A.1.2.4.6 Draft EIS Notification Postcard

Spaceport Camden
Environmental Impact Statement

In accordance with the National Environmental Policy Act, the Federal Aviation Administration (FAA) is announcing the availability of the Spaceport Camden Draft Environmental Impact Statement (EIS) on **March 9, 2018**. An electronic version of the document will be made available beginning March 9, 2018 on the FAA Office of Commercial Space Transportation website at: https://www.faa.gov/about/office_org/headquarters_offices/ast/environmental/nepa_docs/review/documents_progress/camden_spaceport/

A paper copy of the Draft EIS may be reviewed for comment during regular business hours beginning March 9, 2018 at the following libraries: Camden County Public Library, 1410 Georgia Highway 40, Kingsland, GA 31548; St Marys Public Library, 100 Herb Bauer Dr, St Marys, GA 31558; Brunswick-Glynn County Library, 208 Gloucester St, Brunswick, GA 31520, and St. Simons Island Public Library, 530A Beachview Dr, St. Simons Island, GA, 31522.

The FAA will hold two **public hearings** to solicit comments on the Draft EIS on **Wednesday, April 11 and Thursday, April 12, 2018, from 5:30 pm - 8:30 pm** at the Camden County Public Service Authority Recreation Center Community Room, 1050 Wildcat Drive, Kingsland, GA 31548, (912) 729-5600.

The FAA encourages all interested parties to **provide comments** concerning the scope and content of the Draft EIS by **May 7, 2018**. Comments or questions can be mailed to Ms. Stacey M. Zee, Environmental Specialist, Federal Aviation Administration, c/o Leidos, 2109 Air Park Road SE, Suite 200, Albuquerque, NM 87106. Comments can also be sent by email to FAACamdenSpaceportEIS@Leidos.com.

Before including your address, phone number, e-mail address, or other personal identifying information in your comment, be advised that your entire comment – including your personal identifying information – may be made publicly available at any time. While you can ask us in your comment to withhold from public review your personal identifying information, we cannot guarantee that we will be able to do so.

Ms. Stacey M. Zee
Environmental Specialist
Federal Aviation Administration, c/o Leidos
2109 Air Park Road SE, Suite 200
Albuquerque, NM 87106

A.1.2.4.7 Draft EIS Notification Email (eblast)

From: Zee, Stacey (FAA)
Sent: Thursday, March 08, 2018 3:56 PM
To: Zee, Stacey (FAA) <Stacey.Zee@faa.gov>
Subject: Spaceport Camden - Draft EIS is available for download and Public Hearings scheduled for April

Good afternoon,

The Spaceport Camden Draft Environmental Impact Statement (EIS) is available for your review and comment. The Draft EIS is available on the following FAA website:
https://www.faa.gov/about/office_org/headquarters_offices/ast/environmental/nepa_docs/review/documents_progress/camden_spaceport/

The FAA is initiating a formal comment period on the Draft EIS, which will close on May 7, 2018.

Public hearings to receive comments on the Draft EIS will be held April 11 and 12, 2018 from 5:30-8:30pm at the Camden County Public Service Authority Recreation Center Community Room, 1050 Wildcat Drive, Kingsland, GA 31548.

The public hearings will include a poster information session from 5:30 p.m. to 6:30 p.m., FAA presentation from 6:30 p.m. to 6:45 p.m., followed by a public statement period in which members of the public may provide up to a 3-minute statement. The FAA will transcribe all oral comments. All comments received during the comment period will be given equal weight and be taken into consideration in the preparation of the Final EIS.

A paper copy of the Draft EIS may be reviewed during regular business hours at the following libraries:

- Camden County Public Library, 1410 Georgia Highway 40, Kingsland, GA 31548
- St. Marys Public Library, 100 Herb Bauer Drive, St. Marys, GA 31558
- Brunswick-Glynn County Library, 208 Gloucester Street, Brunswick, GA 31520
- St. Simons Island Public Library, 530A Beachview Drive, St. Simons Island, GA, 31522

The FAA encourages you to provide comments concerning the scope and content of the Draft EIS by May 7, 2018. Comments should be as specific as possible and address the analysis of potential environmental impacts and the adequacy of the proposed action or merits of alternatives and the mitigation being considered. Reviewers should organize their participation so that it is meaningful and makes the agency aware of the viewer's interests and concerns using quotations and other specific references to the text of the Draft EIS and related documents.

Comments can be mailed to Ms. Stacey M. Zee, Environmental Specialist, Federal Aviation Administration, c/o Leidos, 2109 Air Park Road SE, Suite 200, Albuquerque, NM 87106. Comments can also be sent by email to FAACamdenSpaceportEIS@Leidos.com.

Before including your address, phone number, e-mail address, or other personal identifying information in your comment, be advised that your entire comment – including your personal identifying information – may be made publicly available at any time. While you can ask us in your comment to withhold from public review your personal identifying information, we cannot guarantee that we will be able to do so.

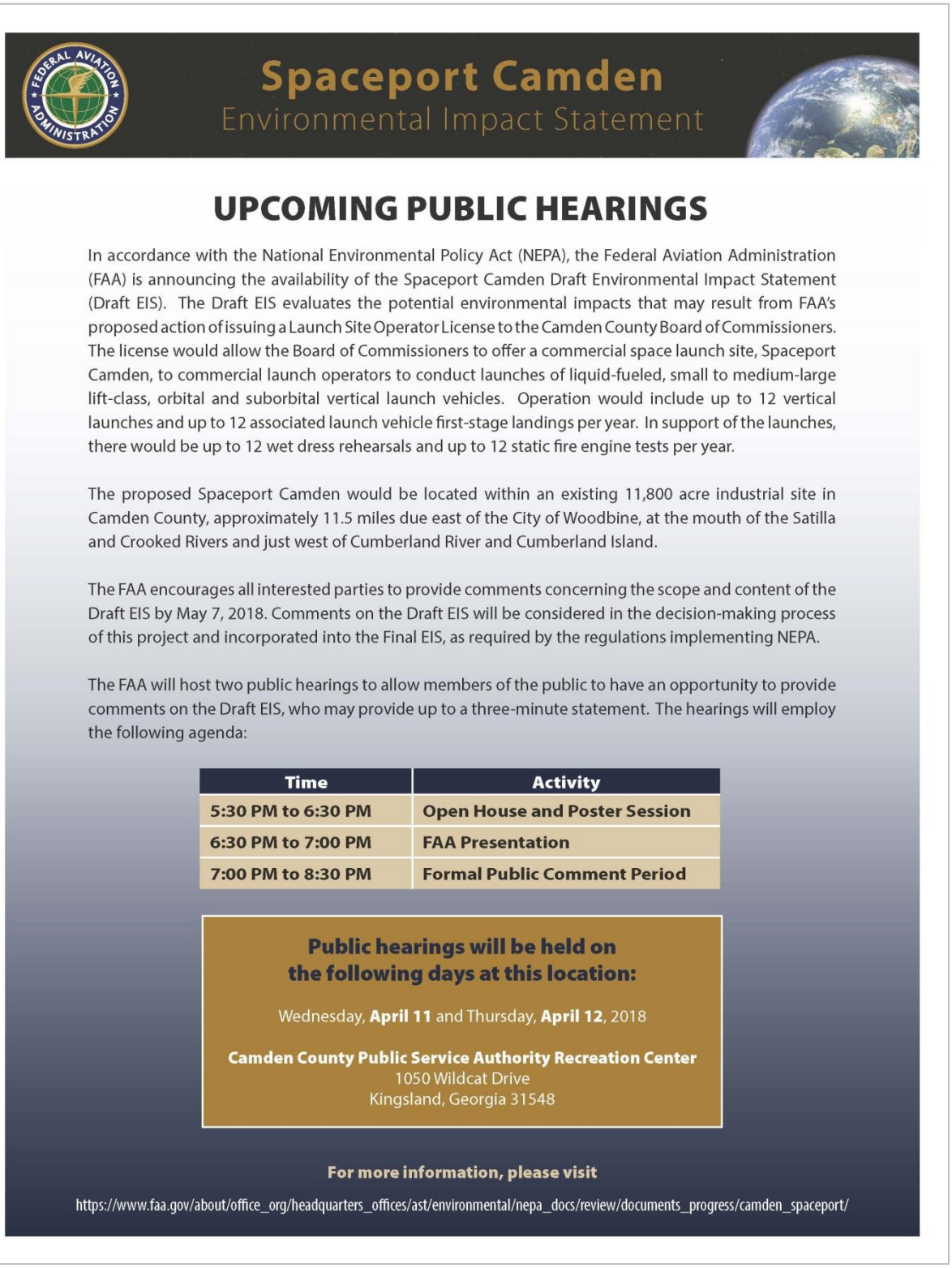
For media inquiries, please contact Hank Price at 202-267-3447.

Thank you.

Stacey M. Zee

FAA Project Lead for the Spaceport Camden EIS 1

A.1.2.4.8 Draft EIS Community Flyer



Spaceport Camden
Environmental Impact Statement

UPCOMING PUBLIC HEARINGS

In accordance with the National Environmental Policy Act (NEPA), the Federal Aviation Administration (FAA) is announcing the availability of the Spaceport Camden Draft Environmental Impact Statement (Draft EIS). The Draft EIS evaluates the potential environmental impacts that may result from FAA's proposed action of issuing a Launch Site Operator License to the Camden County Board of Commissioners. The license would allow the Board of Commissioners to offer a commercial space launch site, Spaceport Camden, to commercial launch operators to conduct launches of liquid-fueled, small to medium-large lift-class, orbital and suborbital vertical launch vehicles. Operation would include up to 12 vertical launches and up to 12 associated launch vehicle first-stage landings per year. In support of the launches, there would be up to 12 wet dress rehearsals and up to 12 static fire engine tests per year.

The proposed Spaceport Camden would be located within an existing 11,800 acre industrial site in Camden County, approximately 11.5 miles due east of the City of Woodbine, at the mouth of the Satilla and Crooked Rivers and just west of Cumberland River and Cumberland Island.

The FAA encourages all interested parties to provide comments concerning the scope and content of the Draft EIS by May 7, 2018. Comments on the Draft EIS will be considered in the decision-making process of this project and incorporated into the Final EIS, as required by the regulations implementing NEPA.

The FAA will host two public hearings to allow members of the public to have an opportunity to provide comments on the Draft EIS, who may provide up to a three-minute statement. The hearings will employ the following agenda:

Time	Activity
5:30 PM to 6:30 PM	Open House and Poster Session
6:30 PM to 7:00 PM	FAA Presentation
7:00 PM to 8:30 PM	Formal Public Comment Period

Public hearings will be held on the following days at this location:

Wednesday, **April 11** and Thursday, **April 12**, 2018

Camden County Public Service Authority Recreation Center
1050 Wildcat Drive
Kingsland, Georgia 31548

For more information, please visit

https://www.faa.gov/about/office_org/headquarters_offices/ast/environmental/nepa_docs/review/documents_progress/camden_spaceport/

A.1.2.4.9 Public Service Announcement

March 16, 2018

Public Service Announcement

CAMDEN COUNTY AREA RADIO PSA FOR USE MARCH 9 - APRIL 10, 2018 (APPROX READ TIME 1:00 - 1:20)

The Federal Aviation Administration is announcing the availability of and requesting comments on the Spaceport Camden Draft Environmental Impact Statement. The Draft EIS evaluates the potential environmental impacts that may result from FAA's proposed action of issuing a Launch Site Operator License to the Camden County Georgia Board of Commissioners. Representatives from the FAA will hold two public hearings on Wednesday, April 11 and Thursday, April 12, from 5:30 to 8:30 pm at the Camden County Public Service Authority Recreation Center Community Room at 1050 Wildcat Drive in Kingsland, GA, and they want to hear from you. Please come learn more about the proposed project and share your views about the Draft EIS. Copies of the Draft EIS can be reviewed at: the Camden County Public Library, St Marys Public Library, the Brunswick-Glynn County Library, and the St. Simons Island Public Library. The Draft EIS can be downloaded at:

https://www.faa.gov/about/office_org/headquarters_offices/ast/environmental/nepa_docs/review/documents_progress/camden_spaceport/.

For more information, please call Hank Price at: 202-267-3447.

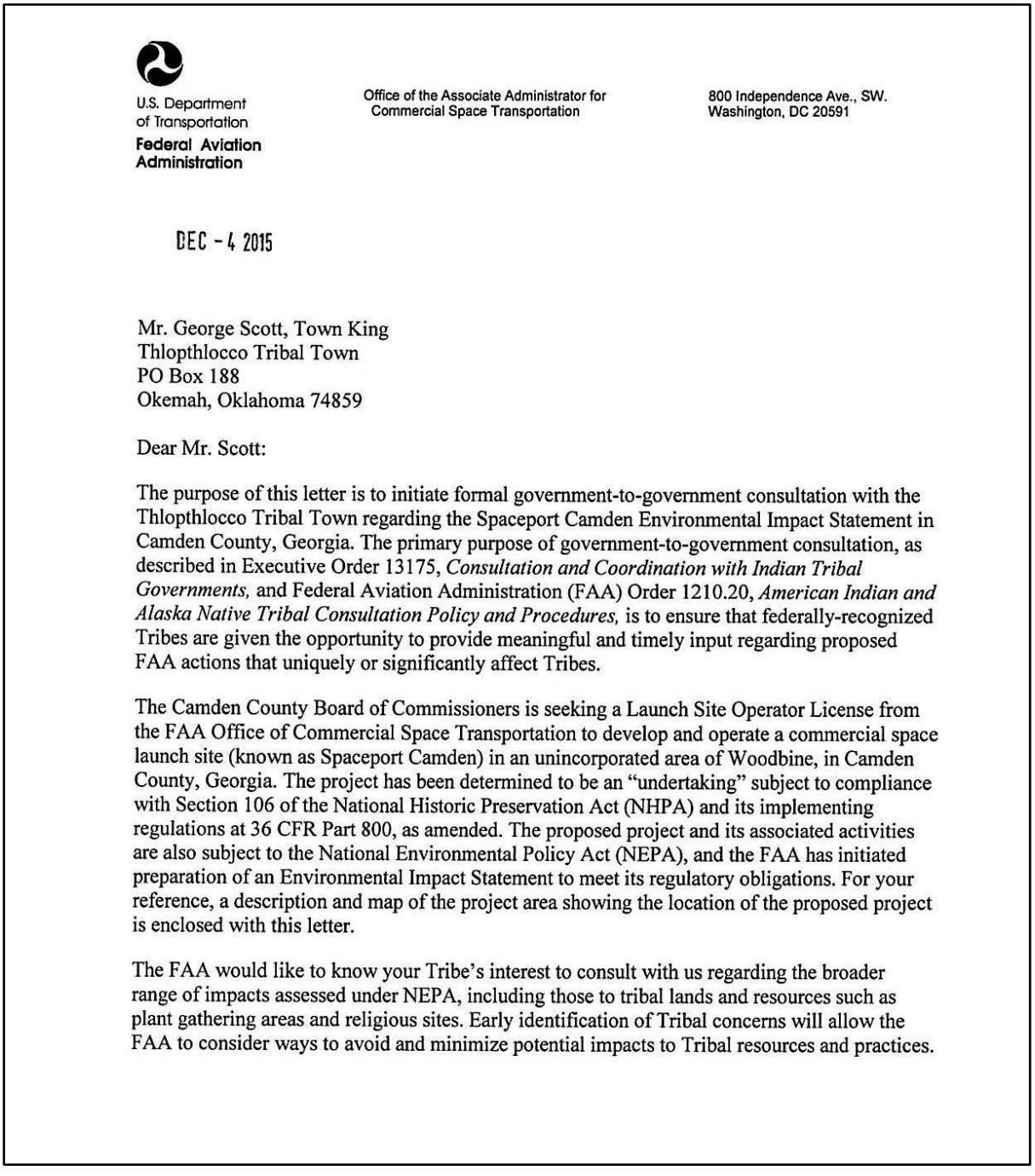
Radio stations for PSA broadcast:

Frequency	Call sign	Format	City of License
1190 AM	WWIO	Religious	St. Marys, GA
1100 AM	WCGA	News/Talk	Woodbine, GA
106.3 FM	WKBX	Country	Kingsland, GA
790 AM	WSFN	Sports	Brunswick, GA
100.7 FM	WMUV	Country Oldies	Brunswick, GA
101.5 FM	WSOL	Urban AC	Brunswick, GA
88.9 FM	WWIO	Public Radio	Brunswick, GA
90.7 FM	WAYR	Christian Contemporary	Brunswick, GA
105.3 FM	WYKB	Talk	Fernandina Beach, FL
89.9 FM	WJCT	Public Radio	Jacksonville, FL

A.2 Coordination and Consultation

A.2.1 Coordination

A.2.1.1 Government-to-Government Correspondence



U.S. Department of Transportation
Federal Aviation Administration

Office of the Associate Administrator for Commercial Space Transportation

800 Independence Ave., SW.
Washington, DC 20591

DEC - 4 2015

Mr. George Scott, Town King
Thlopthlocco Tribal Town
PO Box 188
Okemah, Oklahoma 74859

Dear Mr. Scott:

The purpose of this letter is to initiate formal government-to-government consultation with the Thlopthlocco Tribal Town regarding the Spaceport Camden Environmental Impact Statement in Camden County, Georgia. The primary purpose of government-to-government consultation, as described in Executive Order 13175, *Consultation and Coordination with Indian Tribal Governments,* and Federal Aviation Administration (FAA) Order 1210.20, *American Indian and Alaska Native Tribal Consultation Policy and Procedures,* is to ensure that federally-recognized Tribes are given the opportunity to provide meaningful and timely input regarding proposed FAA actions that uniquely or significantly affect Tribes.

The Camden County Board of Commissioners is seeking a Launch Site Operator License from the FAA Office of Commercial Space Transportation to develop and operate a commercial space launch site (known as Spaceport Camden) in an unincorporated area of Woodbine, in Camden County, Georgia. The project has been determined to be an "undertaking" subject to compliance with Section 106 of the National Historic Preservation Act (NHPA) and its implementing regulations at 36 CFR Part 800, as amended. The proposed project and its associated activities are also subject to the National Environmental Policy Act (NEPA), and the FAA has initiated preparation of an Environmental Impact Statement to meet its regulatory obligations. For your reference, a description and map of the project area showing the location of the proposed project is enclosed with this letter.

The FAA would like to know your Tribe's interest to consult with us regarding the broader range of impacts assessed under NEPA, including those to tribal lands and resources such as plant gathering areas and religious sites. Early identification of Tribal concerns will allow the FAA to consider ways to avoid and minimize potential impacts to Tribal resources and practices.

If you have any questions or would like to discuss the project in more detail, please contact Stacey Zee of my staff at 202-267-9305, or via email at Stacey.Zee@faa.gov. Additional information is also available on the project website at: https://www.faa.gov/about/office_org/headquarters_offices/ast/environmental/nepa_docs/review/documents_progress/camden_spaceport/.

Your timely response will greatly assist us in incorporating your comments into project planning. Please respond to Ms. Zee at your earliest convenience.

Sincerely,

Dr. George C. Nield
Associate Administrator for
Commercial Space Transportation

Enclosure
Location of the proposed Spaceport Camden Project
Spaceport Camden Project Description

cc: Charles Coleman, Tribal Historic Preservation Officer

U.S. Department of Transportation
Federal Aviation Administration

Office of the Associate Administrator for Commercial Space Transportation

800 Independence Ave., SW.
Washington, DC 20591

DEC - 4 2015

Principal Chief Leonard M. Harjo
Seminole Nation of Oklahoma
PO Box 1498
Wewoka, Oklahoma 74884

Dear Mr. Harjo:

The purpose of this letter is to initiate formal government-to-government consultation with the Seminole Nation of Oklahoma regarding the Spaceport Camden Environmental Impact Statement in Camden County, Georgia. The primary purpose of government-to-government consultation, as described in Executive Order 13175, *Consultation and Coordination with Indian Tribal Governments,* and Federal Aviation Administration (FAA) Order 1210.20, *American Indian and Alaska Native Tribal Consultation Policy and Procedures,* is to ensure that federally-recognized Tribes are given the opportunity to provide meaningful and timely input regarding proposed FAA actions that uniquely or significantly affect Tribes.

The Camden County Board of Commissioners is seeking a Launch Site Operator License from the FAA Office of Commercial Space Transportation to develop and operate a commercial space launch site (known as Spaceport Camden) in an unincorporated area of Woodbine, in Camden County, Georgia. The project has been determined to be an "undertaking" subject to compliance with Section 106 of the National Historic Preservation Act (NHPA) and its implementing regulations at 36 CFR Part 800, as amended. The proposed project and its associated activities are also subject to the National Environmental Policy Act (NEPA), and the FAA has initiated preparation of an Environmental Impact Statement to meet its regulatory obligations. For your reference, a description and map of the project area showing the location of the proposed project are enclosed with this letter.

The FAA would like to know your Tribe's interest to consult with us regarding the broader range of impacts assessed under NEPA, including those to tribal lands and resources such as plant gathering areas and religious sites. Early identification of Tribal concerns will allow the FAA to consider ways to avoid and minimize potential impacts to Tribal resources and practices.

If you have any questions or would like to discuss the project in more detail, please contact Stacey Zee of my staff at 202-267-9305, or via email at Stacey.Zee@faa.gov. Additional information is also available on the project website at: https://www.faa.gov/about/office_org/headquarters_offices/ast/environmental/nepa_docs/review/documents_progress/camden_spaceport/.

Your timely response will greatly assist us in incorporating your comments into project planning. Please respond to Ms. Zee at your earliest convenience.

Sincerely,

Dr. George C. Nield
Associate Administrator for
Commercial Space Transportation

Enclosure
Location of the proposed Spaceport Camden Project
Spaceport Camden Project Description

cc: Alan D. Emarthle, Tribal Historic Preservation Officer
Natalie (Deere) Harjo, Tribal Historic Preservation Officer

U.S. Department
of Transportation
**Federal Aviation
Administration**

Office of the Associate Administrator for
Commercial Space Transportation

800 Independence Ave., SW.
Washington, DC 20591

DEC - 4 2015

Chairperson Stephanie Bryan
Poarch Band of Creeks
5811 Jack Springs Road
Atmore, Alabama 36502

Dear Ms. Bryan:

The purpose of this letter is to initiate formal government-to-government consultation with the Poarch Band of Creeks regarding the Spaceport Camden Environmental Impact Statement in Camden County, Georgia. The primary purpose of government-to-government consultation, as described in Executive Order 13175, *Consultation and Coordination with Indian Tribal Governments,* and Federal Aviation Administration (FAA) Order 1210.20, *American Indian and Alaska Native Tribal Consultation Policy and Procedures,* is to ensure that federally-recognized Tribes are given the opportunity to provide meaningful and timely input regarding proposed FAA actions that uniquely or significantly affect Tribes.

The Camden County Board of Commissioners is seeking a Launch Site Operator License from the FAA Office of Commercial Space Transportation to develop and operate a commercial space launch site (known as Spaceport Camden) in an unincorporated area of Woodbine, in Camden County, Georgia. The project has been determined to be an "undertaking" subject to compliance with Section 106 of the National Historic Preservation Act (NHPA) and its implementing regulations at 36 CFR Part 800, as amended. The proposed project and its associated activities are also subject to the National Environmental Policy Act (NEPA), and the FAA has initiated preparation of an Environmental Impact Statement to meet its regulatory obligations. For your reference, a description and map of the project area showing the location of the proposed project are enclosed with this letter.

The FAA would like to know your Tribe's interest to consult with us regarding the broader range of impacts assessed under NEPA, including those to tribal lands and resources such as plant gathering areas and religious sites. Early identification of Tribal concerns will allow the FAA to consider ways to avoid and minimize potential impacts to Tribal resources and practices.

If you have any questions or would like to discuss the project in more detail, please contact Stacey Zee of my staff at 202-267-9305, or via email at Stacey.Zee@faa.gov. Additional information is also available on the project website at: https://www.faa.gov/about/office_org/headquarters_offices/ast/environmental/nepa_docs/review/documents_progress/camden_spaceport/.

Your timely response will greatly assist us in incorporating your comments into project planning. Please respond to Ms. Zee at your earliest convenience.

Sincerely,

Dr. George C. Nield
Associate Administrator for
Commercial Space Transportation

Enclosure
Location of the proposed Spaceport Camden Project
Spaceport Camden Project Description

cc: Robert Thrower, Tribal Historic Preservation Officer

U.S. Department of Transportation
Federal Aviation Administration

Office of the Associate Administrator for Commercial Space Transportation

800 Independence Ave., SW.
Washington, DC 20591

DEC - 4 2015

Principal Chief George Tiger
Muscogee (Creek) Nation
PO Box 580
Okmulgee, Oklahoma 74447

Dear Mr. Tiger:

The purpose of this letter is to initiate formal government-to-government consultation with the Muscogee (Creek) Nation regarding the Spaceport Camden Environmental Impact Statement in Camden County, Georgia. The primary purpose of government-to-government consultation, as described in Executive Order 13175, *Consultation and Coordination with Indian Tribal Governments,* and Federal Aviation Administration (FAA) Order 1210.20, *American Indian and Alaska Native Tribal Consultation Policy and Procedures,* is to ensure that federally-recognized Tribes are given the opportunity to provide meaningful and timely input regarding proposed FAA actions that uniquely or significantly affect Tribes.

The Camden County Board of Commissioners is seeking a Launch Site Operator License from the FAA Office of Commercial Space Transportation to develop and operate a commercial space launch site (known as Spaceport Camden) in an unincorporated area of Woodbine, in Camden County, Georgia. The project has been determined to be an "undertaking" subject to compliance with Section 106 of the National Historic Preservation Act (NHPA) and its implementing regulations at 36 CFR Part 800, as amended. The proposed project and its associated activities are also subject to the National Environmental Policy Act (NEPA), and the FAA has initiated preparation of an Environmental Impact Statement to meet its regulatory obligations. For your reference, a description and map of the project area showing the location of the proposed project are enclosed with this letter.

The FAA would like to know your Tribe's interest to consult with us regarding the broader range of impacts assessed under NEPA, including those to tribal lands and resources such as plant gathering areas and religious sites. Early identification of Tribal concerns will allow the FAA to consider ways to avoid and minimize potential impacts to Tribal resources and practices.

If you have any questions or would like to discuss the project in more detail, please contact Stacey Zee of my staff at 202-267-9305, or via email at Stacey.Zee@faa.gov. Additional information is also available on the project website at: https://www.faa.gov/about/office_org/headquarters_offices/ast/environmental/nepa_docs/review/documents_progress/camden_spaceport/.

Your timely response will greatly assist us in incorporating your comments into project planning. Please respond to Ms. Zee at your earliest convenience.

Sincerely,

Dr. George C. Nield
Associate Administrator for
Commercial Space Transportation

Enclosure
Location of the Proposed Spaceport Camden Project
Spaceport Camden Project Description

cc: Johnnie Jacobs, Tribal Historic Preservation Officer
Emman Spain, Tribal Historic Preservation Officer

U.S. Department of Transportation
Federal Aviation Administration

Office of the Associate Administrator for Commercial Space Transportation

800 Independence Ave., SW.
Washington, DC 20591

DEC - 4 2015

Chief Gary Batton
Choctaw Nation of Oklahoma
PO Box 1210
Durant, Oklahoma 74702-1210

Dear Mr. Batton:

The purpose of this letter is to initiate formal government-to-government consultation with the Choctaw Nation of Oklahoma regarding the Spaceport Camden Environmental Impact Statement in Camden County, Georgia. The primary purpose of government-to-government consultation, as described in Executive Order 13175, *Consultation and Coordination with Indian Tribal Governments,* and Federal Aviation Administration (FAA) Order 1210.20, *American Indian and Alaska Native Tribal Consultation Policy and Procedures,* is to ensure that federally-recognized Tribes are given the opportunity to provide meaningful and timely input regarding proposed FAA actions that uniquely or significantly affect Tribes.

The Camden County Board of Commissioners is seeking a Launch Site Operator License from the FAA Office of Commercial Space Transportation to develop and operate a commercial space launch site (known as Spaceport Camden) in an unincorporated area of Woodbine, in Camden County, Georgia. The project has been determined to be an "undertaking" subject to compliance with Section 106 of the National Historic Preservation Act (NHPA) and its implementing regulations at 36 CFR Part 800, as amended. The proposed project and its associated activities are also subject to the National Environmental Policy Act (NEPA), and the FAA has initiated preparation of an Environmental Impact Statement to meet its regulatory obligations. For your reference, a description and map of the project area showing the location of the proposed project are enclosed with this letter.

The FAA would like to know your Tribe's interest to consult with us regarding the broader range of impacts assessed under NEPA, including those to tribal lands and resources such as plant gathering areas and religious sites. Early identification of Tribal concerns will allow the FAA to consider ways to avoid and minimize potential impacts to Tribal resources and practices.

If you have any questions or would like to discuss the project in more detail, please contact Stacey Zee of my staff at 202-267-9305, or via email at Stacey.Zee@faa.gov. Additional information is also available on the project website at: https://www.faa.gov/about/office_org/headquarters_offices/ast/environmental/nepa_docs/review/documents_progress/camden_spaceport/.

Your timely response will greatly assist us in incorporating your comments into project planning. Please respond to Ms. Zee at your earliest convenience.

Sincerely,

Dr. George C. Nield
Associate Administrator for
Commercial Space Transportation

Enclosure
Location of the Proposed Spaceport Camden Project
Spaceport Camden Project Description

cc: Dr. Ian Thompson, Tribal Historic Preservation Officer

U.S. Department
of Transportation
**Federal Aviation
Administration**

Office of the Associate Administrator for
Commercial Space Transportation

800 Independence Ave., SW.
Washington, DC 20591

DEC - 4 2015

Governor Bill Anoatubby
Chickasaw Nation
PO Box 1548
Ada, Oklahoma 74821

Dear Mr. Anoatubby:

The purpose of this letter is to initiate formal government-to-government consultation with the Chickasaw Nation regarding the Spaceport Camden Environmental Impact Statement in Camden County, Georgia. The primary purpose of government-to-government consultation, as described in Executive Order 13175, *Consultation and Coordination with Indian Tribal Governments,* and Federal Aviation Administration (FAA) Order 1210.20, *American Indian and Alaska Native Tribal Consultation Policy and Procedures,* is to ensure that federally-recognized Tribes are given the opportunity to provide meaningful and timely input regarding proposed FAA actions that uniquely or significantly affect Tribes.

The Camden County Board of Commissioners is seeking a Launch Site Operator License from the FAA Office of Commercial Space Transportation to develop and operate a commercial space launch site (known as Spaceport Camden) in an unincorporated area of Woodbine, in Camden County, Georgia. The project has been determined to be an "undertaking" subject to compliance with Section 106 of the National Historic Preservation Act (NHPA) and its implementing regulations at 36 CFR Part 800, as amended. The proposed project and its associated activities are also subject to the National Environmental Policy Act (NEPA), and the FAA has initiated preparation of an Environmental Impact Statement to meet its regulatory obligations. For your reference, a description and map of the project area showing the location of the proposed project are enclosed with this letter.

The FAA would like to know your Tribe's interest to consult with us regarding the broader range of impacts assessed under NEPA, including those to tribal lands and resources such as plant gathering areas and religious sites. Early identification of Tribal concerns will allow the FAA to consider ways to avoid and minimize potential impacts to Tribal resources and practices.

If you have any questions or would like to discuss the project in more detail, please contact Stacey Zee of my staff at 202-267-9305, or via email at Stacey.Zee@faa.gov. Additional information is also available on the project website at: https://www.faa.gov/about/office_org/headquarters_offices/ast/environmental/nepa_docs/review/documents_progress/camden_spaceport/.

Your timely response will greatly assist us in incorporating your comments into project planning. Please respond to Ms. Zee at your earliest convenience.

Sincerely,

Dr. George C. Nield
Associate Administrator for
Commercial Space Transportation

Enclosure
Location of the Proposed Spaceport Camden Project
Spaceport Camden Project Description

cc: Ms. Virginia Nail, Tribal Historic Preservation Officer

U.S. Department
of Transportation
**Federal Aviation
Administration**

Office of the Associate Administrator for
Commercial Space Transportation

800 Independence Ave., SW.
Washington, DC 20591

DEC - 4 2015

Chairman James E. Billie
Seminole Tribe of Florida
6300 Stirling Road
Hollywood, Florida 33024

Dear Mr. Billie:

The purpose of this letter is to initiate formal government-to-government consultation with the Seminole Tribe of Florida regarding the Spaceport Camden Environmental Impact Statement in Camden County, Georgia. The primary purpose of government-to-government consultation, as described in Executive Order 13175, *Consultation and Coordination with Indian Tribal Governments,* and Federal Aviation Administration (FAA) Order 1210.20, *American Indian and Alaska Native Tribal Consultation Policy and Procedures,* is to ensure that federally-recognized Tribes are given the opportunity to provide meaningful and timely input regarding proposed FAA actions that uniquely or significantly affect Tribes.

The Camden County Board of Commissioners is seeking a Launch Site Operator License from the FAA Office of Commercial Space Transportation to develop and operate a commercial space launch site (known as Spaceport Camden) in an unincorporated area of Woodbine, in Camden County, Georgia. The project has been determined to be an "undertaking" subject to compliance with Section 106 of the National Historic Preservation Act (NHPA) and its implementing regulations at 36 CFR Part 800, as amended. The proposed project and its associated activities are also subject to the National Environmental Policy Act (NEPA), and the FAA has initiated preparation of an Environmental Impact Statement to meet its regulatory obligations. For your reference, a description and map of the project area showing the location of the proposed project are enclosed with this letter.

The FAA would like to know your Tribe's interest to consult with us regarding the broader range of impacts assessed under NEPA, including those to tribal lands and resources such as plant gathering areas and religious sites. Early identification of Tribal concerns will allow the FAA to consider ways to avoid and minimize potential impacts to Tribal resources and practices.

If you have any questions or would like to discuss the project in more detail, please contact Stacey Zee of my staff at 202-267-9305, or via email at Stacey.Zee@faa.gov. Additional information is also available on the project website at: https://www.faa.gov/about/office_org/headquarters_offices/ast/environmental/nepa_docs/review/documents_progress/camden_spaceport/.

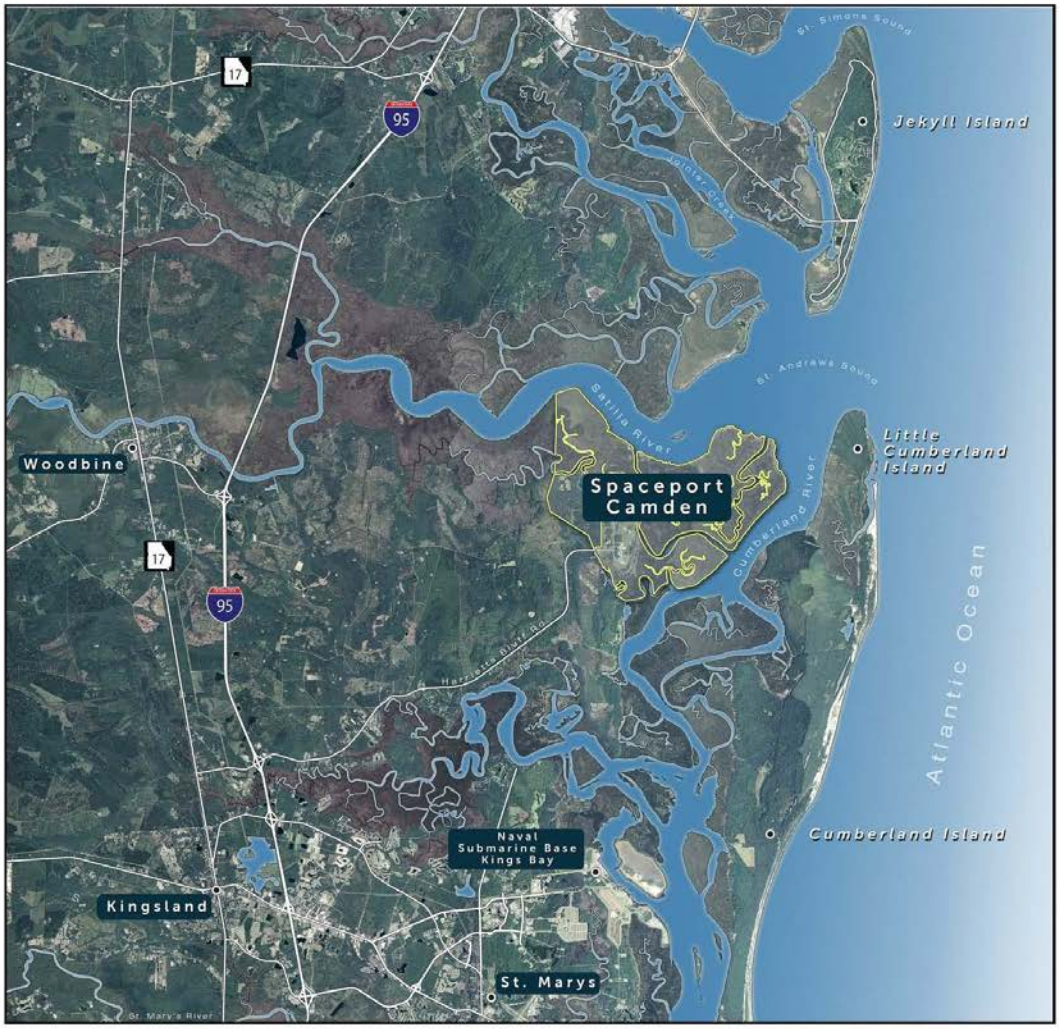
Your timely response will greatly assist us in incorporating your comments into project planning. Please respond to Ms. Zee at your earliest convenience.

Sincerely,

Dr. George C. Nield
Associate Administrator for
Commercial Space Transportation

Enclosure
Location of the proposed Spaceport Camden Project
Spaceport Camden Project Description

cc: Dr. Paul N. Backhouse, Tribal Historic Preservation Officer



Location of Proposed Spaceport Camden Project

Spaceport Camden Project Description

The Camden County Board of Commissioners (the County) proposes to construct and operate a commercial space launch site (Spaceport Camden) in an unincorporated area of Woodbine, in Camden County, Georgia. The County has signed an option to purchase approximately 4,000 acres of an approximately 12,000-acre industrial site on which to construct the spaceport, and is considering purchasing approximately another 7,800 acres of adjoining property in the same industrial complex.
The County will be required to obtain a Launch Site Operator License from the FAA for the operation of the launch site.

The proposed Spaceport Camden property is located in an unincorporated area of Woodbine, in Camden County, approximately 11.5 miles due east of the town of Woodbine, Georgia, in the extreme southeastern part of the state. Access to the site is at the eastern termination of Union Carbide Road, an extension of Harriett's Bluff Road (Exit 7 from I-95). The site is on the coast, surrounded by salt marshes to the east and south, and the Satilla River to the north. The property comprises uplands, salt marshes, and fresh water wetlands. Approximately 100 non-contiguous upland acres would be used for the launch pad, landing site, control center, and supporting facilities. Each of these facilities would be fenced to provide security and access control, as would the approximately 400 acres of uplands on which these facilities would be located. The remainder of the site, much of which is marshland, would be used as buffer.

The vertical launch facility would be approximately 23 acres in size and would include a launch pad and stand with its associated flame duct; propellant storage and handling areas; vehicle and payload integration facility; storage tanks; lightning protection systems; deluge water systems for local sound and vibration suppression; and other launch-related facilities and systems. The landing area would be approximately 11 acres in size and include a proposed 400-foot by 400-foot concrete pad located roughly in the center of the area, with fuel and oxidizer "off load" tanks, and related infrastructure. The control center complex would be located on the property at a safe distance from the launch and landing areas and would house the site administration offices, a control room with related equipment, payload processing/check-out area, and a first-responder facility. This complex would be situated in an area of approximately 2.75 acres, and would consist of two buildings with a parking lot between them. A similar facility would be constructed near the main entrance of the property mirroring the control center complex in size, design and facilities, but would also include provisions for visitors and viewing launches.

Operations would consist of up to 12 vertical launches and up to 12 associated launch vehicle first-stage landings per year. In addition, other operations could occur, including up to 12 static fire engine tests and up to 12 wet dress rehearsals per year. All vehicles would launch to the east over the Atlantic Ocean. The first stage of the launch vehicle could return to and land at Spaceport Camden, or would land in the Atlantic Ocean.

From: David Proctor [mailto:Davidp@MCN-NSN.gov]
Sent: Wednesday, August 16, 2017 10:42 AM
To: Zee, Stacey (FAA) <Stacey.Zee@faa.gov>
Subject: FAA - Proposed Spaceport - Camden, Camden Co., GA

Mr. Daniel Murry
Manager
Transportation Development Division
U.S. Department of Transportation
Federal Aviation Administration
800 Independence Ave., SW
Washington, DC 20591

Mr. Murry:

Thank you for the correspondence regarding the Phase I Archeological Survey for the proposed Spaceport Project located in Camden, Camden Co., GA. We concur with the findings/recommendations of the report and that work should proceed as planned. However, as the projects are located in an area that is of general historic interest to the Tribe, we request that work be stopped and our office contacted immediately if any Native American cultural materials are encountered. This stipulation should be placed on the construction plans to insure contractors are aware of it. Please feel free to contact me with any further questions or concerns.

David J. Proctor
Historic and Cultural Preservation Department, Traditional Cultural Advisor
Muscogee (Creek) Nation
P.O. Box 580 / Okmulgee, OK 74447
T 918.732.7732
F 918.758.0649
Davidp@MCN-nsn.gov
http://www.muscogeenation-nsn.gov/

Federal and state agencies, museums, and consulting partners, as of October 1, 2015 please send all Section 106 project notices as well as all NAGPRA notices to our section 106 email: section106@mcn-nsn.gov. If you have any questions, please give us a call at 918-732-7733.

1

A.2.1.2 General Agency Coordination/Correspondence

U.S. Department of Transportation
Federal Aviation Administration

Office of Commercial Space Transportation

800 Independence Ave., SW.
Washington, DC 20591

September 9, 2019

Commander Norm Witt
U.S. Coast Guard Marine Safety Unit
Juliette Gordon Low Federal Bldg.
100 W. Oglethorpe Avenue, Ste 1017
Savannah, GA 31401-3604

Dear Commander Witt:

This letter is to document the August 12, 2019 call regarding proposed safety zone closures for the proposed Spaceport Camden project in Camden County, Georgia. The FAA will use this information in further Section 4f (of the Department of Transportation Act) discussion with the National Park Service (NPS).

The United States Coast Guard published a Notice of Inquiry in the Federal Register on September 11, 2018 in which it requested comments from interested persons regarding a proposal to establish safety zones on navigable waterways in the vicinity of the proposed Spaceport Camden, near Woodbine, Georgia, during rocket tests, launches, and landing operations. According to the Notice, the proposed safety zones would be necessary to protect personnel, vessels, and the marine environment from potential hazards created by proposed rocket launches and landings and by various rocket tests at the proposed Spaceport.

In the Notice, the Coast Guard remarked that the range of potential safety zones for launch and landing activities accounts for safety concerns associated with all potential launch trajectories associated with the proposed Spaceport Camden. Individual launch safety zones could be smaller and would depend on several factors unique to each event such as actual trajectory, lift class, and payload. The range of potential safety zones for rocket tests would encompass a smaller area directly around Spaceport Camden.

The FAA, Coast Guard, and Camden County officials held a call on August 12, 2019 to discuss the project. During that call, the Coast Guard provided the following information:

- The two ferries that provide public access to Cumberland Island National Seashore (CUIS) from St Marys, Georgia use the Sea Camp and Dungeness[1] docks on CUIS.
- The range of potential safety zones proposed by the Coast Guard for Spaceport Camden operations would not require closures to either the Sea Camp or Dungeness docks on CUIS.

[1] The Dungeness dock is currently not in use following damage incurred during Hurricane Irma (September 2017).

- The Coast Guard does not expect to close either the Sea Camp or Dungeness dock on CUIS due to proposed rocket testing, launches, or landing operations for Spaceport Camden; additionally, the public would have continued access to the docks on CUIS when the safety zone is in effect.

Please confirm that the above information is correct. We look forward to continued coordination on this project. Please contact the FAA project lead Stacey Zee at 202-267-9305 with any questions.

Sincerely,

Daniel Murray
Manager, Space Transportation Development Division

or before the specified closing date for comments will be considered before taking action on the proposed rule. The proposal contained in this notice may be changed in light of the comments received. A report summarizing each substantive public contact with FAA personnel concerned with this rulemaking will be filed in the docket.

Availability of NPRMs

An electronic copy of this document may be downloaded through the internet at *http://www.regulations.gov.* Recently published rulemaking documents can also be accessed through the FAA's web page at *http://www.faa.gov/air_traffic/publications/airspace_amendments/.*

You may review the public docket containing the proposal, any comments received and any final disposition in person in the Dockets Office (see the **ADDRESSES** section for address and phone number) between 9:00 a.m. and 5:00 p.m., Monday through Friday, except federal holidays. An informal docket may also be examined between 8:00 a.m. and 4:30 p.m., Monday through Friday, except federal holidays at the office of the Eastern Service Center, Federal Aviation Administration, Room 350, 1701 Columbia Avenue, College Park, GA 30337.

Availability and Summary of Documents for Incorporation by Reference

This document proposes to amend FAA Order 7400.11B, Airspace Designations and Reporting Points, dated August 3, 2017, and effective September 15, 2017. FAA Order 7400.11B is publicly available as listed in the **ADDRESSES** section of this document. FAA Order 7400.11B lists Class A, B, C, D, and E airspace areas, air traffic service routes, and reporting points.

The Proposal

The FAA is considering an amendment to Title 14 Code of Federal Regulations (14 CFR) part 71 to establish Class E airspace extending upward from 700 feet above the surface within a 7-mile radius of Breckinridge County Airport, Hardinsburg, KY, providing the controlled airspace required to support the new RNAV (GPS) standard instrument approach procedures for IFR operations at this airport.

Class E airspace designations are published in Paragraph 6005 of FAA Order 7400.11B, dated August 3, 2017, and effective September 15, 2017, which is incorporated by reference in 14 CFR 71.1. The Class D and E airspace designations listed in this document will be published subsequently in the Order.

Regulatory Notices and Analyses

The FAA has determined that this proposed regulation only involves an established body of technical regulations for which frequent and routine amendments are necessary to keep them operationally current. It, therefore: (1) Is not a "significant regulatory action" under Executive Order 12866; (2) is not a "significant rule" under DOT Regulatory Policies and Procedures (44 FR 11034; February 26, 1979); and (3) does not warrant preparation of a regulatory evaluation as the anticipated impact is so minimal. Since this is a routine matter that will only affect air traffic procedures and air navigation, it is certified that this proposed rule, when promulgated, will not have a significant economic impact on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

Environmental Review

This proposal would be subject to an environmental analysis in accordance with FAA Order 1050.1F, "Environmental Impacts: Policies and Procedures" prior to any FAA final regulatory action.

Lists of Subjects in 14 CFR Part 71

Airspace, Incorporation by reference, Navigation (air).

The Proposed Amendment

In consideration of the foregoing, the Federal Aviation Administration proposes to amend 14 CFR part 71 as follows:

PART 71 —DESIGNATION OF CLASS A, B, C, D, AND E AIRSPACE AREAS; AIR TRAFFIC SERVICE ROUTES; AND REPORTING POINTS

■ 1. The authority citation for part 71 continues to read as follows:

Authority: 49 U.S.C. 106(f), 106(g); 40103, 40113, 40120; E.O. 10854, 24 FR 9565, 3 CFR, 1959–1963 Comp., p. 389.

§ 71.1 [Amended]

■ 2. The incorporation by reference in 14 CFR 71.1 of Federal Aviation Administration Order 7400.11B, Airspace Designations and Reporting Points, dated August 3, 2017, and effective September 15, 2017, is amended as follows:

Paragraph 6005 Class E Airspace Areas Extending Upward From 700 Feet or More Above the Surface of the Earth.

* * * * *

ASO KY E5 Hardinsburg, KY [New]

Breckinridge County Airport, KY
(Lat. 37°47′05″ N, long. 86°26′29″ W)

That airspace extending upward from 700 feet above the surface within a 7-mile radius of Breckinridge County Airport.

Issued in College Park, Georgia, on August 29, 2018.

Ryan W. Almasy,

Manager, Operations Support Group, Eastern Service Center, Air Traffic Organization.

[FR Doc. 2018–19492 Filed 9–10–18; 8:45 am]

BILLING CODE 4910–13–P

DEPARTMENT OF HOMELAND SECURITY

Coast Guard

33 CFR Part 165

[Docket Number USCG–2018–0845]

Safety Zone; Spaceport Camden, Woodbine, GA

AGENCY: Coast Guard, DHS.

ACTION: Request for comments.

SUMMARY: The Coast Guard is seeking comments from interested persons regarding a proposal to establish safety zones on the navigable waterways in the vicinity of the proposed Spaceport Camden, near Woodbine, Georgia during rocket tests, launches, and landing operations. The proposed safety zones would be necessary to protect personnel, vessels, and the marine environment from potential hazards created by rocket launches and landings, and by various rocket tests.

DATES: Your comments and related material must reach the Coast Guard on or before October 11, 2018.

ADDRESSES: You may submit comments identified by docket number USCG–2018–0845 using the Federal portal at *http://www.regulations.gov.* See the "Public Participation and Request for Comments" portion of the **SUPPLEMENTARY INFORMATION** section for further instructions on submitting comments.

FOR FURTHER INFORMATION CONTACT: If you have questions about this notice of inquiry, call or email LT Joseph Palmquist, Marine Safety Unit Savannah, U.S. Coast Guard; telephone 912–652–4353 x221, email *joseph.b.palmquist@uscg.mil.*

SUPPLEMENTARY INFORMATION:

I. Table of Abbreviations

CFR Code of Federal Regulations
DHS Department of Homeland Security
FR Federal Register

II. Background and Purpose

The Board of County Commissioners of Camden County, Georgia proposes to develop and operate a commercial space launch site, called Spaceport Camden, in an unincorporated area of Camden County, Georgia, approximately 11.5 miles due east of the town of Woodbine, Georgia. The site, near Floyd Creek, is on the coast, surrounded by salt marshes to the east and south, and the Satilla River to the north. In support of Spaceport Camden, the Board of County Commissioners of Camden County, Georgia requested that the Coast Guard establish safety zones which would be enforced during launch, landing, and rocket test activities at the site.

The Coast Guard establishes safety zones over areas of water and/or shore for safety or environmental purposes pursuant to the authority contained in 33 CFR part 165. A safety zone is a ". . . water area, shore area, or water and shore area to which, for safety or environmental purposes, access is limited to authorized persons, vehicles, or vessels."

The applicants for Spaceport Camden propose up to 12 annual launches and landings during daylight hours, with one possible nighttime launch per year, of liquid-fueled, small to medium-large lift-class, orbital and suborbital vertical launch vehicles. In support of the proposed launches, the applicants for Spaceport Camden propose up to 12 static fire engine tests per year. Launch trajectories would vary from 83 to 115 degrees for vehicles up to and including medium-large lift class. Because the trajectory of these launches would take the rockets over various navigable waterways, creeks and tributaries, sections of land, and areas offshore, applicants are required to limit or restrict access to certain areas surrounding a rocket test/launch site based on specific hazard analysis. The applicant's request to establish safety zones during rocket launches, landings, and various tests is one element in meeting these safety requirements.

The range of potential safety zones for launch and landing activities encompasses an area which accounts for safety concerns associated with all potential launch trajectories. Individual launch safety zones could be smaller and depend on several factors unique to each event, such as actual trajectory, lift class, and payload. The range of potential safety zones for rocket tests encompasses a smaller area directly around the commercial space launch site. In all instances, the proposed safety zones would be necessary to safeguard persons, property, and the marine environment during rocket launches, landings, and rocket test activities.

Proposed Launch/Landing Safety Zone

The geographic area which encompasses all potential launch trajectories and accounts for the largest possible launch vehicle is defined by nine total corner points, identified below. Individual launch safety zones could be smaller dependent upon aspects unique to each launch activity, such as specific launch trajectories and the size of each launch vehicle:

1. In vicinity of the western portion of Shellbine Creek, south of Union Carbide Rd, Latitude: 30°54′17.0″ N, Longitude: 81°30′45.0″ W
2. In vicinity of Cabin Bluff, at the end of Union Carbide Rd, Latitude: 30°53′6.75″ N, Longitude: 81°30′56.5″ W
3. Cumberland River, just west of Cumberland Island, approximately 2 nautical miles (2.3 miles) north of Stafford Island, Latitude: 30°50′56.15″ N, Longitude: 81°28′39.4″ W
4. Plum Orchard—West side of Cumberland Island, approximately 1.5 nautical miles (1.7 miles) south of Table Point, Latitude: 30°51′22.12″ N, Longitude: 81°27′55.3″ W
5. Kings Bottom Trail Head—West side of Cumberland Island, approximately 1 nautical mile (1.15 miles) south of Table Point, Latitude: 30°51′58.53″ N, Longitude: 81°27′44.8″ W
6. Offshore—Approximately 13 nautical miles (15 miles) east of the southern portion of Cumberland Island; approximately 5 nautical miles (5.75 miles) northeast of St. Mary's entrance buoy, Latitude: 30°46′1.80″ N, Longitude: 81°10′15.5″ W
7. Offshore—Approximately 10 nautical miles (11.5 miles) east of Jekyll Point; approximately 3.5 nautical miles (4 miles) southeast of St. Simons Sound entrance buoy, Latitude: 31°01′33.65″ N, Longitude: 81°10′15.5″ W
8. St. Andrew Sound—600 yards south of Jekyll Point, Latitude: 31°00′23.6″ N, Longitude: 81°26′4.75″ W
9. In vicinity of Todd Creek, approximately 1 nautical mile (1.15 miles) west of Floyd Basin, Latitude: 30°57′38.0″ N, Longitude: 81°32′25.5″ W

Proposed Test Activity Safety Zone

The proposed safety zone for test activities encompasses an area within a one nautical mile (1.15 miles) radius in each direction from the location of the launch site pad. The location of the launch site: Latitude: 30°56′50.67″ N, Longitude: 81°30′23.34″ W.

III. Information Requested

In support of the applicant's request and to provide for the public safety in connection with potential operations at Spaceport Camden, the COTP Savannah is seeking comments from interested persons on the establishment of two proposed safety zones on the navigable waters surrounding Spaceport Camden, in the vicinity of Woodbine, Georgia. These safety zones would be enforced during rocket launches, landings, and various rocket tests. Launch/landing safety zones would support launch/landing activities while test site safety zones would support rocket test activities. Vessels, both commercial and recreational, would be prohibited from entering, transiting through, anchoring in, or remaining within the safety zone unless specifically authorized by the COTP Savannah or a designated representative.

For launch activities, the safety zone is anticipated to be in effect for approximately four to six hours for medium-large launchers, but not longer than 12 hours. For small launches, the safety zone is anticipated to be in effect for two to three hours. A safety zone for rocket test activity is anticipated to be in effect for approximately 60 minutes or less. The COTP Savannah or a designated representative would inform the public through broadcast notice to mariners of the enforcement periods of the safety zone.

IV. Public Participation and Request for Comments

We encourage you to submit comments through the Federal portal at *http://www.regulations.gov.* If your material cannot be submitted using *http://www.regulations.gov,* contact the person in the **FOR FURTHER INFORMATION CONTACT** section of this document for alternate instructions. In your submission, please include the docket number for this notice of inquiry and provide a reason for each suggestion or recommendation.

We accept anonymous comments. All comments received will be posted without change to *http://www.regulations.gov* and will include any personal information you have provided. For more about privacy and the docket, visit *http://www.regulations.gov/privacyNotice.*

Documents mentioned in this notice of inquiry as being available in the docket, and all public comments, will be in our online docket at *http://www.regulations.gov* and can be viewed by following that website's instructions.

We plan to hold a public meeting to receive oral comments on this notice of inquiry and will announce the date, time, and location in a separate document published in the **Federal Register**. If you signed up for docket email alerts mentioned in the paragraph above, you will receive an email notice when the public meeting notice is published and placed in the docket.

Dated: September 4, 2018.

N.C. Witt,

Commander, U.S. Coast Guard, Captain of the Port Savannah.

[FR Doc. 2018–19661 Filed 9–10–18; 8:45 am]

BILLING CODE 9110–04–P

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

50 CFR Part 635

[Docket No. 180517486–8772–01]

RIN 0648–XG263

Atlantic Highly Migratory Species; 2019 Atlantic Shark Commercial Fishing Year

AGENCY: National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

ACTION: Proposed rule; request for comments.

SUMMARY: This proposed rule would establish quotas, opening dates, and retention limits for the 2019 fishing year for the Atlantic commercial shark fisheries. Quotas would be adjusted as required or allowable based on any over- and/or underharvests experienced during the 2018 fishing year. In addition, NMFS proposes opening dates and commercial retention limits based on adaptive management measures to provide, to the extent practicable, fishing opportunities for commercial shark fishermen in all regions and areas. The proposed measures could affect fishing opportunities for commercial shark fishermen in the northwestern Atlantic Ocean, including the Gulf of Mexico and Caribbean Sea.

DATES: Written comments must be received by October 11, 2018.

ADDRESSES: You may submit comments on this document, identified by NOAA–NMFS–2018–0097, by any of the following methods:

- *Electronic Submission:* Submit all electronic public comments via the Federal e-Rulemaking Portal. Go to *www.regulations.gov/#!docketDetail;D=NOAA-NMFS-2018-0097*, click the "Comment Now!" icon, complete the required fields, and enter or attach your comments.
- *Mail:* Submit written comments to Brad McHale, NMFS/SF1, 1315 East-West Highway, National Marine Fisheries Service, SSMC3, Silver Spring, MD 20910.

Instructions: Comments sent by any other method, to any other address or individual, or received after the end of the comment period, may not be considered by NMFS. All comments received are a part of the public record and will generally be posted for public viewing on *www.regulations.gov* without change. All personal identifying information (*e.g.*, name, address, etc.), confidential business information, or otherwise sensitive information submitted voluntarily by the sender will be publicly accessible. NMFS will accept anonymous comments (enter "N/A" in the required fields if you wish to remain anonymous).

Copies of this proposed rule and supporting documents are available from the HMS Management Division website at *https://www.fisheries.noaa.gov/topic/atlantic-highly-migratory-species* or by contacting Lauren Latchford or Chanté Davis by phone at (301) 427–8503.

FOR FURTHER INFORMATION CONTACT: Karyl Brewster-Geisz, Lauren Latchford, or Chanté Davis at (301) 427–8503.

SUPPLEMENTARY INFORMATION:

Background

The Atlantic commercial shark fisheries are managed under the authority of the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act). The 2006 Consolidated Atlantic Highly Migratory Species (HMS) Fishery Management Plan (FMP) and its amendments are implemented by regulations at 50 CFR part 635. For the Atlantic commercial shark fisheries, the 2006 Consolidated HMS FMP and its amendments established commercial shark retention limits, commercial quotas for species and management groups, and accounting measures for under- and overharvests for the shark fisheries. The FMP also includes adaptive management measures, such as flexible opening dates for the fishing year and inseason adjustments to shark trip limits, which provide management flexibility in furtherance of equitable fishing opportunities, to the extent practicable, for commercial shark fishermen in all regions and areas.

2019 Proposed Quotas

This proposed rule would adjust the quota levels for the different shark stocks and management groups for the 2019 Atlantic commercial shark fishing year based on over- and underharvests that occurred during the 2018 fishing year, consistent with existing regulations at 50 CFR 635.27(b). Over- and underharvests are accounted for in the same region, sub-region, and/or fishery in which they occurred the following year, except that large overharvests may be spread over a number of subsequent fishing years up to a maximum of five years. Shark stocks that are overfished, have overfishing occurring, or have an unknown status, as well as management groups that contain one or more stocks that are overfished, have overfishing occurring, or have an unknown stock status, will not have underharvest carried over in the following year. Stocks or management groups that are not overfished and have no overfishing occurring may have any underharvest carried over in the following year, up to 50 percent of the base quota.

Based on harvests to date, and after considering catch rates and landings from previous years, NMFS proposes to adjust the 2019 quotas for some management groups as shown in Table 1. In the final rule, NMFS will adjust the quotas as needed based on dealer reports received by mid-October 2018. Thus, all of the 2019 proposed quotas for the respective stocks and management groups will be subject to further adjustment after NMFS considers the dealer reports through mid-October. All dealer reports that are received after the October date will be used to adjust 2020 quotas, as appropriate.

While the sub-quota for the western Gulf of Mexico aggregated large coastal shark (LCS) was exceeded this year, based on current landings in the eastern Gulf of Mexico for that management group and based on catch rates from previous years from the eastern Gulf of Mexico, NMFS does not believe the overall regional Gulf of Mexico aggregated LCS quota will be exceeded. Thus, NMFS proposes the base line quotas for the eastern and western Gulf of Mexico sub-regions. If catch rates in the eastern Gulf of Mexico increase, it is possible that in the final rule NMFS would need to reduce the western Gulf of Mexico sub-regional aggregated LCS quota to account for that sub-region's overharvest.

Because the Gulf of Mexico blacktip shark management group and smoothhound shark management groups

inspector or local Flight Standards District Office, as appropriate. If sending information directly to the International Section, send it to the attention of the person identified in paragraph (n)(2) of this AD. Information may be emailed to: *9-ANM-116-AMOC-REQUESTS@faa.gov.*

(i) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

(ii) AMOCs approved previously for AD 2018–11–07, are approved as AMOCs for the corresponding provisions of this AD.

(2) *Contacting the Manufacturer:* As of the effective date of this AD, for any requirement in this AD to obtain corrective actions from a manufacturer, the action must be accomplished using a method approved by the Manager, International Section, Transport Standards Branch, FAA; or the European Aviation Safety Agency (EASA); or Saab AB, Saab Aeronautics' EASA Design Organization Approval (DOA). If approved by the DOA, the approval must include the DOA-authorized signature.

(n) Related Information

(1) Refer to Mandatory Continuing Airworthiness Information (MCAI) EASA Airworthiness Directive 2018–0103, dated April 30, 2018, for related information. This MCAI may be found in the AD docket on the internet at *http://www.regulations.gov* by searching for and locating Docket No. FAA–2018–0797.

(2) For more information about this AD, contact Shahram Daneshmandi, Aerospace Engineer, International Section, Transport Standards Branch, FAA, 2200 South 216th St., Des Moines, WA 98198; telephone and fax 206–231–3220.

(3) For service information identified in this AD, contact Saab AB, Saab Aeronautics, SE–581 88, Linköping, Sweden; telephone +46 13 18 5591; fax +46 13 18 4874; email *saab2000.techsupport@saabgroup.com;* internet *http://www.saabgroup.com.* You may view this service information at the FAA, Transport Standards Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206–231–3195.

Issued in Des Moines, Washington, on September 10, 2018.

Michael Kaszycki,

Acting Director, System Oversight Division, Aircraft Certification Service.

[FR Doc. 2018–20106 Filed 9–18–18; 8:45 am]

BILLING CODE 4910–13–P

DEPARTMENT OF HOMELAND SECURITY

Coast Guard

33 CFR Parts 140, 141, 142, 143, 144, 145, 146, and 147

[Docket Number USCG–1998–3868]

RIN 1625–AA18

Outer Continental Shelf Activities

AGENCY: Coast Guard, DHS.

ACTION: Proposed rule; withdrawal.

SUMMARY: The Coast Guard is withdrawing the proposed rule entitled "Outer Continental Shelf Activities" that we published on December 7, 1999. The Coast Guard is withdrawing this proposed rule due to the passage of time, advances in technology, and changes in industry practices that have rendered the proposed rule obsolete.

DATES: The proposed rule published December 7, 1999 (64 FR 68416) is withdrawn as of September 19, 2018.

ADDRESSES: To view documents mentioned in this withdrawal, go to *http://www.regulations.gov,* type "USCG–1998–3868" in the search box and click "Search" then click on "Open Docket Folder."

FOR FURTHER INFORMATION CONTACT: For information about this document, call or email Mr. Charles Rawson, Commandant (CG–ENG), U.S. Coast Guard; telephone 202–372–1390, email *Charles.E.Rawson@uscg.mil.*

SUPPLEMENTARY INFORMATION:

I. Table of Abbreviations

FR Federal Register
NPRM Notice of proposed rulemaking
OCS Outer continental shelf

II. Background

The Coast Guard published a notice of proposed rulemaking (NPRM) in the **Federal Register** on December 7, 1999, (64 FR 68416), entitled "Outer Continental Shelf Activities." In our NPRM, we proposed revisions of our Outer Continental Shelf (OCS) regulations that pertain to workplace safety and health on vessels and facilities engaged in the exploration for, or development or production of, minerals on the OCS. The Coast Guard initiated this rulemaking in response to the various advances that had changed the nature of the offshore industry since the last major revision of our OCS regulations in 1982. As detailed in the proposed regulatory text, this rulemaking would have reassessed all of our current OCS regulations in light of past experiences and new improvements in order to help make the OCS a safer work environment. The Coast Guard received comments from the public regarding the proposed rulemaking. These comments are available in the docket.

III. Withdrawal

In the nearly 20 years since the Coast Guard published the NPRM and the comment period closed, the offshore industry has continued to grow and evolve. Due to the passage of time, advances in technology, and changes in industry practice, we found that much of what we proposed in the NPRM is now obsolete and no longer applicable to the modern OCS work environment. Consequently, the NPRM is no longer suitable as a basis for further rulemaking action. Accordingly, the Coast Guard is withdrawing the "Outer Continental Shelf Activities" proposed rule announced in an NPRM published December 7, 1999 (64 FR 68416).

This document is issued under the authority of 5 U.S.C. 552(a), and 43 U.S.C. 1333(d) and 1348(c).

Dated: September 14, 2018.

J.P. Nadeau,

Rear Admiral, U.S. Coast Guard, Assistant Commandant for Prevention Policy.

[FR Doc. 2018–20378 Filed 9–18–18; 8:45 am]

BILLING CODE 9110–04–P

DEPARTMENT OF HOMELAND SECURITY

Coast Guard

33 CFR Part 165

[Docket No. USCG–2018–0845]

Safety Zones; Spaceport Camden, Woodbine, GA

AGENCY: Coast Guard, DHS.

ACTION: Notice of public meeting; request for comments.

SUMMARY: The U.S. Coast Guard announces a public meeting to receive comments on a Notice of Inquiry (NOI) involving a proposal to establish safety zones on the navigable waterways in the vicinity of the proposed Spaceport Camden, near Woodbine, Georgia, during rocket tests, launches, and landing operations. The NOI was published in the **Federal Register** on September 11, 2018. The purpose of this public meeting is to receive comments regarding the proposed safety zones.

DATES: A public meeting will be held on September 27, 2018 from 5 p.m. to 7 p.m. to provide an opportunity for oral comments. Written comments and

related material may also be submitted to Coast Guard personnel specified at that meeting. All comments and related material submitted after the meeting must be received by the Coast Guard on or before October 11, 2018.

ADDRESSES: The public meeting will be held at the Camden County Public Service Authority Recreation Center, 1050 Wildcat Drive, Kingsland, Georgia 31548. Parking is available at the Recreation Center.

You may submit written comments identified by docket number USCG–2018–0845 using the Federal eRulemaking Portal at *http://www.regulations.gov.*

FOR FURTHER INFORMATION CONTACT: If you have questions concerning the meeting or NOI, please call or email LT Joseph Palmquist, Coast Guard; telephone 912–652–4353 ext. 221, email *joseph.b.palmquist@uscg.mil.*

SUPPLEMENTARY INFORMATION:

I. Background and Purpose

We are announcing a public meeting to receive comments regarding a proposal to establish safety zones on the navigable waterways in the vicinity of the proposed Spaceport Camden, near Woodbine, Georgia. We published a Notice of Inquiry (NOI) in the **Federal Register** on September 11, 2018 (83 FR 45864), entitled "Safety Zone; Spaceport Camden, Woodbine, GA." In it we stated our intention to hold a public meeting, and to publish a notice announcing the location and date (83 FR 45866). This document is the notice of that meeting.

In the NOI, we announced that the Board of County Commissioners of Camden County, Georgia proposes to develop and operate a commercial space launch site, called Spaceport Camden, in an unincorporated area of Camden County, Georgia, approximately 11.5 miles due east of the town of Woodbine, Georgia. The site, near Floyd Creek, is on the coast, surrounded by salt marshes to the east and south, and the Satilla River to the north. In support of Spaceport Camden, the Board of County Commissioners of Camden County, Georgia requested that the Coast Guard establish safety zones which would be effective during launch, landing, and rocket test activities at the site.

The Coast Guard establishes safety zones over areas of water and/or shore for safety or environmental purposes pursuant to the authority contained in 33 CFR part 165. A safety zone is a ". . . water area, shore area, or water and shore area to which, for safety or environmental purposes, access is limited to authorized persons, vehicles, or vessels."

The applicants for Spaceport Camden propose up to 12 annual launches and landings during daylight hours, with one possible nighttime launch per year, of liquid-fueled, small to medium-large lift-class, orbital and suborbital vertical launch vehicles. In support of the proposed launches, the applicants for Spaceport Camden propose up to 12 engine tests per year. Launch trajectories would vary from 83 to 115 degrees for vehicles up to and including medium-large lift class. Because the trajectory of these launches would take the rockets over various navigable waterways, creeks and tributaries, sections of land, and areas offshore, applicants are required to limit or restrict access to certain areas surrounding a rocket test/launch site based on specific hazard analysis. The applicant's request to establish safety zones during rocket launches, landings, and various tests is one element in meeting these safety requirements

The range of potential safety zones for launch and landing activities encompasses an area which accounts for safety concerns associated with all potential launch trajectories. Individual launch safety zones could be smaller and depend on several factors unique to each event, such as actual trajectory, lift class, and payload. The range of potential safety zones for rocket tests encompasses a smaller area directly around the commercial space launch site. In all instances, the potential safety zones would be necessary to safeguard persons, property, and the marine environment during rocket launches, landings, and rocket test activities.

You may view the NOI in our online docket and comments submitted thus far by going to *http://www.regulations.gov.* Once there, insert "USCG–2018–0845" in the "Keyword" box and click "Search."

We encourage you to participate in this NOI by submitting comments either orally at the meeting or in writing. If you bring written comments to the meeting, you may submit them to Coast Guard personnel specified at the meeting to receive written comments. These comments will be submitted to our online public docket. All comments received will be posted without change to *http://www.regulations.gov* and will include any personal information you have provided.

Comments submitted after the meeting must reach the Coast Guard on or before October 11, 2018. We encourage you to submit comments through the Federal eRulemaking Portal at *http://www.regulations.gov.* If your material cannot be submitted using *http://www.regulations.gov,* contact the person in the **FOR FURTHER INFORMATION CONTACT** section of this document for alternate instructions.

Anyone can search the electronic form of comments received into any of our dockets by the name of the individual submitting the comment (or signing the comment, if submitted on behalf of an association, business, labor union, etc.). You may review a Privacy Act notice regarding our public dockets in the March 24, 2005, issue of the **Federal Register** (70 FR 15086).

II. Information on Service for Individuals With Disabilities

For information on facilities or services for individuals with disabilities or to request special assistance at the public meeting, contact LT Joseph Palmquist at the telephone number or email address indicated under the **FOR FURTHER INFORMATION CONTACT** section of this notice.

III. Public Meeting

The Coast Guard will hold a public meeting to receive comments on the proposal to establish safety zones on the navigable waterways in and near the proposed Spaceport Camden, near Woodbine, GA. The meeting will take place on September 27, 2018 from 5 p.m. to 7 p.m. at Camden County Public Service Authority Recreation Center, 1050 Wildcat Drive, Kingsland, Georgia 31548. Parking is available at the Recreation Center.

Dated: September 14, 2018.

N.C. Witt,

Commander, U.S. Coast Guard, Captain of the Port Savannah.

[FR Doc. 2018–20335 Filed 9–18–18; 8:45 am]

BILLING CODE 9110–04–P

FEDERAL COMMUNICATIONS COMMISSION

47 CFR Part 63

[WC Docket No. 17–84; Report No. 3101]

Petition for Reconsideration of Action in Rulemaking Proceeding

AGENCY: Federal Communications Commission.

ACTION: Petition for reconsideration.

SUMMARY: A Petition for Reconsideration (Petition) has been filed in the Commission's Rulemaking proceeding by Harold Feld, on behalf of Public Knowledge.

DATES: Oppositions to the Petition must be filed on or before October 4, 2018.

LETTER OF AGREEMENT
between
CAMDEN COUNTY, GA
and
UNITED STATES COAST GUARD
SEVENTH DISTRICT

SUBJECT: Operations at Spaceport Camden, Camden County, Georgia

I. **PARTIES:** The parties to this agreement are the United States Coast Guard (USCG), Seventh District, (D7) and Camden County Board of Commissioners, Georgia (Camden County).

II. **AUTHORITY:** The USCG's authority to enter into this Agreement can be found in the following sources: 14 United States Code (U.S.C.) § 93(a)(20), 14 U.S.C. §701. As a recognized political subdivision of the State of Georgia as defined in the Constitution of the State of Georgia, effective July 1, 1983, Camden County is authorized to enter into governmental agreements pursuant to Article IX, section 1, Paragraph 1 thereof, and O.C.G.A. 36-34-2(5).

III. **BACKGROUND:** Camden County intends to operate a commercial space launch site called Spaceport Camden (SC) for use by vertical launch vehicle operators for the orbital and suborbital launch of small to medium-large, liquid propellant launch vehicles. Launch operations would include preparatory activities to ready and test launch vehicles and systems, including mission rehearsals and static tests, and for any first-stage landings on the space launch site or returns to the launch site after landing on a barge located approximately 200 to 300 miles offshore in the Atlantic Ocean. The USCG has the responsibility to protect public health, safety of property, safe navigation, and national security in the maritime domain, to include during launch or reentry activities associated with space transportation.

IV. **PURPOSE:** As required under Title 14, Code of Federal Regulations (CFR) §420, this agreement between Camden County and D7 provides procedures for the issuance of Broadcast and/or Local Notice to Mariners prior to a launch operation, as well as any other conditions deemed necessary by the Coast Guard to protect public health and safety. This agreement does not cover air traffic control procedures, nor does it cover specific notifications necessary for operation of specific launch vehicles, as these are covered in separate agreements required as part of a Federal Aviation Administration (FAA) Launch Vehicle Operator License.

V. **SCOPE:** This Agreement is specific to the site location listed above, to include proposed operations taking place there, and is designed to detail USCG conditions, responsibilities, and coordination procedures for preflight, flight, and post-flight operations. Procedures defined in this Agreement are to be part of and supplemental to all Launch Site Operator license requirements and are in no way intended to circumvent the terms and conditions

contained in any license issued. Procedures used for actual flight operations are subject to further coordination by vehicle operators during the development of a separate Launch Vehicle Operator License application. This Agreement is subject to compliance monitoring by FAA Office of Commercial Space Transportation (AST).

VI. DEFINITIONS:

A. Captain of the Port (COTP): Captains of the Port and their representatives enforce port safety and security and marine environmental protection regulations within their respective areas of responsibility, including, without limitation, regulations for the protection and security of vessels, harbors, and waterfront facilities; anchorages; security zones; safety zones; regulated navigation areas; deepwater ports; water pollution; and ports and waterways safety. For the purposes of this agreement, USCG Marine Safety Unit Savannah (MSU Savannah) is the COTP under whose authority Spaceport Camden's launch operations primarily fall.

B. Limited Access Area (LAA): Tool used to control movement of marine traffic and limit access to all or a portion of the waterway in order to provide safety and security for mariners, vessels and maritime critical infrastructure, and manage the use of navigable waterways for commerce and environmental protection. LAA's could be a tool used to mitigate risks identified through a Navigation Safety Risk Assessment (NSRA).

C. Local U.S. Coast Guard District: A Coast Guard District Commander is in command of a Coast Guard District and the District Commander's office may be referred to as a Coast Guard District Office. For the purposes of this agreement, the "Local U.S. Coast Guard District" refers to the Seventh Coast Guard District in Miami, Florida.

D. Navigation Safety Risk Assessment (NSRA): Tool used by the USCG COTP when preparing input for a permitting agency regarding port or waterway safety issues associated with a project located on, over, or near the navigable waters of the United States. The assessment helps the COTP identify potential navigation risks and is the basis of any recommendation to the permitting agency.

E. Navigable Waters of the U.S. (navigable waterway): As defined in 33 CFR 2.36, Navigable Waters refers to the Territorial seas of the United States (all waters seaward to 12nm), internal waters of the United States that are subject to tidal influence, and internal waters of the United States that are not subject to tidal influence, but that may be used for substantial interstate or foreign commerce.

F. Broadcast Notice to Mariners (BNM): Broadcast Notice to Mariners is the method by which important navigation safety information is disseminated in the most expedient manner. Two agencies within the United States, the USCG and the National Geospatial-Intelligence Agency (NGA) are responsible for broadcasting navigation information. Each agency has a particular geographic area of responsibility.

G. Local Notice to Mariners (LNM): The Local Notice to Mariners is the USCG's primary means for disseminating navigation safety information concerning aids to navigation, hazards to navigation, and other items of interest to mariners navigating the waters of the United States, its territories, and possessions. Each District Commander is responsible for issuing a Local Notice to Mariners each week containing information that contributes to navigation safety and maritime security within the boundaries of the District.

H. United States Coast Guard Local Authority: For the purposes of this agreement, the local Coast Guard authority refers to MSU Savannah.

I. Vertical Launch Vehicle: A vehicle built to operate in, or place a payload in, outer space or a suborbital rocket, that launches vertically from a launch pad into space without assistance from an aircraft.

VII. RESPONSIBILITIES:

A. Camden County agrees to the following:

1. Scheduling and Notification Activities:

a) Provide D7(dpw) an annual launch schedule forecast for the next federal fiscal year by 30 September each year.

b) Submit launch information to D7(dpw), to request a LNM article no later than 30 days prior to scheduled launch. Launch information should include the following:
   1) Operation Number;
   2) Vehicle type and launch description;
   3) Primary and secondary launch date and time in local and GMT;
   4) Launch Hazard Areas, perimeter coordinates in degrees, minutes, and seconds to three decimal places, if applicable.

c) No later than five (5) days prior to launch activity, Camden County shall:
   1) Contact MSU Savannah to request a BNM with launch information and any other specific information needed by mariners;
   2) Contact D7 (dpw) to confirm launch information for the LNM and to request broadcast of NAVTEX with launch hazard information for launch activities occurring over water up 150 nautical miles offshore;
   3) Contact NGA to request Navigation Area IV warning notifications for launch activities occurring over water from 150 nautical miles offshore to deep-ocean.

2. Limited Access Areas:

a) NSRA: Submit a completed NSRA to the USCG COTP for use in identifying potential navigation risks with SC on or before ninety (90) days from the effective date of this agreement.

b) Based on evaluation of risks assessed in the NSRA, request resumption of rulemaking in order to establish an LAA no later than 60 days prior to anticipated need.

B. D7 agrees to the following:

1. Scheduling and Notification Activities:

a) Review annual forecast of scheduled launches and provisions of this agreement each year;

b) Publish launch information 30 days prior to launch in the Local Notice to Mariners;

c) Broadcast NAVTEX with launch information 5 days prior to launch;

d) Fulfill any other statutory responsibility pertaining to USCG jurisdiction and authorities.

e) Consult with Camden County on all matters related to navigation safety pertaining to commercial space transportation.

2. Limited Access Areas:

a) D7(dpw) will coordinate the completion of a formal NSRA in accordance with Coast Guard policy separate from this agreement.

VIII. POINTS OF CONTACT: The primary points of contact for this Agreement shall be the D7(dpw), USCG Marine Safety Unit (MSU) Savannah, and the Administrator of Camden County. Specific points of contact are included in Appendix A.

IX. OTHER PROVISIONS:

A. Nothing in this agreement is intended to conflict with current law or regulation or the directives of the USCG, Department of Homeland Security, the Department of Transportation, or the State of Georgia. If the terms of this Agreement are inconsistent with existing directives of these agencies, then those portions of this Agreement which are determined to be inconsistent shall be invalid, but the remaining terms and conditions of this Agreement not so affected shall remain in full force and effect.

B. This Agreement does not create any right or benefit, substantive or procedural, enforceable by law or equity by persons who are not a party to this agreement, against the USCG or Camden County, their officers or employees, or any other person.

C. Each Party shall implement procedures to carry out their respective responsibilities under this Agreement in accordance with their respective departmental policies and procedures. This Agreement does not and should not be construed as a commitment, obligation, or transfer of funds. Should the transfer or obligation of funds become necessary in the future, both Parties agree that appropriate subordinate agreements will be executed in writing as necessary, in accordance with each agency's fiscal and contracting laws and regulations, including proper administrative review prior to obligation of those funds. Reimbursable expenses are charged at rates as provided by the USCG Reimbursable Standard Rates Commandant Instruction 7310.1S.

D. Camden County or the SC Senior Manager will immediately notify the National Response Center, MSU Savannah, and the D7 Command Center in the event of a launch site accident adjacent to or affecting any navigable waterway.

E. As specified in Paragraph VII.A.1., should Camden County fail to submit a final NSRA acceptable to the USCG within the identified time period, the USCG will have the option to terminate this Agreement by written notice to Camden County.

X. **EFFECTIVE:** This Agreement shall become effective upon the date of signature by both approving officials for the parties.

XI. **MODIFICATION:** This Agreement may be modified upon the mutual written consent of the parties. This Agreement shall be reviewed by the parties annually to determine the need for modification.

XII. **TERMINATION:** This Agreement shall remain in full force and effect unless and until revoked in writing by either party. Either party, upon thirty (30) days written notice to the other party, may terminate this Agreement.

APPROVED BY:

6/13/19

JAMES H. STARLINE
Chair, Board of County Commissioners
Camden County Georgia

JUN 12 2019

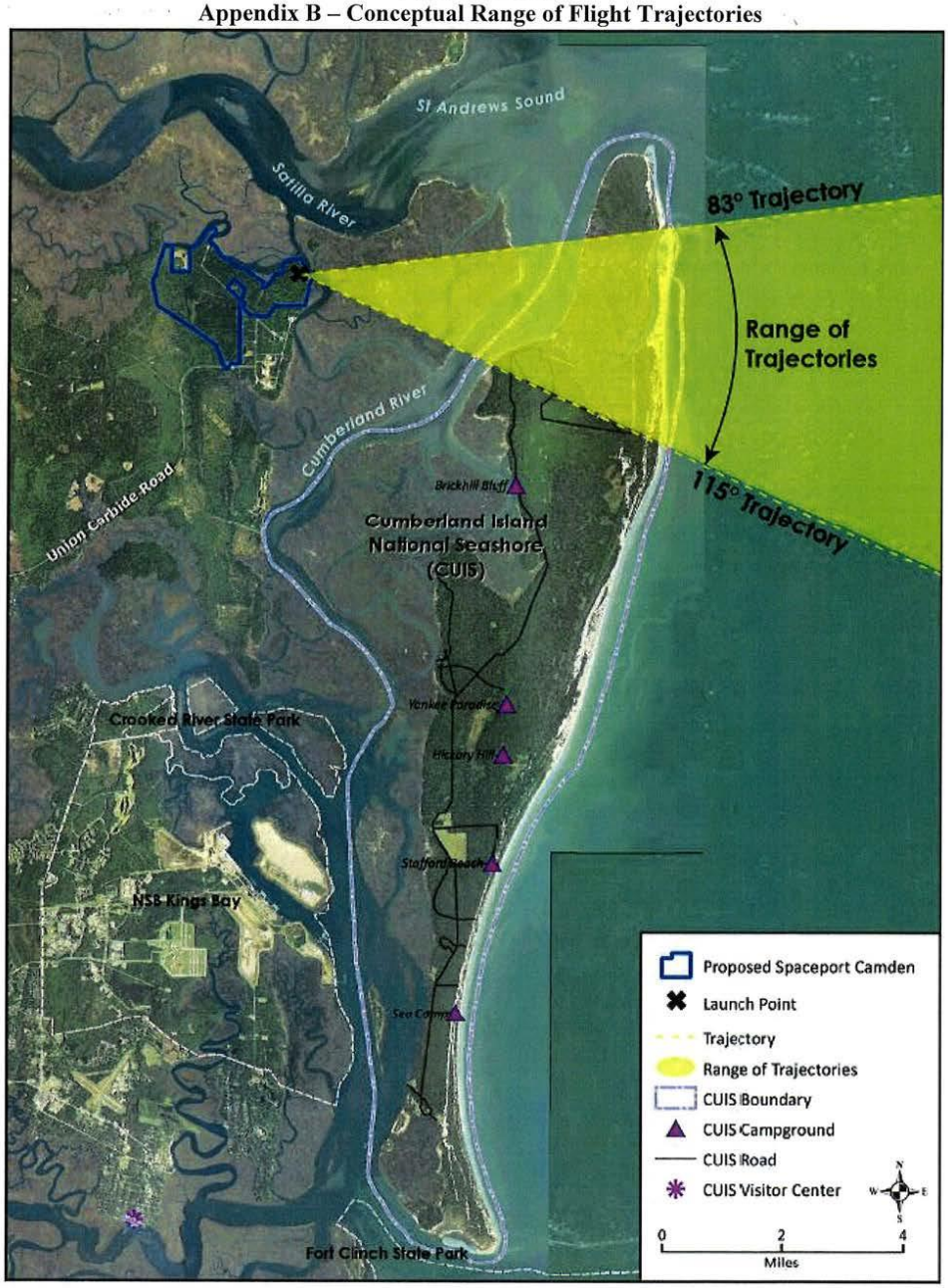
PETER J. BROWN
Rear Admiral, U. S. Coast Guard,
Commander, Seventh Coast Guard District

Appendix (A) Specific Points of Contact
Appendix (B) Conceptual Routes of Flight

AGREEMENT
Appendix A – Specific Points of Contact

OFFICE	NUMBER	RESPONSIBILITY
Camden County Administrator	912-510-0464	Launch Facility Development and Operations Coordination
Spaceport Camden Operations Coordinator	TBD	General Operations Coordination
USCG D7(dpw) LNM Editor D07-SMB-D7-LNM@uscg.mil	305-415-6752	Distribution/publication of Local Notice to Mariners.
USCG Marine Safety Unit Savannah, Command Duty Officer	912-247-0073	Broadcast Notice to Mariners
USCG Marine Safety Unit Savannah	912-247-0073	Incident and recovery coordination
USCG Seventh District Command Center	305-415-6800	Incident and recovery coordination
USCG D7(dpw) MP&I	305-415-6750	Navigation Safety Risk Assessment Coordination

AGREEMENT
Appendix B – Conceptual Range of Flight Trajectories



Page **7** of **7**

A.2.2 Agency Consultation

A.2.2.1 National Historic Preservation Act Section 106 Consultation

A.2.2.1.1 NHPA Section 106 Consultation with State and Federal Agencies

U.S. Department of Transportation
Federal Aviation Administration

Office of Commercial Space Transportation

800 Independence Ave., SW.
Washington, DC 20591

JAN 0 6 2016

Ms. Jennifer Dixon
Environmental Review & Preservation Planning Program Manager
DNR Historic Preservation Division
Jewett Center for Historic Preservation
2610 GA Hwy 155, SW
Stockbridge, GA 30281

RE: Section 106 Consultation Initiation for the Spaceport Camden Environmental Impact Statement, Camden County, Georgia

Dear Ms. Dixon:

The Camden County Board of Commissioners is seeking a Launch Site Operator License from the FAA Office of Commercial Space Transportation to develop and operate a commercial space launch site (known as Spaceport Camden) in an unincorporated area of Woodbine, in Camden County, Georgia. The project has been determined an "undertaking" subject to the National Historic Preservation Act (NHPA) and its implementing regulations under Section 106 (36 CFR Part 800, as amended). A project description and map are attached to this letter. The proposed project and its associated activities are also subject to the National Environmental Policy Act (NEPA) and the FAA has initiated preparation of an Environmental Impact Statement to meet its regulatory obligations. The agency intends to complete Section 106 in conjunction with the NEPA process.

This letter is intended to initiate Section 106 consultation and solicit any initial comments you may have on the proposed undertaking. The FAA is inviting the following tribes to participate in this consultation: *Cherokee of Georgia Tribal Council, Chickasaw Nation, Choctaw Nation of Oklahoma, Georgia Tribe of Eastern Cherokee, Lower Muscogee Creek Tribe, Muscogee Creek Nation, Poarch Band of Creeks, Seminole Nation of Oklahoma, Seminole Tribe of Florida, Thlopthlocco Tribal Town.* The FAA may also identify additional consulting parties through the NEPA scoping process.

1

The FAA will provide you with a determination of the Area of Potential Effects (APE) for the proposed project and a proposed level of effort for the identification of historic properties. If you have initial comments or questions on this undertaking, please contact Stacey Zee of my staff at 202-267-9305, or via email at Stacey.Zee@faa.gov.

Sincerely,

Daniel Murray
Manager, Space Transportation Development Division

Attachments: Spaceport Camden Project Description, Location Map

2

GEORGIA
DEPARTMENT OF NATURAL RESOURCES
HISTORIC PRESERVATION DIVISION

MARK WILLIAMS
COMMISSIONER

DR. DAVID CRASS
DIVISION DIRECTOR

January 27, 2016

Daniel Murray
Manager, Space Transportation Development Division
Federal Aviation Administration
800 Independence Avenue, SW
Washington DC 20591
Attn: Stacey Zee

RE: Construct/Operate Commercial Space Launch Site, Spaceport Camden, Woodbine Camden County, Georgia
HP-151117-001

Dear Mr. Murray:

The Historic Preservation Division (HPD) has received initial information concerning the above referenced project. Our comments are offered to assist the Federal Aviation Administration in complying with the provisions of Section 106 of the National Historic Preservation Act of 1966, as amended (NHPA).

Thank you for notifying us of this proposed project. We look forward to receiving Section 106 compliance documentation when it becomes available and working with you as this project progresses.

Please refer to project number **HP-151117-001** in future correspondence regarding this project. If we may be of further assistance, please do not hesitate to contact me at Jennifer.dixon@dnr.ga.gov or (770) 389-7851.

Sincerely,

Jennifer Dixon, MHP, LEED Green Associate
Program Manager
Environmental Review & Preservation Planning

JEWETT CENTER FOR HISTORIC PRESERVATION
2610 GA HWY 155, SW | STOCKBRIDGE, GA 30281
770.389.7844 | FAX 770.389.7878 | WWW.GEORGIASHPO.ORG

U.S. Department of Transportation
Federal Aviation Administration

Office of Commercial Space Transportation

800 Independence Ave., SW.
Washington, DC 20591

MAY 2 4 2016

Ms. Jennifer Dixon
Environmental Review & Preservation Planning Program Manager
DNR Historic Preservation Division
Jewett Center for Historic Preservation
2610 GA Hwy 155, SW
Stockbridge, GA 30281

Re: Spaceport Camden Environmental Impact Statement
Area of Potential Effects Definition and Proposed Level of Identification Effort
Construct/Operate Commercial Space Launch Site, Spaceport Camden, Woodbine, Camden County, Georgia
HP-151117-001

Dear Ms. Dixon:

The Federal Aviation Administration (FAA), as part of the Section 106 review of Construct/Operate Commercial Space Launch Site, Spaceport Camden, has determined an appropriate Area of Potential Effects (APE) for the proposed undertaking based on the project description in Attachment 1 and an assessment of the undertaking's potential direct and indirect effects.

- Direct Effects: Direct effects on historic properties may result from ground disturbance and physical activities (e.g., demolition and tree clearing) associated with the proposed undertaking, including the construction of facilities; installation or upgrading of utilities, access roads or other routes, and staging areas; as well as the location of maintenance and operations activities. The proposed project would include construction of facilities described in Attachment 1 such as the launch facility, landing zone, launch control center buildings, processing facilities, processing hangars, workshops and office areas, warehouses, and various roads, parking areas, fencing, and required utilities. Ground disturbance up to 4 feet below grade, with footers as deep as 60 feet below grade in areas such as the launch pad, is anticipated in construction areas. Attachment 2 shows the proposed Spaceport Camden site plan with enlarged facility footprints to

1

accommodate potential repositioning and construction laydown areas, and highlights new and improved roadways[1].

- Indirect Effects: Both construction and operational activities may have indirect effects on historic properties located beyond the project area. The primary potential effects for architectural resources include permanent visual effects on the landscape resulting from construction of the facility; the introduction of short-term but incompatible auditory effects on noise-sensitive historic properties during operations; and vibration caused by operation of the proposed project. Notable vertical elements are anticipated to include the launch pad and stand, as well as any necessary water towers and lightning protection towers. Vertical elements may extend up to 400 feet, although project plans are still to be defined. Operations are anticipated to include the periodic launching of payloads, which will necessitate area closures and safeguards, as well as wet dress rehearsals and other protocols. Noise and viewshed modeling and analyses will be conducted as part of the project to appropriately assess effects on historic properties.

The FAA has defined the following areas for the APE.

- Architectural APE: The FAA has proposed a 5-mile radius architectural APE (indirect APE), extending around the proposed project limits. The APE for architectural resources usually covers a greater geographical area than for archaeological resources, because architectural historic properties often rely heavily on other key elements of integrity, including location, setting, workmanship, feeling, design, and association. The primary potential effects for architectural resources include permanent visual effects on the landscape resulting from construction of the facility; the introduction of short-term but incompatible auditory effects on noise-sensitive historic properties during operations; and vibration caused by operation of the proposed project. In addition, the architectural APE also captures areas of potential direct effects to "built" environmental resources. Changes to the visual and audible environment may affect the historic property's NRHP eligibility.
- Archaeological APE: The APE for archaeological resources (direct APE) would consist of areas where there would be direct ground disturbance, including construction of facilities, installation or upgrading of utilities, access roads or other routes, and staging areas, as well as the location of maintenance and operations activities (Attachment 2).

[1] As shown in Attachment 2, some roads proposed for access between Spaceport Camden facilities are located on the adjacent property. Spaceport Camden would either purchase the adjacent property or negotiate easements to use the roads. Alternatively, instead of using these roads, other roads could be developed entirely within the currently proposed Spaceport Camden footprint.

The FAA recommends the following to identify historic properties within the APE:

- Detailed background research and records review of archaeological sites within a 1-mile radius of the direct APE shown in Attachment 2;
- Detailed background research and records review of historic architectural resources within the indirect APE, the 5-mile buffer centered on the proposed launch facility shown in Attachment 3;
- Outreach and consultation with Tribes and knowledgeable local persons listed in Attachment 4;
- Completion of a Phase I Archaeological Identification Survey of the direct APE in accordance with Georgia Council of Professional Archaeologists (GCPA) guidelines; and
- Completion of a Phase I Architectural Resource Reconnaissance Survey of the indirect APE, accounting for all historic architectural resources (i.e., buildings, structures, and objects) 45 years of age or older, as well as significant rural and/or cultural landscapes.

The results of these investigations will be presented to your office for review and comment as part of the consultation process. Attachment 5 describes our methodology for the Phase I archeological and architectural field work and reporting. Given the scope of the undertaking and the magnitude of the potential effects, the FAA finds the effort meets the reasonable and good faith effort set forth in 36 CFR §800.4(b)(1) at this time.

Pursuant to 36 CFR §800.4(a)(1), the FAA is seeking your concurrence on the APE determination and identification efforts for this undertaking. If appropriate, please also provide additional recommended sources of local knowledge that were not included in Attachment 4. If you have any questions, please contact Stacey Zee of my staff at 202-267-9304, or via email at Stacey.Zee@faa.gov.

Sincerely,

Daniel Murray
Manager, Space Transportation Development Division

cc: Steve Howard, Camden County
John Fry, National Park Service

Attachments:

(1) Project Description
(2) Proposed Spaceport Camden Site Plan with Proposed 1-Mile Record Review APE
(3) Proposed 5-Mile APE Map
(4) Tribal and Local Cultural Resources Contact List
(5) Archaeological and Architectural Methodology

3

Attachment 1
Spaceport Camden Project Description

The Camden County Board of Commissioners has applied to the FAA for a Launch Site Operator License for a commercial spaceport in Camden County, Georgia. The proposed site, called Spaceport Camden, would be located on approximately 4,000 acres of an approximately 12,000-acre zoned and previously used as an industrial site. The spaceport could be expanded to include another 7,800 acres of adjoining property in the same industrial complex. The proposed Spaceport Camden property is located in an unincorporated area of Woodbine, in Camden County, approximately 11.5 miles due east of the town of Woodbine, Georgia, in the extreme southeastern part of the state. Access to the site is at the eastern termination of Union Carbide Road, an extension of Harriett's Bluff Road (Exit 7 from I-95). The site is on the coast, surrounded by salt marshes to the east and south, and the Satilla River to the north. The property comprises uplands, salt marshes, and fresh water wetlands. Approximately 100 non-contiguous upland acres would be used for the Vertical Launch Facility, Landing Zone, Launch Control Center, and supporting facilities. Each of these facilities would be fenced to provide security and access control, as would the approximately 400 acres of uplands on which these facilities would be located. Small guardhouses would be constructed at entrances to the site, and the launch and landing zones. Roads would be improved or constructed between and around the facilities.[1] Water pipes and power lines would be run alongside the roadways, and septic systems would be provided for each of the facilities. Lighting would be designed and operated using best practices for wildlife, navigation, safety and security. The remainder of the site, much of which is marshland, would be used as buffer.

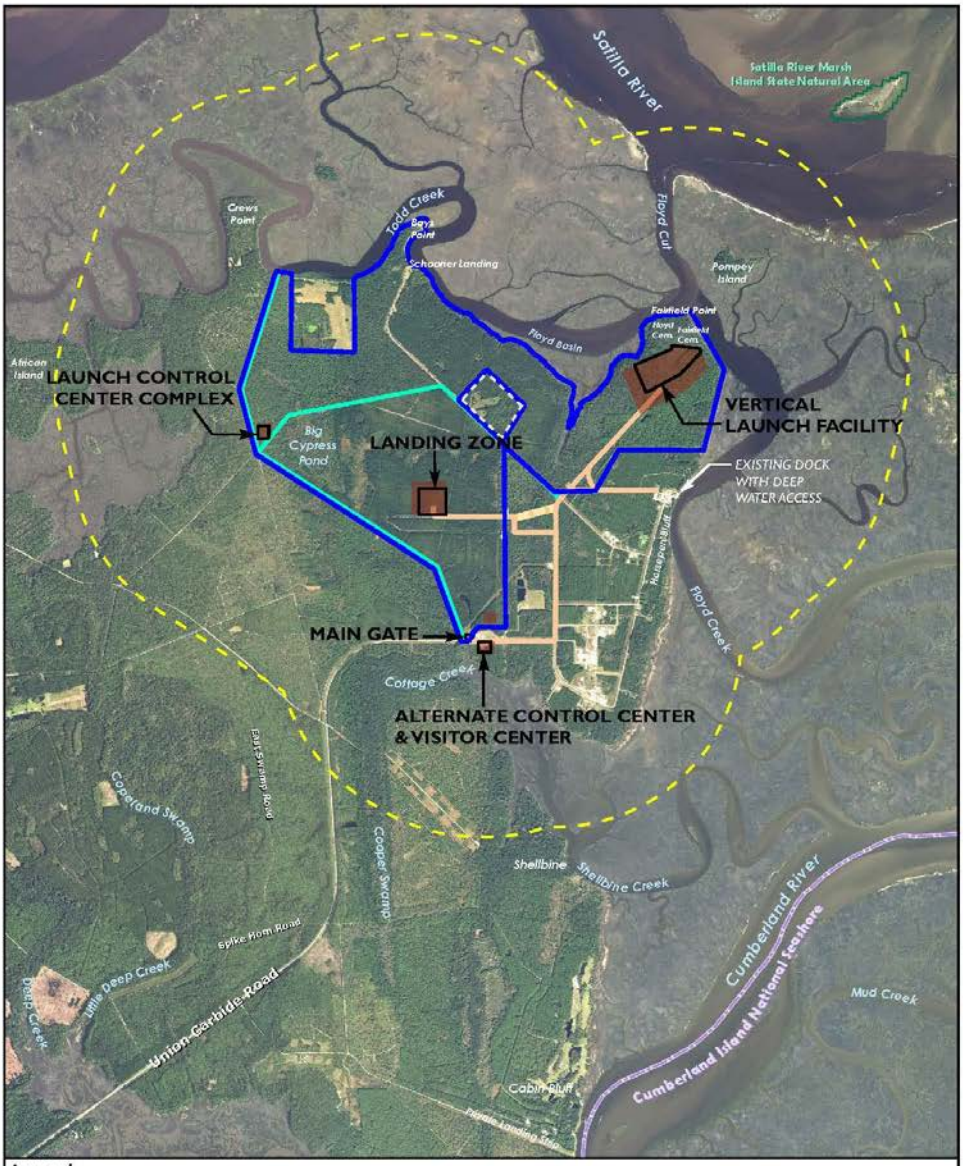
The Vertical Launch Facility would be approximately 23 acres in size and would include a launch pad and stand with its associated flame duct; propellant storage and handling areas; vehicle and payload integration facility; storage tanks; lightning protection systems; deluge water systems for local sound and vibration suppression; and other launch-related facilities and systems, including shops and office facilities. The launch pad would be a pile-supported concrete platform with steel gantry framing.

The Landing Zone would be approximately 11 acres in size and include a proposed 400-foot by 400-foot concrete pad located roughly in the center of the area, with fuel and oxidizer "off load" tanks, small support buildings, and related infrastructure. Concrete side wings would provide space for parking, storage of mobile off-load propellant tanks and other support equipment such as a mobile crane or forklifts.

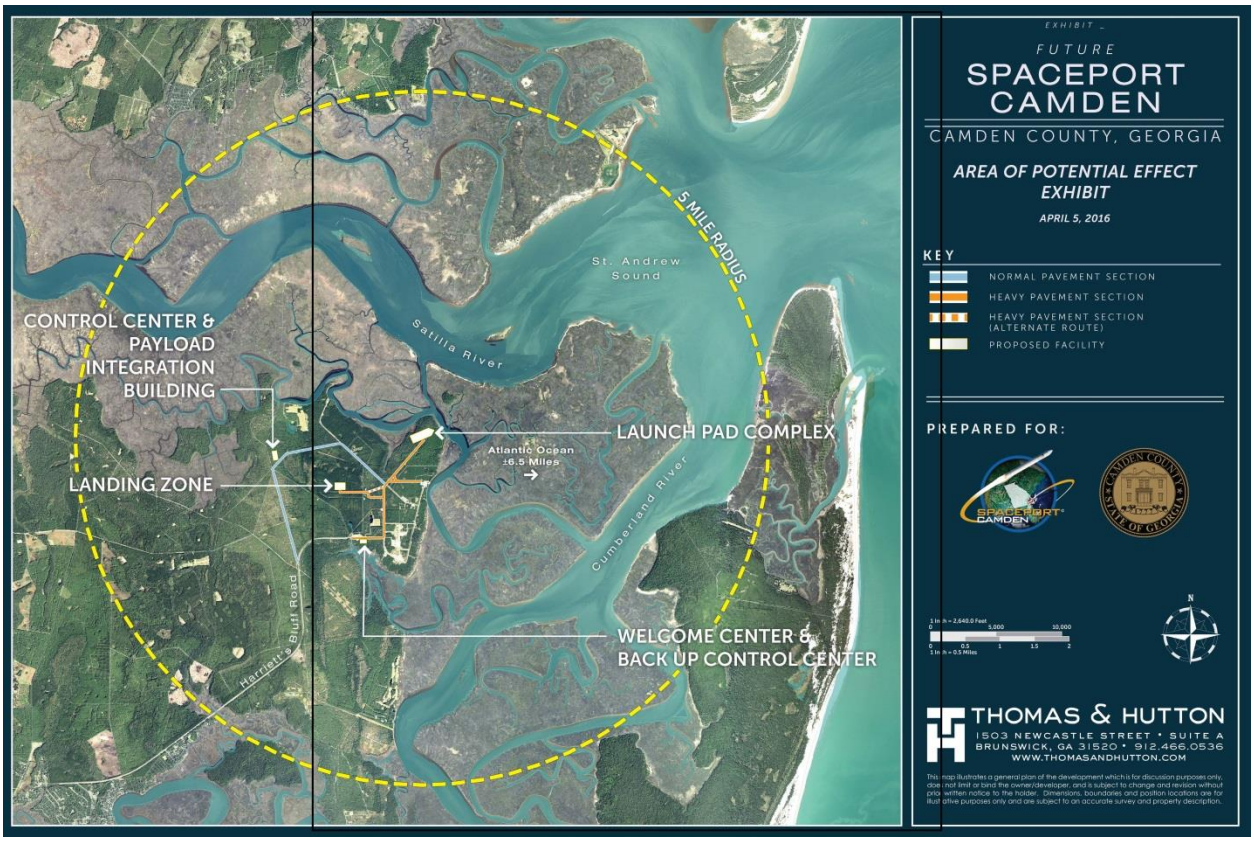
The Launch Control Center Complex would be located on the property at a safe distance from the launch and landing areas and would house the site administration offices, a control room with related equipment, payload processing and check-out area, and a first-responder facility. This complex would be situated in an area of approximately 2.75 acres, and would consist of two main buildings with a parking lot between them and two smaller storage buildings. A similar facility, the Alternate Control Center and Visitor Center, would be constructed near the main entrance of the property mirroring the control center complex in size, design and facilities, but would also include provisions for visitors and viewing launches.

[1] Some roads proposed for access between Spaceport Camden facilities already exist on the adjacent property and would be improved. Spaceport Camden would either purchase the adjacent property or negotiate easements to use the roads. Alternatively, instead of using these roads, other roads could be developed entirely within the currently proposed Spaceport Camden footprint.

Operations would consist of up to 12 vertical launches and up to 12 associated launch vehicle first-stage landings per year. In addition, other operations could occur, including up to 12 static fire engine tests and up to 12 wet dress rehearsals per year. All vehicles would launch to the east over the Intracoastal Waterway, Cumberland Island National Seashore, and the Atlantic Ocean. The first stage of the launch vehicle could return to and land at Spaceport Camden, or would land in the Atlantic Ocean, either in the water or on a barge.



Spaceport Camden Site Plan with 1-Mile Area of Potential Effects for Archaeological Resources Records Review


5 MILE RADIUS
St. Andrew Sound
Satilla River
CONTROL CENTER & PAYLOAD INTEGRATION BUILDING
LANDING ZONE
LAUNCH PAD COMPLEX
Atlantic Ocean ±6.5 Miles
Cumberland River
Harriett's Bluff Road
WELCOME CENTER & BACK UP CONTROL CENTER
EXHIBIT _
FUTURE
SPACEPORT CAMDEN
CAMDEN COUNTY, GEORGIA
AREA OF POTENTIAL EFFECT EXHIBIT
APRIL 5, 2016
KEY
NORMAL PAVEMENT SECTION
HEAVY PAVEMENT SECTION
HEAVY PAVEMENT SECTION (ALTERNATE ROUTE)
PROPOSED FACILITY
PREPARED FOR:
THOMAS & HUTTON
1503 NEWCASTLE STREET • SUITE A
BRUNSWICK, GA 31520 • 912.466.0536
WWW.THOMASANDHUTTON.COM

Attachment 4
Tribal and Knowledgeable Local Cultural Resource Contacts

I. FAA Consultation Activities

FAA has initiated formal government-to-government consultation with the following Native American Tribes:

- Chickasaw Nation
- Choctaw Nation of Oklahoma
- Muscogee (Creek) Nation
- Poarch Band of Creek Indians
- Seminole Nation of Oklahoma
- Seminole Tribe of Florida
- Thlopthlocco Tribal Town

FAA mailed Historic Preservation Act Section 106 consultation letters to the Tribal Historic Preservation Officers at the following Native American Tribes:

- Chickasaw Nation
- Choctaw Nation of Oklahoma
- Muscogee (Creek) Nation
- Poarch Band of Creek Indians
- Seminole Nation of Oklahoma
- Seminole Tribe of Florida
- Thlopthlocco Tribal Town
- Cherokee of Georgia Tribal Council
- Georgia Tribe of Eastern Cherokee
- Lower Muskogee Creek Tribe

FAA also sent by email a National Historic Preservation Act Section 106 consultation letter to the Chair of the Gullah Geechee Commission.

II. Local Persons to be Contacted during Cultural Resources Survey

Ms. Eloise Bailey Thompson, author
Ms. Judy Buchanan, librarian at the Bryan-Lang Historical Archives
Ms. Susan Shipman, retired former director of the Coastal Resources Division of Georgia DNR
Mr. Taylor Davis
Mr. Dwight Kirkland

Attachment 5

Methodology for Phase I Archaeological and Architectural Area of Potential Effect Field Work for the Spaceport Camden Project

I. Approach to the Phase I Archaeological Area of Potential Effect Fieldwork for the Spaceport Camden Project

Survey Area: The investigation will commence with a review of the Georgia Archaeological Site Files maintained at the University of Georgia in Athens (UGA) Laboratory of Archaeology. The information on known archaeological and historical sites occurring within 1 mile of the project area will be examined, as well as cultural resource reports and historic documents pertinent to the proposed area of surface disturbance. General historical information on the project area and Camden County will also be consulted as available and appropriate. In addition, research will be conducted in the Main Library on the North Campus at UGA, as well as the Science Library on the South Campus. The Camden County Courthouse will also be consulted as necessary.

The Phase I archaeological survey will be conducted within those areas proposed for construction of facilities. This will include proposed access roads, utility access corridors, and direct development areas. It may be necessary to access some project areas by crossing through areas not proposed for construction. The project team will be equipped with GPS units capable of submeter accuracy, which will facilitate locating the required survey areas.

Field Methods: As per Georgia Council of Professional Archaeologists (GCPA) guidelines, shovel tests will be excavated at 30-meter intervals on transects spaced 30 meters apart. Each shovel test will measure approximately 30 centimeters in diameter and will be excavated to sterile subsoil, or 80 centimeters below ground surface, whichever is encountered first. All excavated soil will be screened through 1/4-inch wire mesh. Each shovel test will be backfilled once completed. Representative shovel tests will be photographed, and representative views of the project area will also be photographed. In accordance with GCPA guidelines, photographs will be taken of each identified archaeological site. Systematic shovel tests will not be excavated in areas with greater than 50 percent ground surface visibility; surface survey will be conducted in those areas. It is anticipated that very few areas with the requisite surface visibility will be present in the study areas. Shovel testing will not be conducted in areas covered by surface water, or in areas where the slope is greater than 10 percent. In addition, no subsurface testing will be conducted within identified cemetery boundaries that could potentially disturb human remains. These areas will be examined through pedestrian survey only and documented accordingly. Known cemetery boundaries will be delineated on GPS units and field maps to ensure avoidance of the resource. No shovel testing will occur outside the perimeters of the project area. When archaeological resources are encountered, the shovel test interval will be reduced to 10 meters as needed, and the site boundaries will be delineated based on the results of these tests. Shovel test depths, soil descriptions, and recovered artifacts will be recorded using standardized Shovel Test Forms designed by Cultural Resource Analysts, Inc. (CRA), the firm that will be conducting the field surveys, analyzing the data and documenting the results.

The methods used to conduct the fieldwork are minimally invasive, and all excavated shovel tests will be backfilled as soon as they are completed. No heavy equipment will be used during the survey, and the work should result in no measurable property damage.

All materials recovered from shovel tests and surface collections will be bagged and labeled by provenience. Identified sites will be located using a Trimble GPS receiver, and sketch maps will be drawn of each site indicating the topography, vegetation, natural features, shovel test locations, and its relationship to the project area. A photographic record will be maintained and detailed field notes recorded by the field director. Sites will be recorded in accordance with GCPA forms and procedures.

Laboratory Analysis: Upon completion of the archaeological field survey, all recovered materials will be transported to CRA's laboratory, where they will be processed and recorded according to the requirements set forth by the GCPA. Analysis of the artifacts will be focused on identifying temporally and culturally diagnostic artifacts and providing a description of materials and potential functional or decorative qualities of the artifacts. A spreadsheet containing this information will be compiled and included with the Phase I technical report. During the analysis phase, specimens will be placed in archival acid-free bags with a permanent provenience designation and listed in an inventory. Upon completion of the analysis and preparation of the final report, artifacts, field notes, maps and photographs pertaining to the survey will be prepared for curation in keeping with 36 CFR Part 79. CRA will temporarily curate the project materials until they can be permanently curated at a facility that meets the standards of the Georgia State Historic Preservation Office.

II. Approach to the Phase I Above-Ground Structure Area of Potential Effect Survey for the Spaceport Camden Project

Survey Area: To ascertain the presence of historic structures and cultural landscapes within the Area of Potential Effect (APE), CRA will conduct a file search at the SHPO in Atlanta, Georgia, and will complement it with research at local and state archives to identify historic maps, land records, aerial photographs, newspaper articles, and other historical references important to understanding the character of the APE. The APE for this project will be a 5-mile radius surrounding the project footprint.

Field Methods: Beyond the project development site, the fieldwork will entail driving all publicly-accessible roads to identify and document historic architectural resources (including buildings, structures, and objects) 45 years of age or older. Properties in this area will not be accessed without owner consent. Should a property not be visible from the public right-of-way, CRA will attempt to contact the property owner on site. If the property owner is contacted, CRA will ask for permission to photograph any structures that are not visible from the road. Within the project development site, CRA will seek to access known historic resources (e.g., cemeteries, monuments, and building ruins) as identified through historic aerial photography, topographic quadrangles, written record, and visual inspection. This will require accessing private roads within the project development site. To the extent feasible, CRA will drive all roads within this area. For properties with known historic resources beyond the roadway, CRA will also require access to the properties by foot where the resources are not visible. Should it be feasible, it may be helpful to have an escort provide access to such remote resources. If resources are covered or obscured with vegetation, CRA will not impact the vegetation in any way but rather will document the resources to the extent feasible given current conditions. CRA will not seek to enter the interior of any structures. For each resource, CRA will take representative photographs and record the location with a GPS point, line, or polygon, as appropriate, on a topographic quadrangle map. CRA will not directly impact or alter any identified architectural resources in any manner.

Based on current aerials of the 5-mile architectural APE, there is limited potential for the presence of historic standing structures. Approximately 30 such resources are anticipated. However, isolated resources do exist and other orphaned structures may be found throughout the APE. CRA will complete baseline recordation of each historic resource located within the APE to include locational data, owner information, physical description, and historical associations, if any should exist. In addition, each

historic resource will be thoroughly documented through digital photography to further relate the character and setting of each resource. All documentation outside the project development site will occur from the public right-of-way and will be recorded in a detailed photo log. The locations of all properties will be marked on a topographic quadrangle and aerial map depicting the APE. For individual resources within the National Park Service (NPS) Cumberland Island National Seashore property, CRA will coordinate with NPS personnel, as appropriate, to record resources within the limits of their land. Documentation will be focused on the assessment of potential effects. Should access to all resources within the APE not be feasible due to NPS limitations, CRA will denote the number and characteristics of known resources through available documentation.

Because of the nature and history of the area within the APE, CRA will also conduct a thorough analysis of the landscape, noting the potential for any cultural landscapes that might be present. Where such landscapes are perceived, CRA will document them through digital photography and detailed notes to record the character, setting, and existing intrusions to the landscape.

Fieldwork will result in sufficient documentation to make a defensible statement regarding each property's potential eligibility for listing in the National Register of Historic Places and to assess the potential impact of the proposed project on each historic property, should there be any.

III. Cultural Resource Report of Findings

Once the archival and field research is complete, individual archaeological and architectural draft reports will be prepared to summarize findings in accordance with GCPA and NPS requirements. The reports will be produced in conformity with the GCPA and NPS Report Guidelines and will include an Executive Summary, Project Background, Methodology and Research Design, Results of the Cultural Resource Survey, Analysis of Potential Effects, Recommendations, and Appendices, as appropriate, and will be presented in such a way to facilitate incorporation into the EIS document. The results of the cultural resource survey, recommendations for further work, if any, and assessment of potential effects will be clearly documented and accompanied by appropriate supporting materials such as annotated topographic quadrangles, aerials, and photography. FAA will submit Phase I draft reports to SHPO for review and comment prior to preparation of the final reports.

GEORGIA
DEPARTMENT OF NATURAL RESOURCES
HISTORIC PRESERVATION DIVISION

MARK WILLIAMS
COMMISSIONER

DR. DAVID CRASS
DIVISION DIRECTOR

June 12, 2016

Daniel Murray
Manager, Space Transportation Development Division
Office of Commercial and Space Transportation
Federal Aviation Administration
800 Independence Avenue, SW
Washington, DC 20591
Attn: Stacey Zee

RE: Construct/Operate Commercial Space Launch Site, Spaceport Camden, Woodbine
Camden County, Georgia
HP-151117-001

Dear Mr. Murray:

The Historic Preservation Division (HPD) has reviewed the information submitted concerning the above referenced project. Our comments are offered to assist the Federal Aviation Administration in complying with the provisions of Section 106 of the National Historic Preservation Act of 1966, as amended (NHPA).

Based on the information provided, HPD concurs with the area of potential effect (APE) determinations for the proposed project. Additionally, HPD concurs that the proposed methods for the archaeological Phase I survey are generally appropriate to identify archaeological resources within the direct APE. HPD recommends the following be taken into consideration for the Phase I survey:

- Depending on the specific depositional environment in the area, 80 centimeters below surface (cmbs) is not always an appropriate depth to terminate a shovel test on the coast. If artifacts are present near 80+cmbs, HPD suggests continuing shovel testing until either a) twenty (20) centimeters (cm) of sterile soil below artifacts has been reached or b) Hardpan or water table is reached. If either of these options is not feasible, and artifacts are still present within 20 cm of the termination of the shovel test, it may be appropriate to continue with a larger test unit in order to fully determine depth of deposits. HPD recommends consulting with our office to determine the best course of action should this situation occur.

- Particular areas, such as riverine and coastal environments, have a higher potential to contain sites that have been completely capped by depositional activity, and thus can result in a lack of surface expression. HPD recommends continuing the 30 meter interval or less shovel testing in these areas, as surface-only survey would not be considered sufficient.

- For slopes greater than ten (10) percent, HPD recommends that a pedestrian survey still be conducted in these areas.

- Although HPD concurs shovel testing within a cemetery would not be appropriate, subsurface probing is considered appropriate and recommended in order to confirm that

JEWETT CENTER FOR HISTORIC PRESERVATION
2610 GA HWY 155, SW | STOCKBRIDGE, GA 30281
770.389.7844 | FAX 770.389.7878 | WWW.GEORGIASHPO.ORG

there are no unmarked interments outside of any visual boundary and to fully delineate the cemetery boundary.

- All site boundaries should be delineated by two (2) consecutive negative shovel tests, obvious changes in topography, or documented and/or reasonable survey limitations (obstructions, severe disturbances, etc.).

- Field methods and report writing should also follow all National Park Service, Secretary of the Interior's Standards for professional qualifications, as well as site identification, evaluation, and documentation.

Furthermore, HPD concurs that the proposed methods for the architectural Phase I survey are generally appropriate to identify historic resources within the direct and indirect APE. HPD recommends the following be taken into consideration for the Phase I survey:

- Since all historic resources may not be visible from the public right of way, HPD recommends conducting additional background research on the county's tax assessor website or at the tax assessor offices.

- For information purposes only, HPD's records include county and city surveys, identified site files, environmental review files, National Register of Historic Places (NRHP) listed and pending files, and Centennial Farm files.

- Should a historic resources not be accessible, HPD recommends a NRHP determination of unknown and treating the resource as NRHP-eligible throughout the Section 106 process.

- The Phase I report should also include location history in order to place the identified historic resources within an historic context.

HPD looks forward to receive the Phase I reports and working with FAA as this project progresses. Please refer to project number **HP-151117-001** in any future correspondence regarding this project. If we may be of further assistance, please feel free to contact me at (770) 389-7851 or Jennifer.dixon@dnr.ga.gov.

Sincerely,

Jennifer Dixon, MHP, LEED Green Associate
Program Manager
Environmental Review & Preservation Planning

U.S. Department
of Transportation
Federal Aviation Administration

Office of Commercial Space Transportation

800 Independence Ave., SW.
Washington, DC 20591

MAR 0 8 2017

Ms. Jennifer Dixon
Environmental Review & Preservation Planning Program Manager
DNR Historic Preservation Division
Jewett Center for Historic Preservation
2610 GA Hwy 155, SW
Stockbridge, GA 30281

Re: HP-15-1117-01, Proposed Spaceport Camden Project, Camden County, Georgia
Determinations of Eligibility Report

Dear Ms. Dixon,

Camden County has applied to the Federal Aviation Administration (FAA) for a Launch Site Operator License for a commercial launch site in Camden County, Georgia. The FAA has determined that the Spaceport Camden Project is an undertaking, per 36 CFR 800.16 of the National Historic Preservation Act of 1966 (NHPA), and initially consulted with your office on January 6, 2016.

In compliance with the NHPA, the FAA requests your concurrence on the eligibility recommendations prepared by Cultural Resource Analysts, Inc. (CRA) in the Determinations of Eligibility Report for the Proposed Spaceport Camden Project. We have enclosed both a hard copy and digital copy, on CD, of the report.

On May 24, 2016, we consulted with your office and defined the Architectural Area of Potential Effect (APE) for the Project as a five-mile buffer surrounding the proposed vertical launch facility. We developed the APE to take into consideration the scale and nature of the Project and encompasses the area in which the Project may directly or indirectly affect historic properties (36 CFR 800.4[1]).

During the field survey, CRA personnel identified a total of 28 historic resources within the APE. Fifteen of these resources were newly identified and 13 were previously surveyed. Of the resources identified, three components of the Floyd's Bellevue and Fairfield Plantations are recommended as individually eligible for listing on the National Register of Historic Places:

,

- Bellevue/Anchor House is individually eligible under Criterion C as a unique example of antebellum architecture in Georgia.
- The Charles Rinaldo Burial Site is individually eligible under Criterion B and Criteria Consideration C for its association with Charles Rinaldo Floyd, a person whose exploration accounts and subsequent writings have contributed to the understanding of Georgia's unexplored landscape and the daily workings of plantation life in the antebellum era.
- The Floyd Cemetery, which is distinguished by age, is eligible for listing in the NRHP under Criterion A and Criteria Consideration D for its association with the settlement era of Camden County.

It is also recommended that the resources associated with the African-American Settlement at Half Moon Bluff, located in the High Point-Half Moon Bluff Historic District, retain the necessary integrity to be considered contributing resources to the National Register-listed High Point-Half Moon Bluff Historic District. CRA also recommends that the Main Road (#84000941) on Cumberland Island retains sufficient integrity to maintain its NRHP listing. These resources are all within the project APE.

In accordance with 36 CFR 800.4, the FAA is requesting your concurrence with the findings and recommendations of the Determinations of Eligibility Report for the Proposed Spaceport Camden Project. Please contact the FAA project lead, Stacey Zee at 202-267-9305, with any questions.

Sincerely,

Daniel Murray
Manager, Space Transportation Development Division

Attachments:

1) Spaceport Camden Description of Proposed Action and Alternatives

2) Determinations of Eligibility Report for the Proposed Spaceport Camden Project in Camden County, Georgia

2

U.S. Department
of Transportation
**Federal Aviation
Administration**

Office of Commercial Space Transportation

800 Independence Ave., SW.
Washington, DC 20591

MAR 10 2017

Ms. Jennifer Dixon
Environmental Review & Preservation Planning Program Manager
DNR Historic Preservation Division
Jewett Center for Historic Preservation
2610 GA Hwy 155, SW
Stockbridge, GA 30281

Re: HP-15-1117-01, Proposed Spaceport Camden Project, Camden County, Georgia Phase I Archaeological Survey Report

Dear Ms. Dixon:

Camden County has applied to the Federal Aviation Administration (FAA) for a Launch Site Operator License for a commercial launch site in Camden County, Georgia. The FAA has determined that the Spaceport Camden Project is an undertaking, per 36 CFR 800.16 of the National Historic Preservation Act of 1966 (NHPA), and initially consulted with your office on January 6, 2016.

Enclosed with this letter please find one hard copy of the Draft-Final report, Phase I Archeological Survey of the Proposed Spaceport Camden, Camden Count, Georgia. Also enclosed is a CD, which contains a digital copy of the report.

In support of National Historic Preservation Act Section 106 consultation for the proposed development and operation of a spaceport in Camden County, Georgia, the FAA (through Cultural Resource Analysts, Inc. [CRA]) has completed a Phase I archaeological survey for the associated project development area. The entire Area of Potential Effects (APE) includes the actual project site, considered for development, and a five-mile radius around the project site that is considered for operation of the spaceport (i.e., launches). The focus of the Phase I survey was that portion of the APE considered or development (actual project site).

The field survey consisted of approximately 89 acres and five miles of connecting roadway. In all, 117 artifacts were recovered, including prehistoric pottery, lithics, and a single historic artifact. Three isolated finds were recorded, along with two previously unrecorded archaeological sites, Sites 9CM570 and 9CM571. The boundaries of two previously recorded archaeological sites, Sites 9CM30 and 9CM64, were expanded, as well. The isolated finds consisted of one piece of ferrous metal, one chert flake, and one chalcedony flake.

Previously recorded Sites 9CM30 and 9CM64 are recommended as potentially eligible for inclusion on the National Register of Historic Places (NRHP).

Sites 9CM570 and 9CM571, both located near Sites 9CM30 and 9CM64, were recorded as a result of shovel testing during the current survey. These sites are also recommended as potentially eligible for inclusion in the NRHP.

If construction will occur and the sites cannot be avoided, then Phase II National Register eligibility testing will be required. If the sites are determined to be eligible for inclusion on the NRHP, then Phase III archaeological data recovery will be required, if the sites cannot be avoided by the proposed construction. As discussed previously, we plan to develop a Programmatic Agreement (PA) for this project. The PA would outline the process for formally evaluating the identified resources for National Register eligibility, and treating any resources that meet National Register eligibility criteria that cannot be avoided by the undertaking. Please contact the FAA project lead, Stacey Zee at 202-267-9305, with any questions.

Sincerely,

Daniel Murray
Manager, Space Transportation Development Division

Attachments:
1) Spaceport Camden Description of Proposed Action and Alternatives
2) Phase I Archaeological Survey of the Proposed Spaceport Camden, Camden County, Georgia

GEORGIA
DEPARTMENT OF NATURAL RESOURCES
HISTORIC PRESERVATION DIVISION

MARK WILLIAMS
COMMISSIONER

DR. DAVID CRASS
DIVISION DIRECTOR

March 30, 2017

Daniel Murray
Manager, Space Transportation Development Division
Federal Aviation Administration
800 Independence Avenue, SW
Washington, DC 20591
Attn: Stacey Zee, Project Lead

RE: Construct/Operate Commercial Space Launch Site, Spaceport Camden, Woodbine Camden County, Georgia
HP-151117-001

Dear Mr. Murray,

The Historic Preservation Division (HPD) has reviewed the draft report entitled, *Determinations of Eligibility Report for the Proposed Spaceport Camden Project in Camden County, Georgia*, prepared by Cultural Resource Analysts, Inc. and dated February 20, 2017. Our comments are offered to assist the Federal Aviation Administration (FAA) in complying with the provisions of Section 106 of the National Historic Preservation Act of 1966, as amended (NHPA).

Based on the information provided in the report, HPD is unable to concur with FAA's determinations of eligibility without additional information. It is HPD's opinion that the report provided is insufficient to determine the National Register of Historic Places (NRHP)-eligibility of the historic resources included. In general, HPD would like to note, or recommends, the following:

- Include maps or aerials, along with supporting photographs, indicating resource boundaries, outbuildings, additions, etc. to support the information contained within the report.
- Include maps for historic districts noting contributing or non-contributing, ages of resources within the district, etc. to clearly represent the overall district.
- Provide clear and detailed descriptions of the resources noted – in particular approximate dates of additions or changes and specific reasoning for ineligibility, especially when based on integrity.
- Remove discussions regarding Criteria Consideration G. Evaluating resources over 40 years of age provides for longevity of the survey and minimizes the need for multiple additional surveys during project planning and construction. All resources should be assessed as if they are of age so that the survey remains relevant.
- Appropriately apply HPD's guidelines for Ranch and American Small house types.
- Assess resources under Criterion D.
- A resource must be a good and representative example to be eligible for listing. It is not necessary for the resource to be "exceptional," "unique," or "notable."
- Include discussion of the cultural landscape and its eligibility within the area of potential effect (APE), such as historic road systems, natural landscape, and others.
- Evaluate historic properties in which any portion of the property falls within the APE. A historic resource's eligible boundary often includes its surrounding property. As such, if

JEWETT CENTER FOR HISTORIC PRESERVATION
2610 GA HWY 155, SW | STOCKBRIDGE, GA 30281
770.389.7844 | FAX 770.389.7878 | WWW.GEORGIASHPO.ORG

the property related to a historic property is partially within the APE, it should be assessed, such as the rice plantation ruins noted within the report appear to be.

Regarding specific resources, HPD recommends the following:

- Dover Bluff Club: Although a portion of the historic district falls outside of the APE, the entire district should be assessed in order to determine the district's NRHP-eligibility. HPD recommends a minimum of background and desktop research and a windshield survey.
- Cabin Bluff: It appears to HPD that this resource should be evaluated for its Coffin-era resources, not the Floyd-era resources. Further, it appears from the description of the layout that the district boundaries could be drawn in a way so as to omit the majority of the modern intrusions.
- High Point-Half Moon Bluff: HPD recommends evaluating the potential for an expanded period of significance and areas of significance to include the mid-century development and archaeological potential.

We look forward to reviewing the requested information and working with you as this project progresses. Please refer to project number **HP-151117-001** in any further correspondence regarding this project. If we may be of further assistance, please do not hesitate to contact me at Jennifer.dixon@dnr.ga.gov or (770) 389-7851.

Sincerely,

Jennifer Dixon, MHP, LEED Green Associate
Program Manager
Environmental Review & Preservation Planning

cc: Lupita McClenning, Coastal Georgia Regional Commission

GEORGIA
DEPARTMENT OF NATURAL RESOURCES
HISTORIC PRESERVATION DIVISION

MARK WILLIAMS
COMMISSIONER

DR. DAVID CRASS
DIVISION DIRECTOR

April 3, 2017

Daniel Murray
Manager, Space Transportation Development Division
Federal Aviation Administration
800 Independence Avenue, SW
Washington, DC 20591
Attn: Stacey Zee, Project Lead

RE: Construct/Operate Commercial Space Launch Site, Spaceport Camden, Woodbine
Camden County, Georgia
HP-151117-001

Dear Mr. Murray:

The Historic Preservation Division (HPD) has reviewed the draft report entitled, *Phase I Archaeological Survey of the Proposed Spaceport Camden, Camden County, Georgia,* prepared by Cultural Resource Analysts, Inc. and dated February 15, 2017. Our comments are offered to assist the Federal Aviation Administration (FAA) in complying with the provisions of Section 106 of the National Historic Preservation Act (NHPA).

Based on the information contained in the report, HPD concurs that archaeological sites 9CM30, 9CM64, 9CM570, 9CM571 are unknown ("potentially eligible") for listing in the National Register of Historic Places (NRHP) under Criterion D. Additionally, HPD concurs with the boundary expansions for sites 9CM30 and 9CM64. Furthermore, HPD concurs with the recommendation to avoid of all four sites and that if avoidance is not possible, Phase II testing should occur to determine the sites' NRHP-eligibility.

Please refer to project number **HP-151117-001** in any future correspondence regarding this project. If we may be of further assistance, please do not hesitate to contact Jennifer Bedell, Archaeological Compliance Unit Manager, at Jennifer.bedell@dnr.ga.gov or (770) 389-7861 or me at jennifer.dixon@dnr.ga.gov or (770) 389-7851.

Sincerely,

Jennifer Dixon, MHP, LEED Green Associate
Program Manager
Environmental Review & Preservation Planning

JEWETT CENTER FOR HISTORIC PRESERVATION
2610 GA HWY 155, SW | STOCKBRIDGE, GA 30281
770.389.7844 | FAX 770.389.7878 | WWW.GEORGIASHPO.ORG

Akstulewicz, Kevin D.

From: Dixon, Jennifer <Jennifer.Dixon@dnr.ga.gov>
Sent: Wednesday, April 12, 2017 8:02 AM
To: Stacey.Zee@faa.gov
Cc: Akstulewicz, Kevin D.; Pam.Schanel@icf.com; Leslie.Grey@faa.gov
Subject: EXTERNAL: Re: Construct/Operate Commercial Space Launch Site, Spaceport Camden, Woodbine, Camden Co, HP 151117-001

Stacey,

Please see below for our clarifications. Please let me know if there is still some confusion or questions!

Thank you!

Jennifer Dixon, MHP, NCIDQ
LEED Green Associate

Program Manager
Environmental Review & Preservation Planning

Historic Preservation Division
(770) 389-7851 | F: (770) 389-7878
2610 Georgia Highway 155 SW
Stockbridge, Georgia 30281

Facebook • Twitter • Instagram
Purchase your Historic Preservation license plate today!

A division of the
GEORGIA DEPARTMENT OF NATURAL RESOURCES

From: Stacey.Zee@faa.gov <Stacey.Zee@faa.gov>
Sent: Monday, April 10, 2017 9:52 AM
To: Dixon, Jennifer
Cc: KEVIN.D.AKSTULEWICZ@leidos.com; Pam.Schanel@icf.com; Leslie.Grey@faa.gov
Subject: Construct/Operate Commercial Space Launch Site, Spaceport Camden, Woodbine, Camden Co, HP 151117-001

Jennifer –

The FAA appreciates your review of the draft report *Determinations of Eligibility Report for the Proposed Spaceport Camden Project in Camden County, Georgia* and understands the need for additional information/clarification on some items before the GA SHPO can concur on the findings. In response to the letter provided on March 30, 2017 we would like to offer the following and also request clarification on some of the comments SHPO has provided. Could we please schedule a follow-on teleconference to discuss these issues so that we can ensure the revised report meets SHPO's needs? We are fairly open next week – except for Wednesday, April 19th. If helpful, I could set up a doodle poll to determine the team's availability.

Upon resolution of these items we would then respond back officially to your letter with a revised report and response to comments.

1

Comments/Responses

1) SHPO Comment: Include maps or aerials, along with supporting photographs, indicating resource boundaries, outbuildings, additions, etc. to support the information contained within the report.

FAA Response: We are unsure of the intent of this comment and would ask for clarification. Is this comment indicating that a map is necessary for each identified resource that specifically calls out parcel lines, outbuildings, and additions?

SHPO: Yes, we recommend including a map or aerial for each resource (or a group of resources, if they are close to each other and enough detail can be seen in the image), with things like additions to the building (especially if noted as a reason for ineligibility), outbuildings discussed, boundaries, ages of resources (particularly in districts), etc.

2) SHPO Comment: Include maps for historic districts noting contributing or non-contributing, ages of resources within the district, etc. to clearly represent the overall district.

FAA Response: High Point-Half Moon Bluff HD is the only recommended eligible/listed district. It is depicted on Figure 2e with contributing and non-contributing resources called out (the report could rephrase the "NRHP-listed" and "Not Eligible" labels). If dates are required on the map they can be added based on the information available at this time. An aerial (Figure 186) is shown with the High Point-Half Moon Bluff HD write up to depict the NRHP boundary, but no structures are visible due to vegetation coverage, so they are not called out. We can refer back to Figure 2e here.

For clarification, can SHPO please clarify if anything additional is needed to resolve this comment or if you are requesting maps for any other collectives, even if they're recommended as not eligible?

SHPO: This comment is primarily for Dover Bluff and Cabin Bluff, as we are not in agreement that these are not eligible, with the information provided. A map or aerial showing what would be the entire potential district (or broken up over a couple maps, if detail cannot be seen in one map), and color coded/noted some how to show which resources within are historic and which are not, which are historic but altered greatly, where demo'd resources once were, etc.

3) SHPO Comment: Provide clear and detailed descriptions of the resources noted, in particular approximate dates of additions or changes and specific reasoning for ineligibility, especially when based on integrity.

FAA: We believe the report provides descriptions for each of the resources noted; are there any in particular the SHPO has identified as missing? Please note that dates for additions or changes would be arbitrary as available information does not identify when changes were actually made.

FAA believes the report does provide specific reasoning for ineligibility and explains in what ways integrity is diminished for resources where that is the case. As a result, we would request clarification on this comment to identify specifically what is deficient.

SHPO: We are mainly requesting supporting documentation, as well as a clear description, of ineligible determinations. For example, the description may say that additions were added, and the reason for ineligibility is that there were additions, but no approximate date of the additions or anything similar (comparison aerials, for example, and photos of the additions to the resource) are shown. If an addition was added during the historic period, it would not necessarily constitute ineligibility. Same thing for other changes on the resources - if material changes are the reason for ineligibility, and no approximate date of the change or photo showing the change is provided, it is hard for our office to concur. As an example, it helps to say something like '....lacks integrity of materials due to the vinyl siding adding in the 1970s...' or '...lacks integrity of design due to the addition that was added between 1968 and 1990 according to historic aerials (Figure ## and ##)...' etc. While some of this information may currently be in the description, and significance is noted in another section, it helps to tie it all together in the integrity discussion (or somewhere).

4) SHPO Comment: Remove discussions regarding Criteria Consideration G. Evaluating resources over 40 years of age provides for longevity of the survey and minimizes the need for multiple additional surveys during project planning and construction. All resources should be assessed as if they are of age so that the survey remains relevant.

FAA: We will remove discussions regarding Criteria Consideration G.

SHPO: Thanks! :)

5) SHPO Comment: Appropriately apply HPD's guidelines for Ranch and American Small house types.

FAA Response: We are unsure of the intent of this comment and would request clarification. The report already uses the HPD guidelines to evaluate Ranch houses in the report. For the first Ranch house write up, there is a lengthy evaluation about Ranch houses, which is then cross-referenced in other resources where a more brief evaluation is presented instead of repeating the same contextual information for each resource.

SHPO: I believe this is in reference to a few discussions within the report that note things like prominent chimneys and multiple materials are character-defining features for ranch houses. While they are for some areas, our guidelines specifically note that these are not regional characteristics, so should not be utilized as a reasoning for ineligibility. Also, the same window, used in different configurations is also common for this area, rather than multiple window types. Further, red brick is common for the south, but not exclusively. For the American Small guidelines, I think it is similar (and they didn't really seem to be mentioned within the discussions either?). Also, things like screen porches would be characteristic of coastal resources, due to bugs, air flow, etc. Referencing the guidelines when discussing those aspects also helps, as it makes it easier for us to cross reference when reviewing!

6) SHPO Comment: Assess resources under Criterion D.

FAA Response: We can insert a statement about Criterion D and "information potential" as it relates to the built structure, excluding archaeology.

SHPO: Thank you, and keeping in mind that there does not have to be any actual archaeological testing (ie. digging) in order to determine if there is archaeological potential.

7) SHPO Comment: A resource must be a good and representative example to be eligible for listing. It is not necessary for the resource to be "exceptional," "unique," or "notable."

FAA Response: This language can be rephrased in the report.

SHPO: Thank you! We often find that a reason for ineligibility noted in reports is that it is not 'unique' or 'exceptional' - this is not an acceptable reason for ineligibility and other aspects (lack of character-defining features, lack of integrity, etc.) should be the reasons explored. This also goes back to note #3, above.

8) SHPO Comment: Include discussion of the cultural landscape and its eligibility within the area of potential effect (APE), such as historic road systems, natural landscape, and others.

FAA Response: We are unsure of the intent of this comment and would request clarification. Is this in reference to additional discussion of Cumberland Island as a cultural landscape or the totality of the area?

SHPO: A little bit of both - there appear to be cultural landscape systems throughout (natural systems and features, spatial organization, land use, circulation/roads, cultural traditions, etc) and physical elements (topo, vegetation, buildings/structures, waterways/features, archaeology, views/vistas, etc.) which constitute a cultural landscape, its just a matter of the significance and integrity. These elements should be looked at and assessed within the project area - maybe it ends up only being Cumberland Island, or a portion of it, or maybe there is another area that has a collection of

these aspects and a shared history. Without delving into the research ourselves, we can't really say how this will take shape, but know that it should be assessed.

9) SHPO Comment: Evaluate historic properties in which any portion of the property falls within the APE. A historic resource's eligible boundary often includes its surrounding property. As such, if the property related to a historic property is partially within the APE, it should be assessed, such as the rice plantation ruins noted within the report appear to be.

FAA Response: It appears the Dover Bluff Club owns almost 4,000 acres, half of which is in the APE and half of which falls to the north of the APE. So, the tabby ruins are actually located on land owned by the Dover Bluff Club, which technically reaches into the APE. The ruins are outside the APE and about 5.25 miles from the project area. However, photos of the ruins are available and can be included in the report.

SHPO: This should be discussed in the report. Some initial thoughts on questions to answer: If they are part of the Dover Bluff Club, why are they not included in the district? Would they be considered a separate district, and if so, where would its boundaries fall (inside or outside the APE)? Why is the Dover Bluff Club's boundaries restricted to just the built area? etc. Other than the tabbies noted in the report, the main purpose for this comment is that our office will often see surveyors skip edges of properties that fall into the APE, but have nothing on them within the APE. Yet, that property, as a whole, has a historic, eligible, resource on it. Tax assessors are an easy way to see if anything like this is the case for this project - all those properties that slightly overlap into the APE, if they have a historic resource on them, should be assessed and evaluated, as the property surrounding it would, typically, be considered its NRHP-elig boundary.

10) SHPO Comment: Dover Bluff Club: Although a portion of the historic district falls outside of the APE, the entire district should be assessed in order to determine the district's NRHP-eligibility. HPD recommends a minimum of background and desktop research and a windshield survey.

FAA Response: FAA believes this request has been satisfied within the report and is therefore unsure of the intent of this comment and would request clarification. Background and desktop research were performed as part of the study, which is where the language regarding the general history of hunt clubs, the map history of Dover Bluff Club, and the statements regarding Sirmans and Parker are derived from. No additional information was revealed during research. A windshield survey was likewise completed as discussed in the report and included in Figures 21-23. With this, the entire area was assessed for eligibility as a potential district but integrity was found to be compromised.

SHPO: The streetscape photos of the areas outside of the APE are not sufficient to assess the eligibility of the Club as a whole. A windshield survey should include a photo of each resource (or at least a majority), documentation of ages of resources, minor discussion/description of resources, etc. Background/desktop research should include Google Streetview, tax assessors, etc. to determine and sufficiently assess the eligibility. This, coupled with the map/aerial aspects noted above in #2, should aid in a more complete evaluation.

11) SHPO Comment: Cabin Bluff: It appears to HPD that this resource should be evaluated for its Coffin-era resources, not the Floyd-era resources. Further, it appears from the description of the layout that the district boundaries could be drawn in a way so as to omit the majority of the modern intrusions.

FAA Response: Additional information about Coffin can be added to the document, although Coffin developed a lot of land and has stronger ties to Sea Island. And, integrity remains an issue for the entirety of the property. While a boundary could be drawn to exclude modern resources to the north (although, doing so would effectively also cut off relational context of the entire landscape of the property in that area), it would be more appropriate to retain such resources to the south that are integrated within the developed core of the property but as "non-contributing" resources. Otherwise, it distorts the developmental history of the property. That said, we will re-examine this property in relation to the request.

SHPO: Regardless of where Coffin had his ties, if the majority of the built environment that remains at Cabin Bluff is from his era of ownership, then it should be assessed as such. Not because it was necessarily him involved, but because that is what is left of the built environment. Justification and explanation of the boundary would be important in this discussion as well, which coupled with note #2, above, should help evidence the development, etc of the district. Since a lot has also been demo'd (from Floyd days, it seems?), noting where and what those resources are on a map/aerial, would also help. Considering all the differing, overlapping, aspects, layers, and eras, this is one where documentation, detail, description, and evidence is crucial to aid our office's understanding of the determinations made.

12) SHPO Comment: High Point-Half Moon Bluff: HPD recommends evaluating the potential for an expanded period of significance and areas of significance to include the mid-century development and archaeological potential.

FAA Response: We can explore an expanded period of significance here

SHPO: Sounds good!

Thank you – we look forward to talk to you next week.

Stacey M. Zee
Office of Commercial Space Transportation
Federal Aviation Administration
800 Independence Ave, SW
Washington, DC 20591
202-267-9305

From: Dixon, Jennifer
To: Akstulewicz, Kevin D.
Cc: Stacey.Zee@faa.gov; Pam.Schanel@icf.com
Subject: EXTERNAL: Re: Construct/Operate Commercial Space Launch Site, Spaceport Camden, Woodbine, Camden Co, HP 151117-001
Date: Friday, June 30, 2017 2:08:55 PM

Kevin,

Looks like we received it on June 26th. It has been added to the queue for reviews.

Thank you!

Jennifer Dixon, MHP, NCIDQ
LEED Green Associate

Program Manager
Environmental Review & Preservation Planning

Historic Preservation Division
(770) 389-7851 | F: (770) 389-7878
2610 Georgia Highway 155 SW
Stockbridge, Georgia 30281

Facebook • Twitter • Instagram
Purchase your Historic Preservation license plate today!

A division of the
GEORGIA DEPARTMENT OF NATURAL RESOURCES

From: Akstulewicz, Kevin D. <KEVIN.D.AKSTULEWICZ@leidos.com>
Sent: Thursday, June 22, 2017 3:25 PM
To: Stacey.Zee@faa.gov; Dixon, Jennifer
Cc: Pam.Schanel@icf.com
Subject: RE: Construct/Operate Commercial Space Launch Site, Spaceport Camden, Woodbine, Camden Co, HP 151117-001

Hi All –

The hard copy/CD shipped out today directly from CRA… it was shipped priority so it should arrive in just a few business days.
Please let me know if it is not received within the next few days…
Thanks,

KDA
(865) 300-0612

From: Stacey.Zee@faa.gov [mailto:Stacey.Zee@faa.gov]

Sent: Wednesday, June 21, 2017 3:34 PM
To: Jennifer.Dixon@dnr.ga.gov
Cc: Akstulewicz, Kevin D.; Pam.Schanel@icf.com
Subject: EXTERNAL: Construct/Operate Commercial Space Launch Site, Spaceport Camden, Woodbine, Camden Co, HP 151117-001

Jennifer –

Attached are responses to your comments from March. The project contractor, Kevin Akstulewicz, will mail a hardcopy and CD of the updated reports. Please let us know if you have any questions.

Stacey M. Zee
Office of Commercial Space Transportation
Federal Aviation Administration
800 Independence Ave, SW
Washington, DC 20591
202-267-9305

From: HPD-106reply [mailto:HPD-106reply@dnr.ga.gov]
Sent: Thursday, March 30, 2017 6:54 PM
To: Zee, Stacey (FAA) <Stacey.Zee@faa.gov>
Cc: Lupita McClenning <lmcclenning@crc.ga.gov>
Subject: Construct/Operate Commercial Space Launch Site, Spaceport Camden, Woodbine, Camden Co, HP 151117-001

From: Historic Preservation Division

Attached is our letter on the subject undertaking (in Adobe Acrobat PDF format)

Do not respond to this e-mail.

If you have any questions concerning our letter, please contact:
Jennifer Dixon at jennifer.dixon@dnr.ga.gov

A free copy of Adobe Acrobat Reader can be downloaded from: www.adobe.com

U.S. Department of Transportation
Federal Aviation Administration

Office of Commercial Space Transportation

800 Independence Ave., SW.
Washington, DC 20591

October 31, 2017

Ms. Jennifer Dixon
Environmental Review & Preservation Planning Program Manager
DNR Historic Preservation Division
Jewett Center for Historic Preservation
2610 GA Hwy 155 SW
Stockbridge, GA 30281

Re: HP-15-1117-01 – Addendum to *Determinations of Eligibility Report for the Proposed Spaceport Camden Project, Camden County, Georgia*

Dear Ms. Dixon:

Enclosed with this letter please find one electronic copy of the addendum to the report referenced above.

In support of National Historic Preservation Act Section 106 consultation for the proposed development and operation of a spaceport in Camden County, Georgia, the FAA (through Cultural Resource Analysts, Inc. [CRA]) has completed an historical resource/building evaluation for the project Area of Potential Effects (APE). The APE includes the actual project site considered for development, and a five-mile radius around the project site that is considered for operation of the spaceport (i.e., launches). The FAA seeks SHPO input and concurrence on the eligibility recommendations for resources identified within the APE, as indicated in the report.

As part of this process, the FAA provided the above-referenced report, dated June 13, 2017, for HPD review. The attached addendum to the above-referenced investigation is intended to address comments received from HPD on August 4, 2017 and as discussed with your office on September 21, 2017. This addendum is provided to supplement the original report and offer additional clarification and documentation related to five resources: High Point-Half Moon Bluff Historic District (National Register of Historic Places [NRHP] No. 78000265); Cabin Bluff Historic District; the Charles Rinaldo Floyd Burial Site and Floyd Family Cemetery within CM-CO 31; the Thiokol Chemical Company site within CM-CO 31; and the Dover Bluff Club.

In total, based on research, field survey, and discussions with HPD and in consideration of the information included in the attached addendum, the FAA recommends that the following resources within the APE for the proposed Spaceport Camden project be considered historic properties (NRHP-listed or –eligible):

- High Point-Half Moon Bluff Historic District (NRHP No. 78000265)
- Main Road (NRHP No. 84000941)

- Bellevue/Anchor House (CM-CO 31, Resource A)
- Charles Rinaldo Burial Site (CM-CO 31, Resource B)
- Floyd Family Cemetery (CM-CO 31, Resource C)
- Cabin Bluff Cumberland River Retreat Historic District
- Dover Bluff Club Historic District
- Cumberland Island, as a cultural landscape
- Historic Architectural Resource 16, tabby ruins at Black Hammock Plantation

The FAA recommends that the following resources be considered not eligible for listing in the NRHP:

- Thiokol Chemical Plant Site (CM-CO 31)
- Camden County, as a cultural landscape

In accordance with 36 CFR 800.4, the FAA is requesting your concurrence with the findings and recommendations as identified in the initial report and as supplemented by the attached addendum. Should your office have any questions or require additional information please contact the FAA project lead, Stacey Zee at (202) 267-9305 or stacey.zee@faa.gov.

Sincerely,

Daniel Murray
Manager, Space Transportation Development Division

Attachments:
1) Addendum – *Determinations of Eligibility Report for the Proposed Spaceport Camden Project in Camden County, Georgia*

GEORGIA
DEPARTMENT OF NATURAL RESOURCES
HISTORIC PRESERVATION DIVISION

MARK WILLIAMS
COMMISSIONER

DR. DAVID CRASS
DIVISION DIRECTOR

November 22, 2017

Daniel Murray
Manager, Space Transportation Development Division
Federal Aviation Administration
800 Independence Avenue SW
Washington DC 20591
Attn: Stacey Zee, FAA Project Lead

RE: Construct/Operate Commercial Space Launch Site, Spaceport Camden, Woodbine Camden County, Georgia
HP-151117-001

Dear Mr. Murray:

The Historic Preservation Division (HPD) has reviewed the draft report entitled, *Addendum to Determinations of Eligibility Report for the Proposed Spaceport Camden Project in Camden County, Georgia,* prepared by Cultural Resource Analysts, Inc. and dated October 19, 2017. Our comments are offered to assist the Federal Aviation Administration (FAA) in complying with the provisions of Section 106 of the National Historic Preservation Act (NHPA).

Based on the additional information contained in the addendum report and information contained in the initial report (June 13, 2017), HPD concurs that the Thiokol Chemical Plant Site and continues to concur that Camden County, as a cultural landscape, are not eligible for listing in the National Register of Historic Places (NRHP). Additionally, HPD continues to concur that Bellevue/Anchor House, Charles Rinaldo Burial Site, Floyd Family Cemetery, Cabin Bluff Cumberland River Retreat historic district, Dover Bluff Club historic district, Cumberland Island as a cultural landscape, and resource 16 are eligible for listing in the NRHP and within the proposed project's area of potential effect (APE). Furthermore, HPD continues to concur that the NRHP-listed High Point-Half Moon Bluff Historic District and Main Road are within the proposed project's APE.

HPD looks forward to receiving an assessment of effects report for the above noted NRHP-eligible and listed resources, once available, and working with the FAA as this project progresses. Please refer to project number **HP-151117-001** in any future correspondence regarding this project. If we may be of further assistance, please do not hesitate to contact me at jennifer.dixon@dnr.ga.gov or (770) 389-7851.

Sincerely,

Jennifer Dixon, MHP, LEED Green Associate
Program Manager
Environmental Review & Preservation Planning

Cc: Lupita McClenning, Coastal Georgia Regional Commission

JEWETT CENTER FOR HISTORIC PRESERVATION
2610 GA HWY 155, SW | STOCKBRIDGE, GA 30281
770.389.7844 | FAX 770.389.7878 | WWW.GEORGIASHPO.ORG

U.S. Department
of Transportation
Federal Aviation Administration

Office of Commercial Space Transportation

800 Independence Ave., SW.
Washington, DC 20591

JAN 2 6 2018

Ms. Jennifer Dixon
Environmental Review & Preservation Planning Program Manager
DNR Historic Preservation Division
Jewett Center for Historic Preservation
2610 GA Hwy 155, SW
Stockbridge, GA 30281

RE: Spaceport Camden Environmental Impact Statement, Finding of no adverse effect for Spaceport Camden Environmental Impact Statement,
Construct/Operate Commercial Space Launch Site, Spaceport Camden, Woodbine
Camden County, Georgia
HP-151117-001

Dear Ms. Dixon:

As part of the Federal Aviation Administration's (FAA's) Section 106 review and pursuant to 36 CFR § 800.4, the FAA has undertaken identification efforts for the Spaceport Camden Environmental Impact Statement (EIS). Based on the results of these efforts the FAA has determined a finding of no adverse effect is appropriate for this undertaking.

Proposed Undertaking

The Camden County Board of Commissioners has applied to the FAA for a Launch Site Operator License for a commercial launch site in Camden County, Georgia. The proposed site, called Spaceport Camden, would be located on approximately 4,000 acres of a previously used industrial site. The property is located in an unincorporated area of Woodbine, Georgia, in Camden County, approximately 11.5 miles due east of Woodbine. The proposed project involves the construction of a Launch Pad complex with vertical launch facility; Landing Zone; Launch Control Center/Payload Integration; Visitor Center/Alternate Launch Control Center; and access roads/utilities.

Consultation and Outreach

Tribal Consultation. The FAA initiated Section 106 consultation with the following Native American tribes: Cherokee of Georgia Tribal Council, Chickasaw Nation, Choctaw Nation of Oklahoma, Georgia Tribe of Eastern Cherokee, Lower Muskogee Creek Tribe, Muscogee (Creek) Nation, Poarch Band of Creeks, Seminole Nation of Oklahoma, Seminole Tribe of Florida, and Thlopthlocco Tribal Town. As of January, 2018, the Choctaw Nation of Oklahoma responded that they did not want to participate in the consultation; the Cherokee of Georgia Tribal Council, Chickasaw Nation, Georgia Tribe of

1

Eastern Cherokee, Lower Muskogee Creek Tribe, Muscogee (Creek) Nation, Poarch Band of Creeks, Seminole Nation of Oklahoma, Seminole Tribe of Florida, and Thlopthlocco Tribal Town did not respond to the FAA's correspondence inviting them to participate. All project documentation and this determination of effect letter will be provided to any tribes that indicate they are interested in participating in the consultation; as of the date of this letter, no tribes have expressed interest. The Gullah Geechee Commission on the Gullah Geechee Cultural Heritage Corridor was invited to participate in Section 106 consultation as well, but has not responded.

Other Outreach Activities. Pursuant to 36 CFR § 800.2, the FAA has initiated consultation with the National Park Service (NPS), the Georgia Department of Natural Resources (DNR), Historic Preservation Division (HPD) (State Historic Preservation Office [SHPO]) and other consulting parties, as documented in previously submitted reports (Cultural Resource Analysts, Inc., 2017b).

Area of Potential Effects

The Area of Potential Effects (APE) for this undertaking (maps showing the location of the proposed infrastructure and launch trajectories associated with the undertaking are provided as Enclosure Figures 1 and 2, respectively) was defined in two parts.

(1) The APE for archaeological resources (direct APE – Enclosure Figure 3) is defined as the boundary of the proposed Spaceport Camden, and consists of areas where there would be direct ground disturbance, including construction of facilities, installation or upgrading of utilities, access roads or other routes, and staging areas, as well as the location of maintenance and operations activities.

(2) The architectural APE (indirect APE – Enclosure Figure 4), corresponding to the APE for audible (including vibratory) and visual effects, consists of the area within a 5-mile radius of the proposed Spaceport Camden, extending around the proposed project limits.

The Georgia Historic Preservation Division (HPD) concurred with the APE in a letter dated June 12, 2016 (See Enclosure 1).

Identification Efforts

The FAA consulted with HPD and the consulting parties on an appropriate level of identification effort for this undertaking. The FAA recommended the following measures to identify historic properties within the APE (See Enclosure 1):

- Detailed background research and records review of archaeological sites within a 1-mile radius of the direct APE;
- Detailed background research and records review of historic architectural resources within the indirect APE, the 5-mile buffer centered on the proposed launch facility;
- Outreach and consultation with Tribes and knowledgeable local persons;
- Completion of a Phase I Archaeological Identification Survey of the direct APE in accordance with Georgia Council of Professional Archaeologists (GCPA) guidelines; and
- Completion of a Phase I Architectural Resource Reconnaissance Survey of the indirect APE, accounting for all historic architectural resources (i.e., buildings, structures, and objects) 45 years of age or older, as well as significant rural and/or cultural landscapes.

The two studies, entitled *Phase 1 Archaeological Survey of the Proposed Spaceport Camden, Camden County, Georgia* (Cultural Resource Analysts, Inc. [CRA] 2017a) and *Historic Resources Survey for the Proposed Camden Spaceport Project in Camden County, Georgia* (CRA 2017b, and including a 2017 addendum), have been provided to your office. Both reports were completed by CRA, a subcontractor to Leidos – FAA's contractor for the Spaceport Camden EIS. Your office concurred with the findings of the archaeological survey report in a letter dated April 3, 2017 (See Enclosure 2).

The findings of the architectural survey report were revised following input from and consultation with your office, and your office concurred with determinations of eligibility in letters dated August 4 and November 22, 2017 (See Enclosure 3). The historic properties documented in the APE and the FAA's finding of effect for each historic property are found in Enclosure Table 1.

Historic Properties in the APE

The above-referenced studies identified historic properties in the APE for archaeological resources (direct effect) and also in the APE for visual and audible effects (indirect effects). Sixty-six individual historic properties, including the historic districts to which many of them contribute, were identified in the project APEs. Three are elements of NRHP-eligible Floyd's Fairfield and Bellevue Plantations/Union Carbide Property (CM-CO 31); 23 are elements of the Dover Bluff Club Historic District; 16 are elements of the Cabin Bluff Cumberland River Retreat Historic District; 10 are elements of NRHP-listed High Point-Half Mood Bluff Historic District (#78000265), and the remaining 10 are archaeological sites, ruins, a cultural landscape and a road. Enclosure Table 1 lists the historic properties in both APEs. Seven of the 66 historic properties are archaeological sites that are unevaluated for NRHP eligibility, and which are treated as NRHP-eligible for the purposes of Section 106 effects determination.

APE for Archaeological Resources (Direct Effects). There are four archaeological sites within the areas proposed for facilities construction that are unknown ("potentially eligible") for listing on the NRHP under Criterion D. HPD concurred with FAA's determination in a letter dated April 3, 2017. There are seven cultural resources in the APE for direct effects that are outside the areas proposed for facilities construction. Four of these are NRHP-eligible, and three have not been evaluated for NRHP eligibility, but are treated as NRHP-eligible for the purposes of Section 106 effects determination (Enclosure Table 1).

APE for Architectural Resources (Indirect Effects). In a letter dated August 4, 2017, HPD concurred that the Dover Bluff Club and 23 elements are eligible under Criterion C; that the Tabby Ruins associated with the Black Hammock Plantation (located to the north of the APE and of unknown eligibility) are eligible under Criteria A and D; that the Cabin Bluff Cumberland River Retreat Historic District and 16 elements are eligible for listing under Criteria A and C; and that four additional resources within the NRHP-listed High Point-Half Moon Bluff Historic District (within the Cumberland Island Cultural Historic Landscape) are eligible under Criterion D.

Application of the Criteria of Adverse Effect

An adverse effect is found when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association. Consideration shall be given to all qualifying characteristics of a

historic property, including those that may have been identified subsequent to the original evaluation of the property's eligibility for the National Register. Adverse effects may include reasonably foreseeable effects caused by the undertaking that may occur later in time, be farther removed in distance or be cumulative.

Adverse effects on historic properties include, but are not limited to:

i. Physical destruction of or damage to all or part of the property;

ii. Alteration of a property, include restoration, rehabilitation, repair, maintenance, stabilization, hazardous material remediation and provision of handicapped access, that is not consistent with the Secretary of the Interior's Standards for the Treatment of Historic Properties (36CFR part 66) and applicable guidelines;

iii. Removal of a property from its historic location;

iv. Change of the character if the property's use or of physical features within the property's setting that contribute to its historical significance;

v. Introduction of visual, atmospheric or audible elements that diminish the integrity of the property's significant historic features;

vi. Neglect of a property which causes it deterioration, except where such neglect and deterioration are recognized qualities of a property of religious and cultural significance to an Indian tribe or Native Hawaiian organization; and

vii. Transfer, lease, or sale of property out of Federal ownership or control without adequate and legally enforceable restrictions or conditions to ensure long-term preservation of the property's historic significance.

FAA applied the criteria of adverse effect to all 66 individual historic properties, including the historic districts to which many of them contribute, that have been identified in the project APEs. Enclosure Table 1 lists the potential effect and potential source of effect for each historic property within the two APEs.

Finding of Effect in the APE for Direct Effects (Proposed Spaceport Camden Boundary)

Construction (direct effects)

Physical disturbance. There are no known NRHP-listed cultural resources within the areas that would be disturbed by facility construction. Four archaeological sites considered unknown ("potentially eligible") for listing on the NRHP under Criterion D, are located within the construction zone of the proposed Vertical Launch Facility. If project design cannot avoid these sites, then the Camden County will conduct Phase II testing to determine the sites' NRHP eligibility. If one or more of the sites is found to be eligible, and if further project design cannot avoid the sites, construction would destroy all or part of the site(s) which would be an adverse effect to historic properties that would require mitigation. A mitigation plan would be developed through Section 106 consultation between the FAA and the HPD. HPD concurred with FAA's finding of effect for the archaeological sites in a letter dated April 3, 2017.

4

Visual intrusion. Based on a viewshed analysis performed for the Draft EIS (Federal Aviation Administration, 2018), visual effects to historic properties could stem from visibility of launch facility features such as buildings and towers; view of the space vehicles during launch or spaceport landing, and light from operation of the launch facility. Within the proposed Spaceport Camden, the three historic properties and seven potentially-eligible archaeological sites are unlikely to be affected by visual intrusions. As recently as 2009, the setting contained a more-than-300-foot tall manufacturing building with conveyors and related buildings and structures (which have since been removed). The setting has also undergone significant changes since the resources' period of significance, without affecting NRHP eligibility.

Operations (indirect effects)

Effects to historic properties related to noise and vibration and visual intrusions within the APE for direct effect were examined with measurements of LAmax (dBA), Lmax (dB), and sonic booms. LAmax is maximum A-weighted overall sound pressure level (OASPL) in decibels. The LAmax noise metric is commonly used to assess community noise, because an "A-weighting" filter is applied that approximates the frequency response of human hearing, adjusting low and high frequencies to match the sensitivity of human hearing. Lmax is maximum un-weighted overall sound pressure level (OASPL) in decibels. The overall sound pressure level (OASPL) provides a measure of the sound level at any given time and the maximum OASPL (Lmax) indicates the highest level achieved over the duration of the event. The Lmax noise metric is used to assess the potential risk for structural damage. A sonic boom is the sound associated with the shock waves created by a vehicle traveling through the air faster than the speed of sound. Enclosures showing noise contours are provided as Figures 5-12.

Acoustic Setting (LAmax [dBA]). Once construction of the launch site is completed, it is unlikely that any of the seven prehistoric archaeological resources would be affected by operation of Spaceport Camden, including vibration and noise generated by static engine tests, and movement of the launch vehicle to the launch pad or other activities. The change in the acoustical setting due to the proposed Spaceport Camden operations would not be an adverse effect to the seven prehistoric archaeological sites because they are considered potentially eligible for their potential data content under Criterion D, and setting is not one of the characteristics of these sites that would qualify the property for inclusion in the National Register.

Three NRHP-eligible architectural features associated with the 19th century Floyd's Fairfield and Bellevue Plantations are also within the proposed Spaceport Camden boundary but outside the construction areas. These features are the Anchor House ruins, the Charles Rinaldo Floyd Burial Site and the Floyd Family Cemetery. These historic properties are within a radius of the launch site that would experience noise levels exceeding 65 dBA, and in most cases between 90 and 115 dBA during static fire, launch, and launch site landing-related activities under all models and trajectories. These noise events would exceed the standards identified by FAA Order 1050.1F of a 1.5 dB increase in the noise environment of a generally quiet setting, in this case of the historic properties. This increase in noise would constitute a change to the setting of the historic properties. However, the change would be transitory, lasting only as long as each noise event, varying from about 7 seconds for a static test, to a little over two minutes for a launch. Although such noise-induced changes to the quiet setting would be an effect to historic properties, it is unlikely to be an adverse effect, because the changes would be transitory and infrequent.

Noise Vibration (Lmax). Technical analysis indicates that an increase in noise and vibration is expected in the area of the NRHP-eligible architectural features of the Floyd's Fairfield and Bellevue Plantations

from periodic static fire, launch, and landing-related activities under all models and trajectories (Enclosure Figures 5 through 10). The technical analysis suggests that cracking or displacement to the tabby walls of the Anchor House ruins, or displacement or cracking of grave markers or the base of the Floyd Burial monument could occur as a result of the operation of Spaceport Camden.

L_{max} analysis to determine the potential for structural damage related to vibrations from noise was reported in *Launch Vehicle Noise Study for Spaceport Camden's Environmental Impact Statement* (James, Salton, & Downing, 2017). The analysis indicates that the three historic properties within the proposed Spaceport Camden boundary would be exposed to noise levels of 120 dB, a level which is predicted to generate structural damage claims at a rate of 1 per 100 households (structures) (James, Salton, & Downing, 2017). Archaeological structures like the Anchor House ruins, the Charles Rinaldo Floyd Burial Site and the Floyd Family Cemetery could be damaged by vibration from these periodic elevated noise levels, but the probability is low (1 per 100 structures per event).

Sonic booms. Sonic booms would be associated with both launch and landing events. For all launch trajectories, the sonic boom would occur far enough east of the coastline that there would be no effect on historic properties. For landings at the Spaceport, the sonic boom overpressure contour would be between 2 psf and 2.8 psf over the proposed Spaceport Camden (James, Salton, & Downing, 2017). At an overpressure of 2 psf, structures in poor repair could experience minor damage to structural elements including windows, plaster, or bric-a-brac (James, Salton, & Downing, 2017). For this reason, sonic booms, although projected to be relatively rare events (no more than 12 Spaceport landings per year) could have an effect on the Anchor House ruins, the Charles Rinaldo Floyd Burial Site and the Floyd Family Cemetery historic properties.

The Anchor House ruins are in a state of deterioration, with one elevation of the tabby ruins being braced with wood beam supports (Cultural Resource Analysts, Inc., 2017b). The Charles Rinaldo Floyd Burial Site is mostly intact with barely legible inscription and some collapse of the 1920s concrete block fence that surrounds it. The box tomb features of the Floyd Family Cemetery are in similar condition with illegible inscriptions and cracked and broken slabs. All three properties are heavily overgrown with vegetation. Thus, while archaeological structures like the Anchor House ruins, the Charles Rinaldo Floyd Burial Site and the Floyd Family Cemetery could be damaged by vibration and overpressure from these periodic noise events, it is unlikely that such damage would affect the condition of the properties to such a degree that they would be no longer eligible for listing on the NRHP.

Visual intrusion. Based on a viewshed analysis, visual effects to historic properties from proposed Spaceport Camden operations could stem from view of the space vehicles during launch or landing. As described above for facility construction, the three historic properties and seven potentially eligible archaeological sites within the direct effects APE (proposed Spaceport Camden) are unlikely to be affected by visual intrusions.

Finding of Effect in the Architectural APE for Indirect (Audible ["Noise"] and Visual) Effects (Proposed Spaceport Camden and 5-mile Radius)

Construction (direct effects)

Physical disturbance. Effects to NRHP-eligible resources due to construction would be limited to the potential direct disturbance of four archaeological sites, described above in the APE for direct effects. There would be no effects from physical disturbance to historic properties in the APE for indirect effects from the proposed construction of Spaceport Camden facilities.

Visual intrusion. Based on a viewshed analysis performed for the Draft EIS (Federal Aviation Administration, 2018), construction-related visual effects to historic properties could stem from visibility of launch facility features such as buildings and towers. On Cumberland Island, visual intrusions from the proposed lightning towers and water towers could have an effect on historic properties because setting is a key element of their NRHP listing. Vegetation or other structures would block the view of the proposed lightning and water towers from most of the contributing features of the High Point-Half Moon Bluff Historic District and the Main Road. However, the proposed lightning and water towers, and the 65-foot tall Vehicle Integration Building at the Vertical Launch Facility site will reach heights that will be visible from the easternmost portion of the High Point-Half Moon Bluff Historic District which is included in the Cumberland Island Cultural Historic Landscape. Representative Observation Points for the visual analysis are illustrated in Enclosure Figure 13; Observation Point #4 is adjacent to easternmost point of the Historic District.

Structures and lights would be visible from the portion of the Cumberland Island Cultural Historic Landscape that lies within the indirect APE, introducing elements to the setting of the historic landscape that affect a key characteristic of its eligibility (Cultural Resource Analysts, Inc., 2017b). However, as with the Cumberland Island Historic District, it will not be an adverse effect.

These same effects apply to the Dover Bluff Club Historic District, the Tabby Ruins on Dover Bluff, and the Cabin Bluff Cumberland River Retreat Historic District. Although lightning towers, water towers, and lights may be visible at times, resulting in an effect to the setting of these historic properties, the effect will not be adverse, as views from these resources have included contemporary industrial objects during their periods of significance.

Operations (indirect effects)

Effects to historic properties related to noise and vibration and visual intrusions within the APE for indirect effects were examined with measurements of LA_{max} (dBA), L_{max} (dB), and sonic booms, as described above for the direct effects APE. Enclosures showing noise contours are provided as Figures 5-12.

The architectural survey of the APE, for audible and visual effects within a 5-mile radius of the proposed Spaceport Camden, identified historic properties outside the proposed Spaceport Camden boundary that could be affected by changes to the audible and visual environment (Cultural Resource Analysts, Inc., 2017b).

On Cumberland Island, the architectural resources include the NRHP-listed High Point-Half Moon Bluff Historic District (listed on the NRHP), including 10 contributing elements, the Main Road and the Cumberland Island Cultural Historic Landscape. On Dover Bluff, the Dover Bluff Club Historic District includes 23 contributing elements consisting of residences (Enclosure Table 1). Tabby Ruins comprise a contributing element of the Black Hammock Plantation. The plantation is of unknown NRHP eligibility, but is treated as eligible, as are the Tabby Ruins. On Cabin Bluff, the Cabin Bluff

Acoustic Setting (LA_{max} [dBA]). Resources on Cumberland Island, Dover Bluff and Cabin Bluff would be subject to periodic noise levels of between 80 and 90 dBA under all launch trajectory headings. Noise modeling for vehicle first-stage landings indicates noise levels below 80 dBA in these areas of the architectural APE (indirect APE – Enclosure Figure 4), and somewhat less for static fire. These noise levels are unlikely to cause physical effects to these historic properties. However, in all cases, these noise events would exceed the standards identified by FAA Order 1050.1F of a 1.5 dB increase in the noise environment of a generally quiet setting, in this case of the historic districts. This increase in noise would constitute a change to the setting of the historic properties. However, the change

7

would be transitory, lasting only as long as each noise event, varying from about 7 seconds for a static test, to a little over two minutes for a launch. Although such noise-induced changes to the quiet setting would be an effect to historic properties, it is unlikely to be an adverse effect, because the changes would be transitory and the portion of Cumberland Island that includes these historic properties lies within the hazard area that would be closed to visitors during launch and landing operations.

Noise Vibration (Lmax [dB]). On Cumberland Island, Dover Bluff and Cabin Bluff, the historic properties within the architectural APE (indirect APE – Enclosure Figure 4) would be subject to Lmax of at least 111 dB for all launch trajectory headings, possibly resulting in damage to structural elements such as windows in buildings in poor repair, cracked plaster or displaced bric-a-brac at the First African Baptist Church, Rischarde Red Barn, Alberty House and Trimmings House. However, the likelihood of physical damage to any structures, including archaeological structures, from these noise levels (an adverse effect) is low, with a probability of one damage claim submitted per every 1,000 households (structures) (James, Salton, & Downing, 2017). Effects from noise on the Cemeteries, High Point Road, or Main Road, on Cumberland Island, is unlikely. Lmax levels from all landing trajectories would fall below the levels shown to potentially cause damage, and the same holds for static fire engine tests (James, Salton, & Downing, 2017).

The same conditions apply to the historic properties on Dover Bluff and Cabin Bluff. The Tabby Ruins on Dover Bluff could be vulnerable to adverse effects from vibrations generated by launches, but in all cases, the likelihood of physical damage to any structures, including archaeological structures, from these noise levels remains very low, with a probability of one damage claim per 1,000 households (structures) (James, Salton, & Downing, 2017).

Sonic Booms. Sonic booms would be associated with both launch and landing events. For all launch trajectories, the sonic boom would occur far enough east of the coastline that there would be no effect on historic properties. For landings at the Spaceport, the sonic boom overpressure contour would be between 1 and 2 psf over Cumberland Island, and as high as 2.8 psf over the proposed Spaceport Camden (James, Salton, & Downing, 2017). At an overpressure of 2 psf, structures in poor repair could experience minor damage to structural elements including windows, plaster, or bric-a-brac (James, Salton, & Downing, 2017). For this reason, sonic booms, although projected to be relatively rare events (no more than 12 Spaceport landings per year) could have an effect on historic properties both within the proposed Spaceport Camden and on Cumberland Island. Although the incidence would be expected to be low, effects could include cracking or displacement of tabby walls, monument base, or grave markers within the proposed Spaceport Camden; glass breakage, damage to outside walls, or other, hard-to-predict damage to other structural elements of the First African Baptist Church, Rischarde Red Barn, Alberty House and Trimmings House on Cumberland Island. Sonic booms are unlikely to affect the Cemeteries, High Point Road or Main Road on Cumberland Island. If noise-induced structural damage to historic properties were allowed to accumulate, or go unrepaired, it could become an adverse effect.

For landings at the Spaceport, the sonic boom overpressure contour would be approximately 0.5 psf over Dover Bluff and Cabin Bluff (Enclosure figure 12), a level that would be unlikely to result in any damage to historic properties that are located on Dover Bluff and Cabin Bluff (James, Salton, & Downing, 2017).

Visual intrusion. Based on a viewshed analysis performed for the Draft EIS (Federal Aviation Administration, 2018), proposed launch site operations-related visual effects to historic properties could stem from view of the launch vehicles during launches or landings.

On Cumberland Island, overhead launches would be visible (Enclosure Figures 11 and 12) from the historic properties on Cumberland Island, which would temporarily intrude into their setting. Although these changes to the viewscape would temporarily affect the setting of the historic properties, they would not constitute an adverse effect, because the views from Cumberland Island to the mainland over the past decades have varied considerably, including introduction of both rural and industrial objects, but not to the degree that the historic properties no longer qualify for listing on the NRHP.

Summary of Finding of Effect

Although effects to architectural historic properties would arise from the changes to the audible and visual environment during operation of the launch site through introduction of elements inconsistent primarily with the historic properties' setting, in most cases these are not of an intensity or duration to constitute an adverse effect. Within the proposed Spaceport Camden but outside the construction zone, three NRHP-eligible components of the Floyd's Fairfield and Bellevue Plantations/Union Carbide Property could experience effects (such as damage to tabby walls, monument base, or grave markers) from vibration related to noise from static engine firings, and launch and landing operations. However, it is unlikely that such noise-induced damage would affect the condition of the properties to such a degree that they would be no longer eligible for listing on the NRHP.

On Cumberland Island, there would be effects from noise and visual intrusions on a portion of the NRHP-listed High Point-Half Moon Bluff Historic District, including 10 contributing elements; to the NRHP-listed Main Road; and to the NRHP-eligible Cumberland Island Cultural Historic Landscape (a Historic Vernacular Landscape). However, structural damage due to noise vibration from static tests, launches, and landings at the proposed Spaceport Camden are unlikely. Visual effects from light from lightning poles and the water tower, visual impacts from the launch and landings, and visual effects on the view towards the launch site as seen from the historic landscape would be an effect on historic properties, but would not be an adverse effect because the viewscape included industrial features at the time it was listed on the NRHP, without affecting NRHP eligibility. The same holds true for the Dover Bluff Club Historic District, the Tabby Ruins on Dover Bluff, and the Cabin Bluff Cumberland River Retreat Historic District.

Based on the results of the studies and an assessment of effects to historic properties, the FAA has determined that this undertaking will have no adverse effect on historic properties, provided certain conditions are met. These include:

- Project design avoids the archaeological sites within the proposed Vertical Launch Facility, or the archaeological sites are not historic properties. If archaeological sites within the proposed Vertical Launch Facility cannot be avoided, Phase II testing will determine site eligibility. If Phase II testing finds that the sites are eligible for listing on the NRHP then mitigation will be required to resolve the adverse effect.
- Execution of a Programmatic agreement with stipulations for identification of, and mitigation for, any potential future adverse effects to historic-era historic properties within the APE from audible and visual (indirect) effects. A Monitoring program for historic-era historic properties within the direct effects APE (proposed Spaceport Camden) and within the indirect effects APE on Cumberland Island, Dover Bluff and Cabin Bluff would be one possible way to address future potential damage from vibration potentially great enough to impair condition and integrity.

The FAA is requesting your concurrence with this determination. Please provide any comments within the 30-day regulatory time frame.

9

The documentation provided herein meets the regulatory standard for documenting this effect determination in accordance with 36 CFR 800.11(e). If you have questions or concerns regarding this finding or the sufficiency of documentation, please contact the FAA immediately through Stacey Zee of my staff at 202-267-9304, or via email at Stacey.Zee@faa.gov.

Sincerely,

Daniel Murray

Manager, Space Transportation Development Division

cc: Steve Howard, Camden County

John Fry, National Park Service

Don Dankert, NASA

Enclosures:

Enclosure 1: SHPO APE concurrence letter dated June 12, 2016
Enclosure 2. SHPO Phase I Archaeological Survey Concurrence Letter Dated April 3, 2016
Enclosure 3. SHPO Phase I Architectural Resource Reconnaissance Survey Concurrence Letters Dated August 4, 2017 and November 22, 2017
Figure 1. Proposed Spaceport Boundary and Infrastructure
Figure 2. Spaceport Camden Range of Launch Trajectories
Figure 3. Direct APE
Figure 4. Indirect APE
Table 1. Initial FAA Finding of Effect on Historic Properties of Proposed Spaceport Camden
Figure 5. Composite of LA,max Contours for an MCLV Launch at Spaceport Camden
Figure 6. Composite of LA,max Contours for an MCLV Landing at Spaceport Camden
Figure 7. LA,max Contours for an MCLV Static Fire Engine Test at Spaceport Camden
Figure 8. Composite of Lmax Contours for a MCLV Landing at Proposed Spaceport Camden
Figure 9. Composite of Lmax Contours for a MCLV Landing at Proposed Spaceport Camden
Figure 10. Lmax Contours for a MCLV Static Fire Engine Test at Proposed Spaceport Camden
Figure 11. Composite of Sonic Boom Peak Overpressure Contours for an MCLV Launch from Spaceport Camden
Figure 12. Composite of Sonic Boom Peak Overpressure Contours for an MCLV Landing at Spaceport Camden
Figure 13. Representative Visual Analysis Observation Points in the Area Surrounding Proposed Spaceport Camden

10

References Cited

Cultural Resource Analysts, Inc. (2017b). *Historic Resources Survey for the Proposed Camden Spaceport Project in Camden County, Georgia*. Leidos, for Federal Aviation Administration.

Cultural Resources Analysts, Inc. (2017a). *Phase 1 Archaeological Survey of the Proposed Spaceport Camden, Camden County, Georgia*. Leidos for FAA.

Federal Aviation Administration. (2018). *Spaceport Camden Draft Environmental Impact Statement.*

James, M., Salton, A., & Downing, M. (2017, January). *Launch Vehicle Noise Study for Spaceport Camden's Environmental impact Statement.* Technical Report, Blue Ridge Research and Consulting.

Enclosure 1. SHPO APE concurrence letter dated June 12, 2016

GEORGIA
DEPARTMENT OF NATURAL RESOURCES
HISTORIC PRESERVATION DIVISION

MARK WILLIAMS
COMMISSIONER

DR. DAVID CRASS
DIVISION DIRECTOR

June 12, 2016

Daniel Murray
Manager, Space Transportation Development Division
Office of Commercial and Space Transportation
Federal Aviation Administration
800 Independence Avenue, SW
Washington, DC 20591
Attn: Stacey Zee

RE: **Construct/Operate Commercial Space Launch Site, Spaceport Camden, Woodbine**
Camden County, Georgia
HP-151117-001

Dear Mr. Murray:

The Historic Preservation Division (HPD) has reviewed the information submitted concerning the above referenced project. Our comments are offered to assist the Federal Aviation Administration in complying with the provisions of Section 106 of the National Historic Preservation Act of 1966, as amended (NHPA).

Based on the information provided, HPD concurs with the area of potential effect (APE) determinations for the proposed project. Additionally, HPD concurs that the proposed methods for the archaeological Phase I survey are generally appropriate to identify archaeological resources within the direct APE. HPD recommends the following be taken into consideration for the Phase I survey:

- Depending on the specific depositional environment in the area, 80 centimeters below surface (cmbs) is not always an appropriate depth to terminate a shovel test on the coast. If artifacts are present near 80+cmbs, HPD suggests continuing shovel testing until either a) twenty (20) centimeters (cm) of sterile soil below artifacts has been reached or b) Hardpan or water table is reached. If either of these options is not feasible, and artifacts are still present within 20 cm of the termination of the shovel test, it may be appropriate to continue with a larger test unit in order to fully determine depth of deposits. HPD recommends consulting with our office to determine the best course of action should this situation occur.

- Particular areas, such as riverine and coastal environments, have a higher potential to contain sites that have been completely capped by depositional activity, and thus can result in a lack of surface expression. HPD recommends continuing the 30 meter interval or less shovel testing in these areas, as surface-only survey would not be considered sufficient.

- For slopes greater than ten (10) percent, HPD recommends that a pedestrian survey still be conducted in these areas.

- Although HPD concurs shovel testing within a cemetery would not be appropriate, subsurface probing is considered appropriate and recommended in order to confirm that

JEWETT CENTER FOR HISTORIC PRESERVATION
2610 GA HWY 155, SW | STOCKBRIDGE, GA 30281
770.389.7844 | FAX 770.389.7878 | WWW.GEORGIASHPO.ORG

12

there are no unmarked interments outside of any visual boundary and to fully delineate the cemetery boundary.

- All site boundaries should be delineated by two (2) consecutive negative shovel tests, obvious changes in topography, or documented and/or reasonable survey limitations (obstructions, severe disturbances, etc.).
- Field methods and report writing should also follow all National Park Service, Secretary of the Interior's Standards for professional qualifications, as well as site identification, evaluation, and documentation.

Furthermore, HPD concurs that the proposed methods for the architectural Phase I survey are generally appropriate to identify historic resources within the direct and indirect APE. HPD recommends the following be taken into consideration for the Phase I survey:

- Since all historic resources may not be visible from the public right of way, HPD recommends conducting additional background research on the county's tax assessor website or at the tax assessor offices.
- For information purposes only, HPD's records include county and city surveys, identified site files, environmental review files, National Register of Historic Places (NRHP) listed and pending files, and Centennial Farm files.
- Should a historic resources not be accessible, HPD recommends a NRHP determination of unknown and treating the resource as NRHP-eligible throughout the Section 106 process.
- The Phase I report should also include location history in order to place the identified historic resources within an historic context.

HPD looks forward to receive the Phase I reports and working with FAA as this project progresses. Please refer to project number **HP-151117-001** in any future correspondence regarding this project. If we may be of further assistance, please feel free to contact me at (770) 389-7851 or Jennifer.dixon@dnr.ga.gov.

Sincerely,

Jennifer Dixon, MHP, LEED Green Associate
Program Manager
Environmental Review & Preservation Planning

13

Enclosure 2. SHPO Phase I Archaeological Survey Concurrence Letter Dated April 3, 2016

GEORGIA
DEPARTMENT OF NATURAL RESOURCES
HISTORIC PRESERVATION DIVISION

MARK WILLIAMS
COMMISSIONER

DR. DAVID CRASS
DIVISION DIRECTOR

April 3, 2017

Daniel Murray
Manager, Space Transportation Development Division
Federal Aviation Administration
800 Independence Avenue, SW
Washington, DC 20591
Attn: Stacey Zee, Project Lead

RE: **Construct/Operate Commercial Space Launch Site, Spaceport Camden, Woodbine Camden County, Georgia**
HP-151117-001

Dear Mr. Murray:

The Historic Preservation Division (HPD) has reviewed the draft report entitled, *Phase I Archaeological Survey of the Proposed Spaceport Camden, Camden County, Georgia*, prepared by Cultural Resource Analysts, Inc. and dated February 15, 2017. Our comments are offered to assist the Federal Aviation Administration (FAA) in complying with the provisions of Section 106 of the National Historic Preservation Act (NHPA).

Based on the information contained in the report, HPD concurs that archaeological sites 9CM30, 9CM64, 9CM570, 9CM571 are unknown ("potentially eligible") for listing in the National Register of Historic Places (NRHP) under Criterion D. Additionally, HPD concurs with the boundary expansions for sites 9CM30 and 9CM64. Furthermore, HPD concurs with the recommendation to avoid of all four sites and that if avoidance is not possible, Phase II testing should occur to determine the sites' NRHP-eligibility.

Please refer to project number **HP-151117-001** in any future correspondence regarding this project. If we may be of further assistance, please do not hesitate to contact Jennifer Bedell, Archaeological Compliance Unit Manager, at Jennifer.bedell@dnr.ga.gov or (770) 389-7861 or me at jennifer.dixon@dnr.ga.gov or (770) 389-7851.

Sincerely,

Jennifer Dixon, MHP, LEED Green Associate
Program Manager
Environmental Review & Preservation Planning

JEWETT CENTER FOR HISTORIC PRESERVATION
2610 GA HWY 155, SW | STOCKBRIDGE, GA 30281
770.389.7844 | FAX 770.389.7878 | WWW.GEORGIASHPO.ORG

14

Enclosure 3. SHPO Phase I Architectural Resource Reconnaissance Survey Concurrence Letters Dated August 4 2017 and November 22, 2017

GEORGIA
DEPARTMENT OF NATURAL RESOURCES
HISTORIC PRESERVATION DIVISION

MARK WILLIAMS
COMMISSIONER

DR. DAVID CRASS
DIVISION DIRECTOR

August 4, 2017

Daniel Murray
Manager, Space Transportation Development Division
Federal Aviation Administration
800 Independence Avenue, SW
Washington DC 20591
Attn: Stacey Zee, Project Lead

RE: Construct/Operate Commercial Space Launch Site, Spaceport Camden, Woodbine
Camden County, Georgia
HP-151117-001

Dear Mr. Murray:

The Historic Preservation Division (HPD) has reviewed the revised draft report entitled, *Determinations of Eligibility Report for the Proposed Spaceport Camden Project in Camden County, Georgia,* prepared by Cultural Resource Analysts, Inc. and dated June 13, 2017. Our comments are offered to assist the Federal Aviation Administration (FAA) in complying with the provisions of Section 106 of the National Historic Preservation Act (NHPA).

Based on the information contained in the report, HPD concurs that Camden County, as a cultural landscape, is not eligible for listing in the National Register of Historic Places (NRHP). Additionally, HPD concurs that Cumberland Island, as a cultural landscape, Cabin Bluff historic district, and CM-CO 31 Bellevue (Anchor House; A), Charles Rinaldo Floyd Burial Site (B), and Floyd Family Cemetery (C) are eligible for listing in the NRHP. HPD also concurs that the NRHP-listed High Point-Half Moon Historic District and Main Road are within the proposed project's area of potential effect (APE). Furthermore, HPD concurs that Black Hammock Plantation district is unknown for listing in the NRHP and that resource 16 should be considered contributing to the NRHP-unknown district. Regarding the High Point-Half Moon Historic District, HPD concurs with the proposed expansion of the period of significance and that the district is also eligible under criterion D, which would appear to indicate that the North Cabin (E), Landing Strip (F), Hangar (G), and Cumberland Wharf (H) are now contributing to the expanded district.

However, regarding Cabin Bluff historic district, HPD finds the district to also be eligible under criteria A and C as a good and representative example of recreational facilities and their adaptation and development consistent with recreational trends throughout the United States. As such, HPD recommends expanding the period of significance to include the 1970s, expanding the boundaries, and including the picnic area (O), tennis court and gazebo (T), and golf course (U) as contributing resources.

Regarding CM-CO 31, HPD finds that the Charles Rinaldo Floyd Burial Site (B) and Floyd Family Cemetery (C) are also eligible under criterion C as good and representative examples of the family cemetery type displaying character-defining features such as box tombs, obelisks, and iron gates and masonry walls. Additionally, HPD is unable to concur that the 1960s-era Thiokol Chemical Company portion of CM-CO 31 is not eligible for listing in the NRHP without additional information. HPD requests detailed information regarding the types, numbers, and locations of structures that are no longer present.

Furthermore, HPD is unable concur with the NRHP-eligibility determination for the Dover Bluff Club. Based on the minimal information provided, it is HPD's opinion that the development displays coastal iterations of house types with character defining features such as screen porches, type-specific layouts, and orientation towards the water providing an integration of indoor and outdoor space. Additionally, HPD would like to note

JEWETT CENTER FOR HISTORIC PRESERVATION
2610 GA HWY 155, SW | STOCKBRIDGE, GA 30281
770.389.7844 | FAX 770.389.7878 | WWW.GEORGIASHPO.ORG

15

that a resource does not have to be exceptional or extraordinary to be a good and representative example nor is a house type required to display a style in order to be significant. Therefore, HPD finds that the Dover Bluff Club is eligible for listing in the NRHP under criterion C for architecture as a good and representative example of coastal versions of Bungalow, Ranch, and other vernacular house types.

HPD looks forward to receiving the requested information and working with the FAA as this project progresses. HPD recommends including within the subsequent submittal, documentation and images to support the claim that resources 15, 18, and 20 are no longer extant.

Please refer to project number **HP-151117-001** in any future correspondence regarding this project. If we may be of further assistance, please do not hesitate to contact me at jennifer.dixon@dnr.ga.gov or (770) 389-7851.

Sincerely,

Jennifer Dixon, MHP, LEED Green Associate
Program Manager
Environmental Review & Preservation Planning

Cc: Lupita McClenning, Coastal Georgia Regional Commission

16

GEORGIA
DEPARTMENT OF NATURAL RESOURCES
HISTORIC PRESERVATION DIVISION

MARK WILLIAMS
COMMISSIONER

DR. DAVID CRASS
DIVISION DIRECTOR

November 22, 2017

Daniel Murray
Manager, Space Transportation Development Division
Federal Aviation Administration
800 Independence Avenue SW
Washington DC 20591
Attn: Stacey Zee, FAA Project Lead

RE: **Construct/Operate Commercial Space Launch Site, Spaceport Camden, Woodbine Camden County, Georgia**
HP-151117-001

Dear Mr. Murray:

The Historic Preservation Division (HPD) has reviewed the draft report entitled, *Addendum to Determinations of Eligibility Report for the Proposed Spaceport Camden Project in Camden County, Georgia*, prepared by Cultural Resource Analysts, Inc. and dated October 19, 2017. Our comments are offered to assist the Federal Aviation Administration (FAA) in complying with the provisions of Section 106 of the National Historic Preservation Act (NHPA).

Based on the additional information contained in the addendum report and information contained in the initial report (June 13, 2017), HPD concurs that the Thiokol Chemical Plant Site and continues to concur that Camden County, as a cultural landscape, are not eligible for listing in the National Register of Historic Places (NRHP). Additionally, HPD continues to concur that Bellevue/Anchor House, Charles Rinaldo Burial Site, Floyd Family Cemetery, Cabin Bluff Cumberland River Retreat historic district, Dover Bluff Club historic district, Cumberland Island as a cultural landscape, and resource 16 are eligible for listing in the NRHP and within the proposed project's area of potential effect (APE). Furthermore, HPD continues to concur that the NRHP-listed High Point-Half Moon Bluff Historic District and Main Road are within the proposed project's APE.

HPD looks forward to receiving an assessment of effects report for the above noted NRHP-eligible and listed resources, once available, and working with the FAA as this project progresses. Please refer to project number **HP-151117-001** in any future correspondence regarding this project. If we may be of further assistance, please do not hesitate to contact me at jennifer.dixon@dnr.ga.gov or (770) 389-7851.

Sincerely,

Jennifer Dixon, MHP, LEED Green Associate
Program Manager
Environmental Review & Preservation Planning

Cc: Lupita McClenning, Coastal Georgia Regional Commission

JEWETT CENTER FOR HISTORIC PRESERVATION
2610 GA HWY 155, SW | STOCKBRIDGE, GA 30281
770.389.7844 | FAX 770.389.7878 | WWW.GEORGIASHPO.ORG

17

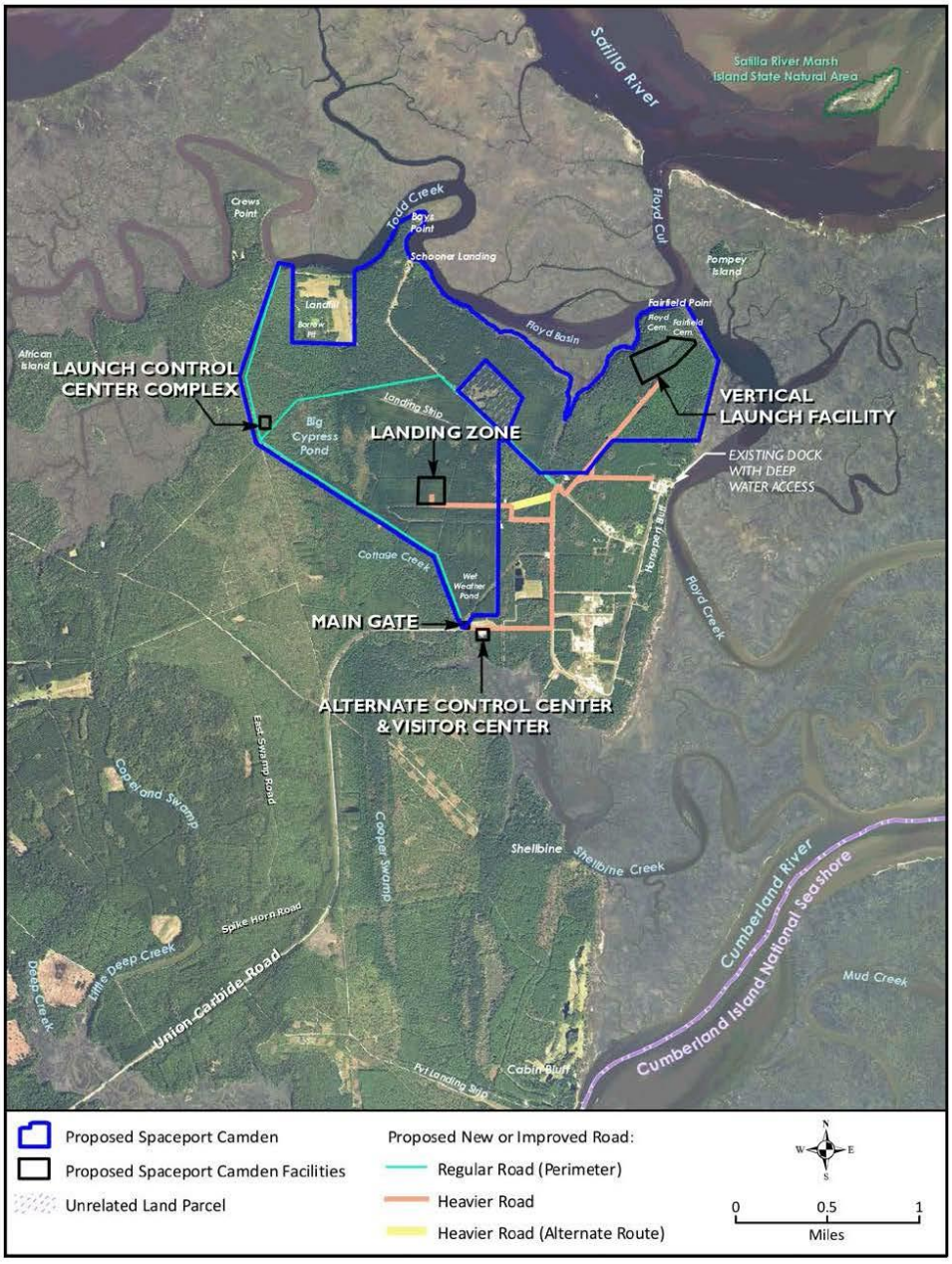


FIGURE 1. PROPOSED SPACEPORT BOUNDARY AND INFRASTRUCTURE

18

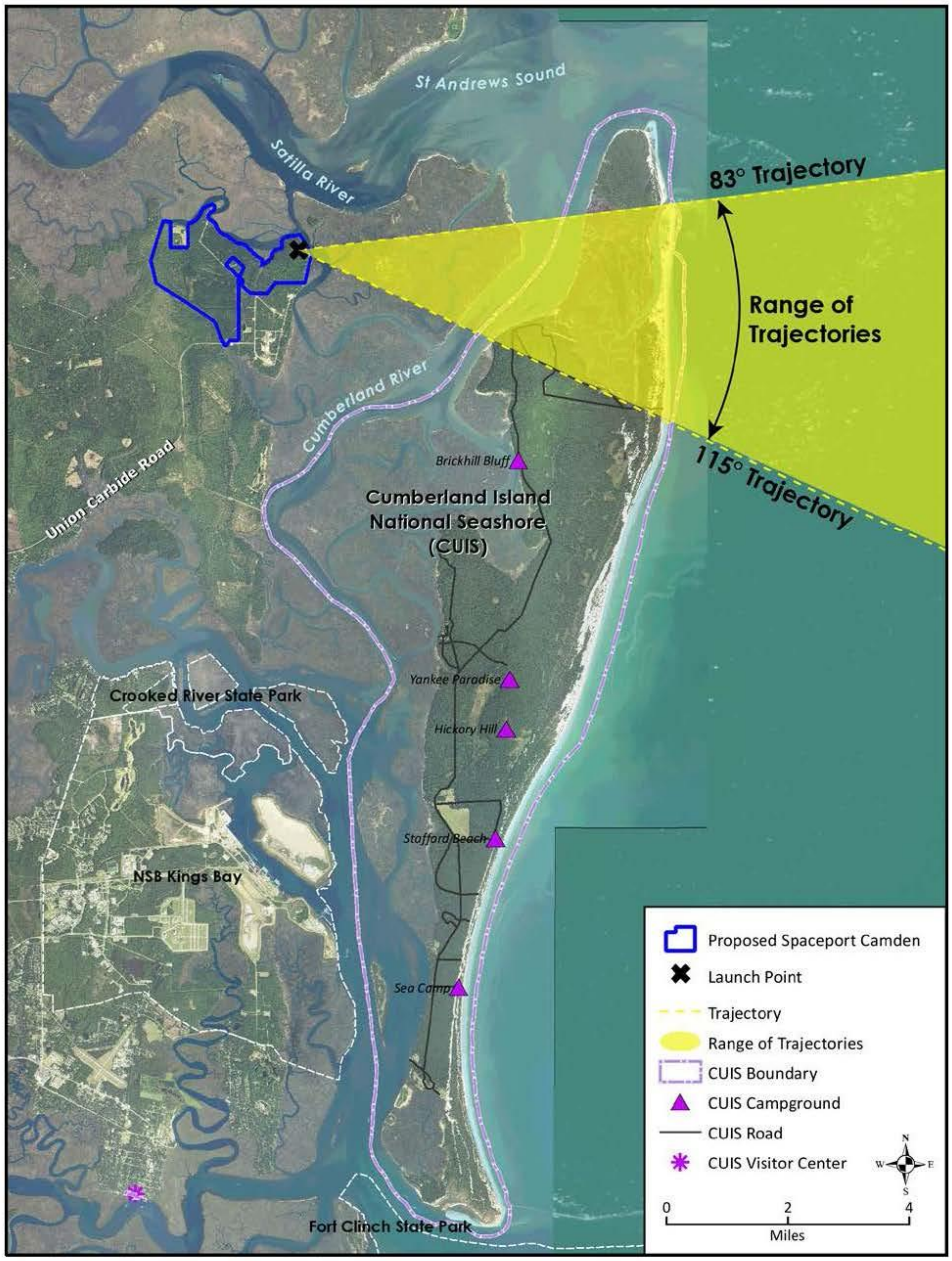


FIGURE 2. SPACEPORT CAMDEN RANGE OF LAUNCH TRAJECTORIES

19

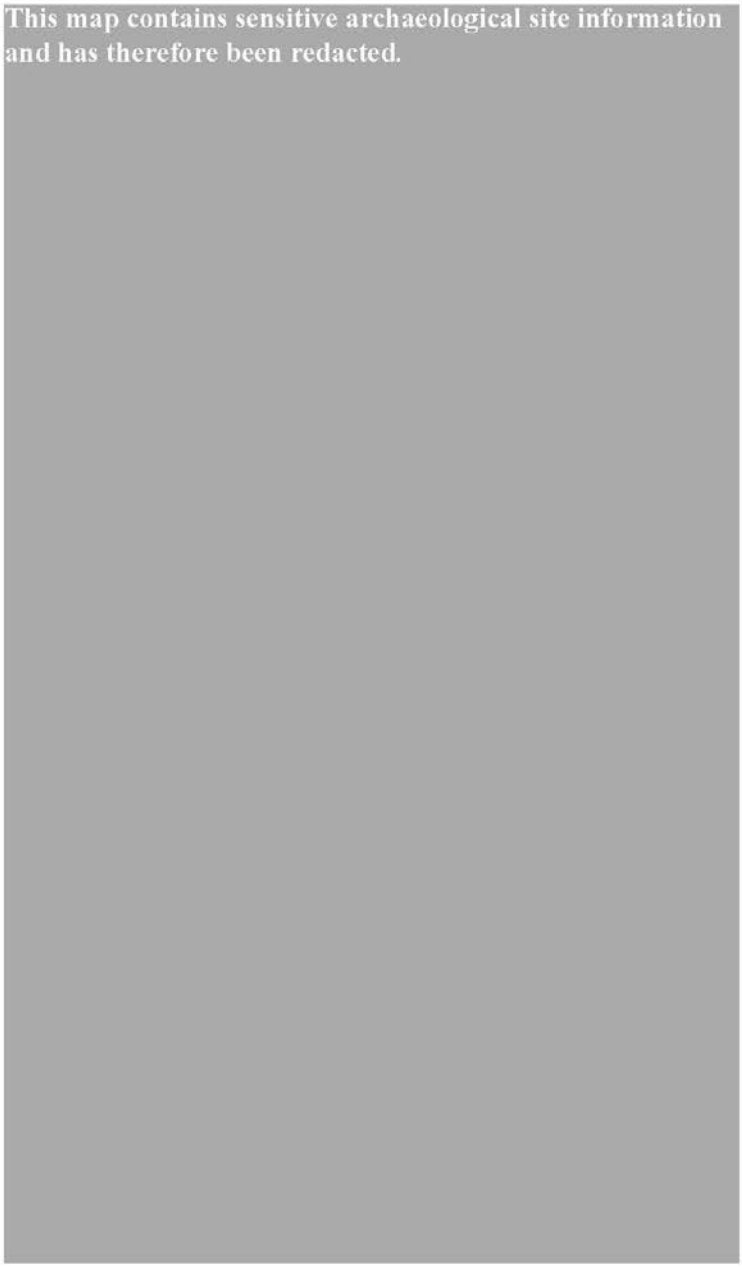


Figure 3. Direct APE (as provided in Archaeology Survey Report – 15 February 2017)

20

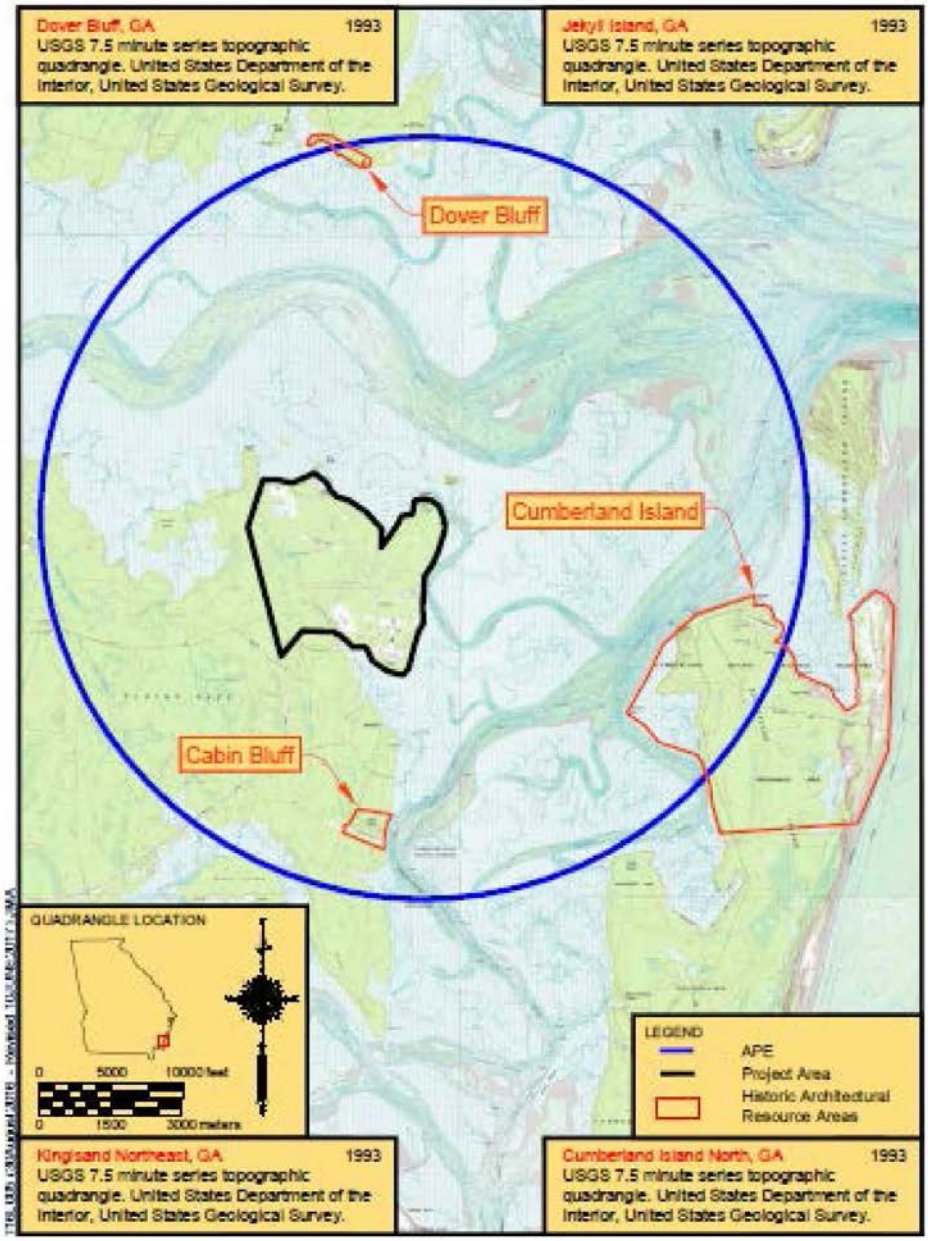


Figure 4. Indirect APE (as provided in Historic Property Survey Report – 13 June 2017)

21

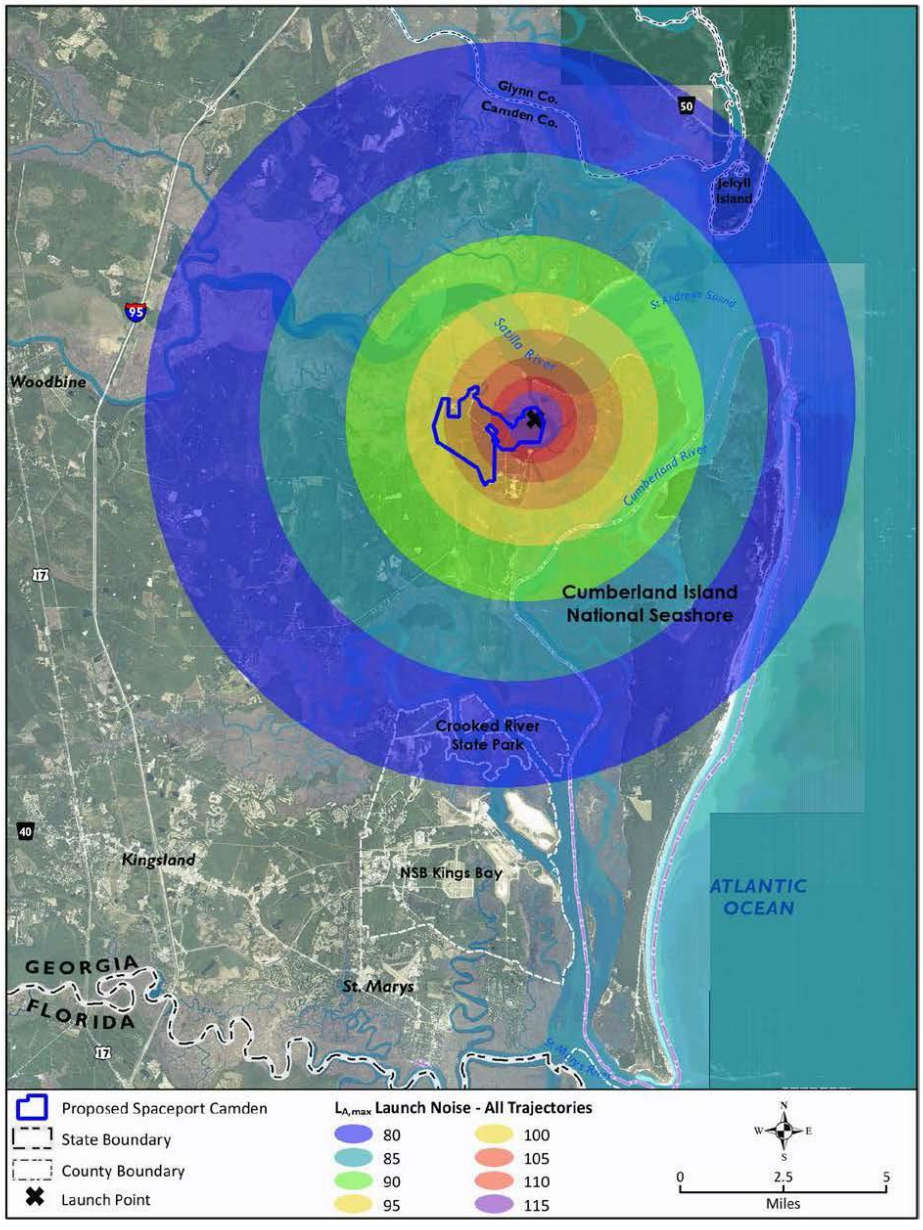


FIGURE 5. COMPOSITE OF $L_{A,max}$ CONTOURS FOR AN MCLV LAUNCH AT SPACEPORT CAMDEN

22

TABLE 1. INITIAL FAA FINDING OF EFFECT ON HISTORIC PROPERTIES OF PROPOSED SPACEPORT CAMDEN

Resource Number	Resource Description	NRHP Eligibility	Location in APE	Findings of Effect	Potential Source of Effect
Historic Properties in the APE for Direct Effects: Construction Areas					
9CM30	Shell scatter & pottery, pre-contact	Potentially eligible, Criterion D	Vertical Launch Facility	If eligible, adverse effect[1]	Construction: Ground disturbance
9CM64	Shell midden & pottery, Mississippian	Potentially eligible, Criterion D	Vertical Launch Facility	If eligible, adverse effect[1]	Construction: Ground disturbance
9CM570	Shell midden & pottery, Woodland	Potentially eligible, Criterion D	Vertical Launch Facility	If eligible, adverse effect[1]	Construction: Ground disturbance
9CM571	Shell midden & pottery, Woodland	Potentially eligible, Criterion D	Vertical Launch Facility	If eligible, adverse effect[1]	Construction: Ground disturbance
Historic Properties in the APE for Direct and Audible and Visual Effects: Proposed Spaceport Camden Boundary					
9CM24	Shell scatter, Late Archaic - Mississippian	Potentially eligible, Criterion D	Outside of construction area, within proposed Spaceport Camden boundary	No effect	n/a
9CM25	Shell midden, Woodland, Mississippian	Potentially eligible, Criterion D	Outside of construction area, within proposed Spaceport Camden boundary	No effect	n/a
9CM26	Shell mounds, Woodland	Potentially eligible, Criterion D	Outside of construction area, within proposed Spaceport Camden boundary	No effect	n/a
CM-CO 31	Floyd's Fairfield & Bellevue Plantations, c. 1804-c. 1877	Eligible, Criteria B, C & D Criteria Consideration C & D	Outside of construction area, within proposed Spaceport Camden boundary	No adverse effect	Operation: Vibration, noise Construction: visual

23

TABLE 1. INITIAL FAA FINDING OF EFFECT ON HISTORIC PROPERTIES OF PROPOSED SPACEPORT CAMDEN

Resource Number	Resource Description	NRHP Eligibility	Location in APE	Findings of Effect	Potential Source of Effect
CM-CO 31, Resource A	Anchor House ruins, early 19th century	Eligible, Criterion C	Outside of construction area, within proposed Spaceport Camden boundary	No adverse effect	Operation: Vibration, noise Construction: visual
CM-CO 31, Resource B	Charles Rinaldo Floyd Burial Site, 1845	Eligible, Criteria B & C, Criteria Consideration C	Outside of construction area, within proposed Spaceport Camden boundary	No adverse effect	Operation: Vibration, noise Construction: visual
CM-CO 31, Resource C	Floyd Family Cemetery, early to mid-19th century	Eligible, Criteria A & C, Criteria Consideration D	Outside of construction area, within proposed Spaceport Camden boundary	No adverse effect	Operation: Vibration, noise Construction: visual
Historic Properties in the APE for Indirect Audible and Visual Effects: 5-mile Radius					
[No number for historic district]	Dover Bluff Club Historic District (DBC HD)	Eligible HD, Criterion C	Dover Bluff	No adverse effect	Operation: Vibration, noise
CRA #1	Linear Ranch, 1960	Contributing to DBC HD, Criterion C	Dover Bluff	No adverse effect	Operation: Vibration, noise
CM-DB 9	Southern Bungalow, c. 1930	Contributing to DBC HD, Criterion C	Dover Bluff	No adverse effect	Operation: Vibration, noise
CM-DB 10	Single-story, hip-roof residence, c. 1890	Contributing to DBC HD, Criterion C	Dover Bluff	No adverse effect	Operation: Vibration, noise
CM-DB 11	Single-story, front-gable residence, c. 1940-1950	Contributing to DBC HD, Criterion C	Dover Bluff	No adverse effect	Operation: Vibration, noise
CRA #2	One-and-one-half-story, side-gable residence. 1967	Contributing to DBC HD, Criterion C	Dover Bluff	No adverse effect	Operation: Vibration, noise

24

TABLE 1. INITIAL FAA FINDING OF EFFECT ON HISTORIC PROPERTIES OF PROPOSED SPACEPORT CAMDEN

Resource Number	Resource Description	NRHP Eligibility	Location in APE	Findings of Effect	Potential Source of Effect
CRA #3	Linear Ranch, 1971	Contributing to DBC HD, Criterion C	Dover Bluff	No adverse effect	Operation: Vibration, noise
CM-DB 12	Southern Bungalow, c. 1940	Contributing to DBC HD, Criterion C	Dover Bluff	No adverse effect	Operation: Vibration, noise
CRA #4	Single-story, front-gable residence, 1950	Contributing to DBC HD, Criterion C	Dover Bluff	No adverse effect	Operation: Vibration, noise
CRA #5	Single-story, front-gable residence, 1950	Contributing to DBC HD, Criterion C	Dover Bluff	No adverse effect	Operation: Vibration, noise
CRA #6	Compact Ranch, 1970	Contributing to DBC HD, Criterion C	Dover Bluff	No adverse effect	Operation: Vibration, noise
CM-DB 13	Southern Bungalow, c. 1900-1918	Contributing to DBC HD, Criterion C	Dover Bluff	No adverse effect	Operation: Vibration, noise
CRA #7	Single-story, front-gable residence, c. 1938-1961	Contributing to DBC HD, Criterion C	Dover Bluff	No adverse effect	Operation: Vibration, noise
CM-DB 14	Single-story, front-gable residence, c. 1944	Contributing to DBC HD, Criterion C	Dover Bluff	No adverse effect	Operation: Vibration, noise
CRA #8	Single-story, front-gable residence, c. 1938	Contributing to DBC HD, Criterion C	Dover Bluff	No adverse effect	Operation: Vibration, noise
CRA #9	Compact Ranch, 1960	Contributing to DBC HD, Criterion C	Dover Bluff	No adverse effect	Operation: Vibration, noise
CM-DB 16	Southern Bungalow, c. 1940	Contributing to DBC HD, Criterion C	Dover Bluff	No adverse effect	Operation: Vibration, noise

25

TABLE 1. INITIAL FAA FINDING OF EFFECT ON HISTORIC PROPERTIES OF PROPOSED SPACEPORT CAMDEN

Resource Number	Resource Description	NRHP Eligibility	Location in APE	Findings of Effect	Potential Source of Effect
CM-DB 17	Single-story, front-gable residence, c. 1940	Contributing to DBC HD, Criterion C	Dover Bluff	No adverse effect	Operation: Vibration, noise
CRA #10	Linear Ranch, 1953	Contributing to DBC HD, Criterion C	Dover Bluff	No adverse effect	Operation: Vibration, noise
CRA #11	Compact Ranch, 1973	Contributing to DBC HD, Criterion C	Dover Bluff	No adverse effect	Operation: Vibration, noise
CRA #12	Single-story, front-gable residence, 1936	Contributing to DBC HD, Criterion C	Dover Bluff	No adverse effect	Operation: Vibration, noise
CM-DB 19	Single-story, front-gable residence, c. 1936-1939	Contributing to DBC HD, Criterion C	Dover Bluff	No adverse effect	Operation: Vibration, noise
CRA #13	Single-story, side-gable secondary residence, 1970	Contributing to DBC HD, Criterion C	Dover Bluff	No adverse effect	Operation: Vibration, noise
CRA #14	Single-story, side-gable residence, c. 1900-1915	Contributing to DBC HD, Criterion C	Dover Bluff	No adverse effect	Operation: Vibration, noise
CRA #16	Tabby Ruins	Contributing to Black Hammock Plantation (outside APE, of unknown NRHP eligibility), Criteria A & D	Dover Bluff	No adverse effect	Operation: Vibration, noise
CRA #15	Cabin Bluff Cumberland River Retreat HD	Eligible, Criteria A & C	Cabin Bluff	No adverse effect	Operation: Vibration, noise

26

TABLE 1. INITIAL FAA FINDING OF EFFECT ON HISTORIC PROPERTIES OF PROPOSED SPACEPORT CAMDEN

Resource Number	Resource Description	NRHP Eligibility	Location in APE	Findings of Effect	Potential Source of Effect
	(CBCRR HD), c. 1920s-1930s				
CRA #15, Resource A	Main lodge, 1928	Contributing to CBCRR HD, Criteria A & C	Cabin Bluff	No adverse effect	Operation: Vibration, noise
CRA #15, Resource B	Cabin Bluff Outfitters, c. late 1920s-early 1930s	Contributing to CBCRR HD, Criteria A & C	Cabin Bluff	No adverse effect	Operation: Vibration, noise
CRA #15, Resource C	Cabin c. late 1920s-early 1930s	Contributing to CBCRR HD, Eligible, Criteria A & C	Cabin Bluff	No adverse effect	Operation: Vibration, noise
CRA #15, Resource D	New Hope Cabin c. late 1920s-early 1930s	Contributing to CBCRR HD, Eligible, Criteria A & C	Cabin Bluff	No adverse effect	Operation: Vibration, noise
CRA #15, Resource E	Pine Tree Cabin c. late 1920s-early 1930s	Contributing to CBCRR HD, Eligible, Criteria A & C	Cabin Bluff	No adverse effect	Operation: Vibration, noise
CRA #15, Resource F	Heritage Cabin c. late 1920s-early 1930s	Contributing to CBCRR HD, Eligible, Criteria A & C	Cabin Bluff	No adverse effect	Operation: Vibration, noise
CRA #15, Resource G	Shellbine Cabin c. late 1920s-early 1930s	Contributing to CBCRR HD, Eligible, Criteria A & C	Cabin Bluff	No adverse effect	Operation: Vibration, noise
CRA #15, Resource H	Cumberland Cabin c. late 1920s-early 1930s	Contributing to CBCRR HD, Eligible, Criteria A & C	Cabin Bluff	No adverse effect	Operation: Vibration, noise
CRA #15, Resource I	Coolidge Tavern c. late 1920s-early 1930s	Contributing to CBCRR HD, Eligible, Criteria A & C	Cabin Bluff	No adverse effect	Operation: Vibration, noise

27

TABLE 1. INITIAL FAA FINDING OF EFFECT ON HISTORIC PROPERTIES OF PROPOSED SPACEPORT CAMDEN

Resource Number	Resource Description	NRHP Eligibility	Location in APE	Findings of Effect	Potential Source of Effect
CRA #15, Resource N	Bocce Ball Court, c. late 1920s-early 1930s	Contributing to CBCRR HD, Eligible, Criteria A & C	Cabin Bluff	No adverse effect	Operation: Vibration, noise
CRA #15, Resource O	Picnic Area, c. 1960s-2000	Contributing to CBCRR HD, Eligible, Criteria A & C	Cabin Bluff	No adverse effect	Operation: Vibration, noise
CRA #15, Resource P	Floyd Cabin, c. late 1920s-early 1930s	Contributing to CBCRR HD, Eligible, Criteria A & C	Cabin Bluff	No adverse effect	Operation: Vibration, noise
CRA #15, Resource Q	Wharf/Boat House, c. 1990s	Contributing to CBCRR HD, Eligible, Criteria A & C	Cabin Bluff	No adverse effect	Operation: Vibration, noise
CRA #15, Resource T	Tennis Court and Gazebo, c. 1960-1980	Contributing to CBCRR HD, Eligible, Criteria A & C	Cabin Bluff	No adverse effect	Operation: Vibration, noise
CRA #15, Resource U	Golf Course, c. 1960-1980	Contributing to CBCRR HD, Eligible, Criteria A & C	Cabin Bluff	No adverse effect	Operation: Vibration, noise
CRA #15, Resource X	Landing Strip, c. 1930s-1958	Contributing to CBCRR HD, Eligible, Criteria A & C	Cabin Bluff	No adverse effect	Operation: Vibration, noise
#78000265	High Point-Half Moon Bluff Historic District (HP-HMB), c. 1700-mid-20th century	Listed as HP-HMB HD, Criteria A & D	CUIS: High Point-Half Moon Bluff Historic District (HD)	No adverse effect	Operation: Vibration, noise, visual
#78000265, Resource A	First African Baptist Church, 1937	Contributing to HP-HMB HD, Criterion A	CUIS: Half Moon Bluff	No adverse effect	Operation: Vibration, noise, visual

28

TABLE 1. INITIAL FAA FINDING OF EFFECT ON HISTORIC PROPERTIES OF PROPOSED SPACEPORT CAMDEN

Resource Number	Resource Description	NRHP Eligibility	Location in APE	Findings of Effect	Potential Source of Effect
#78000265, Resource B	Rischarde Red Barn, c. 1935-1945	Contributing to HP-HMB HD, Criterion A	CUIS: Half Moon Bluff	No adverse effect	Operation: Vibration, noise, visual
#78000265, Resource C	Alberty House, c. 1935-1945	Contributing to HP-HMB HD, Criterion A	CUIS: Half Moon Bluff	No adverse effect	Operation: Vibration, noise, visual
#78000265, Resource D	Trimmings House, c. 1935-1945	Contributing to HP-HMB HD, Criterion A	CUIS: Half Moon Bluff	No adverse effect	Operation: Vibration, noise, visual
#78000265, Resource E	North Cabin, late 1970s	Contributing to HD, criterion D	CUIS: Half Moon Bluff	No effect	n/a
#78000265, Resource F	Landing Strip, c. 1958-1979	Contributing to HD, criterion D	CUIS: Half Moon Bluff	No effect	n/a
#78000265, Resource G	Hangar, c. 1958-1979	Contributing to HD, criterion D	CUIS: Half Moon Bluff	No effect	n/a
#78000265, Resource H	Cumberland Wharf, c. 1880	Contributing to HD, criterion D	CUIS: Half Moon Bluff	No effect	n/a
#78000265, Resource I	Cemeteries, c. 1880	Contributing to HP-HMB HD, Criterion A	CUIS: Half Moon Bluff	No adverse effect	Operation: Noise, visual
#78000265, Resource J	High Point Road, c. 1880	Contributing to HP-HMB HD, Criterion A	CUIS: Half Moon Bluff to High Point	No adverse effect	Operation: Noise, visual
#84000941	Main Road, c. 1800-1870	Listed individually (no HD), Criterion A	North end of CUIS	No adverse effect	Operation: Visual
[no number]	Cumberland Island Cultural Historic Landscape	Eligible as Historic Landscape (no HD), Criteria A, B, C, & D	CUIS	No adverse effect	Operation: Noise, visual

29

TABLE 1. INITIAL FAA FINDING OF EFFECT ON HISTORIC PROPERTIES OF PROPOSED SPACEPORT CAMDEN

Resource Number	Resource Description	NRHP Eligibility	Location in APE	Findings of Effect	Potential Source of Effect

Resource data and NRHP eligibility determinations based on the results of the two identification efforts: *Phase 1 Archaeological Survey of the Proposed Spaceport Camden, Camden County, Georgia* (Cultural Resource Analysts, Inc. [CRA] 2017a) and *Historic Resources Survey for the Proposed Camden Spaceport Project in Camden County, Georgia* (CRA 2017b, and including a 2017 addendum).

Notes:

1: If project design cannot avoid this resource, then further investigations will determine if it is eligible for listing on the NRHP; if eligible then there will be an adverse effect on historic properties.

2: Abbreviations: CBCRR = Cabin Bluff Cumberland River Retreat; CUIS = Cumberland Island National Seashore; c. = circa; DBC = Dover Bluff Club; HD = historic district; HP-HMB = High Point-Half Moon Bluff; n/a = not applicable; NRHP = National Register of Historic Places.

30

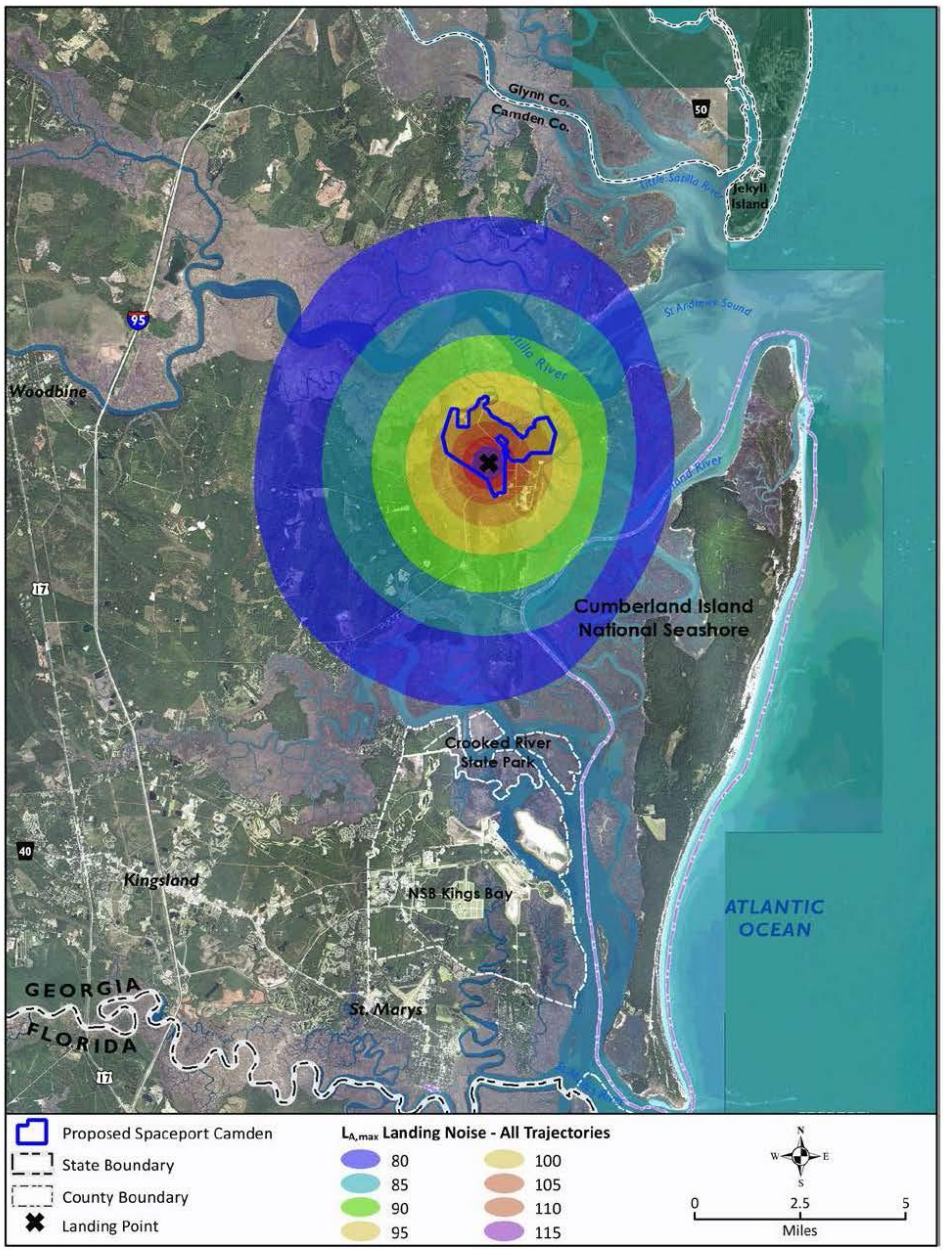


FIGURE 6. COMPOSITE OF $L_{A,MAX}$ CONTOURS FOR AN MCLV LANDING AT SPACEPORT CAMDEN

31

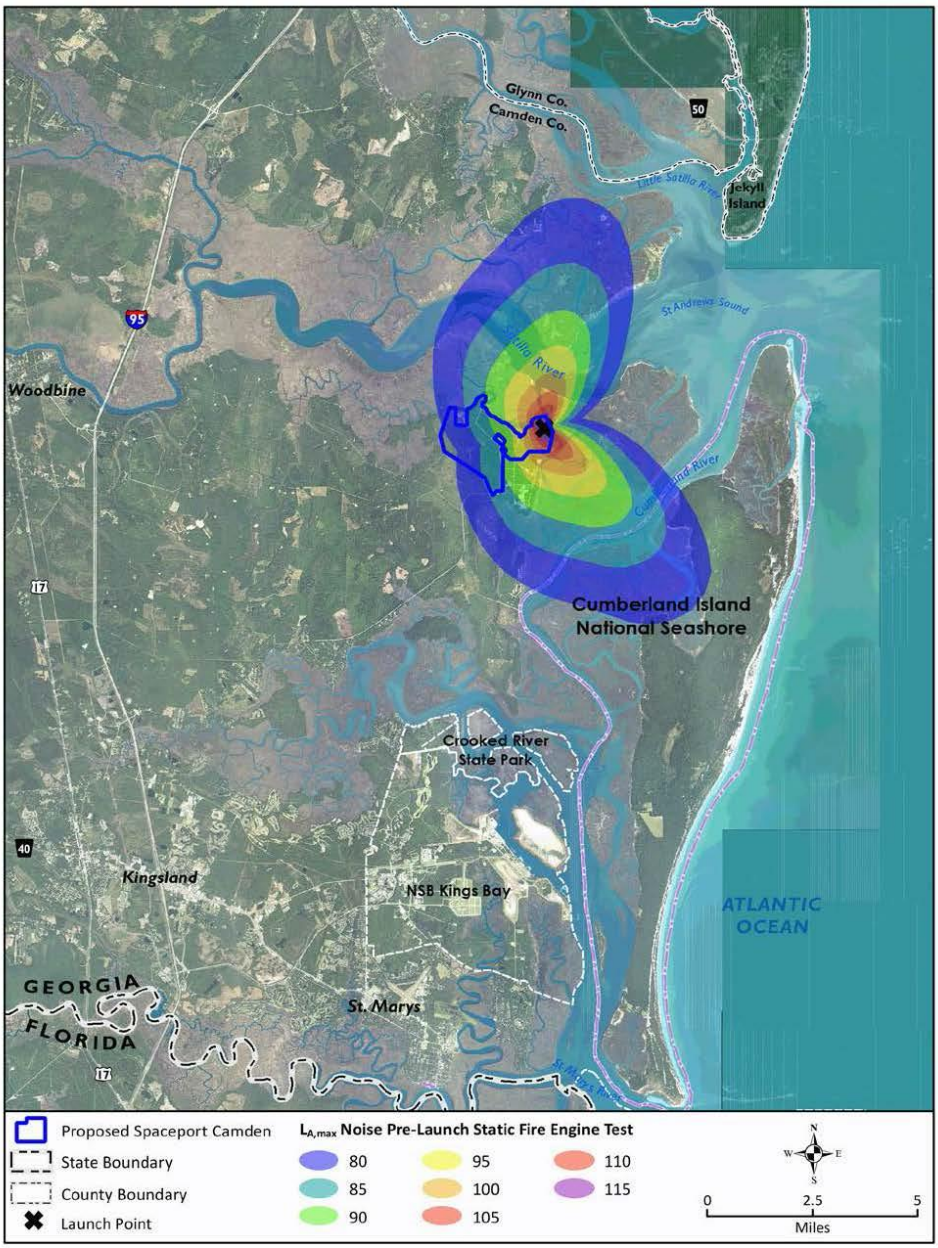


FIGURE 7. $L_{A,MAX}$ CONTOURS FOR AN MCLV STATIC FIRE ENGINE TEST AT SPACEPORT CAMDEN

32

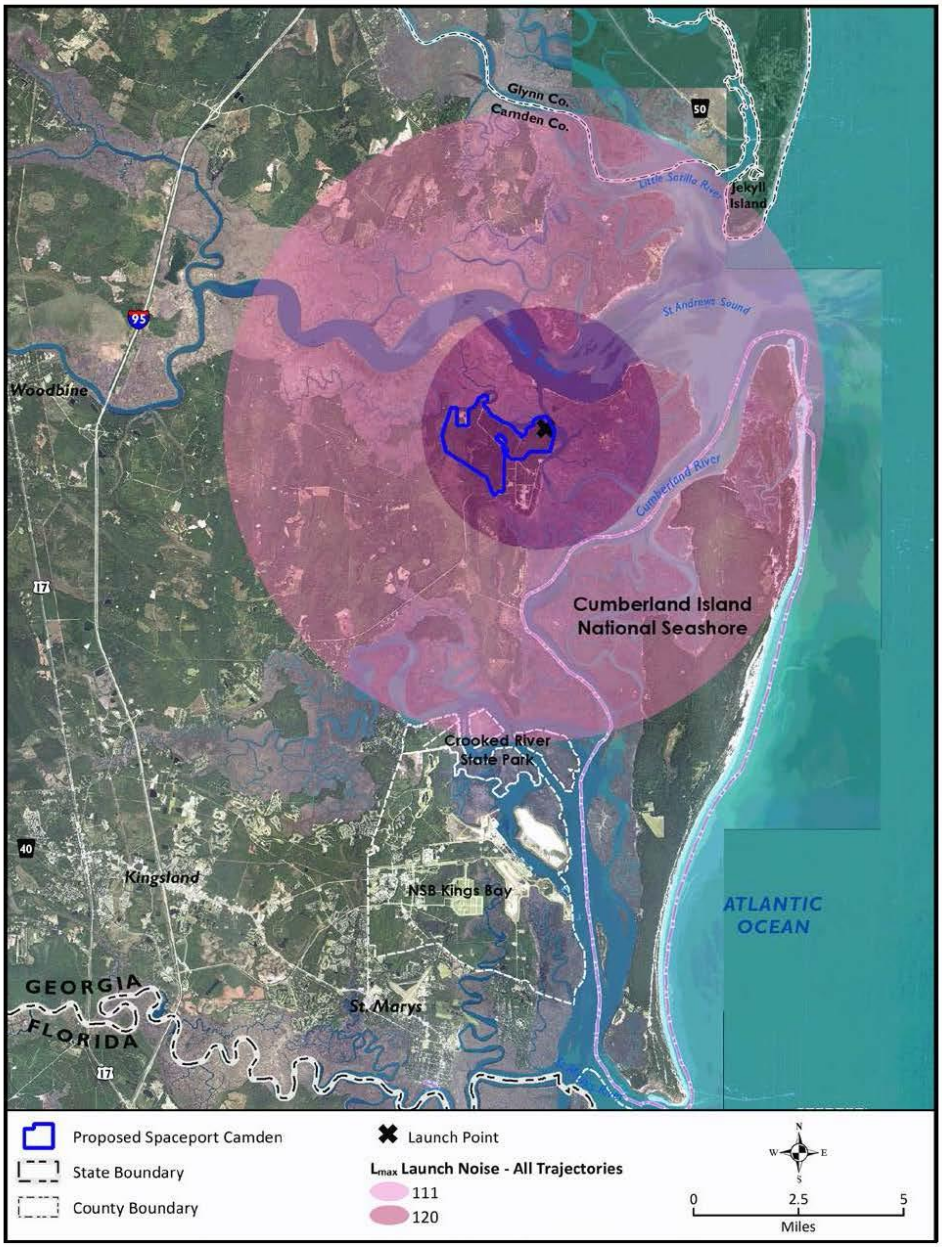


FIGURE 8. COMPOSITE OF LMAX CONTOURS FOR A MCLV LAUNCH AT PROPOSED SPACEPORT CAMDEN

33

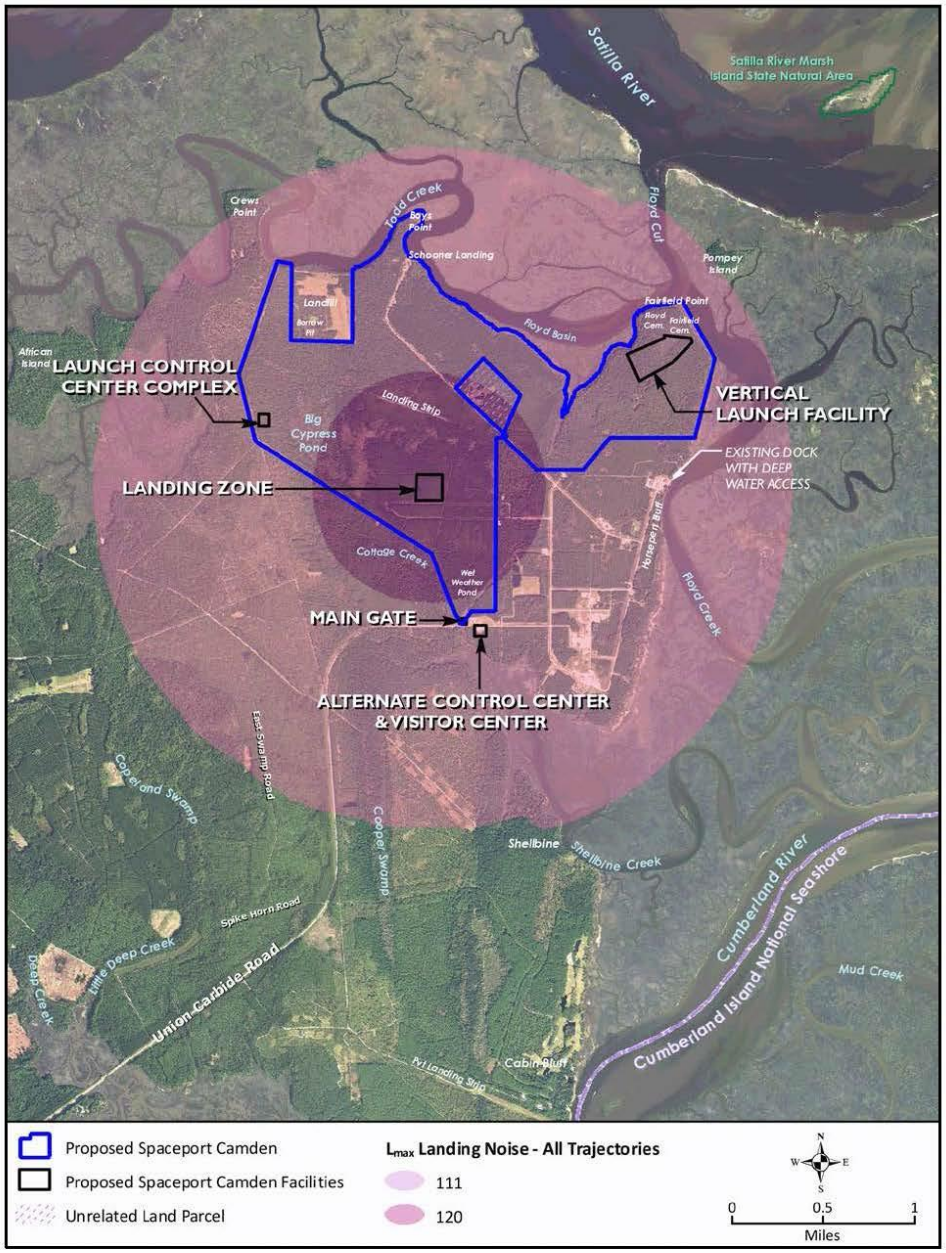


FIGURE 9. COMPOSITE OF LMAX CONTOURS FOR A MCLV LANDING AT PROPOSED SPACEPORT CAMDEN

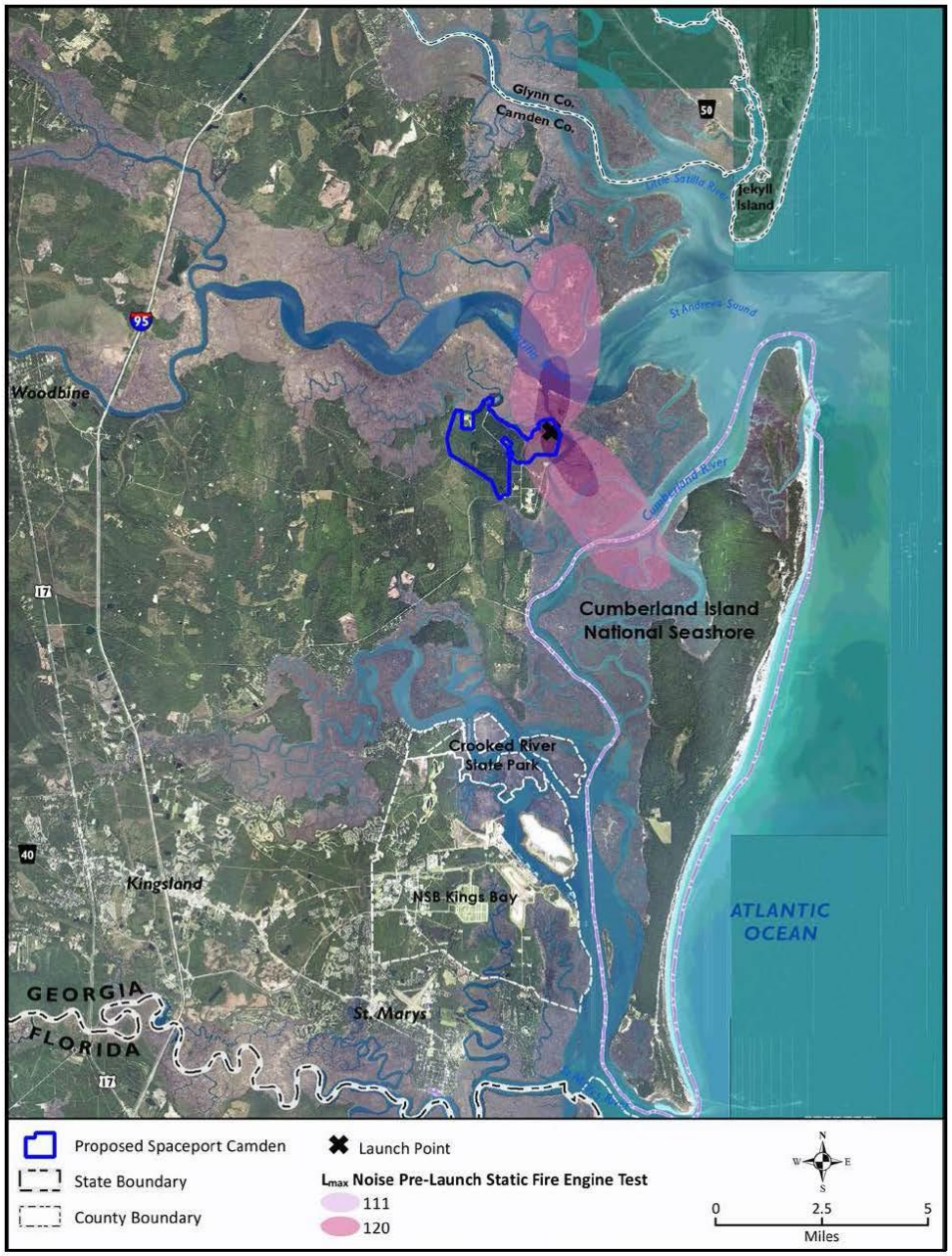


FIGURE 10. LMAX CONTOURS FOR A MCLV STATIC FIRE ENGINE TEST AT PROPOSED SPACEPORT CAMDEN

35

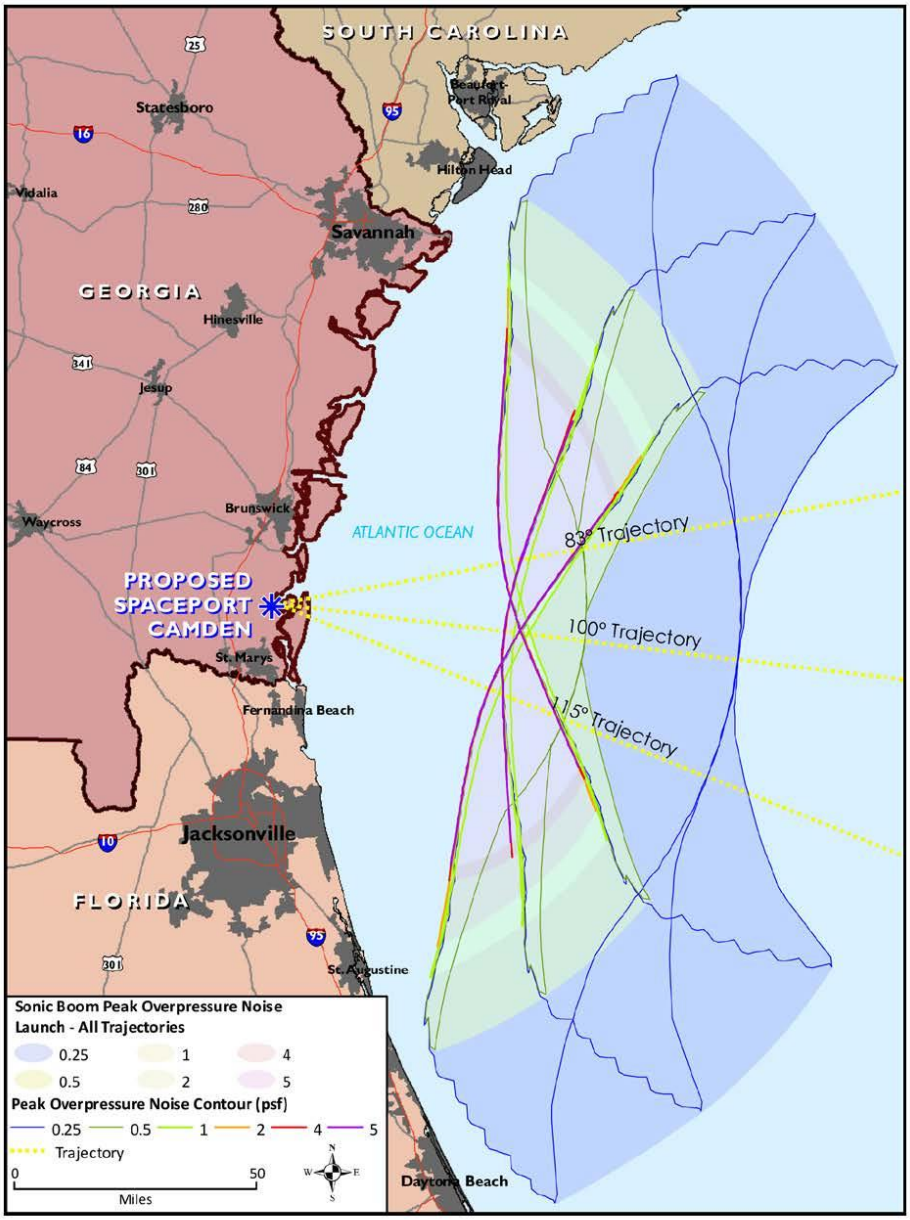


FIGURE 11. COMPOSITE OF SONIC BOOM PEAK OVERPRESSURE CONTOURS FOR AN MCLV LAUNCH FROM SPACEPORT CAMDEN

36

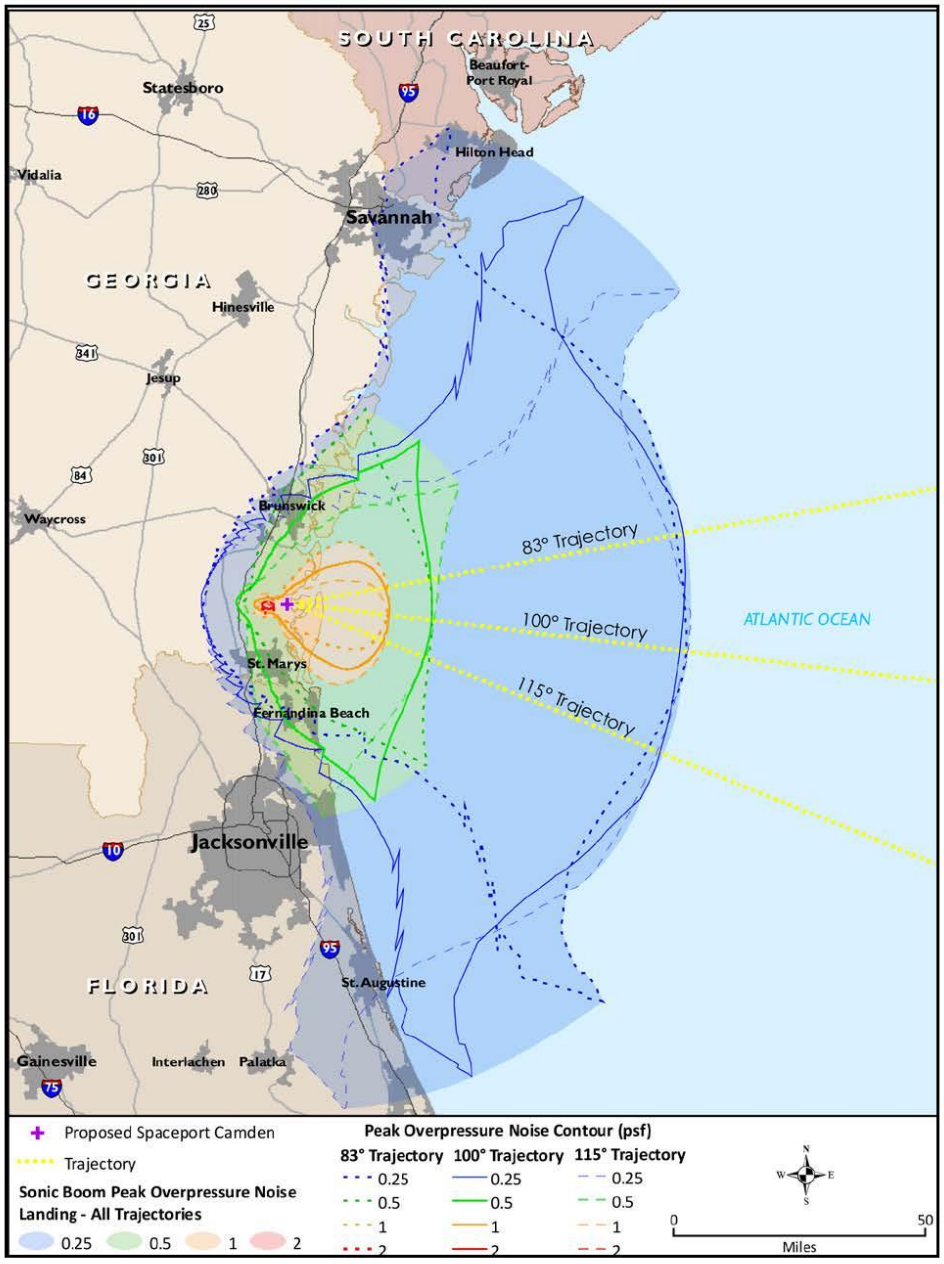


FIGURE 12. COMPOSITE OF SONIC BOOM PEAK OVERPRESSURE CONTOURS FOR AN MCLV LANDING AT SPACEPORT CAMDEN

37

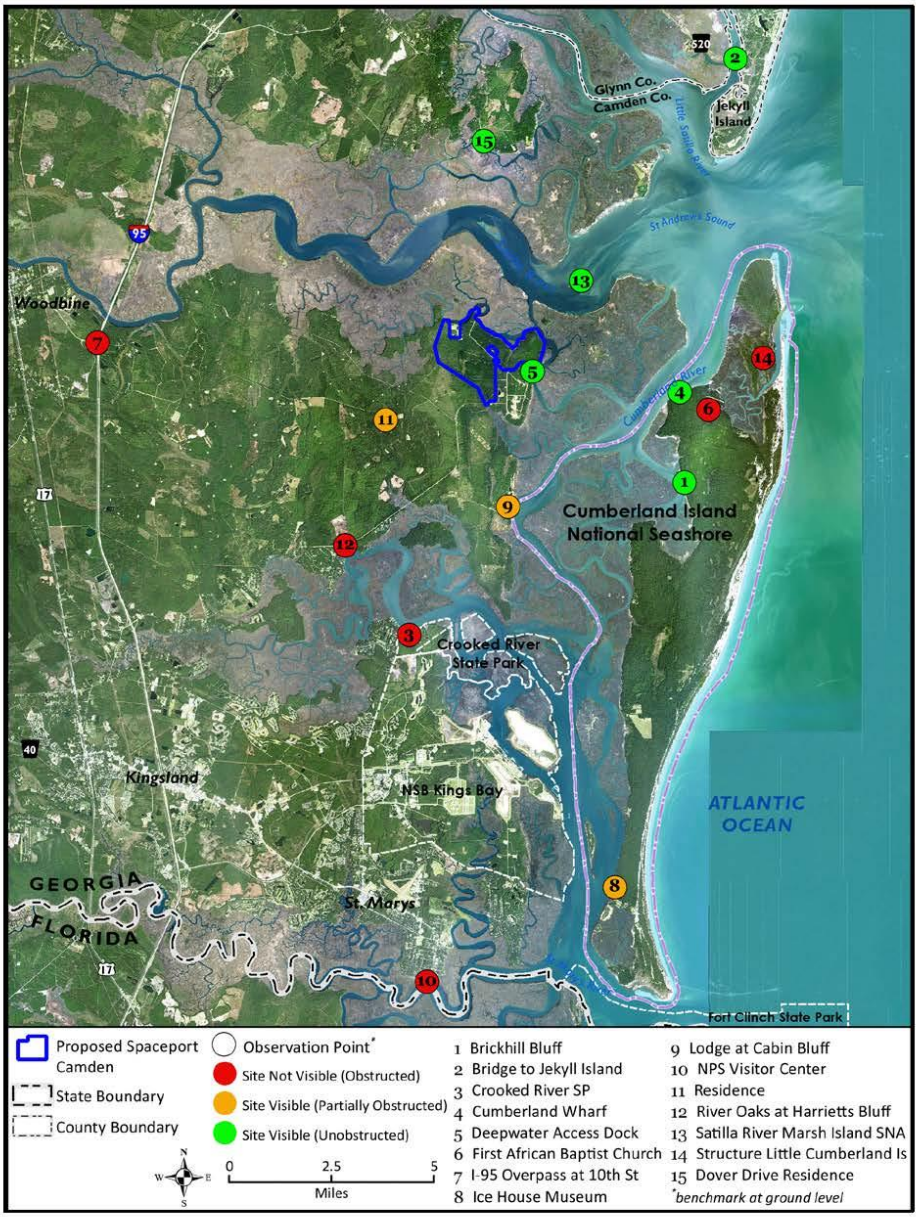


FIGURE 13. REPRESENTATIVE VISUAL ANALYSIS OBSERVATION POINTS IN THE AREA SURROUNDING PROPOSED SPACEPORT CAMDEN

38

U.S. Department of Transportation
Federal Aviation Administration

Office of Commercial Space Transportation

800 Independence Ave., SW.
Washington, DC 20591

October 15, 2020

Ms. Jennifer Dixon
Environmental Review & Preservation Planning Program Manager
DNR Historic Preservation Division
Jewett Center for Historic Preservation
2610 GA Hwy 155 SW
Stockbridge GA 30281

RE: Spaceport Camden Environmental Impact Statement Finding of Adverse Effect Pursuant to 36 CFR Part 800 Regarding the Proposed Action to Construct/Operate Commercial Space Launch Site, Spaceport Camden, Woodbine, Camden County, Georgia.
HP-151117-001

Dear Ms. Dixon:

The Federal Aviation Administration (FAA) is evaluating the Camden County Board of Commissioners' (County's) proposal to construct and operate a commercial space launch site, referred to as Spaceport Camden, in Camden County, Georgia. In order to operate a commercial space launch site, the County must obtain a Launch Site Operator License (LSOL) from the FAA. The FAA is currently conducting an environmental review for the proposed action of issuing a LSOL to the County, including assessing potential effects to historic properties.

The County has revised its 2018 Launch Site Operator License application. The original application, which proposed operations of medium-large launch vehicles, has been amended to address only small-lift launch vehicles, without first-stage returns. The proposed launch site is located in the same location that was previously evaluated in 2018 and the FAA is retaining the same Area of Potential Effect (APE) that was delineated for the original undertaking. However, the footprint of potential noise and visual impacts of the undertaking has been reduced due to the elimination of first-stage returns and ocean landings and associated sonic booms over land. This letter provides a summary of the subsequent reanalysis of the undertaking and the potential effects of the updated project on historic properties in the APE.

The FAA is seeking your concurrence that there would be a potential Adverse Effect to archeological historic properties as a result of the construction of Spaceport Camden, and that there would be no other effects to historic properties associated with the operation of Spaceport Camden as proposed. The FAA also requests your input on ways to resolve any Adverse Effect to potentially eligible archaeological properties during construction.

The Original Proposed Undertaking

In 2016, the County began the process of applying for a LSOL. The FAA deems the project an undertaking subject to the National Historic Preservation Act (NHPA) and its implementing regulations under Section 106 (36 Code of Federal Regulations [CFR] Part 800, as amended). The proposed project and its associated activities are also subject to the National Environmental Policy Act (NEPA), and the FAA initiated preparation of an Environmental Impact Statement (EIS) to meet its regulatory obligations.

Based on the original proposal, in 2018 the FAA determined that the construction phase of this undertaking could have an adverse effect on archeological properties unless certain conditions were met. The FAA also determined that the effects on historic properties from proposed Spaceport Camden operations could not be precisely determined and the FAA intended to develop a Programmatic Agreement pursuant to 36 CFR §800.14(b) to properly defer final determination of effect to historic properties until such time as a vehicle operator applied to the FAA for a license to launch from the proposed spaceport. The cultural resources that were identified in 2018 are described in Attachment 1.

Overview of Revised Proposed Undertaking

The proposed undertaking has been modified since the completion of the Draft EIS (DEIS) for Spaceport Camden in March 2018. The original application proposed operations of medium-large launch vehicles. The County revised the application in late 2019 to include only the launch of small launch vehicles with no first stage returns. The proposed launch site for small launch vehicles is located in the same location that was previously evaluated in 2018. The current proposed Spaceport Camden launch site would include a vertical launch facility, a mission preparation area, and operations facilities. The County plans to offer the site for up to 12 vertical launches of small, liquid propellant, vertical launch vehicles. A project description and map are included in Attachment 2.

Assessment of Effects of the 2020 Proposed Undertaking

Historic Properties

The FAA ran a new noise analysis taking into account the reduction in launch vehicle size and the elimination of ocean landings and first-stage returns. The analysis showed that sonic booms would occur more than 50 miles to the east of the APE and would no longer occur over land. Therefore, the FAA determined there would no noise effect on historic properties. Temporary and infrequent changes in the setting of historic properties in the APE resulting from periodic rises in noise due to launches would have no adverse effect. Updated analysis of the construction of Spaceport Camden confirmed that noise and vibration levels would be between 73 and 101 decibels and would occur far from above-ground historic properties. There are no above-ground historic properties within the construction footprint. Launch noise-induced structural vibration analysis concluded that levels would be well below criteria levels established for "sensitive" structures for all frequency bands for above-ground historic properties in the APE. The analysis also established that new structures and lights would not adversely affect the setting of above-ground historic properties in the APE. Additional detail on expected noise levels is provided in Attachment 3.

Archaeological Resources

Seven archaeological sites and three isolated finds were recorded within the proposed Spaceport Camden site, which also includes a portion of the APE for audible, vibratory, and visual effects. If construction of the Vertical Launch Facility could not avoid the four archaeological sites that are currently considered potentially eligible for listing on the NRHP, Phase II testing would occur to determine whether the site(s) are eligible for listing on the NRHP. If determined eligible, then there would be an adverse effect from construction of Spaceport Camden that would require mitigation measures.

- Four of the seven archaeological sites are located within the APE for ground disturbance, within the Vertical Launch Facility footprint for the revised proposed undertaking.
- None of these four sites have been evaluated for NRHP eligibility, and your office previously concurred that they should be treated as if they are "potentially eligible" (DNR Historic Preservation Division letter dated April 3, 2017), until such time that a formal evaluation for listing on the NRHP is completed for each site.
- There are three archaeological sites outside of the construction area, but within the proposed Spaceport Camden boundary, which have not been evaluated for NRHP eligibility. These archaeological resources are also treated as if they are eligible until such time as there could be an effect, at which time compliance with Section 106 of the NHPA would include NRHP eligibility evaluation.
- A section of the APE, the parcel owned by Bayer CropScience, could not be surveyed due to ownership and/or hazardous material concerns.

Above-Ground Resources

There are no above-ground historic properties located within the construction areas of the APE.

Within the proposed Spaceport Camden boundary, but outside of the construction areas, inventory efforts identified and recorded nine historic properties as individual features within the Floyd's Fairfield and Bellevue Plantations/Union Carbide Property.

- Outside of the proposed Spaceport Camden boundary, but within the 5-mile radius of the APE, inventory of the entire APE for audible, vibratory and visual effects identified three groups of resources: Cabin Bluff Historic District, Dover Bluff Club Historic District and historic properties on Cumberland Island within the Cumberland Island National Seashore.
- The Cumberland Island Cultural Historic Landscape, which is outside of the Spaceport Camden boundary, but overlaps with the outer mile of the 5-mile radius APE for audible and visual effects, is a NRHP-eligible historic vernacular landscape, running nearly the entire length of Cumberland Island.

Effects Summary

Construction Effects

There is a potential for Adverse Effect to ***archaeological historic properties*** during construction unless proposed conditions are met.

- If construction of the Vertical Launch Facility could not avoid the four archaeological sites that are currently considered potentially eligible for listing on the NRHP, Phase II testing would occur to determine whether the site(s) are eligible for listing on the NRHP.
- If determined eligible, then construction of Spaceport Camden would have an adverse effect to historic properties that would require mitigation measures.

There is no effect anticipated to ***above-ground historic properties*** during construction.

- No physical disturbance of above-ground historic properties would occur within the APE as a result of the construction of Spaceport Camden.
- Noise and vibration analysis of the construction of Spaceport Camden confirmed that noise and vibration levels would be between 73 and 101 decibels and far from above-ground historic properties.
- Visual analysis of the construction of Spaceport Camden established that new structures and lights would not adversely affect the setting of historic properties in the APE.

Operation Effects

There would be no effect to ***archaeological historic properties*** anticipated from the proposed operation of Spaceport Camden.

- Vibration and noise generated by static engine tests, movement of the launch vehicle to the launch pad, or other activities would not affect archaeological resources.
- The change in the acoustical setting due to the proposed Spaceport Camden operations would not be an adverse effect to the seven prehistoric archaeological sites because they are considered potentially eligible for their potential data content under Criterion D, and setting is not one of the characteristics of these sites that would qualify the property for inclusion in the NRHP.

There would be no effect to ***above-ground historic properties*** from the operation of Spaceport Camden.

- Launch noise-induced structural vibration analysis concluded that levels would be well below criteria levels established for "sensitive" structures for all frequency bands for properties in the APE, which includes the historic properties on Cumberland Island.
- Sonic booms would occur more than 50 miles to the east of the APE, which includes the historic properties on Cumberland Island.
- Temporary and infrequent changes in the setting of historic properties in the APE resulting from periodic rises in noise due to launches would have no effect.

Summary

FAA is seeking your concurrence that there would be a potential Adverse Effect as a result of this undertaking, and that this adverse effect would be limited to effects on archeological resources from the construction of Spaceport Camden.

FAA is also seeking your input on ways to resolve any Adverse Effect to potentially eligible archaeological properties during construction. As previously discussed, these adverse effects could be resolved if the following conditions were met:

1. Provide a plan of archaeological surveying for the remainder of the property that has yet to be surveyed due to ownership and/or hazardous material concerns and submit an archaeological survey for these areas, once complete.
2. Avoid NRHP-unknown archaeological sites within the proposed facility property. If sites cannot be avoided, conduct Phase II testing to determine site eligibility and, if determined NRHP-eligible, resolve adverse effects.

Additionally, if access to the portion of the APE that has not been surveyed due to ownership and/or hazardous material concerns is granted, an archaeological survey and correlating determination of effects would be required; therefore the FAA has determined that the effects of the undertaking on historic properties cannot be fully determined prior to issuing a decision. FAA proposes to record the terms and conditions agreed upon to resolve potential adverse effects to archaeological resources in a Programmatic Agreement pursuant to 36 CFR §800.14(b)(ii) to be executed prior to approval of this undertaking.

If you have any comments or questions regarding this undertaking, please contact Stacey Zee of my staff at 202-267-9305, or via email at Stacey.Zee@faa.gov.

Sincerely,

Daniel P. Murray
Manager, Safety Authorization Division

Attachments: as stated

Attachment 1

The FAA conducted archaeological and architectural investigations within the Spaceport Camden Area of Potential Effects (APE) and identified the following historic properties that are listed in, or are eligible for listing in, the National Register of Historic Places (NRHP). The Georgia State Historic Preservation Officer (SHPO) concurred with these findings in 2017.

NRHP-listed

1. NRHP #78000265, High Point-Half Moon Bluff Historic District with ten (10) contributing resources
2. NRHP #84000941, Main Road

NRHP-eligible

1. Dover Bluff Club Historic District with twenty-three (23) contributing elements
2. Cabin Bluff Cumberland River Retreat Historic District (Resource CRA #15) with fifteen (15) contributing elements
3. Anchor House ruins (Floyd's Fairfield & Bellevue Plantations, Resource CM-CO-31, Resource A)
4. Floyd's Fairfield & Bellevue Plantations (Resource CM-CO-31)
5. Charles Rinaldo Burial Site (Floyd's Fairfield & Bellevue Plantations, Resource CM-CO-31, Resource B)
6. Floyd Family Cemetery (Floyd's Fairfield & Bellevue Plantations, Resource CM-CO-31, Resource C)
7. Tabby Ruins, a contributor to Black Hammock Plantation (Resource CRA #16)
8. 9CM30 (shell midden & pottery)
9. 9CM64 (shell midden & pottery)
10. 9CM570 (shell midden & pottery)
11. 9CM571 (shell midden & pottery)
12. 9CM24 (shell scatter)
13. 9CM25 (shell midden)
14. 9CM26 (shell mounds)
15. Cumberland Island Cultural Historic Landscape

Attachment 2

The purpose of this attachment is to provide further detail regarding the construction and operations of the proposed project, Spaceport Camden.

Project Overview

Camden County (the County), is proposing to construct Spaceport Camden approximately 11.5 miles due east of the City of Woodbine, Georgia, 5 miles due west of Cumberland Island National Seashore (CUIS), less than 1 nautical mile from the Satilla River, and 6.7 nautical miles from the Atlantic Ocean (Figure 1). The proposed launch site would be constructed within an existing 11,800-acre industrial site consisting of property currently owned by the Union Carbide Corporation and Bayer CropScience.[1]

Construction

Construction of the launch site would occur on approximately 100 noncontiguous acres of this industrial site (Figure 2). Proposed activities include the construction of four facilities and associated infrastructure: a Vertical Launch Facility, a Launch Control Center Complex, an Alternate Control Center and Visitor Center, and a Mission Preparation Area. The Vertical Launch Facility would include a launch pad and its associated structures, storage tanks, and handling areas; vehicle and payload integration facilities; a lightning protection system; deluge water systems and associated water capture tank; water tower; and other launch-related facilities and systems including shops, office facilities, and stormwater retention ponds. The Launch Control Center Complex would include a Launch Control Center Building housing a control room and related equipment and a Payload Processing Building. The Alternate Control Center would mirror the Launch Control Center in facility construction, providing a backup launch control capability, and would also include a Visitor Center containing informational displays and accommodations for visitors to view launches. The Mission Preparation Area would be used for remote vehicle processing and would occupy approximately 13 acres. It would primarily consist of a 400-foot by 400-foot concrete pad as well as a building for operations, storage, and fuel and oxidizer tanks.

Each of the launch site facilities and the western boundary of the site would be fenced to provide security and control access. The Alternate Control Center and Visitor Center is located outside of the Spaceport Camden site boundary on what is currently Bayer CropScience property.

Onsite infrastructure improvements would include improvements to existing internal roads, construction of new roadways, and new electrical distribution, water distribution, and septic systems on the launch site. However, electricity and water are available on the adjoining Bayer CropScience property, and there is an access road to the launch site. The County does not anticipate that improvements or expansions would be required for Harrietts Bluff Road/Union Carbide Road outside the proposed spaceport site, which would provide access to the site. Additionally, the County does not anticipate required expansions or improvements to the utilities that bring electricity and communications to the external boundary of the industrial

[1] Camden County has entered into an option agreement to purchase most of the Union Carbide Corporation property (about 4,000 acres) and is considering an option to purchase the Bayer CropScience property (an additional 7,800 acres).

property, although expansions and improvements may be required within the boundary of the site to provide utilities to various facilities.

The County expects construction activities to last approximately 15 months. Construction activities would occur during daylight hours, five days a week. It is anticipated that 40 to 50 construction workers would be required for the construction of the facilities and 20 additional construction workers would be required for the construction of new infrastructure (water, sewer, drainage, and roads). Launch site construction activities would not commence until after the National Environmental Policy Act process, including issuance of a Record of Decision, has been completed and any required permits or approvals have been granted.

Operations

Operations would consist of up to 12 launches and up to 12 static fire engine tests and 12 wet dress rehearsals of a small-lift class Liquid propellant launch vehicle per year. One of the 12 launches could be a night launch. The proposed trajectory in the Spaceport Camden Launch Site Operator License Application is 100 degrees from true north. The booster rocket(s) providing the initial powered ascent of the launch vehicle (i.e., the "first stage") would drop into the Atlantic Ocean and not be recovered. This trajectory is shown in Figure 3.

As part of the launch license evaluation process, FAA conducts a policy review, payload review, financial determination, and safety review. For FAA to complete a safety review, an individual launch operator is required to submit a number of analyses to the FAA, including a flight safety analysis that details the specific vehicle trajectory, trajectory specific safety zones, and demonstrates compliance with the 14 CFR Part 400 requirements. The FAA's issuance of a license to a launch operator to conduct a launch at Spaceport Camden would require additional environmental review.

Spaceport Camden would be available to a range of launch operators, each of which offers various launch vehicles. While these vehicles would include only small-lift-class launch vehicles and use liquid propellants, they would have different design and operating specifications.

The small-lift-class representative launch vehicle that the County proposed for analysis is a two-stage, liquid-fueled (liquid oxygen and RP-1) launch vehicle with approximately 18,500 pound-feet of thrust at lift-off, carrying a small (100- to 300-pound) payload/satellite to low Earth orbit. The representative launch vehicle would be similar in design and performance to a RocketLab Electron launch vehicle. The representative launch vehicle carries approximately 1,000 gallons of liquid oxygen and 750 gallons of fuel. The representative launch vehicle is between 40 to 60 feet tall. The first stage of the representative launch vehicle would drop about 200 to 300 miles offshore in the Atlantic Ocean and not be recovered.

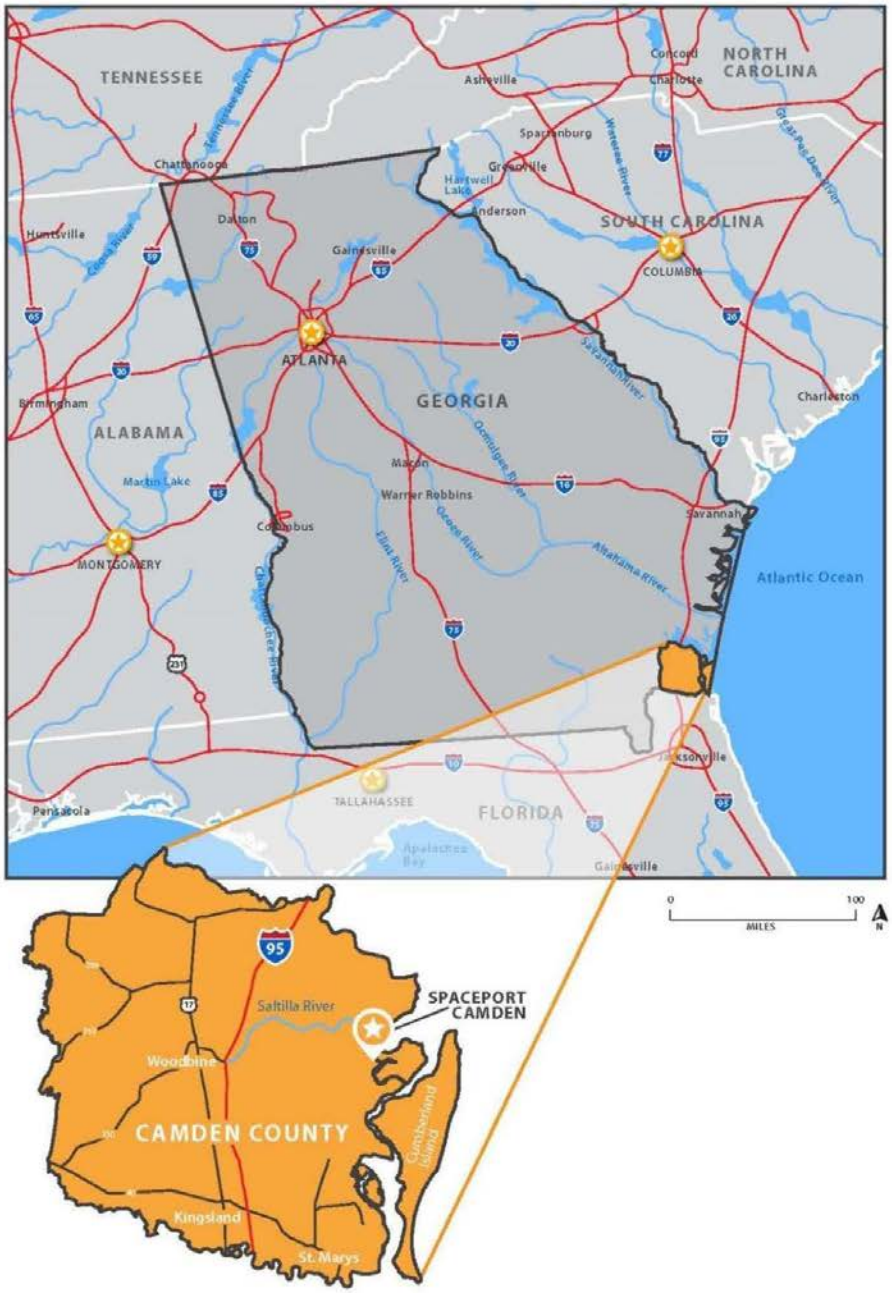


Figure 1. Proposed Spaceport Camden Location

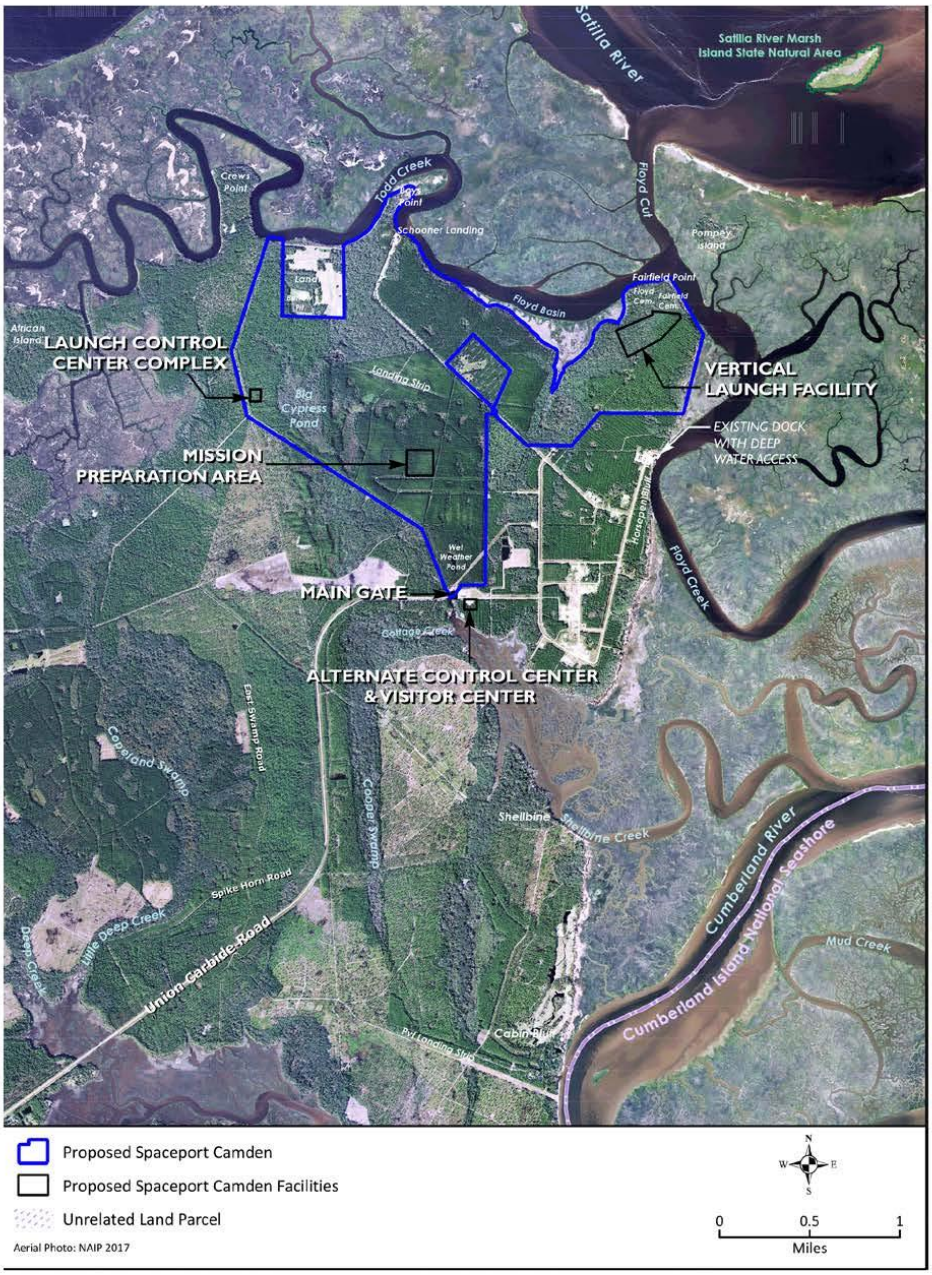


Figure 2. Proposed Spaceport Camden Site Plan

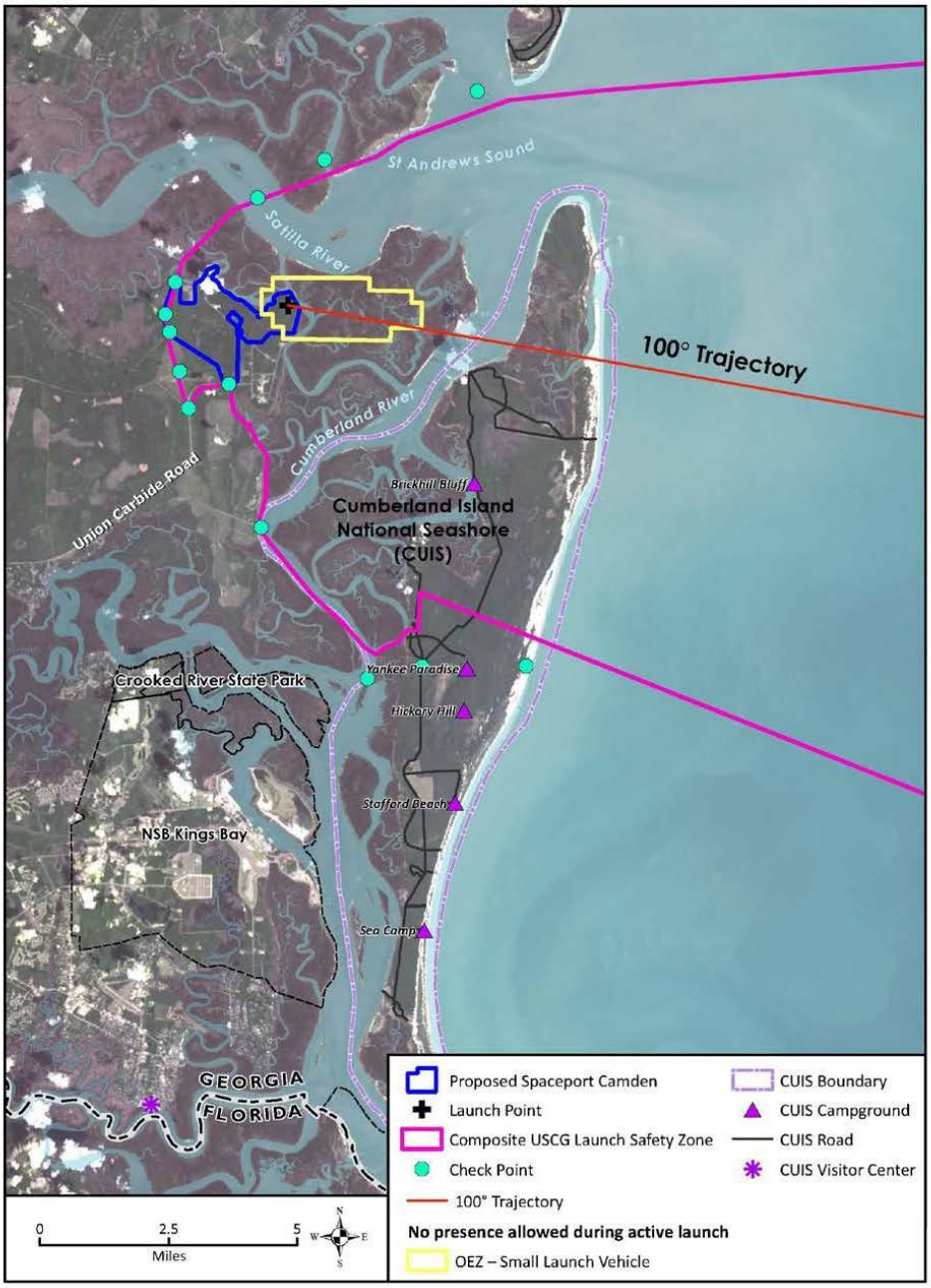


Figure 3. Composite Launch Safety Zone and Restricted Areas (100-degree Trajectory)

Attachment 3

The FAA ran a new noise analysis on the small launch vehicle with no first stage return.[1] The reference trajectory in the Spaceport Camden Launch Site Operator License Application is 100 degrees from true north. Consequently, the noise analysis was run for vehicles launching to the east from 100 degrees (approximately east-southeast), over the Intracoastal Waterway, Cumberland Island National Seashore and/or Little Cumberland Island, and the Atlantic Ocean.

The noise study[2] describes the environmental noise effects associated with the proposed small, vertical launch vehicles. The study analyzes the noise effects of the vehicle launches, and sonic booms generated by the vehicles at velocities more than Mach 1.

The discussion below focuses on those analyses from the FAA's noise study that are relevant to understanding the potential impact to National Register of Historic Places (NRHP) properties.

Structural Damage

Rocket Noise

Structural damage due to rocket engine noise is extremely rare. The reasons for this include the fact that airborne sound pressure levels must be extremely high to induce vibration levels high enough to cause damage. Glass windows and particularly fragile windows would be the most likely candidate for structural damage if it did occur. Table 1 shows that window damage may occur at sound pressure levels of 150 decibel (dB) (linear) or higher. Such high sound pressure levels would only be possible for residential locations in very close proximity to large rockets.

[1] Per FAA Order 1050.1F, the FAA's Office of Environment and Energy approved the use of the Launch Noise Model (LNM) to model launch noise for this proposed action. In addition, PCBoom was used to model sonic boom noise for this proposed action.
[2] A copy of the noise study will be provided as an appendix with the Final EIS.

Air Overpressure Threshold Scale[1,7]		
dB (lin)	**Categorisation**	**Source**
180[6]	Onset of structural damage	BS 6472, BS 5228
171[5]	General window breakage	USBM [34]
170	Most windows crack	BS 6472, BS 5228
160	Cracking of pre-stressed or poorly mounted windows	BS 6472, BS 5228
151[4]	Some window breakage	USBM [41]
150	Pre-stressed or poorly mounted windows may crack	BS 6472, BS 5228
140[3]	Reasonable threshold to prevent glass and plaster damage	USBM [34]
134[2]	USBM 'Safe' maximum	USBM [34]
120	Secondary vibration effects including rattling windows and objects	BS 6472, BS 5228, USBM [34]
<120	No material effect	-

TABLE 5.3: AIR OVERPRESSURE THRESHOLDS FOR DAMAGE EFFECTS ON BUILDING STRUCTURE

Notes:
[1] – Compendium of advised thresholds from BSi and USBM sources.
[2] – USBM [34]. Level based on measurements with high pass filtering at 0.1 Hz. Precautionary advice for design of blasting, pre-supposes groundborne vibration components. Not recognised by BSi. Included for information.
[3] – USBM [34] – 'Despite the widely varied source characteristics, assumptions of damage probabilities and experimental design, and also the differing interpretations among the studies, there is a consensus that damage becomes improbable below approximately 140 dB'.
[4] - Perkins and Jackson (as cited in USBM [42]) – damage thresholds for 'poorly mounted glass under stress'
[5] – USBM [34] – 'Damage to properly mounted glass is reported to have occurred at overpressures of 170 dB to 172 dB, while none was observed at 167 dB to 168 dB'. Mean value of 171 adopted.
[6] – BS 6472 -2. 'Structural damage would not be expected at air overpressure levels below 180 dB(lin)'.
[7] – Shaded entries originate from primary sources of information and are recommended for application to the main study.

Table 1. Air Overpressure Thresholds for Damage Effects on Building Structure

Modern frequency-based structural damage criteria, such as promulgated in the Deutsches Institut fur Normung E.V. (DIN) 4150 standard and shown in Figure 1, are useful to assess potential structural effects on commercial, residential, and sensitive structures. Recent studies by Garg et al[3] have developed empirically based methods to predict the airborne sound induced vibration effects on various building elements such as floors and walls. These methods can be used to calculate induced-vibration levels in buildings based on rocket noise spectra, for comparison with the DIN 4150 standard. Such frequency-based methods are useful for the specific requirements of launch vehicle noise where the low-frequency content may not be completely accounted for by using single value linear values (i.e., dB).

[3] N. Garg, S. Maji, Vibration Induced Excitation due to Acoustic Excitation in Diffuse Field Conditions, 2013

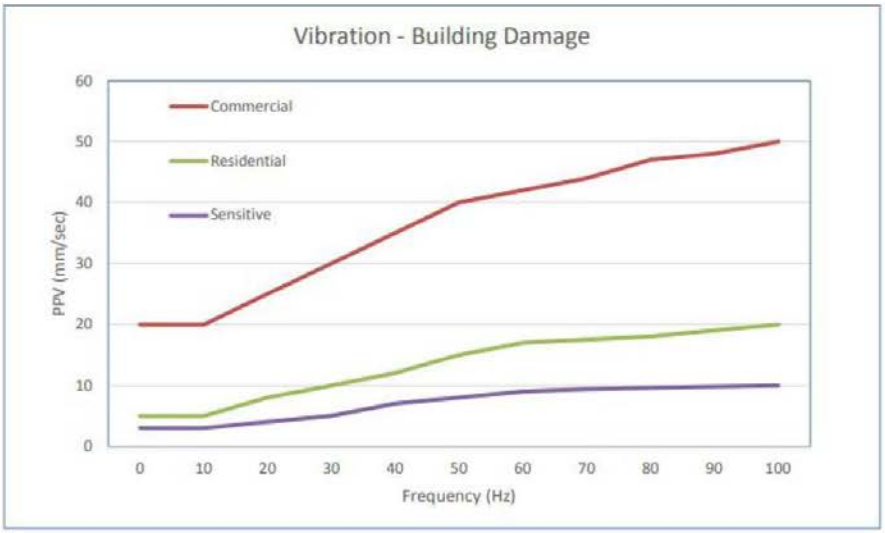


Figure 1. DIN 4150 Building Vibration Standard[4]

Launch Noise Levels – At the Settlement and Closest Residence

Two specific points of interest were analyzed for noise in more detail.

1. The Settlement (30.923750°N, 81.434717°W), which is located on Cumberland Island (4.6 miles from the mission preparation area) and has been identified as the closest location on the island with standing structures of historic value, and

2. The closest residence (30.919417°N, 81.567733°W), which is located southwest of Spaceport Camden in Camden County (2.6 miles from the mission preparation area).

Figure 2 shows launch noise time history at the Settlement in terms of Overall Sound Pressure Level (OASPL) and A-weighted decibel (dBA). This data shows that launch noise would exceed speech interference criteria at 66 dBA for 51 seconds per launch.

[4] Structural vibration - Effects of vibration on structures, DIN 4150-3:1999

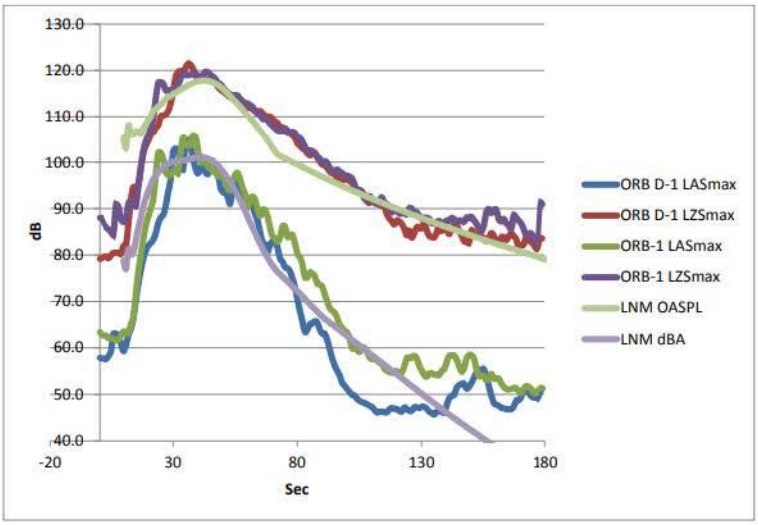


Figure 2. Time history launch noise levels at the Settlement

Using 1/3 Octave Frequency Band sound pressure levels which occur at the peak noise level Figure 3 shows the Settlement structural vibration levels induced by launch noise compared with the DIN 4150 standard. These levels are far below the "sensitive" building category, and therefore no building damage is expected.

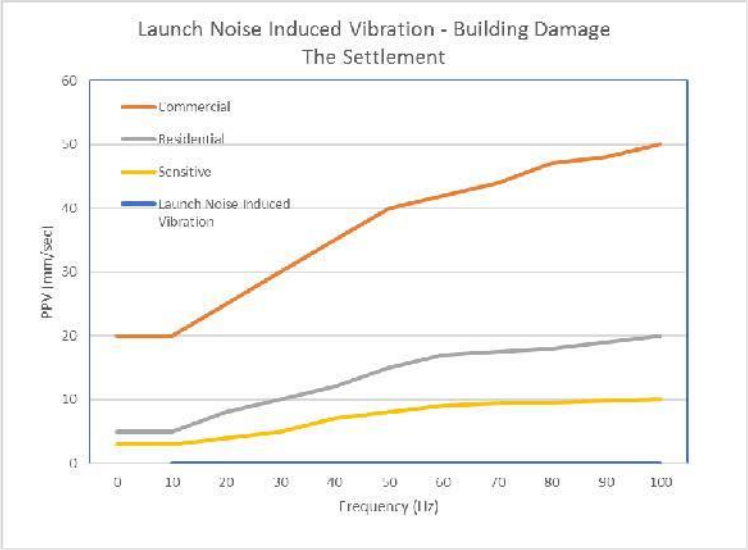


Figure 3. Building Damage at the Settlement

Figure 4 shows launch noise time history at the nearest residence. This data shows that launch noise would exceed speech interference criteria at 66 dBA for 36 seconds per launch.

Figure 4. Time history launch noise levels at the nearest residence

Sonic Boom Analysis

A sonic boom, similar to the sound of a thunderclap, is the sound associated with the shock waves created by a vehicle traveling through the air faster than the speed of sound. The location of a sonic boom footprint is dependent on the actual trajectory and atmospheric conditions at the time of flight as well as various other parameters including the size of the vehicle and orientation relative to the Earth's surface. The sonic boom contours for the small launch vehicle are shown in Figure 5. The maximum overpressure of the sonic boom footprint is 0.20 pounds per square foot (psf) on the Atlantic Ocean. The small psf value is due to a number of factors including the relatively small size of the launch vehicle and high altitude at which the sonic boom would be generated.

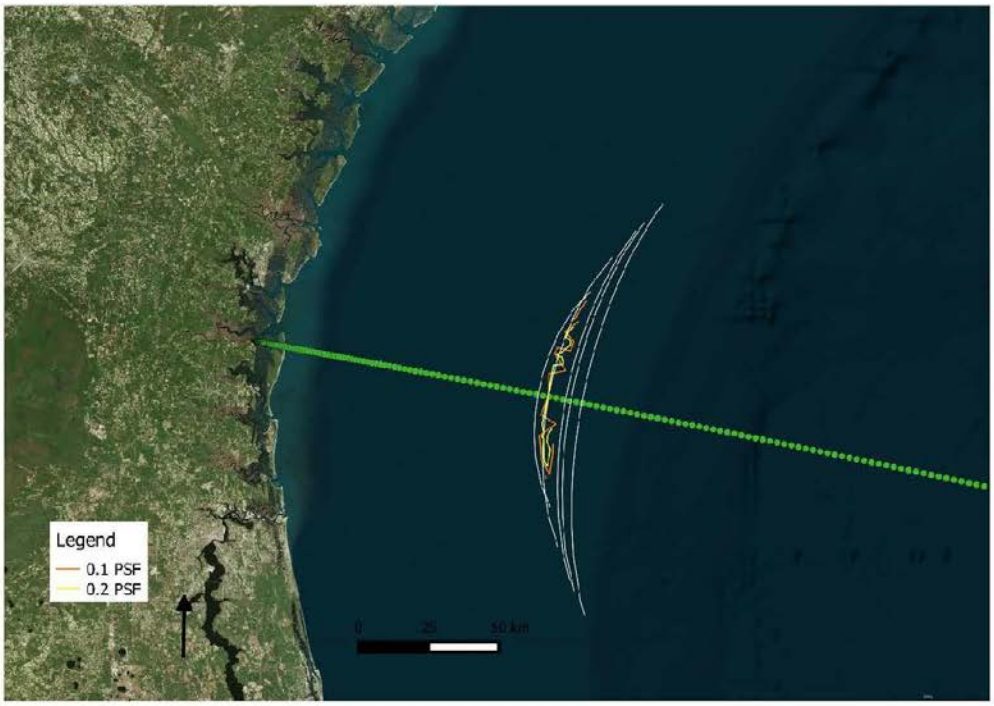


Figure 5. Sonic boom peak overpressure contours for the ITAR small launcher from Spaceport Camden

Summary

Camden County is proposing to develop and operate a commercial space launch site called Spaceport Camden. This report documents the noise study associated with Spaceport Camden's proposed 12 vertical launches and 12 static fire engine tests per year of an ITAR small launcher vehicle.

The noise impact of the proposed future actions is evaluated based on the FAA Order 1050.1F, *Environmental Impacts: Policies and Procedures*. A significant noise impact is one in which the action would increase noise by the Day Night Average Sound Level (DNL) 1.5 dBA or more for a noise sensitive area that is exposed to noise at or above the DNL 65 dBA noise exposure level, or that will be exposed at or above this level due to the increase, when compared to the No Action Alternative for the same timeframe. The DNL at or in excess of 65 dBA would be within the Spaceport boundary which is uninhabited.

To assess the impact of rocket noise with respect to hearing conservation, Occupational Safety and Health Administration's (OSHA) upper limit of 115 dBA is also contained within the proposed Spaceport's boundary.

To assess the impact of rocket noise with respect to structural damage due to airborne sound-induced structural vibration, 1/3 octave frequency band rocket noise spectra were used to empirically predict

structural vibration in terms of peak particle velocity. The Settlement historic structures are predicted to have structural vibration levels far below the levels for "sensitive" structures according to DIN 4150. Likewise, launch noise levels at the nearest residence with similar rocket noise levels would result in structural vibration levels even further below the residential criteria of DIN 4150 and therefore no building damage is expected.

The maximum predicted sonic boom level is 0.2 psf which would be downrange over the Atlantic Ocean. This is a very low magnitude sonic boom and would be perceived as a distant thunderclap. No sonic booms are expected on land.

The DNL for the launches were determined through noise modeling, analysis of the immediate environmental and geographical setting to be very low, and in fact, substantially lower than the 65 DNL established by FAA for their noise significance threshold. More importantly, these noise vibration levels from static firing tests, as well as launches and their subsequent sonic booms, would not psychically affect historic properties in the APE and would not cause any indirect effects to the historic properties on Cumberland Island.

Public Safety Analysis for Launch Operations

Federal Aviation Administration

Office of Commercial Space Transportation

Overview

- **Purpose**
  - Provide an overview of the state-of-the-art public safety tools/calculations, criteria, and data requirements for launch
  - Discuss results of these tools for the proposed Camden Spaceport license evaluation

Risk Concept and Key Elements

Risk is a concept that accounts for three key elements:

1. **Probability** of a dangerous event (e.g. a rocket crash)
2. Size of the "**danger area**" (e.g. the area destroyed by a rocket crash)
3. Nature of the **public exposure** (e.g. the population density and sheltering where a rocket could crash).

- **Risk is** computed as **the product of probability and consequence.**
- **Risk controls** for any scenario must **address at least one of three key elements** of risk illustrated in Figure.

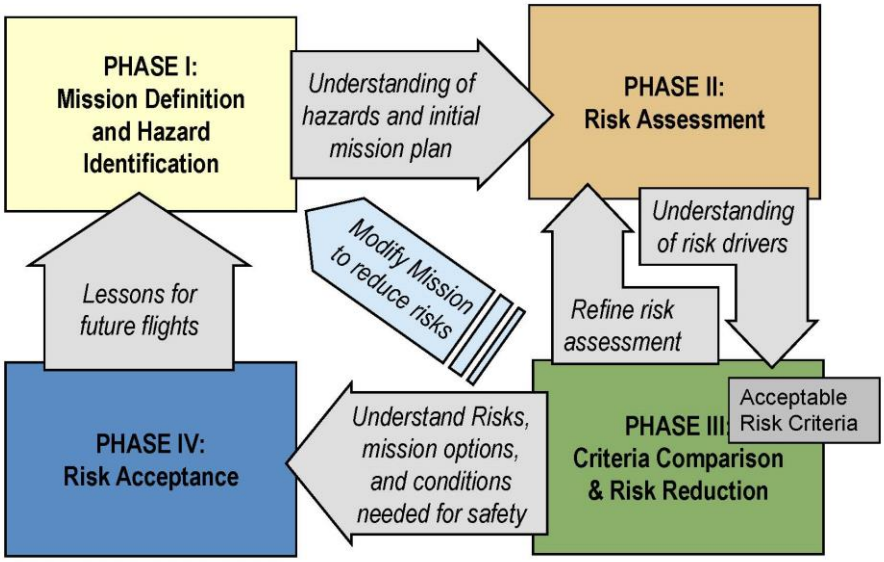
Probability is a number from 0 to 1 that expresses the chance of a particular outcome from an event.

- E.g. the probability of a 6 resulting from a single roll of an evenly weighted die is 1/6

Public Safety Analysis for Launch Operations 24 Nov 2020 Federal Aviation Administration 2

Overview of Risk Management

Risk management is a systematic and logical process to identify hazards and control the risks they pose.



Public Safety Analysis for Launch Operations 24 Nov 2020 Federal Aviation Administration 3

Types of Risks AST Regulates

- AST regulates the risk of casualties, on individual and collective basis
  - A **casualty is** defined as a **serious injury or worse** for a human, including death. For the purposes of CST risk assessment, serious injury is defined as Abbreviated Injury Scale (AIS) Level 3 or more.
  - Collective risk is not a probability, but accounts for the chance that some member of a group of people becomes a casualty.
    - **Maximum collective risk of 1E-4 Expected Casualties (EC)** – risks managed so 10,000 launches would produce no more than one casualty on average; expect no more than **one casualty on average after 100 missions/yr. for 100 yrs.**
  - Individual risk is the chance of an individual getting hurt or killed
    - **Maximum individual risk of 1E-6 Probability of Casualty (PC)** – Individuals evacuated from areas where PC > 1 in a million

A launch site operator must demonstrate in its application that a launch from the site can meet the collective risk limit

- A launch vehicle operator must demonstrate in its application that their proposed launch meets both the collective and individual risk limits

Public Safety Analysis for Launch Operations 24 Nov 2020 Federal Aviation Administration 4

4 Main Elements of Public Safety Analysis

1. Risk acceptability criteria
   - Establish how safe is safe enough for public potentially threatened by launch vehicle debris hazards
2. Vulnerability Models
   - Quantify exposure of the public given debris impact
   - Account for the protection afforded by a structure for public who may be “sheltered”.
3. Launch debris dispersion models
   - Quantify the probability of a debris impact on public areas in the vicinity of a launch
4. Hazard areas
   - Exclude public from areas where risks are unacceptable

Public Safety Analysis for Launch Operations 24 Nov 2020 Federal Aviation Administration 5

Hazard Area Basics for Launch Operations

Hazard Areas refer to regions of land, water, or airspace where members of the public are excluded to protect them from planned and potential debris impacts.

- Areas near launch point and planned hardware jettisons are closed in advance
- Launch operators must have agreements with adjacent property owners if hazard areas extend beyond the operator's property boundary.
- Notices to Mariners (NOTMARs) communicate the existence of hazard areas over navigable waters
- Aircraft Hazard Areas are a type of hazard areas that apply to airspace. They are communicated by Notices to Airmen (NOTAMs).

Public Safety Analysis for Launch Operations 24 Nov 2020 Federal Aviation Administration 6

Sub-models for HA Development

PROBABILITY OF FAILURE (POF)
Probability of debris events (failure) allocated to each time in flight and vehicle response mode (VRM)

→

TRAJECTORY
Break-Up State Vectors (BUSV) for each time in flight and VRM

→

DEBRIS LIST
A list of debris for each BUSV: debris groups of similar fragments

↓

DEBRIS DISPERSION
Probability distributions for the dispersion of each category of debris given each BUSV

←

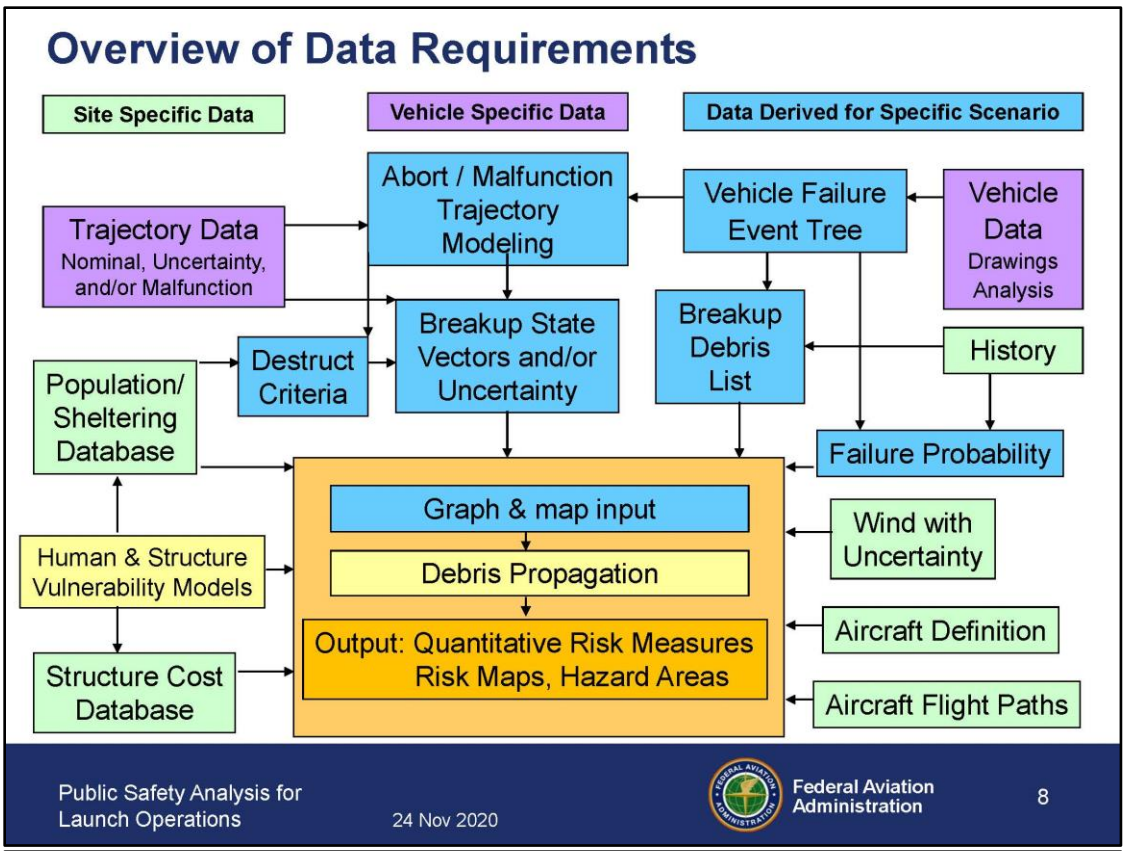
IMPACT PROBABILITY
Probability of an impact on a given location, ship, or aircraft (size and trajectory) for each category of debris

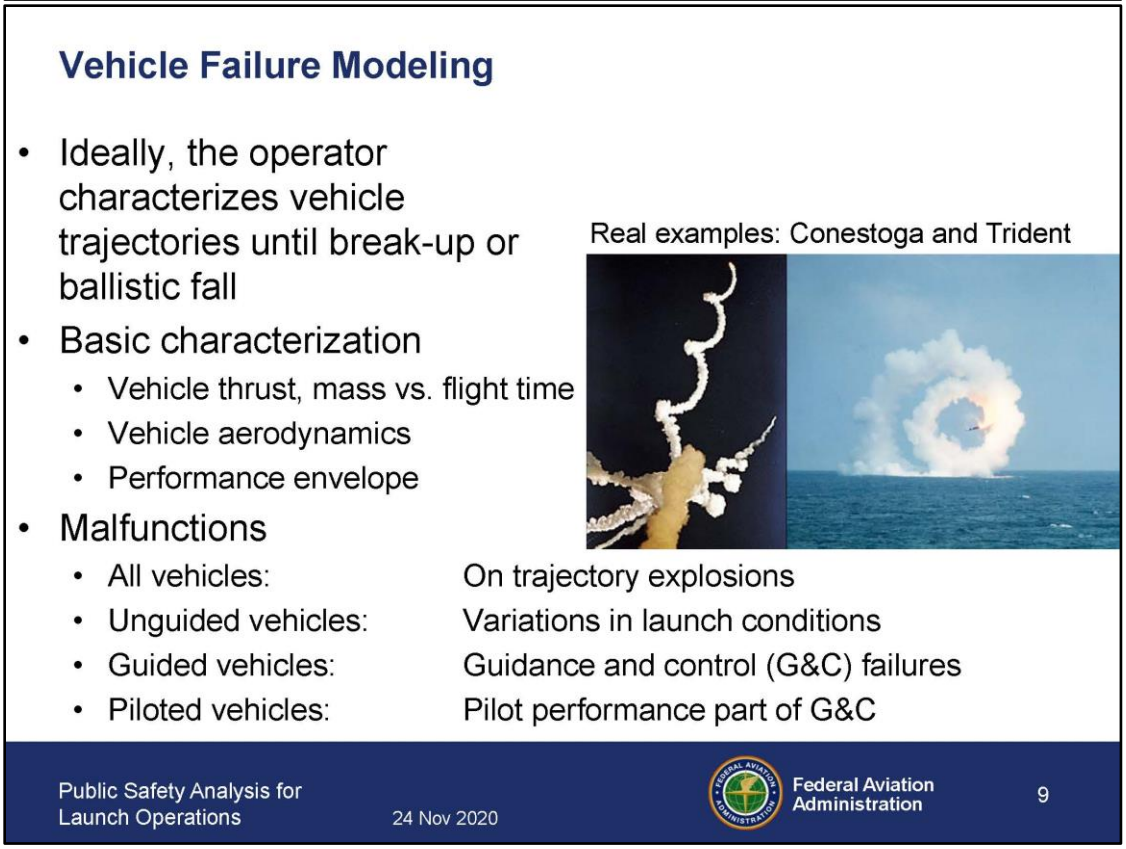
←

VULNERABILITY
Probability of a consequence (e.g. casualty) for a given impact

The last two (vulnerability and impact probability), plus the risk criteria for aircraft, have aspects that are necessarily unique to aircraft hazard area analysis; all other sub-models are common with the debris risk analysis

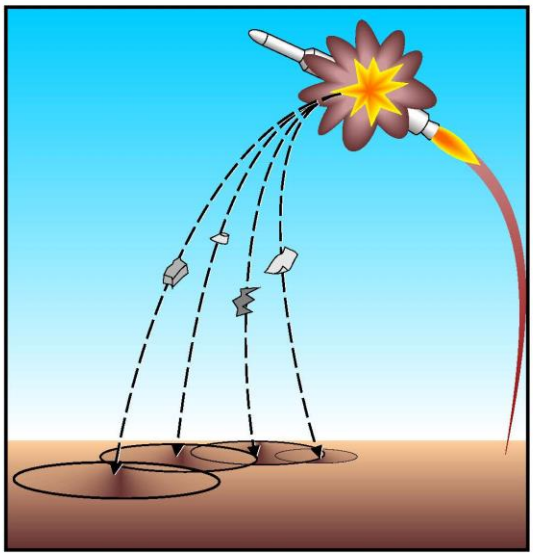
Public Safety Analysis for Launch Operations 24 Nov 2020 Federal Aviation Administration 7


Overview of Data Requirements
Site Specific Data
Vehicle Specific Data
Data Derived for Specific Scenario
Abort / Malfunction Trajectory Modeling
Vehicle Failure Event Tree
Vehicle Data
Drawings
Analysis
Trajectory Data
Nominal, Uncertainty, and/or Malfunction
Breakup State Vectors and/or Uncertainty
Breakup Debris List
History
Destruct Criteria
Population/ Sheltering Database
Failure Probability
Graph & map input
Wind with Uncertainty
Debris Propagation
Human & Structure Vulnerability Models
Aircraft Definition
Output: Quantitative Risk Measures
Risk Maps, Hazard Areas
Structure Cost Database
Aircraft Flight Paths
Public Safety Analysis for Launch Operations
24 Nov 2020
Federal Aviation Administration
8


Vehicle Failure Modeling
• Ideally, the operator characterizes vehicle trajectories until break-up or ballistic fall
• Basic characterization
• Vehicle thrust, mass vs. flight time
• Vehicle aerodynamics
• Performance envelope
• Malfunctions
• All vehicles: On trajectory explosions
• Unguided vehicles: Variations in launch conditions
• Guided vehicles: Guidance and control (G&C) failures
• Piloted vehicles: Pilot performance part of G&C
Real examples: Conestoga and Trident
Public Safety Analysis for Launch Operations
24 Nov 2020
Federal Aviation Administration
9

Dispersion Modeling

- There is no "exact" path along which any fragment falls since the breakup model for the fragments and environment have uncertainty
  - Explosion velocity, wind, drag, etc.
- Rather than an a single ballistic path for each fragment, we compute the volume in which a fragment group can be present over a given time interval
- Each fragment group has uncertainty in several parameters (size, shape, L/D, etc.)
- Each source of uncertainty has a known distribution and can be sampled
- Apply sampled uncertainty to a group, propagate, and get a result.
- Repeat many, many times.
- Fit the results to a mathematical distribution and plot them on a map using "contours" to differentiate between orders of magnitude of risk



Public Safety Analysis for Launch Operations 24 Nov 2020 Federal Aviation Administration 10

Brian P. Kemp
Governor

Georgia® Department of Community Affairs

Christopher Nunn
Commissioner

December 23, 2020

Daniel P. Murray
Manager, Safety Authorization Division
Federal Aviation Administration
800 Independence Avenue, SW
Washington DC 20591
Attn: Stacey Zee

RE: Construct/Operate Commercial Space Launch Site, Spaceport Camden, Woodbine Camden County, Georgia
HP-151117-001

Dear Mr. Murray:

The Historic Preservation Division (HPD) has reviewed the additional information submitted concerning the above referenced project. Our comments are offered to assist the Federal Aviation Administration (FAA) in complying with the provisions of Section 106 of the National Historic Preservation Act of 1966, as amended (NHPA). **In order to complete our review and concur with your determination of effect, HPD is in need of additional information.**

The subject project consists of the construction of a spaceport complex, and its subsequent operation, in Woodbine. The construction of the spaceport was previously determined to have no adverse effect on multiple National Register of Historic Places (NRHP)-eligible historic properties, with two (2) conditions. Due to unknown impacts from the operation of the spaceport, a draft programmatic agreement (PA) was subsequently submitted. The current submitted information includes a revised assessment of effect due to a revised operator application. It is HPD's understanding that the proposed operation now includes small-lift launch vehicles rather than medium-large launch vehicles initially proposed.

As submitted, HPD is unable to concur with the FAA's assessment of effect without additional information. Based on the additional information provided by the FAA, other consulting parties, and discussions with the Advisory Council on Historic Preservation, it is HPD's understanding that the revision in vehicle type has increased the probability of launch failures due to the proposed small-lift vehicle type. Therefore, it appears to HPD that only a portion of the potential impacts have been considered and, considering the additional impact potential, that the area of potential effect (APE) should be increased in order to include historic properties that could be impacted. HPD recommends increasing the APE to include areas under the trajectory of a vehicle's failure that could be impacted by indirect and reasonably foreseeable effects, such as debris impacts, fire, and other rocket failure safety concerns. Subsequently, HPD recommends then assessing all known indirect and reasonably foreseeable effects, including not only light pollution, audible, and vibration, but impacts resulting from launch failures. Furthermore, due to a revised proposed project scope and additional impacts identified, HPD recommends continuing public participation efforts through re-engaging previously consulted organizations and engaging additional entities, as needed.

60 Executive Park South, NE | Atlanta, GA 30329-2231 | 404-679-4940
www.dca.ga.gov | An Equal Opportunity Employer

We look forward to receiving revised identification and assessment efforts, once available. Please refer to project number **HP-151117-001** in any future correspondence regarding this project. If we may be of further assistance, please do not hesitate to contact me at (404) 486-6376 or jennifer.dixon@dca.ga.gov.

Sincerely,

Jennifer Dixon, MHP, LEED Green Associate
Program Manager
Environmental Review & Preservation Planning

cc: Sarah Stokely, ACHP
Kevin Lang, Little Cumberland Island
Betsy Merritt, NTHP
Beth Byrd, NPS
Queen Quet, Gullah/Geechee Sea Island Coalition

U.S. Department of Transportation
Federal Aviation Administration

Office of Commercial Space Transportation

800 Independence Ave., SW.
Washington, DC 20591

March 2, 2021

Ms. Jennifer Dixon
Environmental Review & Preservation Planning Program Manager
Historic Preservation Division
Department of Community Affairs
60 Executive Park South, NE
Atlanta, GA 30329-2231

RE: Construct/Operate Commercial Space Launch Site, Spaceport Camden, Woodbine, Camden County, Georgia.
HP-151117-001

Dear Ms. Dixon:

Thank you for reviewing the additional information provided by the Federal Aviation Administration (FAA) regarding Spaceport Camden. The FAA recognizes that you need additional information before you can concur with a revised determination of effect.

Your December 21, 2020 letter indicates that the Historic Preservation Division (HPD) requests additional information to understand the change from medium-large launch vehicles to small-lift launch vehicles and asserts that change requires an expansion of the previously established area of potential effect (APE). Please see additional information below, outlined by your area of concern. We will work with you to identify a date/time for a virtual meeting to discuss this additional information and a revised finding of effect.

Vehicle Failure

Camden County has stated in its updated application[1] that it does not propose offering Spaceport Camden to development of or use of experimental vehicles.

Your December 2020 letter states that the probability of failure is higher in smaller vehicles than larger vehicles. Please note that a small-lift vehicle does not have an inherently greater probability of launch failure than a larger vehicle. Probability of failure is based on many factors, including vehicle performance and previous launches and is not the only factor in calculating risk to the public.

[1] 14 CFR 420.29 requires applicants to provide requirements for unproven launch vehicles. Camden County is not applying for unproven vehicle permissions in its application.

On December 18, 2020 we met with your office to provide a launch safety overview. As was discussed in that meeting, the FAA applies two quantitative criteria for limiting risk to the public, known as collective risk and individual risk. Collective risk represents the risk to everyone who may be exposed to a launch operation, while individual risk measures the risk to a single person in the exposed population. Both risk criteria are computed using the probability of failure as well as additional factors about the vehicle including size, debris it may generate as a result of failure, three-dimensional path it follows as it flies, and its speed.

For the small-lift vehicle mission that Camden County has proposed in its site operator license application, the calculated collective risk, expressed as "expected casualties," is 0.02E-4. This is less than the regulatory threshold value of 1.0E-4 and more than a factor of 10 lower than the medium-large vehicle mission that was previously proposed and analyzed. The regulatory threshold for individual risk is 1.0E-6. Accordingly, no member of the public is allowed to be present in a location where the risk to that person exceeds 1.0E-6. The only relevant areas associated with the small-lift vehicle mission with a risk at or above 1.0E-6 are contained entirely within the proposed launch site boundary.

Area of Potential Effect

As a result of the modified application, the FAA assessed the delineation of the 2016 APE to take into account the change in vehicle type, associated infrastructure, and vehicle performance. FAA recommends that the APE for archaeological resources remains the same as the APE that was delineated in 2016 to include the physical footprint of the launch site. Furthermore, FAA recommends the original 5-mile APE for architectural resources remain unchanged as well.

In the May 24, 2016 letter from FAA to the Historic Preservation Division (HPD), FAA provided the following justification for the original 5-mile radius for the architectural APE:

> The APE for architectural resources usually covers a greater geographical area than for archaeological resources, because architectural historic properties often rely heavily on other key elements of integrity, including location, setting, workmanship, feeling, design, and association. The primary potential effects for architectural resources include permanent visual effects on the landscape resulting from construction of the facility; the introduction of short-term but incompatible auditory effects on noise sensitive historic properties during operations; and vibration caused by operation of the proposed project. In addition, the architectural APE also captures areas of potential direct effects to built environmental resources. Changes to the visual and audible environment may affect the historic property's NRHP eligibility.

On June 12, 2016, HPD concurred with the APE determination for the proposed project.

The proposed launch site for small launch vehicles is located in the same location that was previously evaluated in 2018. The current proposed Spaceport Camden launch site would include the same infrastructure proposed and previously analyzed in 2018 including a vertical launch facility, a mission preparation area, and operations facilities.

The noise and operational footprint is smaller for the small-lift vehicle than for the medium-large vehicle considered in the 2018 Draft EIS. As noted above, the project areas associated with a risk at or above

1.0E-6 are contained entirely within the proposed launch site boundary. Therefore, FAA determined the original APE for above-ground historic properties is sufficiently conservative for purposes of the Section 106 process for this project.

Public Participation

Regarding HPD's recommendation that FAA should continue public participation efforts through re-engaging previously consulted organizations, it is FAA's intent to continue to comply fully with our Section 106 obligations under 36 CFR 800.3(e) and 36 CFR 800.3(f). We are reviewing our previous correspondence with consulting parties including newly identified consulting parties. The attachment outlines the Section 106 communication timeline for this project.

The FAA will continue to engage with HPD, ACHP and the other consulting parties as we move into the eventual development of the planned Programmatic Agreement.

If you have any comments or questions regarding this undertaking, please contact Stacey Zee of my staff at 202-267-9305, or via email at Stacey.Zee@faa.gov.

Sincerely,

DANIEL P MURRAY

Digitally signed by DANIEL P MURRAY
Date: 2021.03.02 11:43:26 -05'00'

Daniel P. Murray
Manager, Safety Authorization Division

Attachment

cc: Sarah Stokely, ACHP
Kevin Lang, Little Cumberland Island
Betsy Merritt, NTHP
Beth Byrd, NPS
Queen Quet, Gullah/Geechee Sea Island Coalition

Timeline of Select Spaceport Camden - Section 106 Consultation[1]

Date	Action	Agency / Consulting Party
6/19/2013	FAA requested NPS participate as a cooperating agency.	NPS
7/11/2013	NPS accepted FAA's request to be a cooperating agency.	NPS
9/10/2015	Project site visit occurred with Camden County and FAA.	Camden County
9/17/2015	NASA signed the MOA establishing a cooperating agency relationship.	NASA
11/6/2015	FAA published NOI to prepare an EIS.	FAA
11/6/2015 - 1/18/2016	Scoping comment period.	Public / Agencies
12/4/2015	FAA sent letter to Tribes to initiate formal government to government consultation.	Tribal
12/7/2015	FAA held a Public scoping meeting.	Public
12/8/2015	FAA held an Agency scoping meeting.	Multiple Agencies
12/15/2015	NPS signed the MOA establishing a cooperating agency relationship.	NPS
12/30/2015	FAA sent Section 106 consulting party requests to multiple agencies.	Multiple Agencies
1/4/2016	HPD requested to be Section 106 consulting party.	HPD
1/4/2016	FAA formally accepted HPD's request to be a consulting party.	HPD
1/6/2016	FAA sent Section 106 initiation letter to HPD.	HPD
1/6/2016	FAA sent Section 106 initiation letter to Tribes.	Tribal
1/11/2016	FAA published extension of public scoping period to 1/18/16 in the Federal Register.	FAA
1/27/2016	HPD provided response to Section 106 initiation letter.	HPD
2/25/2016	FAA sent Section 106 initiation letter to the Gullah Geechee Commission.	Tribal
2/3/2016	Choctaw Nation notified FAA that the project was outside of the Choctaw Nation of Oklahoma's area of historic area of interest and deferred to other Tribes.	Tribal
5/5/2016	FAA had a call with NPS and discussed description of proposed cultural resources survey for CUIS, and coordination for cultural resources surveys.	NPS
5/12/2016	FAA held call with NPS discussing noise analysis methodology and sensitive noise areas.	NPS
5/25/2016	FAA submitted APE letter to HPD.	HPD
6/12/2016	HPD provided response to APE.	HPD
8/5/2016	FAA submitted Cultural Resources Work Plan to HPD.	HPD
8/24/2016	CRA, FAA and HPD had call discussing the cultural surveys.	HPD
9/1/2016	CRA, FAA and HPD had call discussing the cultural surveys.	HPD
9/23/2016	HPD concurred with determination not to complete a GPR survey.	HPD
3/6/2017	FAA sent HPD the Archaeology Survey Report.	HPD
3/8/2017	FAA sent HPD the Architectural Survey Report.	HPD

[1] This timeline of events does not include every action taken over the course of the project. Rather, it is a listing of events detailed within the *Summary of FAA's Consultation under Section 106 of the National Historic Preservation Act for the Spaceport Camden Environmental Impact Statement*.

Date	Action	Agency / Consulting Party
3/30/2017	HPD responded it could not concur with the determination of eligibility until concerns were addressed.	HPD
4/3/2017	HPD provided concurrence letter with Archaeology Survey Report.	HPD
7/21/2017	FAA and HPD resolved a portion of the outstanding questions regarding the determination of eligibility.	HPD
8/1/2017	FAA sent HPD revised Determinations of Eligibility Report.	HPD
8/4/2017	HPD requested more information regarding Cabin Bluff historic district, CM-CO 31 and Dover Bluff Club.	HPD
8/10/2017	FAA sent Phase I Archaeological Survey Report to Tribes.	Tribal
8/16/2017	Muscogee (Creek) Nation of Oklahoma concurred with findings in Phase I Archaeological Survey.	Tribal
9/21/2017	HPD and FAA settled the remaining questions and concerns with the Structural Survey Report.	HPD
10/31/2017	FAA sent HPD the Architectural Survey Report and transmittal letter.	HPD
11/27/2017	HPD provided concurrence to the Determinations of Eligibility Report.	HPD
3/19/2018	FAA emailed agencies notifying them of agency public meeting to discuss Draft EIS.	Multiple Agencies
3/16/2018	FAA published Draft EIS and NOA in Federal Register.	FAA
3/16/2018 – 6/14/2018	Draft EIS Public Comment Period.	Public / Agencies
4/10/2018	Meeting between NPS and FAA an tour of Cumberland Island	NPS
4/11/2018	FAA met with Camden County Environmental Subcommittee	NGAs
4/11/2018	FAA met with Little Cumberland Island and others	LCIs
4/11/2018 – 4/12/2018	FAA held public hearings on the Draft EIS.	Public
4/11/2018	Agency meeting was held discussing public concern over burials on Project site.	Multiple Agencies
5/18/2018	Seminole National of Oklahoma requested to be contacted if cultural or archeological resource materials were encountered.	Tribal
7/24/2018	FAA sent HPD FOE letter.	HPD
8/15/2018	HPD did not concur with FOE for structures and provided comments to FAA.	HPD
9/6/2018	FAA and HPD discussed outstanding issues regarding the FOE letter over the phone.	HPD
10/4/2018	FAA and NPS met with LCI residents and toured the island.	LCI
11/2/2018	FAA resubmitted FOE responding to HPD comments.	HPD
12/3/2018	HPD provided concurrence letter with the determination of No Adverse Effect with conditions.	HPD
12/4/2018	FAA held a meeting with LCI.	LCI
1/29/2019	Camden County submitted a Launch Site Operator License application to the FAA for launches of small to medium-large, liquid propellant vehicles with first-stage landing and the associated support infrastructure.	Camden County

Date	Action	Agency / Consulting Party
4/5/2019	LCI met with Wayne Monteith, Associate Administrator for Commercial Space Transportation[2]	LCI
9/6/2019	LCI requested FAA designate them as a consulting party as part of the 106-review process.	LCI
12/14/2019	Camden County notified the FAA their modified application would only include small launch vehicles with no first stage landings.	Camden County
1/15/2020	Camden County submitted an amended license application.	Camden County
5/7/2020	FAA invited LCI to be a consulting party to the PA.	LCI
6/17/2020	The Gullah Geechee Commission requested be to a consulting party.	Tribal
7/28/2020	FAA accepted the Gullah Geechee Commission request to be a consulting party.	Tribal
10/16/2020	FAA sent FOE letter to HPD and cooperating agencies.	Multiple Agencies
10/18/2020	LCI provided response to FAA stating they received the FOE letter.	LCI
10/30/2020	The Gullah Geechee Commission sent FAA comments regarding the Section 106 process.	Tribal
11/6/2020	LCI sent FAA response to FOE letter.	LCI
11/16/2020	HPD told the FAA that they required additional time to review the submittal.	HPD
12/9/2020	ACHP sent FAA response to AOE/FOE letter.	ACHP
12/18/2020	FAA provided briefing to HPD/ACHP/NPS regarding public safety analyses for launch operations.	HPD
12/23/2020	HPD provided response to FOE letter.	HPD
1/22/2021	FAA sent consulting parties Section 106 materials.	Multiple Agencies

ACHP	Advisory Council on Historic Preservation	FOE	Finding of Effect
AOE	Assessment of Effects	HPD	Historic Preservation Division
APE	Area of Potential Effect	LCI	Little Cumberland Island
CRA	Cultural Resource Analysts, Inc.	MOA	Memorandum of Agreement
CUIS	Cumberland Island National Seashore	NOA	Notice of Availability
EIS	Environmental Impact Statement	NOI	Notice of Intent
FAA	Federal Aviation Administration	NPS	National Park Service
		NASA	National Aeronautics and Space Administration

[2] Note the April 5, 2019 meeting included numerous email correspondence between LCI residents and Dan Murray and Pam Underwood of AST to clarify 14 CFR Part 420 questions. Emails spanned from February 2019 to June 2019. Copies are available upon request.

U.S. Department of Transportation
Federal Aviation Administration

Office of Commercial Space Transportation

800 Independence Ave., SW.
Washington, DC 20591

March 26, 2021

Ms. Jennifer Dixon
Environmental Review & Preservation Planning Program Manager
Department of Community Affairs
60 Executive Park South, NE
Atlanta, GA 30329-2231

RE: Spaceport Camden Environmental Impact Statement Revised Finding of Effect Pursuant to 36 CFR Part 800 Regarding the Proposed Action to Construct/Operate Commercial Space Launch Site, Spaceport Camden, Woodbine, Camden County, Georgia.
HP-151117-001

Dear Ms. Dixon:

Thank you for reviewing the additional information provided by the Federal Aviation Administration (FAA) regarding Spaceport Camden on March 2, 2021. This letter is in response to letters from your office (December 23, 2020), ACHP (December 9, 2020), Little Cumberland Island (LCI) (November 6, 2020), and The Gullah Geechee Sea Coalition (November 18, 2020). The materials, included as Attachments 1 and 2 to this letter, were provided for information on the change from medium-large launch vehicles to small-lift launch vehicles regarding vehicle failure, Area of Potential Effect, and public participation.

The FAA is seeking your concurrence on the items outlined below.

1. FAA's determination that the Spaceport Camden project Area of Potential Effect (APE) should retain the same boundary as the one concurred with by your office in 2016 to address effects, such as debris impacts, fire, and other rocket failure safety concerns.
2. FAA's determination, at this time, that it is unknown if there is potential for adverse effect to archaeological historic properties during construction. The FAA will prepare a Programmatic Agreement to resolve any potential adverse effects to archaeological properties. At a minimum, the Programmatic Agreement would contain a number of provisions including the following:
    a. A plan to conduct an archaeological survey of the remainder of the property that has yet to be surveyed due to ownership and/or hazardous material concerns (the survey report would be submitted to HPD, once complete).

b. If construction of the Vertical Launch Facility could not avoid the four archeological sites that are currently considered potentially eligible for listing on the NRHP or any currently unknown sites, a plan to conduct Phase II testing to determine whether the site(s) are eligible for listing on the National Register of Historic Places (NRHP).

c. If determined eligible, then construction of Spaceport Camden would have an adverse effect to historic properties and mitigation measures will be developed.

3. FAA's determination that there would be no adverse effects to archaeological resources during operation of Spaceport Camden.

4. FAA's determination that there would be no adverse effects to above-ground historic properties associated with the construction of Spaceport Camden.

5. FAA's determination, at this time, that it is unknown if there is a potential for adverse effect to above-ground historic properties from the operation of Spaceport Camden. The proposed launch vehicle is conceptual at this time. If a vehicle operator applies for a Vehicle Operator License to launch from Spaceport Camden, the FAA will conduct a separate environmental review and Section 106 consultation. The following information is currently known based on FAA's analysis for Spaceport Camden:
   a. There will be no adverse effect if launch noise-induced structural vibration analysis concludes that levels would be well below criteria levels established for "sensitive" structures for all frequency bands for properties in the APE, which includes the historic properties on Cumberland Island.
   b. Sonic booms would occur over open ocean areas, more than 50 miles to the east of the APE and historic properties on Cumberland Island.
   c. Temporary and infrequent changes in the setting of historic properties in the APE resulting from periodic rises in noise due to launches would not be adverse.
   d. The Spaceport Camden area associated with a risk at or above 1.0E-6 is contained within the proposed launch site boundaries and does not pose a debris risk to Little Cumberland Island or Cumberland Island.

Below we provide information on the consultation history, overview of the proposed project, resources summary, effects summary, and cumulative effects for the proposed project.

Consultation History

In 2016, the County began the process of applying for a Launch Site Operator License. The FAA deemed the project an undertaking subject to the National Historic Preservation Act (NHPA) and its implementing regulations under Section 106 (36 Code of Federal Regulations [CFR] Part 800, as amended), and initiated Section 106 consultation with the HPD in early 2016. The proposed project and its associated activities are also subject to the National Environmental Policy Act (NEPA), and the FAA initiated preparation of an Environmental Impact Statement (EIS) to meet its regulatory obligations.

The cultural resources that were identified in 2018 as part of the Section 106 process are described in Attachment 3.

Overview of Revised Proposed Project

As noted in prior communications, the proposed project has been modified since the publication of the Draft EIS for Spaceport Camden in March 2018. The original application for Spaceport Camden proposed operations of small to medium-large launch vehicles and first stage returns. The County revised the application in January 2020 to include only the launch of small launch vehicles, with no first stage returns. The proposed launch site for small launch vehicles is located in the same location that was previously evaluated in 2018. The current proposed Spaceport Camden launch site would include a vertical launch facility, a mission preparation area, and operations facilities. The County plans to offer the site for up to 12 vertical annual launches of small-lift, vertical launch vehicles. A project description and map are included in Attachment 4. A launch site operator license does not authorize commercial space launches from Spaceport Camden. If a vehicle operator plans to launch from the site, the operator would have to apply for a Vehicle Operator License to launch from the site, and the FAA would conduct a separate environmental review and Section 106 consultation.

Resources Summary

Archaeological Resources

Seven archaeological sites and three isolated finds were recorded by FAA's cultural resources consultant within the proposed Spaceport Camden site, which also includes a portion of the APE for audible, vibratory, and visual effects. If construction of the Vertical Launch Facility could not avoid the four archaeological sites that are currently considered potentially eligible for listing on the NRHP, Phase II testing would occur to determine whether the site(s) are eligible for listing on the NRHP. If determined eligible, then there would be an adverse effect from construction of Spaceport Camden that would require mitigation measures.

- Four of the seven archaeological sites are located within the Vertical Launch Facility footprint, which is within the APE for ground disturbance.
- None of these four sites have been evaluated for NRHP eligibility, and your office previously concurred that they should be treated as if they are "potentially eligible" (DNR Historic Preservation Division letter dated April 3, 2017), until such time that a formal evaluation for listing on the NRHP is completed for each site.
- There are three archaeological sites outside of the construction area, but within the proposed Spaceport Camden boundary, which have not been evaluated for NRHP eligibility. These archaeological resources are also treated as if they are eligible until such time as there could be an effect, at which time compliance with Section 106 of the NHPA would include NRHP eligibility evaluation.
- A section of the APE, the parcel owned by Bayer CropScience, could not be surveyed due to ownership and/or hazardous material concerns.

Above-Ground Resources

There are no above-ground historic properties located within the construction areas of the APE. Within the proposed Spaceport Camden boundary, but outside of the construction areas, inventory efforts identified and recorded nine historic properties as individual features within the Floyd's Fairfield and

Bellevue Plantations/Union Carbide Property.

- Outside of the proposed Spaceport Camden boundary, but within the 5-mile radius of the APE, inventory of the entire APE for audible, vibratory and visual effects identified three groups of resources: Cabin Bluff Historic District, Dover Bluff Club Historic District, and historic properties on Cumberland Island within the Cumberland Island National Seashore.
- The Cumberland Island Cultural Historic Landscape, which is outside of the Spaceport Camden boundary, but overlaps with the outer mile of the 5-mile radius APE for audible and visual effects, is a NRHP-eligible historic vernacular landscape, running nearly the entire length of Cumberland Island.

Effects Summary

Effects to historic properties were assessed by identifying the type of proposed activity resulting from the construction and/or operation of the proposed Spaceport Camden, as well as the location of the activity in relation to historic properties. In addition, effects may result due to changes in the visual or audible environment, as well as by vibration from construction and/or operation of the proposed Spaceport Camden. Results of the viewshed analysis (EIS 2018), Camden Spaceport Noise Study for the ITAR Small Launcher (2020), and safety analysis (2020) were used in determining the following:

Construction Effects

It is unknown if there is potential for adverse effect to archaeological historic properties during construction because the parcel owned by Bayer CropScience could not be surveyed due to ownership and/or hazardous material concerns. The FAA will prepare a Programmatic Agreement to resolve any potential adverse effects to archaeological properties. At a minimum, the Programmatic Agreement would contain a number of provisions:

a. A plan to conduct an archaeological survey of the remainder of the property that has yet to be surveyed due to ownership and/or hazardous material concerns (the survey report would be submitted to HPD, once complete).
b. If construction of the Vertical Launch Facility could not avoid the four archeological sites that are currently considered potentially eligible for listing on the NRHP or any currently unknown sites, a plan to conduct Phase II testing to determine whether the site(s) are eligible for listing on the National Register of Historic Places (NRHP).
c. If determined eligible, then construction of Spaceport Camden would have an adverse effect to historic properties and mitigation measures will be developed.

There is no adverse effect anticipated to ***above-ground historic properties*** during construction.

- No physical disturbance of above-ground historic properties would occur within the APE as a result of the construction of Spaceport Camden.
- Noise and vibration analysis of the construction of Spaceport Camden confirmed that noise levels would be between 73 and 101 decibels, and far from above-ground historic properties in APE.
- Visual analysis of the construction of Spaceport Camden established that new structures and lights would not adversely affect the setting of above-ground historic properties in the APE.

Operation Effects

There is no adverse effect to ***archaeological historic properties*** anticipated from the operation of Spaceport Camden.

- Vibration and noise generated by static engine tests, movement of the launch vehicle to the launch pad, or other activities would not affect archaeological resources.
- The change in the acoustical setting due to the proposed Spaceport Camden operations would not be an adverse effect to the seven prehistoric archaeological sites because they are considered potentially eligible for their potential data content under Criterion D, and setting is not one of the characteristics of these sites that would qualify the property for inclusion in the NRHP.

The Spaceport Camden operational analysis is for a conceptual vehicle. A vehicle operator proposing to launch from Spaceport Camden would have to apply for a Vehicle Operator License and conduct a separate safety and environmental analysis. At this time, it is unknown if there is a potential for adverse effect to **above-ground historic properties** from the operation of Spaceport Camden. The following information is currently known based on FAA's analysis for the proposed Spaceport Camden:

a. There will be no adverse effect if launch noise-induced structural vibration analysis concludes that levels would be well below criteria levels established for "sensitive" structures for all frequency bands for properties in the APE, which includes the historic properties on Cumberland Island.
b. Sonic booms would occur over open ocean areas, more than 50 miles to the east of the APE and historic properties on Cumberland Island.
c. Temporary and infrequent changes in the setting of historic properties in the APE resulting from periodic rises in noise due to launches would not be adverse.
d. The Spaceport Camden area associated with a risk at or above 1.0E-6 is contained within the proposed launch site boundaries and does not pose a debris risk to LCI.

Cumulative Effects

Advisory Council on Historic Preservation requested an analysis of cumulative effects. Section 106 cumulative effects are outlined below and have been incorporated into the consideration of effects for Spaceport Camden. This information will be considered in the development of the Programmatic Agreement noted above.

Adverse effects resulting in impacts to historic properties related to the Proposed Action may add to the cumulative impacts of other actions within the APE and the region. Within the APE for the undertaking, adverse effects to the archaeological historic properties would be added to the overall loss of dateable sites from continued regional development. Mitigation actions as required by Section 106 (which requires the proponent resolve the adverse effect through avoidance, minimization, or mitigation [36 CFR §800.6(b)]) provide some relief, but the nature of archaeological sites means that even with data collection, an adverse effect to a site cannot be reversed.

For architectural resources in the APE for the undertaking, there would be no cumulative effect. Although the Anchor House ruins continue to naturally deteriorate, as do the Charles Rinaldo Floyd Burial Site and the Floyd Family Cemetery, no other known actions would further reduce these

resources' contribution to the complement of this site type in the APE.

Within the APE for audible, vibratory, and visual effects, although vegetation and other structures would block the view of structures at Spaceport Camden from the High Point-Half Moon Bluff Historic District and Main Road, visual and temporary noise intrusions (65- to 250-foot-tall structures and launch vehicles), in combination with potential project-induced growth and development and other increases in residential growth, would result in a cumulative effect on the viewshed and other aspects of the setting of historic properties in the Cumberland Island National Seashore. Visual and temporary, periodic noise intrusions are less likely to add to a cumulative effect to historic properties on Dover Bluff and Cabin Bluff, due to the more modern setting of these areas.

Summary

The Camden County Launch Site Operator License application for Spaceport Camden has been modified to address only small-lift launch vehicles with no first stage returns; therefore, the FAA has reviewed the delineation of the project APE and the previous determinations of effect. This re-evaluation has taken into account comments from your office and other consulting parties regarding all potential impacts, including launch failure probability and the potential for reasonably foreseeable effects.

The FAA proposes to record the terms and conditions agreed upon to resolve potential adverse effects to above-ground historic properties in the Spaceport Camden APE in a Programmatic Agreement pursuant to 36 CFR §800.14(b)(ii) to be executed prior to approval of this undertaking.

We are holding a meeting with all consulting parties on April 8, 2021 to further discuss any questions or issues on the FAA determination. If you have any comments or questions regarding this undertaking, please contact Stacey Zee of my staff at 202-267-9305, or via email at Stacey.Zee@faa.gov.

Sincerely,

DANIEL P MURRAY

Digitally signed by DANIEL P MURRAY
Date: 2021.03.26 12:24:46 -04'00'

Daniel P. Murray
Manager, Safety Authorization Division

Attachments:
1 – March 2, 2021 letter from FAA to HPD
2 – 2018 Cultural Resources documentation
4 – Project description and map

U.S. Department of Transportation
Federal Aviation Administration

Office of Commercial Space Transportation

800 Independence Ave., SW.
Washington, DC 20591

March 2, 2021

Ms. Jennifer Dixon
Environmental Review & Preservation Planning Program Manager
Historic Preservation Division
Department of Community Affairs
60 Executive Park South, NE
Atlanta, GA 30329-2231

RE: Construct/Operate Commercial Space Launch Site, Spaceport Camden, Woodbine, Camden County, Georgia.
HP-151117-001

Dear Ms. Dixon:

Thank you for reviewing the additional information provided by the Federal Aviation Administration (FAA) regarding Spaceport Camden. The FAA recognizes that you need additional information before you can concur with a revised determination of effect.

Your December 21, 2020 letter indicates that the Historic Preservation Division (HPD) requests additional information to understand the change from medium-large launch vehicles to small-lift launch vehicles and asserts that change requires an expansion of the previously established area of potential effect (APE). Please see additional information below, outlined by your area of concern. We will work with you to identify a date/time for a virtual meeting to discuss this additional information and a revised finding of effect.

Vehicle Failure

Camden County has stated in its updated application[1] that it does not propose offering Spaceport Camden to development of or use of experimental vehicles.

Your December 2020 letter states that the probability of failure is higher in smaller vehicles than larger vehicles. Please note that a small-lift vehicle does not have an inherently greater probability of launch failure than a larger vehicle. Probability of failure is based on many factors, including vehicle performance and previous launches and is not the only factor in calculating risk to the public.

[1] 14 CFR 420.29 requires applicants to provide requirements for unproven launch vehicles. Camden County is not applying for unproven vehicle permissions in its application.

On December 18, 2020 we met with your office to provide a launch safety overview. As was discussed in that meeting, the FAA applies two quantitative criteria for limiting risk to the public, known as collective risk and individual risk. Collective risk represents the risk to everyone who may be exposed to a launch operation, while individual risk measures the risk to a single person in the exposed population. Both risk criteria are computed using the probability of failure as well as additional factors about the vehicle including size, debris it may generate as a result of failure, three-dimensional path it follows as it flies, and its speed.

For the small-lift vehicle mission that Camden County has proposed in its site operator license application, the calculated collective risk, expressed as "expected casualties," is 0.02E-4. This is less than the regulatory threshold value of 1.0E-4 and more than a factor of 10 lower than the medium-large vehicle mission that was previously proposed and analyzed. The regulatory threshold for individual risk is 1.0E-6. Accordingly, no member of the public is allowed to be present in a location where the risk to that person exceeds 1.0E-6. The only relevant areas associated with the small-lift vehicle mission with a risk at or above 1.0E-6 are contained entirely within the proposed launch site boundary.

Area of Potential Effect

As a result of the modified application, the FAA assessed the delineation of the 2016 APE to take into account the change in vehicle type, associated infrastructure, and vehicle performance. FAA recommends that the APE for archaeological resources remains the same as the APE that was delineated in 2016 to include the physical footprint of the launch site. Furthermore, FAA recommends the original 5-mile APE for architectural resources remain unchanged as well.

In the May 24, 2016 letter from FAA to the Historic Preservation Division (HPD), FAA provided the following justification for the original 5-mile radius for the architectural APE:

> The APE for architectural resources usually covers a greater geographical area than for archaeological resources, because architectural historic properties often rely heavily on other key elements of integrity, including location, setting, workmanship, feeling, design, and association. The primary potential effects for architectural resources include permanent visual effects on the landscape resulting from construction of the facility; the introduction of short-term but incompatible auditory effects on noise sensitive historic properties during operations; and vibration caused by operation of the proposed project. In addition, the architectural APE also captures areas of potential direct effects to built environmental resources. Changes to the visual and audible environment may affect the historic property's NRHP eligibility.

On June 12, 2016, HPD concurred with the APE determination for the proposed project.

The proposed launch site for small launch vehicles is located in the same location that was previously evaluated in 2018. The current proposed Spaceport Camden launch site would include the same infrastructure proposed and previously analyzed in 2018 including a vertical launch facility, a mission preparation area, and operations facilities.

The noise and operational footprint is smaller for the small-lift vehicle than for the medium-large vehicle considered in the 2018 Draft EIS. As noted above, the project areas associated with a risk at or above

1.0E-6 are contained entirely within the proposed launch site boundary. Therefore, FAA determined the original APE for above-ground historic properties is sufficiently conservative for purposes of the Section 106 process for this project.

Public Participation

Regarding HPD's recommendation that FAA should continue public participation efforts through re-engaging previously consulted organizations, it is FAA's intent to continue to comply fully with our Section 106 obligations under 36 CFR 800.3(e) and 36 CFR 800.3(f). We are reviewing our previous correspondence with consulting parties including newly identified consulting parties. The attachment outlines the Section 106 communication timeline for this project.

The FAA will continue to engage with HPD, ACHP and the other consulting parties as we move into the eventual development of the planned Programmatic Agreement.

If you have any comments or questions regarding this undertaking, please contact Stacey Zee of my staff at 202-267-9305, or via email at Stacey.Zee@faa.gov.

Sincerely,

DANIEL P MURRAY

Digitally signed by DANIEL P MURRAY
Date: 2021.03.02 11:43:26 -05'00'

Daniel P. Murray
Manager, Safety Authorization Division

Attachment

cc: Sarah Stokely, ACHP
Kevin Lang, Little Cumberland Island
Betsy Merritt, NTHP
Beth Byrd, NPS
Queen Quet, Gullah/Geechee Sea Island Coalition

Timeline of Select Spaceport Camden - Section 106 Consultation[1]

Date	Action	Agency / Consulting Party
6/19/2013	FAA requested NPS participate as a cooperating agency.	NPS
7/11/2013	NPS accepted FAA's request to be a cooperating agency.	NPS
9/10/2015	Project site visit occurred with Camden County and FAA.	Camden County
9/17/2015	NASA signed the MOA establishing a cooperating agency relationship.	NASA
11/6/2015	FAA published NOI to prepare an EIS.	FAA
11/6/2015 - 1/18/2016	Scoping comment period.	Public / Agencies
12/4/2015	FAA sent letter to Tribes to initiate formal government to government consultation.	Tribal
12/7/2015	FAA held a Public scoping meeting.	Public
12/8/2015	FAA held an Agency scoping meeting.	Multiple Agencies
12/15/2015	NPS signed the MOA establishing a cooperating agency relationship.	NPS
12/30/2015	FAA sent Section 106 consulting party requests to multiple agencies.	Multiple Agencies
1/4/2016	HPD requested to be Section 106 consulting party.	HPD
1/4/2016	FAA formally accepted HPD's request to be a consulting party.	HPD
1/6/2016	FAA sent Section 106 initiation letter to HPD.	HPD
1/6/2016	FAA sent Section 106 initiation letter to Tribes.	Tribal
1/11/2016	FAA published extension of public scoping period to 1/18/16 in the Federal Register.	FAA
1/27/2016	HPD provided response to Section 106 initiation letter.	HPD
2/25/2016	FAA sent Section 106 initiation letter to the Gullah Geechee Commission.	Tribal
2/3/2016	Choctaw Nation notified FAA that the project was outside of the Choctaw Nation of Oklahoma's area of historic area of interest and deferred to other Tribes.	Tribal
5/5/2016	FAA had a call with NPS and discussed description of proposed cultural resources survey for CUIS, and coordination for cultural resources surveys.	NPS
5/12/2016	FAA held call with NPS discussing noise analysis methodology and sensitive noise areas.	NPS
5/25/2016	FAA submitted APE letter to HPD.	HPD
6/12/2016	HPD provided response to APE.	HPD
8/5/2016	FAA submitted Cultural Resources Work Plan to HPD.	HPD
8/24/2016	CRA, FAA and HPD had call discussing the cultural surveys.	HPD
9/1/2016	CRA, FAA and HPD had call discussing the cultural surveys.	HPD
9/23/2016	HPD concurred with determination not to complete a GPR survey.	HPD
3/6/2017	FAA sent HPD the Archaeology Survey Report.	HPD
3/8/2017	FAA sent HPD the Architectural Survey Report.	HPD

[1] This timeline of events does not include every action taken over the course of the project. Rather, it is a listing of events detailed within the *Summary of FAA's Consultation under Section 106 of the National Historic Preservation Act for the Spaceport Camden Environmental Impact Statement*.

Date	Action	Agency / Consulting Party
3/30/2017	HPD responded it could not concur with the determination of eligibility until concerns were addressed.	HPD
4/3/2017	HPD provided concurrence letter with Archaeology Survey Report.	HPD
7/21/2017	FAA and HPD resolved a portion of the outstanding questions regarding the determination of eligibility.	HPD
8/1/2017	FAA sent HPD revised Determinations of Eligibility Report.	HPD
8/4/2017	HPD requested more information regarding Cabin Bluff historic district, CM-CO 31 and Dover Bluff Club.	HPD
8/10/2017	FAA sent Phase I Archaeological Survey Report to Tribes.	Tribal
8/16/2017	Muscogee (Creek) Nation of Oklahoma concurred with findings in Phase I Archaeological Survey.	Tribal
9/21/2017	HPD and FAA settled the remaining questions and concerns with the Structural Survey Report.	HPD
10/31/2017	FAA sent HPD the Architectural Survey Report and transmittal letter.	HPD
11/27/2017	HPD provided concurrence to the Determinations of Eligibility Report.	HPD
3/19/2018	FAA emailed agencies notifying them of agency public meeting to discuss Draft EIS.	Multiple Agencies
3/16/2018	FAA published Draft EIS and NOA in Federal Register.	FAA
3/16/2018 – 6/14/2018	Draft EIS Public Comment Period.	Public / Agencies
4/10/2018	Meeting between NPS and FAA an tour of Cumberland Island	NPS
4/11/2018	FAA met with Camden County Environmental Subcommittee	NGAs
4/11/2018	FAA met with Little Cumberland Island and others	LCIs
4/11/2018 – 4/12/2018	FAA held public hearings on the Draft EIS.	Public
4/11/2018	Agency meeting was held discussing public concern over burials on Project site.	Multiple Agencies
5/18/2018	Seminole National of Oklahoma requested to be contacted if cultural or archeological resource materials were encountered.	Tribal
7/24/2018	FAA sent HPD FOE letter.	HPD
8/15/2018	HPD did not concur with FOE for structures and provided comments to FAA.	HPD
9/6/2018	FAA and HPD discussed outstanding issues regarding the FOE letter over the phone.	HPD
10/4/2018	FAA and NPS met with LCI residents and toured the island.	LCI
11/2/2018	FAA resubmitted FOE responding to HPD comments.	HPD
12/3/2018	HPD provided concurrence letter with the determination of No Adverse Effect with conditions.	HPD
12/4/2018	FAA held a meeting with LCI.	LCI
1/29/2019	Camden County submitted a Launch Site Operator License application to the FAA for launches of small to medium-large, liquid propellant vehicles with first-stage landing and the associated support infrastructure.	Camden County

Date	Action	Agency / Consulting Party
4/5/2019	LCI met with Wayne Monteith, Associate Administrator for Commercial Space Transportation[2]	LCI
9/6/2019	LCI requested FAA designate them as a consulting party as part of the 106-review process.	LCI
12/14/2019	Camden County notified the FAA their modified application would only include small launch vehicles with no first stage landings.	Camden County
1/15/2020	Camden County submitted an amended license application.	Camden County
5/7/2020	FAA invited LCI to be a consulting party to the PA.	LCI
6/17/2020	The Gullah Geechee Commission requested be to a consulting party.	Tribal
7/28/2020	FAA accepted the Gullah Geechee Commission request to be a consulting party.	Tribal
10/16/2020	FAA sent FOE letter to HPD and cooperating agencies.	Multiple Agencies
10/18/2020	LCI provided response to FAA stating they received the FOE letter.	LCI
10/30/2020	The Gullah Geechee Commission sent FAA comments regarding the Section 106 process.	Tribal
11/6/2020	LCI sent FAA response to FOE letter.	LCI
11/16/2020	HPD told the FAA that they required additional time to review the submittal.	HPD
12/9/2020	ACHP sent FAA response to AOE/FOE letter.	ACHP
12/18/2020	FAA provided briefing to HPD/ACHP/NPS regarding public safety analyses for launch operations.	HPD
12/23/2020	HPD provided response to FOE letter.	HPD
1/22/2021	FAA sent consulting parties Section 106 materials.	Multiple Agencies

ACHP	Advisory Council on Historic Preservation	FOE	Finding of Effect
AOE	Assessment of Effects	HPD	Historic Preservation Division
APE	Area of Potential Effect	LCI	Little Cumberland Island
CRA	Cultural Resource Analysts, Inc.	MOA	Memorandum of Agreement
CUIS	Cumberland Island National Seashore	NOA	Notice of Availability
EIS	Environmental Impact Statement	NOI	Notice of Intent
FAA	Federal Aviation Administration	NPS	National Park Service
		NASA	National Aeronautics and Space Administration

[2] Note the April 5, 2019 meeting included numerous email correspondence between LCI residents and Dan Murray and Pam Underwood of AST to clarify 14 CFR Part 420 questions. Emails spanned from February 2019 to June 2019. Copies are available upon request.

Attachment 2

The purpose of this attachment is to provide further detail regarding the construction and operations of the proposed project, Spaceport Camden.

Project Overview

Camden County (the County), is proposing to construct Spaceport Camden approximately 11.5 miles due east of the City of Woodbine, Georgia, 5 miles due west of Cumberland Island National Seashore (CUIS), less than 1 nautical mile from the Satilla River, and 6.7 nautical miles from the Atlantic Ocean (Figure 1). The proposed launch site would be constructed within an existing 11,800-acre industrial site consisting of property currently owned by the Union Carbide Corporation and Bayer CropScience.[1]

Construction

Construction of the launch site would occur on approximately 100 noncontiguous acres of this industrial site (Figure 2). Proposed activities include the construction of four facilities and associated infrastructure: a Vertical Launch Facility, a Launch Control Center Complex, an Alternate Control Center and Visitor Center, and a Mission Preparation Area. The Vertical Launch Facility would include a launch pad and its associated structures, storage tanks, and handling areas; vehicle and payload integration facilities; a lightning protection system; deluge water systems and associated water capture tank; water tower; and other launch-related facilities and systems including shops, office facilities, and stormwater retention ponds. The Launch Control Center Complex would include a Launch Control Center Building housing a control room and related equipment and a Payload Processing Building. The Alternate Control Center would mirror the Launch Control Center in facility construction, providing a backup launch control capability, and would also include a Visitor Center containing informational displays and accommodations for visitors to view launches. The Mission Preparation Area would be used for remote vehicle processing and would occupy approximately 13 acres. It would primarily consist of a 400-foot by 400-foot concrete pad as well as a building for operations, storage, and fuel and oxidizer tanks.

Each of the launch site facilities and the western boundary of the site would be fenced to provide security and control access. The Alternate Control Center and Visitor Center is located outside of the Spaceport Camden site boundary on what is currently Bayer CropScience property.

Onsite infrastructure improvements would include improvements to existing internal roads, construction of new roadways, and new electrical distribution, water distribution, and septic systems on the launch site. However, electricity and water are available on the adjoining Bayer CropScience property, and there is an access road to the launch site. The County does not anticipate that improvements or expansions would be required for Harrietts Bluff Road/Union Carbide Road outside the proposed spaceport site, which would provide access to the site. Additionally, the County does not anticipate required expansions or improvements to the utilities that bring electricity and communications to the external boundary of the industrial

[1] Camden County has entered into an option agreement to purchase most of the Union Carbide Corporation property (about 4,000 acres) and is considering an option to purchase the Bayer CropScience property (an additional 7,800 acres).

property, although expansions and improvements may be required within the boundary of the site to provide utilities to various facilities.

The County expects construction activities to last approximately 15 months. Construction activities would occur during daylight hours, five days a week. It is anticipated that 40 to 50 construction workers would be required for the construction of the facilities and 20 additional construction workers would be required for the construction of new infrastructure (water, sewer, drainage, and roads). Launch site construction activities would not commence until after the National Environmental Policy Act process, including issuance of a Record of Decision, has been completed and any required permits or approvals have been granted.

Operations

Operations would consist of up to 12 launches and up to 12 static fire engine tests and 12 wet dress rehearsals of a small-lift class Liquid propellant launch vehicle per year. One of the 12 launches could be a night launch. The proposed trajectory in the Spaceport Camden Launch Site Operator License Application is 100 degrees from true north. The booster rocket(s) providing the initial powered ascent of the launch vehicle (i.e., the "first stage") would drop into the Atlantic Ocean and not be recovered. This trajectory is shown in Figure 3.

As part of the launch license evaluation process, FAA conducts a policy review, payload review, financial determination, and safety review. For FAA to complete a safety review, an individual launch operator is required to submit a number of analyses to the FAA, including a flight safety analysis that details the specific vehicle trajectory, trajectory specific safety zones, and demonstrates compliance with the 14 CFR Part 400 requirements. The FAA's issuance of a license to a launch operator to conduct a launch at Spaceport Camden would require additional environmental review.

Spaceport Camden would be available to a range of launch operators, each of which offers various launch vehicles. While these vehicles would include only small-lift-class launch vehicles and use liquid propellants, they would have different design and operating specifications.

The small-lift-class representative launch vehicle that the County proposed for analysis is a two-stage, liquid-fueled (liquid oxygen and RP-1) launch vehicle with approximately 18,500 pound-feet of thrust at lift-off, carrying a small (100- to 300-pound) payload/satellite to low Earth orbit. The representative launch vehicle would be similar in design and performance to a RocketLab Electron launch vehicle. The representative launch vehicle carries approximately 1,000 gallons of liquid oxygen and 750 gallons of fuel. The representative launch vehicle is between 40 to 60 feet tall. The first stage of the representative launch vehicle would drop about 200 to 300 miles offshore in the Atlantic Ocean and not be recovered.

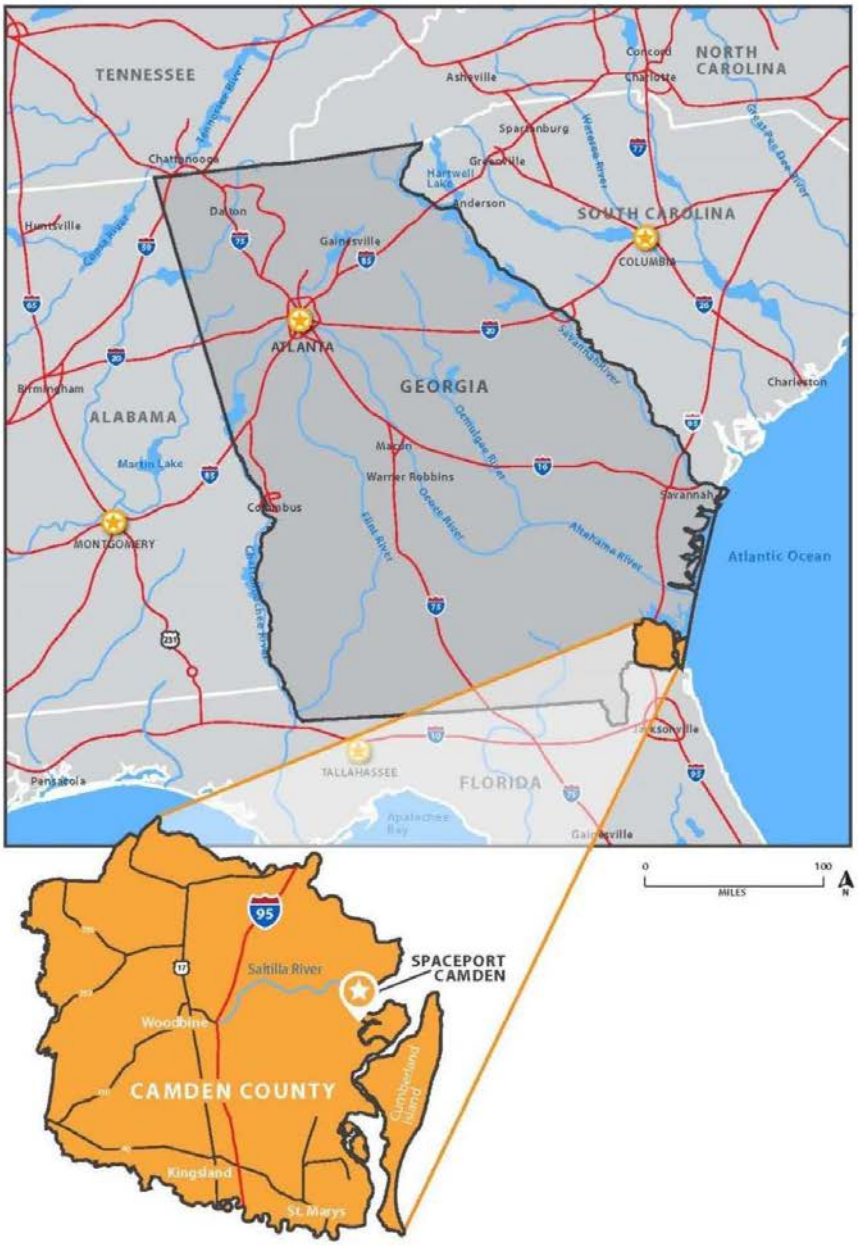


Figure 1. Proposed Spaceport Camden Location

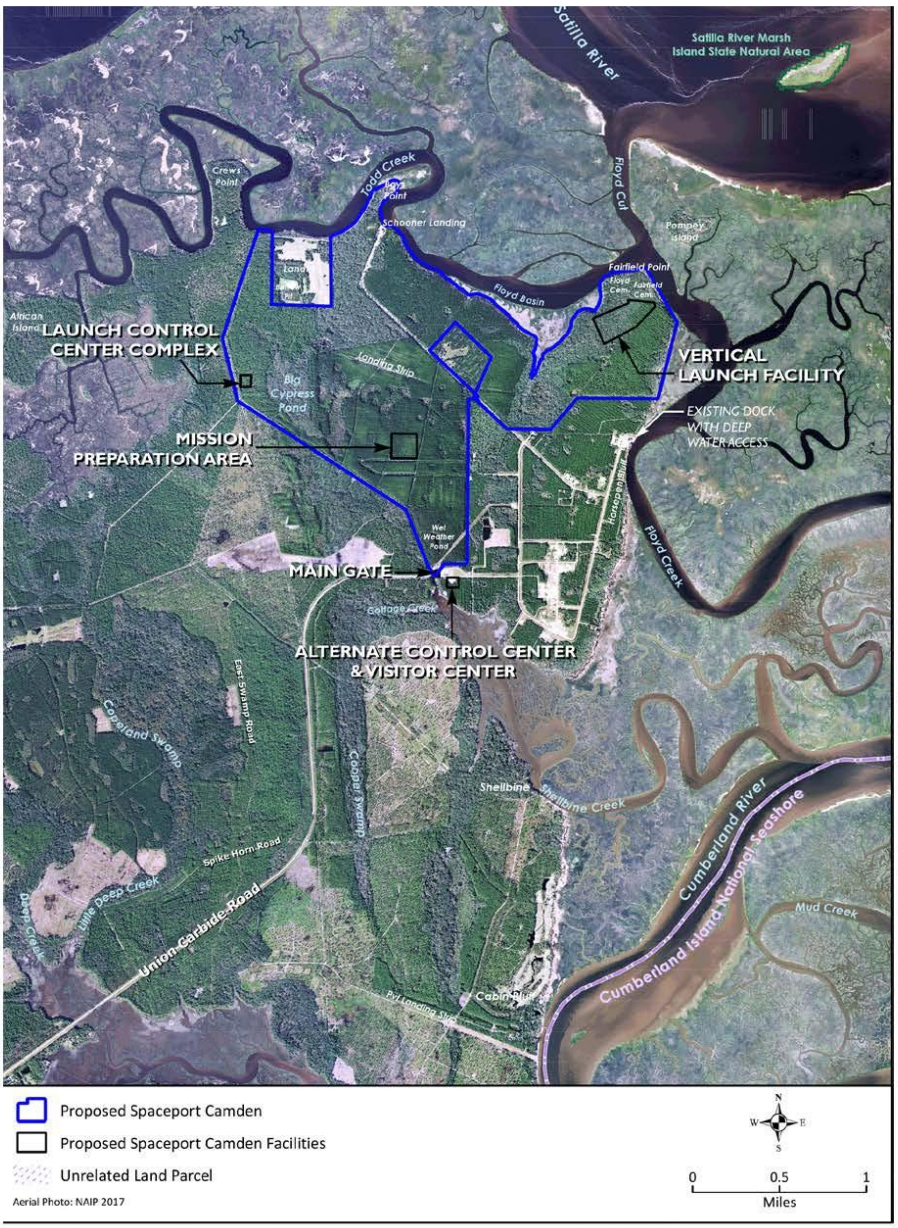


Figure 2. Proposed Spaceport Camden Site Plan

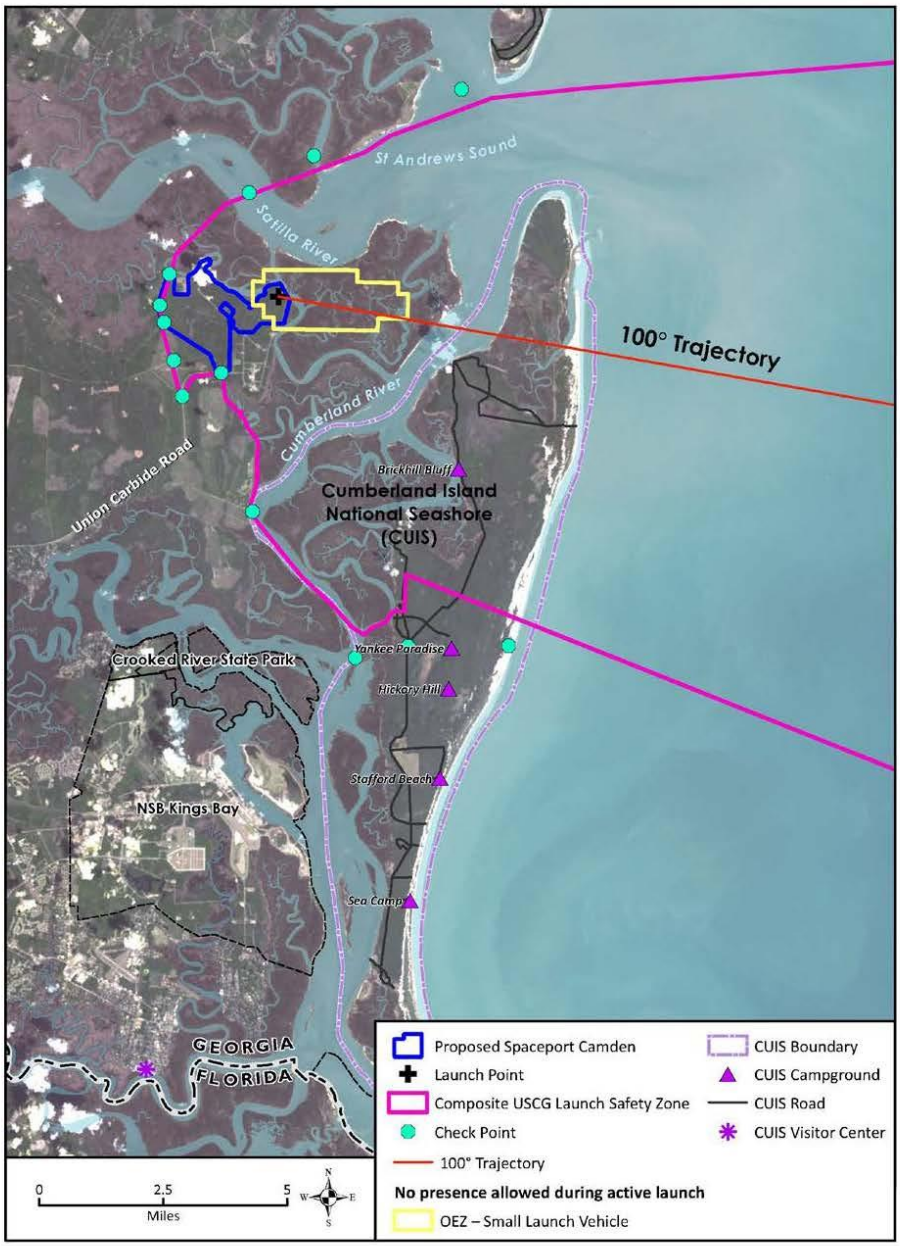


Figure 3. Composite Launch Safety Zone and Restricted Areas (100-degree Trajectory)

The FAA conducted archaeological and architectural investigations within the Spaceport Camden Area of Potential Effects (APE) and identified the following historic properties that are listed in, or are eligible for listing in, the National Register of Historic Places (NRHP). The Georgia State Historic Preservation Officer (SHPO) concurred with these findings in 2017.

NRHP-listed

1. NRHP #78000265, High Point-Half Moon Bluff Historic District with ten (10) contributing resources
2. NRHP #84000941, Main Road

NRHP-eligible

1. Dover Bluff Club Historic District with twenty-three (23) contributing elements
2. Cabin Bluff Cumberland River Retreat Historic District (Resource CRA #15) with fifteen (15) contributing elements
3. Anchor House ruins (Floyd's Fairfield & Bellevue Plantations, Resource CM-CO-31, Resource A)
4. Floyd's Fairfield & Bellevue Plantations (Resource CM-CO-31)
5. Charles Rinaldo Burial Site (Floyd's Fairfield & Bellevue Plantations, Resource CM-CO-31, Resource B)
6. Floyd Family Cemetery (Floyd's Fairfield & Bellevue Plantations, Resource CM-CO-31, Resource C)
7. Tabby Ruins, a contributor to Black Hammock Plantation (Resource CRA #16)
8. 9CM30 (shell midden & pottery)
9. 9CM64 (shell midden & pottery)
10. 9CM570 (shell midden & pottery)
11. 9CM571 (shell midden & pottery)
12. 9CM24 (shell scatter)
13. 9CM25 (shell midden)
14. 9CM26 (shell mounds)
15. Cumberland Island Cultural Historic Landscape

Brian P. Kemp
Governor

Georgia® Department of Community Affairs

Christopher Nunn
Commissioner

April 15, 2021

Daniel P. Murray
Manager, Safety Authorization Division
Federal Aviation Administration
800 Independence Avenue, SW
Washington DC 20591
Attn: Stacey Zee

RE: Construct/Operate Commercial Space Launch Site, Spaceport Camden, Woodbine Camden County, Georgia
HP-151117-001

Dear Mr. Murray:

The Historic Preservation Division (HPD) has received the additional information submitted concerning the above referenced project. Our comments are offered to assist the Federal Aviation Administration (FAA) in complying with the provisions of Section 106 of the National Historic Preservation Act of 1966, as amended (NHPA).

The subject project consists of the construction of a spaceport complex, and its subsequent operation, in Woodbine. Based on the additional information provided regarding Item 1, it appears to HPD that the area of potential effect (APE) does not need to be changed. HPD will respond to any revised documentation resulting from consulting party comments made during the April 8, 2021 meeting efficiently to aid the FAA in completing this portion of the Section 106 process.

Additionally, HPD concurs with the Advisory Council on Historic Preservation regarding an undertaking having one effect assessment (Items 2 through 5). As such, regardless of whether the undertaking is simply the construction of the spaceport, or the construction and operation, it appears to HPD that the proposed project has an unknown impact on historic properties. Therefore, HPD concurs with the FAA's recommendation to draft a programmatic agreement that will govern the remainder of the Section 106 process for this undertaking.

Please refer to project number **HP-151117-001** in any future correspondence regarding this project. If we may be of further assistance, please do not hesitate to contact me at (404) 486-6376 or jennifer.dixon@dca.ga.gov.

Sincerely,

Jennifer Dixon, MHP, LEED Green Associate
Program Manager
Environmental Review & Preservation Planning

Cc: All identified consulting parties

60 Executive Park South, NE | Atlanta, GA 30329-2231 | 404-679-4940
www.dca.ga.gov | An Equal Opportunity Employer

U.S. Department of Transportation
Federal Aviation Administration

Office of Commercial Space Transportation

800 Independence Ave., SW.
Washington, DC 20591

May 7, 2021

Ms. Jennifer Dixon
Environmental Review & Preservation Planning Program Manager
Department of Community Affairs
60 Executive Park South, NE
Atlanta, GA 30329-2231

RE: Spaceport Camden Environmental Impact Statement Revised Finding of Effect Pursuant to 36 CFR Part 800 Regarding the Proposed Action to Construct/Operate Commercial Space Launch Site, Spaceport Camden, Woodbine, Camden County, Georgia.
HP-151117-001

Dear Ms. Dixon:

Thank you for reviewing the additional information provided by the Federal Aviation Administration (FAA) regarding Spaceport Camden on March 29, 2021 for the Area of Potential Effect and Findings of Effect.

We appreciate your April 15, 2021 concurrence on the FAA proposal to record the terms and conditions agreed upon to resolve potential adverse effects to archaeological and above-ground historic properties in the Spaceport Camden APE in a Programmatic Agreement pursuant to 36 CFR §800.14(b)(ii).

If you have any comments or questions regarding this undertaking, please contact Stacey Zee of my staff at 202-267-9305, or via email at Stacey.Zee@faa.gov.

Sincerely,

DANIEL P MURRAY

Digitally signed by DANIEL P MURRAY
Date: 2021.05.07 15:16:46 -04'00'

Daniel P. Murray
Manager, Safety Authorization Division

cc: Sarah Stokely, ACHP
Kevin Lang, Little Cumberland Island
Betsy Merritt, NTHP

Beth Byrd, NPS
Queen Quet, Gullah/Geechee Sea Island Coalition

Draft Programmatic Agreement for FAA, Georgia SHPO, the National Park Service, and Camden County

DRAFT

**PROGRAMMATIC AGREEMENT AMONG
THE FEDERAL AVIATION ADMINISTRATION,
THE GEORGIA STATE HISTORIC PRESERVATION OFFICER,
NATIONAL PARK SERVICE,
AND CAMDEN COUNTY OF GEORGIA,
REGARDING THE
CONSTRUCTION AND OPERATION OF A SPACEPORT,
CAMDEN COUNTY, GEORGIA
(HP-151117-001)**

WHEREAS, the Federal Aviation Administration (FAA) Office of Commercial Space Transportation plans to evaluate an application from the Camden County Board of Commissioners (County) for a Launch Site Operator License to operate a commercial space launch site, called Spaceport Camden. The County would offer the site to operators to conduct launches of liquid-fueled, small class, orbital vertical launch vehicles from a County-owned property (Undertaking); and

WHEREAS, the Undertaking consists of the County constructing a vertical launch facility, a launch control center complex, an alternate control center and visitor center, a mission preparation area , and various infrastructure elements on County-owned property, along with the operation of said facilities on an annual basis, as described in Attachment A; and

WHEREAS, the FAA has determined the Undertaking is subject to review under Section 106 of the National Historic Preservation Act (NHPA), Title 54 U.S.C. § 300101 through 320303 (PL 113 287), and its implementing regulations, 36 Code of Federal Regulations (CFR) § 800; and

WHEREAS, the FAA, in consultation with the Georgia State Historic Preservation Officer (SHPO) considered the potential direct, indirect, and cumulative effects of the Undertaking as provided in 36 CFR § 800.4(a) and 800.16(d) and established and inventoried an Area of Potential Effects (APE) for historic properties that encompasses the boundary of the proposed Spaceport Camden and consists of areas where there would be direct ground disturbance, including construction of facilities, installation and upgrading of utilities, access roads, or other routes, staging areas, the location of maintenance and operations activities, and noise (including vibration) and visual effects, consisting of an area within a 5-mile radius of the proposed Spaceport Camden, extending around the proposed Undertaking limits (see Attachment B); and

WHEREAS, the FAA has prepared the following reports in its evaluation of the effects of the proposed Undertaking on historic properties: (1) *Spaceport Camden Environmental Impact Statement, Camden County, Georgia*; (2) *Phase 1 Archaeological Survey of the Proposed Spaceport Camden, Camden County, Georgia* (Cultural Resource Analysts, Inc. [CRA] 2017a) and (3) *Historic Resources Survey for the Proposed Spaceport Camden Project in Camden County, Georgia (CRA 2017b), (4) Spaceport Camden Environmental Impact Statement Revised Finding of Effect;* and these reports provide supporting information to this PA; and

1

DRAFT

WHEREAS, the FAA conducted archaeological and architectural investigations within the APEs to identify properties that are listed in or eligible for listing in the National Register of Historic Places (NRHP) in consultation with the SHPO and identified sixteen (22) historic properties within the APEs and has determined effects on such resources, when possible (Attachment C); and

WHEREAS, the FAA in consultation with the Georgia SHPO pursuant to 36 CFR § 800, determined that, at this time, there is potential for adverse effect to archaeological historic properties from the Undertaking during construction of Spaceport Camden, so the following provisions must be met:

a. A plan to conduct an archaeological survey of the remainder of the property that has yet to be surveyed due to ownership and/or hazardous material concerns (the survey report would be submitted to HPD, once complete),
b. If construction of the Vertical Launch Facility could not avoid the four archeological sites that are currently considered potentially eligible for listing on the NRHP or any currently unknown sites, Phase II testing would occur to determine whether the site(s) are eligible for listing on the NRHP,
c. If determined eligible, then construction of Spaceport Camden would have an adverse effect to historic properties that would require mitigation measures; and

WHEREAS, the FAA, in consultation with the SHPO, has determined that the Undertaking would have no adverse effect on archaeological resources during operation of the facility (Attachment C); and

WHEREAS, the FAA, in consultation with the SHPO, has determined that the Undertaking would have no adverse effect on above-ground historic properties associated with the construction of Spaceport Camden (Attachment C); and

WHEREAS, the FAA has determined that at this time, there is a potential for adverse effect to above-ground historic properties from the operation of Spaceport Camden. The proposed launch vehicle is conceptual at this time. If a vehicle operator applies for a Vehicle Operator License to launch from Spaceport Camden, the FAA will conduct a separate environmental review and Section 106 consultation. The following information is currently known based on FAA's analysis for Spaceport Camden:

a. There will be no adverse effect if launch noise-induced structural vibration analysis concludes that levels would be well below criteria levels established for "sensitive" structures for all frequency bands for properties in the APE, which includes the historic properties on Cumberland Island.
b. Sonic booms would occur over open ocean areas, more than 50 miles to the east of the APE and historic properties on Cumberland Island.
c. Temporary and infrequent changes in the setting of historic properties in the APE resulting from periodic rises in noise due to launches would not be adverse.
d. The Spaceport Camden area associated with a risk at or above 1.0E-6 is contained within the proposed launch site boundaries and does not pose a debris risk to Little Cumberland Island or Cumberland Island.

DRAFT

The effects of the Undertaking are complex and cannot be fully determined prior to issuing a decision regarding how to proceed with the Undertaking, and therefore, the FAA has elected to execute this PA pursuant to 36 CFR 800.14(b) to resolve any potential adverse effects to archaeological resources, such that completion of the identification and evaluation of archaeological resources, determination of adverse effects on above-ground historic properties, and consultation concerning such components could be completed using a phased approach and monitoring as set forth in this PA; and

WHEREAS, the FAA identified the Cherokee of Georgia Tribal Council, Chickasaw Nation, Choctaw Nation of Oklahoma, Georgia Tribe of Eastern Cherokee, Lower Muskogee Creek Tribe, Muscogee (Creek) Nation, Poarch Band of Creeks, Seminole Nation of Oklahoma, Seminole Tribe of Florida, and Thlopthlocco Tribal Town as having religious or cultural affiliation with the Undertaking area, invited the tribes and the Chair of the Gullah/Geechee Commission to consult on the Undertaking, requested their participation in the development of this PA, and invited them to concur in this PA. The Gullah/Geechee Commission requested to participate and FAA accepted their request; and

WHEREAS, the public has been provided opportunities to comment on the Undertaking and participate in the Section 106 process leading to the development of this PA, first in the FAA's publication of the Notice of Intent in the *Federal Register* on November 6, 2015 (80 FR 68893), through public scoping meetings on December 7, 2015 for the general public and on December 8, 2015 for agencies, and public hearings on April 11 and 12, 2018 as part of the National Environmental Policy Act process, and through a ninety (90) day review and comment period for the *Draft Spaceport Camden Environmental Impact Statement*, and the FAA received a number of comments from the public regarding cultural resources, and the public comments identified cultural and historic sites in the area and expressed concern for minimizing impacts to these sites, and the FAA has considered the public's comments in development of this Agreement; and

WHEREAS, the FAA invited the National Park Service (NPS), which administers Cumberland Island National Seashore and its cultural resources, which is within the APE, to participate in the consultation process as a consulting party pursuant to 36 CFR § 800.2(c)(5) and is a Signatory to this Agreement; and

WHEREAS, the FAA invited Camden County, which would own or lease the land for the proposed Spaceport and would hold the Launch Site Operator License, to participate in the consultation process as a consulting party pursuant to 36 CFR § 800.2(c)(3) and is a Signatory to this Agreement; and

WHEREAS, the Little Cumberland Island Homes Association, Inc. (LCI) is consulting party pursuant to 36 CFR § 800.2(c)(5) and is a Consulting Party to this Agreement; and

WHEREAS, the National Trust on Historic Preservation is a consulting party pursuant to 36 CFR § 800.2(c)(5) and is Consulting Party to this Agreement; and

DRAFT

WHEREAS, in accordance with 36 CFR. § 800.6(a)(1), the FAA has notified the Advisory Council on Historic Preservation (ACHP) of its effects determination providing the specified documentation on March 29, 2021; and

WHEREAS, the FAA invited the ACHP to participate in consultation for this Undertaking pursuant to 36 CFR § 800.6(a)(1)(iii) by letter dated July 3, 2019, ACHP decided to participate in consultation by letter dated August 12, 2019, and is a Signatory to this Agreement; and

NOW, THEREFORE, the FAA, SHPO, NPS, ACHP, and Camden County agree that the Undertaking will be implemented in accordance with the following Stipulations in order to take into account the effects of the Undertaking on historic properties:

STIPULATIONS

The FAA, in coordination with the County, will ensure the following measures are carried out:

I. PROFESSIONAL QUALIFICATIONS

a. All work conducted under this Agreement will be conducted by or under the direct supervision of professionals meeting the federal qualification standards in the discipline appropriate to the properties being treated (Archaeology for treatments of archaeological sites; History, Architectural History, and/or Historic Architecture for aboveground resources), as established by the Secretary of the Interior and published in 36 CFR Part 61, Appendix A.

b. All engineering related work conducted under this Agreement will be conducted by a qualified professional engineer appropriate to the type of work specified.

c. All cultural resource work conducted under this Agreement will be consistent with NHPA (Title 54 U.S.C. (PL 113-287)), and conducted in accordance with the following standards, guidelines, and statutes as applicable:

i. The Secretary of the Interior: *Standards and Guidelines for Archeology and Historic Preservation* (1983) (48 *Federal Register* 44716-44742), including the Standards for the Treatment of Historic Properties (1995); and

ii. Advisory Council on Historic Preservation: *Treatment of Archeological Properties: A Handbook* (1980), and the *Advisory Council on Historic Preservation Policy Statement Regarding Treatment of Burial Sites, Human Remains and Funerary Objects,* (23 February 2007).

iii. Georgia Standards and Guidelines for Archaeological Surveys

II. DEVELOPMENT, REVIEW, AND APPROVAL OF DOCUMENTS

DRAFT

a. Development, review, and approval of any draft plan associated with this Undertaking, including Launch Site Plans (listed in Attachment D) and the Unanticipated Discoveries Plan (described in Stipulation VIII) will follow these procedures:

i. The County has primary responsibility for developing and revising all plans identified in the Stipulations of this PA.

ii. The FAA will review all plans developed by the County, and upon approval, the FAA will distribute drafts of all plans to the Signatories and Invited Signatories to this Agreement for review and comment. Signatories and Invited Signatories will have thirty (30) calendar days from the date of receipt to review and comment.

iii. Within the 30-day review period, the FAA will coordinate a meeting with the Signatories and Invited Signatories to this Agreement to facilitate comments on the plans, if agreed to by Signatories. The FAA and the County will take all comments into consideration when updating the plans. The FAA will share with all Signatories and Invited Signatories the comments of the others. Signatories and Invited Signatories may request the preparation of additional plans if the plans submitted fail to address specific potential effects to the identified historic properties.

iv. The FAA will distribute the revised plans to the Signatories and Invited Signatories to this Agreement for review and comment. Signatories and Invited Signatories will have thirty (30) calendar days from the date of receipt to review and comment.

v. The FAA and the County will take all comments into consideration when updating the revised plans. The FAA will coordinate a meeting with the Signatories and the Invited Signatories to resolve comments and review the updated plans, if agreed to by Signatories. The FAA will share with all Signatories and Invited Signatories the comments of the others. If the FAA cannot resolve the comments, the FAA will follow the procedures under Stipulation XII.b-d.

vi. The FAA will submit a final draft version of each plan to the Signatories and Invited Signatories to this Agreement for a thirty (30) calendar day review and written concurrence. If no written concurrence is received from the Signatories or Invited Signatories by the end of the review period, the FAA will consult with Signatories to determine if additional review period is needed, and if no response, then proceed on the final draft version.

vii. The FAA will notify the Signatories, Invited Signatories and Consulting Parties of final approval of any plans and will provide copies of the final versions to Signatories and Invited Signatories.

DRAFT

viii. The County has primary responsibility for implementation of approved plans, and the FAA has responsibility for the oversight of these actions.

ix. The County is responsible for any additional permits and compliance (Federal, State, and local) beyond the authority of the PA.

III. PHASED APPROACH TO ARCHAEOLOGICAL SURVEY FOR THE UNDERTAKING

a. The FAA and the County will perform an archaeological survey for direct impacts in the portion of the direct APE that has yet to be surveyed due to ownership and/or hazardous material concerns.

i. ARCHAEOLOGICAL SURVEY PLAN

1) The FAA and the County will prepare a plan to conduct the archaeological survey of the remainder of the APE that has yet to be surveyed due to ownership and/or hazardous material concerns and distribute it to all Signatories and Invited Signatories to this Agreement for review and comment. Signatories and Invited Signatories will have thirty (30) calendar days from the date of receipt to review and comment. There may be multiple plans if ownership or hazardous material concerns are addressed in phases.

2) The FAA and the County will take all comments into consideration and will submit the final plan to all Signatories and Invited Signatories to this Agreement prior to implementing the plan and conducting the survey.

ii. ARCHAEOLOGICAL SURVEY REPORT

1) Upon completion of the archaeological survey, the FAA and the County will prepare and submit an archaeological survey report for these areas and distribute it to all Signatories and Invited Signatories to this Agreement for review and comment. Signatories and Invited Signatories will have thirty (30) calendar days from the date of receipt to review and comment.

2) The FAA and the County will take all comments into consideration and will submit the final survey report to all Signatories and Invited Signatories to this Agreement.

iii. If any of the archaeological sites located within the survey area with undetermined NRHP eligibility cannot be avoided, then the FAA and the County, in consultation with the SHPO, will conduct Phase II testing to determine if the site(s) are NRHP-eligible.

DRAFT

iv. If any of the site(s) are determined NRHP-eligible after the Phase II testing, then the FAA and the County, in consultation with the SHPO, will develop a mitigation plan to resolve adverse effects, in accord with Stipulation XI, below.

b. The Archaeological Survey Plan and Report will be reviewed in accordance with the procedures under Stipulation II.

IV. CULTURAL RESOURCE MANAGEMENT PLAN AND MONITORING APPROACH FOR THE UNDERTAKING

a. The FAA has determined that the potential for adverse effects to above-ground historic properties in the APE cannot be precisely determined unless vehicle operator conditions are as follows:
   i. Launch noise-induced structural vibration analysis concluded that levels would be well below criteria levels established for "sensitive" structures for all frequency bands for properties in the APE, which includes the historic properties on Cumberland Island.
   ii. Sonic booms would occur over open ocean areas, more than 50 miles to the east of the APE and historic properties on Cumberland Island.
   iii. Temporary and infrequent changes in the setting of historic properties in the APE resulting from periodic rises in noise due to launches would not be adverse.
   iv. The Spaceport Camden area associated with a risk at or above 1.0E-6 is contained within the proposed launch site boundaries and does not pose a debris risk to LCI.

b. The FAA will monitor the specific Spaceport Camden effects on historic properties in the APE for direct effects from implementing the actions specified in any future launch license application associated with this Undertaking in accordance with the following process:

   i. The County will complete a Cultural Resources Management and Monitoring Plan (CRMMP), which will include:
      1) Establishment of management boundaries for the project area;
      2) Identification of the regulatory environment and the roles and responsibilities of the signatories, invited signatories, and consulting parties;
      3) Description for how to manage confidential information;
      4) Identification of potential resources that could fall within the CRMMP boundary including description of the baseline of known historic properties and their existing conditions, and would include review of prehistoric and historic research studies, ethnographic

DRAFT

studies, available and potential new cultural resource surveys, architectural surveys, and other reports;

5) Identification of historic properties management procedures and best practices to ensure key characteristics are preserved and compliance with federal, state, and local cultural resource laws, including development of a monitoring program (see below);

ii. The CRMMP will include a monitoring program to determine whether the Undertaking causes damage to any of the historic properties in the APE. The monitoring program will include planning for monitoring when operational activities are conducted in the APE.

1) Monitoring personnel and procedures shall conform to the applicable state and federal guidelines in Stipulation I and the standards outlined in the CRMMP.

2) Monitoring on federal, state, and private land will be conducted in accordance with federal and state regulations and will include procedures developed in consultation with the landowner.

3) Monitoring plans will be developed prior to launch activities then updated after monitoring is completed, and will include:

- Identification of the monitoring framework;
- Identification of the roles and responsibilities of personnel involved with monitoring;
- Communication plan for coordinating the monitoring activities between the operators, federal, state, and private landowners;
- Descriptions of the materials, studies, and information that should be reviewed prior to the start of a monitoring study;
- Description of cultural resources sensitivity mapping studies that should be conducted prior to the start of a monitoring study;
- Description of the monitoring methodology from pre-launch studies through post-launch field survey and reporting which would include the environmental setting including but not limited to the flora, fauna, topography, and geomorphology of the monitored area, and
- Summary of pre-launch field studies' results and/or sensitivity mapping study conclusions;
- Summary of post-launch field studies' results; and
- Any recommendations to be followed for future monitoring.

iii. Resources to be monitored to include:

1) Floyd's Fairfield and Bellevue Plantations/Union Carbide Property (CM-CO 31).

8

DRAFT

2) High Point-Half Moon Bluff Historic District on Cumberland Island (#78000265).

3) The Cumberland Island Cultural Historic Landscape (no number) and the Main Road on Cumberland Island (#84000941).

4) Dover Bluff Club Historic District, and the Tabby Ruins on Dover Bluff.

5) Cabin Bluff Cumberland River Retreat Historic District.

c. If the FAA determines, through consultation, that an effect will be adverse, the FAA and the County will resolve adverse effects to historic properties in accordance with the procedures under Stipulation V.

d. The CRMMP will be reviewed in accordance with the procedures under Stipulation II.

V. RESOLUTION OF ADVERSE EFFECTS

a. Adverse effects, once identified through physical confirmation or noise monitoring, would be resolved through the following processes.

i. The FAA and the County will consult with the Signatories and Invited Signatories recognized by the FAA to seek ways to avoid or minimize adverse effects through possible measures, such as: repair, new protocols or changes to protocols, additional documentation, etc.

ii. After avoidance and minimization measures are agreed to by the Signatories and Invited Signatories, if an adverse effect remains, the FAA will execute a MOA(s) with the Signatories and Invited Signatories to document mitigation measures.

iii. The FAA will ensure that the subsequent operations of the Undertaking are carried out in accordance with the agreed to resolutions for adverse effects.

b. The FAA and the County will afford the Cherokee of Georgia Tribal Council, Chickasaw Nation, Choctaw Nation of Oklahoma, Georgia Tribe of Eastern Cherokee, Lower Muskogee Creek Tribe, Muscogee (Creek) Nation, Poarch Band of Creeks, Seminole Nation of Oklahoma, Seminole Tribe of Florida, and Thlopthlocco Tribal Town the opportunity to review and comment on any draft plan or report associated with this Undertaking in accordance with Stipulation II above, including determinations of effects and the development of Memoranda of Agreement (MOAs).

c. The FAA and the County will afford the Gullah/Geechee Nation, an Consulting Party, the opportunity to review and comment on any draft plan or report associated with this Undertaking in accordance with Stipulation II above, including determinations of effects and the development of Memoranda of Agreement (MOAs).

DRAFT

d. The FAA and the County will afford the LCI, a Consulting Party, the opportunity to review and comment on any draft plan or report associated with this Undertaking in accordance with Stipulation II above, including determinations of effects and the development of Memoranda of Agreement (MOAs).

e. The FAA and the County will afford The National Trust on Historic Preservation, a Consulting Party, the opportunity to review and comment on any draft plan or report associated with this Undertaking in accordance with Stipulation II above, including determinations of effects and the development of Memoranda of Agreement (MOAs).

VI. POST-REVIEW DISCOVERIES

a. Prior to the start of construction activities, the County will develop an Unanticipated Discoveries Plan that will specify the exact procedures to be followed in the event that previously unidentified properties are discovered or unanticipated effects on historic properties are identified during implementation of the Undertaking. The Unanticipated Discoveries Plan will be developed in consultation as described under Stipulations II and III.

b. The FAA and County will include in the Unanticipated Discoveries Plan protocols for notifying and consulting with tribes and the Gullah/Geechee Nation in the event of a discovery of human remains and/or funerary objects.

VII. COORDINATION WITH OTHER FEDERAL REVIEWS

a. In the event that the County applies for federal funding or approvals for the Undertaking from another agency and the Undertaking remains unchanged, such funding or approving agency may comply with Section 106 by agreeing in writing to the terms of this Agreement and notifying and consulting with SHPO and NPS. Any necessary modifications will be considered in accordance with Stipulation XIII.

VIII. UNDERTAKING CHANGES

a. The FAA will not change the Undertaking without first affording the parties (refer to Attachment F) to this Agreement the opportunity to review the proposed change and determine whether it will require revisions be made to this Agreement. If revisions are needed, the FAA will consult in accordance with Stipulation XIII to make such revisions.

IX. ANNUAL MONITORING AND REPORTING

a. Each year following the execution of this Agreement, the FAA and the County will provide the Signatories Invited Signatories, and Consulting Parties an annual report detailing work undertaken pursuant to its terms. The FAA will distribute the report to

DRAFT

all parties (refer to Attachment F) to this Agreement at least fifteen (15) calendar days prior to the Annual Meeting (described below).

i. The annual report will include scheduling changes proposed, any problems encountered, and any disputes and objections received in FAA's efforts to carry out the terms of this Agreement.

ii. The annual report will include a section to be prepared by the County of activities as they relate to compliance with the stipulations of this Agreement. The annual report will include the following:
   1) A description of the past year's efforts and anticipated upcoming efforts for identification, evaluation, monitoring, mitigation, and protection of historic properties.
   2) An evaluation of the progress of mitigation activities.
   3) A description of any known or expected changes to the Undertaking.
   4) Changes to contacts in Attachment F.
   5) Recommended amendments to the PA.

b. Annual Meeting: For the life of this Agreement, the FAA will coordinate a meeting of the Signatories and Invited Signatories to be held each year in February or March, or another mutually agreed upon date, to discuss activities carried out pursuant to this Agreement during the preceding year and activities scheduled for the upcoming year. This meeting could be a webinar or in person, or none at all, as mutually agreed upon by the FAA, the Signatories, and the Invited Signatories.

i. The FAA will evaluate the effectiveness of this Agreement and whether any amendments or changes are needed based on the County's progress reports or Undertaking modifications and provide its evaluation to Signatories and Invited Signatories prior to the Annual Meeting.

ii. The meeting will be held in a location agreed upon by consensus of the Signatories and Invited Signatories, and parties may participate by telephone if they so desire. The FAA will distribute minutes of the meeting to all Signatories and Invited Signatories within two (2) weeks of the meeting.

X. DISPUTE RESOLUTION

a. Should any Signatory or Invited Signatory object to any plans or actions pursuant to this Agreement or the manner in which the terms of this Agreement are implemented, the objecting party will provide written notice to the FAA. The FAA will take the objection into account and consult, as needed, within ten (10) business days with the Signatories and Invited Signatories to resolve the objection. Copies of written objections will be submitted simultaneously to all Signatories. Any ACHP comment provided in response to such a request will be taken into account by the FAA, in accordance with 36 CFR § 800.6(c)(2), with reference only to the subject of the

DRAFT

dispute. All responsibilities to carry out actions under this Agreement that are not subject to the dispute will remain unchanged.

b. If the FAA determines that the objection cannot be resolved, the FAA will forward all documentation relevant to the dispute to the ACHP and request that the ACHP provide its advice on the resolution of the objection. The ACHP will provide the FAA with its advice on the resolution of the objection within thirty (30) calendar days of receiving adequate documentation.

c. The FAA will prepare a written response that takes into account any timely advice or comments regarding the dispute from the ACHP, Signatories, and Invited Signatories and provide them with a copy of this written response. The FAA will then proceed according to its final decision.

XI. DURATION, AMENDMENT, AND TERMINATION

a. This Agreement will become effective upon execution by the FAA, SHPO, NPS, the County, and will remain in effect for a term of ten (10) years from its date of execution, at which time the FAA or the County may seek to extend this Agreement for an additional period of time.

b. Any Signatory or Invited Signatory to this Agreement may request the other Signatories and Invited Signatories consider amending it, in which case the parties will consult to consider the proposed amendment(s). The amendment will be effective on the date a copy is signed by all of the Signatories and Invited Signatories.

c. If any Signatory or Invited Signatory to this Agreement determines that its terms will not or cannot be carried out, that party will immediately consult with the other parties to attempt to develop an amendment per Stipulation XIII.b. If within thirty (30) calendar days (or another time period agreed to by all Signatories) an amendment cannot be reached, any Signatory or Invited Signatory may terminate the Agreement upon written notification to the other Signatories and Invited Signatories.

d. One (1) year prior to the expiration of the Agreement, the Signatories and Invited Signatories will consult to determine whether the Agreement should be extended for a period to be determined. If the term of the Agreement is not extended through an amendment, then the Agreement will expire at the end of the duration period set forth in Stipulation XIII.a.

e. Once the Agreement is terminated, and prior to work continuing on the Undertaking, the FAA must either execute a new Agreement pursuant to 36 CFR § 800.6, or request, take into account, and respond to the comments of the Advisory Council on Historic Preservation under 36 CFR § 800.7. The FAA will notify the Signatories and Invited Signatories as to the course of action it will pursue.

DRAFT

Execution of this Agreement by the FAA, SHPO, NPS, and the County, submission to the ACHP, and implementation of its terms by the Signatories and Invited Signatories, is evidence the FAA has taken into account the effects of the Undertaking and its operation on historic properties.

13

DRAFT

FEDERAL AVIATION ADMINISTRATION (Required Signature)

Name

Title

Date

14

DRAFT

GEORGIA STATE HISTORIC PRESERVATION OFFICER (Required Signature)

Name

Title

Date

15

DRAFT

NATIONAL PARK SERVICE (Required Signature)

Name

Title

Date

16

DRAFT

CAMDEN COUNTY BOARD OF COMMISSIONERS (Required Signature)

Name

Title

Date

17

DRAFT

Advisory Council on Historic Preservation (Required Signature)

Name

Title

Date

18

DRAFT

GULLAH/GEECHEE COMMISSION (Consulting Party)

Name

Title

Date

19

DRAFT

LITTLE CUMBERLAND ISLAND HOMES ASSOCIATION (Consulting Party)

Name

Title

Date

20

DRAFT

THE NATIONAL TRUST FOR HISTORIC PRESEVATION (Consulting Party)

Name

Title

Date

21

DRAFT

ATTACHMENT A. UNDERTAKING DESCRIPTION

The Camden County Board of Commissioners has applied to the FAA for a Launch Site Operator License for a commercial spaceport in Camden County, Georgia. The proposed Spaceport Camden property is located in an unincorporated area of Woodbine, in Camden County, approximately 11.5 miles due east of the town of Woodbine, Georgia, 5 miles due west of Cumberland Island National Seashore (CUIS), less than 1 nautical mile from the Satilla River, and 6.7 nautical miles from the Atlantic Ocean. Access to the site is at the eastern termination of Union Carbide Road, an extension of Harriett's Bluff Road (Exit 7 from I-95). The site is on the coast, surrounded by salt marshes to the east and south, and the Satilla River to the north.

The entire property, which totals approximately 11,800 acres, is currently owned by two companies, the Union Carbide Corporation (about 4,000 acres) and Bayer CropScience (about 7,800 acres). The County has entered into an option agreement to purchase most of the land owned by Union Carbide Corporation and is planning to pursue the purchase of the land owned by Bayer CropScience. The entire property is a combination of uplands and marshlands.

Construction

Camden County proposes to construct the Vertical Launch Facility, Launch Control Center Complex, an Alternate Control Center and Visitor Center and Mission Preparation Area and supporting facilities on approximately 100 noncontiguous upland acres of the industrial site. The remainder of the property would be part of the spaceport boundary, although there are no plans for constructing supporting facilities in these areas at this time. If in the future the County proposed additional construction or changes to operations, it would require additional consideration under Section 106 of the NHPA, including any updates or revisions to the PA, as appropriate.

The Vertical Launch Facility would include a launch pad and its associated structures, storage tanks, and handling areas; vehicle and payload integration facilities; a lightning protection system; deluge water systems and associated water capture tank; water tower; and other launch-related facilities and systems including shops, office facilities, and stormwater retention ponds. The Launch Control Center Complex would include a Launch Control Center Building housing a control room and related equipment and a Payload Processing Building. The Alternate Control Center would mirror the Launch Control Center in facility construction, providing a backup launch control capability, and would also include a Visitor Center containing informational displays and accommodations for visitors to view launches. The Mission Preparation Area would be used for remote vehicle processing and would occupy approximately 13 acres. It would primarily consist of a 400-foot by 400-foot concrete pad as well as a building for operations, storage, and fuel and oxidizer tanks.

Each of the launch site facilities and the western boundary of the site would be fenced to provide security and control access. The Alternate Control Center and Visitor Center is located outside of the Spaceport Camden site boundary on what is currently Bayer CropScience property. Onsite infrastructure improvements would include improvements to existing internal roads, construction of new roadways, and new electrical distribution, water distribution, and septic systems on the launch site. However, electricity and water are available on the adjoining Bayer CropScience property, and there is an access road to the launch site. The County does not

DRAFT

anticipate that improvements or expansions would be required for Harrietts Bluff Road/Union Carbide Road outside the proposed spaceport site, which would provide access to the site. Additionally, the County does not anticipate required expansions or improvements to the utilities that bring electricity and communications to the external boundary of the industrial property, although expansions and improvements may be required within the boundary of the site to provide utilities to various facilities.

The County expects construction activities to last approximately 15 months. Construction activities would occur during daylight hours, five days a week. It is anticipated that 40 to 50 construction workers would be required for the construction of the facilities and 20 additional construction workers would be required for the construction of new infrastructure (water, sewer, drainage, and roads). Launch site construction activities would not commence until after the National Environmental Policy Act process, including issuance of a Record of Decision, has been completed and any required permits or approvals have been granted.

Operations

Operations would consist of up to 12 launches and up to 12 static fire engine tests and 12 wet dress rehearsals of a small liquid propellant launch vehicle per year. One of the 12 launches could be a night launch. The proposed trajectory in the Spaceport Camden Launch Site Operator License Application is 100 degrees from true north. The booster rocket(s) providing the initial powered ascent of the launch vehicle (i.e., the "first stage") would drop into the Atlantic Ocean and not be recovered.

DRAFT

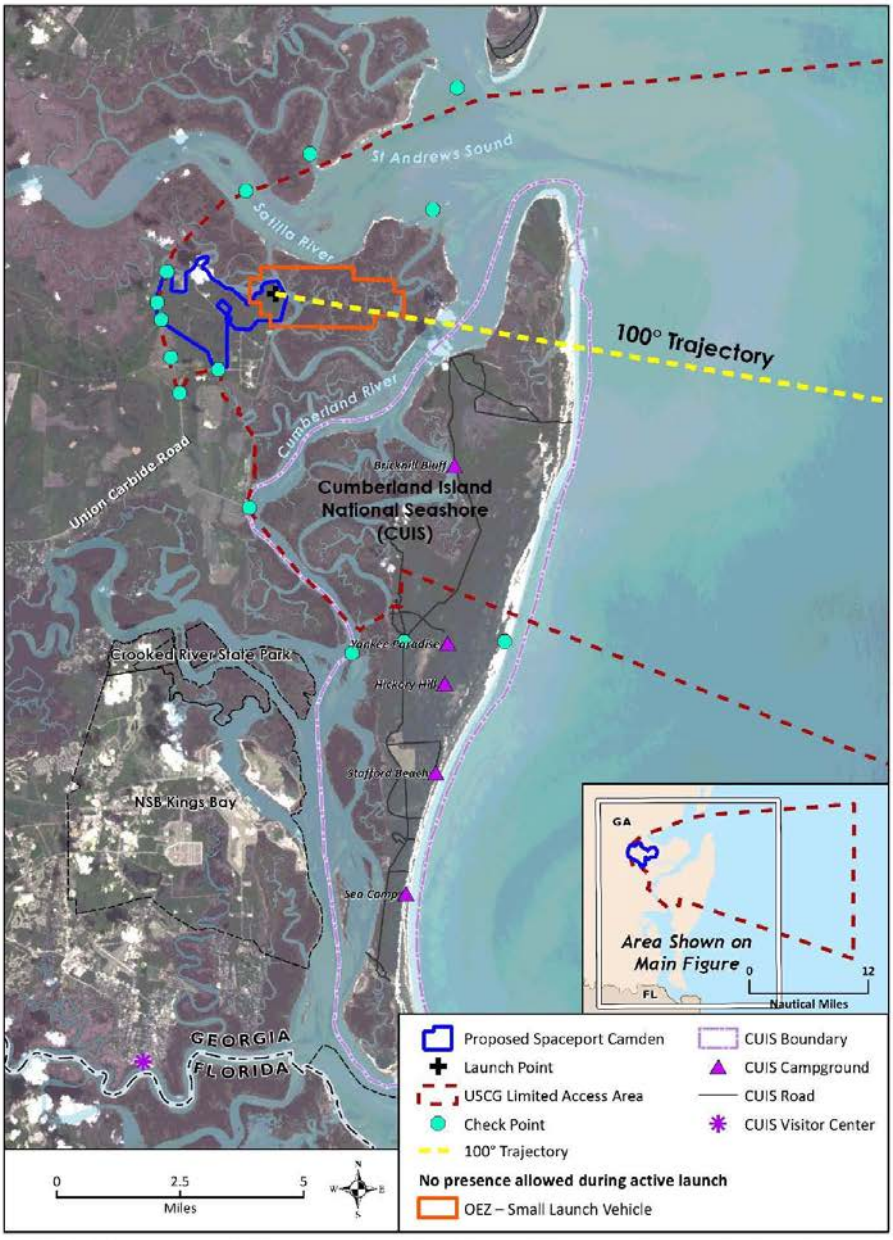


Exhibit A-1. Representative Trajectory (100 Degree) Proposed Launch Operations

24

DRAFT

ATTACHMENT B. AREA OF POTENTIAL EFFECTS

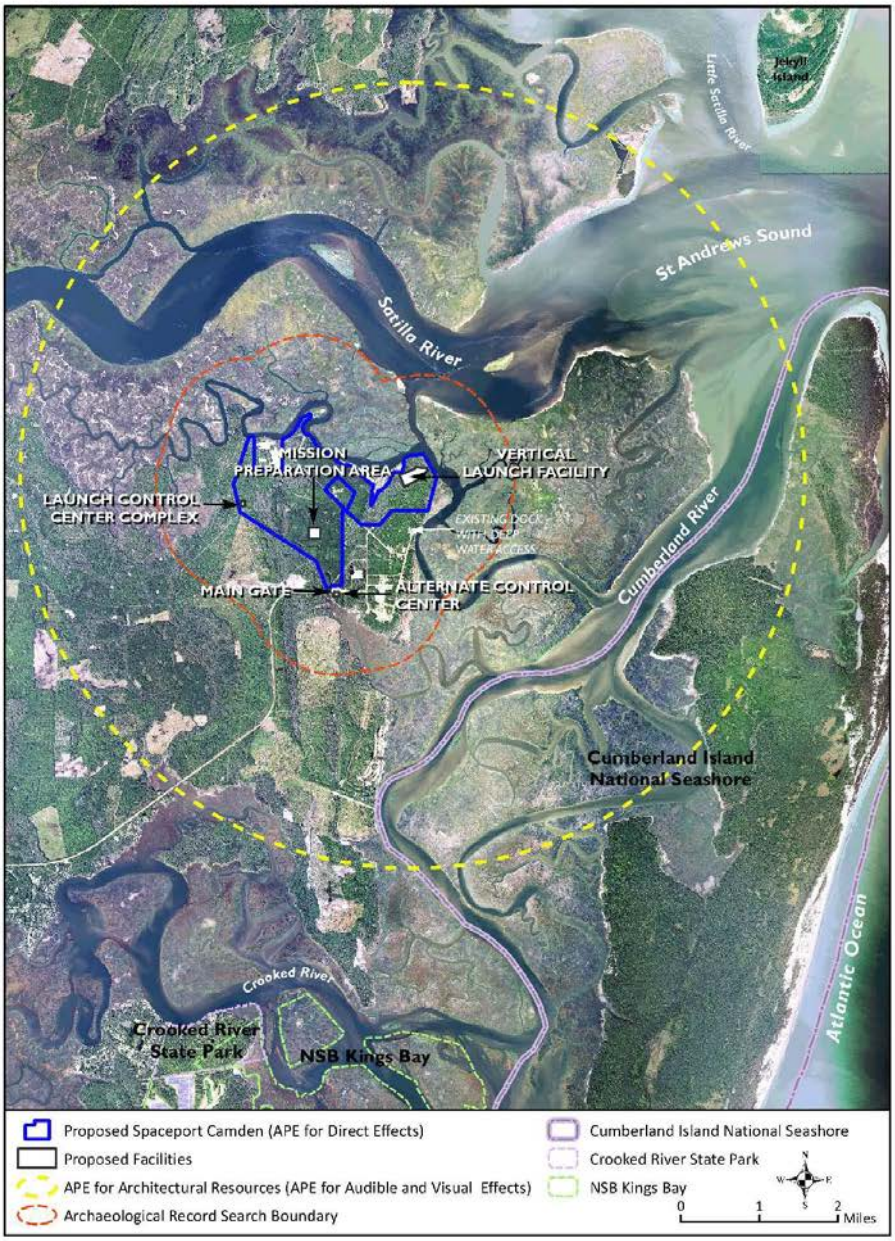


Exhibit B-1. Area of Potential Effects for Spaceport Camden

25

DRAFT

ATTACHMENT C. HISTORIC PROPERTIES IDENTIFIED IN THE DIRECT AND INDIRECT APEs

Table 1. Effect on Historic Properties in the APEs for Proposed Spaceport Camden

Resource Number	Resource Description	NRHP Eligibility	Location in APE	Findings of Effect	Potential Source of Effect[1]
Historic Properties in the APE for Direct Effects: Construction Areas					
9CM30	Shell scatter & pottery, pre-contact	Potentially eligible, Criterion D	Vertical Launch Facility	Potential for effect[2]	Construction: Ground disturbance
9CM64	Shell midden & pottery, Mississippian	Potentially eligible, Criterion D	Vertical Launch Facility	Potential for effect[2]	Construction: Ground disturbance
9CM570	Shell midden & pottery, Woodland	Potentially eligible, Criterion D	Vertical Launch Facility	Potential for effect[2]	Construction: Ground disturbance
9CM571	Shell midden & pottery, Woodland	Potentially eligible, Criterion D	Vertical Launch Facility	Potential for effect[2]	Construction: Ground disturbance
Historic Properties in the APE for Direct and Audible, Vibratory, and Visual Effects: Proposed Spaceport Camden Site Boundary					
9CM24	Shell scatter, Late Archaic - Mississippian	Potentially eligible, Criterion D	Outside of construction area, within proposed Spaceport Camden boundary	No effect	n/a
9CM25	Shell midden, Woodland, Mississippian	Potentially eligible, Criterion D	Outside of construction area, within proposed Spaceport Camden boundary	No effect	n/a
9CM26	Shell mounds, Woodland	Potentially eligible, Criterion D	Outside of construction area, within proposed Spaceport Camden boundary	No effect	n/a
CM-CO 31	Floyd's Fairfield & Bellevue Plantations, c. 1804-c. 1877	Eligible, Criteria B, C & D Criteria Consideration C & D	Outside of construction area, within proposed Spaceport Camden boundary	Potential for effect	Operations: Vibration
CM-CO 31, Resource A	Anchor House ruins, early 19th century	Eligible, Criterion C	Outside of construction area, within proposed Spaceport Camden boundary	Potential for effect	Operations: Vibration
CM-CO 31, Resource B	Charles Rinaldo Floyd Burial Site, 1845	Eligible, Criteria B & C, Criteria Consideration C	Outside of construction area, within proposed Spaceport Camden boundary	Potential for effect	Operations: Vibration
CM-CO 31, Resource C	Floyd Family Cemetery, early to mid-19th century	Eligible, Criteria A & C, Criteria Consideration D	Outside of construction area, within proposed Spaceport Camden boundary	Potential for effect	Operations: Vibration

26

DRAFT

Table 1. Effect on Historic Properties in the APEs for Proposed Spaceport Camden

Resource Number	Resource Description	NRHP Eligibility	Location in APE	Findings of Effect	Potential Source of Effect[1]
Historic Properties in the APE for Audible, Vibratory, and Visual Effects: 5-mile Radius					
#78000265	High Point-Half Moon Bluff Historic District (HP-HMB), c. 1700-mid-20th century	Listed as HP-HMB HD, Criteria A & D	CUIS: High Point-Half Moon Bluff Historic District (HD)	Potential for effect	Operation: Vibration, noise, visual
#78000265, Resource A	First African Baptist Church, 1937	Contributing to HP-HMB HD, Criterion A	CUIS: Half Moon Bluff	Potential for effect	Operation: Vibration, noise, visual
#78000265, Resource B	Rischarde Red Barn, c. 1935-1945	Contributing to HP-HMB HD, Criterion A	CUIS: Half Moon Bluff	Potential for effect	Operation: Vibration, noise, visual
#78000265, Resource C	Alberty House, c. 1935-1945	Contributing to HP-HMB HD, Criterion A	CUIS: Half Moon Bluff	Potential for effect	Operation: Vibration, noise, visual
#78000265, Resource D	Trimmings House, c. 1935-1945	Contributing to HP-HMB HD, Criterion A	CUIS: Half Moon Bluff	Potential for effect	Operation: Vibration, noise, visual
#78000265, Resource I	Cemeteries, c. 1880	Contributing to HP-HMB HD, Criterion A	CUIS: Half Moon Bluff	Potential for effect	Operation: Noise, visual
#78000265, Resource J	High Point Road, c. 1880	Contributing to HP-HMB HD, Criterion A	CUIS: Half Moon Bluff to High Point	Potential for effect	Operation: Noise, visual
#84000941	Main Road, c. 1800-1870	Listed individually (no HD), Criterion A	North end of CUIS	Potential for effect	Operation: Visual
[No number for historic district]	Dover Bluff Club Historic District (DBC HD)	Eligible HD, Criterion C	Dover Bluff	Potential for effect	Operation: Vibration, noise
CRA #15	Cabin Bluff Cumberland River Retreat HD (CBCRR HD), c. 1920s-1930s	Eligible, Criteria A & C	Cabin Bluff	Potential for effect	Operation: Vibration, noise
[no number]	Cumberland Island Cultural Historic Landscape	Eligible as Historic Landscape (no HD), Criteria A, B, C, & D	CUIS	Potential for effect	Operation: Noise, visual

Resource data and NRHP eligibility determinations based on the results of the two identification efforts: *Phase I Archaeological Survey of the Proposed Spaceport Camden, Camden County, Georgia* (Cultural Resource Analysts, Inc. [CRA] 2017a) and *Historic Resources Survey for the Proposed Spaceport Camden Project in Camden County, Georgia* (CRA 2017b, and including a 2017 addendum).

Notes:

1: The SHPO concurred with the Finding of Effects for construction activities in a letter dated December 3, 2018 (HP-151117-001)

27

DRAFT

Table 1. Effect on Historic Properties in the APEs for Proposed Spaceport Camden

Resource Number	Resource Description	NRHP Eligibility	Location in APE	Findings of Effect	Potential Source of Effect[1]

2: If Undertaking design cannot avoid this resource, then further investigations will determine if it is eligible for listing on the NRHP; if eligible then there will be an adverse effect on historic properties.

3: Abbreviations: CBCRR = Cabin Bluff Cumberland River Retreat; CUIS = Cumberland Island National Seashore; c. = circa; DBC = Dover Bluff Club; HD = historic district; HP-HMB = High Point-Half Moon Bluff; n/a = not applicable; NRHP = National Register of Historic Places.

Summary of Potential Effects

The historic properties in the Floyd's Fairfield and Bellevue Plantations/Union Carbide Property (CM-CO 31: Anchor House ruins/resource A; Charles Rinaldo Floyd Burial Site/resource B; Floyd Family Cemetery/resource C) could be damaged by vibration and overpressure from the periodic noise events associated with the operation of the facility, although it is unlikely that such damage would affect the condition of the properties to such a degree that they would be no longer eligible for listing on the National Register.

Operation of the facility could cause adverse effects to the High Point-Half Moon Bluff Historic District on Cumberland Island (#78000265: First African Baptist Church/resource A; Rischarde Red Barn/resource B; Alberty House/resource C; Trimmings House/resource D; Cemeteries/resource I; High Point Road/resource J) from indirect impacts as a result of temporary noise and visual intrusions.

Operation of the facility could result in effects to the Main Road on Cumberland Island (#84000941) from temporary visual intrusions and the Cumberland Island Cultural Historic Landscape (no number) from temporary noise and visual intrusions.

Operation of the facility could result in effects to the Dover Bluff Club Historic District from temporary noise intrusions.

Operation of the facility could result in an effect to the Cabin Bluff Cumberland River Retreat Historic District from temporary noise intrusions.

28

DRAFT

ATTACHMENT D. SPACEPORT CAMDEN SITE PLANS

1. In collaboration with the FAA, the County is developing the following plans:
   a. Lighting Management Plan
   b. Facility Design Plan
   c. Vibration Monitoring Plan
   d. Unanticipated Discoveries Plan
   e. Archaeological Survey Plan
   f. Archaeological Survey Report
   g. Cultural Resources Management and Monitoring Plan

26

DRAFT

ATTACHMENT E. SUMMARY OF TRIBAL CONSULTATION AND INVOLVEMENT DURING ENVIRONMENTAL IMPACT STATEMENT DEVELOPMENT AND SECTION 106 PROCESSES FOR THE PROPOSED SPACEPORT CAMDEN

FAA initiated formal government-to-government consultation with the following Native American Tribes through letters sent December 4, 2015:

- Chickasaw Nation
- Muscogee (Creek) Nation
- Poarch Band of Creek Indians
- Seminole Nation of Oklahoma
- Seminole Tribe of Florida
- Thlopthlocco Tribal Town

FAA mailed Historic Preservation Act Section 106 consultation letters to the Tribal Historic Preservation Officers at the following Native American Tribes through letters sent January 6, 2016:

- Chickasaw Nation
- Choctaw Nation of Oklahoma
- Muscogee (Creek) Nation
- Poarch Band of Creek Indians
- Seminole Nation of Oklahoma
- Seminole Tribe of Florida
- Thlopthlocco Tribal Town
- Cherokee of Georgia Tribal Council
- Georgia Tribe of Eastern Cherokee
- Lower Muskogee Creek Tribe

FAA heard from the Choctaw Nation of Oklahoma, who responded that they did not want to participate in the consultation. FAA did not hear from any other tribes.

FAA also sent by email a National Historic Preservation Act Section 106 consultation letter to the Chair of the Gullah/Geechee Commission. The Gullah/Geechee Commission requested to participate on June 17, 2020 and FAA accepted their request on July 23, 2020.

The FAA sent all tribes and the Gullah/Geechee the *Draft Spaceport Camden Environmental Impact Statement,* inviting comment on the findings of effects on cultural resources. Only the Gullah/Geechee provided comments on the Draft EIS. The FAA has provided responses to all Draft EIS comments in the Final EIS as part of the NEPA process.

27

DRAFT

ATTACHMENT F: CONSULTING PARTY CONTACTS

For the life of this Agreement, each party will provide updates to the list of contacts below, as needed, to the FAA. The FAA will distribute the updated list of contacts to all parties within five (5) business days of receipt of the update.

Contacts for Signatories

Stacey Zee
Environmental Protection Specialist
Federal Aviation Administration
Office of Commercial Space Transportation
800 Independence Ave, SW, Suite 325
Washington, DC 20591
(202) 267-9305

Sarah Stokely
Historic Preservation Specialist
Advisory Council on Historic Preservation
1100 Pennsylvania Ave NW, Suite 803
Washington, DC 20004
(202) 606-8585

Steve L. Howard
County Administrator
Camden County Board of Commissioners
200 East 4th Street
P.O. Box 99
Woodbine, GA 31569
(912) 510-0464

Jennifer Dixon
Program Manager
Environmental Review & Preservation Planning
Georgia Department of Natural Resources,
Historic Preservation Division
2610 GA Hwy 155, SW
Stockbridge, GA 30281
(770) 389-7844

Gary Ingram (912-882-4336, ext 227
Cumberland Island National Seashore
Or
Steven Wright (404) 507-5710
or
Stan Austin, Regional Director (404) 507-5600
National Park Service, Southeast Region
100 Alabama Street, SW
1924 Building
Atlanta, GA 30303

28

A.2.2.1.2 NHPA Section 106 Consultation with Tribal Governments

U.S. Department
of Transportation
Federal Aviation Administration

Office of Commercial Space Transportation

800 Independence Ave., SW.
Washington, DC 20591

JAN 0 6 2016

Eric Wilkerson
Tribal Representative
Cherokee of Georgia Tribal Council
Saint George, Georgia 31646

RE: Section 106 Consultation Initiation for the Spaceport Camden Environmental Impact Statement, Camden County, Georgia

Dear Mr. Wilkerson:

The purpose of this letter is to initiate consultation with you under Section 106 of the National Historic Preservation Act (NHPA) for the above-referenced project and to learn whether your organization is interested in participating as a Consulting Party.

The Camden County Board of Commissioners is seeking a Launch Site Operator License from the FAA Office of Commercial Space Transportation to develop and operate a commercial space launch site (known as Spaceport Camden) in an unincorporated area of Woodbine, in Camden County, Georgia. The project has been determined an "undertaking" subject to the NHPA and its implementing regulations under Section 106 (36 CFR Part 800, as amended). The proposed project and its associated activities are also subject to the National Environmental Policy Act (NEPA) and the FAA has initiated preparation of an Environmental Impact Statement to meet its regulatory obligations. The agency intends to complete Section 106 in conjunction with the NEPA process.

For your reference, Attachment A to this letter includes a map of the project area and brief project description. Additional information on this project is available on the FAA's website at https://www.faa.gov/about/office_org/headquarters_offices/ast/environmental/nepa_docs/review/documents_progress/camden_spaceport/.

1

If you have any questions or would like to discuss the project in more detail, please contact Stacey Zee of my staff at 202-267-9305 (Stacey.Zee@faa.gov). I respectfully request that you respond at your earliest convenience if you are interested in participating as a Consulting Party. Thank you for your consideration.

Sincerely,

Daniel Murray
Manager, Space Transportation Development Division

Attachment A.
Spaceport Camden Project Description
Location of Proposed Spaceport Camden Project Map

2

U.S. Department of Transportation
Federal Aviation Administration

Office of Commercial Space Transportation

800 Independence Ave., SW.
Washington, DC 20591

JAN 0 6 2016

Virginia Nail
Tribal Historic Preservation Officer
Chickasaw Nation
PO Box 1548
Ada, Oklahoma 74821

RE: Section 106 Consultation Initiation for the Spaceport Camden Environmental Impact Statement, Camden County, Georgia

Dear Ms. Nail:

The purpose of this letter is to initiate consultation with you under Section 106 of the National Historic Preservation Act (NHPA) for the above-referenced project and to learn whether your organization is interested in participating as a Consulting Party.

The Camden County Board of Commissioners is seeking a Launch Site Operator License from the FAA Office of Commercial Space Transportation to develop and operate a commercial space launch site (known as Spaceport Camden) in an unincorporated area of Woodbine, in Camden County, Georgia. The project has been determined an "undertaking" subject to the NHPA and its implementing regulations under Section 106 (36 CFR Part 800, as amended). The proposed project and its associated activities are also subject to the National Environmental Policy Act (NEPA) and the FAA has initiated preparation of an Environmental Impact Statement to meet its regulatory obligations. The agency intends to complete Section 106 in conjunction with the NEPA process.

For your reference, Attachment A to this letter includes a map of the project area and brief project description. Additional information on this project is available on the FAA's website at https://www.faa.gov/about/office_org/headquarters_offices/ast/environmental/nepa_docs/review/documents_progress/camden_spaceport/.

1

If you have any questions or would like to discuss the project in more detail, please contact Stacey Zee of my staff at 202-267-9305 (Stacey.Zee@faa.gov). I respectfully request that you respond at your earliest convenience if you are interested in participating as a Consulting Party. Thank you for your consideration.

Sincerely,

Daniel Murray
Manager, Space Transportation Development Division

Attachment A.
Spaceport Camden Project Description
Location of Proposed Spaceport Camden Project Map

2

U.S. Department of Transportation
Federal Aviation Administration

Office of Commercial Space Transportation

800 Independence Ave., SW.
Washington, DC 20591

JAN 0 6 2016

Dr. Ian Thompson
Tribal Historic Preservation Officer
Choctaw Nation of Oklahoma
PO Box 1210
Durant, Oklahoma 74702-1210

RE: Section 106 Consultation Initiation for the Spaceport Camden Environmental Impact Statement, Camden County, Georgia

Dear Dr. Thompson:

The purpose of this letter is to initiate consultation with you under Section 106 of the National Historic Preservation Act (NHPA) for the above-referenced project and to learn whether your organization is interested in participating as a Consulting Party.

The Camden County Board of Commissioners is seeking a Launch Site Operator License from the FAA Office of Commercial Space Transportation to develop and operate a commercial space launch site (known as Spaceport Camden) in an unincorporated area of Woodbine, in Camden County, Georgia. The project has been determined an "undertaking" subject to the NHPA and its implementing regulations under Section 106 (36 CFR Part 800, as amended). The proposed project and its associated activities are also subject to the National Environmental Policy Act (NEPA) and the FAA has initiated preparation of an Environmental Impact Statement to meet its regulatory obligations. The agency intends to complete Section 106 in conjunction with the NEPA process.

For your reference, Attachment A to this letter includes a map of the project area and brief project description. Additional information on this project is available on the FAA's website at https://www.faa.gov/about/office_org/headquarters_offices/ast/environmental/nepa_docs/review/documents_progress/camden_spaceport/.

1

If you have any questions or would like to discuss the project in more detail, please contact Stacey Zee of my staff at 202-267-9305 (Stacey.Zee@faa.gov). I respectfully request that you respond at your earliest convenience if you are interested in participating as a Consulting Party. Thank you for your consideration.

Sincerely,

Daniel Murray
Manager, Space Transportation Development Division

Attachment A.
Spaceport Camden Project Description
Location of Proposed Spaceport Camden Project Map

2

U.S. Department of Transportation
Federal Aviation Administration

Office of Commercial Space Transportation

800 Independence Ave., SW.
Washington, DC 20591

JAN 0 6 2016

Georgia Tribe of Eastern Cherokee
PO Box 1915
Cumming, Georgia 30028

RE: Section 106 Consultation Initiation for the Spaceport Camden Environmental Impact Statement, Camden County, Georgia

To Whom It May Concern:

The purpose of this letter is to initiate consultation with you under Section 106 of the National Historic Preservation Act (NHPA) for the above-referenced project and to learn whether your organization is interested in participating as a Consulting Party.

The Camden County Board of Commissioners is seeking a Launch Site Operator License from the FAA Office of Commercial Space Transportation to develop and operate a commercial space launch site (known as Spaceport Camden) in an unincorporated area of Woodbine, in Camden County, Georgia. The project has been determined an "undertaking" subject to the NHPA and its implementing regulations under Section 106 (36 CFR Part 800, as amended). The proposed project and its associated activities are also subject to the National Environmental Policy Act (NEPA) and the FAA has initiated preparation of an Environmental Impact Statement to meet its regulatory obligations. The agency intends to complete Section 106 in conjunction with the NEPA process.

For your reference, Attachment A to this letter includes a map of the project area and brief project description. Additional information on this project is available on the FAA's website at https://www.faa.gov/about/office_org/headquarters_offices/ast/environmental/nepa_docs/review/documents_progress/camden_spaceport/.

1

If you have any questions or would like to discuss the project in more detail, please contact Stacey Zee of my staff at 202-267-9305 (Stacey.Zee@faa.gov). I respectfully request that you respond at your earliest convenience if you are interested in participating as a Consulting Party. Thank you for your consideration.

Sincerely,

Daniel Murray
Manager, Space Transportation Development Division

Attachment A.
Spaceport Camden Project Description
Location of Proposed Spaceport Camden Project Map

2

U.S. Department of Transportation
Federal Aviation Administration

Office of Commercial Space Transportation

800 Independence Ave., SW.
Washington, DC 20591

JAN 0 6 2016

Marian S. McCormick
Principal Chief
Lower Muskogee Creek Tribe
106 Tall Pine Drive
Whigham, Georgia 39897

RE: Section 106 Consultation Initiation for the Spaceport Camden Environmental Impact Statement, Camden County, Georgia

Dear Ms. McCormick:

The purpose of this letter is to initiate consultation with you under Section 106 of the National Historic Preservation Act (NHPA) for the above-referenced project and to learn whether your organization is interested in participating as a Consulting Party.

The Camden County Board of Commissioners is seeking a Launch Site Operator License from the FAA Office of Commercial Space Transportation to develop and operate a commercial space launch site (known as Spaceport Camden) in an unincorporated area of Woodbine, in Camden County, Georgia. The project has been determined an "undertaking" subject to the NHPA and its implementing regulations under Section 106 (36 CFR Part 800, as amended). The proposed project and its associated activities are also subject to the National Environmental Policy Act (NEPA) and the FAA has initiated preparation of an Environmental Impact Statement to meet its regulatory obligations. The agency intends to complete Section 106 in conjunction with the NEPA process.

For your reference, Attachment A to this letter includes a map of the project area and brief project description. Additional information on this project is available on the FAA's website at https://www.faa.gov/about/office_org/headquarters_offices/ast/environmental/nepa_docs/review/documents_progress/camden_spaceport/.

1

If you have any questions or would like to discuss the project in more detail, please contact Stacey Zee of my staff at 202-267-9305 (Stacey.Zee@faa.gov). I respectfully request that you respond at your earliest convenience if you are interested in participating as a Consulting Party. Thank you for your consideration.

Sincerely,

Daniel Murray
Manager, Space Transportation Development Division

Attachment A.
Spaceport Camden Project Description
Location of Proposed Spaceport Camden Project Map

2

U.S. Department of Transportation
Federal Aviation Administration

Office of Commercial Space Transportation

800 Independence Ave., SW.
Washington, DC 20591

JAN 0 6 2016

Johnnie Jacobs and Emman Spain
Tribal Historic Preservation Officers
Muscogee (Creek) Nation
PO Box 580
Okmulgee, Oklahoma 74447

RE: Section 106 Consultation Initiation for the Spaceport Camden Environmental Impact Statement, Camden County, Georgia

Dear Mr. Jacobs and Mr. Spain:

The purpose of this letter is to initiate consultation with you under Section 106 of the National Historic Preservation Act (NHPA) for the above-referenced project and to learn whether your organization is interested in participating as a Consulting Party.

The Camden County Board of Commissioners is seeking a Launch Site Operator License from the FAA Office of Commercial Space Transportation to develop and operate a commercial space launch site (known as Spaceport Camden) in an unincorporated area of Woodbine, in Camden County, Georgia. The project has been determined an "undertaking" subject to the NHPA and its implementing regulations under Section 106 (36 CFR Part 800, as amended). The proposed project and its associated activities are also subject to the National Environmental Policy Act (NEPA) and the FAA has initiated preparation of an Environmental Impact Statement to meet its regulatory obligations. The agency intends to complete Section 106 in conjunction with the NEPA process.

For your reference, Attachment A to this letter includes a map of the project area and brief project description. Additional information on this project is available on the FAA's website at https://www.faa.gov/about/office_org/headquarters_offices/ast/environmental/nepa_docs/review/documents_progress/camden_spaceport/.

1

If you have any questions or would like to discuss the project in more detail, please contact Stacey Zee of my staff at 202-267-9305 (Stacey.Zee@faa.gov). I respectfully request that you respond at your earliest convenience if you are interested in participating as a Consulting Party. Thank you for your consideration.

Sincerely,

Daniel Murray
Manager, Space Transportation Development Division

Attachment A.
Spaceport Camden Project Description
Location of Proposed Spaceport Camden Project Map

2

U.S. Department of Transportation
Federal Aviation Administration

Office of Commercial Space Transportation

800 Independence Ave., SW.
Washington, DC 20591

JAN 0 6 2016

Robert Thrower
Tribal Historic Preservation Officer
Poarch Band of Creek Indians
5811 Jack Springs Road
Atmore, Alabama 36502

RE: Section 106 Consultation Initiation for the Spaceport Camden Environmental Impact Statement, Camden County, Georgia

Dear Mr. Thrower:

The purpose of this letter is to initiate consultation with you under Section 106 of the National Historic Preservation Act (NHPA) for the above-referenced project and to learn whether your organization is interested in participating as a Consulting Party.

The Camden County Board of Commissioners is seeking a Launch Site Operator License from the FAA Office of Commercial Space Transportation to develop and operate a commercial space launch site (known as Spaceport Camden) in an unincorporated area of Woodbine, in Camden County, Georgia. The project has been determined an "undertaking" subject to the NHPA and its implementing regulations under Section 106 (36 CFR Part 800, as amended). The proposed project and its associated activities are also subject to the National Environmental Policy Act (NEPA) and the FAA has initiated preparation of an Environmental Impact Statement to meet its regulatory obligations. The agency intends to complete Section 106 in conjunction with the NEPA process.

For your reference, Attachment A to this letter includes a map of the project area and brief project description. Additional information on this project is available on the FAA's website at https://www.faa.gov/about/office_org/headquarters_offices/ast/environmental/nepa_docs/review/documents_progress/camden_spaceport/.

1

If you have any questions or would like to discuss the project in more detail, please contact Stacey Zee of my staff at 202-267-9305 (Stacey.Zee@faa.gov). I respectfully request that you respond at your earliest convenience if you are interested in participating as a Consulting Party. Thank you for your consideration.

Sincerely,

Daniel Murray
Manager, Space Transportation Development Division

Attachment A.
Spaceport Camden Project Description
Location of Proposed Spaceport Camden Project Map

2

U.S. Department of Transportation
Federal Aviation Administration

Office of Commercial Space Transportation

800 Independence Ave., SW.
Washington, DC 20591

JAN 0 6 2016

Natalie (Deere) Harjo
Tribal Historic Preservation Officer
Seminole Nation of Oklahoma
PO Box 1498
Wewoka, Oklahoma 74884

RE: Section 106 Consultation Initiation for the Spaceport Camden Environmental Impact Statement, Camden County, Georgia

Dear Ms. Harjo:

The purpose of this letter is to initiate consultation with you under Section 106 of the National Historic Preservation Act (NHPA) for the above-referenced project and to learn whether your organization is interested in participating as a Consulting Party.

The Camden County Board of Commissioners is seeking a Launch Site Operator License from the FAA Office of Commercial Space Transportation to develop and operate a commercial space launch site (known as Spaceport Camden) in an unincorporated area of Woodbine, in Camden County, Georgia. The project has been determined an "undertaking" subject to the NHPA and its implementing regulations under Section 106 (36 CFR Part 800, as amended). The proposed project and its associated activities are also subject to the National Environmental Policy Act (NEPA) and the FAA has initiated preparation of an Environmental Impact Statement to meet its regulatory obligations. The agency intends to complete Section 106 in conjunction with the NEPA process.

For your reference, Attachment A to this letter includes a map of the project area and brief project description. Additional information on this project is available on the FAA's website at https://www.faa.gov/about/office_org/headquarters_offices/ast/environmental/nepa_docs/review/documents_progress/camden_spaceport/.

1

If you have any questions or would like to discuss the project in more detail, please contact Stacey Zee of my staff at 202-267-9305 (Stacey.Zee@faa.gov). I respectfully request that you respond at your earliest convenience if you are interested in participating as a Consulting Party. Thank you for your consideration.

Sincerely,

Daniel Murray
Manager, Space Transportation Development Division

Attachment A.
Spaceport Camden Project Description
Location of Proposed Spaceport Camden Project Map

2

U.S. Department of Transportation
Federal Aviation Administration

Office of Commercial Space Transportation

800 Independence Ave., SW.
Washington, DC 20591

JAN 0 6 2016

Alan D. Emarthle
Tribal Historic Preservation Officer
Seminole Nation of Oklahoma
PO Box 1768
Seminole, Oklahoma 74868

RE: Section 106 Consultation Initiation for the Spaceport Camden Environmental Impact Statement, Camden County, Georgia

Dear Mr. Emarthle:

The purpose of this letter is to initiate consultation with you under Section 106 of the National Historic Preservation Act (NHPA) for the above-referenced project and to learn whether your organization is interested in participating as a Consulting Party.

The Camden County Board of Commissioners is seeking a Launch Site Operator License from the FAA Office of Commercial Space Transportation to develop and operate a commercial space launch site (known as Spaceport Camden) in an unincorporated area of Woodbine, in Camden County, Georgia. The project has been determined an "undertaking" subject to the NHPA and its implementing regulations under Section 106 (36 CFR Part 800, as amended). The proposed project and its associated activities are also subject to the National Environmental Policy Act (NEPA) and the FAA has initiated preparation of an Environmental Impact Statement to meet its regulatory obligations. The agency intends to complete Section 106 in conjunction with the NEPA process.

For your reference, Attachment A to this letter includes a map of the project area and brief project description. Additional information on this project is available on the FAA's website at https://www.faa.gov/about/office_org/headquarters_offices/ast/environmental/nepa_docs/review/documents_progress/camden_spaceport/.

1

If you have any questions or would like to discuss the project in more detail, please contact Stacey Zee of my staff at 202-267-9305 (Stacey.Zee@faa.gov). I respectfully request that you respond at your earliest convenience if you are interested in participating as a Consulting Party. Thank you for your consideration.

Sincerely,

Daniel Murray
Manager, Space Transportation Development Division

Attachment A.
Spaceport Camden Project Description
Location of Proposed Spaceport Camden Project Map

2

U.S. Department of Transportation
Federal Aviation Administration

Office of Commercial Space Transportation

800 Independence Ave., SW.
Washington, DC 20591

JAN 0 6 2016

Dr. Paul N. Backhouse
Tribal Historic Preservation Officer
Seminole Tribe of Florida
30290 Josie Billie Highway
Clewiston, Florida 33440

RE: Section 106 Consultation Initiation for the Spaceport Camden Environmental Impact Statement, Camden County, Georgia

Dear Dr. Backhouse:

The purpose of this letter is to initiate consultation with you under Section 106 of the National Historic Preservation Act (NHPA) for the above-referenced project and to learn whether your organization is interested in participating as a Consulting Party.

The Camden County Board of Commissioners is seeking a Launch Site Operator License from the FAA Office of Commercial Space Transportation to develop and operate a commercial space launch site (known as Spaceport Camden) in an unincorporated area of Woodbine, in Camden County, Georgia. The project has been determined an "undertaking" subject to the NHPA and its implementing regulations under Section 106 (36 CFR Part 800, as amended). The proposed project and its associated activities are also subject to the National Environmental Policy Act (NEPA) and the FAA has initiated preparation of an Environmental Impact Statement to meet its regulatory obligations. The agency intends to complete Section 106 in conjunction with the NEPA process.

For your reference, Attachment A to this letter includes a map of the project area and brief project description. Additional information on this project is available on the FAA's website at https://www.faa.gov/about/office_org/headquarters_offices/ast/environmental/nepa_docs/review/documents_progress/camden_spaceport/.

1

If you have any questions or would like to discuss the project in more detail, please contact Stacey Zee of my staff at 202-267-9305 (Stacey.Zee@faa.gov). I respectfully request that you respond at your earliest convenience if you are interested in participating as a Consulting Party. Thank you for your consideration.

Sincerely,

Daniel Murray
Manager, Space Transportation Development Division

Attachment A.
Spaceport Camden Project Description
Location of Proposed Spaceport Camden Project Map

2

U.S. Department of Transportation
Federal Aviation Administration

Office of Commercial Space Transportation

800 Independence Ave., SW.
Washington, DC 20591

JAN 0 6 2016

Charles Coleman
Tribal Historic Preservation Officer
Thlopthlocco Tribal Town
PO Box 188
Okemah, Oklahoma 74859

RE: Section 106 Consultation Initiation for the Spaceport Camden Environmental Impact Statement, Camden County, Georgia

Dear Mr. Coleman:

The purpose of this letter is to initiate consultation with you under Section 106 of the National Historic Preservation Act (NHPA) for the above-referenced project and to learn whether your organization is interested in participating as a Consulting Party.

The Camden County Board of Commissioners is seeking a Launch Site Operator License from the FAA Office of Commercial Space Transportation to develop and operate a commercial space launch site (known as Spaceport Camden) in an unincorporated area of Woodbine, in Camden County, Georgia. The project has been determined an "undertaking" subject to the NHPA and its implementing regulations under Section 106 (36 CFR Part 800, as amended). The proposed project and its associated activities are also subject to the National Environmental Policy Act (NEPA) and the FAA has initiated preparation of an Environmental Impact Statement to meet its regulatory obligations. The agency intends to complete Section 106 in conjunction with the NEPA process.

For your reference, Attachment A to this letter includes a map of the project area and brief project description. Additional information on this project is available on the FAA's website at https://www.faa.gov/about/office_org/headquarters_offices/ast/environmental/nepa_docs/review/documents_progress/camden_spaceport/.

1

If you have any questions or would like to discuss the project in more detail, please contact Stacey Zee of my staff at 202-267-9305 (Stacey.Zee@faa.gov). I respectfully request that you respond at your earliest convenience if you are interested in participating as a Consulting Party. Thank you for your consideration.

Sincerely,

Daniel Murray
Manager, Space Transportation Development Division

Attachment A.
Spaceport Camden Project Description
Location of Proposed Spaceport Camden Project Map

2

TRIBAL
HISTORIC
PRESERVATION
OFFICE

CHEYENNE & ARAPAHO TRIBES

P.O. BOX 167
CONCHO, OKLAHOMA 73022
1-800-247-4612 Toll Free
405-422-7416 Telephone

January 13, 2016

Office of Commercial Space Transportation
U.S. Department of Transportation
800 Independence Ave., SW
Washington, DC 20591

RE: Environmental Assessment and Cultural Resources Survey for the Proposed Colorado Spaceport at Front Range Airport in Adams County, Colorado.

Dear Daniel Murray,

On behalf of the Cheyenne and Arapaho Tribes, thank you for the notice of the referenced project. I have reviewed your Consultation request under Section 106 of the National Historic Preservation Act regarding the project proposal and commented as follows:

At this time it is determined to be **No Properties;** however, if at any time during the project implementation inadvertent discoveries are made that reflect evidence of human remains, ceremonial or cultural objects, historical sites such as stone rings, burial mounds, village or battlefield artifacts, please discontinue work and notify the THPO Office immediately. If needed, we will contact the Tribes NAGPRA representatives.

Best Regards,

Margaret Sutton, THPO Officer
Tribal Historical Preservation Office
msutton@c-a-tribes.org

From: Stacey.Zee@faa.gov
Sent: Wednesday, February 3, 2016 3:07 PM
To: Groome, Chadi D.
Cc: Pam.Schanel@icfi.com; Elyse.Mize@icfi.com
Subject: FW: Spaceport Camden Environmental Impact

For files

From: Daniel R. Ragle [mailto:dragle@choctawnation.com]
Sent: Wednesday, February 03, 2016 12:47 PM
To: Zee, Stacey (FAA)
Subject: RE: Spaceport Camden Environmental Impact

Ms. Zee,

The Choctaw Nation of Oklahoma thanks you for the correspondence regarding the above referenced project. This project lies outside of the Choctaw Nation of Oklahoma's area of historic interest. The Choctaw Nation of Oklahoma respectfully defers to the other Tribes that have been contacted. if you have any questions, please contact me by email.

Daniel Ragle
Compliance Review Officer
Historic Preservation Dept.
Choctaw Nation of Oklahoma
(800) 522-6170 Ext. 2727
dragle@choctawnation.com
www.choctawnation.com
www.choctawnationculture.com

A.2.2.1.3 Section 106 Consulting Parties

U.S. Department of Transportation
Federal Aviation Administration

Office of Commercial Space Transportation

800 Independence Ave., SW.
Washington, DC 20591

FEB 25 2016

Dr. Althea Natalga Sumpter
Gullah Geechee Commission Chair
Gullah Geechee Cultural Heritage Corridor
PO Box 1007
Johns Island, SC 29457-1007

Dear Dr. Sumpter:

The purpose of this letter is to initiate consultation with you under Section 106 of the National Historic Preservation Act (NHPA) for the Spaceport Camden Environmental Impact Statement (EIS) and to learn whether your organization is interested in participating as a Consulting Party.

The Camden County Board of Commissioners is seeking a Launch Site Operator License from the Federal Aviation Administration (FAA) Office of Commercial Space Transportation to develop and operate a commercial space launch site (known as Spaceport Camden) in an unincorporated area of Woodbine, in Camden County, Georgia. The project has been determined an "undertaking" subject to the NHPA and its implementing regulations under Section 106 (36 CFR Part 800, as amended). The proposed project and its associated activities also are subject to the National Environmental Policy Act (NEPA) and the FAA has initiated preparation of an EIS to meet its regulatory obligations.

For your reference, attachments to this letter include a map of the project area and a brief project description. Additional information on this project is available on the FAA's website at https://www.faa.gov/about/office_org/headquarters_offices/ast/environmental/nepa_docs/review/documents_progress/camden_spaceport/.

1

If you have any questions or would like to discuss the project in more detail, please contact Stacey Zee of my staff at 202-267-9305 (Stacey.Zee@faa.gov). I respectfully request that you respond at your earliest convenience if you are interested in participating as a Consulting Party. Thank you for your consideration.

Sincerely,

Daniel Murray
Manager, Space Transportation Development Division

Attachment
Spaceport Camden Project Description
Location of Proposed Spaceport Camden Project Map

2

Preserving America's Heritage

August 12, 2019

Honorable Daniel K. Elwell
Acting Administrator
U.S. Department of Transportation
Federal Aviation Administration
800 Independence Avenue, SW
Washington, DC 20591

Ref: *Proposed Commercial Space Launch Site Development and Operation*
Camden County, Georgia
ACHPCONNECT Log Number: 014190

Dear Mr. Elwell:

In response to a notification by the Federal Aviation Administration (FAA), the Advisory Council on Historic Preservation (ACHP) will participate in consultation regarding the proposed construction and operation of a commercial launch site (Spaceport Camden) in Camden County, Georgia. Our decision to participate in this consultation is based on the *Criteria for Council Involvement in Reviewing Individual Section 106 Cases*, contained within our regulations. The criteria are met for this proposed undertaking because it could create substantial impacts on multiple historic properties including Cumberland Island National Seashore, and have the potential to present procedural problems.

Section 800.6(a)(1)(iii) of our regulations requires that we notify you, as the head of the agency, of our decision to participate in consultation. By copy of this letter, we are also notifying Ms. Katherine Andrus, FAA Federal Preservation Officer, and Ms. Stacey Zee, FAA Environmental Specialist in the Office of Commercial Space Transportation, of our decision to participate in consultation.

Our participation in this consultation will be handled by Sarah Stokely who can be reached at 202-517-0224 or via e-mail at sstokely@achp.gov. We look forward to working with your agency and other consulting parties to consider alternatives to this undertaking that could avoid, minimize, or mitigate potential adverse effects on historic properties and to reach a resolution.

Sincerely,

John M. Fowler
Executive Director

ADVISORY COUNCIL ON HISTORIC PRESERVATION
401 F Street NW, Suite 308 • Washington, DC 20001-2637
Phone: 202-517-0200 • Fax: 202-517-6381 • achp@achp.gov • www.achp.gov

U.S. Department of Transportation
Federal Aviation Administration

Office of Commercial Space Transportation

800 Independence Ave., SW.
Washington, DC 20591

May 5, 2020

Karen L Cucurullo, Acting Regional Director
Atlanta Federal Center, 1924 Building
100 Alabama Street, SW
Atlanta, GA 30303

Dear Ms. Cucurullo:

The Camden County Board of Supervisors has applied to the Federal Aviation Administration (FAA) for a Launch Site Operator License to operate a commercial spaceport in Camden County, Georgia. FAA has determined that the Spaceport Camden project is an undertaking, per 36 CFR 800.16 of the National Historic Preservation Act of 1966 (NHPA). Pursuant to 36 CFR 800.2, the FAA is formally inviting the National Park Service (NPS) to participate in the consultation process as a consulting party. The FAA has provided Section 106 documentation to the NPS, as an EIS cooperating agency, throughout the process.

As part of the FAA's Section 106 review and pursuant to 36 CFR 800.4, the FAA undertook identification efforts and among the properties determined eligible for or listed in the National Register of Historic Places (NRHP) was the Cumberland Island Cultural Historic Landscape, a historic vernacular landscape that encompasses the entire Cumberland Island National Seashore (CUIS), a unit of the National Park Service. The Historic Preservation Division (HPD) of the Georgia Department of Natural Resources concurred with this finding on August 4, 2017.

FAA has determined in consultation with the Georgia HPD that the subject undertaking may have an adverse effect on properties listed in or eligible for listing in the NRHP that cannot be fully determined prior to the FAA's issuing a decision regarding the Launch Site Operator License. Therefore, the FAA has elected to execute a Programmatic Agreement (PA) in compliance with 36 CFR 800.14, to guide the implementation of a program for the continued assessment of effects on historic properties and the resolution of adverse effects on historic properties. The FAA is inviting the National Park Service to be a signatory to this PA as your agency administers the CUIS and its cultural resources.

We look forward to your continued participation in the Section 106 process. Please contact Stacey Zee, FAA Environmental Specialist, at Stacey.Zee@faa.gov or (202) 267-9305 to discuss any questions or concerns on the Proposed Project.

Sincerely,

DANIEL P MURRAY

Digitally signed by DANIEL P MURRAY
Date: 2020.05.05 10:59:54 -04'00'

Daniel Murray
Manager, Safety Authorization Division

LITTLE CUMBERLAND ISLAND HOMES ASSOCIATION, INC.

May 8, 2020

Stacey Zee
Environmental Specialist
Federal Aviation Administration
800 Independence Avenue SW (AST)
Washington, DC 20591

Re: 106 Review | Little Cumberland Island Homes Association, Inc. (the "Association")

Dear Stacey,

This letter confirms the Association's acceptance of the FAA's invitation to participate in the preparation of the Programmatic Agreement for the proposed spaceport. Of course, our acceptance of FAA's invitation to participate as a Consulting Party should not be construed as a waiver of our objections to certain aspects of the Section 106 process to date, including, without limitation, the criteria used to establish the APE and FAA's decision to defer to the Programmatic Agreement important surveys and studies that would inform FAA's decision on the Launch Site Operator's License.

We look forward to working with FAA, the Georgia State Historic Preservation Officer, the National Park Service and Camden County, Georgia on the Programmatic Agreement.

With best regards, I am

Very truly yours,

V. Kevin Lang, Vice President

Cc: Michelle Hunter, Chairman of the Association
Kevin McMillen, President of the Association
Jim Gerard, Counsel to the Association
Jennifer Dixon, Georgia Historic Preservation Office
Betsy Merritt, National Trust for Historic Preservation
John M. Fowler, Advisory Council on Historic Preservation
General Wayne Monteith, FAA
Pam Underwood, FAA
Ken Wong, FAA
Daniel Murray, FAA
Brian Rushforth, FAA
Michael Fineman, FAA
Howard Searight, FAA
Donald Dankert, FAA
Steven M. Wright, NPS

00829948.1/011670-000004

QUEEN QUET
CHIEFTESS OF THE GULLAH/GEECHEE NATION
POST OFFICE BOX 1109
ST. HELENA ISLAND SC 29920
(843) 838-1171 • GULLGEECO@AOL.COM

June 17, 2020

Re: **SEEKING CONSULTING PARTY STATUS for the Proposed Camden Spaceport UNDER SECTION 106, SECTION 4(f), AND NEPA**

Peace Ms. Dixon, Ms. Zee and Mr. Fowler!

The **Gullah/Geechee Sea Island Coalition** and citizens of the Gullah/Geechee Nation are deeply concerned about proposed spaceport in Camden County, Georgia and its potential effects on historic properties that are significant to the Gullah/Geechee Nation. We understand that consultation has been initiated under Section 106 of the National Historic Preservation Act (NHPA) for the spaceport, and that compliance with Section 4(f) of the Department of Transportation Act and the National Environmental Policy Act (NEPA) will also be required. The **Gullah/Geechee Sea Island Coalition** would like to participate actively in the review process, both as a "consulting party" under Section 106 of the NHPA, pursuant to 36 C.F.R. §§ 800.2(c)(5) and 800.3(f)(3), and by receiving and commenting on any documents prepared pursuant to Section 4(f) and NEPA.

The **Gullah/Geechee Sea Island Coalition** (www.GullahGeechee.net) is the premiere organization for the advocacy of the land and human rights of Gullah/Geechees worldwide. I am the founder of the **Gullah/Geechee Sea Island Coalition** and I have served and continue to serve on several boards concerning historic preservation and cultural sustainability around the world including having been on the *National Parks Relevancy Committee* and having chaired the General Management Plan for the Gullah/Geechee Cultural Heritage Corridor in which this project is being proposed. I am currently a leader of the **Climate Heritage Network** (http://climateheritage.org/) and the **Gullah/Geechee Sea Island Coalition** is a member of the **International National Trust Organization (INTO)**. You can find out more about my work in regard to cultural heritage continuation and historic preservation at www.QueenQuet.com and https://www.linkedin.com/in/queenquet/.

- The Gullah/Geechee Sea Island Coalition's members have extensive knowledge about historic and cultural resources especially along the Gullah/Geechee Nation's coastline.
- Many Gullah/Geechee people live within or near the proposed project area, and would be adversely affected by the project so, we have a stake in ensuring that this project is planned in a manner that will not harm or diminish their quality of life and our historic and sacred lands and sites.

We are sure that we can provide important information and a valuable perspective on the cultural landscape in which this spaceport is being proposed. To that end, we are requesting status as a consulting party under Section 106 and in the review process under NEPA and Section 4(f). Please include the Gullah/Geechee Sea Island Coalition in your distribution lists for public notices of any meetings, and for the circulation of documents for comment.

Thank you for taking the time to include us. Please remain safe and healthy. We look forward to participating as the review and consultation process moves forward for the Camden Spaceport.

Peace,

Queen Quet

Queen Quet, Chieftess of the Gullah/Geechee Nation
Founder, **Gullah/Geechee Sea Island Coalition**

cc: Advisory Council on Historic Preservation
State Historic Preservation Office
State Department of Transportation
National Trust for Historic Preservation
INTO
International Human Rights Association for American Minorities (IHRAAM)
Gullah/Geechee Sustainability Think Tank

U.S. Department of Transportation
Federal Aviation Administration

Office of Commercial Space Transportation

800 Independence Ave., SW.
Washington, DC 20591

July 23, 2020

Queen Quet
Chieftess of the Gullah/Geechee Nation
P.O. Box 1109
St. Helena Island, SC 29920

Dear Queen Quet,

The Federal Aviation Administration (FAA) is in receipt of your letter, dated June 17, 2020, which requested that the FAA (1) include the Gullah/Geechee Sea Island Coalition as a consulting party in the Section 106 process of the National Historic Preservation Act (NHPA), and (2) include the Gullah/Geechee Sea Island Coalition in the review process of the Revised Draft EIS and Section 4f. The FAA accepts the Gullah/Geechee Sea Island Coalition request to be a consulting party under Section 106. The FAA will also provide a draft of the Revised Draft EIS (which will include the Section 4f analysis) to the Gullah/Geechee Sea Island Coalition when it is available, anticipated in January 2021.

The Camden County Board of Commissioners (the County) is proposing to construct and operate a commercial space launch site, called Spaceport Camden, on the Atlantic seaboard in Camden County, Georgia. The County could offer the commercial space launch site to vertical launch vehicle operators for the orbital launch of small launch vehicles. The FAA is preparing a Revised Draft Environmental Impact Statement (EIS) for the Spaceport Camden project. Camden County submitted an amended application on January 15, 2020 that limits the scope of proposed operations to small launch vehicles. The Revised Draft EIS will analyze the environmental impacts of launching small launch vehicles with no first stage returns. It will also analyze the construction of associated support infrastructure. The Revised Draft EIS will be made available for public review and comment. The project has been determined an "undertaking" subject to the NHPA and its implementing regulations under Section 106 (36 CFR Part 800). The proposed project and its associated activities are subject to the National Environmental Policy Act (NEPA). For your reference, a brief project description is included as an attachment to this letter.

Regarding the FAA's engagement with the Gullah/Geechee Cultural Heritage Corridor Commission for this project, on February 15, 2016, the FAA sent an invitation letter to Dr. Althea Sumpter of the Gullah/Geechee Cultural Heritage Corridor Commission to participate as

1

a consulting party under Section 106. On May 17, 2017 the FAA contacted Gullah Geechee Commission to provide an update on the Section 106 process. During the conversation, the Commission requested copies of the two cultural reports (*Phase I Archaeological Survey of the Proposed Spaceport Camden, Camden County, Georgia* and *Determinations of Eligibility Report for the Proposed Spaceport Camden Project in Camden County, Georgia*) The FAA sent the reports to Mr. J. Herman Blake on August 10, 2017 requesting comments on both documents. The FAA did not receive acceptance of consulting party status or comments on the sent documents from the Gullah/Geechee Cultural Heritage Corridor Commission.

Stacey Zee, from my staff, will follow up via email with the next steps on the Section 106 process.

Sincerely,

DANIEL P MURRAY

Digitally signed by DANIEL P MURRAY
Date: 2020.07.23 15:59:32 -04'00'

Daniel P. Murray
Manager, Safety Authorization Division

2

LITTLE CUMBERLAND ISLAND HOMES ASSOCIATION, INC.

November 6, 2020

VIA FEDERAL EXPRESS AND E-MAIL

Daniel P. Murray (Daniel.Murray@faa.gov)
Federal Aviation Administration
Manager, Safety Authorization Division
800 Independence Avenue SW
Washington, DC. 20591

RE: Notice of Disagreement with Finding of No Effect

Dear Mr. Murray:

The purpose of this letter is to provide the Federal Aviation Administration ("FAA") with written notice that the Little Cumberland Island Homes Association, Inc. (the "LCI Association") disagrees with FAA's conclusion that the operation of Spaceport Camden does not have potential Adverse Effects on the Little Cumberland Island Lighthouse (the "Lighthouse"). Reference is hereby made to the LCI Association's letter to FAA dated September 6, 2019, concerning the potential adverse effects of the operation of the Spaceport on the Lighthouse and objecting to the Area of Potential Effect established by FAA as part of its review under Section 106 of the National Historic Preservation Act ("NHPA"). In response to this letter, FAA agreed to designate the LCI Association as a Consulting Party under Section 106 of the NHPA. The LCI Association confirmed its agreement to be a Consulting Party for purposes of the Section 106 review on May 8, 2020.

I. Notice of LCI's Association's Disagreement with FAA's Finding of No Adverse Effects

The LCI Association disagrees with FAA's conclusion that the operation of Spaceport Camden will not have potential Adverse Effects on the Lighthouse. As stated in the Association's September 6, 2019 letter, the operation of Spaceport Camden presents readily foreseeable Adverse Effects on the Lighthouse. Camden County's Amended Application for a Launch Site Operator's License (the "Application") indicates that Camden County intends to operate a commercial spaceport that launches up to twelve (12) small launch vehicles per year. The Application assumes a failure rate of 20% for these small launch vehicles. Whether FAA uses the assumed failure rate stated in the Application or uses its own data on documented launch failures for small launch vehicles, it is clear that the risk of launch failures under Camden County's amended Application greatly exceeds the risk for the medium to large rockets that Camden County proposed to launch in its original application. This substantial increase in the frequency of launch failures and

00898066.1/011670-000004

resulting impacts on downrange historic structures (including, but not limited to, the Lighthouse) is not addressed in FAA's October 15, 2020 letter.

FAA failed to recognize the obvious risk of the Lighthouse being directly impacted by a launch vehicle or by debris from a launch vehicle that explodes on its own or is destroyed by a flight termination system. The Lighthouse is inside of the boundaries of the proposed "Safety Zones" that Camden County has asked the United States Coast Guard to establish for launches. The Lighthouse is also within the Instantaneous Impact Point lines (the limit lines for the area that may be impacted by debris from launch failures) reflected in diagrams included in Camden County's amended application. The Lighthouse will also most assuredly be within the flight corridor for launches. The Lighthouse could be destroyed by either direct impacts from rocket debris or by a fire or multiple fires on Little Cumberland Island ignited by debris. FAA has repeatedly acknowledged the risk to people and property on Little Cumberland Island from fires ignited by rocket failures. In its letters to Camden County on February 12, 2019 (attached hereto as Exhibit A), May 29, 2019 (attached hereto as Exhibit B) and December 16, 2019 (attached hereto as Exhibit C), FAA clearly indicated that it was concerned with the potential for uncontrollable fires on Little Cumberland Island resulting from rocket failures in each of these letters. It is difficult to reconcile these documented FAA concerns and FAA's conclusion that the proposed operation of Spaceport Camden does not present a foreseeable Adverse Effect on the Lighthouse.

While the LCI Association has no ownership interest in the historic structures on Cumberland Island, our members value these historic structures and they are also very much at risk of being destroyed by the operations at the spaceport. In particular, the First African Baptist Church is an entirely wood structure and it lies directly beneath the azimuth and trajectory that Camden County is basing its application. A launch failure that results in a fire or multiple fires on the north end of Cumberland Island could very easily destroy this historic structure in minutes.

II. Demand for Consultation or Submission to the Advisory Council on Historic Preservation

The LCI Association hereby demands that FAA either (i) consult with the LCI Association to resolve this disagreement over FAA's finding that the operation of the Spaceport does not present a potential Adverse Effect to the Lighthouse or (ii) request that the Advisory Council on Historic Preservation (the "Council") review FAA's finding. In the event FAA decides to submit this disagreement to the Council, FAA should provide the LCI Association, all other Consulting Parties and the public with all documentation submitted to the Council in accordance with 36 CFR § 800.5 (c)(2). This documentation provided by FAA to the Council should include a full analysis of the proposed operations of Spaceport Camden, including failure rates included in the Application and an explanation of various failure modes evaluated by FAA. For example, it would be helpful for the Council, SHPO and each of the Consulting Parties to understand the malfunction turn failure mode (where the launch vehicle malfunctions and turns off its intended trajectory) and the modeled debris fields included in the flight safety analysis for this particular failure mode.

00898066.1/011670-000004

III. Re-Evaluation of Area of Potential Effect

Reference is hereby made to the LCI Association's letter from September 6, 2019 in which the Association provided the FAA and the State of Georgia Historic Preservation Office ("SHPO") with notice of its objection to the Area of Potential Effect. The Area of Potential Effect is defined as the geographic area within which an undertaking may "directly or indirectly cause alterations in the character or use of historic properties." 36 CFR § 800.16 (d). The Area of Potential Effect "is influenced by the scale and nature of an undertaking and may be different for different kinds of effects caused by the undertaking." 36 CFR § 800.16 (d). The FAA set the Area of Potential Effect as the area within a five (5) mile radius of the launch site. This Area of Potential Effect does not include the Lighthouse, as the Lighthouse is 5.9 miles from the launch site. It is puzzling that the FAA chose not to set the Area of Potential Effect at a radius that included the Lighthouse, particularly in light of the fact that the Lighthouse is on the National Register of Historic Places and is clearly at risk from the Spaceport's operations.

In FAA's May 24, 2016 letter to SHPO, FAA failed to even mention the potential for the Lighthouse to be damaged or destroyed by launch failures. SHPO concurred with FAA's proposed Area of Potential Effect based upon the information provided to SHPO by FAA. FAA is legally obligated to provide SHPO with information necessary for SHPO to make an informed decision as to its concurrence. FAA is well informed on launch failures due to its role as the federal regulatory body charged with licensing launches and ensuring the safety of the uninvolved public. SHPO is not, and, of course, FAA knows that this is a matter of first impression for SHPO. FAA should have provided SHPO with information on the risk to historic structures on both Cumberland Island and Little Cumberland Island from wildfires ignited by rocket failures. FAA is well aware of the alarmingly high failure rates for small launch vehicles. In fact, a nominal launch of a small launch vehicle is a rare occurrence. I have attached a summary of the launch history for small launch vehicles as Exhibit D to this letter. As is readily apparent from this summary, small launch vehicles fail much more often than they perform as intended.

IV. FAA Should Seek New Concurrence from SHPO

FAA should provide SHPO and each of the Consulting Parties with updated information with respect to the proposed operations of Spaceport Camden, which information should include failure rates for small launch vehicles as well as the modeled debris fields included in the flight safety analysis included in Camden County's amended Application for a Launch Site Operator's License. SHPO needs to understand the risk that rocket failures present to historic structures like the First African Baptist Church on Cumberland Island and the Lighthouse. It is very important that SHPO have this information in order for them to discharge their obligation to protect these historic structures and to evaluate the proposed mitigations. FAA should also go ahead and expand the Area of Potential Effect to expressly include all of Cumberland Island and Little Cumberland Island since it is clear that historic structures on both Islands are very much at risk from wildfires from rocket failures. SHPO was not provided sufficient information on rocket failures and the risk of wildfire to properly evaluate FAA's proposed Area of Potential Effect. SHPO should be provided this information and allowed to reconsider their concurrence with FAA's proposed Area of Potential Effect.

00898066.1/011670-000004

V. The Way Forward.

The LCI Association looks forward to working with FAA to complete its Section 106 review for the proposed spaceport. The LCI Association has invested substantial resources in the maintenance and periodic restoration of the Lighthouse. It is an important asset of the LCI Association, and the LCI Association is prepared to take the actions necessary to protect it from being destroyed by the operations of the proposed spaceport. These actions include legal challenges as a result of FAA's failure to perform a proper 106 review and SHPO's acceptance of the same without reasonable inquiry or objection.

With best regards, I am

Very truly yours,

LITTLE CUMBERLAND ISLAND HOMES ASSOCIATION, INC.

V. Kevin Lang, Vice President

Cc: Jennifer Dixon (SHPO)
David Crass (SHPO)
Board of Directors of LCI Association
Jim Gerrard (LCI Association Counsel)
Elizabeth Merritt (National Trust for Historic Preservation)
John M. Fowler (Advisory Council on Historic Preservation)
Brian Gist (Southern Environmental Law Center)
General Wayne Monteith (FAA)
Stacey Zee (FAA)

00898066.1/011670-000004

Exhibit A

U.S. Department of Transportation
Federal Aviation Administration

Commercial Space Transportation

800 Independence Ave., SW.
Washington, DC 20591

February 12, 2019

Mr. James H. Starline
Chairman, Camden County Board of Commissioners
P.O. Box 99
200 East 4th Street
Woodbine, Georgia 31569

Dear Mr. Starline:

On January 29, 2019, we received your Launch Site Operator License (LSOL) Application for the operation of a spaceport in Camden County, Georgia. We have completed our initial review of your application and found that it is not complete enough to start the 180-day review period. Based on our initial review of your application, we need additional information primarily pertaining to the environmental review, mitigation of potential risk of fire, analysis of individual risk, and the ability to account for and manage the population.

A Draft Environmental Impact Statement (EIS) for this project was released for public review. We are currently reviewing your response to comments to ensure adequacy. We are also awaiting an update on the status of the coastal consistency consultation.

As per 14 CFR § 413.13, if, in addition to the information required by 14 CFR § 420, the FAA requires other information necessary for a determination that public health and safety, safety of property, and national security and foreign policy interests of the United States are protected during the conduct of a licensed or permitted activity, an applicant must submit the additional information. As a result of our application review, and a site visit conducted by AST personnel, it was determined the risk from fire should be included in the LSOL risk analysis. Little Cumberland Island (LCI) is heavily lined with saw palmetto underbrush, and firebreaks are difficult to maintain. If a fire were to start due to a mishap or incident, it could quickly spread and would be difficult to contain. LCI's existing firefighting capability is limited. Also, island egress from LCI is a concern as the only access to the island is by boat and LCI's dock is located in a tidal stream. The dock cannot be accessed two-hours before or after low tide. This creates a situation in which evacuation and emergency services may not be feasible.

Additionaly, as per 14 CFR § 413.13, AST is requiring an analysis of risk to individuals due to the proposed trajectories and overflight of the two populated islands in close proximity to the launch point. AST has conducted an independent individual risk analysis and our results differ from the analysis provided in the application. As discussed in the Technical Interchange Meeting on February 8, 2019, AST has requested additional data in order to make a better determination of the differences. Furthermore, we need information on how the number of people on LCI and

00898066.1/011670-000004

Cumberland Island would be accounted for and managed to ensure that the public risk limits are not exceeded.

We will continue to coordinate with you and your team to discuss specifics and any further information that may be required to complete the application.

Should you have any questions, please contact me at (202) 267-8465 or by e-mail, ken.wong@faa.gov..

Sincerely,

Kenneth Wong

Kenneth Wong
Manager
Licensing and Evaluation Division

00898066.1/011670-000004

Exhibit B

U.S. Department of Transportation
Federal Aviation Administration

Commercial Space Transportation

800 Independence Ave., SW.
Washington, DC 20591

May 29, 2019

Mr. James H. Starline
Chairman, Camden County Board of Commissioners
P.O. Box 99
200 East 4th Street
Woodbine, Georgia 31569

Dear Mr. Starline:

Camden County Board of Commissioners submitted an application and Environmental Impact Statement (EIS) for a "complete enough" review on Jan 29, 2019. On February 12, 2019, the FAA determined the application to be "not complete enough" to begin the 180-day review due to four outstanding issues. In its letter, the FAA requested more information concerning the environmental review, mitigation of potential risk of fire, analysis of individual risk, and the ability to account for and manage the population.

On May 24, 2019, the FAA completed its secondary review of the additional information submitted in support of the Camden Spaceport launch site operator license application. We have found that it is "not complete enough" to start the 180-day review period.

Environmental Review

The environmental review is "not complete" enough to begin evaluation on this part of the application. The FAA continues to work with Camden County to respond to the 15,000+ comments before the document can be finalized. In addition, there are outstanding issues on consultation. Camden County is responsible for Coastal Consistency Determination per the Coastal Zone Management Act. Camden County needs to conduct further discussion with Georgia Coastal Resources Division (CRD) to inform how the FAA will address this within the EIS. Camden County must also work with the FAA to document mitigation requirements through a Programmatic Agreement for Cultural Resources Mitigation per Section 106 of the National Historic Preservation Act, and the National Marine Fisheries Service Concurrence per Section 7 of the Endangered Species Act. In addition, we will have to further coordinate Section 4f consultation with the information provided in the Population Management Plan.

00898066.1/011670-000004

There is also an inconsistency between the application and the Draft EIS, as noted in the following table.

Topic/Issue that Differs	Application (in attachment 6)	DEIS (in Table 2.1-5)
Hazardous Materials Storage	Table 4 provides a list of hazardous materials and amounts stored at each of the facilities of the spaceport. While RP-1 and LOX amounts seem to match the DEIS, it appears that greater amounts of MMH/NTO/UDMH are proposed to be stored. Combined total of MMH/NTO/UDMH across all facilities where storage will occur is listed as just over 20,000 pounds, mostly due to high volumes of NTO. The DEIS states that only 5,500 pounds of MMH/NTO/UDMH combined would be stored across the launch facility.	Table 2.1-5 provides a list of hazardous materials stored at the spaceport. Total volume of MMH/NTO/UDMH stored across the launch facility totals 5,500 pounds (600 gallons).

Mitigation of Potential Risk of Fire

The plan proposed by Camden on March 14, 2019 and supplemental information provided on May 21, 2019, is sufficient for a "complete enough" status to start evaluation on that part of the application. The FAA may request additional information during the evaluation of Camden's license application.

Analysis of Individual Risk

The assumptions and methodology for the individual risk analysis and additional population submitted on March 4 and April 30, 2019, respectively, are sufficient for a "complete enough" status to start evaluation on that part of the application. However, please clarify what the "Settlement" represents on the map of Cumberland Island. It is not listed as a campsite with potential population, but is labeled similarly on the map in the Population Control Document.

The Ability to Account for and Manage the Population

The material submitted for the ability to account for and manage the population was determined to be "not complete enough." AST has several outstanding concerns regarding this document submitted on May 10, 2019.

1. (Page 1) *"For every launch at Spaceport Camden there is an Incident Command System (ICS) Form 201 compliant document prepared by the launch stakeholders (led by Spaceport Camden) called the Comprehensive Launch Plan (CLP)."*

   Please provide an updated CLP with the new waterway closure plan. The previous plan notes that the waterway authority is the local sheriff.

00898066.1/011670-000004

2. (Page 4) "*Rest of Areas (ROA) ... The lead entity on road closures, traffic flow management, and issues such as congestion prevention or management, will be local, state or federal officials depending on the road and area.*"

   This plan should be more detailed and pre-coordinated with either local, state, or federal officials. Please provide documentation demonstrating that the implementing authorities mentioned above have been contacted and coordination has been made.

3. Please provide the draft of the Letter of Coordination between the HOA and the Chief Ranger when it becomes available.

We will coordinate with you and your team to discuss the specifics listed in this letter required tc reach a "complete enough" status. We recommend you continue working on methods to better estimate and manage actual day of launch population data because using historical data alone may not be adequate to assess day of launch risk.

Should you have any questions, please contact Ms. Michelle Murray at (202) 267-1540 or by e-mail, michelle.murray@faa.gov.

Sincerely,

Kenneth Wong

Kenneth Wong
Manager
Licensing and Evaluation Division

cc: Steve Howard

00898066.1/011670-000004

Exhibit C

U.S. Department of Transportation
Federal Aviation Administration

Commercial Space Transportation

800 Independence Ave., SW.
Washington, DC 20591

December 16, 2019

Mr. James H. Starline
Chairman, Camden County Board of Commissioners
P.O. Box 99
200 East 4th Street
Woodbine, Georgia 31569

Dear Mr. Starline:

Per your request, under the provisions of 14 CFR § 413.15(b), the FAA agrees to toll the review period for the evaluation of your license application to operate a launch site in Camden County, Georgia. The tolling is effective December 14, 2019, the 178th day of the 180-day review period.

This action is in response to your letter dated December 14, 2019, in which you notified the FAA of Camden County's amendment to its license application, in accordance with 14 CFR § 413.17(b), to limit operations to the launch of small launch vehicles from its proposed site. Furthermore, you requested in your letter that the FAA pause its 180-day review period until the FAA has an opportunity to perform an independent safety analysis on a representative small launch vehicle and address any other issues or concerns. Prior to receiving your December 14 letter, the FAA had conducted an independent review of the medium-large vehicle, the heaviest weight class planned to be flown from the proposed Camden County launch point per 14 CFR § 420.19(c). However, because you indicated in your December 14 letter that Camden County is amending its license application to limit operations to only the launch of small launch vehicles, the FAA will no longer provide a license determination on a medium-large launch vehicle with a first-stage return.

Camden County must ensure the continuing accuracy of its application, which includes the addendum Camden County submitted to the FAA on December 12, 2019, by removing any references to the medium-large vehicle in its application. You must submit your revised application to the FAA before we begin our analysis of the launch of small launch vehicles from your proposed site.

Also, please be advised there remain issues/concerns that have not yet been satisfactorily resolved:

Fire - A launch accident may cause an uncontrollable fire on LCI or Big Cumberland Island. Access to LCI for firefighting and egress from LCI for evacuation are limited.

00898066.1/011670-000004

U.S. National Security - The Department of Defense (DoD) has concerns that the proximity of launch operations to a vital U.S. Navy base might jeopardize foreign policy or national security interests of the United States.

Environmental Assessment - Camden County has not completed the environmental review process.

Even with the proposed narrowing of your application scope, there is no assurance the FAA will make a favorable license determination in view of the issues raised above.

Sincerely,

Kenneth Wong
Manager
Licensing and Evaluation Division

cc: Steve Howard

00898066.1/011670-000004

Exhibit D

ALL US COMMERCIAL SMALL CLASS ORBITAL ROCKETS HISTORY 2006-October 31, 2020						
	Thrust	Payload lbs	Launches	1st Stage Failures	1st Stage Failure %	Notes:
Rocket Lab Electron	37,980	660	15	1	7%	Licensed, operational
Astra Rocket 1.0-3.1	28,550	220	3	3	100%	Licensed, experimental
SpaceX Falcon 1	102,000	400	5	1	20%	Licensed, retired
Total small class launches since 2006>>			23	5	22%	

00898066.1/011670-000004

QUEEN QUET
CHIEFTESS OF THE GULLAH/GEECHEE NATION
POST OFFICE BOX 1109
ST. HELENA ISLAND SC 29920
(843) 838-1171 • GULLGEECO@AOL.COM

November 18, 2020

Re: Spaceport Camden Finding of Effect letter - HP-151117-001

Peace Ms. Dixon, Ms. Zee and Mr. Fowler!

In July 2020, the **Gullah/Geechee Sea Island Coalition** received the confirmation letter that the **Gullah/Geechee Sea Island Coalition** is a "consulting party" under Section 106 of the NHPA, pursuant to 36 C.F.R. §§ 800.2(c)(5) and 800.3(f)(3). Given that this allows us to receive and comment on any documents prepared pursuant to Section 4(f) and NEPA, I am writing you once again in opposition to the proposed Camden Spaceport due to the details that we have reviewed in Spaceport Camden Environmental Impact Statement Finding of Adverse Effect Pursuant to 36 CFR Part 800 Regarding the Proposed Action to Construct/Operate Commercial Space Launch Site, Spaceport Camden, Woodbine, Camden County, Georgia HP-151117-001.

On October 30, 2020, I wrote to you requesting the details for my formal response to the findings that were listed in the aforementioned document and did not receive any instructions on how to officially respond in our capacity as a consulting party organizations. So, I am providing this letter as our formal response.

The Gullah/Geechee Cultural Heritage Corridor which this project is being proposed to be placed within is not mentioned at any time in the impact statement. Therefore, it is incorrect to state that no cultural resources will be impacted. We concur with the FAA that there would be a potential Adverse Effect as a result of this undertaking, and that this adverse effect would be on archeological and cultural resources from the construction of Spaceport Camden.

Within the proposed Spaceport Camden boundary, but outside of the construction areas, inventory efforts identified and recorded nine historic properties as individual features within the Floyd's Fairfield and Bellevue Plantations/Union Carbide Property.

- Outside of the proposed Spaceport Camden boundary, but within the 5-mile radius of the APE, inventory of the entire APE for audible, vibratory and visual effects identified three groups of resources: Cabin Bluff Historic District, Dover Bluff Club Historic District and historic properties on Cumberland Island within the Cumberland Island National Seashore.

- The Cumberland Island Cultural Historic Landscape, which is outside of the Spaceport Camden boundary, but overlaps with the outer mile of the 5-mile radius APE for audible and visual effects, is a NRHP-eligible historic vernacular landscape, running nearly the entire length of Cumberland Island.

In addition to the adverse effects on archeological and cultural resources and the negative impacts that will have to be endured by native Gullah/Geechees and other citizens living within the range of the sonic booms, the negative impacts of the sonic booms to the waterways is not addressed and should be addressed. Seismic guns have proven to have adverse affects on sea creatures and we anticipate that these booms would have a similar effect. This will have negative impacts on the fisheries of the area and thereby will negatively impact the native Gullah/ Geechees of Camden County who rely on these waterways for subsistence. In addition, underwater surveys for munitions should be conducted. We would like to see the documentation for the water resource aspects of the environmental impact assessment if such documents exist. Also, please send over the complete environmental impact survey and cultural impact survey for this project.

We look forward to continuing to participate in the review and consultation process for the Camden Spaceport and eagerly await the additional documentation that we have requested and the report that is due at the beginning of 2021.

Please remain safe and healthy and enjoy the Holy Days.

Peace,

Queen Quet

Queen Quet, Chieftess of the Gullah/Geechee Nation
Founder, **Gullah/Geechee Sea Island Coalition**

cc: Gullah/Geechee Nation Wisdom Circle Council of Elders and Assembly of Representatives
International Human Rights Association for American Minorities (IHRAAM)
Gullah/Geechee Sustainability Think Tank

December 9, 2020

Mr. Daniel P. Murray
Manager
Safety Authorization Division
Office of Commercial Space Transportation
Federal Aviation Administration
800 Independence Ave., SW
Washington, DC 20591

Ref: *Spaceport Camden*
Woodbine, Camden County, Georgia
ACHP Project Number: 014190

Dear Mr. Murray:

On October 15, 2020, the Federal Aviation Administration (FAA) provided the Advisory Council on Historic Preservation (ACHP) with its draft assessment of effects (AOE) for the referenced undertaking. The finding of effect is submitted as part of the FAA's compliance with the Section 106 (54 U.S.C. § 306108) of the National Historic Preservation Act (NHPA) (54 U.S.C. § 300101 et seq.) and its implementing regulations, "Protection of Historic Properties" (36 C.F.R. Part 800). As the ACHP is participating in consultation, we are providing our comments regarding FAA's draft AOE.
Overall, the draft AOE would benefit from including additional information to clarify to the Georgia State Historic Preservation Officer (SHPO), the ACHP, and the consulting parties how the FAA made its findings and determinations. The ACHP has identified certain issues that should be addressed in a revised AOE to facilitate the consideration of the full range of the undertaking's potential effects, and has provided recommendations regarding the next steps of the consultation process. We clarify as follows.

Consultation

As originally submitted, the Launch Site Operator License submitted by the Camden County Board of Commissioners (County) included small-and medium-launch vehicles. However, the County and FAA agreed to toll the application review in December 2019, at which time FAA notified the consulting parties that the Section 106 consultation and environmental reviews were on hold while the application was revised. In submitting its revised application, the County has limited its application to address only small-lift launch vehicles, without first-stage returns.

Since the undertaking has changed, the ACHP recommends FAA conduct a consultation meeting with the consulting parties to review the revised undertaking and explain the FAA's decision-making rationale as it relates to determinations, findings, and information presented in the draft AOE. While FAA states the AOE is a reanalysis of effects due to the modified undertaking, some consulting parties did not review the original assessment of effects prior to the undertaking's modification. Therefore, FAA should ensure that the AOE contains the necessary information regarding key points in the Section 106 process, such as the delineation of the area of potential effects (APE) and the analysis of visual effects. Further, the AOE

ADVISORY COUNCIL ON HISTORIC PRESERVATION
401 F Street NW, Suite 308 • Washington, DC 20001-2637
Phone: 202-517-0200 • Fax: 202-517-6381 • achp@achp.gov • www.achp.gov

includes technical information used in considering effects such as noise and vibration that may require additional information and discussion to explain to the consulting parties why FAA concluded these effects do not affect historic properties. Additional consultation would be useful to ensure that all consulting parties understand how the agency reached its conclusions.

Area of Potential Effects

Since the County resubmitted its revised application, FAA indicated that it will retain the same APE delineated for the original undertaking. It remains unclear how the original APE was delineated, and this information was not provided in the draft AOE. Further, there are concerns that the APE is narrowly defined, and would benefit from being expanded to include Little Cumberland Island, which is the location for an historic lighthouse. Such an expansion of the APE would incorporate potential effects from the operations of the launch facility, including any launch failures. FAA should clarify how it delineated the APE's five (5) mile radius around the site of the proposed spaceport, and determine if the APE should be expanded to include Little Cumberland Island.

Potential Adverse Effects due to Safety Concerns

Given that there is a higher probability of failures with small-lift launch vehicles, FAA should consider whether these failures would constitute a reasonably foreseeable effect (36 CFR § 800.5(a)(1)), particularly in regards to above-ground historic properties located under the trajectory of a vehicle's failure. We request FAA provide additional information to the consulting parties regarding the potential for launch failures, and whether these failures could affect historic properties.

Cumulative Effects

While the AOE explains the undertaking's potential direct and indirect effects, it would benefit from a thorough analysis of the cumulative effects. The ACHP notes FAA analyzed cumulative effects in the draft Environmental Impact Statement (DEIS) issued in March 2018 for the original proposed application. As provided in 36 C.F.R. § 800.5(a)(1), adverse effects may include reasonably foreseeable effects caused by the undertaking that may occur later in time, be farther removed in distance, or be cumulative. Accordingly, FAA should consider whether relevant portions of the cumulative effects analysis should be incorporated into the draft AOE, and if additional research is needed to identify cumulative effects from the undertaking.

Programmatic Agreement and FAA's Section 106 Responsibilities during Operations

Given that the layout and design elements of the launch facilities have yet to be finalized, FAA has proposed a Programmatic Agreement (PA) to set out the measures it will follow to identify and evaluate the National Register of Historic Places (NRHP) eligibility of additional properties that have not yet been surveyed, and to resolve any adverse effects to historic properties through avoidance, minimization, or mitigation measures. The PA should contain a design review process that will allow for continued consultation with the SHPO, the ACHP, and the consulting parties at various stages (i.e. 30/60/90% design) to determine if modifications are possible to avoid or minimize potential effects, particularly to the archaeological sites.

The FAA indicated the PA will only address potential construction effects, and, currently, no effects have been identified from the undertaking during operations. We encourage FAA to assess the potential for adverse effects during operations due to safety concerns and in the event of a launch failure. Further, it would be helpful for FAA to clarify its Section 106 responsibilities during operations of the launch site, as the ACHP is aware of other commercial space launch sites in the United States with PAs that include a

Section 106 consultation process for any activities or modifications to the space launch site that occur after construction and during operations. If Section 106 is required during operations of the space launch site such as a modification to the license and/or expansion of the APE, the ACHP requests that the draft PA include a consultation review process in the PA.

We look forward to receiving a revised AOE and participating in a future consultation meeting. Should you have questions regarding our comments, please contact Sarah Stokely at (202) 517-0224, or via e-mail at sstokely@achp.gov.

Sincerely,

Jaime Loichinger

Jaime Loichinger
Assistant Director
Federal Permitting, Licensing, and Assistance Section
Office of Federal Agency Programs

National Trust *for* Historic Preservation
Save the past. Enrich the future.

April 7, 2021

Stacy M. Zee,
Environmental Specialist
Federal Aviation Administration
Office of Commercial Space Transportation
800 Independence Avenue, SW 331
Washington, DC 20591

Re: Commercial Space Launch Site, Spaceport Camden, Woodbine, Camden County, Georgia

Dear Ms. Zee,

The National Trust for Historic Preservation would like to participate formally as a consulting party in the review process under Section 106 of the National Historic Preservation Act (NHPA), for the proposed Spaceport Camden Project, pursuant to 36 C.F.R. §§ 800.2(c)(5) and 800.3(f)(3). We have been following closely for the past two years the Section 106 review for this proposed project, and we would like to request a formal role in the process at this time.

We recently learned that the Federal Aviation Administration (FAA) has scheduled a Section 106 consultation meeting on April 8, 2021, and we would like to participate in that meeting by telephone.

Background on the National Trust. The National Trust for Historic Preservation was chartered by Congress in 1949 as a private nonprofit organization for the purpose of furthering the historic preservation policies of the United States and facilitating public participation in the preservation of our nation's heritage. 54 U.S.C. § 312102(a). With almost a million members and supporters nationwide, the National Trust works to protect significant historic sites and to advocate historic preservation as a fundamental value in programs and policies at all levels of government. The National Trust has a particular interest in enforcing agency compliance with the National Historic Preservation Act, since the Chairman of the Trust has been designated by Congress as a member of the federal Advisory Council on Historic Preservation. *Id.* § 304101(8).

The National Trust has extensive experience in Section 106 consultation, and we think we could play a constructive role in the consultation process for this project by bringing our national perspective to the table in order to assist in developing and considering alternatives and modifications to the proposed project that would avoid, minimize, and mitigate harm to historic properties. The National Trust also has a long history of involvement in advocacy to protect historic and cultural resources on Cumberland Island.

The Watergate Office Building 2600 Virginia Avenue NW Suite 1100 Washington, DC 20037
E law@savingplaces.org P 202.588.6035 F 202.588.6272 www.savingplaces.org

Thank you for your consideration of our request for formal consulting party status. Please include the National Trust in your list of recipients for notices of any meetings and documents for review and comment, using me as the point of contact. I look forward to being able to participate by telephone in the April 8 consultation meeting, and to working with you as the environmental and historic preservation review process goes forward.

Sincerely,

Elizabeth Merritt

Elizabeth S. Merritt
Deputy General Counsel

Cc: Daniel P. Murray, Manager, Safety Authorization Division, FAA
Katherine Andrus, Federal Preservation Officer, FAA
Sarah Stokely and Jaime Loichinger, Advisory Council on Historic Preservation
Gary Ingram, Superintendent, Cumberland Island National Seashore
Jennifer Dixon, Environmental Review & Preservation Planning Program Manager, Georgia Historic Preservation Division
V. Kevin Lang, Little Cumberland Island Homes Ass'n
Queen Quet, Chieftess of the Gullah/Geechee Nation, and Founder, Gullah/Geechee Sea Island Coalition
Brian Gist, Southern Environmental Law Center

U.S. Department of Transportation
Federal Aviation Administration

Office of Commercial Space Transportation

800 Independence Ave., SW.
Washington, DC 20591

May 6, 2021

V Kevin Lang, Vice President
Little Cumberland Island Homes Association, Inc.

RE: Section 106 Review for Proposed Spaceport in Camden County, Georgia

Dear Mr. Lang,

Thank you for your April 28, 2021 email with the attached letters from November 6, 2020, March 24, 2021 and March 26, 2021. This letter has been prepared to address comments provided in your letters to the Federal Aviation Administration (FAA) received on March 24, 2021 and March 26, 2021. The March 26, 2021 revised Finding of Effect intended to respond to all consulting party comments on the previous Finding of Effect letter, including your November 6th letter. The FAA acknowledges the concerns noted in your letter. The FAA will continue to follow the Section 106 process described in the National Historic Preservation Act (NHPA) and its implementing regulations. In addition, the FAA is subject to FAA Order 1050.1F, *Policies and Procedures for Considering Environmental Impacts*, and has compiled additional guidance in the 1050.1F Desk Reference V2. Section 8 of the Desk Reference provides guidance on the agency's responsibilities under Section 106 of the NHPA. Each section below corresponds to a topic of questions or comments included in your letters.

Vehicle Failure

In response to your March 26, 2021 letter, the launch vehicle proposed for this action would be a liquid-fueled, small-lift-class vehicle. The representative launch vehicle is considered to be similar in design and performance to a RocketLab Electron launch vehicle. Camden County included the following statement in its revised commercial space launch site license application (2020) for small launch vehicles:

> "As demonstrated in the attached application and supplementary information, all trajectories analyzed have an estimated Ec that is significantly less than that regulatory limit of 1 x 10-4. Further, the individual risk calculation grid for the small launch vehicles where the 1 x 10-6 threshold was exceeded and hence is considered a 'land hazard area' pursuant to 14 CFR Part 417 remains within future Spaceport Camden property and does not reach the Cumberland River (Intracoastal Waterway), Cumberland Island, or Little Cumberland Island. As proposed, the Spaceport Camden flight corridor encompasses 55 habitable structures approximately 6 miles downrange on Little Cumberland Island and Cumberland Island. "

During its license application evaluation, the FAA analyzes an applicant's input data, methodology, and public safety risk results to ensure compliance with the applicable regulations. In this case, Camden County must demonstrate compliance with 14 CFR 420. The FAA will not grant a license to an applicant who is unable to demonstrate compliance.

Failures in flight could result in the destruction of the vehicle either due to the failure itself or as the result of a destruct signal generated by a flight termination system. The flight termination system is designed to destroy

the vehicle in the event that the vehicle veers from the planned flight trajectory and its instantaneous impact point crosses an impact limit line established as a geographic safety threshold. This system is employed to ensure that any debris from the destruction of the vehicle would not increase the risk to the public above the limits established in 14 CFR Part 450. Most propellants (typically liquid oxygen and RP-1) are expected to be dispersed or consumed during the destruction of the vehicle. Dispersed propellant usually evaporates before contact with the ground (similarly to jet fuel released in an aviation emergency operation). Some of the vehicle components could survive relatively intact. The County would require operators to employ flight safety limits that ensure any debris or surviving components impact within the launch site boundary, the Overflight Exclusion Zone, or the USCG Limited Access Area. Components and debris impacting water could sink intact or break up into smaller pieces before sinking. Should any propellant tanks survive a water impact relatively intact, the propellant would, if not recovered, eventually leak out of the tanks and into the water.

Any launch vehicle operator proposing to launch from the spaceport must include in their license application rigorous public safety analyses that account for the launch vehicle and its reliability statistics, the associated propellant types, payload, and individual trajectory. To receive a license from the FAA, launch vehicle operators must demonstrate compliance with public safety risk limits as defined in 14 CFR §450.101, which limit the risk from launch to an individual to 1×10^{-6} per mission (a one-in-a-million chance) and the expected number of casualties from all hazards (debris, toxic releases, and blast overpressure) from a launch to 1×10^{-4} (a less than 1-in-10,000 chance) during any launch. Over the past 25 years, there have been no fatalities or serious injuries, to the public (i.e., persons not involved in launch activities) from licensed or permitted commercial space launch operations.

Assessing Risk to Downrange Historic Structures

No launch failure, debris field, or wildfire would occur as a result of the FAA issuing a site operator's license for Spaceport Camden. Even if Camden County receives a launch site operator license, no launches are authorized to occur. Any future vehicle operators would be required to obtain a FAA license, triggering another environmental review and the Section 106 compliance process. Further, hazard areas and closures cited now in the EIS would be revisited should the site be licensed and an operator applies for a vehicle launch license.

Firefighting contingencies are launch specific and are coordinated as part of the comprehensive launch planning process. As part of the Spaceport Camden Launch Site Operator License Application, the County submitted a Fire Mitigation Plan that was developed in consultation with, and approved by the Georgia Forestry Commission and in accordance with the FEMA National Incident Management System (i.e., NIMS), Third Edition, dated October 2017. Georgia Forestry Commission has jurisdiction for fire protection/mitigation on LCI. As stated in the Fire Mitigation Plan, the Camden County Fire Rescue Department and law enforcement will utilize marine landing craft that will ensure uninterrupted ingress/egress to Little Cumberland Island, day and night in support of all first responders, to include the Georgia Forestry Commission. Additional investments in restoring the existing water buffalo (i.e., a type of portable water tank) to an operational status (completed in July 2020) and adding a new water buffalo, with all-terrain vehicle deployment capability for use by the Georgia Forestry Commission, or the Camden County Fire Rescue Department, emergency medical services, and/or law enforcement would ensure a timely response onto Little Cumberland Island in support of all-hazards threats, e.g., fire, medical, evacuation, search and rescue.

Area of Potential Effects (APE)

Per 36 CFR § 800.16(d) the delineation of the APE is influenced by the scale and nature of the undertaking. Based on the project description, as well as an understanding of the potential effects on historic properties, the 5-mile radius for the APE takes into account the potential effects on historic properties. Should Camden County

receive a site operator license, any launch vehicle operator would require another FAA license, triggering a separate environmental review and the Section 106 compliance process including the definition of an APE that would be relevant to that proposed launch vehicle.

On April 15, 2021, the Georgia Historic Preservation District (HPD)/State Historic Preservation Office (SHPO) concurred with the FAA's proposed APE for Spaceport Camden.

LCI Homes Association Objections

In accordance with 36 CFR § 800.5(c)(2)(i) *Disagreement with finding,* if within the 30 day review period, SHPO/THPO or any consulting agency notifies the agency official in writing that it disagrees with the finding and specific the reason for the disagreement in the notification, the agency shall either consult with the party to resolve the disagreement, or request the Council (Advisory Council on Historic Preservation, aka ACHP) to review the finding pursuant to paragraphs (c)(3)(i) and (c)(3)(ii) of this section. The FAA intends to consult with LCI Homes Association regarding their disagreement with the FAA's findings of effects. The FAA held a meeting on April 8, 2021 to provide additional information regarding the undertaking and provide an opportunity for all consulting parties, including LCI Homes Association, to provide additional comments. The FAA has scheduled a series of additional virtual meetings between the FAA, HPD, ACHP, National Park Service, Gullah/Geechee, National Trust for Historic Preservation, and the LCI Homes Association. The FAA is hopeful that the parties will reach an agreement but may request ACHP review if the disagreements cannot be resolved in a reasonable timeframe.

Section 106 Review and Public Engagement Objections

It was the FAA's intention to complete the Section 106 consultation and release the Final EIS by late April. However, due to ongoing consultation efforts, the FAA continues to engage with consulting parties as part of the Section 106 process, as described in the previous section. Section 106 review must be completed prior to issuing a Record of Decision (ROD). *See* FAA 1050.1 Desk Reference, section 8.1.1.

Evaluation of Additional Structures on Little Cumberland Island Objections

After HPD concurred with the APE boundaries for the medium-large launch vehicle proposed in Camden County's original license application, the FAA initiated the identification of historic properties in the APE, making a reasonable and good faith effort to carry out the appropriate identification efforts. The draft survey reports were transmitted to HPD on March 8, 2017 and the final reports, including addenda, were submitted to HPD on October 19, 2017. On November 22, 2017, HPD concurred with the determinations of eligibility. Based on the information provided in Exhibit A, the properties listed by tax parcel number beginning with "184" and "185" were located using qPublic.net Camden County (https://qpublic.schneidercorp.com/Application.aspx?AppID=641&LayerID=11309&PageTypeID=2&PageID=4642) and were shown to be outside the APE. Tax Parcel Number 194 063, which was identified as the Superintendent's Cottage LCI Homes Association and the Duplex LCI Homes Association, was not located through the tax assessor website.

As stated above in the April 15, 2021 letter, HPD provided concurrence on the APE and noted that the "APE does not need to be changed" from the June 2016 determination for the proposed project.

HPD also concurred with the ACHP determination that the undertaking should have one effect assessment. HPD noted that the proposed project has an unknown impact on historic properties. HPD concurred with FAA's

recommendation to draft a programmatic agreement to address the unknown impact on historic properties which will govern the remainder of the Section 106 process for this undertaking.

The FAA appreciates your comments and will continue to consult with the LCI Homes Association regarding cultural resources and the Section 106 process as it relates to the proposed action to issue a Launch Site Operator License to Camden County for Spaceport Camden. If you have any comments or questions regarding this undertaking, please contact Stacey Zee of my staff at 202-267-9305, or via email at Stacey.Zee@faa.gov.

Sincerely,

Daniel P. Murray
Manager, Safety Authorization Division

QUEEN QUET
CHIEFTESS OF THE GULLAH/GEECHEE NATION
POST OFFICE BOX 1109
ST. HELENA ISLAND SC 29920
(843) 838-1171 • GULLGEECO@AOL.COM

May 6, 2021

Re: Beaufort County Comprehensive Plan Draft 2021

Peace Mr. Merchant and Beaufort County Planning Staff!

In July 2020, the **Gullah/Geechee Sea Island Coalition** received the confirmation letter that the **Gullah/Geechee Sea Island Coalition** is a "consulting party" under Section 106 of the NHPA, pursuant to 36 C.F.R. §§ 800.2(c)(5) and 800.3(f)(3). Given that this allows us to receive and comment on any documents prepared pursuant to Section 4(f) and NEPA, I am writing you in opposition to the proposed Camden Spaceport due to the details that we have reviewed in Spaceport Camden Environmental Impact Statement Finding of Adverse Effect Pursuant to 36 CFR Part 800 Regarding the Proposed Action to Construct/Operate Commercial Space Launch Site, Spaceport Camden, Woodbine, Camden County, Georgia HP-151117-001.

The Gullah/Geechee Cultural Heritage Corridor which this project is being proposed to be placed within is not mentioned at any time in the impact statement nor findings. Therefore, it is incorrect to state that no cultural resources will be impacted. "The General Assembly further finds that resources within this coastal area are costly, if not impossible, to reconstruct or rehabilitate once adversely affected by human-related activities and it is important to conserve these resources for the present and future enjoyment of all citizens and visitors to the state." We concur with the FAA that there would be a potential Adverse Effect as a result of this undertaking, and that this adverse effect would be on archeological and cultural resources from the construction of Spaceport Camden with the Gullah/Geechee Cultural Heritage Corridor which is a national heritage area within the Gullah/Geechee Nation.

Failed rocket launches risk damaging state marshlands, shore areas, and shellfish harvest areas. The building of the spaceport and operations that lead to failed launches could contaminate these areas and Camden County has not provided a plan regarding the mitigation of these damages nor has the finding of effects letter addressed these issues nor potential under water munitions. In addition, the FAA advised Camden County that it believes a failed launch could cause an "uncontrollable" wildfire on Cumberland or Little Cumberland Islands. Yet, the finding of effects does not address a fire plan. The Georgia Historic Preservation Office advised the FAA that it does not have sufficient information to complete its historic preservation review and requested additional information regarding launch failures and wildfires and we await more details also.

Within the proposed Spaceport Camden boundary, but outside of the construction areas, inventory efforts identified and recorded nine historic properties as individual features within the Floyd's Fairfield and Bellevue Plantations/Union Carbide Property.

- Outside of the proposed Spaceport Camden boundary, but within the 5-mile radius of the APE, inventory of the entire APE for audible, vibratory and visual effects identified three groups of resources: Cabin Bluff Historic District, Dover Bluff Club Historic District and historic properties on Cumberland Island within the Cumberland Island National Seashore.

- The Cumberland Island Cultural Historic Landscape, which is outside of the Spaceport Camden boundary, but overlaps with the outer mile of the 5-mile radius APE for audible and visual effects, is a NRHP-eligible historic vernacular landscape, running nearly the entire length of Cumberland Island.

The June 2020 spaceport noise study makes clear that there will be vibrational impacts. The finding of effects letter has not addressed how these vibrational impacts will affect the historic chimneys on Cumberland Island. In addition to the adverse effects on archeological and cultural resources such as the First African Baptist Church on Cumberland Island and the negative impacts that will have to be endured by native Gullah/Geechees and other citizens living within the range of the sonic booms, the negative impacts of the sonic booms to the waterways is not addressed and should be addressed. Seismic guns have proven to have adverse affects on sea creatures and we anticipate that these booms would have a similar effect. This will have negative impacts on the fisheries of the area and thereby will negatively impact the native Gullah/Geechees of Camden County who rely on these waterways for subsistence. In addition, underwater surveys for munitions should be conducted. We would like to see the documentation for the water resource aspects of the environmental impact assessment if such documents exist.

The finding of effects letter is not sufficient in addressing the cultural and natural impacts of this proposed spaceport. We seek to have a cultural impact assessment done on behalf of the citizens of the Gullah/Geechee Nation in addition to a more sufficiently detailed environmental impact statement that includes the aforementioned concerns.

Thank you for your time and consideration in regard to the issues that we have raised.

Peace,

Queen Quet

Queen Quet, Chieftess of the Gullah/Geechee Nation
Founder, **Gullah/Geechee Sea Island Coalition**

cc: Gullah/Geechee Nation Wisdom Circle Council of Elders and Assembly of Representatives
International Human Rights Association for American Minorities (IHRAAM)
Gullah/Geechee Sustainability Think Tank

QUEEN QUET
CHIEFTESS OF THE GULLAH/GEECHEE NATION
POST OFFICE BOX 1109
ST. HELENA ISLAND SC 29920
(843) 838-1171 • GULLGEECO@AOL.COM

May 6, 2021

Re: Section 106 Review Consultative Party Response to Spaceport Camden Finding of Effect Letter

Peace Ms. Dixon, Ms. Zee and Mr. Fowler!

In July 2020, the **Gullah/Geechee Sea Island Coalition** received the confirmation letter that the **Gullah/Geechee Sea Island Coalition** is a "consulting party" under Section 106 of the NHPA, pursuant to 36 C.F.R. §§ 800.2(c)(5) and 800.3(f)(3). Given that this allows us to receive and comment on any documents prepared pursuant to Section 4(f) and NEPA, I am writing you in opposition to the proposed Camden Spaceport due to the details that we have reviewed in Spaceport Camden Environmental Impact Statement Finding of Adverse Effect Pursuant to 36 CFR Part 800 Regarding the Proposed Action to Construct/Operate Commercial Space Launch Site, Spaceport Camden, Woodbine, Camden County, Georgia HP-151117-001.

The Gullah/Geechee Cultural Heritage Corridor which this project is being proposed to be placed within is not mentioned at any time in the impact statement nor findings. Therefore, it is incorrect to state that no cultural resources will be impacted. "The General Assembly further finds that resources within this coastal area are costly, if not impossible, to reconstruct or rehabilitate once adversely affected by human-related activities and it is important to conserve these resources for the present and future enjoyment of all citizens and visitors to the state." We concur with the FAA that there would be a potential Adverse Effect as a result of this undertaking, and that this adverse effect would be on archeological and cultural resources from the construction of Spaceport Camden with the Gullah/Geechee Cultural Heritage Corridor which is a national heritage area within the Gullah/Geechee Nation.

Failed rocket launches risk damaging state marshlands, shore areas, and shellfish harvest areas. The building of the spaceport and operations that lead to failed launches could contaminate these areas and Camden County has not provided a plan regarding the mitigation of these damages nor has the finding of effects letter addressed these issues nor potential under water munitions. In addition, the FAA advised Camden County that it believes a failed launch could cause an "uncontrollable" wildfire on Cumberland or Little Cumberland Islands. Yet, the finding of effects does not address a fire plan. The Georgia Historic Preservation Office advised the FAA that it does not have sufficient information to complete its historic preservation review and requested additional information regarding launch failures and wildfires and we await more details also.

Within the proposed Spaceport Camden boundary, but outside of the construction areas, inventory efforts identified and recorded nine historic properties as individual features within the Floyd's Fairfield and Bellevue Plantations/Union Carbide Property.

- Outside of the proposed Spaceport Camden boundary, but within the 5-mile radius of the APE, inventory of the entire APE for audible, vibratory and visual effects identified three groups of resources: Cabin Bluff Historic District, Dover Bluff Club Historic District and historic properties on Cumberland Island within the Cumberland Island National Seashore.

- The Cumberland Island Cultural Historic Landscape, which is outside of the Spaceport Camden boundary, but overlaps with the outer mile of the 5-mile radius APE for audible and visual effects, is a NRHP-eligible historic vernacular landscape, running nearly the entire length of Cumberland Island.

The June 2020 spaceport noise study makes clear that there will be vibrational impacts. The finding of effects letter has not addressed how these vibrational impacts will affect the historic chimneys on Cumberland Island. In addition to the adverse effects on archeological and cultural resources such as the First African Baptist Church on Cumberland Island and the negative impacts that will have to be endured by native Gullah/Geechees and other citizens living within the range of the sonic booms, the negative impacts of the sonic booms to the waterways is not addressed and should be addressed. Seismic guns have proven to have adverse affects on sea creatures and we anticipate that these booms would have a similar effect. This will have negative impacts on the fisheries of the area and thereby will negatively impact the native Gullah/Geechees of Camden County who rely on these waterways for subsistence. In addition, underwater surveys for munitions should be conducted. We would like to see the documentation for the water resource aspects of the environmental impact assessment if such documents exist.

The finding of effects letter is not sufficient in addressing the cultural and natural impacts of this proposed spaceport. We seek to have a cultural impact assessment done on behalf of the citizens of the Gullah/Geechee Nation in addition to a more sufficiently detailed environmental impact statement that includes the aforementioned concerns.

Thank you for your time and consideration in regard to the issues that we have raised.

Peace,

Queen Quet

Queen Quet, Chieftess of the Gullah/Geechee Nation
Founder, **Gullah/Geechee Sea Island Coalition**

cc: Gullah/Geechee Nation Wisdom Circle Council of Elders and Assembly of Representatives
International Human Rights Association for American Minorities (IHRAAM)
Gullah/Geechee Sustainability Think Tank

A.2.2.2 Endangered Species Act Section 7 Consultation

U.S. Department of Transportation
Federal Aviation Administration

Office of Commercial Space Transportation

800 Independence Ave., SW.
Washington, DC 20591

Roy E. Crabtree, Ph.D., Regional Administrator
National Oceanic and Atmospheric Administration
National Marine Fisheries Service
Southeast Regional Office
263 13th Avenue South
St. Petersburg. Florida 33701-5505

September 5, 2017

Dear Dr. Crabtree,

The Federal Aviation Administration (FAA) is proposing to issue a Launch Site Operator License to the Camden County Board of Commissioners (the County). This letter is to request Endangered Species Act concurrence from your office for the proposed project: Spaceport Camden. FAA is conducting separate formal consultation with the U.S. Fish and Wildlife Service. FAA has made the following determinations regarding the proposed activity for species listed as threatened or endangered by the National Marine Fisheries Service (NMFS) under the Endangered Species Act (ESA) of 1973, as amended:

- May affect, but is not likely to adversely affect, Atlantic sturgeon (*Acipenser oxyrinchus oxyrinchus*), shortnose sturgeon (*Acipenser brevirostrum*), green sea turtle (*Chelonia mydas*), hawksbill sea turtle (*Eretmochelys imbricata*), Kemp's ridley sea turtle (*Lepidochelys kempii*), loggerhead sea turtle (*Caretta caretta*), leatherback sea turtle (*Dermochelys coriacea*), and North Atlantic right whale (*Eubalaena glacialis*)
- No effect on critical habitat for Atlantic sturgeon, loggerhead sea turtle, and North Atlantic right whale

Our supporting analysis is provided below. Potential operational-related effects would be similar, in part, to those included in FAA's and the National Aeronautics and Space Administration's consultation for waterborne landings associated with launches occurring from Kennedy Space Center, Cape Canaveral Air Force Station, and SpaceX Texas Launch Complex (Consultation Number SER-2016-17894). In that consultation, which included spacecraft and launch vehicles landing in the ocean or on a drone ship in the ocean, NMFS determined the action would not adversely affect any ESA-listed marine species.

PROPOSED PROJECT

FAA proposes to issue a Launch Site Operator License to the Camden County, Georgia Board of Commissioners. The license would allow the County to offer the commercial space launch site, referred to as Spaceport Camden, to commercial launch operators to conduct launches of liquid-fueled, small to medium-large lift-class, orbital and suborbital vertical launch vehicles. The Proposed Action analyzed in this Biological Assessment includes both proposed construction and operation of Spaceport Camden on the Atlantic seaboard in Camden County, Georgia (Exhibit 1).

Purpose of the Proposed Project

Camden County's purpose for constructing and operating Spaceport Camden is to allow the County to offer a commercial space launch site to a growing number of small to medium-large lift-class, orbital and

suborbital vertical launch vehicle operators to conduct commercial launches from the east coast of the United States. A commercial space launch site may be able to more effectively respond to the scheduling needs of commercial launch providers than Federal facilities with national security priorities and logistical complexities.

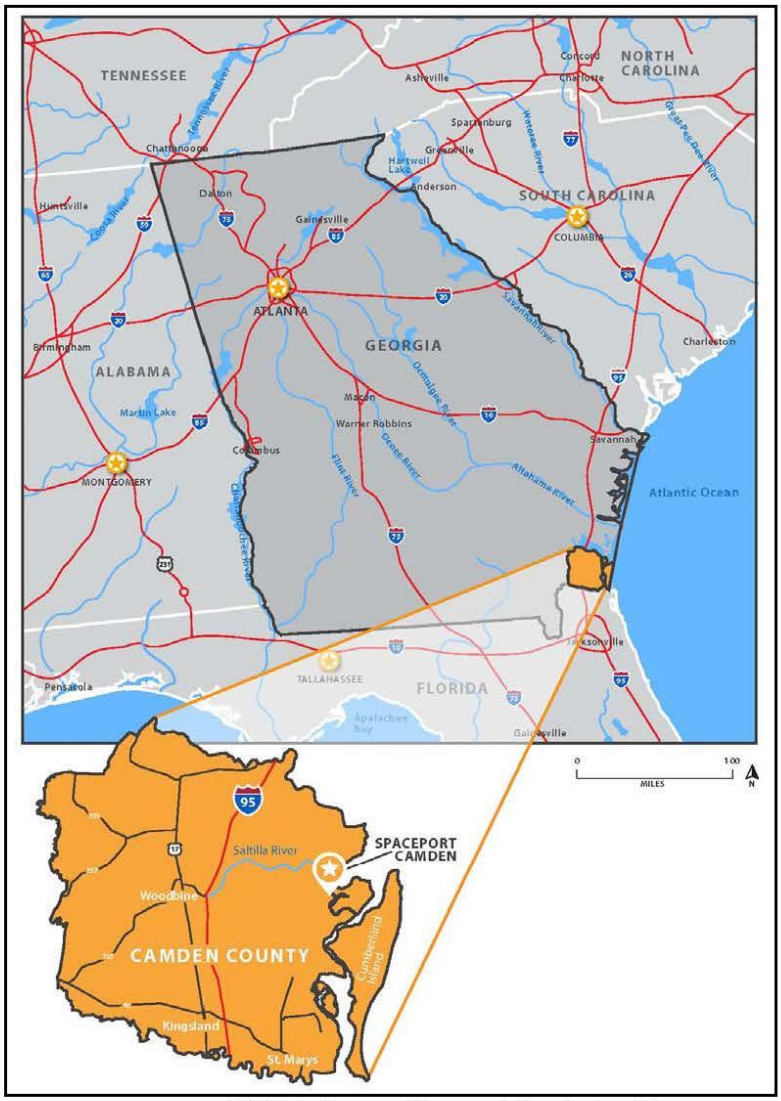


Exhibit 1. Proposed Spaceport Camden Location

The purpose of FAA's action in connection with the County's proposal is to fulfill FAA's responsibilities as authorized by Executive Order 12465, *Commercial Expendable Launch Vehicle Activities* (49 *Federal Register* [FR] 7099, 3 Code of Federal Regulations [CFR], 1984 Comp., p. 163), and the U.S. Commercial Space Launch Competitiveness Act of 2015 (Public Law 114-90) for oversight of commercial space launch activities, including licensing launch activities. The Proposed Action would be consistent with the objectives of the U.S. Commercial Space Launch Competitiveness Act of 2015.

Description of the Proposed Project

Spaceport Camden would be constructed in the extreme southeastern part of Georgia, approximately 11.5 miles due east of the town of Woodbine (Exhibit 1). The proposed launch site would be constructed within an existing 11,800-acre industrial site consisting of property currently owned by the Union Carbide Corporation and Bayer CropScience.[1] Construction of the launch site would occur on approximately 4,000 acres of this industrial site. The total 11,800 acres of this site would provide an appropriate buffer to ensure the safety of the uninvolved public. FAA would not issue a license to the County until after FAA completes its National Environmental Policy Act process (including preparation of an Environmental Impact Statement [EIS] and Record of Decision [estimated in early 2018]) and any required permits or approvals have been granted.

Construction

Proposed construction activities include the construction of four facilities and associated infrastructure: a Vertical Launch Facility, a Launch Control Center Complex, an Alternate Control Center and Visitor Center, and a Landing Zone. Construction activities are expected to last approximately 15 months. The Vertical Launch Facility would include a launch pad and its associated structures, storage tanks, and handling areas; vehicle and payload integration facilities; a lightning protection system; deluge water systems and associated water capture tank; water tower; and other launch-related facilities and systems including shops, office facilities, and stormwater retention ponds. The Launch Control Center Complex would include a Launch Control Center Building housing a control room and related equipment and a Payload Processing Building. The Alternate Control Center would mirror the Launch Control Center in facility construction, providing a backup launch control capability, and would also include a Visitor (Welcome) Center containing informational displays and accommodations for visitors to view launches. The Landing Zone would occupy approximately 11 acres located in the center of the uplands portion of the spaceport property and would consist of a 400-foot by 400-foot concrete pad located roughly in the center of the area. Construction activities would occur during daylight hours, six days a week.

The facilities of the proposed Spaceport Camden (see Exhibit 2) would encompass less than 100 noncontiguous acres. No in-water construction activities (including dredging or pile driving) would occur. The following mitigation measures would be implemented as part of the proposed project to avoid or minimize the potential for water quality impacts from construction (e.g., soil erosion, runoff, sedimentation):

- As part of National Pollutant Discharge Elimination System permit program, a Stormwater Pollution Prevention Plan (SWPPP) would be developed and implemented to include techniques that diffuse and slow the velocity of stormwater.
- No excavated or fill material would be placed in delineated Clean Water Act (CWA) Section 404 waters of the U.S. except as authorized by a permit from U.S. Army Corps of Engineers.
- Concrete mixing and placement activities would be conducted to ensure discharge water associated with these activities would not reach surrounding water bodies or pools unless specifically authorized in a CWA discharge permit.

[1] The County has entered into an option agreement to purchase most of the Union Carbide Corporation property (about 4,000 acres) and is considering an option to purchase the Bayer CropScience property (an additional 7,800 acres).

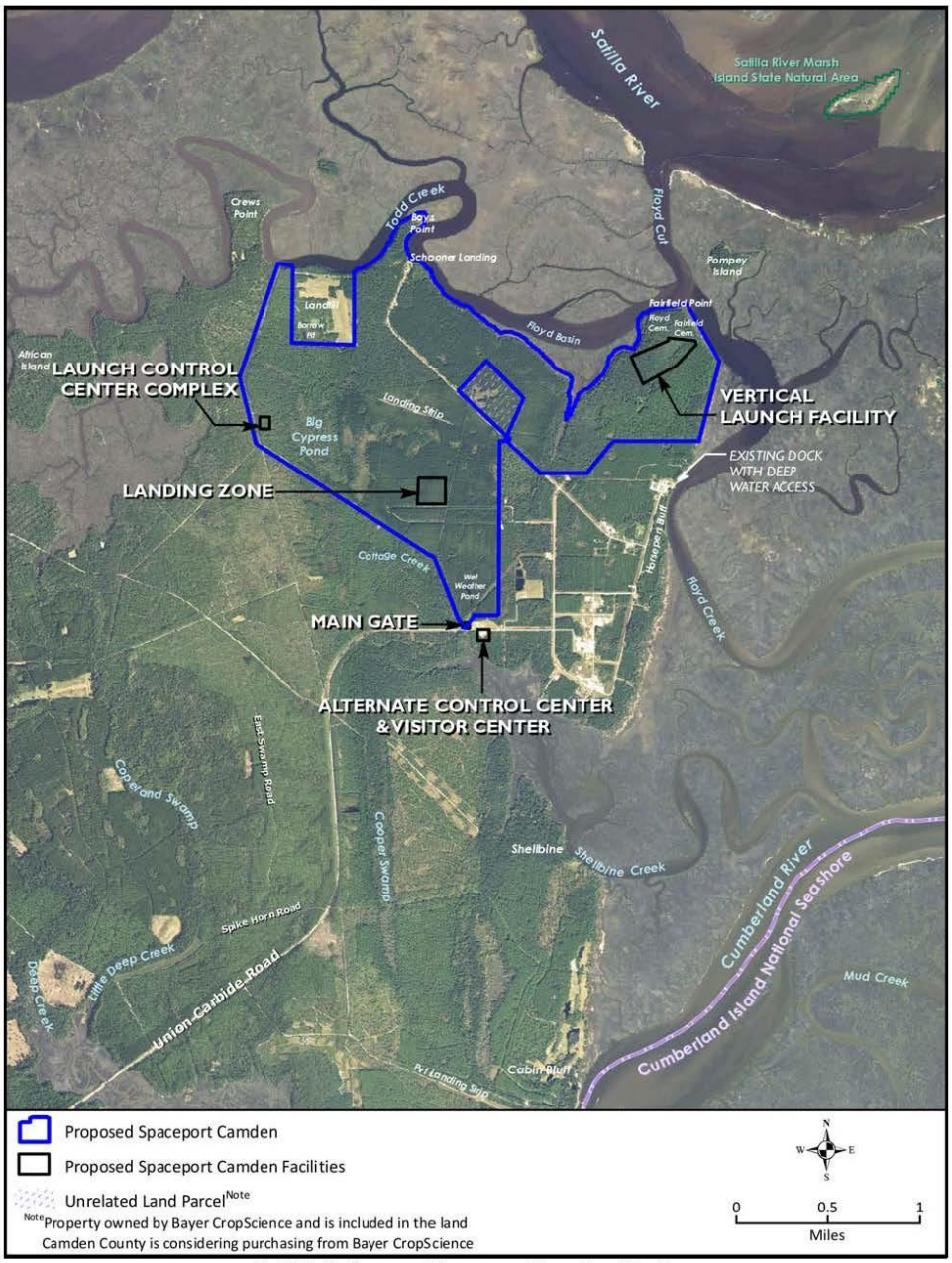


Exhibit 2. Proposed Spaceport Camden Site Plan

Operation

FAA's license would allow Camden County to offer Spaceport Camden to commercial launch operators to conduct launches of liquid-fueled, small to medium-large lift-class, orbital and suborbital vertical launch vehicles. Spaceport Camden would accommodate up to 12 vertical launches and up to 12 associated launch vehicle first stage landings per year. All vehicles would launch generally to the east over the Intracoastal Waterway, Cumberland Island National Seashore, and the Atlantic Ocean. Any first stage landings would return to the launch site from the east or land on a barge 200 to 300 miles offshore. In addition, in support of the launches, there would be up to 12 wet dress rehearsals (a launch rehearsal performed with vehicle propellant loading[2]) and up to 12 static fire engine tests (a wet dress rehearsal combined with the ignition of first stage engines for a few seconds and then shutting them down) per year. Since a launch operator has not been identified to date, the precise trajectory used during launch operations is unknown. The launch trajectories used for any launch would be specific to each particular launch operator's mission. As part of the launch license evaluation process, FAA conducts a policy review, payload review, financial determination, and safety review. For FAA to complete a safety review, an individual launch operator is required to submit a flight safety analysis to FAA that details the specific vehicle trajectory and hazard areas and demonstrates compliance with the 14 CFR Part 400 expected casualty requirements. For purposes of the effects analysis, FAA is considering a range of launch and landing trajectories, ranging from 83 to 115 degrees from true north. This range is depicted in Exhibit 3. It is assumed all launches and landings would occur within this range. If a trajectory outside of this area is required by the launch operator, they would need to conduct additional analyses, including reinitiating ESA Section 7 consultations, prior to conducting operations.

Launch Vehicle Description

Spaceport Camden would be available to a range of launch operators, each of which offers various launch vehicles. While these vehicles would include small and medium-large lift class and use liquid propellants, they would have different design and operating specifications. Since a specific launch vehicle cannot be identified until a launch operator applies to FAA to launch from Spaceport Camden, a representative launch vehicle was used for purposes of the EIS (and thus this consultation) to evaluate the potential environmental impacts. The design features identified for the launch vehicle described in the following paragraphs were selected as representative for a medium-large lift-class launch vehicle. A medium-large lift-class launch vehicle may have a gross liftoff weight of approximately 750,000 to 1,500,000 pounds with an approximate length of 200 to 250 feet. The representative launch vehicle uses liquid oxygen and a special grade of kerosene, known as Rocket Propellant 1 (RP-1), as propellants.

First stage: The first stage would be approximately 10 to 14 feet in diameter and between 125 to 175 feet long and may include one or two large engines or as many as nine smaller engines. For purposes of this analysis, it is assumed the representative launch vehicle would use multiple engines producing approximately 1,800,000 pounds of thrust. It is further assumed the representative launch vehicle would use liquid oxygen and RP-1 as its main propellants, and those propellants would be stored onboard in two internal aluminum tanks: one of approximately 60,000 to 65,000 gallons for liquid oxygen and one of 35,000 to 40,000 gallons for RP-1. The first stage of the launch vehicle could land at the launch site (recovered), in the Atlantic Ocean on a barge (recovered), or in the open ocean (unrecovered).

[2] Propellants loaded onto the launch vehicle include the main engine fuel (RP-1), liquid oxygen, and any other fuels (such as hydrazine).

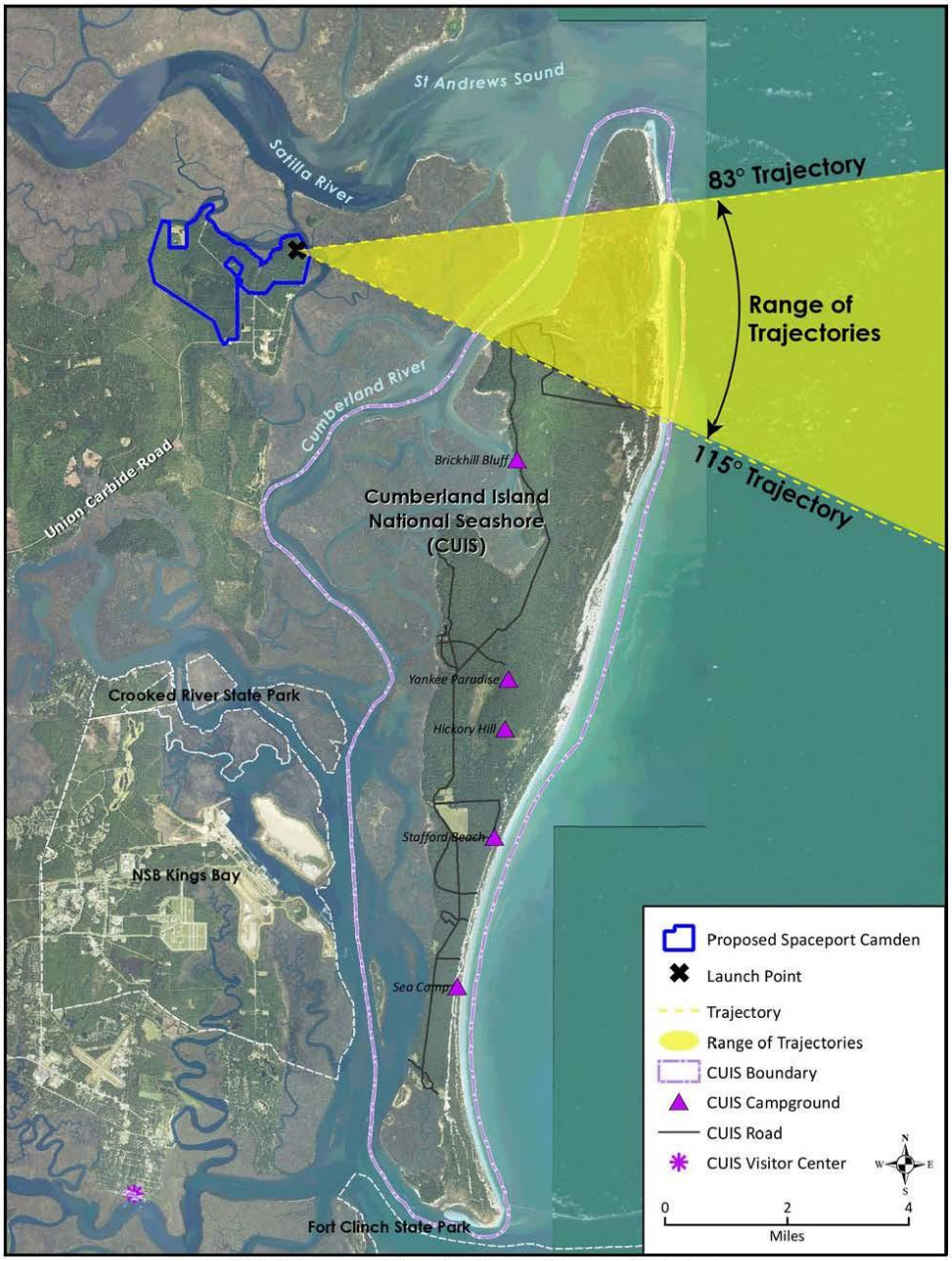


Exhibit 3. Spaceport Camden Range of Launch Trajectories

Second stage: The second stage would be similar in diameter to the first stage and between 35 and 50 feet long, not including the fairing (the top portion of the vehicle where the payload[3] is enclosed) and payload. The typical second stage would use one or two engines, one engine being more typical. It is assumed that a single second stage engine would be used to provide approximately 150,000 pounds of thrust. The fairing[4] would be between 12 and 18 feet in diameter by 30 to 40 feet long, although smaller versions may also be used. The second stage is assumed to use approximately 15,000 gallons of liquid oxygen and 9,000 gallons of RP-1 stored onboard in one aluminum tank each. Typically, the second stage achieves an orbit that decays relatively quickly, in about two to six months. The second stage typically burns up upon reentry, but there have been instances where parts have impacted Earth. If possible, if enough fuel remains in the second stage, the operator could perform a controlled reentry that would ensure that any parts surviving reentry would land in the ocean. However, the potential location of where the second stage would land would not be known until near the time of reentry.

Common subsystems in Stages 1 and 2: Most medium-large lift-class launch vehicles use high-pressure helium as purge gas (to clear components of residual fluids, such as propellants) or pressurants for propellant tanks (pressurants maintain pressure in the tanks as the propellant is used). Therefore, it is assumed that both stages of the representative vehicle would use helium gas stored in high-pressure cylinders to pressurize the propellant tanks for both stages. It is further assumed that both stages would include radio frequency transmitters to receive control signals and send monitoring and status data. Electronic control systems would be used to control valves and monitor equipment on the vehicles.

Flight termination system: Launch vehicles are equipped with safety systems, called flight termination systems, intended to cause the destruction of the launch vehicle in the event that the vehicle does not perform as intended and subsequently strays from the intended trajectory. Activation of the system would be intended to limit the location of a vehicle (or vehicle debris) impact to the identified hazard area (the hazard area would be established during FAA's review of a license application).

Launch Vehicle Assembly

The first and second stages would typically arrive at Spaceport Camden separately by oversized truck (similar in size to a mobile home) with two security escorts and would be placed in the Vehicle Integration Building at the Vertical Launch Facility. Once there, the stages and engines would be checked and prepared for mating. During vehicle operations, vehicle integration, and checkouts, information on vehicle status (transmitted on radio frequency channels) would typically occur.

Launch Operations

Launch operations consists of pre-launch, launch, and first stage landing activities. Most launches and landings would be conducted during the day. However, up to one launch and one landing per year could be conducted during the late-night time period between 10:00 p.m. and 7:00 a.m. All wet dress rehearsals and static fire engine tests (see below) would take place during daylight hours.

Pre-Launch Activities

Proposed pre-launch activities include mission rehearsals, static fire engine tests, and coordination with governmental agencies and media outlets to provide notification of these launch operation activities and establish secure areas in the vicinity of the launch site. A Security Plan, developed by Camden County in cooperation with the launch operator, would outline a process (e.g., the establishment of closure areas)

[3] Payload includes everything that the launch vehicle is launching, including the cargo (such as a satellite or experimental equipment) and other material such as propellants and payload engines.
[4] Typically a nose cone casing used to protect a launch vehicle payload against the pressure and heating impacts during a launch through the atmosphere.

to prevent the public and other nonauthorized personnel from accessing the area during hazardous operations, in accordance with 14 CFR Parts 417 and 420.

Mission Dress Rehearsals

Mission rehearsals are performed to verify that all vehicle and ground systems are functioning properly and that all procedures are properly written. After final systems checkout, there would typically be two mission rehearsals. One dry dress rehearsal (a launch rehearsal performed without loading propellants onboard the launch vehicle) and one wet dress rehearsal (a launch rehearsal performed with vehicle propellant loading[5]) would be performed to verify full launch readiness. During a wet dress rehearsal, the launch procedures would be followed up to a pre-programmed abort just prior to first stage engine ignition. Following each rehearsal, the integrated launch vehicle would be returned from the launch pad to the Vehicle Integration Building. All propellants loaded during the wet dress rehearsal would be removed from the launch vehicle and returned to their storage tanks at the Vertical Launch Facility at the conclusion of the rehearsal.

Static Fire Engine Tests

Static fire engine tests are performed to verify engine control and performance as well as launch pad systems performance. Static fire engine tests include all of the activities associated with a wet dress rehearsal, with the additional action of igniting the first stage engines. During a static fire engine test, the launch vehicle engines would typically be ignited for approximately two seconds but could be ignited for up to seven seconds, then shut down. The launch vehicle would be held in place during the test to prevent launch. The launch vehicle would be defueled of propellants not consumed during the static fire test, and those propellants would be returned to their storage tanks at the Vertical Launch Facility at the conclusion of the test.

Nominal Launch

After a final check, the integrated launch vehicle would be launched. For launches where the first stage would be recovered, the return of the first stage (either landing at the Landing Zone or returned by vessel after landing on a barge in the Atlantic Ocean), and first stage refurbishment would complete the launch operations.

First Stage Landing

The incorporation of a Landing Zone at Spaceport Camden would allow for the landing of the launch vehicle first stage after it has successfully separated from the upper stages of the vehicle. Up to 12 launch vehicle first stage landings per year could be conducted. Security and safety zones from the vehicle launch would be maintained for the return of this portion of the launch vehicle. First stage landings would occur approximately 10 minutes after launch and, therefore, would not appreciably extend the length of time security and safety zones would need to be maintained.

Not all launches would involve landing the first stage at the launch site. First stages may drop in the Atlantic Ocean or land on a barge 200 to 300 miles off the coast of Georgia in the Atlantic Ocean.[6] During a landing (either at the launch site or on a barge at sea), the first stage engines would be used to control the descent of the vehicle. In the event of a landing on a barge, the first stage would be returned to the launch site using the existing dock on Floyd Creek, the most likely route to the dock being through St. Andrews Sound via Floyd Cut at the mouth of the Satilla River (see Exhibit 2).

[5] Propellants loaded onto the launch vehicle include the main engine fuel (RP-1), liquid oxygen, and any other fuels (such as hydrazine).

[6] In the event that the first stage is dropped into the Atlantic Ocean, the first stage would not be recovered and would sink in the Atlantic Ocean hundreds of miles offshore.

Public Notification of Launch Operations

Public access in the vicinity of the launch site would be restricted during launches, wet dress rehearsals, and static fire engine tests. Closures would involve securing both land and water areas (referred to as closure areas, the sizes of which would vary for each operation). Public notification would be required prior to establishing the closure areas.

Approximately two weeks in advance of a launch operation requiring public notification (i.e., actual launch, wet dress rehearsal, or static fire engine test), the appropriate county officials (including police, fire, and rescue personnel) would be notified of the proposed date, the expected closure area dimensions, times, and backup closure dates and times. Camden County and/or the launch operator would post written notices of the date, time, and the proposed closure area at several locations in the area as well as an advertisement in local newspapers. Camden County and/or the launch operator would also coordinate with local government agencies with regard to launch operations requiring public notification.

Camden County and/or the launch operator would notify the public approximately three to six days prior to a launch operation that would require a closure. Notices would be issued through local media and through the use of Notices to Mariners (NOTMARs) and Notices to Airmen. Camden County and/or the launch operator would also notify other appropriate agencies of the launch operation and associated closures.

Security and Safety Zones

As part of the licensing process, Camden County and the launch operator would jointly develop a Security Plan that defines the process for ensuring that any unauthorized persons, vessels, trains, aircraft, cars, trucks, all-terrain vehicles, or other vehicles are not within FAA-approved hazard area or, if they are, that they conform to criteria in 14 CFR Parts 417 and 420. (The hazard area encompasses all areas that could potentially be affected by debris from a launch failure. In the event of a launch failure, only some portions of the hazard area would be impacted.) The Security Plan would include safety and security personnel for each launch operation activity and roadblocks and other security checkpoints. Camden County and/or the launch operator also would develop and implement agreements and plans with local authorities whose support is needed to ensure public safety during all launch processing and flight, in accordance with 14 CFR Parts 417 and 420.

The Security Plan would describe the procedures for securing a closure area, thus limiting public access in the area on the day of a launch, wet dress rehearsal, or static fire engine test. The closure area would be expected to include areas around the access points to the launch site and the waterways surrounding the launch site, in addition to parts of Cumberland Island extending along the trajectory and out to sea. Each launch would have an individually defined closure area and hazard area, which is dependent upon the specific type of vehicle, the trajectory, and the mission.

Area closures would occur approximately 36 times annually (12 wet dress rehearsals, 12 static fire tests, and 12 launches) and could last up to 12 hours on a launch day, with 4 to 6 hours being the typical closure time for a nominal launch. The 12-hour closure period allows for potential aborts and contingencies. A closure for a wet dress rehearsal or static fire engine test would be shorter than for a launch, typically three hours or less, and the closure area would include only those areas within a 2-mile radius of the launch pad, which would not reach water areas in the Atlantic Ocean. Camden County Sheriff Department boats would be used to secure the river, streams, and ocean checkpoints.

Exhibits 4 and 5 show possible hazard and closure areas for a launch based on two representative trajectories.[7] Additional trajectories, all in a generally easterly direction, could be used for launches from

[7]Three trajectories are being used in the analyses for the FAA's EIS: a northern (83°), a middle (100°), and a southern (115°). Exhibits 4 and 5 show hazard and closure areas for the northernmost and southernmost of these three trajectories. Other

this launch site. As can be seen from Exhibits 4 and 5, differences in the locations of the hazard areas could result in changes to the defined closure areas. In addition to land checkpoints, waterborne checkpoints could be located along the Satilla River/St. Andrews Sound area (O_1, O_2, and O_3 on Exhibits 4 and 5), the Atlantic Ocean (O_4 and O_5), and the Cumberland River (O_6 and O_7).

During a closure, monitoring would be done by vehicles (car/truck) along existing roads and by U.S. Coast Guard (USCG) and Camden County Sheriff Department boats for water areas, as well as by video surveillance (e.g., high-definition video cameras with zoom lenses placed well above ground level on the water tower and/or lightning towers). Camden County, the launch operator, and/or law enforcement would monitor the area to the east of the checkpoints to ensure the area would remain clear.

Table 1 lists actions that would be conducted to ensure the closure and security of the area prior to an actual launch. The same actions and activities would occur for other launch operations requiring a closure (i.e., wet dress rehearsal and static fire engine test), but the start time, area size, and durations would be different since these other launch operations are not expected to last as long or impact as large an area as an actual launch.

Table 1. Representative Security Activities On Day of Launch

Action	Purpose	Start Time	End Time
Establish checkpoints and take down checkpoints	Set up for launch and remove after launch. Commence monitoring of traffic flow.	T[1] –6 to 12 hours	T +5 to 30 minutes
Establish hard checkpoints	Restrict access to owners and authorized persons only in closure areas.	T –3 hours	T +5 to 30 minutes
USCG/other waterborne law enforcement on station	The USCG and/or other local waterborne law enforcement sweep areas and restrict boating access.	T –3 hours	T +5 to 30 minutes
Security sweeps	Security sweeps responsible areas (e.g., beach, island Main Road, logging roads near launch site, rivers and creeks). Verify by video, UAV, or ATV as needed.	T –2 hours	T –1 hour 40 minutes
Trajectory sweep	Verify with visual and/or airborne sweep.	T –1 hour	T –40 minutes
Final sweep	Check land and water checkpoints for activity, review video one last time.	T –1 hour	T –40 minutes
Close airspace	In accordance with agreed-upon procedure, Jacksonville FL ARTCC closes appropriate airspace.	T –15 minutes	T +5 to 30 minutes

Notes: ATV = all-terrain vehicle; UAV = unmanned aerial vehicle; USCG = U.S. Coast Guard; FL ARTCC = Florida Air Route Traffic Control Center.

[1] "T" implies the anticipated time of engine firing, with start and end times measured before (minus x hours or minutes) or after (plus x hours or minutes). End times dependent on whether a first stage landing is planned.

The Security Plan would include a process for clearing offshore areas, such as coordinating with the USCG, issuing a NOTMAR, and clearing the offshore area in order to ensure public safety. The USCG could conduct a boat patrol to sweep the offshore area to make sure the area is clear; sweeps would continue until the launch operator is ready to load propellant to the vehicle (approximately three hours prior to launch). If necessary, a final sweep of the closure areas by manned fixed-wing aircraft or unmanned aerial vehicle could be implemented at this time to ensure the areas are clear.

trajectories proposed by launch operators would be assessed to determine the need for additional environmental impact analysis and documentation. Closure and hazard areas would be determined as part of the FAA launch approval process for each launch.

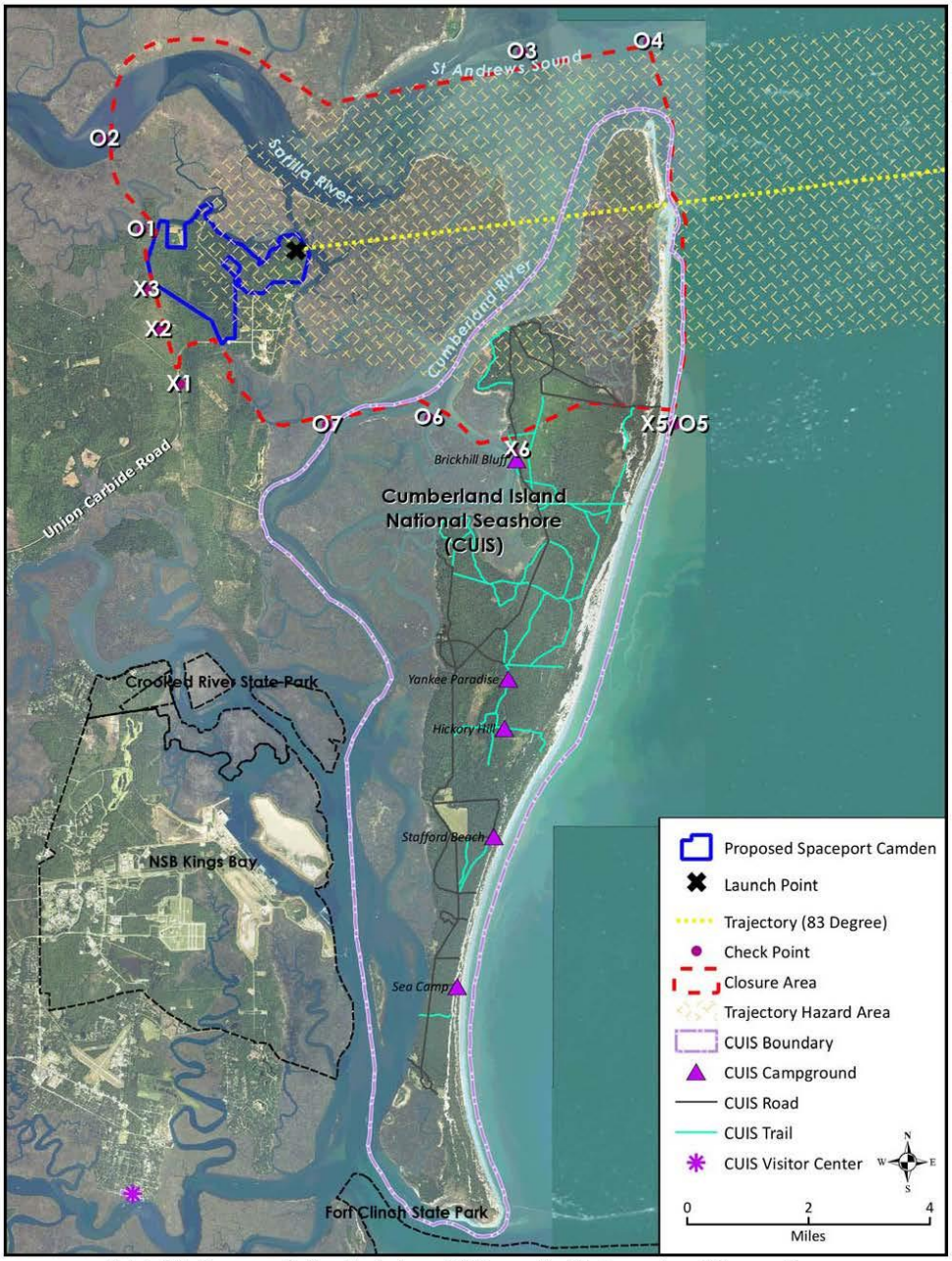


Exhibit 4. Representative Trajectory (83 Degree) with Hazard and Closure Areas

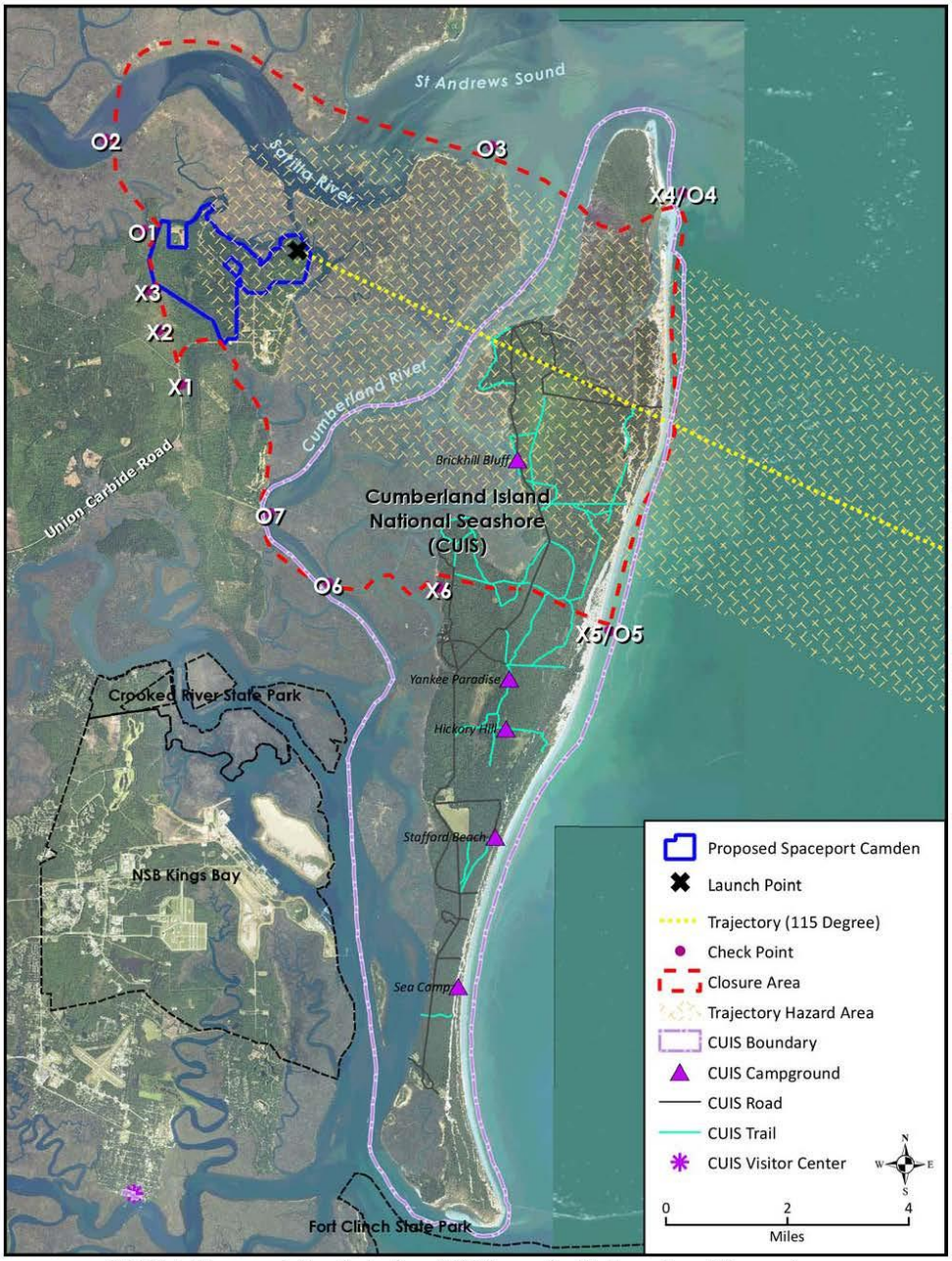


Exhibit 5. Representative Trajectory (115 Degree) with Hazard and Closure Areas

After launch and landing (if planned) operations are completed or postponed, Camden County and/or the launch operator and FAA would notify law enforcement the area has been deemed safe, allowing them to reopen the closure areas. In the event the launch is postponed, closure and hazard areas would be reestablished for the rescheduled launch.

Launch Failures

Failures, while unlikely, are possible. Launch failures would occur either on the launch pad or during flight. Failures on the launch pad would be expected to result in the complete destruction of the launch vehicle and payload. The ensuing explosion would consume most, if not all, of the propellants carried on the vehicle. Failures in flight could result in the destruction of the vehicle either due to the failure itself or as the result of a destruct signal generated by a flight termination system. The flight termination system is designed to destroy the vehicle in the event that the vehicle veers from the planned flight trajectory. This system is employed to ensure any debris from the destruction of the vehicle lands within the FAA-approved hazard zone. Most propellants are expected to be consumed during the destruction of the vehicle, but some may escape and be released into the atmosphere. Although this process is intended for the vehicle to be totally destroyed, some of the vehicle components could survive relatively intact. Any debris or surviving components would be expected to impact within the launch site boundary or on land or in water within the hazard zone. Components and debris impacting water could sink intact or break up into smaller pieces before sinking. Should any propellant tanks survive a water impact relatively intact, the propellant would, if not recovered, eventually leak out of the tanks and into the water.

Mitigation Measures

The following mitigation measures for operations over water would be implemented to avoid or minimize potential effects to protected species.

1. Closure areas are trajectory dependent, and would be based on the proposed trajectory for each launch within the range of trajectories shown in Exhibit 3. Each proposed closure area would be developed in coordination with NMFS and other federal agencies to ensure appropriate water and land areas are properly secured, with minimal impact to federal and state activities and operations related to habitat and wildlife management, such as NMFS North Atlantic right whale monitoring activities (including routine population surveys, biopsy sampling efforts, and rescues of distressed right whales). The operator would coordinate with NMFS prior to each launch event to ensure all conflicts associated with access restrictions are resolved prior to launch day. Any proposed trajectories that fall outside the range shown in Exhibit 3 would require additional NMFS consultation under the ESA and/or MMPA as applicable.
2. All launch site security employees would be briefed on special status species (including ESA-listed species) prior to conducting patrols via unmanned aerial systems, boats, all-terrain vehicle, or on foot.
3. All boat and barge operators would watch for ESA-listed aquatic species listed in this consultation and attempt to avoid collisions with these species.
4. Boats would maintain a safe distance from protected species by following these protective measures:
    a. Sea turtles – maintain a minimum distance of 150 feet from observed sea turtles.
    b. North Atlantic right whale – maintain a minimum distance of 1,500 feet from observed right whales.
    c. Boats/vessels 65 feet in length or longer conducting clearance within the Southeast Seasonal Management Area of the Atlantic Ocean would restrict speed to 10 knots or less to avoid potential strikes to North Atlantic right whales and manatees, especially during right whale calving season (November 15 to April 15) (NOAA, 2017a).

d. Mariners will check various communication media for general information regarding avoiding ship strikes and specific information regarding right whale sightings in the area. These include NOAA weather radio, USCG broadcast, and NOTMARs.

e. Marine mammals (i.e., dolphins, whales, porpoises) – maintain a minimum distance of 300 feet of observed marine mammals

f. When protected species are sighted while the vessel is underway (e.g., bow-riding), attempt to remain parallel to the animal's course. Avoid excessive speed or abrupt changes in direction until they have left the area.

g. Reduce speed to 10 knots or less when mother/calf pairs or groups of marine mammals are observed, when safety permits.

DESCRIPTION OF THE ACTION AREA

The action area is defined as all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action (50 CFR §402.02). The action area for the project includes the construction footprint and surrounding water bodies as shown in Exhibit 2, the portion of the Atlantic Ocean underlying the range of trajectories shown in Exhibit 3, the hazard and closure areas associated with the boundaries of the trajectory range shown in Exhibits 4 and 5, and the offshore portion (200 to 300 miles) of the Atlantic Ocean where ocean landings may occur. The areas depicted in Exhibits 2 through 5 are expected to encompass all of the effects of the proposed project.

NMFS LISTED SPECIES AND CRITICAL HABITAT IN THE ACTION AREA

Table 2 lists ESA-listed species and critical habitat under NMFS jurisdiction occurring in the action area.

Table 2. ESA-Listed Species and Critical Habitat in the Action Area

Species	ESA Listing Status	Listing Rule (Date of most recent)	Most Recent Recovery Plan Date	Critical Habitat in Area	Listing Rule (Date of most recent)
Atlantic sturgeon (DPS: South Atlantic/New York Bight/Chesapeake Bay/Carolina/Gulf of Maine)	E	77 FR 5914 February 6, 2012	N/A	Yes	82 FR 39160 (August 17, 2017)
Shortnose sturgeon	E	32 FR 4001 March 11, 1967	December 1998	No	N/A
Green sea turtle	T	81 FR 20057 April 6, 2016	October 1991	No	63 FR 46693 (September 2, 1998)
Hawksbill sea turtle	E	35 FR 8491 June 2, 1970	December 1993	No	63 FR 45353 (September 2, 1998)
Kemp's ridley sea turtle	E	35 FR 18319 December 2, 1970	September 2011	No	N/A
Leatherback sea turtle	E	35 FR 8491 June 2, 1970	April 1992	No	44 FR 17710 (March 23, 1979)
Loggerhead sea turtle (Northwest Atlantic DPS)	T	43 FR 32800 July 28, 1978	December 2008	Yes	79 FR 39856 (July 10, 2014)
North Atlantic right whale	E	35 FR 18319 December 2, 1970	May 2005	Yes	81 FR 4838 (January 27, 2016)

Notes: DPS = distinct population segment; E = endangered; FR = *Federal Register*; T = threatened; N/A = not applicable.

Table 3 describes the relevant biological information for the species listed in Table 2, including the potential for occurrence, whether occurrence is year-round or seasonal, and how occurrence relates to important biological behaviors and life stages. Critical habitat information is also included, along with a summary of physical and biological features that occur in the action area and have the potential to be affected.

Table 3. Species and Critical Habitat in the Action Area

Species/Critical Habitat	Description of Occurrence
Atlantic sturgeon (DPS: South Atlantic/New York Bight/Chesapeake Bay/Carolina/Gulf of Maine) and shortnose sturgeon	Atlantic and shortnose sturgeon may potentially occur within the inland estuarine and riverine waters and coastal Atlantic Ocean surrounding the construction footprint for Spaceport Camden facilities. Since these fish are anadromous, they do not occupy the same areas year-round and occurrence in these areas would be seasonal, based on specific behaviors and life stages. Shortnose sturgeon are typically found in the Altamaha, Ogeechee, and Savannah Rivers in Georgia, all of which are outside the action area. Collection efforts for shortnose sturgeon in the Satilla Rivers in 1994 and 1995 were not successful (NMFS, 1998). Therefore, potential occurrence of shortnose sturgeon within the action area is considered low. Atlantic sturgeon are thought to be native to the Ogeechee, Altamaha, Satilla, and Saint Marys Rivers in Georgia. Sampling efforts between 2008 and 2010 in the Satilla River resulted in 218 Atlantic sturgeon captures, 22 of which were recaptures (Fritts, Grunwald, Wirgin, King, & Peterson, 2016). Therefore, Atlantic sturgeon are considered likely to occur within the action area. Spawning adult Atlantic sturgeon migrate up the Satilla River in the spring, typically beginning February/March. Following spawning, males may remain in the river or lower estuary until the fall; females typically exit the rivers within four to six weeks. Juveniles move downstream and inhabit brackish waters for a few months, and when they reach a size of about 30 to 36 inches (76 to 92 centimeters), they move into nearshore coastal waters of the Atlantic Ocean. Tagging data indicate that immature Atlantic sturgeon travel widely once they emigrate from their natal (birth) rivers. Subadults and adults live in coastal waters of the Atlantic Ocean and surrounding estuaries, such as St. Andrews Sound, when not spawning, generally in shallow (10- to 50-meter depth) nearshore areas dominated by gravel and sand substrates. Sturgeon eggs are highly adhesive and are deposited on bottom substrate in the Satilla River, usually on hard surfaces (e.g., cobble). It is likely that cold, clean water is important for proper larval development. Once larvae begin migrating downstream, they use benthic structure (especially gravel matrices) as refuges. Juveniles usually reside in estuarine waters for months to years. While the Satilla River, St. Andrews Sound, and Atlantic Ocean do not directly border the land areas that fall within the construction footprint, they do connect to other water bodies that directly surround the area (e.g., Floyd Basin, Floyd Creek, and Floyd Cut). In addition, portions of the closure areas and launch trajectories associated with operations overlap with portions of the Satilla River, St. Andrews Sound, and coastal waters of the Atlantic Ocean.

Table 3. Species and Critical Habitat in the Action Area

Species/Critical Habitat	Description of Occurrence
Atlantic sturgeon critical habitat	Critical habitat within the action area has been identified for the South Atlantic Sturgeon DPS, specifically in the Satilla River (82 FR 39160, August 17, 2017), which is north of Spaceport Camden (Exhibit 6), and the Carolina DPS. Physical and biological features essential for the conservation of the species that support adult and subadult foraging in estuarine or marine environments have not been identified. However, the physical features essential to the conservation of the South Atlantic DPS of Atlantic sturgeon are: • Hard bottom substrate (e.g., rock, cobble, gravel, limestone, boulder, etc.) in low salinity waters (i.e., 0.0-0.5 ppt range) for settlement of fertilized eggs and refuge, growth, and development of early life stages; • Transitional salinity zones inclusive of waters with a gradual downstream gradient of 0.5- up to 30 ppt and soft substrate (e.g., sand, mud) between the river mouths and spawning sites for juvenile foraging and physiological development; • Water of appropriate depth and absent physical barriers to passage (e.g.,locks, dams, thermal plumes, turbidity, sound, reservoirs, gear, etc.) between the river mouths and spawning sites necessary to support: (i) Unimpeded movement of adults to and from spawning sites; (ii) Seasonal and physiologically-dependent movement of juvenile Atlantic sturgeon to appropriate salinity zones within the river estuary; and (iii) Staging, resting, or holding of subadults or spawning condition adults. Water depths in main river channels must also be deep enough (at least 1.2 m) to ensure continuous flow in the main channel at all times when any sturgeon life stage would be in the river. • Water quality conditions, especially in the bottom meter of the water column, between the river mouths and spawning sites with temperature and oxygen values that support: (i) Spawning; (ii) Annual and inter-annual adult, subadult, larval, and juvenile survival; and (iii) Larval, juvenile, and subadult growth, development, and recruitment. • Appropriate temperature and oxygen values will vary interdependently, and depending on salinity in a particular habitat. For example, 6.0 mg/L DO or greater likely supports juvenile rearing habitat, whereas DO less than 5.0 mg/L for longer than 30 days is less likely to support rearing when water temperature is greater than 25 °C. In temperatures greater than 26 °C, DO greater than 4.3 mg/L is needed to protect survival and growth. Temperatures of 13 to 26 °C likely to support spawning habitat.

16

Table 3. Species and Critical Habitat in the Action Area

Species/Critical Habitat	Description of Occurrence
Marine sea turtles: green, hawksbill, Kemp's ridley, leatherback, and loggerhead	All species of sea turtles may be present (swimming) year-round in the general vicinity of the action area within the coastal and open ocean areas of the Atlantic Ocean. The potential for occurrence within the coastal areas of the Atlantic Ocean that overlap the action area is based on historical nesting trends on beaches within and surrounding Camden County, Georgia. Small numbers of green sea turtles are known to nest in Georgia with female nesting abundance estimated to be five individuals between 2011 and 2012 (NOAA, 2015). Therefore, it is possible for green sea turtles to occur within the nearshore Atlantic Ocean off Camden County, Georgia. The likelihood that hawksbill sea turtles occur in the nearshore Atlantic Ocean off Camden County, Georgia, is low, considering that this area is located north of the typical nesting range for the hawksbill sea turtle and the region lacks suitable juvenile and adult habitat. Kemp's ridley sea turtle distribution is limited to the Gulf of Mexico and the western North Atlantic Ocean from Florida to the Grand Banks (NMFS and USFWS, 2015; NOAA Fisheries, 2016). Based on this, there is a low potential for Kemp's ridley sea turtle occurrence in the nearshore Atlantic Ocean off Camden County, Georgia, since only occasional nesting occurs in Georgia. Loggerhead sea turtles are known to nest regularly on Cumberland Island National Seashore, which is an important loggerhead sea turtle critical habitat area. Since 2014, Cumberland Island has produced over 1,800 nests (NPS, 2017). Given the presence of both terrestrial nesting and offshore foraging habitat, loggerhead sea turtles are expected to occur regularly in the action area. Leatherback sea turtle occurrence in the action area is expected to be seasonal and rare and correlates with the availability of preferred species of prey. Leatherback turtles may also occur in the action area while migrating between southern nesting habitats and more productive foraging habitat in the North Atlantic. Any foraging habitat would be opportunistic and transient (e.g., jellyfish). The species may be present but unlikely to use the area as a migratory corridor due to channelization and lack of major currents that turtles may utilize to migrate to seasonal habitats.
Loggerhead sea turtle critical habitat	Three ecosystem types were used to identify critical habitat for loggerhead sea turtles: terrestrial, neritic, and oceanic. *Sargassum* habitat occurs in both neritic and oceanic habitats. Terrestrial habitats are addressed in FAA's consultation with the USFWS. Only one nearshore reproductive habitat area occurs within the action area (Exhibit 6). Physical and biological features essential for nearshore reproductive habitat are described as the portion of nearshore waters adjacent to nesting beaches that are used by hatchlings and nesting females. Primary constituent elements that support this habitat include the following: • Nearshore water directly off highest density nesting beaches out to 1 mile offshore

17

Table 3. Species and Critical Habitat in the Action Area

Species/Critical Habitat	Description of Occurrence
	• Water sufficiently free of obstructions or artificial lighting to allow transit through the surf zone and outward to ward open water • Waters with minimal manmade structures that could promote predators, disrupt wave patterns necessary for orientation, and/or create excessive longshore currents
North Atlantic right whale	North Atlantic right whale occurrence in the action area would be seasonal, based on specific behaviors. For much of the year, distribution of this species is strongly correlated with the distribution of its prey, which primarily consists of dense patches of zooplankton (National Marine Fisheries Service, 2015). The North Atlantic right whale migrates annually between northern feeding areas (New England, Canadian Bay of Fundy, Scotian Shelf, and Gulf of St. Lawrence) and southern calving grounds in the coastal waters of the southeastern United States. Calving occurs in the coastal waters off Georgia and northern Florida from December through March after a gestation period of 12 to 13 months (Kraus, 2001). Portions of this calving area overlap with the nearshore Atlantic Ocean area off Camden County, Georgia. Based on aerial surveys conducted by New England Aquarium personnel between December and March from 1997 through 2009, right whale sightings are common in the waters offshore of Camden County (New England Aquarium, 2016). Seasonal management areas for North Atlantic right whales have been established to reduce the risk of ship strikes to this species. The Atlantic waters offshore of Spaceport Camden are included in the Southeast U.S. Seasonal Management Area, which restricts ship speed in the calving and nursery grounds from November 15 through April 15, when North Atlantic right whales are expected to occur in these areas.
North Atlantic right whale critical habitat	On January 27, 2016, NMFS issued a final rule (81 FR 4837) to replace the critical habitat for North Atlantic right whales with two new, expanded areas. These expanded areas contain the physical and biological features essential to the conservation of the North Atlantic right whale, providing requirements for successful foraging, calving, and calf survival. Critical habitat Unit 1 does not occur in the action area. Critical habitat Unit 2, which occurs in the action area, is for the protection of calving essential features and is located off the southeast U.S. coast between North Carolina and Florida (Exhibit 7). Unit 2 covers 8,429 square nautical miles. Physical and biological features identified for Unit 2 include the following: • Sea surface conditions associated with Force 4 or less on the Beaufort Scale • Sea surface temperatures of 7 degrees Celsius (°C) to 17°C • Water depths of 6 to 28 meters, where these features simultaneously co-occur over contiguous areas of at least 231 square nautical miles of ocean waters during the months of November through April

Notes: DPS = distinct population segment; FR = *Federal Register;* NMFS = National Marine Fisheries Service.

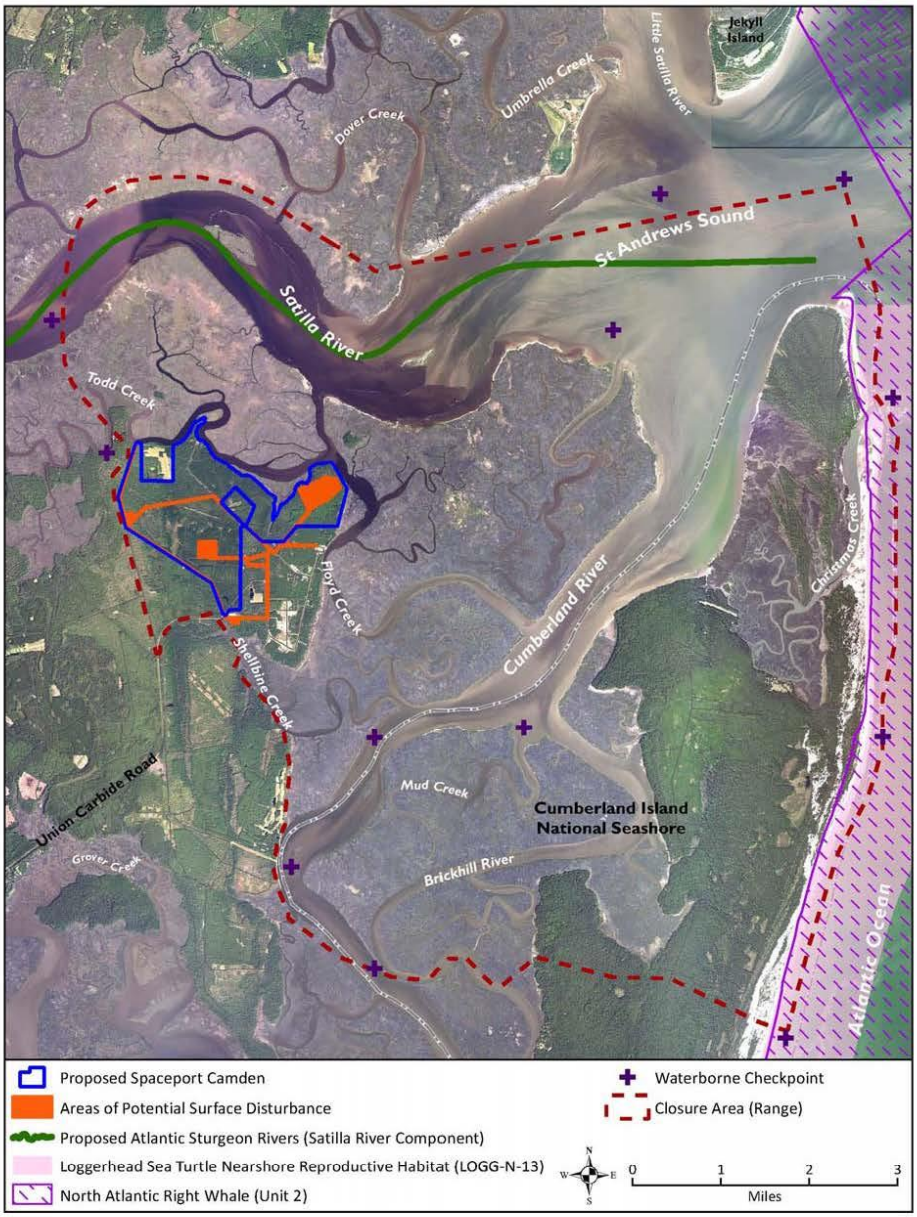


Exhibit 6. NMFS-Designated Critical Habitat in Inland and Nearshore Areas of the Action Area

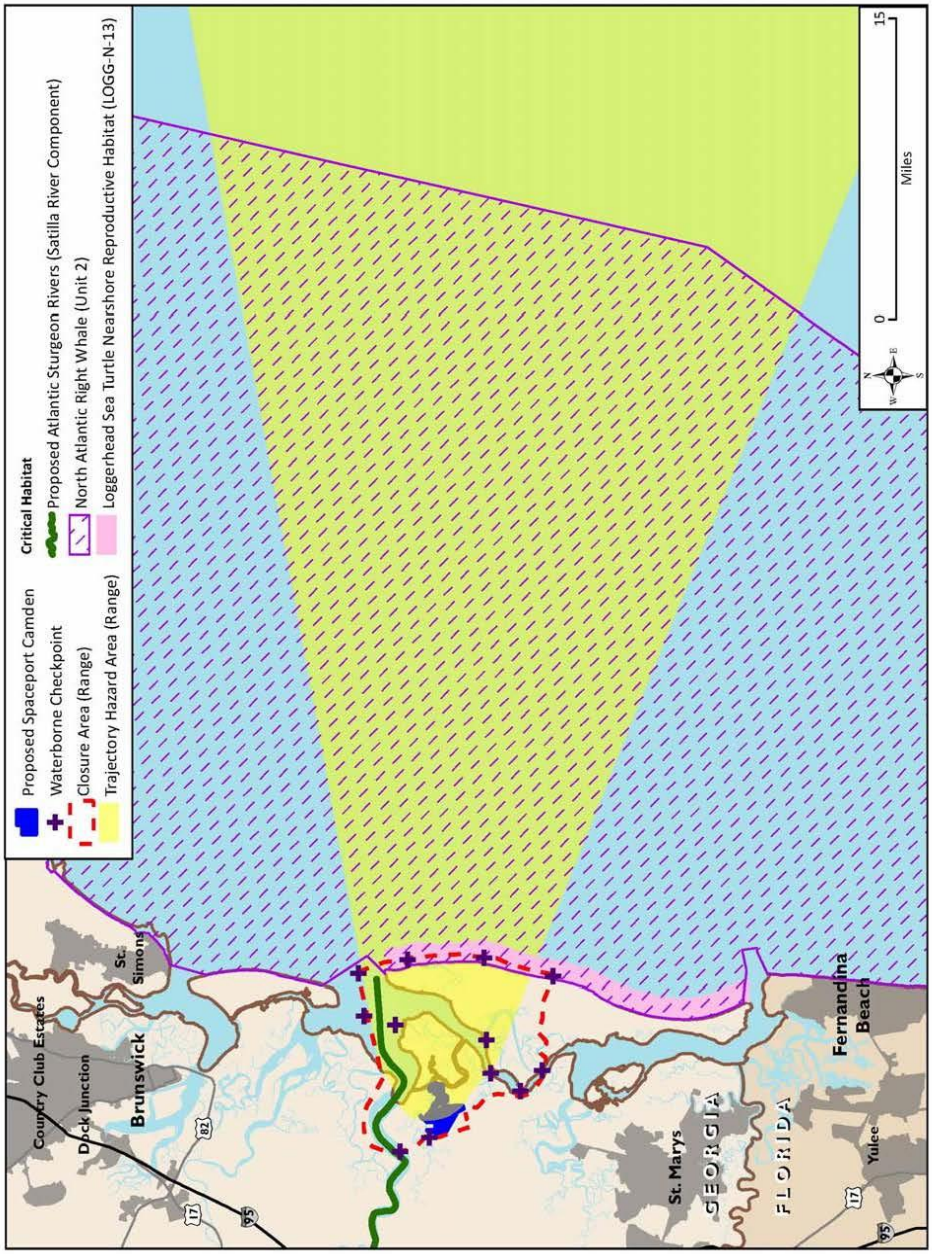


Exhibit 7. NMFS-Designated Critical Habitat in Offshore Areas of the Action Area

EFFECTS DETERMINATION

Species

Construction

Since none of the proposed construction activities would occur in water, no direct effects to ESA-listed species under NMFS jurisdiction would occur. Absent best management practices, there is the potential for indirect effects from construction to occur. Construction activities would occur approximately 840 feet to the southeast of Floyd Basin and 200 feet west of Floyd Creek, both of which branch off and are downstream from the Satilla River (see Exhibit 2 and Exhibit 6). Indirect effects to Atlantic and shortnose sturgeon could result from increased turbidity associated with stormwater runoff during construction activities. Potential effects to individuals would be temporary, localized, and not likely to spread to the Satilla River where Atlantic sturgeon are known to occur, because the location of construction activities on land is approximately 1 mile away (downstream) from Satilla River. Additionally, potential occurrence of shortnose sturgeon in the action area is considered low. However, given implementation of best management practices and permit-required plans (e.g., silt fencing, sediment and erosion control plan, SWPPP), indirect effects to Atlantic and shortnose sturgeon from erosion and stormwater runoff would not occur. Any indirect effects to Atlantic and shortnose sturgeon from construction activities would be temporary and minimal and, therefore, insignificant. Marine sea turtles and NARW are not expected to be present within the action area where indirect effects from proposed construction activities would occur. Therefore, there is no effect to these species due to indirect effects from proposed construction activities.

Operations (Excluding Noise)

Atlantic Sturgeon and Shortnose Sturgeon

Activities associated with operations that may result in effects to Atlantic and shortnose sturgeon include closing areas during a wet dress rehearsal, static fire test, and a launch. Small portions of the Satilla River (near the river's mouth), St. Andrews Sound, and coastal Atlantic Ocean are included in the proposed closure area, and there would be one checkpoint enforced by a Camden County Sheriff Department boat within the Satilla River, two checkpoints within St. Andrews Sound, and four checkpoints in the coastal Atlantic Ocean (Exhibit 6). The purpose of the checkpoints would be to restrict boats from entering these areas for safety reasons. In turn, this may temporarily reduce the potential for direct boat strikes (or contact with boat propellers) to sturgeon during the closure time (assuming boats would be using this area without the closure). However, it is possible the security boat could come into contact with an individual sturgeon. Little information exists on vessel interactions with sturgeon. This is likely due to the fact this species is primarily demersal and rarely would be at risk from moving vessels. Vessels need sufficient water to navigate without encountering the bottom, and when transiting shallow areas with marginal clearance, vessels typically transit cautiously (i.e., slowly), and consequently, interactions with sturgeon would not be anticipated. Given 1) boat traffic in the area would be temporarily reduced over existing conditions during closure activities, and 2) the chances of a security boat contacting an individual sturgeon are low, the FAA determined any effects to Atlantic and shortnose sturgeon due to activities associated with Spaceport Camden operations would be highly unlikely and, therefore, discountable.

Habitat Avoidance Effects:

Atlantic and shortnose sturgeon may be temporarily affected due to avoidance of foraging and refuge habitat during Spaceport Camden operations. Given 1) the seasonality of potential Atlantic and shortnose sturgeon occurrence within small portions of the Satilla River, St. Andrews Sound, and coastal Atlantic Ocean and 2) that each closure event would last a maximum of 12 hours per day and would occur

approximately 36 times annually (12 wet dress rehearsals, 12 static fire tests, and 12 launches), avoidance of the project area will be temporary and localized. Therefore, the effects of short-term avoidance of the project area to Atlantic and shortnose sturgeon are insignificant.

Marine Sea Turtles

Activities associated with operations that may result in effects to marine sea turtles include boat/vessel use required for closures and ocean landings. As previously indicated, launches would occur a maximum of 12 times a year (which includes up to 36 closure events), requiring a small coastal area within the Atlantic Ocean to be closed for up to 12 hours per event. Boat traffic in this coastal portion of the Atlantic Ocean may temporarily increase over baseline conditions from security boats clearing the closure area and from spectators watching launch events. Security boats would be stationed at four checkpoints with the coastal area of the Atlantic Ocean to keep the general public away from the launch site, which would decrease boat traffic in this area. However, boats would be displaced to other areas of the Atlantic Ocean and public spectators aboard their personal vessels may aggregate outside the closure area to view the launch. The number of potential boats being cleared and spectator boats is unknown and would likely vary. According to a NMFS Protected Resources Division analysis, it would take an introduction of at least 300 new vessels to an area to result in a take of 1 sea turtle in any single year.[8] Because this project will likely result in less than 300 new vessels, we believe it is extremely unlikely that sea turtles will be killed or injured by "new" vessel traffic. It is expected that once the launch is completed, all boats would leave the area and boat traffic would resume to baseline levels. Adverse effects to individual marine sea turtles from increased boat traffic during launch events are not likely to occur to given their offshore distribution and small amount of time spent at or near the water surface. Implementation of the mitigation measures described above for operations (i.e., maintain a minimum distance of 150 feet from observed sea turtles) would further reduce the risk. Any effects to sea turtles due to boat activities associated with operations are highly unlikely, and therefore, discountable.

Water landings in the Atlantic Ocean would occur at a location roughly 200 to 300 miles from shore. Additional security boats would clear an area around the barge. Once the landing is completed, all security boats would leave the area and the first stage would be returned to the existing dock on Floyd Creek by vessel. During transport to the dock, boats/vessels would maintain a minimum distance of 150 feet from observed sea turtles. Sea turtle distribution in the Atlantic Ocean is not uniform, and a sea turtle would only be struck by a first stage during a water landing if it is present in the exact location at the exact time a landing occurs. The probability of this occurring is highly unlikely. Thus, any water landing effects to marine sea turtles due to Spaceport Camden operations are discountable.

Habitat Avoidance Effects:

Marine sea turtles may be temporarily affected due to avoidance of foraging, refuge, and/or nursery habitat during Spaceport Camden operations. Avoidance of the project area will be temporary and localized, occurring a maximum of 12 times a year (which includes up to 36 closure events) and requiring a small coastal area within the Atlantic Ocean to be closed for up to 12 hours per event. Therefore, the effects of short-term avoidance of the project area to sea turtles are insignificant.

North Atlantic Right Whale

Boat clearance activities associated with wet dress rehearsals, static fire engine tests, and launches would occur within the designated North Atlantic right whale calving area. Boat traffic in the Atlantic Ocean may temporarily increase over baseline conditions during clearance of ocean areas and from spectators

[8] Barnette, M. Threats and Effects Analysis for Protected Resources on Vessel Traffic Associated with Dock and Marina Construction. NMFS SERO PRD Memorandum. April 18, 2013.

watching launch events. This may result in an increased risk of boat strikes to North Atlantic right whales. Closure activities would occur a maximum of 36 times a year. Closure areas in the Atlantic Ocean would encompass the very nearshore area within the North Atlantic right whale calving area. Boats would be stationed at four checkpoints within coastal areas of the Atlantic Ocean to keep the general public away from the launch site. Closure and access restrictions to the water areas conducted by the USCG or other local waterborne law enforcement would begin approximately three hours prior to launch. In addition, public spectators aboard their personal vessels may aggregate to view the launch from outside the closed areas. The number of potential spectator boats is unknown and would likely vary. Boat clearance activities would cause a small, localized, and temporary increase in boat traffic. This level of increase above baseline conditions in this portion of the Atlantic Ocean would not result in a measurable or detectable increase in the risk of vessel strike to individual North Atlantic right whales. It is expected that once the launch is completed, all boats would leave the area. Furthermore, implementation of the mitigation measures described above is expected to reduce the risk. Effects to NARW due to boat clearance activities during Spaceport Camden operations are highly unlikely, and therefore, discountable.

Ocean landings would occur on a barge anchored approximately 200 to 300 miles from shore. Additional security boats would clear an area around the barge. Security personnel would restrict boat speed to 10 knots or less if mother/calf pairs or groups of marine mammals are observed during travel to and from the landing location. Security personnel would also visually scan for right whales during their clearance activities and safely maneuver to attempt to avoid collisions with any right whales that may be present. Because the North Atlantic right whale's calving area is within 50 miles from shore (NOAA, 2017b), as shown in Exhibit 7, and barge landing operations would occur approximately 200 to 300 miles offshore, the probability of direct strikes and disturbance from first stage water landings to right whales is highly improbable. Once an ocean landing is completed, all security boats would leave the area and the first stage would be transported to the existing dock on Floyd Creek by vessel. During transport to the dock, all boats/vessels would comply with the mitigation measures identified above for North Atlantic right whales. (e.g., maintain a minimum 1,500-foot distance from observed North Atlantic right whales; compliance with the Right Whale Ship Strike Reduction Rule [50 CFR §224.105]). Ocean landings would cause a small, localized, and temporary increase in boat traffic. This level of increase above baseline conditions in this portion of the Atlantic Ocean would not result in a measurable or detectable increase in the risk of vessel strike to individual North Atlantic right whales. Furthermore, implementation of the mitigation measures described above is expected to reduce the risk. Effects to NARW due to ocean landings during Spaceport Camden operations are highly unlikely, and therefore, discountable.

Habitat Avoidance Effects:

NARW mother/calf pairs or groups may be temporarily affected by avoidance of foraging, refuge, and/or nursery habitat during Spaceport Camden operations. Avoidance of the project area will be temporary and localized, occurring a maximum of 12 times a year (which includes up to 36 closure events) and requiring a small coastal area within the Atlantic Ocean to be closed for up to 12 hours per event. Therefore, the effects of short-term avoidance from the project area to NARW are insignificant.

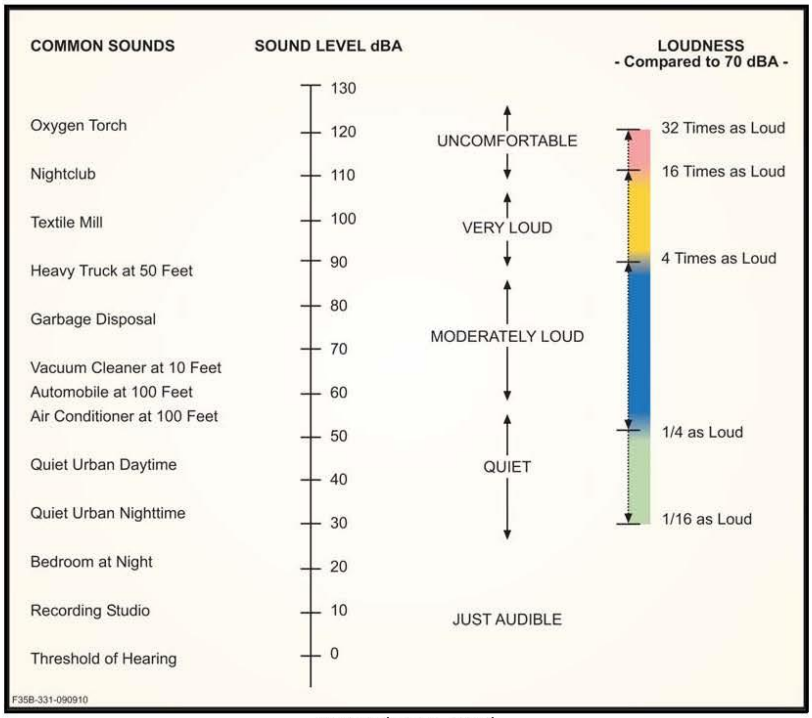
Operations – Noise

Noise would be generated from subsonic (static fire engine tests, liftoff, and landing) and supersonic (flight) rocket operations. All sounds have a spectral content, which means their magnitude or level changes with frequency, where frequency is measured in cycles per second or hertz. To mimic the human ear's nonlinear sensitivity and perception of different frequencies of sound, the spectral content is weighted. For example, environmental noise measurements are usually on an "A-weighted" scale that filters out very low and very high frequencies in order to replicate human sensitivity. It is common to add the "A" to the measurement unit (decibel [dB]) in order to identify that the measurement has been made

with this filtering process (dBA). Exhibit 8 provides a chart of A-weighted sound levels from typical noise sources. Some noise sources (e.g., air conditioner, vacuum cleaner) are continuous sounds that maintain a constant sound level for some period of time. Other sources (e.g., automobile, heavy truck) are the maximum sound produced during an event like a vehicle passing by. Other sounds (e.g., urban daytime, urban nighttime) are averages taken over extended periods of time.

A metric is a system for measuring or quantifying a particular characteristic of a subject. Since noise is a complex physical phenomenon, different noise metrics help to quantify the noise environment and describe impacts from noise. The selection of particular metrics for noise analysis is based on the nature of the noise event and who or what is affected by the sound. For example, noise metrics used to evaluate the highest sound level occurring during a single event are different than those used for evaluating long-term average sound levels. The following are example noise metrics:

- **Overall sound pressure level (OASPL)**. The OASPL provides a measure of the sound level at any given time.
- **Maximum OASPL (L_{max})**. The L_{max} indicates the highest OASPL over the duration of the noise event. The L_{max} is a single-event metric that is useful for analyzing short-term responses to noise exposure. OASPL can be presented as either unweighted or A-weighted. The maximum unweighted OASPL (L_{max}) is used for the analysis of noise impacts to structures.
- **Maximum A-weighted OASPL ($L_{A,max}$)**. The $L_{A,max}$ represents the maximum A-weighted OASPL during the noise event. A-weighting approximates the natural range and sensitivity of human hearing (USACHPPM, 2005). The $L_{A,max}$ is used for the analysis of noise impacts to humans and wildlife.
- **Sonic Boom Overpressure measured in pounds per square foot (psf)**. A sonic boom is the sound associated with the shock waves created by a vehicle moving through the air faster than the speed of sound. When heard at ground level, a sonic boom consists of a positive pressure change associated with air particles being pushed out of the way by the front of the vehicle and then a negative pressure change of equal magnitude after the vehicle and its rocket plume have passed by. The magnitude of the changes in air pressure is typically expressed in psf.



Source: (Harris, 1979)

Exhibit 8. Typical A-Weighted Levels of Common Sounds

For purposes of the analysis in this consultation, L_{Amax} and sonic boom overpressure associated with launch, landing, and static fire events were modeled for the range of trajectories using a medium-class lift vehicle (MCLV) and are shown as composite noise profiles in Exhibits 9 through 13.

In-air noise from subsonic (static fire engine tests, launches, and landing) and supersonic (flight) rocket operations is not expected to affect marine species underwater. Acoustic energy from in-air noise does not effectively cross the air/water interface; therefore, most of the noise is reflected off the water surface (Richardson, 1995). In addition, underwater sound pressure levels from in-air noise are not expected to reach or exceed threshold levels for injury. Previous research conducted by the U.S. Air Force supports this conclusion with respect to sonic booms, indicating that there is no risk of harassment for protected marine species in water (U.S. Air Force Research Laboratory, 2000). Therefore, the effects of in-air noise associated with Spaceport Camden operations to Atlantic and shortnose sturgeon, marine sea turtles, and North Atlantic right whales is highly unlikely, and therefore, discountable.

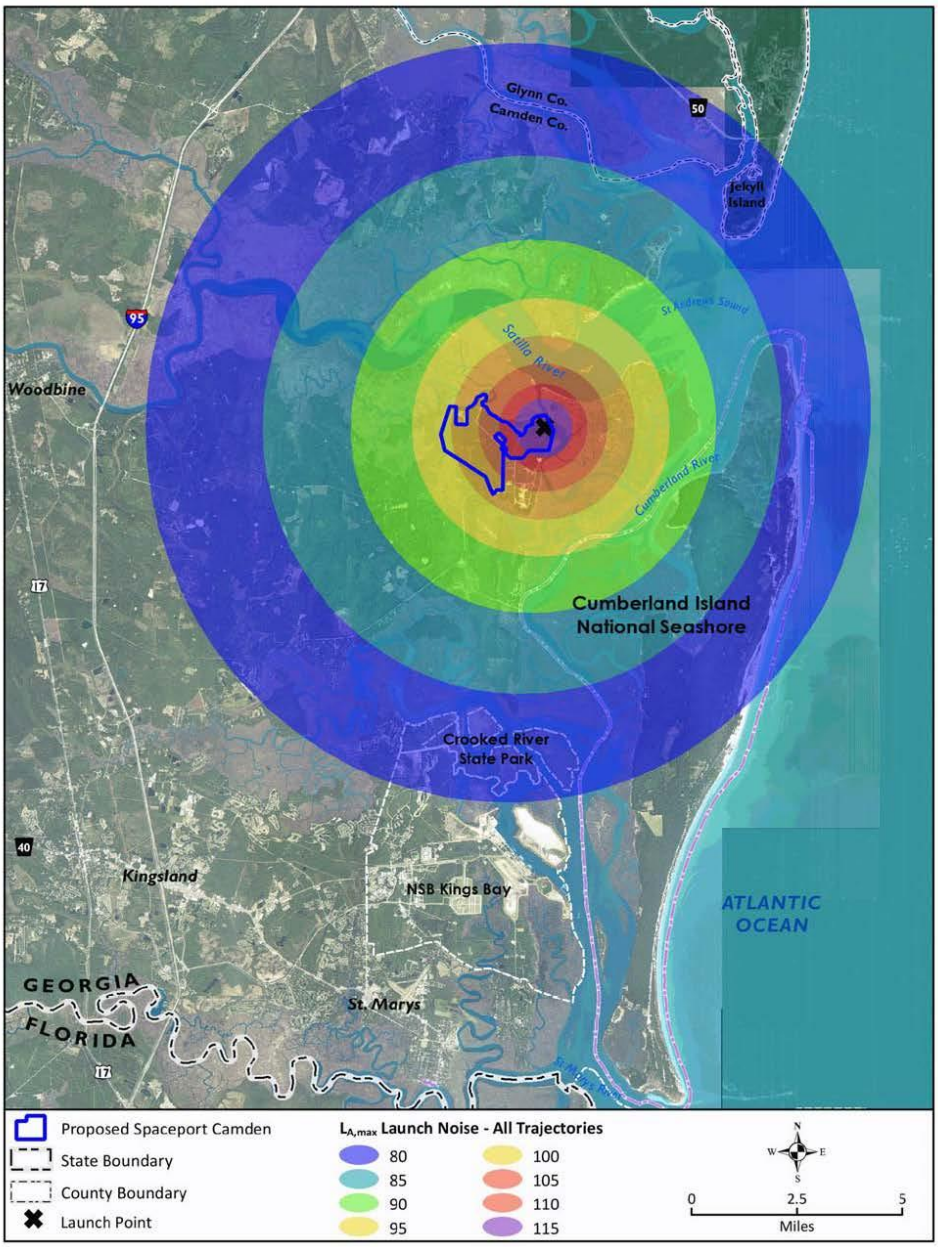


Exhibit 9. Composite of $L_{A,max}$ Contours for a MCLV Launch at Spaceport Camden

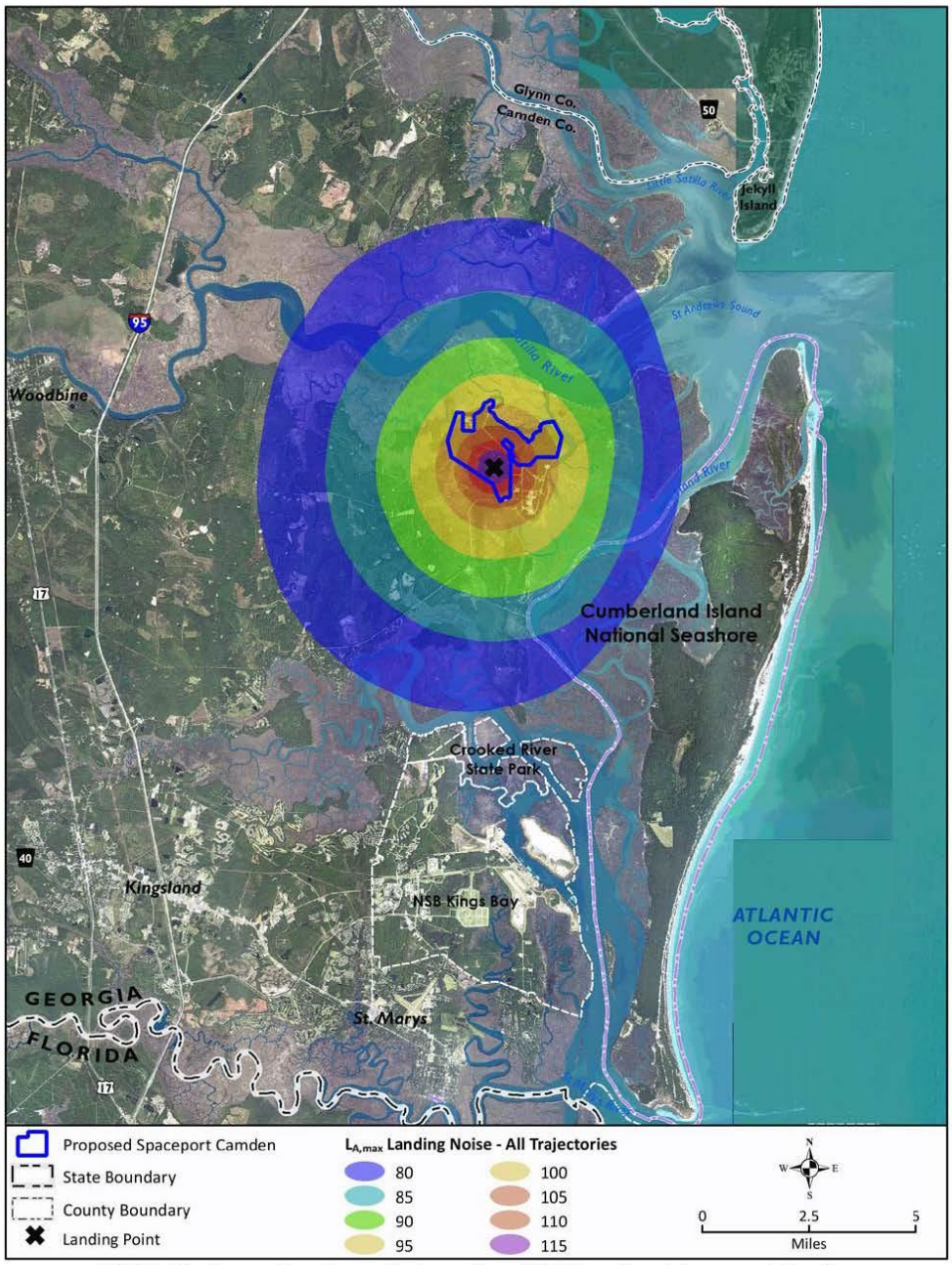


Exhibit 10. Composite of $L_{A,max}$ Contours for a MCLV Landing at Spaceport Camden

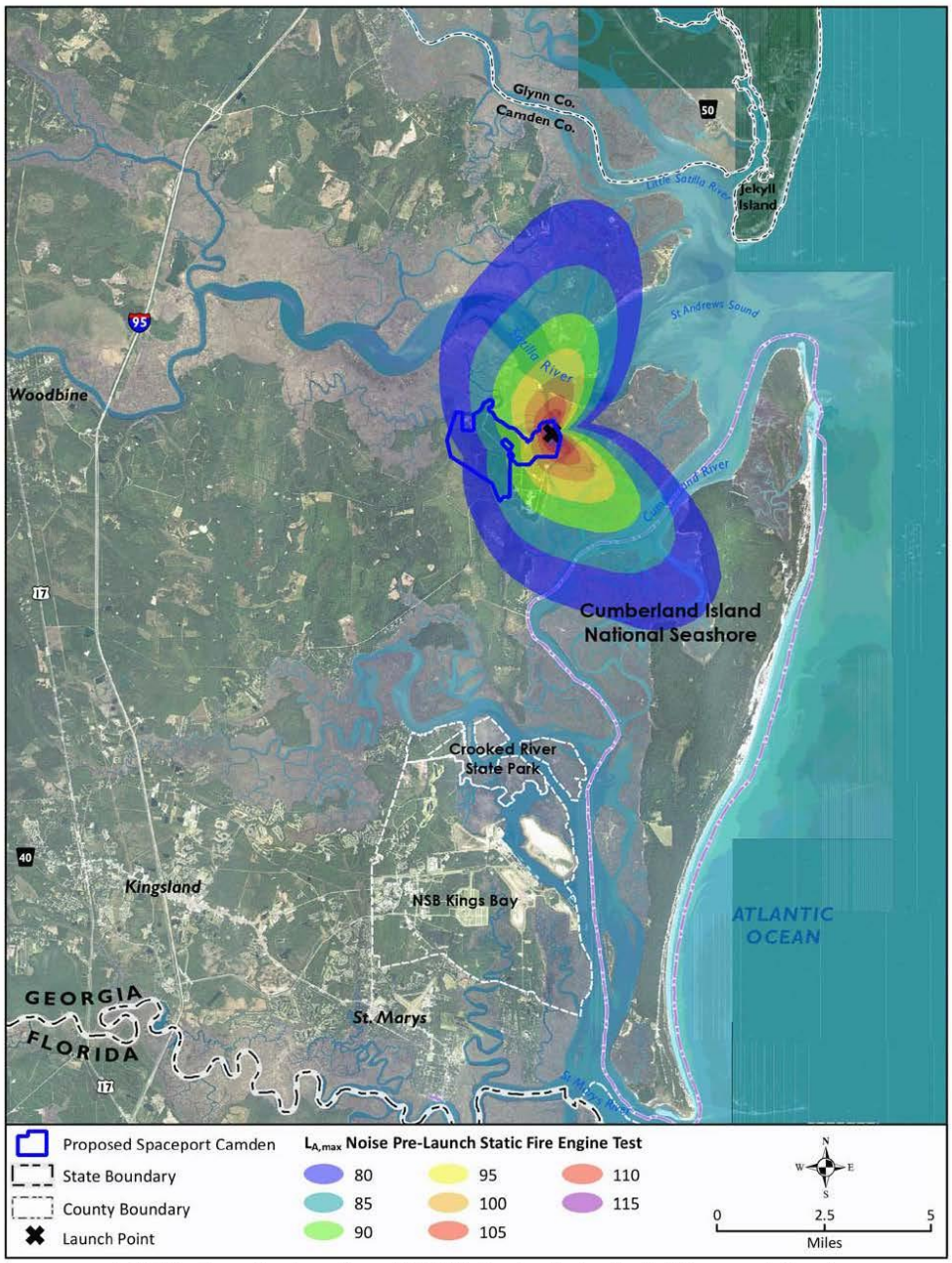


Exhibit 11. $L_{A,max}$ Contours for a MCLV Static Fire Engine Test at Spaceport Camden

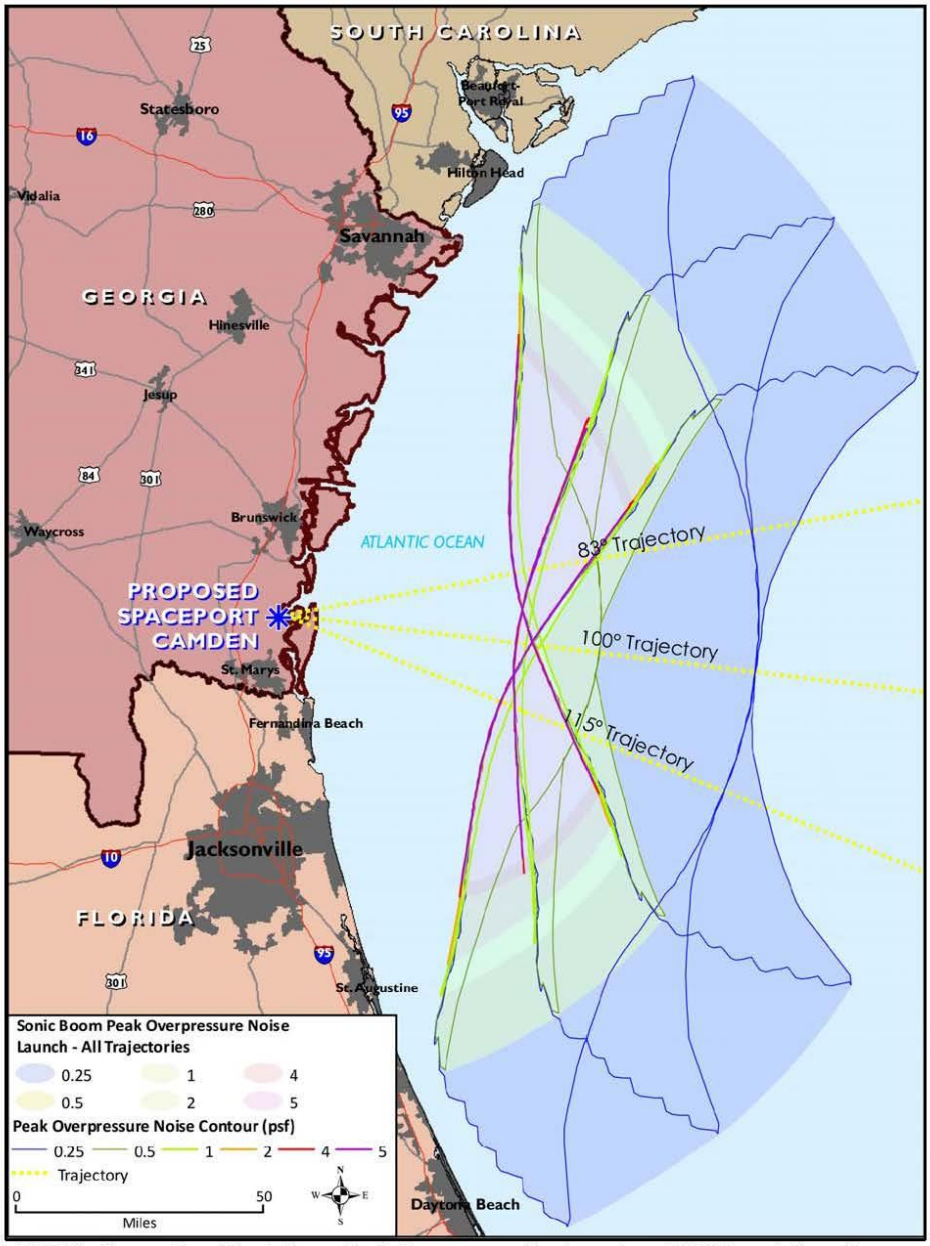


Exhibit 12. Composite of Sonic Boom Peak Overpressure Contours for a MCLV Launch from Spaceport Camden

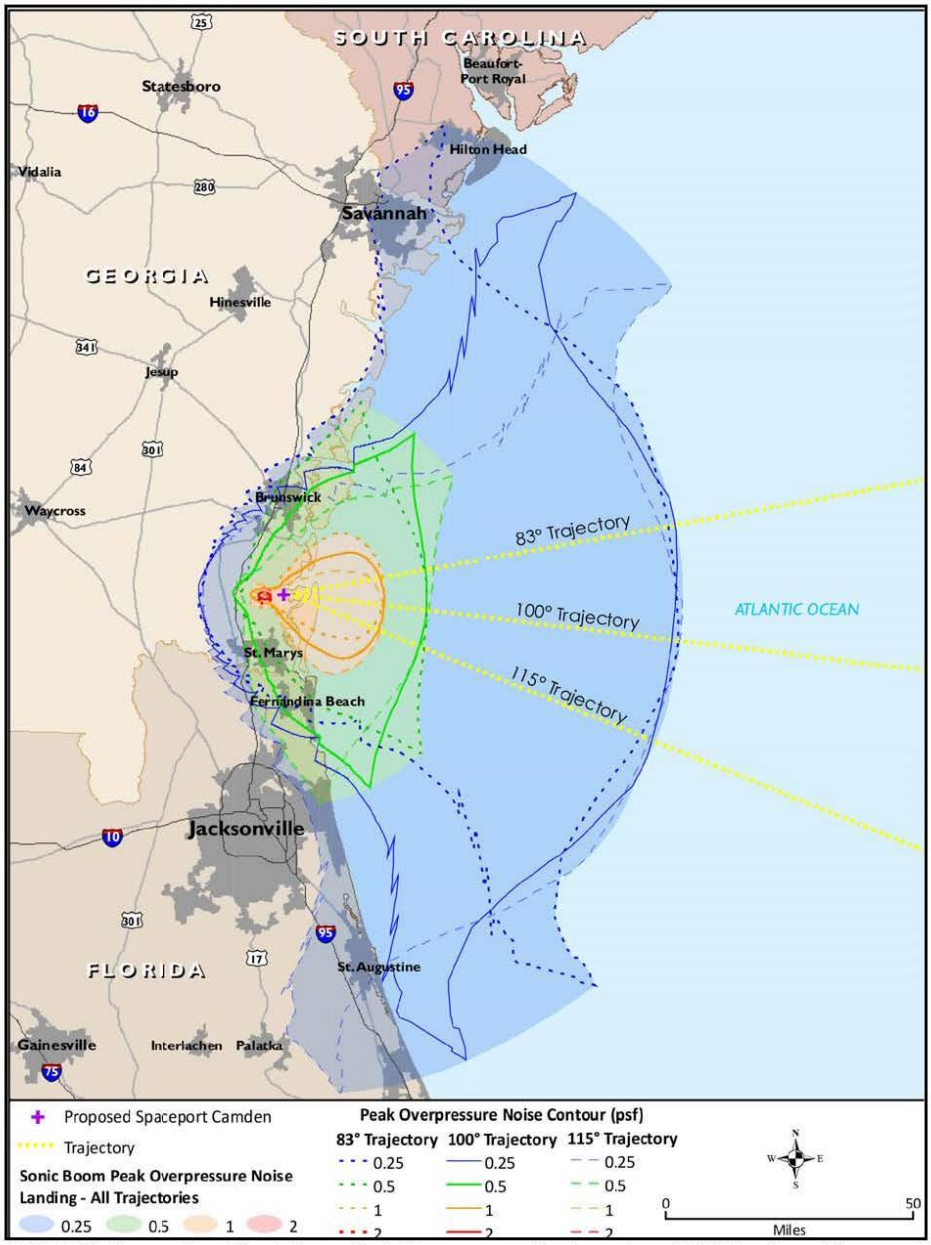


Exhibit 13. Composite of Sonic Boom Peak Overpressure Contours for a MCLV Landing at Spaceport Camden

Launch Failures

In the event of a launch failure, it is possible an explosion could injure or kill species or damage habitat within areas impacted by debris. Debris scatter could occur over the Satilla River or the Atlantic Ocean during a launch abort where Atlantic sturgeon, shortnose sturgeon, marine sea turtles, and North Atlantic right whales may be present. Also, during a launch failure, the launch vehicle propellant tanks would likely rupture, and the propellants would burn explosively. Thus, it is possible for propellants to be spilled directly or released as a burning byproduct into surface water bodies, including the Satilla River and the Atlantic Ocean. The extent of potential impacts would depend on the type of propellant, the conditions of the launch failure, and the location of the failure in relation to water areas. However, most, if not all, of the propellants would be consumed during an explosion. Marine/estuarine species could suffer injury or mortality from associated chemicals, heat, and noise. Habitats may be temporarily degraded or permanently destroyed, causing animals to move to other areas to forage and nest. In the event of a launch failure, emergency response and cleanup procedures would reduce the magnitude and duration of any impacts. Given the limited number of annual launches and the unlikely scenario of a launch failure and patchy distribution of species occurrence, the likelihood of effects to Atlantic and shortnose sturgeon, marine sea turtles, and North Atlantic right whales is highly unlikely, and therefore, discountable.

Critical Habitat

Atlantic Sturgeon Critical Habitat (South Atlantic DPS Unit 6 Satilla River)

On August 17, 2017, the Final Rule for critical habitat designation for Atlantic sturgeon was published for the Gulf of Maine, New York Bight, Chesapeake Bay, Carolina, and South Atlantic DPSs (82 FR 39160). The effective date for the Final Rule is September 18, 2017. Components of the proposed action are located within the boundary of critical habitat for the South Atlantic DPS (the Satilla River).

The physical features essential for the conservation of Atlantic sturgeon belonging to the South Atlantic Distinct Population Segments are those habitat components that support successful reproduction and recruitment. These are:

1. Hard bottom substrate (e.g., rock, cobble, gravel, limestone, boulder, etc.) in low salinity waters (i.e., 0.0-0.5 ppt range) for settlement of fertilized eggs and refuge, growth, and development of early life stages;

2. Transitional salinity zones inclusive of waters with a gradual downstream gradient of 0.5- up to 30 ppt and soft substrate (e.g., sand, mud) between the river mouths and spawning sites for juvenile foraging and physiological development;

3. Water of appropriate depth and absent physical barriers to passage (e.g.,locks, dams, thermal plumes, turbidity, sound, reservoirs, gear, etc.) between the river mouths and spawning sites necessary to support:

   (i) Unimpeded movement of adults to and from spawning sites;

   (ii) Seasonal and physiologically-dependent movement of juvenile Atlantic sturgeon to appropriate salinity zones within the river estuary; and

   (iii) Staging, resting, or holding of subadults or spawning condition adults. Water depths in main river channels must also be deep enough (at least 1.2 m) to ensure continuous flow in the main channel at all times when any sturgeon life stage would be in the river.

4. Water quality conditions, especially in the bottom meter of the water column, between the river mouths and spawning sites with temperature and oxygen values that support:

(i) Spawning;

(ii) Annual and inter-annual adult, subadult, larval, and juvenile survival; and

(iii) Larval, juvenile, and subadult growth, development, and recruitment.

5. Appropriate temperature and oxygen values will vary interdependently, and depending on salinity in a particular habitat. For example, 6.0 mg/L DO or greater likely supports juvenile rearing habitat, whereas DO less than 5.0 mg/L for longer than 30 days is less likely to support rearing when water temperature is greater than 25 °C. In temperatures greater than 26 °C, DO greater than 4.3 mg/L is needed to protect survival and growth. Temperatures of 13 to 26 °C likely to support spawning habitat.

Components of the proposed action are located within the boundary of Atlantic sturgeon designated critical habitat (South Atlantic DPS Unit 6 Satilla River). Given best management practices, the FAA does not believe any of the EFs of Atlantic sturgeon designated critical habitat in the Satilla River (Listed in Table 3) may be affected by any component of Spaceport Camden operations.

Loggerhead Sea Turtle Critical Habitat (Nearshore Reproductive Habitat, Unit N-13)

Components of the proposed action are located within the boundary of loggerhead sea turtle designated critical habitat (Nearshore Reproductive Habitat, Unit N-13). Nearshore Reproductive Habitat is the portion of the nearshore waters adjacent to nesting beaches used by hatchlings to egress to the open-water environment as well as by nesting females to transit between beach and open water during the nesting season. The following primary constituent elements (PCEs) support this habitat:

(i) Nearshore waters directly off the highest density nesting beaches and their adjacent beaches, as identified in 50 CFR 17.95(c), to 1.6 km offshore;

(ii) Waters sufficiently free of obstructions or artificial lighting to allow transit through the surf zone and outward toward open water; and

(iii) Waters with minimal manmade structures that could promote predators (i.e., nearshore predator concentration caused by submerged and emergent offshore structures), disrupt wave patterns necessary for orientation, and/or create excessive longshore currents.

Given best management practices, the FAA does not believe any of the essential features of loggerhead sea turtle designated critical habitat (Nearshore Reproductive Habitat, Unit N-13) may be affected by any component of Spaceport Camden operations.

North Atlantic Right Whale Critical Habitat (Unit 2)

Components of the proposed action are located within the boundary of North Atlantic right whale designated critical habitat (Unit 2). The physical features essential to the conservation of the North Atlantic right whale (i.e., essential features [EFs]), which provide calving area functions in Unit 2, are:

(i) Sea surface conditions associated with Force 4 or less on the Beaufort Scale;
(ii) Sea surface temperatures of 7°C to 17°C; and
(iii) Water depths of 6 to 28 meters, where these features simultaneously co-occur over contiguous areas of at least 231 square nautical miles (nmi^2) of ocean waters during the months of November through April.

When these features are available, they are selected by North Altantic right whale cows and calves in dynamic combinations that are suitable for calving, nursing, and rearing, and that vary, within the ranges specified, depending on factors such as weather and age of the calves. Given best management practices,

the FAA does not believe any of the EFs of North Atlantic right whale designated critical habitat in Unit 2 may be affected by any component of Spaceport Camden operations.

CONCLUSION

Because all potential project effects to listed species and critical habitat were found to be discountable, insignificant, or beneficial, we conclude that the proposed action is not likely to adversely affect listed species and critical habitat under NMFS's purview.

This information was prepared based on the best available scientific and commercial data available. FAA is requesting NMFS's written concurrence with these determinations. Please contact Stacey Zee, FAA Environmental Specialist, at Stacey.Zee@faa.gov or (202) 267-9305 to discuss any questions or concerns on the Proposed Action.

Sincerely,

Daniel Murray
Manager, Space Transportation Development Division

33