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Draft Environmental Assessment for Space Florida Shuttle Landing Facility Construction of Developable Land at the John F. Kennedy Space Center, Kennedy Space Center, Florida

January 2021

National Aeronautics and Space Administration
John F. Kennedy Space Center
Kennedy Space Center, Florida

Prepared for:
Space Florida, Cape Canaveral, Florida

Submitted by:

AECOM

Executive Summary

Purpose and Need

Space Florida has prepared this Environmental Assessment (EA) in compliance with the National Environmental Policy Act (NEPA) requirements, with National Aeronautics and Space Administration (NASA) as lead agency and the United States Fish and Wildlife Service (USFWS) and Federal Aviation Administration (FAA) as cooperating agencies, to evaluate the potential environmental impacts resulting from Space Florida's proposed design, construction, and build-out of the Shuttle Landing Facility (SLF) Developable Land Blocks 2 through 6 at Cape Canaveral Spaceport (CCS). This EA may be referenced for future FAA license modifications. The Proposed Action would develop and construct infrastructure, including facilities and utilities at the SLF, to support the Horizontal Take-Off and Landing (HTOL) capabilities for orbital and suborbital launch vehicles and services that have been derived from anticipated tenants' needs of the future consistent with the NASA Final Programmatic Environmental Impact Statement for Implementation of the Kennedy Space Center - Center Master Plan (KSC CMP PEIS; 2016). The KSC CMP PEIS (NASA 2016) covered operations, facilities, and activities described in the 20-year Center Master Plan. The proposed development of the SLF supports the partnership between Space Florida, NASA, USFWS and the FAA and is consistent with the National Space Transportation Policy of the United States which "encourages private sector and state and local government investment and participation in the development, improvement, and sustainment of space infrastructure, including both federal launch and reentry sites as well as those operated by private, state, and local entities."

The Proposed Action is needed to facilitate and foster the operation of new types of suborbital and orbital HTOL vehicles to meet the demand for lower-cost access to space as envisioned in the Property Agreement between the National Aeronautics and Space Administration, John F. Kennedy Space Center, and Space Florida for the Transfer of Operations and Management of the Shuttle Landing Facility, KCA-4412 (NASA and SF 2015) and supports the National Space Transportation Policy of the United States and the FAA Commercial Space Launch Act for oversite of commercial space launch activities. In doing so, the Proposed Action would help assure that Space Florida and the SLF, with its related supporting infrastructure (facilities and utilities), would continue to provide benefits to Space Florida, the government, and the private sector to ensure the CCS becomes a global hub for HTOL vehicle operations.

Proposed Action

The Proposed Action is to develop the area around the SLF as identified in the KCA-4412 Property Agreement (NASA and SF 2015), as well as the Space Florida CCS Master Plan (SF 2016). In KCA-4412, NASA and Space Florida along with the USFWS defined a "Developable Area" to accommodate future SLF operations, capabilities, and supporting infrastructure while minimizing impacts to wildlife habitat, and included a NASA Record of Environmental Consideration. KCA-4412 defined 17 permitted "Commercial Space Activities" that Space Florida can pursue at the SLF. Space Florida proposes to develop and make improvements to the SLF that support these commercial activities. Operational actions are not included in this document.

The Developable Area of the SLF has been divided into "Blocks," similar to a platted commercial development. Block 1 was evaluated in previous National Environmental Policy Act (NEPA) documents, NASA 2007 and FAA 2018, and is moving through design into construction.

The Block 2 area is located along the SLF runway east side between Astronaut Road and Sharkey Road, and is referred to as "airside" and is intended to be developed into spaceport operations for HTOL vehicles. Block 3, also on the east side of the SLF between same roadways but adjacent to Kennedy Parkway North and referred to as "landside," is proposed for manufacturing, processing, and administrative facilities. Block 4 is located along the east side of the SLF runway at Sharkey Road and

is proposed for large vehicle processing and launch operations facilities, which can be a combination of airside/landside. Block 5 is located along the entire west side of the SLF runway, and Block 6 is located at the northeast corner of the SLF runway at County Road 402 and Kennedy Parkway North. Both blocks are proposed for future landside/airside operations and support facilities development.

No Action Alternative

NEPA regulations refer to the continuation of the present course of action without the implementation of, or in the absence of, the Proposed Action, as the "No Action alternative." Inclusion of the No Action alternative is the baseline against which Federal actions are evaluated and is prescribed by the Council on Environmental Quality regulations and 32 Code of Federal Regulations 651.

Under the No Action alternative, Space Florida would forego future development around the SLF Runway within the developable areas. The area would remain undeveloped and would fail to meet the intent of KCA-4412 (NASA and SF 2015), as well as the Space Florida CCS Master Plan (2016). As such, the demand for lower-cost access to space would not be met.

Summary of Potential Environmental Effects

This EA considered the following resource areas to provide a context for understanding the potential environmental effects of the Proposed Action and No Action alternatives: fish and wildlife; plants; floodplains; historical, architectural, archeological, and cultural resources; water quality; and wetlands. Impact categories that were sufficiently evaluated in previous NEPA documents and determined to have environmental consequences of no significant impact (i.e., none or minimal) were dismissed from further analysis in this EA. These categories include: air quality; coastal resources; compatible land use, Department of Transportation Act Section 4(f); farmlands; hazardous materials, pollution prevention, and solid waste; light emissions and visual impacts; natural resources and energy supply; noise; socioeconomic impacts, environmental justice, and children's environmental health and safety risks; and wild and scenic rivers.

The potential consequences associated with the Proposed Action and the No Action Alternative were analyzed for each environmental resource area. **Table ES-1** presents a summary of the resources considered and the potential impacts on those resources.

Table ES-1. Summary of Potential Impacts from the Proposed Action

Environmental Resource Area	Potential Impacts
Fish and Wildlife	The loss of habitat from development and construction of supporting infrastructure at the SLF could result in direct mortality to common wildlife; however, mortality is anticipated to be relatively minor, as the wildlife species inhabiting the SLF developable land blocks are highly mobile and are expected to relocate to adjacent habitat within Merritt Island National Wildlife Refuge that would remain undeveloped. Therefore, no significant effects to common wildlife populations are anticipated. The SLF developable land blocks are not located within Essential Fish Habitat, Habitat Areas of Particular Concern, or Essential Fish Habitat Areas protected from fishing for any recorded fish species. Therefore, there is no expected adverse impact on fish from implementation of the Proposed Action.

Environmental Resource Area	Potential Impacts
	Potential impacts to listed species from Proposed Actions were determined through Section 7 Consultation between NASA and the USFWS. Adherence to the reasonable and prudent measures and conditions identified in USFWS Biological Opinions would help reduce adverse impacts to below the level of significance.
Plants	The Proposed Action will remove existing native plants. Two federally-listed species and several state-listed species are recorded as potentially occurring within the SLF. There are minimal to no expected adverse impacts to listed plant species due to the low probability of occurrence for the growth of these species.
Floodplains	The Proposed Action could encroach upon 56.34 acres of 100-year floodplain. Floodplain impacts are estimated quantities associated with the development and construction of supporting infrastructure at the SLF. Development and construction of supporting infrastructure at the SLF would not raise flood elevations or encroach on a floodway. The short- and long-term impacts of this alternative on human safety, health, and welfare would therefore be negligible. The presence of these improvements in the flood zone would have a less than significant impact on "the natural and beneficial values served by floodplains" (EO 11988, Floodplain Management) because the improvements proposed for these low-lying areas would not interfere with the floodplain's function. All fill and development within floodplains would take place during a multi-year development schedule. Once the proposed SLF development is complete and in use, no further impacts to floodplains associated with the project would occur. The design of SLF facilities would incorporate drainage and stormwater management features appropriate to mitigate the flooding risk that results from adding impervious surfaces and locating facilities in the 100-year floodplain. Final design would minimize potential increases to the floodplain elevations by retaining existing water surface elevations, where feasible, to avoid impacting the available flood storage and minimizing fill in sensitive areas. In addition, the Proposed Action would adhere to the applicable permits and would not cause other effects to floodplains. Therefore, the Proposed Action would have long-term, minor, direct adverse impacts on the floodplains of the site.

Environmental Resource Area	Potential Impacts
Historical, Architectural, Archeological, and Cultural Resources	No modifications to the SLF Historic District are proposed as part of the Proposed Action, so the development would have no effect on the qualities that make it eligible for the National Register of Historic Places (NRHP). The State Historic Preservation Office, which in Florida is the Florida Division of Historic Resources (FDHR), has concurred with the new construction development between Sharkey Road and Towway Road on November 14, 2012. The area between Sharkey Road and Towway Road encompasses development Blocks 2 and 3; therefore, no additional studies are proposed for these blocks. Blocks 4 and 5 do not contain any zones of archaeological potential (ZAPs) or NRHP-eligible sites. Block 6 contains ZAPs 63, 64 and 67. Systematic field surveys would be needed to identify and evaluate ZAPs 63, 64 and 67 to determine if they contain intact, significant archaeological deposits that might be NRHP eligible. The timing of these field studies would be linked to the overall multi-year development schedule, and they would be completed in advance of any construction activities so that the results could be shared with the FDHR, and any additional studies and mitigation measures that might be needed could be implemented. In the event there is an unanticipated discovery of historical, architectural, archeological, and cultural resources within the area of ground disturbing activities, the selected construction contractor would cease all activities involving subsurface disturbance in the immediate vicinity of the discovery. Space Florida would contact the Kennedy Space Center (KSC) Historic Preservation Officer immediately to determine the need for an archaeological survey or data recovery survey. Project activities would not resume without verbal and/or written authorization from the KSC Historic Preservation Officer. Additionally, in the unlikely event that unmarked human remains are encountered during construction activities, all work would stop immediately and the proper authorities would be notified in accordance with Section 872.05 of the Florida Statutes.
Water Quality	Development and construction of supporting infrastructure at the SLF has the potential to affect water quality through increased soil erosion and sedimentation into nearby water bodies during ground-disturbing activities. Those potential impacts would be minimized through compliance with the terms of existing SLF stormwater management system (SWMS) permit, St

Environmental Resource Area	Potential Impacts
	Johns River Water Management District Environmental Resource Permit (ERP) Number ERP-40-009-16630-3. Prepared construction plans would specify measures that would be put in place to avoid or minimize erosion and sedimentation. Such measures may include, but are not limited to, silt fencing, use of synthetic hay bales, temporary sediment traps, and other similar measures. Additionally, routine inspections would be conducted throughout construction to ensure compliance. Therefore, the Proposed Action is not anticipated to result in significant short-term adverse impacts on water quality from increased erosion and sedimentation. In the long term, development and construction of supporting infrastructure at the SLF could result in impacts on water quality from increased contaminated or polluted stormwater discharge. The Proposed Action would increase the amount of impervious surface on the site, which could result in a corresponding increase in the volume of stormwater runoff. The existing SWMS would be modified, as necessary, to accommodate and treat increased runoff caused by any new impervious area. Compliance with applicable permitting requirements would ensure that the Proposed Action results in no significant adverse impacts on water quality. The SWMS would help mitigate many of the impacts associated with impervious surfaces. However, extreme rainfall events (such as those associated with tropical systems) would likely exceed the design capacity of the SWMS and, as a result, some untreated runoff would be transported off-site. Therefore, the Proposed Action would have long-term, minor, direct adverse impacts on the water quality of the site.
Wetlands	The Proposed Action could dredge and/or fill 159.82 acres of wetland and other surface waters. Wetland and other surface water impacts are estimated quantities associated with the development and construction of supporting infrastructure at the SLF. As required by the U.S. Army Corps of Engineers, alternatives to impacting wetlands and surface waters would be considered during final design. Where project impacts are unavoidable, development and construction of supporting infrastructure at the SLF has the potential for significant adverse impacts to wetlands and other surface waters from placement of permanent fill or structures. Those potential impacts would require mitigation to compensate for unavoidable wetland loss. This could include purchase of credits from a wetland mitigation bank or wetland restoration or preservation.

Environmental Resource Area	Potential Impacts
	Compensatory wetland mitigation would reduce impacts to below the level of significance. All construction within wetlands and other surface waters would take place during a multi-year development schedule. Once the proposed SLF development is complete and in use, no further impacts to wetlands associated with the project would occur. The Proposed Action could potentially result in indirect impacts to the wetlands on, or in the vicinity of, the site because of increased erosion during construction activities. However, the measures that would be implemented as part of the prepared construction plans would avoid or minimize adverse impacts on surface waters and would also avoid or minimize adverse impacts on wetlands. Similarly, compliance with permit requirements would minimize the risk of indirect impacts to wetlands from runoff. Therefore, development and construction of the proposed supporting infrastructure at the SLF is not anticipated to result in significant short-term indirect adverse impacts on wetlands. Although the project may have unavoidable adverse wetland impacts, compliance with applicable permitting requirements, including compensatory mitigation, would reduce adverse impacts. Therefore, the Proposed Action would have long-term, moderate, direct adverse impacts on wetland resources at the site.

Cumulative Impacts

Cumulative effects are those of the Proposed Action taken in conjunction with the incremental effects of other past, present, and reasonably foreseeable future projects. Other projects within the KSC boundary include existing and proposed development from June 2015 through June 2045 (term of agreement KCA-4412). When considered with these actions, the environmental consequences of the Proposed Action would not contribute to significant adverse cumulative effects on the resources analyzed in the EA. Incremental effects of other actions would be similar to the effects of the Proposed Action, as the required development activities would be similar in scope and scale. With implementation of best management practices and appropriate minimization measures, collective impacts from past, present, and future projects as well as the Proposed Action would be less than significant.

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Acronyms and Abbreviations

ACI	Archaeological Consultants, Inc.
APE	Area of Potential Effect
ARFF	Airport Rescue and Fire Fighting Facility
CCS	Cape Canaveral Spaceport
CCAFS	Cape Canaveral Air Force Station
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CMP	Center Master Plan
CNS	Canaveral National Seashore
CWA	Clean Water Act
EA	Environmental Assessment
EFH	Essential Fish Habitat
EFHA	EFH Areas Protected from Fishing
EO	Executive Order
ERD	Environmental Resources Document
ERP	Environmental Resource Permit
FAA	Federal Aviation Administration
FEMA	Federal Emergency Management Agency
FDC	Future Development Concept
FDHR	Florida Division of Historic Resources.
FDEP	Florida Department of Environmental Protection
FLUCFCS	Florida Land Use, Cover and Forms Classification System
FONSI	Finding of No Significant Impact
FSS	Florida Spaceport System
HAPC	Habitat Areas of Particular Concern
HTOL	Horizontal Take-Off and Landing
KCA	Kennedy Customer Agreement

KSC	Kennedy Space Center
LSOL	Launch Site Operator License
MINWR	Merritt Island National Wildlife Refuge
NASA	National Aeronautics and Space Administration
NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration'
NPS	National Park Service
NRHP	National Register of Historic Places
PEIS	Programmatic Environmental Impact Statement
REC	Record of Environmental Consideration
SHPO	State Historic Preservation Office
SJRWMD	St. Johns River Water Management District
SLF	Shuttle Landing Facility
SWMS	Stormwater Management System
TMDL	Total Maximum Daily Loads
USACE	U.S. Army Corps of Engineers
USAF	U.S. Air Force
USDOT	U.S. Department of Transportation
USFWS	U.S. Fish and Wildlife Service
ZAP	Zones of Archaeological Potential

1.0 PURPOSE AND NEED

1.1 Introduction

This Environmental Assessment (EA) evaluates the potential environmental impacts of Space Florida's proposed design, construction and build-out of the Shuttle Landing Facility (SLF) Developable Land Blocks 2 through 6 at the Cape Canaveral Spaceport (CCS)[1]. The proposed action is limited to development and construction. Operational actions are not included in this document. Potential operational activities were addressed in the Federal Aviation Administration (FAA) Final Environmental Assessment for the Shuttle Landing Facility Launch Site Operator License (2018). Any deviations or alterations to those types of operations would be addressed in future NEPA documents including possible launch site operation license modifications. This EA may be referenced for future FAA license modifications.

The SLF is located at National Aeronautics and Space Administration's (NASA's) John F. Kennedy Space Center (KSC), which is on Florida's east coast in Brevard and Volusia Counties, approximately 50 miles east of Orlando (**Figure 1-1**). In June 2015, KSC transferred the management, development, and operation of the SLF to Space Florida. As the State of Florida's aerospace economic development agency and spaceport authority, Space Florida is an independent Special District of the State of Florida, created by Chapter 331, Part II, Florida Statutes, for the purposes of fostering the growth and development of a sustainable and world-leading space industry in Florida.

NASA is the lead federal agency in supervising the preparation of this EA. The United States Fish and Wildlife Service (USFWS) and FAA are cooperating agencies in reviewing and providing input on this EA.

1.2 Background

1.2.1 Overview

The SLF is located within the boundary of KSC, west of Kennedy Parkway North, south of Beach Road/State Road 402, north of Banana Creek, and east of the Indian River (**Figure 1-2**). The SLF and its facilities, except the Flight Vehicle Landing and Support Complex and Aircraft Rescue and Firefighting (ARFF) building, are managed and operated by Space Florida under a 30-year property agreement between NASA and Space Florida, which is extendable up to 60-years. With the transfer of the management, development and operation of the SLF from KSC to Space Florida in June 2015, KSC prepared KCA-4412, *Property Agreement between the National Aeronautics and Space Administration John F. Kennedy Space Center and Space Florida for the Transfer of Operations and Management of the Shuttle Landing Facility.* (**Appendix A**). KCA-4412 describes that Space Florida agreed to manage, develop, improve, operate, and sustain the SLF, "in support of both government and commercial users engaged in horizontal space launch and recovery, aerospace flight testing and operations, and mission-related or otherwise compatible aviation." KCA-4412 also describes, "the USFWS and NASA KSC have defined a "developable area" to accommodate future expansion of the SLF's operations and capabilities that is intended to minimize development impacts to wildlife habitat."

The SLF was constructed in 1974 by NASA for the Space Shuttle program (i.e., testing, landings and recovery) and to support payload cargo deliveries. The SLF encompasses a 4,400-acre (6.9 square miles) complex. The SLF is currently used to service aircraft delivering payloads and cargo for space launch missions, USAF's X-37B space plane testing mission/ program, deliveries associated with the

[1] According to Florida Statute 331.304, the Cape Canaveral Air Force Station and John F. Kennedy Space Center may be referred to as the Cape Canaveral Spaceport.

first integrated flight of Orion and the Space Launch System rockets, and routine NASA flight operations. The Developable Area within the SLF Property Agreement totals approximately half of the complex or 2,100 acres. The SLF includes a 3-mile long runway, a taxiway connecting the runway and south apron, and a 2-mile long concrete tow way that connects to the Vehicle Assembly Building area totaling approximately 600 acres. The SLF runway is one of the longest in the world and is capable of supporting most, if not all, Horizontal Take-Off and Landing (HTOL) spacecraft departures and landings. While the SLF site also includes a few support facilities such as an ARFF facility, a Reusable Launch Vehicle Hangar, the convoy vehicle enclosure building, the flight vehicle landing and support complex, the landing aids control building, and an air traffic control tower, the remainder of the complex is undeveloped and available for commercial use.

As part of the NASA KSC Future Development Concept (FDC), land has been reserved for future development for various HTOL support functions, including but not limited to manufacturing, suborbital operations, and processing facilities. Since 2011, the NASA KSC Center Planning and Development Office has moved forward with leasing NASA KSC facilities and assets to the commercial space industry, including the SLF. Existing development within the SLF is primarily at the southeastern quadrant of the SLF. Future planned development would occur in phases, utilize some of the existing infrastructure, and continue development to the north and west up to the predefined boundary of the SLF.

1.2.2 Space Florida and Cape Canaveral Spaceport

Space Florida was established by the Florida legislature on September 1, 2006 as an Independent Special District of the State of Florida (created by Chapter 331, Part II, Florida Statute). Space Florida is the state-chartered spaceport authority and has statutory responsibility and authority to support the expansion and operation of Florida's commercial space transportation capabilities. Specifically, Space Florida promotes economic development activities to expand and diversify domestic and international opportunities that, in turn, support talent development, enhance infrastructure, and support governments and organizations in improving the state's competitive business climate. Space Florida promotes such economic development activities by supporting, funding, assisting, facilitating, and/or consulting on space industry related needs. Space industry related needs include attracting, retaining, and expanding aerospace or supply chain businesses that create economic opportunities in Florida.

According to Florida Statute 331.304, the Cape Canaveral Air Force Station (CCAFS) and KSC may be referred to as the Cape Canaveral Spaceport (CCS). The CCS is a multi-sector space transportation complex. It hosts and supports the world's most advanced launch and re-entry systems which enable space exploration, security, and commerce to expand the frontiers beyond our atmosphere. As directed in its authorizing Florida Statute, Space Florida is charged with planning the expansion and modernization of CCS, preserving its unique national role while reducing costs and improving regulatory flexibility. Space Florida produced the Cape Canaveral Spaceport Master Plan in January 2017 (SF 2017).

The CCS comprises approximately 157,400 acres of land under federal ownership. The Cape Canaveral Air Force Station (CCAFS), an installation of the U.S. Air Force Space Command's 45th Space Wing headquartered at nearby Patrick Air Force Base, is the home of the "Eastern Range" with active launch pads on CCAFS. The KSC continues to be managed by NASA and comprises two active launch sites (Launch Complex 39A and 39B), one launch site under construction (Launch Complex 48), launch control centers, payload processing facilities, an industrial area, launch processing facilities and the SLF. The KSC contains an overlay of the Merritt Island National Wildlife Refuge (MINWR) managed by the United States Fish and Wildlife Service (USFWS) and the National Park Service (NPS), which acts as an operational buffer. The non-operational areas within the MINWR and

the Canaveral National Seashore (CNS) are managed as natural lands used for public use under interagency agreements (KCA-1649 Rev. B) between NASA, USFWS and NPS (**Appendix B**).

1.2.3 Summary History

The first human spaceflight initiative in the United States was established in 1958 with the first crewed spacecraft launch from CCAFS occurring in the early 1960s. In 1963, NASA Launch Operations Center and portions of the CCAFS that were used by NASA were renamed the John F. Kennedy Space Center (KSC). KSC and remaining portions of the CCAFS currently make up the legal boundaries of the CCS, as depicted in **Figure 1-3**. With a rich legacy of federal space program infrastructure developed over its first six decades, and a storied heritage of hosting the world's greatest spaceflight achievements, CCS is also uniquely positioned to be the premiere space transportation hub enabling global space commerce throughout the 21st Century and beyond.

The primary users at CCS are NASA, U.S. Air Force (USAF), U.S. Navy, Space Florida and commercial enterprises including SpaceX, Blue Origin, United Launch Alliance, Boeing, Lockheed Martin and others that operate on site. While these commercial enterprises are not land managers, landowners, or regulators within CCS, as tenants they do contribute to the development of CCS via significant private capital investment in new facilities that directly support their mission as well as the renovation of existing facilities. Enabling commercial activities is essential for CCS to become the hub of global space commerce. Accordingly, transformation of CCS from a federally operated, owned, and regulated facility to a more commercial focused facility, while enabling the critical federal missions, is a key measure for successful implementation of the planning vision. As a result, the CCS is transitioning from a collection of launch site facilities dedicated to specific federal space missions, to a future of integrated activities conducted across the broad landscape of a multi-sector space transportation complex. The State of Florida is a highly-invested stakeholder in the outcome of this endeavor and has provided resources in support of the CCS since its origins.

In 2007, NASA completed the Final Environmental Assessment for Expanded Use of the Shuttle Landing Facility to address uses of the SLF beyond the end of the Space Shuttle Program (NASA 2007). The Proposed Action in this EA included the construction of facilities at two sites (south-field and mid-field) within the SLF area that would be needed to support new commercial space transportation operations (see Section 2.1.2 of this EA for further details). Construction included new hangars and other support buildings, taxiways, and related infrastructure. Under the 2007 SLF EA's Proposed Action, expanded uses would include horizontal space flight development, commercial space flight program and mission support, aviation testing, airborne research and technology development, and ground-based research, training and testing. On October 30, 2007, NASA signed a Finding of No Significant Impact (FONSI). The 2007 SLF EA did not assess the use of rocket-powered vehicles for horizontal launches or the related facility needs.

In 2012, NASA completed the Final Environmental Assessment for Suborbital Processing, Launch, and Recovery Operations (NASA 2012a). The FAA participated as a cooperating agency on this EA. The Proposed Action in this EA included increasing the frequency of existing SLF operations, adding the use of rocket-powered horizontal-launch vehicles at the SLF (as well as landing those vehicles), and development of other areas of KSC for the launch and landing/ recovery of vertical rocket-powered suborbital vehicles. On December 31, 2012, NASA signed a FONSI. The FAA issued a Launch Site Operator License (LSOL) (License Number: LSO 18-018)[1] to Space Florida to operate the SLF on November 8, 2018.

In 2016, NASA completed the Final Programmatic Environmental Impact Statement for Implementation of the KSC Center Master Plan (KSC CMP PEIS; NASA 2016). The Proposed Action included center-wide KSC operations, activities, and facilities across a 20-year planning horizon. Specific to the SLF, the KSC CMP PEIS evaluated the expansion and new construction of common

use infrastructure to support new horizontal launch and landing operations. The Record of Decision was signed on March 10, 2017.

In 2018, the FAA completed the Final Environmental Assessment for the Shuttle Landing Facility Launch Site Operator License to address issuing a LSOL to Space Florida (FAA 2018). The SLF, which previously supported the NASA Space Shuttle Program, is now a state-licensed private use airport managed by Space Florida. The Proposed Action in this EA included operating a commercial space launch site at the SLF, offering the site to commercial launch vehicle operators for the operation of Horizontal Take-Off and Landing (HTOL) vehicles, and constructing facilities related to the proposed launch site (see Section 2.1.2 of this EA for further details). On November 2, 2018, the FAA signed a FONSI.

All previous NEPA documents associated with development of the SLF are incorporated by reference in this EA.

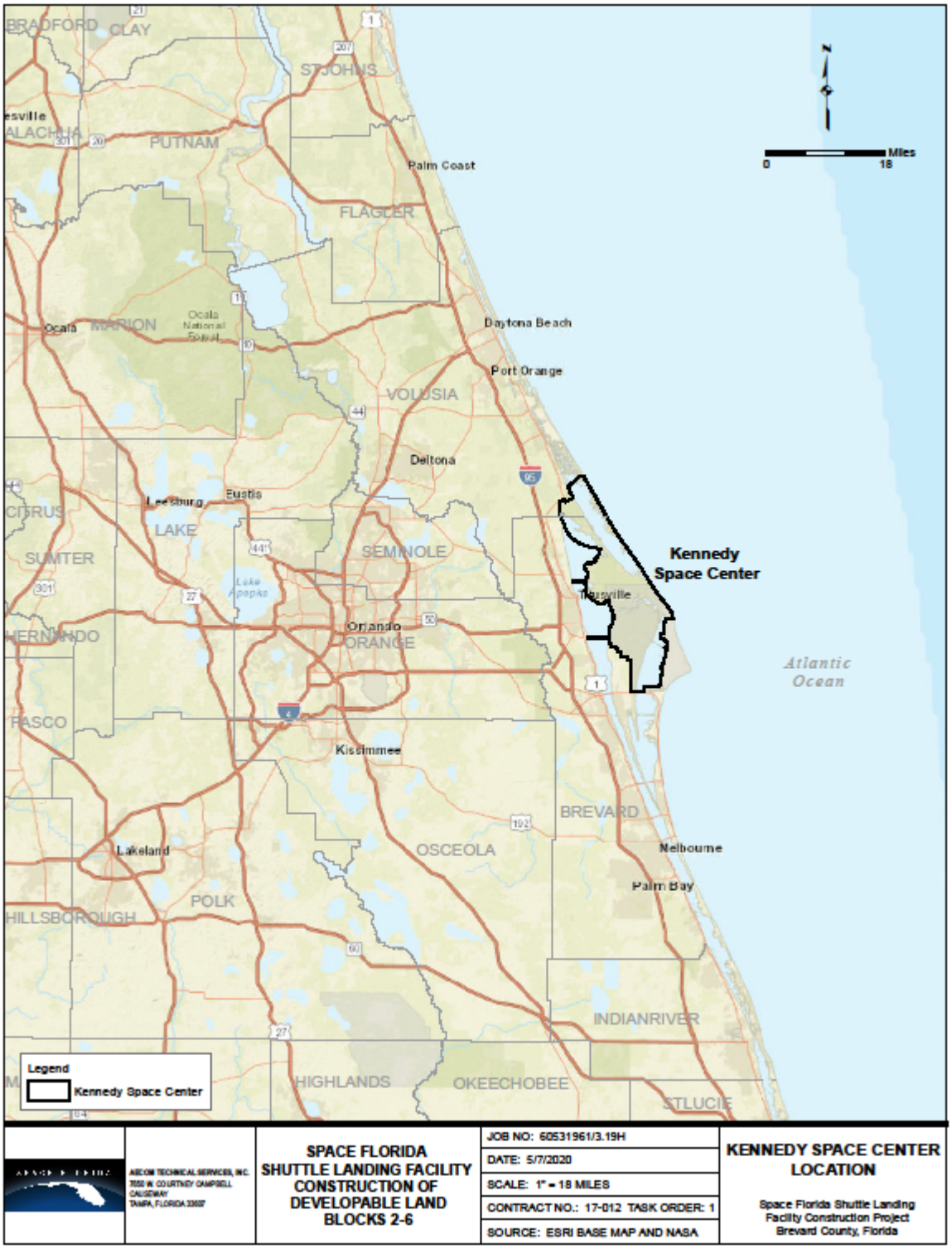

Figure 1-1. Kennedy Space Center Location

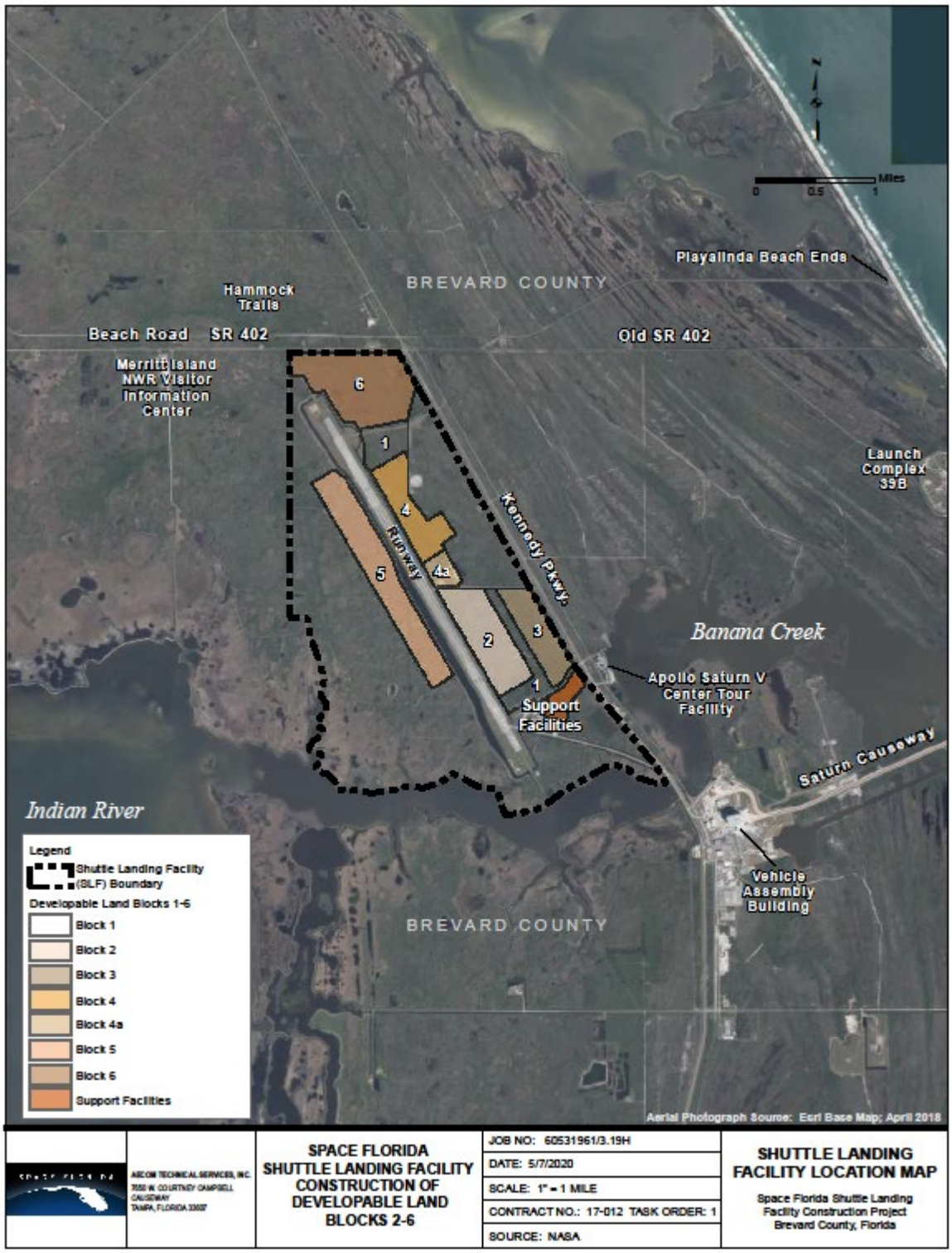

Figure 1-2. Shuttle Landing Facility Location

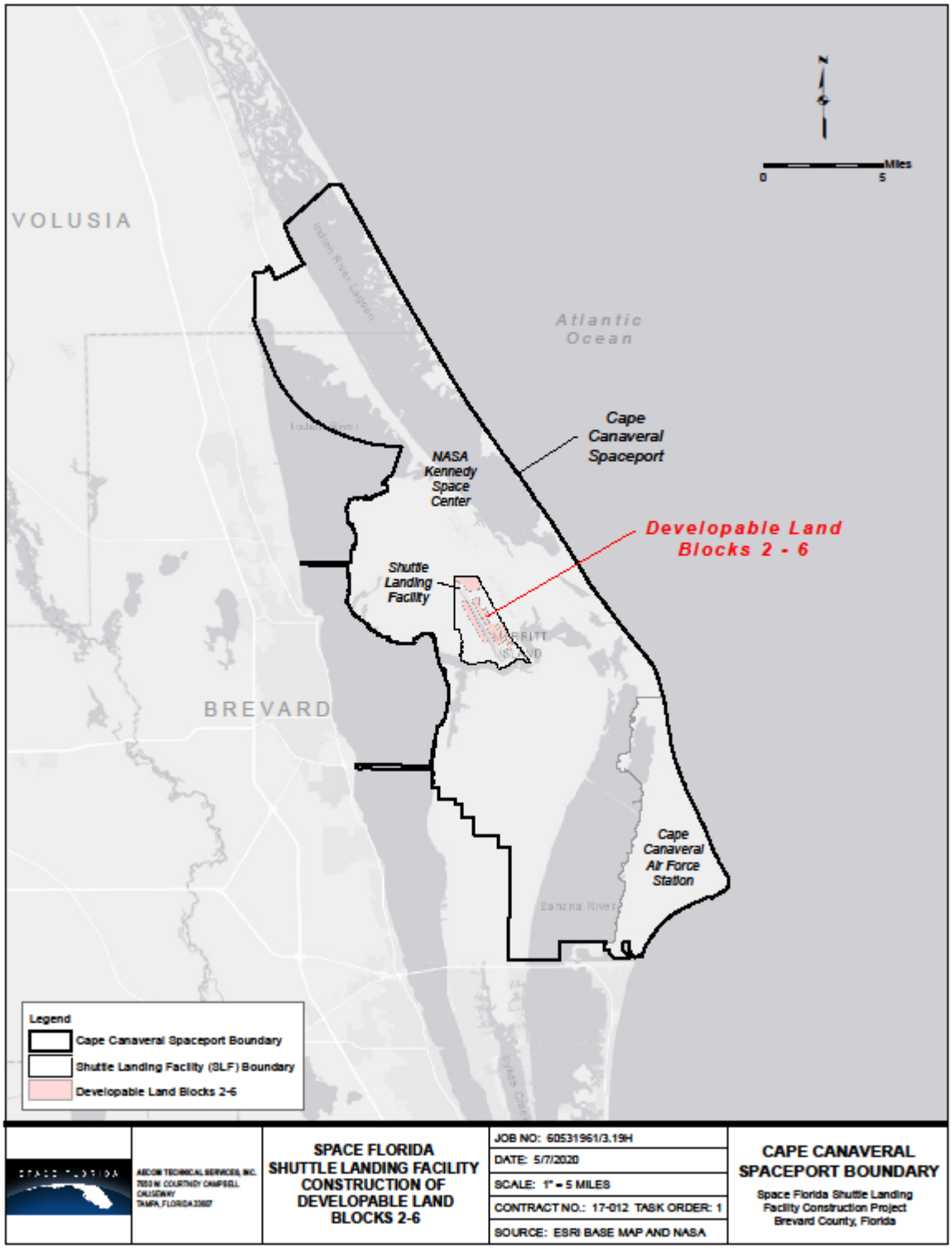

Figure 1-3. Cape Canaveral Spaceport Boundary

1.3 Future Development Concept

KSC adopted an FDC in 2012 envisioning a transition of KSC to a multi-user Spaceport. Upon the retirement of the Space Shuttle Program, KSC would no longer be planned and operated solely for NASA programmatic missions, which had been its field center role since established in 1962. The FDC provided the basis for a 20-year Center Master Plan (CMP) intended to guide NASA land use and Center Operations from 2012-2032. As a result of the CMP, public scoping meetings were conducted in 2014 to initiate a PEIS broadly assessing the potential environmental consequences of KSC's proposed CMP and future land use alternatives. The Final PEIS was published by KSC in March 2017 depicting NASA's preferred Future Land Use Map (**Appendix C**), which defines specific land use categories and relative size of each.

1.4 Purpose and Need

The Proposed Action would develop and construct infrastructure, including facilities and utilities at the SLF, to support HTOL capabilities for orbital and suborbital launch vehicles and services that have been derived from anticipated tenants' needs of the future, consistent with NASA KSC CMP PEIS (2016). The KSC CMP PEIS (NASA 2016) covered operations, facilities, and activities described in the 20-year CMP. The proposed development of the SLF supports the partnership between Space Florida, NASA, USFWS, and the FAA and is consistent with the National Space Transportation Policy of the United States, which "encourages private sector and state and local government investment and participation in the development, improvement, and sustainment of space infrastructure, including both federal launch and reentry sites, as well as those operated by private, state, and local entities."

The Proposed Action is needed to facilitate and foster the operation of new types of suborbital and orbital HTOL vehicles to meet the demand for lower-cost access to space, as envisioned in KCA-4412, and supports the National Space Transportation Policy of the United States and the FAA Commercial Space Launch Act for oversite of commercial space launch activities. In doing so, the Proposed Action would help assure that Space Florida and the SLF, with its related supporting infrastructure (facilities and utilities), would continue to provide benefits to Space Florida, the government, and the private sector to ensure the CCS becomes a global hub for launching of HTOL vehicles.

1.5 Scope and Contents of the EA

This EA was prepared in accordance with the National Environmental Policy Act of 1969, as amended (NEPA) (42 United States Code 4321), the implementing regulations issued by the President's Council on Environmental Quality (CEQ) (40 Code of Federal Regulations [CFR] Parts 1500-1508), and according to the procedures of Implementation of NEPA for NASA (Title 14, CFR, part 1216 subparts 1216.1 and 1216.3) and FAA Order 1050.1F, *Environmental Impacts: Policies and Procedures*. The purpose of the EA process is to inform decision makers and the public of the likely environmental consequences of the Proposed Action and alternatives.

The EA conceptually evaluates the potential impacts from implementing the Proposed Action and No Action alternative. The scope of the EA (i.e., the range of topics considered in the impact analysis) was determined based on previously prepared documents related to the SLF (see **Section 1.7**) and currently available information on environmental conditions on and near the SLF. In accordance with CEQ regulations for implementing NEPA, and with the intent of reducing the size of this document, previously prepared documents are incorporated by reference.

Impacts on the following resources were evaluated: fish and wildlife; plants; floodplains; historical, architectural, archeological, and cultural resources; water quality; and wetlands. Impact categories that were sufficiently evaluated in previous NEPA documents and determined to have environmental consequences of no significant impact (i.e., none or minimal) were dismissed from further analysis in

this EA, based on a similar level of conceptual design. These categories include: air quality; coastal resources; compatible land use, Department of Transportation Act Section 4(f); farmlands; hazardous materials, pollution prevention, and solid waste; light emissions and visual impacts; natural resources and energy supply; noise; socioeconomic impacts, environmental justice, and children's environmental health and safety risks; and wild and scenic rivers.

1.6 Related NEPA Documents and Agreements

- FAA Final Environmental Assessment for the Shuttle Landing Facility Launch Site Operator License and Finding of No Significant Impact, November 2018.
- NASA Final Programmatic Environmental Impact Statement for the Implementation of the Center Master Plan at the Kennedy Space Center, Florida, November 2016.
- NASA Final Environmental Assessment for Suborbital Processing, Launch, and Recovery Operations, August 2012.
- NASA Agency Master Plan, 2011.
- NASA Final Environmental Assessment for Expanded Use of the Shuttle Landing Facility, September 2007.
- Interagency Agreement between the National Aeronautics and Space Administration, John F. Kennedy Space Center and U.S. Department of the Interior, Fish and Wildlife Service for Use and Management of Property at NASA, John F. Kennedy Space Center Known as the Merritt Island National Wildlife Refuge, July 2012.
- Property Agreement between the National Aeronautics and Space Administration, John F. Kennedy Space Center and Space Florida for the Transfer of Operations and Management of the Shuttle Landing Facility (includes Appendix D: NASA Record of Environmental Consideration #9442), June 2015.

1.7 Organization of the Draft EA

The EA consists of the following sections:

- Executive Summary
    - Chapter 1 (Purpose and Need) presents information of the purpose and need for the Proposed Action as well as background information on CCS and a summary of the EA process.
    - Chapter 2 (Proposed Action and No Action Alternative) provides a description of the Proposed Action and No Action alternatives analyzed in the Draft EA.
    - Chapter 3 (Affected Environment and Environmental Consequences) describes the affected environmental resources and assesses the potential impacts of the Proposed Action and the No Action alternative on those resources.
    - Chapter 4 (Cumulative Impacts) addresses the impacts of the Proposed Action and No Action alternative when added to those of past, present, and reasonably foreseeable future actions.
    - Chapter 5 (References) lists the documents and information sources referenced in the Draft EA.
    - Chapter 6 (List of Preparers) provides the names and qualifications of the persons who prepared or substantively contributed to the Draft EA.

2.0 DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES

NEPA, and the regulations of CEQ, require all reasonable alternatives to be rigorously explored and objectively evaluated. Accordingly, this chapter summarizes the Proposed Action and No Action alternative.

2.1 Proposed Action

The Proposed Action is to develop the area around the SLF as identified in the KCA-4412 Property Agreement (NASA and SF 2015), as well as the Space Florida CCS Master Plan (SF 2017). In KCA-4412, NASA and Space Florida, along with the USFWS, defined a "Developable Area" to accommodate future SLF operations, capabilities, and supporting infrastructure while minimizing impacts to wildlife habitat, and included a NASA Record of Environmental Consideration (REC). KCA-4412 defined 17 permitted "Commercial Space Activities" that Space Florida can pursue at the SLF. Space Florida proposes to develop and make improvements to the SLF that support these commercial activities. Operational actions are not included in this document. **Figures 2-1 and 2-2** provide conceptual design of SLF build-out.

The Developable Area of the SLF has been divided into "Blocks," similar to a platted commercial development. Block 1 was evaluated in previous NEPA documents, NASA 2007 and FAA 2018, and is moving through design into construction.

The Block 2 area is located along the SLF runway east side between Astronaut Road and Sharkey Road and is referred to as "airside," and is intended to be developed into spaceport operations for HTOL vehicles. Block 3, also on the east side of the SLF between same roadways but adjacent to Kennedy Parkway North and referred to as "landside," is proposed for manufacturing, processing, and administrative facilities. Block 4 is located along the east side of the SLF runway at Sharkey Road and is proposed for large vehicle processing and launch operations facilities, which can be a combination of airside/landside. Block 5 is located along the entire west side of the SLF runway, and Block 6 is located at of the northeast corner of the SLF runway at County Road 402 and Kennedy Parkway North. Both blocks are proposed for future landside/airside operations and support facilities development. The conceptual design is summarized in **Table 2-1**. All acreages presented in table are estimates based on current conceptual design.

2.2 No Action Alternative

NEPA regulations refer to the continuation of the present course of action without the implementation of, or in the absence of, the Proposed Action as the "No Action alternative." Inclusion of the No Action alternative is the baseline against which Federal actions are evaluated, and is prescribed by the CEQ regulations and 32 CFR 651.

Under the No Action alternative, Space Florida would forego future development around the SLF Runway within the developable areas. The area would remain undeveloped and would fail to meet KCA-4412 (NASA and SF 2015), as well as the Space Florida CCS Master Plan (2017). As such, the demand for lower-cost access to space would not be met.

Table 2-1 SLF Conceptual Design Summary

SLF Block	Developable Area (Acres)	Proposed Impervious Area (Acres)	Potential Uses
2	229	111	HTOL • Airside Pavement, Taxiway, Taxilane, Apron Hangars, Storage, Support Facilities, Parking Utilities • Power Plant, Solar Farm, Weather, Range Support, Telemetry
3	150	58	Manufacturing • Flight/Vehicle/Explosive Testing, Commodity Storage, 3D Printing, Assembly, Logistics Hub, Offices, Maintenance, Warehousing Utilities • Power Plant, Solar Farm, Weather, Range Support, Telemetry Commercial • Hotel, Gas Station, Restaurant, Rental Car, Storage, Viewing, Parking, Education
4	154	58	HTOL • Airside Pavement, Taxiway, Taxilane, Apron Hangars, Storage, Support Facilities, Parking Utilities • Power Plant, Solar Farm, Weather, Range Support, Telemetry
5	307	140	HTOL • Airside Pavement, Taxiway, Taxilane, Apron Hangars, Storage, Support Facilities, Parking Utilities • Power Plant, Solar Farm, Weather, Range Support, Telemetry
6	305	97	Manufacturing • Flight/Vehicle/Explosive Testing, Commodity Storage, 3D Printing, Assembly, Logistics Hub, Offices, Maintenance, Warehousing Utilities • Power Plant, Solar Farm, Weather, Range Support, Telemetry Commercial • Hotel, Gas Station, Restaurant, Rental Car, Storage, Viewing, Parking, Education

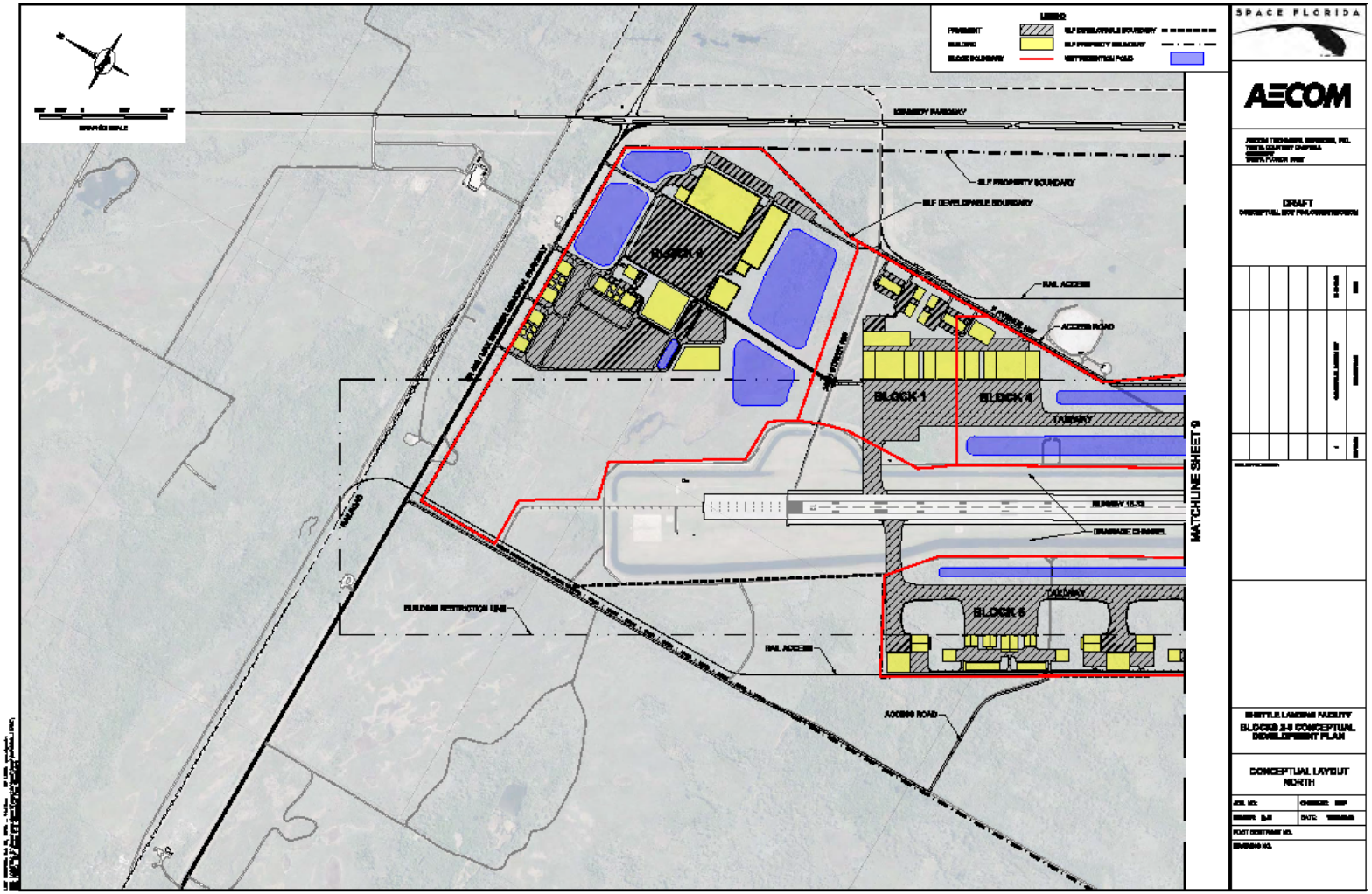

Figure 2-1. Shuttle Landing Facility Conceptual Design – North

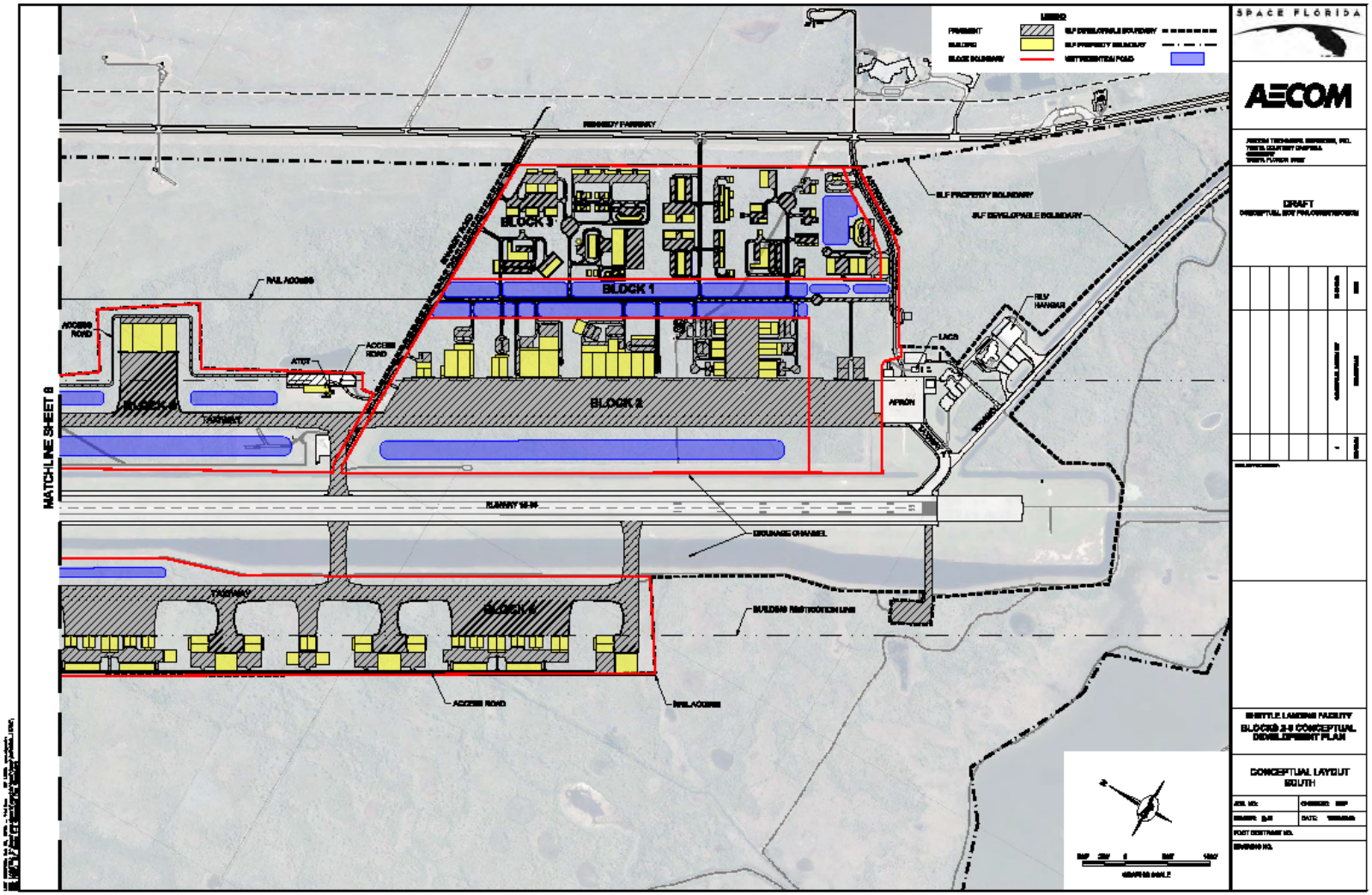

Figure 2-2. Shuttle Landing Facility Conceptual Design – South

3.0 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

This section provides a description of the existing environment that could be potentially affected by the Proposed Action at the SLF and presents an analysis of the potential environmental consequences of implementing the Proposed Action and the consequences of selecting the No Action alternative. Each alternative was evaluated for its potential impacts on physical, biological, and socioeconomics resources in accordance with CEQ regulations at 40 CFR Part 1500-1508, NASA regulations at 14 CFR 1216, and NASA NEPA Management Requirements (NPR 8580.1A).

The specific criteria for evaluating the potential environmental impacts of the Proposed Action and the No Action alternative are described in the following sections. The significance of an action is also measured in terms of its context and intensity. The context and intensity of potential environmental impacts are described in terms of duration, whether they are direct or indirect, the magnitude of the impact, and whether they are adverse or beneficial, as further defined in the following paragraphs:

Short-term or long-term. Short-term impacts are those that would occur only with respect to a particular activity, for a finite period, or only during the time required for construction or installation activities. Long-term impacts are those that are more likely to be persistent and chronic.

Direct or indirect. A direct impact is caused by an action and occurs around the same time at or near the location of the action. An indirect impact is caused by an action and might occur later in time or be farther removed in distance but still be a reasonably foreseeable outcome of the action.

Negligible, minor, moderate, or significant. These terms are used to characterize the magnitude or intensity of an impact. Negligible impacts are those that might be perceptible but are at the lower level of detection. A minor impact is slight, but detectable. A moderate impact is readily apparent. Significant impacts are those that, in their context and due to their magnitude (severity), have the potential to meet the thresholds for significance set forth in CEQ regulations (40 CFR Part 1508.27) and thus warrant heightened attention and examination for potential means for mitigation to fulfill the policies set forth in NEPA. Significance criteria by resource area are presented in the following sections.

Adverse or beneficial. An adverse impact is one having unfavorable or undesirable outcomes on the man-made or natural environment. A beneficial impact is one having positive outcomes on the man-made or natural environment.

This EA examines the potential environmental effects of the Proposed Action and No Action alternatives: fish and wildlife; plants; floodplains; historical, architectural, archeological, and cultural resources; water quality; and wetlands.

In accordance with NASA regulations published in 14 CFR 1216.319, KSC maintains an Environmental Resources Document (ERD) that provides a detailed description of environmental resources and related permits. There is a complete description of all resource areas in the 2015 ERD for KSC (NASA 2015).

3.1 Fish and Wildlife

3.1.1 Affected Environment

The SLF developable land blocks contain diverse land cover that provides habitat for a variety of species. In addition, the project area is surrounded by a vast expanse of undeveloped managed land, as the KSC contains an overlay of the MINWR. Wetlands and surface waters within the project area are hydrologically connected to Banana Creek, to which the stormwater conveyance feature adjacent

to the SLF developable land blocks discharges. **Figure 3-1** depicts the location of the project area in relation to the MINWR and surrounding undeveloped lands.

The SLF primarily comprises undeveloped forested and herbaceous upland and wetland habitats, which are mapped by St. Johns River Water Management District (SJRWMD 2014) and characterized using Florida Land Use, Cover and Forms Classification System (FLUCFCS) designations (FDOT 1999). The locations of the mapped upland and wetland habitats in relationship to the SLF site are depicted on **Figure 3-2**.

Approximately 47 percent of the SLF developable boundary is mapped as herbaceous and forested upland habitats, including shrub and brushland, mixed rangeland, hardwood-coniferous mixed, and Australian pines. Approximately 48 percent of the SLF developable boundary is mapped as herbaceous and forested wetlands and other surface waters. The predominant habitat types include shrub and brushland (i.e., wax myrtle, saw palmetto, or scrub oak), hardwood-coniferous mixed, mixed wetland hardwoods, freshwater marshes, and treeless hydric savanna. **Table 3-1** presents the land cover types and quantities present at each of the developable land blocks. Fish and wildlife expected to inhabit the following land cover types within the SLF developable land blocks are discussed below.

Table 3-1 Land Cover within SLF Developable Land Blocks 2-6

FLUCFCS	Type	SLF Developable Land Blocks (acres)						
		2	3	4	4a	5	6	Total
175	Governmental	20.26	0.00	9.28	29.88	4.52	1.39	**65.32**
320	Shrub and Brushland	17.97	34.12	63.86	1.77	34.22	179.12	**331.06**
330	Mixed Rangeland	0.00	0.00	29.49	4.62	0.00	0.00	**34.11**
434	Hardwood - Coniferous Mixed	89.73	63.89	0.00	0.02	0.00	18.34	**171.98**
437	Australian Pines	2.33	0.00	0.00	0.00	0.00	0.00	**2.33**
510	Streams and Waterways	0.26	0.00	0.00	0.00	0.00	0.00	**0.26**
530	Reservoirs	0.00	0.00	0.00	0.00	0.00	1.35	**1.35**
612	Mangrove Swamps	0.00	0.00	0.00	0.00	0.49	0.00	**0.49**
617	Mixed Wetland Hardwoods	0.89	19.83	20.91	2.46	95.48	27.93	**167.50**
618	Willow and Elderberry	0.00	15.37	6.51	0.00	3.90	19.20	**44.98**
621	Cypress	3.26	1.66	0.00	0.00	0.00	0.00	**4.92**
630	Wetland Forested Mixed	13.39	0.78	0.00	0.00	0.00	4.16	**18.33**
641	Freshwater Marshes	0.31	0.00	3.44	0.00	126.18	46.64	**176.57**
643	Wet Prairies	0.00	0.00	18.69	0.00	0.00	0.74	**19.44**
646	Treeless Hydric Savanna	61.06	1.55	0.87	1.81	42.25	6.40	**113.94**
814	Roads and Highways	0.00	0.00	0.00	0.00	0.00	0.46	**0.46**
Total		**209.46**	**137.19**	**153.06**	**40.56**	**307.03**	**305.73**	**1,153.04**

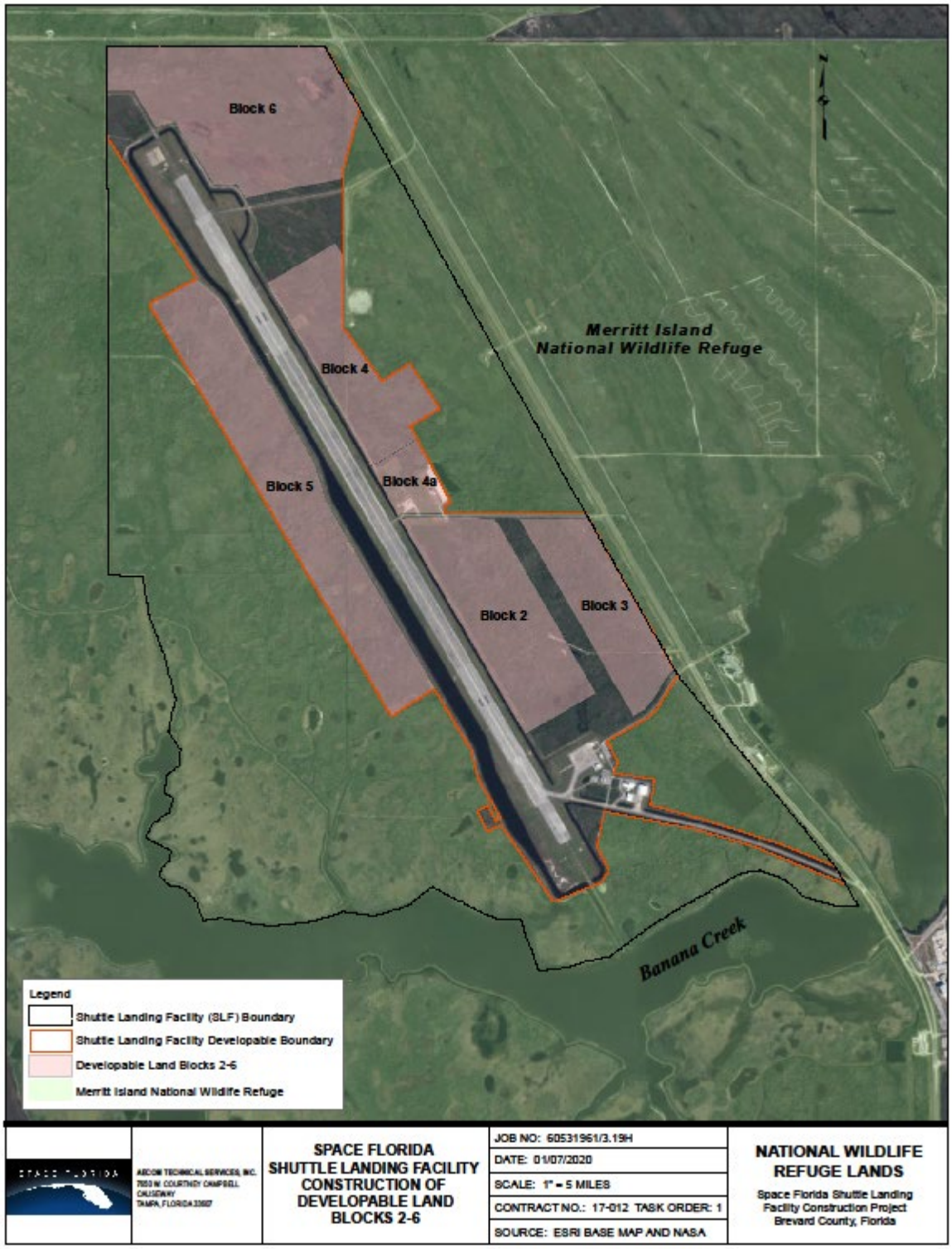

Figure 3-1. National Wildlife Refuge Lands

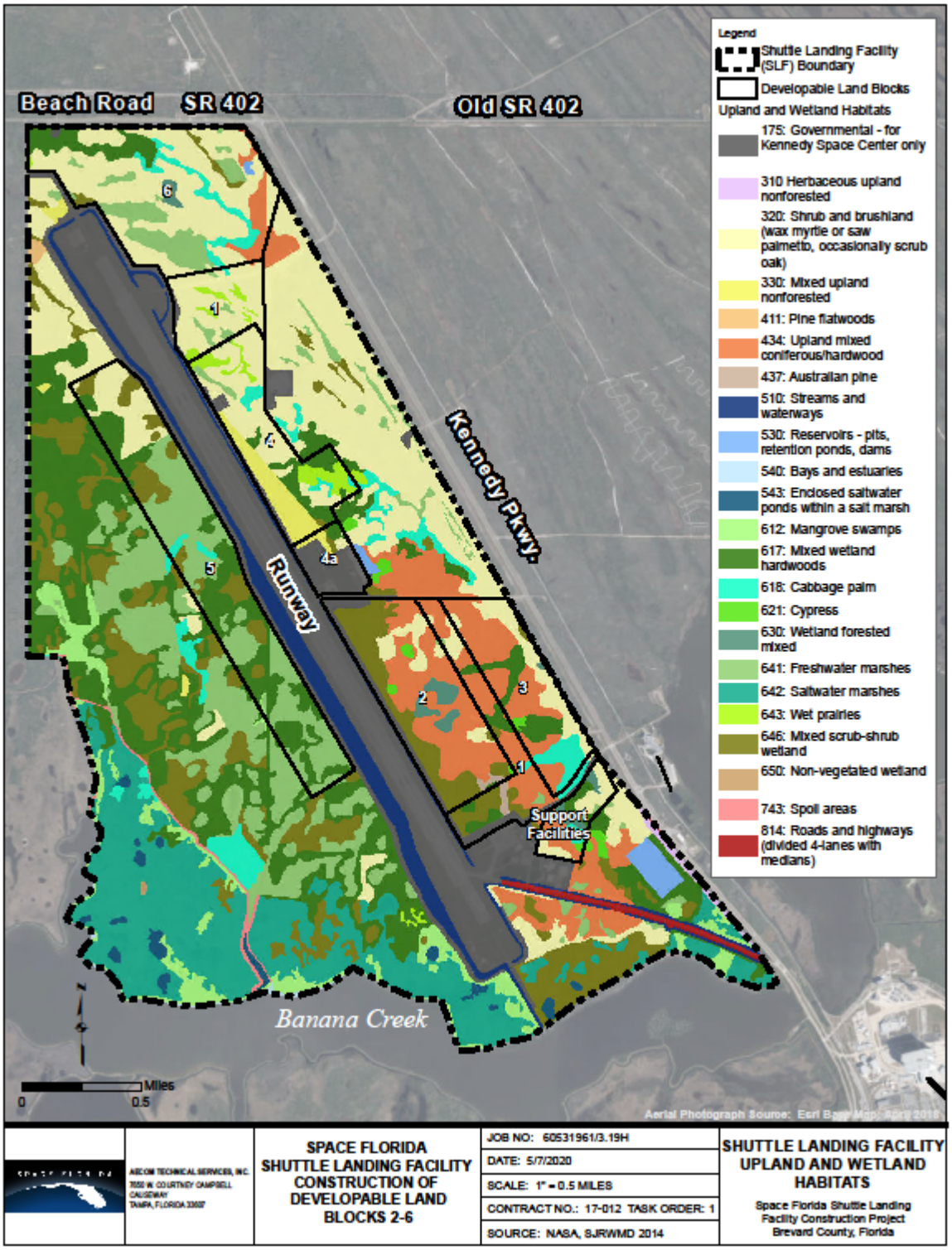

Figure 3-2. Shuttle Landing Facility Habitats

Fish

National Oceanic and Atmospheric Administration's (NOAA) National Marine Fisheries Service (NMFS) provides geographic data of essential fish habitat (EFH), habitat areas of particular concern (HAPC), and EFH areas protected from fishing (EFHA). EFH, under the Magnuson-Stevens Fishery Conservation and Management Act, is defined as: those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity. HAPCs are defined as subsets of EFH that exhibit one or more of the following traits: rare, stressed by development, provide important ecological functions for federally managed species, or are especially vulnerable to anthropogenic degradation (NOAA 2018a). EFHA includes areas where NMFS and the regional fishery management councils have used the EFH provisions established in the Magnuson-Stevens Fishery Conservation and Management Act to prevent, mitigate, or minimize adverse effects from fishing on EFH (NOAA 2020).

The SLF developable land blocks are not located within EFH, HAPC, or EFHA for any recorded species (NOAA 2018b).

Wildlife

USFWS's Information for Planning and Conservation System and Florida Natural Areas Inventory were used to generate a list of federally- and state-listed species potentially occurring in the SLF developable land blocks, which are presented in **Table 3-2.** Federally-listed species are discussed below.

Table 3-2 Listed Wildlife Species Potentially Occurring in the SLF Developable Land Blocks 2-6

Category	Species Common Name	Species Scientific Name	Federal Status	State Status	Agency Effect Determinations
Mammals	West Indian Manatee	*Trichechus manatus*	T	FT	No effect
Birds	American Kestrel	*Falco sparverius paulus*	NL	ST	No effect
	American Oystercatcher	*Haematopus palliates*	NL	ST	No effect
	Audubon's Crested Caracara	*Polyborus plancus audubonii*	T	FT	No effect
	Black Skimmer	*Rynchops niger*	NL	ST	No effect
	Florida Scrub-jay	*Aphelocoma coerulescens*	T	FT	No effect
	Least Tern	*Sternula antillarum*	NL	ST	No effect
	Little Blue Heron	*Egretta caerulea*	NL	ST	No effect
	Red Knot	*Calidris canutus rufa*	T	FT	No effect
	Reddish Egret	*Egretta rufescens*	NL	ST	No effect
	Roseate Spoonbill	*Platalea ajaja*	NL	ST	No effect
	Sandhill Crane	*Grus canadensis*	NL	ST	No effect
	Tricolored Heron	*Egretta tricolor*	NL	ST	No effect
	Wood Stork	*Mycteria americana*	T	FT	MANLAA*
Reptiles	Atlantic Salt Marsh Snake	*Nerodia clarkii taeniata*	T	FT	No effect
	Eastern Indigo Snake	*Drymarchon corais couperi*	T	FT	MANLAA
	Florida Pine Snake	*Pituophis melanoleucus mugitus*	NL	ST	No effect
	Gopher Tortoise	*Gopherus polyphemus*	C	ST	No effect

C = Candidate; FT = Federally-designated Threatened; NL = Not Listed; ST = State-designated Threatened; T= Threatened; MANLAA = May affect, not likely to adversely affect

Mammals

West Indian manatee (*Trichechus manatus*)

The West Indian manatee is found in marine, estuarine, and freshwater environments. They prefer large, slow-moving rivers, river mouths, and shallow coastal areas such as coves and bays (USFWS 2008b). Preferred habitats specifically include areas near the shore featuring underwater vegetation with access to deep water channels, where they can flee when threatened. In addition to submergent vegetation, the West Indian manatee will also feed on floating and emergent plants. West Indian manatees may travel hundreds of miles during a year's time; their range extends north to

Massachusetts on the Atlantic coast and west to Texas on the Gulf coast. They are more concentrated in peninsular Florida during the winter months and many rely on the warm water from natural springs and power plant outfalls (USFWS 2019b).

Birds

Florida scrub-jay (*Aphelocoma coerulescens*)

KSC supports one of the largest contiguous populations of Florida scrub-jays (USFWS 1999d). The Florida scrub-jay occurs within the scrub and scrubby flatwoods habitats of Florida. This type of habitat grows on ridges with excessively well-drained sandy soils. This habitat is dominated by a layer of evergreen oaks (myrtle oak [*Quercus myrtifolia*] and/or Archbold oak [*Q. inopina*], sand live oak [*Q. geminata*], Chapman oak [*Q. chapmanii*], and runner oak [*Q. minima*]), rusty lyonia (*Lyonia ferruginea*), and Florida rosemary (*Ceratiola ericoides*). This layer is less than two meters in height when maintained by fire. Ground cover is sparse, dominated by saw palmetto (*Serenoa repens*) and sand palmetto (*Sabal etonia*). Bare sand patches are essential for foraging and acorn-caching (USFWS 2018). Florida scrub-jay habitat is intensively managed on KSC property with the use of controlled burning and mechanical treatment. A memorandum of understanding (KCA-4205 Rev B) between the USFWS, NASA KSC, and CCAFS defines and maintains a cooperative and coordinated process for conducting prescribed burns.

Red knot (*Calidris canutus rufa*)

The red knot completes an annual migration from breeding grounds in the Canadian Arctic to wintering grounds throughout the southeastern U.S., the Gulf Coast, and South America. Habitats used by the red knot in migration and wintering areas are generally coastal marine and estuarine habitats with large areas of exposed intertidal sediments. The supra-tidal (above the high tide) sandy habitats of inlets provide important areas for roosting, especially at higher tides when intertidal habitats are inundated. In some localized areas, red knots will use artificial habitats that mimic natural conditions, such as nourished beaches, dredged spoil sites, elevated road causeways, or impoundments. In North America, red knots are commonly found along sandy, gravel, or cobble beaches, tidal mudflats, salt marshes, shallow coastal impoundments and lagoons, and peat banks. In Florida, red knots also use mangrove and brackish lagoons (USFWS 2015).

Wood stork (*Mycteria Americana*)

The wood stork is primarily associated with freshwater and estuarine habitats that are used for nesting, roosting, and foraging. Wood storks typically nest colonially in medium to tall trees that occur in stands located either in swamps or on islands surrounded by relatively broad expanses of open water. Successful breeding sites are those that have limited human disturbance and low exposure to land-based predators. Successful nesting also depends on the availability of suitable foraging habitat (USFWS 2008a). Wood storks feed in freshwater marshes, narrow tidal creeks, or flooded tidal pools (USFWS 2013d).

Reptiles

Atlantic salt marsh snake (*Nerodia clarkii taeniata*)

Atlantic salt marsh snakes are restricted to brackish, tidal marshes. They most often have been found in association with saltwort (*Salicornia* spp.) flats and salt grass (*Distichilis spicata*) bordered tidal creeks. Atlantic salt marsh snake's use of marsh habitats may be limited by water level, with extreme fluctuations making the marsh too hydric or xeric (USFWS 1999a).

Eastern indigo snake (*Drymarchon corais couperi*)

Radio telemetry studies conducted for eastern indigo snake in peninsular Florida indicated home range sizes ranging from 160 to 741 acres for males and 74 to 284 acres for females (Bolt 2006, as

cited in Hyslop 2007). A more recent study carried out in central and east central Florida indicated home ranges between 32 and 99 acres (Breininger et al. 2011). The eastern indigo snake frequents several habitat types, including pine flatwoods, scrubby flatwoods, high pine, dry prairie, tropical hardwood hammocks, edges of freshwater marshes, agricultural fields, coastal dunes, and human-altered habitats. Eastern indigo snakes need a mosaic of habitats to complete their annual cycle. Interspersion of tortoise-inhabited sandhills and wetlands improves habitat quality for this species (USFWS 1999c). Suitable habitat for the eastern indigo snake is located within the action area, and the eastern indigo snake has been documented within the vegetated habitats of the SLF and in the area immediately surrounding the SLF.

Gopher tortoise (*Gopherus Polyphemus*)

Gopher tortoises live in relatively well-drained, sandy soils generally associated with longleaf pine and dry oak sandhills. They also utilize scrub, dry hammock, pine flatwoods, dry prairie, coastal grasslands and dunes, mixed hardwood-pine communities, and a variety of habitats that have been disturbed or altered by man, such as power line rights-of-way, and along roadsides (USFWS 2019a).

State-Listed Species

In addition to the federally-listed species discussed above, there is one reptile and nine bird species that have the potential to occur in the action area that do not have a federal designation but are state-listed. These species are discussed below.

Reptiles

Florida pine snake (*Pituophis melanoleucus mugitus*)

The Florida pine snake occurs in habitats with relatively open canopies and dry sandy soils, in which it burrows. Habitat primarily includes sandhill and former sandhill, including old fields and pastures, but also sand pine scrub and scrubby flatwoods. Florida pine snakes often coexists with pocket gophers (*Geomys pinetis*) and gopher tortoises (FNAI 2018).

Birds

Nine state-listed bird species have the potential to occupy the SLF developable land blocks. Species whose nesting habitat could be affected by construction of the Proposed Action include the reddish egret (*Egretta* rufescens), little blue heron (*Egretta caerulea*), tricolored heron (*Egretta tricolor*), and sandhill crane (*Grus canadensis*). Species that may occur, but are not likely to nest within the SLF developable land blocks, include the roseate spoonbill (*Platalea ajaja*), American kestrel (*Falco sparverius Paulus*), American oystercatcher (*Haematopus palliates*), least tern (*Sternula antillarum*), and black skimmer (*Rynchops niger*).

Migratory Birds

There is the potential for migratory birds, including bald eagles (*Haliaeetus leucocephalus*), to occupy the SLF developable land blocks during a period of the year. Bald eagles are protected by the Bald and Golden Eagle Protection Act (16 U.S.C. §§ 668 et seq.). Bald eagles generally nest near coastlines, rivers, large lakes, or streams that support an adequate food supply. They often nest in mature or old-growth trees; snags (dead trees); cliffs; rock promontories; rarely on the ground; and with increasing frequency on humanmade structures such as power poles and communication towers. In forested areas, bald eagles often select the tallest trees with limbs strong enough to support a nest that can weigh more than 1,000 pounds (USFWS 2007).

Two bald eagle nests have been documented within one mile of the SLF developable land blocks: BE050 and BE070. BE050 is located approximately 2,957 feet from the SLF developable boundary, and BE070 is located approximately 475 feet from the SLF developable boundary. Both nests were

last known to be active in 2015. **Figure 3-3** depicts the locations of bald eagle nests in proximity to the SLF developable land blocks, as of 2017. Due to the highly mobile nature of the bald eagle, it is likely that additional nests have been constructed within or in proximity to the SLF developable land blocks.

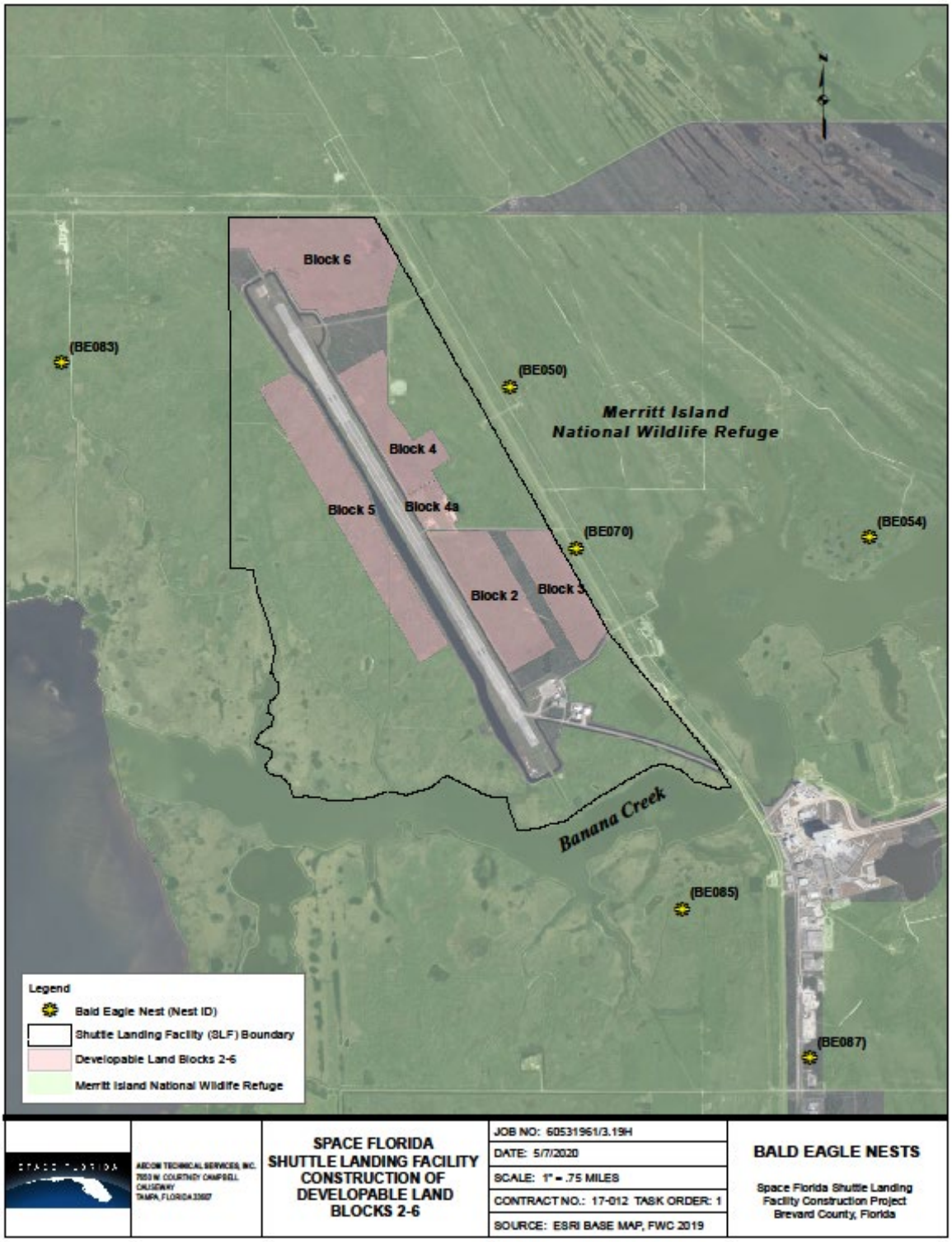

Figure 3-3. Bald Eagle Nest Locations

3.1.2 Environmental Consequences

In accordance with FAA Order 1050.1F, the threshold of significance for biological resources including fish, wildlife, and plants would be exceeded if the USFWS or NMFS determine the Proposed Action would be likely to jeopardize the continued existence of a federally- and state-listed threatened or endangered species, or would result in the destruction or adverse modification of federally designated critical habitat. Any impacts that "may affect" any listed species requires consultation under the Endangered Species Act (ESA) and the Marine Mammal Protection Act.

Proposed Action

A variety of upland and wetland habitats will be cleared and graded during the construction of the SLF developable land blocks. The loss of habitat could result in direct mortality to common wildlife; however, mortality is anticipated to be relatively minor, as the wildlife species inhabiting the SLF developable land blocks are highly mobile and are expected to relocate to adjacent habitat within MINWR that would remain undeveloped. Therefore, no significant effects to common wildlife populations are anticipated.

Table 3-3 presents the potential impacts of the Proposed Action on the upland and wetland habitats within the SLF developable land blocks. Potential impacts are estimated quantities associated with the development and construction of supporting infrastructure at the SLF. Effects of the potential impacts on federally-listed species potentially occurring in the SLF developable land blocks are considered less than significant and are discussed below.

Table 3-3 Existing Land Cover and Potential Impacts within SLF Developable Land Blocks 2-6

FLUCFCS	Type	Existing Land Cover (acres)	Potential Impacts (acres)
175	Governmental	65.32	2.58
320	Shrub and Brushland	331.06	93.22
330	Mixed Rangeland	34.11	0.19
434	Hardwood - Coniferous Mixed	171.98	83.69
437	Australian Pines	2.33	1.24
510	Streams and Waterways	0.26	0.00
530	Reservoirs	1.35	0.00
612	Mangrove Swamps	0.49	0.29
617	Mixed Wetland Hardwoods	167.50	52.92
618	Willow and Elderberry	44.98	23.62
621	Cypress	4.92	2.67
630	Wetland Forested Mixed	18.33	10.09
641	Freshwater Marshes	176.57	31.29
643	Wet Prairies	19.44	0.65
646	Treeless Hydric Savanna	113.94	38.29
814	Roads and Highways	0.46	0.08
	Total	**1,153.04**	**340.83**

Fish

The SLF developable land blocks are not located within EFH, HAPC, or EFHA for any recorded species (NOAA 2018B). Therefore, there is no expected adverse impact on fish from implementation of the Proposed Action.

Mammals

West Indian manatee

A stormwater conveyance feature runs adjacent to the action area and connects to Banana Creek, which is mapped as critical habitat for the West Indian manatee. However, the stormwater conveyance feature includes a water control structure that prevents the entrance of West Indian manatees from Banana Creek. Therefore, the West Indian manatee does not have the potential to occur within the action area. There is no expected adverse impact on West Indian manatees from implementation of the Proposed Action.

Birds

Florida scrub-jay

The 2013 Programmatic Biological Opinion for KSC Florida Scrub-Jay Compensation Plan evaluated the potential impacts to Florida scrub-jay habitat from proposed construction projects on KSC over the next 10 years, including the future development of the SLF. USFWS concluded that, although construction will result in a loss of scrub habitat occupied by Florida scrub-jays, the KSC Florida Scrub-Jay Compensation Plan will result in the conservation, restoration, and perpetual management of existing scrub habitat that will be occupied by the Florida scrub-jays. Therefore, the long-term viability of the Florida scrub-jay metapopulation and genetic unit will be enhanced. The USFWS's biological opinion was that the proposed construction projects were not likely to jeopardize the continued existence of the Florida scrub-jay. No critical habitat has been designated for this species; therefore, none would be affected (USFWS 2013a).

The predominant upland habitat type mapped for the SLF is shrub and brushland (i.e., wax myrtle, saw palmetto, or scrub oak), occupying approximately 19 percent of total area (SJRWMD 2014). The SLF developable area was defined in Agreement KCA-4412 (June 2015) by Space Florida and NASA KSC, in consultation with USFWS, to accommodate expansion of the SLF while minimizing impacts to Florida scrub-jay habitat. Scrub habitat impacts within the SLF development area will be compensated in accordance with the Scrub Jay Biological Opinion at a 4:1 ratio for core habitat and a 2:1 ratio for support habitat. The USFWS's biological opinion determined that proposed development within the designated development areas will not "jeopardize the continued existence" of the scrub jay. To "jeopardize the continued existence" means to engage in an action that reasonably would be expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species (50 CFR §402.02). Scrub-jay habitat compensation would reduce impacts from implementation of the Proposed Action to below the level of significance.

Operational actions are not included in this document. FAA 2018 included an assessment of prescribed burn activities conducted in accordance with KCA-4205.

Red knot

Wintering populations of red knots have been documented in the Indian River Lagoon, including the KSC and the MINWR (Smithsonian 2010). Red knots were found on tidal flats in the lagoon and in the swash zone of sandy beaches along the Atlantic Ocean. Populations were documented at Black Point Drive within MINWR and east of Launch Pad 39B at KSC (Niles et al. 2008). These observations were located within marshes containing substantial open water, approximately two miles and four miles away from the action area, respectively. The action area is located adjacent to developed land and does not contain large areas of open water and exposed intertidal sediments ideal for foraging. In addition, no critical habitat has been designated for this species. Therefore, there is no expected adverse impact on the red knot from implementation of the Proposed Action.

Wood stork

The action area is more than 17 miles from the nearest active wood stork colony and, therefore, outside of the associated 15-mile core foraging area (USFWS 2019c). However, the SLF contains suitable foraging habitat; wood storks have been observed foraging on-site in ditches and other drainage features. As such, it is anticipated that the Proposed Action would result in an ESA effect determination of may affect but is not likely to adversely affect the wood stork.

Reptiles

Atlantic salt marsh snake

The Atlantic salt marsh snake is restricted to the Atlantic Coast of Central Florida. Historically, it occurred in Volusia, Brevard, and Indian River counties but has recently been found only along a coastal strip in Volusia county. Surveys conducted at KSC CNS in 1979 and 1980 found that most of the salt marsh snakes in that area were most likely the mangrove salt marsh snake (*N. c. compressicauda*) or hybrids of the mangrove salt marsh snake and the Atlantic salt marsh snake (Smithsonian 2001). In addition, no critical habitat has been designated for the Atlantic salt marsh snake. Therefore, there is no expected adverse impact on the Atlantic salt marsh snake from implementation of the Proposed Action.

Eastern indigo snake

All potentially active gopher tortoise burrows inside of, or within 25 feet of, the action area will be excavated and gopher tortoises relocated prior to commencing construction activities in the vicinity of the burrows. In accordance with the USFWS' programmatic effect determination key for the eastern indigo snake and update addendum dated August 13, 2013, in the event an indigo snake is encountered, the contractor would be required to allow the snake to vacate the area prior to commencing work in the area. Holes, cavities, and other snake shelter, other than gopher tortoise burrows, would be inspected each morning before planned site manipulation of an area. If any such features are occupied by an indigo snake, no work would commence until the snake has vacated the work area (USFWS 2013c). In addition, the construction contractor would be required to perform all work in accordance with the USFWS' August 12, 2013, "Standard Protection Measures for the Eastern Indigo Snake" (USFWS 2013b).

The eastern indigo snake in peninsular Florida remains surface active year-round (Bauder 2016) and has a large home range. At commencement of construction activity, the eastern indigo snake would be expected to relocate to adjacent undisturbed habitat. Scrub habitat impacts within the SLF development area will be compensated in accordance with the Scrub Jay Biological Opinion. Although the compensation would support scrub jays, the proposed habitat management would also benefit eastern indigo snakes.

Based on the potential for Proposed Action to affect an eastern indigo snake, and because pre-construction surveys would occur and construction activities would comply with USFWS protection measures as stated above, it is anticipated that the Proposed Action would result in an ESA effect determination of may affect the eastern indigo snake.

Gopher tortoise

The gopher tortoise is under consideration for official listing. No critical habitat has been designated for this species. All potentially active gopher tortoise burrows inside of, or within 25 feet of, the action area will be excavated and gopher tortoises relocated out of harm's way prior to commencing construction activities in the vicinity of the burrows, in accordance with Florida Fish and Wildlife Conservation Commission (FFWCC) gopher tortoise permitting guidelines (FFWCC 2008). Gopher tortoise mitigation would reduce impacts from implementation of the Proposed Action to below the level of significance.

A formal consultation with the USFWS, concerning the proposed findings for species outlined above, will be conducted upon approval of this Draft EA. The USFWS effect determination for federally-listed wildlife will be included as **Appendix D**.

State-Listed Species

In addition to the federally-listed species discussed above, there is no expected impact on state-listed species from implementation of the Proposed Action.

Reptiles

Florida pine snake

The SLF developable land blocks will be surveyed by a certified biologist prior to the start of ground disturbing activities to identify the presence or absence of gopher tortoise burrows. If active burrows are identified, Space Florida would be responsible for relocation of the gopher tortoise, as well as other state-listed species, including the Florida pine snake, which often coexists with the gopher tortoise. Therefore, mitigation would reduce potential adverse impacts on the Florida pine snake from implementation of the Proposed Action to below the level of significance.

Birds

If any nests of the reddish egret, little blue heron, tricolored heron, or sandhill crane are observed prior to the start of ground disturbing activities, Space Florida would obtain the appropriate permits to relocate the species without harming them in accordance with the ESA and Migratory Bird Treaty Act. Construction of the Proposed Action would not affect nesting habitat for the roseate spoonbill, American kestrel, American oystercatcher, least tern, or black skimmer, but may affect foraging habitat. However, similar habitat located adjacent to the SLF developable land blocks can be utilized as foraging habitat. Therefore, there is no expected impact on state-listed birds from implementation of the Proposed Action.

Migratory Birds

Bald eagle

Prior to any construction activities occurring during the bald eagle nesting season, October 1st through May 15th, Space Florida would ensure that a bald eagle nest survey takes place. In an effort to avoid a take, construction activities would not occur within 660 feet of an active nest. If construction activities cannot be avoided within 660 feet of an active nest, Space Florida would coordinate with the USFWS and obtain an incidental take permit if needed. Therefore, negligible adverse impacts are anticipated on bald eagles from implementation of the Proposed Action.

No Action

Under the No Action alternative, the proposed development and construction of supporting infrastructure at the SLF would not be implemented and no changes would occur to existing upland and wetland habitats. Therefore, there would be no adverse impacts to fish and wildlife under the No Action alternative.

3.2 Plants

3.2.1 Affected Environment

The SLF developable boundary comprises herbaceous and forested upland habitats, including shrub and brushland, mixed rangeland, hardwood-coniferous mixed, and Australian pines, as well as herbaceous and forested wetlands, including mixed wetland hardwoods, freshwater marshes, and treeless hydric savanna. Land cover types and quantities present at each of the developable land blocks are discussed in section 3.1.1. Threatened and endangered plants potentially occurring within

the SLF developable land blocks are summarized in **Table 3-4**. Federally- and state-listed plant species potentially occurring within the SLF developable land blocks are discussed below.

Table 3-4 Listed Plant Species Potentially Occurring in the SLF Developable Land Blocks 2-6

Common Name	Scientific Name	Federal Status	State Status
Carter's Mustard	*Warea carteri*	E	E
Celestial Lily	*Nemastylis floridana*	NL	E
Coastal Mock Vervain	*Glandularia maritima*	NL	E
Curtiss' Sandgrass	*Sporobolus vaseyi*	NL	T
Drysand Pinweed	*Lechea divaricata*	NL	E
Florida Beargrass	*Nolina atopocarpa*	NL	T
Giant Orchid	*Orthochilus ecristatus*	NL	T
Hand Fern	*Ophioglossum palmatum*	NL	E
Large-flower False Rosemary	*Conradina grandiflora*	NL	T
Lewton's Polygala	*Polygala lewtonii*	E	E
Many-flowered Grass-pink	*Calopogon multiflorus*	NL	T
Nodding Pinweed	*Lechea cernua*	NL	T
Sand Butterfly Pea	*Centrosema arenicola*	NL	E
Sand-dune Spurge	*Euphorbia cumulicola*	NL	E
Tampa Mock Vervain	*Glandularia tampensis*	NL	E
Yellow Fringeless Orchid	*Platanthera integra*	NL	E

E = Endangered; NL = Not Listed; T= Threatened

Carter's mustard (*Warea carteri*)

Carter's mustard is a fire-dependent annual herb occurring in xeric, shrub-dominated habitats on the Lake Wales Ridge of central Florida. Carter's mustard is often found in the ecotone between scrubby flatwoods and turkey oak (*Q. laevis*), and hickory (*Carya floridana*) dominated sandhills. One occurrence of Carter's mustard is also known from coastal scrub in Brevard County (USFWS 1999b).

Lewton's polygala (*Polygala lewtonii*)

Lewton's polygala is a perennial herb that occurs primarily in Highlands, Polk, Osceola, Orange, Lake, and Marion counties, within the Lake Wales and Mount Dora ridges of central Florida. Suitable habitat includes oak scrub and high pine, as well as the transitional areas between these two community types (USFWS 1999e).

3.2.2 Environmental Consequences

Threshold of significance for biological resources including fish, wildlife, and plants is discussed in section 3.1.2.

Proposed Action

Expected impacts on federally-listed plant species from the Proposed Action are discussed below. There are minimal to no expected impacts to state-listed plant species due to the low probability of occurrence for the growth of these species.

Carter's mustard

Carter's mustard was documented in an area of coastal scrub in Brevard County in 1987, approximately 40 miles south-southeast of the SLF (University of Florida 2017). The likelihood of occurrence for the growth of this species within the SLF is very remote. No critical habitat has been designated for Carter's mustard. No known occurrences of this species have been found on KSC

(NASA 2012a). Therefore, there is no expected adverse impact on Carter's mustard from implementation of the Proposed Action.

Lewton's polygala

The likelihood of occurrence for the growth of this species within the SLF is very remote. No critical habitat has been designated for this species. In addition, no known occurrences of this species have been found on KSC (NASA 2012a). Therefore, there is no expected adverse impact on Lewton's polygala from implementation of the Proposed Action.

A formal consultation with the USFWS, concerning the proposed findings outlined above, will be conducted upon approval of this Draft EA. The USFWS effect determination for federally-listed plants will be included as **Appendix D**.

No Action

Under the No Action alternative, the proposed development and construction of supporting infrastructure at the SLF would not be implemented and no changes would occur to existing upland and wetland habitats. Therefore, there would be no impacts to federally- and/or state-listed plants under the No Action alternative.

3.3 Floodplains

3.3.1 Affected Environment

Executive Order (EO) 11988 (*Floodplain Management*) requires Federal agencies to avoid, to the extent possible, the long- and short-term adverse impacts associated with the occupancy and modification of floodplains, and to avoid direct and indirect support of floodplain development wherever there is a practicable alternative. The EO was issued in furtherance of NEPA, the National Flood Insurance Act of 1968, and the Flood Disaster Protection Act of 1973.

U.S. Department of Transportation (USDOT) Order 5650.2, "Floodplain Management and Protection," prescribes policies and procedures for ensuring that proper consideration is given to the avoidance and mitigation of adverse floodplain impacts in agency actions, planning programs, and budget requests.

According to Federal Emergency Management Agency (FEMA) maps (Flood Insurance Rate Maps 12009C0140G, 12009C0145G, 12009C0230G and 12009C0145G, effective March 17, 2014), the SLF site is partially located within the 100-year floodplain ("Zone AE"). Generally, the portions of the SLF located west and south of the runway are mapped as 100-year floodplain, and areas east and north of the runway are within the area of minimal flood hazard ("Zone X"). The locations of the FEMA-mapped floodplains in relationship to the SLF site are depicted on **Figure 3-4**.

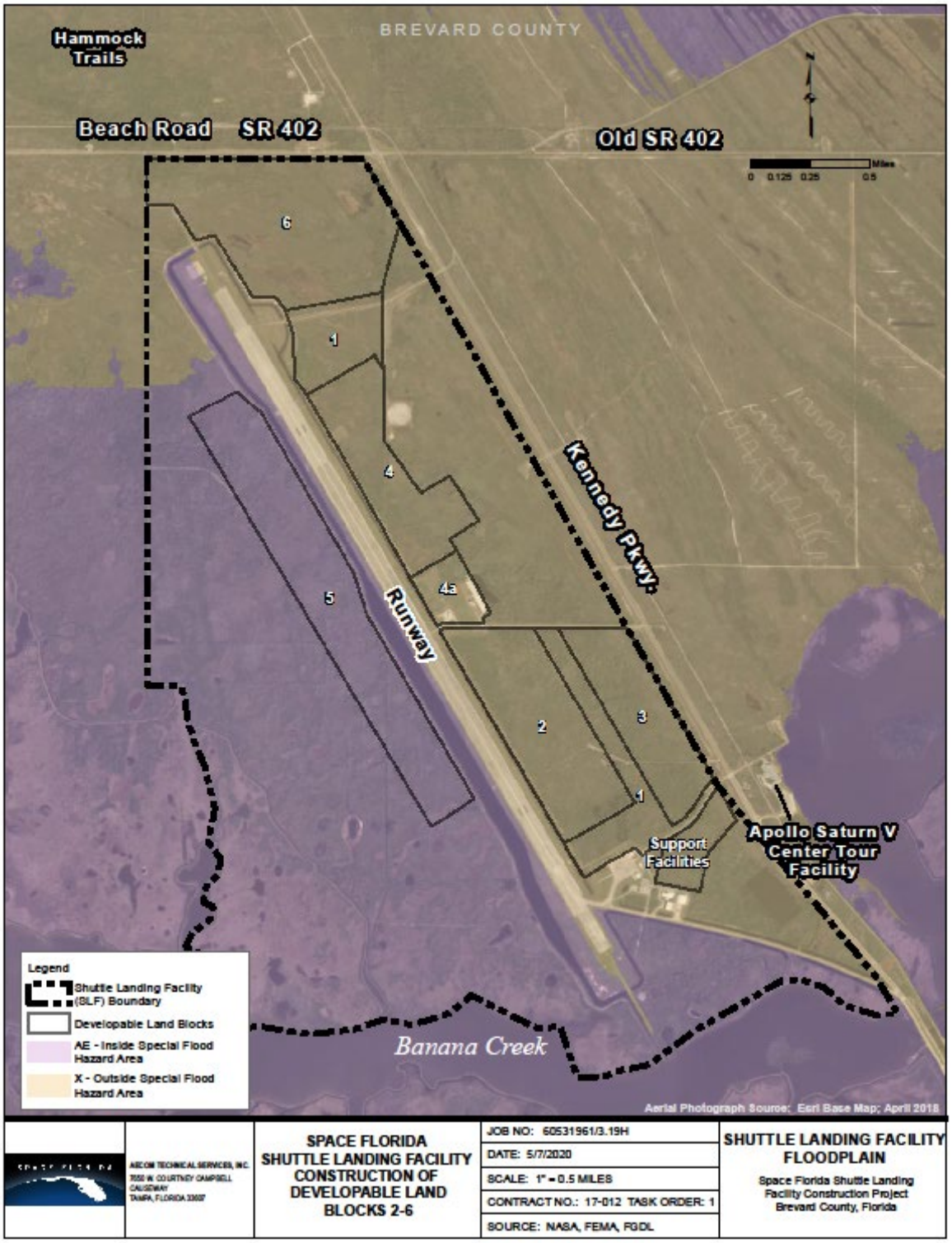

Figure 3-4. Shuttle Landing Facility Floodplain

3.3.2 Environmental Consequences

In accordance with FAA Order 1050.1F, the threshold of significance for floodplains would be exceeded if the alternative would result in notable adverse impacts on natural and beneficial floodplain values. Natural and beneficial floodplain values, as defined in Paragraph 4.k of Department of Transportation Order 5650.2, *Floodplain Management and Protection*, "include but are not limited to: natural moderation of floods, water quality maintenance, groundwater recharge, fish, wildlife, plants, open space, natural beauty, scientific study, outdoor recreation, agriculture, aquaculture, and forestry."

Proposed Action

Table 3-5 presents the potential encroachment of the Proposed Action on floodplain acreage. 100-year floodplain impacts are estimated quantities associated with the development and construction of supporting infrastructure at the SLF. Development and construction of supporting infrastructure at the SLF would not raise flood elevations or encroach on a floodway. The short- and long-term impacts of this alternative on human safety, health, and welfare would therefore be negligible. The presence of these improvements in the flood zone would have a less than significant impact on "the natural and beneficial values served by floodplains" (EO 11988, Floodplain Management) because the improvements proposed for these low-lying areas would not interfere with the floodplain's function.

All fill and development within floodplains would take place during a multi-year development schedule. Once the proposed SLF development is complete and in use, no further impacts to floodplains associated with the project would occur. The design of SLF facilities would incorporate drainage and stormwater management features appropriate to mitigate the flooding risk that results from adding impervious surfaces and locating facilities in the 100-year floodplain.

Final design would minimize potential increases to the floodplain elevations by retaining existing water surface elevations, where feasible, to avoid impacting the available flood storage and minimizing fill in sensitive areas. In addition, implementation of the Proposed Action would adhere to the applicable permits (see 3.5 Water Quality) and would not cause other effects to floodplains. Therefore, the Proposed Action would have long-term, minor, direct adverse impacts on the floodplains of the site.

Table 3-5 FEMA-mapped 100-year Floodplains within SLF and Potential for Encroachment

SLF Block	FEMA-mapped 100-year Floodplains (acres)	Potential Floodplain Encroachment (acres)
2	0.00	0.00
3	0.00	0.00
4	0.00	0.00
4a	0.00	0.00
5	306.92	56.34
6	0.00	0.00
Total	**306.92**	**56.34**

No Action

Under the No Action alternative, the proposed future development around the SLF Runway would not be implemented. Therefore, there would be no impacts to floodplains under the No Action alternative.

3.4 Historical, Architectural, Archeological, and Cultural Resources

3.4.1 Affected Environment

Cultural resources for the purposes of this EA include "historic properties" as defined under the National Historic Preservation Act of 1966 (NHPA), as amended, namely any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in the National Register

of Historic Places (NRHP). To be eligible for listing in the NRHP, a resource must meet specific criteria of significance and integrity, as defined in 36 CFR 60.

Section 106 of NHPA requires federal agencies to consider the effects of their proposed undertakings on historic properties within the undertaking's "area of potential effects" (APE) in coordination with the State Historic Preservation Office (SHPO) with jurisdiction on the undertaking's location, and other consulting parties, as applicable. The SHPO in Florida is the Florida Division of Historic Resources (FDHR). The APE is the geographic area or areas within which an undertaking may directly or indirectly cause changes in the character or use of historic properties or prehistoric sites, if any are present. For the undertaking considered in the EA, the APE consists of the SLF boundary as depicted on **Figure 1-3**.

The APE includes the SLF Historic District, a known historic resource that has previously been determined to be eligible for the NRHP. The SLF Historic District originally included the Shuttle Runway, the Landing Aids Control Building, and the Mate/Demate Device. The Mate/Demate Device was dismantled and removed following implementation of impaction mitigation measures pursuant to KCA-4185, Programmatic Agreement among the National Aeronautics and Space Administration John F. Kennedy Space Center, Advisory Council on Historic Preservation, and the Florida State Historic Preservation Officer Regarding Management of Historic Properties at the Kennedy Space Center, Florida (NASA 2009).

In 1973, Richard Smith of Florida Technological University conducted an archaeological survey in advance of construction of the proposed SLF. Five archaeological sites were identified within the boundaries of what is now the Space Florida SLF project area by the 1973 study. All of the five sites were evaluated as not NRHP eligible by the FDHR in 1992 (and two of them have already been destroyed by runway construction).

Between 1990 and 1996, Archaeological Consultants, Inc. (ACI) conducted a KSC-wide archaeological survey to establish zones of archaeological potential (ZAPs) for the occurrence of pre-contact Native American sites. Their recommendations to use the ZAP model to guide decisions on where to require archaeological surveys on future development projects were approved by the FDHR. In 2009, ACI prepared an update of the predictive model to also include historic period archaeological sites dating from circa 1700 to 1958, and the FDHR concurred with the recommendations of the 2009 historic sensitivity model report. Four of the historic ZAPs occur within the current project APE. It is currently unknown whether these ZAPs contain archaeological sites eligible for the NRHP. The ZAPs and known sites and historic resources are summarized in **Table 3-6**.

Table 3-6 Historic and Archaeological Resources Associated with the Space Florida SLF APE

SLF Block	Number	Name	Type	Status	Condition
1	ZAP 68	Unknown Structure	Historic	Undetermined	Unknown
2	8BR541	Hughes Place	Historic	Not Eligible	Unknown
3	8BR169	South Access Road	Prehistoric	Not Eligible	Unknown
3	8BR543	Griffith Place	Historic	Not Eligible	Unknown
6	ZAP 63	Unknown Structure	Historic	Undetermined	Unknown
6	ZAP 64	Wilson's Corner	Historic	Undetermined	Unknown
6	ZAP 67	Unknown Structure	Historic	Undetermined	Unknown
NA	8BR540	Daigle Place	Historic	Not Eligible	Destroyed by runway
NA	8BR544	Lopez Orchard	Historic	Not Eligible	Destroyed by runway

3.4.2 Environmental Consequences

FAA Order 1050.1F does not define a significance threshold for historical, architectural, archeological, and cultural resources; however, it does provide a factor to consider in evaluating the

context and intensity of potential environmental impacts. An alternative could have an adverse impact if it caused an unavoidable adverse effect on historic properties under Section 106. Adverse effects that can be adequately minimized or mitigated in compliance with Section 106 and in consultation with the SHPO and other applicable parties are generally considered less-than-significant impacts for the purposes of NEPA.

Proposed Action

No modifications to the SLF Historic District are proposed as part of this action, so the development would have no effect on the qualities that make it eligible for the NRHP.

The NASA REC #9442 (NASA 2014) notes that "The FL SHPO has concurred with the new construction development between Sharkey Road and Towway Road on November 14, 2012." The area between Sharkey Road and Towway Road encompasses development Blocks 2 and 3; therefore, no additional studies are proposed for these blocks. Blocks 4 and 5 do not contain any ZAPs or NRHP-eligible sites.

Block 6 contains ZAPs 63, 64, and 67. Systematic field surveys would be needed to identify and evaluate ZAPs 63, 64 and 67 to determine if they contain intact, significant archaeological deposits that might be NRHP eligible. The timing of these field studies would be linked to the overall multi-year development schedule, and they would be completed in advance of any construction activities so that the results could be shared with the FDHR, and any additional studies and mitigation measures that might be needed could be implemented.

In the event there is an unanticipated discovery of historical, architectural, archeological, and cultural resources within the area of ground disturbing activities, the selected construction contractor would cease all activities involving subsurface disturbance in the immediate vicinity of the discovery. Space Florida would contact the KSC Historic Preservation Officer immediately to determine the need for an archaeological survey or data recovery survey. Project activities would not resume without verbal and/or written authorization from the KSC Historic Preservation Officer. Additionally, in the unlikely event that unmarked human remains are encountered during construction activities, all work would stop immediately and the proper authorities would be notified in accordance with Section 872.05 of the Florida Statutes.

No Action

Under the No Action alternative, the proposed future development around the SLF Runway would not be implemented and no changes would occur to existing archaeological and architectural resources within the site. Therefore, there would be no adverse impacts to cultural and historic resources under the No Action alternative.

3.5 Water Quality

3.5.1 Affected Environment

Development that increases the imperviousness of watersheds generates more stormwater runoff, leading in turn to erosion of conveyance channels and to transport of sediment, other particulates, and dissolved nutrients to downstream surface waters. Erosion of conveyance channels can severely damage surface water systems and those features of the surface water that provide habitat for fish, amphibians, aquatic insects, and other invertebrates. An excess of sediment and particulates could also degrade water quality downstream. For example, the Indian River Lagoon and Banana River Lagoon have degraded primarily in response to excess nutrient pollution.

Section 303(d) of the Clean Water Act (CWA) and the USEPA's Water Quality Planning and Management Regulations (40 CFR Part 30) direct states to identify and list water bodies in which current controls of a specified pollutant are inadequate to achieve water quality standards.

Additionally, states are required to develop Total Maximum Daily Loads (TMDL) for water bodies that are not meeting water quality standards. TMDLs represent the total pollutant loading that a water body can receive without exceeding water quality standards. There are no water bodies within the SLF that are designated as impaired waters under Section 303(d) of the CWA.

The existing SLF stormwater management system (SWMS), St. John's River Water Management District (SJRWMD) Environmental Resource Permit (ERP) Number ERP-40-009-16630-3, consists of a linear wet detention system constructed along the perimeter of the runway and tow way that discharges to the Banana Creek, and ultimately drains to the Indian River, an Outstanding Florida Water. The system discharges through a concrete weir structure near the south end of the runway.

3.5.2 Environmental Consequences

In accordance with FAA Order 1050.1F, the threshold of significance for water quality would be exceeded if the alternative would result in a substantial degradation of water quality in violation of standards established by federal, state, local, and tribal regulatory agencies, or contaminate public drinking water supply or an aquifer used for public water supply such that the public health may be adversely affected.

Proposed Action

Development and construction of supporting infrastructure at the SLF has the potential to affect water quality through increased soil erosion and sedimentation into nearby water bodies during ground-disturbing activities. Those potential impacts would be minimized through compliance with the terms of existing permit, ERP-40-009-16630-3.

Prepared construction plans would specify measures that would be put in place to avoid or minimize erosion and sedimentation. Such measures may include, but are not limited to, silt fencing, use of synthetic hay bales, temporary sediment traps, and other similar measures during construction. Additionally, routine inspections would be conducted throughout construction to ensure compliance. Final design would incorporate permitted SWMS. Therefore, development and construction of the proposed supporting infrastructure at the SLF is not anticipated to result in significant short-term, adverse impacts on water quality from increased erosion and sedimentation.

In the long term, development and construction of supporting infrastructure at the SLF could result in impacts to water quality from increased contaminated or polluted stormwater discharge. The Proposed Action would increase the amount of impervious surface on the site by 337 acres, which could result in a corresponding increase in the volume of stormwater runoff. The existing SWMS would be modified, as necessary, to accommodate and treat increased runoff caused by any new impervious area. Compliance with applicable permitting requirements would ensure that the Proposed Action results in no significant adverse impacts on water quality.

The SWMS would help mitigate many of the impacts associated with impervious surfaces. However, extreme rainfall events (such as those associated with tropical systems) would likely exceed the design capacity of the SWMS and, as a result, some untreated runoff would be transported off-site. Therefore, the Proposed Action would have long-term, minor, direct adverse impacts on the water quality of the site.

No Action

Under the No Action alternative, the proposed development and construction of supporting infrastructure at the SLF would not be implemented and no changes would occur to existing water

quality within the site. Therefore, there would be no impacts to water quality under the No Action alternative.

3.6 Wetlands

3.6.1 Affected Environment

EO 11990 (*Protection of* Wetlands) requires Federal agencies to avoid direct or indirect impacts in wetlands wherever there is a practicable alternative.

USDOT Order 5650.1A, "Preservation of the Nation's Wetlands," requires that projects should be planned, constructed, and operated to assure the protection, preservation, and enhancement of the nation's wetlands to the fullest extent practicable, and establishes procedures for implementation of the policy.

The project area comprises wetland and other surface water habitats, which are mapped by SJRWMD (2014) and characterized using FLUCFCS designations (FDOT 1999). Approximately 48 percent of the SLF developable boundary is mapped as wetlands and other surface waters. The predominant wetland types include mixed wetland hardwoods, freshwater marshes, and treeless hydric savanna. **Table 3-7** presents the habitat types and quantities present at each of the developable land blocks. The locations of the mapped wetland and other surface water habitats in relationship to the SLF site are depicted on **Figure 3-5**.

Table 3-7 Wetlands and Other Surface Waters within SLF Developable Land Blocks 2-6

FLUCFCS	Type	SLF Block (acres)					
		2	3	4	4a	5	6
510	Streams and Waterways	0.26	0.00	0.00	0.00	0.00	0.00
530	Reservoirs	0.00	0.00	0.00	0.00	0.00	1.35
612	Mangrove Swamps	0.00	0.00	0.00	0.00	0.49	0.00
617	Mixed Wetland Hardwoods	0.89	19.83	20.91	2.46	95.48	27.93
618	Willow and Elderberry	0.00	15.37	6.51	0.00	3.90	19.20
621	Cypress	3.26	1.66	0.00	0.00	0.00	0.00
630	Wetland Forested Mixed	13.39	0.78	0.00	0.00	0.00	4.16
641	Freshwater Marshes	0.31	0.00	3.44	0.00	126.18	46.64
643	Wet Prairies	0.00	0.00	18.69	0.00	0.00	0.74
646	Treeless Hydric Savanna	61.06	1.55	0.87	1.81	42.25	6.40
Total		**79.17**	**39.19**	**50.42**	**4.27**	**268.30**	**106.42**

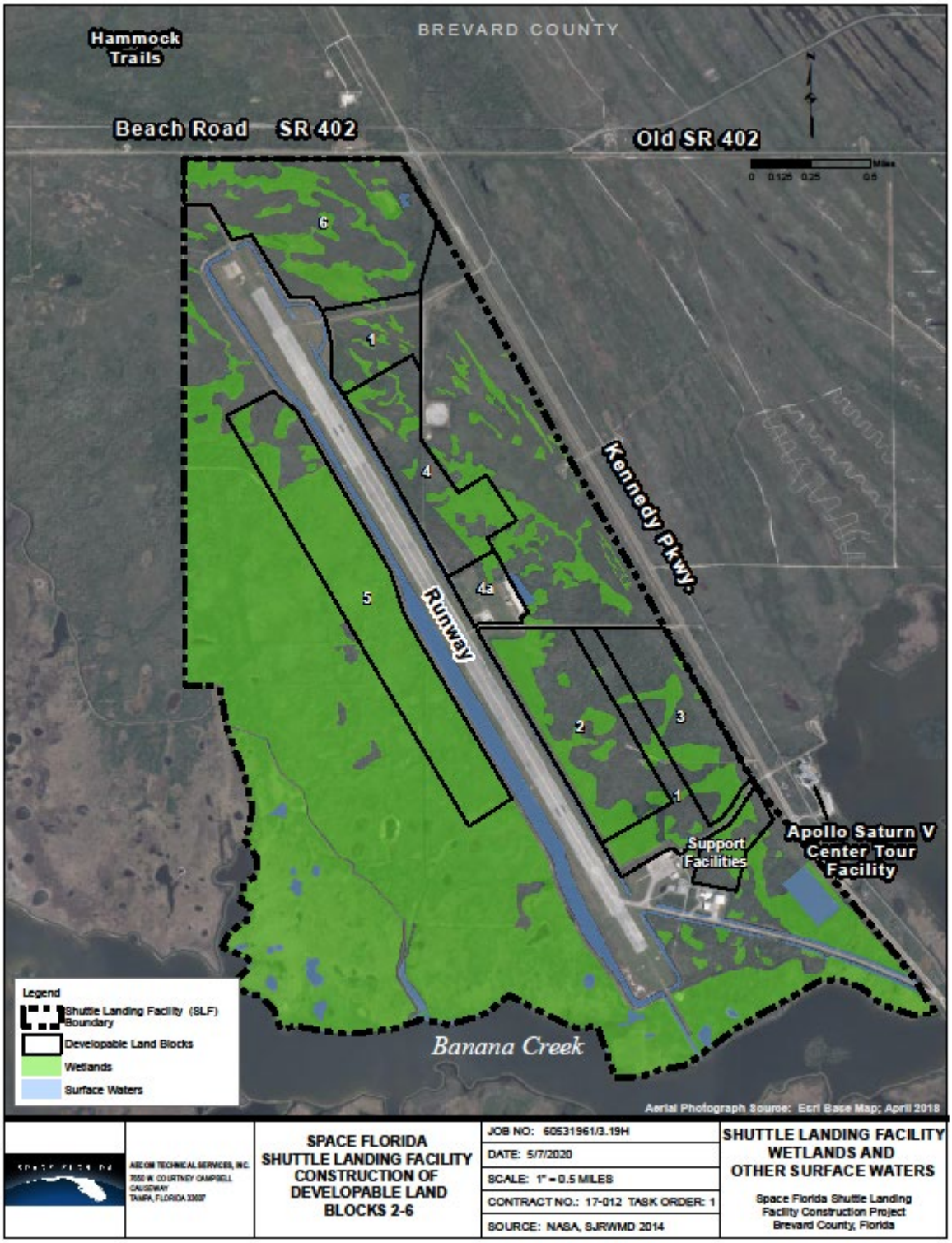

Figure 3-5. Shuttle Landing Facility Wetlands and Other Surface Waters

3.6.2 Environmental Consequences

The threshold of significance for wetlands would be exceeded if the alternative would result in substantial degradation of wetlands without mitigation. FAA Order 1050.1F, Exhibit 4-1, defines the FAA's significance threshold for wetlands as follows.

> The action would:
>
> 1. Adversely affect a wetland's function to protect the quality or quantity of municipal water supplies, including surface waters and sole source and other aquifers;
> 2. Substantially alter the hydrology needed to sustain the affected wetland system's values and functions or those of a wetland to which it is connected;
> 3. Substantially reduce the affected wetland's ability to retain floodwaters or storm runoff, thereby threatening public health, safety or welfare (the term welfare includes cultural, recreational, and scientific resources or property important to the public);
> 4. Adversely affect the maintenance of natural systems supporting wildlife and fish habitat or economically important timber, food, or fiber resources of the affected or surrounding wetlands;
> 5. Promote development of secondary activities or services that would cause the circumstances listed above to occur; or
> 6. Be inconsistent with applicable state wetland strategies.

Proposed Action

Table 3-8 presents the potential dredge and fill activities of the Proposed Action on wetland and other surface waters acreage. Wetland and other surface water impacts are estimated quantities associated with the development and construction of supporting infrastructure at the SLF.

Construction in jurisdictional wetlands and other surface waters is regulated by the U.S. Army Corps of Engineers (USACE) pursuant to Section 404 of the CWA as implemented in regulations contained in 33 CFR, Parts 320–330. Impacts to state waters, including wetlands, are regulated by the Florida Department of Environmental Protection (FDEP) and the Water Management Districts (Section 19 of Title 28 of the Florida Statutes, Chapter 373). The SJRWMD would be the state regulatory agency for the Proposed Action.

As required by the USACE, alternatives to impacting wetlands and surface waters would be considered during final design. Where project impacts are unavoidable, development and construction of supporting infrastructure at the SLF has the potential for significant adverse impacts to wetlands and other surface waters from placement of permanent fill or structures. Those potential impacts would require mitigation to compensate for unavoidable wetland loss. This could include purchase of credits from a wetland mitigation bank or wetland restoration or preservation. Compensatory wetland mitigation would reduce impacts to below the level of significance.

All construction within wetlands and other surface waters would take place during a multi-year development schedule. Once the proposed SLF development is complete and in use, no further impacts to wetlands associated with the project would occur.

The Proposed Action could potentially result in indirect impacts to the wetlands on, or in the vicinity of, the site because of increased erosion during construction activities. However, the measures that would be implemented as part of the prepared construction plans would avoid or minimize adverse impacts on surface waters. and would also avoid or minimize adverse impacts on wetlands. Similarly, compliance with permit requirements would minimize the risk of indirect impacts to wetlands from

runoff. Therefore, development and construction of the proposed supporting infrastructure at the SLF is not anticipated to result in significant short-term indirect adverse impacts on wetlands.

Although the project may have unavoidable adverse wetland impacts, compliance with applicable permitting requirements, including compensatory mitigation, would reduce adverse impacts. Therefore, the Proposed Action would have long-term, moderate, direct adverse impacts on wetland resources at the site.

Table 3-8 Wetlands within SLF Developable Land Blocks 2-6 and Potential Impacts

SLF Block	SJRWMD-mapped Wetlands (acres)	Potential Wetland Impacts (acres)
2	79.17	34.26
3	39.19	29.12
4	50.42	4.38
4a	4.28	1.82
5	268.30	54.24
6	106.43	36.10
Total	**547.78**	**382.62**

No Action

Under the No Action alternative, the proposed development and construction of supporting infrastructure at the SLF would not be implemented and no changes would occur to existing wetlands and other surface waters within the site. Therefore, there would be no impacts to wetland resources under the No Action alternative.

3.7 Impacts and Resources Not Analyzed in Detail

This EA does not analyze potential impacts to the following environmental resource areas in detail, for the reasons explained below.

3.7.1 Air Quality

Chapter 3.6.1 of the KSC CMP PEIS (NASA 2016) and Section 3.1 of the ERD (NASA 2015) describe in detail the regulatory context and regional air quality resources for KSC, as well as provide a discussion of types and quantities of air pollutants emitted from NASA's activities on KSC. Prior determinations of no significant impact, as documented for similar Proposed Actions (FAA 2018; NASA 2007, 2012a) are directly applicable to this EA.

Refuse collected as a result of land clearing may be either hauled away or may be burned in accordance with KSC policies and state rules or laws. The contractor must follow all the appropriate guidelines and have an approved burn permit prior to burning the refuse. Development and construction activities include the operation of heavy machinery and an increase in vehicles accessing the SLF. These activities would emit some criteria pollutants and cause temporary, minor effects to air quality. Construction emissions would not be substantial or permanent and the construction contractor could implement construction best management practices to further reduce criteria pollutant emissions to the lowest practicable level possible.

3.7.2 Coastal Resources

Detailed discussions of coastal resources at KSC are provided in the KSC CMP PEIS and ERD (NASA 2015, 2016). Prior determinations of no impacts, as documented for similar Proposed Actions (FAA 2018; NASA 2007, 2012a) are directly applicable to this EA. The project would not adversely affect coastal resources, create plans to direct future agency actions, propose rulemaking that alters uses of the coastal zone that are inconsistent with the Florida Coastal Management Program, or involve Outer Continental Shelf leases. As part of the Coastal Zone Management Act determination process, this EA will be sent to the Florida State Clearinghouse during the public review period.

3.7.3 Compatible Land Use

Chapter 3.11.1 of the KSC CMP PEIS (NASA 2016) and Section 5.4 of the ERD (NASA 2015) describe in detail the regulatory context and land use resources for KSC. Prior determinations of no impacts, as documented for similar Proposed Actions (FAA 2018; NASA 2007, 2012a), are directly applicable to this EA. The project would not result in a change in land use designations or result in a land use that is inconsistent or incompatible with the developable area discussed in the KCA-4412 Property Agreement (NASA and SF 2015). Therefore, the Proposed Action would not have an impact on land use. The land associated with the development of the SLF would be removed from the land management of the USFWS in accordance with the KCA-1649 Interagency Agreement (NASA and USFWS 2012).

3.7.4 Department of Transportation Act Section 4(f)

Prior determination of no impacts, as documented for similar Proposed Action (FAA 2018), is directly applicable to this EA. Project implementation would occur entirely within the SLF property boundary and would not impact Section 4(f) properties.

3.7.5 Farmlands

Prior determination of no impacts, as documented for similar Proposed Action (FAA 2018), is directly applicable to this EA. The SLF property is exempt from the Farmland Protection Policy Act.

3.7.6 Hazardous Materials, Pollution Prevention, and Solid Waste

Chapter 3.5.1 of the KSC CMP PEIS (NASA 2016) and Sections 8.1 through 8.4 of the ERD (NASA 2015) describe in detail the regulatory context and hazardous and solid materials and waste resources for KSC. Prior determinations of no significant impacts, as documented for similar Proposed Actions (FAA 2018; NASA 2007, 2012a), are directly applicable to this EA. KSC has an FDEP operating permit for the storage, treatment, and disposal of hazardous waste. These programs and permitting activities will continue independent of NEPA reviews and compliance and are further described in Kennedy NASA Procedural Requirement 8500.1 - KSC Environmental Requirements (2017). Development and construction of supporting infrastructure at the SLF would not occur in areas known or suspected to have contamination and would not affect the status or remediation of any contaminated sites.

3.7.7 Light Emissions and Visual Impacts

The existing conditions at KSC are characterized as having low visual sensitivity because the site is currently an industrialized area that supports rocket launches. Prior determinations of no significant impacts, as documented for similar Proposed Actions (FAA 2018; NASA 2007, 2012a), are directly applicable to this EA. Construction activities would likely occur during daytime hours; therefore, nighttime glare from construction activities is not likely. Any work conducted after daytime hours would comply with the KSC Lighting Operations Plan (KSC-PLN-1210 Rev. A, NASA 2018) and requirements of the USFWS Biological Opinion for KSC impacts to threatened and endangered species (USFWS Log No. 04EF1000-2016-F-0083, USFWS 2017). Due in part to these policies, potential light emissions associated with the Proposed Action would not cause significant effects. Visually, the proposed infrastructure is anticipated to be similar to infrastructure and buildings at the SLF. Therefore, the Proposed Action would not cause a visual effect.

3.7.8 Natural Resources and Energy Supply

Prior determination of no significant impacts, as documented for similar Proposed Action (FAA 2018), is directly applicable to this EA. Implementation of the Proposed Action would not cause significant effects to natural resources or energy supplies.

3.7.9 Noise

Prior determinations of no significant impacts, as documented for similar Proposed Actions (FAA 2018; NASA 2007, 2012a), are directly applicable to this EA. Temporary noise effects from construction vehicles and machinery would be limited to the immediate vicinity of the SLF. The closest residential area is approximately 5 miles west of the SLF; therefore, construction noise would not significantly affect noise sensitive land uses.

Operational actions are not included in this document. FAA 2018 included noise analysis for launch and landing activities.

3.7.10 Socioeconomic Impacts, Environmental Justice, and Children's Environmental Health and Safety Risks

Prior determinations of no significant impacts, as documented for similar Proposed Actions (FAA 2018; NASA 2007, 2012a), are directly applicable to this EA. Development and construction of supporting infrastructure at the SLF are expected to have limited impacts on population, employment, and housing in the area. The closest school, KSC Child Development Center, is located approximately 5 miles southeast of the SLF.

3.7.11 Wild and Scenic Rivers

Prior determinations of no impacts, as documented for similar Proposed Actions (FAA 2018; NASA 2007, 2012a), are directly applicable to this EA. There are no wild and scenic rivers, as designated by the Wild and Scenic Rivers Act, located within or near KSC.

4.0 CUMULATIVE IMPACTS

As defined by CEQ Regulations in 40 CFR 1508.7, a cumulative impact is that which "results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions." NEPA requires the lead federal agency to consider the cumulative environmental effect of a proposed action. Cumulative impacts can result from individually minor but collectively significant actions expected to occur in a similar location and during a similar time period.

The CEQ advises that an agency should relate the scope of its analysis to the magnitude of the environmental impacts of the proposed action. Therefore, the analysis of cumulative effects involves defining the scope of other actions and their interrelationship with the proposed action. As cumulative effects may be accrued over time and/or in conjunction with other pre-existing conditions from other activities in the geographic scope, pre-existing impacts should also be considered.

The study area, or region of influence (ROI), for this cumulative analysis is the KSC boundary. The temporal scope of the cumulative analysis spans the duration of the KCA-4412 terms of agreement, June 2015 through June 2045. Past actions include those that have occurred within the last four years (2015-2019) and reasonably foreseeable actions include those planned to occur within the next 25 years (2021-2045).

The significance of cumulative impacts was determined in the same manner as the significance of direct and indirect impacts, applying FAA Order 1050.1F, Exhibit 4-1.

4.1 Past Actions

Past actions include those completed within the ROI. Past actions within the spatial and temporal scope of the cumulative analysis include:

- Expanded Use of the Shuttle Landing Facility (NASA 2007)
- Multi-User Launch Pad 39A and 39B (NASA 2013)
- KSC Visitors Center Access Road (NASA 2018)
- KSC Visitors Center Gateway to Space Exhibit (NASA 2018)
- FPL Solar Facility at KSC (NASA 2018)

4.2 Present Actions

Present actions within the spatial and temporal scope of the cumulative analysis include:

- Shuttle Landing Facility Launch Site Operator License (FAA 2018), which includes USAF re-entry such as X-37B and current cargo and spacecraft delivery
- SpaceX Operations Area on KSC (NASA 2018)

4.3 Reasonably Foreseeable Future Actions

Reasonably foreseeable future actions within the spatial and temporal scope of the cumulative analysis include:

- Space Florida Cape Canaveral Spaceport Master Plan (Space Florida 2017)
- Center Master Plan at the Kennedy Space Center, Florida (NASA 2016), which includes commercial launch and re-entry
- KSC Launch Complex 48 (NASA 2019)
- Visitor Complex New Parking Area (NASA 2019)
- SpaceX Starship and Super Heavy Launch Vehicle at KSC (NASA 2019)
- Proposed Community Conservation Education Center for Merritt Island National Wildlife Refuge (USFWS 2019)
- SpaceX Falcon Launches at Kennedy Space Center (FAA 2020)

4.4 Environmental Consequences

Cumulative effects are only considered for those resources that the Proposed Action would affect because the Proposed Action could only contribute to potentially significant cumulative effects in these resources. Each past, present, and reasonably foreseeable future action that Sections 4.1, 4.2, and 4.3 describe, respectively, was analyzed for its potential to affect the same environmental resources affected by the Proposed Action.

Implementation of the Proposed Action would cause less than significant adverse environmental effects related to air quality; coastal resources; compatible land use; Department of Transportation Act Section 4(f); farmlands; hazardous materials, pollution prevention, and solid waste; light emissions and visual impacts; natural resources and energy supply; noise; socioeconomics, environmental justice, and children's environmental health and safety risks; and wild and scenic rivers. When the Proposed Action is cumulatively examined with past, present, and reasonably foreseeable projects at KSC, significant adverse cumulative effects are not anticipated. The following paragraphs describe the potential cumulative effects to those resources.

4.4.1 Fish & Wildlife

Potential collective adverse impacts of past, present, and reasonably foreseeable future projects on fish and wildlife resources in the ROI would occur from development and construction activities, such as clearing, grading and excavation, and habitat conversion. The Developable Areas associated with the Proposed Action would be removed from USFWS management for prescribed fire. All past, present, and reasonably foreseeable future actions that could potentially impact federally-listed fish and wildlife require consultation with the USFWS and compliance with applicable permitting requirements. According to the USFWS' Programmatic Biological Opinion for Kennedy Space Center Florida Scrub-Jay Compensation Plan (USFWS 2013), there are no known actions that are reasonably certain to occur in the ROI that would result in cumulative effects to federally-listed species. There are pre-existing operations on KSC that interfere with fire management abilities and the involved agencies have formed a partnership to reduce these threats. As such, the Programmatic Biological Opinion indicates the cumulative effects associated with these projects should be insignificant and discountable. Mitigation actions discussed in the Programmatic Biological Opinion would be implemented to minimize the effect on threatened and endangered species due to development and construction of supporting infrastructure at the SLF. Therefore, the Proposed Action when considered in conjunction with other projects is not anticipated to result in significant cumulative impacts on fish and wildlife resources.

4.4.2 Plants

Potential collective adverse impacts of past, present, and reasonably foreseeable future projects on plant resources in the ROI would occur from clearing of natural vegetation and the conversion of pervious surfaces to impervious surfaces for construction. All past, present, and reasonably foreseeable future actions that could potentially impact federally-listed plants require consultation with the USFWS and compliance with applicable permitting requirements. For these reasons, the Proposed Action when considered in conjunction with other projects is not anticipated to result in significant cumulative impacts on plant resources.

4.4.3 Floodplains

Potential collective adverse impacts of past, present, and reasonably foreseeable future projects on floodplain resources in the ROI would occur primarily through loss of floodplain function and values due to fill and development in the 100-year floodplain. Although the 100-year floodplain is generally avoided, if construction is justified then specifications would adhere to floodplain standards and requirements. All past, present, and reasonably foreseeable future actions that impact 100-year

floodplains require compliance with applicable permitting requirements, which typically include compensatory storage. For these reasons, the Proposed Action when considered in conjunction with other projects is not anticipated to result in significant cumulative impacts on floodplain resources.

4.4.4 Historical, Architectural, Archeological, and Cultural Resources

Potential collective adverse impacts of past, present, and reasonably foreseeable future projects on historical, architectural, archeological, and cultural resources could occur from new construction and excavation. However, systematic field surveys would be completed in advance of any construction activities so that the results could be shared with the FDHR, and any additional studies and mitigation measures that might be needed could be implemented. Any proposed modification or demolition activities to NRHP-listed facilities would require consultation with the SHPO, in accordance with federal and state requirements. The SHPO would then be able to determine impact on any future potential activity and could halt the activity or mitigate potential impacts. As such, the Proposed Action when considered in conjunction with other projects is not anticipated to result in significant cumulative impacts on historical, architectural, archeological, and cultural resources.

4.4.5 Water Quality

Potential collective adverse impacts of past, present, and reasonably foreseeable future projects on water quality resources in the ROI would occur primarily through stormwater runoff. The local, state, and federal governments regulate construction activities and their potential water quality effects in the form of permits that are required prior to the start of ground disturbing activities (e.g., National Pollutant Discharge Elimination System permit program). These permits include mitigation measures to reduce potential stormwater erosion during construction of the project. Water quality impacts of the Proposed Action would be minimized by the design, operation, and maintenance of a SWMS that would meet or exceed all regulatory requirements. For these reasons, the Proposed Action when considered in conjunction with other projects is not anticipated to result in significant cumulative impacts on water quality resources.

4.4.6 Wetlands

Potential collective adverse impacts of past, present, and reasonably foreseeable future projects on wetland resources in the ROI would occur from dredge and fill activities in, on, or over wetlands and other surface waters. Each project includes approval from various regulatory agencies, including the SJRWMD and USACE, both of which regulate wetlands in the area and require wetland mitigation when necessary through the Environmental Resource Permitting program or Section 404 permit, respectively. All past, present, and reasonably foreseeable future actions that impact jurisdictional wetlands typically include some form of compensatory mitigation. Potential wetland impacts from the Proposed Action would be minimized through compliance with applicable permitting requirements, including wetland mitigation. For these reasons, the Proposed Action when considered in conjunction with other projects is not anticipated to result in significant cumulative impacts on wetland resources.

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6.0 LIST OF PREPARERS

The following persons prepared the EA and provided insight into specific resource areas.

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NAME	TITLE	AREA OF CONTRIBUTION
AECOM		
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James Brooks	Biological Scientist, Environmental Planning	Reviewer
Jeanne Ryba	Archaeologist, Environmental Planning	Reviewer
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Space Florida		
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APPENDICES

APPENDIX A

KCA-4412

Property Agreement Between the National Aeronautics and Space Administration, John F. Kennedy Space Center and Space Florida

for

the Transfer of Operations and Management of the Shuttle Landing Facility

KCA-4412
Rev. Basic

PROPERTY AGREEMENT

BETWEEN

THE NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

JOHN F. KENNEDY SPACE CENTER

AND

SPACE FLORIDA

FOR

THE TRANSFER OF OPERATIONS AND MANAGEMENT

OF THE

SHUTTLE LANDING FACILITY

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I. AUTHORITY AND PARTIES

In accordance with the National Aeronautics and Space Administration Act, 51 U.S.C. § 20113(e) and (f), and Chapter 331, Part II, Florida Statutes, this Federal-State Partnership Agreement (hereinafter referred to as "Agreement") is entered into on behalf of the National Aeronautics and Space Administration (hereinafter referred to as "NASA") by the John F. Kennedy Space Center (hereinafter referred to as "NASA KSC") located at Kennedy Space Center, Florida 32899 (hereinafter referred to as "KSC" or the "Center"), and Space Florida, an independent special district and subdivision of the State of Florida, located at Exploration Park, Florida 32953 (hereinafter referred to as "SPFL") for the transfer of the management, development, and operation of property and infrastructure comprising the Shuttle Landing Facility (hereinafter referred to as the "SLF"), further described in Exhibit A and formerly used in support of the Space Shuttle Program. This partnership is consistent with direction in the National Space Transportation Policy of the United States of America, of November 21, 2013, which directs NASA to "encourage private sector and state and local government investment and participation in the development, improvement, and sustainment of space infrastructure, including both federal launch and reentry sites as well as those operated and maintained by private, state, and local entities." NASA KSC and SPFL may be individually referred to as a "Party" and collectively referred to as the "Parties."

II. SCOPE, PURPOSE, AND PERMITTED USES

A. The purposes of this agreement are to:

1. Facilitate SPFL's management, development, improvement, operation, and sustainment of the SLF in support of both Government and commercial users engaged in horizontal space launch and recovery, aerospace vehicle flight testing and operations, and mission-related or otherwise compatible aviation. With respect to the SLF, SPFL shall have the right to possess, occupy, develop, re-develop, or otherwise improve, for its own use, or for permit to others, both the land and existing improvements thereon; and shall have the right to construct, or allow others to construct, such structures and facilities as may be required to support the activities authorized by this Agreement, including but not limited to those Commercial Space Activities identified in this Agreement;

2. Encourage private sector and state and local government investment and participation in the development and improvement of space transportation infrastructure;

3. Transfer to SPFL the operational management and maintenance responsibility for the SLF, including existing NASA facilities and related equipment located at the SLF, together with surrounding unimproved land within the SLF required and suitable for future development associated with the purposes and activities authorized pursuant to this Agreement, and provide SPFL with twenty-four (24) hours per day, seven (7) days per week access consistent with the terms of this Agreement.

B. The U.S. Fish and Wildlife Service (USFWS) and NASA KSC have defined an area (Developable Area) to accommodate future expansion of SLF operations and capabilities that is intended to minimize development impacts to wildlife habitat (See Exhibit A).

Development at the SLF shall be in accordance with the 2007 and 2012 Environmental Assessments (EA) that have been conducted at the SLF. Currently development at the SLF is limited to the south field site and the mid field site, in conformance with areas and impacts defined in the prior mentioned EA's. Development at the north field, and any other areas of the Developable area that is outside the boundaries covered by the current NASA KSC Record of Environmental Consideration (REC) (Exhibit D), is contingent upon the completion of the 2015 Center-wide Environmental Impact Statement (EIS), or pursuant to other National Environmental Policy Act (NEPA) analysis and documentation if required. Once completed, the NASA KSC Business Point of Contact (POC) (Exhibit I) shall notify SPFL and make available the EIS and updated NASA KSC REC.

C. Permitted uses of the SLF under this Agreement include the following "Commercial Space Activities" that are consistent with the then current Applicable Laws:

1. Processing, flight, and refurbishment of commercial and Government suborbital and orbital launch systems requiring horizontal takeoff and/or recovery;
2. Processing and integration, and/or recovery and storage, of space mission payloads requiring use of permitted flight systems;
3. Advanced aerospace vehicle flight testing and operations, including Unmanned Aerial Systems (UAS) and spaceflight training or development-related experimental aircraft;
4. Commercial and Government spaceflight or aerospace research mission support aviation operations;
5. Commercial and Government mission management and program support aircraft operations;
6. Chartered air service, including passenger aircraft associated directly with Commercial Space Activities;
7. Spaceflight vehicle or payload hardware delivery cargo aircraft operations;
8. Other cargo operations supporting the Commercial Space Activities or other activities at KSC or Cape Canaveral Air Force Station (CCAFS);
9. Aviation flight test and development;
10. Advance air traffic or space traffic management systems development and testing, including but not limited to development of systems and technologies to integrate UAS and commercial space transportation into the National Air Space (NAS) system;
11. Straight line aerodynamic and engine technology vehicle testing;
12. Related manufacturing, assembly, and storage of materials, components, and flight or ground support equipment;
13. Related warehousing and logistics;

14. Related development, construction, and operation of common area improvements (*e.g.*, aprons, taxiways, fuel and commodity storage areas, and space launch vehicle preparation areas);
15. Related development, construction, and operation of user parking areas, offices and support facilities, visitor facilities including but not limited to those designed for tourism (*e.g.*, flight viewing and educational exhibits);
16. Related administrative, operations, and support facilities; and
17. High energy systems research, development, and testing.

The enumerated Commercial Space Activities are intended to operate as specific guidelines on the types of activities that NASA considers desirable, and are not intended to operate as a limitation on NASA's right to approve or disapprove other uses, occupancies, or activities at the SLF.

The enumerated Commercial Space Activities are not intended to grant any rights or benefits to, or be enforceable by, any users, Site Occupants or any third party, and NASA may in its sole discretion, and with SPFL's consent, grant approval for any use, occupancy, or activities that it deems in the public interest or beneficial to public or private domestic space activity.

No other uses are allowed without a modification to this Agreement (per Article XIX, "Modifications") formally negotiated and executed by SPFL and NASA KSC.

D. Prohibited Uses include:

1. General Aviation;
2. Scheduled passenger air service (except for chartered passenger air service as described above); and
3. Industrial manufacturing unrelated to space transportation, aerospace flight systems, or space mission payloads.

E. The NASA KSC Center Director shall, in his sole discretion, have the authority to direct SPFL to cease all activities under this Agreement that are reasonably believed to be incompatible with safety, security, environmental protection, resource protection, or other Government interests. Related Entities, Site Occupants, licensees, assignees, or invitees shall have no claim under this Agreement on account of such actions against the Government or any officer, agent, employee, or Related Entity thereof.

III. RESPONSIBILITIES

A. **SPFL Responsibilities.** At its own expense, SPFL will:

1. Manage, develop, maintain, and operate the SLF as described and defined in this Agreement for both Government and commercial users in accordance with the following priorities:

a. Horizontal landing of a vehicle from orbit or suborbital profile;

b. Horizontal launch of spacecraft or mother vehicle carrying a launch vehicle;

c. Aircraft Operations;

d. Flight Vehicle testing;

e. UAS Operations; and

f. Miscellaneous – Non-Interference Operations.

2. Provide priority use and scheduling for major NASA and U.S. Department of Defense (DOD) operations that require access to and use of the SLF.

3. Manage scheduling, integration, and prioritization of shared assets among all SLF Site Occupants and users, Government and commercial, in order to track resources, hazards, outages, and other relevant information throughout the SLF.

4. Assume responsibility for utility systems' operations and maintenance beginning at the designated utility distribution demarcation point (Exhibit C).

5. Reimburse NASA provided support services, if any, in advance of their provision by NASA KSC to SPFL consistent with Article V, "Financial Obligations" and Exhibit E.

6. Negotiate and execute formal written agreements with the Federal Aviation Administration (FAA), Florida Department of Transportation (FDOT), and U.S. Air Force Eastern Range, together with implementation plans and procedures, to facilitate availability and use of designated special use airspace and offshore warning areas in support of planned flight operations. Provide copies to NASA of all executed agreements with the U.S. Air Force Eastern Range.

7. Obtain from the FAA or FDOT all licenses and certifications as may be required to enable the planned Commercial Space Activities permitted in accordance with this Agreement.

8. Obtain all other necessary licenses, environmental permits, clearances, and other authorizations, required to support SPFL's Commercial Space Activities, and comply with all Applicable Laws. Provide copies of these documents to NASA KSC.

9. NASA KSC will manage a daily LC-39 integrated schedule to track resources, major hazards, outages, and other relevant information throughout LC-39. SPFL shall participate in the overall integrated scheduling process to coordinate all operations that extend outside the SLF.

B. **<u>NASA KSC Responsibilities</u>**. NASA KSC will:

1. Provide support services, if requested by SPFL and available, on a reimbursable, as available, non-interference basis, as specified in this Agreement. This includes access to and service from existing NASA-owned utility distribution systems, including, but not limited to, electrical power, potable water, and wastewater treatment, and consistent with Article V, "Financial Obligations" and Exhibit E. Additional services not identified as Support Services in Exhibit E are outside the scope of this Agreement. NASA, at its own

discretion, may provide any such "Demand Services" on a reimbursable basis through a separate agreement to the extent that the provision of such services does not result in NASA competing with the private sector.

2. Transfer the operations and maintenance of the SLF as defined and legally described in Exhibit A to SPFL's control and accountability for the duration of this Agreement, in accordance with the terms specified in this Agreement.
3. Maintain all necessary support interfaces with SPFL. If available, drawings, specifications, maintenance, or operating information relating to the SLF will be provided to SPFL by NASA KSC at SPFL's request.
4. Grant SPFL, its Related Entities, and SLF Site Occupants access to the SLF for the intended scope and purposes of this Agreement.
5. Manage a recurring LC-39 integrated schedule to coordinate maintenance tasks, track resources, major hazards, outages, and other relevant information throughout LC-39. NASA KSC will provide advance notice of actions that may impact SPFL's operations and coordinate such actions so that any disruption is minimized. NASA KSC will manage the prioritization of shared assets and resolution of real-time resource conflicts.
6. Provide operation, maintenance, and configuration management requirements to SPFL for those SPFL-operated systems, or the portions thereof, that NASA KSC will continue to maintain due to interdependencies beyond the SLF demarcation points or as are otherwise required for use by NASA Programs.
7. Provide a safety review or analysis, where required, by Exhibit H.
8. Provide documentation or other information to SPFL related to any agreements NASA KSC has with NASA's Related Entities and third parties existing at the effective date of this agreement that may require access, or other coordination related to the SLF. Third parties may include, but are not limited to, federal agencies, other NASA centers, and commercial companies.

IV. TERM OF AGREEMENT, SCHEDULE, AND MILESTONES

A. The term of this Agreement ("Term") shall commence on the date of the last signature of the parties to this Agreement and, unless sooner terminated as specifically provided in this Agreement, shall continue for a period of thirty (30) years.

B. The Term may be extended or otherwise modified in the manner required in Article XIX for modifications.

C. In addition to Paragraph B, if and when SPFL obtains approval from NASA KSC under Article XXVI for construction or installation of an Improvement, NASA KSC and SPFL expect to discuss and expressly agree under Article XIX at that time to a modification of the Term and the Term shall be extended to a date as follows:

1. After substantial completion of a real-property Improvement, the date when the useful life of the Improvement expires; or
2. After installation of a tangible-personal-property Improvement at the SLF, or otherwise after placement of the Improvement in service at the SLF, the date when the useful life of the Improvement ends,

so long as such date does not exceed the period of sixty (60) years from the original signature date. In the event such date would exceed the period of sixty (60) years from the original signature date, the Term shall be deemed extended to the date sixty (60) years from the original signature date.

D. The Parties will participate in an Annual Strategic Review to assess the planning and development strategy for the SLF.

The planned major milestones for the activities associated with this Agreement are as follows:

SPFL provides Certificate of Insurance and a list of Policy exclusions or limitations	Prior to signature
SPFL provides SLF Design Standards	Within two (2) months of signature Date
SPFL provides Concept of Operations Plan	Within two (2) months of signature Date
SPFL application submission to FAA-AST for Launch and Reentry Site Operator license	Within one year of Signature Date
SPFL obtains status as Florida Registered private airport under FDOT Administrative Code, Chapter 14-60	Within one year of signature date
SPFL execution of transition contracting actions to ensure continuity of operations	NLT September 30, 2015
SPFL obtains FCC license	Within one year of signature date

V. FINANCIAL OBLIGATIONS

A. The National Aeronautics and Space Act, 51 U.S.C. § 20113(f), provides authority to NASA to cooperate with public and private agencies and instrumentalities, with or without reimbursement, in the use of services, equipment and facilities. Given the mutual benefit to NASA and SPFL within the scope and purpose of this Agreement is to promote and

facilitate commercial space activities utilizing the SLF, use of this authority is appropriate to execute this Agreement.

B. The benefit to NASA from this Agreement includes priority use for mission requirements and long term preservation of this unique high value asset for commercial and DOD space flight activities. In addition, NASA will achieve cost savings through continued access and use of the SLF. In consideration of the NASA benefit derived as a result of the activities, investments, and obligations assumed by the SPFL pursuant to this Agreement, NASA will not require SPFL to provide cash payments for use of the SLF. In the event that the SPFL's personal property is not removed and the SLF is not restored in accordance with this Agreement, SPFL shall pay to NASA a reasonable sum which may be expended after the expiration, revocation, or termination of this Agreement to restore the SLF to the condition required by this Agreement.

C. SPFL is required to make payments to NASA for provision to SPFL of "Support Services," which will be reimbursed fully by SPFL in advance of any such commitments by NASA. See Exhibit E.

1. SPFL agrees to reimburse NASA to carry out its responsibilities under this Agreement for the first year of **recurring services**. Included in the estimate are costs for those services anticipated to be provided by NASA KSC during the first and subsequent years of the agreement (*e.g.*, utilities, fire, and badging), including a reserve fund ($25,000) to enable expedited processing of requests for other services within the scope of this agreement.

   a. Normally included in recurring services are indirect costs associated with common area grounds and road maintenance which is charged as a Facility Service Charge established annually by NASA KSC based on the Center's square footage and charged to SPFL based on square footage of real property in this Agreement, excluding square footage of the runway. This fee will not be included during the period that NASA KSC is providing transition services, but will be implemented once those services are no longer being provided by NASA KSC. As the Center and SLF expand or reduce in square footage of real property, the square footage algorithms for estimated cost will be updated.

   b. Included in the recurring services estimate is the full cost of NASA KSC provided services includes an applicable Center Management and Operations (CM&O) charge (percentage rate) established annually by the Agency. The CM&O charge covers NASA KSC's costs of maintaining and operating the municipal services at the Center.

   c. Included in the recurring services estimate is a direct cost allocation of NASA KSC's protective services contract value specific to fire emergency response. The allocation is based on the Center's total square footage, and charged to SPFL based on square footage of real property in this Agreement. In-district support services to the SLF will be provided at no additional costs. As the Center and SLF expand or reduce in square footage of real property, the square footage algorithms for estimated cost will be updated.

2. SPFL agrees to reimburse NASA for NASA KSC to carry out its responsibilities for five (5) months of **transition services**, to be provided by NASA KSC for a period not to extend beyond September 30, 2015. Included in the estimate are costs for services required to operate and maintain the airfield (*e.g.*, airfield operations, facility maintenance, and information technology). These services will be contracted directly by SPFL to outside providers after the transition period is complete and throughout subsequent years of the agreement.

D. SPFL agrees to provide to NASA, at no cost, flight operation services associated with landings and take-offs of NASA aircraft in accordance with Article XXXII. The non-reimbursed services are valued at $45,045 of support labor for the first year of operation and the value to be escalated by three percent (3%) annually thereafter. NASA KSC's Technical Point of Contact will concur in advance on which NASA flight operations are to be charged against this account. SPFL shall provide a quarterly report of NASA's flight operations costs incurred. A separate contract will need to be established between the Parties for costs in excess of the non-reimbursed services amount.

E. Payment shall be due in advance of initiation of NASA KSC's efforts on behalf of the SPFL. An initial deposit of 70%, which includes 100% of the Transition Services estimate, 100% of the Badging estimate, 100% of the Reserve Account for Miscellaneous Services estimate, and 25% of the Recurring Services estimate shall be due on the signature date of the Agreement. Subsequent quarterly payments shall be received by NASA fifteen (15) days in advance of each quarter and subject to adjustment based on an assessment of actual support services costs.

1. Subsequent years of Support Services will be estimated by NASA KSC and communicated to SPFL in advance of the Agreement signature date anniversary.

2. Payment shall be payable to NASA through the NASA Shared Services Center (NSSC) (choose one form of payment): (1) U.S. Treasury FEDWIRE Deposit System, Federal Reserve Wire Network Deposit System; (2) pay.gov at www.nssc.nasa.gov/customerservice (select "Pay NASA" from the Quick Links to the left of the page); or (3) check. A check should be payable to NASA and sent to: NASA Shared Services Center; FMD – Accounts Receivable; For the Accounts of John F. Kennedy Space Center; Bldg. 1111, C Road; Stennis Space Center, MS 39529. Payment by electronic transfer (#1 or #2, above) is strongly encouraged, and payment by check is to be used only if circumstances preclude the use of electronic transfer. All payments and other communications regarding this Agreement shall reference the Center name, title, date, and number of this Agreement.

F. NASA KSC will not provide services or incur costs beyond the existing payment. Although NASA KSC has made a good faith effort to accurately estimate its costs, it is understood that NASA provides no assurance that the proposed effort under this Agreement will be accomplished for the above estimated amount. In no event will NASA transfer any U.S. Government funds to SPFL under this Agreement. Should the effort cost more than the estimate, NASA KSC will advise SPFL as soon as possible. SPFL shall pay all costs incurred and has the option of canceling the remaining effort, or providing

additional funding in order to continue the proposed effort under the revised estimate. Should this Agreement be terminated, or the effort completed at a cost less than the agreed-to estimated cost, NASA shall account for any unspent funds within 90 days after completion of all effort under this Agreement, and promptly thereafter return any unspent funds to SPFL.

G. Notwithstanding any other provision of this Agreement, all activities under or pursuant to this Agreement are subject to the availability of funds, and no provision of this Agreement shall be interpreted to require obligation or payment of funds in violation of the Anti-Deficiency Act, 31 U.S.C. § 1341.

VI. PRIORITY OF USE

A. Operations

1. SPFL will provide priority use and scheduling for major NASA and DOD operations that require access to and use of the SLF. NASA KSC and SPFL agree to consult on scheduled use of the SLF to insure minimum interference between Government priority and non-government uses of the SLF.
2. SPFL understands that the SLF is part of a buffer zone to insulate operations at KSC and the Cape Canaveral Air Force Station (CCAFS) from adversely affecting the public. The Parties agree to consult in advance on planned operations at the SLF to minimize interference between activities at the SLF and activities conducted at KSC or CCAFS. NASA KSC will take reasonable steps to accommodate operations at the SLF to minimize interference between operations at the SLF and KSC and CCAFS operations.
3. In the event that NASA exercises its right of scheduling priority, NASA KSC will make reasonable efforts to keep SPFL as close as possible to its original schedule. Should Government operations affect the schedule of SPFL's launch and reentry efforts, such action will be read against this Priority of Use Article, and such exercise does not qualify as a "preemption" under 51 U.S.C. § 50910. In the event that NASA exercises its right of scheduling priority, it will be at no cost to NASA.

B. Support Services

Provision of Support Services to SPFL by NASA KSC is based upon NASA's current understanding of the projected availability of NASA goods, services, facilities, and/or equipment. In the event that NASA's projected availability changes, SPFL shall be given reasonable notice of that change, so that its schedule may be adjusted accordingly. The Parties agree that NASA's use of the goods, services, facilities, or equipment used to provide Support Services to SPFL shall have priority over the use planned in this Agreement. Should a conflict arise, NASA KSC in its sole discretion shall determine whether to exercise that priority. Likewise, should a conflict arise as between two or more non-NASA Partners, NASA KSC, in its sole discretion, shall determine the priority as between those Partners. This Agreement does not obligate NASA KSC to seek alternative Government property or services under the jurisdiction of NASA at other locations.

VII. LIABILITY AND RISK OF LOSS

A. Unilateral Waiver with Flow Down

1. SPFL hereby waives any claims against NASA, its employees, NASA's Related Entities, and employees of NASA's Related Entities for any injury to, or death of, SPFL employees or the employees of SPFL's Related Entities, or for damage to, or loss of, SPFL's property or the property of its Related Entities arising from or related to activities conducted under this Agreement, whether such injury, death, damage, or loss arises through negligence or otherwise, except in the case of willful misconduct.

2. SPFL further agrees to extend this unilateral waiver to SPFL's Related Entities and Site Occupants by requiring them, by contract or otherwise, to waive all claims against NASA, its related entities, and employees of NASA and employees of NASA's related entities for injury, death, damage, or loss arising from or related to activities conducted under this Agreement.

B. Indemnity

1. To the extent permitted by law, SPFL agrees to indemnify and defend NASA against, and hold NASA harmless from, all claims, demands, liabilities, damages, losses, costs, and expenses, including reasonable attorneys' fees and disbursements, caused by activities under this Agreement, except to the extent the same is caused solely by the willful misconduct of NASA. To the extent SPFL, as an instrumentality of the State of Florida, is precluded from providing the foregoing indemnification obligation, SPFL agrees to fulfill its obligation to indemnify the U.S. Government by directing, and permitting NASA to direct, any third-party claimants to file any applicable claims directly with the State of Florida in accordance with Section 768.28 of Florida Statutes and other Applicable Laws of the State of Florida.

2. The unilateral waiver, above in Section A, and indemnity requirements, in Section B, do not apply to personal injury, death, and property damage arising from NASA's flight operations of NASA-owned aircraft at the SLF.

C. Insurance for Damage to U.S. Government Property

1. SPFL shall, at no cost to NASA, maintain, or cause to be maintained, throughout the Term, insurance to cover the loss of or damage to U.S. Government property as a result of any activities conducted under this Agreement. The policy must cover the cost of replacing or repairing any U.S. Government property (real or personal) damaged as a result of any performance of this Agreement, including performance by the U.S. Government or its contractors, subcontractors, at any tier.

2. The insurance required under this subparagraph shall provide coverage in an amount acceptable to NASA. All terms and conditions in the policy shall be acceptable to NASA, and shall require thirty (30) days' notice to NASA of any cancellation or change affecting coverage. The policy shall cover all risks of loss except that it may exclude damage caused

by the U.S. Government's willful misconduct. The insurance policy shall provide that the insurer waives its right as a subrogee against U.S. Government contractors, subcontractors at any tier for damage.

3. An insurance policy or policies, the terms and conditions of which are reviewed and approved by NASA, at least annually, based on planned operations of SPFL, or an agreement on an alternative method of protection, is a condition precedent to SPFL's access to or use of U.S. Government property or U.S. Government services under this Agreement. This annual review will result in the agreed upon insurance requirements to be memorialized and signed by the Parties and attached as Exhibit J to this Agreement.

4. In the event SPFL is unable to obtain insurance coverage required above, the Parties agree to consider, subject to review, approval and agreement by NASA, alternative methods of protecting U.S. Government property (*e.g.*, by acceptable self-insurance or purchase of an appropriate bond).

5. In the event U.S. Government property is damaged as a result of activities conducted under this Agreement, SPFL (whether as an insured loss payee or under an alternate protection method) shall be solely responsible for the repair and restoration of such property subject to NASA direction. SPFL's liability for such repair and restoration shall not exceed the agreed insurance amounts or other protection method limits.

D. Insurance Protecting Third Parties

1. SPFL shall, at no cost to NASA, maintain throughout the Term, insurance protecting the U.S. Government and U.S. Government contractors and subcontractors, at any tier, from any liability as a result of any activities conducted under this Agreement, resulting in damage to:

   a. SPFL's employees or agents; and

   b. Third parties, including U.S. Government employees, and U.S. Government contractor and subcontractor employees.

2. The insurance required under this subparagraph shall provide coverage in an amount acceptable to NASA. All terms and conditions in the policy shall be acceptable to NASA, and shall require thirty (30) days' notice to NASA of any cancellation or change affecting coverage. The policy shall cover all risks of loss except that it may exclude damage caused by the U.S. Government's willful misconduct. The insurance policy shall provide that the insurer waives its right as a subrogee against U.S. Government contractors, subcontractors, or related entities for damage.

3. An insurance policy or polices, the terms and conditions of which are reviewed and approved by NASA, at least annually, based on planned operations of SPFL, or an agreement on an alternative method of protection, is a condition precedent to SPFL's access to or use of U.S. Government property or U.S. Government services under this Agreement. This annual review will result in the agreed upon insurance requirements to be memorialized and signed by the Parties and attached as Exhibit J to this Agreement.

4. SPFL's insurance obtained pursuant to this section shall not be the exclusive recourse of the U.S. Government in the event liability exceeds the amount of coverage. The U.S. Government reserves the right to bring an action against any responsible party for liability incurred by the U.S. Government under domestic or international law.

5. Each Party agrees to cooperate with the other in obtaining any information, data, reports, contracts, and similar materials in connection with the presentation or defense of any claim by either Party under any policy of insurance purchased to meet the requirements of this Article. If the U.S. Government takes control of the defense of its interests, which would otherwise have been within SPFL's responsibility as established in this Article without the concurrence of SPFL, SPFL shall be released from any liability to the U.S. Government on account of the claim.

E. Insurance for Damage to SPFL Improvements

SPFL shall, at no cost to NASA, maintain throughout the Term, insurance to protecting against loss or damage to Improvements of SPFL or SPFL's Related Entities as a result of any activities conducted under this Agreement to the extent such improvements are reasonably required by NASA to conduct U.S. Government activities in the future.

F. Amount of Insurance

1. Prior to access to the SLF and at all times during the Term, SPFL shall maintain adequate insurance for damage to U.S. Government property, Third Parties, and SPFL Improvements. Exhibit J, which will be updated at least annually through good-faith negotiations between the Parties, will identify SPFL's planned activities and insurance requirements determined necessary or appropriate by the Parties based on the risks to U.S. Government Property, Third Parties, and SPFL Improvements reasonably required by NASA to conduct U.S. Government activities. It is anticipated that as SPFL's management and operation of the SLF includes a greater number of activities, adequate levels of insurance for SPFL will increase. It is SPFL's responsibility to demonstrate through its existing policies that it has met or exceeded its insurance requirements as updated annually. SPFL shall provide to NASA certificates of insurance, and associated policies, evidencing the insurance required thereunder within a reasonable time before SPFL begins to use U.S. Government property or Government services. SPFL shall personally deliver, or send by registered or certified mail, postage prepaid, two copies of such insurance policy(ies), or any modifications or amendments, to NASA at the following address:

   National Aeronautics and Space Administration
   Kennedy Space Center
   Attn: Chief Counsel
   Mail Code CC
   Kennedy Space Center, FL 32899

2. If SPFL fails to obtain or maintain the insurance coverage agreed to by the Parties (see Exhibit J), NASA will issue a Cease and Desist Commercial Space Activities Notice to SPFL requiring SPFL to cease all operations at the SLF. SPFL shall comply with the notice

until proof of insurance coverage is provided to NASA. Non-compliance with the Notice may be grounds for termination (see Article XIV, paragraph B.10).

G. Multiple Policies

Insurance protecting damage to U.S. Government Property, Third Parties, and SPFL Improvements reasonably required by NASA to conduct U.S. Government activities may include coverage under several different policies, as long as SPFL can demonstrate it has met NASA's requirement for each type of coverage.

H. Additional Insurance Requirements

1. All insurance and all renewals shall be issued by companies with a rating of at least "A-" "VIII" (or its equivalent successor) or better in the current edition of Best's Insurance Reports (or its equivalent successor, or, if there is no equivalent successor rating, otherwise acceptable to NASA) and be licensed to do and doing business in Florida.
2. No approval by NASA of any insurer, or the terms or conditions of any policy, or any coverage or amount of insurance, or any deductible amount shall be construed as a representation by NASA of the solvency of the insurer or the sufficiency of any policy or any coverage or amount of insurance or deductible.
3. Failure of NASA to demand such certificate or other evidence of full compliance with these insurance requirements or failure of NASA to identify a deficiency from evidence that is provided shall not be construed as a waiver of SPFL's obligation to maintain such insurance.
4. To the extent SPFL decides to pursue an operator's license with the Federal Aviation Administration (FAA), the granting of such license does not relieve SPFL of any obligations under this Article or this Agreement.
5. SPFL agrees that all proceeds of insurance required for NASA protection and obtained by or under the control of SPFL shall first be applied to satisfy SPFL's obligations to the Government under this Agreement.

VIII. INTELLECTUAL PROPERTY RIGHTS – DATA RIGHTS

A. General

1. "Related Entity" as used in this Data Rights Article means a contractor, subcontractor, grantee, or other entity having a legal relationship with NASA or SPFL that is assigned, tasked, or contracted to perform activities under this Agreement.
2. "Data," means recorded information, regardless of form, the media on which it is recorded, or the method of recording.
3. "Proprietary Data," means Data embodying trade secrets developed at private expense or commercial or financial information that is privileged or confidential, and that includes a restrictive notice, unless the Data is:

a. Known or available from other sources without restriction;

b. Known, possessed, or developed independently, and without reference to the Proprietary Data;

c. Made available by the owners to others without restriction; or

d. Required by law or court order to be disclosed.

4. Data exchanged under this Agreement is exchanged without restriction except as otherwise provided herein.

5. Notwithstanding any restrictions provided in this Article, the Parties are not restricted in the use, disclosure, or reproduction of Data provided under this Agreement that meets one of the exceptions in C. above. If a Party believes that any exceptions apply, it shall notify the other Party before any unrestricted use, disclosure, or reproduction of the Data.

6. The Parties will not exchange preexisting Proprietary Data under this Agreement unless authorized herein or in writing by the owner.

7. If the Parties exchange Data having a notice that the Receiving Party deems is ambiguous or unauthorized, the Receiving Party shall tell the Providing Party. If the notice indicates a restriction, the Receiving Party shall protect the Data under this Article unless otherwise directed in writing by the Providing Party.

8. The Data rights herein apply to the employees and Related Entities of SPFL. SPFL shall ensure that its employees and Related Entity employees know about and are bound by the obligations under this Article.

9. Disclaimer of Liability: NASA is not restricted in, or liable for, the use, disclosure, or reproduction of Data without a restrictive notice under paragraphs 1C. or 2. of this Article or for Data SPFL gives, or is required to give, the Government without restriction.

B. Data First Produced by SPFL Under this Agreement

If Data first produced by SPFL or its Related Entities under this Agreement is given to NASA, and the Data is Proprietary Data, and it includes a restrictive notice, NASA will use reasonable efforts to protect it. The Data will be disclosed and used (under suitable protective conditions) only for Government purposes.

C. Data First Produced by NASA Under this Agreement

If SPFL requests that Data first produced by NASA under this Agreement be protected, and NASA determines it would be Proprietary Data if obtained from SPFL, NASA will use reasonable efforts to mark it with a restrictive notice and protect it for two (2) years after its development. During this restricted period the Data may be disclosed and used (under suitable protective conditions) for Government purposes only, and thereafter for any purpose. SPFL must not disclose the Data without NASA's written approval during the restricted period. The restrictions placed on NASA do not apply to Data disclosing a NASA-owned invention for which patent protection is being considered.

D. Publication of Results

The National Aeronautics and Space Act, 51 U.S.C. § 20112, requires NASA to provide for the widest practicable and appropriate dissemination of information concerning its activities and the results thereof. As such, NASA may publish unclassified and non-Proprietary Data resulting from work performed under this Agreement. The Parties will coordinate publication of results allowing a reasonable time to review and comment.

E. Data Disclosing an Invention

If the Parties exchange Data disclosing an invention for which patent protection is being considered, and the furnishing Party identifies the Data as such when providing it to the Receiving Party, the Receiving Party shall withhold it from public disclosure for a reasonable time (one (1) year unless otherwise agreed or the Data is restricted for a longer period herein).

F. Copyright

Data exchanged with a copyright notice and no indication of restriction under paragraphs 1.C., 2, or 3 of this Article (*i.e.*, Data has no restrictive notice) is presumed to be published. The following royalty-free licenses apply:

1. If indicated on the Data that it was produced outside of this Agreement, it may be reproduced, distributed, and used to prepare derivative works only for carrying out the Receiving Party's responsibilities under this Agreement.
2. Data without the indication of 6.A. is presumed to be first produced under this Agreement. Except as otherwise provided in paragraph 5. of this Article, and in the Inventions and Patent Rights Article of this Agreement for protection of reported inventions, the Data may be reproduced, distributed, and used to prepare derivative works for any purpose.

G. Data Subject to Export Control

Whether or not marked, technical data subject to the export laws and regulations of the United States provided to SPFL under this Agreement must not be given to foreign persons or transmitted outside the United States without proper Government authorization.

IX. USE OF NASA NAME AND EMBLEMS

A. NASA Name and Initials

SPFL shall not use "National Aeronautics and Space Administration" or "NASA" in a way that creates the impression that a product or service has the authorization, support, sponsorship, or endorsement of NASA, which does not, in fact, exist. Except for releases under Article X, "Release of General Information to the Public and Media," SPFL must submit any proposed public use of the NASA name or initials (including press releases and all promotional and advertising use) to the NASA Assistant Administrator for the Office of Communications for review and approval. NASA approval shall be based on Applicable Laws and policy governing the use of the NASA name and initials.

B. NASA Emblems

Use of NASA emblems (i.e., NASA Seal, NASA Insignia, NASA logotype, NASA Program Identifiers, and the NASA Flag) is governed by 51 U.S.C § 20141 and 14 C.F.R. Part 1221. SPFL must submit any proposed use of the emblems to the NASA Assistant Administrator for the Office of Communications for review and approval. NASA approval shall be based on Applicable Law and policy governing the use of the NASA emblems.

X. RELEASE OF GENERAL INFORMATION TO THE PUBLIC AND MEDIA

A. NASA or SPFL may, consistent with Federal law and this Agreement, release general information regarding its own participation in this Agreement as desired.

B. When SPFL invites specific media to the SLF, SPFL's Public Affairs POC will advise NASA KSC Public Affairs POC of the visit at least two (2) business days prior to the visit for US citizens and at least ten (10) business days prior to the visit for foreign nationals in order to coordinate the visit details which involve badging of the media crew by SPFL and for the Public Affairs POC to obtain a Media Escort placard to escort the media to the SLF. This placard will only allow access to the SLF and does not allow access to any other NASA operational facilities. All NASA related news media interviews, news conferences, media scouts, photo opportunities, film crews, etc., must be coordinated in advance with NASA KSC Public Affairs POC. SPFL shall make NASA Public Affairs POC aware of any stories to appear in the media, web or social media in advance of publication or broadcast. SPFL may provide for internal communications to their employees, and is encouraged to distribute to their employees all NASA communications to the workforce. SPFL shall follow all NASA policies and procedures (*e.g.*, KNPR1600.1, KDP-KSC-P-3722, and KDP-KSC-P-3717) for badging Foreign National Media.

C. Neither NASA nor SPFL is permitted to release information about ongoing operations for any proprietary or classified government programs without the written consent of those program officials.

XI. DISCLAIMER OF WARRANTY

Goods, services, facilities, or equipment provided by NASA under this Agreement are provided "as is." NASA makes no express or implied warranty as to the condition of any such goods, services, facilities, or equipment, or as to the condition of any research or information generated under this Agreement, or as to any products made or developed under or as a result of this Agreement including as a result of the use of information generated hereunder, or as to the merchantability or fitness for a particular purpose of such research, information, or resulting product, or that the goods, services, facilities or equipment provided will accomplish the intended results or are safe for any purpose including the intended purpose, or that any of the above will not interfere with privately-owned rights of others. Neither the government nor its Related Entities shall be liable for special, consequential or incidental damages attributed to such equipment,

facilities, technical information, or services provided under this Agreement or such research, information, or resulting products made or developed under or as a result of this Agreement.

XII. DISCLAIMER OF ENDORSEMENT

NASA does not endorse or sponsor any commercial product, service, or activity. NASA's participation in this Agreement or provision of services or facilities under this Agreement does not constitute endorsement by NASA. SPFL agrees that nothing in this Agreement will be construed to imply that NASA authorizes, supports, endorses, or sponsors any product or service of SPFL resulting from activities conducted under this Agreement, regardless of the fact that such product or service may employ NASA-developed technology.

XIII. COMPLIANCE WITH LAWS AND REGULATIONS

A. The Parties shall comply with all Applicable Laws and regulations including, but not limited to, occupational health; safety; security; export control; environmental; and suspension and debarment laws and regulations. Access by SPFL to NASA KSC facilities or property, or to a NASA Information Technology (IT) system or application, is contingent upon compliance with NASA security and safety policies and guidelines including, but not limited to, standards on badging, credentials, and facility and IT system/application access.

B. With respect to any export control requirements:

1. The Parties will comply with all U.S. export control laws and regulations, including the International Traffic in Arms Regulations (ITAR), 22 C.F.R. Parts 120 through 130, and the Export Administration Regulations (EAR), 15 C.F.R. Parts 730 through 799, in performing work under this Agreement. In the absence of available license exemptions or exceptions, the SPFL shall be responsible for obtaining the appropriate licenses or other approvals, if required, for exports of hardware, technical data and software, or for the provision of technical assistance.

2. SPFL shall be responsible for obtaining export licenses, if required, before utilizing foreign persons in the performance of work under this Agreement, including instances where the work is to be performed on-site at KSC and where the foreign person will have access to export-controlled technical data or software.

3. SPFL will be responsible for all regulatory record-keeping requirements associated with the use of licenses and license exemptions or exceptions.

4. SPFL will be responsible for ensuring that the provisions of this Article XIII, "Compliance with Laws and Regulations" apply to its Related Entities.

C. With respect to suspension and debarment requirements:

1. SPFL hereby certifies, to the best of its knowledge and belief, that it has complied, and shall comply, with 2 C.F.R. Part 180, Subpart C, as supplemented by 2 C.F.R. Part 1880, Subpart C.

2. SPFL shall include language and requirements equivalent to those set forth in subparagraph (C)(1), above, in any lower-tier covered transaction entered into under this Agreement.

D. If the scope of work to be performed by SPFL at the SLF to accommodate their use is determined to be subject to the requirements of the Davis-Bacon Act, SPFL and its Related Entities shall comply with all wage determinations and other applicable provisions.

XIV. RIGHT TO TERMINATE, EVENTS OF DEFAULT, REMEDIES

A. Termination by Mutual Consent. This Agreement may be terminated at any time upon mutual written consent of both Parties.

B. Default by SPFL. The occurrence of one (1) or more of the following Events of Default shall constitute a breach of this Agreement by SPFL:

1. SPFL fails to pay any money or charge payable by SPFL under any provision of this Agreement and such failure continues for more than thirty (30) days after NASA KSC gives written notice to SPFL that such amount is due and unpaid;

2. SPFL fails to perform or breaches any other agreement or covenant of this Agreement to be performed or observed by SPFL as and when performance or observance is due and such failure or breach continues for more than ninety (90) days after NASA KSC gives written notice thereof to SPFL; provided, however, that if, by the nature of such agreement or covenant, such failure or breach cannot reasonably be cured within such period of ninety (90) days, an Event of Default shall not exist as long as SPFL commences with due diligence and dispatch the curing of such failure or breach within such period of ninety (90) days and, having so commenced, thereafter prosecutes with diligence and dispatch and completes the curing of such failure or breach; or

3. SPFL (i) files, or consents by answer or otherwise to the filing against it of a petition for relief or reorganization or arrangement or any other petition in bankruptcy or for liquidation or to take advantage of any bankruptcy, insolvency or other debtors' relief law of any jurisdiction, (ii) makes an assignment for the benefit of its creditors, or (iii) consents to the appointment of a custodian, receiver, trustee in bankruptcy or other officer with similar powers with respect to the financial affairs of SPFL or of any substantial part of SPFL's property; or

4. Without consent by SPFL, a court or government authority enters an order, and such order is not vacated within ninety (90) days, (i) appointing a custodian, receiver, trustee or other officer with similar powers with respect to SPFL or with respect to any substantial part of SPFL's property, or (ii) constituting an order for relief or approving a petition for relief or reorganization or arrangement or any other petition in bankruptcy or for liquidation or to take advantage of any bankruptcy, insolvency or other debtors' relief law of any jurisdiction, or (iii) ordering the dissolution, winding – up or liquidation of SPFL; or

5. This Agreement or any estate of SPFL hereunder is levied upon under any attachment or execution and such attachment or execution is not vacated within ninety (90) days; or
6. SPFL (i) fails to obtain or comply with the terms of any DOT/FAA licenses required or (ii) violates any term or condition of any environmental or other Government permit or license and such failure or violation continues for more than ninety (90) days after NASA KSC gives written notice thereof to SPFL. For purposes of this Event of Default, SPFL shall promptly notify NASA KSC if and when SPFL receives notice, whether from DOT/FAA or any other governmental agency with regulatory jurisdiction over the SLF, alleging that SPFL is in violation of a term of a required DOT/FAA license or term or condition of an environmental permit or license pertinent to the operation and management of the SLF; or
7. SPFL voluntarily abandons or discontinues Commercial Space Activities at the SLF, and shows no evidence that it will resume its activities within a reasonable period of time, provided, however, that suspension of operations by SPFL during a strike or work stoppage by its employees shall not be considered voluntary abandonment or discontinuance of operations; or
8. SPFL abandons the SLF, and shows no evidence that it will reoccupy the SLF and resume its activities with a reasonable period of time; or
9. SPFL has failed to conduct its activities in a safe manner, and such failure continues for more than seventy-two (72) hours after NASA KSC gives written notice thereof to SPFL.
10. SPFL violates a Cease and Desist Commercial Space Activities Notice (see Article VII, paragraph F.2) from NASA. NASA will provide written notice to SPFL, and SPFL shall have five (5) days in which to return to compliance with the Notice, or provide proof that sufficient insurance has been obtained.

C. Termination due to an Event Default. If an Event of Default occurs, NASA shall have the right at any time to give a written termination notice to SPFL and, on the date specified in such notice, SPFL's right to possession shall terminate and this Agreement shall terminate. Upon such termination, NASA shall have the full and immediate right to possession of the SLF. In addition, NASA shall have the right to recover from SPFL all unpaid costs, which had accrued at the time of termination pursuant to Article V, "Financial Obligations."

D. Continuation. If an Event of Default occurs, this Agreement shall continue in effect for so long as NASA does not terminate SPFL's right to possession, and NASA shall have the right to enforce all its rights and remedies under this Agreement, including the right to recover all payments that become due under this Agreement. Acts of maintenance or preservation or efforts to re-let the SLF or the appointment of a receiver upon initiative of NASA KSC to protect NASA's interest under this Agreement shall not constitute a termination of SPFL's right to possession unless written notice of termination is given by NASA KSC to SPFL.

E. Remedies Cumulative. Upon the occurrence of an Event of Default, NASA KSC shall have the right to exercise and enforce all rights and remedies granted or permitted by law. The remedies provided for in this Agreement are cumulative and in addition to all other

remedies available to NASA at law or in equity by statute or otherwise. Exercise by NASA of any remedy shall not be deemed to be an acceptance of surrender of the SLF by SPFL, either by agreement or by operation of law.

F. SPFL's Primary Duty. All agreements and covenants to be performed or observed by SPFL under this Agreement shall be at SPFL's sole cost and expense and without any offset to amounts which may be payable to NASA.

G. NASA Default. If NASA defaults on its responsibilities as stated in Article III of this Agreement, or fails to perform or breaches any other agreement or covenant of this agreement for reasons other than Force Majeure as defined in paragraph H.1, below, SPFL shall give written notice to NASA KSC specifying such default with particularity, and NASA shall have thirty (90) days after receipt of such notice within which to cure such default. In the event of any default by NASA, SPFL's exclusive remedy shall be an action for damages or for specific performance, mandamus, injunction, or other equitable remedy, or for both. In addition to seeking such a judicial remedy or remedies, SPFL may terminate this agreement.

H. Unilateral Termination by NASA; Force Majeure.

1. NASA may unilaterally terminate this Agreement upon written notice in the following circumstances: (i) upon a declaration of war by the Congress of the United States; or (ii) upon a declaration of a national emergency by the President of the United States; or (iii) upon a NASA determination, in writing, that NASA is required to terminate for reasons beyond its control. For purposes of this Article, reasons beyond NASA's control include, but are not limited to, acts of God or of the public enemy, acts of the Government other than NASA, in either its sovereign or contractual capacity (to include failure of Congress to appropriate sufficient funding to enable NASA's obligations under this Agreement), fires, floods, epidemics, quarantine restrictions, strikes, freight embargoes, or unusually severe weather.

2. In the event of termination for reasons given above, NASA KSC will seek to provide reasonable advance notice and will seek to mitigate the effect of such termination, if possible, and will enter into discussions with SPFL for that purpose. This Article is not intended to limit or govern the right of NASA or SPFL, in accordance with law, to terminate its performance under this Agreement, in whole or in part, for SPFL's or NASA's breach of a provision in this Agreement.

3. Despite the occurrence of any of the conditions delineated above, the Government may elect not to terminate this Agreement immediately. Any such election shall not constitute a waiver of any right of the Government hereunder nor shall it preclude the Government from later terminating the Agreement without further notice if the condition creating a right to terminate continues. NASA shall not be liable for any costs, loss of profits, revenue, or other direct, indirect, or consequential damages incurred by SPFL, its Related Entities, or Site Occupants as a result of the termination by NASA.

I. Unilateral Termination by SPFL. SPFL may terminate this agreement as follows:

1. Without cause, but only after written notice of its intent to terminate is delivered to NASA KSC at the earliest possible date, and in any event not later than ninety (90) days prior to the date of termination; or
2. Upon failure of appropriation of funding sufficient, in SPFL's reasonable discretion, to continue operation and maintenance of the SLF, but only after written notice of its intent to terminate is delivered to NASA KSC at the earliest possible date, and in any event not later than sixty (60) days prior to the date of termination; or
3. Upon acts of God or public enemy, but only after written notice of its intent to terminate is delivered to NASA KSC at the earliest possible date, and in any event not later than sixty (60) days prior to the date of termination.

XV. CONTINUING OBLIGATIONS

The rights and obligations of the Parties that, by their nature, would continue beyond the expiration or termination of this Agreement, *e.g.*, "Financial Obligations", "Liability and Risk of Loss", and "Environmental Condition, Management, and Compliance" shall survive such expiration or termination of this Agreement.

XVI. POINTS OF CONTACT

The Agreement POCs are designated by the Parties in Exhibit I. The Parties shall submit all communication and correspondence such as written requests, approvals, concurrences, and notices under this Agreement to the designated POCs (*e.g.*, Business, Technical, Public Affairs) identified in Exhibit I. The primary objective of these POCs is to ensure efficient and effective coordination of the actions required per this Agreement with specific NASA KSC implementing organizations. All written requests, approvals, consents, and notices under this Agreement shall be addressed properly, either deposited in the United States mail, postage prepaid, or delivered by hand, or sent via facsimile or electronic mail, to the applicable party. Such requests, approvals, consents, notices, and other communications shall be effective on the date of receipt (evidenced by the certified mail receipt) if delivered by United States mail. If any such request, approval, consent, notice, or other communication is not received or cannot be delivered due to a change in the address of the receiving party, of which notice was not previously given to the sending party or due to a refusal to accept by the receiving party, such request, approval, consent, notice, or other communication shall be effective on the date delivery is attempted. Each Party shall recognize successor POCs and shall provide appropriate and timely written notification when such changes occur.

XVII. DISPUTE RESOLUTION

Except as otherwise provided in Article VI, "Priority of Use," Article VIII, "Intellectual Property Rights" (for those activities governed by 37 C.F.R. Part 404), and those situations where a pre-

existing statutory or regulatory system exists (*e.g.*, under the Freedom of Information Act, 5 U.S.C. § 552), all disputes concerning questions of fact or law arising under this Agreement shall be referred by the claimant in writing to the appropriate Business POC. The persons identified as the Business POC for NASA KSC and SPFL will consult and attempt to resolve all issues arising from the implementation of this Agreement. If they are unable to come to agreement on any issue, the dispute will be referred to the signatories to this Agreement, or their designees, for joint resolution. If the Parties remain unable to resolve the dispute, then the NASA signatory or that person's designee, as applicable, will issue a written decision that will be the final agency decision for the purpose of judicial review. Nothing in this Article XVIII, "Dispute Resolution" limits or prevents either Party from pursuing any other right or remedy available by law upon the issuance of the final agency decision.

XVIII. SAFETY

A. SPFL shall comply with Kennedy NASA Procedural Requirements (KNPR) 8715.3-3, KSC Safety Procedural Requirements for SPFL Organization's Operating in Exclusive-Use Facilities, with the tailored version of KNPR 8715.3-3 Chapter 7 replacing Chapter 7 of the KNPR. It is SPFL's responsibility to assess all its Related Entities and Site Occupants for compliance to KNPR 8715.3-3.

B. SPFL shall comply with the tailored version of KNPR 8715.3 - 3, Chapter 7 Mishaps and Close Calls as follows:

1. KSC-Reportable Mishaps are unplanned events arising from the acts or omissions of a SPFL or its employees, agents, Related Entities, SLF Site Occupants, or invited guests that result in at least one of the following:

   - The death of an individual.
   - Injury or illness to any individual that is not employed by the SPFL or its agents, Related Entities, SLF Site Occupants, or invited guests.
   - Damage to property outside the SPFL's defined area.
   - High visibility or high public interest event, including events that could bring OSHA or media attention to NASA.

   a. SPFL shall report all KSC-Reportable Mishaps to NASA KSC, within a reasonable time upon the event being known (after appropriate emergency/medical response is notified and prior to the notification of OSHA) by telephoning the NASA KSC Center Safety Office at 321-867-7233 (321-867-SAFE) and by notifying the appropriate NASA POC(s) as identified in the Agreement.

   b. SPFL will support the safety culture at KSC, and report any unsafe activity, condition, event, or source of danger that they observe at KSC to the NASA KSC Center Safety Office.

c. If SPFL conducts an independent mishap investigation, the SPFL shall provide a copy of the final mishap report to the appropriate NASA KSC POC(s) as identified in the Agreement.

3. For KSC-Reportable Mishaps that involve at least one of the following:

- Death, injury or illness of a NASA employee/NASA Related Entity employee.
- Damage to NASA real or personal property inside the SPFL's defined area that has not been "loaned/permitted" to the SPFL.
- Damage to property outside the SPFL's defined area and within KSC property.

a. NASA KSC S&MA reserves the right to investigate (which may include an interim investigation response, data and artifact impoundment, and control of the scene) in accordance with Center policies and procedures. SPFL shall cooperate in any such investigation.

b. SPFL shall report any close call ("near miss") to the appropriate NASA KSC POC(s) as identified in the Agreement and the NASA KSC Center Safety Office.

C. SPFL will follow a tailored version of NPR 8715.5, Range Flight Safety Program Requirements. The tailoring process will be where SPFL and NASA KSC S&MA review and jointly document applicable requirements and responsibilities for SLF operations based on the terms below:

1. All FAA Licensed Commercial Launch Operations will be conducted in accordance with KCA-4394 MOU between 45th Space Wing and NASA KSC on Enabling Range Flight Safety Services for FAA Licensed Launch Operations from KSC.

2. SPFL will be responsible for ensuring risk analysis is performed for all flight activities occurring at the SLF (excluding conventional piloted aircraft). SPFL shall provide the risk analysis and NASA facility impact probabilities to NASA KSC for Class C and D activities as defined in Exhibit H.

3. NASA KSC will be responsible for reviewing and verifying all provided data, and verifying all risk to NASA personnel and property is acceptable. NASA KSC will provide the results of their analysis to SPFL. Flight activities will not occur for Class C and D activity, as defined in Exhibit H), until NASA KSC has deemed the risk to NASA personnel and property is acceptable.

XIX. MODIFICATIONS

Any modification to this Agreement shall be executed, in writing, and signed by an authorized representative of NASA and SPFL. The exhibits to this Agreement may be added to, updated or removed after written approval by both NASA KSC and SPFL's respective Business POCs identified in this Agreement.

XX. ASSIGNMENT

Neither this Agreement nor any interest arising under it will be assigned by SPFL or NASA without the express written consent of the official executing, or successors, or higher-level official possessing original or delegated authority to execute this Agreement.

XXI. PARTNER OCCUPANTS

A. SPFL agrees that NASA has a Government mission safety, security, and property ownership interest in the SLF Site Occupants that SPFL allows, pursuant to its rights under this Agreement, to develop, construct, and occupy sites at the SLF and engage in any of the permitted activities identified above. To address this interest and provide a mechanism for NASA to have prior knowledge and participation in the due diligence and selection of prospective SLF Site Occupants, SPFL will use the following process to engage NASA KSC Center Management (and prior to submitting, if applicable, the associated Commercial Aerospace 1509 Template (hereinafter "1509 Template")) for anticipated capital improvements:

1. SPFL shall follow its internal due diligence process, as required in Florida Statutes 331.310, for evaluating and reviewing any prospective SLF Site Occupants for financial responsibility and business case viability; technical and management capabilities to execute program or project; background investigation of past experience and performance; and other relevant factors to support a SPFL decision on entering into a contractual relationship with the prospect.

2. As an element of its due diligence process with respect to prospective SLF Site Occupants, SPFL will seek and incorporate NASA's knowledge, experience, and any reservations or concerns regarding an SLF Site Occupant prospect and/or the specific activities proposed to be carried out by that prospect. NASA's reservations or concerns will be based on the following considerations:

   a. Whether the prospective SLF Site Occupant's business or other activities is consistent with NASA's mission;

   b. Whether the prospective SLF Site Occupant have the relevant experience to use the SLF for any such Commercial Space Activities in a safe manner;

   c. Whether the prospective SLF Site Occupant comprises a security risk to the United States;

   d. Whether the prospective SLF Site Occupant listed on the General Service Administration's List of Parties Excluded from Federal Procurement and Non-procurement Programs; and

   e. Whether the prospective SLF Site Occupant poses an undue risk to NASA personnel or property.

SPFL will respond to any such input, and if none, will still advise NASA of the summary results of its due diligence process prior to executing any SLF Site Occupant agreement and submitting, if applicable, the associated 1509 Template for capital improvements.

3. To ensure NASA situational awareness of anticipated SLF Site Occupant prospects, timely SPFL awareness of any relevant NASA information that should be factored into the SPFL due diligence process, and provide for the earliest opportunity for NASA to comment on SPFL plans and opportunities for SLF Site Occupants, the parties agree to regular senior-level, confidential information exchanges to discuss potential or pending opportunities and operations. These meetings shall be scheduled to occur no less than bi-monthly, with participation limited to the senior leadership, nominally the NASA KSC Director and/or Deputy Director, and the Space Florida President and CEO and/or the Space Florida COO.

B. The above described process and procedure notwithstanding, SPFL shall not enter into any SLF Site Occupant agreement with an entity which is known or discovered to be (1) owned, controlled, or otherwise associated with any entity recognized as a security threat to the United States; (2) any entity listed on the General Service Administration's List of Parties Excluded from Federal Procurement and Non-procurement Programs.

C. SPFL shall ensure that all appropriate and applicable environmental, liability, and insurance and other provisions are included in any SLF Site Occupant agreements, as well as any agreements with any of its Related Entities, taking into account the activity contemplated by the parties in each agreement.

XXII. APPLICABLE LAW

U.S. Federal law governs this Agreement for all purposes, including, but not limited to, determining the validity of the Agreement, the meaning of its provisions, and the rights, obligations and remedies of the Parties.

XXIII. INDEPENDENT RELATIONSHIP

This Agreement is not intended to constitute, create, give effect to or otherwise recognize a joint venture, partnership, or formal business organization, or agency agreement of any kind, and the rights and obligations of the Parties shall be only those expressly set forth herein.

XXIV. RIGHTS OF COMMERCE AT THE SLF AND PAYMENT OF APPLICABLE TAXES

A. Pursuant to the purposes of this Agreement, SPFL shall have the exclusive right to conduct, or allow others to conduct on such terms as it may negotiate, all revenue-generating activities associated with or related to the uses permitted by this Agreement. These revenue-generating activities (collectively the "Rights of Commerce") include but are not

necessarily limited to the commerce resulting from the offering and performance of the following services:

1. Permitting of SLF sites and facilities
2. Construction of improvements upon sites to meet SLF Site Occupant requirements;
3. Provision of fuel and propellant commodities;
4. Provision of concession services for employees, Site Occupants and visitors
5. Charging and collecting landing and/or range user fees;
6. Charging parking fees, and user/Occupant fees for utilities and support services;
7. Provision of any other services normal and customary to airport or spaceport operations.

B. SPFL shall have the right to re-designate the SLF as it deems necessary and appropriate to the purposes of this Agreement, and to brand as a SPFL trademark or service mark the facility as an operating component of the Cape Canaveral Spaceport. SPFL shall have the right to develop, produce, and control all marketing and collateral materials offering facilities and services, or describing the capabilities of, the SLF.

C. Notwithstanding SPFL's tax-immune status as a political subdivision of the State of Florida, SPFL shall pay, or require and obligate the appropriate Related Entities and SLF Site Occupants to pay, to the applicable taxing authority upon written demand and prior to delinquency, all taxes, assessments, excises, levies, fees, and charges, including all payments related to the cost of providing facilities or services, of every kind and description, general or special, ordinary or extraordinary, foreseen or unforeseen, secured or unsecured, whether or not now customary or within the contemplation of NASA and SPFL (collectively "Taxes"), that are levied, assessed, charged, confirmed, or imposed by any public or Government authority upon or against, or measured by, or reasonably attributable to, the SLF or any part thereof or any Improvements constructed thereon. SPFL may contest the legal validity or amount of any Taxes for which it is responsible under this Agreement and may institute such proceedings as it considers necessary to recover or reduce its Taxes, provided that SPFL shall bear all expenses in pursuing such contest or proceeding. If a determination is made that local ad valorem taxes are assessable for Improvements constructed upon the SLF, NASA KSC will cooperate with SPFL to minimize any resulting duplication of services or fees.

D. Notwithstanding the requirements of section C above, SPFL may pursuant to its statutory authorities establish fees, charges, assessments, and other forms of payment related to its cost of providing facilities or services for all users of the SLF, as applied in terms and conditions of SLF Occupant and user agreements entered into by and between SPFL and individual user organizations.

XXV. Property - General

A. NASA retains accountability for, and title to, the SLF. Any personal property and Improvements by SPFL shall be deemed the property of SPFL, title to which shall remain with SPFL. Any personal property and Improvements by a SLF Site Occupant pursuant to an agreement entered into between SPFL and the SLF Site Occupant shall be deemed the property of the SLF Site Occupant, title to which shall remain with the SLF Site Occupant. NASA hereby acknowledges and agrees that SPFL may grant to a lender or the provider of such property installed on the SLF, a security interest in the personal property and Improvements owned by SPFL or an SPFL Site Occupant as long as such security interest does not create any lien or encumbrance of any kind whatsoever upon the SLF or any other property, real or personal, of NASA.

B. Except for those facilities proposed by SPFL and approved by NASA KSC for demolition in accordance with Article XXVI, SPFL shall be responsible for the Operations and Maintenance (O&M) of the SLF identified in Exhibit A, section A.2 (A), to industry standards for the entire Term. SPFL shall at all times during the Term and at SPFL's sole cost and expense, operate, maintain, repair and bring up to operating condition all facilities that SPFL is using for its operations, and maintain other "unused" facilities transferred to SPFL's responsibility pursuant to this Agreement in a safe, while also ensuring the safety of any personnel working in proximity to those unused facilities. SPFL shall have no responsibility for the operation, maintenance, repair, or for ensuring the safe condition of, any of the NASA KSC Operated and Maintained facilities (Exhibit A, section A.2 (B)) whether in active use or "unused" or for the facilities identified as NASA Mothballed/Abandoned. SPFL is also financially responsible for all consumables and materials required for the O&M of the SLF. SPFL shall ensure that the SLF retains its functionality for the enumerated Commercial Space Activities identified in this Agreement, for its entire Term.

C. Except for any lien or encumbrance that may attach to the personal property and Improvements owned by SPFL and installed at the SLF pursuant to this Agreement, SPFL shall keep the SLF free from mechanics', materialmen's, and all other liens arising out of any work performed, labor supplied, materials furnished, or other obligations incurred by SPFL. SPFL shall promptly and fully pay and discharge all claims on which any such lien could be based. SPFL shall have the right to contest the amount or validity of any such lien, provided SPFL gives prior written notice of such contest to NASA KSC, prosecutes such contest by appropriate proceedings in good faith and with diligence, and upon request by NASA KSC, furnishes such bond as may be required by law or such security as NASA KSC may require to protect the SLF from such lien. NASA shall have the right to post and keep posted on the SLF any notices that may be provided by law or which NASA may deem to be proper for the protection of NASA and the SLF from such liens and to take any other action NASA deems necessary to remove or discharge liens or encumbrances at the expense of SPFL.

D. SPFL is responsible for its own telephone (including coordinating the correct routing of 911 calls) and networking requirements within the SLF demarcation points with the

exception of elevator phones. No connection will be granted to NASA KSC network services.

E. Due to common connectivity between the SLF and LC-39 Area, and other interdependencies beyond the SLF demarcation points, NASA KSC will be responsible for a portion of the operations and maintenance of certain facility sub-systems contained within the SLF demarcation points (Exhibit C). The demarcation points are where NASA KSC operations and maintenance responsibilities end and SPFL operations and maintenance responsibilities begin.

F. SPFL shall participate in the annual NASA Deferred Maintenance Assessment performed by NASA KSC. This will consist of a site visit by NASA KSC personnel and dialogue with the SPFL Technical POC to discuss maintenance requirements.

G. SPFL shall be responsible to operate and maintain any FAA required aircraft avoidance lighting within the SLF.

H. In addition to maintaining a current Federal Communications Commission station license, SPFL and Occupants shall obtain a NASA KSC Radio Frequency (RF) Authorization for all radio frequency transmitters. NASA KSC will seek to provide this authorization within two (2) weeks after receipt of all required data.

I. To ensure compatibility with the NASA KSC RF environment, the SPFL and SLF Site Occupants shall obtain an RF Transmitter Permit from the NASA KSC Electromagnetic Environmental Effects Working Group prior to operation of any RF transmitters. NASA KSC will seek to provide this authorization within two (2) weeks after receipt of all required data.

J. Use of ionizing or nonionizing radiation sources on NASA KSC shall be in compliance with KNPR 1860.1 and KNPR 1860.2 and coordinated with Industrial Health through the NASA KSC Technical POC.

K. Any NASA KSC operated and maintained real property (identified in Exhibit A.) lost, damaged or destroyed by SPFL incident to SPFL's use and occupation of the SLF shall be promptly repaired or replaced by SPFL to the condition it was prior to said loss, damage, unauthorized modification, or destruction, as reasonably determined by NASA KSC. If SPFL shall fail or refuse to repair or replace property that is lost, damaged, modified without authorization, or destroyed by SPFL incident to SPFL's use and occupation of the SLF, SPFL shall, if so required by NASA KSC, reimburse to NASA money in an amount sufficient to compensate for the loss sustained by NASA by reason of the loss, damage, unauthorized modification, or destruction of any portion of the SLF. SPFL shall not be responsible for repair of damage to NASA KSC Maintained Real Property as defined in Exhibit A.2B that is lost, damaged, destroyed, or modified without authorization incident to NASA's own use, the use by any party authorized directly by NASA to use or occupy the NASA Maintained Real Property; or incident to the use of the SLF by NASA aircraft, spacecraft, or test vehicles; or incident to a natural event, act of war, or as the result of a government-directed activity outside of SPFL's control (e.g., USFWS prescribed burns in the SLF area).

XXVI. DESIGN, CONSTRUCTION, AND OWNERSHIP OF FACILITY IMPROVEMENTS

A. Facilities Design and Construction. SPFL shall require the design and construction of all facilities to be in compliance with all applicable local, state, and Federal laws and regulations, including Chapter 373, Florida Statutes; and in conformance to the latest edition of the Florida Building Code and other design and construction standards adopted by the State, and in effect prior to the start of design. SPFL shall provide to NASA-KSC all facility and facility value data as may be required for NASA KSC to comply with NASA project approval and real property reporting purposes. SPFL shall maintain all specifications and design drawings, and a complete set of as-built drawings for each facility Improvement completed, and shall provide access to such documentation or copies if requested by NASA KSC for its retention and property records.

B. Project Approval. Prior to commencing the design and construction of an Improvement upon the SLF, or to existing SLF facilities and infrastructure, SPFL must first submit and obtain NASA KSC's written concurrence to proceed with the planned Improvement by submitting a completed 1509 Template describing any improvement equal to or greater than $100,000 (Exhibit F). This template is used by NASA KSC to complete the "Facility Project – Brief Project Document" (NASA Form 1509), and "Facility Project Cost Estimate" (NASA Form 1510).

C. Project Coordination. SPFL shall coordinate with NASA KSC in the early planning phase of any proposed facility Improvements that may require an increase in current capacity or configuration change to any utility service (e.g., electrical, water/wastewater, natural gas) to the assigned facilities, and shall establish a design and construction coordination process to notify NASA KSC of significant changes during design and construction that affect configuration or safety of upstream utility services (unless SPFL opts to obtain utilities from a commercial or non-government source). NASA KSC will serve as the utility services provider for SPFL and will perform any utility modifications on the NASA KSC side of the negotiated interface points (*e.g.*, expansion, safing, and re-configuration) on a cost reimbursable basis consistent with the terms of Article V, "Financial Obligations." Demarcation (isolation) points and/or interface points for affected utilities are captured in Exhibit C to this Agreement. SPFL shall follow NASA policies and procedures when implementing any facility Improvements projects including, but not limited to, outage coordination, switching limitation policy, hot work permits, excavation permit and utility locate procedures, trailer/equipment tie-down requirements and movement of oversize loads.

D. SPFL Design Review and Approval/Construction Inspection. SPFL will be responsible for the preparation and publication of an SLF Design Standards and Utility Interface Requirements Handbook to ensure the consistent and compatible design of all future SLF improvements regardless of owner/builder. SPFL will provide NASA KSC with an opportunity to review and comment on the Handbook prior to its finalization. The

standards shall include architectural standards, building identification and labelling standards, signage standards, sustainability standards, and standards for utility interfaces. SPFL will be responsible for obtaining independent design review for compliance with the adopted standards and Florida Building Code, and for independent construction inspection for conformity with applicable standards and codes. SPFL will provide NASA KSC with copies of all inspection reports, as well as the disposition of any comments on those reports. The SLF design standards shall include the following NASA standards or equivalent:

1. NASA-STD-8719.11, Safety Standard for Fire Protection, as it relates to fire sprinkler and fire alarm systems and associated occupancy and hazard classifications. This standard also serves as a simple NASA-specific reference to those Building Code and NFPA requirements that are applicable at KSC, or to cover situations where there are no applicable codes.
2. KSC-STD-E-0012, Facility Grounding and Lightning Protection, latest edition if facility presents an explosive hazard to NASA KSC facilities or personnel, or can impact NASA KSC mission related operations.
3. To meet the intent of NASA sustainability standards and design requirements intended to conserve energy, water, and other renewable and non-renewable resources, SPFL will incorporate into the SLF design standards State-adopted sustainability standards based on one of the ratings systems State agencies are required to use one of the sustainable rating systems approved in section 255.253, Florida Statutes as determined to be most applicable to the Improvements contemplated for the SLF. The selected, applicable standard will be identified in the submitted 1509 Template.

Once finalized, the Parties will incorporate the Handbook as an exhibit to this Agreement.

E. NASA Design Review and Approval/Construction Inspection. Except as otherwise provided with respect to permanent improvements to NASA's real property, NASA KSC's design review and approval, and inspection of construction, shall be required only for the determination of fire protection requirements code compliance of SLF site infrastructure and building construction as necessary to support a certification of occupancy by the AHJ. At NASA's sole discretion, the Authority Having Jurisdiction (AHJ) may use NASA Related Entities to perform design review for code compliance and inspect construction to support the issuance by the AHJ of a certification of occupancy. Design documents shall be provided for AHJ review and comment at up to three design review intervals in order for any NASA KSC concerns to be identified in a timely manner.

In addition, any permanent improvements which must be made to NASA's real property as defined in this Article (i.e., Improvements that will not be removed pursuant to the terms of this Agreement) will require NASA KSC review and approval of final design drawings and specifications to be utilized for facility construction and modification._For all Improvements, SPFL shall provide as-built documentation to NASA KSC that reflects and incorporates all changes during construction. Utility service interfaces shall be identified. Once systems are placed into operation, SPFL shall provide appropriate configuration control to ensure as-built documentation is maintained current throughout the life of the

Agreement. SPFL shall coordinate with the NASA KSC AHJ for approval of Certificate of Occupancy or its equivalent, and shall not occupy, utilize or operate facilities impacted by the construction without said approval.

A listing of the facility systems located at the SLF is provided in Exhibit A. On an annual basis, SPFL shall updated this list and provide the update to the NASA KSC Business POC. SPFL shall develop and maintain a configuration management system to ensure facility systems configuration changes are recorded and tracked over the life of this Agreement.

F. Removal of Real Property. The NASA KSC Real Property Accountable Officer (RPAO) will provide to the SPFL an inventory of all NASA facilities and collateral equipment at the SLF, and will conduct a tri-annual real property inventory inspection of said facilities and collateral equipment to ensure that it is being properly used and accounted for throughout the Term. SPFL shall protect and maintain the all property at the SLF assigned to SPFL. SPFL agrees to submit to the NASA KSC RPAO, through the NASA KSC Business POC any real property collateral equipment tags and/or redlined listings of all equipment that is to be removed as the result of any Improvements made at the SLF. The RPAO will prepare the necessary paperwork (*e.g.*, NASA Form 1046, Transfer and/or Notification of Acceptance of Accountability of Real Property) to properly dispose of the collateral equipment and to remove it from NASA KSC's real property inventory, and will make the required notifications to NASA Headquarters and the General Services Administration regarding any facilities to be demolished, consistent with the terms of the Agreement.

Except as otherwise agreed to in advance by NASA as stipulated below, any removed collateral equipment or recyclable salvaged or scrap materials shall be disposed of through the NASA KSC property disposal process, as directed by NASA KSC and in accordance with the Code of Federal Regulations, Federal Acquisition Regulations, the Export Control Act, and NASA KSC environmental requirements. SPFL shall make arrangements with the NASA KSC Property Disposal Officer, through the NASA KSC Business POC for delivery of those materials or collateral equipment.

Upon advance approval by NASA KSC, it may be possible for the recycled value of such salvageable collateral equipment or scrap materials to be used to help offset the cost of demolition, but in no case will SPFL be permitted to recover scrap or salvage value in excess of actual demolition or removal costs. This salvage offset, which would require a transfer of title to Government property, is only authorized under a federal contract (*i.e.*, Federal Acquisition Regulation [FAR] procurement) for demolition services. Therefore, any such agreement would be in compliance with the FAR and all other Applicable Laws and regulations, and accomplished via a separate contract between NASA and SPFL for demolition of specified real property assets. This contract must be executed before the associated facility Improvements project is approved by NASA KSC.

If SPFL desires to pursue a contract for demolition, SPFL shall indicate on the 1509 Template whether the estimated cost of any planned demolition or removal work includes offsetting scrap or salvage value for any SPFL assigned facilities, facility systems, or collateral equipment; and shall separately document the total estimated net cost of the

demolition or removal activity, along with the specific property and associated scrap value used to offset that cost. Finally, the actual demolition costs and associated salvage offset values shall be reported to NASA KSC upon completion of the applicable demolition activity.

Upon final approval and signature, each completed 1509 Template that results from projects under this Agreement will be incorporated into Exhibit F.

G. Meters. SPFL agrees to install revenue grade meters for utilities (*e.g.*, power and water) as well as meters for commodities (*e.g.*, GN2 and GHe) on any new facilities and existing facilities requiring meters. SPFL shall obtain NASA KSC's approval of the design for any such meter install. NASA KSC will inspect the installation as well as perform periodic inspections to validate that the meter is reading properly.

H. Any NASA real property (See Exhibit A) that will no longer be of use to the SPFL, shall be deemed "Inactive" and placed in a mothballed, abandoned, or stand-by status. SPFL will take the necessary actions to place the facilities in the inactive state. SPFL shall continue to be responsible for keeping the assets safe until returned to NASA KSC. If SPFL elects to abandon, mothball or place in stand-by a NASA-owned facility at the SLF (referenced in Exhibit A.2.A), SPFL agrees to submit a change in facility status to the NASA KSC RPAO, through the NASA KSC Technical POC. Additionally, SPFL agrees to submit a change in facility status for any asset SPFL plans to reactivate from a mothballed, abandoned, or stand-by status and is responsible for this reactivation.

XXVII. VACATION OF PROPERTY

A. On or before the expiration of this Agreement, SPFL shall:

1. Remove from the SLF all personal property and Improvements made by SPFL or by SLF Site Occupants;
2. Surrender to NASA KSC the SLF as existing at the signature date of this Agreement, free and clear of all liens, encumbrances or exceptions to title; and
3. Vacate the SLF.

B. All alterations, additions, fixtures and improvements, whether temporary or permanent in character, made in or to the SLF by SPFL or SLF Site Occupants shall be removed by SPFL within ninety (90) calendar days, or such longer time as NASA KSC may approve, of the expiration or earlier termination of this Agreement, and SPFL shall return the SLF to its original condition except for any property which has been removed by NASA KSC or with the approval of NASA KSC. SPFL shall, at SPFL's expense, remove all real and personal property from the SLF and repair all damage caused by any such removal, reasonable wear and tear excepted. If SPFL abandons the SLF, or is dispossessed by process of law or otherwise, all Improvements made by SPFL and left at the SLF, and all personal property belonging to SPFL and left at the SLF, shall be deemed to be abandoned. NASA, in its sole discretion, will determine its subsequent disposition.

XXVIII. ACCESS AND INSPECTION

A. NASA KSC may enter the SLF for the purposes of inspections and planned demolition. NASA KSC will determine the number of personnel required for entry with due consideration of SPFL's use. In exercising this right of access, NASA KSC will normally enter the SLF during regular business hours and will normally give SPFL at least forty-eight (48) hours prior notice of its intention to do so, unless NASA KSC determines less than forty-eight (48) hours prior notice is required to respond to safety, environmental, operations, or security concerns. In exercising the right of access provided herein, NASA KSC, its employees and Related Entities, shall comply with all Applicable Laws and the health, safety, environmental, and security plans and procedures of SPFL required by the specific requirements of applicable statutes, regulations or Government contracts. Nothing in this Article shall be construed to limit or impair the statutory authorities of the Government to enter and inspect the SLF. SPFL, its Related Entities, and any SLF Site Occupants, shall have no claim on account of such entries against NASA, the Government, or any officer, agent, employee, or Related Entity thereof.

B. SPFL understands and accepts that its operations at the SLF may, from time to time, be hampered by temporary restrictions on access, such as identity checks and auto searches by NASA KSC or other Government programs that require special security considerations. SPFL agrees that the Government shall not be responsible or liable under this Agreement for any lost time or costs incurred by SPFL due to any disruption of its activities at the SLF, regardless of the frequency or duration of any such interruptions, including disruptions of commercial activities, or any delays in entry, temporary loss of access, barring of individual employees from KSC under federal laws authorizing such actions, limitation or withdrawal of any employee's on-Center driving privileges, or any other security action that may cause employees to be late or unavailable at their work stations, or delay arrival of parts and supplies. SPFL hereby expressly waives any claims or suits against the Government under this Agreement caused by or arising from conducting Government operations or other commercial operations and any such security actions.

XXIX. PROTECTIVE SERVICES - FIRE, EMERGENCY MANAGEMENT, AND SECURITY AND LAW ENFORCEMENT

A. The NASA KSC Protective Services Office (PSO) is the Government office responsible for fire protection, emergency management and security. The PSO oversees the NASA KSC Protective Services Contract. Security and fire personnel conduct operations in both uniformed and plain clothes. This section encompasses those baseline services (*i.e.*, Security patrol, electronic access control monitoring, emergency fire, and medical, security and law enforcement response) that will be provided to SPFL on a reimbursable basis as defined in Article V, Financial Obligations and Exhibit E, under this Agreement.

1. NASA KSC will provide twenty-four (24) hours per day, seven (7) days per week

emergency response, structural and aircraft firefighting, emergency management responses to the SLF. The NASA KSC PSO will provide 911 call services, fire rescue, security, and emergency medical and hazardous response to the SLF. SPFL will designate a Protective Services Liaison (PSL) to the NASA KSC PSO.

2. SPFL will either utilize the PSO locksmith services to acquire locks, core hardware, keys, or provide an external lock box accessible by the Fire Department with an internal master key consistent with specification in paragraph 1.6 below.

3. SPFL will provide immediate access to the SLF by properly identified PSO personnel when necessary in the performance of their official duties.

4. SPFL personnel, SPFL's Related Entities, and SLF Site Occupants, authorized to occupy and use NASA KSC property shall comply with NASA regulations, and all other laws, policies and guidelines that pertain to security, fire, and emergency management.

5. The NASA KSC PSO requires reasonable access to exterior doors and critical entry areas such as rooms containing alarm panels, electrical panels, fire panels, or mechanical rooms with exterior only access for purposes of emergency response and fire inspections.

6. If SPFL desires to use electronic access control, security, and fire alarms, SPFL may utilize the current NASA KSC Center-wide reporting system only if SPFL contracts maintenance of the alarm systems to the NASA KSC O&M provider on a reimbursable basis. These systems will be monitored at the KSC Protective Services Communication Center (PSCC) and will dispatch appropriate response. SPFL's PSL will be notified by the PSCC of alarms in their facilities.

   If SPFL contracts maintenance of the alarm systems to a non-NASA KSC O&M provider, the alarm panels shall be removed from the KSC Emergency Response system and shall be monitored twenty-four (24) hours per day, seven (7) days per week by an approved monitoring service at SPFL's cost. The core of the alarm panels will be changed by NASA KSC Locksmith to accommodate the NASA KSC O&M provider on a reimbursable basis. A National Electrical Manufacturing Association (NEMA) 4 compliant enclosure with minimum dimensions of 10"x10"x6" will be coordinated with NASA KSC AHJ and installed for NASA KSC PSO access. The NEMA 4 box shall be provided and installed by SPFL.

7. The NASA KSC PSO may take whatever action necessary to protect life and property and will not be liable for any damage that occurs as a result of these efforts.

B. Fire Protection

1. The AHJ as defined in National Fire Protection Association (NFPA), Florida Building Code, American Society of Mechanical Engineers (ASME), American National Standards Institute (ANSI), Safety Standard for Fire Protection (NASA-STD-8719.11), and all applicable fire and life safety documents is the NASA KSC AHJ. SPFL will provide immediate access to the NASA KSC AHJ and designated personnel for compliance inspections. If at any time a matter of compliance is brought to the attention of the NASA KSC AHJ, a determination will be made by the NASA KSC AHJ as to its resolution. This

may include, but is not limited to, a written warning, cessation of operations, or recommendation for termination of this Agreement per Article XIV, "Right to Terminate, Events of Default, and Remedies".

2. The fire and life safety systems for each facility shall be installed and maintained in accordance with the provisions of Safety Standard for Fire Protection (NASA-STD-8719.11), latest revision. Any facility modifications, upgrades, system replacements, or combination thereof shall meet these same provisions. Fire and life safety system outages and impairments shall be brought to the attention of the NASA KSC AHJ.

3. Prior to signing of this Agreement, the NASA KSC AHJ will provide SPFL with a current Code Compliance Report for the SLF identifying any systems which do not currently meet code requirements, and the existing abatement program that has been established by NASA KSC for those systems that do not. Following execution of this Agreement, SPFL will provide an annual Code Compliance Report for the SLF to the NASA KSC AHJ identifying systems that meet code requirements and an abatement program for those systems that do not.

4. Any SPFL facility requiring the use of fire services exceeding the baseline (in-district) services (*e.g.*, dedicated in station fire support) as determined by NASA KSC PSO will be provided on a reimbursable basis to SPFL.

C. Emergency Management

The NASA KSC PSO emergency management office provides twenty-four (24) hours per day, seven (7) days per week support when required by the NASA KSC Emergency Management Officer (NEMO). SPFL shall comply with instructions provided by Protective Services personnel during emergency situations. Emergency situations include, but are not limited to, facility or Center evacuations, aircraft crashes, hurricane preparations, hazardous substance releases, security threats, and fire alarms. SPFL shall coordinate with the NASA KSC NEMO in development of an Emergency Management Plan (EMP) and shall participate in emergency planning, training, response, and recovery. The EMP shall include a facility evacuation procedure in accordance with NASA KSC's Comprehensive Emergency Management Plan (KNPR 9715.2). The PSL will insure that SPFL personnel are familiar with all applicable emergency procedures.

D. Security

1. The NASA KSC PSO security forces will provide twenty-four (24) hours per day, seven (7) days per week routine patrols and response to security emergencies and traffic incidents. Escorts of hazardous, wide, and/or heavy loads coordinated through the KSC Institutional Services Contract (ISC) Duty Office will be provided to SPFL on a reimbursable basis.

   SPFL may hire non-NASA KSC unarmed security personnel inside the SFL Property at their discretion. Any SPFL facility requiring the use of an armed officer must utilize the NASA KSC PSO. Requests that exceed baseline service levels as determined by KSC PSO will be provided to SPFL on a reimbursable basis.

SPFL shall comply with NASA regulations that prohibit weapons or dangerous materials from being carried, transported, introduced, or stored or used without specific authorization by the NASA KSC Chief of Security. SPFL and guest personnel are also subject to inspection when inside the secure perimeter gates of KSC in accordance with 14 CFR, 1204.1003.

2. SPFL on-site management or PSL will, without delay, report all acts of workplace violence to the PSO; this includes any employee who exhibits behaviors of concern. SPFL will immediately notify the NASA KSC PSO when an employee is terminated for any issue relating to workplace violence. The NASA KSC PSO will support upon request any assistance with any terminations to include escorting employees from the Center. SPFL personnel are encouraged to participate in various NASA KSC PSO security related training and seminars that are offered to NASA KSC and Related Entity employees (*e.g.*, prevention of workplace violence and loss prevention).

3. SPFL will comply with the requirements of Homeland Security Presidential Directive (HSPD) 12 and NASA KSC administrative procedures for access to KSC. SPFL will participate in the current NASA Identity and Access Management system, badging process, and automated access control. SPFL will reimburse NASA KSC a processing fee, per employee, for each employee requiring access for more than one hundred seventy-nine (179) days. This allows SPFL personnel and Occupants to access KSC and the SLF through all KSC gates. Badging will be available for permanent personnel, as well as subcontractors, construction crews, flight crews, and visitors.

XXX. ENVIRONMENTAL CONDITION, MANAGEMENT, AND COMPLIANCE

A. Definitions. As used in this Agreement, "**Hazardous Material**" shall mean any substance that is (a) defined under any Environmental Law (as defined below) as a hazardous substance, hazardous waste, hazardous material, pollutant, or contaminant; (b) a petroleum hydrocarbon, including crude oil or any fraction or mixture thereof; (c) hazardous, toxic, corrosive, flammable, explosive, infectious, radioactive, carcinogenic, or a reproductive toxicant; or (d) otherwise regulated pursuant to any Environmental Law. As used in this Agreement, "**Environmental Law**" shall mean all Federal, State, and local laws, statutes, ordinances, regulations, rules, judicial and administrative orders and decrees, permits, licenses, approvals, authorizations, and similar requirements of all Federal, State, and local governmental agencies (including NASA) or other governmental authorities pertaining to the protection of human health and safety or the environment, now existing or later adopted during the Term. As used in this Agreement, "**Agreement Activities**" shall mean the activities of SPFL that are part of the ordinary course of SPFL's business in accordance with the Permitted Uses. As used in this Agreement, "**Materials**" shall mean the materials handled, used, or stored by SPFL in the ordinary course of conducting Agreement activities. As used in this Agreement, "**Permit Applications**" shall mean permit

application forms and supporting documentation, Notice of Intent forms and supporting documentation, registration forms, license forms, or other regulatory approval requests.

B. Environmental Baseline Survey (EBS). NASA KSC will, at its own expense, prepare an Initial EBS for the SLF to be acknowledged and signed by representatives of NASA KSC and SPFL. The parties acknowledge that the EBS, dated February 28, 2014, has been provided to SPFL in advance of the signing of this Agreement. The EBS shall set forth those environmental conditions and matters affecting the SLF known as of the execution date of this Agreement as determined from records of the SLF and the analysis reflected therein. SPFL shall not be responsible to remedy any environmental conditions and matters affecting the SLF that are documented in the EBS. If the EBS identifies potential soil or ground water contamination requiring further investigation, NASA KSC will perform such investigations. If, after the agreement is signed, SPFL identifies potential soil or groundwater contamination not identified in the EBS and not attributable to SPFL's operations, NASA KSC will perform further investigation and provide those reports to SPFL. NASA KSC will coordinate all sampling and remediation efforts with SPFL prior to commencing the activity. Upon vacating the SLF in accordance with this Agreement, SPFL shall prepare, at its own expense, and submit to NASA KSC an updated EBS, to be acknowledged and signed by representatives of NASA KSC and SPFL. The EBS update shall set forth those environmental conditions and matters affecting the SLF known at the time SPFL vacates the SLF , and be based upon all known activities that have occurred at the SLF as well as information contained in records relating to the SLF and the analysis reflected therein. NASA KSC may require sampling of soil and/or surface and ground water to verify environmental conditions. SPFL shall not be obligated to remedy any environmental conditions and matters affecting the SLF that are not a result of SPFL's Agreement activities at the SLF including activities of SPFL's Site Occupants, clients, assignees, invitees and guests. SPFL shall be liable for and required to remedy any environmental conditions and matters affecting the SLF that are found by NASA KSC to be a result of SPFL's and its Related Entities' Agreement activities at the SLF.

C. General Compliance. SPFL shall ensure that all operations, activities, equipment, and facilities are in compliance with all Federal, State of Florida, and local environmental laws, statutes, regulations, and ordinances. Unless stated in this Agreement, except for NASA activities/operations at the SLF, SPFL shall be solely responsible for compliance with aforementioned environmental regulatory requirements including environmental permits. If formal enforcement actions are taken against NASA for environmental violations due to SPFL's actions or inactions, SPFL shall reimburse NASA for any fines or penalties assessed.

D. Existing Environmental Hazards. SPFL accepts the facilities associated with this Agreement in an "as is" environmental condition. SPFL is responsible for mitigating/protecting workers from any environmental hazards and disposing of any disturbed hazardous materials according to environmental laws and regulations. Examples: lead-based paint, asbestos, polychlorinated biphenyl (PCB)-containing paint, PCB-containing electrical equipment, etc.

E. KSC Environmental Checklists. Prior to commencing operations, SPFL shall complete an initial NASA KSC Environmental Checklist (KSC Form 21-608) for all activities and submit it to the NASA KSC Environmental Management Branch (EMB) for evaluation. SPFL shall also complete NASA KSC Environmental Checklists prior to the initiation of the following actions, projects, activities, or circumstances and submit them to the NASA KSC EMB for evaluation.

1. Construction, demolition, or facility modification projects (major or minor)
2. Excavations, land clearing, or grading
3. Connecting, disconnecting, or modifying the configuration or operation of a NASA owned system, utility, or stormwater management system
4. Changes in operations, activities, facility operator, or Site Occupant

SPFL shall comply with all the environmental requirements and direction provided by the NASA KSC EMB in the checklist response.

F. National Environmental Policy Act (NEPA). SPFL is responsible for funding, implementing, and maintaining any environmental mitigation measures identified in applicable NEPA documentation associated with the Agreement Activities. The current NASA KSC Record of Environmental Consideration (REC) is provided as Exhibit D. Should Agreement activities trigger the need for NEPA documentation during the Term that did not already exist prior to commencement of the Agreement activity, SPFL is responsible to fund those NEPA requirements, and assist NASA KSC throughout the process as necessary.

G. Historical and Cultural Resources.

1. The SLF has been deemed eligible for listing on the National Registry of Historic Places. Prior to any modifications, repairs, improvements, alterations, the undertaking must be coordinated with the NASA Environmental Management Branch using the NASA KSC Environmental Checklist process, for evaluation to determine if the proposed project will have an adverse effect to the historic properties under the National Historic Preservation Act, implementing regulations (36 CFR Part 800, Protection of Historic Properties), or Programmatic Agreement for Management of Historic Properties at KSC (KCA-4185). If an adverse effect is determined by NASA KSC, NASA KSC will identify its effect of the activity on the historic property and consult with State Historic Preservation Office as appropriate in accordance with the Programmatic Agreement. Any adverse effect determination may take up to three (3) to six (6) months depending on the complexity of the project.
2. SPFL shall not remove or disturb, or cause or permit to be removed or disturbed, any historical, archaeological, architectural, or other cultural artifacts, relics, vestiges, remains, or objects of antiquity. In the event such items are discovered at the SLF, SPFL shall cease its activities at the site, immediately notify said NASA KSC offices, and protect the site and material from further disturbance until said NASA KSC offices give clearance to proceed. Any costs resulting from this delay shall be the responsibility of SPFL.

H. Waste Management and Disposal. All wastes generated by SPFL shall be properly containerized, stored, labeled, manifested, shipped, and disposed of by SPFL in full regulatory compliance at SPFL's expense. Hazardous wastes generated by SPFL shall be manifested, shipped, and disposed of under SPFL's Environmental Protection Agency hazardous waste generator identification number.

I. Environmental Permitting.

1. SPFL shall obtain all required environmental permits, licenses, registrations, and approvals for their site activities. SPFL shall prepare all permit applications and pay all permit application fees directly to the regulatory agency. If required by the permit application, the NASA KSC Environmental Assurance Branch (EAB) will sign permit applications as the landowner or utility system owner. SPFL shall submit courtesy copies of all submitted permit applications to the NASA KSC EAB within twenty-one (21) calendar days after submission to the regulatory agency. SPFL shall submit courtesy copies of all permits, licenses, registrations, and approvals to the NASA KSC EAB within twenty-one (21) calendar days after receipt from the regulatory agency. SPFL shall ensure that all operations, activities, equipment, and facilities are in full compliance with all permit conditions.

2. NASA KSC holds a facility-wide Federal Clean Air Act Title V Air Operation Permit issued by the Florida Department of Environmental Protection (FDEP) that governs air emissions from dozens of regulated emission sources and hundreds of insignificant emission sources across NASA KSC. NASA KSC intends for SPFL to be independent regarding air emissions permitting and compliance. SPFL shall contact the NASA KSC EAB prior to:

   a. The operation, reactivation, or modification of an existing emission source/activity,

   b. The construction of any new air emission source, or

   c. The initiation of an activity producing air emissions.

   SPFL shall participate in meetings with the NASA KSC EAB and the FDEP to discuss applicable air emissions permitting and compliance requirements for SPFL's activities. SPFL may be required to obtain separate air permits for their activities. At this time, there are no regulated emission sources or activities currently listed on the NASA Title V Air Operation Permit at the facilities involved in this agreement. There are insignificant air emissions activities currently listed on the NASA Title V Air Operation Permit at the facilities involved in this agreement.

3. NASA KSC may allow SPFL to modify an existing NASA KSC permit to incorporate SPFL's activity or allow SPFL's activity to be covered under an existing NASA KSC permit. If both NASA KSC and SPFL agree to this arrangement, SPFL shall prepare any required permit application, submit the application to the NASA KSC EAB for processing with the regulatory agency, and pay any application or registration fees directly to the regulatory agency. SPFL shall assist NASA KSC in obtaining the permit by responding to regulatory agency questions, preparing formal responses to regulatory agency Requests for

Additional Information (RAIs), preparing briefings, attending meetings, etc. Once the permit is obtained, SPFL shall ensure that all operations, activities, and facilities are in compliance with all permit conditions which may include conducting inspections, performing sampling/testing, maintaining records, performing facility/infrastructure maintenance or repair, and preparing operating reports. Any regulatory fines or mitigation that result from any activities at the SLF that are assessed under a modified permit are the responsibility of SPFL. SPFL shall prepare all required regulatory reports/data and submit them to the NASA KSC EAB for submission to the regulatory agency. All communication and interface with regulatory agencies regarding activities conducted under a NASA KSC held permit must be coordinated through and performed by the NASA KSC EAB. SPFL shall be responsible for immediately correcting all violations, findings, and deficiencies identified by a regulatory agency or NASA KSC at SPFL's expense. At the termination of this agreement, SPFL shall provide copies of all records required by or used to demonstrate compliance with any permit, license, registration, or approval to the NASA KSC EAB.

4. Existing Permits to be Retained by NASA KSC. At this time, there are no existing environmental permits to be retained by NASA KSC associated with a facility involved in this agreement.

5. Existing Permits to be Transferred. There are existing environmental permits at the facilities involved in this Agreement to be transferred to SPFL. SPFL shall complete all required applications and assist NASA KSC in transferring these permits. Upon transfer, SPFL will be fully responsible for permit compliance. These permits are:

   Stormwater Management Environmental Resource Permits issued by the St. Johns River Water Management District

   - Shuttle Landing Facility Permit Number IND-009-16630-4
   - Sharkey Road Widening Permit Number 40-009-0832G-ERP

   A diagram showing those stormwater permit boundaries is provided in Exhibit B.

J. Spill Reporting and Cleanup. SPFL shall take measures to prevent the release of hazardous materials at, about, or beneath the SLF. The liability of SPFL under this section of this agreement shall survive the termination of this Agreement with respect to acts or omissions that occur before such termination.

1. Spill Reporting and Notifications. SPFL shall immediately report spills, releases, or emissions of hazardous materials that exceed a Reportable Quantity to:

   a. NASA KSC emergency responders by calling (321) 867-7911;

   b. Off-site agencies or authorities (such as the National Response Center, Florida State Watch Office, and Florida Department of Environmental Protection) as required by Federal and State of Florida regulations; and

   c. NASA KSC EAB by calling (321) 867-9005.

Reportable Quantities for hazardous materials are defined by various federal and State of Florida regulations such as, but not limited to, 40 CFR Part 302, 40 CFR Part 355, 49 CFR Parts 171-180, Florida Administrative Code (FAC) Chapter 62-150, and FAC Chapter 62-770.

SPFL shall also immediately report any spill or release of hazardous materials (regardless of quantity) to pervious surfaces or environmental media (such as grass, soil, groundwater, surface water, sediment, and gravel) to the NASA KSC EAB by calling (321) 867-9005.

Pavement with unsealed cracks or expansion joints can be considered pervious surfaces if hazardous materials can migrate to environmental media below. A spill to impervious surface that is not adequately cleaned up within a reasonable timeframe (not to exceed six (6) hours) or prior to a storm event is considered a spill to pervious surface for purposes of this Article.

Whenever SPFL is required to report a spill or release to NASA KSC, SPFL shall also complete a written NASA KSC Pollution Incident Report (KSC Form 21-555) and submit it to the NASA KSC EAB within three (3) calendar days after the incident or discovery.

2. Spill Cleanup. SPFL shall clean up all spills regardless of media impacted and quantity spilled. SPFL has the discretion to utilize their own spill cleanup capability or to request support (via the emergency operator) from the NASA KSC spill team to clean up the spill. Whenever the NASA KSC spill team responds to a spill, SPFL shall either reimburse NASA for those costs or establish a support agreement directly with the NASA KSC spill team company. SPFL shall be responsible for shipment and disposal of all cleanup waste and contaminated environmental media as described in the Waste Management and Disposal paragraph above.

   All spills and releases to pervious surfaces or environmental media (such as grass, soil, groundwater, surface water, sediment, and gravel) shall be cleaned up to State of Florida residential standards unless approved in writing by the NASA KSC EAB. After the cleanup action has been completed, SPFL shall prepare a written cleanup report (which includes a description the corrective actions taken, a map showing the spill location, general dimensions of the affected area using Global Positioning System coordinates, photos of the spill before and after cleanup, and confirmatory sampling results providing evidence of adequate cleanup). For cleanup actions completed during a calendar quarter, SPFL shall deliver cleanup reports to the NASA KSC EAB no later than the end of the following calendar quarter.

   Pavement with unsealed cracks or expansion joints can be considered pervious surfaces if hazardous materials can migrate to environmental media below. A spill to impervious surface that is not adequately cleaned up within a reasonable timeframe (not to exceed six (6) hours) or prior to a storm event is considered a spill to pervious surface for purposes of this section.

K. Spill Prevention, Control, and Countermeasures (SPCC). SPFL shall comply with applicable oil pollution prevention regulations under Title 40 Part 112 of the Code of Federal Regulations. If required, SPFL shall develop, maintain, and implement a SPCC plan for its oil storage activities.

L. Registered Petroleum Storage Tank Systems. SPFL shall comply with applicable petroleum storage tank system regulations (Florida Administrative Code Chapters 62-761 and 62-762). For new petroleum storage tank systems, SPFL shall register the system with the Florida Department of Environmental Protection and arrange for required installation inspections with the Brevard County Natural Resource Management Office prior to putting the tank system into service. If control and operation of an existing registered petroleum storage tank system is being transferred as a part of the facilities involved in this agreement, SPFL shall transfer the registration from NASA KSC to SPFL and become responsible for maintaining compliance. SPFL shall provide a courtesy copy of all storage tanks registration forms to the NASA KSC EAB.

M. Onsite Sewage Treatment and Disposal Systems (Septic Systems). There is a known septic system present at the SLF near J5-1197 (SLF Control Tower). The system is currently unpermitted (pre-dated permitting regulations). SPFL shall inherit and operate these systems in accordance with all applicable regulations. SPFL shall obtain and comply with necessary permits for the installation, modification, demolition, reconstruction of new or existing septic systems or if a change in septic system usage requires a permit.

N. Sanitary Sewer Discharges. Prior to discharging a non-domestic wastewater into sanitary sewer system, SPFL shall obtain a written discharge approval from both the NASA KSC domestic wastewater collection/transmission system operator and the Cape Canaveral Air Force Station domestic wastewater treatment plant operator. Costs associated with obtaining a written discharge approval will be on a reimbursable basis to NASA. Otherwise the wastewater must be containerized and shipped to an off-site treatment or disposal facility.

O. Recordkeeping. SPFL shall maintain copies of all required environmental permits, licenses, registrations, regulatory approvals, waste manifests, laboratory analyses, reports, plans, compliance records, NASA KSC Environmental Checklists, and regulatory notifications on-site and make them available for review by NASA upon request.

P. NASA Compliance Oversight. As the landowner, NASA has a responsibility to ensure that SLF Site Occupants are complying with environmental laws and regulations. NASA KSC and SPFL will participate in periodic (annually or as otherwise agreed to by the Parties) environmental audits of SLF operations to exchange information; review current and future SLF activities; confirm compliance with environmental regulations and permits; review environmental spills and remediation progress; discuss regulatory agency inspections and findings; coordinate on air permitting; etc. In addition, SPFL shall allow NASA KSC personnel access to conduct spot inspections of SLF facilities, systems, compliance records, or wastes if NASA KSC personnel have reason to believe that a potential environmental non-compliance situation exists or that an unpermitted spill or release to the environment has occurred. For the spot inspections, NASA KSC will

normally enter the SLF during regular business hours and will give SPFL at least forty eight (48) hours prior notice of its intention to do so unless the issue involves a potential threat to human health or the environment. SPFL shall attend all spot inspections and provide corrective action responses for all identified violations, findings, and deficiencies by the due date in the inspection letter. SPFL shall be responsible for immediately correcting all violations, findings, and deficiencies identified in the inspection letter at SPFL's expense.

Q. Requirements Communication. SPFL shall ensure that all environmental compliance requirements as defined in this Article are communicated to all Related Entities, Site Occupants, and facility owners performing Commercial Space Activities at the SLF under subleases or any other agreement with SPFL. SPFL shall be liable for any environmental contamination, and any noncompliance with environmental requirements including all associated penalties and/or fines resulting from such activities, regardless of NASA KSC's consent to such activities, and all such activities shall be deemed Agreement activities.

R. Cancellation of Permits & Registrations. Upon termination of this Agreement, SPFL shall cancel all permits/registrations/licenses held by SPFL, remove permitted/registered equipment, and vacate the SLF in accordance with this Agreement. If a SPFL's activity is incorporated into a NASA KSC held permit, NASA KSC will decide if the permit should be modified to remove SPFL's activity.

S. Agreement Termination Inspection. Upon termination of this Agreement, NASA KSC environmental staff shall perform a facility walk-down with SPFL personnel to ensure the removal of all hazardous materials and the proper closure of regulated activities and equipment.

T. Continuing Liability. This Article shall survive the termination of this Agreement with respect to any damage, bodily or personal injury, illness, or death occurring prior to such termination. This Article shall survive the termination of this Agreement with respect to any environmental non-compliance condition identified by NASA KSC or SPFL, and shall continue until such non-compliance condition is fully mitigated, remediated, abated, or otherwise remedied to the satisfaction of NASA KSC and any federal, state, or local regulators with an interest in the non-compliance condition.

U. Environmental Impact Statement (EIS). NASA KSC is in the process of completing the Center-wide Environmental Impact Statement (EIS). The EIS shall address the SLF build-out proposed in the Center Master Plan. Any deviations from that Master Plan shall require additional NEPA documentation at the expense of SPFL. At time of Agreement signing, development shall be limited to the portion of the SLF, based on the Environmental Assessment (EA) for the expanded use of the SLF, dated 2007 and the Suborbital Processing, Launch and Recovery Operations, dated 2012.

V. Wetland and Scrub Mitigation Impact. NASA KSC shall secure the state and federal environmental permits that will authorize construction activities at the SLF for the SLF Occupant Site #2 and associated infrastructure improvements. SPFL shall be responsible for the cost of future mitigation for its impact area including monitoring and maintenance

for the period specified in the permits. SPFL shall be responsible for the permitting and funding of any future mitigation actions.

W. Environmental Land Management. The land surrounding the SLF is part of the Merritt Island National Wildlife Refuge (MINWR). The USFWS perform habitat management per a long-standing interagency agreement (KCA 1649 rev B) between NASA KSC and the USFWS. The USFWS conducts prescriptive burns to effectively maintain and enhance wildlife habitat and reduce the occurrence and severity of wildfires. The USFWS has primary responsibility for wildfire suppression on KSC. Prescribed burn approval will be coordinated with NASA KSC under established procedures, with notification to SPFL of scheduled burns with the SLF lands. A list of SLF fire management units scheduled for prescribed burning will be provided to NASA KSC and SPFL each calendar year. Prescribed burns will be conducted under specific conditions to avoid impacts to the SLF. Additionally, the USFWS is responsible for treatment and removal of non-native invasive plants and animals on refuge lands. MINWR will continue to provide nuisance wildlife response within the SLF boundary.

X. Land within the SLF demarcation points that has not been withdrawn from MINWR, pursuant to NASA's land management agreement with the USFWS, as of the effective date of this Agreement, shall remain under the management of the FWS until such time as undeveloped portions of the SLF are required by SPFL, for purposes and activities authorized herein.

Y. If and when all of the developable land described in Exhibit A is fully developed, and SPFL were to require additional undeveloped land within the SLF demarcation points for development or operational management, NASA shall evaluate SPFL's request to proceed with the withdrawal of the required land from MINWR pursuant to this Agreement and the NASA-USFWS Agreement for management of the MINWR.

XXXI. RESERVED

XXXII. AIRFIELD OPERATIONS AND MANAGEMENT

A. Airfield Operations. SPFL shall operate and maintain the SLF as a Florida-registered private airport pursuant to the Florida Department of Transportation Administrative Code, Rule Chapter 14-60 (Airport Licensing, Registration, and Airspace Protection), and in accordance with the requirements and operational guidelines identified in Exhibit H.

B. Airfield Annual Inspection. As a Florida-registered private airport, the airfield shall be inspected annually by Florida's Aviation Operations Administrator to provide an independent inspection of compliance with the license requirements regarding airport facilities and operations together with the supplemental requirements identified in Exhibit H. SPFL shall provide NASA KSC a copy of its FDOT registration, its subsequent bi-annual renewal, and the annual written inspection report by the Florida Aviation Operations Administrator.

C. Commercial Space Activities. SPFL shall operate and maintain the SLF to support commercial space activities pursuant to the regulation of the FAA Office of Commercial Space Transportation (FAA-AST), and in accordance with a Launch Site Operator License and/or reentry license to be issued by FAA-AST. SPFL shall provide to NASA KSC a copy of its FAA license for activities at the SLF, and shall also provide to NASA KSC a copy of periodic FAA-AST inspection reports evaluating compliance with the terms and conditions of the Launch Site Operator License.

D. Airfield Operations and Services. SPFL shall operate and maintain the SLF, in accordance with requirements in Exhibit H. SPFL will offer and provide airfield services to users that are normal and customary for such uses and as appropriate to the user requirements. General requirements for the availability and performance of airfield services are identified in Exhibit H. Support to NASA KSC flight operations and use of the SLF by NASA aircraft will be provided in accordance with the terms of Article V, Financial Obligations, and as identified specifically in Exhibit H and shall include provision by SPFL of:

1. A runway free of Foreign Object Debris (FOD), which is compliant with applicable FDOT and FAA requirements for condition, obstruction clearance, marking, lighting, etc.;
2. Necessary support equipment for NASA aircraft operations (e.g., Ladder, Aircraft Tug, A/C Start Unit, Diesel Sweeper);
3. Processing and issuance of Prior Permission Requests (PPRs) for aircraft flying into the SLF;
4. Air Traffic Control Services (e.g., landing and takeoff clearance, traffic deconfliction, and taxi instructions from a qualified air traffic controller);
5. Aircraft Marshalling assistance from qualified aircraft servicers;
6. Chocking of the aircraft wheels prior to engine shutdown, if appropriate;
7. Connection of a ground power unit, if required for the aircraft shutdown and prior to aircraft start for departure;
8. Positioning and proper use of an aircraft "start cart" if necessary for that aircraft.

E. Airworthiness. SPFL shall be responsible for ensuring all aircraft (both manned and unmanned) conducting flight operations from the SLF or within the airspace over KSC, including Special Use Airspace (Exhibit G), meet airworthiness and flight safety standards, which have been agreed to by both NASA KSC and the 45th Space Wing. NASA KSC is not providing airworthiness certification for aircraft not built by, sponsored by, or contracted to NASA ("non-NASA aircraft"). SPFL will be responsible for ensuring airworthiness of non-NASA aircraft. In the case of non-NASA aircraft, NASA reserves the right to review SPFL's process and rationale before commencing flight operations. If non-NASA aircraft involved with SPFL activities are already FAA certified airworthy, SPFL is not responsible for ensuring aircraft meet NASA KSC or 45th Space Wing airworthiness safety standards.

F. U.S. Air Force 45th Space Wing. When operating within Special Use Airspace, SPFL must satisfy the requirements of the operator of that airspace, the U.S. Air Force 45th Space Wing, for Restricted Areas R-2932, R-2933, R-2934, or R-2935. When operating outside of Special Use Airspace, SPFL must satisfy the requirements of the FAA airworthiness certification process. At such time when SPFL enters into a separate formal agreement with the U.S. Air Force 45th Space Wing regarding SPFL's certification of airworthiness and risk analysis, NASA KSC involvement in that process, as outlined in Exhibit H, will not be required. The operational requirements defined in Exhibit H will still apply for operations at the SLF.

G. Special Use Airspace. SPFL shall execute a formal agreement with the U.S. Air Force Eastern Range air space managers to facilitate availability and use of designated Special Use Airspace (Exhibit G) and offshore warning areas in support of planned flight operations.

H. Real-time Coordination. Real-time coordination during operations, which impact or could potentially impact NASA KSC operations outside the SLF, shall be done through the NASA KSC Technical POC.

XXXIII. DEFINITIONS

In addition to other terms that may be defined in this agreement, the following terms as used in this Agreement shall have the following meanings, applicable, as appropriate, to both the singular and plural forms of the terms herein defined.

"Applicable Laws" means all Federal, state, and local laws, ordinances, rules, regulations, and codes and all policy directives, procedural requirements, procedures and guidelines, and standards promulgated by NASA or NASA KSC from time to time in the course of NASA's general administration of, and having application to the entirety of, the Center, now existing or later adopted during the Term insofar as any thereof relate to or are required by the condition, use or occupancy of the SLF.

"Collateral Equipment" means building support equipment and, substantially affixed equipment/property that normally is required to make a facility useful and operable, and for which the removal would impair the usefulness, safety, or environment within the facility. For the purpose of this Agreement, collateral equipment includes, but is not limited to, elevators, transformers, compressors, and facility systems and subsystems, such as Heating Ventilation and Air Conditioning (HVAC), electrical, plumbing, pneumatic, fire protection, fire suppression, control systems, and monitoring systems, that are installed in, or provide service to, buildings or other real property owned by NASA, by SPFL or by SLF Site Occupants at the SLF.

"Government" means the federal government of the United States of America, unless otherwise specified.

"Improvements" means any addition, alteration, or other modification of any kind to the SLF (see Exhibit A), with the exception of routine maintenance or repair activities that do not change the

size or design thereof, as well as any new buildings and collateral equipment that SPFL, or SPFL Site Occupants, may construct or install upon the SLF.

"NASA's Related Entities" includes but is not limited to, (a) contractor or subcontractor of NASA at any tier, (b) a user or customer of NASA at any tier, (c) a contractor or subcontractor of a user or customer of NASA at any tier. The terms "contractor" and "subcontractor" include suppliers of any kind.

"Recurring Services" means services provided by NASA KSC on a recurring, annual basis (*e.g.*, utilities, fire, and badging).

"Recyclable salvage" or "scrap" is property that has no commercial utility or value except for its basic material content (*e.g.*, steel, aluminum, copper).

"SLF" means that certain Government real property, commonly known as the Shuttle Landing Facility ("SLF"), which under this Agreement SPFL is entitled to occupy, develop, operate, and maintain for the purposes set forth herein, and which is more specifically described in Exhibit A attached hereto, together with the infrastructure, roads, streets, sidewalks, utilities, fencing, fixtures and improvements located thereon, made by NASA, and existing at the time of signature of the agreement. The property is generally located south of Beach Road, west of Kennedy Parkway, and north of Banana Creek.

"SLF Site Occupants" means entities who SPFL allows to develop, construct, or occupy sites at the SLF.

"SPFL's Related Entities" includes but is not limited to, (a) contractor or subcontractor of SPFL at any tier, (b) a user or customer of SPFL at any tier, (c) a contractor or subcontractor of a user or customer of SPFL at any tier. The terms "contractor" and "subcontractor" include suppliers of any kind.

"Support Services" means services provided by NASA KSC to SPFL. Services include Transition and Recurring Services.

"Transition Services" means services provided by NASA KSC to continue airfield operations and operations and maintenance of facilities up to September 30, 2015.

"Utility Systems" or "Utilities" means any water, reclaimed water, storm water services, sanitary sewer services, electricity or other power needs, natural gas, telecommunications and data communications and any other utilities for use of the SLF and for which SPFL reimburses NASA under this Agreement.

XXXIV. SIGNATORY AUTHORITY

The signatories to this Agreement covenant and warrant that they have authority to execute this Agreement. By signing below, the undersigned agrees to the above terms and conditions. In witness whereof, the Parties have executed this Agreement as of the date last set forth below.

JOHN F KENNEDY SPACE CENTER
NATIONAL AERONAUTICS AND
SPACE ADMINISTRATION, an Agency of
the United States

By Robert D. Cabana
Robert D. Cabana
Director, John F. Kennedy Space Center

Date: 6-22-15

Space Florida
505 Odyssey Way, Suite 300
Exploration Park, Florida 32953

By Frank DiBello
Frank DiBello
President and Chief Executive Officer

Date: 6/22/15

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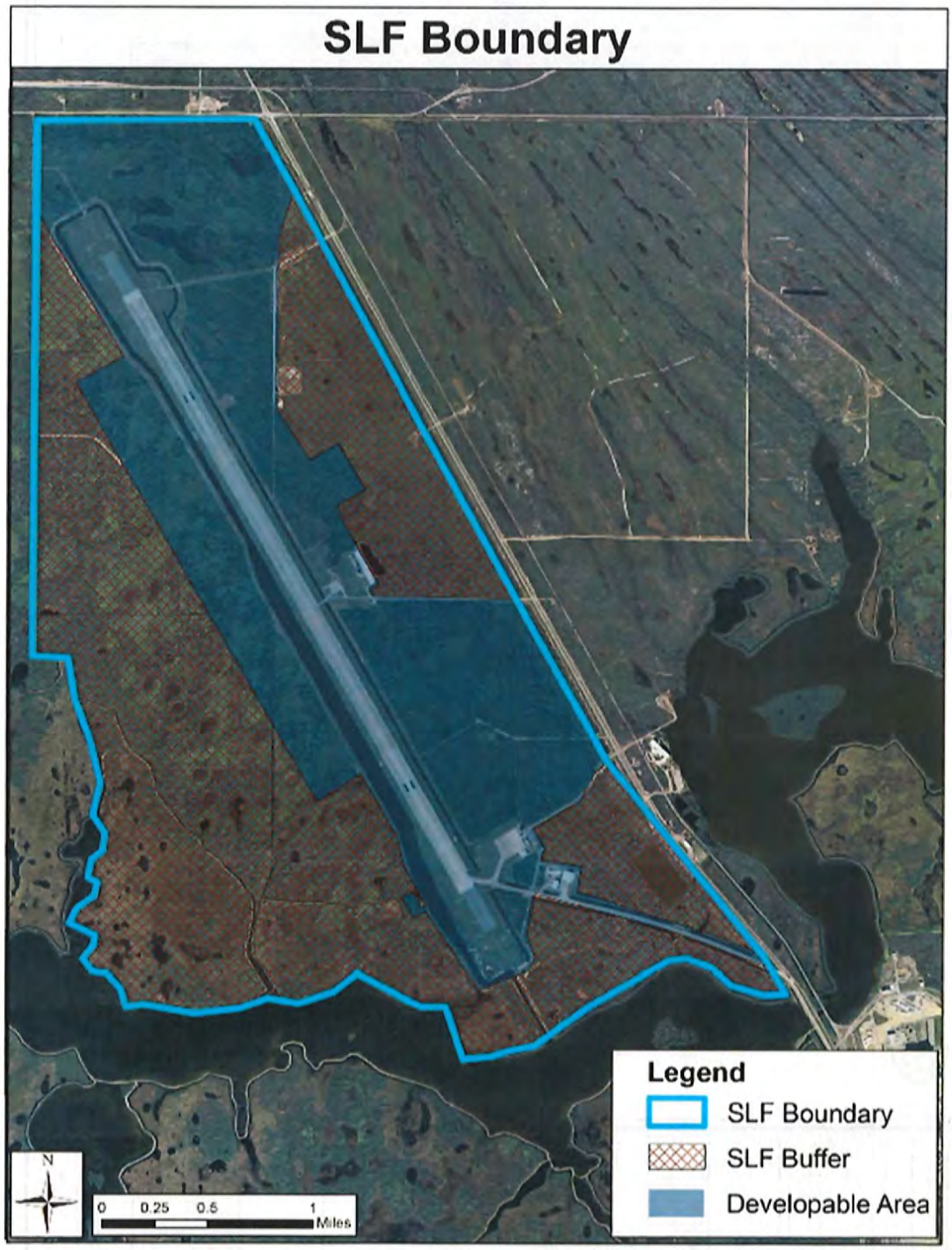
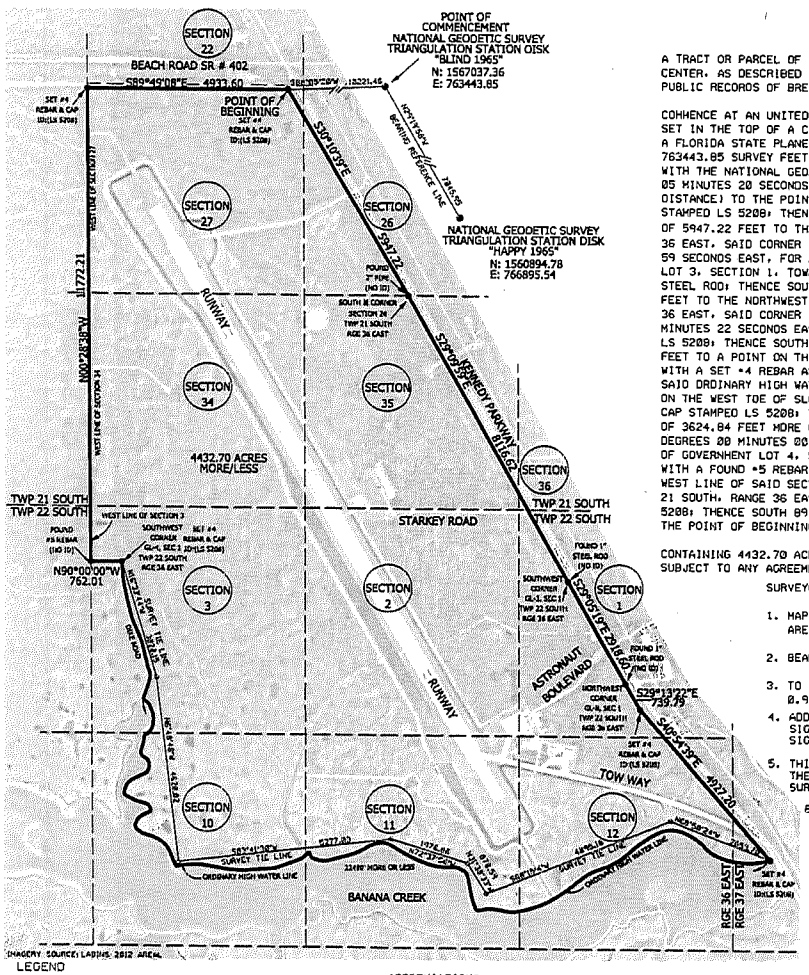
EXHIBIT A: DESCRIPTION OF THE PROPERTIES

A.1 SLF Real Property



SLF Area Land Boundary - Legal Description



SKETCH OF BOUNDARY SURVEY AND DESCRIPTION

A TRACT OR PARCEL OF LAND LYING WITHIN THE BOUNDARY OF THE JOHN F. KENNEDY SPACE CENTER, AS DESCRIBED IN OFFICIAL RECORDS BOOK 1075, AT PAGE 131 AND 132 OF THE PUBLIC RECORDS OF BREVARD COUNTY, FLORIDA AND BEING MORE FULLY DESCRIBED AS FOLLOWS:

COMMENCE AT AN UNITED STATES COAST AND GEODETIC SURVEY TRIANGULATION STATION SET IN THE TOP OF A CONCRETE MONUMENT STAMPED "BLIND 1965", SAID STATION HAVING A FLORIDA STATE PLANE COORDINATE VALUE OF NORTH 1567037.36 SURVEY FEET AND EAST 763443.85 SURVEY FEET, (NORTH AMERICAN DATUM OF 1983). SAID STATION IS ON RECORD WITH THE NATIONAL GEODETIC SURVEY (NGS) PUBLISHED DATA. THENCE SOUTH 88 DEGREES 05 MINUTES 20 SECONDS WEST (GRID BEARING), FOR A DISTANCE OF 10221.46 FEET (GRID DISTANCE) TO THE POINT OF BEGINNING, SAID POINT IS MARKED WITH A SET #4 REBAR STAMPED LS 5208; THENCE SOUTH 30 DEGREES 10 MINUTES 39 SECONDS EAST, FOR A DISTANCE OF 5947.22 FEET TO THE SOUTH ¼ CORNER OF SECTION 26, TOWNSHIP 21 SOUTH, RANGE 36 EAST, SAID CORNER IS MARKED WITH A FOUND 2" PIPE; THENCE SOUTH 29 DEGREES 09 MINUTES 59 SECONDS EAST, FOR A DISTANCE OF 8116.62 FEET TO THE SOUTHWEST CORNER OF GOVERNMENT LOT 3, SECTION 1, TOWNSHIP 22 SOUTH, RANGE 36 EAST, SAID CORNER IS MARK WITH A FOUND 1" STEEL ROD; THENCE SOUTH 29 DEGREES 05 MINUTES 19 SECONDS EAST, FOR A DISTANCE OF 2918.60 FEET TO THE NORTHWEST CORNER OF GOVERNMENT LOT 8, SECTION 1, TOWNSHIP 22 SOUTH RANGE 36 EAST, SAID CORNER IS MARKED WITH A FOUND 1" STEEL ROD; THENCE SOUTH 29 DEGREES 13 MINUTES 22 SECONDS EAST, FOR A DISTANCE OF 739.79 FEET TO A SET #4 REBAR AND CAP STAMPED LS 5208; THENCE SOUTH 40 DEGREES 54 MINUTES 39 SECONDS EAST, FOR A DISTANCE OF 4927.20 FEET TO A POINT ON THE ORDINARY HIGH WATER LINE OF BANANA CREEK. SAID POINT IS MARKED WITH A SET #4 REBAR AND CAP STAMPED LS 5208; THENCE WESTERLY AND NORTHERLY ALONG THE SAID ORDINARY HIGH WATER LINE FOR A DISTANCE OF 22489.63 FEET MORE OR LESS TO A POINT ON THE WEST TOE OF SLOPE OF A DIKE ROAD. SAID POINT IS MARKED WITH A SET #4 REBAR AND CAP STAMPED LS 5208; THENCE NORTHERLY ALONG THE SAID WEST TOE OF SLOPE FOR A DISTANCE OF 3624.84 FEET MORE OR LESS TO A SET #4 REBAR AND CAP STAMPED LS 5208; THENCE NORTH 90 DEGREES 00 MINUTES 00 SECONDS WEST, FOR A DISTANCE OF 762.01 FEET TO THE SOUTHWEST CORNER OF GOVERNMENT LOT 4, SECTION 3, TOWNSHIP 22 SOUTH, RANGE 36 EAST, SAID CORNER IS MARKED WITH A FOUND #5 REBAR; THENCE NORTH 00 DEGREES 28 MINUTES 38 SECONDS WEST ALONG THE WEST LINE OF SAID SECTION 3, AND ALONG THE WEST LINE OF SECTION 34, SECTION 27, TOWNSHIP 21 SOUTH, RANGE 36 EAST, FOR A DISTANCE OF 11772.21 TO A SET #4 REBAR AND CAP STAMPED LS 5208; THENCE SOUTH 89 DEGREES 49 MINUTES 00 SECONDS EAST, FOR A DISTANCE OF 4933.60 TO THE POINT OF BEGINNING.

CONTAINING 4432.70 ACRES MORE OR LESS.
SUBJECT TO ANY AGREEMENTS, EASEMENTS OR RESTRICTIONS OF RECORD.

SURVEYORS NOTES:

1. MAP COORDINATES REFER TO THE FLORIDA STATE PLANE COORDINATE SYSTEM AND ARE BASED ON THE NORTH AMERICAN DATUM OF 1983, PER 1990 ADJUSTMENT.
2. BEARINGS, DISTANCE AND COORDINATES REFER TO GRID.
3. TO CONVERT GRID DISTANCE TO GROUND DISTANCE DIVIDE GRID DISTANCE BY 0.99995232556 (PROJECT SCALE FACTOR).
4. ADDITIONS OR DELETIONS TO THIS SURVEY MAP OR REPORT BY OTHER THAN THE SIGNING PARTY OR PARTIES IS PROHIBITED WITHOUT WRITTEN CONSENT OF THE SIGNING PARTY OR PARTIES.
5. THIS SURVEY MAP AND REPORT OR THE COPIES THEREOF ARE NOT VALID WITHOUT THE SIGNATURE AND THE ORIGINAL RAISED SEAL OF A FLORIDA LICENSED SURVEYOR AND MAPPER.
6. SURVEY FIELD DATE: 11-17-2013.

CERTIFICATION:

I HEREBY CERTIFY THAT THE SURVEY DEPICTED HEREON IS TRUE AND MEETS THE MINIMUM TECHNICAL STANDARDS SET FORTH BY THE FLORIDA BOARD OF PROFESSIONAL SURVEYORS AND MAPPERS IN CHAPTER 5J-17 FLORIDA ADMINISTRATIVE CODE, PURSUANT TO SECTION 472.027, FLORIDA STATUTES.

DONALD C. LANTHORNE, P.L.S. NO. 5208
STATE OF FLORIDA

LEGEND

- ○ ANGLE POINT
- ⊕ NGS SURVEY TRAVERSE STATION

ABBREVIATIONS:

N:	NORTH	W:	WEST	RGE:	RANGE
S:	SOUTH	SEC:	SECTION	GL:	GOVERNMENT LOT
E:	EAST	TWP:	TOWNSHIP	ID:	IDENTIFICATION

1"=1000'

INSTITUTIONAL SERVICES CONTRACT
P.O. BOX 21010, 150-001
KENNEDY SPACE CENTER, FLORIDA 32815

HAZARDOUS MATERIALS
ARE THERE HAZARDOUS MATERIALS ON SURVEYED PROPERTY? YES NO
SUSPECTED LEAD
SUSPECTED ASBESTOS

APPLICATION
THIS SURVEY IS NOT A PART OF A CONSTRUCTION DOCUMENT UNLESS THE SET WHICH EQUALS SPECIFICATION WRITTEN

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN F. KENNEDY SPACE CENTER, NASA
KENNEDY SPACE CENTER, FLORIDA

KENNEDY SPACE CENTER
SHUTTLE LANDING FACILITY

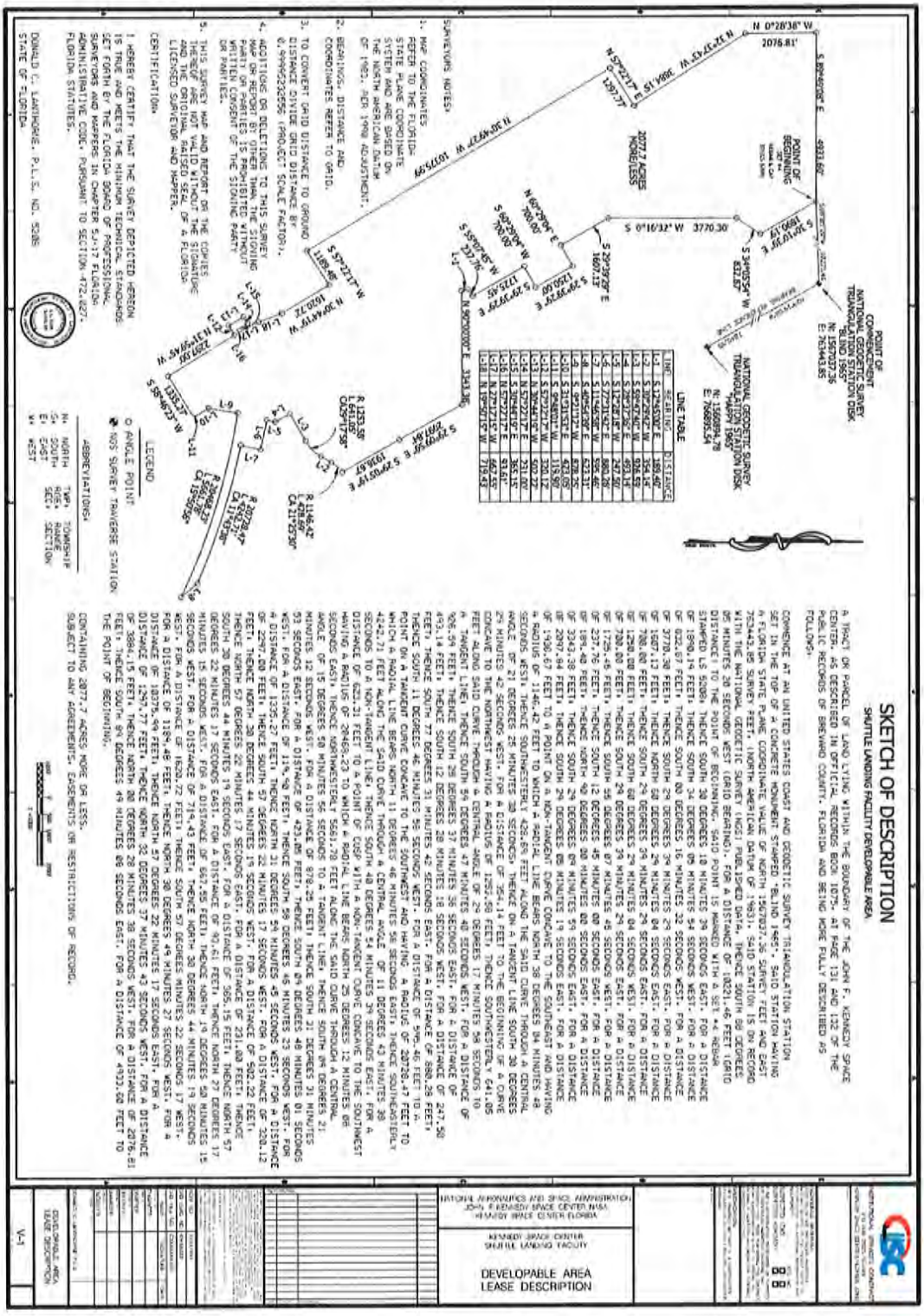
BOUNDARY SURVEY AND DESCRIPTION

	NAME	SIGNATURE	DATE
DWG NO	XXXXXXXX		
CAD DWG NO	SHXXXXXX		
CAD FILE NO	CXXXXXXXX(X)		
	NAME	SIGNATURE	DATE
ENGINEER			
DRAFTER			
TECHNICIAN			
MANAGER			
DESIGNER			
DONALD C LANTHORNE, PLS			

BOUNDARY SURVEY

V-1

SLF Developable Area Land Boundary - Legal Description



LINE TABLE

LINE	BEARING	DISTANCE
L-1	S 12°45'00" E	189.40'
L-2	S 30°29'42" W	354.14'
L-3	S 59°47'40" W	926.59'
L-4	S 28°37'36" E	493.14'
L-5	S 12°28'18" W	247.50'
L-6	S 77°31'42" E	880.28'
L-7	S 11°46'58" W	595.46'
L-8	S 40°54'39" E	623.31'
L-9	S 9°21'12" W	878.25'
L-10	S 31°31'53" E	423.05'
L-11	S 9°48'01" W	119.90'
L-12	S 57°22'17" W	320.12'
L-13	N 30°44'19" W	502.22'
L-14	N 57°22'17" E	231.00'
L-15	S 30°44'19" E	365.15'
L-16	N 57°22'17" E	93.61'
L-17	N 27°17'15" W	667.55'
L-18	N 19°50'15" W	719.43'

SURVEYORS NOTES:

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LEGEND

○ ANGLE POINT
● NGS SURVEY TRAVERSE STATION

ABBREVIATIONS:

N:	NORTH	TWP:	TOWNSHIP
S:	SOUTH	RGE:	RANGE
E:	EAST	SEC:	SECTION
W:	WEST		

SKETCH OF DESCRIPTION

SHUTTLE LANDING FACILITY DEVELOPABLE AREA

A TRACT OR PARCEL OF LAND LYING WITHIN THE BOUNDARY OF THE JOHN F. KENNEDY SPACE CENTER, AS DESCRIBED IN OFFICIAL RECORDS BOOK 1075, AT PAGE 131 AND 132 OF THE PUBLIC RECORDS OF BREVARD COUNTY, FLORIDA AND BEING MORE FULLY DESCRIBED AS FOLLOWS:

COMMENCE AT AN UNITED STATES COAST AND GEODETIC SURVEY TRIANGULATION STATION SET IN THE TOP OF A CONCRETE MONUMENT STAMPED "BLIND 1965", SAID STATION HAVING A FLORIDA STATE PLANE COORDINATE VALUE OF NORTH 1567037.36 SURVEY FEET AND EAST 763443.85 SURVEY FEET, (NORTH AMERICAN DATUM OF 1983), SAID STATION IS ON RECORD WITH THE NATIONAL GEODETIC SURVEY (NGS) PUBLISHED DATA, THENCE SOUTH 88 DEGREES 05 MINUTES 20 SECONDS WEST (GRID BEARING), FOR A DISTANCE OF 10221.46 FEET (GRID DISTANCE) TO THE POINT OF BEGINNING, SAID POINT IS MARKED WITH A SET #4 REBAR STAMPED LS 5208; THENCE SOUTH 30 DEGREES 10 MINUTES 39 SECONDS EAST, FOR A DISTANCE OF 1890.19 FEET; THENCE SOUTH 34 DEGREES 05 MINUTES 54 SECONDS WEST, FOR A DISTANCE OF 832.67 FEET; THENCE SOUTH 00 DEGREES 16 MINUTES 32 SECONDS WEST, FOR A DISTANCE OF 3770.30 FEET; THENCE SOUTH 29 DEGREES 39 MINUTES 29 SECONDS EAST, FOR A DISTANCE OF 1607.13 FEET; THENCE NORTH 60 DEGREES 29 MINUTES 04 SECONDS EAST, FOR A DISTANCE OF 700.00 FEET; THENCE SOUTH 29 DEGREES 39 MINUTES 29 SECONDS EAST, FOR A DISTANCE OF 1250.00 FEET; THENCE SOUTH 60 DEGREES 29 MINUTES 04 SECONDS WEST, FOR A DISTANCE OF 700.00 FEET; THENCE SOUTH 29 DEGREES 39 MINUTES 29 SECONDS EAST, FOR A DISTANCE OF 1725.45 FEET; THENCE SOUTH 55 DEGREES 07 MINUTES 45 SECONDS WEST, FOR A DISTANCE OF 237.76 FEET; THENCE SOUTH 12 DEGREES 45 MINUTES 00 SECONDS EAST, FOR A DISTANCE OF 189.40 FEET; THENCE NORTH 90 DEGREES 00 MINUTES 00 SECONDS EAST, FOR A DISTANCE OF 3343.38 FEET; THENCE SOUTH 29 DEGREES 09 MINUTES 59 SECONDS EAST, FOR A DISTANCE OF 2097.84 FEET; THENCE SOUTH 29 DEGREES 05 MINUTES 19 SECONDS EAST, FOR A DISTANCE OF 1938.67 FEET TO A POINT ON A NON-TANGENT CURVE CONCAVE TO THE SOUTHEAST AND HAVING A RADIUS OF 1146.42 FEET TO WHICH A RADIAL LINE BEARS NORTH 38 DEGREES 04 MINUTES 48 SECONDS WEST; THENCE SOUTHWESTERLY 428.69 FEET ALONG THE SAID CURVE THROUGH A CENTRAL ANGLE OF 21 DEGREES 25 MINUTES 30 SECONDS; THENCE ON A TANGENT LINE SOUTH 30 DEGREES 29 MINUTES 42 SECONDS WEST, FOR A DISTANCE OF 354.14 FEET TO THE BEGINNING OF A CURVE CONCAVE TO THE NORTHWEST HAVING A RADIUS OF 1253.58 FEET; THENCE SOUTHWESTERLY 641.05 FEET ALONG SAID CURVE THROUGH A CENTRAL ANGLE OF 29 DEGREES 17 MINUTES 58 SECONDS TO A TANGENT LINE; THENCE SOUTH 59 DEGREES 47 MINUTES 40 SECONDS WEST, FOR A DISTANCE OF 926.59 FEET; THENCE SOUTH 28 DEGREES 37 MINUTES 36 SECONDS EAST, FOR A DISTANCE OF 493.14 FEET; THENCE SOUTH 12 DEGREES 28 MINUTES 18 SECONDS WEST, FOR A DISTANCE OF 247.50 FEET; THENCE SOUTH 77 DEGREES 31 MINUTES 42 SECONDS EAST, FOR A DISTANCE OF 880.28 FEET; THENCE SOUTH 11 DEGREES 46 MINUTES 58 SECONDS WEST, FOR A DISTANCE OF 595.46 FEET TO A POINT ON A TANGENT CURVE CONCAVE TO THE SOUTHWEST AND HAVING A RADIUS OF 20728.47 FEET TO WHICH A RADIAL LINE BEARS NORTH 11 DEGREES 46 MINUTES 58 SECONDS EAST; THENCE SOUTHEASTERLY 4242.71 FEET ALONG THE SAID CURVE THROUGH A CENTRAL ANGLE OF 11 DEGREES 43 MINUTES 38 SECONDS TO A NON-TANGENT LINE; THENCE SOUTH 40 DEGREES 54 MINUTES 39 SECONDS EAST, FOR A DISTANCE OF 623.31 FEET TO A POINT OF CUSP WITH A NON-TANGENT CURVE CONCAVE TO THE SOUTHWEST HAVING A RADIUS OF 20468.23 TO WHICH A RADIAL LINE BEARS NORTH 25 DEGREES 12 MINUTES 08 SECONDS EAST; THENCE NORTHWESTERLY 5661.78 FEET ALONG THE SAID CURVE THROUGH A CENTRAL ANGLE OF 15 DEGREES 50 MINUTES 56 SECONDS TO A TANGENT LINE; THENCE SOUTH 09 DEGREES 21 MINUTES 12 SECONDS WEST, FOR A DISTANCE OF 878.25 FEET; THENCE SOUTH 31 DEGREES 31 MINUTES 53 SECONDS EAST, FOR A DISTANCE OF 423.05 FEET; THENCE SOUTH 09 DEGREES 48 MINUTES 01 SECONDS WEST, FOR A DISTANCE OF 119.90 FEET; THENCE SOUTH 58 DEGREES 46 MINUTES 23 SECONDS WEST, FOR A DISTANCE OF 1335.27 FEET; THENCE NORTH 31 DEGREES 59 MINUTES 45 SECONDS WEST, FOR A DISTANCE OF 2297.00 FEET; THENCE SOUTH 57 DEGREES 22 MINUTES 17 SECONDS WEST, FOR A DISTANCE OF 320.12 FEET; THENCE NORTH 30 DEGREES 44 MINUTES 19 SECONDS WEST, FOR A DISTANCE OF 502.22 FEET; THENCE NORTH 57 DEGREES 22 MINUTES 17 SECONDS EAST, FOR A DISTANCE OF 231.00 FEET; THENCE SOUTH 30 DEGREES 44 MINUTES 19 SECONDS EAST, FOR A DISTANCE OF 365.15 FEET; THENCE NORTH 57 DEGREES 22 MINUTES 17 SECONDS EAST, FOR A DISTANCE OF 93.61 FEET; THENCE NORTH 27 DEGREES 17 MINUTES 15 SECONDS WEST, FOR A DISTANCE OF 667.55 FEET; THENCE NORTH 19 DEGREES 50 MINUTES 15 SECONDS WEST, FOR A DISTANCE OF 719.43 FEET; THENCE NORTH 30 DEGREES 44 MINUTES 19 SECONDS WEST, FOR A DISTANCE OF 1620.72 FEET; THENCE SOUTH 57 DEGREES MINUTES 22 SECONDS 17 WEST, FOR A DISTANCE OF 1189.48 FEET; THENCE NORTH 30 DEGREES 49 MINUTES 27 SECONDS WEST, FOR A DISTANCE OF 10375.99 FEET; THENCE NORTH 57 DEGREES 22 MINUTES 17 SECONDS EAST, FOR A DISTANCE OF 1297.77 FEET; THENCE NORTH 32 DEGREES 37 MINUTES 43 SECONDS WEST, FOR A DISTANCE OF 3884.15 FEET; THENCE NORTH 00 DEGREES 28 MINUTES 38 SECONDS WEST, FOR A DISTANCE OF 2076.81 FEET; THENCE SOUTH 89 DEGREES 49 MINUTES 08 SECONDS EAST, FOR A DISTANCE OF 4933.60 FEET TO THE POINT OF BEGINNING.

CONTAINING 2077.7 ACRES MORE OR LESS.
SUBJECT TO ANY AGREEMENTS, EASEMENTS OR RESTRICTIONS OF RECORD.

ISC
INSTITUTIONAL SERVICES CONTRACT

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN F. KENNEDY SPACE CENTER NASA
KENNEDY SPACE CENTER FLORIDA

KENNEDY SPACE CENTER
SHUTTLE LANDING FACILITY

DEVELOPABLE AREA
LEASE DESCRIPTION

DONALD C. LANTHORNE P.L.S.

DEVELOPABLE AREA
LEASE DESCRIPTION

V-1

A.2 SLF Facility Listings

A). SPFL Operated and Maintained Real Property:

Building #	Facility Name
H5-2176	APPROACH LIGHTING SYSTEM SUBSTATION 15
J5-1196	SLF MEDIA OPERATIONS BUILDING
J5-1197	SLF AIR TRAFFIC CONTROL TOWER
J5-1198A	SLF NEWS BUILDING
J5-1199	UTILITY CONTROL SHELTER
J5-1246	OBSERVATION PLATFORM
J6-2312	SLF GATE #3 GATE HOUSE
J6-2313	LANDING AIDS CONTROL BLDG.
J6-2313A	ANTENNA
J6-2361	ELECTRICAL SUBSTATION
J6-2362	AIRCRAFT GROUND EQUIPMENT SHED
J6-2363	LIGHTING VAULT
J6-2408	WIND SOCK
J6-2466	RLV HANGAR - FLIGHT VEHICLE FACILITY*
J6-2466A	WATER TANK*
K6-0015	CONVOY VEHICLE ENCLOSURE
K6-0261	APPROACH LIGHTING SYSTEM SUBSTATION 33
UK-0002	AIRFIELD LIGHTING
UK-0027	SHUTTLE LANDING FACILITY (RUNWAY)

***Facility owned and managed by Space Florida**

B). NASA Operated and Maintained Real Property:

Building #	Facility Name
J6-1860	LIGHTNING MAPPING ARRAY (LMA) SITE 1
J6-2463	COMM CROSS CONNECT TERMINAL #7 – (NASA)
J6-2370	FIRE STATION #2 (KSC) – (NASA)
J6-2465	FLIGHT VEHICLE SUPPORT BUILDING – (NASA)
J5-0341	ASCENT WIND PROFILER – (NASA)
J5-0440	TACAN SITE – (NASA)
J5-0441	TACAN STORAGE – (NASA)
95405	WEATHER TOWER 412 (J6-1869A) – (USAF)
95406	WEATHER EQUIP BLDG 412 (J6-1869) – (USAF)
95407	ELECTRICAL SUBSTATION (J6-1869B) – (USAF)
95408	FIELD MILL SITE #11 (J6-1919) – (USAF)
95409	EQUIPMENT PAD (J6-2410) – (USAF)
95545	EQUIPMENT PAD (J5-0140) – (USAF)
95546	EQUIPMENT PAD (J5-1243) – (USAF)
95547	FIELD MILL SITE #10 (J5-0548) – (USAF)
J6-1808	TV TOWER #1 – (NASA)
J6-1808A	TV EQUIPMENT BUILDING – (NASA)
J6-0553	STORAGE FACILITY – (SpaceX)
J6-0553A	EMERGENCY GENERATOR BUILDING – (SpaceX)
J5-0132	METEOROLOGICAL SITE #5 – (NASA)
J6-2409	METEOROLOGICAL SITE #4 – (NASA)
J5-1144	METEOROLOGICAL SITE #3 – (NASA)
J5-1144	METEOROLOGICAL SITE #3 – (NASA)
J5-0667	TV TOWER #2 (NASA)
J5-0667A	TV EQUIPMENT BUILDING (NASA)

NASA Mothballed/Abandoned Facilities*

Building #	Facility Name
H5-2274	MICROWAVE SCAN BEAM L/S R/W 33
H5-2324	MSBLS MONIOTOR R/W 33 N
J5-0583	MICROWAVE SCAN BEAM L/S R/W 15STA
J5-1094	REMOTE SATELLITE MEASUREMENT UNIT A
J5-1095	REMOTE SATELLITE MEASUREMENT UNIT B
J5-1145	REMOTE SATELLITE MEASUREMENT UNIT C
J5-1195	DIFFERENTIAL GLOBAL POSITIONING BUILDING
J5-1195A	ANTENNA TOWER FOR VDL ANTENNA
J5-0386	SLF OPTICAL TRACKER SITE A
J5-0533	MSBLS MONITOR R/W 15 N
J5-1198	RUNWAY VIEWING AREA
J5-1244	SLF OPTICAL TRACKER SITE B
J5-1441	SLF OPTICAL TRACKER SITE E
J5-2000	MICROWAVE SCAN BEAM L/S R/W 33STA
J5-2050	MSBLS MONITOR, SOUTH RUNWAY 33
J6-2262	ORBITER MATE/DEMATE DEVICE
K6-0258	MSBLS MONITOR, R/W 15
K6-0309	MSBLS AZ/DME RW 15
TR1-0745	TEMPORARY BUILDING

***These NASA properties are being retained for demolition, as funding becomes available.**

EXHIBIT B
STORMWATER PERMIT BOUNDARY DIAGRAM

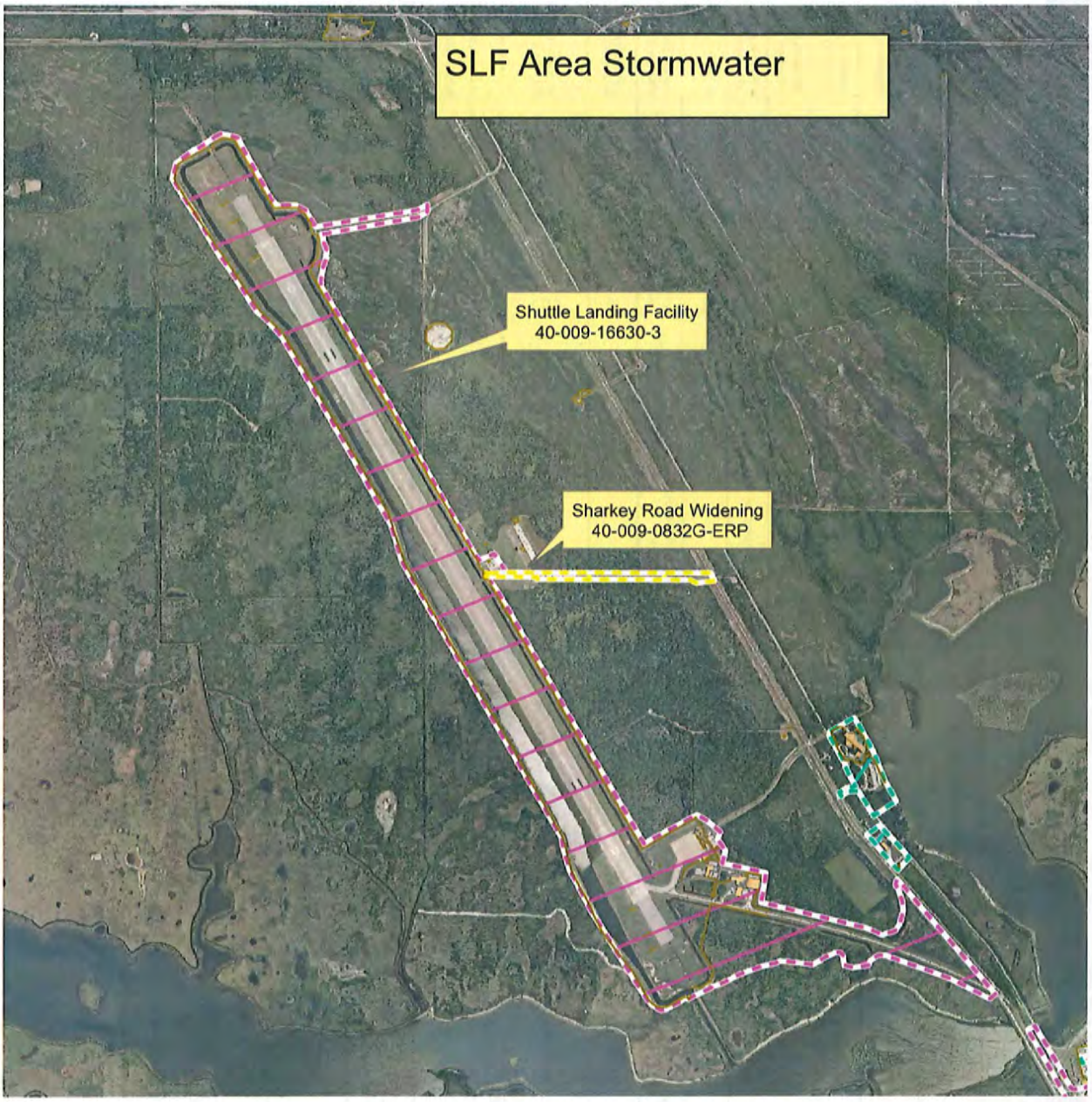
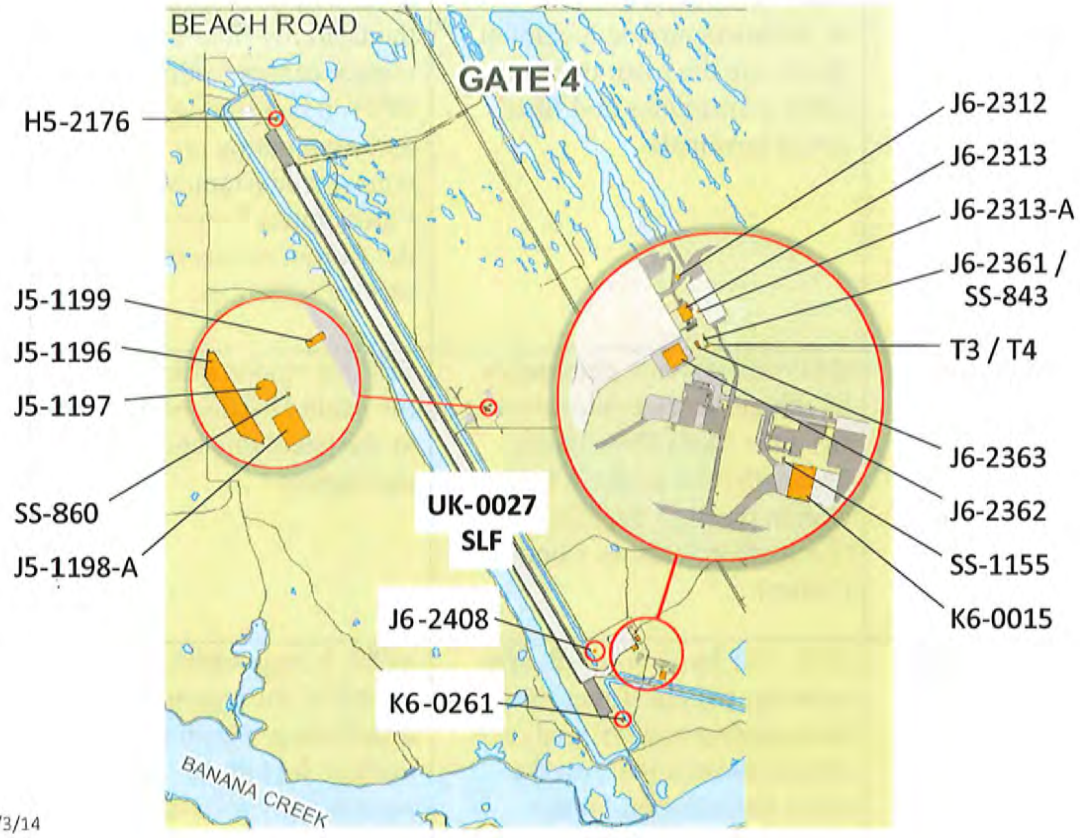


EXHIBIT C
SLF DEMARCATION POINTS

Facility Number	Facility Name	Power Fed from	Power Demarcation	Water Demarcation	Sewer Demarcation	HVAC Demarcation	Water Meter	Water Meter Install Required	Electrical Meter	Electrical Meter Install Required
H5-2176	APPROACH LIGHTING SYSTEM SUBSTATION 15	Transformer 3 & Transformer 4 (Substation 843)	NASA maintains 5kV switchgear and cable up to regulatorRef. 81K01198 sheet E-7	N/A	N/A	N/A	N	N	Included as part of 843 metered loads	N
J5-1197	SLF AIR TRAFFIC CONTROL TOWER	Substation-860	Secondary bushing of Substation-860 transformerRef. 39K6150001 sheet E-4C	Discharge valve of Backflow Preventer (BFP) ENS12002 (potable) & ENS12001 (fire)	5' from facility perimeter	Space Florida maintains HVAC	N	Y, to be installed ny NASA	Included as part of 860 metered loads	N
J5-1196	SLF MEDIA OPERATIONS BUILDING	Substation-860	Secondary bushing of Substation-860 transformer Ref. 39K6150001 sheet E-4C	Discharge valve of Backflow Preventer (BFP) ENS12002 (potable) & ENS12001 (fire)	5' from facility perimeter	Space Florida maintains HVAC	N	Y, to be installed ny NASA	Included as part of 860 metered loads	N
J5-1198A	SLF NEWS BUILDING	Substation-860	Secondary bushing of Substation-860 transformer Ref. 39K6150001 sheet E-4C	N/A	N/A	Space Florida maintains HVAC	Y	N	Included as part of 843 metered loads	N
J5-1246	OBSERVATION PLATFORM	Substation-844	Secondary bushing of Substation-844 transformer Ref. 39K6150001 sheet E-4C	N/A	N/A	N/A	Y	N	Included as part of 843 metered loads	N
J5-1199	UTILITY CONTROL SHELTER	Substation-860	Secondary bushing of Substation-860 transformer Ref. 39K6150001 sheet E-4C	Discharge valve of BFP ENS12001	N/A	N/A	N	N	Included as part of 843 metered loads	N
J6-2312	SLF GATE #3 GATE HOUSE	Substation-843	Load side of Substation-843 breaker feeding this facility Ref. 79K12583 sheet E-1	N/A	N/A	N/A	Y	N	Y	N
J6-2313	LANDING AIDS CONTROL BLDG.	Substation-843	Load side of Substation-843 breaker feeding this facility Ref. 79K12583 sheet E-1	Downstream side of PIV PIVJ6-2313-F1 (potable) and 6" DC (fire)	5' from facility perimeter	Space Florida maintains HVAC	N	Y, to be installed ny NASA	Included as part of 843 metered loads	N
J6-2313A	ANTENNA	Substation-843	Load side of Substation-843 breaker feeding this facility Ref. 79K12583 sheet E-1	N/A	N/A	N/A	N	N	Included as part of 843 metered loads	N
J6-2361	ELECTRICAL SUBSTATION	Substation-843	NASA maintains Substation-843 and all 4160V distribution including Transformer 3/Transformer 4, field switches and transformers up to secondary bushing of pad mounted transformers. Ref. 39K6150001 sheet E-4C	N/A	N/A	N/A	N	N	Included as part of 843 metered loads	N
J5-2362	AIRCRAFT GROUND EQUIPMENT SHED	Substation-843	Load side of Substation-843 breaker feeding this facility Ref. 79K12583 sheet E-1	N/A	N/A	N/A	N	N	Y	N
J5-2363	LIGHTING VAULT	Substation-843	Load side of Substation-843 breaker feeding this facility Ref. 79K12583 sheet E-1	N/A	N/A	N/A	N	N	Included as part of 843 metered loads	N
J6-2408	WIND SOCK	N/A	N/A	N/A	N/A	N/A	N	N	N/A	N
K6-0015	CONVOY VEHICLE ENCLOSURE	Substation-1155	Secondary bushing of Substation-1155 transformer Ref. 39K6150001 sheet E-3A	Downstream side of BFP Y6S12006 (potable) and PIV PIVK6-0015-F1 (fire)	5' from facility perimeter	Space Florida maintains HVAC	N	N	N/A	N
J6-0553	STORAGE FACILITY	SS-1154	NASA maintains all power including SS-1154 and LV in facility	Entire WWS system should transfer to owner of facility (water well & septic tank)	Entire WWS system should transfer to owner of facility (water well & septic tank)	NASA Maintains HVAC	N	N	Included as part of 1147 metered loads	N
J6-0553A	EMERGENCY GENERATOR BUILDING	SS-1154	NASA maintains all power including SS-1154 and LV in facility	N/A	N/A	NASA Maintains HVAC	N	N	Included as part of 860 metered loads	N
J6-2466	RLV HANGAR - FLIGHT VEHICLE FACILITY*	SS-1147	NASA maintains all power including SS-1147 and hangar low voltage. Ref. 39K6150001 sheet E-3A	Downstream side of potable water valve west side of building and PIV PIVJ6-2466- F1 (fire)	5' from facility perimeter	NASA Maintains HVAC	Y	N	Included as part of 860 metered loads	N
J6-2466A	WATER TANK*	SS-1147	NASA maintains all power	Same as above; part of J6-2466 fire system	N/A	N/A	N	N	Not metered	N

KCA-4412
Rev. Basic

SLF Demarcation Points



1/3/14

SLF Communication Demarcation Points

Communication System or Service	Demarcation Point	Responsibility
Communication Services & Infrastructure Demarcation	The Communications Services & Infrastructure demarcation points are the main trunking cable mainframes and fiber optics terminals.	KSC will be responsible for the trunking fiber and copper cables feeding SPFL's facilities at the SLF and terminating on the copper Mainframes and Fiber Optics Terminals in the Comm rooms and service entrances.
Emergency Telephone service	KSC will provide emergency telephone service (elevators) from the Main Distribution Frame (MFD) in the ATCT Comm room to the PSCC (Protective Services Control Center).	SPFL is responsible from the Main Distribution Frame to the telephone end instrument.
Paging & Area Warning	KSC will provide the all area warning-paging signal (low-level analog audio signal on copper twisted pair) on the Main Distribution Frame (MDF) at the SLF Property.	SPFL is responsible from the MDF for paging distribution within the facility, including permanently affixed outside paging speakers.
Fire Alarm Reporting	N/A	KSC will provide the existing fire alarm reporting copper pairs on the Main Distribution Frame (MDF) in each SPFL facility.

SLF Critical Demarcation Points

Facility Systems

- **Medium Voltage Power:** The medium voltage distribution system will remain under NASA KSC control, to the defined interface point, due to dependencies outside the SLF Property.
- **Potable Water:** The potable water system will remain under NASA KSC control, to the defined interface point, due to dependencies outside the SLF Property.
- **Sanitary Sewer:** The sanitary sewer system will remain under NASA KSC control, to the defined interface point, due to dependencies outside the SLF Property.
- **Fire alarm system:** The fire alarm system will remain under NASA KSC control, to the defined interface point, due to dependencies outside the SLF Property. The interface point is at the SPFL side of the advanced encryption standard radio transceiver (compatible with NASA KSC central monitoring system).

  Note that per standard agreement language drafted by NASA KSC Protective Services, SPFL may choose to operate and maintain its own fire alarm system provided that SPFL contracts with an independent fire alarm monitoring service (which will notify NASA KSC in the event of an emergency response requirement.) NASA KSC must maintain the fire alarm systems if it is to provide the fire alarm monitoring services.

Other Demarcation Points

- **Perimeter fence:** The fence and Electronic Security Systems (ESS) are part of the SLF Property structure and maintenance is the responsibility of SPFL.
- **Roads:** Interface is at the main gate and where roads (paved and unpaved) cross the SLF Property Boundary and SPFL is responsible for maintenance, as they see fit.
- **Rail Spurs:** Interface is where the spur crosses over the Kennedy Parkway North and enters the SLF Property, which is subject to change based on NASA KSC's future rail requirements. NASA KSC is responsible for all operations & maintenance of the rail tracks within the SLF Property.
- **Stormwater:** SPFL is responsible for management of stormwater inside the SLF Property perimeter fence and must abide by all federal, state, and local laws and regulations. Stormwater is primarily contained within the fence, but if a question of interface arises, it is at the perimeter fence.

Structures: SPFL is responsible for maintenance and repair of all SPFL owned and/or operated buildings and structures inside the SLF Property Boundary, including but not limited to, the lunar landing test field itself. Facilities that were abandoned/mothballed by NASA KSC prior to the Agreement with SPFL do not have to be repaired but must not be allowed to deteriorate to the extent they represent a hazard to personnel or equipment.

EXHIBIT D
RECORD OF ENVIRONMENTAL CONSIDERATION

Avoid Verbal Orders

TO: TA-A4C/John Shaffer **DATE:** 11/3/2014
FROM: TA-A4C/Environmental Management Branch
SUBJECT KSC Record of Environmental Consideration (REC) **REC #:** 9442

1. PROJECT INFORMATION

Project Title: Transfer of SLF Operations to Space Florida
Project Lead: John Shaffer, TA-A4C, 867-8448 Directorate Project No.: KCA-4412 (REV A)
Project Description Agreement for operation and maintenance of the Shuttle Landing Facility by Space Florida.
EPB Reviewer: LPH Facility No.: SHUTTLE LANDING FACILITY (SLF)

2. NEPA DETERMINATIONS

- ☑ a. Categorical Exclusions per 14 CFR Part 1216.304(d
- ☐ b. Environmental Assessment (EA) Required
- ☐ c. Environmental Impact Statement (EIS) Required
- ☐ d. Existing FONSI or ROD
- ☐ e. Centerwide EIS
- ☐ f. AF Project on KSC/813
- ☐ g. NASA Project on CCAFS/813

3. ENVIRONMENTAL REQUIREMENTS

a. Non-Permit Requirements	☑ YES	☐ NO
b. Permit Requirements	☑ YES	☐ NO

**********REC ORIGINALLY ISSUED 7/23/2103 LPH**********
**********REC UPDATED 9/27/2013 to include historic facilities**********
*****REC UPDATED 2/6/2014 revised PRL sites status, and permitting requirements statements******
*****UPDATED 10/28/2014 Change in project description; updated historical and PRL information****
**********REVISED ERP dredge and fill permit statement 11/21/2014**********

2.a.1. CATEGORICAL EXCLUSION (CATEX): This project is categorically excluded (CATEX) from further NEPA review as defined in 14 CFR 1216.304(d)(4)(ii) Granting or acceptance of easements, leases, licenses, rights-of-entry, and permits to use NASA-controlled property, or any other real property, for activities which, if conducted by NASA, would be categorically excluded in accordance with this section. This assumes that NASA has included any required notices in transfer documentation and any terms and conditions necessary to ensure protection of the environment, as applicable (Record of Environmental Consideration [REC] required).

A KSC Centerwide Environmental Impact Statement (EIS) is being prepared which will evaluate impacts from Shuttle Landing Facility (SLF) facility modifications or additions, and future land alterations. For additional information, please contact Don Dankert of the NASA Environmental Management Branch (TA-A4C, 861-1196).

3.a.1. POTENTIAL RELEASE LOCATION (PRL) SITES: The proposed project is within or in the vicinity of several active PRL sites (#184, #185, and #190) and PRL sites with a No Further Action (NFA) designation (#62, #87B, #95, #186, and #187). An active PRL designation means a site has had historical operations which had the potential to impact the environment and is being investigated by the Remediation Group of the NASA Environmental Assurance Branch (EAB). The active and NFA sites and Remediation Project Managers for active sites only are as follows:

PRL #62 SLF Mid-Field Park Site
PRL #87B STP-17
PRL #95 Shuttle Landing Facility South
PRL #184 SLF Air Traffic Control Tower (Dinh Vo, 867-5964, TA-A4B)
PRL #185 SLF TV Towers (Harry Plaza, 867-8414, TA-A4B)

Avoid Verbal Orders

TO:	**TA-A4C/John Shaffer**	**DATE:**	**11/3/2014**
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SUBJECT	**KSC Record of Environmental Consideration (REC)**	**REC #:**	**9442**

PRL #186 SLF Runway and Lighting
PRL #187 SLF Landing Aids Control Building
PRL #190 Weather Site 412 (Dinh Vo, 867-5964, TA-A4B)

Confirmation sampling was conducted at PRL #184 in FY14. There were no exceedances of Groundwater Cleanup Target Levels. The KSC Remediation Team has approved this site for NFA.

Confirmation sampling workplans have been developed for the other active sites. These workplans are on hold waiting funds allocation and sampling has not yet been conducted. No soil or groundwater data is available at this time for these areas. The project may proceed with the understanding that all personnel should be alert for signs of contamination (abrupt changes in soil colors, odors, etc.). If any indications of contamination are observed, please halt all work and contact the NASA Remediation Office immediately. Contact the listed Remediation Project Managers for any needed information.

3.a.2. HAZARDOUS/NON-HAZARDOUS WASTE: All hazardous waste and non-hazardous wastes generated during operations or construction at the SLF must be properly containerized, stored, labeled, manifested, shipped, and disposed of by Space Florida (SPFL) or its occupants in full regulatory compliance. Hazardous wastes generated by this activity must be manifested, shipped, and disposed of under Space Florida's or its occupant's Environmental Protection Agency (EPA) identification number for the premises. SPFL or occupants shall maintain copies of waste management records and manifests onsite and make them available for review by NASA upon request. SPFL or occupants are responsible for any spills, releases, or other environmental contamination that occurs as a result of the proposed activities. A KSC Pollution Incident Report (PIR) Form (KSC Form 21-555) must be completed and submitted to the NASA EAB within three (3) calendar days of incident as required by Property Agreement.

3.a.3. THREATENED AND ENDANGERED SPECIES: Operations and future development at the SLF have the potential to impact protected and/or threatened and endangered wildlife species. Measures must be taken to minimize impacts to the wildlife and their habitat. If indications of activity by any protected species are present in the project area, possible impacts must be evaluated, and in the case of the gopher tortoise, the burrows must be identified and avoided if possible. If identified burrows are within the area of construction, relocation of animal in question will be required. Relocation of gopher tortoises requires a Florida Fish and Wildlife Conservation Commission permit. Additional information on gopher tortoise permits can be found at http://myfwc.com/license/wildlife/gopher-tortoise-permits/

Note: NASA will design and develop scrub-jay mitigation plans for SPFL and future occupants. SPFL or occupants accept full financial responsibility for mitigation construction, monitoring, and maintenance requirements.

Threatened Least Terns and Black Skimmers (Species of Special Concern) have been known to nest on rooftops. Nesting season occurs from late April through mid-August. These birds do not construct typical nests but deposit their eggs in the existing contours, cracks, and seams of the roof structures, making identification of eggs and chicks very difficult. Preventative measures can be taken to discourage nesting before it happens. If nesting occurs and eggs or chicks are present, the work will have to be delayed until the chicks have fledged. All routine maintenance work should be scheduled outside the nesting season.

Lighting, electrical, and communication structures on KSC have consistently been used by nesting birds such as ospreys. Because of the ospreys' protection under Federal and State laws, disturbance of these nests while occupied with eggs and fledglings is illegal. Other birds may use wooden towers for nesting, which may not be evident from the ground. If any wooden poles are to be removed or refurbished, they must be inspected for

Avoid Verbal Orders

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nests and eggs or fledglings.

3.a.4. HISTORIC PROPERTY AND CULTURAL/ARCHAEOLOGICAL RESOURCES:
Within the Area of Potential Effect for the use permit to transfer facilities to SPFL, the Shuttle Landing Facility (SLF) Historic District is comprised of the following historic properties eligible under the Space Shuttle Program: (1) 8BR1987/Shuttle Runway, (2) 8BR1988/Landing Aids Control Building, and (3) 8BR1989/Mate-Demate Device.
NOTE: The Mate-Demate Device is currently undergoing demolition (October-November 2014).

Several SLF facilities have not been evaluated to date to determine National Register eligibility. Those properties determined ineligible are subjected to review when they reach the age of 45-50 years of age or prior to demolition under 36 CFR Part 60.4: Criteria for Evaluation.
The known archaeological sites within the boundaries of this permit area are (1) 8BR00544/Lopez Orchard (Ineligible Site/Not Evaluated by the Florida State Historic Preservation Office [FL SHPO]), (2) 8BR00169/South Access Road (Evaluated, Not Historic), (3) 8BR00543/Griffith Place (Evaluated, Not Historic), (4) 8BR541/Hughes Place (Evaluated/Not Historic), and (5) 8BR00540/Daigle Place (Evaluated, Not Historic). Six historic areas are also noted in the *Historic Context and Historic Period Archaeological Site Location Predictive Model for the John F. Kennedy Space Center, Volusia and Brevard Counties, Florida*, document dated October 2008, revised May 2009. Those six areas are #64/Wilson Corners town site, #66/Wisconsin Village, #67/1949 structure, #68/1949 structure, #75/Hughes Places (8BR00541), and # 76//Griffith Place (8BR543). The report recommends that a Phase I Archaeological Survey be conducted for Historic Area #64 if construction were proposed for this area. There are two moderate zones of archaeological potential; one located south of Astronaut Road and west of Kennedy Parkway, and one located to the southwest of the SLF Runway.
It is unknown at this time if any changes, modifications/demolition, alterations, removal of historic elements or artifacts, new construction, or ground disturbing activities will occur. A KSC Environmental Checklist must be completed for all undertakings to determine impacts to the proposed project. If an adverse effect is determined, the Section 106 consultation process must be completed between NASA KSC and the FL State Historic Preservation Officer (FL SHPO) pursuant to KCA-4185, Programmatic Agreement for Management of Historic Properties and 36 CFR Part 800: Protection of Historic Properties. The Section 106 consultation process can take up to 3 to 6 months depending on the complexity of the project. SPFL and their occupants must comply with the following Federal and NASA regulations: Archaeological Resources Protection Act, Native American Graves Protection and Repatriation Act, and KSC-PLN-1733, Cultural Resources Management Plan. SPFL or their occupants will be responsible for any cost related activities for the undertaking such as performing future Section 110 surveys under the National Historic Preservation Act and complying with mitigation measures agreed upon, when an adverse effect may occur. Any materials (artifacts) found are property of NASA.
The FL SHPO has concurred with the new construction development between Sharkey Road and the Towway Road on November 14, 2012. Management controls and contingency plans must be in place for any unanticipated discoveries. If any archaeological materials are found, work will stop immediately. Contact the KSC Historic Preservation Officer to evaluate the area to determine if an archaeological survey or data recovery survey is required.
Contact Historic Preservation Officer, Barbara Naylor, at 867-8452, for additional information.

3.a.5. EXTERIOR LIGHTING: The installation/modification and use of any lighting that is visible from the exterior of a facility or structure must be in compliance with the requirements in the KSC Exterior Lighting Guidelines, the light management plan, and requirements of the US Fish and Wildlife Service Biological Opinion for KSC regarding dark skies and artificial lighting. Development of a lighting plan that meets these

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TO:	**TA-A4C/John Shaffer**	**DATE:**	**11/3/2014**
FROM:	**TA-A4C/Environmental Management Branch**		
SUBJECT	**KSC Record of Environmental Consideration (REC)**	**REC #:**	**9442**

criteria is required for any new structures or facilities. These requirements can be found on the Environmental Management Branch website at: http://environmental.ksc.nasa.gov/projects/documents/ExteriorLighting.pdf. Although safety and hazardous operations can receive a waiver that allows for non-compliant lighting, a plan is still required. Please contact Lynne Phillips, NASA Environmental Management Branch (TA-A4C) at 867-4817 for additional information, and for guidance on development of a light management plan or for a copy of the referenced documents.

3.b.1. PERMITTING (General): SPFL or occupants shall obtain all required environmental permits, licenses, registrations, and approvals for site activities. SPFL or occupants shall prepare all permit applications and pay any application fees. The NASA EAB will sign environmental permit applications as the landowner or utility system owner if legally required. SPFL or occupants shall submit courtesy copies of all applications and registration forms to the NASA EAB within 21 working days after submission to the regulatory agency. SPFL or occupants shall submit courtesy copies of all permits to the NASA EAB within 21 working days after receipt from the regulatory agency. SPFL or occupants shall ensure that all operations, activities, equipment, and facilities are in full compliance with all permit conditions. SPFL or occupants shall maintain copies of all records required to demonstrate compliance with the permit onsite and make them available for review by NASA upon request.

3.b.2. ENVIRONMENTAL RESOURCE PERMIT (ERP) - STORMWATER: The existing ERP stormwater permits issued by the St. Johns River Water Management District (SJRWMD), for the SLF (40-009-16630-4) and Sharkey Road Widening (40-009-0832G-ERP) will be transferred to SPFL.

A third stormwater permit exists at the Ascent Wind Profiler J5-440 (40-009-0822G-ERP). The Wind Profiler facility and permit are not on the list for transfer.

3.b.3. NPDES INDUSTRIAL ACTIVITY STORMWATER MULTI-SECTOR GENERAL PERMIT (NPDES MSGP): NASA has an active "No Exposure" exemption (ID Number FLRNEF106) issued by the FDEP for NASA helicopter operations at the RLV Hangar (J6-2466). Because of this exemption, NASA is not required to obtain an NPDES MSGP permit for that location. This exemption is only valid provided that all aircraft maintenance, repair, and equipment storage activities are under roof or hard cover (preventing exposure to rainfall).

SPFL and its occupants may need separate NPDES MSGP permits for coverage of their SLF operations as "Sector S - Air Transportation Facilities" under those regulations.

3.b.4. ENVIRONMENTAL RESOURCE PERMIT (ERP) - DREDGE AND FILL PERMIT: Dredge and fill permits (ERP) from the St. Johns River Water Management District (SJRWMD) and Army Corps of Engineers (ACOE) required for Northfield and Southfield proposed site development will be obtained by NASA under the SLF Infrastructure Utilities Design, Phase 1 Development.
NOTE: The SJRWMD ERP (IND-009-16630-4) was issued on July 17, 2014.

These construction permits from SJRWMD and ACOE will be transferred to SPFL. Future permitting will be the responsibility of SPFL or occupants.

NASA will design and develop wetland mitigation plans for the future development at the SLF. SPFL and their occupants accept full financial responsibility for mitigation construction, monitoring, and maintenance.

3.b.5. AIR EMISSIONS: NASA KSC holds a facility-wide Federal Clean Air Act Title V Air Operation Permit issued by the Florida Department of Environmental Protection (FDEP) that governs air emissions from

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dozens of regulated emission sources and hundreds of insignificant emission sources across KSC. NASA intends for SPFL and SLF occupants to be independent from NASA regarding air emissions permitting and compliance. SPFL shall contact the NASA EAB prior to:

-The operation, reactivation, or modification of an existing emission source/activity,
-The construction of any new air emission source, or
-The initiation of an activity producing air emissions.

SPFL shall participate in meetings with the NASA EAB and the FDEP to discuss applicable air emissions permitting and compliance requirements for SPFL and SLF activities. SPFL may be required to obtain separate air permits for their activities. At this time, there are no regulated emission sources or activities currently listed on the NASA Title V Air Operation Permit at the facilities involved in this agreement. There are insignificant air emissions activities performed by NASA currently listed on the NASA Title V Air Operation Permit at the facilities involved in this agreement.

3.b.6. SPILL PREVENTION CONTROL & COUNTERMEASURES (SPCC): SPFL and its occupants shall comply with applicable oil pollution prevention regulations under Title 40 Part 112 of the Code of Federal Regulations. If required, SPFL or occupants shall develop, maintain, and implement an SPCC plan for oil storage activities. Site specific SPCC plans must be made available for review by NASA upon request.

3.b.7. REGISTERED PETROLEUM STORAGE TANK SYSTEMS: SPFL and its occupants shall comply with applicable petroleum storage tank system regulations (FAC Ch. 62-761 and 62-762). New systems must be registered with FDEP. SPFL or occupants will arrange for required installation inspections with the Brevard County Natural Resource Management Department prior to putting the tank system into service. SPFL shall provide courtesy copies of all storage tank registration forms to the NASA EAB.

3.b.8. INDUSTRIAL WASTEWATER DISCHARGE: Unless approved for discharge to the sanitary sewer system or to the environment, all industrial wastewater generated by SPFL or occupants shall be contained and disposed of according to waste management guidelines given above in item 3.a.2. For discharges to the sanitary sewer system, SPFL shall obtain approval from both the Institutional Services Contractor (ISC) and Cape Canaveral Air Force Station wastewater treatment plant operator.

3.b.9. WATER RESOURCES AND PERMITTING (Domestic/Industrial Wastewater, Septic System, Potable Water): Proposed activities may require a permit for the alteration or installation of utilities to transport potable and/or domestic wastewater. Any work done will be per standards and criteria set forth in the permit requirements, and not jeopardize the health and safety of personnel due to effects of the construction/modification on the KSC potable water system (i.e. backflow preventers will be installed as required per KSC-STD-Z-0013 and standard engineering practice; disinfection and verification prior to use). The organization responsible for the work will ensure that best engineering practices, codes, specifications and standards are followed. Pressure and leak tests as well as disinfection are also required. SPFL or occupants shall obtain all required environmental permits, prepare applications, and pay application fees. The NASA EAB will sign permit applications as land owner or utility system owner if legally required. SPFL or occupants shall forward courtesy copies of applications and regulatory agency approvals to the EAB.

All existing construction permits currently associated with the SLF will be transferred to SPFL. Permits for the proposed Northfield and Southfield site development to be completed under SLF Infrastructure Utilities Design will be secured by NASA and transferred to SPFL who will accept transfer and be responsible for compliance. Future permitting will be the responsibility of SPFL or occupants. NASA's contractor will need access to SLF property and facilities to collect water quality samples, and for coordination of water line break

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activities.

Recent construction permits issued by FDEP include:

CS05-0141772-032 NASA Shuttle Landing Facility (SLF) Phase I connected to: CCAFS Regional WWTF (FL0102920-006) Oct. 16, 2014

0127833-050-DS Shuttle Landing Facility Development Design Phase 1 Aug. 25, 2014

There are two domestic wastewater septic systems in the SLF area serving J6-553 and J5-1196. They not currently permitted because they pre-dated permitting regulations and were grandfathered in; or, in the case of J5-1196, were determined to be domestic wastewater only per the Florida Department of Health (FDOH). Only the septic tank serving J5-1196 is being transferred. The septic tank at J6-553 is currently the responsibility of SpaceX.

Abandonment, modification, or replacement of the J5-1196 septic systems will require a permit, to be obtained by SPFL or occupants. Compliance with existing regulations will be SPFL responsibility.

3.b.10. EXCAVATION PERMIT: A KSC Excavation Permit will be required for any digging proposed at these facilities. Please contact the Utility Locate/Excavation Permit Request Customer Helpline at 867-2406 or go to website at https://installationsupport.ksc.nasa.gov/sgs/apps/epr/default.cfm? for an underground utility scan and dig permit.

3.b.11. DEWATERING: Dewatering may be conducted without a permit if it is discharged to grade and allowed to percolate into the ground. All waters discharged to grade must not enter existing surface waters. Effluent must be pumped to a pervious surface to facilitate infiltration back into the ground. Otherwise, a general permit must be obtained by SPFL or its occupants from SJRWMD for construction dewatering.

No other environmental issues were identified based upon the information provided in the KSC Environmental Checklist. This Record of Environmental Consideration (REC) does not relinquish the project lead from obtaining and complying with any other internal NASA permits or directives necessary to ensure all organizations potentially impacted by this project are notified and concur with the proposed project.

Due to potential changes in regulations, permit requirements and environmental conditions, statements in this REC are valid for 6 months, and subject to review after this period. It is the responsibility of the project lead to submit current project information for a REC update prior to project commencement if REC is older than 6 months; and also to notify the Environmental Management Branch (TA-A4C) if the scope of the project changes at any time after the REC is issued.

cc: J. Shaffer/TA-A4C
A. Houts Gilfriche/AD-C
B. Naylor/TA-A4C
N. English/TA-A4C
C. Vanaman/IHA-200
J. Matthews/TA-A4B
T. Norwood/1800M-B
T. Belford/CC
J. Tharpe/TA-A1
T. Carlson/AD

Avoid Verbal Orders

TO: TA-A4C/John Shaffer **DATE:** 11/3/2014

FROM: TA-A4C/Environmental Management Branch

SUBJECT KSC Record of Environmental Consideration (REC) **REC #:** 9442

H. Williams/TA-A4B

***** Approved 9/30/2013 11:41:42 AM, Dankert, Don ***** ***** Deapproved 1/28/2014 10:40:05 AM, DJD *****
***** Approved 11/3/2014 3:24:09 PM, Phillips, Lynne ***** ***** Deapproved 11/24/2014 12:12:39 PM, LPH *****

4 Upon evaluation of the subject project, the above determinations have been made and identified. Contact the Environmental Management Branch (TA-A4C) at 861-1196 for re-evaluation should there be any modifications to the scope of work.

11/24/2014 12:19:02 PM

Don Dankert **Date**

EXHIBIT E

REIMBURSABLE CHARGES FOR UTILITIES AND SUPPORT SERVICES

SEE NEXT PAGE

Commodity/Service	Service Level	Charges/Pricing	Comments	Year 1 Estimate Incl. CM&O
Police/Fire/EMS:	Security patrol; electronic access control monitoring; emergency fire, medical, security and law enforcement response will be provided 24/7.	Direct Service Charge including applicable CM&O rate.	Includes baseline level of emergency support to SPFL consistent with KSC contract. In-district fire response support provided at no additional cost.	$ 205,663 (Recurring Service)
Police/Fire/EMS – Optional	Additional dedicated fire or security support (e.g. facility access control; armed guards; dedicated in station/stand-by fire support; on-Center security escorts).	Full Cost including applicable CM&O rate.	Rates will vary per terms of NASA's contract with KSC service provider. In-station fire response support provided via a TOR upon request.	Estimated when TOR is processed (Recurring Service)
Grounds Maintenance for Common Areas (Facility Service Charge)	Ground maintenance services of common areas (e.g. entryway into KSC, roadways, shared assets).	Included in Facility Service Charge rate.	Baseline level of support. FSC will be implemented immediately after transitional period. Estimated cost for 2015 is $35,512.	(Recurring Services)
Potable Water	Provided through KSC's existing distribution system. Pressures and quantities to meet fire flow requirements.	Metered Cost including pass-through CM&O rate.	SPFL will be required to reimburse KSC based on use/consumption.	Additional costs to be billed once meter is installed (Recurring Service)
Wastewater/Sewer	Wastewater and sewer disposal to meet flow requirements.	Metered Cost including pass-through CM&O rate.	SPFL will be required to reimburse KSC based on water use/consumption.	Additional costs may be billed once water meter is installed (Recurring Service)

Electricity	Provided through the existing distribution system. KSC to provide all offsite maintenance and repair necessary to ensure consistent power and minimal outages to the SLF Property.	Metered Cost including pass-through CM&O rate.	SPFL will be required to reimburse KSC based on use/consumption.	$ 52,280 (Recurring Service)
Gas (FL City Gas)	Florida City Gas currently maintains onsite infrastructure to supply natural gas to the SLF Property.	Metered Cost including pass-through CM&O rate.	SPFL will be required to reimburse KSC based on use/consumption.	Estimated when TOR is processed (Recurring Service)
Communication Services	This service will be provided during transition to support airfield operations personnel on the ISC to include recurring maintenance and trouble calls, desktop computers and multi-use printers.	Full Cost including applicable CM&O rate.	Rates will vary per terms of NASA's contract with KSC service provider.	$19,227 (Transition Service)

Connectivity – Copper or Fiber connectivity	This service will be provided through KSC's existing cable and transmission distribution system to a defined demarcation point. All circuits requiring installation, maintenance or other service will be provided by KSC on a reimbursable basis. KSC recommends SPFL maintain an advance deposit to facilitate rapid response to connectivity issues. Services provided beyond the point of connectivity can be procured by SPFL from an outside source.	Full Cost including applicable CM&O rate.	Rates will vary per terms of NASA's contract with KSC service provider.	Estimated when TOR is processed (Recurring Service)
Locksmith	Cores on external doors and fire panels will be supplied by KSC on a reimbursable basis. SPFL can procure commercial locksmith services for lock cores not required by KSC for Emergency/Fire access.	Full Cost including applicable CM&O rate.	Rates will vary per terms of NASA's contract with KSC service provider.	Estimated when TOR is processed (Recurring Service)
Badging	KSC will provide background investigation for badging of SPFL employees requiring access to KSC in excess of 179 days (i.e. permanent badges).	Full Cost including applicable CM&O rate.	Rates will vary per terms of NASA's contract with KSC service provider.	$ 4,803 (Recurring Service)

KSC General Access Training	Training required by NASA for employee access to KSC (e.g. General Hazards Familiarization) is provided at no cost.	No charge.	Training aides are available to meet KSC requirements by enabling SPFL to independently facilitate employee training (e.g. DVD).	N/A
Specialized Access Training	Specialized access training (e.g. hazardous area) will be priced on a case-by-case basis and provided by KSC on a reimbursable basis. In instances where KSC has excess seats available in area access training planned for KSC's needs, SPFL may, at the Government's sole discretion, participate at no cost.	Full Cost including applicable CM&O rate.	Rates will vary per terms of NASA's contract with KSC service provider.	Estimated when TOR is processed (Recurring Service)
Discharge approval (nondomestic waste water)	KSC will provide services to review, coordinate and obtain approval from the US Air Force/45th Space Wing for SPFL's request to discharge non-domestic wastewater into the KSC/CCAFS sewer system. This service will be provided on a reimbursable basis.	Full Cost including applicable CM&O rate.	Rates will vary per terms of NASA's contract with KSC service provider.	Estimated when TOR is processed (Recurring Service)
Spill Clean Up – Pervious Surfaces	Clean up of spills on pervious surfaces will be supplied by the KSC Spill Team on a reimbursable basis.	Full Cost including applicable CM&O rate.	Rates will vary per terms of NASA's contract with KSC service provider.	Estimated when TOR is processed (Recurring Service)

Spill Clean Up – Impervious Surfaces	Clean up of spills on impervious surfaces is the responsibility of the SPFL and can be procured by an outside provider or requested from KSC on a reimbursable basis. When provided by KSC, service will be priced on a case-by-case basis.	Full Cost including applicable CM&O rate.	Rates will vary per terms of NASA's contract with KSC service provider.	Estimated when TOR is processed (Recurring Service)
Ordnance Storage and Transport	Ordnance storage and transport will be provided by KSC on a reimbursable basis.	Full Cost including applicable CM&O rate.	Rates will vary per terms of NASA's contract with KSC service provider.	Estimated when TOR is processed (Recurring Service)
Recyclable Services	Recyclable services and material containers are provided to meet KSC requirements at no cost to SPFL.	Included in applicable CM&O rate	Baseline level of support.	N/A
Site Planning	Services provided by KSC to support SPFL's planning, implementation and integration with KSC of construction and facility improvement projects.	Full Cost including applicable CM&O rate.	Rates will vary per terms of NASA's contract with KSC service provider.	$ 5,745 (Recurring Service)
Meter Installation	Revenue grade meter installation is mandatory at unmetered facilities turned over to SPFL. Services for revenue grade meter installation (e.g. water, electrical, gas, commodities) can be procured by SPFL from an outside source or requested by KSC on a reimbursable basis.	Full Cost including applicable CM&O rate.	Rates will vary per terms of NASA's contract with KSC service provider.	Estimated when TOR is processed (Recurring Service)

Spaceport Services	Services above KSC's baseline to facilitate integrated operations (e.g. schedule integration, coordination for hazard clears, off-shift support, dedicated facility interface to SPFL, configuration management & data packaging, system validation & testing) when provided by KSC will be on a reimbursable basis.	Full Cost including applicable CM&O rate.	Rates will vary per terms of NASA's contract with KSC service provider.	$ 179,181 (Recurring Service)
Facility Maintenance	KSC will provide facility maintenance on real property assigned to SPFL under this agreement during the transition period.	Full Cost including applicable CM&O rate.	Rates will vary per terms of NASA's contract with KSC service provider.	$289,775 (Transition Service)
Airfield Operations	KSC will provide airfield operations at the SLF during the transition period to include air traffic control and aircraft servicers.	Full Cost including applicable CM&O rate.	Rates will vary per terms of NASA's contract with KSC service provider.	$323,377 (Transition Service)
Propellant and Life Support Services	KSC will provide commodities such as LOX, He and GN2 as well as SCAPE support for hazardous operations.	Full Cost including applicable CM&O rate.	Rates will vary per terms of NASA's contract with KSC service provider.	Estimated when TOR is processed (Recurring Service)

Grounds Maintenance, Pest Control, Custodial & Refuse Management	These services will be self-procured by SPFL from outside sources during transition and subsequent years.	N/A	N/A	$0
Reserve Account for Miscellaneous Services	Other services within the scope of this agreement may be requested via a Task Order Request (TOR) and cost estimate will be withdrawn from this reserve account maintained with KSC.	Full Cost including applicable CM&O rate.	Rates will vary per terms of NASA's contract with KSC service provider.	$28,725 (Recurring Service)
			Total Recurring Services Estimate (based on 1 yr.) →	**$ 476,397**
			Total Transition Services Estimate (based on 5 mths.) →	**$632,378**
			Grand Total Year 1	**$1,108,775**
			Initial Deposit	**$776,623**

Note 1: Task Order Request (TOR) is a standardized form used by Partners to request reimbursable KSC services (KSC Form 50-202).

Note 2: Support Services are those necessary to occupy and operate real property on NASA KSC. Other services outside the scope of this SLF Agreement may be available on demand (priced on a case by case basis) from NASA KSC to SPFL through a separate reimbursable agreement (e.g. engineering, propellants, laboratory services).

Note 3: Center Management and Operations (CM&O) rates are expressed as "full" or "pass through". Definition and applicability of these rates are available upon request.

EXHIBIT F
COMMERCIAL AEROSPACE 1509 TEMPLATE

Information Template for Proposed Facility Modifications Requiring NASA Approval

Date: _____

Location: Kennedy Space Center, Florida

Agreement # KCA-4412

Facility Number / Name: _____

Project Title: _____

Scope / Description:
Provide full description of any proposed construction, alteration, or repair work. Include full description of any proposed demolition work, including specific facilities, structures, facility systems, or collateral equipment to be removed.

Are any salvage/scrap value offsets proposed?

___**Yes** SPFL hereby requests to enter into a separate no cost contract for demolition as described in Facility Improvements Article, Paragraph 5.5. Estimated salvage/scrap values are attached.

___**No**

Justification:

NASA Technical Point of Contact:

Schedule Dates:
Design Phase:
Construction Phase:

Summary of Estimated Costs:
Design:
Construction:
Demolition:
Offsetting salvage or scrap value:

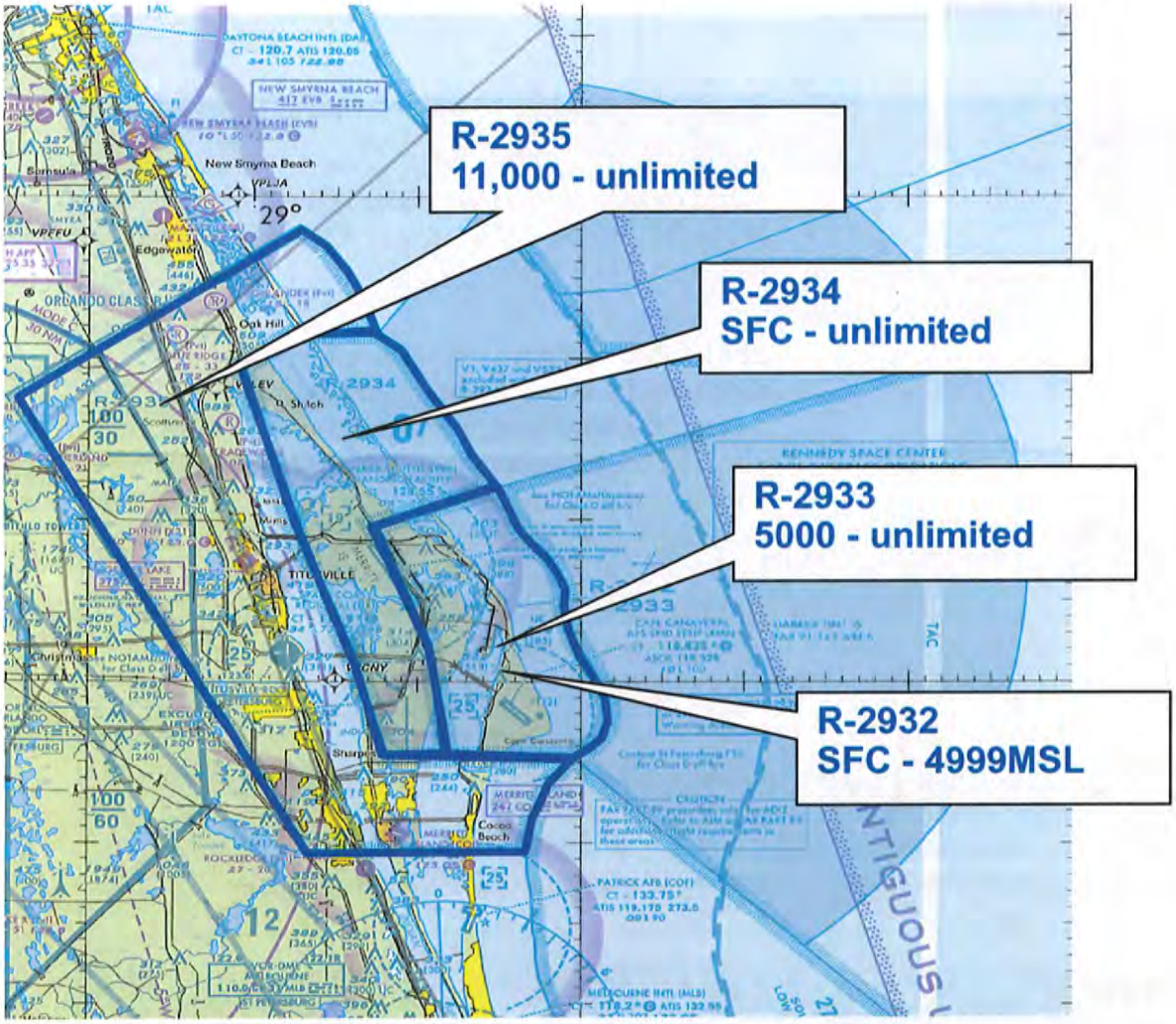
Commercial Aerospace 1509 Template

Attachment 1

Estimated Salvage/Scrap Value Offsets

Description of Material/Equipment	Unit of Measure	Quantity	Unit Cost	Total Cost
Grand Total:				

EXHIBIT G
U.S. AIR FORCE EASTERN RANGE SPECIAL USE AIRSPACE



Restricted Areas

- R-2932 – Active by Notice to Airmen (NOTAM), currently active 24/7, entry by Prior Permission Required (PPR)
- R-2933 – Active by NOTAM, currently activated for launch activity, entry by PPR
- R-2934 – Active by NOTAM, currently activated for special activities at the SLF, entry by PPR
- R-2935 – Active by NOTAM, activated when necessary for landing at the SLF by vehicles from space or near space

All of the Special Use Airspace contained in R-2932, R-2933, R-2934, and R-2935 confines or segregates activities considered hazardous to nonparticipating aircraft; its activation and use or entry into these areas is controlled by the U.S. Air Force Eastern Range (45th Space Wing).

Exhibit H - Requirements for SLF Airfield Operations

SLF Aviation Operational Requirements

Title	Requirement
Navigable airspace	Maintain the SLF and surrounding area in a manner to ensure safe and efficient use of airspace IAW 14 CFR Part 77
Deviations	SPFL has the authority to deviate from the requirements of this Exhibit in the event of an emergency. Notification of deviation shall be provided to NASA within a reasonable time period after the emergency.
Airport Operations Manual	Develop and maintain an Airport Operations Manual IAW 14 CFR § 139.201 (a)(3)(4)(b)(c) and 14 CFR § 139.203 for a Class IV airport certificate class
Airport Records	Maintain airport records IAW 14 CFR § 139.301 (a)(b)(1)(3-8)
Paved Areas	Maintain SLF runway areas IAW 14 CFR § 139.305 and FAC 14-60.007 Table 4 "Very Good" condition
Pedestrians and Ground Vehicles	Limit pedestrians and ground vehicles IAW 14 CFR § 139.329
Protection of NAVAIDS	Protect NAVAIDS IAW 14 CFR § 139.333
Airport Personnel	Provide airport personnel training and equipment IAW 14 CFR § 139.303 (a)(b)(c)
Aircraft rescue and firefighting: Index determination	Identify the ARFF Index of the SLF IAW 14 CFR § 139.315
Aircraft Rescue and Firefighting: Equipment and Agents	Provide ARFF equipment and agents IAW 14 CFR § 139.317
Aircraft Rescue and Firefighting: Operations	Operate ARFF equipment IAW 14 CFR § 139.319
SLF Emergency Plan	Develop and maintain an SLF emergency plan

Wildlife hazard management	Develop and implement a wildlife hazard management plan
Airport condition reporting	Develop and implement an airport condition reporting system
SLF Operations	Operate the SLF pursuant to Florida Administrative Code Chapter 14-60.006
Airfield Services	Provide airfield services to include airfield management, control tower operations, flight operations, and ground operations
Operational Hours	1. Ensure airfield services are available during published operating hours. 2. Provide off-shift support as schedules require Ensure services are available during all requested periods for aircraft operations
Control Tower Operations	3. Operate Air Traffic Control Tower in accordance with FAAO JO 7110.65, and FAAO JO 7210.3, *Facility Operations and Administration*.
Control Tower Personnel Certifications	Maintain controller FAA certifications for operations at the SLF (KTTS)
Ground Handling Personnel	Provide trained and certified ground handling personnel to support scheduled aircraft operations, not limited to but to include refueling/defueling, LOX loading, marshalling and safing, and ground equipment operations.
Ground Support Equipment	Operate and maintain AGE identified in property agreement KCA-4412
Commodity support	Provide fuel, liquid oxygen, and other commodities as may be necessary for aircraft support
NASA Intercenter Aircraft Operations Panel Review (IAOP)	Support the NASA IAOP review and process as identified in NPR 7900.3C et seq.

SLF Operational Approval Matrix

Ground Vehicles	Aircraft	Unmanned Aerial Systems	Amateur Rockets (CFR Part 101)	Balloons (CFR Part 101)	Rocket Powered Vehicles/High Energy Sys
Class A – NASA Notification is not required					
– Based on SF analysis is not capable of creating a hazard outside of the SLF perimeter	- Aircraft operating with civil airworthiness certificate under 14 CFR Part 91 or a public aircraft operating IAW 49 USC 40125(b), and 40125(a)(1)	- Based on SF analysis is not capable of creating a hazard outside of the SLF perimeter - Meets published SF safety requirements - OR operating within approved FAA COA	- Meets 14 CFR 101 (C) Class 1 or 2 rocket definition - AND Based on SF analysis, not capable of creating a hazard outside of SLF perimeter - AND Operated IAW 14 CFR 101 (C) and applicable NFPA code	**Tethered Balloon** - Based on SF analysis, not capable of creating hazard outside SLF perimeter - AND operated IAW 14 CFR 101 (B) and includes a FTS (rapid deflation) **Free Flight Balloon** - Will exit SLF perimeter on planned trajectory - AND Operated IAW 14 CFR Part 101 (D) - AND Not planned to drop on NASA property	- N/A
Class B – NASA Notification Required					

- N/A	- Uncertificated Aircraft
	- OR Aircraft flight requiring Special Use Airspace
		- Meets Class A
		  - AND may be a high visibility project with some media attention
		- OR Operating within Special Use Airspace without FAA COA
			- Meets Class A
			  - AND May be a high visibility project with some media attention
				Tethered/Free Flight Balloon
				- Meets Class A
				  - AND May be a high visibility project with some media attention
				- OR planned trajectory over NASA personnel/property
					- SF analysis determines vehicle/operation is not capable of creating a hazard outside of the SLF perimeter. SF provides NASA-KSC Range Safety analysis for assessment. Differences in analysis results will be jointly resolved

Class C – NASA Notification and Coordination Required – NASA Safety & Flight Ops Acceptance of Airframe/Ops Required					
- Based on SF analysis, is capable of creating a hazard outside of the SLF perimeter	– Aircraft Carrying Ordnance – OR Based on SF analysis, is capable of creating a hazard outside of the SLF perimeter	- Based on SF analysis, is capable of creating a hazard outside of the SLF perimeter - OR Requires an alternate air field outside of SLF perimeter	- Meets 14 CFR 101 (C) definition for Class 3 rocket - OR based on SF analysis is capable of creating a hazard outside SLF perimeter - OR SF analysis shows dropped booster/payload will land outside of SLF perimeter	**Tethered/Free Flight Balloon** - Exceeds 14 CFR 101 requirements **Free Flight Balloon** - Based on SF analysis, is capable of creating a hazard outside SLF perimeter beyond 14 CFR 101 accepted hazards - OR SF analysis shows a dropped object over or on NASA property	- Based on SF analysis vehicle is capable of creating a hazard outside of SLF perimeter
Class D – NASA Notification and Coordination Required – NASA Safety & Flight Ops Detailed Independent Analysis Required					

-N/A	- N/A	- Meets Class C
		  - AND meets the criteria of Cat 3 UAS (MGTOW>330lbs, OR V_{NO} > 200KIAS)
		- OR requires NASA assets/personnel
			- Meets Class C
			  - OR requires FTS for public safety
			  - OR Other than amateur rocket
			  - OR requires NASA assets/personnel
				Free Flight Balloon
				- Meets Class C
				  - AND requires NASA assets
				- OR requires FTS for public safety
					- Meets Class C
					  - AND Requires FTS for public safety
					- Or Requires NASA assets/personnel

Space Operations Requirements

Title	Requirement
License to Operate a Launch Site	Obtain and maintain certification from FAA per 14 CFR § 420 to operate the SLF as a launch site
License to Operate a Reentry Site	Obtain and maintain certification from FAA per 14 CFR § 433 to operate the SLF as a reentry site
45th Space Wing Launch and Reentry requirements	Comply with 45th Space Wing required launch and reentry /landing regulations as specified by 45th Space Wing
Compliance with NASA-KSC Requirements	Comply with NASA-KSC Range Safety requirements for operations as Class B-D as indicated in the SLF Operational Approval Matrix
Operational Deviations	Non-emergency deviations to airfield requirements (e.g., marking, lighting, obstruction) specified in Section XXXII or this Exhibit H shall be provided to NASA prior to implementation and published in the appropriate FAA/DoD publications

EXHIBIT I: SLF AGREEMENT POINTS OF CONTACT

Business Points of Contact:

NASA
Mr. Robert Hubbard
Partnership Development Manager
Robert.J.Hubbard@nasa.gov
Phone: 321-867-5415
Fax: 321-867-1670
NASA Kennedy Space Center
Mail Code: AD-C
John F. Kennedy Space Center, FL 32899

Space Florida
Mr. Jim Kuzma
Chief Operating Officer
jkuzma@SpaceFlorida.gov
Phone: 321-730-5301 x243
Fax: 321-730-5307
Space Florida
505 Odyssey Way, Suite 300
Exploration Park, FL 32953

Technical Points of Contact:

NASA
Mr. John A. Graves
Operations Officer
John.A.Graves@nasa.gov
Phone: 321-867-5124
Fax: 321-867-1817
NASA Kennedy Space Center
Mail Code: UB-C
John F. Kennedy Space Center, FL 32899

Space Florida
Mr. Steve Szabo
Spaceport Development Program Manager
sszabo@spaceflorida.gov
Phone: 321-730-5301 x107
Fax: 321-730-5307
Space Florida
505 Odyssey Way, Suite 300
Exploration Park, FL 32953

Public Affairs Points of Contact:

NASA
Ms. Tracy Young
Public Affairs Officer
Tracy.G.Young@nasa.gov
Phone: 321-867-9284
Fax: 321-867-2525
NASA Kennedy Space Center
Mail Code: PA
John F. Kennedy Space Center, FL 32899

Space Florida
Mr. Dale Ketcham
Director, Strategic Alliances
dketcham@spaceflorida.gov
Phone: 321-730-5301 x225
Fax: 321-730-5307
Space Florida
505 Odyssey Way, Suite 300
Exploration Park, FL 32953

EXHIBIT J
SPFL PLANNED OPERATIONS AND ASSOCIATED INSURANCE REQUIREMENTS

A. List of SPFL Planned activities for the time period of June 22, 2015 to June 21, 2016 includes those activities shown in the "Space Florida Shuttle Landing Facility Operations Forecast for 2015-2016, incorporated herein.

B. Required Insurance Amounts for Damage to U.S. Government Property:

SPFL will maintain insurance in the amount of $100,000,000 for damage to U.S. Government facilities at the SLF, and $26,123,163 for the SLF Runway 15/33.

C. Required Insurance Amounts for Protection of Third Parties

SPFL will maintain Aviation Liability Insurance in the amount of $50,000,000, and a Comprehensive General Liability Policy (General liability, Automobile, Property, Workers' Compensation) in the amount of $3,000,000.

D. Required Insurance Amounts for Damage to SPFL Improvements

SPFL is not planning to make any Improvements to the SLF property during this insurance period. The parties will determine what insurance is required when SPFL determines a schedule for Improvements in future Annual Strategic Reviews.

Signed:

For NASA	For SPFL FRANK A. DIBELLO
6-22-15	6/22/15
Date	Date

Space Florida Shuttle Landing facility Operations Forecast for 2015 -2016

Aviation Platforms (operations in 2015)

Inventory	Platform		Ops Summary	Fuel	Comments
6	Starfighters	F-104 Supersonic Jet interceptor	3 flights monthly	Jet A	
3	KSC Helicopters	UH-1 Huey	3-4 flights weekly	JP-8	
	Unmanned Aerial Systems	Estimatred at 50 Various Platforms	400 flights annually	Gas, Battery	approx 85 % less that 125 lbs with 65% less than 25lbs
1	Northrop T-38 Talon		30 flights annually	JP-8	
1	Antonov	An-124, An-225	1 flight monthly	Jet A	
1	Lockheeed C-5	Lockheed Galaxy	1 flight monthly	JP-8	
1	Commerical Logistics Flights	Logistics aircraft	1-2 flights monthly	Jet A	Commercial launch rate increase
1	Swiss Space Systems	Air Bus A350 & A380; SOAR Spacecraft	3-6 flights, maintenance Nov 2015	Jet A	
	Commercial Aircraft	Vaious	35 flights annually	JP A	
Space Platforms					
1	NASA Program	prototype planetary lander serving as a vertical test bed	10-20 days of testing annually	Methane & Oxygen pressurized by Helium	New test program 2015
1	Commercial Space Compnay	Lunar lander spacecraft	10-20 days of testing annually	Hydrogen Peroxide	Test Program 2016
1	X-37 (USAF)	X-37 Spacecraft	2 landing annually	Glider on return	2015
1	Commerical Space Craft	RLV	2 flights monthly	RP-1 & LOX	2017
1	Commercial Space Company	Lunar spacecraft	10-30 days of testing	Isopropyl Alcohol and LOX	New test program 2016-2017
1	DoD Program	XS-1 Spacecraft	10 events over 6 month period	RP-1 & LOX; LOX and Methane	2018
1	Suborbital Program	RLV	2 landings annually	Glider on return	2017
Aviation & Space Platforms					
1	Swiss Space Systems	Air Bus A350 & A380; SOAR Spacecraft	3-6 flights, maintenance Nov 2015	Jet A	2015
1	Commercial Space Company	Carrier Aircraft		Carrier - Jet A & LOX & RP1	2016
Other activity					
	Straight-line Performance Rach	NASCAR cars	35 days		2014
Fuel Assets					
		10,000 gallon tank (Jet A - Starfighters)			
		Two (2) fuel trucks (8,000 gallon capacity) -			
		GSA Contract			Projected for 2016
Special Events					
	Fire Ball Run Event		October 3rd		Promotional lap & photo event

APPENDIX B

KCA-1649

Interagency Agreement Between the National Aeronautics and Space Administration, John F. Kennedy Space Center and the U.S. Department of the Interior, Fish and Wildlife Service

for

Use and Management of Property at NASA, JFK Space Center Known as The Merritt Island National Wildlife Refuge

INTERAGENCY AGREEMENT BETWEEN THE NATIONAL AERONAUTICS AND SPACE ADMINISTRATION, JOHN F. KENNEDY SPACE CENTER AND U.S. DEPARTMENT OF THE INTERIOR, FISH AND WILDLIFE SERVICE FOR USE AND MANAGEMENT OF PROPERTY AT NASA, JOHN F. KENNEDY SPACE CENTER KNOWN AS THE MERRITT ISLAND NATIONAL WILDLIFE REFUGE

I. AUTHORITY

This Agreement is entered into by the National Aeronautics and Space Administration (NASA), John F. Kennedy Space Center (KSC) located at KSC, FL 32899, and United States Department of the Interior, Fish and Wildlife Service (FWS), located at Merritt Island National Wildlife Refuge (MINWR), P.O. Box 2683, Titusville, FL 32781. This Agreement is entered into by NASA KSC pursuant to sections 203(c)(5) and (6) of the Space Act of 1958, 51 U.S.C §20113(c). This Agreement is entered into by FWS pursuant to the Acquisition of Property, 16 U.S.C. §459j-1, 4, 6, 7, and 8; the Economy Act, 16 U.S.C. §742e(c) and 742g(d); Coordination Act, 16 U.S.C. §661-666c; the Migratory Bird Conservation Act, 16 U.S.C §715(d); and the Refuge Administration Act, 16 U.S.C. §668dd(b).

II. BACKGROUND AND SCOPE OF AGREEMENT

NASA acquired certain lands and adjacent waters located in Brevard and Volusia Counties in the 1960s. The land acquired was necessary for administrative and launch operations, to include security and safety zones. These lands also held special value as a haven for migratory birds and other wildlife, citrus production, and a potential site for outdoor recreation and education. The U.S. FWS is the principal Federal agency responsible for conserving, protecting, and enhancing fish, wildlife, and plants and their habitats for the continuing benefit of the American people. The FWS manages the 150-million-acre National Wildlife Refuge System that encompasses more than 556 national wildlife refuges.

On August 28, 1963, the FWS was first permitted by Interagency Agreement to establish a national wildlife refuge on certain portions of KSC, to be called the MINWR. This Agreement will establish a joint Interagency Agreement between NASA KSC Environmental Management Branch (EMB), Real Property Management Office, and the

U.S. Department of Interior, Fish and Wildlife Service, for the use and management of the MINWR.

A map of NASA KSC and the areas that are currently being managed as the MINWR is included as Attachment A to this Agreement.

III. RESPONSIBILITIES

A. The FWS shall have the following responsibilities:

1. The FWS shall have primary administration over real property at NASA KSC which has not been withdrawn from MINWR in accordance with Kennedy Documented Procedures (KDP)-P-3235, "Land Withdrawal from FWS to Support NASA Missions."

2. The use of NASA KSC property by the FWS as described herein shall be subject to all valid easements, rights-of-way, licenses, and present or future interests in, upon, across, or through said property granted by NASA for purposes related to the space program. Programs and activities of the FWS shall be carried out on a basis of noninterference with the space program, and any program or activity shall be terminated by the FWS upon a determination by NASA KSC of incompatibility with the space program, provided, however, that no such determination shall be made without prior notice to the FWS. The FWS shall take into account NASA's future development plans when implementing or changing its land management activities.

3. The FWS shall conduct habitat management activities, including prescribed burning, control of exotic plants and animals, water-level management, planting and harvesting trees, and any other program to enhance and protect wildlife and fish populations.

4. The FWS shall be a party to an Interagency Agreement for Mosquito Control with the Brevard County Mosquito Control District and NASA KSC to ensure the existence of an effective mosquito control program that is compatible with sound wildlife management practices and National Wildlife Refuge System policy. Kennedy Customer Agreement (KCA)-1456, "Agreement Between National Aeronautics and Space Administration (NASA), United States Fish and Wildlife Service, and Brevard Mosquito Control District (BMCD)," establishes mosquito control policies for the MINWR as well as the NASA KSC operational areas.

5. The FWS shall administer a comprehensive public use management program for educational and recreational purposes compatible with refuge purposes. This may include concessions, permits, leases, and other use of commercial activities related to the public. FWS shall inform NASA of such permits, leases, and other uses.

6. The FWS shall coordinate prescribed burns on MINWR in accordance with the "Joint Operating Procedure Between the 45th Space Wing, U.S. FWS, and KSC for Prescribed Burning on the MINWR, KSC, and Cape Canaveral Air Force Station, Florida," KCA-

4205. The list of fire management units to be burned in a given calendar year will be provided to NASA KSC, Facilities Systems and Services Division, in January of each year for coordination and planning purposes. NASA KSC management will assist the FWS in resolving any operational or other barriers in order to accomplish prescribed burns.

7. The FWS shall coordinate on proposals for research projects proposed by NASA, its contractors, grantees, and other partners who are outside the annual ecological monitoring plan and issue special use permits for research activities proposed within areas managed by FWS, provided these proposals meet compatibility requirements and are consistent with National Wildlife Refuge System policy.

8. The FWS shall, upon request by NASA KSC, close all or any part of MINWR to the public during checkout and launch periods or during emergencies or other situations involving safety and security of property or personnel.

9. The FWS may construct, alter, operate, and maintain dikes, impoundments, sub-impoundments, and water control structures, fire lanes, and secondary roads essential to MINWR operations which do not interfere with or otherwise affect NASA KSC operations, subject to KSC asset management procedures as outlined in KNPR 8830.1, "Facility Asset Management Procedural Requirements," and environmental requirements in accordance with KNPR 8500.1, "KSC Environmental Requirements."

10. The FWS may construct, alter, and maintain field offices, storage and maintenance buildings, and related facilities which do not interfere with or affect NASA operations. Siting of any such construction shall be approved by NASA KSC in accordance with its master plan siting procedures. FWS will complete and submit environmental checklists to NASA KSC for projects in accordance with KNPR 8500.1. All such construction shall meet NASA KSC building and fire inspection standards and applicable Federal, state, and local environmental regulations. The FWS shall, in general, fund any and all facilities constructed, maintained, or used by the FWS in its program, provided, however, that services, such as minor construction and maintenance, may be provided by NASA at no cost to the FWS when personnel and equipment are available for the requested purpose.

11. The FWS shall enforce such rules and regulations as are necessary, and within its legal authority, in exercising the privileges granted in this Agreement. The rules and regulations prescribed by NASA to govern the use of KSC property shall have priority. NASA's determinations shall be controlling in all matters pertaining to the space program of the United States, particularly with respect to such matters as security, safety, public health, overflights, and radio and instrumentation interference.

12. The FWS shall, at its own expense and without cost or expense to NASA, preserve, maintain, and keep in good repair and condition the premises authorized to be used as a National Wildlife Refuge, provided, however, that NASA KSC shall continue to maintain all major highways (including associated railroad crossings, traffic signals, bridges, and drainage ditches) used by employees and the public for access to KSC and all secondary

roads essential to KSC operational requirements.

13. The FWS shall be a member of all working groups at NASA KSC where the outcome may affect working relationships between NASA KSC and the FWS.

14. The FWS shall be responsible for all maintenance, management, and compliance aspects of the apiary program.

15. The FWS shall partner with NASA KSC regarding the restoration of wetland and upland habitats selected as appropriate mitigation sites for environmental impacts resulting from NASA KSC projects and programs. The FWS will inform NASA KSC of other restoration efforts planned to determine if NASA KSC desires to participate or reserve that location for future mitigation. Restoration efforts shall be coordinated with the NASA Historical Preservation Officer when the restoration will impact known archaeological sites.

16. The FWS shall support NASA KSC regarding the development and implementation of projects and programs to support the Indian River Lagoon Basin Action Management Plan (BMAP) and the Banana River BMAP developed under the Total Maximum Daily Load program by the Florida Department of Environmental Protection where compatible with FWS management needs and policies.

17. The FWS shall be responsible for removal of nuisance wildlife at NASA KSC and be reimbursed for this effort under NASA KSC Interagency Purchase Request NNK11CA44I.

B. The NASA KSC shall have the following responsibilities:

1. NASA KSC shall provide services, such as telephone and electrical service and computer networking capability, hazardous and nonhazardous waste disposal, spill cleanup, emergency police and property protection assistance, and secondary emergency medical and ambulance service when local services are unavailable or insufficient to meet the need.

2. NASA KSC shall provide asset management services, such as real property inventory and site request processing, when required for development.

3. NASA KSC shall conduct routine sampling and analysis of drinking water wells used in FWS operations and provide the results to FWS.

4. NASA KSC shall partner with the FWS in the restoration of wetland and upland habitats to be used for the mitigation of impacts to these habitats resulting from NASA projects and programs. NASA KSC shall identify the need for mitigation credits and develop a restoration plan(s) with the FWS. NASA KSC shall fund the full cost of these restorations and shall implement the associated monitoring plans. The specifics of these restoration efforts shall be negotiated under separate contracts.

5. NASA KSC shall reimburse the FWS for the removal of nuisance wildlife from NASA facilities in accordance with NASA KSC Interagency Purchase Request NNK11CA44I.

6. NASA KSC shall update, as needed, a map of NASA KSC and the areas that are currently being managed as the MINWR to incorporate and reflect any changes of the use and management of property in accordance with the provisions of this Agreement. NASA will maintain the official file of this map on a Geographic Information System and will provide a copy to FWS.

IV. CURRENT LAND USE AND ENVIRONMENTAL COMPLIANCE

The right is hereby expressly reserved to NASA KSC, its officers, agents, employees, grantees, and contractors to enter upon the said land and water areas at any time and to make any use of said land which may be necessary in connection with the space program of the United States. NASA KSC will conduct routine assessments of FWS operations (including, but not limited to, waste management and disposal services provided by the Medical and Environmental Support Contract (MESC) and industrial wastewater management) to ensure compliance with applicable Federal, state, and NASA KSC environmental requirements in accordance with KNPR 8500.1. NASA KSC is not responsible for the compliance aspects of the FWS programs or operations. FWS will be responsible for any and all costs to bring operations into compliance.

V. FUTURE LAND USE

NASA KSC retains the right to site any future space program facility at any location within the area being managed as the MINWR, taking into consideration the FWS's utilization of the property in order to ensure compatibility between NASA KSC activities and wildlife management wherever practicable. The decision to site a new facility on lands being managed as part of the Refuge will, however, be within the sole discretion of NASA KSC and will follow KDP-KSC-P-1295, "Processing of KSC Real Property Agreements." For tracking and accountability purposes, the parties will utilize the process outlined in KDP-P-3235, "Land Withdrawal from FWS to Support NASA Missions," as a result of NASA KSC exercising this discretion.

Upon completion of the land conveyance, adjustments will be made to the master plan and the KSC real property report(s) to reflect the addition of land for use by NASA. The Appendix A map will be updated and a copy provided to FWS.

VI. ENVIRONMENTAL PERMITS

FWS will obtain and hold the operation permit for any septic tanks operated by the FWS. FWS will prepare said permit applications and forward to NASA KSC for review at the earliest available opportunity, and NASA KSC will return the application package to the FWS in a timely manner. FWS shall be responsible for any engineering signatures required on these applications and will be responsible for submitting them to the appropriate regulatory agency, as well as implementing their terms and conditions.

VII. FIRE PROTECTION

NASA KSC will have primary responsibility for all structural fires (including FWS structures), automobile fires, and aircraft firefighting and rescue within the NASA KSC boundaries. FWS is primarily responsible for wildland firefighting in all areas of the KSC (including NASA operational areas), except those fires that involve structures. Both parties will respond in the event that both vegetation and structures are threatened by a single conflagration. Both parties may request assistance from the other to respond to a fire emergency when necessary.

VIII. MEETINGS

In order to foster communication and the frequent exchange of information related to management of the refuge and NASA KSC's activities in the operational areas, the parties will meet at least quarterly to discuss their respective activities. Topics to be addressed may include, but will not be limited to:

- Changes in land management strategies
- Proposed research projects and programs
- Planned construction or renovation activities and projects
- Annual ecological monitoring data needs
- Cultural resource activities/management

Attendance at these meetings should, at a minimum, include representatives from the FWS, the NASA EMB, the Real Property Accountable Officer, and the MESC. Other attendees should be included as necessary and as requested by the parties in regular attendance. Minutes of the meetings shall be kept by the EMB and provided to the attendees of the meetings. Special topic meetings will be scheduled upon request of either party.

IX. FINANCIAL OBLIGATIONS

There will be no transfer of funds or other financial obligations between NASA and FWS in connection with this Agreement except for the contract for management of nuisance

wildlife, which is managed under NASA KSC Interagency Purchase Request NNK11CA441. Each party will fund its own participation. However, a separate instrument may provide for a transfer of funds or other NASA KSC resources within the scope of the Agreement based on NASA KSC program goals and availability of funding. Such instruments will be subagreements to this Agreement and will be executed on an as-needed basis. Those subagreements will incorporate all of the terms and conditions of this Agreement by reference and describe with specificity the additional financial and other terms and conditions that may be required by the individual program or project.

All activities under or pursuant to this Agreement are subject to the availability of appropriated funds and no provision shall be interpreted to require obligation or provision of funds in violation of the Anti-Deficiency Act, 31 U.S.C. §1341.

X. KEY PERSONNEL

The following personnel are designated as the key officials and or representatives for their respective party. These key officials are the principal points of contact between the parties in the performance of this Agreement:

For NASA KSC:

KSC Real Property Accountable Officer
Mail Code: TA-B4C
Kennedy Space Center, FL 32899

Phone: 321-867-8047
Fax: 321-861-7946

Chief, Environmental Management Branch
Mail Code: TA-A4C
Kennedy Space Center, FL 32899

Phone: 321-867-1599
Fax: 321-867-4446

For FWS:

Refuge Manager
P.O. Box 2683
Titusville, FL 32781

Phone: 321-861-0667
Fax: 321-861-1276

XI. TERM OF AGREEMENT AND RIGHT TO TERMINATE

This Agreement becomes effective on the date of the last signature of the parties. Either party, upon a 180-day written notice to the other party, may terminate this Agreement, without liability, at any time and for any reason it deems substantial.

Fixtures, equipment, facilities, or other property of the FWS constructed or maintained on the said premises shall be and remains the property of the FWS and may be removed at any time prior to the termination of this Agreement and at any time within 90 days after

any termination of this permit. Any property of the FWS not removed from the premises within three months after termination of this Agreement shall become the property of NASA.

This Agreement shall remain in effect until terminated by the parties. Annual reviews shall be conducted by the parties to ensure that the provisions of this Agreement remain current and accurately reflect the relationship of the parties.

XII. SIGNATORY AUTHORITY FOR MODIFICATIONS AND EXTENSIONS

1. Any modification to this Agreement shall be executed in writing and signed by an authorized representative of each party. Any modification which creates an additional commitment of NASA KSC resources must be signed by the original NASA KSC signatory authority, or successor, or a higher-level NASA KSC official possessing original or delegated authority to make such a commitment.

2. All requests by NASA KSC regarding modifications to or termination of this Agreement will be addressed to the Regional Director, U.S. Fish and Wildlife Service, at 1875 Century Boulevard, NE, Suite 400, Atlanta, GA 30345, and all such requests by the FWS will be addressed to the Director, NASA, Kennedy Space Center, Mail Code: AA, Kennedy Space Center, FL 32899.

3. For updates or changes to Appendix A of this Agreement, the parties hereby delegate the authority for that activity as follows: for the FWS, the Refuge Manager; and for NASA KSC, the Director, Center Operations. This authority does not extend to eliminating existing or creating additional appendices.

XIII. ASSIGNMENT OF RIGHTS

Neither this Agreement nor any interest arising under it will be assigned by FWS or NASA KSC without the express written consent of the officials executing the Agreement.

XIV. EXECUTION

This document has been executed in duplicate originals by the undersigned.

National Aeronautics and
Space Administration
JOHN F. KENNEDY SPACE CENTER

BY: Robert D Cabana
Robert D. Cabana
Director

Date: 29 JAN 12

Department of Interior
FISH AND WILDLIFE SERVICE

BY: Cindy Dohner
Cindy Dohner
Regional Director

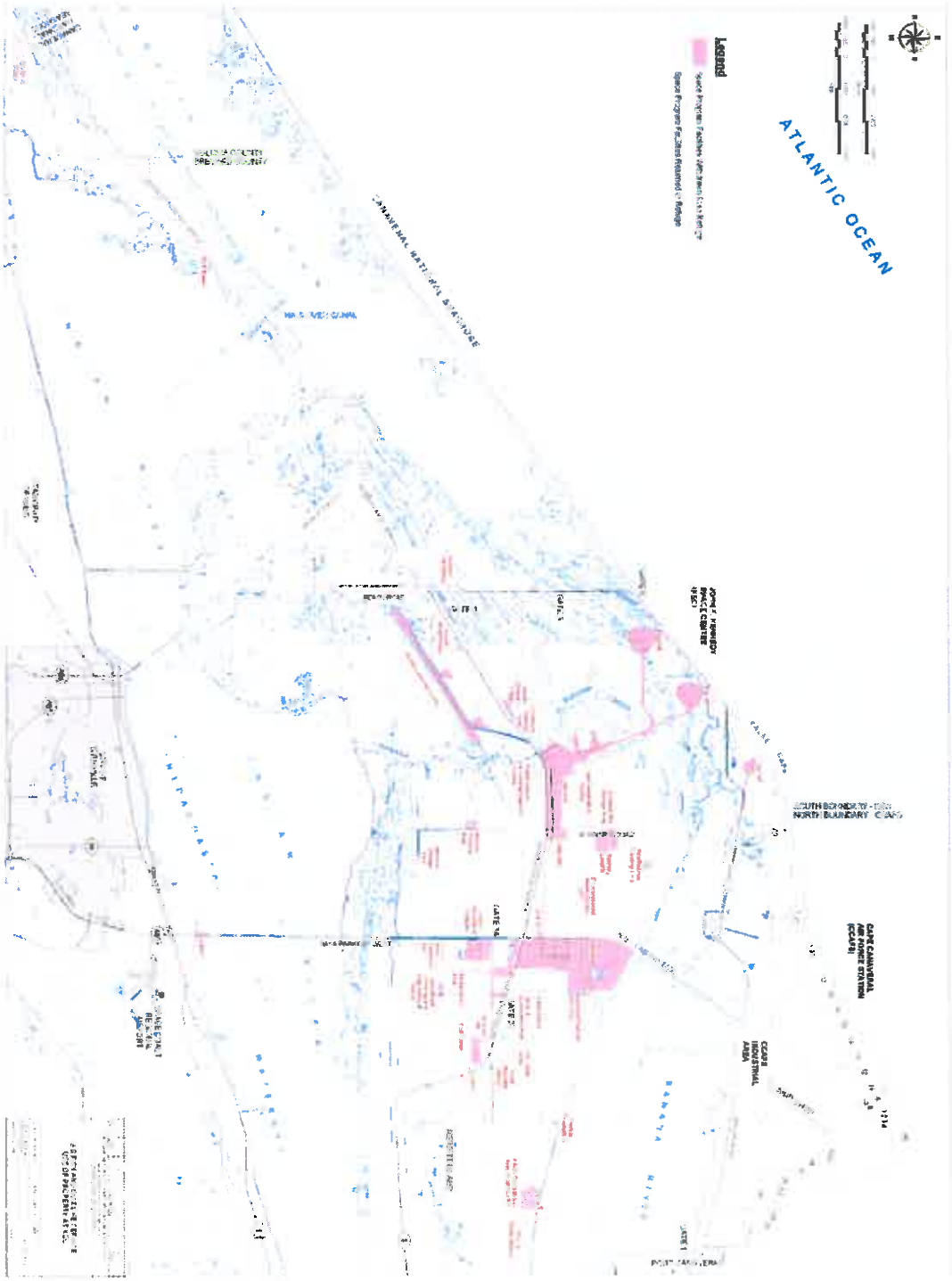
Date: 7/25/2012

APPENDIX A

MAP: CANAVERAL NATIONAL SEASHORE
MERRITT ISLAND NATIONAL WILDLIFE REFUGE
APRIL 2012

APPENDIX A

MAP: CANAVERAL NATIONAL SEASHORE
MERRITT ISLAND NATIONAL WILDLIFE REFUGE
APRIL 2012



APPENDIX C

Kennedy Space Center

Future Land Use Map

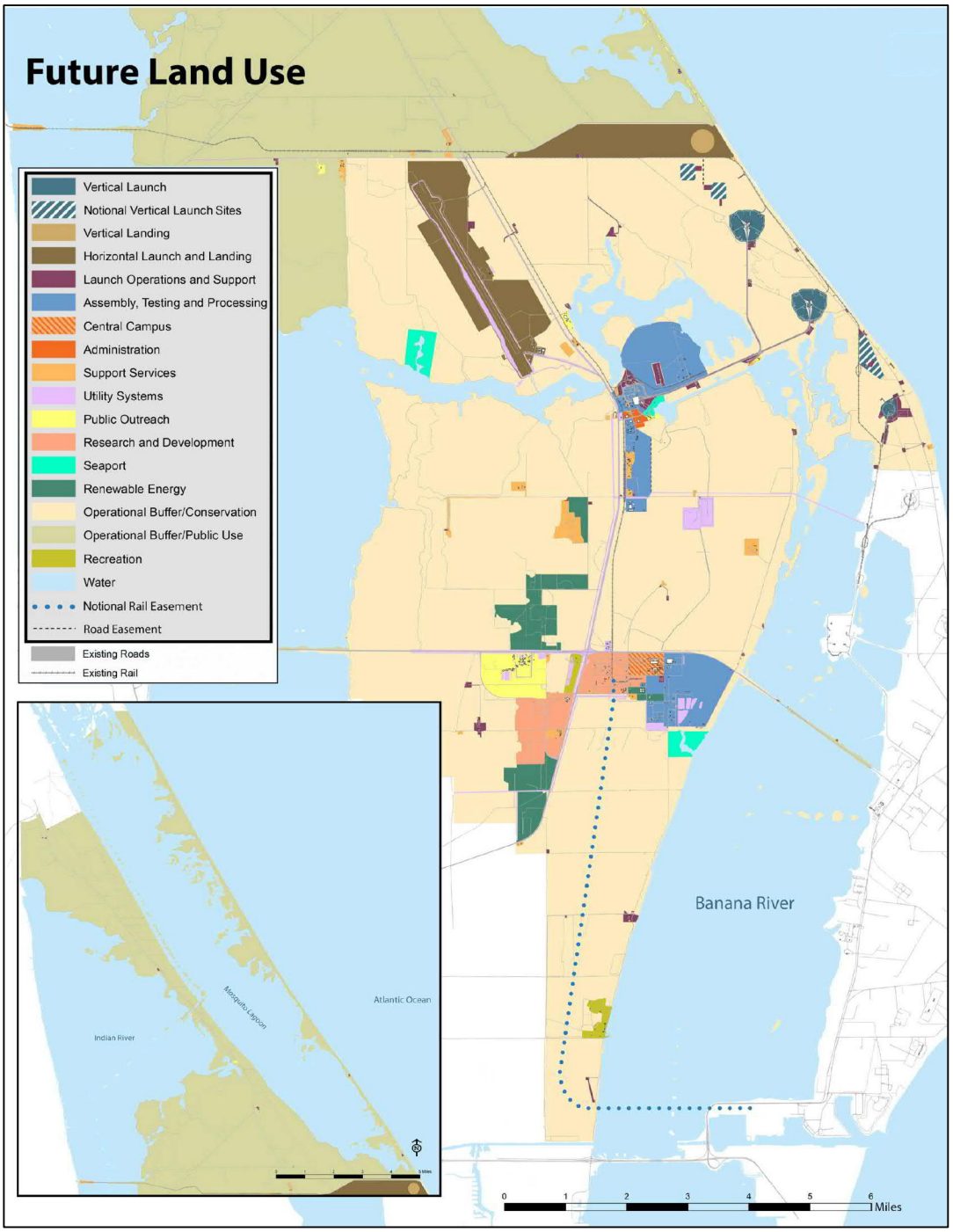


Figure 2.1-1. Proposed future land use at the Kennedy Space Center (Proposed Action)

APPENDIX D

Section 7 Consultation