
- Transfer procedures and equipment (including piping)

4.7.3.2 Existing Conditions

Properties within the APE that utilize hazardous materials are required to have SPCCs in place.

4.7.3.3 Potential Pollution Prevention Impacts

The No-Action Alternative and Proposed Action would not result in the increased activities that would affect SPCCs currently in place.
4.8 Historic, Architectural, Archaeological, and Cultural Resources

4.8.1 Definition

Section 106 of the National Historic Preservation Act of 1966, as amended through 1992 (16 USC 470), and the Archaeological and Historic Preservation Act of 1974 require that a state or federal agency with jurisdiction over a specific project must identify and evaluate affected cultural resources, assess the project’s effect on such resources, and grant opportunity for comment. Cultural resources are evaluated by their eligibility for placement on the National Register of Historic Places (NRHP).

4.8.2 Cultural Resources Investigation

Background research was conducted at the South Carolina Institute of Archaeology and Anthropology (SCIAA) and the South Carolina Department of Archives and History (SCDAH) to determine if any NRHP eligible cultural resources were previously recorded within Proposed Action APE. Known cultural resources within a one-mile radius of the tract were also identified and documented to the extent that they may have bearing on potential resources within the Proposed Action APE (Figure 4.8.2-1, page 51). No eligible archaeological sites were found to be present within the project tract. Also, no historic properties eligible for inclusion in the NRHP are located in the Proposed Action APE.

4.8.2.1 Previously Recorded Archaeological Sites

One archaeological site (38BU150) was previously recorded within the Beaufort County Airport project tract (Table 4.8.2.1-1, page 52). Site 38BU150 was recorded in 1978, as a result of an environmental impact survey for airport expansion. Site 38BU150 is a large multicomponent site including two general prehistoric shell middens and a nineteenth-century artifact scatter associated with a former house. Other features are two artificial mounds, which were likely composed of sterile fill and clumps of twentieth-century garbage visible across the property. The investigation of the property consisted of a general surface inspection. No artifacts were observed. The shell middens form small islands at high tide and are composed of shell up to a foot thick. It was also noted that these shell middens would not be impacted by airport expansion. Based on the above information, Site 38BU150 was recommended as probably not eligible for inclusion in the NRHP.

Background research revealed that three other archaeological sites (38BU138, 38BU222; 38BU2257) were previously recorded within one mile of the Beaufort County Airport Proposed Action APE (Table 4.8.2.1-1, page 52). These are pre-contact sites; no historic sites were previously recorded within a mile of the Proposed Action APE.

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Figure 4.8.2-1
Beaufort County Airport

Previously Recorded Historic and Archaeological Sites
Table 4.7.2.1-1
Previously Recorded Archaeological Sites within One Mile
Beaufort County Airport

<table>
<thead>
<tr>
<th>Site</th>
<th>Type</th>
<th>Cultural Affiliation</th>
<th>Citation</th>
<th>NRHP Status</th>
<th>Situation</th>
</tr>
</thead>
<tbody>
<tr>
<td>38BU138</td>
<td>Ceramic Scatter</td>
<td>General Pre-Contact</td>
<td>Williams 1977</td>
<td>Recommended Not Eligible</td>
<td>One mile radius</td>
</tr>
<tr>
<td>38BU150</td>
<td>Shell Middens; Mounds</td>
<td>General Pre-Contact</td>
<td>Lepionka 1978</td>
<td>Recommended Not Eligible</td>
<td>Within project tract</td>
</tr>
<tr>
<td>38BU222</td>
<td>Shell Midden; Ceramic Scatter</td>
<td>Early Woodland; Middle Woodland</td>
<td>Trinkley 1979</td>
<td>Additional Work Recommended</td>
<td>One mile radius</td>
</tr>
<tr>
<td>38BU2257</td>
<td>Ceramic Scatter</td>
<td>Early Woodland; Mississippian</td>
<td>Windham and Lockerman 2007</td>
<td>Not Eligible</td>
<td>One mile radius</td>
</tr>
</tbody>
</table>

Source: Brockington Cultural Resources Consulting (June 2015), "Phase I Cultural Resources Survey of 37.7 Acres of the Beaufort County Airport, Beaufort County, South Carolina," prepared for Talbert, Bright & Ellington, Inc., Columbia, South Carolina.

In 1977, a reconnaissance level investigation of Colonel Ira Webber's property was conducted. As a result, an archaeological site (38BU138) was recorded within one mile of the Beaufort County Airport Proposed Action APE. Site 38BU138 is a general pre-contact ceramic scatter located in a landscaped backyard near Lucy Creek. A sample of ceramic artifacts from the surface of the site was collected, though no detailed account of these artifacts is recorded. It was noted that Colonel Webber found pieces of pottery in his yard for several years, and suggests that the site may continue subsurface. Site 38BU138 was recommended as probably not eligible for inclusion in the NRHP.

In 1979, the South Carolina Department of Transportation (SCDOT) conducted an archaeological investigation of three borrow pits for Route P-0701. This investigation resulted in the location of one archaeological site (38BU222) within one mile of the Beaufort County Airport Proposed Action APE. Site 38BU222 is an Early to Middle Woodland oyster shell midden and ceramic scatter located in a wooded area on a small ridge overlooking Lucy Creek. Several Middle Woodland ceramic sherds were collected from the surface including Wilmington Cord-Marked, Wilmington Fabric- Marked, and Irene Complicated Stamped sherds. Below these were older Stallings Plain sherds, dating to the Early Woodland Period. Other artifacts collected included one quartz chunk and two glass fragments. It was recommended that additional testing should be conducted to determine NRHP significance.

In 2007, an archaeological and architectural survey of SC 802, Segment A was conducted. These investigations resulted in the location of one archaeological site (38BU2257) within one mile of the Beaufort County Airport Proposed Action APE. Site 38BU2257 is a pre-contact ceramic scatter dating from the Early Woodland Period to Mississippian Period. A total of 61 artifacts were collected, including pre-contact ceramic sherds (grit tempered, fiber tempered, sand tempered, grog tempered). Some of these sherds were plain or too eroded to type, but some decoration types were observed including Stallings Plain (Early Woodland), Deptford Check
Stamped (Early Woodland), Thom's Creek Jab and Drag Punctated (Woodland), Thom's Creek Punctated (Woodland), Wilmington Net Impressed (Middle and Late Woodland), and Irene Complicated Stamped (Mississippian). The artifacts were recovered from the subsurface. It was noted that the poor preservation of the site was due to erosion and construction disturbance. Site 38BU2257 was determined not eligible for inclusion in the NRHP.

4.8.2.2 Previously Recorded Historic Resources

A total of 13 historic resources were previously recorded within one mile of the Beaufort County Airport Proposed Action APE (Table 4.8.2.2-1, page 54). These resources are recorded in the Beaufort County Above Ground Historic Resources Survey. The majority of these are buildings utilized as single dwellings for residential purposes. Construction dates range from circa 1915 to 1930. Another resource (025-378) is Inlet Cemetery. This cemetery was constructed around 1927 and continues to be utilized as a burial ground. None of the historic resources located within one mile of the Beaufort County Airport Proposed Action APE are eligible for inclusion in the NRHP. Additionally, none of these resources will be impacted by the Proposed Action.

4.8.2.3 Results of Field Investigations

Field investigations were undertaken in May 2015. A systematic pedestrian survey was conducted, with the excavation of 50-foot interval shovel tests within the previously recorded boundaries of Site 38BU150 and 100-foot interval shovel tests elsewhere in the Proposed Action APE. Archaeological fieldwork verified that much of the Proposed Action APE has been heavily disturbed by modern airport activities. Much of the area is paved for airport use (e.g., runway, taxiway, ramp, apron area). Other portions of the Proposed Action APE contain buried cable lines for runway lighting. Additionally, several drainage ditches and a large septic tank field contribute to the disturbance.

Heavily mottled soils were encountered and modern trash was observed in areas of the Proposed Action APE (surface and subsurface). Plastic fragments, modern beer bottle glass, and chunks of asphalt were frequently observed in shovel tests. Asphalt chunks may be associated with the previous runway angle, or they may be associated with improvements made to the current runway. The current asphalt runway has been resurfaced several times.

Archaeological investigations resulted in the location of one low-density locus concentration of cultural material situated within the boundary of 38BU150 in the grassy area east of the easternmost taxiway and south of the runway (Figure 4.8.2.3.1-1, page 55). No other artifacts, surface features, or subsurface deposits were identified in the study tract, either within 38BU150 boundaries or without.

Table 4.8.2.1-1
Previously Recorded Historic Resources within One Mile
Beaufort County Airport

<table>
<thead>
<tr>
<th>Resource</th>
<th>Historic Name</th>
<th>Type</th>
<th>Date</th>
<th>Location</th>
<th>NRHP Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>025-374</td>
<td>Single Dwelling</td>
<td>c. 1930</td>
<td>50 Club Road</td>
<td></td>
<td>Not Eligible</td>
</tr>
<tr>
<td>025-376</td>
<td>Single Dwelling</td>
<td>c. 1920</td>
<td>2 Inlet Road</td>
<td></td>
<td>Not Eligible</td>
</tr>
<tr>
<td>025-378</td>
<td>Inlet Cemetery</td>
<td>c. 1927</td>
<td>7 Dow Road</td>
<td></td>
<td>Not Eligible</td>
</tr>
<tr>
<td>025-380</td>
<td>Single Dwelling</td>
<td>c. 1930</td>
<td>48 Thomas Atkins Road</td>
<td></td>
<td>Not Eligible</td>
</tr>
<tr>
<td>025-382</td>
<td>Single Dwelling</td>
<td>c. 1925</td>
<td>37 Thomas Atkins Road</td>
<td></td>
<td>Not Eligible</td>
</tr>
<tr>
<td>025-384</td>
<td>Single Dwelling</td>
<td>c. 1930</td>
<td>28 Thomas Atkins Road</td>
<td></td>
<td>Not Eligible</td>
</tr>
<tr>
<td>025-386</td>
<td>Single Dwelling</td>
<td>c. 1920</td>
<td>32 Fred Walker Road</td>
<td></td>
<td>Not Eligible</td>
</tr>
<tr>
<td>025-402</td>
<td>Single Dwelling</td>
<td>c. 1930</td>
<td>402 Shorts Landing Road</td>
<td></td>
<td>Not Eligible</td>
</tr>
<tr>
<td>025-404</td>
<td>Single Dwelling</td>
<td>c. 1915</td>
<td>29 Blythewood</td>
<td></td>
<td>Not Eligible</td>
</tr>
<tr>
<td>025-406</td>
<td>Single Dwelling</td>
<td>c. 1930</td>
<td>35 Little Capers Road</td>
<td></td>
<td>Not Eligible</td>
</tr>
<tr>
<td>025-423</td>
<td>Single Dwelling</td>
<td>c. 1925</td>
<td>132 Sams Point Road</td>
<td></td>
<td>Not Eligible</td>
</tr>
<tr>
<td>182-369</td>
<td>Single Dwelling</td>
<td>c. 1930</td>
<td>105 Warsaw Island Road</td>
<td></td>
<td>Not Eligible</td>
</tr>
<tr>
<td>182-1430</td>
<td>Barnwell House</td>
<td>Single Dwelling</td>
<td>c. 1920</td>
<td>409 US 21</td>
<td>Not Eligible</td>
</tr>
</tbody>
</table>

Source: Brockington Cultural Resources Consulting (June 2015), “Phase I Cultural Resources Survey of 37.7 Acres of the Beaufort County Airport, Beaufort County, South Carolina,” prepared for Talbert, Bright & Ellington, Inc., Columbia, South Carolina.

4.8.2.3.1 38BU150 Revisit
A portion of Site 38BU150 was revisited during field investigations of the ARW Proposed Action APE. Shovel tests were excavated at 50-foot intervals within the 38BU150 site boundary. Shovel testing resulted in the identification of one small multi-component artifact concentration within the boundary of 38BU150.

The newly recorded artifact concentration at 38BU150 consists of three positive shovel tests located in an open area in the central eastern portion of the Beaufort County Airport Proposed Action APE (Figure 4.8.2.3.1-1, page 55). The concentration is positioned on a large marsh island about 0.25-mile south of the Warsaw Flats west of Lucy Creek and Morgan River. Nearby vegetation consists of grass; surface visibility is poor (less than 50 percent). The concentration was identified when one 50-foot interval survey shovel test was positive for a large mammal bone (probably cow) with butcher marks. Delineation consisted of placing additional shovel tests approximately 25 feet from the original positive test in each cardinal direction until two negative tests were recorded.
Delineation of the original positive shovel test resulted in the placement of 13 additional shovel tests, two of which yielded a Woodland-Mississippian sherd, general historic and early twentieth-century historic artifacts. The area was visually surveyed for cultural materials, though no additional artifacts were recovered. In total, four artifacts were collected from 38BU150. Collected artifacts include a large, unidentified mammal bone with possible butcher marks, a check stamped sand tempered rim sherd, a colorless machine-made glass container handle, and an unidentified iron fragment.

These artifacts represent both pre-contact and historic occupation and/or use of the area. The check stamped sherd was unable to be typed, as its surface is highly eroded, but it generally dates to the Woodland or Mississippian period. The glass container handle dates to the twentieth century. The unidentified iron object may also date to the twentieth century. However, it is more broadly classified as General Historic. The large mammal bone is likely representative of General Historic occupation and/or use of the project area.

The newly recorded artifact concentration at 38BU150 is a multicomponent artifact scatter located on a slight rise south of the runway and east of the easternmost taxiway. The concentration is bounded to the north and west by airport-related drainage ditches. This concentration may be associated with pre-contact and historic occupation and use of the area or it may be associated with fill dirt brought in. The presence of several twentieth-century trash clumps were previously identified in prior studies. It is possible that portions of this concentration are related to one or more these.

The revisited area of 38BU150 is highly disturbed by airport-related construction and use of the property. The majority of soils encountered were heavily mottled. Asphalt chunks and modern beer bottle and unidentified plastic fragments were recovered from several shovel tests. The overall low density of artifacts and modern disturbance of the area suggests that this revisited portion of 38BU150 has limited potential to further contribute to the history of Beaufort County. Therefore, it is recommended that the revisited portion of 38BU150 is not eligible for inclusion on the NRHP. No further management consideration of the site within the Beaufort County Airport Proposed Action APE is warranted.

Site 38BU150 was not revisited in its entirety, as archaeological investigations were limited to the Beaufort County Airport Proposed Action APE. However, a few observations were made as to the present state of some of the previously recorded features. Field personnel noted that no standing structures remain in the previously recorded location of the former house. The artificial mounds noted in 1978, likewise, are no longer visible. Airport staff confirmed that these artificial mounds have been moved. This area was used for fill dirt storage for several years, however at the request of the Airport, Beaufort County relocated the dirt to another property. Likewise, the previously recorded locations of two shell middens north of the Proposed Action APE were not revisited. These features, if still present, will not be affected by the proposed improvements to the Beaufort County Airport Proposed Action APE.
4.8.2.4 **Summary and Recommendations**

Background research revealed that one previously recorded archaeological site (38BU150) is located within the Proposed Action APE. Site 38BU150 is a large multicomponent site consisting of two shell middens, one former house location and nineteenth-century artifact scatter, and two artificial mounds. The site was recommended as not eligible for inclusion in the NRHP.

Background research revealed no historic resources previously recorded within the project tract. However, 13 historic resources were previously recorded within a one-mile radius. These resources were determined not eligible for inclusion in the NRHP.

Archaeological fieldwork verified that much of the Proposed Action APE, including 38BU150, has been heavily disturbed by modern airport activities. Much of the area is paved for airport use (e.g., runway, taxiway, ramp, apron area). Other portions of the Proposed Action APE contain buried cable lines for runway lighting. Additionally, several drainage ditches and a large septic tank field contribute to the disturbance. Heavily mottled soils were encountered and observed modern trash in all areas of the Proposed Action APE (surface and subsurface).

Site 38BU150 was revisited during field investigations of the Beaufort County Airport Proposed Action APE. Shovel testing resulted in the identification of one small multicomponent artifact concentration within the boundary of 38BU150. This concentration is located south of the runway and east of the easternmost taxiway, and consists of four general pre-contact and general historic artifacts recovered from three shovel tests. No other archaeological occurrences were identified.

Site 38BU150 was not revisited in its entirety; as part of the archaeological investigations were limited to the Beaufort County Airport Proposed Action APE. However, a few observations were made as to the present state of some of the previously recorded features. Field personnel noted that no standing structures remain in the previously recorded location of the former house. The artificial mounds noted in 1978 likewise are no longer visible. The previously recorded locations of two shell middens to the north of the Beaufort County Airport Proposed Action APE were not revisited. It is recommended that the portion of 38BU150 revisited during field investigations is not eligible for inclusion in the NRHP. No additional archaeological investigations within the current study area are suggested. Additional investigations would be necessary in the future to determine the presence or absence of significant archaeological features or deposits within portions of 38BU150 outside the Beaufort Airport Proposed Action APE.

The South Carolina State Historic Preservation Office (SCSHPO) concurred with the findings of the cultural resources assessment (Appendix D, page D-2)\(^4\)

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\(^4\)South Carolina Department of Archives and History (John D. Sylvest), “Beaufort County Airport Improvements, Beaufort County, South Carolina SHPO No. 15JS0238,” letter addressed to Lisa W. Favors, Federal Aviation Administration, August 5, 2015.
4.9 Land Use

4.9.1 Definition
Land use is the measure and description of activities on local and regional natural systems.

4.9.2 Location
The Beaufort County Airport is located three miles southeast of the City of Beaufort on the north side of U.S. Highway 21 (Sea Island Parkway). ARW sits 9 feet above mean sea level (AMSL) and accessed from Airport Circle. The Airport occupies approximately 110 acres and is owned by Beaufort County.

4.9.3 Existing Land Use and Zoning
Land use within the APE includes (Figure 4.9.3-1, page 59):

- **North** – saltwater marsh associated with the Warsaw Flats portion of St. Helena Sound
- **East** – industrial and neighborhood/mixed use land uses
- **South** – industrial and neighborhood/mixed use land uses
- **West** – saltwater marsh associated with the Warsaw Flats portion of St. Helena Sound

The area within the APE is zoned by Beaufort County\textsuperscript{43} and City of Beaufort\textsuperscript{44} (Figure 4.9.3-2, page 60). County zoning includes:

- **Rural (T2R)** – preserves the rural character of Beaufort County and applies to areas that consist of sparsely settled lands in an open or cultivated state. It may include large residential lots, farms where animals are raised or crops are grown, parks, woodland, grasslands, trails, and open space areas.
- **Rural Neighborhood (T2RN)** – protects the residential character of existing communities and neighborhoods in the rural area. T2RN is intended to minimize non-conforming lots and provide owners of small clustered rural lots flexibility in the use of their land. The district is established by identifying areas with five contiguous lots of five or fewer acres.
- **Industrial (S1)** – permits office, manufacturing, industrial, warehousing, and uses that support them. S1 is also designed to permit small businesses and incubator businesses. Moderate to high intensities are permitted to achieve maximum land utilization. Such practices will maximize the land’s use and accommodate small businesses and start-up or incubator businesses.


Figure 4.9.3-1
Beaufort County Airport

Land Use

Source: Beaufort County
Figure 4.9.3-2
Beaufort County Airport
Zoning
Source: Beaufort County
City zoning within the APE includes:

- **Limited Light Industrial (LI)** – provides areas for light industrial purposes, which are not significantly objectionable in terms of noise, odor, fumes, etc., to surrounding properties. The regulations which apply within this district are designed to encourage the formation and continuance of a compatible environment for uses generally classified to be light industrial in nature; protect and reserve undeveloped areas in the City which are suitable for such industries; and discourage encroachment by those residential, commercial or other uses capable of adversely affecting the basic industrial character of the district.

- **Low Density Single-Family Residential District (R-1)** – is developed and reserved for low-density single-family residential purposes. The regulations which apply within this district are designed to encourage the formation and continuance of a stable, healthy environment for single-family dwellings situated on lots of 12,500 square feet or more; and to discourage any encroachment by commercial, industrial or other uses capable of adversely affecting the residential character of the district.

- **Planned Unit Development District (PUD)** – is reserved for the establishment and continuance of shopping centers, group housing projects, planned industrial developments, medical centers, resort areas and similar types of large-scale compatible use developments.

4.9.4 **Airport Overlay District**

Beaufort County has an airport overlay district (BC-AO), which protects ARW’s imaginary surfaces and sections within their Community Development Code specifically dedicated to aviation and states (Figure 4.9.4-1, page 62):

“The Beaufort County Airport (BC-AO) Zone is established to promote the health, safety and general welfare of the inhabitants of the County by preventing the creation, establishment or maintenance of hazards to aircraft, preventing the destruction or impairment of the utility of the Beaufort County Airport and the public investment therein, and protecting the lives and properties of owners or occupants of lands in the vicinity of the Beaufort County Airport as well as the users of the Beaufort County Airport.”

4.9.5 **Comprehensive Plan Land Use**

Beaufort County’s Comprehensive Plan relies on the Airport Master Plan for the development of ARW.

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47CDM Smith (January 2014), “Beaufort County Airport Master Plan Update,” prepared for Beaufort County (approved March 25, 2014) in association with Federal Aviation Administration (approved May 6, 2014) and South Carolina Aeronautics Commission.
Figure 4.9.4-1
Beaufort County Airport
Airport Overlay District

Source: Beaufort County
4.9.6 **Potential Compatible Land Use Impacts**

Based on existing and future land use and current zoning, the No-Action Alternative and the Proposed Action are considered compatible with surrounding land use.

4.9.7 **Future Land Use Changes**

No land use changes are anticipated due to the Proposed Action being constructed on Airport property. However, it is anticipated that ARW will expand in the future as the need for additional aviation-related facilities are developed.

4.9.8 **Beaufort County and City of Beaufort Land Use Consistency Determination**

Concurrence with the Beaufort County and City of Beaufort land use plan has been requested.

4.10 **Natural Resources and Energy Supply**

4.10.1 **Definition**

Executive Order 13123, *Greening the Government through Efficient Energy Management*,\(^4\) encourages each federal agency to expand the use of renewable energy within its facilities and in its activities. Executive Order 13123, *Greening the Government through Efficient Energy Management*, also requires each federal agency to reduce petroleum use, total energy use and associated air emissions, and water consumption in its facilities.

The assessment of natural resources and energy supply generally entails altered requirements for stationary facilities. The Proposed Action would require the removal of trees during construction. Small amounts of fossil fuels would be expended, and these materials are generally not retrievable. However, these materials are not in short supply, and their use would not have an adverse effect upon continued availability of these resources.

4.10.2 **No-Action Alternative on Natural Resources and Energy Supply**

Under the No-Action Alternative, no additional consumption of energy supply and natural resources would occur. No impacts are expected, and no mitigation is required.

4.10.3 **Proposed Action on Natural Resources and Energy Supply**

The Proposed Action is expected to have a slight increase in ground vehicles per day within the APE. This would create a minimal increase in the automobile fuel consumption. Although slight increases in fuel consumption are expected from the Proposed Action, the increase is considered minimal and is not expected to create an exorbitant demand or draw upon natural resources in short supply.

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4.11 Noise and Noise-Compatible Land Use

4.11.1 Definition

Noise is unwanted sound. Sound has three basic characteristics: frequency (or pitch), magnitude (technically called level and popularly called loudness), and time pattern. Frequency is measured in cycles per second or hertz (Hz). The human ear is capable of discerning sounds in the range from 20 Hz (a rumbling sound) to 20,000 Hz (a hissing sound). The level of a sound is measured as the sound pressure level (SPL). The unit of SPL is the decibel (dB). Because hearing is logarithmic, not linear, the SPL is a logarithmic quantity. Thus, a 10-dB increase in level reflects a 10-time increase in sound energy, and a 20-dB increase in level reflects a 100-time increase in sound energy. There are many different time patterns of sounds, ranging from a sound that is continuous in frequency and level for a long period (such as the 60 Hz hum from a fluorescent lamp) to a complex mixture of frequencies and levels over a short period (such as a door slam). Environmental noises are typically described in terms of the A-weighted sound level (dB-A), a measure that reflects human hearing, which is most sensitive at 2,000 Hz and decreasingly sensitive below and above 2,000 Hz. Figure 4.11.1-1 (page 65) illustrates A-weighted sound levels of common sounds.

4.11.2 Noise Contour Mapping

DNL noise levels are indicated by a series of modeled contour lines superimposed on an airport map. These levels are calculated for designated points on the ground from the weighted summation of the effects of all aircraft operations. Some operations are far enough away from a location that their effect is minimal, while other operations may dominate noise exposure at that location. For example, a location just east of the airport may be affected by an aircraft departure to the east but unaffected by an arrival from the west.

4.11.3 Operational Activity

Modeling airport noise in the Integrated Noise Model (INM) requires data from parameters such as aircraft operations, fleet mix, runway utilization, operational profiles, and flight tracks. The following is a summary of the 2008 and 2028 operational data used in the noise modeling analysis from the Master Plan Update.

4.11.3.1 Aircraft Operations

The annual operations for 2008 were 41,000, approximately 112 operations per day, and the annual operations for the forecast year are estimated to be 74,100, approximately 203 operations per day (Table 4.11.3.1-1, page 66).

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49CDM Smith (January 2014), “Beaufort County Airport Master Plan Update,” prepared for Beaufort County (approved March 25, 2014) in association with Federal Aviation Administration (approved May 6, 2014) and South Carolina Aeronautics Commission, Section 5.13 – Noise (pages 5-12 through 5-14).
## Levels of Common Sounds

<table>
<thead>
<tr>
<th>Common Noise Source</th>
<th>Sound Level Scale (dBA)</th>
<th>Aircraft Sound Level (SEL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oxy/Acetylene Torch</td>
<td>125</td>
<td>B-2 and F-18 at 200 feet (121)</td>
</tr>
<tr>
<td>Rock Band</td>
<td>120</td>
<td>B-1 at 200 feet (119)</td>
</tr>
<tr>
<td>Chain Saw</td>
<td>110</td>
<td>B-52 at 500 feet (113)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>B-2 at 500 feet (114)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>B-1 at 500 feet (113)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>F-15 at 500 feet (112)</td>
</tr>
<tr>
<td>Diesel Train at 50 feet</td>
<td>95</td>
<td>B-1 at 1,000 feet (108)</td>
</tr>
<tr>
<td>Motorcycle at 25 feet</td>
<td>90</td>
<td>Tornado at 200 feet (107)</td>
</tr>
<tr>
<td>Lawn Mower</td>
<td>85</td>
<td>B-52 at 2,000 feet (92)</td>
</tr>
<tr>
<td>Diesel Train at 100 feet</td>
<td>80</td>
<td>Tornado at 2,000 feet (89)</td>
</tr>
<tr>
<td>Garbage Disposal</td>
<td>80</td>
<td>F-18 at 5,000 feet (81)</td>
</tr>
<tr>
<td>Living Room Music</td>
<td>75</td>
<td>B-1 at 20,000 feet (70)</td>
</tr>
<tr>
<td>Vacuum Cleaner</td>
<td>70</td>
<td>B-52 and F-18 at 20,000 feet (56)</td>
</tr>
<tr>
<td>Auto at 100 feet</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>Typical Conversation</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>Air Condition at 100 feet</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>Quiet Urban Daytime</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>Bird Calls (Distant)</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>Rural Daytime Outdoors</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>Threshold of Hearing</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

Figure 4.11.1-1
Beaufort County Airport
Table 4.11.3.1-1
Aircraft Operations Mix
Beaufort County Airport

<table>
<thead>
<tr>
<th></th>
<th>Year</th>
<th>Single-Engine</th>
<th>Multi-Engine</th>
<th>Jet</th>
<th>Helicopter</th>
</tr>
</thead>
<tbody>
<tr>
<td>Existing</td>
<td>2008</td>
<td>68.6%</td>
<td>25%</td>
<td>1.0%</td>
<td>5.4%</td>
</tr>
<tr>
<td>Forecast</td>
<td>2028</td>
<td>63.0%</td>
<td>23.9%</td>
<td>7.6%</td>
<td>5.4%</td>
</tr>
</tbody>
</table>

Source: CDM Smith (January 2014), “Beaufort County Airport Master Plan Update,” prepared for Beaufort County (approved March 25, 2014) in association with Federal Aviation Administration (approved May 6, 2014) and South Carolina Aeronautics Commission.

4.13.3.2 Aircraft Operations Mix

The operations mix consists of various categories of aircraft operating at Beaufort County Airport, as shown in Table 4.11.3.1-1. These estimates were based on the existing and projected fleet mix detailed in the Table 2.3-1 (page 9).

4.13.3.3 Runway Utilization and Traffic Patterns

Beaufort County Airport’s runway is aligned with the prevailing winds of the region, and, with no air traffic control tower, runway use is determined by the pilot in command of each aircraft. In general, pilots select the runway that permits operations to occur with a headwind. Historic wind data indicates that neither Runway 07 nor Runway 25 is favored by the wind, so runway utilization is split evenly between the two runways. With an assumed 5 percent of operations occurring at night, Table 4.11.3.3-1 illustrates the allocation of runway use. These utilization rates are not expected to change throughout the forecast period.

Table 4.11.3.3-1
Runway Usage (Percent)
Beaufort County Airport

<table>
<thead>
<tr>
<th>Runway</th>
<th>Day</th>
<th>Night</th>
</tr>
</thead>
<tbody>
<tr>
<td>07</td>
<td>47.5%</td>
<td>2.5%</td>
</tr>
<tr>
<td>25</td>
<td>47.5%</td>
<td>2.5%</td>
</tr>
</tbody>
</table>

Source: CDM Smith (January 2014), “Beaufort County Airport Master Plan Update,” prepared for Beaufort County (approved March 25, 2014) in association with Federal Aviation Administration (approved May 6, 2014) and South Carolina Aeronautics Commission.

Even without an air traffic control tower, there are established traffic patterns at the Airport. Aircraft using Runway 07 fly what is known as a right-hand traffic pattern, a rectangular flight path with turns to the right that aligns the aircraft with the runway. Pilots flying to Runway 25
use a left-hand traffic pattern. As a result, operations are concentrated to the southeast of the airport and thereby avoiding the City of Beaufort to the north and west.

4.13.3.4 Approach and Departure Profiles

Approach and departure profiles illustrate an aircraft’s altitude along its flight path. INM’s vast database includes information regarding standard approach and departure profiles for the aircraft in this analysis.

4.13.3.5 Flight Tracks

Flight tracks project an aircraft’s flight path as if shown on the surface. Due to meteorological conditions, aircraft type, stage length, air traffic control instructions, and pilot judgment, flight tracks are unique to each operation. Generalized flight tracks were developed for Beaufort County Airport based on operations and fleet mix data. These flight tracks took into account local traffic patterns, variable entry and exits to the pattern, and arrival and departure paths used by both fixed-wing and helicopter aircraft.

4.11.4 Noise Exposure Impacts

FAA Order 5050.4B requires that the 65, 70, and 75 DNL noise contours be developed for existing and future airport conditions. Noise levels greater than 65 DNL are generally considered unacceptable for noise-sensitive land uses, such as residences, hospitals, and schools. The existing noise contours modeled for this analysis are illustrated in Figure 4.11.4-1 (page 68).

Based on the noise analysis, the 65, 70, and 75 DNL encompasses mostly Airport property. Although an insignificant amount of noise falls beyond the airport property line, the affected areas are small in size and do not appear to be suitable for incompatible land uses (salt water marsh).

4.11.5 Potential Compatible Land Use Impacts

Potential land use impacts associated with future development of the Beaufort County Airport are described in terms of airport and community planning efforts, jurisdictional coordination, and development patterns. The compatibility of existing and planned land uses in the vicinity of an airport is usually associated with two factors:

- The extent of noise impacts from and to the airport and related development
- Consistency with local land use plans and development policies

The principal factors influencing land use in the vicinity of an airport often include height obstructions, airport safety zones, and noise. Overall, noise exposure is often the most objectionable interference of the airport with the surrounding environment, as the compatibility with existing and planned land uses in the airport’s vicinity is normally associated with the extent of noise impacts. Table 4.11.5-1 (page 69) identifies FAA land use compatibility standards, as identified by the 65, 70, 75, and 80 day-night average sound level (DNL) noise contours.
Figure 4.11.4-1
Beaufort County Airport
Existing Noise Contours
Table 4.11.5-1
Compatible Land Use for Noise Level Ranges
Beaufort County Airport

<table>
<thead>
<tr>
<th>Land Use</th>
<th>Yearly DNL in Decibels (dB)</th>
<th>Below 65</th>
<th>65–70</th>
<th>70–75</th>
<th>75–80</th>
<th>80–85</th>
<th>Over 85</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residential, other than mobile homes and transient lodgings</td>
<td></td>
<td>Y</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>Mobile home parks</td>
<td></td>
<td>Y</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>Transient lodgings</td>
<td></td>
<td>Y</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td><strong>Public Use</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Schools</td>
<td></td>
<td>Y</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>Hospitals and nursing homes</td>
<td></td>
<td>Y</td>
<td>25</td>
<td>30</td>
<td>N</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>Churches, auditoriums, and concert halls</td>
<td></td>
<td>Y</td>
<td>25</td>
<td>30</td>
<td>N</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>Government services</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td>25</td>
<td>30</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>Transportation</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>Parking</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td><strong>Commercial Use</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Offices, businesses, and professional</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td>25</td>
<td>30</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>Wholesale and retail – building materials, hardware, and farm equipment</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Retail trade – general</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td>25</td>
<td>30</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>Utilities</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>Communication</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td>25</td>
<td>30</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td><strong>Manufacturing and Production</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Manufacturing – general</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
</tr>
<tr>
<td>Photographic and optical</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td>25</td>
<td>30</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>Agriculture (except livestock) and forestry</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>Livestock farming and breeding</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>Mining and fishing, resource production and extraction</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td><strong>Recreational</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Outdoor sports areas and spectator sports</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>Outdoor music amphitheaters</td>
<td></td>
<td>Y</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>Nature exhibits and zoos</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>Amusements, parks, resorts, and camps</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>Golf courses, riding stables, and water recreation</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td>25</td>
<td>30</td>
<td>N</td>
<td>N</td>
</tr>
</tbody>
</table>

Notes:
Y (Yes) – Land use and related structures compatible without restrictions.
N (No) – Land use and related structures are not compatible and should be prohibited.
NLR – Noise level reduction (outdoor and indoor) to be achieved through incorporation of noise attenuation into the design and construction of the structure.
25 or 30 – Land use and related structures generally compatible; measures to achieve NLR of 25, 30, or 35 dB must be incorporated in design and construction of structure.
It should be noted that the responsibility for determining the acceptable and permissible land use in the vicinity of an airport remains with local authorities in response to local needs and values in achieving compatible land use.

Future land use in the vicinity of the Proposed Action is not expected to change from current uses surrounding the Airport. Overall, noise exposure is often the most objectionable interference of the airport with the surrounding environment, as the compatibility with existing and planned land uses in the airport's vicinity is normally associated with the extent of noise impacts. However, since no significant noise impacts are expected, a similar conclusion is drawn in reference to land use compatibility. It should be noted that the responsibility for determining the acceptable and permissible land use remains with local authorities (Beaufort County and City of Beaufort) in response to local needs and values in achieving compatible land use.

4.11.6 Potential Construction Noise Impacts
Noise impact may occur in the vicinity of the construction site for the Proposed Action. Noise generated from construction activities would be mitigated through use of BMPs. The contractor would be required to comply with county and/or other local noise regulations.

The No-Action Alternative would have no construction development and, therefore, would not result in any noise impacts.

Construction of the Proposed Action would implement BMPs to construction noise impacts, as well as require the contractor to comply with county and/or other local noise regulations.

4.12 Socioeconomic Impacts, Environmental Justice, and Children’s Environmental Health and Safety Risks

4.12.1 Socioeconomic Impacts

4.12.1.1 Socioeconomic Environment
The population of Beaufort County was 162,233 in 2010, according to the United States Census Bureau. The population of Beaufort County increased by 39.9 percent between 1990 and 2000 and 34.1 percent between 2000 and 2010, respectively. Current projections by the South Carolina Budget and Control Board Office of Research and Statistics anticipate that Beaufort County would increase its population an additional 14.0 percent by 2020. From 2010 to 2035, it is expected to increase an additional 42.0 percent, as illustrated in the Table 4.12.1-1 (page 71).

The total permanent resident population of the City of Beaufort in 2010 was 12,361 persons. When compared with the 2010 population of Beaufort County, the City comprises nearly 7.6 percent of the County’s population.
Table 4.12.1-1
Population Projections
Beaufort County Airport

<table>
<thead>
<tr>
<th>Year</th>
<th>City of Beaufort Population</th>
<th>Percent Change</th>
<th>Beaufort County Population</th>
<th>Percent Change</th>
<th>South Carolina Population</th>
<th>Percent Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>1940</td>
<td>3,185</td>
<td>14.7%</td>
<td>22,037</td>
<td>22.5%</td>
<td>1,899,804</td>
<td>11.4%</td>
</tr>
<tr>
<td>1950</td>
<td>5,081</td>
<td>59.5%</td>
<td>26,993</td>
<td>63.7%</td>
<td>2,117,027</td>
<td>12.5%</td>
</tr>
<tr>
<td>1960</td>
<td>6,298</td>
<td>24.0%</td>
<td>44,187</td>
<td>15.7%</td>
<td>2,382,594</td>
<td>11.4%</td>
</tr>
<tr>
<td>1970</td>
<td>9,434</td>
<td>49.8%</td>
<td>51,136</td>
<td>27.8%</td>
<td>2,590,516</td>
<td>8.7%</td>
</tr>
<tr>
<td>1980</td>
<td>8,634</td>
<td>-8.5%</td>
<td>65,364</td>
<td>32.2%</td>
<td>3,121,820</td>
<td>20.5%</td>
</tr>
<tr>
<td>1990</td>
<td>9,576</td>
<td>10.9%</td>
<td>86,425</td>
<td>39.9%</td>
<td>3,486,703</td>
<td>11.7%</td>
</tr>
<tr>
<td>2000</td>
<td>12,789</td>
<td>33.6%</td>
<td>120,937</td>
<td>34.1%</td>
<td>4,012,012</td>
<td>15.1%</td>
</tr>
<tr>
<td>2010</td>
<td>12,361</td>
<td>-3.3%</td>
<td>162,233</td>
<td>39.9%</td>
<td>4,625,364</td>
<td>15.3%</td>
</tr>
<tr>
<td>2015</td>
<td>170,640</td>
<td>5.2%</td>
<td>4,784,700</td>
<td>3.4%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2020</td>
<td>185,220</td>
<td>8.5%</td>
<td>5,020,400</td>
<td>4.9%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2025</td>
<td>199,780</td>
<td>7.9%</td>
<td>5,256,080</td>
<td>4.7%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2030</td>
<td>215,270</td>
<td>7.8%</td>
<td>5,488,460</td>
<td>4.4%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2035</td>
<td>230,240</td>
<td>7.0%</td>
<td>5,722,720</td>
<td>4.3%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


Table 4.12.1-2 (page 72) illustrates the general demographic characteristics for Beaufort County. Beaufort County has a wide range of businesses, from manufacturers of power transmission components and hydraulic hoses to textiles and aircraft parts and equipment. The 20 largest employers in Beaufort County are outlined on Table 4.12.1-3 (page 73).

A brief synopsis of Beaufort County’s labor data is presented in Table 4.12.1-4 (page 73).

### 4.12.1.2 Potential Socioeconomic Impacts

Potential socioeconomic impacts include the acquisition of real property and/or the displacement of businesses. There would be no land acquisition or displacement of persons in either the No-Action Alternative or the Proposed Action; therefore, there would be no impact.

### 4.12.1.3 Secondary (Induced) Impacts

The total cost for the Proposed Action is estimated to be approximately $5.95 million. Positive economic impacts, due to the Proposed Action, could include an increase in business locations in the vicinity of ARW, as well as economic development because of new businesses locating to the region. Construction of the Proposed Action could also directly benefit local retailers and commercial establishments, particularly those providing construction equipment and materials. In addition, the Proposed Action would create temporary employment opportunities for laborers, equipment operators, and other construction-type employees. Also during the construction period, retail and service facilities in the vicinity of the Airport should experience an increase in sales from construction employees.
### Table 4.15.1-2
General Demographic Characteristics (2010)
Beaufort County Airport

<table>
<thead>
<tr>
<th>Subject</th>
<th>Evaluation Area*</th>
<th>City of Beaufort</th>
<th>Beaufort County</th>
<th>South Carolina</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total population</td>
<td>3,744</td>
<td>12,361</td>
<td>162,233</td>
<td>4,625,364</td>
</tr>
<tr>
<td>Sex and Age</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>1,819</td>
<td>6,041</td>
<td>80,089</td>
<td>2,250,101</td>
</tr>
<tr>
<td>Female</td>
<td>1,926</td>
<td>6,320</td>
<td>82,144</td>
<td>2,375,263</td>
</tr>
<tr>
<td>Under 5 years</td>
<td>262</td>
<td>957</td>
<td>10,960</td>
<td>302,297</td>
</tr>
<tr>
<td>5 to 9 years</td>
<td>263</td>
<td>757</td>
<td>9,566</td>
<td>295,853</td>
</tr>
<tr>
<td>10 to 14 years</td>
<td>275</td>
<td>639</td>
<td>8,553</td>
<td>297,286</td>
</tr>
<tr>
<td>15 to 19 years</td>
<td>214</td>
<td>708</td>
<td>9,966</td>
<td>328,989</td>
</tr>
<tr>
<td>20 to 24 years</td>
<td>179</td>
<td>1,478</td>
<td>11,756</td>
<td>332,494</td>
</tr>
<tr>
<td>25 to 34 years</td>
<td>416</td>
<td>1,744</td>
<td>20,137</td>
<td>592,056</td>
</tr>
<tr>
<td>35 to 44 years</td>
<td>481</td>
<td>1,255</td>
<td>17,534</td>
<td>601,293</td>
</tr>
<tr>
<td>45 to 54 years</td>
<td>537</td>
<td>1,454</td>
<td>18,580</td>
<td>659,428</td>
</tr>
<tr>
<td>55 to 59 years</td>
<td>256</td>
<td>743</td>
<td>9,886</td>
<td>303,240</td>
</tr>
<tr>
<td>60 to 64 years</td>
<td>252</td>
<td>715</td>
<td>12,273</td>
<td>280,555</td>
</tr>
<tr>
<td>65 to 74 years</td>
<td>385</td>
<td>971</td>
<td>20,137</td>
<td>369,043</td>
</tr>
<tr>
<td>75 to 84 years</td>
<td>173</td>
<td>640</td>
<td>9,698</td>
<td>192,114</td>
</tr>
<tr>
<td>85 years and over</td>
<td>51</td>
<td>300</td>
<td>3,197</td>
<td>70,717</td>
</tr>
<tr>
<td>Median age (years)</td>
<td>34.2</td>
<td>40.6</td>
<td>37.9</td>
<td></td>
</tr>
<tr>
<td>18 years and over</td>
<td>2,797</td>
<td>9,605</td>
<td>127,885</td>
<td>3,544,890</td>
</tr>
<tr>
<td>Male</td>
<td>1,328</td>
<td>4,647</td>
<td>62,689</td>
<td>1,699,463</td>
</tr>
<tr>
<td>Female</td>
<td>1,469</td>
<td>4,958</td>
<td>65,196</td>
<td>1,845,427</td>
</tr>
<tr>
<td>Average household size</td>
<td>2.55</td>
<td>2.28</td>
<td>2.42</td>
<td>2.49</td>
</tr>
<tr>
<td>Average family size</td>
<td>2.94</td>
<td>2.88</td>
<td>2.84</td>
<td>3.01</td>
</tr>
</tbody>
</table>

### Housing Occupancy

| Total housing units          | 1,644             | 5,630            | 93,023          | 2,137,683      |
| Occupied housing units       | 1,465             | 4,883            | 64,945          | 1,801,181      |
| Vacant housing units         | 179               | 747              | 28,078          | 336,502        |
| For seasonal, recreational, or occasional use | 53 | 153 | 14,902 | 112,531 |
| Homeowner vacancy rate (percent) | 4.9 | 4.1 | 2.8 | |
| Rental vacancy rate (percent) | 11.0 | 30.7 | 14.3 | |
| Occupied housing units       | 1,465             | 4,883            | 93,023          | 1,801,181      |
| Owner-occupied housing units | 1,167             | 2,629            | 45,866          | 1,248,805      |
| Renter-occupied housing units | 298 | 2,254 | 19,077 | 552,376 |
| Average household size of owner-occupied unit | 2.48 | 2.27 | 2.31 | 2.51 |
| Average household size of renter-occupied unit | 2.87 | 2.30 | 2.66 | 2.45 |

*Census Tract 9.02, Block Group 3; Census Tract 9.03, Block Group 1.
### Table 4.12.1-3

**Twenty Largest Employers in Beaufort County**

<table>
<thead>
<tr>
<th>Company</th>
</tr>
</thead>
<tbody>
<tr>
<td>Atlantic Personnel, Inc.</td>
</tr>
<tr>
<td>Beaufort County School District</td>
</tr>
<tr>
<td>Beaufort Memorial Hospital</td>
</tr>
<tr>
<td>BiLo, LLC</td>
</tr>
<tr>
<td>Carecore National, LLC</td>
</tr>
<tr>
<td>County of Beaufort</td>
</tr>
<tr>
<td>Cypress Club, Inc.</td>
</tr>
<tr>
<td>Department of Defense</td>
</tr>
<tr>
<td>Hargray Communications Group, Inc.</td>
</tr>
<tr>
<td>Lowes Home Centers, Inc.</td>
</tr>
<tr>
<td>Marine Corps Community Services</td>
</tr>
<tr>
<td>Marriott Resorts Hospitality Corp.</td>
</tr>
<tr>
<td>Montage Hotels and Resorts, LLC</td>
</tr>
<tr>
<td>Publix Super Markets Inc</td>
</tr>
<tr>
<td>Sea Pines Resort, LLC</td>
</tr>
<tr>
<td>Southern Bread, LLC</td>
</tr>
<tr>
<td>Technical College of the Lowcountry</td>
</tr>
<tr>
<td>Tenet Physician Services of Hilton Head</td>
</tr>
<tr>
<td>The Greenery, Inc.</td>
</tr>
<tr>
<td>Wal-Mart Associates, Inc.</td>
</tr>
</tbody>
</table>

Source: S.C. Department of Employment & Workforce


### Table 4.12.1-4

**Labor Data for Beaufort County**

<table>
<thead>
<tr>
<th>Criteria</th>
<th>2000</th>
<th>2005</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Labor Force</td>
<td>53,372</td>
<td>61,381</td>
<td>63,125</td>
</tr>
<tr>
<td>Employment</td>
<td>51,130</td>
<td>58,372</td>
<td>57,397</td>
</tr>
<tr>
<td>Unemployment</td>
<td>1,574</td>
<td>3,009</td>
<td>5,728</td>
</tr>
<tr>
<td>Unemployment Rate</td>
<td>3.1%</td>
<td>4.9%</td>
<td>9.1%</td>
</tr>
<tr>
<td>Average Annual Wage per Worker</td>
<td>$25,618</td>
<td>$30,476</td>
<td>$32,595</td>
</tr>
<tr>
<td>Per Capita Income¹</td>
<td>$33,408</td>
<td>$39,824</td>
<td>$42,430</td>
</tr>
</tbody>
</table>

¹Per capita personal income was computed using Census Bureau midyear population estimates. Estimates for 2000-2010 reflect county population estimates available as of April 2012.

Negative impacts would result from the expenditure of public funds for construction and long-term maintenance of the Proposed Action. Regardless of how the facility is funded, there would be an additional economic burden imposed on the general public. The Proposed Action is estimated to cost, in 2014 dollars, $5.95 million. Funds from Beaufort County are in place and committed to the design and environmental documentation for the Proposed Action. Overall, any principle negative social impacts on existing or planned property from the Proposed Action are not expected to cause shifts in patterns of population movement and growth, public service demands, and changes in business and economic activity.50

4.12.2 Environmental Justice

4.12.2.1 Definition

Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations,51 states that to the greatest extent practicable and permitted by law, each federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority and low-income populations.

Disproportionate can mean that an impact occurs predominantly in environmental justice populations (those populations with percentages of low-income and/or minority individuals above the percentages for the county in which the individuals live) or that the impact is more severe in these populations than non-environmental justice populations. The terms minority persons, minority population, low-income persons, and low-income populations as defined are useful in understanding environmental justice.

- **Minority populations** are
  - Origins of any of the black racial groups from Africa
  - Hispanic origins such as Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race
  - Asian origins such as any of the original peoples of the Far East, Southeast Asia, or the Indian subcontinent
  - America Indian and Alaskan Native people such as those with origins in any of the original people of North America and who maintain cultural identification through tribal affiliation or community recognition
  - Native Hawaiian or Other Pacific Islander people such as those having origins in any of the original peoples of Hawaii, Guam, Samoa, or other Pacific Islands

- **Minority persons** are any readily identifiable groups or minority populations who live in close geographic proximity and, if circumstances warrant, geographically

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dispersed/transient persons (such as migrant workers or Native Americans) who would be similarly affected by a proposed activity.

- **Low-income populations** are any readily identifiable community or group whose median household income is at or below the United States Department of Health and Human Services (USDHHS) poverty guidelines (Table 4.12.2.1-1). The United States Census Bureau Office of Statistics also provides census data used in calculating low-income populations.

- **Low-income persons** – persons whose household income is at or below the USDHHS poverty guidelines outlined in Table 4.12.2.1-1.

### Table 4.12.2.1-1

<table>
<thead>
<tr>
<th>Size of Family Unit</th>
<th>Weighted Average Thresholds</th>
<th>Size of Family Unit</th>
<th>Weighted Average Thresholds</th>
</tr>
</thead>
<tbody>
<tr>
<td>One person</td>
<td>$11,880</td>
<td>Six people</td>
<td>$32,580</td>
</tr>
<tr>
<td>Two people</td>
<td>$16,020</td>
<td>Seven people</td>
<td>$36,730</td>
</tr>
<tr>
<td>Three people</td>
<td>$20,160</td>
<td>Eight people</td>
<td>$40,890</td>
</tr>
<tr>
<td>Four people</td>
<td>$24,300</td>
<td>Each Additional Person</td>
<td>+$4,160</td>
</tr>
<tr>
<td>Five people</td>
<td>$28,440</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


#### 4.12.2.2 Minority Populations

A block group analysis was conducted to identify minority areas within the vicinity of ARW. Total minority population in the APE (Census Tract 107, Block Groups 1 and 2; Census Tract 108, Block Groups 1 and 2; and Census Tract 109, Block Groups 1 and 2, Figure 4.12.2.2-1, page 76) in 2010 was estimated at approximately 27.2 percent (Table 4.12.2.2-1, page 77). This percentage is 5.2 percent lower than South Carolina (32.4 percent), as a whole.

#### 4.12.2.3 Low-Income Populations

A block group analysis was conducted to identify low-income areas within the vicinity of ARW. The total percentage of people in the APE (Census Tract 107, Block Groups 1 and 2; Census Tract 108, Block Groups 1 and 2; and Census Tract 109, Block Groups 1 and 2) classified as living below the poverty level in 2010 was approximately 13.0 percent (Table 4.12.2.3-1, page 77). This rate is 8.0 percent lower than South Carolina (18.2 percent), as a whole.
Figure 4.12.2.2-1
Beaufort County Airport
Environmental Justice Analysis Area
Table 4.12.2.2-1
United States Census Minority Populations
By Individuals (2010)
Beaufort County Airport

<table>
<thead>
<tr>
<th>Location</th>
<th>Total Population</th>
<th>Total Minority Population</th>
<th>Percent Minority Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>308,745,538</td>
<td>77,803,876</td>
<td>25.2%</td>
</tr>
<tr>
<td>South Carolina</td>
<td>4,625,364</td>
<td>1,498,618</td>
<td>32.4%</td>
</tr>
<tr>
<td>Beaufort County</td>
<td>162,233</td>
<td>45,588</td>
<td>28.1%</td>
</tr>
<tr>
<td>City of Beaufort</td>
<td>12,361</td>
<td>4,206</td>
<td>34.0%</td>
</tr>
<tr>
<td>Evaluation Area*</td>
<td>3,744</td>
<td>1,020</td>
<td>27.2%</td>
</tr>
</tbody>
</table>

*Census Tract 9.02, Block Group 3; Census Tract 9.03, Block Group 1.

Table 4.12.2.3-1
United States Census Low-Income Populations
By Individuals (2010)
Beaufort County Airport

<table>
<thead>
<tr>
<th>Location</th>
<th>Total Population</th>
<th>Total Low-Income Population</th>
<th>Percent Low-Income Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>301,535,021</td>
<td>46,215,956</td>
<td>15.3%</td>
</tr>
<tr>
<td>South Carolina</td>
<td>4,493,865</td>
<td>815,755</td>
<td>18.2%</td>
</tr>
<tr>
<td>Beaufort County</td>
<td>154,246</td>
<td>19,459</td>
<td>12.6%</td>
</tr>
<tr>
<td>Evaluation Area*</td>
<td>3,744</td>
<td>380</td>
<td>10.2%</td>
</tr>
</tbody>
</table>

*Census Tract 9.02, Block Group 3; Census Tract 9.03, Block Group 1.

As a result, the minority and/or low-income populations that reside within the environmental justice evaluation area do not exceed the thresholds for the state of South Carolina.

4.12.2.4 No-Action Alternative Potential Impacts

Under the No-Action Alternative there would not be any relocations, noise, or visual or aesthetic impacts; therefore, there would be no environmental justice impacts.

4.12.2.5 Proposed Action Potential Impacts

The Proposed Action would have no impact on minority populations and low-income populations, as construction of the Proposed Action would not require relocation of residences.
4.12.3 Children’s Environmental Health and Safety Risks

4.12.3.1 Definition

Executive Order 13045, Protection of Children from Environmental Health Risks and Safety Risks,\(^{52}\) states that each federal agency shall:

- Make it a high priority to identify and assess environmental health risks and safety risks that may disproportionately affect children
- Ensure that its policies, programs, activities, and standards address disproportionate risks to children that result from environmental health risks or safety risks

4.12.3.2 No-Action Alternative (Existing 4,300-Foot Runway)

The effects of the No-Action Alternative on populations within the APE would be essentially the same as the environmental justice areas.

4.12.3.3 Proposed Action

The Proposed Action is not expected to result in any environmental health risks or safety risks on children, as hazardous materials associated with aviation-related activities would not be readily accessible to children.

4.13 Visual Effects

4.13.1 Light Emissions

4.13.1.1 Existing Conditions

The following is a summary of the airfield lighting in use at ARW:

- **Medium intensity runway lights (MIRLs)** outline the edge of Runway 07/25 during periods of darkness or restricted visibility conditions. The runway edge lights are white, except the last 2,000 feet, which are yellow to form a caution zone for landings. The lights marking the ends of the runway emit red light toward the runway to indicate the end of runway to a departing aircraft and emit green outward from the runway end to indicate the threshold to landing aircraft. The lights are located not more than ten feet from the edge of the pavement and are at 200-foot intervals.

- **Medium intensity taxiway lights (MITLs)** are used to outline the edges of the taxiways during periods of darkness or restricted visibility conditions and emit blue light. The lights are located not more than ten feet from the edge of the pavement and are at 200-foot intervals.

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• **PAPIs** provide visual glide slope guidance in non-precision approaches environment. These systems have an effective visual range of at least three miles during the day and up to 20 miles at night. The row of light units is normally installed on the left side of the runway, and the glide path indications are as two red and two white when on proper glide path angle of approach.

• **Rotating beacon** identifies the location of ARW at night and is identified by projecting green and white beams of light 180 degrees apart.

There are no light emission impacts because land use around the periphery of the Airport is commercial, industrial, or saltwater marsh.

### 4.13.1.2 Potential Light Emissions Impacts

The No-Action Alternative and Proposed Action would not result in light emission impacts as development around the Airport is predominantly commercial and light industrial. Mitigation for lighting impacts, if necessary, may include landscape architecture, such as the provision of a vegetative buffer, but the light impacts are not expected to be adverse.

### 4.13.2 Visual Impacts

#### 4.13.2.1 Existing Conditions

Visual impacts are identified by examining the visual viewshed of the Proposed Action APE. The visual viewshed, which takes into account the entire landscape, is comprised of two main aspects: views to and views from the Proposed Action APE.

The existing viewshed of the Proposed Action APE is primarily a developed environment with viewsheds typical of commercial and industrial development, or saltwater marsh.

#### 4.13.2.2 Potential Visual Impacts

The No-Action Alternative and Proposed Action would not result in visual impacts. From the standpoint of visual appeal from the Proposed Action, occupants would see commercial and industrial development, vegetation (saltwater marsh areas), and ARW facilities.
4.14 Water Resources

4.14.1 Wetlands

4.14.1.1 Definition

Executive Order 11990, Protection of Wetlands, requires federally supported projects to preserve wetlands and avoid and minimize wetland impacts to the maximum extent practicable.

The currently accepted methods of wetland determination described in the 1987 United States Army Corps of Engineers Manual for Identifying and Delineating Wetland Areas were utilized. The manual states that under normal circumstances, an area must demonstrate the presence of three components to be declared a jurisdictional wetland: 1) hydrophytic vegetation, 2) hydric soils, and 3) wetland hydrology.

In accordance with the three-component approach to identifying wetland areas, the soils, hydrology, and vegetation were simultaneously characterized at each observation point (sample location). The collected field data were then utilized to make a routine wetland determination. Upland/wetland boundaries were determined by proceeding away from the wetlands toward uplands and noting any changes in soil, vegetation, and hydrology. The boundaries of any wetland areas identified within the Proposed Action area were flagged at the locations where hydrophytic vegetation and/or hydric soils gave way to non-hydrophytic vegetation and/or non-hydric soils. When the three components tested positively, a wetland designation was assigned. The specific testing conducted at each sample location was as follows:

- **Vegetation** – Vegetation in each stratum was examined at each sample location. Herbaceous vegetation, saplings, and shrubs were examined within a 5-foot radius. Trees and woody vines were examined within a 30-foot radius. Dominant plant species were identified in each stratum. The wetland indicator status for each dominant plant was recorded using the USFWS National List of Plant Species that Occur in Wetlands (1996). Where greater than 50 percent of the dominant species were identified as OBL, FAC (excluding FAC-), or FACW (including FACW- and FACW+), the sample location was considered to have hydrophytic vegetation.

- **Soils** – Excavations with a Dutch auger were made by hand to a depth of approximately 16 inches at each sample location. Soil below the “A” horizon was examined at a depth of 12 inches to 16 inches and compared to the following hydric soil indicators:

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- Gleying (gray coloring)
- Matrix chroma of two or less in both mottled and unmottled mineral soils
- High organic content in the upper layers
- Organic streaking (sandy soils)
- Iron and manganese concretions

Soil colors were evaluated using Munsell Soil Color Charts. Additional soil characteristics, including texture, soil series, and drainage class, were also examined at each sample location.

- **Hydrology** – Each sample location was examined for indicators of wetland hydrology, especially inundation; soil saturation of the upper 16 inches; drift lines; drainage patterns; watermarks; and sediment deposits.

### 4.14.1.2 Wetlands or Waters of the United States within the APE

There are approximately 0.50 acres of freshwater ditch and 6.27 acres of critical area (saltwater marsh) within the APE (Figure 4.14.1.2-1, page 82). Vegetation in the area is a combination of smooth cordgrass, needle rush, salt grass, perennial glasswort (*Sarcocornia ambigua*), bahia, and Johnson grass (*Sorghum halepense*). More detailed discussion is found in Section 4.2.2 – Biotic Communities (page 19).

### 4.14.1.3 Potential Wetlands or Waters of the United States Impacts

The Beaufort County Airport would require wetland permitting to accommodate the Proposed Action. The initial USACE criteria for evaluating wetland impacts are based on if the project is a water dependent project. A water dependent project is one that must be sited on or near water to be viable. Since the Proposed Action is not water dependent, the USACE requires confirmation that other alternatives do not exist that would reduce or eliminate wetland impacts. Therefore, an alternatives analysis is required to demonstrate that other alternatives have been explored and documented to prove the submitted plan is the best course of action. The alternatives analysis (Section 3.0 – Alternatives, page 10) outlines that the Proposed Action is an expansion of the existing facilities, as well as to bring ARW into compliance with FAA design requirements; and, therefore, alternative site(s) are not an option and no action can be provided for an alternative site.

The Proposed Action requires the filling of 4.23 acres of SCDHEC-OCRM critical area (saltwater marsh) and the piping of 0.25 acres of freshwater ditch. Each portion of the Proposed Action accounts for the following:
Figure 4.14.1.2-1
Beaufort County Airport

Potential Wetland Impacts
- Runway 07 RSA – 0.78 acres (SCDHEC-OCRM critical area)
- Runway 25 RSA - 0.92 acres (SCDHEC-OCRM critical area)
- Parallel Taxiway to Runway 25 – 2.53 acres (SCDHEC-OCRM critical area)
- Ramp Expansion for Heliports – 0.25 acres (freshwater ditch)

Prior to applying for the USACE permit, a joint pre-application meeting with the USACE and SCDHEC-OCRM would be requested for review and comment of the proposed conceptual mitigation. Based on the findings, the wetland permit submittal package would include a project narrative, survey, drawings, calculations, and mitigation requirements. Concurrently with the USACE wetland permit, the Proposed Action would be submitted to SCDHEC Bureau of Water (SCDHEC-BW) for water quality certification and SCDHEC-OCRM for coastal zone consistency.

USACE would review the permit package. Once the initial review is completed by USACE, the project would be placed on public notice in local and statewide circulation newspapers. During the public notice period, groups, including, but not limited to, SCDHEC-BW, SCDHEC-OCRM, National Marine Fisheries Service (NMFS), USFWS, National Oceanic and Atmospheric Administration (NOAA), the general public, and SHPO could comment on the Proposed Action and approve or request modifications. The public notice process and comments are processed by USACE. If USACE determines modifications are appropriate due to the public notice process, the comments would be addressed. Upon successfully completing the initial USACE review, public notice process, SCDHEC-OCRM coastal zone consistency, SCHDEC-BW water quality certification, and a final internal legal department review on behalf of the USACE Chief of the Regulatory Division, the USACE wetland permit would be issued.

4.14.1.4 Mitigation for Potential Wetlands or Waters of the United States Impacts

Federally supported projects are required to avoid and minimize impacts to wetlands and waters of the United States to the maximum extent practicable. The USACE has adopted a wetland mitigation policy that embraces the concept of no net loss of wetlands. Jurisdictional area (i.e., wetlands and waters of the United States) mitigation includes avoiding and minimizing impacts to these areas, and where infeasible to do so, compensating for impacts.

The Proposed Action requires the filling of 4.23 acres of SCDHEC-OCRM critical area (saltwater marsh) and the piping of 0.25 acres of freshwater ditch. The alternatives analysis (Section 3.0 – Alternatives, page 10) outlines that the Proposed Action is an expansion of the existing facilities, as well as to bring ARW into compliance with FAA design requirements; and, therefore, alternative site(s) are not an option and no action can be provided for an alternative site.

To comply with USACE requirements cursory review of four potential mitigation sites was conducted to compensate for the saltwater area impacts created by the Proposed Action. These
four sites were chosen as the best potential mitigation candidates from the properties in the Beaufort County land preservation program.

4.14.1.4.1 Pinckney Point Potential Mitigation Site
Pinckney Point (Figure 4.14.1.4.1-1, page 85) is currently owned by Beaufort County. The site is made up of former agriculture fields and maritime forest along the banks of the Colleton River. The site has good potential to create the necessary critical area acreage required by converting approximately ten acres of former agriculture land to salt marsh. However, after inquiring about the use of Pinckney Point for a mitigation alternative, officials from Beaufort County stated that due to ongoing legal issues this site was not a viable alternative.

4.14.1.4.2 Widgeon Point Potential Mitigation Site
Widgeon Point (Figure 4.14.1.4.2-1, page 86) has a current impoundment that could possibly be restored to marsh by re-grading the impounded area and allowing unimpeded tide to naturally move through the site. Beaufort County decided that the Widgeon Point site was not a viable option for mitigation due to land ownership and management constraints.

4.14.1.4.3 Lemon Island Potential Mitigation Site
The Lemon Island property (Figure 4.14.1.4.3-1, page 87) has an abundance of marsh and creek frontage that would allow for the creation of new salt marsh. However, Beaufort County decided that this area was not viable option for mitigation due to land ownership and management constraints.

4.14.1.4.4 Burch Tract Potential Mitigation Site
The Burch Tract (Figure 4.14.1.4.4-1, page 88) and is located near the intersection of S.C. 170 and Callawassie Drive. The property consists mostly of large mature wooded areas with two salt marsh areas along the Chechessee River. The marsh areas appear to be a series of managed impoundments and ditches that may have been used formerly for rice production or waterfowl management. The areas are restricted from tidal flow by an old impoundment dike and a lack of maintenance to the former ditch system. This site appears to be the most viable option to satisfy the mitigation needs at the Beaufort County Airport.

4.14.1.4.5 Burch Tract Conceptual Mitigation Plan
The preliminary conceptual plan would be to remove the dike preventing tidal flow and to restore the ditch to allow both areas to receive adequate tidal flush. Necessary field surveys and development of a conception permittee responsible mitigation (PRM) plan will be prepared during the design phase of the Proposed Action. Upon completion of this plan, coordination with interested state and federal regulatory agencies will be performed to gain feedback and general approval.

Restoration and enhancement activities are proposed on the Burch Tract (Figure 4.14.1.4.4-1, page 88), currently held in Beaufort County’s preservation land program. The County has identified the proposed site as being feasible for use and is pursuing approval for such use.
Figure 4.14.1.4 1-1
Beaufort County Airport

Pinckney Point Potential Mitigation Site
Figure 4.14.1.4.2-1
Beaufort County Airport

Widgeon Point Potential Mitigation Site
Figure 4.14.1.4.3.1
Beaufort County Airport

Lemon Island Potential Mitigation Site
Figure 4.14.1: 4.4.1
Beaufort County Airport

Burch Tract Potential Mitigation Site
The Burch Tract is located just south of the Broad River near the head waters of the Chechessee River. By land, the restoration property is located adjacent to S.C. 170 near the Callawassie intersection. The site is generally described as wooded with mixed pines and hardwoods. Within the site are two impoundments (Figure 4.14.1.4.5-1, page 90) created by construction of dikes within former tidal marsh. The western most impoundment is now restricted by S.C. 170 but maintains hydrologic connection to the adjacent tidal marsh via a large culvert. The eastern impoundment is separated from the adjacent tidal marsh by a narrow earthen dike. Hydrology to the eastern impoundment is severely restricted and limited to a small pipe set to retain freshwater within the impoundment.

Soils in the selected mitigation area (impoundments) are classified as Capers Association by the NRCS. Capers Association is characterized by nearly level soils commonly found in tidal flats and occasionally saltwater streams.

Hydrology in the two impoundments is primarily driven by tidal influence; however this has been significantly restricted. In the presence of these restrictions, freshwater runoff is retained in the impoundments rather than being naturally dispersed during tidal cycles. While both impoundments maintain brackish conditions, natural tidal flow is severely restricted.

In the absence of natural unimpeded tidal flow, vegetation within the proposed restoration area is currently dominated by black needle rush (Juncus roemerianus) with additional scattered brackish species. The adjacent tidal marsh is dominated by smooth cordgrass and salt grass; both indicative of higher saline environments.

**4.14.1.4.5.1 Proposed Restoration**

The goal of the proposed restoration plan is to restore natural tidal flow the identified impoundments.

The County will establish an elevation at which the restoration area is expected to inundate with saltwater based on elevations in the adjacent vegetated marsh. The County will then remove the impoundment dike at the northern boundary of the eastern impoundment. Secondly, based upon desired elevations, the ditch located between the impoundments will be excavated to improve flow and circulation between and to the western impoundment.

Once the dike is removed and the connection between the two impoundments is established, it is expected that normal tidal flush in the restoration site will create a more natural hydrologic and vegetative community. Over time, natural successional changes will introduce and populate salt tolerant plants in a distribution similar to what is present outside of the existing dikes.
Figure 4.14.1.4.5.1
Beaufort County Airport

Conceptual Mitigation Plan
Upon approval of these proposed mitigation activities and corresponding issuance of the appropriate permits and certifications, the County will undertake necessary surveying and engineering to establish desired elevations and connections. Final site plans will be developed based on these surveys and will include:

- Final elevation for dike removal
- Elevation and contour of connection between impoundments
- Construction access points
- Identification of disposal area for excavated dike and connection

Survey work, development of final plans and a work schedule for the proposed activities will be established to commence with seasonal considerations of tides, dormant growing seasons and to validate the timing of monitoring following the growing season.

### 4.14.1.4.5.2 Monitoring

A monitoring plan will be developed based upon the final plans to document successful removal of the tidal restrictions, improved tidal flow/circulation and potential vegetative community shifts.

Conceptually, it is anticipated that documentation of existing hydrologic regimes will be established prior to, and following, restoration efforts. Hydrologic monitoring will be accomplished using tidal gauges or water level monitors. Documentation of tidal inundation and depth as well as proper ebb and flow will be made.

To document positive vegetative changes, the County will monitor existing and future vegetative populations. Vegetative plots will be established within the restoration areas for annual monitoring. The center of each plot will be marked with PVC pipe and will serve as a basis for future monitoring. In addition, two plots will be established within the surrounding unaltered marsh to serve as references.

An initial baseline monitoring will be conducted prior to any work within the site to document current species, density and coverage. Following removal of the dike and establishment of the connection between the impoundments, additional annual monitoring will occur. Monitoring will occur annually for five years. In each successive year, percent coverage of volunteer vegetation will be recorded.

An annual report to be provided to SCDHEC-OCRM and USACE to include results of monitoring, general site descriptions and conditions, photographs of the site and any recommendations by the monitor that would improve timely success of the site. If after a monitoring event in which it has been determined that the site has completely established and meets success criteria before the end of the five year period, future monitoring may be suspended following consultation between the County and the permitting agencies.
4.14.1.4.5.3 Success
The restoration effort will be considered successful and complete following removal of the existing dike, construction of the appropriate hydrologic connection and documentation of improved tidal regimes.

4.14.1.4.5.4 Contingency
If, at the end of the five year monitoring period, success criteria have not been met, the County will consult with the appropriate permitting agencies to determine what specific remedial actions should be taken.

4.14.2 Floodplains

4.14.2.1 Definition
As outlined in Executive Order 11988, Floodplain Management,56 agencies are required to reduce the risk of flood loss; minimize the impact of floods on human safety, health, and welfare; and restore and preserve the natural and beneficial values served by the floodplain.

Federal regulations permit development in the 100-year floodplain if it is demonstrated through hydraulic analysis that the development would meet the requirements set forth by the Federal Emergency Management Agency (FEMA) for the National Flood Insurance Program. These requirements allow encroachment in the floodplain as long as the base flood elevation does not increase by more than one foot. When a regulatory floodway has been defined for a waterway, the encroachment should remain outside the floodway limits.

4.14.2.2 Existing Conditions
Review of the Beaufort County floodplain maps provided by the FEMA Map Service Center57 indicates that the APE is located within Zones A9 and A10 (Figure 4.14.2.2-1, page 93):

- **Zones A9 and A10** – are areas with a 1 percent annual chance of flooding and a 26 percent chance of flooding over the life of a 30-year mortgage. In most instances, base flood elevations (BFEs) have been derived from detailed analyses and shown at selected intervals within these zones.

The majority of the APE is located within an area zoned A9.

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Figure 4.14.2.2-1
Beaufort County Airport

Floodplain

Source: Beaufort County
4.14.2.3 Potential Floodplain Impacts

The No-Action Alternative would have no construction and, therefore, would not result in any impacts to the existing floodplain.

The Proposed Action APE is located within an area zoned A9 and, therefore, would require a hydrologic or hydraulic study to determine that there would be no impact because of flooding. The potential impact to the Warsaw Flats portion of St. Helena Sound would be considered during design of the Proposed Action. Efforts would be made to restore, minimize, and preserve as much of the natural and beneficial characteristics of the floodplain as possible. Even though fill would be placed in the salt marsh to bring the Runway 07/25 RSA's into compliance with FAA design requirements, the impact would meet FEMA requirements of no more than a one-foot increase in backwater for the base flood elevation. During design of the Proposed Action, a hydraulic study will be performed to determine the requirements to keep the base flood elevation from increasing. Any increase in runoff would be controlled using BMPs. Proper utilization and management of sediment controls during construction would substantially reduce impacts to the floodplain. Coordination with resource agencies would occur throughout construction of the Proposed Action to ensure impact minimization and compliance with requirements.

4.14.3 Surface Waters

4.14.3.1 Definition

Water quality is the physical, chemical, and biological characteristics of water, which is protected under the Clean Water Act and other federal, state, and local regulations.

4.14.3.2 Surface Water Resources

Lady’s Island is located in Watershed 03050207-11, which consists primarily of the Coosaw River and St. Helena Sound and their tributaries, including the Bull River and Morgan River. Watershed 03060110-03 encompasses 109,292 acres of the Coastal Zone region of South Carolina. Land use/land cover in the watershed includes: 34.1 percent non-forested wetland, 28.0 percent water, 21.4 percent forested land, 8.7 percent forested wetland, 4.2 percent agricultural land, 3.2 percent urban land, and 0.4 percent barren land (Figure 4.14.3.2-1, page 95).58

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Figure 4.14.3.2-1
Beaufort County Airport
Surface Water Resources
4.14.4 Groundwater

Aquifers within the Salkehatchie River Basin, within which Lady’s Island is located, include the following.

4.14.4.1 Floridan Aquifer

The Floridan aquifer is the primary source of groundwater for most of the lower portion of the Salkehatchie River Basin. It is composed of solid limestone and is capable of yielding great quantities of water. The Floridan aquifer system consists of carbonate rocks of varying permeability and, in the coastal area, has been divided into the Upper and Lower Floridan aquifers.

4.14.4.2 Middendorf Aquifer

The Middendorf Aquifer directly overlies the Bedrock Aquifer and stretches from the Fall Line, where it outcrops, to the Atlantic coast, where it exceeds depths of 3,000 feet. The Middendorf Aquifer is the main provider of groundwater to numerous private and public wells in the upper portion of the Salkehatchie River Basin. It is generally composed of fairly coarse sands, and therefore, is capable of yielding considerable amounts of water.

4.14.4.3 Black Creek Aquifer

The Black Creek Aquifer is an important source of water in the central Coastal Plain region of South Carolina. Generally, the Black Creek Aquifer consists of sands interbedded with clays and many excess minerals can be present.

4.14.4.4 Surficial Sands Aquifer

The Surficial Sands Aquifer is a shallow, coastal aquifer that is utilized mainly by relatively shallow private wells. As its name implies, the aquifer consists mainly of sands and is the water table aquifer in most of its extent. Due to its close proximity to both the surface and the ocean, the water is predictably high in dissolved solids. Water pumped from this aquifer typically has an obvious odor and distinct taste, but is still within standards for drinking water. Despite the higher levels of dissolved solids, this aquifer is frequently used because of its proximity to the surface and its decent yields.

4.14.4.5 Potential Groundwater Resource Impacts

It is not anticipated that surface water discharge from the No-Action Alternative or the Proposed Action would have an adverse impact on groundwater quality.

4.14.5 Wild and Scenic Rivers

4.14.5.1 Definition

The Wild and Scenic Rivers Act (PL 90-542, as amended, 16 USC 1271-1287) established the National Wild and Scenic Rivers System and prescribed the methods and standards through
which rivers were identified and added to the system. The Act authorizes the Secretaries of the Interior and Agriculture to study areas and submit proposals for addition to the system. It describes procedures and limitations for control of lands in federally administered components of the system and for dealing with disposition of lands and minerals under federal ownership. Rivers are classified as wild, scenic, or recreational. Definitions of each are presented below:

- **Wild river areas** are rivers or sections of rivers that are free of impoundments and generally inaccessible except by trail, with watersheds or shorelines essentially primitive and waters unpolluted. These represent vestiges of primitive America.

- **Scenic river areas** are rivers or sections of rivers that are free of impoundments, with shorelines or watersheds still largely primitive and shorelines largely undeveloped but accessible in places by roads.

- **Recreational river areas** are rivers or sections of rivers that are readily accessible by road or railroad, may have some development along their shorelines, and may have undergone some impoundment or diversion in the past.

### 4.14.5.2 Designated Federal Wild and Scenic Rivers in South Carolina

There is currently one river, or portions thereof (19 miles), in South Carolina listed as a federal wild and scenic river – Chattooga River (P.L. 93-279 – May 10, 1974), which forms the boundary between South Carolina and Georgia.

### 4.14.5.3 Designated State Scenic Rivers in South Carolina

South Carolina enacted the South Carolina Scenic Rivers Act of 1989 (SC Code of Laws Title 49 – Waters, Water Resources and Drainage, Chapter 29 – South Carolina Scenic Rivers Act), which protects *unique or outstanding scenic, recreational, geologic, botanical, fish, wildlife, historic, or cultural values* of selected rivers or segments of rivers in the state. Rivers or portions thereof, protected by this Act, include (Figure 4.14.5.3-1, page 98):

- **Ashley River** – 24-mile segment extending from Sland's Bridge (U.S. Highway 17A) near Summerville to the Mark Clark Expressway (I-526) bridge in Charleston

- **Black River** – 75-mile segment beginning at S-14-40 in Clarendon County and extends southeast through Williamsburg County to Pea House Landing at the end of S-22-38 in Georgetown County

- **Broad River** – 15-mile segment extending from the 99 Islands dam to the confluence with the Pacolet River

- **Catawba River** – from the Lake Wylie Dam downstream to S.C. Highway 9
• **Great Pee Dee River** – 70-mile segment extending from U.S. Highway 378 bridge between Florence and Marion Counties to the U.S. Highway 17 bridge (Winyah Bay) in Georgetown

• **Little Pee Dee River** – 14-mile segment from U.S. Highway 378 to the confluence with the Great Pee Dee River

• **Little Pee Dee River of Dillon County** – 48-mile segment through Dillon County from the Marlboro County line above Parish Mill Bridge on S-17-363 to the confluence with Buck Swamp at the Marion County line

• **Lynches River** – 54-mile segment between U.S. Highway 15 in Lee County and the eastern boundary of Lynches River State Park

• **Middle Saluda River** – 5-mile segment, extending from U.S. Highway 276 to a point about one mile upstream of the abandoned Cleveland Fish Hatchery in Greenville County

• **Saluda River** – 10-mile segment beginning one mile below Lake Murray dam to its confluence with the Broad River

### 4.14.5.4 Potential Wild and Scenic River Impacts

There are no rivers listed on the National Wild and Scenic Rivers System or South Carolina Scenic Rivers Act located on in Chesterfield County; therefore, compliance with the National Wild and Scenic Rivers Act is not required for the Proposed Action.

### 4.14.6 Potential Short-Term Impacts to Water Quality

Short-term impacts, which may occur as a result of the Proposed Action, are a result of construction activities. Erosion could occur during the construction phase when the vegetation would be cleared and the surface layer disturbed for the Proposed Action. Soil erosion may lead to silt deposits and increased turbidity in surface waters (ditches), which could temporarily upset flow and impact aquatic organisms.

Oil and grease spills during construction are another possible source of water pollution. The chance for serious mishaps of this type is small. However, such incidents would be handled by a SPCC, as specified in a NPDES permit; and any undetected accidental leakage would be absorbed and/or filtered by slopes and ditches before reaching major streams. Appropriate BMPs would be used during construction for erosion control and water quality protection, as well as other mitigative measures required for NPDES permit approval and as discussed in Section 4.14.8 – Potential Water Quality Impacts due to Construction (page 100).

### 4.14.7 Potential Long-Term Impacts to Water Quality

Long-term water quality impacts resulting from the Proposed Action would be pollutant washoff. The primary constituents of pollutant washoff include the following potential contaminants: biochemical oxygen demand, chemical oxygen demand, volatile suspended solids, oil, grease,
pesticides, polychlorinated biphenyls, total and suspended solids, algal nutrients, heavy metals, salts, asbestos, and coliform bacterial indicators. Pollutant concentration and discharge rates of runoff are dependent on rainfall rates. Rainfall energy dislodges deposited particles on the impervious surfaces, which are then conveyed in stormwater runoff to the receiving drainage appurtenances. However, BMPs based on NDPES requirements would be implemented to reduce introduction of contaminants to adjacent surface water resources.

Sedimentation basins would be designed to provide the level of treatment necessary to ensure that stormwater discharges would not result in degradation of the physical, chemical, or biological integrity of the receiving waters within the Proposed Action APE. Sedimentation basins use a permanent pool of water as the primary mechanism to treat stormwater. The pool of water allows settling of sediments (including fine sediments) and removal of soluble pollutants. Sedimentation basins also can be used to control the peak rate of stormwater runoff. In addition, swales for collecting and conveying stormwater runoff can be an effective BMP for water quality enhancement. The primary components of swales for water quality enhancement are the length of the swale and the velocity of the stormwater runoff as it travels through the swale. Pollutant removal efficiency of grass swales increases proportionately to their length. In addition, appropriate BMPs would be used for erosion control and water quality protection, as well as other mitigative measures required for NPDES permit approval and as discussed in Section 4.14.8 – Potential Water Quality Impacts due to Construction.

4.14.8 Potential Water Quality Impacts due to Construction

Water quality could potentially be impacted by surface water runoff, accidental release of fuel or hydraulic fluids, sedimentation from soil erosion, and changes in stream channel grades. Several BMPs, which could be utilized during construction, include land grading; construction of temporary diversions to dispose of runoff to control erosion and sedimentation; construction of diversion dikes to prevent sediment-laden runoff from exiting the construction site; construction of temporary sediment traps, which could detain sediment-laden runoff and trap the sediment to prevent impacts to surrounding water bodies; and construction of sediment basins, straw bale dikes, and rock dams to retain sediment on the construction site and prevent sedimentation to water bodies. The contractor would be required to comply with current federal and state laws and regulations regarding water quality and stormwater management.

Oil and grease spills during construction are another possible source of water pollution. The chance for serious mishaps of this type is small. However, since such incidents would be handled by a SPCC, as specified in a National Pollution Discharge Elimination System (NPDES) permit that is required during construction, any undetected accidental leakage would be absorbed and/or filtered by slopes and ditches before reaching major streams. Appropriate BMPs would be used during construction for erosion control and water quality protection, as well as other mitigative measures required for NPDES permit approval.

The No-Action Alternative would have no construction development and, therefore, would not result in any water quality impacts.
Construction of the Proposed Action would implement BMPs to limit water quality impacts, as well as obtain an NPDES permit.

4.15 Cumulative Impacts

This EA considers the indirect and cumulative impacts created by the Proposed Action and the consequences of subsequent related actions. Indirect impacts may include growth of the community and changes in land use, demographics, and socioeconomics that are created as a by-product of the Proposed Action. Cumulative impacts could result from several individual actions that are each minor in nature, but together create a combined effect that may be considered significant. Figure 4.15-1 (page 102) and Table 4.15-1 (page 103) outline the projects proposed to occur at ARW through 2020.

Anticipated induced and cumulative impacts, which are not associated with the continued expansion of ARW as outlined in its capital improvement program (CIP, Table 4.15-1, page 103), are as follows:

- A number of indirect impacts to wetlands and water resources within the surrounding area may occur as a result of secondary development, such as additional discharge of stormwater into adjacent watercourses, pollutant loadings, and reduction in groundwater recharge from increased area of impervious surfaces.
- Loss of pervious surfaces by the Proposed Action that do not allow for rainfall infiltration and groundwater recharge.
- Mitigation measures for secondary and cumulative impacts involve the management of land use and development. The future landscape and environmental health of the surrounding area would be determined by the planning and zoning decisions made today.

4.16 Irreversible and Irretrievable Commitment of Resources

Implementation of the Proposed Action would involve the commitment of a range of natural, physical, human, and fiscal resources. The Proposed Action would result in an irreversible and irretrievable use of:

- Vegetation
- Wildlife habitat
- Private property
Figure 4.15-1
Beaufort County Airport
2016-2020 Capital Improvement Plan
Table 4.19-1
Indirect/Cumulative Impacts Matrix
Beaufort County Airport

<table>
<thead>
<tr>
<th>Project</th>
<th>Time Frame</th>
<th>Anticipated Temporary Impacts</th>
<th>Permanent Impacts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Runway 07 Tree Removal Phase III (Construction and Mitigation)</td>
<td>2015</td>
<td>Minor erosion and sedimentation during construction</td>
<td>Improves airfield safety</td>
</tr>
<tr>
<td>SWPPP (Reimbursement)</td>
<td>2015</td>
<td></td>
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<tr>
<td>Runway Safety Area Improvements and Partial Parallel Taxiway Extension (EA/Permit)</td>
<td>2016</td>
<td>Minor erosion and sedimentation during construction</td>
<td>Improves airfield safety</td>
</tr>
<tr>
<td>Runway Safety Area Improvements (Design)</td>
<td>2016</td>
<td>Minor erosion and sedimentation during construction</td>
<td>Improves airfield safety</td>
</tr>
<tr>
<td>Parking Lot Relocation and Utility Connection to Terminal (Design)</td>
<td>2016</td>
<td>Minor erosion and sedimentation during construction</td>
<td>Improves airfield safety</td>
</tr>
<tr>
<td>Runway Safety Area Improvements (Construction)</td>
<td>2017</td>
<td>Minor erosion and sedimentation during construction</td>
<td>Provides increased safety for aircraft</td>
</tr>
<tr>
<td>Parking Lot Relocation and Utility Connection to Terminal (Construction)</td>
<td>2017</td>
<td>Minor erosion and sedimentation during construction</td>
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</tr>
<tr>
<td>Partial Parallel Taxiway and Apron Expansion (Design)</td>
<td>2017</td>
<td>Minor erosion and sedimentation during construction</td>
<td>Improves airfield safety</td>
</tr>
<tr>
<td>Helipad (Design and Construction)</td>
<td>2018</td>
<td>Minor erosion and sedimentation during construction</td>
<td>Improves airfield safety</td>
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<tr>
<td>Partial Parallel Taxiway and Apron Expansion (Construction)</td>
<td>2019</td>
<td>Minor erosion and sedimentation during construction</td>
<td>Provides increased safety for aircraft</td>
</tr>
<tr>
<td>New Terminal Building (Design and Construction)</td>
<td>2019</td>
<td>Minor erosion and sedimentation during construction</td>
<td>Improves airfield safety</td>
</tr>
</tbody>
</table>


Fossil fuels and labor would be expended for the Proposed Action. However, these resources are not in short supply and their use would not have an adverse effect on availability. The Proposed Action would also require commitment of financial resources. These resources would be a combination of federal, state, and local funds.

The commitment of these resources is based on the fact that users of ARW would benefit from the safety improvements of the Proposed Action. It is anticipated that this benefit would outweigh the irreversible and irretrievable commitment of resources.

4.17 Regulatory Permits and Concurrence

Various activities associated with the construction of the Proposed Action would require permits and concurrence from local, state, and federal regulatory agencies, including but not limited to:

- USFWS Section 7 of the Endangered Species Act Consultation Concurrence (received July 15, 2015)
• SCDNR Section 7 of the Endangered Species Act Consultation Concurrence (received June 25, 2015)
• SCSHPO Section 106 of the National Historic Preservation Act of 1966 Concurrence (received August 5, 2015)
• USACE Wetland Jurisdictional Determination
• SCDHEC-OCRM Coastal Zone Consistency
• SCDHEC-OCRM NPDES Permit (to be applied for during design)
• Beaufort County Engineering (plan review, to be performed during design)
• Beaufort Land Use Compatibility

4.18 Conclusions and Summary

Table 4.18-1 (page 105) provides a summary of the potential social, economic, and environmental impacts associated with the Proposed Action.

The Proposed Action was evaluated without prejudice and based on the impacts and benefits. There are no foreseen conflicts between the Proposed Action and the objectives of federal, regional, state, and local land uses plans, policies, and controls for the area concerned. Therefore, an environmental impact statement is not required, and Beaufort County is respectfully requesting approval of this EA and a Finding of No Significant Impact (FONSI) issued by the FAA.
<table>
<thead>
<tr>
<th>Impact Category</th>
<th>No-Action</th>
<th>Proposed Action</th>
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<tr>
<td>Coastal Resources</td>
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<td>Indirect and Cumulative Impacts</td>
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</tbody>
</table>

Source: Talbert, Bright & Ellington, Inc., March 2016
5.0 COMMENTS AND COORDINATION

Coordination with federal, state, and local agencies and the interested public has been ongoing throughout the development of the Proposed Action. Comments and information received during the EA have been considered in development of the proposed alternatives and in determining impacts of the reasonable development alternatives on the existing environment.

5.1 Interagency Coordination

Interagency coordination was initiated in April 24, 2015, when a scoping letter was sent to regulatory and permitting agencies requesting information in their areas of expertise and jurisdiction (Appendix A, pages A-2 through A-8). The information received was used to assist in minimizing and avoiding potential environmental impacts, while following engineering criteria. Since the beginning of the preparation of the EA, coordination with various federal, state, and local agencies, as well as interested individuals, has occurred (Appendix A, pages A-9 through A-14).

On July 18, 2016, the Draft EA was sent to the regulatory and permitting agencies for review and comment, with comments requested no later than September 2, 2016 (Appendix A, page A-26 through A-30).

5.2 Public Hearing

Public participation is an essential element in the NEPA process. FAA Order 5050.4B – National Environmental Policy Act (NEPA) Implementing Instructions for Airport Projects and FAA Order 1050.1F – Environmental Impacts: Policies and Procedures emphasize public participation in the environmental and decision-making process.

The intent of public involvement is to encourage and facilitate public input and comments in the decision-making process of a project that may have an effect on the human and natural environment. The opportunities for input should be made available to all people, including Americans with disabilities and minority and low-income populations.

It is the goal of the public participation process to inform, educate, and seek input from the public about the Proposed Action and the NEPA process. The public participated through one public hearing.
5.2.1 **August 18, 2016, Public Hearing**

A public hearing will be held on August 18, 2016 to outline the results of the EA. The meeting will allow the project team to provide an opportunity for the public to ask questions. To facilitate the process, each attendee will be asked to sign in and complete a public comment form. These forms can be completed at the public information meeting, mailed, or e-mailed.
6.0 PREPARERS

6.1 Federal Aviation Administration

Lisa W. Favors, Planning/Environmental Program Manager, responsible for review and approval of the environmental assessment.

Rusty Nealis, Program Manager, responsible for review of the environmental assessment.

6.2 South Carolina Aeronautics Commission

James Stephens, Interim Executive Director, responsible for review of the environmental assessment.

6.3 Beaufort County Airport

Jon Rembold, Airports Director, responsible for review of the environmental assessment.

6.4 Talbert, Bright & Ellington, Inc.

Carl M. Ellington, Jr., P.E., Principal, responsible for project oversight and review of the environmental assessment.

Judith Elder-Lincke, Project Manager/Senior Planner, primary author, and coordinator and responsible for review of sections created by others for the environmental assessment.

Patrick E. Turney, P.E., P.L.S., Airport Engineer, responsible for engineering design and cost coordination.

Jared Bailey, Technician, responsible for coordination and preparation of graphics.

Michael Player, Technician, responsible for preparation of graphics.

Natalie Johnston, Administrative Assistant, responsible for grammatical and quality review of document.
6.5 Ward Edwards, Inc.

Paul R. Moore, P.E., provided stormwater management support of environmental assessment.

James D. Gentry, Jr., Wetland Scientist, provided wetland and threatened-endangered species support of environmental assessment.

Greg A. Baisch, P.E., provided stormwater, wetland, and threatened-endangered species review support of environmental assessment.

Allen B. Ward, P.E., provided stormwater, wetland, and threatened-endangered species review support of environmental assessment.

6.6 S&ME, Inc.

Chris Daves, P.W.S., Biologist/Natural Resources Project Manager, field work and report preparation for Phase I Environmental Site Assessment.

Thomas Behnke, P.G., Senior Reviewer, quality review of Phase I Environmental Site Assessment.

6.7 Brockington and Associates, Inc.

Scott Butler, Senior Archaeologist, Vice President, responsible for review of cultural resources report.

Stacey Whitacre, Archaeologist, responsible for field survey and preparation of cultural resources report.

James Page, Crew Chief, responsible for field survey.

6.8 Newkirk Environmental, Inc.

Steve Nichols, Managing Partner, responsible for review of wetland jurisdictional determination and mitigation site location.

Asher Howell, Senior Biologist, responsible for wetland jurisdictional determination and mitigation site location.
CORRESPONDENCE
April 24, 2015

SUBJECT: Beaufort County Airport, South Carolina
Runway Safety Areas for Runway 07/25, Parallel Taxiway,
Aircraft Parking Apron, and Fuel Farm Relocation
Environmental Assessment

Dear [Name]:

Beaufort County, in cooperation with the South Carolina Aeronautics Commission (SCAC) and Federal Aviation Administration (FAA), is proposing the implementation of several projects at the Beaufort County Airport (ARW). These projects are part of ARW’s five-year capital improvement program as outlined in the Master Plan Update:

- Runway Safety Areas for Runway 07/25 – currently the runway safety areas are not in accordance with FAA regulations and need to be expanded to meet design standards as outlined in FAA Advisory Circular 150/5300-13A – Airport Design, Change 1 (August 21, 2014).
- Parallel Taxiway – ARW currently has a partial parallel taxiway, this will be extended from its existing terminus to the end of Runway 27.
- Aircraft Parking Apron – the existing aircraft parking apron will be expanded to accommodate more aircraft, as well as development of two helipads.
- Fuel Farm Relocation – currently the fuel farm is located on the existing aircraft parking apron, this will be relocated away from parking apron to allow for future expansion as needed.

It is the objective of Beaufort County to not only avoid and minimize adverse environmental impacts, but also to pursue measures to enhance environmental quality in a manner consistent with the FAA’s principle mission to provide for the safety of aircraft operations. This project is proposed to be accomplished primarily under grant through the FAA (90%), SCAC (5%), and Beaufort County (5%).

The environmental documentation will be prepared in accordance with the National Environmental Policy Act of 1969 (NEPA), Council on Environmental Quality (CEQ), FAA Order 5050.4B, National Environmental Policy Act (NEPA) Implementing Instructions for Airport Projects (April 28, 2006), FAA Order 1050.1E Change 1 Environmental Impact Statements; Policies and Procedures (March 20, 2006), and Environmental Desk Reference for Airport Actions. Agency comments and formal input received during the environmental process will be used to evaluate the proposed action planned for the Beaufort County Airport. Public review and input will be conducted through a series of draft reports and scheduled meetings.
April 24, 2015

We respectfully request that you provide written or interim comments within 30 days of receipt of this letter. Your participation in the scoping process is greatly appreciated. For further information please contact:

Mr. Jon Rembold  
Airports Director  
Beaufort County Airport  
39 Airport Circle  
Beaufort, SC 29907  
(843) 255-2950

Ms. Judith Elder-Lincke  
Project Manager  
Talbert & Bright, Inc.  
2000 Park Street, Suite 101  
Columbia, SC 29201  
(803) 933-9290

Sincerely,

[Signature]

Judith Elder-Lincke  
Project Manager

Attachments

cc:  Mr. Jon Rembold, Beaufort County Airport  
Mr. Rusty Nealis, FAA  
Ms. Lisa Favors, FAA  
Mr. James Stephens, SCAC
Figure 1.1-1
Beaufort County Airport - Lady's Island
Proposed Action Overview
SCOPING LETTER MAILING LIST

Senator Timothy E. Scott  
2500 City Hall Lane, 3rd Floor Suite  
North Charleston, SC 29406

Senator Lindsey O. Graham  
530 Johnnie Dodds Boulevard, Suite 202  
Mt. Pleasant, SC 29464

Congressman Mark Sanford  
District 1  
710 Boundary Street, Suite 1D  
Beaufort, SC 29902

Congressman James E. Clyburn  
District 6  
1225 Lady Street, Suite 200  
Columbia, SC 29201

Senator George E. Campsen, III  
District 43  
305 Gressette Building  
Columbia, SC 29201

Senator Clementa C. Pinckney (male)  
District 45  
512 Gressette Building  
Columbia, SC 29202

Senator Tom Davis  
District 46  
602 Gressette Building  
Columbia, SC 29202

Representative William G. Herbkersman  
District 118  
308B Blatt Building  
Columbia, SC 29211

Representative Wm. Weston J. Newton  
District 120  
320A Blatt Building  
Columbia, SC 29201

Representative Kenneth F. Hodges  
District 121  
434B Blatt Building  
Columbia, SC 29211

Representative William K. Bowers  
District 122  
310C Blatt Building  
Columbia, SC 29211

Representative Andrew S. Patrick  
District 123  
308A Blatt Building  
Columbia, SC 29211

Representative Shannon S. Erickson (female)  
District 124  
320C Blatt Building  
Columbia, SC 29201

Mr. Hugh Weathers  
Commissioner  
SC Department of Agriculture  
P. O. Box 11280  
Columbia, SC 29211

Mr. Keith M. Derting  
Archaeological Site FILE Manager  
University of SC  
SC Institute of Archaeology and  
Anthropology  
1321 Pendleton Street  
Columbia, SC 29208-0071

Ms. Elizabeth Johnson  
Deputy State Historic Preservation Officer  
SC Department of Archives and History  
8301 Parklane Road  
Columbia, SC 29223

Ms. Sabrena P. Graham  
Executive Director  
Lowcountry Council of Governments  
634 Campground Road  
Yemassee, SC 29945
Ms. Myra Reece
Chief, Bureau of Air Quality
SC Department of Health and Environmental Control
2600 Bull Street
Columbia, SC 29201

Ms. Rheta DiNovo
Regulatory Division Director
Bureau of Ocean and Coastal Resource Management
SC Department of Health and Environmental Control
1362 McMillan Avenue, Suite 400
Charleston, SC 29405

Ms. Toni Nance
Director of Governmental Affairs
SC Department of Parks, Recreation and Tourism
1205 Pendleton Street, Room 505
Columbia, SC 29201

Ms. Tina Hadden
Regulatory Division Chief
U.S. Army Corps of Engineers Charleston District
69A Hagood Avenue
Charleston, SC 29403-5107

Mr. Robert D Perry
Environmental Program Director
SC Department of Natural Resources
P. O. Box 167
Columbia, SC 29202

Mr. Jay Herrington
Field Supervisor
U.S. Fish and Wildlife Service
176 Croghan Spur Road, Suite 200
Charleston, SC 29407

Ms. Heather Preston
Director, Water Quality Division
Bureau of Water
SC Department of Health and Environmental Control
2600 Bull Street
Columbia, SC 29201

Ms. Jennifer Derby
Section Chief, Wetlands and Marine Regulatory Section
U.S. Environmental Protection Agency, Region IV
Sam Nunn Atlanta Federal Center
61 Forsyth Street SW
Atlanta, Georgia 30303

Mr. Calvin Bailey
Coastal Region Forester
SC Forestry Commission
413 Sidney Road
Walterboro, SC 29488

Ms. Pam Thomas
State Soil Scientist
USDA-NRCS State Office
Stone Thurmond Federal Building
1835 Assembly Street, Room 950
Columbia, SC 29201

Mr. John Ruhs
State Director, Eastern States
Bureau of Land Management
U.S. Department of the Interior
20 M Street SE, Suite 950
Washington, DC 20003

Mr. Jess D. Weaver
Regional Executive
Southeast Area
U.S. Geological Survey
3850 Holcomb Bridge Road, Suite 160
Norcross, Georgia 30092
Mr. Gregory L. Hogue  
Regional Environmental Officer  
Office of Environmental Policy and Compliance - Atlanta Region  
U.S. Department of the Interior  
75 Spring Street SW, Suite 1144  
Atlanta, Georgia 30303

Mr. David Vela  
Regional Director  
Southeast Region  
National Park Service  
100 Alabama Street SW  
1924 Building  
Atlanta, Georgia 30303

Ms. Daphne G. Neel  
Bureau Chief  
Bureau of Land and Waste Management  
SC Department of Health and Environmental Control  
2600 Bull Street  
Columbia, SC 29201

Mr. Wilbur Pace  
Biologist  
National Marine Fisheries Service  
219 Fort Johnson Road  
Charleston, SC 29412-9110

Mr. Franklin Keel  
Eastern Regional Office  
Bureau of Indian Affairs  
U.S. Department of the Interior  
545 Marriott Drive, Suite 700  
Nashville, Tennessee 37214

Mr. Les Boles  
Director  
State Clearinghouse for Intergovernmental Review  
1205 Pendleton Street  
Edgar A. Brown Building, Suite 520  
Columbia, SC 29201

Ms. Libby Anderson  
Director of Planning  
City of Beaufort  
1911 Boundary Street  
Beaufort, SC 29902

Mr. Anthony J. Crisciello  
Planning Director  
Beaufort County  
100 Ribault Road, Room 115  
County Administration Building  
Beaufort, SC 29901
April 28, 2015

Ms. Judith Elder-Lincke
Project Manager
Talbert & Bright, Inc.
2000 Park Street, Suite 101
Columbia, SC 29201

Dear Ms. Elder-Lincke,

The project listed below is in an area already in urban development or is in existing right-of-ways. As a result, the project will have no significant impact on Prime or Statewide Important Farmlands.

Beaufort County Airport, South Carolina
Runway Safety Areas for Runway 07/25, Parallel Taxiway
Aircraft Parking Apron and Fuel Farm Relocation
Environmental Assessment

For future reference, NRCS policy and procedures on prime and unique farmlands are published in the Code of Federal Regulations 7CFR657. The website is: http://www.access.gpo.gov/nara/cfr/waisidx_00/7cfr657_00.html. Detailed information can be found in Section 657.5 on this website.

If you have any questions, please call me at (803) 253-3896 or email kamara.holmes@sc.usda.gov.

Sincerely,

Kamara Holmes
KAMARA HOLMES
State Soil Scientist

cc:
Mr. Jon Rembold, Airports Director, Beaufort County Airport, Beaufort, SC
May 01, 2015

Talbert, Bright & Ellington
Attn: Ms. Judith Elder-Lincke
2000 Park Street, Ste #101
Columbia SC 29201

RE: Bureau of Water Environmental Review Response for Beaufort County Runway 07/25,
Parallel Taxiway, Aircraft Parking Apron and Fuel Farm Relocation CDBG Project

Dear Ms. Judith Elder-Lincke:

The South Carolina Department of Health and Environmental Control’s Bureau of Water (Bureau) has received your request for a review of the above project. Our Bureau protects water quality through implementation of its regulations. This coordinated response represents all program areas within the Bureau, but does not represent a review of other potential regulatory requirements administered by other SCDHEC Bureaus. To ensure protection and maintenance of water resources, the Bureau recommends the following issues be addressed when planning and carrying out this project:

☐ No apparent impacts to water quality. No Bureau permits required.
☐ Any non-point discharges into a stream or river from construction areas of one acre or more will require a Bureau administered Stormwater Management and Sediment Control Permit. Construction areas of one acre or more will also be subject to NPDES Stormwater permit regulations.
☐ Any placement of fill material or dredging in waters of the State, including jurisdictional wetlands, will require a Bureau administered Section 401 Certification and an Army Corps of Engineers administered Section 404 Permit. When evaluating application for fill in wetlands, demonstration of avoidance and minimization of wetland impacts and mitigation of unavoidable wetland impacts provides assurances that impacts have been lessened to the extent possible and that water quality standards will be upheld. Documentation of these measures will be required.
☐ A Construction in Navigable Waters Permit will be required for all construction within navigable waters of South Carolina.
☐ Drinking water system construction requires a permit from the Bureau. Our review of acceptability will occur with review of application for a permits. Also, the applicant should check with the local water utility on available capacity.
☐ Sewer system construction requires a permit from the Bureau. Our review of acceptability will occur with review of application for a permit. Also, the applicant should check with the local water utility on available capacity.
☐ With new businesses and other commercial or industrial operations, wastewater pretreatment permits or other local approvals may be required.

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL
2500 Bull Street • Columbia, SC 29201 • Phone:(803) 898-3432 • www.scdhec.gov
☐ Other:

Thank you for the opportunity to comment on this project. If you have any questions, please contact Monica Taylor at (803) 898-4176 or taylormn@dhec.sc.gov.

Sincerely,

[Signature]
Monica Taylor
Bureau of Water
May 4, 2015

Judith Elder-Lincke, Project Manager
Talbert, Bright & Ellington
2000 Park Street, Suite # 101
Columbia, SC 29201

Re: Beaufort County Airport, South Carolina
Runway Safety Areas for Runway 07/25, Parallel Taxiway,
Aircraft Parking Apron and Fuel Farm Relocation
Environmental Assessment

Dear Ms. Elder-Lincke:

On April 27, 2015, we received your letter, dated April 24, 2015, about the environmental process associated with the runway safety area, parallel taxiway, aircraft parking apron and fuel farm relocation projects proposed for the Beaufort County Airport in Beaufort County, SC. Based on the information provided in the letter, I am responding on behalf of the South Carolina Department of Health and Environmental Control, Bureau of Air Quality (Bureau).

The Bureau is tasked with implementing the Federal Clean Air Act (1990, as amended) in the State of South Carolina. The Bureau is required to ensure compliance with the National Ambient Air Quality Standards (NAAQS) for criteria pollutants. Currently two criteria pollutants are of particular concern in South Carolina:

- **Ozone** – The 2008 8-hour ozone standards (primary and secondary) are currently set at 0.075 parts per million (ppm). The area represented in this proposal is meeting the 2008 ozone standards. New standards of between 65 and 70 parts per billion (ppb) were proposed in November 2014, with a final standard anticipated by the end of 2015. For more information regarding this proposal, see [www.epa.gov/oia/](http://www.epa.gov/oia/).

- **Particulate Matter 2.5** (Particulates 2.5 microns in size and smaller) – The 2012 standard for maximum daily concentration is set at 35 micrograms per cubic meter. The 2012 standard for the maximum annual concentration is set at 12 micrograms per cubic meter. The area represented in this proposal is meeting the 2012 particulate matter 2.5 standards.

Presently only the eastern portion of York County has been designated nonattainment for the 2008 8-hour ozone NAAQS. For more information on which areas have been designated nonattainment, please visit [http://www.epa.gov/oar/oaaqs/greenbk](http://www.epa.gov/oar/oaaqs/greenbk). South Carolina may gain additional nonattainment areas when designations for the new ozone standards are made. If a project is located in a nonattainment area, it may be subject to prescriptive requirements such as Transportation Conformity or air quality modeling.
An asbestos survey and project license may be required prior to any demolition activities such as deconstruction of a building or removal of structures in the right-of-way of a road project. If you have any questions regarding asbestos regulatory applicability you may contact Robin Mack (with the Bureau’s Asbestos Section) at (803) 898-4270 or mackrs@dhec.sc.gov.

All necessary environmental permits for the subject project must be obtained in accordance with applicable state and federal regulations. If you have not already done so, please contact the Bureau of Water at (803) 898-4300 and the Bureau of Land and Waste Management at (803) 898-2000 for input regarding those program areas’ assessments of this proposed project.

Emissions from construction equipment are regulated by federal standards. The Bureau would like to offer the following suggestions on how this project can help us stay in compliance with the NAAQS. More importantly, these strategies are beneficial to the health of citizens of South Carolina.

- Utilize alternatively fueled equipment.
- Utilize emission controls applicable to your equipment.
- Reduce idling time on equipment.
- Fugitive dust emissions should be minimized through good operating practices.

The Bureau can provide model clean construction contract language. A vendor may need to retrofit, repower or replace older and more polluting diesel construction equipment in order to satisfy clean construction requirements. These types of projects can be financed with Congestion Mitigation and Air Quality (CMAQ) funds, and are in fact a high priority for CMAQ funding. Please contact our office if assistance is needed.

Thank you for the opportunity to comment on this project. Should you have any further questions or comments concerning this matter, please do not hesitate to contact me at (803) 898-4122 or at robertln@dhec.sc.gov.

Sincerely,

L. Nelson Roberts, Jr., Manager
Air Programs Implementation and Mobile Sources Section
SCDHEC Bureau of Air Quality

cc: Shane Johnson, Lowcountry EQC Beaufort Office, johnsoc@dhec.sc.gov
Judy Elder

From: Rembold, Jon <jrembold@bcgov.net>
Sent: Thursday, May 21, 2015 11:15 AM
To: Judy Elder
Subject: FW: Beaufort County Airport

Judy,

Here’s the comment from SC Forestry – all clear.

Jon Rembold
Airports Director

From: Calvin Bailey [mailto:Cbailey@scfc.gov]
Sent: Thursday, May 21, 2015 9:33 AM
To: Rembold, Jon
Subject: Beaufort County Airport

The SC Forestry Commission does not have any comments associated with the environmental assessment.

cb

Calvin Bailey
Coastal Regional Forester
843.908.4593
# DHEC OCRM State Coastal Zone Consistency (CZC) Certification Request Form

| Project Name: | Beaufort County Airport, South Carolina  
Runway Safety Areas for Runway 07/25, Parallel Taxiway, Aircraft Parking Apron, and Fuel Farm  
Relocation Environmental Assessment |
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<tbody>
<tr>
<td>Applicant Information:</td>
<td>Agent/Engineer Information:</td>
</tr>
<tr>
<td>Contact Name: Jon Rembold, Airports Director</td>
<td>Contact Name: Judith Elder-Linoke</td>
</tr>
<tr>
<td>Address: 39 Circle Drive, Beaufort, SC 29907</td>
<td>Address: 2000 Park Street, Suite 101, Columbia, SC 29201</td>
</tr>
<tr>
<td>Phone #: 843-255-2952</td>
<td>Phone #: 803-933-9290</td>
</tr>
<tr>
<td>E-mail: <a href="mailto:jrembold@bcgov.net">jrembold@bcgov.net</a></td>
<td>E-mail: <a href="mailto:jelda@becti.com">jelda@becti.com</a></td>
</tr>
<tr>
<td>Site Details:</td>
<td></td>
</tr>
<tr>
<td>Location/Address: 39 Airport Circle, Beaufort, SC 29907</td>
<td></td>
</tr>
<tr>
<td>County: Beaufort County</td>
<td>TMS:</td>
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<tr>
<td>Type of Permit Requested:</td>
<td>Name of Permitting Authority(s):</td>
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<tr>
<td>(ex. Landfills, Mining, Westwater, etc.)</td>
<td>(ex. DHEC Bureau of Water)</td>
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<td>Airport Expansion</td>
<td>DHEC OCRM</td>
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<td>Description of Proposed Activity(s):</td>
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<td>• including total disturbed area, name of and distance to nearest waterbody, and onsite non-jurisdictional wetland impacts and acreage.</td>
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<td>Refer to attached environmental assessment (CD)</td>
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All applicable Project Policy Checklist(s) that apply to the proposed project must be submitted with this request form. (See [www.scdhec.gov/environment/ocrm/czc](http://www.scdhec.gov/environment/ocrm/czc) for available Policy Checklists)

Submitted By: [Signature]  
Date: July 12, 2016
Policy Group II - Transportation

The Agency’s Coastal Zone Consistency (CZC) certification review of all activities within the Coastal Zone that require a State permit will be based on the policies contained within project based checklists. For the CZC request to be complete, you must answer the questions contained within the policies segment relative to your project by checking off all that apply. More than one checklist may apply to your project based on the plan proposal. For example, a road or highway project might also require dredging and filling of coastal wetlands.

**A) Port Facilities:**

Required: Will your proposed port project or port plans...

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<td>a)</td>
<td>take place in existing industrialized areas where sufficient support facilities are available including public utilities, rail and highway transportation access, and navigational channels which are already maintained or does the project demonstrate feasible alternatives or an overriding public interest and describe how substantial environmental damage can be minimized?</td>
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<td>or is this N/A?</td>
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<td>b)</td>
<td>occur in areas that have adequate high ground (non-wetland) acreage for proposed development and near-term expansion plans, and related facilities and away from productive salt, brackish or freshwater wetlands or does the project demonstrate that there are no other feasible alternatives exist or an overriding public interest and any substantial environment damage can be minimized?</td>
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<td>c)</td>
<td>(for filling, ditching, clearing, or excavation of wetlands) demonstrate mitigation sites or practices to offset the losses of wetlands consistent with the Division’s Mitigation Guidelines? The types of mitigation include wetland buffers, creation of wetlands, and restoration of existing wetlands, offset mitigation, and mitigation banking. Provide details of mitigation on an attached document.</td>
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<td>or is this N/A?</td>
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<td>d)</td>
<td>to the extent feasible, be located on existing channels so that the need for initial and maintenance dredging can be minimized?</td>
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<td>or is this N/A?</td>
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<td>e)</td>
<td>be consistent with the Priority of Uses of each listed Geographic Areas of Particular Concern (GAPCs) as discussed in the Geographic Areas of Particular Concern (GAPCs) Policies and Priority of Uses document located on the Resources section of the CZC webpage?</td>
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<td>or is this N/A?</td>
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<td>f)</td>
<td>require maintenance dredging and access to adequate upland (non-wetland) spoil areas, ocean disposal, or other environmentally acceptable alternative disposal techniques to meet the long-term demands for soil disposal?</td>
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<td>or is this N/A?</td>
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<td>g)</td>
<td>provide for the handling of dangerous and volatile cargoes and materials in relatively isolated or restricted areas, so that in the event of accident, measures can be implemented to contain any spills or other contamination with minimal environmental damage and limited threat to the health, safety and welfare of the public?</td>
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<td>or is this N/A?</td>
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### BEAUFORT COUNTY AIRPORT
Phase I Projects Environmental Assessment

#### Appendix A

**TALBERT, BRIGHT & ELLINGTON**

**Correspondence A-18**

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| **h)** | □ have wharves, piers, mooring dolphins and other port related structures that do not restrict or block navigation or alter the natural pattern of water currents?  
  or is this N/A? |
| **i)** | □ meet existing air and water quality standards, as regulated by the EPA and DHEC?  
  or is this N/A? |
| **j)** | □ be sited, constructed and operated in a manner that is consistent with local and State development objectives as set forth in public documents such as comprehensive plans, zoning ordinances and performance standards?  
  or is this N/A? |
| **k)** | □ consider the potential of being located near any marina, docks and piers, transportation facilities (especially bridges), cables and pipelines and other relevant activities?  
  or is this N/A? |
| **l)** | □ contain plans for any necessary breakwater or other wave protection measures along major navigable ship channels where appropriate in order to reduce erosion damage?  
  or is this N/A? |
| **m)** | □ include bulkheads and other type of containment walls associated with port development consistent with the Erosion Control Policies contained in Chapter X of the CZMP?  
  or is this N/A? |
| **n)** | □ include dredging and dredge spoil disposal activities associated with port development consistent with the Dredging Policies contained in Chapter VIII of the CZMP?  
  or is this N/A? |
| **o)** | □ include piers and dockage consistent with the Marine Related Activities Policies contained in Chapter VI of the CZMP?  
  or is this N/A? |
| **p)** | □ include transportation projects associated with port development consistent with the Transportation Policies contained in Chapter II of the CZMP?  
  or is this N/A? |
| **q)** | □ include manufacturing aspects associated with port development (and related industrial development) consistent with the as stated in the Coastal Industries policies contained in Chapter III of the CZMP?  
  or is this N/A? |

**Recommended policies to be considered for port and harbor development projects in the Coastal Zone:**

1. Encouraging comprehensive study of potential secondary impacts of port and harbor development projects;
2. Maximizing the use of existing developed port areas, when feasible, before establishing new facilities in relatively undeveloped areas;
3. Encouraging the State Ports Authority (SPA) to diversify their activities and areas of concern to include the promotion of sports and commercial fisheries and other marine activities.

**Required:**

As applicant or agent, having completed all appropriate checklists and having read the applicable policies, I certify that this project is consistent with the South Carolina Coastal Zone Management Program based on the information outlined above and supplemental information attached.

**Signature and date**

DHEC 0430 (03/2013)
### B) Roads and Highways (including bridges and transit facilities)

**Required:** Will your proposed road and highway project or plans...

<p>| | |</p>
<table>
<thead>
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</table>
| a) | (bridges and causeways) avoid having a negative impact on navigation, which might restrict port and harbor activities in the area?  
☐ or is this N/A? |
| b) | be aligned to avoid salt, brackish and freshwater wetlands wherever feasible or allows for bridging of any wetlands and all navigable waterways rather than filling to create roadbeds?  
☐ or is this N/A? |
| c) | make use of existing fill areas or embankments for widening and improvement projects, wherever feasible, where the median and right-of-way widths are limited to lessen the impact on salt, brackish, and freshwater wetlands?  
☐ or is this N/A? |
| d) | (for filling, ditching, clearing, or excavation of wetlands) demonstrate mitigation sites or practices to offset the losses of wetlands consistent with DHEC OCRM Mitigation Guidelines? The types of mitigation include wetland buffers, creation of wetlands, and restoration of existing wetlands, offset mitigation, and mitigation banking. Provide details of mitigation in the summary section below.  
☐ or is this N/A? |
| e) | be designed so as not to cause substantial changes in natural waterflow and circulation through salt, brackish or freshwater wetlands or water bodies?  
☐ or is this N/A? |
| f) | provide adequate clearance for commercial or pleasure craft for bridges over navigable water bodies?  
☐ or is this N/A? |
| g) | be consistent with the Priority of Uses of each listed Geographic Areas of Particular Concern (GAPCs) as discussed in the Geographic Areas of Particular Concern (GAPCs) Policies and Priority of Uses document located on the Resources section of the CZC webpage?  
☐ or is this N/A? |
| h) | minimize direct drainage of roadway runoff into adjacent water bodies by filtering runoff water, such as grass ditching or vegetative buffers during construction and in latter maintenance?  
☐ or is this N/A? |
| i) | include a provision for placement of other utilities, such as cables or transmission lines, in the design of road/highway and bridging projects in to reduce the need for future disruption of adjacent wetlands or waterways?  
☐ or is this N/A? |
| j) | be aligned to avoid salt, brackish and freshwater wetlands wherever feasible, and where applicable must provide bridges, culverts or other means to maintain circulation and water flow for the construction of private roadways for private access while incorporating permeable surfaces such as gravel or shell should be used rather than pavement when practicable?  
☐ or is this N/A? |
| k) | include spoil disposal areas associated with a highway project consistent with the Dredging Policies contained in Chapter VIII of the CZMP?  
☐ or is this N/A? |
### BEAUFORT COUNTY AIRPORT
Phase I Projects Environmental Assessment

#### Appendix A
TALBERT, BRIGHT & ELLINGTON

---

<table>
<thead>
<tr>
<th>i)</th>
<th>☐</th>
<th>(for proposed access to previously undeveloped barrier islands) be designed and constructed with only private funds, unless an overwhelming public interest is demonstrated?</th>
</tr>
</thead>
<tbody>
<tr>
<td>m)</td>
<td>☐</td>
<td>where feasible, accommodate foot paths and fishing catwalks and platforms?</td>
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<tr>
<td>n)</td>
<td>☐</td>
<td>be a result of cooperative and coordinative efforts between DHEC and SCDOT in the development and implementation of policy and long-term planning in the coastal zone?</td>
</tr>
</tbody>
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---

**Recommended policies to be considered for road and highway projects in the Coastal Zone:**

- Encouraging comprehensive study of the potential for secondary growth inducement from new road and highway construction;
- Study of mass transit alternatives to road or highway construction in urban areas;
- Encouraging project designs and route alignments which consider the impacts on locally-designated “Scenic Highways” and on other aesthetic considerations, for example, enhancement and protection of scenic vistas and preservation of unique tree canopies and other natural areas.

**Required:**

As applicant or agent, having completed all appropriate checklists and having read the applicable policies, I certify that this project is consistent with the South Carolina Coastal Zone Management Program based on the information outlined above and supplemental information attached.

---

**Signature and date**

---

**C) Airports:**

**Required: Will your proposed airport project or plans...**

- a) ☐ (for a new airport facility) avoid impacts to salt, brackish or freshwater wetlands to the extent feasible or demonstrate that no feasible alternatives exist or there is an overriding public interest and that any substantial environmental damage can be minimized?

- b) ☐ (for filling, ditching, clearing, or excavation of wetlands) demonstrate mitigation sites or practices to offset the losses of wetlands consistent with DHEC OCRM Mitigation Guidelines? The types of mitigation include wetland buffers, creation of wetlands, and restoration of existing wetlands, offsite mitigation, and mitigation banking. Provide a summary of mitigation details on an attached document.

- c) ☐ incorporate best available techniques and methods during the design for the construction and maintenance of the airport to avoid erosion or sedimentation problems and to prevent stormwater runoff from aircraft storage areas, parking lots and support facilities from directly entering and degrading adjacent surface water bodies or underground resources?

- d) ☐ demonstrate that you will meet applicable Federal and State air quality and noise control guidelines?

---

DHEC 0410C (03/2013)
Recommended policies to be considered for airport projects in the Coastal Zone:

- Consideration of the existing and planned transportation system or network in the area, for example, relationship to other airports and access to adequate transportation service by other modes;
- Encouragement of joint-use or regional airport facilities where feasible (for example, joint military and civilian airports);
- Compatibility with character and use of the area; local governments are encouraged to develop plans and procedures which maintain appropriate, compatible use areas around existing airports;
- Alignment of approach corridors and corresponding noise zones during airport planning should consider any bird rookeries located in the area.

Required:

As applicant or agent, having completed all appropriate checklists and having read the applicable policies, I certify that this project is consistent with the South Carolina Coastal Zone Management Program based on the information outlined above and supplemental information attached.

Signature and date: July 12, 2016

D) Railways:

Will your proposed railway project or plans...

- (bridges and causeways) avoid having a negative impact on navigation, which might restrict port and harbor activities in the area?
- (or is this N/A?)

- be located away from salt, brackish or freshwater wetlands to the maximum extent feasible or incorporate bridging rather than filling to create railway beds?
- (or is this N/A?)

- (for filling, ditching, clearing, or excavation of wetlands) demonstrate mitigation sites or practices to offset the losses of wetlands consistent with DHEC OCRM Mitigation Guidelines? The types of mitigation include wetland buffers, creation of wetlands, and restoration of existing wetlands, offset mitigation, and mitigation banking. Provide details of mitigation in the summary section below.
- (or is this N/A?)

- be designed so as not to alter natural waterflow or circulation with a bridge or when bridging is not feasible, plan for adequate culverts or other means for water to flow through or under the structure?
- (or is this N/A?)

- provide adequate clearance for commercial or pleasure craft, where appropriate for bridges over navigable water bodies?
- (or is this N/A?)

- include provisions for future placement of utilities, such as cables or transmission lines, in the design to reduce the need for future disruption of adjacent wetlands or waterways?
- (or is this N/A?)
g) □ include techniques to prevent direct drainage of runoff water into adjacent water bodies and stabilization of embankments to minimize erosion and water quality degradation due to sedimentation?
   □ or is this N/A?

h) □ include a mechanism that any future abandoned railroad tracks, bridges and other rights-of-way be reused as transportation or utility corridors or for recreational uses such as fishing piers or bicycle trails?
   □ or is this N/A?

i) □ be a result of a comprehensive evaluation of the need to provide improved access to existing industrialized areas, or to planned or proposed developments suitable for manufacturing sites if applicable?
   □ or is this N/A?

j) □ be consistent with the Priority of Uses of each listed Geographic Areas of Particular Concern (GAPCs) as discussed in the Geographic Areas of Particular Concern (GAPCs) Policies and Priority of Uses document located on the Resources section of the CZC webpage?
   □ or is this N/A?

Recommended policies to be considered for railway projects in the Coastal Zone:

a. Minimizing possible aesthetic impacts from placement of rail lines and bridges;
b. Integrating railroad planning and development with other transportation facilities, in order to provide adequate transportation systems, for example, where feasible, new highway bridges might be designed to include railways (especially in urban areas where land is more limited and transportation needs are greatest);
c. In floodplain areas railway alignment should parallel the path of water flow, to the extent feasible, in order to minimize disruption of the floodplain ecosystem.

Required:

As applicant or agent, having completed all appropriate checklists and having read the applicable policies, I certify that this project is consistent with the South Carolina Coastal Zone Management Program based on the information outlined above and supplemental information attached.

Signature and date

E) Parking Facilities:

Required: Will your proposed parking facility project or plans...

a) □ avoid the filling or other permanent alteration of productive salt, brackish or freshwater wetlands or demonstrate that no feasible alternatives exist, that the facility is directly associated with a water-dependent activity, any substantial environmental impacts can be minimized, and an overriding public interest can be demonstrated?
   □ or is this N/A?

b) □ (for filling, ditching, clearing, or excavation of wetlands) demonstrate mitigation sites or practices to offset the losses of wetlands consistent with DHEC OCORM Mitigation Guidelines? The types of mitigation include wetland buffers, creation of wetlands, and restoration of existing wetlands, offsite mitigation, and mitigation banking.
   □ or is this N/A?

c) □ is compliant with applicable Federal and State water quality standards specifically those addressing drainage and discharge of storm water runoff?
   □ or is this N/A?
d) ☐ be consistent with the Priority of Uses of each listed Geographic Areas of Particular Concern (GAPCs) as discussed in the Geographic Areas of Particular Concern (GAPCs) Policies and Priority of Uses document located on the Resources section of the CZC webpage?

☐ or is this N/A?

Recommended policies to be considered for parking facilities:

a. Use of permeable surface materials such as gravel or shell rather than pavement, where appropriate, with consideration to possible air quality and groundwater impacts;

b. Retaining the maximum possible natural drainage and vegetative cover between parking spaces;

c. Provision of buffer areas around parking areas located adjacent to the critical areas, as visual and storm water runoff buffers.

Required:

As applicant or agent, having completed all appropriate checklists and having read the applicable policies, I certify that this project is consistent with the South Carolina Coastal Zone Management Program based on the information outlined above and supplemental information attached.

_____________________________
Signature and date
July 18, 2016

Ms. Libby Anderson
Director of Planning
City of Beaufort
1911 Boundary Street
Beaufort, SC 29902

Mr. Anthony J. Criscuolo
Planning Director
Beaufort County
100 Ribaut Road, Room 115
County Administration Building
Beaufort, SC 29901

Re:  
Beaufort County Airport (ARW)
Phase I Projects Environmental Assessment
Request for Determination of Land Use Consistency

Dear <Name>:

Beaufort County, in cooperation with the South Carolina Aeronautics Commission (SCAC) and Federal Aviation Administration (FAA), is proposing the implementation of several projects at the Beaufort County Airport (ARW). These projects are part of ARW's five-year capital improvement program as outlined in the Master Plan Update:

- Runway Safety Areas for Runway 07/25 - currently the runway safety areas are not in accordance with FAA regulations and need to be expanded to meet design standards as outlined in FAA Advisory Circular 150/5300-13A – Airport Design, Change 1 (August 21, 2014).
- Parallel Taxiway – ARW currently has a partial parallel taxiway, this will be extended from its existing terminus to the end of Runway 27.
- Aircraft Parking Apron – the existing aircraft parking apron will be expanded to accommodate more aircraft, as well as development of two helipads.
- Fuel Farm Relocation – currently the fuel farm is located on the existing aircraft parking apron, this will be relocated away from parking apron to allow for future expansion as needed.

As part of the EA process for the Federal Aviation Administration (FAA), we are respectfully requesting an administrative review and issuance of a determination as to whether the proposed projects are consistent with adopted zoning and land use standards. This request is to comply with
July 18, 2015

Federal Aviation Administration (FAA) Order 1050.1F – Environmental Impacts Policies and Procedures, and 1050.1F Desk Reference.

Should you have any questions, or require additional information, please contact me at your convenience.

Sincerely,

[Signature]

Judith Ever-Loveze
Project Manager

cc:  Mr. Jon Rembold, Beaufort County Airport
     Ms. Rusty Meals, FAA
     Ms. Lisa Favors, FAA
     Mr. James Stephens, SCAC
July 18, 2016

Dear [Name]:

Beaufort County, in cooperation with the South Carolina Aeronautics Commission (SCAC) and Federal Aviation Administration (FAA), is proposing the implementation of several projects at the Beaufort County Airport (ARW). These projects are part of ARW's five-year capital improvement program as outlined in the Master Plan Update:

- Runway Safety Areas for Runway 07/25 – currently the runway safety areas are not in accordance with FAA regulations and need to be expanded to meet design standards as outlined in FAA Advisory Circular 150/5300-13A – Airport Design, Change 1 (August 21, 2014).
- Parallel Taxiway – ARW currently has a partial parallel taxiway, this will be extended from its existing terminus to the end of Runway 27.
- Aircraft Parking Apron – the existing aircraft parking apron will be expanded to accommodate more aircraft, as well as development of two hangars.
- Fuel Farm Relocation – currently the fuel farm is located on the existing aircraft parking apron, this will be relocated away from parking apron to allow for future expansion as needed.

The attached environmental documentation (on compact disk) has been prepared in accordance with the Federal Aviation Administration (FAA) Order 5050.4B – National Environmental Policy Act (NEPA) Implementing Instructions for Airport Projects, FAA Order 1050.1F – Environmental Impacts: Policies and Procedures, and 1050.1F Desk Reference.

We respectfully request review of the attached environmental assessment, and please provide written comments within 30 days of receipt of this letter. Your participation in the review of this document is greatly appreciated. Please provide your comments, no later than September 2, 2016 to:
July 18, 2016

Mr. Jon Rembold  
Airports Director  
Beaufort County Airport  
39 Airport Circle  
Beaufort, SC 29907  
(843) 255-2950

Sincerely,

[Signature]

Judith Elder-Lincke  
Project Manager

Attachments

cc: Mr. Jon Rembold, Beaufort County Airport  
Mr. Rusty Nealis, FAA  
Ms. Lisa Favors, FAA  
Mr. James Stephens, SCAC
SCOPING LETTER MAILING LIST

Senator Timothy E. Scott
2500 City Hall Lane, 3rd Floor Suite
North Charleston, SC 29406

Senator Lindsey O. Graham
550 Johnnie Dodds Boulevard, Suite 202
Mt. Pleasant, SC 29464

Congressman Mark Sanford
District 1
710 Boundary Street, Suite 1D
Beaufort, SC 29902

Congressman James E. Clyburn
District 6
1225 Lady Street, Suite 200
Columbia, SC 29201

Senator George E. Campsen, III
District 43
305 Gressette Building
Columbia, SC 29201

Senator Maggie Bright Matthews
District 45
512 Gressette Building
Columbia, SC 29202

Senator Tom Davis
District 46
602 Gressette Building
Columbia, SC 29202

Representative William G. Herbkersman
District 118
308B Blatt Building
Columbia, SC 29211

Representative Win. Weston J. Newton
District 120
320A Blatt Building
Columbia, SC 29201

Representative Kenneth F. Hodges
District 121
434B Blatt Building
Columbia, SC 29211

Representative William K. Bowers
District 122
310C Blatt Building
Columbia, SC 29211

Representative Andrew S. Patrick
District 123
308A Blatt Building
Columbia, SC 29211

Representative Shannon S. Erickson (female)
District 124
320C Blatt Building
Columbia, SC 29201

Mr. Hugh Weathers
Commissioner
SC Department of Agriculture
P. O. Box 11280
Columbia, SC 29211

Mr. Keith M. Derting
Archaeological Site File Manager
University of SC
SC Institute of Archaeology and Anthropology
1321 Pendleton Street
Columbia, SC 29208-0071

Ms. Elizabeth Johnson
Deputy State Historic Preservation Officer
SC Department of Archives and History
8301 Parklane Road
Columbia, SC 29225

Ms. Sabrena P. Graham
Executive Director
Lowcountry Council of Governments
634 Campground Road
Yemassee, SC 29945
Ms. Myra Reece
Chief, Bureau of Air Quality
SC Department of Health and Environmental Control
2600 Bull Street
Columbia, SC 29201

Ms. Rheta DiNovo
Regulatory Division Director
Bureau of Ocean and Coastal Resource Management
SC Department of Health and Environmental Control
1362 McMillan Avenue, Suite 400
Charleston, SC 29405

Ms. Toni Napec
Director of Governmental Affairs
SC Department of Parks, Recreation and Tourism
1205 Pendleton Street, Room 505
Columbia, SC 29201

Ms. Tina Hadden
Regulatory Division Chief
U.S. Army Corps of Engineers
Charleston District
69A Hagood Avenue
Charleston, SC 29405-5107

Mr. Robert D Perry
Environmental Program Director
SC Department of Natural Resources
P. O. Box 167
Columbia, SC 29202

Mr. Jay Herrington
Field Supervisor
U.S. Fish and Wildlife Service
176 Crogan Spur Road, Suite 200
Charleston, SC 29407

Ms. Heather Preston
Director, Water Quality Division
Bureau of Water
SC Department of Health and Environmental Control
2600 Bull Street
Columbia, SC 29201

Ms. Jennifer Derby
Section Chief, Wetlands and Marine Regulatory Section
U.S. Environmental Protection Agency,
Region IV
Sam Nunn Atlanta Federal Center
61 Forsyth Street SW
Atlanta, Georgia 30303

Mr. Calvin Bailey
Coastal Region Forester
SC Forestry Commission
413 Sidney Road
 Walterboro, SC 29488

Ms. Kamara Holmes
State Soil Scientist
USDA-NRCS State Office
Strom Thurmond Federal Building
1835 Assembly Street, Room 950
Columbia, SC 29201

Mr. John Ruhs
State Director, Eastern States
Bureau of Land Management
U.S. Department of the Interior
20 M Street SE, Suite 950
Washington, DC 20003

Mr. Jess D. Weaver
Regional Executive
Southeast Area
U.S. Geological Survey
5850 Holcomb Bridge Road, Suite 160
Norcross, Georgia 30092
Mr. Gregory L. Hogue  
Regional Environmental Officer  
Office of Environmental Policy and Compliance - Atlanta Region  
U.S. Department of the Interior  
75 Spring Street SW, Suite 1144  
Atlanta, Georgia 30303

Mr. Stan Austin  
Regional Director  
Southeast Region  
National Park Service  
100 Alabama Street SW  
1924 Building  
Atlanta, Georgia 30303

Ms. Daphne G. Neel  
Assistant Chief  
Bureau of Land and Waste Management  
SC Department of Health and Environmental Control  
2600 Bull Street  
Columbia, SC 29201

Mr. Wilbur Pace  
Biologist  
National Marine Fisheries Service  
219 Fort Johnson Road  
Charleston, SC 29412-9110

Mr. Franklin Keel  
Eastern Regional Office  
Bureau of Indian Affairs  
U.S. Department of the Interior  
545 Marriott Drive, Suite 700  
Nashville, Tennessee 37214

Ms. Bonny L. Anderson  
South Carolina Grant Services Coordinator  
Office of Management and Budget  
1205 Pendleton Street  
Edgar A. Brown Building, Suite 529  
Columbia, SC 29201

Mr. Bruce Maytubby  
Regional Director  
Bureau of Indian Affairs  
U.S. Department of the Interior  
545 Marriott Drive, Suite 700  
Nashville, TN 37214

Ms. Joyce Stanley  
Regional Environmental Protection Specialist  
Atlanta Region  
U.S. Department of the Interior  
75 Ted Turner Drive S.W., Suite 1144  
Atlanta, GA 30303

Mr. Chris Miltscher  
NEPA Office  
U.S. Environmental Protection Agency, Region IV  
61 Forsyth Street SW  
Atlanta, Georgia 30303

Ms. Libby Anderson  
Director of Planning  
City of Beaufort  
1911 Boundary Street  
Beaufort, SC 29902

Mr. Anthony J. Criscitelle  
Planning Director  
Beaufort County  
100 Ribaut Road, Room 115  
County Administration Building  
Beaufort, SC 29901
NOTICE OF OPPORTUNITY FOR REVIEW
AND PUBLIC HEARING
FOR THE RUNWAY 03 OFF-AIRPORT OBSTRUCTION REMOVAL
AT HILTON HEAD ISLAND AIRPORT
HILTON HEAD ISLAND, SC

Beaufort County intends to submit a request for federal and state financial assistance with the Federal Aviation Administration and South Carolina Aeronautics Commission to help carry out the following development at the Beaufort County Airport, Beaufort, SC:

- Bringing the runway safety areas (RSAs) for Runway 07/25 into compliance with Federal Aviation Administration (FAA) design requirements
- Completing the parallel taxiway to Runway 25
- Expanding the aircraft parking apron and adding two helipads
- Relocating the existing fuel farm

ALL INTERESTED PERSONS are notified of the availability of the Environmental Assessment (EA) outlining the effects of the proposed project. The EA is available for examination during normal business hours at the following locations:

Beaufort County Airport
Airport Terminal
39 Airport Circle
Beaufort, SC 29907

Beaufort County Library – Beaufort Branch
311 Scott Street
Beaufort, SC 29902

ALL INTERESTED PERSONS are further advised of the opportunity to attend a public hearing. A public hearing will be held at the Beaufort County Airport, Airport Terminal, 39 Airport Circle, Beaufort, SC 29907 on August 18, 2016 between 4:30 p.m. and 7:30 p.m. Comment regarding the environmental impacts and effects of the proposed project are invited to be submitted to Mr. Jon Rembold, Airports Director no later than 5:00 p.m. on September 2, 2015. Comments may be mailed to Mr. Jon Rembold, Airports Director at Beaufort County Airport, Airport Terminal, 39 Airport Circle, Beaufort, SC 29907 or delivered in person to him at Beaufort County Airport, Airport Terminal, 39 Airport Circle, Beaufort, SC 29907.
FISH, WILDLIFE, AND PLANTS
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B.1 Biological Assessment

B.1.1 Correspondence

United States Department of the Interior
FISH AND WILDLIFE SERVICE
175 Croggan Spur Road, Suite 200
Charleston, South Carolina 29407

July 13, 2015

Mr. James D. Gentry, Jr.
Ward Edwards Engineering, Inc.
127 Woodlawn St.
Walterboro, SC 29488

Re: Threatened & Endangered Species Survey Report, Lady’s Island Airport Tract, Beaufort County Airport, Beaufort County, South Carolina
FWS Log No. 2015-I-0429

Dear Mr. Gentry:

The U.S. Fish and Wildlife Service (Service) has reviewed your June 1, 2015, Threatened & Endangered Species Survey Report for a property in Beaufort County, South Carolina. The 106.15-acre property is owned by Beaufort County and includes the Beaufort County Airport (also known as Lady’s Island Airport). The property is located at the intersection of Airport Circle and U.S. Highway 21, south of the City of Beaufort, South Carolina. The protected species survey was performed in advance of development on the site. Future construction is planned to meet Federal Aviation Administration (FAA) requirements and the species assessment specifically will be used to propose an amendment to existing U.S. Army Corps of Engineers (COE) permit P/N 2002-1U-129 for onsite wetland mitigation. You have requested that the Service provide a review and comments on the species assessment pursuant to the Endangered Species Act of 1973 (ESA).

The protected species assessment you submitted does not include general or specific development plans for the property. Development information is not required but does aid in our evaluation. As such, it is difficult to consider potential impacts to species or critical habitat that may be present onsite or to offsite, but nearby species. However, you have provided a thorough ecological and habitat description based on a site visit performed in May 2015. In addition, you have surveyed for threatened and endangered species known to occur in Beaufort County. You determined that suitable habitat for threatened or endangered species is found on the site and surrounding areas but found no evidence of species being present and concluded that onsite construction activity should have no effect on protected species.

Upon review of the submitted information and in comparison to our species and habitat database based on its current state, the Service disagrees with the no effect determination for American wood stork, red knot, and West Indian manatee. You have stated that an amendment will be
proposed to change the wetland mitigation plans currently permitted for the site under the above-referenced COE permit. The proposed amendment will include potential impacts to wetlands owing to the FAA’s preference for offsite wetland mitigation, thereby indicating possible impacts to suitable habitat for threatened or endangered species. Furthermore, proposed plans consisting of upgrading and improving the airport were submitted to our office on April 24, 2015, by Talbert, Bright & Ellington. Proposed work included extending the runway and parallel taxiway, expanding the aircraft parking apron, and relocating the fuel farm. The runway and taxiway construction would result in loss of important tidal marsh area and function onsite and in surrounding areas. In addition, the expansion of impervious surfaces could increase stormwater runoff, and consequently the chance of petroleum based contaminants to flow into adjacent tidal marsh. Tidal marshes perform critical ecological functions including water purification, flood storage, and erosion control, as well as serve as important foraging areas for the federally protected American wood stork (Mycteria americana) and red knot (Calidris canutus rufa). Wood storks are especially sensitive to changes in the amount and timing of prey availability and require wetland depressions with water depths between 2 to 15 inches so that small fish are concentrated in suitable densities. Seasonal and annual differences in rainfall strongly influence the suitability of feeding areas, leading wood stork individuals to change where and when they feed from season to season and from year to year. The West Indian manatee (Trichechus manatus) is known to occur in Beaufort County during the warmer months of the year, and activities that degrade water quality during this time could adversely affect individuals present in nearby tidal waters.

The Service agrees with your no effect determination for the Kirtland’s warbler, and with your conclusion that the property does not contain suitable habitat for piping plover, frosted flatwoods salamander, red-cockaded woodpecker, pondberry, Canby’s dropwort, American chaffseed, or hawksbill, leatherback, Kemp’s ridley, green, and loggerhead sea turtles. The ESA does not require consultation for no effect determinations. At this time, no further action is necessary concerning these species. The conclusions in this letter are limited to the site boundaries provided and due to obligations under section 7 of the ESA this project must be reconsidered if: (1) new information reveals impacts of this identified action that may affect listed species or critical habitat in a manner not previously considered; (2) this action is subsequently modified in a manner, which was not considered in this assessment; or (3) a new species is listed or critical habitat is determined that may be affected by the identified action.

Please contact the South Carolina Department of Natural Resources regarding potential impacts to State protected species. If you have any questions on the Service’s comments, please contact Ms. Whitney Wiest at (843) 727-4707, ext. 228 and reference FWS Log No. 2015-TA-0429.

Sincerely,

[Signature]

Thomas D. McCoy
Field Supervisor

TDM/WAW
June 25, 2015

Mr. James D. Gentry, Jr., MES, Wetland Scientist
Ward Edwards Engineering
PO Box 381
Bluffton, SC 29910

RE: Request for Written Concurrence of Threatened & Endangered Species Survey Report
Ladys Island Airport, Approx. 106.5 Acres, Beaufort County, SC
Ward Edwards Project No.: 100266

Dear Mr. Gentry,

Because our database does not represent a comprehensive biological inventory of the state, I can only verify the known occurrences in the vicinity of your project. There may be occurrences of species in the vicinity of your project area that have not been reported to us. Fieldwork to insure that no threatened or endangered species are impacted remains the responsibility of the investigator.

Based on what I saw in the report, it appears that you have done a fairly extensive survey of the property. You have reviewed the 2012 Beaufort County list on the SCDNR’s Rare, Threatened & Endangered Species Inventory web site, and appear to have covered the threatened and endangered species indicated on that site and on the USFWS list. I have checked our database, and there are no known occurrences of any federal or state listed threatened or endangered species on or within one mile of the property. There are two occurrences of Waterbird Colonies (GRR, SNR) within one mile of the property, which are known to have been active as recently as 2013. Although these records have no legal protection under the federal or state threatened and endangered species laws, we ask that you take them and other rare species and communities into consideration during your project. As the county species lists were updated in 2014, I have enclosed a current list of rare, threatened, and endangered species for Beaufort County. The current lists are available at http://www.dnr.sc.gov/species/index.html.

As a professional courtesy, we ask that you acknowledge S.C. Heritage Trust as a source of information whenever you use this data in reports. If you need additional assistance, please contact me by phone at 803-734-3917 or by e-mail at HollingJ@dnr.sc.gov.

Sincerely,

Julie Holling, Data Manager
SC Department of Natural Resources
Heritage Trust Program

Encl.
South Carolina Department of
Natural Resources

PO Box 12559
Charleston, SC 29422
843 953 9003 Office
843 953 9399 Fax
Daviss@dnr.sc.gov

May 27, 2015

Ms. Judith Elder-Lincke
Talbert & Bright, Inc.
2000 Park Street, Suite 101
Columbia, SC 29201

Re: Beaufort County Airport, Runway Safety Areas for Runway 07/25, Parallel Taxiway,
Aircraft Parking Apron, and Fuel Farm Relocation, Environmental Assessment (EA)

Dear Ms. Lincke:

Personnel from the South Carolina Department of Natural Resources have reviewed the
proposal to make various improvements to the Beaufort County Airport and offer the
following comments.

Based on the limited information provided about the proposed project, we are unable to
provide any specific comments on potential impacts to natural resources at this time.
We would, however, like to express some general comments regarding the proposed
improvements. As you are well aware, coastal South Carolina contains extensive
acreage of both salt and freshwater wetlands. Wetland areas provide valuable habitat
for fish and wildlife and are essential in maintaining water quality in adjoining water
bodies. It appears that a portion of the proposed project improvements will encroach
into tidal wetland areas. Careful consideration should be given to avoiding tidal wetland
impacts whenever possible and minimizing unavoidable impacts to the maximum extent
possible.

Means for avoiding and minimizing wetland impacts should be incorporated early on in
the planning and design stages. Mitigation for unavoidable wetland impacts should be
addressed in the planning and environmental review stages of the project and should
focus on the in-kind replacement of lost wetland functions. An environmental review
process should also consider potential impacts to threatened and endangered species.
Information concerning known populations of federal and/or state endangered or
threatened species and other sensitive species can be obtained by contacting S.C.
Department of Natural Resources staff within the Wildlife Diversity Section, Columbia,
S.C. 29202, (803) 734-3917.

We ask that you consider the above outlined issues in the preparation of an EA for this
project. Please contact us for further comment when additional information becomes
available.
Sincerely,

Susan F. Davis
Coastal Environmental Coordinator
Ms. Judith Elder-Lincke  
Talbert, Bright & Ellington  
2000 Park Street, Suite 101  
Columbia, SC 29201  

Re: Beaufort County Airport, Runway Safety Areas, Beaufort County, South Carolina  
FWS Log No. 2015-TA-0335

Dear Ms. Elder-Lincke:

The U.S. Fish and Wildlife Service (Service) has reviewed your April 24, 2015, letter requesting review of the above-referenced project. The proposed project consists of upgrading and improving the Beaufort County Airport on Lady’s Island, south of the Town of Beaufort, South Carolina. An Environmental Assessment (EA) is being prepared in accordance with the National Environmental Policy Act of 1969 (42 U.S.C. 4321–4347) and you are requesting Service comments and concerns on the proposed work for consideration.

Both ends of the current runway and the entire eastern side of the airport are directly adjacent to tidal salt marsh wetlands. The tidal salt marsh contains a variety of important vegetation, predominated by the smooth cordgrass (Spartina alterniflora), which serve multiple ecological functions within the marine environment. The vegetation within the tidal salt marsh provide nursery habitat for many recreationally and commercially important finfish, shellfish, and avian species including the federally protected American wood stork (Mycteria americana). In addition, the salt marsh vegetation provides water purification functions through the uptake of soluble contaminants as well as serving as a food source for primary producers.

The proposed extension of the parallel taxiway at the northern end of the airport will completely eliminate these functions in a small, but cumulatively important area. In order to preserve the salt marsh functions the Service recommends that the EA consider alternatives to the taxiway. One such alternative would be to shorten the taxiway so that all construction occurs on the adjacent high ground.

As shown on your submitted drawing, the proposed runway safety area improvements also extend into the tidal salt marsh areas. However, it is unclear from your submittal whether the improvements in the runway safety areas consist of ground disturbing activities such as filling or
clearing. If so, impacts to the areas and loss of the tidal marsh functions will be similar, if not identical, to those associated with the parallel taxiway extension. The Service recommends the EA examine the various improvements in the safety areas in order to minimize brush clearing and potential ground disturbance.

The plan indicates the expansion of impervious surfaces which may increase storm water runoff into the adjacent tidal salt marsh. Paving areas for the extension of the parallel taxiway, apron expansion, and the new fuel farm relocation represents a significant increase in loss of pervious lands which will absorb and filter water during storm events. Runoff from the proposed and existing paved areas will increase the chance of petroleum based contaminants flowing into the adjacent tidal marshes. To eliminate or minimize contamination the Service recommends the EA review methods to filter stormwater runoff through detention or retention prior to release into the adjacent tidal marsh.

The Service has included a list of species that have been petitioned for listing under the Endangered Species Act as well as Candidate Species. These species are collectively referred to as “At-Risk Species” (ARS). We have included a list of the ARS that may occur in Beaufort County, South Carolina. Although there are no Federal protections afforded to ARS, please consider including them in your survey efforts. Incorporating proactive measures to avoid or minimize harm to ARS may improve their status and assist with precluding the need to list these species. Additional information on ARS can be found at:

http://www.fws.gov/southeast/candidateconservation

The Service appreciates the opportunity to provide comments at this early stage of the project. Please contact the South Carolina Department of Natural Resources regarding potential impacts to State protected resources. If you have further questions or require additional information, please contact Mr. Mark Caldwell of this office at (843) 727-4707 ext. 215 and reference FWS Log No. 2015-TA-0335.

Sincerely,

[Signature]

Thomas D. McCoy
Field Supervisor

TDM/MAC
# South Carolina List of At-Risk, Candidate, Endangered, and Threatened Species - Beaufort County

<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>COMMON NAME/STATUS</th>
<th>SCIENTIFIC NAME</th>
<th>SURVEY WINDOW/ TIME PERIOD</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amphibian</td>
<td>Frosted flatwoods salamander</td>
<td>Ambystoma cingulatum</td>
<td>January 1-April 30</td>
<td>Larvae present in breeding ponds</td>
</tr>
<tr>
<td>Bird</td>
<td>American wood stork (T)</td>
<td>Mycteria Americana</td>
<td>February 15-September 1</td>
<td>Nesting season</td>
</tr>
<tr>
<td></td>
<td>Bald eagle (BGEPA)</td>
<td>Haliaeetus leucocephalus</td>
<td>October 1-May 15</td>
<td>Nesting season</td>
</tr>
<tr>
<td></td>
<td>Black rail (ARS)</td>
<td>Coturnix lalomensis</td>
<td>May-July</td>
<td></td>
</tr>
<tr>
<td></td>
<td>MacGillivray's seaside sparrow (ARS)</td>
<td>Ammodramus maritimus margilivrae</td>
<td>May-June</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Piping plover (T, CH)</td>
<td>Charadrius melodus</td>
<td>July 15-May 1</td>
<td>Migration and wintering</td>
</tr>
<tr>
<td></td>
<td>Red-cockaded woodpecker (E)</td>
<td>Picoides borealis</td>
<td>April 1-July 31</td>
<td>Nesting season</td>
</tr>
<tr>
<td></td>
<td>Red knot (T)</td>
<td>Calidris canutus rufa</td>
<td>August 1-May 31</td>
<td>Migration and wintering</td>
</tr>
<tr>
<td>Crustacean</td>
<td>None Found</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fish</td>
<td>American eel (ARS)</td>
<td>Anguilla rostrata</td>
<td>March 1-May 30; October 1-December 15</td>
<td>Temperature dependent; normally (17-20°C), can be found between 13-25°C</td>
</tr>
<tr>
<td></td>
<td>Atlantic sturgeon* (E)</td>
<td>Acipenser oxyrinchus*</td>
<td>February 1-April 30</td>
<td>Spawning migration</td>
</tr>
<tr>
<td></td>
<td>Blueback herring (ARS)</td>
<td>Alosa aestivalis</td>
<td>Mid-January-mid May</td>
<td>Peak: March-April</td>
</tr>
<tr>
<td></td>
<td>Shortnose sturgeon* (E)</td>
<td>Acipenser brevirostrum*</td>
<td>February 1-April 30</td>
<td>Spawning migration</td>
</tr>
<tr>
<td>Insect</td>
<td>Monarch butterfly (ARS)</td>
<td>Danaus plexippus</td>
<td>August-December</td>
<td>Overwinter population departs March-April</td>
</tr>
<tr>
<td></td>
<td>Rare skipper (ARS)</td>
<td>Probinae blentia</td>
<td>May-July-September</td>
<td>Two brood periods</td>
</tr>
<tr>
<td>Mammal</td>
<td>Finback whale* (E)</td>
<td>Balaenoptera physalus*</td>
<td>November 1-April 30</td>
<td>Off the coast</td>
</tr>
<tr>
<td></td>
<td>Humpback whale* (E)</td>
<td>Megaptera novaeangliae</td>
<td>January 1-March 31</td>
<td>Migration off the coast</td>
</tr>
<tr>
<td></td>
<td>Rafinesque's big-eared bat (ARS)</td>
<td>Corynorhinus rafinesquii</td>
<td>Year round</td>
<td>Found in mines, caves, large hollow trees, buildings, and bat towers</td>
</tr>
<tr>
<td></td>
<td>Right whale* (E)</td>
<td>Balaena glacialis</td>
<td>November 1-April 30</td>
<td>Off the coast</td>
</tr>
<tr>
<td></td>
<td>Tri-colored bat (ARS)*</td>
<td>Perimyotis subflavus</td>
<td>Year round</td>
<td>Found in mines and caves in the winter</td>
</tr>
<tr>
<td></td>
<td>West Indian manatee (E)</td>
<td>Trichechus manatus</td>
<td>May 15-October 15</td>
<td>In coastal waters</td>
</tr>
<tr>
<td>Mollusk</td>
<td>None Found</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Plant</td>
<td>Canby's dropwort (E)</td>
<td>Oxybasis canbyi</td>
<td>Mid-July-September</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Carolina bichopweed (ARS)</td>
<td>Poliannum athensii</td>
<td>May-July</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Godfrey's phlox (ARS)</td>
<td>Phlox godfreyi</td>
<td>April-June</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pondberry (E)</td>
<td>Lindera melissifolia</td>
<td>February-March</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Raven's speedwell (ARS)</td>
<td>Ludwigia ravenii</td>
<td>June-October</td>
<td></td>
</tr>
<tr>
<td>Reptile</td>
<td>Eastern diamondback rattlesnake (ARS)</td>
<td>Crotalus adamanteus</td>
<td>Most of the year</td>
<td>Peak: April-November</td>
</tr>
<tr>
<td></td>
<td>Green sea turtle ** (T)</td>
<td>Chelonia mydas **</td>
<td>May 1-October 31</td>
<td>Nesting and hatching</td>
</tr>
<tr>
<td></td>
<td>Kemp's ridley sea turtle ** (E)</td>
<td>Lepidochelys kempi**</td>
<td>May 1-October 31</td>
<td>In coastal waters</td>
</tr>
<tr>
<td></td>
<td>Leatherback sea turtle ** (E)</td>
<td>Dermochelys coriacea **</td>
<td>May 1-October 31</td>
<td>Nesting and hatching</td>
</tr>
<tr>
<td></td>
<td>Loggerhead sea turtle ** (T, CH)</td>
<td>Caretta caretta **</td>
<td>May 1-October 31</td>
<td>Nesting and hatching</td>
</tr>
<tr>
<td></td>
<td>Southern hognose snake (ARS)</td>
<td>Heterodon simus</td>
<td>Most of the year</td>
<td></td>
</tr>
</tbody>
</table>

2/10/2015
### South Carolina List of At-Risk, Candidate, Endangered, and Threatened Species - Beaufort County

* Contact National Marine Fisheries Service (NMFS) for more information on this species

** The U.S. Fish and Wildlife Service (FWS) and NMFS share jurisdiction of this species

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARS</td>
<td>Species that the FWS has been petitioned to list and for which a positive 90-day finding has been issued (listing may be warranted); information is provided only for conservation actions as no Federal protections currently exist.</td>
</tr>
<tr>
<td>ARS*</td>
<td>Species that are either former Candidate Species or are emerging conservation priority species</td>
</tr>
<tr>
<td>BEPA</td>
<td>Federally protected under the Bald and Golden Eagle Protection Act</td>
</tr>
<tr>
<td>C</td>
<td>FWS or NMFS has on file sufficient information on biological vulnerability and threat(s) to support proposals to list these species</td>
</tr>
<tr>
<td>CH</td>
<td>Critical Habitat</td>
</tr>
<tr>
<td>E</td>
<td>Federally Endangered</td>
</tr>
<tr>
<td>P or P - CH</td>
<td>Proposed for listing or critical habitat in the Federal Register</td>
</tr>
<tr>
<td>S/A</td>
<td>Federally protected due to similarity of appearance to a listed species</td>
</tr>
<tr>
<td>T</td>
<td>Federally Threatened</td>
</tr>
</tbody>
</table>

These lists should be used only as a guideline, not as the final authority. The lists include known occurrences and areas where the species has a high possibility of occurring. Records are updated as deemed necessary and may differ from earlier lists.

For a list of State endangered, threatened, and species of concern, please visit [https://www.dnr.sc.gov/species/index.html](https://www.dnr.sc.gov/species/index.html).

2/10/2015
B.1.2 Report

Biological Assessment
Beaufort County Airport (ARW)
Lady’s Island, South Carolina

July 30, 2015

Prepared for
TALBERT, BRIGHT & ELLINGTON
2000 Park Street, Suite 101
Columbia, SC 29201

Ward Edwards Engineering
PO Box 361
Bluffton, S.C. 29910
WEE Reference No.100266

Prepared by: James D. Gentry Jr. MES
1.0 Introduction .......................................................................................................................... 3
2.0 Project Description ............................................................................................................... 3
3.0 Completed and Implemented Studies .................................................................................. 4
4.0 Action Area .......................................................................................................................... 4
5.0 Site Description
   5.1 Freshwater Wetlands .......................................................................................................... 5
   5.2 Biotic Communities ........................................................................................................... 6
   5.3 Soils ................................................................................................................................... 6
6.0 Activities that May Affect Species and/or Habitat ............................................................... 6
7.0 Species and Critical Habitat Which May Be Present
   7.1 Species ............................................................................................................................... 6
   7.2 Critical Habitat .................................................................................................................. 7
8.0 Eliminated Species .............................................................................................................. 7
9.0 Species Assessed
   9.1 Avian Species .................................................................................................................... 8
   9.2 Reptiles ................................................................................................................................ 11
   9.3 Mammals .......................................................................................................................... 11
10.0 Summary ............................................................................................................................ 12
Appendix A Figures .................................................................................................................... 13
Appendix B Pictures ................................................................................................................... 21
Appendix C Tables ...................................................................................................................... 27
Appendix D Research Material ................................................................................................ 34
1.0 - Introduction
The approximately 106.15 acre subject site is located in the northeastern quadrant of the intersection of Airport Center Road with US Highway 21, which is approximately 0.80-mile east of the intersection of US 21 and SC Highway 802. The subject site is located in an unincorporated portion of Beaufort County, South Carolina. (Appendix A, Figure 1) and is owned by Beaufort County. The following coordinates approximate the center of the sites: Latitude: 32° 24' 39" north, Longitude: 80° 38' 04". Please see Appendix A, Figure 4.

On June 11, 2002, Beaufort County was issued a US Army Corps of Engineers permit (PN #2002-1U-129, please see (Appendix B, Documents) to impact wetlands on the Lady's Island Airport for construction of additional hangar storage. Mitigation for the impacts were to be provided by on site conversion of upland area to critical area (defined by the South Carolina Department of Health and Environmental Control, Office of Ocean and Coastal Resource Management (SCDHEC/OCRM)). Subsequent to the permit issuance, the Federal Aviation Administration (FAA) issued a memorandum of agreement stating that mitigation for wetland impacts should be performed offsite to deter wildlife attraction to the airport area (Appendix B, Memorandum of Agreement). As a result of the memorandum agreement and due to the need for further safety and service enhancements, a permit amendment is being prepared to address the mitigation issue and include the necessary enhancements per FAA design standards.

2.0 - Project Description
The Lady's Island Airport is currently preparing a permit alteration to issued permit noted above to address the mitigation issue and to include additional improvements required to meet current FAA design standards and improve airport service. The alteration proposes the following activities (please see Appendix B, Statement of Project Purpose):

- The off site acquisition of mitigation for the wetland impacts incurred in the original permit noted above (Appendix B, Statement of Project Purchase).
- Runway Safety Area (RSA) improvements (both ends of Runway 07/25). The runway safety areas must be expanded to achieve a total dimension 150 feet by 300 feet from beyond each runway threshold. This requires a 175-foot extension to the existing RSA on Runway 07 and a 170-foot extension of the existing RSA on Runway 25. Meeting RSA standards is identified as a short-term project in order to maintain the existing usable runway length and avoid possible threshold relocation.
- Improvements to offer full-length parallel taxiway to existing ends. The partial parallel taxiway will be extended approximately 2,225 feet to offer a full-length parallel taxiway to existing runway ends. In addition to pavement necessary to provide a 35-foot wide taxiway, earthwork and grading will also be part of this project to provide a full-length, 79-foot wide taxiway safety area necessary to meet FAA design standards.
- Apron Expansion. The existing aircraft apron will be expanded with a 280-foot by 120-foot addition to the east. This will allow for additional aircraft tie downs for based and transient aircraft and additional clearance for aircraft taxiing to and from existing T-hangars.
- Roadway Access and Auto Parking Improvements. In support of the hangar and terminal building development area, an improved automobile parking lot will provide needed capacity for the terminal area. An ancillary access roadway will connect the parking lot

Biological Assessment:
Beaufort County Airport (ARN)
Lady's Island, South Carolina
with the Airport's primary entry road, Airport Circle. The parking lot will encompass about
36,000 square feet. A 100-foot long access road is also included in this project.
- Fuel relocation away from the terminal to provide additional safety.

The improvements listed above will require construction activities including, but not limited to
filling, grading, and paving. The improvement construction is planned to begin in fall of 2017
with the offsite mitigation. The construction activity will be precluded by installation of sediment
and erosion control approved by SCDHEC/OCR and will be inspected daily to insure integrity.

3.0 - Completed and Implemented Studies
The improvements will be funded in part by the FAA and the use of Federal funds has incurred
the requirement for an Environment Impact Assessment (EIA) and associated supporting
environmental studies. Council on Environmental Quality (CEQ) 1501.2 states, “Agencies shall
integrate the NEPA process with other planning at the earliest possible time to insure that
planning and decisions reflect environmental values, to avoid delays later in the process, and to
preclude potential conflicts.”

Consequently, a threatened and endangered species assessment of the site was initiated in
order to comply with current state and federal regulations including but not limited to:

1. Federal Endangered Species Act of 1973 (16USC 1531 - 1543);

Comments have been received from the US Fish & Wildlife Service (USFWS) and the South
Carolina Department of Natural Resources (SCDNR). The letters received are in Appendix B,
documents. Comments by USFWS indicated that an potential impacts to resources in adjacent
Waters of the US, as defined by the USACE, could occur and suggested an Essential Fish
Habitat Survey (EFH) be conducted. At the time of this report, the EFH study is underway. The
USFWS also included comments which include the West Indian Manatee (Trichechus manatus),
red knot (Calidris canutus), and wood stork (Mycteria americana). SCDNR indicated that their
database had no known occurrences of any federal or state listed threatened or endangered
species or on within one mile of the property. SCDNR further indicated that there are two
occurrences of waterbird colonies within one mile of the property which were active as recently
as 2013.

4.0 - Action Area
The onsite action areas are defined in the attached figure entitled Beaufort County Airport-
Lady's Island Proposed Projects which is included in Appendix A, Figures. The total action area
is estimated to be the limits composed by physical components such as distance from the
proposed activities, infrastructure, and buildings.

The total action area is defined by US Highway 21 to the south, uplands to the west, tributaries
of Warsaw Flats to the north, and infrastructure and Warsaw Flats to the east. The area
included within these boundaries is approximately 565 acres by GIS estimates and represent a
worst case scenario of no sediment and erosion control around the construction area.
5.0 - Site Description
The site visits revealed that the approximately 108.15 acre project boundary appears to contain 3 major habitats: Pavement, buildings and mowed/maintained areas (approx. 68 acres), high marsh (mowed/maintained (approx. 37 acres), wooded critical area (approx. 5.5 acres). Analysis of the acreages obtained from GIS estimates indicates that 64% of the subject site is mowed/maintained, cleared, and pavement and buildings. Please see Appendix A, 2006 Aerial and Appendix B, Pictures.

The mowed areas consist of grasses such as bahia (Paspalum notatum) and common Bermuda grass (Cynodon dactylon). The high marsh areas contain plants adapted to a salt water environment and include, but are not limited to: salt wort (Salicornia bigelovii), sea ox eye daisy (Burmichia frutescens), marsh elder (Iva frutescens), needle rush (Eleocharis acicularis), and salt hay (Spatina patens). The wooded critical area contains woody plants including, but not limited to slash pine (Pinus elliottii), marsh elder, groundsel tree (Baccharis halimifolia) and wax myrtle (Myrica cerifera). Appendix B contains pictures of these areas.

5.1 - Freshwater Wetlands
Freshwater wetlands are located on the subject site. However, the wetlands have not been delineated since the permit was issued in 2002 and available old digital documents are not clear enough to read. The airport is currently having the wetlands delineated for verification by the USACE. Therefore, the sizes and locations may vary. Limited areas of freshwater wetlands exist adjacent to the existing hangar facilities located to the east of the site boundary and south of the runway at the eastern end.

Wetlands were observed near the hangar area and appear to be fringe wetlands adjacent to OCRM critical area and appear to consist of shrub/scrub vegetation including wax myrtle (Myrica cerifera), sea myrtle (Baccharis halimifolia), and pine (Pinus elliottii). Wetland hydrology and soils are present.

Wetlands were also observed adjacent to the southeastern portion of the runway and are connected to the critical area on the northern side of the runway via old ditches. These wetlands are mowed and maintained to provide an open safety area. Portions of these wetlands we inundated to a depth of 6 inches due to rainfall prior to the site visit. Plants include, but are not limited to Panicum spp, soft rush (Juncus effusus), immature sea myrtle, and wax myrtle.

Fringe freshwater wetlands are also located in the scrub/scrub areas between the western side of the runway and the critical area. Plants in this area included sea myrtle, baccharus, and soft rush.

The OCRM critical area was defined by the USFWS as “high marsh” during the permitting process in 2001-2002. The high marsh area contains sea myrtle, marsh elder (Iva frutescens), salt grass (Distichlis spicata), needle rush (Juncus roemarianus), and saltwort (Batis maritima).

Biological Assessment:
Beaufort County Airport (ARB)
Lady’s Island, South Carolina
Page 5 of 35
5.2 - Biotic Communities
Biotic communities observed include high marsh critical area which is inundated during high tide events only, paved/mowed area (includes buildings), upland scrub/shrub, and wooded area. Please see Biotic Communities map in Appendix A.

Important area adjacent to the site includes low marsh, tidal creek, and tributary areas. Due to the proximity of these areas to the subject site, Beaufort County is currently in the process of authorizing an essential fish habitat study which will be available for review when completed.

5.3 - Soils
The predominant soils onsite are identified by the Natural Resource Conservation Service (NRCS) as Bladen, Bohicket, Capers, Tomotley, and Yemassee. All of these soils are hydric. Please see Appendix A, Soils.

- Bladen: Hydric soil that is poorly drained.
- Bohicket: Hydric soil that is flooded twice daily with salt water.
- Capers: Hydric soil that is poorly drained, found on tidal flats
- Tomotley: Hydric soil that is poorly drained. Found in low flats in slight depressions in the lower coastal plains
- Yemassee: Hydric soil that is somewhat poorly drained and found on low ridges of the lower marine terraces.

6.0 - Activities that May Affect Species and/or Habitat
The approximately 106.15 acre airport site consists of intensely managed area that consists of mowed open area, buildings, and impervious surfaces. In addition, wildlife in within the airport proper is managed under Federal and State permits which allow taking of species such as deer and avian disbursement activities with the use of pyrotechnics. To ensure air traffic safety, the avian disbursement activities include use for species which may be identified as threatened, endangered, or candidate species. It is also important to note that approximately 64% (GIS estimates) of the airport tract is open maintained area and buildings that is unsuitable for use by wildlife.

7.0 - Species and Critical Habitat Which May Be Present

7.1 - Species
The threatened and endangered species assessment included a literature review of available local, state and federal protected species records. Following the literature review, an intensive pedestrian assessment was conducted in May, 2015 to assess the site for individual species and potential critical habitat within the subject tract.

Species on the lists obtained from US Fish & Wildlife Service (USFWS) and the SC Dept of Natural Resources (SCDNR) were reviewed and species that do not use habitat found on the subject site were eliminated. "At-Risk" and "Candidate" species are included in this study as well as the bald eagle (Haliaeetus leucocephalus), which is protected under the Bald and Golden Eagle Protection Act. Analysis of species listed by USFWS and SCDNR as threatened or endangered species in combination with habitat present on the subject site indicates that 5 threatened or endangered bird species, 2 plants, no reptiles, no mammals, no insects, and no fish should have favorable habitat.
on-site. “At risk” species could include 2 bird species, and two reptile species, and no plants. Appendix C, Tables 1 and 2 includes lists provided by the USFWS and SCDNR.

The pedestrian assessments indicate that the approximately 106.15 acre project boundary consists of an active airport with a significant area (approx. 84%) of paved landing area, taxiways, associated support structures and moved/maintained grass areas. The remaining area consists of high marsh, tidal salt marsh, and small areas of freshwater wetlands with a small area of maritime wooded area. GIS estimates indicate the subject site contains approximately 68 acres of pavement, buildings, and maintained grass areas (Appendix B, Pictures), approximately 37 acres of high marsh, and approximately 6 acres of critical area with wooded portions. The wetlands were delineated for the permit submission in 2002; however, they have not be delineated since 2002 and it is important to note that SCDHE/OCR M verifications of critical area locations is only valid for 2 years.

The site does possess salt marsh defined by the USFWS in the 2002 permit as “high marsh” and limited areas of salt shrub thicket. Salt marsh and salt shrub thicket are listed as critical communities on the SCDNR website. These areas could potentially provide habitat for several listed and “at risk” species to include foraging area for the bald eagle. In addition, the marsh may provide habitat suitable for the red knot (Calidris canutus rufa, threatened), MacGillivray’s seaside sparrow (Ammodramus maritimus macgillivraii, at risk), black rail (Laterallus jamaicensis, at risk), Kirtland’s warbler (Setophaga kirtlandii, endangered).

No threatened or endangered species or at risk species were observed during the on-site survey. Air traffic and the associated noise may inhibit use of the area by the above mentioned birds and the airport manager indicated that noise devices are used to deter usage of the site by birds for safety issues. It should be noted that both threatened and endangered plant and animal populations are considered transitory and may be subject to change due to habitat alterations over time and seasonal variations. Consequently, any future findings should be evaluated as when found. The findings of this investigation indicate that the potential for the existence of threatened or endangered species, other than the species noted above, is unlikely within the subject boundary.

7.2 - Critical Habitat
Both ends of the runway and the western side of the airport consist of tidal salt marsh with vegetation dominated by smooth cordgrass (Spartina alterniflora). The tidal salt marsh provides nursery habitat for fish, shellfish, and foraging areas for avian species. The tidal salt marsh may provide foraging habitat for the red knot and wood stork. The estuarine areas may provide habitat for the west Indian manatee. Other potential critical habitat may exist in the brush/shrub areas located the northwest and northeast of the airport. The seaside sparrow may possibly nest in grasses adjacent to the salt marsh edge as well as in the brush/shrub areas.

8.0 - Eliminated Species
The following species exist in oceans, streams, rivers, bogs, - seeps or other types of habitat that do not exist within the project area: piping plover (Charadrius melodus), frosted flatwoods salamander (Ambystoma cingulatum), red-cockaded woodpecker (Picoides borealis), pondberry

Biological Assessment
Beaufort County Airport (ARN)
Lady’s Island, South Carolina

Page 7 of 36
(Lindera melissifolia), Canby's dropwort (Oxyopsis canby), American chaffseed (Schwalbea americana), Hawksbill sea turtle (Eretmochelys imbricata), leatherback sea turtle (Dermochelys coriacea), Kemps ridley sea turtle (Lepidochelys kempi), Green sea turtle (Chelonia mydas), and loggerhead sea turtle (Caretta caretta). Appendix C, Tables 1 and 2 contain lists of species.

9.0 - Species Assessed

The USFWS comment letter received 07/13/2015 indicates that the wood stork and West Indian manatee could be at risk due to activities that reduce the water quality on or near the subject site. The USFWS further indicates that the red knot could be affected by impacts to tidal marsh; however, available resources indicate that the red knot prefers areas with a sandy surface such as found on beaches. This type of habitat does not exist on or near the airport proper.

Based on the comments received from SCDNR and USFWS in responses to the threatened and endangered species study and USFWS response to a request for comments about proposed activities on the subject site, the following threatened or endangered species are included in this assessment: West Indian manatee (Trichechus manatus), Red knot (Calidris canutus), Wood stork (Mycteria americana). In addition, MacGillivray's seaside sparrow (Ammmodramus maritimus macgilliwarri), black rail (Laterallus jamaicensis), eastern diamondback rattlesnake (Crotalus adamanteus), and southern hognose snake (Heterodon simus) are included as "at risk" species.

It is possible that two reptile species identified as “at risk” or candidate species could be found on the subject site; the eastern diamondback rattlesnake (Crotalus adamanteus) and the southern hognose snake (Heterodon simus).

9.1 - Avian Species

Red Knot

The red knot (Calidris canutus) is a large sandpiper, 25-28 cm in length that feeds on arthropods, hard-shelled mollusks, and larvae. The red knot breeds on islands in the Arctic regions of Canada. It winters along both the Pacific and Atlantic coasts from California and Massachusetts south to South America. The winter or basic plumage is uniformly pale grey. Foraging can occur in mudflats during migration. Sources indicate that the red knot prefers sandy areas for foraging and they return to the arctic tundra to breed.

The subject site and surrounding areas does not possess sandy beach areas preferred by the red knot for foraging. However, some areas associated with the tidal marsh to the east of the airport boundary may possess some areas suitable for foraging.

Impacts to the sandy high marsh area on the southwestern portion of the runway may destroy habitat which could be used for foraging by the red knot. However, the high marsh in this area is directly adjacent to US Highway 21 and under the runway approach, which experiences a high volume of traffic daily and likely deters red knot use for foraging. Impacts proposed to the north of the runway do not include habitat suitable for the red knot. The proposed construction of the taxiway extension, parking lot, and movement of the fueling facility does not impact any areas which could be used by the red knot.

Biological Assessment:
Beaufort County Airport (ARN)
Lady's Island, South Carolina
Page 8 of 35
Based on these factors, the determination for the red knot is that the proposed fill activity may affect, but not adversely affect the species. Any construction activity at the southeastern end of the airport could cause potential use by the red knot to be shifted to another area. In addition, mitigation for the impacts will provide additional preserved or reconstructed areas for future red knot usage.

**Bald Eagle**

The bald eagle (Haliaeetus leucocephalus) is not Federal or State listed as threatened or endangered in Beaufort County. The bald eagle is protected by the Bald and Golden Eagle Act of 1940 and is therefore included in this survey. Adults possess a white head, white tail, and a large bright yellow bill, with the rest of the plumage dark colored. Immatures are dark with variable amounts of light splotching on the body, underwing coverts, flight feathers, and tail base. Adults average 79-94 cm in length with a wingspan of 178-229 cm. Breeding habitat most commonly includes areas close to coastal areas (within 4km), bays, rivers, lakes, or other bodies of water that provide primary food sources such as fish, waterfowl, and seabirds. Preferred foraging habitat is open water and open areas. Bald eagles generally roost in conifers or other sheltered sites in the winter months and typically select large accessible trees. Nesting sites are generally found in tall trees or on cliffs near water.

The subject site does not contain suitable habitat for nesting. However, it is possible that eagles could forage on or near the site. It is important to note that airport personnel are licensed to use pyrotechnics and other methods to discourage bald eagle usage of the airport area.

Airport personnel are licensed to use pyrotechnics and other tools to deter avian use over the airport. Based on this factor, the determination for the bald eagle is that the proposed construction activity may affect, but not adversely affect the species.

**Wood Stork**

The wood stork (Mycteria americana) is federal and state listed as endangered in Beaufort County. Mature wood storks are long-legged wading birds, approximately 127 cm in height, with a wingspan of 152 to 165 cm. Plumage is white with black primaries and secondaries and a short black tail. The head and neck are mostly un-feathered and dark gray in color. The bill is black, thick at the base, and slightly decurved. The plumage of immature birds is dingy gray plumage and the decurved bill is yellow. Wood storks in South Carolina lay eggs from March to late May, with fledging occurring in July and August. Nests are frequently located in the upper branches of large cypress trees. Wood storks usually feed in freshwater marshes, narrow tidal creeks, or flooded tidal pools and are attracted to depressions in marshes or swamps where fish become concentrated during periods of falling water levels. Wood storks prefer water depths of 6” to 10” as their prey location is tactile. Wood storks are highly colonial and may travel as far as 80 miles to find suitable foraging habitat.

The wood stork may use areas associated with the salt marsh and estuarine areas for foraging, however, no suitable nesting area was observed. Construction for the fueling

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**Biological Assessment**

Beaufort County Airport (APW)
Lady's Island, South Carolina

Page 9 of 35
station relocation, taxiway extension, and parking lot relocation should not affect the wood stork since they are all upland based and not located in critical habitat. Based on these factors, the determination for the wood stork is that the proposed fill activity may effect, but not adversely affect the species. Construction activity on the subject site may cause wood storks to shift their foraging area until the construction is completed. In addition, some foraging habitat may be destroyed by placing fill at the northeastern end of the runway. It is anticipated that the wood stork will shift to other foraging areas and that the mitigation required by the USACE permit, if issued, will provide new habitat that will be preserved in perpetuity.

MacGillvray’s Seaside Sparrow
MacGillvray’s seaside sparrow (Ammodramus maritimus macgillivrayi) is a small songbird approximately 13.0-14.2 cm in length, with grayish olive plumage which is the same for both sexes. The seaside sparrow is listed as an “at risk” species in Beaufort County. The seaside sparrow nests above the mean high tide mark in salt water and brackish areas and forages in open stands of grass, shallow pannes, and shallow pools with vegetation that is sparse enough to allow them to move.

The areas on the subject site that are associated with the high marsh may provide habitat for the seaside sparrow as well as the upland scrub shrub areas. No individuals were noted on the day of the site visit. However, any land disturbance activity on the subject site should be precluded by additional observations to insure the seaside sparrow is not present.

It is possible that the construction proposed for the ends of the runway may destroy potential seaside sparrow nesting and foraging area. However, since the sparrow uses grasses on marsh edges, the nesting areas will shift to undisturbed areas. The other construction areas should not affect habitat for the seaside sparrow. Based on these factors, the determination for the seaside sparrow is that the proposed fill activity may effect, but not adversely affect the species.

Black Rail
The black rail (Laterallus jamaicensis) is an “at risk” species in Beaufort County. The black rail is approximately 6” in length with a dark gray to blackish head, gray neck and breast, and a black and white patterned back. Black rails occupy the upper zone of tidal marshes (high marsh) which are inundated only during extreme high tide events.

Habitat which is suitable for the black rail appears to exist on in the high marsh scrub/shrub areas between the runway and marsh area to the west. Although habitat does exist in that area, it does not appear to be a large enough area to support any population of black rail and traffic on US Highway 21 may disturb the area enough to preclude use by the black rail. These areas also do not have enough large vegetation for the black rail to conceal for protection. In addition, conversations with SCDNR personnel who have canvassed for the black rail in the ACE Basin indicate that sightings are rare.

Construction in the high marsh on the southeastern portion of the runway may effect black rail through habitat destruction, however, construction for the fueling location, parking lot, taxiway extension and northern runway extension should not affect black rail
habitat. Based on the disturbance provided by US Highway 21 and the runway use, it is
the determination for the black rail is that the proposed fill activity may effect, but not
adversely affect the species.

9.2 - Reptiles
Eastern Diamondback Rattlesnake
The eastern diamondback rattlesnake (Crotalus adamanteus) is listed as an "at risk
species" by the USFWS in Beaufort County. The eastern diamondback rattlesnake is
poisonous and can reach sizes exceeding 6 feet in length and can be identified by a
diamondback pattern along the snake's back. The preferred habitat includes grassland,
old fields, savannas, shrub land, and both hardwood and pine dominated forests.
Rattlesnakes become dormant during cold winter days, may often be found sunning
during early spring, and are most active during early fall.

No individuals were observed during site investigations. However, this species is
transient, reclusive, and may exist on the site or move into the site.
Construction in the salt marsh areas, the parking lot relocation, and fuel farm relocation
should not impact areas that would be used by the diamondback rattlesnake. It is
possible that the upland construction of the runway extension on the northeastern
portion of the runway could impact rattlesnake habitat. However, experience has shown
that the diamondback back will leave areas when disturbances begin. It is believed that
once destruction activities begin, diamondbacks will leave the area.

Based on these factors, the determination for the eastern diamondback rattlesnake is
that the proposed construction activity may effect, but not adversely affect the species.

Southern Hognose Snake
The southern hognose snake is listed as an "at risk species" by the USFWS in Beaufort
County. The southern hognose snake is a small snake, bright brown/gray, and
averages 18" in length and can be identified by the upturned nose tip. They
spend a significant amount of time burrowed in soil and inhabit open, xeric habitats with
well drained sandy or sandy loam soils. No individuals were observed during site
investigations and any activity on this subject site should have no effect on the
population.

As with the diamondback rattlesnake, construction of the runway extension could disturb
potential areas used by the hognose snake. However, the habitat in this area does not
appear to be the preferred habitat for the hognose snake. Therefore, the determination
for the hognose snake is that the proposed construction activity may effect, but not
adversely affect the species.

9.3 - Mammals
West Indian Manatee
The west Indian manatee is listed as endangered in Region 4, all areas, includes 2 sub
species (Florida manatee, Trichechus manatus latirostris and the Antillean manatee
Trichechus manatus manatus), and is also protected by the Marine Mammal
Protection Act. Manatees have large, seal-shaped bodies with paired flippers and a
round, paddle-shaped tail. They are typically grey in color (color can range from black to

Biological Assessment:
Beaufort County Airport (ARW)
Lady's Island, South Carolina
Page 11 of 35
light brown) and occasionally spotted with barnacles or colored by patches of green or red algae.

Manatees feed on various plants associated with the estuarine regime, mature at 4-5 years of age and breed throughout the year. Construction of the runway extension to the northeast of the tract could remove vegetation that the manatee feeds on. However, the area associated with the fill area does not possess waters deep enough for manatee access. In addition, the construction and fill in the other areas should have no effect on habitat or the manatee. The determination for the West Indian manatee is that the proposed fill activity may affect, but not adversely affect the species.

10.0 SUMMARY
No Federal or State listed threatened or endangered species as defined in the Endangered Species Act of 1973 (Federal Register 64(62):15961-15704) were observed. In addition, the subject boundary incurs significant anthropogenic impacts such as noise, air traffic, vehicular traffic, and light industrial use. Conversation with airport personnel also revealed that a Walmart Super Store is will be constructed adjacent to the airport which will provide additional disturbance to the area.

The areas that could disrupt use by the red knot, bald eagle, wood stork, seaside sparrow, eastern diamondback rattlesnake, and hognose snake are limited in area and therefore limited in potential effect on each species. The fueling area and parking lot relocation are not located in areas that will be used by the species listed above and the taxiway extension utilizes area that would possibly disrupt use by the hognose and diamondback snakes. Therefore, the impacts with potential for effects on the avian and manatee are located in the salt marsh fill areas located at the northern and southern runway approaches. These impacts are significant, however, they are limited in total impacted area. Although the impacts result in a loss of function through a loss of salt marsh area, mitigation required in an issued USACE permit will provide additional in kind resources within Beaufort County in the form of restored and preserved areas.

Any effects on the avian species listed above would consist of shifting use of the areas to undisturbed areas. Finally, impacts on the manatee would be limited to secondary impacts which could occur if sediment and erosion control barriers failed during construction.

Some threats due to the increase of storm water runoff and petroleum contaminants could pose a threat to the larger action area. However, SCDHEC/OCR/ regulations and policy are designed to ensure that storm water retention and filtering have enough capacity to survive a 100 year storm event and must be approved by SCDHEC/OCR before the USACE permit is issued. The stormwater retention ponds may also provide additional onsite habitat for the wood stork.

Based on the observations on site, USFWS and SCDNR letters of opinion, and current OCR/SCDHEC pollution control regulations, it appears that the proposed impacts on the subject site may have an effect on selected species but the effect will not be adverse.
Appendix B Pictures
Terminal facing North.

Terminal facing South.

Biological Assessment
Beaufort County Airport (APW)
Lady's Island, South Carolina
Page 22 of 36
High marsh at southern end of runway facing US Highway 21.

Marsh viewed to West from runway.
Scrub/shrub area in marsh to the Northwest of the runway.

Tidal flats associated with Warsaw Flats tributary.
High marsh facing East from North end of runway.

Wetland area Southeast of the runway.
Hangars North of terminal.
### Table 1

U.S. Fish & Wildlife Service
South Carolina List of Endangered, Threatened, and Candidate Species

<table>
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<tr>
<th>County</th>
<th>Category</th>
<th>Common Name</th>
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<th>Status</th>
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* These lists should be used only as a guideline, not as the final authority. The lists include known occurrences and areas where the species have a high possibility of occurring. Records are updated as deemed necessary and may differ from earlier lists.

** For a list of State endangered, threatened, and species of concern, please visit [https://www.dnr.sc.gov/wildlife/endangered.htm](https://www.dnr.sc.gov/wildlife/endangered.htm)

10/05/2013

Biological Assessment
Beaufort County Airport (ARB)
Lady's Island, South Carolina

Page 28 of 36
### Table 2. SCDNR Listings

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<td>showy milkweed</td>
<td>G3</td>
<td>S2</td>
<td>S2</td>
<td></td>
</tr>
</tbody>
</table>

Appendix B
Fish, Wildlife, and Plants

TALBERT, BRIGHT & ELLINGTON

B-42
## Table 2, Page 3

<table>
<thead>
<tr>
<th>Scientific Name</th>
<th>Common Name</th>
<th>USFWS Designation</th>
<th>State Protection</th>
<th>Global Rank</th>
<th>State Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pine - saw palmetto flatwoods</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pine - longleaf flatwoods</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pine - loblolly</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pine - sand pine</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pinus resinosa</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Salt flat</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Salt marsh</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Salt marsh thicket</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Salt marsh thicket (hard)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>South Atlantic Barrier Island Forest</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spruce pine / mixed hardwood</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sugarberry - American elm - green ash</td>
<td>Bottomland hardwoods forest</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

June 01, 2015
## At Risk Species and Habitat Table

**Table 3, Page 1**

<table>
<thead>
<tr>
<th>Species Name</th>
<th>Habitat Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Ampeloneuron cingulatum</em></td>
<td>Redwoods salamander</td>
</tr>
<tr>
<td><em>Lentinus jamacensis</em></td>
<td>Black rail</td>
</tr>
<tr>
<td><em>Pseuderma hastata</em></td>
<td>Black-capped petrel</td>
</tr>
<tr>
<td><em>Ammodramus maritimus maximus</em></td>
<td>MacGillivray's seaside sparrow</td>
</tr>
<tr>
<td><em>Charadrius melodus</em></td>
<td>Piping plover</td>
</tr>
<tr>
<td><em>Gelochelidon nilotica</em></td>
<td>Red knot</td>
</tr>
<tr>
<td><em>Pluvialis borealis</em></td>
<td>Red-cockaded woodpecker</td>
</tr>
<tr>
<td><em>Mycteria americana</em></td>
<td>Wood stork</td>
</tr>
<tr>
<td><em>Anguilla rostrata</em></td>
<td>American eel</td>
</tr>
<tr>
<td><em>Anaspides anguineus</em></td>
<td>Atlantic sturgeon</td>
</tr>
<tr>
<td><em>Allos alvarensis</em></td>
<td>Blue-backed heron</td>
</tr>
<tr>
<td><em>Anaspides brevispinus</em></td>
<td>Shortnose sturgeon</td>
</tr>
<tr>
<td><em>Proctolophus lineatus</em></td>
<td>Rare striped bass</td>
</tr>
<tr>
<td><em>Balonodon physalus</em></td>
<td>Fin back whale</td>
</tr>
<tr>
<td><em>Megaptera novaeangliae</em></td>
<td>Hump back whale</td>
</tr>
<tr>
<td><em>Balaenoptera glauca</em></td>
<td>Right whale</td>
</tr>
<tr>
<td><em>Trichechus manatus</em></td>
<td>West Indian manatee</td>
</tr>
<tr>
<td><em>Carysbyx canbyi</em></td>
<td>Canby's dragonfly</td>
</tr>
<tr>
<td><em>Platymus schlossi</em></td>
<td>Carolina bishopwood</td>
</tr>
</tbody>
</table>

*Sheet 1*
### At Risk Species and Habitat Table

**Table 3, Page 2**

<table>
<thead>
<tr>
<th>Species</th>
<th>Habitat</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forstera godfreyi</td>
<td>Godfrey's privet</td>
<td>Found in upland sites, usually with lumber. Can apparently occupy a variety of habitats as long as hydrological requirements are met. Occurs in seasonally flooded wetlands such as riparian/bottomland hardwood forests and flooded meadows, on the banks and edges of shallow seasonal ponds in old cypress fields, along the margins or ponds and depressions in prairies, around the edges or at the base of Sphagnum bogs.</td>
</tr>
<tr>
<td>Lindera micrantha</td>
<td>Pondberry</td>
<td></td>
</tr>
<tr>
<td>Oryzomys sp.</td>
<td>Diamondback rattlesnake</td>
<td></td>
</tr>
<tr>
<td>Lepidochroma kempfi</td>
<td>Kemp's Ridley sea turtle</td>
<td>Oceans</td>
</tr>
<tr>
<td>Chelomys corax</td>
<td>Leatherback sea turtle</td>
<td>Oceans</td>
</tr>
<tr>
<td>Crotaphia cotula</td>
<td>Lumphead sea turtle</td>
<td>Oceans</td>
</tr>
<tr>
<td>Hedronis simus</td>
<td>Southern hog nose snake</td>
<td>Inhabits open, xeric habitats with well drained, sandy or sandy-loam soils such as sand dunes, stabilized coastal sand dunes, pine flatwoods, mixed oak-pine woodlands and forests, scrub oak woods, and oak hammocks; also old fields and their floodplains. (Ashon and Ashon 1981, Palmer and Brown 1965, Tonnant 1987, Ernst and Erns 2003). This snake spends considerable time burrowed in its den.</td>
</tr>
</tbody>
</table>
Appendix D Research Material


The Cornell Lab of Ornithology
http://www.allaboutbirds.org/guide/Red_Knot/id

USFWS Environmental Conservation Online System
http://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B031


USFWS Red Knot Question and Answer Page

University of Florida, Department of Wildlife Ecology and Environment
http://ufwildlife.ifas.ufl.edu/snakes/southernhognose.shtml
B.2 Essential Fish Habitat Survey

B.2.1 Correspondence

August 5, 2015

Ms. Jaclyn Daly-Fuchs
NOAA - NMFS
219 Fort Johnson Road
Charleston, SC 29412

RE: Beaufort County Airport
Beaufort County, South Carolina

Dear Ms. Daly-Fuchs,

Enclosed for your review and use is an Essential Fish Habitat Assessment (EFHA) prepared on behalf of Talbert, Bright & Ellington and associated with the proposed expansion projects at the Beaufort County Airport. The projects proposed are to improve safety and allow for future expansion by expanding the existing runway, constructing a parallel taxi runway, expanding the aircraft parking apron and by relocating the fuel farm. This EFHA report has been prepared to conform with the 1996 amendments to the Magnuson-Stevens Fisheries Management and Conservation Act.

Please do not hesitate to contact me with any questions or comments you may have concerning this application.

Sincerely,

Asher Howell
Newkirk Environmental, Inc.
Bluffton, SC Office

Cc: Ms. Judy Elder-Lincke, Talbert, Bright & Ellington

Enclosures
(Sent via Electronic Mail)

Mr. Rusty Nealis, Beaufort County Airport Program Manager
Federal Aviation Administration
Atlanta Airports District Office
1701 Columbia Ave, Suite 2-260
College Park, Georgia 30337

Mr. Jon Remold, Airports Director
Beaufort County Airport
39 Airport Circle
Beaufort, South Carolina 29907

Dear Mr. Nealis and Mr. Remold:

NOAA’s National Marine Fisheries Service (NMFS) reviewed the letter, dated April 24, 2015, from the Federal Aviation Administration (FAA) and South Carolina Aeronautics Commission (SCAC) requesting scoping comments on a proposed Environmental Assessment (EA) for several projects at Beaufort County Airport. The overall purpose of the projects would be to improve safety and allow for future expansion. Projects currently under consideration include extending runway 07-25 by approximately 100 feet to the southwest and 300 feet to the northeast, constructing a parallel taxi runway, expanding the aircraft parking apron, and relocating a fuel farm. As the nation’s federal trustee for the conservation and management of marine, estuarine, and anadromous fishery resources, the following comments and recommendations are provided pursuant to authorities of the Fish and Wildlife Coordination Act and the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act).

Biologists from the NMFS are familiar with the project area. From the perspective of fishery habitat conservation, the likely main issues during project review will be direct and indirect impacts to salt marsh, oyster aggregations, intertidal unvegetated flats, and tidal creeks from constructing the runway extension and parallel taxi runway. The South Atlantic Fishery Management Council (SAFMC) identifies these habitats as essential fish habitat (EFH) for penaeid shrimp, including white shrimp (Litopenaeus setiferus) and brown shrimp (Farfantopenaeus aztecus), and for estuarine-dependent species in the snapper-grouper complex because larvae and juveniles concentrate and feed extensively and shelter within these habitats. As a consequence, growth rates are high and predation rates are low, which makes these habitats effective nursery areas. The SAFMC provides additional information on EFH for federally managed species in Volume IV of the Fishery Ecosystem Plan of the South Atlantic Region1.

1 Available at safmc.net/EcosystemLibrary/FEPC Volume IV.
Normally the FAA, or its designated non-federal representative, would address these issues in an EFH assessment within the EA or a separate consultation with NMFS. Guidance on designation of a non-federal representative for an EFH consultation is found at 50 CFR 600.920(e), and the required content of an EFH assessment is described at 50 CFR 600.920(k). Given the airport’s location and the nature of airport operations, it is not likely alternative locations for the runway extension and taxi runway will be available, bringing a sharp focus to the compensatory mitigation needed to offset the proposed habitat impacts. The NMFS prefers FAA and SCAC offset the impacts with mitigation actions as close to the airport as practicable. The NMFS can assist the FAA and SCAC by providing preliminary comments on early mitigation designs.

In accordance with section 7 of the Endangered Species Act of 1973, as amended, it is the responsibility of the FAA to review and identify any proposed activity that may affect endangered or threatened species and their designated critical habitat. Determinations involving species under NMFS jurisdiction should be reported to the NMFS Protected Resources Division at the letterhead address.

NMFS appreciates the opportunity to provide these comments. Please direct related correspondence to the attention of Ms. Jaclyn Daly-Fuchs at our Charleston Area Office. She may be reached at (843) 762-8610 or by e-mail at Jaclyn.Daly@noaa.gov.

Sincerely,

[Signature]

for

Virginia M. Fay
Assistant Regional Administrator
Habitat Conservation Division

cc: FAA, Rusty.Nealis@faa.gov, Lisa.Favors@faa.gov
    ARW, jrembold@beegov.net
    SCAC, jstephens@aero.sc.gov
    TBE, jelder@bcatl.com
    SAFMC, Roger.Pugliese@sfmc.net
    F/SER4, David.Dale@noaa.gov
    F/SER47, Jaclyn.Daly@noaa.gov

---

2 A Federal agency may designate a non-Federal representative to conduct an EFH consultation by giving written notice of such designation to NMFS. If a non-Federal representative is used, the Federal action agency remains ultimately responsible for compliance with sections 305(b)(2) and 305(b)(4)(B) of the Magnuson-Stevens Act.

3 The assessment must contain: (i) A description of the action. (ii) An analysis of the potential adverse effects of the action on EFH and the managed species. (iii) The Federal agency’s conclusions regarding the effects of the action on EFH. (iv) Proposed mitigation, if applicable. If appropriate, the assessment should also include: (i) The results of an on-site inspection to evaluate the habitat and the site specific effects of the project. (ii) The views of recognized experts on the habitat or species that may be affected. (iii) A review of pertinent literature and related information. (iv) An analysis of alternatives to the action. Such analysis should include alternatives that could avoid or minimize adverse effects on EFH.
B.2.2 Report

Essential Fish Habitat Assessment
Beaufort County Airport Project Site
Beaufort County, South Carolina
July 2015

1.0 INTRODUCTION:

The following report details methodology and an assessment of survey results for an Essential Fish Habitat Assessment (EFHA) completed in July 2015 for the Beaufort County Airport (ARW) in Beaufort County, South Carolina (Figure 1). The site is located at the intersection of U.S. Highway 21 and Airport Road.

Figure 1
The EFHA was conducted to determine the direct or indirect impacts to saltwater habitats and their species as defined by the South Atlantic Fisheries Management Council (SAFMC). Completion of this survey was directed by current federal guidelines set forth by Section 305(b)(2) of the Magnuson-Steven Fishery Conservation and Management Act, as amended by the Sustainable Fisheries Act of 1996 (Public Law 104-267). In 1996 the Act added the concept of essential fish habitat (EFH), which has been defined as “waters and substrate necessary to fish for spawning, breeding, feeding and growth to maturity” (NMFS, 2005).

The Act requires federal agencies to prepare an EFH assessment for any Federal action that may adversely affect EFH (50 CFR 600.920.(e)(1)). Adverse effect is defined by the Act as “any impact that reduces quality or quantity of EFH. Adverse effects may include direct or indirect physical, chemical or biological alterations of the waters or substrate and loss of, or injury to, benthic organisms, prey species and their habitat, and other ecosystem components, if such modifications reduce the quality and/or quantity of EFH.”

2.0 ACTIVITY:

The project site is currently a developed county airport that is proposing an expansion through extending the runway salty areas (RSAs) by approximately 175 feet to the southwest (Runway 07 end) and 170 feet to the northeast (Runway 25 end), constructing a parallel taxi runway, expanding the aircraft parking apron and relocating a fuel farm. The proposed expansion of the runway in both directions would have direct impacts to saltwater habitat.

According to FAA Advisory Circular (AC) 150/5300-13A – Airport Design, Change 1, RSAs for a runway with a B-II runway design code (RDC), which is ARW’s designation, is 150-feet wide by 300-feet long prior to landing threshold and 300-feet long beyond runway end. The RSA shall be:

- Cleared, graded, and have no potentially hazardous ruts, humps, depressions, or other surface variations.
- Drained by grading or storm sewers to prevent water accumulation.

---

• Capable, under dry conditions, of supporting snow removal equipment, aircraft rescue and firefighting equipment and the occasional passage of aircraft without causing structural damage to the aircraft.
• Free of objects, except for objects that need to be located in the runway safety area because of their function.

Currently, the RSAs beyond the ends of Runway 07/25 at ARW are not to FAA design standard. The Runway 25 RSA currently provides approximately 130 feet off of the runway end (170 feet short) and Runway 07 providing approximately 125 feet (175 feet short). The main impediment to providing the required safety area length is the presence of the salt marsh.

3.0 ESSENTIAL FISH HABITAT:

The area of the proposed action (Warsaw Flats portion of St. Helena Sound) has been identified by the SAFMC as EFH for two species of penaeid shrimp, as well as estuarine dependent species in the snapper-grouper complex because larvae and juveniles concentrate in this area. Penaeid shrimp (white shrimp, Litopenaeus setiferus and brown shrimp, Farfantepenaeus aztecus) are dependent of the estuarine habitat around the airport property for spawning and growth to maturity. In South Carolina the nursery habitat areas for these species include high marsh areas with shell hash and mud bottoms. According to Volume IV of the Fishery Ecosystem Plan of the South Atlantic Region nursery habitat serve a high function in the life cycle for these species.

The project area has also been classified as EFH for certain species within the snapper-grouper complex because of the use by larvae and juveniles of those species. The marshes of the St. Helena Sound act as a nursery to these species by providing food and protection from predation. According to Volume IV of the Fishery Ecosystem Plan of the South Atlantic Region nursery habitat serve a high function in the life cycle for these species.

4.0 HABITAT CLASSIFICATIONS:

The following is a description and classification of the major saltwater habitat/community type identified within the site (Figure 2). Also noted with the description is an assessment of suitability for the listed species.
4.1 Salt Marshes
The majority of the saltwater environment surrounding the project site is classified as a salt marsh. Saltwater marshes are intertidal areas that are routinely inundated with tidal water for short portions of each day. These large expansive areas are limited in plant species and are dominated by smooth cordgrass (*Spartina alterniflora*) with frequent occurrences of salt meadow cordgrass (*Spartina patens*), needlegrass (*Juncus roemeranus*), marsh fimbry (*Fimbristylis castanea*), and seashore saltgrass (*Distichlis spicata*). This community is flooded at least twice a day and even though these areas have little vegetative diversity, they offer a basis or foundation for a diverse ecosystem (Nelson 1986).

Also covered in this community are mudflats. These areas offer similar values to the biodiverse ecosystem as the salt marsh; however, they lack the vegetative material. Both salt marsh communities offer nursery and feeding grounds for crustaceans, bivalves and fish, which serve as food for many marine and migratory bird species (Nelson 1986).

4.2 Salt Flat
The salt flat community usually floods once a day or by high spring tides. This community is normally open or covered by specialized vegetation adapted to the hyper-saline soils. Plant species found in this community include seashore saltgrass, Virginia glasswort (*Salsicornia virginica*), sea-lavender (*Limonium carolinianum*), eastern red cedar (*Juniperus virginiana*), sea ox-eye daisy (*Borrichia frutescens*), seashore cordgrass, turtle weed (*Batrachium maritima*), large glasswort (*Salsicornia europaea*), and saltmeadow cordgrass (Nelson 1986). This is a diverse community that provides loafing and feeding areas for wading birds and some fish species during high spring tides as well as feeding areas for shorebirds when not flooded (Nelson 1986).

4.3 Salt-Shrub Thicket
The salt shrub thicket community is a dense shrubby community normally found occupying narrow areas between the salt marsh or salt flat communities and the
upland communities. Salt shrub thickets are dominated by shrub species which include groundsel tree (Baccharis halimifolia), marsh elder (Iva frutescens), live oak (Quercus virginiana), loblolly pine (Pinus taeda), yaupon holly (Ilex vomitoria), saw palmetto (Serenoa repens), tallow tree (Sapindus saponaria), slash pine (Pinus elliottii), sea ox-eye daisy, wax myrtle (Morella cerifera), cabbage palmetto (Sabal palmetto), and eastern red cedar. Also included are herbaceous species dominated by seashore saltgrass, Spanish moss (Tillandsia usneoides), needle rush (Juncus roemerianus), evergreen goldenrod (Solidago sempervirens), saltmarsh cordgrass, Virginia glasswort, sea lavender (Limonium carolinianum), saltmeadow cordgrass, marsh fimbry, switch grass (Panicum virgatum), and broom grass (Andropogon glomeratus) (Nelson 1986). Although lacking as a significant food source for wildlife, this community offers cover and nesting material for a number of mammals and birds in close proximity to feeding grounds, which is intensely important to the overall ecosystem.
5.0 ASSESSMENT

The EFH species of concern could be affected by the proposed RSA extensions due to the loss of marsh habitat which is thought to be used by each of the shrimp species and perhaps by juvenile snapper-grouper species. With that being stated the loss of saltmarsh habitat by the proposed expansion will occur in the most common habitat type in the coastal zone of South Carolina (Estimated to be greater than 150,000 acres). For this reason it is unlikely that any of the species of concern would suffer any population setbacks due to the fact that saltmarsh habitat is found so predominately and in especially large quantities around the project site.
6.0 MITIGATION

As stated above, it is not believed that impacts to EFH species will be great, but in event, as part of the project, Beaufort County Airport will be obtaining appropriate permits from state and federal agencies and a part of that process will be offering compensatory mitigation. The mitigation offered will serve to offset any potential impacts to EFH species.

7.0 CONCLUSION

Due to the fact the current runway configuration utilizes all available buildable land there are no feasible alternatives to necessary RSA extensions at the Beaufort County Airport. In order to accomplish the RSA extensions, saltmarsh habitat have to be impacted with fill dirt. Although the impacts will occur in habitat known to be used by certain EFH species, it is highly unlikely that these species will be permanently affected due to the high level of saltmarsh habitat in the project area as well as the proposed mitigation alternatives. The direct impact to the EFH species would be temporary.
HAZARDOUS MATERIALS
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PHASE I
ENVIRONMENTAL SITE ASSESSMENT

BEAUFORT COUNTY AIRPORT SITE
AIRPORT CIRCLE
BEAUFORT, BEAUFORT CO., SOUTH CAROLINA
S&ME PROJECT NO. 4261-15-068

Prepared for:
Talbert Bright & Ellington
2000 Park Street, Suite 101
Columbia, South Carolina 29201

Prepared by:

S&ME
134 Suber Road
Columbia, South Carolina 29210

June 22, 2015
June 22, 2015

Talbert Bright & Ellington
2000 Park Street, Suite 101
Columbia, South Carolina 29201

Attention: Ms. Judy Elder, Senior Environmental Planner
jelder@ibedl.com

Reference: Report of Phase I Environmental Site Assessment
Beaufort County Airport Site – 43 Acres
Beaufort, Beaufort County, South Carolina
S&ME Project No. 4261-15-068

Dear Ms. Elder:

S&ME, Inc. (S&ME) has completed a Phase I Environmental Site Assessment (ESA) for the referenced property (i.e. “the Property”). The attached report presents the findings of S&ME’s Phase I Environmental Site Assessment which was performed in accordance with ASTM E1527-13, S&ME Proposal No. 42-I500405, dated April 21, 2015, and the Sub-consultant Agreement between Engineer and Consultant for Professional Services (TBE Project No. 2119-1402), dated April 21, 2015. The purpose of the Phase I ESA was to identify, to the extent feasible, recognized environmental conditions in connection with the Property.

ASTM E1527-13 states that an Environmental Site Assessment “meeting or exceeding” this practice and whose components are completed less than 180 days prior to the date of acquisition or intended transaction is presumed to be valid if the report is being relied on by the User for whom the assessment was originally prepared and the following components were completed: interviews, the regulatory review, site visit, and the declaration by the environmental professional responsible for the assessment.

S&ME appreciates the opportunity to provide this Phase I ESA for this project. Please contact us at your convenience if there are questions regarding information contained in this report.

Sincerely,

S&ME

[Signatures]

Chris Daves, P.W.S.
Biologist
edaves@smeinc.com

Tom Behnke, P.G.
Senior Reviewer
tbehnke@smeinc.com
# TABLE OF CONTENTS

**EXECUTIVE SUMMARY**

**PHASE I ENVIRONMENTAL SITE ASSESSMENT** ................................................. 1

**EXECUTIVE SUMMARY** .................................................................................. 1

1. **INTRODUCTION** ......................................................................................... 2
   1.1 Purpose ....................................................................................................... 2
   1.2 Detailed Scope of Services .......................................................................... 3
       1.2.1 ASTM E1527-13 .................................................................................. 3
       1.2.2 Exclusions from and Additions to Scope of Services ......................... 4
   1.3 Significant Assumptions ............................................................................ 4
   1.4 Limitations and Exceptions of Assessment .............................................. 4
   1.5 Special Terms and Conditions ................................................................. 5
   1.6 User Reliance ............................................................................................ 5

2. **GENERAL SITE DESCRIPTION** ............................................................... 5
   2.1 Site Location ............................................................................................. 5
   2.2 Site and Vicinity Characteristics ............................................................... 6

3. **USER PROVIDED INFORMATION** .......................................................... 6
   3.1 Title Records ............................................................................................ 6
   3.2 Environmental Liens or Activity and Use Limitations .............................. 6
   3.3 Specialized Knowledge ............................................................................ 6
   3.4 Commonly Known or Reasonably Ascertainable Information ................. 7
   3.5 Valuation Reduction for Environmental Issues ....................................... 7
   3.6 Owner, Property Manager, and Occupant Information ......................... 7
   3.7 Reason for Performing the Phase I ESA .................................................. 7
   3.8 Other ......................................................................................................... 7

4. **RECORDS REVIEW** ................................................................................. 7
   4.1 Standard Environmental Record Sources .............................................. 7
       4.1.1 State Agency File Review ................................................................... 8
   4.2 Additional Environmental Record Sources .......................................... 8
       4.2.1 EDR Supplementary Sources ............................................................ 8
       4.2.2 Tribal Record Sources ......................................................................... 9
       4.2.3 Other Record Sources ....................................................................... 9
       4.2.4 Vapor Encroachment Screening ....................................................... 9
   4.3 Physical Setting Sources .......................................................................... 9
   4.4 Historical Use Information on the Property ......................................... 11
   4.5 Historical Use Information on Adjoining Properties ......................... 13

5. **SITE RECONNAISSANCE** ..................................................................... 14
   5.1 Methodology and Limiting Conditions ................................................. 14
   5.2 General Site Setting ................................................................................. 14
       5.2.1 Current Use(s) of the Property ......................................................... 14
       5.2.2 Past Use(s) of the Property ............................................................... 14
       5.2.3 Current Use(s) of Adjoining and Surrounding Properties ............ 14
       5.2.4 Past Use(s) of Adjoining and Surrounding Properties .................. 15
       5.2.5 Geologic, Hydrogeologic, Hydrologic, and Topographic Conditions .. 15
EXECUTIVE SUMMARY

S&ME has completed a Phase I Environmental Site Assessment (ESA) of the approximate 43-acre tract located northwest of Airport Circle and east of U.S. Highway 21 in Beaufort, Beaufort County, South Carolina (i.e. the Property). The Property currently consists of the existing runway and taxiway as well as surrounding undeveloped, open land.

The historical resources reviewed indicated the subject Property consisted of open land, marsh, scattered forestland, and scattered structures from at least 1939 until 1955 when the original airport was constructed. The airport was reconfigured in the 1980s and a taxiway was also constructed parallel to portions of the runway.

Adjoining properties currently consist of marsh, cleared, open land, a terminal, apron, and hangars associated with the Beaufort County Airport, and vacant buildings previously housing the 6L’s Packing Company and Lady’s Island Fire Department. Historically, the adjoining properties have historically consisted of open land/forestland/scattered structures before the airport was constructed in the mid-1950s.

A site reconnaissance was conducted by Chris Daves, an S&ME Environmental Professional, on April 29, 2015, to evaluate the subject site for drainage patterns, vegetation patterns, stains, discoloration, surrounding land use, and other visual aspects suggestive of the presence of Recognized Environmental Conditions (RECs).

On-Site Findings

No on-site findings of environmental concern were identified.

Off-Site Findings

The following off-site findings of environmental concern were identified:

S&ME contracted Environmental Data Resources (EDR) to prepare a Radius Map Report compiling federal, state, and tribal environmental database information. The review of the EDR Radius Map Report and other public records identified four (4) off-site facilities, with listings related to hazardous materials or petroleum products in the vicinity of the subject Property. Based on current regulatory status, distance from the subject Property, direction of groundwater flow, and topographic relationship, the regulated off-site facilities are not considered a REC in connection with the Property at this time.

In summary, the results of the Phase I ESA identified no evidence of RECs, Controlled Recognized Environmental Conditions (CRECs), or Historical Recognized Environmental Conditions (HRECs) relative to current or former off-site uses of nearby sites. In addition, a Vapor Encroachment Condition (VEC) can be ruled out at this time.
1. INTRODUCTION


1.1 Purpose

The User of this report is Talbert Bright & Ellington (the Client). The purpose of the ESA is to identify, pursuant to ASTM E1527-13, recognized environmental conditions and controlled recognized environmental conditions in connection with the Property.

ASTM defines the term recognized environmental condition (REC) as the presence or likely presence of hazardous substances or petroleum products in, on, or at a property: (1) due to any release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment. The term includes hazardous substances or petroleum products even under conditions in compliance with laws.

ASTM defines the term controlled recognized environmental condition (CREC) as “a recognized environmental condition resulting from a past release of hazardous substances or petroleum products that has been addressed to the satisfaction of the applicable regulatory authority (for example, as evidenced by the issuance of a no further action letter or equivalent, or meeting risk-based criteria established by regulatory authority), with hazardous substances or petroleum products allowed to remain in place subject to the implementation of required controls (for example, property use restrictions, activity and use limitations, institutional controls, or engineering controls).”

ASTM defines the term historical recognized environmental condition (HREC) as a past release of any hazardous substances or petroleum products that has occurred in connection with the property and has been addressed to the satisfaction of the applicable regulatory authority or meeting unrestricted use criteria established by a regulatory authority, without subjecting the property to any required controls (for example, property use restrictions, activity and use limitations, institutional controls, or engineering controls).

The terms do not include de minimis conditions that generally do not present a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies. Conditions determined to be de minimis conditions are neither recognized environmental conditions nor controlled recognized environmental conditions.
1.2 Detailed Scope of Services

1.2.1 ASTM E1527-13

S&ME’s approach to performing this Phase I ESA consisted of four major tasks in accordance with ASTM Standard Practice E1527-13.

Task 1 - A review of reasonably ascertainable public records for the Property and the immediate vicinity was conducted. This review was performed to characterize environmental features of the Property and to identify past and present land use activities, on or in the vicinity of the Property, which may indicate a potential for recognized environmental conditions. The review of the reasonable ascertainable public records included:

1. Examination of federal, state, tribal and reasonably ascertainable local public records for the Property and immediate vicinity.
2. Examination of one or more of the following standard sources: aerial photographs, fire insurance maps, tax files, building department records, zoning/land use records, street directories and topographic maps of the site and vicinity for evidence suggesting past uses that might have involved hazardous substances or petroleum products.
3. Examination of land title records back to 1940, or first developed use - whichever is earlier, as well as a copy of the current deed if the documents are provided to S&ME by the Phase I ESA user.

Task 2 - A site reconnaissance was performed to identify visual signs of past or existing contamination on or adjacent to the Property. This reconnaissance was also performed to evaluate evidence found in our public record review that might indicate activities resulting in hazardous substances or petroleum products being used or deposited on the Property. The site reconnaissance included the following activities:

1. A reconnaissance of the Property and adjacent properties was performed to look for evidence of current and past property uses, signs of spills, stressed vegetation, buried waste, underground or above ground storage tanks, subsidence, transformers, or unusual soil discoloration which may indicate the possible presence of contaminants on the properties. Photographs are provided to document these conditions.
2. The exterior reconnaissance involved a viewing of the periphery of the Property and a walk-through of accessible areas of the Property interior including the exterior of on-site structures.
3. Areas of the site were photographed to document the current use(s) of the Property, as well as conditions such as unusually discolored soil, stressed vegetation, or other significant features associated with the Property.

Task 3 – Interviews with past and present Property owners (if available), operators and occupants as well as with appropriate local officials were conducted to consider any local
knowledge of hazardous substances or petroleum products on the Property or on adjacent properties.

Task 4 - Report preparation and review.

1.2.2 Exclusions from and Additions to Scope of Services
Unless specifically authorized as an addition to the Phase I ESA work scope, the assessment did not include assessment of environmental conditions not specifically included in the ASTM E1527-13 standard including, but not limited to sampling of materials (i.e., soil, surface water, groundwater or air), or the assessment of business risk issues such as wetlands, lead in drinking water, asbestos containing materials, mold, fungi or bacteria in on-site buildings, regulatory compliance, cultural/historic risks, industrial hygiene, health/safety, ecological resources, endangered species, indoor air quality, vapor intrusion, radon or high voltage power lines.

1.3 Significant Assumptions
Information obtained from the Client, the Client’s representatives, individuals interviewed, public record review, and prior environmental reports was considered to be accurate and reliable unless S&ME’s reasonable inquiries clearly revealed otherwise.

The groundwater within the local geologic province is typically contained in an unconfined (water table) aquifer. The slope of the water table under static conditions (no pumping interference) often approximates the land surface topography. Thus, the interpreted groundwater flow direction is assumed to be approximately the same as the topography of the ground surface. Perennial surface waters (creeks, streams, rivers, ponds, etc.) are assumed to act as a discharge point for groundwater flow and thus delineate the locations of hydrogeologic barriers for flow within the subsurface groundwater regime.

1.4 Limitations and Exceptions of Assessment
The Phase I Environmental Site Assessment was conducted using ASTM E1527-13. The findings of this report are applicable and representative of conditions encountered at the Property on the date of this assessment, and may not represent conditions at a later date. The review of public records was limited to that information which was available to S&ME at the time this report was prepared. Interviews with local and state government authorities were limited to those people whom S&ME was able to contact during the preparation of this report. Information was derived from “reasonably ascertainable” and “practically reviewable” sources in compliance with our understanding of the standards set forth by ASTM E1527-13.

Additional limitations to this Phase I ESA are as follows:

- Standard historical sources were not reasonably ascertainable to trace the operational history of the Property back to its undeveloped state or to document the land use in approximately five-year intervals.
Due to large scale and in some cases poor resolution of historical aerial photographs, only limited detailed review of historic site conditions was feasible.

- The boundaries of the Property were approximated based on user-provided information, tax parcel maps, plats, and field observations.
- The absence of an interview with a past Property owner.
- A search of land title records for environmental liens or Activity Use Limitations (AULs) was not provided by the User.

### 1.5 Special Terms and Conditions

This Phase I ESA was conducted in accordance with S&ME Proposal No. 42-1500405, dated April 21, 2015, and the Sub-consultant Agreement between Engineer and Consultant for Professional Services (TBE Project No. 2119-1402), dated April 21, 2015.

### 1.6 User Reliance

The resulting report is provided for the sole use of the Client. Use of this report by any third parties will be at such party’s sole risk except when granted under written permission by S&ME. Any such authorized use or reliance by third parties will be subject to the same Agreement under which the work was conducted for the Client.

The additional party's use and reliance on the report will be subject to the same rights, obligations, and limitations imposed on the client by our Agreement, unless otherwise agreed. However, the total liability of S&ME to all parties of the Phase I ESA shall be limited to the remedies and amounts as provided in the Agreement as a single contract. The additional party's use and reliance on the report shall signify the additional party's agreement to be bound by the proposal and contract that make up the Agreement between S&ME and the Client.

### 2. GENERAL SITE DESCRIPTION

#### 2.1 Site Location

The subject Property is located northwest of Airport Circle and east of U.S. Highway 21 in Beaufort, Beaufort County, South Carolina. The location of the subject Property is shown on Figures 1-3 in Appendix A. The subject Property is identified by portions of two Beaufort County tax parcel numbers owned by the Beaufort County.

<table>
<thead>
<tr>
<th>Item</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subject Property Location/Address</td>
<td>Northwest of Airport Circle and east of U.S. Highway 21</td>
</tr>
<tr>
<td>Tax Parcel(s) and Acreage</td>
<td>Portion of R123 018 000 0056 0000</td>
</tr>
<tr>
<td></td>
<td>Portion of R200 018 000 054H 0000</td>
</tr>
<tr>
<td></td>
<td>43 acres total</td>
</tr>
<tr>
<td>Number of Buildings and Square Footage (sf)</td>
<td>None</td>
</tr>
</tbody>
</table>
A legal description of the Property was not provided to S&ME for this assessment. The Client did provide an aerial photograph with approximate boundaries of the subject Property.

2.2 Site and Vicinity Characteristics

The Property comprises approximately 43 acres and currently consists of the runway and taxiway of the Beaufort County Airport as well as surrounding open land. Surrounding properties in the immediate vicinity include airplane hangars and a terminal building associated with the Beaufort County Airport, marsh, cleared open land, forestland, Six L’s Packing Company, and the abandoned Lady’s Island Fire Department.

3. USER PROVIDED INFORMATION

Certain information identified in ASTM E1527-13 is typically provided by the User of this report (Client) on a User Questionnaire. The Client did not complete the User Questionnaire.

3.1 Title Records

The Client did not provide S&ME with title records for review, and S&ME was not engaged by the Client to secure a title report as part of the Scope of Services.

3.2 Environmental Liens or Activity and Use Limitations

Review of Activity and Use Limitations (AULs) and environmental liens by the environmental professional can help in determining if a REC is associated with the Property. AULs can include both institutional and engineering controls, and are often recorded in land title records in the restrictions of record rather than a typical chain-of-title or title abstract. The Client has the responsibility of checking land title and judicial (federal, state, tribal and local) records.

No lien/AUL search was provided by the Client, and no information regarding environmental liens, AULs, or governmental notification relating to past or recurrent violations of environmental laws with respect to the subject Property was reported to S&ME by the Client.

3.3 Specialized Knowledge

The Client did not provide specialized knowledge that is material to potential RECs identified in connection with the Property.
3.4 Commonly Known or Reasonably Ascertainable Information

No commonly known or reasonably ascertainable information about the Property within the local community that was material to RECs in connection with the Property was reported to S&ME by the Client.

3.5 Valuation Reduction for Environmental Issues

The Client did not indicate that they were aware of a valuation reduction for the Property due to environmental issues.

3.6 Owner, Property Manager, and Occupant Information

The Client indicated the Property is currently owned by Beaufort County. Site contact information was provided by the Client included the phone number and e-mail address for the Property owner representative (Mr. Joel Phillips).

3.7 Reason for Performing the Phase I ESA

It is our understanding that the Phase I ESA is being conducted due to a planned transaction of the Property. The purpose of the ESA is to identify, pursuant to ASTM E1527-13, RECs in connection with the Property. S&ME assumes that this Phase I ESA is being performed to assist the purchaser in qualifying for the innocent landowner, contiguous property owner, or bona fide prospective purchaser limitations on CERCLA liability.

3.8 Other

No other information pertinent to the Phase I ESA was provided by the Client.

4. RECORDS REVIEW

This section summarizes records obtained and reviewed to help identify RECs in connection with the Property.

4.1 Standard Environmental Record Sources

S&ME reviewed selected federal and state regulatory lists in an attempt to identify recorded information concerning environmental impacts or conditions or concerns associated with the subject Property. S&ME reviewed the regulatory lists included in the following table as obtained from Environmental Data Resources (EDR). The database report is attached as Appendix C, including a listing of the databases, search radii, explanation of each database, and figures depicting the approximate locations of regulated facilities in the vicinity of the subject Property. The EDR environmental records report contains detailed information regarding the release date and search distance for each database researched.

Regulatory listings are limited and include only those facilities or incidents that are known to the regulatory agencies at the time of publication to be contaminated, in the process of evaluation for potential contamination, or to store/generate potentially hazardous substances, waste, or petroleum.
The following facilities were listed in the EDR Radius Map Report and discussed in Table 2 below.

<table>
<thead>
<tr>
<th>Facility</th>
<th>Location</th>
<th>Record</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lady's Island Fire Department</td>
<td>237 Sea Island Pkwy, 430 ft. SW Down-gradient</td>
<td>AST</td>
<td>No violations found. Fire station appears to be inactive. No ASTs observed at this facility during site reconnaissance.</td>
</tr>
<tr>
<td>Lady's Island Airport</td>
<td>39 Airport Circle, 320 ft. S Cross-gradient</td>
<td>UST, LUST, AST</td>
<td>Two active jet fuel ASTs on site. Three USTs abandoned in 1998. Petroleum release documented in 1999 and granted No Further Action (NFA) status by SCDHEC in 2000. Based on USGS topographic map, groundwater flow appears to be cross-gradient from subject Property. See SCDHEC regulatory records in Appendix E.</td>
</tr>
<tr>
<td>Lady's Island Middle School</td>
<td>30 Cougar Dr, 1,300 ft. NW Down-gradient</td>
<td>UST, LUST</td>
<td>Based on USGS topographic map, groundwater flow appears to be south away from subject Property.</td>
</tr>
<tr>
<td>Former Ann's Grocery</td>
<td>160 Sea Island Pkwy, 2,650 ft. NW Down-gradient</td>
<td>UST, LUST, GWCI</td>
<td>Based on USGS topographic map, groundwater flow appears to be east toward the subject Property.</td>
</tr>
</tbody>
</table>

4.1.1 State Agency File Review
Based on information contained in the EDR report, on-line records, and topographic map interpretation, the environmental professional in charge of this project determined that a regulatory file review was not necessary.

4.2 Additional Environmental Record Sources

4.2.1 EDR Supplementary Sources
The EDR report also included additional environmental records not listed among the standard federal, state, and tribal databases. No additional facilities were listed.
4.2.2 Tribes

The review of the public record including the EDR Radius Map Report did not reveal any listings of tribal environmental records (Indian Reservations, Indian UST, or Indian LUST). According to a fact sheet obtained from the National Indian Child Welfare Association, there are no recognized Tribal lands within the vicinity of the subject property. According to the U.S. Census, there is one federally recognized tribe in South Carolina, the Catawba Indian Nation. S&ME reviewed their website (www.catawbaindian.net) for information regarding environmental concerns. S&ME also reviewed the South Carolina Tribal Lands Fact Sheet (http://www.nicwa.org/states/southcarolina.pdf). These sources did not contain information regarding environmental issues.

4.2.3 Other Record Sources

- A search of the Environmental Protection Agency (EPA) Environfacts database (http://www.epa.gov/emeifdata/emefhome) was conducted. The subject property did not appear on the database. No additional facilities were identified within the search radii.

- S&ME also searched South Carolina Department of Health and Environmental Control websites (http://www.scdhec.gov/Environment/LW/ and http://www.scdhec.gov/apps/environment/ustregistry) for public records (land use controls, mining and solid waste facilities, USTs, brownfields, hazardous site cleanups, etc.). No additional facilities were identified in the search radii.

4.2.4 Vapor Encroachment Screening

The purpose of the Tier 1 Vapor Encroachment Screening (VES) is to identify, to the extent feasible pursuant to the procedures presented in the ASTM E 2600-10 standard guide, if a Vapor Encroachment Condition (VEC) exists at the subject property. See Appendix F for a copy of the VES report. A VEC can be ruled out based on current regulatory status, distance from the subject property, and topographic relationship.

4.3 Physical Setting Sources

Physical setting sources specified in Section 12.0 of this report were reviewed to provide information about the geology and hydrogeology of the area of the property.

**Surface Drainage and Soil**

The property is identified on the USGS 7.5-minute series Topographic Quadrangle Map, titled Beaufort, South Carolina, dated 1958 (revised 1979). The original map has a scale of one inch equals 2,000 feet. A Topographic Map, prepared using a portion of the map, is included as Figure 2 in Appendix A.

The map depicts the property as cleared, open land with a slightly different alignment of the present-day runway of the Beaufort County Airport. Marsh is depicted on the southwest and northeastern portions of the Property. Surrounding properties consist of marsh (north, east, and west), open land, several small structures (south and southwest),
and a large structure (southwest). Topography in the area is generally flat. The overall slope of the Property is to the north. Surface elevation is approximately five feet above mean sea level.

S&ME reviewed the USDA Natural Resources Conservation Services (NRCS) Web Soil Survey (http://websoilsurvey.nrcs.usda.gov/app/), which depict the soil types underlying the Property and its surrounding area. These soils depicted the Property as being underlain by the following soils:

**Table 3: Site Soils**

<table>
<thead>
<tr>
<th>Soil Series</th>
<th>Drainage</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bohicket Association (BK)</td>
<td>Very Poor</td>
<td>Tidal flats</td>
</tr>
<tr>
<td>Bladen Fine Sandy Loam (Bd)</td>
<td>Poor</td>
<td>Broad, low areas</td>
</tr>
<tr>
<td>Capers Association (CE)</td>
<td>Very Poor</td>
<td>Tidal flats</td>
</tr>
<tr>
<td>Tomtley Loamy Fine Sand (To)</td>
<td>Poor</td>
<td>Low flats and slight depressions</td>
</tr>
<tr>
<td>Yemassee Loamy Fine Sand (Ye)</td>
<td>Somewhat Poor</td>
<td>Low ridges of lower marine terraces</td>
</tr>
</tbody>
</table>

S&ME also reviewed Sheet 58 of the USDA’s Soil Survey of Beaufort and Jasper Counties (1980).

**Bedrock**

Bedrock was not observed on the Property.

**Hydrogeology**

According to *The Geology of the Carolinas*, (Horton, Jr. J. Wright and Zullo A. Victor, University of Tennessee Press, 1991), the subject Property lies within the Coastal Plain Physiographic Province. The Coastal Plain consists of unconsolidated sands, silts, and clays of the Pleistocene epoch. During this time, the ocean retreated over the land and left formations and terraces indicating former shorelines. The parent material of most of the soils is marine or fluviatile deposits. The sedimentary beds of the Coastal Plain overlap each other in the sequence they were laid down and slope gently to the coast.

In the Coastal Plain, the soils typically have moderate to rapid permeability; thus readily transmitting groundwater. The movement of groundwater through the sands and clays is strongly influenced by topography which generally controls the location of recharge and discharge zones. Groundwater within the Coastal Plain generally moves from topographically high areas (recharge zones) to topographically low areas within and along stream valleys (discharge areas).
4.4 Historical Use Information on the Property

Discussion
The historical use of the subject Property was determined by reviewing various historical sources listed below. In summary, the subject Property consisted of open land, marsh, scattered forestland, and scattered structures from at least 1939 until 1955 when the original airport was constructed. The airport was reconfigured in the 1980s and a taxiway was also constructed parallel to portions of the runway.

Aerial Photographs
Aerial photographs (1939-2014) were reviewed to observe previous conditions and development of the subject Property, as well as immediately adjacent properties. A copy of the 2013 aerial photograph is included as Figure 3 in Appendix A. The following table presents the findings of the aerial photograph review.

Table 4: Aerial Photographs

<table>
<thead>
<tr>
<th>Source</th>
<th>Date</th>
<th>Approx. Scale</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Google Earth Aerial</td>
<td>2014</td>
<td>1&quot; = 400'</td>
<td>Property appears to be developed with a runway and taxiway with the remainder being open land and marsh. Surrounding properties consist of open land and marsh, apron, terminal, and hangars (S), forestland (S), 6L’s Packing Company and the Lady’s Island Fire Department (SW).</td>
</tr>
<tr>
<td>Beaufort County GIS Aerial</td>
<td>2013</td>
<td>1&quot; = 400'</td>
<td>Similar to 2014 aerial photo.</td>
</tr>
<tr>
<td>EDR Aerials</td>
<td>2012 2009</td>
<td>1&quot; = 500'</td>
<td>Similar to 2013 aerial photo.</td>
</tr>
<tr>
<td>EDR Aerials</td>
<td>2006 2005</td>
<td>1&quot; = 500'</td>
<td>Similar to 2009 aerial photo except the extreme southern portion of the Property along Airport Circle wooded.</td>
</tr>
<tr>
<td>EDR Aerials</td>
<td>1999 1994</td>
<td>1&quot; = 500'</td>
<td>Similar to 2005 aerial photo except fewer hangars are located to the south.</td>
</tr>
<tr>
<td>EDR Aerial</td>
<td>1989</td>
<td>1&quot; = 750’</td>
<td>Similar to 1994 aerial photo except no hangars are located to the south.</td>
</tr>
<tr>
<td>EDR Aerials</td>
<td>1977 1965</td>
<td>1&quot; = 1,000'</td>
<td>1&quot; = 750'</td>
</tr>
</tbody>
</table>
No direct evidence was observed on the reviewed aerial photographs indicating that open dumping, or hazardous material use or storage has occurred on or near the subject Property. However, the scales and clarity of several of the reviewed aerial photographs inhibited the identification of specific site use or activities.

Sanborn Maps
S&ME contracted with EDR to conduct a database search of historic Sanborn Fire Insurance maps that depict the subject Property and surrounding area. EDR maintains the largest library of Sanborn Fire Insurance maps available. No maps were available for subject Property area (Appendix B).

City Directories
S&ME contracted with EDR to conduct a review of city directories. The subject Property was listed as the Beaufort County Airport in the 2008-2013 city directories (Appendix B).

Historic USGS Topographic Maps
S&ME contracted with EDR to conduct a historic topographic maps search (Appendix B). S&ME also conducted an on-line search of topographic maps via the USGS historical map collection (http://geonames.usgs.gov/apex/?p=262:1:52158116066967) and via the online system at the Thomas Cooper Library (http://www.sc.edu/library/digital/collections/topomaps.html). The Property was identified on the following maps:

<table>
<thead>
<tr>
<th>Quadrangle Map</th>
<th>Year</th>
<th>Series</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beaufort</td>
<td>1998</td>
<td>7.5-Minute</td>
<td>Property listed as the Beaufort County Airport with older configuration.</td>
</tr>
<tr>
<td>Beaufort</td>
<td>1979</td>
<td>7.5-Minute</td>
<td>Similar to 1998.</td>
</tr>
<tr>
<td>Beaufort</td>
<td>1988</td>
<td>7.5-Minute</td>
<td>Property depicted as airstrip.</td>
</tr>
<tr>
<td>Fort Freemont</td>
<td>1944</td>
<td>15-Minute</td>
<td>Property depicted as open land with a road and several structures.</td>
</tr>
</tbody>
</table>
Building Records
S&ME attempted to review building records on the Beaufort County GIS website. Buildings were not indicated on the Property.

Zoning/Land Use Records
S&ME reviewed zoning/land use records on the Beaufort County GIS website. Zoning was not available. Land use records indicated the Property is used for aviation purposes.

Land Title Records
The Client did not provide S&ME with title records for review, and S&ME was not engaged by the Client to secure a title report as part of the Scope of Services. According to the Beaufort County GIS website, the tax parcel comprising the Property is owned by the Beaufort County. See tax cards in Appendix B.

Property Tax Files
S&ME attempted to review property tax files on the Beaufort County GIS website. The Property is tax exempt due to its governmental ownership. Other tax files were not reviewed.

The standard historical sources listed below were not reviewed. It is S&ME’s opinion that these sources would not provide additional meaningful and complete information, or the sources were not considered to be practically reviewable or reasonably ascertainable and would not likely produce additional information of environmental significance for the Property.

- Sanborn Maps
- Land Title Records
- Property Tax Files

4.5 Historical Use Information on Adjoining Properties
Historical information including topographic maps, aerial photographs, and building records, were reviewed to assess off-site historical land uses. Our findings are presented in the following table.

<table>
<thead>
<tr>
<th>Current Use/ Location</th>
<th>Prior Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>North: Open Land and Marsh</td>
<td>The northern adjoining properties have historically consisted of marsh and open land since at least 1939 to the present.</td>
</tr>
<tr>
<td>East: Open Land and Marsh</td>
<td>The eastern adjoining properties have historically consisted of marsh and open land since at least 1939 to the present.</td>
</tr>
</tbody>
</table>
5. SITE RECONNAISSANCE

The purpose of the site reconnaissance is to “obtain information indicating the likelihood of identifying RECs in connection with the Property.” The site reconnaissance was performed by Mr. Chris Daves of S&ME on April 29, 2015.

5.1 Methodology and Limiting Conditions

The subject Property was observed by walking the perimeter and interior of the Property. A vehicular tour of the area was made to confirm the locations of facilities listed by regulatory agencies and to verify nearby land use. The tour involved viewing nearby properties from publicly accessible areas, but not entering private property. Observation of nearby properties was limited to areas visible in the line of sight from public roadways. S&ME did not enter adjacent properties to view areas not visible from the subject Property or public property. Photographs were taken of various portions of the subject Property to document existing conditions. Copies of pertinent photographs are included in Appendix A of this report. No other limiting conditions were encountered.

5.2 General Site Setting

5.2.1 Current Use(s) of the Property

The Property consists of the runway and taxiway (Photographs 1-2) of the Beaufort County Airport and cleared, open land (Photographs 3-4).

5.2.2 Past Use(s) of the Property

No indications of past Property use were observed during the site reconnaissance.

5.2.3 Current Use(s) of Adjoining and Surrounding Properties

The current uses of the adjoining properties were identified to the extent they were visually observed from the Property during our field reconnaissance, or were identified in interviews or in the records review. Descriptions of adjoining properties are provided below:
North: Marsh and cleared, open land.

South: Airport terminal (Photograph 5), apron, hangars (Photograph 6), two jet fuel ASTs (Photograph 7), and the vacant 6L’s Packing Company (Photograph 8) and Lady’s Island Fire Department (southwest). Two monitoring wells (Photograph 9) associated with the past USTs were observed near the jet fuel ASTs.

East: Marsh and cleared, open land.

West: Marsh and cleared, open land (Photograph 10).

A driving reconnaissance of the immediate area did not identify additional gasoline stations or dry cleaners within 0.5 mile of the subject Property. No visual apparent evidence of hazardous substances or petroleum products on nearby properties that may impact the subject Property due to subsurface migration was observed during the site reconnaissance.

5.2.4 Past Use(s) of Adjoining and Surrounding Properties
The former Lady’s Island Fire Department and the 6Ls Packing Company to the southwest appeared to be abandoned. No other obvious evidence of previous land uses was observed on adjoining and surrounding properties through observations made during the site visit.

5.2.5 Geologic, Hydrogeologic, Hydrologic, and Topographic Conditions
Surface topography on a majority of the Property appears to fall to the north. The southern portion of the Property slopes to the northwest. Surface soils consisted primarily of sands and sandy loams. Surface water features included marsh (southwest and northeast) and drainage ditches observed throughout the Property.

5.2.6 Description of Structures and Roads
An asphalt runway and taxiway were observed on the Property. Ingress/egress to the Property was via the apron entering from the south via Airport Circle.

5.2.7 Potable Water Supply and Sewage Disposal System
Water and sewer connections were not evident on the Property during the site reconnaissance.

5.3 Exterior Observations
A summary of exterior observations is provided below in Table 6.
Table 6 - Subject Property Exterior Observations

<table>
<thead>
<tr>
<th>Description</th>
<th>Reported or Observed On-site (Y/N)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hazardous Substances and Petroleum Products in Connection with Identified Uses</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Storage Tanks (USTs/ASTs)</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Strong, Pungent, or Noxious Odors</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Pools of Liquid</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Drums</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Hazardous Substances and Petroleum Products Containers Not in Connection with Identified Uses</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Unidentified Substance Containers</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Potential Polychlorinated Biphenyls (PCBs) - Containing Equipment</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Hydraulic Equipment</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Contracted Maintenance Services</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Utilities and Storm water Management</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Pits, Ponds, Lagoons, and Surface Waters</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Stained Soil or Pavement</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Stressed Vegetation</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Solid Waste</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Process/Industrial Wastewater Discharges</td>
<td>N</td>
<td></td>
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<tr>
<td>Wells</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Septic Systems</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>N</td>
<td></td>
</tr>
</tbody>
</table>

5.4 Interior Observations

No structures were located on the Property; therefore no interior observations were made.

6. INTERVIEWS

Interviews were conducted by Chris Daves, an S&ME Environmental Professional, to obtain information from individuals who have knowledge of current and past activities at the Property and to clarify observations made during the site reconnaissance or data review of the site. Copies of interview correspondence are located in Appendix D.
6.1 Interview with Past and Present Owners
On April 29, 2015, S&ME interviewed Mr. Joel Phillips during site reconnaissance. Mr. Phillips is the current owner representative and operating manager of the Beaufort County Airport. He indicated the Property was currently used as the airport runway and taxiway. He stated the airport was constructed in 1955 and had been reconfigured in the 1980s to its current layout. Mr. Phillips was not aware of environmental clean-up liens, AULs, or USTs on the subject Property. He was not aware of environmental issues on surrounding or adjacent properties.

6.2 Interview with Key Site Manager
See Section 6.1.

6.3 Interview with Occupants
See Section 6.1.

6.4 Interview with Local Government Officials
On May 26, 2015, S&ME interviewed Ms. Bridgette Hackler with the SCDHEC UST Division regarding the former USTs listed on the airport site. She stated three USTs (each 4,000-gallons) were abandoned in 1998 and the 1998 petroleum release was given NFA status in 2000. She referred S&ME to the SCDHEC UST website for official documentation of the abandonments and NFA (Appendix E).

6.5 Interviews with Others
No other interviews were conducted.

7. FINDINGS
The results of the Phase I ESA are summarized in the following sections.

7.1 On-Site Findings
No on-site findings of environmental concern were identified during our assessment.

7.2 Off-Site Findings
The following off-site findings of environmental concern were identified during our assessment.
Table 7 – Off-site Findings – Regulated Facilities

<table>
<thead>
<tr>
<th>Facility</th>
<th>Direction/Distance</th>
<th>Record</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lady’s Island Fire Department</td>
<td>430 ft. SW Down-gradient</td>
<td>AST</td>
</tr>
<tr>
<td>Lady’s Island Airport</td>
<td>320 ft. S Cross-gradient</td>
<td>UST, LUST, AST</td>
</tr>
<tr>
<td>Lady’s Island Middle School</td>
<td>1,300 ft. NW Down-gradient</td>
<td>UST, LUST</td>
</tr>
<tr>
<td>Former Ann’s Grocery</td>
<td>2,650 ft. NW Down-gradient</td>
<td>UST, LUST, GWCI</td>
</tr>
</tbody>
</table>

8. OPINIONS

8.1 On-Site Opinions
No on-site findings were observed; therefore no opinions are rendered.

8.2 Off-Site Opinions
S&ME offers the following opinions concerning the off-site findings:

- Based on current regulatory status, distance from the subject Property, and topographic relationship, the listed regulated facilities are not considered a REC in connection with the Property at this time and a VEC can be ruled out.

8.3 Data Gaps
The following data gaps were encountered during the Phase I ESA:

- Failure to document Property use in approximately five-year intervals back to its first developed use, or back to 1940, whichever earlier. Site use could not be documented prior to 1939, 1939-1944, 1944-1951, 1951-1958, 1961-1968, 1968-1977, 1979-1989, and 1999-2005, as historical resources were not reasonably ascertainable (data failure). However, available aerial photographs and topographic maps indicated the use of the Property as cleared open land or the airport during these times.
- The absence of an interview with a past Property Owner.
- The absence of a review of judicial records for environmental liens or AUL’s.

Considering the history of known land use as documented on historical sources (aerial photographs and topographic maps), it is our opinion that these data gaps are not significant and did not affect the environmental professional’s ability to identify possible RECs on the subject Property.
9. CONCLUSIONS
We have performed a Phase I Environmental Site Assessment in conformance with the scope and limitations of ASTM E1527-13 of an approximate 34-acre Property located northwest of Airport Circle and east of U.S. Highway 21 in Beaufort, Beaufort County, South Carolina. Any exceptions to, or deletions from, this practice are described in Sections 1.4 and 10 of this report.

This assessment has revealed no evidence of RECs, HRECs, or CRECs in connection with the subject Property.

10. DEVIATIONS
No deviations from the standard were made.

11. ADDITIONAL SERVICES
No additional services were performed.

12. REFERENCES
- Beaufort County GIS website (http://webgis.begov.net/gissite/index.html);
- Aerial photographs obtained from the Google Earth, USDA-NRCS, Beaufort County, and EDR, dated 1939-2014;
- Soil Survey of Beaufort and Jasper Counties, SC, United States Department of Agriculture, Soil Conservation Service, issued 1980;
- EDR-Radius Map, Beaufort County Airport-35 Acres, Inquiry Number 4281174.2s, dated May 1, 2015;
- EDR-Certified Sanborn Map Report, Beaufort County Airport-35 Acres, Inquiry Number 4281174.3, dated May 1, 2015;
- EDR-Aerial Decade Photo Package, Beaufort County Airport-35 Acres, Inquiry Number 4281174.9, dated May 1, 2015;
- EDR-Historical Topographic Map Report, Beaufort County Airport-35 Acres, Inquiry
  Number 4281174.4, dated May 1, 2015;
- EDR-City Directory Image Report, Beaufort County Airport-35 Acres, Inquiry Number 4281174.5, dated May 5, 2015;
13. **SIGNATURE(S) OF ENVIRONMENTAL PROFESSIONAL(S)**

“We declare that, to the best of our professional knowledge and belief, we meet the definition of Environmental Professional as defined in §312.10 of 40 CFR 312” and we have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject property. We have developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.

Chris Daves, P.W.S.  
Biologist  

Tom Behnke, P.G.  
Senior Reviewer

14. **QUALIFICATION(S) OF ENVIRONMENTAL PROFESSIONAL(S)**

S&ME provides a broad range of environmental services, including site assessments for real estate transactions. S&ME has over 1,100 employees located in 26 offices throughout the Southeast and Midwest. ENR ranked S&ME as one of the 200 largest environmental firms in the country.

The environmental professionals who contributed to this project are Mr. Chris Daves and Mr. Tom Behnke, P.G. Mr. Daves and Mr. Behnke meet the qualifications per 312.10 of 40 CFR Part 312. Mr. Daves has a B.S. in Biology and a M.S. in Earth and Environmental Resources Management and over 14 years relevant work experience in environmental consulting. He has performed hundreds of environmental assessments for real estate transactions in South Carolina, North Carolina, and Georgia. Mr. Daves is a senior reviewer for S&ME and has also attended ASTM training for Phase I ESAs.

Mr. Behnke is the Environmental Location Coordinator in the S&ME Columbia, South Carolina office and is a Senior Hydrogeologist with over 25 years of experience. Projects he has managed include groundwater contaminant and flow evaluations; and Phase I & Phase II environmental assessments for real estate transactions. Mr. Behnke is a senior reviewer for S&ME and has also attended ASTM training for Phase I ESAs.
APPENDIX A – FIGURES

SITE PHOTOGRAPHS
Appendix C
Hazardous Materials
APPENDIX B - HISTORICAL RESEARCH DOCUMENTATION
### Beaufort County, South Carolina

#### Appendix C

**Hazardous Materials C-35**

<table>
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<tr>
<th>Property ID (PIN)</th>
<th>Alternate ID (AIN)</th>
<th>Parcel Address</th>
<th>Date refreshed as of</th>
<th>Assess Year</th>
<th>Pay Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>R123 018 000 0056</td>
<td>00271244</td>
<td>237 SEA ISLAND PKWY, City of Beaufort</td>
<td>4/18/2015</td>
<td>2014</td>
<td>2014</td>
</tr>
</tbody>
</table>

#### Current Parcel Information

- **Owner**: BEAUFORT COUNTY
- **Owner Address**: PO BOX 1228, BEAUFORT SC 29901-1228
- **Property Class Code**: 106.1500
- **Acreage**: 

#### Historic Information

<table>
<thead>
<tr>
<th>Tax Year</th>
<th>Land</th>
<th>Building</th>
<th>Market</th>
<th>Taxes</th>
<th>Payment</th>
</tr>
</thead>
<tbody>
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<td>$150,000</td>
<td>$650,000</td>
<td>$23,627.06</td>
<td>$23,627.60</td>
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<tr>
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<td>$150,000</td>
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<td>$21,236.04</td>
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<td>$729,742</td>
<td>$11,875,492</td>
<td>$15,821.15</td>
<td>$15,821.15</td>
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<tr>
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<td>$11,145,750</td>
<td>$729,742</td>
<td>$11,875,492</td>
<td>$15,770.86</td>
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<td>$729,742</td>
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<td>$65,300</td>
<td>$456,000</td>
<td>$12,383.21</td>
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<td>$682,300</td>
<td>$4,769,500</td>
<td>$5,945.40</td>
<td>$5,945.40</td>
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<td>$682,300</td>
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<td>$5,945.40</td>
<td>$5,945.40</td>
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</table>

#### Sales Disclosure

- **Grantor**: UNKNOWN OWNER 00271244
- **Book & Page**: 12/31/1776
- **Date**: Or
- **Simplified**: Vacant
- **Sale Price**: $0

#### Improvements

- **Building Type**: Use Code Description
- **Constructed Stories Rooms Square Improvement**: 

http://sc-beaufort-county.govermmax.com/svc/agency/sc-beaufort-county/tab_summary_re... 4/24/2015
### Hazardous Materials C-36

Beaufort County, South Carolina

<table>
<thead>
<tr>
<th>Building</th>
<th>Type</th>
<th>Feature Code</th>
<th>Year</th>
<th>Footage</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
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<td>GOVC5B</td>
<td></td>
<td>1988</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>C02</td>
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<td>1991</td>
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<tr>
<td>C03</td>
<td>HANGARS</td>
<td>Storage Hangar</td>
<td>1980</td>
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<td>3,328</td>
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<td>C04</td>
<td>FIREVOL</td>
<td>Fire Station Volunteer</td>
<td>1988</td>
<td>0</td>
<td>3,500</td>
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<td>C05</td>
<td>HANGARS</td>
<td>Storage Hangar</td>
<td>2004</td>
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<td>15,288</td>
</tr>
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<td>HANGARS</td>
<td>Storage Hangar</td>
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<td>0</td>
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</tr>
<tr>
<td>C04</td>
<td>UTLSHED</td>
<td>Residential Shed - Small Util</td>
<td>1970</td>
<td>0</td>
<td>324</td>
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#### Features & Exterior Features

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<th>Building</th>
<th>Type</th>
<th>Feature Code</th>
<th>Description</th>
<th>No. / Sq.Ft.</th>
<th>Value</th>
</tr>
</thead>
</table>

http://sc-beaufort-county.governmax.com/svc/agency/sc-beaufort-county/tab_summary re... 4/24/2015
## Appendix C

### Hazardous Materials

#### Overview

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<tr>
<th>Property ID (PIN)</th>
<th>Alternate ID (AIN)</th>
<th>Parcel Address</th>
<th>Data refreshed as of</th>
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<tbody>
<tr>
<td>200018 000054H 0000</td>
<td>02178921</td>
<td>20 AIRPORT CIR,</td>
<td>4/18/2015</td>
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#### Current Parcel Information

- **Owner**: BEAUFORT COUNTY
- **Property Class Code**: Acreage
- **Acreage**: 5.5200
- **Legal Description**: PAR BA PB 31 P 133

#### Historic Information

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<thead>
<tr>
<th>Tax Year</th>
<th>Land</th>
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<th>Market</th>
<th>Taxes</th>
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</thead>
<tbody>
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<td>2014</td>
<td>$1,159,200</td>
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<td>$1,635,400</td>
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<tr>
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<td>$1,214,400</td>
<td>$443,602</td>
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<tr>
<td>2011</td>
<td>$1,214,400</td>
<td>$443,602</td>
<td>$1,658,002</td>
<td>$257.89</td>
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<td>2010</td>
<td>$1,214,400</td>
<td>$443,602</td>
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<td>$115,500</td>
<td>$118.13</td>
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<tr>
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#### Sales Disclosure

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<tr>
<th>Grantor</th>
<th>Book &amp; Page</th>
<th>Date</th>
<th>Sales Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>TRASK FLORA G</td>
<td>377 1000</td>
<td>9/1/1983</td>
<td>Fu</td>
</tr>
<tr>
<td>TRASK FLORA G</td>
<td>103 171</td>
<td>1/1/1990</td>
<td>Fu</td>
</tr>
<tr>
<td></td>
<td>12/31/1776</td>
<td>12/31/1776</td>
<td>Or</td>
</tr>
</tbody>
</table>

http://sc-beaufort-county.governmax.com/svc/agency/sc-beaufort-county/tab_summary_re... 4/24/2015

---

Appendix C

TALBERT, BRIGHT & ELLINGTON

C-37
Beaufort County, South Carolina

<table>
<thead>
<tr>
<th>Building</th>
<th>Type</th>
<th>Use Code Description</th>
<th>Improvements</th>
<th>Constructed Year</th>
<th>Stories</th>
<th>Rooms</th>
<th>Square Footage</th>
</tr>
</thead>
<tbody>
<tr>
<td>CD1</td>
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<td>Storage Hangar</td>
<td></td>
<td>2009</td>
<td>0</td>
<td>0</td>
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</tr>
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</table>

Features & Exterior Features

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<tr>
<th>Building</th>
<th>Type</th>
<th>Feature Code</th>
<th>Description</th>
<th>No. / $</th>
</tr>
</thead>
</table>

Beaufort County makes every effort to produce the most accurate information possible. Warranties, expressed or implied, are provided for the data herein, its use or interpretation, subject to change.

http://sc-beaufort-county.gov/agency/sc-beaufort-county/tab_summary.re... 4/24/2015
Beaufort County Airport - 35 Acres
1-30 AIRPORT CIR
Ladys Island, SC 29907

Inquiry Number: 4281174.3
May 01, 2015

Certified Sanborn® Map Report
# Certified Sanborn® Map Report

<table>
<thead>
<tr>
<th>Site Name:</th>
<th>Client Name:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beaufort County Airport - 35</td>
<td>S&amp;ME, Inc.</td>
</tr>
<tr>
<td>1-30 AIRPORT CIR</td>
<td>134 Suber Road</td>
</tr>
<tr>
<td>Lady's Island, SC 29907</td>
<td>Columbia, SC 29210</td>
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<tr>
<td>EDR inquiry # 4281174.3</td>
<td>Contact: Chris Davie</td>
</tr>
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</table>

The Sanborn Library has been searched by EDR and maps covering the target property location as provided by S&ME, Inc. were identified for the years listed below. The Sanborn Library is the largest, most complete collection of fire insurance maps. The collection includes maps from Sanborn, Bromley, Perkins & Bower, Hooks, Barlow, and others. Only Environmental Data Resources Inc. (EDR) is authorized to grant rights for commercial reproduction of maps by the Sanborn Library LLC, the copyright holder for the collection. Results can be authenticated by visiting www.ednet.com/sanborn.

The Sanborn Library is continually enhanced with newly identified map archives. This report accesses all maps in the collection as of the day this report was generated.

## Certified Sanborn Results:

<table>
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<tr>
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<th>Beaufort County Airport - 35 Acres</th>
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<tbody>
<tr>
<td>Address:</td>
<td>1-30 AIRPORT CIR</td>
</tr>
<tr>
<td>City, State, Zip:</td>
<td>Lady's Island, SC 29907</td>
</tr>
<tr>
<td>Cross Street:</td>
<td>NA</td>
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<td>P.O. #</td>
<td>NA</td>
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<td>Project:</td>
<td>4281-15-068</td>
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<tr>
<td>Certification #:</td>
<td>5406-4181-9687</td>
</tr>
</tbody>
</table>

**UNMAPPED PROPERTY**

This report certifies that the complete holdings of the Sanborn Library, LLC collection have been searched based on client supplied target property information, and fire insurance maps covering the target property were not found.

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Beaufort County Airport - 35 Acres
1-30 AIRPORT CIR
Ladys Island, SC 29907

Inquiry Number: 4281174.4
May 01, 2015

EDR Historical Topographic Map Report
EDR Historical Topographic Map Report

Environmental Data Resources, Inc.s (EDR) Historical Topographic Map Report is designed to assist professionals in evaluating potential liability on a target property resulting from past activities. EDR’s Historical Topographic Map Report includes a search of a collection of public and private color historical topographic maps, dating back to the early 1900s.

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Please contact EDR at 1-800-352-0050 with any questions or comments.

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Beaufort County Airport - 35 Acres
1-30 AIRPORT CIR
Ladys Island, SC 29907

Inquiry Number: 4281174.9
May 01, 2015

The EDR Aerial Photo Decade Package
EDR Aerial Photo Decade Package

Environmental Data Resources, Inc. (EDR) Aerial Photo Decade Package is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR’s professional researchers provide digitally reproduced historical aerial photographs, and when available, provide one photo per decade.

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Date EDR Searched Historical Sources:
Aerial Photography/May 01, 2015

Target Property:
1-30 AIRPORT CIR
Lady's Island, SC 29907

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Beaufort County Airport - 35 Acres
1-30 AIRPORT CIR
Ladys Island, SC 29907

Inquiry Number: 4281174.5
May 05, 2015

The EDR-City Directory Image Report
# TABLE OF CONTENTS

## SECTION

- Executive Summary
- Findings
- City Directory Images

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**Thank you for your business.**
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EXECUTIVE SUMMARY

DESCRIPTION
Environmental Data Resources, Inc.’s (EDR) City Directory Report is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR’s City Directory Report includes a search of available city directory data at 5 year intervals.

RESEARCH SUMMARY
The following research sources were consulted in the preparation of this report. A check mark indicates where information was identified in the source and provided in this report.

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## FINDINGS

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1-30 AIRPORT CIR  
Ledys Island, SC 29907

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| 327 | AARON SIMMONS         |
| 331 | RAYMOND CLARK          |
| 335 | ANTWAN SIMMONS         |
| 346 | KIM AIKEN              |
| 347 | HUMANE ASSOCIATION OF THE LOW COUNTRY |
|      | LADY'S ISLAND FEED &amp; SEED |
| 348 | ERNESTINE MORGAN       |
| 350 | BENJAMIN HEYWARD       |
| 354 | OCCUPANT UNKNOWN       |
| 360 | MARY WRIGHT            |
| 362 | EVELYN MORGAN          |
| 372 | OCCUPANT UNKNOWN       |
| 375 | XPRESS LANE NO 10      |
| 381 | RL PURDY LLC           |
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**AIRPORT CIR** 2008

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APPENDIX C - EDR ENVIRONMENTAL RECORDS REPORT
Beaufort County Airport - 35 Acres
1-30 AIRPORT CIR
Ladys Island, SC 29907

Inquiry Number: 4281174.2s
May 01, 2015

The EDR Radius Map™ Report with GeoCheck®
Prepared using the EDR FieldCheck® System

EDR® Environmental Data Resources Inc

Appendix C Hazardous Materials TALBERT, BRIGHT & ELLINGTON C-85
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## GEOCHECK ADDENDUM

- Physical Setting Source Addendum: A-1
- Physical Setting Source Summary: A-2
- Physical Setting $SURGO Soil Map: A-5
- Physical Setting Source Map: A-11
- Physical Setting Source Map Findings: A-13
- Physical Setting Source Records Searched: PSGR-1

Thank you for your business. 
Please contact EDR at 1-800-352-0050 with any questions or comments.

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A search of the environmental records was conducted by Environmental Data Resources, Inc. (EDR). S&M, INC. used the EDR FieldCheck System to review and/or revise the results of this search, based on independent data verification by S&M, INC.. The report was designed to assist parties seeking to meet the search requirements of EPA’s Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-13) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

**TARGET PROPERTY INFORMATION**

**ADDRESS**

1-30 AIRPORT CIR  
LADYS ISLAND, SC 29907

**COORDINATES**

- Latitude (North): 32° 41' 50.00" - 32° 24' 41.40"
- Longitude (West): 80° 33' 40.00" - 80° 38' 5.84"
- Universal Transverse Mercator Zone: 17
- UTM X (Meters): 534331.6
- UTM Y (Meters): 3585818.5
- Elevation: 8 ft. above sea level

**USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY**

- Target Property Map: 32080-D6 BEAUFORT, SC  
  Most Recent Revision: 1998
- East Map: 32080-D6 FROGMORE, SC  
  Most Recent Revision: 1958

**AERIAL PHOTOGRAPHY IN THIS REPORT**

- Portions of Photo from: 20110430, 20110419, 20110505
- Source: USDA
### MAPPED SITES SUMMARY

Target Property Address:
1-30 AIRPORT CIR
LADYS ISLAND, SC 29907

Click on Map ID to see full detail.

<table>
<thead>
<tr>
<th>MAP ID</th>
<th>SITE NAME</th>
<th>ADDRESS</th>
<th>DATABASE ACRONYMS</th>
<th>RELATIVE ELEVATION</th>
<th>DIST (ft. &amp; mi.) DIRECTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>LADY’S ISLAND FIRE D</td>
<td>237 SEA ISLAND PKW</td>
<td>AST</td>
<td>Lower</td>
<td>351, 0.086, SW</td>
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<tr>
<td>2</td>
<td>LADY’S ISLAND AIRPORT</td>
<td>39 AIRPORT CIR</td>
<td>LUST, UST</td>
<td>Lower</td>
<td>590, 0.112, SE</td>
</tr>
<tr>
<td>3</td>
<td>LADY’S ISLAND MIDDLE</td>
<td>30 COUGAR DR</td>
<td>LUST, UST</td>
<td>Higher</td>
<td>1296, 0.245, West</td>
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<td>4</td>
<td>FORMER ANNS GROCERY</td>
<td>169 SEA ISLAND PKW</td>
<td>GWCL, LUST, UST</td>
<td>Higher</td>
<td>2539, 0.481, West</td>
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</tbody>
</table>
EXECUTIVE SUMMARY

TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

DATABASES WITH NO MAPPED SITES

No sites were identified in following databases.

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list
NPL......................... National Priority List
Proposed NPL.............. Proposed National Priority List Sites
NPL LIENS.................... Federal Superfund Liens

Federal Delisted NPL site list
Delisted NPL............... National Priority List Deletions

Federal CERCLIS list
CERCLIS...................... Comprehensive Environmental Response, Compensation, and Liability Information System
FEDERAL FACILITY............. Federal Facility Site Information Listing

Federal CERCLIS NFRAP site list
CERC-NFRAP.................. CERCLIS No Further Remedial Action Planned

Federal RCRA CORRACTS facilities list
CORRACTS..................... Corrective Action Report

Federal RCRA non-CORRACTS TSD facilities list
RCRA-TSDF.................... RCRA - Treatment, Storage and Disposal

Federal RCRA generators list
RCRA-LQG..................... RCRA - Large Quantity Generators
RCRA-SQG..................... RCRA - Small Quantity Generators
RCRA-CESQG.................. RCRA - Conditionally Exempt Small Quantity Generator

Federal institutional controls / engineering controls registries
US ENG CONTROLS............. Engineering Controls Sites List
US INIST CONTROL........... Sites with Institutional Controls
LUCIS.......................... Land Use Control Information System

Federal ERNS list
ERNS......................... Emergency Response Notification System
EXECUTIVE SUMMARY

State- and tribal - equivalent CERCLIS
SHWS,.......................... Site Assessment Section Project List

State and tribal landfill and/or solid waste disposal site lists
SWWLF,......................... Permitted Landfills List

State and tribal leaking storage tank lists
INDIAN LUST.................... Leaking Underground Storage Tanks on Indian Land

State and tribal registered storage tank lists
INDIAN UST,..................... Underground Storage Tanks on Indian Land
FEMA UST,....................... Underground Storage Tank Listing

State and tribal institutional control / engineering control registries
RGR,......................... Registry of Conditional Remedies
AUL,.......................... Land Use Controls

State and tribal voluntary cleanup sites
VCP,.......................... Voluntary Cleanup Sites
INDIAN VCP,............... Voluntary Cleanup Priority Listing

State and tribal Brownfields sites
BROWNFIELDS,............... Brownfields Sites Listing

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists
US BROWNFIELDS............. A Listing of Brownfields Sites

Local Lists of Landfill / Solid Waste Disposal Sites
DEBRIS REGION 9,......... Torres Martinez Reservation Illegal Dump Site Locations
CDL,.......................... Open Dump Inventory
SWRCY,........................ Solid Waste Recycling Facilities
INDIAN CDL,................. Report on the Status of Open Dumps on Indian Lands

Local Lists of Hazardous waste / Contaminated Sites
US CDL,......................... Clandestine Drug Labs
ALLSITES,..................... Site Assessment & Remediation Public Record Database
CDL,.......................... Clandestine Drug Lab Sites
US HIST CDL,............... National Clandestine Laboratory Register

Local Land Records
LIENS 2,......................... CERCLA Lien Information
EXECUTIVE SUMMARY

Records of Emergency Release Reports

HMIRS.................................. Hazardous Materials Information Reporting System
SPILLS.................................. Spills Database List
SPILLS 90............................. SPILLS 90 data from FirstSearch
SPILLS 80............................. SPILLS 80 data from FirstSearch

Other Ascertainable Records

RCRA NonGen / NLIR.............. RCRA - Non Generators / No Longer Regulated
DOT GPS.............................. Incident and Accident Data
DOD....................................... Department of Defense Sites
FUDS................................. Formerly Used Defense Sites
CERCLA Consent Decrees
ROD....................................... Records Of Decision
UMTRA................................. Uranium Mill Tailings Sites
US MINE................................ Mines Master Index File
TRIS................................. Toxic Chemical Release Inventory System
TSCA................................. Toxic Substances Control Act
FTTS................................. FIFRA / TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide
ACT / TSCA (Toxic Substances Control Act)
HIST FTTS............................. FIFRA/TSCA Tracking System Administrative Case Listing
SSTS................................. Section 7 Tracking Systems
ICIS................................. Integrated Compliance Information System
PADS................................. PCB Activity Database System
MLTS................................. Material Licensing Tracking System
RADIOINFO......................... Radiation Information Database
FINDS................................. Facility Index System/Facility Registry System
RAATS................................. RCRA Administrative Action Tracking System
RMP................................. Risk Management Plans
UIC................................. Underground Injection Wells Listing
DRCleaners......................... Drycleaner Database
NPDES................................. Waste Water Treatment Facilities Listing
AIRS................................. Permitted Airs Facility Listing
INDIAN RESERV................. Indian Reservations
SCRD DRYCLEANERS............. State Coalition for Remediation of Drycleaners Listing
PCB TRANSFORMER............. PCB Transformer Registration Database
COAL ASH EPA ................. Coal Combustion Residues Surface Impoundments List
US AIRS.......................... Aeronautical Information Retrieval System Facility Subsystem
US FIN ASSUR................. Financial Assurance Information
EPA WATCH LIST.............. EPA WATCH LIST
LEAD SMELTERS.................. Lead Smelter Sites
PRP................................. Potentially Responsible Parties
2020 COR ACTION............. 2020 Corrective Action Program List
COAL ASH DOE.............. Steam-Electric Plant Operation Data
COAL ASH DISPOSAL...... Coal Ash Disposal Sites
Financial Assurance.................... Financial Assurance Information Listing

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP.............................. EDR Proprietary Manufactured Gas Plants
EXECUTIVE SUMMARY

EDR US Hist Auto Stat.------- EDR Exclusive Historic Gas Stations
EDR US Hist Cleaners------- EDR Exclusive Historic Dry Cleaners

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives
RGA LF,---------------------- Recovered Government Archive Solid Waste Facilities List
RGA LUST,--------------------- Recovered Government Archive Leaking Underground Storage Tank
RGA HWS,---------------------- Recovered Government Archive State Hazardous Waste Facilities List

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified in the following databases.

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property.

Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in **bold italic** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

STANDARD ENVIRONMENTAL RECORDS

State and tribal leaking storage tank lists

LUST: The Leaking Underground Storage Tank Incident Reports contain an inventory of reported leaking underground storage tank incidents. The data come from the Department of Health & Environmental Control’s Leaking UST list.

An online review and analysis by SAME, INC. of the LUST list, as provided by EDR, and dated 02/27/0315 has revealed that there are 3 LUST sites within approximately 0.5 miles of the target property.

<table>
<thead>
<tr>
<th>Equal/Higher Elevation</th>
<th>Address</th>
<th>Direction / Distance</th>
<th>Map ID</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>LADY'S ISLAND MIDDLE</td>
<td>30 COUGAR DR</td>
<td>W 1/8 - 1/4 (0.245 mi)</td>
<td>3</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>Facility Id: 91049</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>No Action Required: 04/06/99</td>
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<tr>
<td></td>
<td>Substance: PETRO</td>
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<tr>
<td></td>
<td>Facility Status: currently active</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>FORMER ANNE GROCERY</td>
<td>160 SEA ISLAND PKWY</td>
<td>W 1/4 - 1/2 (0.481 mi)</td>
<td>4</td>
<td>11</td>
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<tr>
<td></td>
<td>Facility Id: 15523</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>No Action Required: 06/11/14</td>
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<td></td>
<td>Substance: PETRO</td>
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<td>Facility Status: monitored natural attenuation</td>
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<table>
<thead>
<tr>
<th>Lower Elevation</th>
<th>Address</th>
<th>Direction / Distance</th>
<th>Map ID</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>LADY'S ISLAND AIRPORT</td>
<td>30 AIRPORT CIR</td>
<td>SE 0 - 1/6 (0.112 mi)</td>
<td>2</td>
<td>9</td>
</tr>
<tr>
<td>Facility Id: 17412</td>
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<td></td>
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<tr>
<td>No Action Required: 05/17/00</td>
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<td></td>
</tr>
<tr>
<td>Facility Status: currently inactive</td>
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<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

TC429174.2s  EXECUTIVE SUMMARY 9
EXECUTIVE SUMMARY

State and tribal registered storage tank lists

UST: The Underground Storage Tank database contains registered UST’s. UST’s are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA). The data come from the Department of Health & Environmental Control’s list: Comprehensive Underground Storage Tanks.

An online review and analysis by S&M.E. INC. of the UST list, as provided by EDR, and dated 02/27/2015 has revealed that there are 2 UST sites within approximately 0.25 miles of the target property.

<table>
<thead>
<tr>
<th>Equal/Higher Elevation</th>
<th>Address</th>
<th>Direction / Distance</th>
<th>Map ID</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>LADY'S ISLAND MIDDLE</td>
<td>30 COUGAR DR</td>
<td>W 1/8 - 1/4 (0.245 mi)</td>
<td>3</td>
<td>10</td>
</tr>
<tr>
<td>Status: ABD</td>
<td>Facility Id: 1649</td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

AST: The Aboveground Storage Tank database contains registered ASTs. The data come from the Department of Health & Environmental Control’s list: Comprehensive Aboveground Storage Tanks.

An online review and analysis by S&M.E. INC. of the AST list, as provided by EDR, and dated 03/16/2004 has revealed that there is 1 AST site within approximately 0.25 miles of the target property.

<table>
<thead>
<tr>
<th>Lower Elevation</th>
<th>Address</th>
<th>Direction / Distance</th>
<th>Map ID</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>LADY’S ISLAND AIRPORT</td>
<td>39 AIRPORT CIR</td>
<td>SE 0 - 1/8 (0.112 mi)</td>
<td>2</td>
<td>9</td>
</tr>
<tr>
<td>Status: ABD</td>
<td>Facility Id: 17412</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

ADDITIONAL ENVIRONMENTAL RECORDS

Other Ascertainable Records

GWCI: Groundwater Contamination Inventory Cases. Any site that has groundwater contamination over a federal MCL.

An online review and analysis by S&M.E. INC. of the GWCI list, as provided by EDR, and dated 07/01/2006 has revealed that there is 1 GWCI site within approximately 0.5 miles of the target property.

<table>
<thead>
<tr>
<th>Equal/Higher Elevation</th>
<th>Address</th>
<th>Direction / Distance</th>
<th>Map ID</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>FORMER ANNS GROCERY</td>
<td>169 SEA ISLAND PKWY</td>
<td>W 1/4 - 1/2 (0.481 mi)</td>
<td>4</td>
<td>11</td>
</tr>
<tr>
<td>Solid Waste Permit # 15523</td>
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</tbody>
</table>
## EXECUTIVE SUMMARY

Due to poor or inadequate address information, the following sites were not mapped. Count: 28 records.

<table>
<thead>
<tr>
<th>Site Name</th>
<th>Database(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MARINE CORPS AIR STATION BEAUFORT</td>
<td>RCRA-TSDF, CERC-INFRA, CORRACTS.</td>
</tr>
<tr>
<td></td>
<td>RCRA-LOG, US INST CONTROL, SHWS,</td>
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<tr>
<td></td>
<td>GWCL MANIFEST, 2020 COR ACTION,</td>
</tr>
<tr>
<td></td>
<td>US AIRS</td>
</tr>
<tr>
<td>INDEPENDENT NAIL CO.</td>
<td>VCP, BROWNFIELDS</td>
</tr>
<tr>
<td>FARMERS FURNITURE</td>
<td>CERC-INFRA, SHWS</td>
</tr>
<tr>
<td>BRICKYARD POINT</td>
<td>SHWS</td>
</tr>
<tr>
<td>PARKER WHITE METAL CORP</td>
<td>SHWS</td>
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<tr>
<td>INDEPENDENT NAIL CO</td>
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<td>BEAUFORT COUNTY LANDFILL</td>
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<td>OLD BEAUFORT COUNTY LANDFILL</td>
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<tr>
<td>BROTHERHOOD WAY</td>
<td>SHWS</td>
</tr>
<tr>
<td>NAVAL HOSPITAL BEAUFORT</td>
<td>SHWS</td>
</tr>
<tr>
<td>REEVE SAMS PROPERTY</td>
<td>CERC-INFRA, SHWS</td>
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<tr>
<td>DRYCLEAN UDA COASTAL #311</td>
<td>SHWS, DRYCLEANERS</td>
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<td>BEAUFORT COUNTY LANDFILL</td>
<td>CERC-INFRA</td>
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<td>PARKER WHITE METAL CORP</td>
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<td>GRAVES HILL DRUM SITE</td>
<td>CERC-INFRA, SHWS</td>
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<tr>
<td>HARPER BROS OFFICE SUPPLY</td>
<td>LUST, UST</td>
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<tr>
<td>SCEAG FLEET MAINT CENTER BEAUFORT</td>
<td>UST</td>
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<td>BEAUFORT WORK CENTER</td>
<td>LUST, UST</td>
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<tr>
<td>SPEEDWAY 237</td>
<td>LUST, UST</td>
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<tr>
<td>CORPELAND FUNERAL HOME</td>
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<td>JETER CONSTRUCTION CO INC</td>
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<td>UNITED TEL CO OF THE CAROLINAS</td>
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<td>A+1 COLLISION CENTER</td>
<td>RCRA NonGen / NLR</td>
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<td>COLLISION MASTERS</td>
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<td>RCRA-CESSQ</td>
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<td>BEAUFORT SCHOOL BUS SHOP</td>
<td>RCRA-CESSQ</td>
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<tr>
<td>BEAUFORT COUNTY DEPARTMENT OF PUBL</td>
<td>FINDS</td>
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# MAP FINDINGS SUMMARY

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<tr>
<th>Database</th>
<th>Search Distance (Miles)</th>
<th>Target Property</th>
<th>&lt; 1/8</th>
<th>1/8 - 1/4</th>
<th>1/4 - 1/2</th>
<th>1/2 - 1</th>
<th>&gt; 1</th>
<th>Total Plotted</th>
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<tbody>
<tr>
<td><strong>STANDARD ENVIRONMENTAL RECORDS</strong></td>
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<td>Federal NPL site list</td>
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<td>NR</td>
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<td>Federal RCRA CORRACTS facilities list</td>
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### ADDITIONAL ENVIRONMENTAL RECORDS

- **Local Brownfield lists**
  - US BROWNFIELDS: 0.500
    - 0 0 0 0 0 NR NR 0

- **Local Lists of Landfill / Solid Waste Disposal Sites**
  - DEBRIS REGION 9: 0.500
    - 0 0 0 0 NR NR 0

- **Local Lists of Hazardous waste / Contaminated Sites**
  - US CDL: TP
    - NR NR NR NR NR NR 0
  - ALLSITES: 0.500
    - 0 0 0 0 NR NR 0
  - CDL: TP
    - NR NR NR NR NR NR 0
  - US HIST CDL: TP
    - NR NR NR NR NR NR 0

- **Local Land Records**
  - LENS 2: TP
    - NR NR NR NR NR NR 0

- **Records of Emergency Release Reports**
  - HMIRS: TP
    - NR NR NR NR NR NR 0
  - SPILLS: TP
    - NR NR NR NR NR NR 0
  - SPILLS 90: TP
    - NR NR NR NR NR NR 0
  - SPILLS 90: TP
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- **Other Ascertaineable Records**
  - RCRA NonGen / NLR: 0.250
    - 0 0 0 NR NR NR 0
  - DOT QPS: TP
    - NR NR NR NR NR NR 0
  - DOD: 1.000
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- Totals: 0 3 2 2 0 0 7
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**NOTES:**

TP = Target Property
NR = Not Requested at this Search Distance
Sites may be listed in more than one database
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**Hazardous Materials C-101**

**Relative:** AST

**Lower:**

- **Facility ID:** 523
- **Distill:** Low Country
- **Mailing Addr:** Not reported
- **Mailing City/Zip:** Beaufort, SC 29902
- **Facility Manager:** Chief Clayton R. Ellis
- **Manager Phone:** 8435257892
- **Facility office location:** 237 Sea Island Parkway
- **Facility phone number:** 8435257892
- **Facility manager Est:** Not reported

**Tank A:**
- **How many of size < 250 gals:** 0
- **How many of size 250-1000 gals:** 3
- **How many of size 1000-2000 gals:** 2
- **How many of size 2000-10000 gals:** 0
- **How many of size 10001-42000 gals:** 0
- **How many of size 42001-250000 gals:** 0
- **How many of size 250001-1000000 gals:** 0
- **Total site capacity <4000000 gals:** 0
- **Total site capacity 451-2,000 gals:** False
- **Total site capacity 2001-10,000 gals:** True
- **Total site capacity 10,001-42,000 gals:** False
- **Total site capacity 42,001-100,000 gals:** False
- **Total site capacity 100,001-250,000 gals:** False
- **Total site capacity 250,001-1,000,000 gals:** False
- **Total site capacity 1,000,001-2,000,000 gals:** False
- **Total site capacity 2,000,001-10,000,000 gals:** False
- **Total site capacity >10,000,000 gals:** False
- **Actual storage amount in gallons:** 4000.00000
- **NAICS code:** 33.90000
- **Is this a registered terminal facility:** False
- **If not, does it need to be registered:** False
- **Earth containment:** False
- **Asphalt containment:** False
- **Liner:** False
- **Concrete floor and walls:** False
- **Concrete walls, earth floor:** False
- **Block walls, concrete floor:** False
- **Block walls, earthen floor:** True
- **Double wall tank:** False
- **Does containment need repair:** False
- **GPS unit make/model:** Trimble XRS
- **GPS mode uncorrected, Radio beacon, Satellite correction:** Sat - DGPS
- **Lat/Long:** 32 24 30.21 -80 36 14.85
- **Date data was collected:** 12/03/00
- **Comments:** Not reported
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#### LUST DETAIL:
- **Release Date:** 01/11/1999
- **Cleanup Complete Date:** 05/17/2000
- **RP Name:** BEAUFORT COUNTY
- **RP Address:** 103 RISAULT RD
- **RP City:** BEAUFORT
- **RP State:** SC
- **RP Zip:** 29902
- **SCRBQA Class Code:** CLASS3BF
- **Depth to Ground Water:** Not reported
- **Ground Water Flow Direction:** Not reported
- **Project Manager:** WILSON, RODNEY L
- **Release File Type Code:** Qualifies for Fund with Deductible

#### UST:
- **Facility ID:** 17412
- **Owner:** BEAUFORT COUNTY
- **Owner Contact:** DOT GANN
- **Owner Address:** 100 RISAULT RD
- **Owner City, St, Zip:** BEAUFORT, SC 29902
- **Owner Phone:** 843-479-6401
- **Contact:** DOT GANN
- **Contact Phone:** 843-949-3810

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**LADYS ISLAND AIRPORT (Continued)**

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### LADYS ISLAND MIDDLE SCHOOL

**West**

30 COUGAR DR

BEAUFORT, SC 29907

**LUST**

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**LUST DETAIL:**

| Release Date: | 11/12/1988 |
| Cleanup Complete Date: | 04/05/1995 |
| RP Name: | BEAUFORT COUNTY SCHOOL DISTRICT |
| RP Address: | 1300 KING ST |
| RP City: | BEAUFORT |
| RP State: | SC |
| RP Zip: | 29902 |
| SCA/BCA Class Code: | CLASS2BC |
| Depth to Ground Water: | Not reported |
| Ground Water Flow Direction: | Not reported |
| Project Manager: | WILLIAMS, CHARLES J |
| Release Filling Type Code: | Qualifies for Fund with Deductible |

**UST**

<p>| Facility ID: | 1049 |
| Owner: | BEAUFORT COUNTY SCHOOL DISTRICT |
| Owner Contact: | JAMES VIGAR |
| Owner Address: | 1300 KING ST |
| Owner City/State/Zip: | BEAUFORT, SC 29902 |
| Owner Phone: | 843-322-2300 |
| Contact: | JAMES VIGAR |
| Contact Phone: | 843-322-3100 |
| Tank ID: | 1 |
| Status: | Abandoned |
| Capacity: | 1050 |
| Product: | Diesel |
| Code: | 5 |</p>
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**BEAUFORT COUNTY AIRPORT**
Phase I Projects Environmental Assessment

**Hazardous Materials C-104**

**Appendix C**

**TALBERT, BRIGHT & ELLINGTON**

**TC4281174.2s Page 11**
### FORMER ANN'S GROCERY (Continued)

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**Tank 1**
- **Status:** Last Used Before 1974 and Empty
- **Capacity:** 1000
- **Product:** Gasoline
- **Cage:** 15

**Tank 2**
- **Status:** Last Used Before 1974 and Empty
- **Capacity:** 500
- **Product:** Kerosene
- **Cage:** 15
### Appendix C

#### BEAUFORT COUNTY AIRPORT Phase I Projects Environmental Assessment

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</table>
GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

STANDARD ENVIRONMENTAL RECORDS

Federal NPL Site List

NPL: National Priority List. The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Table:

<table>
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<th>Date of Government Version</th>
<th>Source</th>
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<th>Date Made Active in Reports:</th>
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<td>02/09/2015</td>
<td>32</td>
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</table>

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone: 617-915-1143

EPA Region 2
Telephone: 215-814-5418

EPA Region 3
Telephone: 404-562-8033

EPA Region 4
Telephone: 312-888-8666

EPA Region 5
Telephone: 205-555-8665

EPA Region 6
Telephone: 202-565-6659

EPA Region 7
Telephone: 813-551-7247

EPA Region 8
Telephone: 303-312-6774

EPA Region 9
Telephone: 415-947-4245

Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register, EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Table:

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</table>

NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Table:

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<tr>
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GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

**Federal Delisted NPL Site List**

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<td>22</td>
<td>07/02/2015</td>
<td>Quarterly</td>
</tr>
</tbody>
</table>

**Federal CERCLIS List**

CERCLIS: Comprehensive Environmental Response, Compensation, and Liability Information System

- Contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies, and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). CERCLIS contains sites which are either proposed to or on the National Priorities List (NPL) and sites which are in the screening and assessment phase for possible inclusion on the NPL.

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<td>94</td>
<td>09/01/2015</td>
<td>Quarterly</td>
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</tbody>
</table>

**FEDERAL FACILITY: Federal Facility Site Information Listing**

A listing of National Priority List (NPL) and Base Realignment and Closure (BRAC) sites found in the Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) database, where EPA Federal Facilities Restoration and Reuse Office is involved in cleanup activities.

<table>
<thead>
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<td>07/02/2015</td>
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**Federal CERCLIS NFRAP Site List**

CERCLIS-NFRAP: CERCLIS No Further Remedial Action Planned

Archived sites are sites that have been removed and archived from the inventory of CERCLIS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list this site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. This decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be a potential NPL site.

<table>
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<tr>
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<td>09/01/2015</td>
<td>Quarterly</td>
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**Federal RCRA CORRACTS Facilities List**

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.
### GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

<table>
<thead>
<tr>
<th>Date of Government Version</th>
<th>Source</th>
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<td>03/31/2015</td>
<td>07/13/2015</td>
<td>Quarterly</td>
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<td>01/29/2015</td>
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<td>01/29/2015</td>
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#### Federal RCRA non-CORRACTS TSD facilities list

**RCRA-TSDP: RCRA - Treatment, Storage and Disposal**

RCRAInfo is EPA’s comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDSPs treat, store, or dispose of the waste.

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#### Federal RCRA generators list

**RCRA-LOGS: RCRA - Large Quantity Generators**

RCRAInfo is EPA’s comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LOGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

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<td>07/13/2015</td>
<td>Quarterly</td>
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#### RCRA-LOGS: Small Quantity Generators

RCRAInfo is EPA’s comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SOGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

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<td>07/13/2015</td>
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#### RCRA-LOGS: Conditionally Exempt Small Quantity Generators

RCRAInfo is EPA’s comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Conditionally exempt small quantity generators (CESQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

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<td>07/13/2015</td>
<td>Quarterly</td>
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## GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

### Federal Institutional controls / engineering controls registries

**US ENG CONTROLS: Engineering Controls Sites List**
- A listing of sites with engineering controls in place. Engineering controls include various forms of capes, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

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**US INST CONTROL: Sites with Institutional Controls**
- A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

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<td>02/26/2015</td>
<td>31</td>
<td>09/15/2015</td>
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**LUCIS: Land Use Control Information System**
- LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

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**Federal ERNS list**

**ERNS: Emergency Response Notification System**
- ERNS records and stores information on reported releases of oil and hazardous substances.

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**State- and tribal - equivalent CERCLIS**

**SHWS: Site Assessment Section Project List**
- State Hazardous Waste Sites. State hazardous waste site records are the states' equivalent to CERCLIS. These sites may or may not already be listed on the federal CERCLIS list. Priority sites planned for cleanup using state funds (state equivalent of Superfund) are identified along with sites where cleanup will be paid for by potentially responsible parties. Available information varies by state.

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### GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

**State and tribal landfill and/or solid waste disposal site lists**

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<tr>
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<td>Date of Government Version: 03/23/2015</td>
<td>Source: Department of Health and Environmental Control</td>
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<td>Date Data Arrived at EDR: 03/24/2015</td>
<td>Telephone: 803-724-5165</td>
<td></td>
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<tr>
<td>Date Made Active in Reports: 04/07/2015</td>
<td>Source: Department of Health and Environmental Control, GIS Section</td>
<td></td>
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<tr>
<td>Number of Days to Update: 14</td>
<td>Telephone: 803-856-4064</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Last EDR Contact: 03/16/2015</td>
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<td></td>
<td>Next Scheduled EDR Contact: 06/09/2015</td>
<td></td>
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<td></td>
<td>Data Release Frequency: Varies</td>
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</tbody>
</table>

**State and tribal leaking storage tank lists**

<table>
<thead>
<tr>
<th>LUST: Leaking Underground Storage Tank List</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leaking Underground Storage Tank Incident Reports. LUST records contain an inventory of reported leaking underground storage tank incidents. Not all states maintain these records, and the information stored varies by state.</td>
</tr>
<tr>
<td>Date Data Arrived at EDR: 03/03/2015</td>
</tr>
<tr>
<td>Date Made Active in Reports: 03/17/2015</td>
</tr>
<tr>
<td>Number of Days to Update: 14</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

**INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land**

A listing of leaking underground storage tank locations on Indian Land.

| Date of Government Version: 03/01/2013 | Source: EPA Region 1 |
| Date Data Arrived at EDR: 03/01/2013 | Telephone: 803-856-4350 |
| Date Made Active in Reports: 11/01/2013 | Last EDR Contact: 04/03/2015 |
| Number of Days to Update: 184 | Next Scheduled EDR Contact: 09/10/2015 |
| | Data Release Frequency: Varies |

**INDIAN LUST R2: Leaking Underground Storage Tanks on Indian Land**

LUSTs on Indian land in Florida, Missouri, and North Carolina.

| Date of Government Version: 09/03/2014 | Source: EPA Region 4 |
| Date Data Arrived at EDR: 03/03/2015 | Telephone: 401-562-9677 |
| Date Made Active in Reports: 03/13/2015 | Last EDR Contact: 04/27/2015 |
| Number of Days to Update: 10 | Next Scheduled EDR Contact: 09/10/2015 |
| | Data Release Frequency: Semi-Annually |

**INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land**

LUSTs on Indian land in New Mexico and Oklahoma.

| Date of Government Version: 01/23/2015 | Source: EPA Region 5 |
| Date Data Arrived at EDR: 02/20/2015 | Telephone: 214-652-5597 |
| Date Made Active in Reports: 03/13/2015 | Last EDR Contact: 01/26/2015 |
| Number of Days to Update: 31 | Next Scheduled EDR Contact: 05/12/2015 |
| | Data Release Frequency: Varies |

**INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land**

LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah, and Wyoming.

| Date of Government Version: 01/22/2015 | Source: EPA Region 6 |
| Date Data Arrived at EDR: 01/30/2015 | Telephone: 303-212-0271 |
| Date Made Active in Reports: 03/13/2015 | Last EDR Contact: 04/27/2015 |
| Number of Days to Update: 42 | Next Scheduled EDR Contact: 09/10/2015 |
| | Data Release Frequency: Quarterly |
GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian Land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 02/03/2015
Date Data Arrived at EDR: 02/12/2015
Date Made Active in Reports: 03/13/2015
Number of Days to Update: 26

Source: EPA Region 10
Telephone: 206-553-2657
Last EDR Contact: 04/27/2015
Next Scheduled EDR Contact: 09/10/2015
Data Release Frequency: Quarterly

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian Land in Iowa, Kansas, and Nebraska.

Date of Government Version: 05/25/2014
Date Data Arrived at EDR: 11/25/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 65

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 04/27/2015
Next Scheduled EDR Contact: 08/10/2015
Data Release Frequency: Varies

INDIAN LUST R5: Leaking Underground Storage Tanks on Indian Land
Leaking underground storage tanks located on Indian Land in Michigan, Minnesota and Wisconsin.

Date of Government Version: 01/09/2015
Date Data Arrived at EDR: 03/09/2015
Date Made Active in Reports: 03/09/2015
Number of Days to Update: 32

Source: EPA Region 5
Telephone: 312-866-7439
Last EDR Contact: 04/27/2015
Next Scheduled EDR Contact: 08/10/2015
Data Release Frequency: Quarterly

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian Land in Arizona, California, New Mexico and Nevada.

Date of Government Version: 01/05/2015
Date Data Arrived at EDR: 03/05/2015
Date Made Active in Reports: 03/09/2015
Number of Days to Update: 32

Source: Environmental Protection Agency
Telephone: 415-572-3372
Last EDR Contact: 01/09/2015
Next Scheduled EDR Contact: 09/11/2015
Data Release Frequency: Quarterly

State and tribal registered storage tank lists

UST: Comprehensive Underground Storage Tanks
Registered Underground Storage Tanks. UST’s are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA) and must be registered with the state department responsible for administering the UST program. Available information varies by state program.

Date of Government Version: 02/27/2015
Date Data Arrived at EDR: 03/02/2015
Date Made Active in Reports: 03/17/2015
Number of Days to Update: 14

Source: Department of Health and Environmental Control
Telephone: 803-865-7667
Last EDR Contact: 04/27/2015
Next Scheduled EDR Contact: 08/10/2015
Data Release Frequency: Quarterly

AST: Aboveground Storage Tank List
Registered Aboveground Storage Tanks.

Date of Government Version: 03/25/2004
Date Data Arrived at EDR: 08/04/2004
Date Made Active in Reports: 09/23/2004
Number of Days to Update: 50

Source: Department of Health and Environmental Control
Telephone: 803-865-4550
Last EDR Contact: 02/26/2015
Next Scheduled EDR Contact: 09/10/2015
Data Release Frequency: Varies

INDIAN LUST R11: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).

TC4261174.2s  Page GR-6
## GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

<table>
<thead>
<tr>
<th>Date of Government Version: 02/21/2013</th>
<th>Source: EPA, Region 1</th>
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<td>Date Data Entered at EDR: 05/01/2013</td>
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### INDIAN UST R4: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee, and Tribal Nations).

<table>
<thead>
<tr>
<th>Date of Government Version: 03/20/2014</th>
<th>Source: EPA Region 4</th>
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<tr>
<td>Date Data Entered at EDR: 03/20/2015</td>
<td>Telephone: 404-562-5424</td>
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<td>Date Made Active in Reports: 03/15/2015</td>
<td>Last EDR Contact: 04/27/2015</td>
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<td>Number of Days to Update: 10</td>
<td>Next Scheduled EDR Contact: 09/10/2015</td>
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<td>Data Release Frequency: Semi-Annually</td>
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### INDIAN UST R5: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

<table>
<thead>
<tr>
<th>Date of Government Version: 01/09/2015</th>
<th>Source: EPA Region 5</th>
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<tbody>
<tr>
<td>Date Data Entered at EDR: 03/05/2015</td>
<td>Telephone: 313-889-6136</td>
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<tr>
<td>Date Made Active in Reports: 03/13/2015</td>
<td>Last EDR Contact: 04/27/2015</td>
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<tr>
<td>Number of Days to Update: 36</td>
<td>Next Scheduled EDR Contact: 09/10/2015</td>
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<td>Data Release Frequency: Varies</td>
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</table>

### INDIAN UST R6: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 5 Tribal Nations).

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<tr>
<th>Date of Government Version: 01/23/2015</th>
<th>Source: EPA Region 6</th>
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<tr>
<td>Date Data Entered at EDR: 02/13/2015</td>
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<td>Date Made Active in Reports: 03/13/2015</td>
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<td>Number of Days to Update: 26</td>
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<td>Data Release Frequency: Semi-Annually</td>
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### INDIAN UST R7: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 7 (Iowa, Kansas, Missouri, Nebraska, and 3 Tribal Nations).

<table>
<thead>
<tr>
<th>Date of Government Version: 08/23/2014</th>
<th>Source: EPA Region 7</th>
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<tbody>
<tr>
<td>Date Data Entered at EDR: 11/25/2014</td>
<td>Telephone: 913-551-7003</td>
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<tr>
<td>Date Made Active in Reports: 01/29/2015</td>
<td>Last EDR Contact: 04/27/2015</td>
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<td>Number of Days to Update: 65</td>
<td>Next Scheduled EDR Contact: 08/10/2016</td>
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<td>Data Release Frequency: Varies</td>
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### INDIAN UST R8: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).

<table>
<thead>
<tr>
<th>Date of Government Version: 12/14/2014</th>
<th>Source: EPA Region 9</th>
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<tbody>
<tr>
<td>Date Data Entered at EDR: 02/13/2015</td>
<td>Telephone: 415-672-2568</td>
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<td>Date Made Active in Reports: 03/13/2015</td>
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<td>Number of Days to Update: 26</td>
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<td>Data Release Frequency: Quarterly</td>
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### INDIAN UST R10: Underground Storage Tanks on Indian Land

TC4261174.2s  Page GR-7
GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

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<th>Source</th>
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<td>01/28/2015</td>
<td>EPA Region 8</td>
<td>01/20/2015</td>
<td>303-312-6137</td>
<td>03/13/2015</td>
<td>04/27/2015</td>
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<td>08/10/2015</td>
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<td>01/01/2010</td>
<td>FEMA</td>
<td>02/10/2010</td>
<td>202-648-5797</td>
<td>04/12/2010</td>
<td>04/13/2015</td>
<td>55</td>
<td>07/27/2015</td>
<td>Varies</td>
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</table>

INDIAN UST RS: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

FEMA UST: Underground Storage Tank Listing
A listing of all FEMA owned underground storage tanks.

State and tribal institutional control / engineering control registries

RCR: Registry of Conditional Remedies
The Bureau of Land and Waste Management established this Registry to help monitor and maintain sites that have conditional remedies. A Conditional Remedy is an environmental remedy that includes certain qualifications. These qualifications are divided into two major categories: Remedies requiring Land Use Controls and Conditional No Further Actions.

AUL: Land Use Controls
The term Land Use Controls or "LUCs" encompass institutional controls, such as those involved in real estate interests, governmental permitting, zoning, public advisories, deed notices, and other legal restrictions. The term also includes restrictions on access, whether achieved by means of engineered barriers (e.g., fence or concrete pad) or by human means (e.g., the presence of security guards). Additionally, the term includes both affirmative measures to achieve the desired restrictions (e.g., night lighting of an area) and prohibitive directives (e.g., restrictions on certain types of wells for the duration of the corrective action). Considered altogether, the LUCs for a facility will provide a tool for how the property should be used in order to maintain the level of protective value that one or more corrective actions were designed to achieve.

State and tribal voluntary cleanup sites

VCP: Voluntary Cleanup Sites
Sites participating in the Voluntary Cleanup Program. Once staff and a non-responsible party have agreed upon an approved scope of work for a site investigation and/or remediation, the party enters into a voluntary cleanup contract. Staff oversees the cleanup efforts to ensure that activities are performed to our satisfaction. Upon completion of the negotiated work in the voluntary cleanup contract, the non-responsible party receives State Superfund liability protection.
GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 07/14/2014
Date Data Arrived at EDR: 07/22/2014
Date Made Active in Reports: 08/20/2014
Number of Days to Update: 26
Source: Department of Health and Environmental Control
Telephone: 903-896-4069
Last EDR Contact: 03/15/2015
Next Scheduled EDR Contact: 06/29/2015
Data Release Frequency: Varies

INDIAN VCP R1: Voluntary Cleanup Priority Listing
A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.
Date of Government Version: 09/28/2014
Date Data Arrived at EDR: 10/01/2014
Date Made Active in Reports: 11/09/2014
Number of Days to Update: 36
Source: EPA, Region 1
Telephone: 912-551-7400
Last EDR Contact: 04/22/2015
Next Scheduled EDR Contact: 07/13/2015
Data Release Frequency: Varies

INDIAN VCP R7: Voluntary Cleanup Priority Listing
A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.
Date of Government Version: 03/20/2006
Date Data Arrived at EDR: 04/22/2006
Date Made Active in Reports: 05/19/2006
Number of Days to Update: 27
Source: EPA, Region 7
Telephone: 912-551-7565
Last EDR Contact: 04/20/2009
Next Scheduled EDR Contact: 07/20/2009
Data Release Frequency: Varies

State and tribal Brownfields sites

BROWNFIELDS: Brownfields Sites Listing
The Brownfields component of the Voluntary Cleanup Program allows a non-responsible party to acquire a contaminated property with the State Superfund liability protection for existing contamination by agreeing to perform an environmental assessment and/or remediation.
Date of Government Version: 04/22/2015
Date Data Arrived at EDR: 04/14/2015
Date Made Active in Reports: 04/23/2015
Number of Days to Update: 9
Source: Department of Health & Environmental Protection
Telephone: 903-896-4069
Last EDR Contact: 03/20/2015
Next Scheduled EDR Contact: 07/13/2015
Data Release Frequency: Varies

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS: A listing of Brownfields Sites
Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment.
Assessment, Cleanup, and Redevelopment Exchange System (ACRES) stores information reported by EPA Brownfields grant recipients on Brownfields properties assessed or cleaned up with grant funding as well as information on Targeted Brownfields Assessments performed by EPA Regions. A listing of ACRES Brownfields sites is obtained from Cleanups in My Community. Cleanups in My Community provides information on Brownfields properties for which information is reported back to EPA, as well as areas served by Brownfields grant programs.
Date of Government Version: 12/22/2014
Date Data Arrived at EDR: 12/22/2014
Date Made Active in Reports: 01/23/2015
Number of Days to Update: 36
Source: Environmental Protection Agency
Telephone: 202-566-2777
Last EDR Contact: 03/04/2015
Next Scheduled EDR Contact: 07/06/2015
Data Release Frequency: Semi-Annually

Local Lists of Landfill / Solid Waste Disposal Sites
GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

ODI: Open Dump Inventory
An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

- Date of Government Version: 08/20/1985
- Date Data Arrived at EDR: 06/06/2004
- Number of Days to Update: 39
- Source: Environmental Protection Agency
- Telephone: 910-424-5548
- Next Scheduled EDR Contact: N/A
- Data Release Frequency: No Update Planned

DEBRIS REGION B: Torres Martinez Reservation Illegal Dump Site Locations
A listing of illegal dump sites located on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

- Date of Government Version: 01/12/2009
- Date Data Arrived at EDR: 08/07/2008
- Date Made Active in Reports: 09/22/2009
- Number of Days to Update: 137
- Source: EPA, Region 9
- Telephone: 415-947-4219
- Last EDR Contact: 04/23/2015
- Next Scheduled EDR Contact: 08/10/2016
- Data Release Frequency: No Update Planned

SWRCY: Solid Waste Recycling Facilities
A listing of recycling center locations.

- Date of Government Version: 01/01/2015
- Date Data Arrived at EDR: 02/11/2015
- Date Made Active in Reports: 03/23/2015
- Number of Days to Update: 15
- Source: Department of Health & Environmental Control
- Telephone: 803-896-8965
- Last EDR Contact: 02/27/2015
- Next Scheduled EDR Contact: 06/15/2015
- Data Release Frequency: Varies

INDIAN ODI: Report on the Status of Open Dumps on Indian Lands
Location of open dumps on Indian land.

- Date of Government Version: 12/31/1998
- Date Data Arrived at EDR: 12/03/2007
- Date Made Active in Reports: 01/24/2008
- Number of Days to Update: 52
- Source: Environmental Protection Agency
- Telephone: 703-303-8245
- Last EDR Contact: 02/20/2015
- Next Scheduled EDR Contact: 05/18/2015
- Data Release Frequency: Varies

Local Lists of Hazardous waste / Contaminated Sites

US CDL: Clandestine Drug Labs
A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

- Date of Government Version: 02/25/2015
- Date Data Arrived at EDR: 03/20/2015
- Date Made Active in Reports: 03/25/2015
- Number of Days to Update: 15
- Source: Drug Enforcement Administration
- Telephone: 202-307-1000
- Last EDR Contact: 03/30/2015
- Next Scheduled EDR Contact: 06/15/2015
- Data Release Frequency: Quarterly

ALLSITES: Site Assessment & Remediation Public Record Database
The South Carolina Department of Health and Environmental Control is pleased to have the Public Record for your review. The purpose of this database is two-fold. First, it will provide to communities another form of notice of cleanup activity, allowing them to have more information about assessment and cleanup activities in their area and in the State. Second, it can assist those seeking to redevelop brownfield properties within South Carolina.
### GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

<table>
<thead>
<tr>
<th>Date of Government Version</th>
<th>Source: Department of Health &amp; Environmental Control</th>
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<td>Number of Days to Update: 14</td>
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<td>Data Release Frequency: Quarterly</td>
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#### CDL 2: Clandestine Drug Lab Listing
A listing of clandestine drug lab site locations.

<table>
<thead>
<tr>
<th>Date of Government Version</th>
<th>Source: South Carolina Law Enforcement Division</th>
<th>Telephone: 803-896-7100</th>
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<td>Next Scheduled EDR Contact: 06/10/2015</td>
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#### CDL: Clandestine Drug Lab Sites
A listing of clandestine drug lab site locations.

<table>
<thead>
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<th>Date of Government Version</th>
<th>Source: Department of Health &amp; Environmental Control</th>
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</table>

#### US HIST CDL: National Clandestine Laboratory Register
A listing of clandestine drug lab locations. The U.S. Department of Justice (the Department) provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other forms that indicated the presence of either clandestine drug laboratories or dumps. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

<table>
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<th>Date of Government Version</th>
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<tr>
<td>Number of Days to Update: 15</td>
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<td>Next Scheduled EDR Contact: 06/15/2015</td>
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#### Local Land Records

#### LIENS 2: CERCLA Lien Information
A federal CERCLA ("Superfund") lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIs provides information as to the identity of these sites and properties.

<table>
<thead>
<tr>
<th>Date of Government Version</th>
<th>Source: Environmental Protection Agency</th>
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<td>Number of Days to Update: 37</td>
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<td>Next Scheduled EDR Contact: 08/10/2015</td>
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#### Records of Emergency Release Reports

HMIRS: Hazardous Materials Information Reporting System, HMIRS contains hazardous material spill incidents reported to DOT.

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<thead>
<tr>
<th>Date of Government Version</th>
<th>Source: U.S. Department of Transportation</th>
<th>Telephone: 202-356-4555</th>
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<td>Date Made Active in Reports</td>
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Data Release Frequency: Annually
## GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

### SPILLS:
**Spill List**
- Spills and releases of petroleum and hazardous chemicals reported to the Oil & Chemical Emergency Response division.
- **Date of Government Version:** 03/25/2015
- **Source:** Department of Health and Environmental Control
- **Date Data Arrived at EDR:** 03/23/2015
- **Telephone:** 803-496-4111
- **Date Made Active in Reports:** 04/07/2015
- **Last EDR Contact:** 03/30/2015
- **Number of Days to Update:** 12
- **Next Scheduled EDR Contact:** 06/15/2015
- **Data Release Frequency:** Varies

### SPILLS 90:
**Spills 90 Data from FirstSearch**
- Spills 90 includes those spill and release records available exclusively from FirstSearch databases. Typically, they may include chemical, oil, and/or hazardous substance spills recorded after 1990. Duplicate records that are already included in EDR incident and release records are not included in Spills 90.
- **Date of Government Version:** 10/25/2012
- **Source:** FirstSearch
- **Date Data Arrived at EDR:** 01/03/2013
- **Telephone:** N/A
- **Date Made Active in Reports:** 03/07/2013
- **Last EDR Contact:** 01/03/2013
- **Number of Days to Update:** 63
- **Next Scheduled EDR Contact:** N/A
- **Data Release Frequency:** No Update Planned

### SPILLS 60:
**Spills 60 Data from FirstSearch**
- Spills 60 includes those spill and release records available from FirstSearch databases prior to 1990. Typically, they may include chemical, oil, and/or hazardous substance spills recorded before 1990. Duplicate records that are already included in EDR incident and release records are not included in Spills 60.
- **Date of Government Version:** 03/20/2001
- **Source:** FirstSearch
- **Date Data Arrived at EDR:** 01/03/2013
- **Telephone:** N/A
- **Date Made Active in Reports:** 03/07/2013
- **Last EDR Contact:** 01/03/2013
- **Number of Days to Update:** 63
- **Next Scheduled EDR Contact:** N/A
- **Data Release Frequency:** No Update Planned

### Other Ascertainable Records
- **RCRA NonGen / NLR:** RCRA - Non Generators / No Longer Regulated
  - RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

- **Date of Government Version:** 12/09/2014
- **Source:** Environmental Protection Agency
- **Telephone:** (404) 562-8651
- **Date Made Active in Reports:** 01/20/2015
- **Last EDR Contact:** 03/31/2015
- **Number of Days to Update:** 31
- **Next Scheduled EDR Contact:** 07/13/2015
- **Data Release Frequency:** Varies

### DOT OPS:
**Incident and Accident Data**
- Department of Transportation, Office of Pipeline Safety Incident and Accident data.

- **Date of Government Version:** 07/31/2012
- **Source:** Department of Transportation, Office of Pipeline Safety
- **Telephone:** 202-305-4595
- **Date Made Active in Reports:** 03/19/2012
- **Last EDR Contact:** 02/23/2015
- **Number of Days to Update:** 42
- **Next Scheduled EDR Contact:** 05/18/2015
- **Data Release Frequency:** Varies

### DOD:
**Department of Defense Sites**
- This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 846 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.
GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

BEAUFORT COUNTY AIRPORT
Phase I Projects Environmental Assessment

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 12/31/2005  Source: USGS
Date Data Available at EDR: 11/10/2008  Telephone: 800-275-8747
Date Made Active in Reports: 01/11/2007  Last EDR Contact: 04/14/2015
Number of Days to Update: 62  Next Scheduled EDR Contact: 07/27/2015
Data Release Frequency: Semi-Annually

FUDS: Formerly Used Defense Sites
The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 09/09/2014  Source: U.S. Army Corps of Engineers
Date Data Available at EDR: 09/10/2014  Telephone: 202-528-4265
Date Made Active in Reports: 09/18/2014  Last EDR Contact: 03/13/2015
Number of Days to Update: 8  Next Scheduled EDR Contact: 06/22/2015
Data Release Frequency: Varies

CONSENT: Superfund (CERCLA) Consent Decrees
Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 01/23/2015  Source: Department of Justice, Consent Decree Library
Date Data Available at EDR: 03/23/2015  Telephone: Varies
Date Made Active in Reports: 03/30/2015  Last EDR Contact: 03/30/2015
Number of Days to Update: 24  Next Scheduled EDR Contact: 07/13/2015
Data Release Frequency: Varies

ROD: Records Of Decision
Record of Decision: ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the remediation.

Date of Government Version: 11/25/2013  Source: EPA
Date Data Available at EDR: 12/22/2013  Telephone: 703-416-0223
Date Made Active in Reports: 02/24/2014  Last EDR Contact: 03/10/2015
Number of Days to Update: 74  Next Scheduled EDR Contact: 06/22/2015
Data Release Frequency: Annually

UMTRA: Uranium Mill Tailings Sites
Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 09/14/2010  Source: Department of Energy
Date Data Available at EDR: 10/07/2011  Telephone: 503-845-0011
Date Made Active in Reports: 09/01/2012  Last EDR Contact: 02/27/2015
Number of Days to Update: 148  Next Scheduled EDR Contact: 06/08/2015
Data Release Frequency: Varies

US MINES: Mine Master Index File
Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 12/31/2014  Source: Department of Labor, Mine Safety and Health Administration
Date Data Available at EDR: 12/31/2014  Telephone: 303-231-5969
Date Made Active in Reports: 01/29/2015  Last EDR Contact: 03/06/2015
Number of Days to Update: 29  Next Scheduled EDR Contact: 09/15/2015
Data Release Frequency: Semi-Annually

TRIS: Toxic Chemical Release Inventory System
Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section S13.

TC4261174.2s  Page GR-13
## GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

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### TSCA: Toxic Substances Control Act
- TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

### FTTS: FIFRA/TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
- FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCEA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

### HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing
- A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCEA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

### HIST FTTS INSPI: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing
- A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCEA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.
**GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING**

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<th>Date Data Arrived at EDR</th>
<th>Date Made Active in Reports</th>
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<td>06/22/2015</td>
<td>Quarterly</td>
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</table>
GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

FINDS: Facility Index System/Facility Registry System

- FINDS contains both facility information and ‘pointers’ to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS ( Permit Compliance System), AERIS (Aerometric Information Retrieval System), DOCKET ( Enforcement Docket used to manage and track information on civil and criminal enforcement cases for the Environmental Protection Agency), FFIS ( Federal Facilities Information System), and PADS ( PCB Activity Data System).

<table>
<thead>
<tr>
<th>Date of Government Version</th>
<th>Source</th>
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<td>03/08/2015</td>
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<td>06/22/2015</td>
<td>Quarterly</td>
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</table>

RAATS: RCRA Administrative Action Tracking System

- RAATS contains data on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. Data entry in the RAATS database was discontinued in 1999. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

<table>
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<th>Date of Government Version</th>
<th>Source</th>
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<th>Telephone</th>
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RMP: Risk Management Plans

- When Congress passed the Clean Air Act Amendments of 1990, it required EPA to publish regulations and guidance for chemical accident prevention at facilities using extremely hazardous substances. The Risk Management Program (RMP) rule was written to implement Section 112(r) of these amendments. The rule, which built upon existing industry codes and standards, requires companies of all sizes that use certain flammable and toxic substances to develop a Risk Management Program, which includes a Hazard Assessment that details the potential effects of an accidental release, an accident history of the last five years, and an evaluation of worst-case and alternative release scenarios. Prevention program that includes safety precautions and maintenance, monitoring, and employee training measures; and Emergency response program that spells out emergency health care, employee training measures and procedures for informing the public and response agencies (e.g., the fire department) should an accident occur.

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BRS: Biennial Reporting System

- The Biennial Reporting System is a national system administrated by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

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<tr>
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GWCI: Groundwater Contamination Inventory

- An inventory of all groundwater contamination cases in the state.

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<th>Source</th>
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GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

UIC: Underground Injection Wells Listing
A listing of underground injection wells locations.

- Date of Government Version: 02/11/2015
- Date Data Arrived at EDR: 02/13/2015
- Date Made Active in Reports: 03/05/2015
- Number of Days to Update: 21
- Source: Department of Health & Environmental Control
- Telephone: 803-469-3799
- Last EDR Contact: 03/05/2015
- Next Scheduled EDR Contact: 05/05/2015
- Data Release Frequency: Varies

DRYCLEANERS: Drycleaner Database
The Drycleaning Facility Restoration Trust Fund database is used to access, prioritize and cleanup contaminated registered drycleaning sites.

- Date of Government Version: 12/01/2013
- Date Data Arrived at EDR: 02/07/2014
- Date Made Active in Reports: 03/27/2014
- Number of Days to Update: 48
- Source: Department of Health & Environmental Control
- Telephone: 803-866-3482
- Last EDR Contact: 02/06/2015
- Next Scheduled EDR Contact: 05/18/2016
- Data Release Frequency: Varies

NPDES: Waste Water Treatment Facilities Listing
A listing of waste water treatment facility locations.

- Date of Government Version: 12/30/2014
- Date Data Arrived at EDR: 12/31/2014
- Date Made Active in Reports: 02/09/2015
- Number of Days to Update: 40
- Source: Department of Health & Environmental Control
- Telephone: 803-866-4300
- Last EDR Contact: 03/23/2015
- Next Scheduled EDR Contact: 07/06/2015
- Data Release Frequency: Varies

AIRS: Permitted Airs Facility Listing
A listing of permitted airs facilities.

- Date of Government Version: 12/31/2013
- Date Data Arrived at EDR: 12/19/2014
- Date Made Active in Reports: 01/08/2015
- Number of Days to Update: 21
- Source: Department of Health & Environmental Control
- Telephone: 803-866-4279
- Last EDR Contact: 02/27/2015
- Next Scheduled EDR Contact: 06/15/2015
- Data Release Frequency: Varies

INDIAN RESERV: Indian Reservations
This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

- Date of Government Version: 12/31/2005
- Date Data Arrived at EDR: 12/08/2006
- Date Made Active in Reports: 01/11/2007
- Number of Days to Update: 34
- Source: USGS
- Telephone: 202-208-3710
- Last EDR Contact: 04/14/2015
- Next Scheduled EDR Contact: 07/27/2016
- Data Release Frequency: Semi-Annually

SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing
The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are: Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Mississippi, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

- Date of Government Version: 03/07/2011
- Date Data Arrived at EDR: 03/09/2011
- Date Made Active in Reports: 05/02/2011
- Number of Days to Update: 54
- Source: Environmental Protection Agency
- Telephone: 615-532-8309
- Last EDR Contact: 02/19/2015
- Next Scheduled EDR Contact: 06/01/2015
- Data Release Frequency: Varies
### GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

2020 COR ACTION: 2020 Corrective Action Program List

The EPA has set ambitious goals for the RCRA Corrective Action Program by creating the 2020 Corrective Action Program List. This RCRA cleanup baseline includes facilities expected to need corrective action. The 2020 universe contains over 50 new sites, more than half of which are actively being investigated. The remaining sites are either currently planned or are expected to be cleaned up in the near future. Inclusion in the 2020 universe does not necessarily imply failure on the part of a facility to meet its RCRA obligations.

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#### Financial Assurance 2: Financial Assurance Information Listing

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#### LEAD SMELTER 1: Lead Smelter Sites

A listing of former lead smelter site locations.

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#### LEAD SMELTER 2: Lead Smelter Sites

A list of several hundred sites in the U.S. where secondary lead smelting was done from 1931 and 1964. These sites may pose a threat to public health through ingestion or inhalation of contaminated soil or dust.

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#### PRP: Potentially Responsible Parties

A listing of verified Potentially Responsible Parties.

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</table>
GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

**FEDLAND:** Federal and Indian Lands

Date of Government Version: 12/31/2005  
Source: U.S. Geological Survey  
Telephone: 888-275-8747  
Date Made Active in Reports: 01/11/2007  
Last EDR Contact: 01/11/2015  
Number of Days to Update: 339  
Next Scheduled EDR Contact: 07/27/2015
Data Release Frequency: N/A

**US AIRS (AFS): Aerometric Information Retrieval System Facility Subsystem (AFS)**
The database is a sub-system of Aerometric Information Retrieval System (AIRS). AFS contains compliance data on air pollution point sources regulated by the U.S. EPA and state and local air regulatory agencies. This information comes from source reports by various stationary sources of air pollution, such as electric power plants, steel mills, factories, and universities, and provides information about the air pollutants they produce. Action, air program, air program pollutant, and general plant data. It is used to track emissions and compliance data from industrial plants.

Date of Government Version: 10/10/2014  
Source: EPA  
Telephone: 202-564-2486  
Date Made Active in Reports: 11/17/2014  
Last EDR Contact: 03/09/2015  
Number of Days to Update: 17  
Next Scheduled EDR Contact: 07/13/2015
Data Release Frequency: Annually

**US AIRS MINOR: Air Facility System Data**
A listing of minor source facilities.

Date of Government Version: 10/10/2014  
Source: EPA  
Telephone: 202-564-2486  
Date Made Active in Reports: 11/17/2014  
Last EDR Contact: 03/09/2015  
Number of Days to Update: 17  
Next Scheduled EDR Contact: 07/13/2015
Data Release Frequency: Annually

**US FIN ASSUR: Financial Assurance Information**
All owners and operators of facilities that treat, store, or dispose of hazardous waste are required to provide proof that they will have sufficient funds to pay for the clean up, closure, and post-closure care of their facilities.

Date of Government Version: 03/09/2015  
Source: Environmental Protection Agency  
Telephone: 202-566-1917  
Date Made Active in Reports: 03/09/2015  
Last EDR Contact: 03/09/2015  
Number of Days to Update: 15  
Next Scheduled EDR Contact: 06/01/2015
Data Release Frequency: Quarterly

**PCB TRANSFORMER: PCB Transformer Registration Database**
The database of PCB transformer registrations that includes all PCB registration submittals.

Date of Government Version: 02/01/2011  
Source: Environmental Protection Agency  
Telephone: 202-566-0517  
Date Made Active in Reports: 10/19/2011  
Last EDR Contact: 01/06/2015  
Number of Days to Update: 3  
Next Scheduled EDR Contact: 05/14/2015
Data Release Frequency: Varies

**COAL ASH EPA:** Coal Combustion Residues Surface Impoundments List
A listing of coal combustion residues surface impoundments with high hazard potential ratings.

Date of Government Version: 07/01/2014  
Source: Environmental Protection Agency  
Telephone: N/A  
Date Made Active in Reports: 07/01/2014  
Last EDR Contact: 03/13/2015  
Number of Days to Update: 40  
Next Scheduled EDR Contact: 06/22/2015
Data Release Frequency: Varies

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TC4261174.2s  Page GR-19
## GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

### COAL ASH DOE: Steam-Electric Plant Operation Data
- **Source:** Department of Energy
- **Telephone:** 202-586-8719
- **Date of Government Version:** 12/31/2005
- **Date Data Archived at EDR:** 08/07/2009
- **Date Made Active in Reports:** 10/22/2009
- **Number of Days to Update:** 76
- **Data Release Frequency:** Varies

### COAL ASH: Coal Ash Disposal Sites
- **Source:** Department of Health & Environmental Control
- **Telephone:** 803-896-4067
- **Date of Government Version:** 12/30/2014
- **Date Data Archived at EDR:** 12/31/2014
- **Date Made Active in Reports:** 02/09/2015
- **Number of Days to Update:** 40
- **Data Release Frequency:** Varies

### Financial Assurance 1: Financial Assurance Information Listing
- **Source:** Department of Health & Environmental Control
- **Telephone:** 803-896-4067
- **Date of Government Version:** 03/19/2015
- **Date Data Archived at EDR:** 03/24/2015
- **Date Made Active in Reports:** 04/07/2015
- **Number of Days to Update:** 14
- **Data Release Frequency:** Quarterly

### EPA WATCH LIST: EPA WATCH LIST
- **Source:** Environmental Protection Agency
- **Telephone:** 617-520-3000
- **Date of Government Version:** 03/30/2013
- **Date Data Archived at EDR:** 03/21/2014
- **Date Made Active in Reports:** 06/17/2014
- **Number of Days to Update:** 88
- **Data Release Frequency:** Quarterly

### EDR Exclusive Records
- **Source:** EDR, Inc.
- **Date of Government Version:** N/A
- **Date Data Archived at EDR:** N/A
- **Date Made Active in Reports:** N/A
- **Number of Days to Update:** N/A
- **Data Release Frequency:** No Update Planned

### EDR MGP: EDR Proprietary Manufactured Gas Plants
The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used waste oil, coal tar, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

- **Date of Government Version:** N/A
- **Date Data Archived at EDR:** N/A
- **Date Made Active in Reports:** N/A
- **Number of Days to Update:** N/A
- **Data Release Frequency:** No Update Planned
GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

EDR US: Hist Auto Stat: EDR Exclusive Historic Gas Stations
EDR has searched selected national collections of business directories and has collected listings of potential gas stations/filling station/service station sites that were available to EDR researchers. EDR’s review was limited to those categories of sources that might, in EDR’s opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as “High Risk Historical Records”, or HRHR. EDR’s HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A Source: EDR, Inc.
Date Data Arrived at EDR: N/A Telephone: N/A
Date Made Active in Reports: N/A Last EDR Contact: N/A
Number of Days to Update: N/A Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR US: Hist Cleaners: EDR Exclusive Historic Dry Cleaners
EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR’s review was limited to those categories of sources that might, in EDR’s opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/or, wash & dry etc. This database falls within a category of information EDR classifies as “High Risk Historical Records”, or HRHR. EDR’s HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A Source: EDR, Inc.
Date Data Arrived at EDR: N/A Telephone: N/A
Date Made Active in Reports: N/A Last EDR Contact: N/A
Number of Days to Update: N/A Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LUST: Recovered Government Archive Leaking Underground Storage Tank
The EDR Recovered Government Archive Leaking Underground Storage Tank database provides a list of LUST incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Health and Environmental Control in South Carolina.

Date of Government Version: N/A Source: Department of Health and Environmental Control
Date Data Arrived at EDR: 07/01/2013 Telephone: N/A
Date Made Active in Reports: 01/03/2014 Last EDR Contact: 06/01/2012
Number of Days to Update: 186 Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

RGA LF: Recovered Government Archive Solid Waste Facilities List
The EDR Recovered Government Archive Landfill database provides a list of landfills derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Health and Environmental Control in South Carolina.

Date of Government Version: N/A Source: Department of Health and Environmental Control
Date Data Arrived at EDR: 07/01/2013 Telephone: N/A
Date Made Active in Reports: 01/03/2014 Last EDR Contact: 06/01/2012
Number of Days to Update: 186 Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

RGA HWS: Recovered Government Archive State Hazardous Waste Facilities List
The EDR Recovered Government Archive State Hazardous Waste database provides a list of SHWS incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Health and Environmental Control in South Carolina.

Date of Government Version: N/A Source: Department of Health and Environmental Control
Date Data Arrived at EDR: 07/01/2013 Telephone: N/A
Date Made Active in Reports: 01/03/2014 Last EDR Contact: 06/01/2012
Number of Days to Update: 186 Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

TC4261174.2s  Page GR-21
### GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

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<thead>
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<th>Date Made Active in Reports</th>
<th>Number of Days to Update</th>
<th>Source</th>
<th>Telephone</th>
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<tbody>
<tr>
<td>WA</td>
<td>07/01/2013</td>
<td>04/03/2014</td>
<td>168</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

**OTHER DATABASE(S)**

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

**CT MANIFEST: Hazardous Waste Manifest Data**

Facility and manifest data. Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

<table>
<thead>
<tr>
<th>Date of Government Version</th>
<th>Date Data Arived at EDR</th>
<th>Date Made Active in Reports</th>
<th>Number of Days to Update</th>
<th>Source</th>
<th>Telephone</th>
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<tbody>
<tr>
<td>07/20/2013</td>
<td>08/19/2013</td>
<td>10/03/2013</td>
<td>45</td>
<td>N/A</td>
<td>800-424-3375</td>
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</table>

**NJ MANIFEST: Manifest Information**

Hazardous waste manifest information.

<table>
<thead>
<tr>
<th>Date of Government Version</th>
<th>Date Data Arived at EDR</th>
<th>Date Made Active in Reports</th>
<th>Number of Days to Update</th>
<th>Source</th>
<th>Telephone</th>
</tr>
</thead>
<tbody>
<tr>
<td>12/31/2011</td>
<td>07/19/2012</td>
<td>06/29/2012</td>
<td>40</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

**NY MANIFEST: Facility and Manifest Data**

Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

<table>
<thead>
<tr>
<th>Date of Government Version</th>
<th>Date Data Arived at EDR</th>
<th>Date Made Active in Reports</th>
<th>Number of Days to Update</th>
<th>Source</th>
<th>Telephone</th>
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<tbody>
<tr>
<td>01/01/2015</td>
<td>02/04/2015</td>
<td>02/27/2015</td>
<td>33</td>
<td>N/A</td>
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</table>

**PA MANIFEST: Manifest Information**

Hazardous waste manifest information.

<table>
<thead>
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<th>Date of Government Version</th>
<th>Date Data Arived at EDR</th>
<th>Date Made Active in Reports</th>
<th>Number of Days to Update</th>
<th>Source</th>
<th>Telephone</th>
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<tbody>
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<td>06/25/2014</td>
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<td>N/A</td>
<td>717-783-8960</td>
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</table>

**RI MANIFEST: Manifest Information**

Hazardous waste manifest information.

<table>
<thead>
<tr>
<th>Date of Government Version</th>
<th>Date Data Arived at EDR</th>
<th>Date Made Active in Reports</th>
<th>Number of Days to Update</th>
<th>Source</th>
<th>Telephone</th>
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</thead>
<tbody>
<tr>
<td>12/31/2013</td>
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<td>06/13/2014</td>
<td>39</td>
<td>N/A</td>
<td>401-222-2797</td>
</tr>
</tbody>
</table>
GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

W. MANIFEST: Manifest Information
Hazardous waste manifest information.

<table>
<thead>
<tr>
<th>Date of Government Version</th>
<th>Source: Department of Natural Resources</th>
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<tbody>
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<tr>
<td>Date Data Arrived at EDR</td>
<td>Telephone: N/A</td>
</tr>
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<td></td>
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<tr>
<td>Date Made Active in Reports</td>
<td>Last EDR Contact: 03/13/2015</td>
</tr>
<tr>
<td>04/07/2015</td>
<td>Next Scheduled EDR Contact: 06/29/2015</td>
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<tr>
<td>Number of Days to Update</td>
<td>Data Release Frequency: Annually</td>
</tr>
<tr>
<td>19</td>
<td></td>
</tr>
</tbody>
</table>

OGVs Pipelines: This data was obtained by EDR from the USGS in 1994. It is referred to by USGS as GeoData Digital Line Graphs from 1:100,000-Scale Maps. It was extracted from the transportation category including some oil, but primarily gas pipelines.

Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycare, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:
Source: American Hospital Association, Inc.
Telephone: 312-260-5591
The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing
Source: Centers for Medicare & Medicaid Services
Telephone: 410-786-3000
A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes
Source: National Institutes of Health
Telephone: 301-594-6348
Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on private school locations in the United States.

Daycare Centers: Child Day Care List
Source: Department of Social Services
Telephone: 800-888-7345

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 2003 & 2011 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetlands Inventory
Source: Department of Natural Resources
Telephone: 803-734-8494

Scanned Digital USGS 7.5 Topographic Map (DRG)
Source: United States Geologic Survey
A digital raster graphic (DRG) is a scanned image of a U.S. Geological Survey topographic map. The map images are made by scanning published paper maps on high-resolution scanners. The raster image is georeferenced and fit to the Universal Transverse Mercator (UTM) projection.
GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

STREET AND ADDRESS INFORMATION

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GEOCHECK® - PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

BEAUFORT COUNTY AIRPORT - 35 ACRES
1-30 AIRPORT CIR
LADYS ISLAND, SC 29907

TARGET PROPERTY COORDINATES

Latitude (North): 32° 41' 15" - 32° 24' 41.40"
Longitude (West): 80° 63' 49" - 80° 38' 5.64"
Universal Transverse Mercator: Zone 17
UTM X (Meters): 554331.8
UTM Y (Meters): 3586018.5
Elevation: 8 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map: 32080-D6 BEAUFORT, SC
Most Recent Revision: 1998
East Map: 32080-D5 FROGMORE, SC
Most Recent Revision: 1998

EDR’s GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principal investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.
GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION
Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

TOPOGRAPHIC INFORMATION
Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY
General Topographic Gradient: General North

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES

Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.
### GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

#### HYDROLOGIC INFORMATION
Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

**FEMA FLOOD ZONE**
- **Target Property County**: BEAUFORT, SC
- **Flood Plain Panel at Target Property**: YES - refer to the Overview Map and Detail Map
- **Additional Panels in search area**: Not Reported

**NATIONAL WETLAND INVENTORY**
- **NWI Quad at Target Property**: BEAUFORT
- **Data Coverage**: YES - refer to the Overview Map and Detail Map

#### HYDROGEOLOGIC INFORMATION
Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

#### AQUIFLOW®
**Search Radius**: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

<table>
<thead>
<tr>
<th>MAP ID</th>
<th>LOCATION</th>
<th>GENERAL DIRECTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not Reported</td>
<td>FROM TP</td>
<td>GROUNDWATER FLOW</td>
</tr>
</tbody>
</table>
GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW VELOCITY INFORMATION
Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravely types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY
Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

<table>
<thead>
<tr>
<th>ROCK STRATIGRAPHIC UNIT</th>
<th>GEOLOGIC AGE IDENTIFICATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Era:</td>
<td>Cenozoic</td>
</tr>
<tr>
<td>System:</td>
<td>Quaternary</td>
</tr>
<tr>
<td>Series:</td>
<td>Pleistocene</td>
</tr>
<tr>
<td>Code:</td>
<td>Qp</td>
</tr>
</tbody>
</table>

## DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture’s (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. The following information is based on Soil Conservation Service SSURGO data.

### Soil Map ID: 1

**Soil Component Name:** YEMASSEE  
**Soil Surface Texture:** loamy fine sand  
**Hydrologic Group:** Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.  
**Soil Drainage Class:** Somewhat poorly drained  
**Hydric Status:** Partially hydric  
**Corrosion Potential - Uncoated Steel:** High  
**Depth to Bedrock Min.:** > 0 inches  
**Depth to Watertable Min.:** > 38 inches

<table>
<thead>
<tr>
<th>Layer</th>
<th>Upper</th>
<th>Lower</th>
<th>Soil Texture Class</th>
<th>AASHTO Group</th>
<th>Unified Soil</th>
<th>Saturated hydraulic conductivity micro m/sec</th>
<th>Soil Reaction (pH)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0 inches</td>
<td>14 inches</td>
<td>loamy fine sand</td>
<td>Not reported</td>
<td>Not reported</td>
<td>Max: 141 Min: 42</td>
<td>Max: 6 Min: 3.6</td>
</tr>
<tr>
<td>2</td>
<td>14 inches</td>
<td>45 inches</td>
<td>sandy clay loam</td>
<td>Not reported</td>
<td>Not reported</td>
<td>Max: 14 Min: 4</td>
<td>Max: 5.5 Min: 3.6</td>
</tr>
<tr>
<td>3</td>
<td>48 inches</td>
<td>84 inches</td>
<td>sandy clay loam</td>
<td>Not reported</td>
<td>Not reported</td>
<td>Max: 14 Min: 4</td>
<td>Max: 5.5 Min: 3.6</td>
</tr>
</tbody>
</table>

### Soil Map ID: 2

**Soil Component Name:** BLADEN  
**Soil Surface Texture:** fine sandy loam  
**Hydrologic Group:** Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.  
**Soil Drainage Class:** Poorly drained
### GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

**Hydric Status:** All hydric

**Corrosion Potential - Uncoated Steel:** High

**Depth to Bedrock Min:** &gt; 0 inches

**Depth to Watertable Min:** &gt; 15 inches

<table>
<thead>
<tr>
<th>Layer</th>
<th>Boundary</th>
<th>Soil Texture Class</th>
<th>Classification</th>
<th>AASHTO Group</th>
<th>Unified Soil</th>
<th>Saturated hydraulic conductivity micro m/sec</th>
<th>Soil Reaction (pH)</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>0 inches</td>
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<td>Not reported</td>
<td>Max: 14 Min: 4</td>
<td>Max: 5.5 Min: 3.6</td>
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<tr>
<td>2</td>
<td>7 inches</td>
<td>48 inches</td>
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<td>Not reported</td>
<td>Max: 1.4 Min: 0.42</td>
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</tr>
</tbody>
</table>

**Soil Map ID:** 3

**Soil Component Name:** CAPERS

**Soil Surface Texture:** silty clay loam

**Hydrologic Group:** Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

**Soil Drainage Class:** Very poorly drained

**Hydric Status:** All hydric

**Corrosion Potential - Uncoated Steel:** High

**Depth to Bedrock Min:** &gt; 0 inches

**Depth to Watertable Min:** &gt; 15 inches

<table>
<thead>
<tr>
<th>Layer</th>
<th>Boundary</th>
<th>Soil Texture Class</th>
<th>Classification</th>
<th>AASHTO Group</th>
<th>Unified Soil</th>
<th>Saturated hydraulic conductivity micro m/sec</th>
<th>Soil Reaction (pH)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0 inches</td>
<td>22 inches</td>
<td>silty clay loam</td>
<td>Not reported</td>
<td>Not reported</td>
<td>Max: 14 Min: 4</td>
<td>Max: 7.8 Min: 6.6</td>
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<tr>
<td>2</td>
<td>22 inches</td>
<td>65 inches</td>
<td>clay</td>
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<td>Not reported</td>
<td>Max: 0.42 Min: 0.01</td>
<td>Max: 8.4 Min: 8.6</td>
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</table>
## GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

**Soil Map ID:** 4  
**Soil Component Name:** C GECEEHEE  
**Soil Surface Texture:** loamy fine sand  
**Hydrologic Group:** Class B/D - Drained/undrained hydrology class of soils that can be drained and are classified.  
**Soil Drainage Class:** Poorly drained  
**Hydric Status:** All hydric  
**Corrosion Potential - Uncoated Steel:** High  
**Depth to Bedrock Min:** > 0 inches  
**Depth to Watertable Min:** > 15 inches

<table>
<thead>
<tr>
<th>Layer</th>
<th>Boundary</th>
<th>Soil Texture Class</th>
<th>AASHTO Group</th>
<th>Unified Soil</th>
<th>Saturated hydraulic conductivity [micrometers/sec]</th>
<th>Soil Reaction [pH]</th>
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<tbody>
<tr>
<td>1</td>
<td>0 inches</td>
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<td>2</td>
<td>12 inches</td>
<td>sandy clay loam</td>
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<td>3</td>
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<td>Max: 6 Min: 4.5</td>
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**Soil Map ID:** 5  
**Soil Component Name:** BOHICKET  
**Soil Surface Texture:** silty clay loam  
**Hydrologic Group:** Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.  
**Soil Drainage Class:** Very poorly drained  
**Hydric Status:** All hydric  
**Corrosion Potential - Uncoated Steel:** High  
**Depth to Bedrock Min:** > 0 inches  
**Depth to Watertable Min:** > 0 inches
### GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

#### Soil Layer Information

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<thead>
<tr>
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<th>AASHTO Group</th>
<th>Unified Soil</th>
<th>Saturated Hydraulic Conductivity (micro m/sec)</th>
<th>Soil Reaction (pH)</th>
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<td>1</td>
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<td>9 inches</td>
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<td>9 inches</td>
<td>48 inches</td>
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<td>79 inches</td>
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#### Soil Map ID: 6

- **Soil Component Name:** COOSAW
- **Soil Surface Texture:** loamy fine sand
- **Hydrologic Group:** Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.
- **Soil Drainage Class:** Moderately well drained
- **Hydric Status:** Not hydric
- **Corrosion Potential - Uncoated Steel:** Moderate
- **Depth to Bedrock Min.:** > 0 inches
- **Depth to Watertable Min.:** > 76 inches
**GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY**

<table>
<thead>
<tr>
<th>Layer</th>
<th>Boundary</th>
<th>Soil Texture Class</th>
<th>AASHTO Group</th>
<th>Unified Soil</th>
<th>Saturated Hydraulic Conductivity (micro m/sec)</th>
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**LOCAL / REGIONAL WATER AGENCY RECORDS**

CDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact groundwater flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

**WELL SEARCH DISTANCE INFORMATION**

<table>
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<tr>
<th>DATABASE</th>
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<tr>
<td>Federal FRDS PWS</td>
<td>Nearest PWS within 1 mile</td>
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<tr>
<td>State Database</td>
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**FEDERAL USGS WELL INFORMATION**

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<tr>
<th>MAP ID</th>
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TC4291742s  Page A-10
## GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

### FEDERAL USGS WELL INFORMATION

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<td>USGS4000105117</td>
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### FEDERAL FROS PUBLIC WATER SUPPLY SYSTEM INFORMATION

- No PWS System Found

Note: PWS System location is not always the same as well location.

### STATE DATABASE WELL INFORMATION

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<td>A3</td>
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TC4261174.2s  Page A-13
## GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

### A3 West

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</table>

TC4281174.2s Page A-14
GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Aquifer type: Unconfined single aquifer
Construction date: Not Reported  Well depth: 45
Well depth units: ft  Wellhole depth: Not Reported
Well depth units: Not Reported

Ground-water levels, Number of Measurements: 0

A5
West 1/2 - 1 Mile Higher  SC WELS  SCWC30000001309

County: BFT-1781  Sample: 2881-d6
Lati: 3224144
Long: 8036146
Utm e: 533277
Utm n: 3595595
Topo: Beaufort
Elev: 13
Owner: James Coolie  Operator: Not Reported
Location: Oaks Plantation  Use: Unused
Depth: 0
Depth c: 45
Diam: 4
Diam 2: Not Reported  Ch casing: Not Reported
Screen: 0
Screen b: 0
Drill yr: 1985  Drill mo: 9
Yield: 0
Yield yr: Not Reported  Glogs: Not Reported
D logs: 0
P test: 0
Chem: Not Reported  Wa: Not Reported
Wf yr: Not Reported  Driller: Dickinson
Site Id: SCWC30000001309

B6
WINV 1/2 - 1 Mile Higher  FED USGS  USGS40001051243

Org. Id: USGS-SC
Formal name: USGS South Carolina Water Science Center
Monoclon Identifier: USGS-322453038364509
Monoclon name: BFT-466
Monoclon type: Well
Monoclon desc: Data from SCDNR 2004 RASA 2004 database
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Drainage area units: Not Reported  Contrib drain area: Not Reported
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Latitude: 32.41914
Long: 32
Source map scale: Not Reported
Horiz Acc measure: 1  Horiz Acc measure units: seconds
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Horiz coord refsys: NAD83  Vert measure val: 10
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Vertcoord refsys: NAD83  Country code: US
Aquifer name: Surficial aquifer system
Formation type: Sand Deposits

TC4281174.2s  Page A-15
### GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Aquifer type: Unconfined single aquifer
Construction date: Not Reported  
Well depth: 142
Well depth units: ft  
Well depth: Not Reported

Ground-water levels, Number of Measurements: 0

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TC4281174.2s  Page A-16
## GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

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TC4281174.2s Page A-17
### GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

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#### C11

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TC4231174.2s Page A-18
### GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

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#### D13

- **Org. Identifier:** USGS-SC
- **Formal name:** USGS South Carolina Water Science Center
- **Monoc. Identifier:** USGS-32240380372809
- **Monoc. name:** BFT-1528
- **Monoc. type:** Wall
- **Monoc. desc.:** Data from SCDNR 2004 RASA 2004 database
- **Huc code:** Not Reported
- **Drainage area:** Not Reported
- **Contrib. drainage area:** Not Reported
- **Longitude:** -80.6237177
- **Latitude:** 32.4010271
- **Horiz. Acc. measure:** 1
- **Horiz. Acc. measure units:** seconds
- **Horiz. Collection method:** Unknown
- **Horiz. coord refsys:** NAD83
- **Vert. measure units:** feet
- **Vert. measure val:** 9
- **Vert. acc. measure units:** feet
- **Vert. acc. measure val:** 0.1
- **Vert. collection method:** Unknown
- **Vert. coord refsys:** NAD83
- **Countrycode:** US8
- **Aquifer name:** Surface aquifer system
- **Formation type:** Sand Deposits
- **Aquifer type:** Unconfined aquifer
- **Construction date:** Not Reported
- **Well depth units:** ft
- **Well depth:** 63
- **Wellhead depth units:** Not Reported
- **Wellhead depth:** Not Reported
- **Groundwater levels, Number of Measurements:** 0

#### C14

- **Well name:** BFT-1745
- **Saprid:** 2611-618
- **Lat.:** 322452
- **Lon.:** 803906
- **Utm e.:** 532754
- **Utm n.:** 3585240
- **Tope:** Beaufort
- **Elev.:** 0
- **Owner:** Edward Marchetti
- **Owner well:** Not Reported
- **Location:** Not Reported
- **Use:** Abandoned
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- **Depth d:** 0
- **Depth c:** 4
- **Diam.2:** Not Reported
- **Oh cas.:** 46
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- **Screen b.:** 0
- **Drill yr.:** 1985
- **Drill m.:** 2
- **Yield:** 0
- **Yield yr.:** Not Reported
- **G logs.:** Not Reported
- **P logs.:** 0
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### GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

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### GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

#### AREA RADON INFORMATION

State Database: SC Radon

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Federal EPA Radon Zone for BEAUFORT County: 3
- Zone 1 indoor average level > 4 pCi/L
- Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L
- Zone 3 indoor average level < 2 pCi/L

Federal Area Radon Information for BEAUFORT COUNTY, SC
Number of sites tested: 24

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PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5 Digital Elevation Model (DEM)
Source: United States Geologic Survey
EDR acquired the USGS 7.5 Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

Scanned Digital USGS 7.5 Topographic Map (DRG)
Source: United States Geologic Survey
A digital raster graphic (DRG) is a scanned image of a U.S. Geological Survey topographic map. The map images are made by scanning published paper maps on high-resolution scanners. The raster image is georeferenced and fit to the Universal Transverse Mercator (UTM) projection.

HYDROLOGIC INFORMATION

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 2003 & 2011 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NMI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetlands Inventory
Source: Department of Natural Resources
Telephone: 803-734-9404

HYDROGEOLOGIC INFORMATION

AQUIFLOW® Information System
Source: EDR proprietary database of groundwater flow information
EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOCIC INFORMATION

Geologic Age and Rock Stratigraphic Unit

STATSGO: State Soil Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Services
The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (GSURGO) soil survey maps.

GSURGO: Soil Survey Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Services (NRCS)
Telephone: 800-872-5559
GSURGO is the most detailed level of mapping done by the Natural Resources Conservation Services, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizes duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.
PHYSICAL SETTING SOURCE RECORDS SEARCHED

LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

PWS: Public Water Systems
Source: EPA/Office of Drinking Water
Telephone: 202-584-3750
Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Enforcement Data
Source: EPA/Office of Drinking Water
Telephone: 202-584-3750

USGS Water Wells: USGS National Water Inventory System (NWIS)
This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

OTHER STATE DATABASE INFORMATION

RADON

State Database: SC Radon
Source: Department of Health & Environmental Control
Telephone: 803-241-1090
Radon Test Results by Zip Code

Area Radon Information
Source: USGS
Telephone: 703-356-4020
The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1980–1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones
Source: EPA
Telephone: 703-356-4020
Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

OTHER

Airport Landing Facilities: Private and public use landing facilities
Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

Earthquake Fault Lines: Fault lines displayed by EDR’s Topographic map are digitized Quaternary Faultlines, prepared in 1975 by the United State Geological Survey
## PHYSICAL SETTING SOURCE RECORDS SEARCHED

### STREET AND ADDRESS INFORMATION

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APPENDIX D - INTERVIEW DOCUMENTATION
## S&ME, INC.
**RECORD OF COMMUNICATION**

<table>
<thead>
<tr>
<th>DATE:</th>
<th>PHONE NO:</th>
<th>PROJECT #:</th>
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<tbody>
<tr>
<td>4-29-15</td>
<td>On-site visit</td>
<td>4216-15-068</td>
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</table>

<table>
<thead>
<tr>
<th>CALL TO:</th>
<th>CALL FROM:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Joel Phillips</td>
<td>C. Davies</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>FIRM:</th>
<th>FIRM:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Airport Manager – Beaufort County Airport</td>
<td>S&amp;ME, Inc.</td>
</tr>
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## Project #: 4216-15-068

### CONVERSATION

<table>
<thead>
<tr>
<th>S&amp;ME, Inc.</th>
<th>Other Party</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relation to subject site?</td>
<td>Manager of airport</td>
</tr>
<tr>
<td>Present use of the site?</td>
<td>Beaufort County Airport</td>
</tr>
<tr>
<td>Are you familiar of any previous land uses of the site, such as previous structures?</td>
<td>Airport since 1955. Airport reconfigured in 1980s to current layout</td>
</tr>
<tr>
<td>Are there any underground storage tank (USTs) or aboveground storage tanks (ASTs) on the site, or have there been any in the past?</td>
<td>Former USTs abandoned in 1990s near current location of jet fuel ASTs. Mr. Phillips showed S&amp;ME this area which is approximately 320 feet south of the Property.</td>
</tr>
<tr>
<td>Has the price of the site been discounted because of a real or threatened environmental contamination condition?</td>
<td>None to his knowledge</td>
</tr>
<tr>
<td>Do you know of any pending, threatened, or past litigation, administrative proceedings, or notices of violation from any governmental entity relevant to hazardous substances or petroleum products in, on, or from the site?</td>
<td>None to his knowledge</td>
</tr>
<tr>
<td>Do you know of any environmental concerns (Nearby landfills, hazardous waste generators, chemical spills either on-site or nearby?)</td>
<td>None to his knowledge</td>
</tr>
<tr>
<td>Are there any environmental liens or activity and land use restrictions for the site?</td>
<td>None to his knowledge</td>
</tr>
<tr>
<td>Do you know of any open dumping or on-site filling?</td>
<td>None to his knowledge</td>
</tr>
<tr>
<td>Are you aware if municipal sewer and water service is available to the site?</td>
<td>Municipal water and sewer to the airport terminals and hangars.</td>
</tr>
<tr>
<td>DATE:</td>
<td>PHONE NO:</td>
</tr>
<tr>
<td>--------------</td>
<td>-------------------</td>
</tr>
<tr>
<td>5-26-15</td>
<td>803-898-2544</td>
</tr>
</tbody>
</table>

**CALL TO:** Bridgette Hackler  
**FIRM:** SCDHEC UST Division  
**CALL FROM:** C. Davie  
**FIRM:** S&ME, Inc.

### CONVERSATION

<table>
<thead>
<tr>
<th>S&amp;ME, Inc.</th>
<th>Other Party</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current status of USTs at Beaufort County Airport?</td>
<td>On May 26, 2015, S&amp;ME interviewed Ms. Bridgette Hackler with the SCDHEC UST Division regarding the former USTs listed on the airport site. She stated three USTs (each 4,000-gallons) were abandoned in 1998 and the 1998 petroleum release was given NFA status in 2000. She referred S&amp;ME to the SCDHEC UST website for official documentation of the abandonments and NFA.</td>
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</table>
APPENDIX E – REGULATORY RECORDS DOCUMENTATION
## Site Information For N-17412 (LADYS ISLAND AIRPORT)

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<th>Field</th>
<th>Information</th>
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<tbody>
<tr>
<td><strong>Business Address</strong></td>
<td>39 AIRPORT CIR BEAUFORT SC 29907</td>
</tr>
<tr>
<td><strong>County</strong></td>
<td>BEAUFORT</td>
</tr>
<tr>
<td><strong>Phone</strong></td>
<td>803-848-3910</td>
</tr>
<tr>
<td><strong>Category</strong></td>
<td>County Government</td>
</tr>
<tr>
<td><strong>Last Inspection</strong></td>
<td>1/21/1998</td>
</tr>
<tr>
<td><strong>Tank Owner Business Address</strong></td>
<td>BEAUFORT COUNTY 100 RIBAUT RD BEAUFORT SC 29902</td>
</tr>
<tr>
<td><strong>Tank Owner Phone</strong></td>
<td>843-470-2647</td>
</tr>
<tr>
<td><strong>Land Owner Business Address</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Land Owner Phone</strong></td>
<td></td>
</tr>
</tbody>
</table>

http://www.scdhec.gov/Apps/Environment/USTRegistry/Registry/Details/17412  
6/14/2015
# BEAUFORT COUNTY AIRPORT
## Phase I Projects Environmental Assessment

### DHEC - UST Registry Details

<table>
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<tr>
<th>Operator Phone</th>
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<tbody>
<tr>
<td>Tanks</td>
</tr>
<tr>
<td>3</td>
</tr>
<tr>
<td>Billable</td>
</tr>
<tr>
<td>0</td>
</tr>
<tr>
<td>Abandoned</td>
</tr>
<tr>
<td>3</td>
</tr>
<tr>
<td>Other</td>
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<tr>
<td>0</td>
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<table>
<thead>
<tr>
<th>Financial Responsibility</th>
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<tbody>
<tr>
<td>Show/hide financials</td>
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<table>
<thead>
<tr>
<th>Financial Mechanism</th>
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<tbody>
<tr>
<td>LG Self Insurance</td>
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<table>
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<tr>
<th>Expiration Date</th>
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<tbody>
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<td>6/30/1998</td>
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<table>
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<th>Tanks</th>
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<tr>
<td>Show/hide tanks</td>
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<table>
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<table>
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<table>
<thead>
<tr>
<th>Class</th>
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<table>
<thead>
<tr>
<th>Tank Const.</th>
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<tbody>
<tr>
<td>Steel</td>
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<table>
<thead>
<tr>
<th>Pipe Const.</th>
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</thead>
<tbody>
<tr>
<td>Steel</td>
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<table>
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<tr>
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<tbody>
<tr>
<td>2/25/1998</td>
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http://www.scdhec.gov/Apps/Environment/USTRegistry/Registry/Details/17412  
6/14/2015
<table>
<thead>
<tr>
<th>Status</th>
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<tbody>
<tr>
<td></td>
<td>Tank Protect.</td>
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<tr>
<td>Tested</td>
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</tr>
<tr>
<td>Pipe Protect.</td>
<td></td>
</tr>
<tr>
<td>Tested</td>
<td></td>
</tr>
<tr>
<td>Notify</td>
<td>2/29/1996</td>
</tr>
<tr>
<td>Capacity</td>
<td>4000</td>
</tr>
<tr>
<td></td>
<td>Tank Cont. Meth.</td>
</tr>
<tr>
<td>Single wall</td>
<td></td>
</tr>
<tr>
<td>Pipe Cont. Meth.</td>
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</tr>
<tr>
<td>Single wall</td>
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<tr>
<td>Variance</td>
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<tr>
<td>Product</td>
<td>Aviation fuel</td>
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<tr>
<td>Overfill type</td>
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<tr>
<td>Verified</td>
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<tr>
<td>Piping type</td>
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</tr>
<tr>
<td>Suction</td>
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</tr>
<tr>
<td>Compliance</td>
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<td>Comp. Status</td>
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<td>Age at Notification</td>
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<td>Dist. to Well (feet)</td>
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http://www.scdhec.gov/Apps/Environment/USTRegistry/Registry/Details/17412  6/14/2015
<table>
<thead>
<tr>
<th>Spill Prevention</th>
</tr>
</thead>
<tbody>
<tr>
<td>Left Gal.</td>
</tr>
</tbody>
</table>

**Owner at ABD**

BEAUFORT COUNTY

**Last Use**

Aband.

12/16/1998

**Method**

Fill with inert material

**CAS No.**

Chem.

**Under Dispenser Cont.**

No

**Drop Tube**

No

**Tank Leak Det.**

- Tank Tightness Test
- Inv. Control w/Tank Tightness Testing

**Pipe Leak Det.**

- Line Tightness Test

<table>
<thead>
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**Constr. Date**

<table>
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<tbody>
<tr>
<td>N</td>
<td>Steel</td>
<td>Steel</td>
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http://www.scdhec.gov/Apps/Environment/USTRegistry/Registry/Details/17412  6/14/2015
<table>
<thead>
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<td>Tank Protect.</td>
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</tr>
<tr>
<td>Tested</td>
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<tr>
<td>Pipe Protect.</td>
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<td>Pipe Cont. Meth.</td>
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<td>Variance</td>
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<td>Product</td>
<td>Aviation fuel</td>
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<td>Dist. to Well (feet)</td>
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<tr>
<td>Spill Prevention</td>
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<tr>
<td>Left Gal.</td>
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<tr>
<td>Owner at ABD</td>
<td>BEAUFORT COUNTY</td>
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<tr>
<td>Last Use</td>
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<tr>
<td>Method</td>
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<td>CAS No.</td>
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<tr>
<td>Chem.</td>
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<tr>
<td>Under Dispenser Cont.</td>
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</tr>
<tr>
<td>Drop Tube</td>
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</tr>
<tr>
<td><strong>Tank Leak Det.</strong></td>
<td></td>
</tr>
<tr>
<td>Inv. Control w/Tank Tightness Testing</td>
<td>Tank Tightness Test</td>
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<tr>
<td><strong>Pipe Leak Det.</strong></td>
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<tr>
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http://www.scdhec.gov/Apps/Environment/USTRegistry/Registry/Details/17412

6/14/2015
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<th>Piping type</th>
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<tr>
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<table>
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<td>Dist. to Well (feet)</td>
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<tr>
<td>Spill Prevention</td>
<td></td>
</tr>
<tr>
<td>Left Gal.</td>
<td></td>
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<tr>
<td>Owner at ABD</td>
<td>BEAUFORT COUNTY</td>
</tr>
<tr>
<td>Last Use</td>
<td></td>
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<tr>
<td>Aband.</td>
<td>12/16/1998</td>
</tr>
<tr>
<td>Method</td>
<td>Fill with inert material</td>
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<td>CAS No.</td>
<td></td>
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<tr>
<td>Chem.</td>
<td></td>
</tr>
<tr>
<td>Under Dispenser Cont.</td>
<td>No</td>
</tr>
<tr>
<td>Drop Tube</td>
<td>No</td>
</tr>
<tr>
<td>Tank Leak Det.</td>
<td></td>
</tr>
<tr>
<td>Tank Tightness Test</td>
<td></td>
</tr>
<tr>
<td>Inv. Control w/Tank Tightness Testing</td>
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<tr>
<td>Pipe Leak Det.</td>
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<tr>
<td>Line Tightness Test</td>
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**Releases**

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<tbody>
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Reported

http://www.scdhec.gov/Apps/Environment/USTRegistry/Registry/Details/17412  
6/14/2015
DHEC - UST Registry Details

<table>
<thead>
<tr>
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<th>Active?</th>
<th>Product</th>
<th>Compliance Req?</th>
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<th>Compliance Met</th>
<th>Confirmed</th>
<th>Emergency Resp.</th>
<th>Superb Qualified</th>
<th>Compliance Date</th>
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<th>Abatement Met</th>
<th>Superb Determ. Date</th>
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<tr>
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<td>5/17/2000</td>
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</tbody>
</table>
### Cleanup Complete
5/17/2000

### Transferred

#### Project Manager
WILSON, RODNEY L

### Cleanup > MCL

#### Source
UST

#### Responsible Party
BEAUFORT COUNTY
APPENDIX F – VAPOR ENCROACHMENT SCREENING REPORT
ASTM E 2600-10
TIER 1 VAPOR ENCROACHMENT SCREENING

GENERAL

Site Name: Beaufort County Airport Site
Project Number: 4261-15-068
Environmental Professional: Chris Daves

PURPOSE

The purpose of this Tier 1 Vapor Encroachment Screening (VES) is to identify, to the extent feasible pursuant to the procedures presented in the ASTM E 2600-10 standard guide, if a Vapor Encroachment Condition (VEC) exists at the subject Property.

SITE EVALUATION

Property Description:
The subject Property is an approximate 34-acre tract consisting of the runway/taxiway of the Beaufort County Airport as well as adjacent open land and marsh.

Specialized/Commonly Known Information from the User:
The user did not provide specialized or commonly known information concerning the subject Property. The Client provided boundaries of the subject Property.

Physical Setting of the Subject Property:
According to The Geology of the Carolinas, (Horton, Jr. J. Wright and Zullo A. Victor, University of Tennessee Press, 1991), the subject Property lies within the Coastal Plain Physiographic Province. The Coastal Plain consists of unconsolidated sands, silts, and clays of the Pleistocene epoch. During this time, the ocean retreated over the land and left formations and terraces indicating former shorelines. The parent material of most of the soils is marine or fluvial deposits. The sedimentary beds of the Coastal Plain overlap each other in the sequence they were lain down and slope gently to the coast.

In the Coastal Plain, the soils typically have moderate to rapid permeability; thus readily transmitting groundwater. The movement of groundwater through the sands and clays is strongly influenced by topography which generally controls the location of recharge and discharge zones. Groundwater within the Coastal Plain generally moves from topographically high areas (recharge zones) to topographically low areas within and along stream valleys (discharge areas).
ASTM E 2600-10 Vapor Enroachment Screening  
Beaufort County Airport Site  

<table>
<thead>
<tr>
<th>Soil Series</th>
<th>Slope</th>
<th>Drainage</th>
<th>Permeability</th>
<th>Depth to SHWT</th>
<th>Location</th>
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</thead>
<tbody>
<tr>
<td>Bohicket Association (BR)</td>
<td>Level</td>
<td>Very Poor</td>
<td>Very Slow</td>
<td>0 to +3 ft.</td>
<td>Broad, tidal flats</td>
</tr>
<tr>
<td>Bladen Fine Sandy Loam (BD)</td>
<td>Level</td>
<td>Poor</td>
<td>Slow</td>
<td>0.1 ft.</td>
<td>Broad, low areas</td>
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<tr>
<td>Capers Association (CE)</td>
<td>Level</td>
<td>Very Poor</td>
<td>Slow</td>
<td>1 to +1 ft.</td>
<td>Tidal flats</td>
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<tr>
<td>Tomolsey Loamy Fine Sand (To)</td>
<td>Level</td>
<td>Poor</td>
<td>Moderately Slow</td>
<td>0.1 ft.</td>
<td>Low flats and slight depressions</td>
</tr>
<tr>
<td>Yemassee Loamy Fine Sand (Ye)</td>
<td>Level</td>
<td>Somewhat Poor</td>
<td>Moderate</td>
<td>1-1.5 ft.</td>
<td>Low ridges of lower marine terraces</td>
</tr>
</tbody>
</table>

**Current Use of Surrounding Properties:**

**North:** Marsh and open land.  
**South:** Open land, forestland, airport terminal/hangars/apron, 6 L’s Packing Company (abandoned), Lady’s Island Fire Department (abandoned).  
**East:** Marsh and open land.  
**West:** Marsh, open land, U.S. Highway 21.

**Planned Use of the Subject Property:**  
The planned use of the subject Property is for airport expansion and safety purposes.

**Area of Concern (AOC):**  
The following three criteria were used: the type of contaminant released (petroleum product vs. non-petroleum product), distance between the release site and the subject Property, and the potential for presence of preferential pathways between the subject Property and the release site.

For purposes of this assessment, S&ME used the following screening distances:

<table>
<thead>
<tr>
<th>Chemical Contaminant</th>
<th>Groundwater Flow Direction Not Known</th>
<th>Groundwater Flow Direction Known</th>
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<tr>
<td></td>
<td>Upgradient</td>
<td>Cross-Gradient</td>
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<tr>
<td>Non-Petroleum Product</td>
<td>1,760’</td>
<td>365’</td>
</tr>
<tr>
<td>Petroleum Product NAPL</td>
<td>528’</td>
<td>165’</td>
</tr>
<tr>
<td>Petroleum Product Dissolved</td>
<td>528’</td>
<td>95’</td>
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</table>

These values were derived from a review of vapor migration data reviewed by others and presented in a May 2009 article written by A. J. Buonicore, entitled “A Smaller Intrusion” appearing in the publication Pollution Engineering.
Based on the USGS topographic map, potentially up-gradient areas are south of the subject Property.

**Sites With Government/Historical Records On or Near the Subject Property:**
The following sites were identified within the EDR Radius Map report or were revealed during the Phase I ESA:

**Up-gradient** – None

**Cross-Gradient**

<table>
<thead>
<tr>
<th>Facility</th>
<th>Direction/ Distance Topographic Relationship</th>
<th>Record</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lady’s Island Airport</td>
<td>320 ft. S Cross-gradient</td>
<td>UST, LUST*</td>
</tr>
</tbody>
</table>

*NFA granted in 2000.

**Down-gradient** – None

<table>
<thead>
<tr>
<th>Facility</th>
<th>Direction/ Distance Topographic Relationship</th>
<th>Record</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lady’s Island Middle School</td>
<td>1,300 ft. NW Down-gradient</td>
<td>UST, LUST</td>
</tr>
<tr>
<td>Former Ann’s Grocery</td>
<td>2,650 ft. NW Down-gradient</td>
<td>UST, LUST, GWCI</td>
</tr>
</tbody>
</table>

**Potential Natural or Man-made Preferential Pathways:**
None were observed.

**FINDINGS:**
A vapor encroachment condition in connection with the following facility *can be ruled out* based on current regulatory status, distance from the subject Property, and topographic relationship.

**SIGNATURE OF ENVIRONMENTAL PROFESSIONAL**

\[\text{Chris Davis} \quad \text{Name} \quad 6-11-15 \quad \text{Date}\]

**DEVIATIONS**
The environmental professional responsible for this vapor encroachment screening did not find it necessary to delete or deviate from the procedures specified in the E 2600-10 standard guide.
ASTM E 2600-10 Definitions:

Approximate Minimum Search Distance - to be applied in searching government databases based on the type chemical (petroleum versus non-petroleum) and the location of the known or suspected contaminant source as measured from the nearest target property boundary. Also, defined as the area of concern.

Area of Concern (AOC) - defined in subsections 8.2.1, 8.3.1 and 8.3.2 as one-third mile for non-petroleum contaminants or LNAPL or one-tenth mile for dissolved petroleum hydrocarbons unless a shorter distance can be used as provided in subsection 8.5.2 is appropriate. Also, the minimum search distance.

Chemicals of Concern (COC) - chemical that is present in the subsurface environment and can potentially migrate as a vapor into the sub-surface of the target property (see Appendix X6 of E 2600-10).

Critical Distance – the linear distance in any direction between the nearest edge of the contaminant plume and the nearest target property boundary, and is equal to 100 ft for COC or LNAPL, and 30 ft for dissolved petroleum hydrocarbons.

Environmental Professional (EP) – a person meeting the education, training and experience requirements as set forth in 40 CFR 312.10(b).

Vapor Encroachment Condition (VEC) – the presence or likely presence of COC vapors in the subsurface of the target property caused by a release of vapors from contaminated soil or groundwater or both either on or near the target property as identified by Tier 1 (E 2600-10, Section 8) or Tier 2 (E 2600-10, Section 9) procedures.

References:

APPENDIX D

HISTORIC, ARCHITECTURAL, ARCHAEOLOGICAL, AND CULTURAL RESOURCE
HISTORIC, ARCHITECTURAL, ARCHAEOLOGICAL, AND CULTURAL RESOURCES
PAGE INTENTIONALLY LEFT BLANK
August 5, 2015

Ms. Lisa W. Favors
Environmental Program Manager
Federal Aviation Administration
Atlanta Airports District Office
1701 Columbia Ave., Campus Bldg.
Atlanta, GA 30337-2747

Re: Beaufort County Airport Improvements
Beaufort County, South Carolina
SHPO Project No. 15JS0238

Dear Ms. Favors:

Thank you for your July 17, 2015 letter, which we received on July 27, regarding the above referenced undertaking. The State Historic Preservation Office is providing comments to the FAA pursuant to Section 106 of the National Historic Preservation Act and its implementing regulations, 36 CFR 800. Consultation with the SHPO is not a substitute for consultation with Tribal Historic Preservation Offices, other Native American tribes, local governments, or the public.

Based on documentation provided to date, our office concurs with the assessment that no properties listed in or eligible for listing in the National Register of Historic Places will be affected by this project.

If archaeological materials are encountered during construction, the procedures codified at 36 CFR 800.13(b) will apply. Archaeological materials consist of any items, fifty years old or older, which were made or used by man. These items include, but are not limited to, stone projectile points (arrowheads), ceramic sherds, bricks, worked wood, bone and stone, metal and glass objects, and human skeletal materials. The federal agency or the applicant receiving federal assistance should contact our office immediately.

If you have any questions, please contact me at (803) 896-6129 or at sylvester@scdah.state.sc.us.

Sincerely,

[Signature]

John Sylvester
Project Review Coordinator
State Historic Preservation Office
SC Department of Archives and History

S. C. Department of Archives & History • 8301 Parklane Road • Columbia • South Carolina • 29223-5905 • (803) 896-6100 • http://scdah.sc.gov
July 17, 2015

Mr. John Sylvest
Project Review Coordinator
State Historic Preservation Office
8301 Parklane Road
Columbia, SC 29223-4905

SUBJECT: Beaufort County Airport Improvements
Draft Environmental Assessment
SHPO Project NO. 15JS0238

Dear Mr. Sylvest:

In accordance with the procedures contained in 36 CFR, Part 800 ("Procedures for the Protection of Historic and Cultural Properties"), the FAA has reviewed the above referenced project for possible impact to archaeological and historical sites of properties listed, or eligible for listing on The National Register of Historic Places. The authorities for these procedures are the National Historic Preservation Act of 1966 (public Law 89-665) as amended by P.L. 91-243, P.L. 93-54, P.L. 94-422, P.L. 94-458 and P.L. 96-515, and presidential Executive Order 11593 ("Protection and Enhancement of the Cultural Environment").

We have reviewed the results of a field survey of the above referenced project performed by Brockington and Associates, Inc. (June 2015). Sites discovered during the survey and listed in the report are not eligible for listing on The National Register of Historic Places and are not of national, state or local significance. It is the determination of the FAA, therefore, that this project will not have an effect to these resources and that the project can proceed with continued involvement with our agency.

If you have any questions concerning our comments, please do not hesitate to contact me at lisa.favors@faa.gov or (404) 305-6744. Your interest and cooperation in helping to protect South Carolina’s archaeological and historical resources are appreciated.

Sincerely,

Lisa W. Favors
Environmental Program Manager

cc: Ms. Judy Elder, Talbert, Bright & Ellington
June 30, 2015

Stacey Whitaere
Brockington and Associates, Inc.
3850 Holcomb Bridge Rd.
Building 100, Suite 105
Norcross, GA 30092

Re: Beaufort County Airport Improvements
Beaufort County, South Carolina
SHPO Project Number: 15JS0238

Dear Stacey Whitaere:

Thank you for your letter of June 15, 2015, which we received on June 18, regarding the above-referenced proposed undertaking. We also received the draft report entitled Phase I Cultural Resources Survey of 37.73 Acres of the Beaufort County Airport, Beaufort County, South Carolina (June 2015) as supporting documentation for this undertaking. The State Historic Preservation Office is providing comments to the Federal Aviation Administration (FAA) pursuant to Section 106 of the National Historic Preservation Act and its implementing regulations, 36 CFR 800. Consultation with the SHPO is not a substitution for consultation with Tribal Historic Preservation Offices, other Native American tribes, local governments, or the public.

Based on the submitted information, our office concurs that the revisited portion of 38BU150 in the Area of Potential Effect is not eligible for listing in the National Register of Historic Places. We also concur that no additional work is necessary.

Our comments are advisory only. The federal agency is responsible for providing our office of their determination of effect for the proposed undertaking.

If archaeological materials are encountered during construction, the procedures codified at 36 CFR 800.15(b) will apply. Archaeological materials consist of any items, fifty years old or older, which were made or used by man. These items include, but are not limited to, stone projectile points (arrowheads), ceramic sherds, bricks, worked wood, bone and stone, metal and glass objects, and human skeletal materials. The federal agency or the applicant receiving federal assistance should contact our office immediately.

Our office accepts the draft report as final. Please provide one (1) bound and one (1) unbound hard copy on acid-free paper and one (1) digital copy in PDF format. Investigators should send all copies directly to SHPO. SHPO will distribute the appropriate copies to SCIAA.

If you have any questions, please contact me at (803) 896-6129 or syvvest@scdah.state.sc.us; for archaeological questions contact Emily Dale at (803) 896-6181 or edale@scdah.state.sc.us.

S. C. Department of Archives & History • 8301 Parklane Road • Columbia • South Carolina • 29223-4005 • (803) 896-6100 • http://scdah.sc.gov
Sincerely,

John D. Sylvest
Project Review Coordinator
State Historic Preservation Office
SC Department of Archives & History

cc: Judy Elder, Talbert, Bright, & Ellington
May 15, 2015

Ms. Judith Elder-Lincke
Project Manager
Talbert & Bright, Inc.
2000 Park Street, Suite 101
Columbia, South Carolina 29201

Mr. Jon Rembold
Airports Director
Beaufort County Airport
39 Airport Circle
Beaufort, South Carolina 29907

RE: Beaufort County Airport, South Carolina
Runway Safety Areas for Runway 07/25, Parallel Taxiway,
Aircraft Parking Apron, and Fuel Farm Relocation
Environmental Assessment

Dear Ms. Elder-Lincke and Mr. Rembold:

Thank you for the opportunity to respond to your letter of April 24, 2015 concerning several areas located within the Beaufort County Airport, Beaufort, South Carolina. I have reviewed the Master Archaeological Location Maps, Project Tracking System Database, and the SC Bibliographic Database, and have found one known, recorded site which is directly in your area of interest. This site, 38BU150, was reported in December of 1978 by Dr. Larry Lepionka of USC-Beaufort. The project name on the site form is listed as Environmental Impact Study for Airport Expansion. However, we were never provided with a copy of a final report. 38BU150, as this early interpretation defines it, is a large site nearly a kilometer SSW by NNE by three fourths of a kilometer WNW by ESE. It is described as prehistoric shell middens, with possible mound sites on its eastern side. The site may have been interpreted as a possible village site.

On Friday May 8th, 2015 Site Files Office was visited by archaeologists from Brockington & Associates. At that time they conducted research on the Beaufort County Airport area. Not only did they make digital copies of the 38BU150 site file but they also gathered information on other sites in the overall vicinity. As per usual, rather than my duplicating their efforts, information on site 38BU150 and other research will be available through Brockington & Associates.

If I can provide additional information please feel free to contact me.

Sincerely,

Keith M. Derting
Archaeological Site File Manager
South Carolina Institute of Archaeology & Anthropology
University of South Carolina
1321 Pendleton Street
Columbia, South Carolina 29208

1321 Pendleton Street · Columbia, S.C. 29208-0071 · (803)777-8170 · FAX (803)254-1338
May 14, 2015

Ms. Judith Elder-Lincke
Project Manager
Talbert & Bright, Inc.
2000 Park Street, Suite 101
Columbia, SC 29201

Re: Beaufort County Airport Improvements
Beaufort County, South Carolina
SHPO Project No. 15JS0238

Dear Ms. Elder-Lincke:

Our office has received the scoping letter dated April 24, 2015 that you submitted as part of your agency’s National Environmental Policy Act (NEPA) process for the project referenced above. This letter is for preliminary, informational purposes only and does not constitute consultation or agency coordination with our office as defined in 36 CFR 800: “Protection of Historic Properties” or by any state regulatory process. If the Federal Aviation Administration (FAA) chooses to substitute the NEPA process for the process outlined in Section 106 of the National Historic Preservation Act, your agency must notify our office of the proposed substitution.

Our office maintains several resources for identifying historic properties. ArchSite is an online Geographic Information System (GIS) mapping program that includes all known historic and archaeological sites in South Carolina. Information on ArchSite can be found here: http://archsites.oursc.org/ArchSite. A list of properties listed in the National Register of Historic Places can be found here: http://www.nationalregister.sc.gov/archlinks.htm. Additional historic contexts, survey reports, and related historic property documents can be found here: http://shpo.sc.gov/research/Pages/conreps.aspx. These sources should assist your agency in identifying historic properties for NEPA scoping.

The State Historic Preservation Office will provide comments regarding historic and archaeological resources and effects to them once the federal or state agency initiates consultation. Project Review Forms and additional guidance regarding our office’s role in the compliance process and historic preservation can be found on our website at: http://shpo.sc.gov/programs/revcomp.

If you have any questions, please contact me at (803) 896-6129 or at sylvest@sodoh.state.sc.us.

Sincerely,

John Sylvest
Project Review Coordinator
State Historic Preservation Office
SC Department of Archives and History

S. C. Department of Archives & History • 8001 Parklane Road • Columbia • South Carolina • 29223-4906 • (803) 896-6100 • http://scah.sc.gov
Phase I Cultural Resources Survey of 37.73 Acres of the Beaufort County Airport

Beaufort County, South Carolina

June 2015
Phase I Cultural Resources Survey of 37.73 Acres of the Beaufort County Airport

Beaufort, South Carolina

Final Report

June 2015

Prepared for:
Talbert, Bright & Ellington

Prepared by:
Stacey Whitacre, MA, RPA
Archaeologist

and

Scott Butler, MA, RPA
Principal Investigator

Brockington and Associates, Inc.
Atlanta • Charleston • Elizabethtown
Jackson • Jacksonville • Pensacola • Savannah
Management Summary

Between May 4 and 8, 2015, Brockington and Associates, Inc. (Brockington) conducted a cultural resources survey of 37.73 acres of the Beaufort County Airport (ARW). This cultural resources survey was conducted on behalf of Talbert, Bright & Ellington for Beaufort County under purview of the Federal Aviation Administration (FAA) as part of the FAA’s National Environmental Policy Act (NEPA) process for the improvement of Beaufort County Airport.

Background research revealed that one previously recorded archaeological site (38BU150) was located within the project tract. 38BU150 is a large multicomponent site that consists of two shell middens, one former house location and nineteenth-century artifact scatter, and two artificial mounds of fill dirt (Leplinanka 1978). Additionally, three archaeological sites (38BU138; 38BU222; 38BU2257) were recorded within one mile of the project area. No historic resources were previously recorded within the project tract, but 13 were recorded within a one-mile radius. All of these resources were determined not eligible for inclusion in the NRHP.

Field investigations of the Beaufort County Airport project tract consisted of 15-meter (m) interval shovel testing within the boundaries of 38BU150 and 30-m interval shovel testing elsewhere within the project area. Archaeological fieldwork verified that much of the project area has been heavily disturbed by modern airport activities. Most of the project area is paved for airport use. Drainage ditches and buried electrical cables extend across much of the property as well. Soils encountered during shovel testing were heavily mottled. Plastic fragments, modern beer bottle glass, and chunks of asphalt were frequently observed in shovel tests.

Field investigations resulted in the location of a small multicomponent concentration of artifacts within the boundary of 38BU150. This concentration is located on a very slight rise south of the runway and east of the easternmost taxiway. The concentration is bounded to the west and north by drainage ditches. A total of four artifacts were recovered from three 15-m interval shovel tests. Collected artifacts include an unidentified large mammal bone, a check marked sherd, a colorless machine-made glass container handle, and an unidentified iron fragment.

Brockington did not revisit the entirety of 38BU150. Brockington personnel only investigated the portion of 38BU150 that coincides with the Beaufort County Airport project tract. However, during field investigations, archaeologists noted that no standing structures were present in the vicinity of the former house recorded by Leplinanka (1978). Additionally, the artificial mounds of fill dirt noted in 1978 have been moved. Airport staff state that this area was used for fill dirt storage for several years by the county (Joel Phillips, personal communication May 5, 2015). The recorded shell midden locations were not revisited as they were 125 to 250 m north of the current project tract.

The revised area of 38BU150 is highly disturbed by airport-related construction and use of the property. The majority of soils encountered were heavily mottled. Asphalt chunks, modern beer bottle, and unidentified plastic fragments were recovered from several shovel tests. The overall low density of artifacts and modern disturbance of the area suggests that the revised portion of 38BU150 has limited potential to further contribute to our understanding of the history of Beaufort County. Therefore, Brockington recommends that the revised portion of 38BU150 is not eligible for inclusion on the NRHP, and that no further cultural resources management consideration of the site within the Beaufort County Airport project tract is warranted.
Table of Contents

Management Summary .................................................................................. iii

List of Figures .............................................................................................. vii

List of Tables ............................................................................................... ix

1.0 Introduction ........................................................................................... 1
  1.1 Acknowledgements .............................................................................. 3

2.0 Environmental Setting ........................................................................... 5
  2.1 Paleoenvironment .............................................................................. 5
  2.2 Modern Environment ......................................................................... 6
    2.2.1 Climate ..................................................................................... 6
    2.2.2 Topography .............................................................................. 6
    2.2.3 Vegetation ............................................................................... 6
    2.2.4 Fauna ...................................................................................... 7
    2.2.5 Soils ....................................................................................... 7
  2.3 Current Land Use Patterns and Conditions ........................................... 7

3.0 Cultural Overview and Historic Context ................................................. 15
  3.1 The Pre-Contact Era .......................................................................... 15
    3.1.1 Lithic Stage – Paleoindian Period (~10,000 to 8000 BC) ............. 15
    3.1.2 Archaic Stage (8000 to 1500 BC) .............................................. 16
    3.1.3 Woodland Stage (1500 BC to AD 1000) .................................... 17
    3.1.4 Mississippian Stage (AD 1000 to 1550) .................................... 18
  3.2 Contact Era (1550 to 1716) ................................................................ 18
  3.3 Historic Era (1716 to 1950) ................................................................. 20
    3.3.1 Colonial South Carolina (1716 to 1783) .................................... 20
    3.3.2 Early Statehood and the Antebellum Period (1783 to 1861) ....... 22
    3.3.3 The Civil War (1861 to 1865) ................................................... 24
    3.3.4 Postbellum South Carolina (1865 to 1950) .............................. 26
  3.4 Modern Era (1950 to Present) ............................................................. 27

4.0 Methodology .......................................................................................... 31
  4.1 Project Objective ................................................................................ 31
  4.2 Archaeological Field Investigations .................................................... 31
  4.3 Laboratory Analysis and Curation ....................................................... 32
  4.4 Assessing NRHP Eligibility ............................................................... 35

5.0 Results .................................................................................................. 39
  5.1 Results of Background Research ......................................................... 39
    5.1.1 Previously Recorded Archaeological Sites ................................. 39
    5.1.2 Previously Recorded Historic Resources .................................... 41
  5.2 Results of Field Investigations ............................................................. 42
    5.2.1 38BU150 Revisited .................................................................. 42
  5.3 Results Summary ............................................................................... 46

Brockington and Associates
# Table of Contents (continued)

References Cited ........................................................................................................................................... 49

Appendix A - Artifact Catalog

Appendix B - 38BU150 Site Form Update
List of Figures

Figure 1.1 Project area location shown on the USGS Beaufort, SC 7.5 minute topographic quadrangle (USGS 1998) ................................................................. 2

Figure 2.1 Aerial image of the project area overlaid with a map of expected soils for this portion of Beaufort County, South Carolina (USDA 1980; ArcGIS Online 2013) ......................................................... 8

Figure 2.2 Soil profile of a shovel test excavated in the central eastern portion of the project tract. Heavily mottled and disturbed soils were encountered in this area. Plastic fragments and asphalt chunks were common finds in shovel tests across the airport property. .................. 10

Figure 2.3 Soil profile of a shovel test excavated in the western section of the project tract between the runway and taxiway. Dense clay soils were encountered in this area as well as in the marsh areas to the east and west of the runway. ................................................................. 11

Figure 2.4 View of the taxiway from the central segment of the rectangular portion of the project tract, facing southwest. ................................................................. 12

Figure 2.5 View of the marsh on the southeast of the east end of the runway. ... 12

Figure 2.6 View of artificial mound in bump out area of the rectangular portion of the Beaufort County Airport project tract. According to the Airport Manager, (Joel Phillips, personal communication May 5, 2015) this mound is composed of dredged soil that was not compact enough for use as fill. ................................................................. 13

Figure 2.7 View of the asphalt and gravel road along the northwest side of the separate triangular portion of the project tract, facing northeast. Asphalt and gravel continued for several meters into the grassy area. The tomato packing plant is visible to the left and the Mosquito Division hangar can be seen to the right................................................................. 13

Figure 2.8 View of the septic tank field in the separate triangular portion of the project tract, facing east northeast. The Mosquito Division hangar can be seen in the background... 14

Figure 3.1 British Colonies in North America, 1775, Table of Exports from South Carolina: Rice, Indigo, Hemp, Indian Corn (The Thomas Jefferson Papers 1775) ................................................................. 21

Figure 3.2 The project tract shown on the 1825 Beaufort District, SC map (Vignoles and Ravenel 1825). The town of Beaufort can be seen to the northeast across the Port Royal River ................................................................. 23

Figure 3.3 The project tract shown as part of the Eustis Plantation on the undated map of Township One South and One West of St. Helena, Meridian, S.C. (Davis n.d.). Courtesy of the Beaufort District Collection at the Beaufort County Library ................................................................. 25

Figure 3.4 The Beaufort County Airport project tract shown on the 1944 United States Army Corps of Engineers Fort Fremont, SC 15 minute topographic quadrangle (USACE 1944). The structures visible within the project tract are no longer standing. ................................................................. 28

Brockington and Associates
List of Figures (continued)

Figure 3.5 Blue Star Memorial Highway public marker located in front of the fire station east of US 21 and west of the Beaufort County Airport project tract. .................................................. 29

Figure 3.6 1994 Aerial photograph of the Beaufort County Airport (Google Earth 1994). .......... 30

Figure 4.1 Map showing coverage of 15- and 30-m interval shoveling (ArcGIS Online 2013). ................................................................. 33

Figure 4.2 Archaeologist John O’Donnell excavating a shovel test near the east end of the runway. Soil from shovel tests was screened through one-quarter-inch mesh hardware cloth...................................................... 34

Figure 4.3 Buried cables associated with runway lighting are located adjacent to all paved runway, taxiway, and ramp areas. Archaeologists maintained a five-m buffer of these areas so as not to interfere with airport electrical systems. .......................................................... 34

Figure 5.1 Location of previously recorded archaeological sites and historic resources within one mile of the Beaufort County Airport project area (ArcGIS Online 2013). .................. 40

Figure 5.2 Aerial imagery of the project area, showing the entire boundary of 38BU150 and its previously recorded features. During field investigations, Brockington also located a small concentration of artifacts that was located within the boundary of 38BU150 (ArcGIS Online 2013). .................................................. 43

Figure 5.3 Map of the newly recorded artifact concentration at 38BU150 (ArcGIS Online 2013). .................................................................................. 44

Figure 5.4 View from the newly recorded artifact concentration at 38BU150, facing west northwest toward the easternmost intersection of the taxiway and runway. .................. 45

Figure 5.5 Artifacts recovered from the revisit of a small section of Site 38BU150 ......... 46
List of Tables

Table 2.1 USDA Soil Classifications recorded within the Beaufort County Airport Project Tract (USDA 1980).........................................................................................................................9

Table 5.1 Previously recorded archaeological sites within one mile of the Beaufort County Airport project area.................................................................................................................................39

Table 5.2 Previously recorded historic resources within one mile of the Beaufort County Airport project area.................................................................................................................................41
Appendix D

Historic, Architectural, Archaeological, and Cultural Resources

D-19
1.0 Introduction

Between May 4 and 8, 2015, Brockington conducted a Phase I cultural resources survey of 57.73 acres of ARW in Beaufort County, South Carolina. The project tract lies northeast of Sea Island Parkway (US 21) and north of Airport Circle (Figure 1.1). The area is bounded to the north and east by the Warsaw Flats marsh.

This cultural resources survey was conducted on behalf of Talbert, Bright & Ellington for Beaufort County under purview of the FAA. Beaufort County plans to make several improvements to the Airport to enhance the safety of this facility. Proposed plans include improvements to runway safety areas for Runway 07/25, a parallel taxiway, an aircraft parking apron, and fuel farm relocation. These activities will occur within the existing airport property (owned by Beaufort County).

Federal permits and funds support this development, which required the preparation of an environmental assessment (EA) for permit review by the FAA and the South Carolina State Historic Preservation Office(s) (SCSHPO). This cultural resources survey was conducted as part of the FAA’s NEPA process for the improvement of Beaufort County Airport.

All research, data analysis, and reporting associated with this project were informed by the standards and guidance set forth by the SCSHPO, and are consistent with the Secretary of the Interior’s Standards and Guidelines for Identification and Evaluation of Historic Properties. Assessments were conducted by Brockington personnel who meet or exceed the Secretary of Interior’s Professional Qualification Standards as per 36 CFR 61, for their position. Scott Butler, Archaeologist for Brockington, is a member of the Register of Professional Archaeologists (RPA) and oversaw all work conducted for Talbert, Bright & Ellington. Brockington’s Project Archaeologist was Stacey Whitacre, MA, RPA.

Whitacre and Butler are the primary authors of this volume. Niki Mills, RPA, GIS compiled all Geographic Information System (GIS) data and produced the maps and figures contained within this report. Alicia Sullivan provided editorial review and helped in the production of the report. Meagan Brady oversaw all artifact analysis and prepared the project files for curation. Special recognition to the field crew: John O’Donnell and Stacey Whitacre.

Field investigations of the Beaufort County Airport project tract consisted of 15-m interval shovel testing within previously recorded site boundaries and 30-m interval shovel testing elsewhere within the project area. Shovel tests were not excavated in areas paved over for airport use such as the runways, taxiways, and ramps. Similarly, shovel tests were not excavated in gravel roads or lots, areas with known buried electrical cables, drainage ditches, and modern septic tank fields. Shovel tests were augmented by intensive visual surface inspection of the entire project tract.

Data analysis and draft report writing began following the completion of the field investigations. This report discusses the findings introduced here in greater detail. Chapter 2 describes the environmental setting of the area. The cultural overview and historic context of the project area is discussed in Chapter 3. Chapter 4 presents the methods of investigation. Chapter 5 describes the results of the Phase I survey, and provides a project summary and management recommendations for these investigations. Appendix A is the Artifact Catalog. Appendix B contains the updated site form for Site 38BU150.

All field notes, artifacts, and other records resulting from this investigation are temporarily stored at the Brockington Lab in Norcross office. All records and artifacts, as well as copies of the final report, will be permanently curated at the South Carolina Institute of Archaeology and Anthropology (SCIAA) in Columbia, SC.
Figure 1.1 Project area location shown on the USGS Beaufort, SC 7.5 minute topographic quadrangle (USGS 1998).

Brockington and Associates
1.1 Acknowledgements

Brockington is grateful for the support of Judy Elder of Talbert, Bright & Ellington, who provided information and assistance at every stage of investigations. Thanks also to the Beaufort County Airport Staff, namely Joel Phillips, Airport Manager, and Joseph Vido, Sr., Airport Lineman, for their cooperation and assistance with safe access to the project tract and for their knowledge of the airport property. Additionally, much appreciation to Grace Cordial, Historical Resources Coordinator for the Beaufort District Collection, for her assistance with historic maps of the project area.
2.0 Environmental Setting

The Beaufort County Airport is located in the southern portion of Beaufort County, east of the Beaufort River on Lady’s (historically spelled Ladies) Island, one of the Sea Islands off the South Carolina coast. The airport is located in the southern portion of the island, north of Sea Island Parkway (US 21). The property is situated within the Lower Coastal Plain physiographic province. Nearby water sources include the Warsaw Flats to the northeast, Lucy Point Creek to the east, Factory Creek to the north, and Distant Island Creek to the west. These waterways are part of the Ashley-Cobhucke-Edisto drainage basin that drains into the Atlantic Ocean. The environmental setting of the project area is discussed in detail below, beginning with the paleoenvironment and ending with a discussion of the current setting that was encountered by Brockington personnel during field investigations.

2.1 Paleoenvironment

Hodler and Schretter (1986:16-17) indicate that this area was formed as part of the Barrier Island Sequence, a process whereby,

"the advance and retreat of former sea levels have left six shoreline deposit complexes parallel to the present coastline in a steplike progression of decreasing elevations. Slight to moderate dissection of these former levels has allowed marshes to exist in poorly drained low areas."

These Pleistocene depositional episodes formed as sea level fluctuated during periods of continental glaciation. They are considered to represent specific geologic terraces, based roughly on range of elevation above present mean sea level (amsl), e.g., Holocene deposits. In ascending order (from coastline inland) these complexes are Silver Bluff (5 to 15 ft amsl), Princess Anne (15 to 25 ft amsl), Pamlico (25 to 45 ft amsl), Pensholoway (75 to 100 ft amsl), and Wicomico (more than 100 ft amsl). Topographically, these former shorelines are represented by parallel sequences of ridges (former barrier islands), pine flatwoods (former sea marshes), and stream swamps (old tidal waterways) (Hodler and Schretter 1986:27). The project tract is located on Pamlico terrace.

These terraces represent the youngest geologic deposits of South Carolina’s coastal plain. These interbedded sands overlay sandy clay dating to the Miocene and Pliocene epochs (Herrick 1965). Formation of these deposits were primarily sedimentational, with erosion of crystalline rocks from the Piedmont province as the predominant source. Herrick (1965) suggests that pre-existing Coastal Plain sediments (Miocene, Pliocene, and early Pleistocene) may also have contributed to these deposits through erosion and redisposition.

Regional research in paleontology, historic biogeography, and coastal geomorphology allows a general reconstruction of the Holocene changes in the environment. Data from Florida, Georgia, South Carolina, North Carolina, and Virginia indicate that the Late Pleistocene was a time of transition from full glacial to Holocene environmental conditions (Gardner 1974; Watts 1980; Whitehead 1965, 1973). Upper Coastal Plain forests of the Late Pleistocene (as reflected in the Whites Pond record) were dominated by oak, hickory, beech, and ironwood (Watts 1980:192). This deciduous forest occurred in a cooler, moister climate than exists in the region today (Barry 1980; Braun 1950).

The general warming trend at the onset of the Holocene is reflected in sea level changes. Beginning approximately 17,000 years before present (BP), sea level began to rise from its Late Pleistocene low of approximately 300 ft below modern mean sea level (Colquhoun and Brooks 1986; Howard et al. 1980). By 7,000 years BP, sea level had risen dramatically to within 20 ft (6.5 m) of present levels. As drier and still warmer conditions became prevalent during the Early Holocene, pines and other species suited to more xeric conditions increased. The southern forest at 7,000 years BP was beginning to resemble that of modern times (Watts 1980:194). The Early Holocene was also a period of extinction for many of the large Pleistocene mammals.

During the last 10,000 years, a modern, somewhat xeric forest probably covered much of the southeastern United States (Kuchler 1964; Sheehan et al. 1985; Wharton 1986). As the climate continued to warm, increased moisture augmented the northward advance of the oak-hickory forest (Delcourt
1979; Sheehan et al. 1985). Palynological evidence suggests that spruce, pine, fir, and hemlock rapidly decreased in importance between 9000 and 4000 years before present (BP) (Sheehan et al. 1985). By the mid-Holocene, the oak-hickory forest was gradually being replaced by a pine dominated woodland (Wharton 1989:12).

On a regional level, vegetation and climate have remained effectively static since the Early Holocene. However, the local plant and faunal communities undoubtedly were affected by continued change in sea level (Brooks et al. 1989). Shellfish resources were of major importance to the prehistoric and historic inhabitants of the region, and the sea level changes starting after 2500 BC probably produced conditions conducive to island shellfish beds.

From 4000 years BP to the present, slight cooling and limited increases in precipitation may have been responsible for subtle changes in lowland vegetation. The oak-hickory forests appear to have decreased in area and density, and were slowly invaded or replaced by several conifer varieties. Early European explorers reported large pure stands of yellow (longleaf) pine in the Coastal Plain. In the twentieth century, these stands have been largely replaced by slash pines (Pinus elliottii), particularly in low-lying areas, where planted slash pine is said to dominate nearly 90 percent of the Pleistocene pine flatwoods (Wharton 1989:195).

2.2 Modern Environment

2.2.1 Climate

The climate of southern Beaufort County benefits from its coastal location. The climate is considered subtropical, with long hot summers followed by short mild winters. The abundant precipitation is well distributed throughout the year; average annual rainfall is 49 inches (USDA 1980). Beaufort County boasts a relatively long growing season, as reflected in its annual average of 249 frost free days (USDA 1980). Severe weather along the Sea Islands is generally the result of tropical storms and hurricanes. The tropical storm season extends from late summer to early fall, although storms have occurred in early summer and late fall.

2.2.2 Topography

The Sea Islands are separated from the mainland by numerous creeks, rivers, marshes, and ocean inlets. This area is characterized by relatively flat terrain. The elevation of the Beaufort County Airport is generally level. The average elevation of the Beaufort County Airport is 10 ft with the highest rise (17 ft) on the artificial mound of fill soil in the bump out portion of the project area located east of the aircraft apron area and north of three hangar buildings.

2.2.3 Vegetation

Prior to 10,000 years ago, vegetation in the project area consisted of a mixed forest of oak and hickory. However, the warming trend which began about 8,000 years ago resulted in the replacement of hardwoods with conifers (Hendryx et al. 1997:19). This warming trend also encouraged the formation of marshes and estuaries that presently characterize the region. Before the area was cleared for construction of the Beaufort County Airport, vegetation likely consisted of stands of pine and maritime oak (Mistovich and Clinton 1991:5). Such stands would have also included palmetto, slash pine, wax myrtle, and wild olive.

Current vegetation of the project area consists mainly of grass, which is mowed for the purposes of the airport. To the east, north, and west of the airport, large areas of marsh are present. In these areas, vegetation consists almost exclusively of marsh grasses including bulrush, cattails, and black rushes.

2.2.4 Fauna

Modern fauna of the Lower Coastal Plain are summarized by Wharton (1989), and include diverse species of mammals, birds, fish, reptiles, and amphibians. It is expected that a much wider variety of the extant fauna were available for exploitation during prehistoric and early historic habitation of this area. In addition to the more common species (e.g., whitetail deer, Virginia opossum, pine voles, field mice, short-tailed shrews, gray and fox squirrels, and raccoon), less common mammals include the cotton mouse, cottontail rabbit, and nine-banded armadillos (Laerm et al. 1981).

Birds of possible food value include dove, quail, turkey, goose, and a variety of ducks, wading, and shore birds. Nearby island marshes hold an exten-
sive supply of oysters and other shellfish, while the estuarine rivers and Port Royal Sound can yield a wide variety of marine fishes. Fish found in nearby creeks and rivers include bluegill, black crappie, largemouth bass, catfish, yellow sucker, gar, eel, and minnows. A wide variety of snakes including the king snake, rat snake, corn snake, southern hog-nose, coachwhip, pine snake, copperhead, pygmy rattlesnake, and diamondback rattlesnake are in evidence. Amphibians include the striped and central newt, and several varieties of frogs.

2.2.5 Soils
According to the USDA soil survey of Beaufort County (USDA 1989) the Beaufort County Airport lies in an area that dominantly consists of Wando-Seabrook-Seewee soils. These soils are located on the Pamlico terrace approximately 5 to 15 miles inland from the coast. The Wando-Seabrook-Seewee soil region includes smaller units that are surrounded by tidal streams and marshes on the Sea Islands and sandy throughout (USDA 1980).

The Beaufort County Airport project tract contains several soil types within the Wando-Seabrook-Seewee soil region. Figure 2.1 is a map of the project area overlain with a soil map. Table 2.1 details all soil types extant within project tract. These include Bladen fine sandy loam (8d), Capers association soils (C), Tomatley loamy fine sand (Tb), Willman loamy fine sand (Wh), and Yemassee loamy fine sand (Ye). These are nearly level soils formed in fluvial and marine sediments.

Soils encountered during fieldwork were considerably disturbed from modern airport construction and use of the area. Pieces of gravel and asphalt were regularly noted in shovel tests, as were modern beer bottle glass and plastic fragments. The majority of the soils encountered closely resembled those shown in Figure 2.2. These disturbed soils were mostly encountered in the central and eastern portion of the project tract and show substantial motting of soil color and texture. The average shovel test encountered mottled 10YR5/1 gray sandy loam, 10YR7/4 yellow sandy clay, 10YR7/1 light gray sandy clay, 7.5Y6/4 reddish brown sandy clay, and GLEY16/N gray sandy loam between the surface and 20 centimeters below the surface (cmbs) over sandy clay to clay soils of the same mottled colors between 20 and 30 cmbs.

Dense clay soils were observed in the western section of the project tract between the runway and taxiway (Figure 2.3). Such soils were also observed on either end of the runway in the marsh. In these locations, the average shovel test encountered GLEY15/N gray silty clay between the surface and 10 cmbs over GLEY15/N clay mottled with 10YR7/8 yellow clay and GLEY15/N very dark gray clay.

2.3 Current Land Use Patterns and Conditions
The Beaufort County Airport project tract is located on Lady's Island, approximately 2.5 miles southeast of the city of Beaufort, South Carolina. It is made up of 37.73 acres in a large, generally rectangular area related to the runway and a smaller triangular area north of Airport Circle.

The larger rectangular portion of the project tract includes the current runway, taxiways, and ramps. Figure 2.4 shows a view of the paved taxiway in the center of the project tract. This area is bounded to the southwest by US 21 and to the west, north, and east by tidal marsh (Figure 2.5). A small bump out of the rectangle extends south of the proposed taxiway and north of the three hangars east of the airport terminal. The east side of this bump out is dominated by an artificial mound (Figure 2.6) composed of dredged soil that was not compact enough for use as fill (Joel Phillips, personal communication May 5, 2015). This general location corresponds to the placement of the artificial mounds noted by Lepontka (1978) during his investigation of 38BU150. Airport Manager Joel Phillips stated that this location is part of an area, which continues out of the project tract to the southeast, where large piles of fill dirt were stored for several years (Joel Phillips personal communication May 5, 2015). Shovel tests excavated in the bump out area encountered extremely disturbed fill soil.

The smaller triangular portion of the project tract is bounded to the south by Airport Circle and to the northeast by the paved aircraft apron. It is located just east of the Six Os Packing Company, a tomato packing plant located at the corner of US 21 and Airport Circle, and directly west of the Beaufort County Mosquito Control Division hangar. This area has been heavily disturbed by modern use.
Table 2.1 USDA Soil Classifications recorded within the Beaufort County Airport Project Tract (USDA 1980).

<table>
<thead>
<tr>
<th>Map ID</th>
<th>Soil Type</th>
<th>Landform</th>
<th>Parent Material</th>
<th>Drainage Class</th>
<th>Soil Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ed</td>
<td>Bladen fine sandy loam</td>
<td>broad low areas, stream terraces</td>
<td>clayey fluviatile or marine sediments</td>
<td>poorly drained</td>
<td>A 0-7 in. black (10YR 2/1) fine sandy loam; E1 7-9 in. light brownish gray (2.5 Y 6/2) fine sandy loam; E2 9-14 in. greyish brown (2.5Y 5/2) fine sandy loam; Btg1 14-30 in. grey (N 5/0) clay; Btg2 30-41 in. grey (N 5/0) clay</td>
</tr>
<tr>
<td>Bl</td>
<td>Bohicket association</td>
<td>tidal flats; saltwater marshes</td>
<td>silty and clayey marine sediments</td>
<td>very poorly drained</td>
<td>Ap 0-10 in. dark gray (2.5Y 4/1) silty clay loam; Cg1 10-49 in. dark grey (2Y 4/1) silty clay</td>
</tr>
<tr>
<td>Ce</td>
<td>Capers association</td>
<td>tidal flats, marshes</td>
<td>silty and clayey marine sediments</td>
<td>very poorly drained</td>
<td>A 0-16 in. very dark greyish brown (2.5Y 3/2) silty clay; Cg1 16-48 in. black (N 2/2) clay</td>
</tr>
<tr>
<td>To</td>
<td>Tomato loamy fine sand</td>
<td>low flats, slight depressions</td>
<td>loamy marine and fluviatile sediments</td>
<td>poorly drained</td>
<td>Ap 0-7 in. dark greyish brown (10YR 4/2) fine sandy loam; Btg1 7-12 in. light grey (10YR 7/1) fine sandy loam; Btg2 12-42 in. light brownish grey (2.5Y 8/2) sandy clay loam</td>
</tr>
<tr>
<td>Wn</td>
<td>Willima loamy fine sand</td>
<td>flat areas, depressions, drainageways</td>
<td>loamy marine sediments</td>
<td>poorly drained</td>
<td>A 0-5 in. very dark grey (10YR 3/1) loamy fine sand; E1 5-16 in. dark greyish brown (10YR 4/2) loamy fine sand; E2 15-20 in. light brownish grey (10YR 6/2) loamy fine sand; Btg1 20-30 in. light brownish grey (10YR 6/2) fine sandy loam with strong brown (7.5YR 5/6) and light yellowish brown (2.5YR 6/4) mottles; Btg2 30-47 in. grey (10YR 8/1) sandy clay loam with strong brown (7.5YR 5/6) and brownish yellow (10YR 6/8) mottles</td>
</tr>
<tr>
<td>Ye</td>
<td>Yemassee loamy fine sand</td>
<td>terraces, broad flats, low ridges</td>
<td>marine sediments</td>
<td>somewhat poorly drained</td>
<td>A 0-7 in. black (10YR 2/1) loamy fine sand; E1 7-12 in. pale brown (10YR 5/3) loamy fine sand; Btg 12-20 in. pale brown (10YR 6/2) sandy clay loam; Btg 20-50 in. grey (10YR 6/2) sandy clay loam</td>
</tr>
</tbody>
</table>

entire northwest side of this area is paved or gravelled for use as an access road (Figure 2.7). A septic tank field is located in the southeast corner, and can be seen in Figure 2.8 as a slightly raised area that has been roped off.
Figure 2.2 Soil profile of a shovel test excavated in the central eastern portion of the project tract. Heavily mottled, and disturbed soils were encountered in this area. Plastic fragments and asphalt chunks were common finds in shovel tests across the airport property.
Figure 2.3 Soil profile of a shovel test excavated in the western section of the project tract between the runway and taxiway. Dense clay soils were encountered in this area as well as in the marsh areas to the east and west of the runway.
Figure 2.4 View of the taxiway from the central segment of the rectangular portion of the project tract, facing southwest.

Figure 2.5 View of the marsh on the southeast of the east end of the runway.
Figure 2.6 View of artificial mound in bumpout area of the rectangular portion of the Beaufort County Airport project tract. According to the Airport Manager, Joel Phillips, (personal communication May 8, 2015) this mound is composed of dredged soil that was not compact enough for use as fill.

Figure 2.7 View of the asphalt and gravel road along the northwest side of the separate triangular portion of the project tract, facing northwest. Asphalt and gravel continued for several meters into the grassy area. The tomato packing plant is visible to the left and the Mosquito Division hangar can be seen to the right.
Figure 2.8 View of the septic tank field in the separate triangular portion of the project tract, facing east northeast. The Mosquito Division Ranger Station is seen in the background.
3.0 Cultural Overview and Historic Context

Our cultural history is generally divided into three eras: Pre-Contact, Contact, and Historic. The Pre-Contact era refers to the Native American groups and cultures that were present for at least 10,000-12,000 years prior to the arrival of Europeans. The Contact era refers to the time of exploration and initial European settlement on the continent. The Historic era refers to the time after the establishment of European settlements, when Native American populations usually were in rapid decline. Within these eras, finer temporal and cultural subdivisions have been defined to permit discussions of particular events and the lifeways of the peoples who inhabited North America at that time.

3.1 The Pre-Contact Era

In South Carolina, the Pre-Contact era is divided into four stages (after Willey and Phillips 1958). These include the Lithic (Paleoindian), Archaic, Woodland, and Mississippian stages. Specific technologies and strategies for procuring resources define each of these stages, with approximate temporal limits also in place. Within each stage, with the exception of the Lithic Stage, or Paleoindian Period, there are temporal periods that are defined on technological bases as well. A brief description of each stage follows. Readers are directed to Goodyear and Hanson (1989) for more detailed discussions of particular aspects of these stages and periods in South Carolina.

3.1.1 Lithic Stage – Paleoindian Period (~10,000 to 8000 BC)

The actual dates applied to the Paleoindian period are currently being debated. The accepted theory about the peopling of North America places the influx of migrant bands of hunter-gatherers to approximately 12,000 years ago. This date corresponds with the exposure of a land bridge linking Siberia to the North American continent (Driver 1998; Jackson 1997). More recently, however, researchers have suggested that this migration occurred as much as 15,000 to 20,000 years ago and was led by seagoing travelers (see Green et al. 1998; Steele and Powell 1993, 1994). These theories are supported by such discoveries as Kennewick Man, a skeleton recovered in Washington, and the Gordon Creek Woman, who was recovered from a site in northern Colorado. The Kennewick Man skeleton has been determined to be more than 11,000 years old (Morell 1998; Preston 1997; Slayman 1997). The Gordon Creek Woman has been dated to 9700 years BC or nearly 11,700 years old (Swedlund and Anderson 1999). Other discoveries, such as the Monte Verde site in South America that has been dated to 12,500 years before present (BP) (Dillehay 1997; Meltzer et al. 1997), continue to fuel this controversy.

The Paleoindian developmental stage in the Southeast is characterized by isolated finds of fluted projectile points and associated hearths or ephemeral features. Very little substantial data concerning Paleoindian lifeways are known from the region. What is postulated tends to be adopted from the interpretations of more substantial remains from the Plains and western North America, since it is assumed that nomadic Pleistocene hunter-gatherers maintained a similar pattern of behavior regardless of the region.

Based on data from a number of sites excavated over most of North America, Paleoindian groups were generally nomadic, with subsistence focusing on the hunting of large mammals, specifically the now-extinct mammoth, horse, camel, and giant bison. Groups were probably small, kin-based bands of 50 or fewer persons. As the environment changed at the end of the Wisconsin glaciation, Paleoindian groups had to adapt to new forest conditions in the Southeast and throughout the continent.

The earliest presence of humans in the Coastal Plain of South Carolina apparently began about 12,000 years ago with the movement of hunter-gatherers into the region. Goodyear et al. (1989) review the evidence for the Paleoindian occupation of South Carolina. Based on the distribution of distinctive fluted spear points diagnostic to the period, they see the major source of highly-workable lithic raw materials as the principal determinant of Paleoindian site location, with a concentration of sites at the Fall Line possibly indicating a subsistence strategy of seasonal relocation between the Piedmont and Coastal Plain.
Paleindian points have been recovered in Beaufort County (Charles and Michie 1992; Michie 1977; Waring 1981), but no intact sites have been documented. Populations were probably centered on the coast and along major river drainages such as the Savannah and Santee. Although Palaeindian point has been recovered from the surface of nearby Spring Island, the area lacks the cryptocrystalline raw material favored by the Palaeindian knappers (Goodyear 1979).

### 3.1.2 Archaic Stage (8000 to 1500 BC)

The Archaic Stage was a long period of adaptation to modern forest conditions in eastern North America. Caldwell (1958) characterizes the period as movement toward Primary Forest Efficiency, meaning that during this period, human groups continually developed new and more effective subsistence strategies for exploiting the wild resources of the modern oak-hickory forest. Based on extensive work in the North Carolina Piedmont, Coe (1964) subdivides the Archaic stage into a number of sequential periods and phases recognizable by distinctive stone point/knife forms. This sequence has been confirmed over large parts of the Southeast and is applicable to most parts of South Carolina.

Archaic groups probably moved within a regular territory on a seasonal basis, exploitation of wild plant and animal resources was well planned and scheduled. Anderson and Hanson (1988) developed a settlement model for the Early Archaic period (8000 to 6000 BC) in South Carolina involving the movement of relatively small groups, or bands, on a seasonal basis within major river drainages. The Beaufort region is located within the range of the Savannah band. Anderson and Hanson (1988) hypothesize that Early Archaic use of the Lower Coastal Plain was limited to seasonal (springtime) foraging camps and logistical camps. Aggregation camps and winter base camps are suggested to have been near the Fall Line. Based on this model, the Sea Islands would have seen only limited use in the early spring (see also Anderson 1992).

While the general density of populations is thought to have increased during the Early Archaic period, there is evidence for the persistence of certain cultural traditions initiated during Palaeindian times. Specifically, the tendency toward the development of subregional technological traditions, and the attachment of groups to particular places in the landscape, are practices shared by Palaeindian and Early Archaic groups (Anderson 1990a; Bridgman Sweeney 2013; Sassaman 2010). Early Archaic sites in the Lower Coastal Plain are most typically corner- or side-notched projectile points, which have been determined to be Early Archaic through excavation of sites in other areas of the Southeast (Coe 1964; Claggett and Cable 1982). Early Archaic sites are generally small, indicating a high degree of mobility. Trinkley (1987:17) reports that “Archaic period assemblages are rare in the Sea Island region.”

A recent regional analysis of Early Archaic social group dynamics revealed evidence for interactions among macrong bands throughout the Coastal Plain (Bridgman Sweeney 2013). Social boundaries apparently were relatively permeable, such that large-scale social networks promoted the development of distinct subregional technological traditions (i.e., point “types” known as Taylor, Bullet, and Big Sandy) within the Early Side-Notched Horizon. Early Archaic groups in the Savannah and Ogeechee River drainages evidently interacted most frequently with their contemporaries to the northeast in the Santee-Cooper river drainages. According to this recent study, Early Archaic groups regularly practiced cross-drainage movement well beyond their basic economic needs, aggregating with neighboring groups at places such as the Ocmulgee River social boundary area in central Georgia (Bridgman Sweeney 2013).

Anderson and Hanson (1988) hypothesize that as population increased during the Middle Archaic (6000 to 2500 BC), band mobility decreased and territorially increased. Blanton and Sassaman (1989) reviewed the archaeological literature on the Middle Archaic period. They document an increased simplification of lithic technology during this period that included the increased use of expedient, situational tools. Furthermore, they argue that the use of local raw materials is characteristic of the Middle and Late Archaic period. Blanton and Sassaman (1989:668) conclude that:

"the data at hand suggest that Middle Archaic populations resorted to a pattern of adaptive flexibility"
as a response to “mid-Holocene environmental conditions” such as variable precipitation, sea level rise, and differential vegetational succession.”

These processes resulted in changes in the types of resources available from year to year.

During the Late Archaic period (2500 to 1500 BC), there is evidence of extensive trade networks covering large areas of North America, and the establishment of sedentary villages. Some of the best evidence of such sedentary villages comes occurs along the coast of South Carolina in the form of large oyster shell middens. These refuse heaps probably indicate substantial, relatively long-term habitations. The first evidence of the manufacture and use of ceramics also dates to the Late Archaic.

Middle and Late Archaic period sites are not common in Beaufort County. Numerous projectile points have been recovered from surface proveniences on Hilton Head and Spring Islands. Site 38BI115/258 on Parrot Island yielded a large variety of Middle and Late Archaic points from disturbed beach contexts.

3.1.3 Woodland Stage (1500 BC to AD 1000)

During the Woodland stage, sedentism increased, although scheduled exploitation of wild food resources in a seasonal round continued. The Woodland stage is significant for several technological and social developments: (1) the widespread manufacture and use of ceramics for cooking and storage, (2) the beginnings of agriculture, and (3) the construction of burial mounds and other earthworks.

Evidence of burial mounds and agriculture is not extensive at the few South Carolina Woodland sites investigated in detail (Brooks and Cannots 1984; Trinkley 1980, 1990). However, ceramics are widespread and have been recovered at numerous small sites throughout the state. The varied manufacturing procedures and decorative styles of these ceramics allow the differentiation of site collections into several periods as well as permit inferences of group movement and influence from adjacent geographic areas. Trinkley (1980) and Anderson et al. (1982) developed classificatory schemes for Woodland groups based on ceramics for a number of sites. Following Anderson et al. (1982), Poplin et al. (1993) developed a classificatory scheme for the central coast.

In the Beaufort area, the earliest pottery was the fiber tempered Stallings series, which was quickly joined by the sand tempered (or untempered) Thom’s Creek series. Following the Stallings and Thom’s Creek manifestations in the study region, Refuge and Deptford dominated the Early Woodland assemblage. The Refuge series is poorly understood; its sand tempered pottery (with incising, simple stamping, punctuating, or dentate stamping) has been recovered from few intensively studied sites (DeFratter 1979; Lepenka et al. 1983; Waring 1968; Waring and Holscher 1968). Excavations at the Minim Island site (Georgetown County, SC) suggest that both Thom’s Creek and Refuge pottery were being produced at 1400 BC (Espenshade and Brockington 1989), but the established regional chronology has Refuge following the Thom’s Creek manifestation. The Refuge phase is generally considered transitional to the succeeding Deptford lifeways. The Deptford assemblage is dominated by check-stamped decoration. The general lack of cord marked or fabric impressed decorations helps distinguish the Early Woodland Deptford.

By the Early Woodland period in South Carolina, sea levels had risen to within one meter of present levels, and the extensive estuaries now present were in place (Collquhoun et al. 1981). These estuaries were a reliable source of shellfish; the Early Woodland period saw the first emphasis on shellfish exploitation. The most conspicuous sites of this period are the shell rings, which are relatively frequent along the tidal marsh between southeastern Florida and the Georgetown area of South Carolina. These rings are usually round or oval and made of shell and other artifacts with a relatively sterile area in the center. Many of these rings are currently in tidal marsh waters, and they have been interpreted as habitation loci adjacent to or within productive shellfish beds. These sites attest to the high degree of sedentism during this period, at least on a seasonal basis. Both Thom’s Creek and Stallings shell rings have been documented on the South Carolina coast (Trinkley 1983, 1989, 1990).

Besides shell middens, other Early Woodland sites common along the South Carolina coast are ceramic and lithic scatters (Espenshade et al. 1993; Milanich 1971). Deptford components are the most common site elements recorded on nearby Hilton Head Island. Trinkley (1987:49) reports:
"Some Deptford sites, such as 38BU853 and 38BU856, represent large shell midden accumulations, although most sites are characterized by a thin zone primarily of oyster shell."

Shell midden sites continue to be common in the Middle and Late Woodland periods, although the overall site frequency appears to be lower than for the Early Woodland.

The typological manifestations of the Middle and Late Woodland periods (AD 200 to 1000) on the South Carolina coast are somewhat unclear. There is no single decorative mode that can be associated with this period, and recent research has only begun to sort out the confusion (Anderson et al. 1982; Blanton et al. 1986; DePratter 1979; Trinkley 1983). The check stamped tradition of the Early Woodland Deptford series continues through most of the Middle Woodland, and check stamping reappears late in the Late Woodland period. Cord marked and fabric impressed ceramics appear in the Middle and Late Woodland periods, generally on grog or clay tempered pastes.

The most common Middle and Late Woodland ceramic series in the region are Wilmington (coarse grog tempering with prevalent cord marking) and St. Catharines (smaller grog tempering with cord marking and net impressing); in general the Middle and Late Woodland periods are not well represented (Trinkley 1987). Excavations in the Hilton Head area (Eschenhake et al. 1993; Kennedy and Eschenhake 1993; Trinkley 1991) suggest that the Deptford technological tradition continued well into the Wilmington period. Deptford and Wilmington components are relatively common on Spring, Callawassie, Datas, and Hilton Head Islands.

3.1.4 Mississippian Stage (AD 1000 to 1550)
The final pre-contact stage in South Carolina, the Mississippian, begins about AD 1000 and ends with the arrival and colonization of the area by Europeans in the mid-1500s. During the Mississippian stage, agriculture became well established, and sedentary villages and towns became the dominant habitation type, although relatively isolated farmsteads were also common (Brooks and Gerow 1984).

Ferguson (1971) proposes a model of Mississippian settlement involving major political centers dominated and surrounded by smaller villages and farmsteads, major centers were spaced about 160 kilometers (km) apart; hypothesized centers in the project region were located in North Carolina at Town Creek, in South Carolina near Camden, Lake Marion, and Charleston, and in Georgia near Augusta and Savannah (Ferguson 1971). Anderson (1989) and DePratter (1989) identified large political centers on the Wateree River (near Camden), on the Oconee River (in central Georgia), and at Savannah. These centers usually contained one or more large mounds upon which temples were built. The Mississippian ceremonial center at the original Charles Towne settlement on Albemarle Point (3CH1) contained no mound structure.

The Mississippian period was marked in many parts of the Southeast by a heavy reliance on maize agriculture, by a highly stratified society (society appears to have been ranked, without economic classes), elaborate public architecture, and by the production of shell tempered pottery. None of these traits, however, were widespread on the South Carolina coast (Ferguson 1971, 1975). Instead, it appears that settlement and subsistence remained very similar to the Late Woodland pattern, although some platform mounds did appear in the area.

The ceramics of this period, in chronological order, included: Savannah Fine Cord Marked, Check Stamped, Complicated Stamped, and Burnished; Irene Complicated Stamped, Incised, and Burnished Plain; and Altamaha Red Filmed, Incised, and Line Block types (Anderson 1989, 1990; DePratter 1979; Howard et al. 1980). Savannah and Irene sites are known from Hilton Head (Trinkley 1987), Spring Island (Trinkley 1989), and Datas Island (Jones and Eschenhake 1993). Site 38BU924 on Parrish Island apparently yielded Mississippian pottery, and the Santa Elena excavations have recovered many Irene sherds.

3.2 Contact Era (1550 to 1716)
Spanish exploration of the South Carolina coast began as early as 1514 (Rowland 1978). A Spanish attempt to found a colony (San Miguel de Guadalupe) in the area in 1526 failed; its location has not been established (Hoffman 1983; Rowland 1978:25-57). Thirty-seven years later, the French built a fort (Charlesfort) near a harbor they named Port Royal.
BEAUFORT COUNTY AIRPORT
Phase I Projects Environmental Assessment

Appendix D

Historic, Architectural, Archaeological, and Cultural Resources

(DePrater and South 1990; Hoffman 1983); however, this attempt also failed. In 1566, the Spanish successfully established a town named Santa Elena on Parrish Island. Santa Elena was abandoned in 1587; however, the Spanish maintained their interest in the area through a series of missions along the coast.

The French and Spanish explorers and settlers in the sixteenth century reported that the Parrish Island area was not occupied by Native Americans, and that the closest large settlement was several leagues inland. Initial Spanish forays into the interior of the Southeast and the establishments of European settlements along the coast probably led to the disintegration and collapse of the aboriginal Mississippian social structures; disease, warfare, and European slave raids all contributed to the rapid decline of the regional Indian populations during the sixteenth century (Doobyn 1983; Ramenofsky 1988, Smith 1984). By the seventeenth century, coastal groups probably lived in small, politically and socially autonomous semi-sedentary groups (Wadell 1980).

The English King Charles II disregarded Spain's claim to the area and in 1622 granted Carolina to the Lords Proprietors. The next year, William Hilton was sent by a group of planters in Barbados to explore the acquisition. He navigated for over a month in the waters of Port Royal and St. Ellen, and reported a high potential for the location of a colony (Hilton 1664). Another Englishman, Robert Sandford, explored Port Royal Sound in 1666 and likewise described the region favorably (Salley 1911:100). By the time of the explorations of Hilton in 1653 and Sandford in 1666, there was apparently a significant Native American presence on or near the former site of Santa Elena (Hilton 1664; Salley 1911).

Prompted by accounts of tall pine trees and good soils, a small English colony set out for Port Royal. When they reached the area, tales of hostile Spaniards and Indians convinced them to move farther north, where they founded Charles Towne in 1670. Charles Towne was the first permanent European settlement along the Carolina coast (Holmgren 1959).

The early economic development of the colony focused on trade with Native American groups. The economic success of Charles Towne, due to intensive fur trade with native tribes of the region, provided a base from which settlers quickly spread along the coast and into the interior up the Wando and Cooper Rivers (Rigg 1970). Other economic enterprises involved the production of naval stores and lumber. Such raw materials were unavailable in England (Glowe 1971).

In 1584, a group of Scottish dissenters broke away from Charles Towne and established Stuart's Towne on Port Royal Island. Traders in Charles Towne believed the Scots were taking their customers and withheld material support. Afraid of the Spanish and forced to survive on their own, the Scots forged ties with the Yemassee Indians. The Yemassee, who were unhappy with Spanish missionaries in coastal Georgia, began fleeing to Stuart's Towne, where they settled in a defensive perimeter of villages on neighboring islands. However, Stuart's Towne was short-lived. A successful raid against the Spanish mission on St. Catherine's Island led to Spanish retaliation; the Spanish destroyed Stuart's Towne a year later (Covington 1978:8-11). The Yemassee returned to the Port Royal area in the 1690s.

The Carolinas were originally settled by English citizens as a private colony under the proprietary system. Grants of land were given to the Lords Proprietors of Carolina as well as to those interested in settling in the colony. A series of large land grants beginning in 1698 signaled a renewed interest in settling Port Royal (Holmgren 1959:42). John Stuart and Major Robert Daniell gained possession of land on St. Helena's and Port Royal Islands. Also in 1698, a warrant was prepared for Governor Joseph Blake's "Island commonly known by ye Name of Combahee [Lady's] Island" (Salley and Ohberg 1973:585). Wadell (1980:109) also notes that a 1700 map was drawn showing Ladies Island as "Combahee I." Additional grants were made on the islands in the early 1700s.

The Church Act of 1706 established the parish as the local unit of government. Counties or districts within Carolina were divided into parishes, with the local church serving as the administrative center. The Port Royal area and Ladies Island became part of the St. Helena's Parish in 1712. After Bennet (chartered in 1711) and the Port Royal area was permanently settled by English colonists, the residents worked to make their town as important as Charleston. However, Charleston area planters and merchants dominated the General Assembly and
were unwilling to allot tax money to develop and defend Port Royal (Gallway 1986:6-7).

By 1711, the Yemassee had ten villages in what are now Beaufort and Jasper Counties. During the early 1700s, major European and Native American powers in the Southeast continually shifted alliances, conspiring and warring against each other to further their short- and long-term economic positions (Bradley 1996; Thomas 1993). In an apparent bid to take advantage of the power struggle between the English and the Spanish, the Creek sided with the Yemassee against the English at Charleston in the Yemassee War (1715-1717). Although the war went well for the Native Americans initially, English reinforcements, along with superior weapons allowed the colonists to counterattack successfully, forcing the Yemassee and their allies to retreat to Florida and the west (Fretwell 1989: 118). This allowed the Yuchi to move into the area and take over the lucrative deer skin trade for a time. After the war, the General Assembly also opened former Indian lands to English settlement.

3.3 Historic Era (1716 to 1950)

3.3.1 Colonial South Carolina (1716 to 1783)

During the initial settlement of the region, the production of naval stores was encouraged by the British government and provided an efficient economic system for colonists in the Low Country. Pitch, turpentine, resin, and tar were manufactured from the vast stands of pine timber that needed to be cleared for the establishment of subsistence and cash crops (Gregorie 1961:20). Evidences of these harvesting activities include many small circular tar kilns, found throughout the region (e.g., Hart 1986). The withdrawal of the bounties for naval stores in 1725 resulted in a significant decrease of their production. During the 1720s and 1730s, the colonists found rice to be an economically viable cash crop which transplanted well into the marsh Low Country. As a consequence, great numbers of slaves were imported for use in the rice fields. Slaves were brought to Charleston first from Barbados and later directly from West Africa (Trinkley 1989:19). Slave labor was essential for profitable rice production, with knowledgeable slaves (i.e., those taken from West African rice-producing societies) conducting and often directing most of the activities associated with rice growing and harvesting (Carney 2001; Joyner 1984).

By 1730 the colony's population consisted of approximately 30,000 individuals, two-thirds of whom were enslaved Africans (Cowse 1971). The majority of these slaves labored in rice fields along the coast. While rice was produced at this time, it did not become a major crop until after the Revolutionary War (Trinkley 1989:20). However, rice was never a major crop on the Sea Islands in the Beaufort region.

As slavery became pivotal to the burgeoning agricultural economy, the Spanish in Florida offered freedom to all slaves who escaped from the English and came to St. Augustine. The colony of Georgia, which had no slaves at this time, was not affected, but the South Carolinians were greatly distressed. At least 50 slaves escaped from St. Helena's Parish. England and Spain were soon at war, and Port Royal citizens were concerned they would be caught in the midst of a Spanish attack and massive slave uprising (Gallway 1986).

The Spaniards were defeated on St. Simons Island in 1742. However, in 1744 England was at war with France, again threatening South Carolina. St. Helena's Parish petitioned the Colonial government in Charleston for assistance, but they were told to apply to the Crown. A drought and smallpox epidemic caused additional hardship, and the market price of rice fell 70 percent in five years. The result was an economic depression that ended only with the development of indigo agriculture.

Indigo had been grown in South Carolina since the late 1600s. In the 1740s, however, it became a major cash crop (Huneycutt 1949). Indigo was important for the high-quality blue dye that could be obtained from the plant. The dye was used for military uniforms and expensive clothing, and indigo production was actively promoted and subsidized by the British government. As a result, the crop was intensively cultivated between 1740 and 1776 (Pinchney 1976). At this time, a major indigo plantation was located on Lady's Island: an 800-acre tract located across from Beaufort that was owned by John Stuart (Rowland 1978:273; Trinkley 1989:20).

Figure 3.1 shows a table of exports from the South Carolina colony in 1775. These exports include indigo, rice, hemp, and such crops as Indian
Figure D.1 British Colonies in North America, 1776, Table of Exports from South Carolina: Rice, Indigo, Hemp, Indian Corn (The Thomas Jefferson Papers 1776).
corn. Naval stores are also shown individually as tar, turpentine, and pitch. It is interesting to note the general decline in exports between 1773 and 1775.

The American Colonies declared their independence from Britain in 1776, following several years of increasing tension due to unfair taxation and trade restrictions imposed upon them by the British Parliament. The Port Royal and Beaufort area did not see significant action during the Revolutionary War, however, South Carolina saw several engagements. Military conflicts began in South Carolina when the Royal Navy attacked Fort Sullivan (later named Fort Moultrie) near Charleston in 1776. The British failed to take the fort, and the defeat bolstered enthusiasm throughout the Colonies for success of the rebellion. For the British, the defeat discouraged further attack in the South for two years; however, in December of 1778 the British returned to the region and besieged and captured the city of Savannah.

In the winter of 1780, the British landed troops on Seabrook Island and marched north and east to invade Charleston by land (Lumpkin 1981:42-46). The South Carolinians, not prepared for an attack by land, offered a weak defense and were besieged and captured in May of 1780. Charleston subsequently became a base of operations for further British campaigns into the interior of South Carolina, Georgia, and North Carolina. Two years later, after several skirmishes and pitched battles in the interior, the Americans finally gained the upper hand. The combined American and French victory over Lord Cornwallis at Yorktown effectively destroyed British military activity in the south and forced a negotiated peace (Lumpkin 1981). The 13 original American Colonies gained full independence, and the English evacuated Charleston in December 1782.

South Carolina sympathies were generally divided during the war. The people of the Lowcountry were predominantly supporters of the American cause while most of the Loyalists resided in Charleston and in the interior of the state. After the American Colonies won independence, many of the Loyalists left South Carolina for Canada, Britain, the Bahamas, Jamaica, or moved further west. Some of these Loyalists later returned. In many cases their confiscated property was returned and their punishment for assisting the British was reduced to the payment of a fine (Lambert 1987).

3.3.2 Early Statehood and the Antebellum Period (1783 to 1861)

The Revolutionary War ended the bounty on English markets for indigo, making it an unprofitable crop. Britain had encouraged the cultivation of indigo in its colonies in the Caribbean and in India in order to disrupt the worldwide sale of the American indigo crop (Honeycutt 1949:43). Rice was also a profitable cash crop grown in South Carolina. However, the waters in the Port Royal area were generally too salty for the large-scale production of rice (Grover et al. 1997:19).

Therefore, long-staple, or Sea Island, cotton was experimented with as a replacement for the indigo crop. During the early nineteenth century, cotton superseded rice as the most important cash crop produced on the Sea Islands. Rice remained an important crop however, and was still widely cultivated in the project region. Both crops were grown on coastal plantations, with a system of rice fields planted in areas adjacent to marsh and cotton fields planted in the upland areas. This became the typical arrangement on most Lowcountry plantations (Joyner 1984).

In the Beaufort region, the production of cotton brought about the institution of a plantation economy. An aristocratic planter elite was created based on the labor of the black slave majority (Lepionka et al. 1988:21). Many of these planters divided their time between their plantations and mansions in the nearby town of Beaufort. Due to its location near the Sea Islands, Beaufort became the area’s commercial center (Figure 3.2). The town boasted a port and a spacious harbor.

In 1850, the majority of Beaufort County’s population was enslaved (approximately 83 percent) (DeBow 1855:338). However, of the islands located in St. Helena’s Parish, Lady’s Island had the fewest blacks, numbering 1,259 (McGuire 1986:24). While Beaufort County as a whole was noted to have the highest agricultural productivity in the state and some of the wealthiest planters, Lady’s Island was considered a poor representative of the county (Trinkley 1985:22). In 1862, Edward Phibbs wrote:

"the greater part of the plantations on Lady's Island are miserably poor, being the property of small proprietors who had not sufficient capital..."
Figure D.2 The project tract shown on the 1825 Beaufort District, SC map (Vignoles and Flavenel 1825). The town of Beaufort can be seen to the northeast across the Port Royal River.
to make planting profitable. The soil is poor and the negroes for the most part have not sufficient food on hand for the coming year. The cotton crop is proportionally small and poor” (Pearson 1906: 117 quoted in Trinkley 1989:222).

The project area is located on land formerly part of Eastis Plantation (Figure 3.3). In 1823, the land was brought with Patience Wise Blacket Iard into her marriage with General Abraham Eastis, and later became known as Eastis Plantation (Pieper 2009). In 1852, the Eastis Plantation held 120 slaves. When Patience Eastis died in 1860, she left Eastis Plantation to multiple heirs, including several local executors and her Bostonian grandson, Frederick A. Eastis. However, this arrangement became complicated after the Civil War.

3.3.3 The Civil War (1861 to 1865) The Civil War brought about significant changes to Beaufort County in the latter half of the nineteenth century. In December of 1860, South Carolina became the first state to secede from the United States. On April 12, 1861, the first shots of the Civil War were fired in the Confederate attack on Fort Sumter in Charleston harbor. Seven months later, Beaufort and the surrounding Sea Islands fell to Union forces. On November 7, 1861 the harbor of Port Royal was attacked by a Union fleet. Union forces made effective use of steam technology, which made it possible for warships to move with greater precision in shallow coastal waters, as their 19 vessels repeatedly steamed past Fort Walker on the northern end of Hilton Head Island in a tight elliptical formation, bombarding as they passed. After five hours of bombardment, Fort Walker (on Hilton Head Island) surrendered.

When Confederate forces learned of Fort Walker’s surrender, they determined the defense of the harbor impossible and ordered the retreat from Port Beaufort on the eastern shore (Carse 1961:11; Official Records of the War of Rebellion [OR]: 1901:1 (6):27-29). Sea Island plantation owners fled to the mainland, leaving behind houses, fields, plantation complexes, and a slave populace convinced they would soon be free (Rose 1964: 11-12).

Union troops landed on Hilton Head uncertain of the Confederate retreat. Scouting parties soon discovered evidence of a hasty and ill-planned evacuation (Eldridge 1893:67). One account of the abandonment of Fort Walker reports:

“In this extremity, it was determined to abandon the fort. Back of this work there was an open space of a mile, over which the defeated troops ran in panic, subject every moment to fire of the fleet. They found shelter in the woods, through which they made their way across the peninsula to the mainland. The ground over which they fled was covered with their muskets and knapsacks” (Guernsey and Alden 1866:181).

Beaufort was likewise deserted by Confederate forces and white plantation owners. The town was occupied by Union forces in late November. The entire Port Royal area was occupied by Federal troops. As Federal forces began to occupy the nearby region, nearly all of the remaining population they encountered were former slaves. However, on Lady’s Island, one white person, who remained loyal to the Federal government, was located (Johnson 1969:189).

On Lady’s Island, the white planters had abandoned many of their belongings in their hasty evacuation. Federal troops burned or commandeered much of the furniture that they found; former slaves utilized the remains (Trinkley 1989). Nearly all of the crops from Lady’s Island were taken to feed the freedpeople housed on St. Helena Island. Additionally, livestock animals such as chickens, pigs, and mules were slaughtered to feed the Federal troops and former slaves under their protection.

During this period, fervent abolitionists (mostly women) from the north arrived in the area in order to conduct the “Port Royal Experiment” (Pearson 1906). In the early part of the war, many in the North believed that the liberated slaves would not labor without being forced to do so. The abolitionists persuaded the Federal government to give freedpeople small parcels of land, and the former slaves were encouraged to work for their own profit. Schools were also opened to educate the freedpeople. The experiment in the Port Royal area proved that former slaves could be successful self-sufficient farmers. It was hoped that this experiment would prepare freedpeople for land ownership and stimulate economic independence through agriculture (Rose 1964).
Figure 3.3 The project tract shown as part of the Eustis Plantation on the undated map of Township One South and One West of St. Helena, Meridian, S.C. (Davis n.d.). Courtesy of the Beaufort District Collection at the Beaufort County Library.
As the war continued, the Federal government confiscated property in occupied territory for unpaid taxes. All the lands in St. Helena’s Parish and a portion of those in St. Luke’s were confiscated. The confiscated lands were surveyed and subdivided into 40-acre lots that were sold in a series of public government auctions. In 1863, the Federal government purchased more than two-thirds of the approximately 30 plantations located on Lady’s Island through the Direct Tax sales (McGuire 1982:23, 35). The remaining plantations were sold to both white and black individuals.

In the spring of 1862, Frederick Eustis traveled to Fort Royal and spoke with Federal Army officials regarding the state of Eustis Plantation. Eustis was given full ownership and operation of the plantation and agreed to pay wages to the former slave population and to ameliorate their situation (Spier 2009). Based on the report of Flag Officer Samuel DuPont, the freed population of Eustis was amenable to this arrangement and asked for Eustis to be ‘master’ rather than the local executors who held the property after the death of Eustis’ grandmother (DuPont cited in Spier 2009).

3.3.4 Postbellum South Carolina (1865 to 1950)
The Civil War caused the demise of the plantation system in South Carolina. Many planters had abandoned their property and had it confiscated and sold by the Federal government. Some of this land was used for the creation of small farms for Beaufort area freedpeople as part of the “Port Royal Experiment” (Trinkle 1989:25). However, Federal support for this experiment largely ended in 1866. During the Postbellum period, previous owners often returned to try to reclaim or redeem their former landholdings. In the 1890s, a Federal program was created to aid the return of former white landowners (McGuire 1982:77).

The former executors of Eustis Plantation appealed Eustis’ ownership of the property to General Gillmore, who ordered the plantation returned to them in 1865 (Spier 2009). However, Eustis protested and appealed the decision to General Oliver O. Howard, head of the Freedmen’s Bureau (Spier 2009). Eustis stressed that the crops and profits should belong to him and to the freedpeople who labored for such wages. Howard agreed and returned ownership to Eustis. In 1868, the US Circuit Court ordered that Eustis Plantation be sold at public auction (Spier 2009). Eustis successfully purchased the 640-acre property for $5,000. After his permanent ownership was guaranteed, Eustis subdivided the property into 10- and 20-acre lots. Upon his death, these lots were sold to freedpeople formerly enslaved at the plantation (Spier 2009).

During the late nineteenth century, plantation owners on Lady’s Island attempted to establish new economic relationships with free black laborers. Although many freedpeople owned their own small farms on the Sea Islands, farm tenancy emerged as a dominant form of agricultural land management toward the end of the nineteenth century. Tenancy presented itself in two basic forms: sharecropping and cash renting (Brockington et al. 1985; Orser and Holland 1984; Trinkle 1989).

Sharecropping was a system whereby the landowner provided all that the renter might need to tend and cultivate the land (i.e., farming tools, seed, and fertilizer). A variety of methods of rent payments could be arranged. Usually an agreed portion of the crop (i.e., a share), would be surrendered to the landowner. Sharecropping was appropriate when tenants could not afford the capital outlay necessary to purchase seeds, animals, and tools. Cash renting generally represented arrangements where an agreed sum of money was paid to the landowner by the tenant farmer. In these instances, the farmer was more independent and further removed from the landowner. Cash renting farmers provided their own seeds, animals, and equipment. This system generally allowed small farmers to accrue larger sums of money, and generally was the system preferred by farmers. Cash renting was also desirable to landowners because it removed him or her from the uncertainties of the cotton market prices, and the capital burden of supplying seeds, fertilizer, and equipment, and assured steady cash income.

The tenancy tenure system became a dominant land management force by the end of the nineteenth century. Several problems emerged, however, including the need for higher wages, decreasing land fertility, and the arrival of the cotton boll weevil (Trinkle 1989:25). The letters between G. C. Hardy, the manager of Eustis Plantation, and Frederick Eustis in the 1870s highlight these problems. Hardy writes about
the significant losses due to the boil weevil and rising labor costs (South Caroliniana Library, Frederic A. Eustis Collection cited in Trinkle 1989:25). Due to these issues, land use began to change in the 1970s. The inhabitants of the Beaufort region began phosphate mining for use as fertilizer (Trinkle 1989:25). River dredging was the most common form of locating phosphate nodules, however, land mining also took place. This industry began to decline in the early twentieth century and the area saw a return to agriculture and oyster processing.

In 1927, a swing bridge was constructed connecting Lady’s Island to Beaufort. This bridge brought about increasing urbanization in the area; the black population of the island “with its distinctive rural lifestyle” declined significantly (Trinkle 1989:26). The bridge is visible on the 1944 Fort Fremont, SC quadrangle (USACE 1944) (Figure 3.4). The Beaufort County Airport is not shown on this map, as it was not constructed until the 1950s. By 1958, the airport runway is visible on the Beaufort, SC 7.5 minute topographic quadrangle (USGS 1958). At this time, no buildings or structures are shown in the vicinity of the runway.

3.4 Modern Era (1950 to Present)
Beaufort County has experienced a steady rate of population increase since the 1950s (Wilbur Smith Associates 2011). This is largely due to the increase in tourism and military activities in the area. Three military installations are located in the project region: the Parris Island Marine Corps Recruit Depot, the Marine Corps Air Station Beaufort, and the Beaufort Naval Hospital. In tribute to the Armed Forces of the United States, a public marker was placed just west of the project tract commemorating US 21 as the Blue Star Memorial Highway (Figure 3.5).

The Beaufort County Airport is located east of Beaufort on Lady’s Island. The airport was originally built in the 1950s with a runway with a more north-south alignment than the current runway. In the 1970s, the angle of the runway changed (Joseph Vido, personal communication May 4, 2015). The former and current runway angles can easily be seen in a 1994 aerial image of the airport (Google Earth 1994) (Figure 3.6). The airport terminal building was constructed in 1988 and in the same year, Beaufort County took control of operations. Prior to this, the airport was privately operated by Master Aviation (Wilbur Smith Associates 2011).

Beaufort County Airport is a small general aviation airport that is alternately referred to as Lady’s Island Airport or Frogmore International Airport. The airport currently occupies an area of approximately 110 acres, all of which is owned by Beaufort County (Wilbur Smith Associates 2011). The airport consists of Runway 07/25 (currently 3,424 ft long and 75 ft wide), a parallel taxiway, a paved apron with access to the taxiway, a vehicle parking lot, a fuel storage area, the terminal building, and four hangar buildings.
Figure D.4 The Beaufort County Airport project tract shown on the 1944 United States Army Corps of Engineers Fort Fremont, SC 15-minute topographic quadrangle (USACE 1944). The structures visible within the project tract are no longer standing.
Figure 3.5 Blue Star Memorial Highway public marker located in front of the fire station east of US 21 and west of the Beaufort County Airport project trail.
4.0 Methodology

4.1 Project Objective
The Beaufort County Airport property was evaluated for its potential to contain significant pre-contact or historic archaeological resources by first defining the environmental and cultural contexts. Environmental variables known to be associated with pre-contact and early historic settlement in the project region (i.e., soil drainage, proximity to water or wetland resources, and relative elevation) were analyzed. A detailed environmental context is presented in Chapter 2. Likewise, cultural changes over time known to be associated with pre-contact and early historic populations in the project region (i.e., changes in habitation, socio-political structures, trade, material culture, population growth or decline, agricultural processes, etc.) were also analyzed. A detailed cultural overview and historic context for the project area is provided in Chapter 3.

Background investigations consisted of an examination of archaeological site forms and historic architectural resource forms for previously recorded sites, buildings, structures, and objects. Background research focused on documenting previously recorded archaeological sites and architectural resources within the project tract. All known cultural resources within a one-mile radius of the project tract were also identified and documented to the extent that they may have bearing on potential resources within the subject tract.

Research was conducted at the South Carolina Site Files at the SCIAA in Columbia and the South Carolina Department of Archives and History (SCDAH) in Columbia. At the SCIAA, site files were reviewed to determine if any previously recorded archaeological sites are located within the project area or within a one-mile buffer. Previous archaeological reports on investigations in the general vicinity of the improvement areas were reviewed. This data set is also available online through ArchSite. At the SCDAH, National Register of Historic Places (NRHP) files were reviewed to determine if any NRHP eligible, nominated, or listed cultural resources are within or adjacent to the improvement areas.

In addition, Civil War maps and literary sources such as The Official Military Atlas of the Civil War (Davis et al. 1983) and published Civil War studies conducted by the National Park Service (NPS) were reviewed to determine if any military activity associated with the Civil War took place within or near the project area.

Reports for previous undertakings conducted either within the Beaufort County Airport Tract, or within a one-mile radius were also reviewed. Additionally, the National Register files were reviewed to identify any NRHP listed or nominated cultural resources in the project buffer. County histories, cemetery records, and historic maps were also reviewed.

Background research revealed a moderate number of previously recorded archaeological sites and historic resources in the surrounding area. Three pre-contact archaeological sites were previously recorded within the one-mile project buffer. However, one large pre-contact archaeological site was recorded within and adjacent to the Beaufort County Airport Tract. No known historic archaeological sites are present within the project buffer. However, based on the historic settlements located in the surrounding area, the presence of historic archaeological sites was considered possible. Potential sites were likely remains of eighteenth- and nineteenth-century plantations or nineteenth- and twentieth-century tenant houses. Brockington and Associates, Inc. determined that the 37.73-acre tract contained a high potential to contain archaeological resources, though we anticipated potential deposits may have been heavily impacted by modern airport construction and use of the area.

4.2 Archaeological Field Investigations
Brockington field investigations took place between May 4 and 8, 2015. At this time, Stacey Whitacre and John O'Donnell systematically investigated the project area through a combination of shovel testing and pedestrian survey (surface inspection). Field methods were consistent with the State of South Carolina professional standards (Council of South Carolina Professional Archaeologists [CSCPA] 2005), compiled with the guidelines set forth in 36 CFR part 800, and were carried out by personnel qualified under 36 CFR part 61.
Two basic field techniques were utilized to investigate the project tract:

1. Shovel Testing took place in areas that were undisturbed, relatively flat (<15 percent grade), with no standing water, and with poor surface visibility (<75 percent).
2. Pedestrian Survey/Surface Inspection took place in areas that were noticeably disturbed, sloping (>15 percent grade), with standing water, or with good surface visibility (>75 percent).

Our survey investigations focused primarily on the excavation of shovel tests spaced not more than 30 m (98 ft) apart along multiple transects (Figure 4.1). Shovel tests were excavated at 15-m intervals within the previously recorded boundary of Site 38BU150 and at 30-m intervals elsewhere in the property (Figure 4.2). Shovel tests were not excavated in areas paved over for airport use such as the runway, taxiways, and ramps. Similarly, shovel tests were not excavated in gravel roads or lots, areas with known buried electrical cables (Figure 4.3), drainage ditches, and modern septic tank fields. Shovel tests were augmented by intensive visual surface inspection of the entire project tract.

Shovel tests measured approximately 30 cm (12 inches) in diameter and were excavated into sterile subsoil (i.e., generally red to reddish brown clay or dark grayish brown sandy clay). Soil from the shovel tests was screened through one-quarter-inch mesh hardware cloth. Records of each shovel test were kept in field notebooks, including information on content (e.g., presence or absence of artifacts, artifact descriptions) and context (i.e., soil colors and texture descriptions, depth of definable levels, observed features). All shovel tests were backfilled on completion.

An archaeological site is identified if surface collection within a 30-m (98-ft) radius resulted in the recovery of three or more artifacts, or if a shovel test yielded two or more different artifacts, or if subsurface testing and surface collection within a 20-m (66-ft) radius yielded two or more artifacts, all from the same broad cultural period. Any area containing artifacts and that does not fall under one of the three previous categories is considered an “isolate” (isolated find). This investigation identified one artifact concentration within the previously recorded boundary of Site 38BU150 and no isolated finds.

4.3 Laboratory Analysis and Curation
In Brockington's laboratory, artifacts collected from the field were washed by laboratory technicians in small plastic tubs filled with warm water using hand sieves and toothbrushes. After washing, artifacts were allowed to air dry on a tray. Provenience numbers were assigned to each excavation bag within a site based on Brockington's unique proveniencing scheme. Provenience 1 designates general surface collections. Numbers after the decimal point designate subsequent surface collections, or trenches. Provinces 2 to 200 designate shovel tests. Controlled surface collections and 50-by-50-cm units are also designated by this provenience range. Provinces 201 to 400 designate 1-by-1-m or 1-by-2-m units done for testing purposes. Provinces 401 to 600 designate excavation units (1-by-2 m, 2-by-2 m, or larger). Provenience numbers over 600 designate features. For all provenience numbers except 1, the numbers after the decimal point designate levels. Provenience X.0 is a surface collection at a shovel test or unit. X.1 designates level one, and X.2 designates level two; for example, 401.2 is Excavation Unit 401, Level 2. Flotation samples are designated by a 01 added after the level. As a result, 601.401 is the flotation material from Feature 601, Level 4.

Within each provenience, artifacts were sorted by criteria such as material class, manufacture method, object form, and decoration. Each group of artifacts was counted and weighed, then bagged in 4-mil polyethylene self-sealing archival stable bags and assigned a catalog number. Weights were taken with an Ohaus CS-200 digital scale. Measurements in inches or millimeters were taken using Mitutoyo digital calipers. Archival paper tags that duplicate the bag and catalog information were placed in each individual bag.

Artifacts were labeled using a base coat of clear or white Acrylic B72. When dry, the site number and provenience number were applied using black India ink and a nib pen. A top coat of clear Acrylic B72 was applied after the site and provenience numbers had dried.

All artifact and provenience data was compiled into a database (Microsoft Access 2003). The goal of...
Figure 4.1 Map showing areas of 15- and 30-meter intervals (ArcGIS Online 2010).
Figure 4.2 Archaeologist John O'Donnell excavating a shovel test near the east end of the runway. Soil from shovel tests was screened through one-quarter inch mesh hardware cloth.

Figure 4.3 Buried cistern associated with runway lighting are located adjacent to all paved runway, taxiway, and ramp areas. Archaeologists maintained a five-meter buffer of these areas so as not to interfere with airport electrical systems.
this relational database is to record as much information as possible about the recovered artifacts for present and future research. This information includes, but is not limited to, function, artifact measurements, manufacture methods, maker’s marks, and images. The advantage of using a relational database rather than a spreadsheet is the ability to query.

All artifacts, field notes, records, and photographs from this project are temporarily stored at the Norcross office of Brockington and Associates, Inc. Artifacts, project maps, field notes, and photographic materials related to this project (upon completion of the review process for the project report) will be curated at the South Carolina Institute of Archaeology and Anthropology (SCIAA). This facility meets the standards defined in 36 CFR Part 79, Curation of Federally-Owned and Administered Archeological Collections Final Rule. Additional copies and the master copy of the report also will be stored at this facility.

4.4 Assessing NRHP Eligibility

A primary goal of this investigation was to provide an accurate inventory of cultural resources within the project area and to provide sufficient data to determine if these sites are significant (i.e., eligible for the NRHP). Archaeological and architectural sites were evaluated based on the criteria for eligibility to the NRHP as specified in the Department of Interior Regulations 36 CFR Part 60: National Register of Historic Places. According to 36 CFR Part 60.4 (Criteria for Evaluation), cultural resources (referred to as properties in the regulations) can be defined as significant if they:

A. Are associated with events that have made a significant contribution to the broad pattern of history,
B. Are associated with the lives of persons significant in the past,
C. Embody the distinctive characteristics of a type, period, or method of construction, or represents the work of a master, possesses high artistic value, or represents a significant and distinguishable entity whose components may lack individual distinction; or
D. Have yielded, or is likely to yield, information important to history or prehistory.

A resource may be eligible under one or more of these criteria. Criteria A, B, and C are most frequently applied to historic buildings, structures, objects, districts, or non-archaeological sites (e.g., battlefields, natural features, designed landscapes, or cemeteries). The eligibility of archaeological sites is most frequently considered with respect to Criterion D. Also, a general guide of 50 years of age is employed to define “historic” in the NRHP evaluation process. That is, all resources greater than 50 years of age may be considered. However, more recent resources may be considered if they display “exceptional” significance (Sherif and Luce n.d.).

Following National Register Bulletin: How to Apply the National Register Criteria for Evaluation (Savage and Pope 1998), evaluation of any resource requires a two-fold process. First, the resource must be associated with an important historic context. If this association is demonstrated, the integrity of the resource must be evaluated to ensure that it conveys the significance of its context. The applications of both of these steps are discussed in more detail below.

Determining the association of a resource with a historic context involves five steps (Savage and Pope 1998). First, the resource must be associated with a particular facet of local, regional (state), or national history. Secondly, one must determine the significance of the identified historical facet/context with respect to the resource under evaluation. Any particular historical facet/context becomes significant for the development of the project area only if the project area contains resources that were constructed or gained their significance during that time. For example, an antebellum historic context would be significant for the development of a project area only if the project area contained buildings that were either built or gained their significance during the early nineteenth century. Similarly, the use of contexts associated with the pre-contact Native American use of a region would require the presence of pre-contact archaeological sites within the survey universe.

The third step is to demonstrate the ability of a particular resource to illustrate the context. A resource should be a component of the locales and features created or used during the historical period in question. For example, early nineteenth-century farmhouses, the ruins of African American slave
settlements from the 1820s, and/or field systems associated with particular antebellum plantations in the region, would illustrate various aspects of the agricultural development of a region prior to the Civil War. Conversely, contemporary churches or road networks may have been used during this period but do not reflect the agricultural practices suggested by the other kinds of resources.

The fourth step is to determine the specific association of a resource with aspects of the significant historic context. Savage and Pope (1998) define how one should consider a resource under each of the four criteria of significance. Under Criterion A, a resource must have existed at the time that a particular event or pattern of events occurred and activities associated with the event(s) must have occurred at the site. In addition, this association must be of a significant nature, not just a casual occurrence (Savage and Pope 1998). Under Criterion B, the resource must be associated with historically important individuals. Again, this association must relate to the period or events that convey historical significance to the individual, not just that this person was present at this locale (Savage and Pope 1998). Under Criterion C, a resource must possess physical features or traits that reflect a style, type, period, or method of construction; display high artistic values; or represent the work of a master (an individual whose work can be distinguished from others and possesses recognizable greatness (Savage and Pope 1998)). Under Criterion D, a resource must possess sources of information that can address specific important research questions (Savage and Pope 1998). These questions must generate information that is important in reconstructing or interpreting the past. For archaeological sites, recoverable data must be able to address specific research questions.

After a resource is specifically associated with a significant historic context, one must determine which physical features of the resource are necessary to reflect its significance. One should consider the types of resources that may be associated with the context, how these resources represent the theme, and which aspects of integrity apply to the resource in question (Savage and Pope 1998). As in the example given above, a variety of resources may reflect the antebellum context (farmhouses, ruins of slave settlements, field systems, etc.). One must demonstrate how these resources reflect the context. The farmhouses represent the residences of the landowners who implemented the agricultural practices during the antebellum era. The slave settlements housed the workers who did the daily tasks necessary to plant, harvest, process, and market crops.

Once the above steps are completed and association with a historically significant context is demonstrated, one must consider the aspects of integrity applicable to a resource. Integrity is defined in seven aspects of a resource; one or more may be applicable depending on the nature of the resource under evaluation. These aspects are location, design, setting, materials, workmanship, feeling, and association (36 CFR 60.4; Savage and Pope 1998). If a resource does not possess integrity with respect to these aspects, it cannot adequately reflect or represent its associated historically significant context. Therefore, it cannot be eligible for the NRHP. To be considered eligible under Criteria A and B, a resource must retain its essential physical characteristics that were present during the event(s) with which it is associated. Under Criterion C, a resource must retain enough of its physical characteristics to reflect the style, type, etc., or work of the artisan that it represents.

Typically, the most applicable criterion for evaluating archaeological properties is Criterion D. For a site to be considered eligible for the NRHP under Criterion D, it must possess information bearing on an important research question (Savage and Pope 1998:211). Important research questions commonly involve testing new or former hypotheses regarding important topics in the natural sciences and/or addressing important aspects of the cultural chronology of a region. This information must be evaluated within the framework of a historic context; that is, the researcher must be able to address how the information contained within the resource is likely to affect current understanding of a particular time period.

If an archaeological resource is considered significant, it must also retain integrity. The integrity of an archaeological site is commonly related to the aspects of location, design, materials, workmanship, and association. For a property to be considered eligible for the NRHP, it must retain many of these aspects. While disturbed sites can still be eligible if their undisturbed portions contain significant information potential, sites that have lost their strati-
Archeological resources identified during this survey have been evaluated within local and regional prehistoric and historic contexts. These evaluations are balanced through application of Glassow’s (1977) attributes in order to provide assessment of the resource’s potential to address regional research issues. That is, a site’s potential to contribute to local or regional research will determine that site’s NRHP eligibility. A site’s potential to provide data was evaluated explicitly as research potential beyond the present archeological resources survey project. For example, every site with culturally or temporally diagnostic material has the potential to contribute to the reconstruction of settlement patterns through time. However, in many cases, this potential can be realized through recognition and detailed documentation at the survey level of investigation.
5.0 Results

5.1 Results of Background Research

Background research was conducted at SCIAA and SCDAH to determine if any NRHP eligible cultural resources were previously recorded within the project tract. All known cultural resources within a one-mile radius of the tract were also identified and documented to the extent that they may have bearing on potential resources within the subject tract. No eligible archaeological sites were found to be present within the project tract. Also, no historic properties eligible for inclusion in the NRHP are located in the project vicinity.

5.1.1 Previously Recorded Archaeological Sites

One archaeological site (38BU150) was previously recorded within the Beaufort County Airport project tract (Table 5.1; Figure 5.1). Site 38BU150 was recorded in 1978, as a result of an environmental impact survey for airport expansion (LePionka 1978). 38BU150 is a large multi-component site including two general prehistoric shell middens and a nineteenth-century artifact scatter associated with a former house. Other features mentioned by LePionka (1978) are two artificial mounds. These mounds were likely composed of sterile fill, and clumps of twentieth-century garbage visible across the property. LePionka’s (1978) investigation of the property consisted of a general surface inspection. No artifacts were observed. The shell middens form small islands at high tide and are composed of shell up to a foot thick. LePionka (1978) noted these shell middens would not be impacted by airport expansion. Based on the above information, Site 38BU150 was recommended as probably not eligible for inclusion in the NRHP (ArchSite).

Background research revealed that three other archaeological sites (38BU138; 38BU222; 38BU2257) were previously recorded within one mile of the Beaufort County Airport project area (see Table 5.1). All of these are pre-contact sites; no historic sites were previously recorded within a mile of the project tract.

In 1977, Bob Williams, of St. Helena’s Church, conducted a reconnaissance level investigation of Colonel Ira Webber’s property (Williams 1977). As a result, Williams recorded an archaeological site (38BU138) within one mile of the Beaufort County Airport project tract. 38BU138 is a general pre-contact ceramic scatter located in a landscaped backyard near Lucy Creek. Williams (1977) collected a sample of ceramic artifacts from the surface of the site, though no detailed account of these artifacts is recorded. Williams (1977) notes that Colonel Webber found pieces of pottery in his yard for several years, and suggests that the site may continue subsurface. Site 38BU138 was recommended as probably not eligible for inclusion in the NRHP (ArchSite).

In 1979, the South Carolina Department of Transportation (SCDOT) conducted an archaeological investigation of three borrow pits for Route P-0701 (Trinkle 1979). This investigation resulted in the location of one archaeological site (38BU222) within one mile of the Beaufort County Airport project tract, Site 38BU222 is an Early to Middle Woodland oyster shell midden and ceramic scatter located in a wooded area on a small ridge overlooking Lucy Creek. Several Middle Woodland ceramic

<table>
<thead>
<tr>
<th>Site No.</th>
<th>Type</th>
<th>Cultural Affiliation</th>
<th>Citation</th>
<th>NRHP Status</th>
<th>Situation</th>
</tr>
</thead>
<tbody>
<tr>
<td>38BU138</td>
<td>Ceramic Scatter</td>
<td>General Pre-Contact</td>
<td>Williams 1977</td>
<td>Recommended Not Eligible</td>
<td>One mile radius</td>
</tr>
<tr>
<td>38BU150</td>
<td>Shell Midden; Mounds</td>
<td>General Pre-Contact</td>
<td>LePionka 1978</td>
<td>Recommended Not Eligible</td>
<td>Within project tract</td>
</tr>
<tr>
<td>38BU222</td>
<td>Shell Midden; Ceramic Scatter</td>
<td>Early Woodland; Middle Woodland</td>
<td>Trinkle 1979</td>
<td>Additional Work Recommended</td>
<td>One mile radius</td>
</tr>
<tr>
<td>38BU2257</td>
<td>Ceramic Scatter</td>
<td>Early Woodland; Mississippi</td>
<td>Windham and Lockerman 2007</td>
<td>Not Eligible</td>
<td>One mile radius</td>
</tr>
</tbody>
</table>

Table 5.1 Previously recorded archaeological sites within one mile of the Beaufort County Airport project area.
sherds were collected from the surface including Wilmington Cord-Marked, Wilmington Fabric-Marked, and Irene Complicated Stamped sherds. Below these were older Stallings Plain sherds, dating to the Early Woodland Period. Other artifacts collected include one quartz chunk and two glass fragments. Trinkley (1979) recommended additional testing to determine NRHP significance.

In 2007, New South Associates, Inc. conducted an archaeological and architectural survey of SC 802, Segment A (Windham and Lockerman 2007). These investigations resulted in the located of one archaeological site (38BU2257) within one mile of the Beaufort County Airport project tract. Site 38BU2257 is a pre-contact ceramic scatter dating from the Early Woodland Period to Mississippian Period. A total of 61 artifacts were collected, including pre-contact ceramic sherds (grit tempered, fiber tempered, sand tempered, grog tempered). Some of these sherds were plain or too eroded to type, but some decoration types were observed including Stallings Plain (Early Woodland), Deptford Creek Stamped (Early Woodland), Thom's Creek Jab and Ding Punctuated (Woodland), Thom's Creek Punctuated (Woodland), Wilmington Net Impressed (Middle and Late Woodland), and Irene Complicated Stamped (Mississippian). All artifacts were recovered from the subsurface between 20 and 60 cmbs. Windham and

Lockerman (2007) note the poor preservation of the site due to erosion and construction disturbance. Site 38BU2257 was determined not eligible for inclusion in the NRHP (ArchSite).

5.1.2 Previously Recorded Historic Resources

A total of 13 historic resources were previously recorded within one mile of the Beaufort County Airport project tract (see Figure 5.1; Table 5.2). All of these resources are recorded in the Beaufort County Above Ground Historic Resources Survey (Harvey et al. 1998). The majority of these (n=12) are buildings utilized as single dwellings for residential purposes. Construction dates range from circa 1915 to 1930. Another resource (025-378) is Inlet Cemetery. This cemetery was constructed around 1927 and continues to be utilized as a burial ground. None of the historic resources located within one mile of the Beaufort County Airport project tract are eligible for inclusion in the NRHP. Additionally, none of these resources will be impacted by the proposed airport improvements.

<table>
<thead>
<tr>
<th>Resource</th>
<th>Historic Name</th>
<th>Type</th>
<th>Date</th>
<th>Location</th>
<th>NRHP Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>025-374</td>
<td>Single Dwelling</td>
<td>c. 1930</td>
<td>50 Club Road</td>
<td>Not Eligible</td>
<td></td>
</tr>
<tr>
<td>025-376</td>
<td>Single Dwelling</td>
<td>c. 1920</td>
<td>2 Inlet Road</td>
<td>Not Eligible</td>
<td></td>
</tr>
<tr>
<td>025-378</td>
<td>Inlet Cemetery</td>
<td>c. 1927</td>
<td>7 Dow Road</td>
<td>Not Eligible</td>
<td></td>
</tr>
<tr>
<td>025-380</td>
<td>Single Dwelling</td>
<td>c. 1920</td>
<td>48 Thomas Atkins Road</td>
<td>Not Eligible</td>
<td></td>
</tr>
<tr>
<td>025-382</td>
<td>Single Dwelling</td>
<td>c. 1925</td>
<td>37 Thomas Atkins Road</td>
<td>Not Eligible</td>
<td></td>
</tr>
<tr>
<td>025-384</td>
<td>Single Dwelling</td>
<td>c. 1920</td>
<td>26 Thomas Atkins Road</td>
<td>Not Eligible</td>
<td></td>
</tr>
<tr>
<td>025-386</td>
<td>Single Dwelling</td>
<td>c. 1920</td>
<td>32 Fred Walker Road</td>
<td>Not Eligible</td>
<td></td>
</tr>
<tr>
<td>025-402</td>
<td>Single Dwelling</td>
<td>c. 1930</td>
<td>402 Shorts Landing Road</td>
<td>Not Eligible</td>
<td></td>
</tr>
<tr>
<td>025-404</td>
<td>Single Dwelling</td>
<td>c. 1916</td>
<td>29 Ellyshwood</td>
<td>Not Eligible</td>
<td></td>
</tr>
<tr>
<td>025-406</td>
<td>Single Dwelling</td>
<td>c. 1930</td>
<td>35 Little Capers Road</td>
<td>Not Eligible</td>
<td></td>
</tr>
<tr>
<td>025-423</td>
<td>Single Dwelling</td>
<td>c. 1925</td>
<td>132 Stams Point Road</td>
<td>Not Eligible</td>
<td></td>
</tr>
<tr>
<td>182-369</td>
<td>Single Dwelling</td>
<td>c. 1910</td>
<td>105 Warsaw Island Road</td>
<td>Not Eligible</td>
<td></td>
</tr>
<tr>
<td>182-1430</td>
<td>Barnwall House</td>
<td>Single Dwelling</td>
<td>c. 1920</td>
<td>409 US 21</td>
<td>Not Eligible</td>
</tr>
</tbody>
</table>

Brockington and Associates

Appendix D

Historic, Architectural, Archaeological, and Cultural Resources

TALBERT, BRIGHT & ELLINGTON

D-60
5.2 Results of Field Investigations

Field investigations were undertaken between May 4 and 8, 2015. Brockington staff conducted systematic pedestrian survey with the excavation of 15-m interval shovel tests within the previously recorded boundaries of Site 38BU150 and 30-m interval shovel tests elsewhere in the tract. Archaeological fieldwork verified that much of the project tract has been heavily disturbed by modern airport activities. Much of the area is paved for airport use (e.g., runway, taxiway, ramp, apron area). Other portions of the project tract contain buried cable lines for runway lighting. Additionally, several drainage ditches and a large septic tank field contribute to the disturbance.

Brockington personnel encountered heavily mottled soils and observed modern trash in all areas of the project tract (surface and subsurface). Plastic fragments, modern beer bottle glass, and chunks of asphalt were frequently observed in shovel tests. Asphalt chunks may be associated with the previous runway angle or they may be associated with improvements made to the current runway. The current asphalt runway has been resurfaced several times (Wilbur Smith Associates 2011; Joseph Vido, personal communication May 4, 2015).

Archaeological investigations resulted in the location of one low-density locus concentration of cultural material situated within the boundary of 38BU150 in the grassy area east of the easternmost taxiway and south of the runway (Figure 5.2). No other artifacts, surface features, or subsurface deposits were identified in the study tract, either within 38BU150 boundaries or without.

5.2.1 38BU150 Revisit

| UTM Zone: | 17S |
| Easting: | 0534529 (NAD 83) |
| Northing: | 3560176 (NAD 83) |
| Cultural Affiliation: | Woodland-Mississippian; General Historic, 20th Century Historic |
| Site Type: | Artifact Scatter |
| Site Size: | 7.5-by-7.5 m |
| Elevation: | 10 ft amsl |
| NRHP Recommendation: | Not Eligible |

Brockington revisited a portion of Site 38BU150 during field investigations of the Beaufort County Airport project tract. Shovel tests were excavated at 15-m intervals within the 38BU150 site boundary. Shovel testing resulted in the identification one small multicomponent artifact concentration within the boundary of 38BU150.

The newly recorded artifact concentration at 38BU150 consists of three positive shovel tests located in an open area in the central eastern portion of the Beaufort County Airport project tract in Beaufort County, South Carolina (see Figures 5.2 and 5.3). A typical view of the area is shown in Figure 5.4. The concentration is positioned on a large marsh island about 0.25-mile south of the Warsaw Flats west of Lusky Creek and Morgan River. Nearby vegetation consists of grass; surface visibility is poor (less than 50 percent). The concentration was identified when one 15-m interval survey shovel test was positive for a large mammal bone (probably cow) with butcher marks. Delineation consisted of placing additional shovel tests approximately 7.5 m from the original positive test in each cardinal direction until two negative tests were recorded.

Delineation of the original positive shovel test resulted in the placement of 13 additional shovel tests, two of which yielded a Woodland-Mississippian sherd, general historic, and early twentieth-century historic artifacts. The area was visually surveyed for cultural materials, though no additional artifacts were recovered. In total, four artifacts were collected from 38BU150, varying in depth between 20 and 35 cmbs (see Appendix A, Artifact Catalog). Collected artifacts include a large, unidentified mammal bone with possible butcher marks, a check stamped sand tempered rim sherd, a colorless machine-made glass container handle (1904-), and an unidentified iron fragment (Figure 5.5).

These artifacts represent both pre-contact and historic occupation and/or use of the area. The check stamped sherd was unable to be typ'd, as its surface is highly eroded, but it generally dates to the Woodland or Mississippian period. The glass container handle dates to the twentieth century. The unidentified iron object may also date to the twentieth century. However, it is more broadly classified as General Historic. The large mammal bone is likely representative of General Historic occupation and/or use of the project area.

Soils encountered in the vicinity of the newly recorded artifact concentration at 38BU150 are...
Comparable to USDA soils. This area is located in an area with Bladen fine sandy loam (Bd). These soils were
fairly disturbed. While a few shovel tests appeared to
have somewhat intact soils, modern ground distur-
bance was evident (e.g., soil mounding, the presence of
asphalt chunks and/or modern beer bottle fragments
with labels) in several of the delineation shovel tests.
The original shovel test encountered 7.5YR/2 brown
sandy loam between O-20 cm and 7.5YR/2 brown
sandy clay mottled with 7.5YR/4 brown sandy clay,
10YR/3 very pale brown clay, and 5YR/2 reddish
yellow clay from 20-30 cm. All cultural materials
were located within the first stratum.

The newly recorded artifact concentration at
SEBU1400 is a multicomponent artifact scatter locat-
ed on a slight rise south of the runway and east
of the easternmost taxiway. The concentration is
bounded to the north and west by airport-related
drainage ditches. This concentration may be associ-
ated with pre-contact and historic occupation.
Use of the area or it may be associated with fill dirt
brought in (Jodi Phillips, personal communication
5/5/2015). Lepsonia (1976) mentions the presence
of several twentieth-century trash clumps in his
description of the site. It is possible that portions of
this concentration are related to one or more these.

The revisited area of SEBU150 has a slightly
disturbed by airport-related construction and use
of the property. The majority of soils encountered
were heavily mottled. Asphalt chunks and modern
beer bottle and unidentified plastic fragments were
recovered from several shovel tests. The overall low
density of artifacts and modern disturbance of the
area suggests that this revisited portion of SEBU150
has limited potential to further contribute to our
understanding of the history of Beaufort County.
Therefore, Brockington recommends that the revis-
ited portion of SEBU150 is not eligible for inclusion
on the NRHP. No further management considera-
tion of the site within the Beaufort County Airport
project tract is warranted.

Brockington archaeologists did not revisit the
entirety of SEBU150, as archaeological investigations
were limited to the Beaufort County Airport project
tract. However, a few observations were made as to
the present state of some of the previously recorded

Figure 6.4 View from the newly recorded artifact concentration at SEBU1600, facing west northwest toward the
easternmost intersection of the taxiway and runway.

Brockington and Associates
45
5.3 Results Summary

Background research revealed that one previously recorded archaeological site (38EU150) is located within the project tract. Site 38EU150 is a large multicomponent site consisting of two shell middens, one former house location and nineteenth-century artifact scatter, and two artificial mounds (Leptonka 1978). The site was recommended as probably not eligible for inclusion in the NRHP (ArchSite).

Background research revealed no historic resources previously recorded within the project tract. However, 13 historic resources were previously recorded within a one-mile radius. All of these resources were determined not eligible for inclusion in the NRHP.

Archaeological fieldwork verified that much of the project tract, including 38EU150, has been heavily disturbed by modern airport activities. Much of the area is paved for airport use (e.g., runway, taxiway, ramp, apron area). Other portions of the project tract contain buried cable lines for runway lighting. Additionally, several drainage ditches and a...
large septic tank field contribute to the disturbance. Brockington personnel encountered heavily mottled soils and observed modern trash in all areas of the project tract (surface and subsurface).

Brockington revisited a portion of Site 38BU150 during field investigations of the Beaufort County Airport project tract. Shovel testing resulted in the identification one small multicomponent artifact concentration within the boundary of 38BU150. This concentration is located south of the runway and east of the easternmost taxiway and consists of four general pre-contact and general historic artifacts recovered from three shovel tests. No other archaeological occurrences were identified.

Brockington archaeologists did not revisit the entirety of 38BU150 as archaeological investigations were limited to the Beaufort County Airport project tract. However, a few observations were made as to the present state of some of the previously recorded features. Field personnel noted that no standing structures remain in the previously recorded location of the former house (Lepionka 1978). The artificial mounds noted in 1978 likewise are no longer visible. Brockington did not revisit the previously recorded locations of two shell middens to the north of the Beaufort County Airport project tract. Brockington recommends that the portion of 38BU150 revisited during field investigations is not eligible for inclusion in the NRHP. No additional archaeological investigations within the current study area are suggested. Additional investigations would be necessary in the future to determine the presence or absence of significant archaeological features or deposits within portions of 38BU150 outside the Beaufort Airport project tract.
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Davis, Josiah

DeBow, J. D. B.

Delcourt, Hazel R.

DePrater, Chester B.


Brockington and Associates

Appendix D TALBERT, BRIGHT & ELLINGTON
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Brockington and Associates

Appendix D  TALBERT, BRIGHT & ELLINGTON
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State Board of Agriculture of South Carolina

Steele, D. G. and I. F. Powell


Brockington and Associates
57
Sweedlund, A. and D. Anderson

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Appendix A
Artifact Catalog

Brockington and Associates
# Artifact Catalog - Beaufort County Airport

Brookhorne and Associates, Inc. uses the following provenience system. Proveniences 2 to 206 designate shovel tests. For all provenience numbers, the numbers after the decimal point designate levels. Provenience X.0 is a surface collection at a shovel test or unit. X.1 designates level one or the entirety of a shovel test, and X.2 designates level two. For example, 3.1 is the entirety of a shovel test.

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<th>3RRU150</th>
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</table>

<table>
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<th>Provenience Number:</th>
<th>3</th>
<th>1</th>
<th>Area E, Transect G, Shovel Test 3, 9.20 cubic</th>
<th>Ceramic Type</th>
<th>Temporal Range</th>
<th>Context</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>1</td>
<td>Bone, UID large mammal</td>
<td></td>
<td></td>
<td>MD large mammal</td>
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<th>Ceramic Type</th>
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<th>Context</th>
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<td></td>
<td>1</td>
<td>1</td>
<td>Check Stamped/Etched, Course Soil, Temporal</td>
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<td></td>
<td>surface is very wooded</td>
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</table>

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<th>4</th>
<th>1</th>
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<th>Ceramic Type</th>
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<th>Context</th>
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<tbody>
<tr>
<td></td>
<td>1</td>
<td>1</td>
<td>Ceramic Modern-Made Glass Container Handle</td>
<td></td>
<td></td>
<td>1904-</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>1</td>
<td>Iron Undetermined Fragments</td>
<td></td>
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Appendix B
38BU150 Site Form Update

Brockington and Associates
SOUTH CAROLINA INSTITUTE OF ARCHAEOLOGY AND ANTHROPOLOGY
UNIVERSITY OF SOUTH CAROLINA
SITE INVENTORY RECORD
(08-1 Rev. 85)

STATE: SC  COUNTY: Beaufort  SITE NUMBER: 3884750
Recorded By: Sidney Whitley  Affiliation: Brockington and Associates
Date: 5/18/2015

A. GENERAL INFORMATION
1. Site name: Beaufort  Project: Beaufort County Airport
2. USGS Quadrangle: Beaufort  Date: 1976
3. UTM Zone: 19S  Easting: 5334500  Northing: 368559
4. Scale: 1:15,000 (circle one)
5. Other map references: NAD83
6. Archaeological investigation (circle): Testing  Excavation
7. Property owner: Beaufort County
8. Address:
9. Other site designations:
10. National Register of Historic Places status (circle one):
     Potentially eligible  Likely eligible  Likely not eligible  Additional work
     Determined eligible  Office Use Only  Determined not eligible  Date
     On NRHP  Date
11. Level of significance (circle): National  State  Local
12. Justification:

B. ENVIRONMENT AND LOCATION
1. General physiographic province (circle):
   Piedmont  Middle Coastal Plain  Blue Ridge Mountains
   Lower Coastal Plain  Savannah  Upper Coastal Plain
2. Landform location:
   Saltmarsh  Island  Wetland/saltwater
   Marsh  Clara  Mixed pine/hardwood
   Island  Low  Old field
   Wetland  Posture
3. On site soil type:
   Shelly Sandy Clay  Black Swale Flats
   Gladys River Sand Loam
4. Major river system (circle): Pee Dee  Ashley-Combahoe-Edisto
5. Nearest river/stream:
6. Current vegetation (circle):
   Phaseolus  Other
   Grass  Peatland
7. Description of groundcover (circle): Absent  Light  Moderate
8. SITE CHARACTERISTICS
   1. Estimated site dimensions: 7.5 meters by 7.5 meters (circle one)
   2. Site depth: 35 cm
   3. Cultural features (type and number):

9. Presence of (circle):
   Midden remains  Floral remains  Faunal remains  Shell remains
   Present  Present  Present  Present  Good  Poor
10. Human skeletal remains (circle):
   Present  Absent
11. General site description:

   Revisits of a small section of the original site 3884750—only revisited the section of the site within the Beaufort County Airport project area. The Mound Group, which is roughly triangular in shape, is composed of a large midden block and a small mound at the western end of the site, which was not revisited. The midden block contains a variety of cultural remains, including pottery, bone, and shell. The site is located on a small ridge that rises above the surrounding terrain. The site is located on a small ridge that rises above the surrounding terrain. The site is located on a small ridge that rises above the surrounding terrain. The site is located on a small ridge that rises above the surrounding terrain. The site is located on a small ridge that rises above the surrounding terrain. The site is located on a small ridge that rises above the surrounding terrain.
The following information should be provided on the site map: site boundaries, nearby topographic features, associated streams, modern cultural features, different land use types in site area, collection loci, test excavation loci, archaeological features and means of access (include north arrow and scale).

MAP KEY:
- 0 = negative ST
- 1 = positive ST
- \( \text{\textasciitilde} \) = general toponyms

Verbal description of location: The newly located concentration of artifacts within the boundary of 39BU150 is located north of runway and east of the easternmost ramp to the runway (or N/S taxiway). The concentration is located in a mowed grass field adjacent to a drainage ditch at the Beaufort County Airport, Beaufort County, SC. Generally, the airport property is located north of US21 and north of Airport Circle.
D. ARCHAEOLOGICAL COMPONENTS

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<th>Paleo Indian</th>
<th>Middle Woodland</th>
<th>17th Century</th>
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</thead>
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<tr>
<td>Early Archaic</td>
<td>Late Woodland</td>
<td>18th Century</td>
</tr>
<tr>
<td>Middle Archaic</td>
<td>Mississippian</td>
<td>19th Century</td>
</tr>
<tr>
<td>Late Archaic</td>
<td>Unknown prehistoric</td>
<td>20th Century</td>
</tr>
<tr>
<td>Early Woodland</td>
<td>16th Century</td>
<td>Unknown historic</td>
</tr>
</tbody>
</table>

E. DATA RECOVERED

List materials recovered:

- 1 bone, lid, large mammal, weathered marks
- 1 check-stamped rim, chert, coarse sand tempered
- 1 colorless machine-made glass container handle
- 1 iron unidentified fragment

Total number of artifacts: 4

F. DATA RECOVERY METHODS

1. Ground surface visibility (circle one): 0% 1-25% 26-50% 51-75% 76-100%
2. Number of person hours spent collecting (total hours x total people):
3. Description of surface collection methods (circle):
   - grid collection
   - grab collection
   - controlled sampling
   - other (specify):
   - no collection made

4. Description of testing methods (circle):
   - Non-systematic
   - Systematic
   - Shovel testing

Test units:

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<th>Number</th>
<th>Size/max. depth</th>
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<tr>
<td></td>
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5. Description of excavation units:

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<td></td>
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</table>

G. MANAGEMENT INFORMATION

1. Present land use (circle):
   - Agricultural
   - Forest
   - Industrial
   - Residential, high density
   - Commercial
   - Other (specify): transportation support facilities

Beaufort County Airport
**Site Number:** 38B1150

**MANAGEMENT INFORMATION (Cont.)**

2. Present condition/integrity of site (circle):
   - Intact
   - Damaged
   - Light damage
   - Moderate damage
   - Heavy damage
   - Erosion
   - Cultivation
   - Logging
   - Construction/development
   - Vandalism
   - Inundation
   - Other (specify)

3. Potential impacts and threats to site (circle):
   - Potential threat:
     - none
     - low
     - moderate
     - high
   - Nature of threat:
     - Revisited portion of the site
     - Direct impact zone
     - Indirect impact zone
     - Outside impact zone
     - Indeterminate

4. Recommendations for further work (circle):
   - survey
   - testing
   - excavation
   - archival
   - none
   - other:

5. References (circle):
   - Historic/archival documentation: Yes
   - No
   - Not Known
   - Archaeological documentation: Yes
   - No
   - Not Known

6. Additional management information/comments:
   - The current concentration of artifacts may represent a portion of a twentieth century trash change (noted by Lepionka in 1978), or it may be a representation of general past use of the area - prehistoric, historic. The area is highly disturbed due to airport construction and ongoing use - the revised portion of 38B1150 is recommend not eligible for inclusion in the NRHP.
   - Initially, the entirety of the site was not revisited.

7. Location of existing collections:
   - Curated at SCAAA

8. Location of photographs:
   - 
   - 
   - 

9. Location of special samples:
   - Type of special samples:

**Signature of observer:** [Signature]  
**Date:** 05/18/2015

**Subsequent visits:**
- Observer: [Name]
  - Date: [Date]
- Observer: [Name]
  - Date: [Date]
- Observer: [Name]
  - Date: [Date]
APPENDIX E
WETLANDS

TALBERT, BRIGHT & ELLINGTON
WETLANDS
E.1 Wetlands

E.1.1 Correspondence

February 24, 2016

Ms. Debbie King
US Army Corps of Engineers
Watershed Group 2 Manager
69A Hagood Avenue
Charleston, SC 29403-5107

RE: Lady’s Island Airport Project Site
Beaufort County, South Carolina
NEI Job #04-3477a

Dear Ms. King,

Reference is made to an approximate 22 acre project site located on Lady’s Is., Beaufort County, South Carolina. The wetland determination of this area has been completed by Newkirk Environmental, Inc. using methods outlined in the US Army Corps of Engineers Wetland Delineation Manual, 1987 and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region, November 2010.

Enclosed are copies of an accurate location map, an aerial photograph, Soil Survey, data sheets representing typical site conditions, a map depicting the data point locations, USGS topographic survey, NWI maps, and photographs of the site. A survey plat with SC DHEC-OCRMA’s signature is included. Please review this information to verify the accuracy of Newkirk Environmental, Inc.’s preliminary determination.

Please do not hesitate to call if you have any questions regarding this project, if additional information is needed or to schedule a site visit.

Sincerely,

[Signature]
Asher Howell, Senior Biologist
Bluffton, South Carolina

Enclosures
February 23, 2016

Ms. Judy Elder  
Talbert, Bright & Ellington, Inc.  
2000 Park St., Suite 101  
Columbia, SC 29201

RE: Lady’s Island Airport Project Site  
Beaufort County, South Carolina  
NEI Job #04-3477a

Dear Ms. Elder,

Reference is made to an approximate 22 acre project site located on Lady’s Island, Beaufort County, South Carolina. As requested, Newkirk Environmental, Inc. (NEI) conducted an assessment of jurisdictional freshwater wetlands and critical area in the summer of 2015 at the above referenced parcel (project site). It is NEI’s professional opinion the project site does contain area(s) that would be, at the time of the investigation, identified as freshwater wetlands and critical area wetlands for the following reasons: 1) presence of wetland vegetation (hydrophytic); 2) presence of wetland soils (hydric, Munsell: chroma less than 2); and 3) the presence of hydrology.

Please find the attached depiction of the approximate location of wetlands on the project site.

The wetland determination of this area has been completed by Newkirk Environmental, Inc. using methods outlined in the US Army Corps of Engineers Wetland Delineation Manual, 1987 and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region, November 2010.

Enclosed are copies of an accurate location map, an aerial photograph, Soil Survey, data sheets representing typical site conditions, a map depicting the data point locations, USGS topographic survey, NWI maps, and photographs of the site. A survey plat has been completed and signed by SC DHEC-OCR certifying the critical area line as accurate.
Lady’s Island Airport – 04-3477a
February 23, 2016
Page 2

Please note, although NEI is confident in our assessment, the US Army Corps of Engineers is the only agency that can make final decisions regarding wetland delineations; therefore, all delineations are subject to change until written verification is obtained. This letter is the professional opinion of Newkirk Environmental and can be relied upon as that.

Please do not hesitate to call if you have any questions regarding this project, if additional information is needed or to schedule a site visit.

Sincerely,

[Signature]
Asher Howell, Senior Biologist
Bluffton, South Carolina

Enclosures


E.1.2 Report

U.S. Army Corps of Engineers – Charleston District - Regulatory Division
JURISDICTIONAL DETERMINATION REQUEST
For Identifying Waters of the U.S., Including Wetlands and Tidelands, and Jurisdictional Status

This form is intended for use by anyone requesting a jurisdictional determination from the U.S. Army Corps of Engineers, Charleston District (Corpus). Please supply the following information and supporting documents described below. This document can be completed electronically and then printed. This document must be signed by the current property owner(s) to be considered a formal request. We require original signatures; faxes and emails with scanned copies are not acceptable. Per the required property owner’s signature below, please be advised that submitting this request authorizes the Corps to conduct site investigations, if necessary, to inform the jurisdictional determination process. Please contact us if you need any assistance with filling out this form, as well as for jurisdictional determination requests associated with corridor projects involving multiple property owners. You may attach extra pages/authentications if needed. The printed form and supporting documents should be mailed to the appropriate office (refer to the enclosed service area map):

Charleston Office:
US Army Corps of Engineers
Regulatory Division
601 Spring Avenue
Charleston, SC 29403
(843) 953-3045

Columbia Office:
US Army Corps of Engineers
Regulatory Office
1835 Assembly Street, Room 885 S-1
Columbia, SC 29205
(803) 796-3844

Conway Office:
US Army Corps of Engineers
Regulatory Office
1049 Industrial Park Road, Room 140
Conway, SC 29526
(843) 435-4230

Directions: Sections I-V must be completed upon submittal. Failure to do so may result in additional delays.

I. PROPERTY AND AGENT INFORMATION

A. Project Data and Location:
   - Project Name: Lady's Island Airport
   - Date: 2-23-15
   - County: Beaufort
   - Tax Map Sequence (TMS) #: R123 018 000 0056 0000
   - Property Address(es): 39 Airport Circle
   - Accession #: 2924

B. Property Owner(s) (if there are multiple property owners, please attach additional pages)
   - Name: Beaufort County, Mr. Jon Rembold
   - Address: PO Box 1229, Beaufort, SC 29901
   - Email: jrembold@beaufort.net
   - Phone: 843-255-2552

C. Requestor Of Jurisdictional Determination (check here if same as Property Owner):
   - Name: Ashley
   - Address: und
   - Phone: 803-645-8200
   - Email: ashler@eagleenvironment.com

D. Consultant/Agent (if applicable):
   - Consultant/Agent Name: Ashley Howell
   - Company Name (if applicable): Newkirk Environmental, Inc.
   - Address: PO Box 309
   - Phone: 803-645-8200
   - Email: ashler@eagleenvironment.com

SELECT ONE:

[ ] I am the current property owner
[ ] I am an interested buyer or am under contract to purchase the property
[ ] Other, please explain.

February 2016
II. PROPERTY ACCESS AUTHORIZATION

I, the undersigned, hereby authorize representatives of the U.S. Army Corps of Engineers, Charleston District, to enter upon the below parcel number(s) for the purposes of conducting on-site investigations (e.g., digging and refilling shallow holes) and issuing a jurisdictional determination associated with Waters of the U.S. subject to Federal Jurisdiction under Section 404 of the Clean Water Act and/or Section 10 of the Rivers and Harbors Act of 1899.

I acknowledge that under South Carolina common law, a person who authorizes, advises, encourages, procures, or incites another to commit a trespass, is liable along with the actual perpetrator.

I further acknowledge that 18 U.S.C. Section 1001 provides that: Whoever, in any manner within the jurisdiction of any department or agency of the United States knowingly or wilfully falsifies, conceals, or covers up any trick, scheme, or device to deprive the United States or any person connected therewith of the truth with respect to any material fact or makes any false, fictitious or fraudulent statements or representations or makes or uses any false writing or document knowing same to contain any false, fictitious or fraudulent statements or entry, shall be fined not more than $10,000 or imprisoned not more than five years or both.

1220 Beaufort, SC 29901
Mailing Address of Property Owner
N11751890238599000
TMS #
Signature of Property Owner:

II. AGENT/CONSULTANT AUTHORIZATION

☐ Not applicable

I, the undersigned, do authorize the agent/consultant listed above on page 1 to act in my behalf in the processing of this request and to furnish supplemental information in support of this request.

I acknowledge that 18 U.S.C. Section 1001 provides that: Whoever, in any manner within the jurisdiction of any department or agency of the United States knowingly or wilfully falsifies, conceals, or covers up any trick, scheme, or device to deprive the United States or any person connected therewith of the truth with respect to any material fact or makes any false, fictitious or fraudulent statements or representations or makes or uses any false writing or document knowing same to contain any false, fictitious or fraudulent statements or entry, shall be fined not more than $10,000 or imprisoned not more than five years or both.

Asher Hollis
Property Owner Name (or Requestor Name) (please print)

Signature of Property Owner (or Requestor): Date:

☐ Property Owner 
☐ Requestor 
☐ Other, please explain:

February 2016
IV. Type of Submittal (Select one):

[✓] A. I am an environmental/permitting consultant representing a JD requestor who is submitting a wetland delineation for review and verification by the Corps. Please refer to pages 4-6 for the "Information Required for Wetland Delineations and Jurisdictional Determination Submissions."

☐ B. I am a JD requestor without an environmental/permitting consultant requesting that the Corps investigate the above property for the presence or absence of wetlands, tributaries, or other Waters of the U.S., and establish the geographic extent of these areas. Please note that while the Corps offers wetland delineation services, these services are for fee and are not available free of charge. To expedite the wetland delineation process, property owners and/or requesters are encouraged to hire an environmental consultant. A current list of environmental consultants can be found on our website at www.saco.usace.army.mil/Science/Regulatory/Permitting/Process.aspx.

For requestors with no environmental/permitting consultant for box IV. B. above, the first three items listed below MUST accompany your request. Complete only this page and disregard the following pages.

1. Accurate location maps (from County Map, USGS Quads, etc.), street address and directions to site from a nearby major intersection.
2. Copy of Survey Property Plat, Tax Map of Property, or depiction showing project review area/property boundary with GPS coordinates.
3. Statement that the project review area/property boundaries are marked and a description of how the project review area/property boundaries are marked onsite. See below note* for more information.
4. Additional information, such as soil survey information, aerial photographs, etc.

*Note: The project review area/property boundaries must be accurately marked onsite PRIOR to the Corps site visit. The property owner may need to hire a registered land surveyor to locate and mark the property corners and/or boundaries. Swell sites and/or sparsely vegetated sites may only require the property corners be marked. However, sites that are large, oddly shaped, and/or have thick vegetative cover may require additional marking efforts, such as cut sight lines, the use of a series of flags, etc. in order for Corps staff to identify and locate the boundaries while onsite.

V. Type of Jurisdictional Determination Requested (select one):

[✓] A. Accurate-Approved
[ ] B. Approximate-Approved
[ ] C. Accurate-Preliminary
[ ] D. Approximate-Preliminary

Description of the Types of Jurisdictional Determinations:

Preliminary – Preliminary determinations will identify whether wetlands or other waters are present on the site and will presume that they are jurisdictional. Preliminary jurisdictional determinations may be completed more quickly than Approved jurisdictional determinations and do not expire.

Approved – Approved jurisdictional determinations will identify whether wetlands or other waters are present on the site and will include a determination of their jurisdictional status. Approved jurisdictional determinations expire in 5 years.

Description of the Types of Delineations:

Accurate: Location and extent (boundaries) of all Waters of the U.S. are identified and surveyed by a registered land surveyor. Project review area/property boundary must be surveyed or represented by a tax map (or by GPS points if no Waters of the U.S. are present).

Approximate: Location and extent (boundaries) of all Waters of the U.S. are identified and depicted approximately on a sketch. Project review area/property boundary must be surveyed or represented by a tax map or GPS coordinates.

*Note: For Accurate-Preliminary Jurisdictional Determinations, although the jurisdictional determination will not expire, the surveyed location and extent (boundaries) of wetlands and/or waters will expire after 5 years.

February 2016
Please note, although Newkirk Environmental, Inc. is confident in its assessments, the USACE is the only agency that can make final decisions regarding wetland delineations; therefore, all preliminary determinations are subject to change. Until verification is received from the USACE, no reliance may be made in this preliminary determination. Newkirk Environmental, Inc. strongly recommends that written verification be obtained prior to closing on the property, beginning any site work or making any legal reliance on this determination.
Please note, although Newkirk Environmental, Inc. is confident in its assessments, the USACE is the only agency that can make final decisions regarding wetland delineations; therefore, all preliminary determinations are subject to change. Until verification is received from the USACE, no reliance may be made in this preliminary determination. Newkirk Environmental, Inc. strongly recommends that written verification be obtained prior to closing on the property, beginning any site work or making any legal reliance on this determination.
WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Lady's Island Airport  
City/County: Beaufort  
Sampling Date: 29-Feb-16

Applicant/Owner: Beaufort County  
State: SC  
Sampling Point: 0

Investigator(s): Allen Horrell  
Section, Township, Range: S T R

Landform (hillslope, terrace, etc.):  
Local relief (concave, convex, none):  
Slope: 0.0 % / 0.0°

Subregion (LRR or MLRA): LRR T  
Lat.: 32.410743  
Long.: 80.634210  
Datum:

Soil Map Unit Name: Bohicket  
NWI classification: E2EM1

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ☑ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?  
Are "Normal Circumstances" present? Yes ☑ No ☐ (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydric Vegetation Present? Yes ☑ No ☐  
Hydric Soil Present? Yes ☑ No ☐  
Wetland Hydrology Present? Yes ☑ No ☐  
Is the Sampled Are within a Wetland? Yes ☑ No ☐

Remarks:
Salt Marsh

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)  
☐ Surface Water (A1)  
☒ High Water Table (A2)  
☒ Saturation (A3)  
☒ Water Marks (B1)  
☐ Sediment Deposits (B2)  
☐ Drift Deposits (B3)  
☐ Argill Mat or Crust (B4)  
☐ Iron Deposits (B5)  
☐ Inundation Visible on Aerial Imagery (B7)  
☐ Water-Stained Leaves (B9)

Secondary Indicators (minimum of 2 required)  
☐ Surface Soil Cracks (B6)  
☐ Sparsely Vegetated Concave Surface (B9)  
☒ Drainage Patterns (B10)  
☐ Moss Trim Lines (B16)  
☐ Dry Season Water Table (C2)  
☐ Crayfish Burrows (C8)  
☐ Saturation Visible on Aerial Imagery (C9)  
☐ Geomorphic Position (D2)  
☐ Shallow Aquicard (D3)  
☒ FAC-Neutral Test (D5)  
☐ Sphagnum moss (D8) (LRR T, U)

Field Observations:

Surface Water Present? Yes ☑ No ☐  
Water Table Present? Yes ☑ No ☐  
Saturation Present? (includes capillary fringe) Yes ☑ No ☐

Depth (inches): 0

Wetland Hydrology Present? Yes ☑ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

US Army Corps of Engineers  
Atlantic and Gulf Coastal Plain Region - Version 2.0
### BEAUFORT COUNTY AIRPORT
#### Phase I Projects Environmental Assessment

**Appendix E**

---

**VEGETATION (Five/Four Strata) - Use scientific names of plants.**

<table>
<thead>
<tr>
<th>Tree Stratum (Plot size: )</th>
<th>Absolute % Cover</th>
<th>Relative % Cover</th>
<th>Indicator Status</th>
</tr>
</thead>
<tbody>
<tr>
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</tbody>
</table>

**50% of Total Cover: 0% 20% of Total Cover: 0% = Total Cover**

**Sapling or Sapling/Shrub Stratum (Plot size: )**

<table>
<thead>
<tr>
<th>Species</th>
<th>Absolute % Cover</th>
<th>Relative % Cover</th>
<th>Indicator Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spicata alternifolia</td>
<td>0%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Juncus roemeranus</td>
<td>0%</td>
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<tr>
<td>Distichias speciosa</td>
<td>0%</td>
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<tr>
<td>Sarracenia ambigua</td>
<td>0%</td>
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**50% of Total Cover: 0% 20% of Total Cover: 0% = Total Cover**

**Shrub Stratum (Plot size: )**

<table>
<thead>
<tr>
<th>Species</th>
<th>Absolute % Cover</th>
<th>Relative % Cover</th>
<th>Indicator Status</th>
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</thead>
<tbody>
<tr>
<td>Spicata alternifolia</td>
<td>0%</td>
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<tr>
<td>Juncus roemeranus</td>
<td>0%</td>
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<tr>
<td>Distichias speciosa</td>
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<td>Sarracenia ambigua</td>
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</table>

**50% of Total Cover: 0% 20% of Total Cover: 0% = Total Cover**

**Herb Stratum (Plot size: )**

<table>
<thead>
<tr>
<th>Species</th>
<th>Absolute % Cover</th>
<th>Relative % Cover</th>
<th>Indicator Status</th>
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</thead>
<tbody>
<tr>
<td>Sarracenia ambigua</td>
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</tbody>
</table>

**50% of Total Cover: 0% 20% of Total Cover: 0% = Total Cover**

**Woody Vine Stratum (Plot size: )**

<table>
<thead>
<tr>
<th>Species</th>
<th>Absolute % Cover</th>
<th>Relative % Cover</th>
<th>Indicator Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sarracenia ambigua</td>
<td>0%</td>
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</tbody>
</table>

**50% of Total Cover: 0% 20% of Total Cover: 0% = Total Cover**

**Sampling Point:** 0

**Dominance Test worksheet:**

- Number of Dominate Species That Are OBL, FACW, or FAC: 2 (A)
- Total Number of Dominant Species Across All Strata: 2 (B)
- Percent of dominant Species That Are OBL, FACW, or FAC: 198.0% (A/B)

**Prevalence Index worksheet:**

- Total % Cover of: Multiply by:
  - OBL species \( x \) 1
  - FACW species \( x \) 2 = 0
  - FAC species \( x \) 3 = 0
  - FACW species \( x \) 4 = 0
  - OPL species \( x \) 5 = 0

**Column Totals:** (A) (B)

**Prevalence Index = B/A**

**Hydrophytic Vegetation Indicator:**

- 1 - Rapid Test for Hydrophytic Vegetation
- 2 - Dominance Test is > 50%
- 3 - Prevalence Index is ≤ 3.0

**Problematic Hydrophytic Vegetation Indicator**

1. Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definition of Vegetation Strata:**

- **Tree** - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).
- **Sapling** - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.
- **Sapling/Shrub** - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.
- **Shrub** - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.
- **Herb** - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.
- **Woody Vine** - All woody vines, regardless of height.

**Hydrophytic Vegetation Present?** Yes ☐ No ☐

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US Army Corps of Engineers

Atlantic and Gulf Coastal Plain Region - Version 2.0

---

**Appendix E**

**Wetlands**

---

TALBERT, BRIGHT & ELLINGTON

E-19
<table>
<thead>
<tr>
<th>Debris Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 cm Mull (A6)</td>
<td>LRR S, T, U</td>
</tr>
<tr>
<td>2 cm Mull (A10)</td>
<td>LRR S</td>
</tr>
<tr>
<td>Reduced Vertic (F18)</td>
<td>Outside HLR 150A, U</td>
</tr>
<tr>
<td>Piedmont Floodplain Soils (F19)</td>
<td>LRR P, S, T</td>
</tr>
<tr>
<td>Anomalous Bright Loamy Soils (F20)</td>
<td>(HLRA 1538)</td>
</tr>
<tr>
<td>Red Parent Material (TP)</td>
<td></td>
</tr>
<tr>
<td>Very Shallow Dark Surface (TF12)</td>
<td></td>
</tr>
<tr>
<td>Other (Explain in Remarks)</td>
<td></td>
</tr>
</tbody>
</table>

2 Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
**WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region**

<table>
<thead>
<tr>
<th>Project/Site:</th>
<th>Lady's Island Airport</th>
<th>City/County:</th>
<th>Beaufort</th>
<th>Sampling Date:</th>
<th>23-Feb-16</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applicant/Owner:</td>
<td>Beaufort County</td>
<td>State:</td>
<td>SC</td>
<td>Sampling Point:</td>
<td>1</td>
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<tr>
<td>Investigator(s):</td>
<td>Alter Howell</td>
<td>Section, Township, Range:</td>
<td>T R</td>
<td>Landform (hillslope, terrace, etc.):</td>
<td>Local relief (concave, convex, none):</td>
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<tr>
<td>Subregion (LR or MLRA):</td>
<td>LRR T</td>
<td>Lat.:</td>
<td>32.410743</td>
<td>Long.:</td>
<td>80.634210</td>
</tr>
<tr>
<td>Soil Map Unit Name:</td>
<td>Bohicket</td>
<td>NWI classification:</td>
<td>E2EM1</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Are climatic/hydrologic conditions on the site typical for this time of year?**

- Yes ☐
- No ☐

*(If no, explain in Remarks.)*

**Are Vegetation, Soil, or Hydrology significantly disturbed?**

- Yes ☐
- No ☐

**Are "Normal Circumstances" present?**

- Yes ☐
- No ☐

*(If needed, explain any answers in Remarks.)*

**SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.**

<table>
<thead>
<tr>
<th>Hydrophytic Vegetation Present?</th>
<th>Yes ☐ No ☐</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydric Soil Present?</td>
<td>Yes ☐ No ☐</td>
</tr>
<tr>
<td>Wetland Hydrology Present?</td>
<td>Yes ☐ No ☐</td>
</tr>
</tbody>
</table>

**Remarks:**

- Lower saltmarsh

**HYDROLOGY**

**Wetland Hydrology Indicators:**

- Surface Water (A1)
- High Water Table (A2)
- Saturated (A3)
- Water Holes (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Water-Stained Leaves (B9)

**Secondary Indicators (minimum of 2 required):**

- Aquatic Fauna (B13)
- Marl Deposits (B15) (LRR U)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres along Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

**Field Observations:**

- Surface Water Present? | Yes ☐ No ☐ | Depth (inches): 0 |
- Water Table Present? | Yes ☐ No ☐ | Depth (inches): 0 |
- Saturation Present? (includes capillary fringe) | Yes ☐ No ☐ | Depth (inches): 0 |

**Wetland Hydrology Present?**

- Yes ☐ No ☐

**Remarks:**

US Army Corps of Engineers

Atlantic and Gulf Coastal Plain Region - Version 2.0
### V E G E T A T I O N ( F i v e / F o u r S t r a t a )  -  U s e s c i e n t i f i c n a m e s o f p l a n t s .

<table>
<thead>
<tr>
<th>Tree Stratum</th>
<th>Dominant Species?</th>
<th>Absolute % Cover</th>
<th>Relative Strat. Cover</th>
<th>Indicator Status</th>
<th>Sample Point: 1</th>
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50% of Total Cover: 0  20% of Total Cover: 0  0 = Total Cover

### Sapling or Sapling/Shrub Stratum

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<tr>
<th>Plot size:</th>
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<td>6.</td>
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</tbody>
</table>

50% of Total Cover: 0  20% of Total Cover: 0  0 = Total Cover

### Shrub Stratum

<table>
<thead>
<tr>
<th>Plot size:</th>
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</thead>
<tbody>
<tr>
<td>1. Spartina alterniflora</td>
<td>95%</td>
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</tbody>
</table>

50% of Total Cover: 47.5  20% of Total Cover: 19  95% = Total Cover

### Herb Stratum

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<tr>
<th>Plot size:</th>
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<tbody>
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<td>2.</td>
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<td>4.</td>
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<tr>
<td>6.</td>
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</tbody>
</table>

50% of Total Cover: 0  20% of Total Cover: 0  0 = Total Cover

### Woody Vine Stratum

<table>
<thead>
<tr>
<th>Plot size:</th>
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<tbody>
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<td>1.</td>
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<td>3.</td>
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<td>4.</td>
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<tr>
<td>5.</td>
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</tbody>
</table>

50% of Total Cover: 0  20% of Total Cover: 0  0 = Total Cover

### Remarks (if observed, list morphological adaptations below):

*Indicators suffix = rational status or professional decision assigned because Regional status not defined by PWS.

US Army Corps of Engineers

Atlantic and Gulf Coastal Plain Region - Version 2.0

Appendix E

Wetlands

TALBERT, BRIGHT & ELLINGTON

E-22
### SOIL

**Profile Description:** (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

<table>
<thead>
<tr>
<th>Depth (Inches)</th>
<th>Color (moist)</th>
<th>Color (moist)</th>
<th>Type</th>
<th>Texture</th>
<th>Remarks</th>
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<tbody>
<tr>
<td>0-20</td>
<td>10YR 2/1</td>
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<td>Huck</td>
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<tr>
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<td></td>
</tr>
</tbody>
</table>

1. Type: C=Concentration, D=Deposition, R=Reduced Matric, CS=Covered or Coated Sand Grains  
2. Location: P=Pure Lining, N=Matrix

**Hydric Soil Indicators:**

- Histosol (A1)
- Histic Eutric (A2)
- Black Histosol (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Organic Bodies (A6) (LRR P, T, U)
- 5 cm Mucky Mineral (A7) (LRR P, T, U)
- Mucky Presence (A8) (LRR U)
- 1 cm Mucky (A9) (LRR P, T)
- Depressed Below Dark Surface (A10)
- Thick Dark Surface (A11)
- Coast Prairie Redox (A16) (HRLA 150A)
- Sandy Mucky Mineral (A16) (LRR O, S)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR P, S, T, U)

**Indicators for Problematic Hydric Soils:**

- Polyvalue Below Surface (S8) (LRR S, T, U)
- Thin Dark Surface (S9) (LRR S, T, U)
- Loamy Mucky Mineral (F1) (LRR O)
- Loamy Gleyed Matrix (F2)
- Depressed Matrix (F3)
- Redox Dark Surface (F6)
- Depressed Dark Surface (F7)
- Redox Depressions (F8)
- Melt (F10) (LRR U)
- Depressed Osphric (F11) (HRLA 151)
- Iron-Manganese Masses (F12) (LRR O, P, T)
- Umbelic Surface (F13) (LRR P, T, U)
- Delta Osphric (F17) (HRLA 151)
- Reduced Vertic (F18) (HRLA 150A, 150B)
- Piedmont Floodplain Soils (F19) (HRLA 149A)
- Anomalous Bright Loamy Soils (F20) (HRLA 149A, 153C, 153D)

**Restrictive Layer (if observed):**

- Type:  
  - Depth (inches):  
  - Hydric Soil Present? Yes ☑️ No ☐

**Remarks:**

---

US Army Corps of Engineers  
Atlantic and Gulf Coastal Plain Region - Version 2.0
## WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

<table>
<thead>
<tr>
<th>Project/Site:</th>
<th>Lady's Island Airport</th>
<th>City/County:</th>
<th>Beaufort</th>
<th>Sampling Date:</th>
<th>23-Feb-16</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applicant/Owner:</td>
<td>Beaufort County</td>
<td>State:</td>
<td>SC</td>
<td>Sampling Point:</td>
<td>2</td>
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<tr>
<td>Investigator(s):</td>
<td>Aker Howell</td>
<td>Section, Township, Range:</td>
<td>T R</td>
<td>Local relief (concave, convex, none):</td>
<td>0.0 % / 0.0 °</td>
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<tr>
<td>Landform (hillslope, terrace, etc.):</td>
<td></td>
<td></td>
<td></td>
<td>Slope:</td>
<td></td>
</tr>
<tr>
<td>Subregion (LRR or MLRA):</td>
<td>LRR T</td>
<td>Lat.:</td>
<td>32.410743</td>
<td>Long.:</td>
<td>80.634210</td>
</tr>
</tbody>
</table>

### Soil Map Unit Name: Bleden

### Are climatic/hydrologic conditions on the site typical for this time of year? Yes ☐ No ☑ (If no, explain in Remarks.)

### Are Vegetation ☐ Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☐ No ☑ (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

| Hydrophytic Vegetation Present? | Yes ☐ No ☑ | Is the Sampled Area within a Wetland? | Yes ☐ No ☑ |
| Hydric Soil Present? | Yes ☐ No ☑ |
| Wetland Hydrology Present? | Yes ☐ No ☑ |

### Remarks:

## HYDROLOGY

### Wetland Hydrology Indicators:

**Primary Indicators (minimum of one required; check all that apply):**

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Water-Stained Leaves (B9)

**Secondary Indicators (minimum of 2 required):**

- Aquatic Fauna (B13)
- Mollusks (B15) (LRR U)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres along Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)
- Surface Soil Cracks (B6)
- Sparsely Vegetated Concave Surface (B8)
- Drainage Patterns (B10)
- Moss-Trim Lines (B16)
- Dry Season Water Table (C2)
- Clayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Geomorphic Position (D2)
- Shallow Aquitard (D3)
- FAC-Neutral Test (D5)
- Sphagnum moss (D8) (LRR T, U)

### Field Observations:

- Surface Water Present? Yes ☐ No ☑ Depth (inches): ___________
- Water Table Present? Yes ☐ No ☑ Depth (inches): ___________
- Saturation Present? (excludes epiphyte fringe) Yes ☐ No ☑ Depth (inches): ___________

### Wetland Hydrology Present? Yes ☐ No ☑

### Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

### US Army Corps of Engineers

Atlantic and Gulf Coastal Plain Region - Version 2.0
### VEGETATION (Five/Four Strata) - Use scientific names of plants.

<table>
<thead>
<tr>
<th>Tree Stratum (Plot size:</th>
<th>Absolute % Cover</th>
<th>Dominant Species of Rel.Strat. Cover</th>
<th>Indicator Status</th>
<th>Sampling Point:</th>
<th>Dominance Test worksheet:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>0</td>
<td>0.0%</td>
<td></td>
<td>2</td>
<td>Number of Dominant Species:</td>
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<tr>
<td>2.</td>
<td>0</td>
<td>0.0%</td>
<td></td>
<td></td>
<td>That are OBL, FACW, or FAC:</td>
</tr>
<tr>
<td>3.</td>
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<td>0.0%</td>
<td></td>
<td></td>
<td>0 (A)</td>
</tr>
<tr>
<td>4.</td>
<td>0</td>
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<td></td>
<td>Total Number of Dominant Species Across All Strata:</td>
</tr>
<tr>
<td>5.</td>
<td>0</td>
<td>0.0%</td>
<td></td>
<td></td>
<td>2 (B)</td>
</tr>
<tr>
<td>6.</td>
<td>0</td>
<td>0.0%</td>
<td></td>
<td></td>
<td>Percent of dominant Species</td>
</tr>
<tr>
<td>7.</td>
<td>0</td>
<td>0.0%</td>
<td></td>
<td></td>
<td>That Are OBL, FACW, or FAC:</td>
</tr>
<tr>
<td>8.</td>
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<td>0.0%</td>
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<td></td>
<td>0.0% (A/B)</td>
</tr>
<tr>
<td>50% of Total Cover: 0</td>
<td>20% of Total Cover: 0</td>
<td>0 = Total Cover</td>
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<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sapling or Sapling/Shrub Stratum (Plot size:</th>
<th>Absolute % Cover</th>
<th>Dominant Species of Rel.Strat. Cover</th>
<th>Indicator Status</th>
<th>Sampling Point:</th>
<th>Dominance Test worksheet:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>0</td>
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<td></td>
<td>2</td>
<td>Number of Dominant Species:</td>
</tr>
<tr>
<td>2.</td>
<td>0</td>
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<td></td>
<td></td>
<td>That are OBL, FACW, or FAC:</td>
</tr>
<tr>
<td>3.</td>
<td>0</td>
<td>0.0%</td>
<td></td>
<td></td>
<td>0 (A)</td>
</tr>
<tr>
<td>4.</td>
<td>0</td>
<td>0.0%</td>
<td></td>
<td></td>
<td>Total Number of Dominant Species Across All Strata:</td>
</tr>
<tr>
<td>5.</td>
<td>0</td>
<td>0.0%</td>
<td></td>
<td></td>
<td>2 (B)</td>
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<tr>
<td>6.</td>
<td>0</td>
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<td></td>
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<tr>
<td>7.</td>
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<td></td>
<td>That Are OBL, FACW, or FAC:</td>
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<tr>
<td>8.</td>
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<td>0.0%</td>
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<td>0.0% (A/B)</td>
</tr>
<tr>
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<td>20% of Total Cover: 0</td>
<td>0 = Total Cover</td>
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<table>
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<tr>
<th>Shrub Stratum (Plot size:</th>
<th>Absolute % Cover</th>
<th>Dominant Species of Rel.Strat. Cover</th>
<th>Indicator Status</th>
<th>Sampling Point:</th>
<th>Dominance Test worksheet:</th>
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</thead>
<tbody>
<tr>
<td>1.</td>
<td>0</td>
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<td></td>
<td>2</td>
<td>Number of Dominant Species:</td>
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<tr>
<td>2.</td>
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<td>That are OBL, FACW, or FAC:</td>
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<tr>
<td>3.</td>
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<td></td>
<td>0 (A)</td>
</tr>
<tr>
<td>4.</td>
<td>0</td>
<td>0.0%</td>
<td></td>
<td></td>
<td>Total Number of Dominant Species Across All Strata:</td>
</tr>
<tr>
<td>5.</td>
<td>0</td>
<td>0.0%</td>
<td></td>
<td></td>
<td>2 (B)</td>
</tr>
<tr>
<td>6.</td>
<td>0</td>
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<td></td>
<td></td>
<td>Percent of dominant Species</td>
</tr>
<tr>
<td>7.</td>
<td>0</td>
<td>0.0%</td>
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<td>That Are OBL, FACW, or FAC:</td>
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<tr>
<td>8.</td>
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<td>0.0%</td>
<td></td>
<td></td>
<td>0.0% (A/B)</td>
</tr>
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<td>20% of Total Cover: 0</td>
<td>0 = Total Cover</td>
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<table>
<thead>
<tr>
<th>Herb Stratum (Plot size:</th>
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<th>Dominance Test worksheet:</th>
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<td>1. Paepalium nodatum</td>
<td>60</td>
<td>60.0% FALU</td>
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<td>Number of Dominant Species:</td>
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<tr>
<td>2. Sorghum barbatus</td>
<td>40</td>
<td>40.0% FALU</td>
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<td>That are OBL, FACW, or FAC:</td>
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<td>0</td>
<td>0.0%</td>
<td></td>
<td></td>
<td>0 (A)</td>
</tr>
<tr>
<td>4.</td>
<td>0</td>
<td>0.0%</td>
<td></td>
<td></td>
<td>Total Number of Dominant Species Across All Strata:</td>
</tr>
<tr>
<td>5.</td>
<td>0</td>
<td>0.0%</td>
<td></td>
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<td>2 (B)</td>
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<tr>
<td>6.</td>
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<td>Percent of dominant Species</td>
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<tr>
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<td>0.0%</td>
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<th>Dominant Species of Rel.Strat. Cover</th>
<th>Indicator Status</th>
<th>Sampling Point:</th>
<th>Dominance Test worksheet:</th>
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<tbody>
<tr>
<td>1.</td>
<td>0</td>
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<td></td>
<td>2</td>
<td>Number of Dominant Species:</td>
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<tr>
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<td>0</td>
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<td>That are OBL, FACW, or FAC:</td>
</tr>
<tr>
<td>3.</td>
<td>0</td>
<td>0.0%</td>
<td></td>
<td></td>
<td>0 (A)</td>
</tr>
<tr>
<td>4.</td>
<td>0</td>
<td>0.0%</td>
<td></td>
<td></td>
<td>Total Number of Dominant Species Across All Strata:</td>
</tr>
<tr>
<td>5.</td>
<td>0</td>
<td>0.0%</td>
<td></td>
<td></td>
<td>2 (B)</td>
</tr>
<tr>
<td>6.</td>
<td>0</td>
<td>0.0%</td>
<td></td>
<td></td>
<td>Percent of dominant Species</td>
</tr>
<tr>
<td>7.</td>
<td>0</td>
<td>0.0%</td>
<td></td>
<td></td>
<td>That Are OBL, FACW, or FAC:</td>
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<td>8.</td>
<td>0</td>
<td>0.0%</td>
<td></td>
<td></td>
<td>0.0% (A/B)</td>
</tr>
<tr>
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<td>20% of Total Cover: 0</td>
<td>0 = Total Cover</td>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>

**Hydrophytic Vegetation Indicators:**

- **1 - Rapid Test for Hydrophytic Vegetation**
- **2 - Dominance Test is > 59%**
- **3 - Prevalence Index is ≤ 3.0**
- **Problematic Hydrophytic Vegetation** (Explain)

**Definition of Vegetation Strata:**

- **Tree** - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).
- **Sapling** - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.
- **Sapling/Shrub** - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.2 ft (1m) tall.
- **Shrub** - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.
- **Herb** - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.
- **Woody Vine** - All woody vines, regardless of height.

**Hydrophytic Vegetation Present?**

- **Yes**
- **No**

*Indicators suffix = National status or professional decision assigned because Regional status not defined by FRIS.

US Army Corps of Engineers

Atlantic and Gulf Coastal Plain Region - Version 2.0

Appendix E

Wetlands

TALBERT, BRIGHT & ELLINGTON

E-25
### SOIL

**Profile Description:** (Describe the depth needed to document the indicator or confirm the absence of indicators.)

<table>
<thead>
<tr>
<th>Depth (inches)</th>
<th>Matrix</th>
<th>%</th>
<th>Redox Features</th>
<th>%</th>
<th>Type¹</th>
<th>Loc²</th>
<th>Texture</th>
<th>Remarks</th>
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</thead>
<tbody>
<tr>
<td>0-5</td>
<td>10YR</td>
<td>2/4</td>
<td></td>
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<td></td>
<td>Sand</td>
<td></td>
</tr>
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<td>5-12</td>
<td>10YR</td>
<td>5/2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Sand</td>
<td></td>
</tr>
<tr>
<td>13-20</td>
<td>10YR</td>
<td>5/3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Sand</td>
<td></td>
</tr>
</tbody>
</table>

¹ Type: C=Concentration, D=Depletion, RH=Reduced Matrix, CS=Covered or Coated Sand Grains
² Location: P=Pore Lining, M=Matrix

**Hydric Soil Indicators:**

- Histosol (A1)
- Histic Eutridon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Organic Bodies (A6) (LRP P, T, U)
- 5 cm Mucky Mineral (A7) (LRP P, T, U)
- Muck Presence (A8) (LRP U)
- 5 cm Muck (A9) (LRP P, T)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Coastal Prairie Redox (A16) (NLRA 150A)
- Sandy Muck Mineral (S1) (LRP O, S)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRP P, S, T, U)

**Indicators for Problematic Hydric Soils:**

- Polyvalue Below Surface (S0) (LRP S, T, U)
- Thin Dark Surface (S9) (LRP S, T, U)
- Loamy Mucky Mineral (P1) (LRP O)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Mart (F10) (LRP U)
- Depleted Ochric (F11) (NLRA 151)
- Iron-Manganese Nodules (F12) (LRP O, P, T)
- Umbric Surface (F13) (LRP P, T, U)
- Delta Ochric (F17) (NLRA 151)
- Reduced Vertic (F18) (NLRA 150A, 150B)
- Piedmont Floodplain Soils (F19) (NLRA 149A)
- Anomalous Bright Loamy Soils (F20) (NLRA 149A, 153C, 153D)

**Restrictive Layer (If observed):**

*Type:*

<table>
<thead>
<tr>
<th>Depth (inches):</th>
<th>Hydric Soil Present?</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
</table>

**Remarks:**

All upland is disturbed by previous airport construction.
**WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region**

<table>
<thead>
<tr>
<th>Project/Site: Lady's Island Airport</th>
<th>City/County: Beaufort</th>
<th>Sampling Date: 23-Feb-16</th>
</tr>
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<tbody>
<tr>
<td>Applicant/Owners: Beaufort County</td>
<td>State: SC</td>
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<tr>
<td>Investigator(s): A. Kerr</td>
<td>Section, Township, Range: 5T6R</td>
<td></td>
</tr>
<tr>
<td>Landform (Hillside, terrace, etc.):</td>
<td>Local relief (concave, convex, none): Slope: 0.0% / 0.0°</td>
<td></td>
</tr>
<tr>
<td>Subregion (LRR or MLRA): LRR T</td>
<td>Lat.: 32.410743</td>
<td>Long.: 80.634210</td>
</tr>
<tr>
<td>Soil Map Unit Name: Bliden</td>
<td>Datum:</td>
<td></td>
</tr>
</tbody>
</table>

**Are climatic/hydrologic conditions on the site typical for this time of year?**
- Yes ☑ No ❌ *(If no, explain in Remarks.)*

**Are Vegetation, Soil, or Hydrology significantly disturbed?**
- Are "Normal Circumstances" present? Yes ☑ No ❌ *(If needed, explain any answers in Remarks.)*

**SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.**

<table>
<thead>
<tr>
<th>Hydrophytic Vegetation Present?</th>
<th>Yes ☑ No ❌</th>
<th>Is the Sampled Area within a Wetland?</th>
<th>Yes ☑ No ❌</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is the Sampled Area within a Wetland?</td>
<td>Yes ☑ No ❌</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Remarks:**
- Upland Cut Freshwater Ditch

**HYDROLOGY**

**Wetland Hydrology Indicators:**
- Primary Indicators (minimum of one required; check all that apply)
  - ☑ Surface Water (A1)
  - ☑ High Water Table (A2)
  - ☑ Water Works (A3)
  - ☑ Water Tracks (B1)
  - ☑ Drift Deposits (B3)
  - ☑ Algal Mat or Crust (B4)
  - ☑ Iron Deposits (B5)
  - ☑ Inundation Visible on Aerial Imagery (B7)
  - ☑ Water-Stained Leaves (B9)

**Secondary Indicators (minimum of 2 required):**
- ☑ Aquatic Fauna (B13)
- ☑ Marly Deposits (B15) (LRR U)
- ☑ Hydrogen Sulfide Odor (C1)
- ☑ Oxidized Benthic Mollusks along Living Roots (C3)
- ☑ Presence of Reduced Iron (C4)
- ☑ Recent Iron Reduction in Tillied Soils (C6)
- ☑ Thin Mud Surface (C7)
- ☑ Other (Explain in Remarks)

**Field Observations:**
- Surface Water Present? Yes ☑ No ❌ Depth (inches): 0
- Water Table Present? Yes ☑ No ❌ Depth (inches): 0
- Saturated Present? (includes capillary fringe) Yes ☑ No ❌ Depth (inches): 0

**Wetland Hydrology Present?** Yes ☑ No ❌

**US Army Corps of Engineers**

Atlantic and Gulf Coastal Plain Region - Version 2.0
## VEGETATION (Five/Four Strata) - Use scientific names of plants.

<table>
<thead>
<tr>
<th>Tree Stratum (Plot size: )</th>
<th>Absolute % Cover</th>
<th>Dominant Species?</th>
<th>Relative % Cover</th>
<th>Indication Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>0</td>
<td>0 %</td>
<td>0 %</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>0</td>
<td>0 %</td>
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<td>3.</td>
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<td>4.</td>
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<td>5.</td>
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<td>6.</td>
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<td>7.</td>
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<tr>
<td>8.</td>
<td>0</td>
<td>0 %</td>
<td>0 %</td>
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</tr>
</tbody>
</table>

50% of Total Cover: 0 20% of Total Cover: 0 = Total Cover

### Sapling or Sapling/Shrub Stratum (Plot size: )

<table>
<thead>
<tr>
<th>Species</th>
<th>Percentage</th>
<th>OBL</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. T. angustifolia</td>
<td>100</td>
<td>OBL</td>
</tr>
</tbody>
</table>

50% of Total Cover: 0 20% of Total Cover: 0 = Total Cover

### Shrub Stratum (Plot size: )

### Herb Stratum (Plot size: )

### Woody Vine Stratum (Plot size: )

### Remarks (If observed, list morphological adaptations below).

*Indicates stress or professional decisionjadged because Regional status not defined by FWS.

### Sampling Point: 3

### Dominance Test worksheet:

- Number of Dominant Species That Are OBL, FACW, or FAC: 1
- Total Number of Dominant Species Across All Strata: 1
- Percent of dominant Species That Are OBL, FACW, or FAC: 100% (A)

### Prevalence Index worksheet:

- Total % Cover of: Multiply by:
  - OBL species: x 1 =
  - FACW species: 0 x 2 = 0
  - FAC species: 0 x 3 = 0
  - FACU species: 0 x 4 = 0
  - UPL species: 0 x 5 = 0

Column Totals: (A) (B)

Prevalence Index = A/B =

### Hydric Potential Vegetation Indicators:
- OBL species: x 1
- FACW species: 0 x 2 = 0
- FAC species: 0 x 3 = 0
- FACU species: 0 x 4 = 0
- UPL species: 0 x 5 = 0

### Definition of Vegetation Strata:
- **Tree** - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).
- **Sapling** - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.
- **Sapling/Shrub** - Woody plants, excluding woody vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.
- **Shrub** - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.
- **Herb** - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.
- **Woody vine** - All woody vines, regardless of height.

### Hydrophytic Vegetation Present? Yes ☑ No ☐
### SOIL

**Profile Description:** (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

<table>
<thead>
<tr>
<th>Depth (inches)</th>
<th>Matrix</th>
<th>%</th>
<th>Redox Features</th>
<th>%</th>
<th>Type</th>
<th>Loc</th>
<th>Texture</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-20</td>
<td>10R</td>
<td>2/1</td>
<td></td>
<td></td>
<td>Huck</td>
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</tbody>
</table>

1 Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

**Indicators for Problematic Hydric Soils:**

- 1 cm Muck (A6) (LRRI 0)
- 2 cm Muck (A10) (LRRI 5)
- Reduced Vertic (F18) (NLRA 150A, 150B)
- Piedmont Floodplain Soils (F19) (NLRA 149A)
- Anomalous Bright Leamy Soils (F20) (NLRA 149A, 153C, 1530)

Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Hydric Soil Indicators:**

- Histosol (A1)
- Mucksoil (A2)
- Black Hist (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Organic Bodies (A6) (LRRI P, T, U)
- 5 cm Mucky Mineral (A7) (LRRI P, T, U)
- Muck Presence (A8) (LRRI U)
- 1 cm Mucky (A9) (LRRI P, T)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Coast Prairie Redox (A16) (NLRA 150A)
- Sandy Mucky Mineral (S1) (LRRI O, S)
- Sandy Leamy Matrix (S4)
- Sandy Redox (S5)
- Saturated Matrix (S6)
- Dark Surface (S7) (LRRI P, S, T, U)

- Polyvalue Below Surface (S8) (LRRI S, T, U)
- Thin Dark Surface (S9) (LRRI S, T, U)
- Leamy Mucky Mineral (P1) (LRRI O)
- Leamy Leamy Matrix (P2)
- Depleted Matrix (P3)
- Reoxid Dark Surface (P6)
- Depleted Dark Surface (P7)
- Redox Depressions (P8)
- Mott (F10) (LRRI U)
- Depleted Ochric (F11) (NLRA 151)
- Iron-Manganese Riches (F12) (LRRI O, P, T)
- Umbric Surface (F13) (LRRI P, T, U)
- Data Ochric (F17) (NLRA 151)

**Restrictive Layer (If observed):**

<table>
<thead>
<tr>
<th>Type</th>
<th>Depth (inches)</th>
<th>Hydric Soil Present?</th>
<th>Yes ☑ No ☐</th>
</tr>
</thead>
</table>

**Remarks:**

Muck in inundated ditch
E.2 Mitigation

E.2.1 Correspondence

February 10, 2016

Ms. Judy Elder
Talbert, Bright & Ellington, Inc.
2000 Park St., Suite 101
Columbia, SC 29201

RE: Beaufort County Airport
Beaufort County, South Carolina

Dear Ms. Elder,

This letter is intended to summarize the findings of potential mitigation sites for the saltwater impacts authorized through a previous USACR permit (SAC 2002-JU-129) and impacts proposed in a new effort at the Lady’s Island Airport. As you are aware, Newkirk Environmental Inc. (NEI) has coordinated an effort with the county to locate a possible mitigation site using land that is already set aside for preservation and owned by Beaufort County. After submitting a preliminary Essential Fish Habitat assessment, the National Marine Fisheries Service has reiterated that all proposed impacts must be accompanied by a current mitigation plan. NEI, with the help of the county, has now conducted cursory reviews of four (4) potential mitigation sites to propose for the saltwater area impacts. These four (4) sites were picked as the best potential mitigation candidates from all properties in the Beaufort County land preservation program to date.

The following is a brief description and assessment of mitigation potential for each site.

The first site that was reviewed is known as Pinckney Point and is currently owned by Beaufort County. This site is made up of former agriculture fields and maritime forest along the banks of the Colleton River. This site has very good potential in NEI’s opinion to create the necessary critical area acreage by converting approximately 10 acres of former agriculture land to salt marsh. However, after inquiring about the use of Pinckney Point for a mitigation alternative, officials from Beaufort County notified NEI that due to ongoing legal issues this land was not a viable alternative.

NEI reviewed two (2) other properties current in the county’s preservation program as potential mitigation options. The two properties are known as Widgeon Point and Lamon Island. Widgeon Point has a current impoundment that could possibly be restored to marsh by regrading the impounded area and allowing unimpeded tide to naturally move through. The Lamon Island property has an abundance of marsh and creek frontage that would allow for ease in creating new salt marsh. Beaufort County decided that these areas were not viable options for mitigation due to land ownership and management constraints.
The last property reviewed by NEI is known as the Burch Tract and is located near the intersection of Highway 170 and Callawassie Drive. This property consists mostly of large mature wooded areas with two salt marsh areas along the Chechessee River. The marsh areas appear to be a series of managed impoundments and ditches that may have been used formerly for rice production or waterfowl management. Today the areas are restricted from tidal flow by an old impoundment dike and a lack of maintenance to the former ditch system. Currently, this site appears to be the most viable option to satisfy the mitigation needs at Lady’s Island Airport. The preliminary conceptual plan would be to remove the dike preventing tidal flow and to restore the ditch to allow both areas to receive adequate tidal flushing.

To further this mitigation plan, it is our recommendation that NEI be authorized to proceed with necessary field surveys and development of a conception permittee responsible mitigation (PRM) plan. Upon completion of this plan, NEI will coordinate with interested state and federal regulatory agencies to gain feedback and general approval.

Please do not hesitate to contact me with any questions or comments concerning the mitigation site summary. If you would like to proceed with the development of a formal PRM as noted below please advise and we will forward appropriate scope and estimates for the work.

Sincerely,

[Signature]
Asher Howell
Newkirk Environmental, Inc.
Bluffton, SC Office

Cc: Mr. Jon Rembold, Beaufort County Airport

Enclosures
E.2.2 Report

CONCEPTUAL MITIGATION PLAN
FOR
SALTWATER RESTORATION/ENHANCEMENT
BEAUFORT COUNTY AIRPORT EXPANSION
BEAUFORT COUNTY, SOUTH CAROLINA

Prepared for:
Judy Elder-Lincke
TALBERT, BRIGHT & ELLINGTON
2000 Park Street, Suite 101
Columbia, SC 29201

March 2016

Prepared by:
Newkirk
ENVIRONMENTAL INC.
73 Sea Island Parkway, Suite 20
Beaufort, South Carolina 29907
(843) 645-8200
(843) 645-8201 Fax
Conceptual Mitigation Plan
For
Saltwater Restoration/Enhancement
To offset
Beaufort County Airport Expansion

March 2016

1.0 Background
The Beaufort County Airport is located along U.S. Highway 21 (Sea Island Parkway) on Lady’s Island, Beaufort County, SC. This facility consists of a runway, taxiway, airport terminal, hangars, as well as a mixture of uplands interspersed with salt and freshwater wetlands. Beaufort County is in the process of conducting an environmental assessment for the following projects:

- Bringing the runway safety areas (RSAs) for Runway 07/25 into compliance with Federal Aviation Administration (FAA) design requirements
- Completing the parallel taxiway to Runway 25
- Expanding the aircraft parking apron and adding two helipads
- Relocating the existing fuel farm

In addition to these proposed impacts, the airport underwent improvements for the construction of the partial parallel taxiway between Taxiway A and Runway 07 in 2002 that impacted saltwater marsh (SAC 2002-1U-129-P) and required 5.82 acres of on-site saltwater restoration to compensate for loss habitat. The improvements authorized under the previous (2002) permit have occurred, however the county was not able to fulfill the mitigation proposed due to FAA restrictions that do not allow mitigation to occur on airport property.¹

The purpose of this plan is to propose and outline mitigation efforts to meet the current and previous mitigation requirements.

Under the current plans and permit request, it is necessary to impact both freshwater (0.249 acres) and saltwater (2.53 acres) wetlands to construct future improvements to the existing Beaufort County Airport for improved safety, efficiency and to meet FAA design standards. An additional 5.82 acres of saltwater impact will be accounted for in this mitigation proposal to compensate for the 2002 permit.

Freshwater impacts are to be mitigated through mitigation credits to be purchased from the Sweetleaf Mitigation Bank. Required freshwater mitigation credits will be determined using the current US Army Corps of Engineers (USACE) Standard Operating Procedure calculation worksheets. Final determination of these credits will be made during USACE permitting and confirmation of purchase will be provided upon issuance of necessary permitting.

In order to compensate for the total loss of 8.35 acres of tidal saltwater wetlands, Beaufort County is proposing to restore and enhance approximately 11.08 acres of saltwater wetlands. The acreage of restoration is in accordance with the mitigation criteria set forth in Section R39-4.6 of SC DHEC-OCRM’s Critical Area Permitting Regulations. Pursuant to these criteria, Beaufort County must develop a mitigation plan that will successfully mitigate saltwater wetlands at a 1:1 ratio. This plan includes conceptual restoration activities, methods of implementation, monitoring and success criteria anticipated to meet the compensatory mitigation requirements for the proposed saltwater impacts associated with the proposed improvements to the Beaufort County Airport as well as the previous mitigation requirements.

2.0 Proposed Site – Burch Tract

Restoration and enhancement activities are proposed on the Burch Tract (Figure 1).
currently held in Beaufort County’s preservation land program. The County, through its consultants, has identified the proposed site as being feasible for use and has been given authorization from the County to pursue approval for such use.

The Burch Tract is located just south of the Broad River near the head waters of the Chechessee River (Figure 2). By land, the restoration property is located adjacent to S.C. 170 near the Callawassie intersection. The site is generally described as wooded with mixed pines and hardwoods. Within the site are two impoundments (Figure 3) created by construction of dikes within former tidal marsh. The western most impoundment is now restricted by S.C. 170 but maintains hydrologic connection to the adjacent tidal marsh via a large culvert. The eastern impoundment is separated from the adjacent tidal marsh by a narrow earthen dike. Hydrology to the eastern impoundment is severely restricted and limited to a small pipe set to retain freshwater within the impoundment.

Soils in the selected mitigation area (impoundments) are classified as Capers Association by the Natural Resource Conservation Service (Figure 4). Capers Association is characterized by nearly level soils commonly found in tidal flats and occasionally saltwater streams.

Hydrology in the two impoundments is primarily driven by tidal influence; however this has been significantly restricted. In the presence of these restrictions, freshwater runoff is retained in the impoundments rather than being naturally dispersed during tidal cycles. While both impoundments maintain brackish conditions, natural tidal flow is severely restricted.

In the absence of natural unimpeded tidal flow, vegetation within the proposed restoration area is currently dominated by black needle rush (Juncus roemerianus) with additional scattered brackish species. The adjacent tidal marsh is dominated by smooth cordgrass (Spartina alterniflora) and salt grass (Distichlis spp); both indicative of higher saline environments.
3.0 Proposed Restoration

The goal of the proposed restoration plan is to restore natural tidal flow to the identified impoundments. To accomplish this, the following is proposed:

The County will establish an elevation at which the restoration area is expected to inundate with saltwater based on elevations in the adjacent vegetated marsh. The County will then remove the impoundment dike at the northern boundary of the eastern impoundment. Secondly, based upon desired elevations, the ditch located between the impoundments will be excavated to improve flow and circulation between and to the western impoundment.

Once the dike is removed and the connection between the two impoundments is established, it is expected that normal tidal flush in the restoration site will create a more natural hydrologic and vegetative community. Over time, natural successional changes will introduce and populate salt tolerant plants in a distribution similar to what is present outside of the existing dikes.

Upon approval of these proposed mitigation activities and corresponding issuance of the appropriate permits and certifications, the County will undertake necessary surveying and engineering to establish desired elevations and connections. Final site plans will be developed based on these surveys and will include:

1. Final elevation for dike removal.
2. Elevation and contour of connection between impoundments.
3. Construction access points.
4. Identification of disposal area for excavated dike and connection.

Survey work, development of final plans, and a work schedule for the proposed activities will be established to commence with seasonal considerations of tides, dormant growing
seasons, and to validate the timing of monitoring following the growing season.

4.0 Monitoring

A monitoring plan will be developed based upon the final plans to document successful removal of the tidal restrictions, improved tidal flow/circulation, and potential vegetative community shifts.

Conceptually, it is anticipated that documentation of existing hydrologic regimes will be established prior to, and following, restoration efforts. Hydrologic monitoring will be accomplished using tidal gauges or water level monitors. Documentation of tidal inundation and depth, as well as proper ebb and flow will be made.

To document positive vegetative changes, the County will monitor existing and future vegetative populations. Vegetative plots will be established within the restoration areas for annual monitoring. The center of each plot will be marked with PVC pipe and will serve as a basis for future monitoring. In addition, two plots will be established within the surrounding unaltered marsh to serve as references.

An initial baseline monitoring will be conducted prior to any work within the site to document current species, density and coverage. Following removal of the dike and establishment of the connection between the impoundments, additional annual monitoring will occur. Monitoring will occur annually for five years. In each successive year, percent coverage of volunteer vegetation will be recorded.

An annual report to be provided to SCDHEC-OCRM and the USACE to include results of monitoring, general site descriptions and conditions, photographs of the site, and any recommendations by the monitor that would improve timely success of the site. If after a monitoring event in which it has been determined that the site has completely established and meets success criteria before the end of the five year period, future monitoring may be suspended following consultation between the County and the permitting agencies.
5.0 **Success**

The restoration effort will be considered successful and complete following removal of the existing dike, construction of the appropriate hydrologic connection and documentation of improved tidal regimes.

6.0 **Contingency**

If, at the end of the five year monitoring period, success criteria have not been met, the County will consult with the appropriate permitting agencies to determine what specific remedial actions should be taken.
Figure 1 Aerial Exhibit

Project #: 04-3477B Date: March 2016

Created by: AH

Newkirk ENVIRONMENTAL INC.

Burch Tract
Beaufort County, SC
Figure 4 Soil Exhibit

Project #: 04-3476B   Date: March 2016

Created by: AH

Newkirk
ENVIRONMENTAL INC.

Burch Tract
Beaufort County, SC