DRAFT
Environmental Assessment

George C. Marshall Space Flight Center

Michoud Assembly Facility

“Lease for 50 Acre Business Park "

National Aeronautics and Space Administration

September 2023

ENVIRONMENTAL ASSESSMENT

Lease for 50 Acre Business Park

National Aeronautics and Space Administration
Michoud Assembly Facility
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Acronyms and Abbreviations

AST – aboveground storage tank

bgs– below ground surface

BMP – best management practice(s)

CEQ – Council on Environmental Quality

CFR – Code of Federal Regulations

dB – decibel

dBA – noise power calculated in dB where 0 dBA = 3.16 picowatts

EA – Environmental Assessment

ET – External Tank

EO – Executive Order

FAA – Federal Aviation Administration

FEMA– Federal Emergency Management Agency

FIRMs – Flood Insurance Rate Maps

ft – foot or feet

ft^2 – square foot or feet

GIWW – Gulf Intracoastal Waterway

IWTF – Industrial Wastewater Treatment Facility

LA – Louisiana

LAC – Louisiana Administrative Code

LDEQ – Louisiana Department of Environmental Quality

LPDES – Louisiana Pollutant Discharge Elimination System

MAF – Michoud Assembly Facility

MSFC – George C. Marshall Space Flight Center

MSL– mean sea level

NASA – National Aeronautics and Space Administration

NFC – U.S. Department of Agriculture; National Finance Center

NEPA – National Environmental Policy Act

NFPA – National Fire Protection Agency

NHPA- National Historic Preservation Act

OSHA – Occupational Safety and Health Administration

Acronyms and Abbreviations

RCRA – Resource Conservation and Recovery Act

RFI – RCRA Facility-Wide Investigation

SLS – Space Launch System

U.S.C. – United States Code

USCG – United States Coast Guard

USDA – United States Department of Agriculture

USEPA – United States Environmental Protection Agency

USFWS – United States Fish and Wildlife Service

SECTION 1

Purpose Of and Need for the Proposed Action

1.1 Introduction

The National Aeronautics and Space Administration (NASA) Michoud Assembly Facility (MAF) is an 829-acre campus in eastern New Orleans, Louisiana (LA). It is managed as a component facility of NASA's Marshall Space Flight Center (MSFC) located in Huntsville, Alabama (AL). The primary mission of the MAF is the manufacturing and assembly of space flight hardware to support NASA's space transportation programs. The main programs that are currently underway include the design and construction of the Space Launch System (SLS) Core Stage and Orion Space Capsule. SLS will be NASA's only launch vehicle and will be the largest launch vehicle in the United States. MAF also leases manufacturing, warehouse and office space to a number of government and private organizations.

MAF has approximately 50 acres of land that was once used for office buildings before a tornado in 2017 caused enough destruction to warrant complete demolition. Demolition of the office buildings was completed in early 2021. NASA is now considering leasing the 50 acres of land to a commercial developer for the development of a business park. This dedicated 50-acre business park would target commercial office development for existing MAF tenants and new prospects from the private and public sector to support MAF and other industry in New Orleans.

Pursuant to 14 CFR 1216.305, a responsible official will prepare an Environmental Assessment (EA) when a Proposed Action cannot be categorically excluded, and the Proposed Action is not expected to result in impacts that necessitate analysis required through the Environmental Impact Statement (EIS) process. The regulation also states further that typical NASA actions that require an EA include "construction or modifications of facilities which are not minor." Given the size and scope of this Proposed Action (commercial development of an office park), the EA process is the appropriate action with which to examine potential environmental effects of the Proposed Action.

This EA has been prepared in accordance with the National Environmental Policy Act (NEPA), as amended (Title 42 of the United States Code [U.S.C.] 4321–4347), the Council on Environmental Quality (CEQ) regulations for implementing the procedural provisions of NEPA (40 Code of Federal Regulations [CFR] 1500–1508), NASA's regulations for implementing NEPA (14 CFR Subpart 1216.3) and the NASA NEPA Management Requirements (NASA Procedural Requirement [NPR] 8580.1A).

1.2 Michoud Assembly Facility Background

Originally, the MAF property was part of a 1763 French Royal Land Grant to Gilbert Antoine de St. Maxent, a soldier in the French Army and a successful New Orleans merchant. Originally 34,500 acres, 1,000 acres of the property was purchased in 1827 by Antoine Michoud, the son of Napoleon's Administrator of Domains, when he emigrated from France. Michoud operated a sugar plantation and refinery on the estate which his heirs continued to operate into the 20th Century. Two smokestacks (replicas) from the original plantation remain at the entrance to the site. In 1940, the U.S. Maritime Commission purchased the site to build a shipyard for the production of Liberty ships by Higgins Industries. In 1942 the partially built shipyard was taken over by the government for the production of large cargo-type plywood airplanes. The original facility construction included administration, engineering, manufacturing, and hangar buildings as well as several small shop buildings and an airstrip. In November of 1945, the plant was closed until the outbreak of the

Korean War. During the early 1950s under the U.S. Army Ordinance Corps, Chrysler Corporation manufactured tank engines in the MAF.

The plant was again closed in 1953 and remained idle until the site ownership was transferred to NASA in 1961 as a facility for design and assembly of large space rocket stages. The gulf location was selected to provide water transportation of the rocket stages to NASA's John C. Stennis Space Center in Hancock County, Mississippi, for launch certification testing, and then on to the Kennedy Space Center, Florida, for assembly and launch. Initially, the Saturn booster rockets were built to support the Apollo program. In 1973 the facility was re-tooled to construct the External Fuel Tank (ET) for the Space Shuttle program. Construction of ETs continued until 2010 with the retirement of the Space Shuttle Program. The main NASA program currently underway at MAF is the production of the SLS Core Stage vehicle. Other smaller scale manufacturing projects associated with other NASA programs are also in progress.

In addition to the NASA programs, the MAF also has various other tenants within the facility. Tenants include the United States Department of Agriculture (USDA), National Finance Center (NFC), the United States Coast Guard (USCG) Integrated Support Command, New Orleans, BK Aerospace, Boeing, Lockheed Martin, Textron Systems, LM Wind Power and other commercial manufacturing tenants. These commercial and government contract tenants comprise a large portion of the current employees and business occupants at the MAF.

Maintenance and general operation activities of the MAF are performed by a NASA contractor under the Synergy Achieving Consolidated Operations and Maintenance (SACOM) Contract. Site security is provided by a private security firm that reports directly to NASA.

1.3 Purpose and Need

The purpose of this proposed action is to construct a dedicated 50-acre business park within NASA’s 829-acre site in New Orleans. This proposed action will create a commercial business park, which will provide economic development for the area and to utilize existing space and infrastructure to provide revenue to NASA to help off-set the cost of maintaining and operating the MAF. The existing proposed development site, with provided utility infrastructure, is an asset at the facility which is not currently being utilized. The proposed business park would target commercial office development, with contemporary amenities, for existing Michoud tenants and new prospects from public and private sector to support MAF and other industry in New Orleans.

1.4 Scope of EA

This EA identifies and analyzes the potential environmental and human health impacts, as well as safety concerns, regarding the lease of land for the construction of 50 acre business park. Accordingly, the final development conditions and associated potential environmental impacts could differ from those analyzed by this EA. In the event that the plan is significantly different than the assumptions presented in this EA, a supplemental NEPA analysis and documentation may be required to provide a comprehensive and accurate assessment of the potential health and environmental impacts of the final Proposed Action. At this time, it is not anticipated that changes during the final design will vary significantly or contradict the findings in this assessment.

The potential impacts of the Proposed Action are evaluated against those of the No-Action Alternative, under which the subject property would not be re developed and would remain idle.

1.5 Public and Agency Consultation

In accordance with CEQ and NASA regulations for implementing NEPA, NASA will solicit comments on the Draft EA from interested and affected parties. A Notice of Availability (NOA) for the Draft EA will be published in the New Orleans newspaper of record, The Times. The NOA provides the Website address where the Draft EA is available electronically. Hard copies of the Draft EA are available upon request. A copy of the NOA public notice will provided in Appendix B of the final assessment.

SECTION 2

Description of the Proposed Action and Alternatives

2.1 Description of the Proposed Action

The Proposed Action involves constructing a dedicated 50-acre business park for the development on the proposed site to be occupied by different tenants. The business park will include office buildings, exterior gardens and courtyards, and a vehicle parking lot surrounding the office park.

It is important to note that this is not a significant change to the location's previous use. The area currently contains a concrete parking lot from the previous office building that was eventually demolished. The parcel is situated within the fenced boundary lines of the MAF that has traditionally been used to support aerospace and defense related industrial and office activities.

Impacts analyzed include activities associated with the construction and occupation of the business park within the leased land.

Figure 2.1 – Facility Location

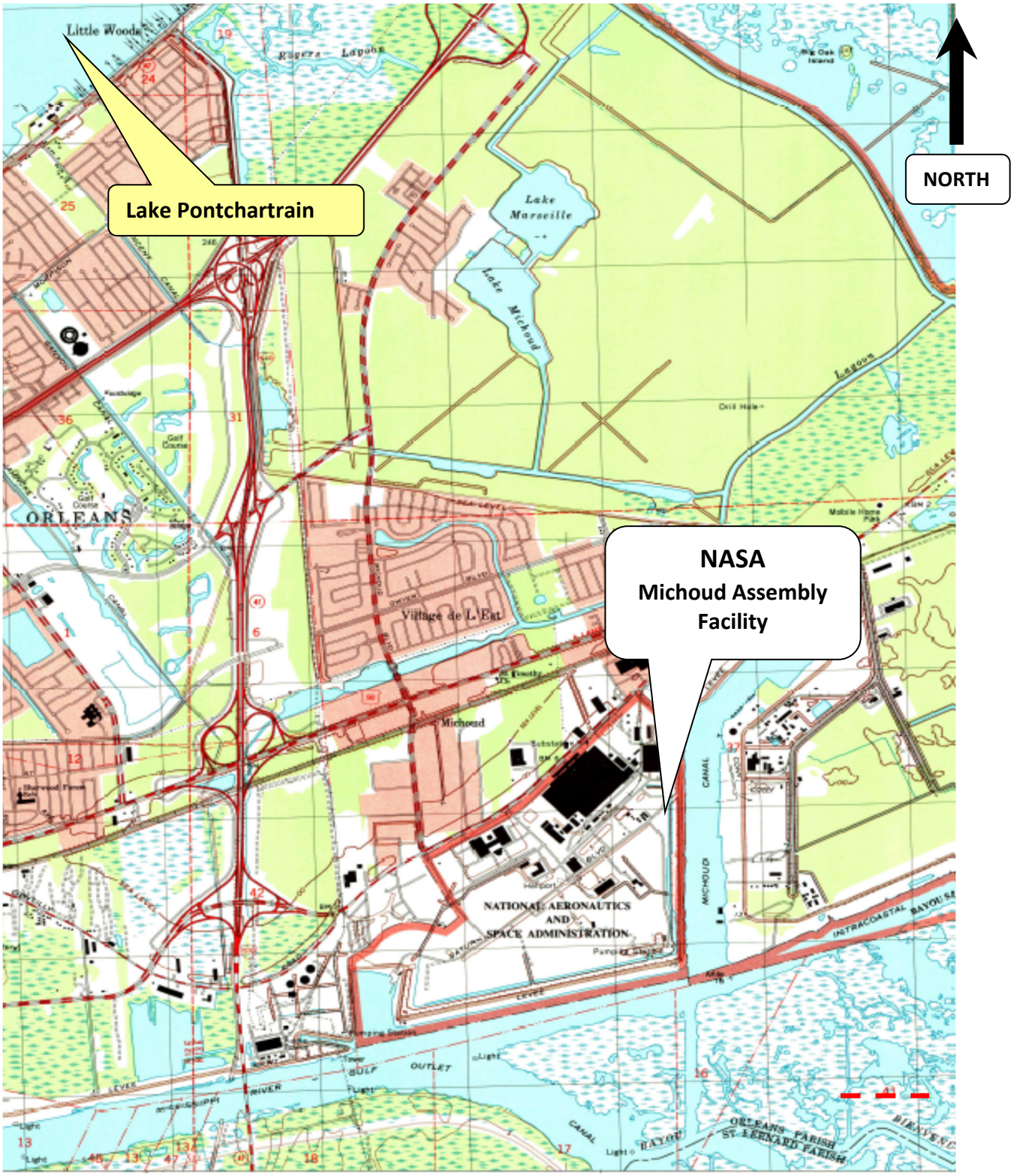

Figure 2.2 – Project Location within MAF

2.2 Alternatives to the Proposed Action

One of the NEPA requirements of an EA is that the potential environmental impacts of a Proposed Action, as well as reasonable alternatives to a Proposed Action and a No Action alternative are considered. A reasonable alternative is one that addresses the basic purpose and need for the Proposed Action, is practicable from a technical and economic standpoint, and one that meets reasonable screening criteria that are suitable to a particular action. Screening criteria generally include requirements related to influence on existing operations, technical feasibility, environmental, health and safety impacts, budget, and time related concerns. If an alternative is ultimately determined not to be reasonable and does not fit into the overall scope of the proposed action, it can then be eliminated from detailed analysis in an EA.

2.2.1 Alternatives considered but eliminated

As NASA's action in this project is to lease the land to an outside organization who will build and operate the facility, any alternative location to the project or alternate project would be covered under the No-Action Alternative.

2.3 No-Action Alternative

The No-Action Alternative entails not leasing the land for the construction of an office park. The No-Action Alternative is analyzed in Section 3 as a baseline against which the Proposed Action can be compared.

SECTION 3

Affected Environment and Environmental Consequences

The following section of the EA addresses the existing environmental conditions that would be potentially affected by the Proposed Action. In compliance with NEPA, CEQ guidelines, and 32 CFR Part 651, et seq., the description of the affected environment focuses on those resources and conditions potentially subject to impacts.

3.1 Air Quality

Current air emission activities at the MAF are covered under four separate State Air Operating Permits. These include Minor Source Permits authorizing emissions from an air stripper associated with a groundwater remediation system, utility point sources including steam and hot water boilers, diesel fired power generation units, and to operate emission sources with the main production area processes including welding, assembling, cleaning, and coating of large aerospace vehicles. None of these Air Permits would be affected by the Proposed Action.

The No-Action Alternative will have no impact on this resource, at this time.

3.1.1 Proposed Action – Air Quality Impacts

Emissions from mobile sources such as work vehicles and heavy equipment would be generated during the construction of the Proposed Action. The pollutants that would be emitted from the engine exhausts of construction vehicles and equipment include carbon monoxide, nitrogen oxide, particulate matter, and volatile organic compounds. These types of exhaust emissions would be temporary, and at their expected generation levels, are not anticipated to significantly impact air quality within the MAF.

For these reasons, the Proposed Action is expected to have a minor impact on air quality.

3.2 Noise

Noise is described as the “unwanted sound that interferes with normal human activities.” Under the Proposed Action, the principal noise sources would be from heavy equipment operation and structural material handling and removal during the construction operations.

Based on data presented in the USEPA publication, Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances (USEPA, 1971), outdoor construction noise levels have been documented to vary from 78 dBA to 89 dBA at approximately 50 ft from typical construction sites under ambient conditions found in suburban settings. Noise levels at 50 feet from a construction source were documented to decreases by approximately 3 dBA over a hard, unobstructed surfaces and by approximately 4.5 dBA over softer vegetated surfaces.

The MAF is located within the New Orleans Regional Business Park, an area within the city designated for industrial activities. Most of the adjoining parcels of land surrounding the MAF to the east, north and west are either industrially/commercially developed properties, vacant and undeveloped tracts and wooded areas. Property to the south of the MAF includes the Gulf Intracoastal Water Way (GIWW) and uninhabited marsh. The closest residential area to the MAF is located in excess of 4,800 ft to the North.

The No-Action Alternative will not have any impact on this resource. The expected impact that would be caused by the proposed action is described below.

3.2.1 Proposed Action – Noise Impacts

The construction activities that would take place under the Proposed Action would cause a temporary increase in ambient noise levels within and near the MAF. It is anticipated that these noise level increases would be intermittent and limited to normal working hours during the construction period. Contractors and construction workers would be required to use hearing protection during some construction activities and would follow other applicable Occupational Safety and Health Administration OSHA standards and procedures for health and safety.

As discussed in Section 3.2, typical construction work generates noise levels in the range of 78 to 89 dBA approximately 50 feet from the work area (USEPA, 1971). Based on these estimates of noise dissipation, noise generated during the construction activities under the Proposed Action would not be audible in the nearest residential area located approximately 4,800 ft north of the subject property.

Accordingly, the Proposed Action construction period is expected to have a minor, noise impact during the standard (day-time) working hours. Any noise impacts are expected to be minor and short-term in duration.

3.3 Topography

The MAF property has been developed within reclaimed marshland and has been subsequently filled and graded to create sufficient surface slopes for drainage. Very little elevation change occurs within most of the MAF property. The elevation inside the MAF ranges from 0 ft mean sea level (msl) to 5 ft msl. Elevations of 14 ft to 15 ft msl are noted at the top of the flood protection levee of the GIWW.

The No-Action Alternative will not have any impact on this resource. The expected impact on this resource that would be caused by the proposed action is described below.

3.3.1 Proposed Action – Topography Impacts

The area on which construction is proposed was filled prior to 1964. The filling and grading activities have been sufficient to maintain adequate slope for drainage of the area. The proposed action would not include any significant modification to the grading and no structures would be installed at a height greater than existing adjacent structures. Accordingly, no significant changes to the topography are expected as a result of the building demolition at this time.

For these reasons, the Proposed Action is preliminarily expected to have no impact on topography.

3.4 Soils

The MAF property consists of mostly reclaimed marshland, and is mapped by USDA National Resource Conservation Service, Web Soil Survey as consisting mostly of aquent soils; that are fluvial deposited sediments along river banks and tidal mudflats and/or wet soils that have been artificially placed by dredging activities. Previous construction and excavation activities within the MAF have reportedly identified the shallow subsurface soils as being predominantly dredged fill material with mixtures of topsoil and river sand.

The No-Action Alternative will not have any impact on this resource. The expected impact on this resource that would be caused by the proposed action is described below.

3.4.1 Proposed Action – Soils Impact

Surface soils on the property would be disturbed during site clearing/grading, building construction, and other site development activities. The Proposed Action would result in a net increase in pavement surface area within the property. Minimal additional fill is expected to be required. The private developer would be required to implement appropriate BMPs and erosion/sedimentation controls during the construction period to minimize potential indirect impacts to surrounding soils

For these reasons, the Proposed Action is preliminarily expected to have a Minor impact on soils; the impact is expected to not be significant.

3.5 Geology and Hydrogeology

The July 2017 Semiannual Groundwater Monitoring Report for the MAF, prepared by K.S. Ware & Associates, LLC, documents that the previous subsurface investigations have identified the shallow subsurface geology as alternating layers of silty clay and clayey and sandy silts and organic peats between ground surface and approximately 20 feet below ground surface (bsg). The surficial groundwater zone at the MAF is between one to four feet bgs, with the first laterally contiguous groundwater aquifer located between approximately 20ft to 50 ft bgs. The July 2017 Semiannual groundwater report describes the shallow aquifer at the MAF as mostly fine grained sand, but is heterogeneous with upper and lower sand units separated by zones of lower hydraulic conductivity. This groundwater flow zone is reportedly connected to the GIWW and is tidally influenced. Low permeability clays separate the shallow aquifer from the lower aquifers. Several other deeper aquifers exist between approximately 100 ft bgs and 1,200 ft bgs.

The No-Action Alternative will not have any impact on this resource. The expected impact on this resource that would be caused by the proposed action is described below.

3.5.1 Proposed Action – Geology and Hydrogeology Impacts

Shallow excavations due to various installations are anticipated. These structures are similar to other common support structures in the area which have not had any impact on local geology and hydrogeology. Therefore, No Impact to the geology or hydrogeology is in anticipated.

3.6 Land Use

According to the City of New Orleans Planning Department, Land Use Map Viewing tool, the MAF is located within an area zoned as "Heavy Industrial" with an anticipated future land use classification of industrial. The area of the proposed action is currently not in use for any purposes.

The No-Action Alternative will not have any impact on this resource.

3.6.1 Proposed Action – Land Use Impacts

The Proposed action will not alter the City of New Orleans zoning or the land-use classification for the MAF area. This area was previously a large office building housing the USDA National Finance Center. This project will have no impact on land use outside of the facility. For these reasons, the Proposed Action would have a no impact on land use in the surrounding area.

3.7 Surface Water

The MAF property has been developed within reclaimed marshland and has been subsequently filled and graded to create sufficient surface slopes for drainage. There is no natural surface drainage system within the MAF with the exception of a small area at the barge dock which is outside of the flood control levee system. The forced drainage system within the MAF includes a series of catch basins, drainage ditches, and underground pipes that convey storm water into the on-site Borrow Canal. The Borrow Canal runs parallel to the flood protection levees that practically surrounds the facility. Rainwater accumulation in the Borrow Canal is pumped over the hurricane protection levee as needed under the Louisiana Pollutant Discharge Elimination System (LPDES) Permit for Outfall 001 and/or Outfall 004 pumping stations.

The No-Action Alternative will not have any impact on this resource.

3.7.1 Proposed Action – Surface Water Impacts

There are no surface water bodies within the subject property; therefore, construction activities under the Proposed Action would have no direct impact on surface waters. The construction contractor would be required to implement appropriate BMPs and erosion/sedimentation controls during the construction period to minimize potential indirect impacts to surface waters outside the property.

The construction of impervious ground cover, such as building and concrete pads, would slightly increase the volume of storm water run-off. The additional volume of storm water run-off resultant from the increased paved areas is anticipated to be negligible. All storm water at the site is monitored prior to discharge to neighboring surface waters, in accordance with the facility LPDES discharge permit to ensure no negative impact to surface waters. Inspections and immediate clean-up of any fuel spills would reduce the potential for release of petroleum hydrocarbon contamination to the environment during rain events.

For these reasons, the Proposed Action is preliminarily expected to have a negligible impact on surface waters; the impact is expected to not be significant.

3.8 Vegetation

The MAF property has been developed within reclaimed marshland and has been subsequently filled and graded. The project area is mowed grasses and existing concrete parking areas remaining from the previous office building.

The No-Action Alternative would have no impact on the vegetation currently located adjacent to, and near, the project.

3.8.1 Proposed Action – Vegetation Impacts

The expansion under the proposed action would have minimal impact to vegetation. The expansion would include the installation of concrete slabbed buildings on existing mowed grass. Ornamental gardens may be installed adjacent to proposed buildings. The area currently consists of a parking lot and turf grass. No natural vegetation would be disturbed

For these reasons, the Proposed Action is expected to have a minor impact on vegetation; the impact is expected to not be significant

3.9 Wildlife

The MAF property has been developed within reclaimed marshland and has been subsequently filled and graded. The project area is concrete, mowed grasses, and weeds. The grounds would be typically used mostly by common birds such as cardinals, blue jays, mocking birds, sparrows, cattle egrets and other avian species. Other resident and transient wildlife could include the American alligator, snakes, turtles, armadillos, coyotes and small rodents. However, due to high human presence, lawn maintenance activities, automobile traffic, as well as active pest control practices, a permanent presence of such wildlife is unlikely.

The No-Action Alternative would not impact the birds and other wildlife that utilize the grounds of the MAF.

3.9.1 Proposed Action – Wildlife Impacts

The Proposed Action would likely cause a minimal, but temporary impact on a very small amount of wildlife during the time construction activities are being conducted. The impact would lessen with the increase of distance from the work area due to the corresponding decrease of human activity and noise. Affected wildlife would be expected to vacate or avoid the general area in favor of more peaceful settings. As such, the Proposed Action is would have a negligible impact on wildlife.

3.10 Threatened and Endangered Species

The MAF property has been developed within reclaimed marshland and has been subsequently filled and graded. The project area is mowed grasses and weeds. As such, there is no suitable habitat for threatened and endangered species, nor have any endangered species been observed in this area.

No threatened and endangered species would be affected by the No-Build Alternative.

3.10.1 Proposed Action – Threatened and Endangered Species Impact

As the area does not have any threatened and endangered species or any appropriate habitat, the Proposed Action would have no impact on threatened or endangered species.

3.11 Cultural Resources

There are no buildings or structures in the area of proposed action. No production activities associated with the history of MAF have taken place in the proposed action area. The proposed action area consists of reclaimed marshland with soils consisting of dredged material. There are no cultural resources located in the vicinity of this project.

The No-Build Alternative would have no impact on historic or cultural resources.

3.11.1 Proposed Action – Cultural Resources

As there is no potential for Cultural or Historical resources in the area of the proposed action the Proposed

Action would have no impact on cultural resources.

3.12 Socioeconomics

The area of the proposed project is currently an abandoned concrete slab and a minimal amount of maintained grass. As such, the area provides no socioeconomic impact either positive or negative. Accessibility to the area is limited ~~both~~ due to site security requirements.

The No-Build Alternative would have no impact on socioeconomic resources located in the study area.

3.12.1 Proposed Action – Socioeconomic Impacts

The proposed action will provide several temporary construction jobs, and permanent jobs for the for future tenants at the office park.

The proposed action will have a positive socioeconomic impact on the area by creating jobs.

3.13 Public and Occupational Health and Safety

The MAF has access to 24-hour police, fire, emergency health and non-emergency services through the City of New Orleans. The MAF also has trained medical personnel within the facility who can respond to occupational health medical emergencies. The MAF maintains a staff of Safety Professionals and Industrial Hygienists who oversee all NASA programs, tenant operations, and safety programs in compliance with applicable requirements. The MAF operates in general compliance with all applicable federal laws, codes, and regulations and with all applicable laws, ordinances and regulations of the State of Louisiana and Orleans Parish regarding construction activities, health and safety concerns, food services, water supply, sanitation, as well business licenses and permits. Construction contractors, supply vendors, and other related personnel that enter the MAF are responsible for complying with applicable Occupational Safety and Health Administration (OSHA) regulations as well as NASA safety standards and requirements when they are stricter.

The No-Action Alternative will not have any impact on these resources.

3.13.1 Proposed Action – Public Health and Safety Impacts

Construction activities associated with the proposed action will comply with all applicable safety standards. Operation of the proposed facility will involve new permanent on-site employees; however, these employees will be based in an office setting. No new medical, security or emergency response personnel will be needed to support the operations or construction. Existing resources are believed to be adequate to address any potential medical emergencies that could result from construction activities or increases in personnel at the site.

The increase in need for these services is expected to have a no impact.

3.14 Utilities

The MAF receives its electrical power and natural gas from Entergy New Orleans. Potable water and sanitary

sewer treatment services are purchased from the Sewerage and Water Board of New Orleans. All industrial wastewater generated onsite is treated at the Industrial Wastewater Treatment Facility (IWTF) operated by the NASA operations and maintenance contractor. The office park will get all of its utilities from Entergy New Orleans and the Sewerage and Water Board of New Orleans.

The No-Action Alternative will not have any impact on these utility resources. The anticipated impact on these utility resources from the proposed action is described below.

3.14.1 Proposed Action – Utilities Impact

The proposed action will be similar in size and utility usage as the previous building which was removed. The facility has large electrical distribution lines along the front of the property and large potable water and sewerage connections suitable to serve the proposed office buildings.

Therefore, the Proposed Action would have a minor impact on local utilities.

3.15 Solid Waste

The existing tenants at MAF generate non-hazardous solid wastes that primarily include wood, metal, cardboard, plastic, cafeteria and miscellaneous office waste. The MAF has a recyclable materials program that incorporates waste segregation to reduce waste volumes sent to landfill. The MAF currently contracts with a licensed waste disposal company that collects, transports, and disposes of non-hazardous solid waste that is not eligible for recycle/reclamation. The solid waste generated at the MAF is ultimately delivered to a Resource Conservation and Recovery Act (RCRA) Subtitle D landfill, approved by LDEQ for the disposal.

The No-Action Alternative will not have any impact on this resource.

3.15.1 Proposed Action – Solid Waste Impacts

The Proposed Action would include construction activities that could generate waste materials in the form of packaging, empty containers, and excess construction materials. It is not anticipated that a significant amount of waste materials will be generated. The materials that are generated will be recycled where practical and disposed of in accordance with local, state and federal requirements where recycling is not practical. During operation, no significant source of solid waste, other than minor amounts associated with general maintenance activities and miscellaneous office waste, is anticipated to be generated at the proposed facility.

Therefore, the Proposed Action would have a minor impact on solid waste activities on the site.

3.16 Traffic Flow

The MAF is located on Old Gentilly Road, a four lane, two direction spur off of Hwy 90. Primary methods of travel to the MAF are by Interstates 10 and 510, as well as Chef Menteur (U.S. Highway 90) and Old Gentilly Road. All roads were designed for industrial traffic. There are no significant traffic flow issues currently in the area.

The No-Action Alternative will not have any impact on this resource. The expected impact on this resource that would be caused by the proposed action is described below

3.16.1 Proposed Action – Traffic Impacts

The Proposed Action would involve a temporary increase in traffic due to construction crews working at the facility. The MAF is served principally by U.S. Interstates 10 and 510, as well as U.S. Highway 90 and Old Gentilly Road. These roads are designed to handle large vehicles associated with industrial activities. The roads have sufficient capacity to handle increased traffic associated with Proposed Action. Construction projects substantially larger in scope have recently been completed at the MAF with no significant disruption to local traffic.

For these reasons, the Proposed Action construction period is expected to have a minor impact on traffic flow; the impact is expected to not be significant

3.17 Storage and Handling

Tenants within the MAF use a variety of hazardous materials in manufacturing and production activities. These substances include fuels, solvents, coatings, adhesive and metal working and cleaning solutions.

The No-Action Alternative would not have any impact on this resource. The expected impact on this resource that would be caused by the proposed action is described below

3.17.1 Proposed Action – Storage and Handling Impacts

The tenant’s construction contractor would most likely have mobile fuel tanks for its heavy equipment. These tanks are typically less than 1,000 gallons mobile units and self-contained to manage accidental releases. If petroleum fuel above ground storage tanks (AST) are required onsite, it will be the responsibility of the construction contractor to ensure that all fuel tanks are designed in accordance with the National Fire Protection Agency (NFPA) regulations and industry standards for hazardous materials storage. It will also be the contractor's responsibility to manage any petroleum fuel AST that it maintains onsite during the construction project in a manner that minimizes an accidental release of the fuel. A Spill Prevention Control and Countermeasures Plan and Spill Contingency Plan will be required of the construction contractor for any petroleum fuel AST prior to bringing the tank onto the MAF.

The Proposed Action construction period would have a minor impact on storage and handling facilities on the site

3.17.2 Proposed Action - Hazardous Waste Management

The area of the proposed action is an existing concrete slab with minimal grass. No operations occur in the area that generate, store or otherwise utilize hazardous materials.

The No-Action Alternative will not have any impact on this resource

The Proposed Action construction period will use minimal amounts of hazardous materials such as fuels, paints and lubricants. All excess hazardous materials will be removed after the construction is complete and either used elsewhere or disposed of in accordance with local, state and federal requirements. Minimal amounts of hazardous materials may be used for maintenance of the facility. Any waste materials will be properly disposed of. No significant amount of hazardous waste, if any, is anticipated to be generated during the operation or decommissioning of this facility.

3.17.3 Proposed Action - Contaminated Areas

No areas of contamination were discovered during the facility wide RCRA Phase I or any other subsequent investigations. There is no history of industrial application which potential contamination would be suspected.

Therefore, the Proposed Action would have a No Impact on solid waste activities on the site

3.18 Environmental Justice and Protection of Children

Presidential Executive Order (EO)12898 (*Federal Register* Vol. 59, No. 32, February 6, 1994) requires that federal agencies must include environmental justice as "…part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations in the United States."

Protection of children was initially issued in EO 13045, Protection of Children from Environmental Health Risks and Safety Risk (*Federal Register* Vol. 62, No. 78, April 23, 1997) and two subsequent amendments, EO13229 (*Federal Register* Vol. 66, No. 197, October 11, 2001) and EO 13045 (*Federal Register* Vol. 68, No. 78, April 23, 2003). This EO requires that federal agencies make it a high priority to identify and assess environmental health and safety risks that may disproportionately affect children, and ensure that policies, programs, and standards address disproportionate risks to children that result from environmental health or safety risks.

No one lives within the grounds of the MAF. Even though the majority of the population in the area is comprised of minorities, the location of Village del'Est, the primary residential area north of Chef Menteur HWY, is a distance of at least 4,800 ft from Building 350.

No low-income, minority populations or schools or other gathering places for children were identified as being located adjacent to, or near the MAF. Therefore, the No-Build Alternative would not adversely affect these populations.

3.18.1 Proposed Action – Environmental Justice and Protection of Children Impacts

Because most of the proposed work would be located within the confines of the MAF and no minority populations or low-income residential populations were identified as being located near the work area, none would be impacted by the Proposed Action.

Therefore, the Proposed Action would not impact any minorities, low-income populations, or children.

3.19 Floodplains

EO 11988, Floodplain Management, requires Federal agencies to take action to minimize occupancy and modification of the floodplain, including the 100-year floodplain. Floodplains are lowland areas located adjacent to water bodies and provide critical protection for surrounding communities because of their ability to dissipate energy and water from flooding. Fill to floodplain results in the decrease of the effectiveness of a floodplain to mitigate flooding. Floodplains are discussed in terms of the 100-year and 500-year floodplain zones, corresponding to the 1% chance or 0.2% chance, respectively, of a flood occurring in any given year.

Flood Insurance Rate Maps (FIRMs) are produced by the Federal Emergency Management Agency (FEMA) and are used to evaluate the location of the 100-year floodplain.

3.19.1 Proposed Action – Floodplains

No areas of construction are located on the 100-year floodplain, according to Revised FEMA Flood Zone Maps of 2016. The design of the office park will avoid impacts to the floodplain.

Therefore, the Proposed Action would No Impact to floodplains in the area.

3.20 Resources Considered but Eliminated from Further Analysis

NASA uses a systematic and interdisciplinary approach to ensure that all pertinent resources are analyzed and potential effects are identified. Using this approach, the Proposed Action was determined to have no potential to adversely affect several of the resources that are required to be addressed. These resources were therefore eliminated from further analysis and discussion in this EA. Table 3-1 identifies the resources that were considered but eliminated.

TABLE 3-1
Resources Considered But Eliminated From Further Analysis

Resource	Rationale
Wetlands	The proposed area is classified as Fastlands by the Louisiana Department of Natural Resources. Accordingly, the Proposed Action would have no impact on this resource.
Housing, Schools, and Recreation	There are no housing, schools, or recreational areas in close proximity to the proposed area or the MAF. The closest residential development is located more than 4,800 ft north of MAF, with the Einstein Charter School approximately 1.3 miles north of the facility. Given these distances, the activities associated with the Proposed Action (construction and operation of an office park) is not expected to impact housing or schools. Based on these factors, the Proposed Action would have no impact on housing, schools, or recreation.
Rail and Water Transportation	The proposed office park does not involve the use of rail or water transportation. There are no railroads or waterways within the subject property. For these reasons, the Proposed Action would have no impact on rail or water transportation.
Aviation	The proposed office park would not involve any mode of air transportation and would not affect airspace, require coordination with airfield operations, or require notice to the FAA prior to construction. Therefore, the Proposed Action would have no impact on aviation.

3.21 Cumulative Impacts

A "cumulative impact" is defined in CEQ NEPA regulations (40 CFR Part 1508.7) as "*the impact on the environment 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*". Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.

The lease construction program contemplated within the Proposed Action would occur entirely within the confines of the MAF. Accordingly, there is little potential for the construction program to impact private sector activities in the surrounding area. Future construction and/or demolition projects contemplated within the MAF would incorporate existing infrastructure and would include temporary impacts associated with increases in noise, air emissions, solid waste and potentially traffic as in the case of Proposed Action. Other construction and/or construction projects that might commence during or overlap with the timing of the Proposed Action would not take place in the same area where the Proposed Action would occur. Accordingly, there would be limited adverse cumulative impacts relative to air emissions and noise generation. There is the potential for heavy traffic to occur if two or more construction/demolition projects are implemented at the same time. The cumulative impact for these activities would however be temporary and can be mitigated by designating set entrance ways for each construction work team and waste pick up vehicles and/or by scheduling time periods within which respective operational units could enter and exit the security gates during the work periods. Potential adverse cumulative impacts to soils, surface water, vegetation, and habitat is not a concern since the Proposed Action and other potential projects would take place within areas of the MAF that are already developed. The potential positive cumulative effects of the Proposed Action being implemented simultaneously with another development project would most likely be realized in the form of local economic influence. Regardless of the timing of these programs, the short-term influx of construction companies would result in temporary increases in employment and expenditures.

Based on these analyses, the Proposed Action is expected to have minor cumulative impacts in the short-term. An increase in labor and employment potential for the local population and increase in expenditures would represent a positive impact to the area.

Under the No-Action Alternative, the area at MAF would remain in place and no construction would occur. Accordingly, the No-Action Alternative would most likely have no cumulative impacts in the short-term.

3.22 Summary of Environmental Consequences

The potential environmental consequences of the Proposed Action and No-Action Alternative are summarized in Table 3-1. The potential environmental consequences presented in Table 3-1 for the Proposed Action are preliminary and based on the information that is currently available for the proposed action. If, during the final facility design, significant changes are developed that contemplate courses of action that vary from those described in this EA, a separate NEPA analysis and documentation may be required to provide a comprehensive and accurate assessment of the potential environmental impacts of the Proposed Action. Significant changes to the current design and future operation are not anticipated.

TABLE 3-2

Summary of Potential Environmental Affects from Proposed Action

Resource	Proposed Action Impact
Air Quality	MINOR IMPACT
Noise	MINOR IMPACT
Topography	NO IMPACT
Soils	MINOR IMPACT
Geology and Hydrogeology	NO IMPACT
Land Use	NO IMPACT
Surface Water	NEGLIBIBLE IMPACT
Vegetation	MINOR IMPACT
Wildlife	NEGLIGIBLE IMPACT
Threatened and Endangered Species	NO IMPACT
Cultural Resources	NO IMPACT
Socioeconomics	POSITIVE IMPACT
Public and Occupational Health and Safety	NO IMPACT
Utilities	MINOR IMPACT
Solid Waste	MINOR IMPACT
Traffic Flow	MINOR IMPACT
Hazardous Materials and Wastes	MINOR IMPACT
Environmental Justice and Protection of Children	NO IMPACT
Floodplains	NO IMPACT
Cumulative Impacts	MINOR IMPACT

No Impact: The action would not cause a detectable change.

Negligible: The impact would be at the lowest level of detection; the impact would not be significant.

Minor: The impact would be slight but detectable; the impact would not be significant.

Moderate: The impact would be readily apparent; the impact would not be significant.

Major: The impact would be adverse; the impact has the potential to be significant. The significance of adverse and positive impacts is subject to interpretation and should be determined based on the final proposal. In cases of adverse impacts, the impact may be reduced to less than significant by

mitigation, design features, and/or other measures that may be taken.

3.23 Conclusions

Based on the findings of this EA, Land Lease for office park under the Proposed Action is not expected to have a significant impact on the quality of the human or natural environment. This EA supports a **Finding of No Significant Impact** for the Proposed Action. Accordingly, preparation of an Environmental Impact Statement is not required

Section 4 Mitigation and Monitoring

This environmental assessment resulted in a Finding of No Significant Impact and no mitigation measures are required. Existing programs under the NPDES storm water management programs and the Spill Prevention Countermeasure Control Plans provide adequate monitoring of operations to ensure no operations have a significant impact to the environment.

SECTION 5

List of Preparers

Name	Organization	Primary Responsibility
Keith Savoy	NASA	NASA MAF Chief Operating Officer
Eric Stack	SYNCOM Space Services	Environmental Manager

SECTION 6

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APPENDIX A

MSFC Center Director Authorization of Proposed Action

APPENDIX B

Public Involvement and Regulatory Agency Correspondence

The draft Environmental Assessment was public noticed on TBD

A copy of the public notice is provided: