

**FINAL
ENVIRONMENTAL ASSESSMENT (EA)
FOR THE
LIVE MISSION OPERATIONS CAPABILITY (LMOC)
MASTER NODE FACILITY AT
JOINT BASE LANGLEY-EUSTIS, VIRGINIA**



PREPARED FOR:
**Langley Air Force Base,
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**FINDING OF NO SIGNIFICANT IMPACT (FONSI)
AND
FINDING OF NO PRACTICABLE ALTERNATIVE (FONPA)
For the
Live Mission Operations Capability (LMOC)
Master Node Facility Construction Environmental Assessment (EA)
at
Joint Base Langley-Eustis, Langley AFB, Virginia**

Pursuant to provisions of the National Environmental Policy Act (NEPA), Title 42 United States Code (USC) Sections 4321 to 4347, implemented by Council on Environmental Quality (CEQ) Regulations, Title 40, Code of Federal Regulations (CFR) § 1500-1508, and 32 CFR § 989, Environmental Impact Analysis Process, the U.S. Air Force (Air Force) assessed the potential environmental consequences associated with construction of a new LMOC facility. The LMOC facility is necessary to provide adequate, secure, and adaptable space to support the mission of the 633d Air Base Wing (ABW) at Joint Base Langley-Eustis AFB (JBLE-Langley), Hampton County, Virginia, and the Air Force throughout the United States.

PURPOSE AND NEED

The purpose of the proposed action is to create an LMOC Master Node Facility at JBLE-Langley. This facility will in turn be used as a prototype for other LMOC Master Node Facilities to support the Air Force throughout the United States (Urban Collaborative, 2020). A facility to support LMOC does not exist within the Air Force. The proposed action is needed to support exercise mission planning, execution, monitoring, and debriefing, as well as administrative functions. It requires Sensitive Compartmentalized Information Facility (SCIF) areas, with both Special Access Program (SAP) and Top Secret/Sensitive Compartmentalized Information (TS/SCI) capabilities (Urban Collaborative, 2020).

The Environmental Assessment (EA), incorporated by reference into this finding, analyzes the potential environmental consequences of activities associated with the construction of the LMOC Master Node Facility at JBLE-Langley, and provides environmental protection measures to avoid or reduce adverse environmental impacts.

PROPOSED ACTION

The EA considers all potential impacts of the proposed action, which includes initiatives for facility construction, infrastructure demolition and construction, building demolition, and the No-Action Alternative. The EA also considers proposed actions that are reasonably foreseeable in addition to cumulative effects which may have environmental impacts when combined with other projects in the Region of Influence (ROI).

Under the Proposed Action, a new LMOC Master Node Facility would be built. The proposed LMOC facility is planned to be situated at the SW intersection of Sweeney Boulevard and Bryant Avenue just south of the South Flightline District. The driving factor leading to the selection of this location relates to its adjacency to the flightline and ease of short-term construction (Urban Collaborative, 2020).

The LMOC facility would be constructed to be above the known 100-year floodplain in an already developed area. Destruction or modification of existing wetlands will be avoided. There are no wetlands in the proposed action area.

ALTERNATIVE EVALUATION PROCESS

Planning initiatives and site analysis detailed in the JBLE LMOC Customer Concept Document (CCD) (Urban Collaborative, 2020), evaluated 13 separate locations for siting the LMOC. Ten of the sites are located on the flightline side of the installation, and three sites are in the Intelligence, Surveillance and Reconnaissance (ISR) Campus Area. Each potential building site was fully evaluated to consider: operational, natural, environmental, built/historic buildings, location of archaeological sites, capacity opportunities, sustainability development indicators, energy use, asset optimization and space use, Major Command (MAJCOM) and tenant initiatives, and mission requirements. As part of the JLBE-Langley LMOC site analysis, stakeholders assigned each potential site a weighted course of action (COA) score. A brief description of alternate building sites evaluated, their COA score, and development constraints are summarized here:

Alternative Site Analysis: Flightline Area Development Plan (ADP) COAs:

1. **1 MXG, 1 MXS Replacement (Bldg 751)** (72%). This site has been occupied for 10 years, is a little remote, and would be difficult to raise to the required elevation.
2. **733 LRS Site (Bldg 777)** (75%). The timing/phasing of this project effects other existing buildings and includes a loss of parking for future development. There are also airfield constraints related to noise (greater than 85 dBA) and it is adjacent to an environmental restoration site. This building is also a historical structure and is located within the explosive safety quantity distance (ESQD) arc. Meeting anti-terrorism (AT) standoff distances is also a constraint.
3. **SFS Site (Bldg 775)** (76%) The timing/phasing of this project effects other existing buildings and includes a loss of parking for future development. There are also airfield constraints related to noise (greater than 85 dBA) and it is within the runway transitional surface. The site is adjacent to an environmental restoration site, is identified as a historical structure, and is located within the ESQD arc. Meeting AT standoff distances would also be a challenge given the limited, developable area.
4. **192 Wing HQ (Temp)** (78%) (*preferred alternative for Flightline ADP COAs*). This site is not *technically* within the South Flightline District. It is located at the site of the current Credit Union, building 467, which is scheduled for demolition.
5. **Hammond Ave & Sweeney Blvd** (76%). This site does not support the IDP, is not technically within the South Flightline District, and would be a longer walk so some people will drive. This site also includes known archeological sites and has development constraints related to AT standoff distances.
6. **1 MXG Site (Bldg 763)** (76%). This site does not support Flightline South ADP and would be a longer walk, so some people will drive. This site has constraints related to AT standoff distances which would be difficult to meet due to limited space for future development and is also located within an existing environmental restoration site.
7. **633 CES Site (Bldg 367)** (70%). This site does not support Flightline South ADP, is not easily walkable, and requires demolition of fuel tanks.

8. **ACC Site (Bldg 368)** (63%). This site does not support Flightline South ADP, is not easily walkable, and requires demolition of fuel tanks.
9. **Outdoor Recreation Relocation** (53%). This is a small site, not walkable, and technically not within the Flightline South District.
10. **633 CES Site (Bldg 328)** (60%). This site has height restrictions, is not walkable, and does not support Flightline South ADP.

The final determining factor for the flightline ADP COAs was the proximity to the flightline. Site 4, the 192 Wing HQ was selected for further detailed site analysis.

Alternative Site Analysis: ISR Site COAs:

1. **South Quad East** (69%). This site is far from the gate, requires slow vehicle speeds (15 mph), is subject to aircraft noise, and is far from food options.
2. **South Quad West** (69%). This site is far from the gate, requires slow vehicle speeds (15 mph), is subject to aircraft noise, and is far from food options.
3. **North Quad, next to DGSX (75%)** (*preferred alternative for ISR Site COAs*). This site is farther from the flightline than the East and West Quads, is far from food options, and is far from a gate.

Site 3, the North Quad, was selected for further detailed site analysis from the ISR Site COAs.

Ultimately, the planning team developed two detailed site plans for both preferred locations. It was decided that the most important criteria for the LMOC facility is **Proximity to Fighter Town**; this ensures the facility will benefit from local operators. The flightline-side COA, Site 4 was selected as the preferred alternative (Urban Collaborative, 2020).

NO-ACTION ALTERNATIVE

Under the No-Action Alternative, this project would not be implemented resulting in no change in the status quo. The LMOC Master Node Facility would not be built. The existing facility used to support exercise mission planning, execution, monitoring, debriefing, and administrative functions, 192 Headquarters (HQ) (temporary location), will continue to be maintained. However, the surrounding infrastructure and current building would continue to be inadequate to support rapidly changing and increasing mission requirements. The LMOC workshop vision of creating an adaptable, multi-story LMOC that is secure and inter-operable with user-friendly and light-filled spaces, would not be met. No significant impacts would be experienced with the No-Action alternative.

ENVIRONMENTAL CONSEQUENCES

The analyses of the affected environment and environmental consequences of implementing the Preferred Alternative presented in the EA concluded that by implementing standing environmental protection measures and operational planning, the Air Force would be in compliance with all terms and conditions and reporting requirements.

The Air Force has concluded that the Preferred Alternative has no significant impact on the following resources which were carried through for full analysis in this EA:

- Air Installation Compatibility Use Zone (AICUZ),
- Air Quality,
- Cultural Resources,
- Hazardous Materials and Waste,
- Safety and Occupational Health,
- Transportation,
- Infrastructure and Utilities, and
- Wetlands and Chesapeake Bay Preservation Areas.

In accordance with 32 CFR § 989.10, Tiering, the Air Force is encouraged to make reference to other environmental documents, and environmental documents prepared by other agencies to eliminate repetitive discussions of the same issue and to focus on the issues relating to specific actions. If the Air Force adopts another Federal agency's environmental document, subsequent Air Force environmental documents may also be tiered. This logic is carried forward in 32 CFR § 989.14(d), Environmental Assessment where long descriptions and lengthy, detailed data should be avoided and rather incorporated by reference to the background data which supports the concise discussion of the proposal and relevant issues. The primary NEPA documents reviewed as part of the preliminary Environmental Impact Analysis Process (EIAP) to determine which resource areas should be carried forward for full analysis include:

Joint Base Langley Eustis – Langley (JBLE-Langley). 2016. Final Environmental Assessment for Installation Development at JBLE-Langley, Virginia. September 2016.

United States (US) Army Corps of Engineers et al., 2021. Environmental Impact Statement (EIS) Fifth Generation Formal Training Unit Optimization, JBLE-Langley-Eustis, VA, Eglin Air Force Base, Florida. Feb. 2021.

Joint Base Langley Eustis – Langley (JBLE-Langley). 2022. Final Environmental Assessment for Intelligence, Surveillance, and Reconnaissance (ISR) Campus Area Development at Joint Base Langley-Eustis. JBLE-Langley-Eustis, Virginia. June 2022.

Joint Base Langley Eustis – Langley (JBLE-Langley). 2022. Capacity Analysis Report: Joint Base Langley-Eustis, Virginia. JBLE-Langley-Eustis, Virginia. November 2022.

As a result of the preliminary EIAP, the Proposed Action was determined to have no effect on several resources; therefore, these resources were eliminated from detailed analysis in this EA. The resources

that were eliminated from detailed analysis and the rationale for their elimination are presented in the subsections below:

Aesthetics and Visual Resources

Aesthetics and Visual Resources are fully analyzed within the referenced 2016 EA. Criteria used to determine if a significant impact to this resource area exists include having a substantial adverse impact on a scenic vista or viewshed; substantially damaging scenic resources, including, but not limited to, primary/secondary ridgelines, trees, rock outcroppings, and historic buildings; substantially degrading the existing visual character or quality of the site and its surroundings; or, create a new source of substantial light or glare that would adversely impact day or nighttime views in the area. The proposed LMOC facility is planned to be located in an area with existing buildings and car parks but is located in the JBLE-Langley Historic District. Smaller parking lots enhance the visual environment by increasing the ratio of landscaped area to paved area and allowing more conformance to natural topography. Parking lots between and behind buildings can reduce the visual impact from the circulation system and increase pedestrian access from walkway systems. The new LMOC Facility will be an improvement over current conditions since large, existing parking lots (one, 193-car park and one 168-car park), will be demolished and replaced with a smaller, 181-car park and the building façade will be placed along the primary vehicle routes. The Proposed Action will be subject to satisfying all Section 106 requirements, which consider building activities within a historic district.

Biological/Natural Resources

Special species status was verified using US Fish and Wildlife Information for Planning and Consultation (IPaC) report generated on May 10, 2023. The three species on this list and their status include the endangered northern long-eared bat (*Myotis septentrionalis*); the proposed endangered tricolored bat (*Perimyotis subflavus*); and one candidate species, the monarch butterfly (*Danaus plexippus*). No critical habitat, refuge lands, or fish hatcheries exist in the Proposed Project Area. The May 10, 2023 verification ensured consistency between the ISR EA and the referenced 2016 EA, which also indicates no critical habitat, refuge lands or fish hatcheries in existence in the City of Hampton. There are no known nests within the project area.

Full analysis of the northern long-eared bat and the tricolored bat are included in the referenced 2021 JBLE-Langley EIS. The JBLE-Langley EIS concludes that the northern long-eared bat would not be affected by land disturbance or new construction activities and the tricolored bats are likely transitory individuals (at the Installation) and not likely to be affected by the proposed construction activities. Though the northern long-eared bat may occur in cavities and crevices of large live and dead trees during the summer and in winter hibernating in caves and mines, no evidence of winter hibernation or summer roosts have been observed on JBLE-Langley Main Base (USACE et al., 2021). However, the 2021 JBLE-Langley INRMP indicates the presence of lactating tricolored bats present and breeding at the Big Bethel Reservoir (which is approximately 5 miles from the Proposed Action Area). A more comprehensive land use study and management plan for bats at Big Bethel Reservoir is programmed for 2023. There are no known tricolored bats roosts or maternity colonies at JBLE-Langley Main Base. Therefore, it is unlikely that the tricolored bats would be adversely impacted as a result of the Proposed Action.

The candidate species monarch butterfly is also unlikely to be impacted since the proposed action occurs within an already built-up area.

Bird species protected by the Migratory Bird Treaty Act (hereafter referred to as migratory birds) may be present within the Proposed Action Area. The IPaC report identifies 20 birds of conservation concern.

JBLE-Langley maintains a Bird/wildlife-Aircraft Strike Hazard (BASH) prevention program to manage risks for military aircraft, pilots, and injury or death to birds and other wildlife. As part of the BASH program, the time during the year when peak bird migration activity occurs is identified and mitigating measures are outlined. Implementation of the Proposed Action would adhere to the BASH prevention program and would implement mitigating techniques to help reduce threats to any migratory birds. If any active nests (eggs, fledglings, etc.) were discovered in the Proposed Action Area, work would stop and the JBLE-Langley Natural Resources Manager would be contacted. Accordingly, significant adverse impacts on migratory birds is unlikely.

The 2021 JBLE-Langley INRMP indicates that while monitoring for both currently listed and newly listed species is ongoing, no new rare, threatened, or endangered species have been observed or documented. Consultations with JBLE-Langley's Natural Resource Program Manager also indicates that with respect to migratory birds, the habitat in the Proposed Action Area is not suitable for nesting for most species listed in the IPaC report; there is a potential for the wood thrush to nest in nearby trees, but all potential nesting areas are not specifically tracked. For these reasons, it is anticipated that the Proposed Action would have no appreciable effect on Natural Resources.

Earth Resources

Geology. The Proposed Action would not involve any activity that would adversely affect subsurface geological formations. The development of the LMOC Facility including construction and demolition activities, would be conducted using standard methods that would have no appreciable impact on geology. Excavation is expected to be conducted only to depths necessary for the facility foundations and utility connections. For these reasons, the Proposed Action would have no appreciable effect on geology.

Soils. Because the Proposed Action will be conducted in an already built up area, adverse effects on soils will not occur. Construction activities would not be conducted during periods of wet weather and would be staged to allow for stabilization of disturbed soils. Fugitive dust control techniques, such as watering and stockpiling, would be implemented to minimize adverse impacts and would comply with applicable regulations.

Topography. The topography where the Proposed Action will occur is relatively flat, since there are substantial parking lots present. There is greater slope outside of the existing parking lots, but current plans avoid substantial activity in those areas due to increased expenses constructing in greater slope areas. Buildings will therefore not be built on a highly sloped site so the finished floor elevation will not impact the surrounding topography.

Land Use

The Proposed Action is planned in an area that is already built up and disturbed by past development. The Regulating Plan provides flex-use functions on this site (prohibiting industrial or housing). The general construction and demolition activities would occur only within areas that correlate with compatible land use types or may be permitted with specific restrictions to ensure that development within those areas is not disruptive to the installation's missions. For these reasons, the Proposed Action would have no appreciable effect on Land Use.

Noise

Noise generated from construction and demolition activities under the Proposed Action would temporarily increase ambient noise levels in and around the sites. However, the increased noise levels

would be intermittent and limited to daytime working hours during the overall construction/demolition period. The Proposed Action would have no appreciable effect on noise.

Socioeconomics/Environmental Justice

The Proposed Action would not impact the number of persons currently working at JBLE-Langley or living in the local area. During the construction and demolition work, there would be negligible impacts on the local economy in the form of temporary construction employment opportunities. For these reasons, the Proposed Action would have no appreciable effect on the local demographics, local economy, number of persons living in on-base or off-base housing, number of children attending schools in the area, or demand for emergency services (medical, police, and firefighting).

Water Resources

Surface water. JBLE-Langley is located between the Northwest and Southwest Branches of the Back River, a tributary of Chesapeake Bay. In general, drainage for the area ultimately flows into Chesapeake Bay via the Back River, Newmarket Creek, Brick Kiln Creek, and Tabbs Creek. Other than drainage ditches associated with the existing car park(s), there are no surface water or wetlands present in the Proposed Action area. The installation's stormwater system consists primarily of drainage ditches in more undeveloped areas, and underground piping in developed areas. Compliance with applicable federal and state law will be followed to protect the nation's waters and discharge of any pollutant into any jurisdictional waters of the U.S. as defined in 40 CFR § 120.2 will be prohibited unless appropriate permitting requirements have been met. For these reasons, the Proposed Action will have no appreciable effect on surface water.

Groundwater. The three water bearing units beneath JBLE-Langley are the Water Table Aquifer, the Yorktown-Eastover Aquifer, and the Chickahominy-Piney Point Aquifer. The groundwater beneath JBLE-Langley is not a practical source of irrigation or potable water. The potable water is supplied by the City of Newport News Water Works and is ultimately sourced from the Chickahominy River. For these reasons, the Proposed Action will not impact groundwater resources.

Floodplains. The discussion of floodplains is tiered from the 2016 EA, which describes that JBLE-Langley is almost entirely within the 100-year floodplain. Given this fact, there is no other practicable alternative within the footprint of JBLE that would actually avoid construction in the 100-year floodplain. However, impacts to the floodplains will be greatly reduced since new buildings will be constructed to be above the known 100-year floodplain in an area that is already developed. Although the Proposed Action may have an irreversible and irretrievable impact on floodplains, the Proposed Action would only impact a small portion of the 100-year floodplain area. Additionally, the potential demolition of building 467 within the 100-year floodplain would represent a long-term, minor, beneficial effect. The Proposed Action would not have significant impacts associated with floodplains.

Coastal zone management areas (CZMA). The Virginia Department of Environmental Quality (VDEQ) is responsible for oversight and implementation of Virginia's Coastal Zone Management Program established in 1986 which is comprised of state agencies and local governments that administer enforceable laws, regulations, and policies to protect the Commonwealth's coastal resources. Federal lands, including JBLE-Langley, are statutorily excluded from the coastal zone pursuant to Section 304 of the CZMA. CZMA requires that federal agencies be consistent with enforceable policies of state coastal zone management programs when conducting or supporting activities within or outside the coastal zone that affect land use, water use, or natural resources of the coastal zone. The Proposed Action would not have a significant impact to land use, water use, or natural resources of the coastal zone. For these

reasons, the Proposed Action will not impact the CZMA but would still be subject, to the maximum extent practicable, enforceable policies of the states coastal zone management program to ensure federal consistency. All relative agencies will be contacted during the early planning stages of the Proposed Action and is currently on-going.

Wetlands. Wetland resources are protected under Section 404 of the Clean Water Act (CWA) (33 U.S.C. § 1344). Wetlands on federal lands are further protected under EO 11990, Protection of Wetlands, which directs agencies to “minimize the destruction, loss, or degradation of wetlands, and to preserve and enhance the natural and beneficial values of wetlands” when carrying out agency actions. The Proposed Action is planned in an area that does not contain a wetland. The general construction activities associated with the Proposed Action will occur in an area that is already built up and is currently paved. For these reasons, the Proposed Action would have no appreciable effect on wetlands. Wetland verification ensured consistency with the referenced 2022 CAR (JBLE-Langley, 2022a), the 2019 wetland delineation performed by U.S. Army Corps of Engineers (USACE) (USACE, 2019) and the National Wetlands Inventory (USFWS, 2022).

STAKEHOLDERS, ELECTED OFFICIALS, AND PUBLIC INVOLVEMENT

An Early Public Notice was published in The Daily Press, Newport News, Virginia (VA), on May 23-24, 2021, announcing commencement of the EA detailing that the action would take place in a floodplain and seeking advanced public comment. No public comments were received. A public notice was placed in The Daily Press on January 22-23, 2023, announcing the availability of the Draft EA and Draft FONSI/FONPA for public review and comment. The documents were made available for review on the internet at: <https://www.jble.af.mil/About-Us/Units/Langley-AFB/Langley-Environmental/> from January 22, 2023, to March 23, 2023. The Air Force received comments from one public agency during the review period. The Virginia Department of Historic Resources (DHR) indicated no historic properties will be affected by the project and that if unidentified historic properties are discovered during implementation of the project DHR should be notified.

Tribal consultation letters were sent via email and mailed to federally recognized tribes on November 15-16, 2022. No Tribal comments were received. Additional attempts to contact tribal representatives were made throughout the duration of EA development by announcing the availability of the Draft EA and making hard copies of them available for review in the Bateman Library, the Hampton Library, and the Poquoson Library. Appendix A includes records of all correspondence with the tribes.

FINDING OF NO PRACTICABLE ALTERNATIVE (FONPA)

Per 32 CFR § 989.14(g), there are no practicable alternatives to construction within the 100-year floodplain. To support LMOC activities throughout the installation and AF wide, construction within the 100-year floodplain will be necessary and is unavoidable. Other alternatives considered were reviewed as part of the LMOC CCD (Urban Collaborative, 2020) and were eliminated from further detailed analysis because they did not meet the stated purpose and need for the action, were not practicable, or would have led to greater overall environmental impact. For the reasons stated in the EA, the eliminated alternatives are not practicable alternatives and do not avoid construction within a 100-year floodplain. The only practicable alternative is described in the "Description of the Proposed Action" section above.

Based on my review of the facts and analyses contained in the attached EA, I find that there is no practicable alternative to action in a 100-year floodplain.

FINDING OF NO SIGNIFICANT IMPACT (FONSI)

Based on my review of the facts and analyses contained in the attached EA, conducted under the provisions of CEQ NEPA Regulations, (Title 40 Code of Federal Regulations [CFR] §§ 1500–1508) [(The May 20, 2022 version of CEQ NEPA rules is being used, 85 FR 43304-43376], and 32 CFR § 989, Department of the Air Force EIAP, I conclude that the Preferred Alternative, build a new LMOC Master Node Facility, would not have a significant environmental impact, either by itself or cumulatively to other known projects at JBLE-Langley. Accordingly, an Environmental Impact Statement is not required. Section 106 requirements have been satisfied. The signing of this Finding of No Significant Impact and Finding of No Practicable Alternative completes the environmental impact analysis process.

Col Dee Jay Katzer

Date

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LIST OF ACRONYMS

ACAM	Air Conformity Applicability Model
ABW	Air Base Wing
ACHP	Advisory Council for Historic Preservation
ADAIR	Adversary Air
ADP	Area Development Plan
AFB	Air Force Base
AFI	Air Force Instruction
AFMAN	Air Force Manual
AICUZ	Air Installation Compatible Use Zone
AQCR	Air Quality Control Region
AMU	Aircraft Maintenance Squadron
APE	Area of Potential Effect
APOE	Aerial Port of Embarkation
BASH	Bird/wildlife-Aircraft Strike Hazard
BMP	Best Management Practices
CCD	Customer Concept Document
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation, & Liability Act
CFR	Code of Federal Regulations
CH ₄	Methane
CO	Carbon Monoxide
CO ₂	Carbon Dioxide
CO _{2e}	Carbon Dioxide Emissions
COA	Course of Action
CWA	Clean Water Act
CZMA	Coastal Zone Management Act
DCGS	Distributed Common Ground System
EA	Environmental Assessment
EIAP	Environmental Impact Analysis Process
EIS	Environmental Impact Statement
EO	Executive Order
EOD	Explosive Ordinance Disposal
EPA	Environmental Protection Agency
ERG	Environmental Research Group
ERP	Emergency Restoration Program
ESQD	Explosives Safety Quantity Distance
FONPA	Finding of No Practicable Alternative
FONSI	Finding of No Significant Impact
FFE	Finished Floor Elevation
FS	Fighter Squadron
FTS	Fighter Training Squadron
FTU	Formal Training Unit
FW	Fighter Wing
GCIC	Global Cyberspace Integration Center
GHG	Green House Gases

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LMOC Master Facility Node JBLE-Langley AFB, VA

HAP	Hazardous Air Pollutants
HTA	Heavier Than Air
HQ	Headquarters
ICRMP	Integrated Cultural Resources Management Plan
IDP	Installation Development Plan
IFS	Installation Facilities Standards
INRMP	Integrated Natural Resource Management Plan
IPaC	Information for Planning and Consultation
IRP	Installation Restoration Program
ISR	Intelligence, Surveillance, Reconnaissance
JBLE	Joint Base Langley-Eustis
QD	Quantity Distance
LMOC	Live Mission Operations Capability
MAJCOM	Major Command
MBTA	Migratory Bird Treaty Act
NAAQS	National Ambient Air Quality Standards
NASA	National Aeronautics and Space Administration
NEPA	National Environmental Policy Act
NESHAPS	National Emission Standards for Hazardous Air Pollutants
NFA	No Further Action
NOA	Notice of Availability
NOAA	National Oceanographic and Atmospheric Administration
NO _x	Nitrogen Oxides
NO ₂	Nitrogen Dioxide
N ₂ O	Nitrous Oxide
NPS	National Park Service
NRHP	National Register of Historic Places
O ₃	Ozone
PCB	Polychlorinated Biphenyl
PM	Particulate Matter
POL	Petroleum, Oil, and Lubricant
Pb	Lead
QD	Quantity Distance
RA	Remedial Action
RCRA	Resource Conservation and Recovery Act
ROCA	Record of Conformity Analysis
ROI	Return of Influence
SCIF	Sensitive Compartmentalized Information Facility
SHPO	State Historic Preservation Officer
SO ₂	Sulphur Dioxide
SO _x	Sulphur Oxides
TPH	Total Petroleum Hydrocarbons
tpy	Tons per year
TS/SCI	Top Secret/Sensitive Compartmentalized Information
UFC	United Facilities Criteria
US	United States

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USAF	United States Air Force
USC	United States Code
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Services
V-CRIS	Virginia Cultural Resources Information System
VDEQ	Virginia Department of Environmental Quality
VDHR	Virginia Department of Historic Resources
VOC	Volatile Organic Compounds
WG	Wing

1.0 PURPOSE OF AND NEED FOR THE PROPOSED ACTION

1.1 INTRODUCTION

This Environmental Assessment (EA) addresses the potential impacts associated with establishing an LMOC Master Node Facility at Joint Base Langley-Eustis, Langley Air Force Base (JBLE-Langley), Virginia. It will also support the Air Force throughout the United States (Urban Collaborative, 2020), since a facility to support LMOC does not exist within the Air Force. General construction and demolition activities are planned for the Proposed Action as identified in the LMOC CCD (Urban Collaborative, 2020). The LMOC CCD is the primary driver referenced for the types of activities expected with this project; however, the Regulating Plan is the driver for Land Use activities at the installation. This EA was prepared to evaluate the potential environmental impacts of the Proposed Action in compliance with the National Environmental Policy Act of 1969 (NEPA) (42 United States Code [USC] 4331 et seq.), the regulations of the President's Council on Environmental Quality (CEQ) that implement NEPA procedures (Title 40 Code of Federal Regulations [CFR] §§ 1500-1508) [(The Sep. 14, 2020 version of CEQ NEPA rules is being used, 85 FR 43304-43376, as modified by the CEQ NEPA Implementing Regulations Revisions Final Rule that became effective May 20, 2022, 87 FR 23453], the Air Force Environmental Impact Assessment Process Regulations at 32 CFR Part 989, and Air Force Instruction 32-1015 (U.S. Air Force, 2019).

The Proposed Action is needed to support exercise mission planning, execution, monitoring, and debriefing, as well as administrative functions. It requires Sensitive Compartmentalized Information Facility (SCIF) areas, with both Special Access Program (SAP) and Top Secret/Sensitive Compartmentalized Information (TS/SCI) capabilities (Urban Collaborative, 2020). The LMOC CCD identifies requirements for building construction and demolition and considers current and future mission and facility requirements, development constraints and opportunities, and land use relationships.

JBLE-Langley is located in the Coastal Plain/Tidewater region of Virginia, in an area known as the Virginia Peninsula. It is situated just north of Hampton, Virginia and is on the western edge of the Chesapeake Bay. It is approximately 80 miles southeast of Richmond, Virginia and occupies 2,883 acres of land. It was established in 1916 and has hosted a variety of missions and aircraft types throughout its history. JBLE-Langley is home to the 633d ABW. The primary tenant mission at JBLE Langley is that of the 1st Fighter Wing (FW), which has three squadrons. The 27th Fighter Squadron (FS) and the 94 FS both fly the F-22 Raptor airframe, and the 71st Fighter Training Squadron (FTS) flies the T-38A. The 192 Wing (WG), an Air National Guard unit, augments the 1 FW by integrating its flight crews with the 27 FS and 94 FS. The 633d ABW and 1 FW accomplish their base support and air operation missions through several subordinate groups. JBLE-Langley is also home to HQ ACC. Permanent beddown of the F-22 Formal Training Unit (FTU) mission at JBLE-Langley is currently underway. With this, the following units will be relocated to JBLE-Langley: 43 FS, 43 Aircraft Maintenance Squadron (AMU), the 2nd FTS, and the 325th Training Support Squadron. Figure 1.1 illustrates the regional location of JBLE-Langley.

In recent years, JBLE-Langley has also been home to emerging ISR operations and is currently home to the 480 and 363 ISR Wings, which oversee the Global Cyberspace Integration Center (GCIC) and the Distributed Common Ground System (DCGS). JBLE-Langley is also an aerial port of embarkation (APOE)

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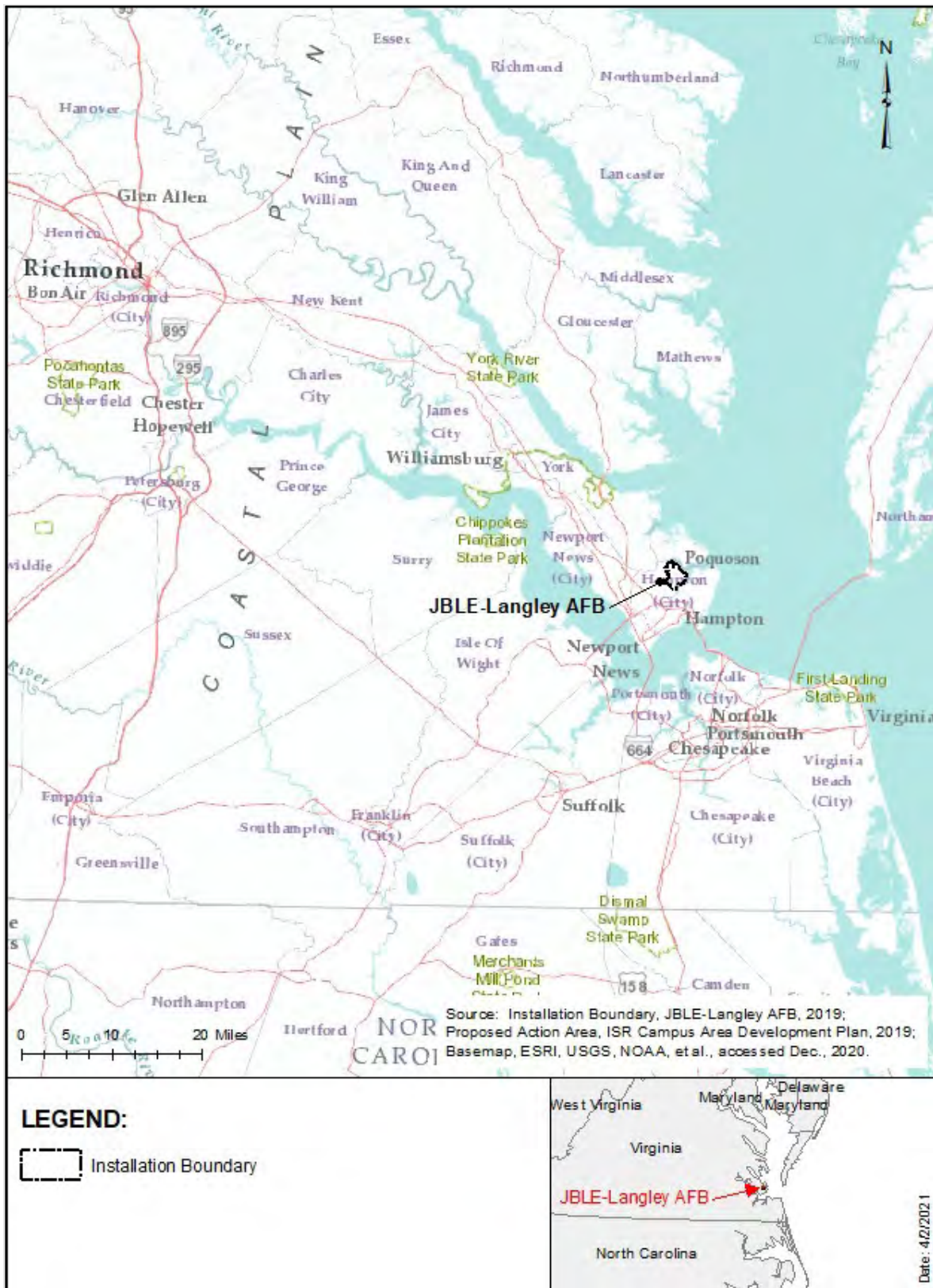


Figure 1.1: Location of JBLE-Langley AFB

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for the rapid deployment of fighter aircraft, supporting forces and units from neighboring military installations to meet worldwide mission requirements (Mason & Hanger, 2017).

The intent of the 633d ABW and HQ ACC is to streamline NEPA compliance and facilitate the installation development process by evaluating in one integrated document the potential impacts on the environment of the project proposed for execution at JBLE-Langley.

The information presented in this document will serve as the basis for deciding whether the Proposed Action would result in a significant impact to the environment, requiring the preparation of an Environmental Impact Statement (EIS), or whether no significant impacts would occur, in which case a Finding of No Significant Impact (FONSI) would be appropriate. If the execution of any of the proposed action would involve “construction” in a wetland as defined in Executive Order (EO) 11990, *Protection of Wetlands*, or “action” in a floodplain under EO 11988, *Floodplain Management* as amended by EO 13690, *Establishing a Federal Flood Risk Management Standard and a Process for Further Soliciting and Considering Stakeholder Input*, a Finding of No Practicable Alternative (FONPA) would be prepared in conjunction with the FONSI.

1.2 PURPOSE OF PROPOSED ACTION

The purpose of the proposed action is to create an LMOC Master Node Facility at JBLE-Langley. This facility will in turn be used as a prototype for other LMOC Master Node Facilities to support the Air Force throughout the United States (Urban Collaborative, 2020). A facility to support LMOC does not currently exist within the Air Force. The proposed action is needed to support exercise mission planning, execution, monitoring, and debriefing, as well as administrative functions. It requires SCIF areas, with both SAP and TS/SCI capabilities (Urban Collaborative, 2020). The proposed action has a specific purpose and need, which is presented in Table 1.1 and further described in section 1.3.

Table 1.1: Purpose and Need for Proposed Action

Project Name	Purpose of the Action	Need for the Action
<i>LMOC Master Facility Node Construction</i>	<i>The purpose of the LMOC Facility is to support exercise mission planning, execution, monitoring, and debriefing, as well as administrative functions.</i>	<i>The need for an LMOC Master Node Facility is because a facility is needed to support JBLE-Langley’s Live Mission Operation Capabilities and it can further be used as a prototype for other LMOC Master Node Facilities to support the Air Force throughout the US, since no LMOC facilities currently exist in the US.</i>

1.3 NEED FOR PROPOSED ACTION

The need for the proposed action at JBLE-Langley is to construct a new LMOC Master Node Facility, provide and maintain infrastructure that is adequate to the needs of 633d ABW and its tenant units, and to do so in a manner that:

- Meets applicable DoD installation master planning criteria, consistent with Unified Facilities Criteria (UFC) 2-100-01, *Installation Master Planning*.
- Aligns with the 2011 Air Force Civil Engineering Strategic Plan (U.S. Air Force, 2011a).
- Meets current Air Force requirements for functional space, consistent with Air Force Manual 32-1084, *Facility Requirements* (U.S. Air Force, 2016).
- Meets applicable DoD antiterrorism/force protection criteria, consistent with UFC 4-010-01, *DoD Minimum Antiterrorism Standards for Buildings*, and the Air Force Installation Force Protection Guide.
- Reduces the consumption of fuel, energy, water, and other resources; maximizes the use of existing facilities; and reduces the footprint of unnecessary or redundant facilities and infrastructure in accordance with EO 13990, *Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis* dated January 25, 2021.
- *Efficient Federal Operations* (the Energy Policy Act of 2005, and the Air Force's 20/20 by 2020 initiative).
- Provides reliable utilities and an efficient transportation system to support JBLE-Langley, consistent with Air Force Manual 32-1084.
- Supports and enhances the morale and welfare of personnel assigned to the installation, their families, and civilian staff, consistent with Department of Defense Instruction 1015.10, *Military Morale, Welfare, and Recreation (MWR) Programs* (6 July 2009).
- Conforms to the Joint Base Langley-Eustis Installation Facilities Standards (IFS) Vol. 1 (JBLE, 2018a), which helps to ensure a consistent and coherent architectural character throughout JBLE-Langley.

1.4 INTERAGENCY/INTERGOVERNMENTAL COORDINATION AND CONSULTATIONS

1.4.1 Interagency Coordination and Consultations

Scoping is an early and open process for developing the breadth of issues to be addressed in the EA and for identifying significant concerns related to a proposed action. Per the requirements of Intergovernmental Cooperation Act of 1968 (42 U.S.C. 4231(a)) and EO 12372, Federal, state, and local agencies with jurisdiction that could be affected by the proposed actions were notified during the development of this EA.

Appendix A contains the list of agencies consulted and all Agency correspondence.

1.4.2 Government to Government Consultations

Consistent with National Historic Preservation Act (NHPA) of 1966, as amended (54 U.S.C. 306108), and its implementing regulations (36 CFR Part 800); DoD Instruction 4710.02, Interactions with Federally-Recognized Tribes; Department of the Air Force Instruction (AFI) 90-2002, Interactions with Federally-Recognized Tribes; and Air Force Manual (AFMAN) 32-7003, Environmental Conservation; the DAF is also consulting with federally recognized tribes that are historically affiliated with the geographic region of each Alternative site being considered for the Proposed Action regarding the potential to affect properties of cultural, historical, or religious significance to the tribes. The tribal consultation process and timeline is distinct from NEPA consultation and the interagency coordination process and requires separate notification of all relevant tribes. The JBLE-Langley point-of-contact for Native American tribes is the Installation Commander. Tribal consultation letters were sent via email and mailed to federally recognized tribes on November 15-16, 2022. No Tribal comments were received.

The Native American tribal governments that were consulted with and related records of correspondence are listed in Appendix A.

1.4.3 Other Agency Consultations

Per the requirements of Section 7 of the Endangered Species Act and implementing regulations, IPaC reports were generated to determine which species and critical habitats may be present within the action area. Further consultation with the Agency was not required and JBLE-Langley Natural Resource's Manager confirmed the Proposed Action Area is not likely to be a suitable habitat for breeding or migrating birds.

As part of the state agency review discussed in Section 1.5, the Virginia Department of Historic Resources, which is the State Historic Preservation Officer (SHPO), reviewed this EA and requested JBLE-Langley consult directly to satisfy Section 106 of the NHPA and implementing regulations (36 CFR Part 800). Completion of Section 106 review with the SHPO is required to determine if there are any adverse effects on historic properties. The Section 106 review is complete and indicates no further identification efforts are warranted (Appendix A).

Correspondence regarding the findings and concurrence and resolution of any adverse effect is included in Appendix A.

1.5 PUBLIC AND AGENCY REVIEW OF EA

Because the Proposed Action area coincides with floodplains, it is subject to the requirements and objectives of EO 11988, *Floodplain Management* as amended by EO 13690, *Establishing a Federal Flood Risk Management Standard and a Process for Further Soliciting and Considering Stakeholder Input*. The Air Force published early notice that the proposed action would occur in a floodplain in the newspaper of record (listed below) on May 23-24, 2021, as part of the ISR ADP Campus EA (Appendix A). (Locating the LMOC Master Node Facility within the ISR ADP Campus was an initial alternative location considered.) No public comments were received. A second public notice which also included language announcing that the proposed action would occur in a floodplain was published on January 22-23, 2023

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in the same paper and included with the Notice of Availability (NOA). This public notice also solicited public comment on the proposed action and any practicable alternatives. The comment period for public and agency input on this project extended to Thursday, March 16, 2023. The NOA of the Draft EA and FONSI/FONPA was published in the newspapers of record (listed below) and invited the public to review and comment on the Draft EA. The NOA and agency comments are provided in Appendix A. No public comments were received.

The NOA and early notice of project execution in a floodplain was published in the following newspaper: The Daily Press, Newport News, Virginia (VA).

Copies of the Draft EA and FONSI/FONPA were also made available for review on-line at:
<https://www.jble.af.mil/About-Us/Units/Langley-AFB/Langley-Environmental/>
and at the following locations:

Bateman Library (BLDG 161) 42 Ash Avenue Langley AFB, VA 23665	Hampton Library 4207 Victoria Boulevard Hampton, VA 23669	Poquoson Library 500 City Hall Avenue Poquoson, VA 23662
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1.6 DECISION TO BE MADE

The EA evaluates whether the proposed action would result in significant impacts on the human environment. If significant impacts are identified, JBLE-Langley would undertake mitigation to reduce impacts to below the level of significance, undertake the preparation of an EIS addressing the proposed action, or abandon the proposed action.

2.0 DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

2.1 PROPOSED ACTION

The Proposed Action is to construct an LMOC Master Node Facility. This general construction project evaluates project alternatives separately. This project is based on the anticipated activities as outlined in the LMOC CCD (Urban Collaborative, 2020), which includes initiatives for facility construction; infrastructure improvements and construction; and demolition. Figure 2.1 illustrates the location on JBLE-Langley for the Proposed Action.

2.2 SELECTION STANDARDS FOR PROJECT ALTERNATIVES

The scope and location of the Proposed Action and, where applicable, alternatives, have undergone extensive review by JBLE-Langley, Master Planning Division under the direction of U.S. Army Engineering and Support, Huntsville, the 633d Civil Engineering Squadron personnel, local government agencies, and supporting installation and Air Force staff specialists.

Potential alternatives to the Proposed Action were each evaluated based on four universal selection standards, which were applied to all alternatives. The Proposed Action included selection standards applicable solely to that single project; project-specific selection standards are introduced in Section 2.3.1, where applicable.

Standard 1: The alternative(s) must meet the purpose of the Proposed Actions, to remedy deficiencies in the infrastructure of JBLE-Langley. The alternative(s) must also address the need to provide and maintain infrastructure that is adequate to support the installation's mission and applicable Air Force, State, and Federal requirements. It must also satisfy the purpose of and need for each project (see Sections 1.2 and 1.3).

Standard 2: The alternative(s) must make as much use as possible of existing land and facilities, avoid creating or maintaining redundant space or infrastructure, avoid or minimize operational inefficiencies, and represent the most cost-effective and sustainable alternative.

Standard 3: The alternative(s) must be consistent with the Regulating Plan zoning requirements, applicable installation architectural compatibility guides, and relevant legal and regulatory requirements, and must accommodate applicable, known man-made and natural development constraints (e.g., explosive quantity-safety distances, imaginary surfaces associated with the installation's runways, wetlands - the relevant constraints may vary depending on the project).

Standard 4: The alternative(s) must maintain or improve the quality of life enjoyed by personnel and dependents at JBLE-Langley.

Planning initiatives and site analysis detailed in the JBLE LMOC CCD (Urban Collaborative, 2020), evaluated 13 separate locations for siting the LMOC. Ten of the sites are located on the flightline side of the installation, and three sites are in the ISR Campus Area. Each potential building site was fully evaluated to consider:

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Figure 2.1: Location on JBLE-Langley for the Proposed Action AFB

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operational, natural, environmental, built/historic buildings, location of archaeological sites, capacity opportunities, sustainability development indicators, energy use, asset optimization and space use, Major Command (MAJCOM) and tenant initiatives, and mission requirements. As part of the JLBE-Langley LMOC site analysis, stakeholders assigned each potential site a weighted COA score. A brief description of alternate building sites evaluated, their COA score, and development constraints are summarized here:

Alternative Site Analysis: Flightline ADP COAs:

1. **1 MXG, 1 MXS Replacement (Bldg 751)** (72%). This site has been occupied for 10 years, is a little remote, and requires raising to 10.5 ft. above sea level.
2. **733 LRS Site (Bldg 777)** (75%). The timing/phasing of this project effects other existing buildings and includes a loss of parking for future development. There are also airfield constraints related to noise (greater than 85 dBA) and it is adjacent to an environmental restoration site. This building is also a historical structure and is located within the explosive safety quantity distance (ESQD) arc. Meeting anti-terrorism (AT) standoff distances is also a constraint.
3. **SFS Site (Bldg 775)** (76%) The timing/phasing of this project effects other existing buildings and includes a loss of parking for future development. There are also airfield constraints related to noise (greater than 85 dBA) and it is within the runway transitional surface. The site is adjacent to an environmental restoration site, is identified as a historical structure, and is located within the ESQD arc. Meeting AT standoff distances would also be a challenge given the limited, developable area.
4. **192 Wing HQ (Temp)** (78%) (*preferred alternative for Flightline ADP COAs*). This site is not *technically* within the South Flightline District. There are existing plans for Credit Union that requires demolition for the proposed action.
5. **Hammond Ave & Sweeney Blvd** (76%). This site does not support the IDP, is not technically within the South Flightline District, and would be a longer walk so some people will drive. This site also includes known archeological sites and has development constraints related to AT standoff distances.
6. **1 MXG Site (Bldg 763)** (76%). This site does not support Flightline South ADP and would be a longer walk, so some people will drive. This site has constraints related to AT standoff distances which would be difficult to meet due to limited space for future development and is also located within an existing environmental restoration site.
7. **633 CES Site (Bldg 367)** (70%). This site does not support Flightline South ADP, is not easily walkable, and requires demolition of fuel tanks.
8. **ACC Site (Bldg 368)** (63%). This site does not support Flightline South ADP, is not easily walkable, and requires demolition of fuel tanks.
9. **Outdoor Recreation Relocation** (53%). This is a small site, not walkable, and technically not within the Flightline South District.

10. **633 CES Site (Bldg 328)** (60%). This site has height restrictions, is not walkable, and does not support Flightline South ADP.

The final determining factor for the flightline ADP COAs was the proximity to the flightline. Site 4, the 192 Wing HQ was selected for further detailed site analysis.

Alternative Site Analysis: ISR Site COAs:

1. **South Quad East** (69%). This site is far from the gate, requires slow vehicle speeds (15 mph), is subject to aircraft noise, and is far from food options.
2. **South Quad West** (69%). This site is far from the gate, requires slow vehicle speeds (15 mph), is subject to aircraft noise, and is far from food options.
3. **North Quad, next to DGSX** (75%) (*preferred alternative for ISR Site COAs*). This site is farther from the flightline than the East and West Quads, is far from food options, and is far from a gate.

Site 3, the North Quad, was selected for further detailed site analysis from the ISR Site COAs.

Ultimately, the planning team developed two detailed site plans for both preferred locations. Additional site analysis criteria and strategic LMOC planning goals were established to include:

- Proximity to Fighter Town
- Minimal Existing Conflicts
- Minimal Impact to ADP
- Minimal Impact to IDP
- Minimal Impact to Parking
- On Flightline Side
- Builds Out ADP
- Room To Expand
- No Building Demolition Required
- No Parking Demolition Required
- Central Location on Flightline

It was decided that the most important criteria for the LMOC facility is **Proximity to Fighter Town**; this ensures the facility will benefit from local operators. The **flightline-side COA, Site 4** was selected as the preferred alternative (Urban Collaborative, 2020). The other 12 alternate locations were removed from further consideration. Leaving the Proposed Action (preferred alternative) or the No Action Alternative.

2.3 PROPOSED ACTION AND ALTERNATIVES

The NEPA and the CEQ regulations mandate the consideration of reasonable alternatives to the proposed actions. “Reasonable alternatives” are those that also could be utilized to meet the purpose of and need for each proposed action.

The NEPA process is intended to support flexible, informed decision-making; the analysis provided by this EA and feedback from the public and other agencies will inform decisions made about whether, when, and how to execute the proposed actions. Among the alternatives evaluated for each project is a No-Action alternative. The No-Action alternative will substantively analyze the consequences of not undertaking the proposed action, not simply conclude no impact, and will serve to establish a comparative baseline for analysis.

The scope, location, and objectives of the proposed action is described here. This section also presents reasonable and practicable alternatives, for projects where multiple viable courses of action exist. Those alternatives are assessed relative to the universal selection standards and project-specific selection standards, where applicable. Alternatives that met all four selection standards were considered reasonable and retained for consideration in this EA. Alternatives that did not meet one or more of the standards were considered unreasonable and are not retained for consideration in the EA.

2.3.1 Facility Construction Project

Project C1: LMOC Master Node Facility Construction

Under this project, general construction, infrastructure improvement, and building and park area demolition activities would occur to support the development of the LMOC Master Node Facility. The new building would be constructed to be above the known flood zone and in accordance with UFC 3-201-01 [USACE et al, 2021b]. Construction of the building would include site preparation, a concrete foundation, roof system, electrical system, and ventilation. The existing building 467 will be demolished and existing park areas demolished and improved. Supporting infrastructure improvements will be necessary. Proper off-site demolition material disposal would be completed. Materials would be recycled to the fullest extent possible, and all trucks used to haul materials would be covered to prevent materials from littering roadways and surrounding areas. Debris not reused, recycled, or considered as inert waste would be disposed in an appropriate, local landfill. After demolition, the land would be developed or landscaped to support the specific mission for which the area would be used. Any utilities to these structures would be disconnected prior to demolition and new utilities would comply with the regulating plan. Improvements to existing roads and the construction of new roads are also under evaluation to support anticipated traffic flow, mitigate safety hazards, and to support future revenue generating projects. The proposed project map is shown in Figure 2.2.

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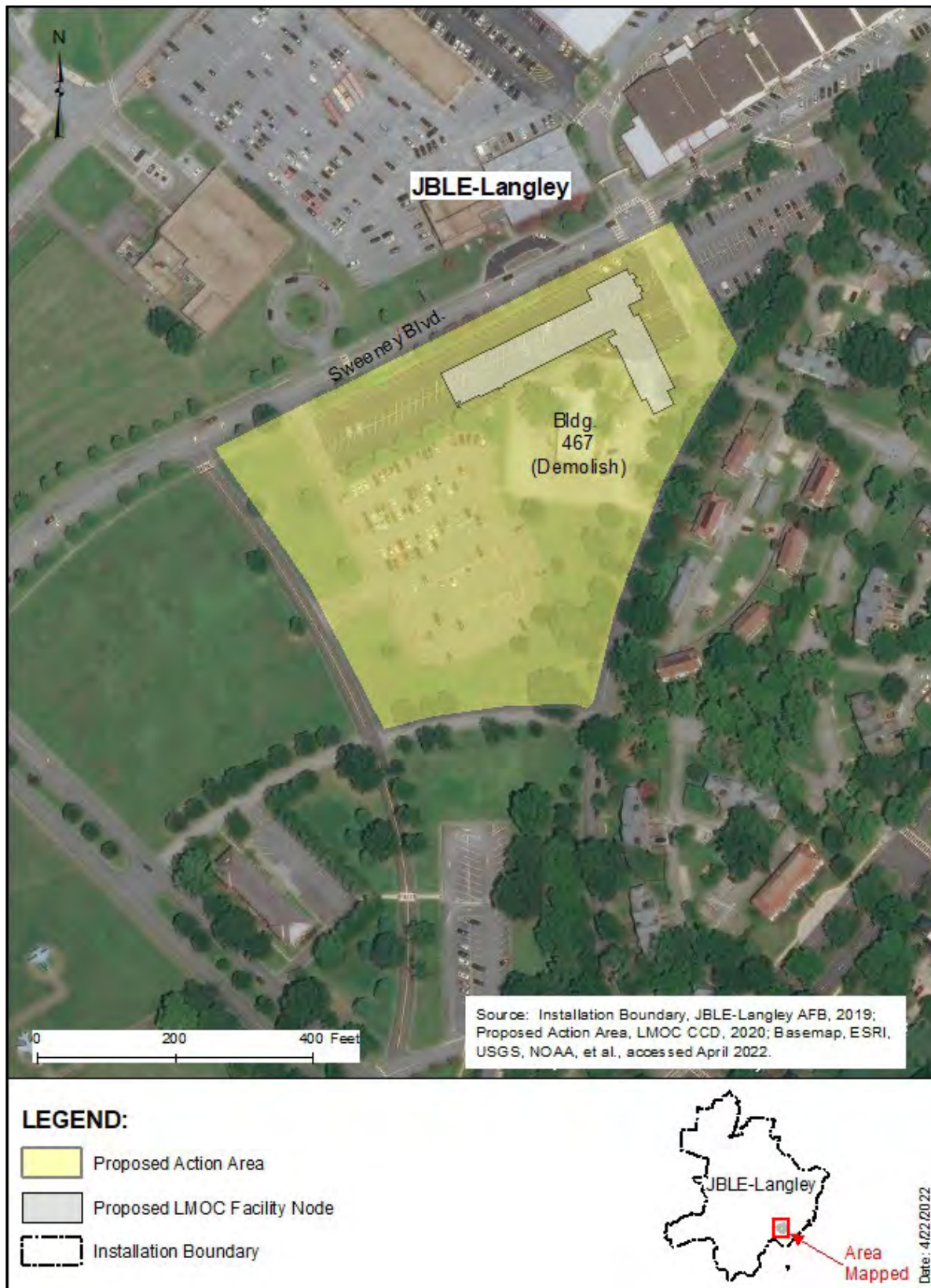


Figure 2.2: Proposed Project Map

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Additional Project-Specific Selection Standards: Alternate site locations were scored according to the goals identified during the LMOC CCD workshop:

- Proximity to Fighter Town
- Minimal Existing Conflicts
- Minimal Impact to ADP
- Minimal Impact to IDP
- Minimal Impact to Parking
- On Flightline Side
- Builds Out ADP
- Room To Expand
- No Building Demolition Required
- No Parking Demolition Required
- Central Location on Flightline

Alternatives Considered but Eliminated from Further Analysis: Detailed in section 2.2, a total of 13 alternate sites were evaluated as possibilities to construct the LMOC Master Node Facility. Ten of the sites evaluated were situated in the vicinity of the south flightline area, while three sites evaluated were within the North Base District where the ISR campus is emerging. Major and minor planning constraints including operational, natural and environmental, built/historic buildings, and archaeological sites were considered. Installation capacity opportunities, sustainability development indicators, energy use, asset optimization and space use, MAJCOM and tenant initiatives, and mission requirements were also considered. As a result of the site analysis, building 467 (the site of the current credit union located just south of the south flightline district), was selected as the best location to construct the LMOC Master Node Facility. This district met the initial screening Standards 1 – 4 and scored the highest on the additional project-specific selection standards established as part of the LMOC CCD workshop. Therefore, the other twelve site locations were not analyzed further.

Alternatives Considered for this Project:

No-Action Alternative C1: Under the No-Action Alternative, this project would not be implemented resulting in no change in the status quo. The existing facility would continue to be maintained but the infrastructure to support the 480th and 363d ISRW would no longer be adequate. This is considered unreasonable and does not meet Standards 1 - 4. The No-Action Alternative will be carried forward for further analysis, consistent with CEQ regulations, to provide a baseline against which the impacts of the action alternative can be assessed.

3.0 AFFECTED ENVIRONMENT

The ROI for the Proposed Action is JBLE-Langley, unless otherwise specified below for a particular resource area where a resource would have a different ROI.

3.1 SCOPE OF THE ANALYSIS

This chapter describes the current conditions of the environmental resources, either man-made or natural, that would be impacted by implementing the Preferred Alternative or the No Action Alternative.

Based on the scope of the Proposed Action, resource areas with minimal or no impacts were identified through a preliminary screening process. The following describes those resource areas not carried forward for a detailed analysis, along with the rationale for their elimination.

Regardless of the alternative selected, the following resources have been previously evaluated in the Final Environmental Assessment for Installation Development at Joint Base Langley-Eustis, VA (JBLE-Langley, 2016). There has also been recent applicable analysis performed in the “Environmental Impact Statement (EIS) Fifth Generation Formal Training Unit Optimization” (USACE et al., 2021). The proposed action is similar in context with the proposed actions in the 2016 EA, with construction and demolition as the focal action with additional appropriate correlation with some activities within the EIS. In the spirit of 32 CFR § 989.10, § 989.14 and the “Instructions for Use of the EA Template Air Force Environmental Assessments”, if a resource is not impacted or has been found to have only minor impacts in previously completed environmental analyses, the source document should be cited, and no further discussion is needed.

As a result of the preliminary EIAP analysis, the Proposed Action was determined to have no effect on several resources; therefore, these resources were eliminated from detailed analysis in this EA. The resources that were eliminated from detailed analysis and the rationale for their elimination are presented in the subsections below:

Aesthetics and Visual Resources

Aesthetics and Visual Resources are fully analyzed within the referenced 2016 EA. Criteria used to determine if a significant impact to this resource area exists include having a substantial adverse impact on a scenic vista or viewshed; substantially damaging scenic resources, including, but not limited to, primary/secondary ridgelines, trees, rock outcroppings, and historic buildings; substantially degrading the existing visual character or quality of the site and its surroundings; or, create a new source of substantial light or glare that would adversely impact day or nighttime views in the area. The proposed LMOC facility is planned to be located in an area with existing buildings and car parks but is located in the JBLE-Langley Historic District. Smaller parking lots enhance the visual environment by increasing the ratio of landscaped area to paved area and allowing more conformance to natural topography. Parking lots between and behind buildings can reduce the visual impact from the circulation system and increase pedestrian access from walkway systems. The new LMOC Facility will be an improvement over current conditions since large, existing parking lots (one, 193-car park and one 168-car park), will be demolished and replaced with a smaller, 181-car park and the building façade will be placed along the

primary vehicle routes. The Proposed Action has satisfied all Section 106 requirements and considered building activities within a historic district.

Biological/Natural Resources

Special species status was verified using US Fish and Wildlife Information for Planning and Consultation (IPaC) report generated on May 10, 2023. The three species on this list and their status include the endangered northern long-eared bat (*Myotis septentrionalis*); the proposed endangered tricolored bat (*Perimyotis subflavus*); and one candidate species, the monarch butterfly (*Danaus plexippus*). No critical habitat, refuge lands, or fish hatcheries exist in the Proposed Project Area. The May 10, 2023 verification ensured consistency between the ISR EA and the referenced 2016 EA, which also indicates no critical habitat, refuge lands or fish hatcheries in existence in the City of Hampton. There are no known nests within the project area.

Full analysis of the northern long-eared bat and the tricolored bat are included in the referenced 2021 JBLE-Langley EIS. The JBLE-Langley EIS concludes that the northern long-eared bat would not be affected by land disturbance or new construction activities and the tricolored bats are likely transitory individuals (at the Installation) and not likely to be affected by the proposed construction activities. Though the northern long-eared bat may occur in cavities and crevices of large live and dead trees during the summer and in winter hibernating in caves and mines, no evidence of winter hibernation or summer roosts have been observed on JBLE-Langley Main Base (USACE et al., 2021). However, the 2021 JBLE-Langley INRMP indicates the presence of lactating tricolored bats present and breeding at the Big Bethel Reservoir (which is approximately 5 miles from the Proposed Action Area). A more comprehensive land use study and management plan for bats at Big Bethel Reservoir is programmed for 2023. There are no known tricolored bats roosts or maternity colonies at JBLE-Langley Main Base. Therefore, it is unlikely that the tricolored bats would be adversely impacted as a result of the Proposed Action.

The candidate species monarch butterfly is also unlikely to be impacted since the proposed action occurs within an already built-up area.

Bird species protected by the Migratory Bird Treaty Act (hereafter referred to as migratory birds) may be present within the Proposed Action Area. The IPaC report identifies 20 birds of conservation concern. JBLE-Langley maintains a Bird/wildlife-Aircraft Strike Hazard (BASH) prevention program to manage risks for military aircraft, pilots, and injury or death to birds and other wildlife. As part of the BASH program, the time during the year when peak bird migration activity occurs is identified and mitigating measures are outlined. Implementation of the Proposed Action would adhere to the BASH prevention program and would implement mitigating techniques to help reduce threats to any migratory birds. If any active nests (eggs, fledglings, etc.) were discovered in the Proposed Action Area, work would stop and the JBLE-Langley Natural Resources Manager would be contacted. Accordingly, significant adverse impacts on migratory birds is unlikely.

The 2021 JBLE-Langley INRMP indicates that while monitoring for both currently listed and newly listed species is ongoing, no new rare, threatened, or endangered species have been observed or documented. Consultations with JBLE-Langley's Natural Resource Program Manager also indicates that with respect to migratory birds, the habitat in the Proposed Action Area is not suitable for nesting for most species listed in the IPaC report; there is a potential for the wood thrush to nest in nearby trees, but all potential nesting areas are not specifically tracked. For these reasons, it is anticipated that the Proposed Action would have no appreciable effect on Natural Resources.

Earth Resources

Geology. The Proposed Action would not involve any activity that would adversely affect subsurface geological formations. The development of the LMOC Facility including construction and demolition activities, would be conducted using standard methods that would have no appreciable impact on geology. Excavation is expected to be conducted only to depths necessary for the facility foundations and utility connections. For these reasons, the Proposed Action would have no appreciable effect on geology.

Soils. Because the Proposed Action will be conducted in an already built-up area, adverse effects on soils will not occur. Construction activities would not be conducted during periods of wet weather and would be staged to allow for stabilization of disturbed soils. Fugitive dust control techniques, such as watering and stockpiling, would be implemented to minimize adverse impacts and would comply with applicable regulations.

Topography. The topography where the Proposed Action will occur is relatively flat, since there are substantial parking lots present. There is greater slope outside of the existing parking lots, but current plans avoid substantial activity in those areas due to increased expenses constructing in greater slope areas. Buildings will therefore not be built on a highly sloped site so the finished floor elevation will not impact the surrounding topography.

Safety and Occupational Health

Ground Safety. Ground safety related to the Proposed Action would include mishaps related to the use of construction equipment and motor vehicle use or maintenance functions. Compliance with applicable AF Safety Manuals and Mishap Response Plans would be implemented. The Proposed Action is not in a clear zone or accident potential zone so this increases protection of people and property on the ground. For these reasons, the Proposed Action would have no appreciable effect on Ground Safety.

Explosives Safety. The Proposed Action will be conducted in an area that is not used for munition storage or handling and is not located within the Quantity Distance (QD) Arcs, which mark the impact of munitions. For these reasons, the Proposed Action would have no appreciable effect on Explosives Safety.

Flight Safety. The Proposed Action does not include flight activities but there is a potential for aircraft mishaps during flight that might indirectly have an effect on the safety of the public. However, because the Proposed Action is located outside of the clear zones, accident prevention zones, and QD arc, the potential for flight operations to indirectly effect public safety is reduced greatly. The Proposed Action will be in compliance with the regulating plan which describes building height restrictions to minimize collisions with manmade structures and describes methods to reduce hazardous bird/wildlife activity relative to airport flight operations. For these reasons, the Proposed Action would have no appreciable effect on Flight Safety.

Land Use

The Proposed Action is planned in an area that is already built up and disturbed by past development. The Regulating Plan provides flex-use functions on this site (prohibiting industrial or housing). The general construction and demolition activities would occur only within areas that correlate with compatible land use types or may be permitted with specific restrictions to ensure that development

within those areas is not disruptive to the installation's missions. For these reasons, the Proposed Action would have no appreciable effect on Land Use.

Noise

Noise generated from construction and demolition activities under the Proposed Action would temporarily increase ambient noise levels in and around the sites. However, the increased noise levels would be intermittent and limited to daytime working hours during the overall construction/demolition period. The Proposed Action would have no appreciable effect on noise.

Socioeconomics/Environmental Justice

The Proposed Action would not impact the number of persons currently working at JBLE-Langley or living in the local area. During the construction and demolition work, there would be negligible impacts on the local economy in the form of temporary construction employment opportunities. For these reasons, the Proposed Action would have no appreciable effect on the local demographics, local economy, number of persons living in on-base or off-base housing, number of children attending schools in the area, or demand for emergency services (medical, police, and firefighting).

Water Resources

Surface water. JBLE-Langley is located between the Northwest and Southwest Branches of the Back River, a tributary of Chesapeake Bay. In general, drainage for the area ultimately flows into Chesapeake Bay via the Back River, Newmarket Creek, Brick Kiln Creek, and Tabbs Creek. Other than drainage ditches associated with the existing car park(s), there are no surface water or wetlands present in the Proposed Action area. The installation's stormwater system consists primarily of drainage ditches in more undeveloped areas, and underground piping in developed areas. Compliance with applicable federal and state law will be followed to protect the nation's waters and discharge of any pollutant into any jurisdictional waters of the U.S. as defined in 40 CFR § 120.2 will be prohibited unless appropriate permitting requirements have been met. For these reasons, the Proposed Action will have no appreciable effect on surface water.

Groundwater. The three water bearing units beneath JBLE-Langley are the Water Table Aquifer, the Yorktown-Eastover Aquifer, and the Chickahominy-Piney Point Aquifer. The groundwater beneath JBLE-Langley is not a practical source of irrigation or potable water. The potable water is supplied by the City of Newport News Water Works and is ultimately sourced from the Chickahominy River. For these reasons, the Proposed Action will not impact groundwater resources.

Floodplains. The discussion of floodplains is tiered from the 2016 EA, which describes that JBLE-Langley is almost entirely within the 100-year floodplain. Given this fact, there is no other practicable alternative within the footprint of JBLE that would actually avoid the 100-year floodplain. Although the Proposed Action may have an irreversible and irretrievable impact on floodplains, the Proposed Action would only impact a small portion of the 100-year floodplain area. Additionally, the potential demolition of building 467 within the 100-year floodplain would represent a long-term, minor, beneficial effect. The Proposed Action would not have significant impacts associated with floodplains.

Coastal zone management areas (CZMA). The Virginia Department of Environmental Quality (VDEQ) is responsible for oversight and implementation of Virginia's Coastal Zone Management Program established in 1986 which is comprised of state agencies and local governments that administer enforceable laws, regulations, and policies to protect the Commonwealth's coastal resources. Federal

lands, including JBLE-Langley, are statutorily excluded from the coastal zone pursuant to Section 304 of the CZMA. CZMA requires that federal agencies be consistent with enforceable policies of state coastal zone management programs when conducting or supporting activities within or outside the coastal zone that affect land use, water use, or natural resources of the coastal zone. The Proposed Action would not have a significant impact to land use, water use, or natural resources of the coastal zone. For these reasons, the Proposed Action will not impact the CZMA but would still be subject, to the maximum extent practicable, enforceable policies of the states coastal zone management program to ensure federal consistency.

Wetlands. Wetland resources are protected under Section 404 of the Clean Water Act (CWA) (33 U.S.C. § 1344). Wetlands on federal lands are further protected under EO 11990, Protection of Wetlands, which directs agencies to “minimize the destruction, loss, or degradation of wetlands, and to preserve and enhance the natural and beneficial values of wetlands” when carrying out agency actions. The Proposed Action is planned in an area that does not contain a wetland. The general construction activities associated with the Proposed Action will occur in an area that is already built up and is currently paved. For these reasons, the Proposed Action would have no appreciable effect on wetlands. Wetland verification ensured consistency with the referenced 2022 CAR (JBLE-Langley, 2022a), the 2019 wetland delineation performed by U.S. Army Corps of Engineers (USACE) (USACE, 2019) and the National Wetlands Inventory (USFWS, 2022).

3.2 CAPACITY ANALYSIS REPORT (AFFECTED ENVIRONMENT DESCRIPTIONS)

A Capacity Analysis Report (CAR) dated January 2022 has been developed which includes the full description of the affected environments at JBLE-Langley. It provides the current conditions (baseline information), potential categorical exclusion citations, current compliance activities and criteria for determining significance for each resource area (JBLE-Langley, 2022a). The descriptions of the baseline conditions for each affected environment moving forward in analysis may be found in the CAR. The CAR is incorporated by reference in accordance with 40 CFR § 1501.12, *Incorporation by reference*, which states: “Agencies shall incorporate material, such as planning studies, analysis, or other relevant information, into environmental documents by reference when the effect will be to cut down on bulk without impeding agency and public review of the action. Agencies shall cite the incorporated material in the document and briefly describe its content.” The citation further indicates the referenced documentation is required to be “reasonably available for inspection by potentially interested persons within the time allowed for comment.” When finalized, the CAR will be made available at the following website: <https://www.jble.af.mil/About-Us/Units/Langley-AFB/Langley-Environmental/>.

The following resource areas were carried forward for analysis and are fully examined in Section 4.0, Environmental Consequences:

- Air Installation Compatible Use Zone (AICUZ) and related Encroachment.
- Air Quality: Hazardous Air Pollutants, General Conformity Rule, Greenhouse Gas Emissions.
- Cultural Resources: Archeological Sites, Architectural Resources, Traditional Cultural Properties.
- Hazardous Materials and Waste: Pollution Prevention, Environmental Restoration Program.
- Transportation.
- Infrastructure and Utilities.

4.0 ENVIRONMENTAL CONSEQUENCES

4.1 INTRODUCTION

This chapter describes the potential environmental consequences that are likely to occur as a result of implementation of both alternatives that are being considered and analyzed. With the 2020 update to the federal NEPA regulations, a simpler, more flexible approach for agencies to assess significance was implemented. Reference to “context” was updated to “potentially affected environment”, and “intensity” to “degree”. In considering the degree of the effects, agencies should consider both short- and long-term effects of the proposed action. Beneficial and adverse effects, effects on public health and safety, and any effects that would potentially violate Federal, State, Tribal, or local law should all be considered, with an emphasis on protecting the environment (40 CFR 1501.3).

Impacts described in this chapter are evaluated in terms of type (positive/beneficial or adverse), context (setting or location), intensity (none, negligible, minor, moderate, severe), and duration (short-term/temporary or long-term/permanent). The type, context, and intensity of an impact are explained under each resource area. Unless otherwise noted, short-term impacts are those that would result from the activities associated with a project’s construction and/or demolition phase, and that would end upon the completion of those phases. Long-term impacts are generally those resulting from the operation of a proposed project.

As indicated in Section 3.2, the baseline conditions for each of the following affected environments may be found in the CAR. The CAR includes the criteria being used to help determine significance. The criteria are also provided here for convenient reference.

4.2 AIR INSTALLATION COMPATIBLE USE ZONE (AICUZ)

4.2.1 AICUZ

Evaluation criteria used to determine significance includes:

- Activities that would result in non-compliance with the Department of Defense Instruction Manual Number 4165.57 USD(A&S). Air Installations Compatible Use Zones (AICUZ), May 2, 2011, Updated August 31, 2018.

Proposed Action.

The proposed action is located outside of the clear and accident potential zones. However, it is possible that temporary and minor adverse hazards to the aircraft flight zone may occur. This is primarily related to temporary generation of smoke, steam, or dust because of the expected general construction activities. To mitigate the potential impact, project applicants will coordinate with the AICUZ Program administrators to ensure that the project is compatible with installation operations relative to these concerns. Therefore, there are no anticipated significant impacts due to the proposed action to the AICUZ areas.

No Action Alternative.

With the No Action Alternative the LMOC Facility development would not occur. Related construction changes at JBLE-Langley would not occur and therefore, no impact.

4.2.2 Encroachment***Proposed Action.***

The proposed action will be carried out within the overall footprint of JBLE-Langley at the southwest intersection of Sweeney Boulevard and Bryant Avenue just south of the South Flightline District and within the Heavier-Than-Air District. This area is within the JBLE-Langley Historic District and is situated in an area that is already built-up and includes mixed-use industrial, open space, administrative, and community service land use types. Therefore, there are no anticipated encroachment issues associated with the proposed action. Compatible land-use development and support of local, long-range land-use planning efforts are in accordance with nationally recognized standards and the AICUZ program. Therefore, there are no anticipated significant impacts related to encroachment that would affect the AICUZ areas.

No Action Alternative.

With the No Action Alternative the LMOC Facility development would not occur. Related personnel or construction changes at JBLE-Langley would not occur and therefore, no impact.

4.3 AIR QUALITY

Evaluation criteria used to determine significance includes activities that would:

- Increase ambient air pollution above any National Ambient Air Quality Standards (NAAQS);
- Contribute to an existing violation of any NAAQS;
- Interfere with or delay timely attainment of NAAQS;
- Expose people to HAPs in large quantities;
- Results in a substantial increase in the base's potential to emit Green House Gases (GHGs); or
- Result in a substantial increase in the base's potential to emit GHGs.

Proposed Action.

Implementation of the Proposed Action would have short-term, negligible, adverse impacts to air quality primarily from general construction activity. Air emissions from general construction activities would be temporary and brief in duration. Criteria pollutant air emissions would be produced from the combustion of fuels in heavy equipment. Particulate matter air emissions, such as fugitive dust, would be produced from ground-disturbing activities and from the combustion of fuels in heavy equipment. Fugitive dust air emissions would be greatest during the initial site preparation and would vary from day to day depending on the work phase, level of activity, and prevailing weather conditions. The quantity of uncontrolled fugitive dust emissions from a construction site is proportional to the area of land being

worked and the level of activity. Construction would incorporate best management practices (BMPs) and environmental control measures to minimize fugitive particulate matter air emissions. Additionally, the work vehicles are assumed to be well maintained and should use diesel particulate filters to reduce particulate matter air emissions. Construction workers commuting daily to and from the job sites in their personal vehicles would also result in criteria pollutant air emissions. HAP emissions associated with these activities would result from internal combustion engines and would be *de minimis*. **Appendix C** contains a summary of potential air emissions associated with the general construction activities.

As stated previously, the installation is in an area that has been designated as unclassified/attainment for all criteria pollutants. As Appendix C indicates, estimated annual air emissions from the Proposed Action throughout the anticipated duration is well below *de minimis* threshold limits; therefore, a General Conformity determination would not be required.

The Proposed Action would emit GHGs from the combustion of fossil fuels. Construction would generate approximately 680.12 metric tons per year (tpy) of CO₂e during the project (9 months), but there would not be any continuing emissions. This GHG emission is approximately 2.72 percent of the CEQ reference point of 25,000 metric tpy (40 CFR § 98.2), below which a quantitative analysis of GHGs is not necessary. This is a negligible amount with respect to the existing conditions. These limited annual emissions of GHGs would not likely contribute to global climate change to any discernible extent. Potential changes to local temperature and precipitation patterns as a result of ongoing global climate change would not affect the ability to implement the Proposed Action.

Overall, there would be no significant impact to air quality with implementation of the Proposed Action.

No Action Alternative.

Implementation of the No Action Alternative would have no significant impacts to regional or local air quality as existing conditions would remain the same.

4.4 CULTURAL RESOURCES

36 CFR §800.16 establishes the Area of Potential Effect (APE) as the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties (a prehistoric or historic district, site, building, structure, or object). The effect means alteration to the characteristics of a historic property qualifying it for inclusion in or eligibility for the National Register of Historic Places (NRHP). National Park Service (NPS) guidance outlines seven aspects of integrity to help evaluate eligibility and determine whether a property's character is adversely affected. They are the historic property's location, setting, design, materials, workmanship, feeling, or association. An effect is considered adverse when it diminishes one or more aspects of integrity. A "significant impact" under NEPA is defined as an unresolvable "adverse effect" under Section 106 of the NHPA. Although the potential for adverse effects to cultural resources was evaluated by the 2016 Installation Development EA, the proposed action area buildings were further evaluated for their NRHP status.

The CRM reviewed all proposed actions and identified those which may have an effect on cultural resources. The findings were coordinated with the SHPO. The information gathered from the CRM/SHPO review was used to determine the significance of impact as defined by NEPA.

Proposed Action.

Implementation of the Proposed Action is not likely to affect archeological resources. A small portion of archaeological site 44HT98 is located in the western most part of the proposed action area (JBLE-Langley, 2019). According to the Integrated Cultural Resources Management Plan (ICRMP), this site is not eligible for NRHP and is recommended for no further work. However, if previously unidentified archaeological resources are discovered during the Proposed Action, work should cease, and JBLE-Langley should coordinate with the CRM, SHPO, and appropriate Native American tribes (if required) to avoid or mitigate potential effects (see ICRMP Standard Operating Procedures [JBLE-Langley, 2019]). However, given the extent of previous investigations, no significant impacts to the archeological resources are anticipated from implementation of the Proposed Action.

Implementation of the Proposed Action is not likely to have an effect on above-ground resources located within its footprint and viewshed. There is one building in the APE described as MUHJ 467, Credit Union. It was constructed in 1982 and on 13 May 1997 was determined to be not eligible for the NRHP. It is currently scheduled for demolition as part of the Proposed Action. However, the effect of the undertaking on the integrity of the historic district as a whole required Section 106 evaluation to determine whether there are adverse effects and subsequently significant impacts. DHR concurs with the Air Force's "No Adverse Effect" determination (Appendix A). Should unidentified historic properties be discovered during implementation of the project, DHR must be notified. There is no potential for significant adverse impact.

No Action Alternative.

Implementation of the No Action Alternative would have no significant impacts on cultural resources as the area would remain in its current state.

4.5 HAZARDOUS MATERIALS AND WASTE

Evaluation criteria used to determine significance includes:

- The generation of a new waste stream that cannot be immediately or safely managed under existing protocols;
- The generation of an excessive quantity of waste that cannot be adequately or safely managed in accordance with the JBLE-Langley 633d Air Base Wing Environmental Special Conditions (JBLE-Langley, 2020) document and/or project specific plans;
- Non-compliance with site-specific land use controls; or
- Non-compliance with site-specific Records of Decision/Decision Documents.

Proposed Action.

No impact is anticipated due to the handling, use, storage or disposal of hazardous materials hazardous waste, or solid waste. Implementation of the proposed action is expected to generate negligible amounts of demolition waste. At this stage in planning, there is no known risk of radon, asbestos-containing materials or lead based paint-containing materials in buildings that may be demolished. Project-specific safety plans will address the safe handling and disposal of those potential hazards. Hazardous material use should be minimal, with the use of consumable fuel in construction vehicles.

The contractor is subject to the guidelines set forth in the JBLE-Langley 633d Air Base Wing Environmental Special Conditions document, the requirements of which are written into each contract and dictates the procurement of permits, the development of planning documents, reporting, and appropriate handling and disposal of hazardous materials, hazardous waste and solid waste. The details for the contractual requirements are found in this document (JBLE-Langley, 2020). There are no anticipated significant impacts due to the proposed action and the handling, use, storage or disposal of hazardous materials, hazardous waste or solid waste.

There will be no construction conducted on Installation Restoration Program (IRP) sites that have current land use controls or any active investigation or clean-up activities. The only site in the APE is a portion of closed site ST-27. According to the Final Decision Document IRP Site ST-27 is a former petroleum, oil, and lubricant (POL) Site that has been eliminated through the proper remedial and/or closure of the former JP-4 fuel transfer line which it was associated with. The installation of a free-product collection system, and subsequent characterization of the affected media adjacent to a portion of the former fuel transfer line resulted in a recommendation of no further action (NFA) under a continued industrial use or a future residential use scenario. There is no potential for a future release at this site since the petroleum-hydrocarbon source (i.e., the former JP-4 fuel transfer pipeline) has been removed from the site (IT Corp., 2020). Therefore, there are no anticipated significant impacts due to the proposed action related to this site.

At this stage in planning, details of pollution prevention are not known, however, as per the JBLE-Langley 633d Air Base Wing Environmental Special Conditions document, the contractor would be required to report the usage of all hazardous materials to the Federal Government for all projects and contracts. Stormwater pollution prevention plans are also required (JBLE-Langley, 2016).

No Action Alternative.

Implementation of the No Action Alternative would have no significant impacts on Hazardous Materials and Waste as the area would remain in its current state.

4.6 TRANSPORTATION

Evaluation criteria used to determine significance includes:

- Impacts that would increase traffic on the installation and local roads in such a way that they would not be able to accommodate the additional vehicles;
- Impacts that do not comply with local, state, or Federal laws and regulations; or,
- Impacts that constitute a substantial risk to human health or the environment.

Proposed Action.

Implementation of the Proposed Action would result in moderate, long-term beneficial impact to traffic and transportation. Specific transportation and infrastructure improvements planned include converting Bryant Avenue to a short boulevard connecting Sweeney and Glover Avenue. The plan also includes a new boulevard connecting Cook Avenue to Glover Avenue, providing access to a 181-space car park. A 40 percent reduction for alternative transportation is expected as a result of the improvements (Urban Collaborative, 2020). The current plans also allow walkable access for the pilots

stationed at JBLE-Langley, who will take advantage of the LMOC's mission planning capabilities. There would be minor increases in traffic due to general construction activities that would be temporary. Therefore, the Proposed Action would result in moderate, long-term beneficial impact to pedestrian foot traffic, vehicular traffic, and transportation. There will be no significant impact on Transportation resources as a result of the Proposed Activity.

No Action Alternative.

Under the No Action Alternative, a new LMOC Facility would not be constructed, Building 467 would not be demolished, and transportation and infrastructure improvements would not occur. Therefore, the No Action Alternative would have no effect on transportation resources. There will be no significant impact.

4.7 INFRASTRUCTURE AND UTILITIES

The following thresholds were used to determine if an impact to utilities would be significant:

- Impacts would increase demands on utility systems in such a way that existing systems cannot accommodate those demands; or
- Impacts do not comply with local, state, or Federal laws and regulations.

Proposed Action.

Implementation of the Proposed Action would have a short-term, negligible effect on utilities planned for demolition, but would provide moderate, long-term beneficial impacts after the proposed utility upgrades are complete. To support the future LMOC, the two storm-water drainage lines running east-west north of Building 467 would need to be diverted. However, the electric line along Sweeney Boulevard would be avoided and will support the new building. During the construction activity, there is little to no concern that the current utility structure surrounding the APE will be negatively impacted. Even if potable water is used by the construction workers, there is still ample capacity to avoid impact. Communication lines in the area would be improved as planned and would also provide moderate, long-term beneficial impacts. All improvements will meet future development needs. There will be no significant impact.

No Action Alternative.

Under the No Action Alternative, a new LMOC Facility would not be constructed, Building 467 would not be demolished, and infrastructure and utility improvements would not occur. Therefore, the No Action Alternative would have no effect on infrastructure and utility resources. There will be no significant impact.

4.8 OTHER NEPA CONSIDERATIONS

4.8.1 Unavoidable Adverse Effects

This EA identifies any unavoidable adverse impacts that would be required to implement the Proposed Action and the significance of the potential impacts to resources and issues. Title 40 of the *Code of Federal Regulations* § 1501.3(b)(1) and (2) specifies that a determination of significance requires consideration of the potentially affected environment and the degree of the effects of the action.

Unavoidable adverse effects would result from implementation of the Proposed Action. As discussed in Section 4, the Proposed Action would result in short-term, adverse effects associated with construction and potential demolition activities, including increased noise and air emissions, AICUZ (due to temporary generation of smoke, steam, or dust because of the expected general construction activities), minor increases in traffic, use and generation of hazardous materials and wastes and generation of negligible amounts of construction waste. None of these effects would be significant. All activities of the Proposed Action would occur within the 100-year floodplain. As most of JBLE-Langley occurs within the floodplain, there would be no practicable alternative.

Construction projects would have long-term, negligible, impacts to the floodplain. All new buildings must be constructed with a Finished Floor Elevation (FFE) of 10.9 feet or higher in order to be above the known floodzone. Demolition of building 467 at JBLE-Langley, if undertaken, would have a long-term, negligible, beneficial impact to the floodplain.

For the Proposed Action to be accomplished, these impacts will occur. The action is required because a facility is needed to support JBLE-Langley's Live Mission Operation Capabilities and it can further be used as a prototype for other LMOC Master Node Facilities to support the Air Force throughout the US, since no LMOC facilities currently exist in the US.

4.8.2 Relationship of Short-Term Uses and Long-Term Productivity

Short-term uses of the biophysical components of human environment include direct construction-related disturbances and direct effects associated with an increase activity that occurs over a period of less than 5 years. Long-term uses of human environment are those effects occurring over a period of more than 5 years, including permanent resource loss.

The Proposed Action would not result in a change of land use in the surrounding area. Development of the Proposed Action would not represent a significant loss of open space. The long-term beneficial effects of implementing the Proposed Action would provide adequate and secure space to perform mission planning, execution, monitoring, debriefing, and administrative functions.

The potential demolition activities at JBLE-Langley would contribute to United States Air Force's (USAF) goal of removing excess, obsolete, and underused infrastructure capacity and focusing time and funding on more efficient property.

4.8.3 Irreversible and Irretrievable Commitments of Resources

This EA identifies any irreversible and irretrievable commitments of resources that would be involved in the Proposed Action if implemented. An irreversible effect results from the use or destruction of resources (e.g., energy) that cannot be replaced within a reasonable time. An irretrievable effect results from loss of resources (e.g., endangered species) that cannot be restored as a result of the Proposed Action. The short-term irreversible environmental commitments that would result from implementation of the Proposed Action involves the consumption of material, energy, and human resources. The use of these resources is considered to be permanent. Irreversible and irretrievable resource commitments are related to the use of nonrenewable resources and the effects that use of these resources will have on future generations. Irreversible effects primarily result from use or destruction of a specific resource that cannot be replaced within a reasonable timeframe (e.g., energy and minerals).

Floodplains. The Proposed Action would occur in the 100-year floodplain. As JBLE-Langley is almost entirely within the 100-year floodplain, there is no practicable alternative. Although the Proposed Action would have an irreversible and irretrievable impact on floodplains, the Proposed Action would only impact a small portion of the 100-year floodplain in an area that is already fully developed. Additionally, the potential demolition of buildings within the 100-year floodplain would represent a long-term, minor, beneficial effect. The Proposed Action would not have significant impacts associated with floodplains.

Material Resources. Material resources used for the Proposed Action include building materials (for construction of facilities), concrete and asphalt (for parking lots), and various material supplies (for infrastructure) and would be irreversibly lost. Most of the materials that would be consumed are not in short supply, would not limit other unrelated construction activities, and would not be considered significant.

Energy Resources. No significant effects would be expected on energy resources used as a result of the Proposed Action, though any energy resources consumed would be irretrievably lost. These include petroleum-based products (e.g., gasoline and diesel fuel) and electricity. During construction, gasoline and diesel fuel would be used for the operation of construction vehicles. During operation, gasoline or diesel fuel would be used for the operation of privately owned and government-owned vehicles. Electricity would be used by operational activities. Consumption of these energy resources would not place a significant demand on the availability of energy resources in the region.

Human Resources. The use of human resources for construction and operation is considered an irretrievable loss, only in that it would preclude such personnel from engaging in other work activities. However, the use of human resources for the Proposed Action and alternatives represent employment opportunities and is considered beneficial.

4.9 PROJECTS WITH REASONABLY FORESEEABLE AND POTENTIAL CUMULATIVE EFFECTS

This EA also considers reasonably foreseeable and potential cumulative effects with other projects as required by 40 CFR § 1508.1(g). An indirect effect, as defined by 40 CFR §1508.1(g) includes considering those effects caused by the action and are later in time or farther removed in distance, but are still

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reasonably foreseeable. Cumulative effects are effects on the environment that result from the incremental effects of the action when added to the effects of other past, present, and reasonably foreseeable actions that occur at the same time and place as the proposed action or alternatives. Such impacts can result from individually minor but collectively significant actions taking place over a period of time.

Actions announced for the ROI for this project that could occur during the same time period as the proposed action are:

Air Force Actions

Recent past and ongoing military actions at JBLE-Langley were considered as part of the baseline or existing condition in the appropriate ROI. Each project identified in Table 4.1 was reviewed to consider the potential effects of each action in combination with the proposed action. Potential overlap in affected area and project timing were considered.

JBLE-Langley is an active military installation that experiences continuous evolution of mission and operational requirements. All projects must comply with land use controls, which include safety and environmental constraints. JBLE-Langley, like other major military installations, requires new infrastructure repairs, sustainment, and improvements. These routine projects with minimal impacts are categorically excluded from the preparation of an EA or EIS and are not considered further for reasonably foreseeable and cumulative effects. Table 4.1 lists the past, present, and reasonably foreseeable future major Air Force projects anticipated to occur on the base.

Table 4.1: Past, Present and Future Air Force Projects

Scheduled Project	Project Summary	Implementation Date	Relevance to Proposed Action	Potentially Affected Resources
Final Installation Development Plan for JBLE-Langley	Project evaluated potential impacts associated with identified priority installation development projects while the JBLE-Langley Installation Development is under revision. Final EA completed September 2016.	Priority installation projects are proposed to be constructed over the next 5 years.	Construction of priority installation projects may overlap with construction activities associated with the proposed action.	Acoustic Environment, Land Use, Air Quality, Socioeconomics – Income and Employment

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Scheduled Project	Project Summary	Implementation Date	Relevance to Proposed Action	Potentially Affected Resources
Construct a new Live Mission Operations Capability (LMOC) Master Node Facility	The purpose of constructing a new LMOC Master Node Facility is to support exercise mission planning, execution, monitoring, and debriefing, as well as administrative functions. The facility requires Sensitive Compartmentalized Information Facility (SCIF) areas, with both Special Access Program (SAP) and Top Secret/Sensitive Compartmentalized Information (TS/SCI) capabilities.	Priority installation projects are proposed to be constructed over the next 5 years.	The need to construct the facility is to provide adequate and secure space to perform mission planning, execution, monitoring, debriefing, and administrative functions.	AICUZ, Air Quality, Cultural Resources, Environmental Restoration Program, Transportation, Infrastructure and Utilities
Intelligence, Surveillance, Reconnaissance (ISR) Campus Area Development	The purpose of the ISR Campus Area Development is to support ISR activities and address planning needs for organizations throughout the installation. The ISR campus is needed to consolidate cyber functions on the installation and allow for an advancing, mixed-use development for the entire installation.	Short-term installation projects are proposed to be constructed over the next 5 years. Plans include mid- and long-range activities and capacity.	The construction projects may overlap with construction activities associated with the proposed action.	AICUZ, Air Quality, Cultural Resources, Environmental Restoration Program, Safety and Occupational Health, Transportation, Infrastructure and utilities, and wetlands.
Fifth Generation Formal Training Unit Optimization	Permanent beddown of the F-22 Formal Training Unit (FTU)	Fall 2021	Construction may overlap with the proposed action	Air Quality, Transportation, Noise, Cultural, Environmental Justice

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Scheduled Project	Project Summary	Implementation Date	Relevance to Proposed Action	Potentially Affected Resources
Installation Infrastructure Capital Improvement Projects	Projects include construction, renovation, repair and demolition of infrastructure at JBLE-Langley, including a new Fuels System Maintenance Hangar and Fuels Automated System Complex, internal renovations of aircraft maintenance hangars, administrative facilities, and repair/replacement/addition of transportation, parking and utility systems. A total of 371,968 ft ² would eventually be constructed and 22 buildings demolished.	Ongoing	Construction may overlap with the proposed action.	Acoustic Environment, Air Quality, Socioeconomics – Income and Employment
Airfield and Drainage Projects	Projects include drainage improvements and removal of wetlands in the airfield area, construction of airfield fence, construction of a new RV parking lot near Durand Loop, and drainage improvements at Brick Kiln Creek.	2021	Construction may overlap with the proposed action.	Water Resources (Wetlands, Water Quality), Natural Resources

Notes: ADAIR = adversary air; AFB = Air Force Base; EA = Environmental Assessment; EIS = Environmental Impact Statement; FTU = formal training unit; ISR = Intelligence, Surveillance, and Reconnaissance; JBLE-Langley = Joint Base Langley-Eustis

Other Military/Government Actions

Past and ongoing military or government agency actions surrounding JBLE-Langley were considered as part of the baseline or existing condition in the appropriate ROI (Table 4.2). Each project summarized in this section was reviewed to consider the reasonably foreseeable and cumulative effects to the proposed action or alternatives. Potential overlap in the ROI and project timing were considered.

Table 4.2: Other Military/Government Actions

Scheduled Project	Project Summary	Implementation Date	Relevance to Proposed Action	Potentially Affected Resources
Establishment of Additional Restricted Area Airspace-6604 C/D/E at Wallops Flight Facility	National Aeronautics and Space Administration proposal for additional	Final EA, Sept 2016	Additional restricted airspace is adjacent to W-386 Warning Area.	Airspace Management and Operations

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LMOC Master Facility Node
JBLE-Langley AFB, VA

Scheduled Project	Project Summary	Implementation Date	Relevance to Proposed Action	Potentially Affected Resources
	restricted airspace at Wallops Flight Facility, Accomack County, Virginia			
Atlantic Fleet Training and Testing	Navy proposal to conduct military readiness training activities using active sonar and explosives within existing range complexes and areas located in the Atlantic Ocean, Caribbean Sea, and the Gulf of Mexico. Final EIS complete in 2018.	ongoing	Atlantic Fleet Training and Testing activities are located and underlie military airspace described in the Action Alternative.	Airspace Management and Operations, Acoustic Environment, Safety, Biological Resources

Nonfederal Actions

Nonfederal actions such as new development or construction projects occurring in the area surrounding JBLE-Langley were evaluated to determine if reasonably foreseeable and cumulative effects exist. The JBLE-Langley is bordered by the city of Hampton to the south and west, Poquoson to the north, National Aeronautics and Space Administration (NASA) facilities to the northwest, and the Back River to the east. Developable land surrounding the installation is scarce. Zoning ordinances are in place to ensure that any future development immediately adjacent to the installation's boundaries are compatible with military aircraft operations to avoid encroachment within the installation's safety zones. As such, no future development projects surrounding JBLE-Langley are expected to result in incremental increases and therefore there is no expected effect from the proposed action.

The Hampton Roads Bridge Tunnel Expansion Project was identified as a major transportation project in the Hampton Roads area which includes widening of portions of the Interstate I-64 corridor from I-564 in Norfolk to Settlers Landing Road in Hampton. However, this project is not located in the immediate vicinity of the installation and would not directly affect access to JBLE-Langley. This nonfederal action was considered in the cumulative effects analysis for biological resources in the 2021 EIS [USACE, 2021].

For this EA analysis, these announced actions are addressed to determine if reasonably foreseeable and cumulative effects exist. These announced future actions would be evaluated under separate NEPA actions conducted by the appropriate involved federal agency. Based on the best available information for these proposals by others, the Air Force cumulative impact analysis in USACE Feb. 2021 does consider them.

In accordance with 32 CFR § 989.10, the Environmental Impact Statement Fifth Generation Formal Training Unit Optimization [USACE, 2021] is referenced to provide current (2021) cumulative effect analysis of the past, present and future actions described.

Descriptions of the reasonably foreseeable and cumulative effect or significant impacts for the resource areas analyzed in this EA follow:

4.9.1 AICUZ

Proposed Action.

With the expectation of other work in the AICUZ area, it is possible that temporary and minor adverse hazards to the aircraft flight zone may occur. This is primarily related to temporary generation of smoke, steam, or dust because of the expected general construction activities. To mitigate the potential impact, project applicants will coordinate with the AICUZ Program administrators to ensure that the project is compatible with installation operations relative to these concerns. There is no concern of encroachment. Therefore, the proposed action is not anticipated to have a reasonably foreseeable or cumulative effect or significant impact to the AICUZ areas.

No Action Alternative.

With the No Action Alternative there would be no LMOC Master Node Facility development or related personnel or construction changes at JBLE-Langley and therefore, no impact.

4.9.2 Air Quality

Proposed Action.

Implementation of the Proposed Action would have short-term, negligible, adverse impacts to air quality primarily from general construction activity. Air emissions from general construction activities would be temporary and brief in duration. Air emissions are analyzed for reasonably foreseeable and cumulative effects, CEQ NEPA regulation update May 20, 2022 (Title 40 Code of Federal Regulations [CFR] §§ 1500–1508). The addition of the minor impacts to air quality from the general construction activity cumulatively is negligible. The proposed action is not anticipated to contribute to cumulative significant impacts to the air quality nor does it have a reasonably foreseeable relationship.

No Action Alternative.

Implementation of the No Action Alternative would have no significant impacts to regional or local air quality as existing conditions would remain the same.

4.9.3 Cultural Resources

It is not anticipated that the proposed action will have a reasonably foreseeable or cumulative effect or contribute to any impact on cultural resources. In addition to NEPA analysis, the cultural resources management (CRM) will review all proposed actions to identify those which may have an effect on cultural resources. The information gathered from the CRM review will also be used to determine the significance of impact as defined by NEPA.

No significant impacts to archeological or architectural resources are anticipated to have a reasonably foreseeable or cumulative effect of overlapping projects. Please see Section 106 consultation documentation in Appendix A.

No Action Alternative.

Implementation of the No Action Alternative would have no significant impacts on cultural resources as the area would remain in its current state.

4.9.4 Environmental Restoration Program***Proposed Action.***

There will be no construction conducted on ERP sites that have current land use controls or any active investigation or clean-up activities. Site ST-27 southern border parallels Sweeney Boulevard to the north of the proposed LMOC Facility Node. However, the LMOC CCD considered this remediation area and after discussions with 633d CES, it was validated that there will be no environmental issues within the LMOC site. No cumulative effect will occur, and a reasonably foreseeable effect does not exist. No significant impact is anticipated.

No Action Alternative.

No significant impact will be experienced if the LMOC Master Node Facility is not built.

4.9.5 Transportation***Proposed Action.***

Other project implementation may find benefits with the transportation changes planned for the proposed action which includes additional access roads. There will be no significant impact.

No Action Alternative.

No significant impact is anticipated if the status quo remains.

4.9.6 Infrastructure and Utilities***Proposed Action.***

The LMOC CCD identifies two storm-water drainage lines running east-west north of Building 467 that would need to be diverted as a result of the proposed action to support the future LMOC. However, electric lines along Sweeney Boulevard will be avoided and used to support the new building. The improvements to the utilities are not anticipated to impact other planned projects, either adversely or as a result of having a reasonably foreseeable or cumulative effect in the future.

No Action Alternative.

There will be no significant impact if the status quo remains.

5.0 LIST OF PREPARERS

This EA has been prepared under the direction of the Air Force Civil Engineer Center, USAF, JBLE-Langley AFB.

The individuals that contributed to the preparation of this EA are listed below.

Table 5.1: List of Preparers

Name/Organization	Education	Resource Area	Years of Experience
Teresa Stephens, ERG	BA, Geography	All	25
Katie Watson, ERG	MS, Safety Management BS, Community Health and Environmental Safety	All	29

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LMOC Master Facility Node
JBLE-Langley AFB, VA

6.0 PERSONS AND AGENCIES CONSULTED/COORDINATED

The following approved and verified, by JBLE-Langley, Persons and Agencies were contacted in the preparation of this EA as they could possibly be impacted by the proposed actions.

Table 6.1: Persons and Agencies Consulted/Coordinated

Federal Agencies	
Mr. Keith Boyd US Department of Agriculture Natural Resources Conservation Service 203 Wimbledon Lane Smithfield, VA 23430	Ms. Nora Theodore US EPA, Region III 1650 Arch Street Philadelphia, PA 19103
Ms. Cindy Schulz U.S. Fish and Wildlife Service 6669 Short Lane Gloucester, VA 23061	Ms. Nicole Woodward US Army Corps of Engineers Norfolk District 803 Front Street Norfolk, VA 23510
State Agencies	
Ms. Amy M. Ewing VA Department of Game & Inland Fisheries Environmental Services Section 4010 West Broad Street Richmond, VA 23230	Ms. Bettina Sullivan VA Department of Environmental Quality 629 East Main Street Richmond, VA 23219
Mr. Raymond T. Fernald VA Department of Game & Inland Fisheries P.O. Box 90778 Henrico, VA 23228	Mr. Tony Watkinson VA Marine Resources Commission Building 96 380 Fenwick Rd Ft. Monroe, VA 23651
Local Agencies	
Mr. Christopher DeHart 419 North Armistead Avenue Hampton, VA 23669	Mayor McKinley L. Price 2400 Washington Ave Newport News, VA 23607
Mr. Craig M. Galant, PE Department of Engineering 2400 Washington Ave Newport News, VA 23607	Mr. Bruce Sturk Director of Federal Facilities Support City of Hampton (Federal Facilities Support) 22 Lincoln Street 8th Floor, City Hall Hampton, VA 23669-3522

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Mr. Andrew Griffey Hampton Wetland Board 22 Lincoln Street Hampton, VA 23669	Mayor Donnie Tuck 8 th Floor, City Hall 22 Lincoln Street Hampton, VA 23669
Mayor W. Eugene Hunt, Jr. 500 City Hall Avenue Poquoson, VA 23662	Mr. J. Randall Wheeler City of Poquoson 500 City Hall Avenue Poquoson, VA 23662
Mr. Neil Morgan PO Box 532 Yorktown, VA 23690	
Tribal Agencies	
(See Appendix A for list of Tribal Agencies contacted.)	

7.0 REFERENCES

IT Corporation (IT Corp.). 2020. Final Decision Document, IRP POL Site ST-27, Langley Air Force Base, Virginia. March 2020.

Joint Base Langley Eustis – Langley (JBLE-Langley). 2016. *Final Environmental Assessment for Installation Development at JBLE-Langley, Virginia*. September 2016.

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Joint Base Langley Eustis – Langley (JBLE-Langley). 2022b. Final Environmental Assessment for Intelligence, Surveillance, and Reconnaissance (ISR) Campus Area Development at Joint Base Langley-Eustis. JBLE-Langley-Eustis, Virginia. June 2022.

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United States (US) Army Corps of Engineers et al., 2021. *Environmental Impact Statement (EIS) Fifth Generation Formal Training Unit Optimization, JBLE-Langley-Eustis, VA, Eglin Air Force Base, Florida*. Feb. 2021.

United States (US) Fish and Wildlife Service, 2022. National Wetlands Inventory. [accessed 2/14/2022: https://landscape11.arcgis.com/arcgis/rest/services/USA_Wetlands/FeatureServer]. Spatial data last update Sept. 29, 2020.

Urban Collaborative, LLC., Eugene, OR. 2020. Live Mission Operations Capability (LMOC) Customer Concept Document (CCD). July 2020.

APPENDIX A

Interagency/Intergovernmental Coordination
and Public Participation

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LMOC Master Facility Node
JBLE-Langley AFB, VA

<Date>

Ms. Brenda W. Cook
Deputy Base Civil Engineer
37 Sweeney Boulevard
Joint Base Langley-Eustis VA 23665-2107

<Name

Organization

Division of Organization if Necessary

ADDRESS>

Dear <name>:

The Department of the Air Force (Air Force) is issuing this letter to notify local, state and federal agencies of the intent to prepare an Environmental Assessment (EA) for a project associated with constructing a new Live Mission Operations Capability (LMOC) Master Node at Joint Base Langley-Eustis (JBLE-Langley), Virginia. The EA will be prepared in compliance with the National Environmental Policy Act (NEPA) of 1969 ([42 U.S.C. 4321](#)-4347), the Council on Environmental Quality NEPA Implementing Regulations (40 CFR Parts 1500–1508) and Air Force Environmental Impact Analysis Process (EIAP) Air Force Instruction 32-7061 as promulgated at [32 CFR Part 989](#) to determine potential environmental effects of ISR Campus Area Development at JBLE-Langley.

This letter also serves to invite early public and agency participation in determining the scope of environmental issues and alternatives and whether to prepare an environmental impact statement (EIS) or a finding of no significant impact (FONSI). To effectively define the full range of issues and concerns to be evaluated in the EA, the Air Force is soliciting scoping comments from interested local, state and federal agencies, interested American Indian tribes, and interested members of the public. This also serves to provide early notice of compliance with Executive Order 11988, “Floodplain Management.” State and federal regulatory agencies with special expertise in floodplains have been contacted to request comment.

The Proposed Action is needed to support exercise mission planning, execution, monitoring, and debriefing, as well as administrative functions. It requires Sensitive Compartmentalized Information Facility (SCIF) areas, with both Special Access Program (SAP) and Top Secret/Sensitive Compartmentalized Information (TS/SCI) capabilities. Under this project, general construction and infrastructure improvement activities would occur. This includes construction of a new building, demolition of the credit union, building 467, park area demolition and construction, and the necessary improvements or replacement of affected utilities.

The LMOC Customer Concept Document (CCD) details the vision and goals and site analysis of 13 possible locations for the Proposed Action. Stakeholders participated in a collaborative workshop, and established a set of criteria used to select the site for the Proposed Action. Ultimately, the site selected and the design of the LMOC Master Node Facility was established. This facility will be used to support not only JBLE-Langley, but the Air Force throughout the United States--since a facility to support LMOC does not exist within the Air Force. The LMOC CCD identifies requirements for establishing the LMOC facility and considers the physical infrastructure, current and future mission and facility requirements, development constraints and opportunities, and land use relationships. The estimated footprint of this project is 7.26 acres. Within the project area, there are no wetlands, but the entire area falls within the 100-year floodplain. To comply with EO 11988, JBLE-Langley would design structures to reduce the risk of severe damage from flooding. Additionally, JBLE-Langley is heavily developed and provides minimal flood control for downriver areas. Therefore, the proposed project would not contribute to any measurable loss with regard to flood control capacity.

The EA will address potential environmental impacts from the proposed action and the range of reasonable alternatives, including a No-Action Alternative in which the proposed project would not be implemented. The EA will identify and evaluate potential impacts of all alternatives to land use, airspace, safety, noise, hazardous materials and solid waste, earth resources, water resources, air quality, cultural resources, biological resources, socioeconomics, and environmental justice.

Comments received by the Air Force during the scoping period and throughout the environmental process, will be considered in the preparation of the Draft EA. Scoping comments may be submitted to David Jennings by email at 633CES.CEIE.NEPAPublicComment@us.af.mil or by mail at 633 CES / CEIE, 37 Sweeney Blvd., JBLE-Langley, VA 23665.

Comments will be accepted at any time during the EA process. However, to ensure the Air Force has sufficient time to consider public input in the preparation of the Draft EA, scoping comments must be submitted within 30 days.

Sincerely

BRENDA W. COOK, DAFC
Deputy Base Civil Engineer

FINAL ENVIRONMENTAL ASSESSMENT

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Appendix A

LMOC Master Facility Node
JBLE-Langley AFB, VA

Table A.1: Tribal Contacts

Name	Title	Nation	Address
William Harris	Chief	Catawba Indian Nation	996 Avenue of the Nations Rock Hill, SC 29730
Caitlin Rogers	Tribal Historic Preservation Officer	Catawba Indian Nation	1536 Tom Steven Road Rock Hill, SC 29730
Stephen Adkins	Chief/Tribal Administrator	Chickahominy Indian Tribe	8200 Lott Cary Road Providence Forge, VA 23140
Wayne Adkins	First Assistant Chief/Chief Finance Officer & Section 106	Chickahominy Indian Tribe	8200 Lott Cary Road Providence Forge, VA 23140
Dana Adkins	Tribal Environmental Director	Chickahominy Indian Tribe	8200 Lott Cary Road Providence Forge, VA 23140
<i>Gerald A. Stewart¹</i>	<i>Chief</i>	<i>Chickahominy Indians Eastern Division</i>	<i>2895 Mt. Pleasant Road Providence Forge, VA 23140</i>
Deborah Dotson	President	Delaware Nation	P.O. Box 825 Anadarko, OK 73005
Erin Thompson-Paden	Historic Preservation	Delaware Nation	P.O. Box 825 Anadarko, OK 73005
Katelyn Lucas	Historic Preservation Assistant	Delaware Nation	P.O. Box 825 Anadarko, OK 73005
Nekole Alligood	Director of Cultural Resources & NAGPRA	Delaware Nation	P.O. Box 825 Anadarko, OK 73005
<i>Brad KillsCrow²</i>	<i>Chief, Oklahoma Headquarters</i>	<i>Delaware Tribe of Indians</i>	<i>5100 Tuxedo Blvd. Bartlesville, OK 74006</i>
<i>Brice Obermeyer, PhD²</i>	<i>Director, Section 106</i>	<i>Delaware Tribe of Indians</i>	<i>Emporia State University Roosevelt Hall, RM 212 1200 Commercial Street Emporia, KS 66801</i>
<i>Susan Bachor²</i>	<i>Delaware Tribal Historic Preservation Officer</i>	<i>Delaware Tribe of Indians</i>	<i>P.O. Box 64 Pocono Lake, PA 18347</i>
<i>Kenneth Branham³</i>	<i>Chief</i>	<i>Monacan Indian Nation</i>	<i>111 Highview Drive Madison Heights, VA 24572</i>
Pamela Johns Thompson	Assistant Chief	Monacan Indian Nation	111 Highview Drive Madison Heights, VA 24572
Earl L. Bass	Chief	Nansemond Indian Nation	1001 Pembroke Lane Suffolk, VA 23434
Keith F. Anderson	Assistant Chief and Environmental Program Director	Nansemond Indian Nation	1001 Pembroke Lane Suffolk, VA 23434
Robert Gray	Chief	Pamunkey Indian Tribe	1054 Pocahontas Trail King William, VA 23086
G. Anne Richardson	Chief	Rappahannock Tribe, Inc.	5036 Indian Neck Road Indian Neck, VA 23148
Faye Fortune	Contract Support	Rappahannock Tribe, Inc.	5036 Indian Neck Road Indian Neck, VA 23148

FINAL ENVIRONMENTAL ASSESSMENT

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LMOC Master Facility Node JBLE-Langley AFB, VA

Name	Title	Nation	Address
Ellen Chapman	Tribal Secretary	Rappahannock Tribe, Inc.	5036 Indian Neck Road Indian Neck, VA 23148
Marion Werkheiser	Contract Support	Rappahannock Tribe, Inc.	5036 Indian Neck Road Indian Neck, VA 23148
W. Frank Adams	Chief	Upper Mattaponi Indian Tribe	13476 King William Rd King William, VA 23086
Leigh Mitchell	Environmental and Cultural Resources Support	Upper Mattaponi Indian Tribe	13476 King William Road King William, VA 23086
Reggie Tupponce	Tribal Administrator	Upper Mattaponi Indian Tribe	13476 King William Rd King William, VA 23086

Source: JLE-Langley, 2021.

Notes:

¹Per Installation request, Interagency Letters were not sent to this Nation.

²This Nation is only interested in projects that occur in the Eastern counties of Virginia.

³Chief Branham is only interested in projects that occur west of I-95.

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LMO Master Facility Node
JBLE-Langley AFB, VA



Sold To:
Environmental Research Group LLC - CU80115338
6049 Falls Rd
Baltimore, MD 21209

Bill To:
Environmental Research Group LLC - CU80115338
6049 Falls Rd
Baltimore, MD 21209

Affidavit of Publication

State of Illinois
County of Cook

Order Number: 6956957
Purchase Order:

This day, Jeremy Gates appeared before me and, after being duly sworn, made oath that:

- 1) He/she is affidavit clerk of Daily Press, a newspaper published by Daily Press, LLC in the city of Newport News and the state of Virginia
- 2) That the advertisement hereto annexed has been published in said newspaper on the dates stated below
- 3) The advertisement has been produced on the websites classifieds.pilotonline.com and <https://www.publicnoticevirginia.com>

Published on: May 23, 2021; May 24, 2021.

A handwritten signature in black ink, appearing to read "J. Gates", written over a horizontal line.

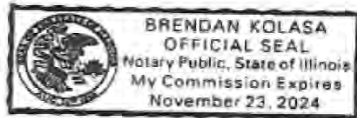
Jeremy Gates

Subscribed and sworn to before me in my city and state on the day and year aforesaid this 1 day of June, 2021

My commission expires November 23, 2024

A handwritten signature in black ink, appearing to read "B. Kolasa", written over a horizontal line.

Notary Signature



Notary Stamp



**PUBLIC NOTICE
POTENTIAL TO IMPACT
FLOODPLAINS AND WETLANDS,
JOINT BASE LANGLEY-EUSTIS,
LANGLEY AIR FORCE BASE,
VIRGINIA**

The Department of the Air Force (Air Force) is preparing an Environmental Assessment (EA) for a project associated with the proposed Intelligence, Surveillance, Reconnaissance (ISR) Campus Area Development Plan (ADP) at Joint Base Langley-Eustis (JBLE-Langley), Virginia. The project identified in the EA is subject to Executive Order (EO) 11988, Floodplain Management, and EO 11990, Protection of Wetlands. This notice complies with sections 2(a)(4) of EO 11988 and sections 2(a)(b) of EO 11990.

The Proposed Action is to further develop the ISR Campus Area to support ISR activities and address planning needs for organizations throughout the installation. The ISR campus will consolidate cyber functions on the installation and allow for an advancing, mixed-use development for the entire installation. Under this project, general construction and infrastructure improvement activities would occur. This includes construction of new buildings, improvements of existing buildings, demolition activities, road and parking lot improvements or construction, and necessary improvements or replacement of affected utilities.

The ISR Campus ADP is necessary to provide infrastructure improvements required to support the mission of the 633d Air Base Wing (ABW) and tenant units. The ISR Campus ADP identifies requirements for the improvement of the physical infrastructure and functionality of JBLE-Langley, including current and future mission and facility requirements, development constraints and opportunities, and land use relationships. The estimated footprint of this project is 156 acres. Within the project area, there are approximately 17 acres of wetlands, 130 acres in the 100-year floodplain, and 23 acres in the 500-year floodplain. To comply with EO 11988, JBLE-Langley would design structures to reduce the risk of severe damage from flooding. Additionally, JBLE-Langley is heavily developed and provides minimal flood control for downriver areas. Therefore, the proposed project would not contribute to any measurable loss with regard to flood control capacity. To comply with EO 11990, JBLE-Langley will avoid, to the extent practicable, destruction or modification of wetlands within the project area. Loss of wetland acreage would likely require a U.S. Army Corps of Engineers Clean Water Act (CWA) Section 404(b) permit.

The EA will address potential environmental impacts from the proposed action and the range of reasonable alternatives, including a No-Action Alternative in which the proposed project would not be implemented. The EA will be prepared in compliance with the National Environmental Policy Act (NEPA) of 1969 (42 U.S.C. 4321-4347), the Council on Environmental Quality NEPA Implementing Regulations (40 CFR parts 1500-1508) and Air Force Environmental Impact Analysis Process (EIAP) Air Force Instruction 32-7061 as promulgated at 32 CFR part 989 to determine potential environmental effects of ISR Campus



Area Development at JBLE-Langley.
The EA will serve as the basis for deciding whether the proposed action would result in a significant impact to the human environment, requiring the preparation of an environmental impact statement (EIS), or whether no significant impacts would occur, in which case a finding of no significant impact (FONSI) would be appropriate. The Air Force requests advance public comment to determine if there are any public concerns regarding the project's potential to impact floodplains and wetlands. The proposed project will be analyzed in a forthcoming EA and the public will have the opportunity to comment on the draft EA when it is released.
Please submit comments or requests by June 18, 2021 to David Jennings by email at 633CES.CEIE.NEPAPublicComment@us.af.mil or by mail at 633 CES / CEIE, 37 Sweeney Blvd., Langley AFB, VA 23665.

5/23, 5/24/21 6956957

PUBLIC NOTICE

JOINT BASE LANGLEY-EUSTIS (JBLE), VIRGINIA

The Department of the Air Force (AF) is preparing an Environmental Assessment (EA) to analyze the impacts of constructing the proposed Live Mission Operations Capability Master Node Facility (LMOC) at Joint Base Langley-Eustis (JBLE-Langley), Virginia. The proposed action identified in the EA is subject to Executive Order (EO) 11988, Floodplain Management.

LMOC will support specific mission needs, including administrative functions. The LMOC will also be used as a prototype to support the AF throughout the U.S.

The EA, prepared in accordance with the National Environmental Policy Act (NEPA) and AF instructions, evaluates potential environmental impacts of the alternative actions. The proposed action (PA) area is approximately 7.25 acres of which 5.65 acres are in the 100-year floodplain and 1.60 acres are in the 500-year floodplain. The PA area is in a developed area providing minimal flood control for downriver areas. The PA design will reduce the risk of severe damage from flooding. The PA would not contribute to any measurable loss with regard to flood control capacity. The analysis supports a proposed Finding of No Significant Impact (FONSI) and Finding of No Practicable Alternative (FONPA) for LMOC construction.

The Draft FONSI, FONPA, and EA are available for public review in the Public Notices section of the JBLE-Langley web page at: <https://www.jble.af.mil/About-Us/Units/Langley-AFB/Langley-Environmental/>.

You are encouraged to submit written comments through **Thursday, March 23**. Written comments should be provided to 633 CES / CEIE, 37 Sweeney Blvd., Langley AFB, VA 23665. Email comments may be sent to: 633CES.CEIE.NEPAPublicComment@us.af.mil

Questions? Please contact Ms. Sherry Johnson: 633CES.CEIE.NEPAPublicComment@us.af.mil

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LMO Master Facility Node
JBLE-Langley AFB, VA



Sold To:
Environmental Research Group LLC - CU80156655
1666 Fabick Dr
Fenton, MO 63026-2926

Bill To:
Environmental Research Group LLC - CU80156655
1666 Fabick Dr
Fenton, MO 63026-2926

Affidavit of Publication

State of Illinois
County of Cook

Order Number: 7364898
Purchase Order: JBLE Public Notice

This day, Jeremy Gates appeared before me and, after being duly sworn, made oath that:

- 1) He/she is affidavit clerk of The Virginian Pilot, a newspaper published by in the city of Norfolk, Portsmouth, Chesapeake, Suffolk and Virginia Beach and the Commonwealth of Virginia and in the state of North Carolina.
- 2) That the advertisement hereto annexed has been published in said newspaper on the dates stated below
- 3) The advertisement has been produced on the websites classifieds.pilotonline.com and <https://www.publicnoticevirginia.com>

Published on: Jan 22, 2023; Jan 23, 2023.

A handwritten signature in black ink, appearing to read "J. Gates".

Jeremy Gates

Subscribed and sworn to before me in my city and state on the day and year aforesaid this 28 day of March, 2023

My commission expires July 6, 2025

A handwritten signature in black ink, appearing to read "Maria Joe".

Notary Signature



Notary Stamp

PUBLIC NOTICE JOINT BASE LANGLEY-EUSTIS (JBLE), VIRGINIA

The Department of the Air Force (AF) is preparing an Environmental Assessment (EA) to analyze the impacts of constructing the proposed Live Mission Operations Capability Master Node Facility (LMOC) at Joint Base Langley-Eustis (JBLE-Langley), Virginia. The proposed action identified in the EA is subject to Executive Order (EO) 11988, Floodplain Management.

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The EA, prepared in accordance with the National Environmental Policy Act (NEPA) and AF instructions, evaluates potential environmental impacts of the alternative actions. The proposed action (PA) area is approximately 7.25 acres of which 5.65 acres are in the 100-year floodplain and 1.60 acres are in the 500-year floodplain. The PA area is in a developed area providing minimal flood control for downriver areas. The PA design will reduce the risk of severe damage from flooding. The PA would not contribute to any measurable loss with regard to flood control capacity. The analysis supports a proposed Finding of No Significant Impact (FONSI) and Finding of No Practicable Alternative (FONPA) for LMOC construction.

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You are encouraged to submit written comments through **Thursday, March 23**. Written comments should be provided to 633 CES / CEIE, 37 Sweeney Blvd., Langley AFB, VA 23665. Email comments may be sent to: 633CES.CEIE.NEPAPublicComment@us.af.mil

Questions? Please contact Ms. Sherry Johnson:
633CES.CEIE.NEPAPublicComment@us.af.mil

FINAL ENVIRONMENTAL ASSESSMENT

Environmental Assessment Appendix A

LMO Master Facility Node JBLE-Langley AFB, VA

The Virginian-Pilot

Publication Date: 01/23/2023

This E-Sheet(R) is provided as confirmation that the ad appeared in The Vir

ESTATE OF RICHARD H. TYNES, IN A GENERAL SOUTHWESTERLY DIRECTION, FOR A DISTANCE OF TWO HUNDRED (200) FEET TO A MARKER, A CORNER ON LANDS OF THE ESTATE OF RICHARD H. TYNES, OTHER LANDS OF SAID J.W. ROBERTS, AND THE LOT HEREBY CONVEYED, THENCE RUNNING IN A GENERAL NORTH-WESTERLY DIRECTION, ALONG THE LINE OF OTHER LANDS OF SAID J.W. ROBERTS, AND THE LOT HEREBY CONVEYED, THENCE RUNNING ALONG THE LINE OF OTHER LANDS OF SAID J.W. ROBERTS, SAID HIGHWAY AND THE LOT HEREBY CONVEYED, THENCE RUNNING UP AND ALONG THE SOUTHWESTERN EDGE OF SAID HIGHWAY, IN A GENERAL SOUTHWESTERLY DIRECTION, FOR A DISTANCE OF ONE HUNDRED (100) FEET TO THE MARKER FIRST HEREIN MENTIONED, THE POINT OF BEGINNING, LESS AND EXCEPT THAT 0.067 ACRES, MORE OR LESS, CONVEYED BY DEED RECORDED IN DEED BOOK 386, PAGE 160. TERMS OF SALE: A bidder's deposit of ten percent (10%) of the sale price or ten percent (10%) of the original principal balance of the subject Deed of Trust, whichever is lower, in the form of cash or certified funds payable to the Substitute Trustee must be present at the time of the sale. The balance of the purchase price will be due within fifteen (15) days of the sale. If the sale is set aside for any reason, the Purchaser at the sale shall be entitled to a return of the deposit paid. The Purchaser may, if provided by the terms of the Trustee's Memorandum of Foreclosure Sale, be entitled to a \$500 cancellation fee from the Substitute Trustee, but shall have no further recourse against the Mortgagee or the Trustee's attorney. A form copy of the Trustee's memorandum of foreclosure sale and contract to purchase real property is available for viewing at: www.bwvsales.com. Additional terms, if any, to be announced at the sale and the Purchaser may be given the option to execute the contract of sale electronically. This is a communication from a debt collector and any information obtained will be used for that purpose. The sale is subject to seller confirmation. Substitute Trustee: Equity Trustees, LLC, 8100 Three Chopt Road, Suite 240, Richmond, VA 23229. For more information contact: BWV Law Group, LLC, attorneys for Equity Trustees, LLC, 6003 Executive Blvd, Suite 101, Rockville, MD 20852, 301-961-6555, website: www.bwv-sales.com, VA-357016-1, 01/16, 01/23/23 7345446

der's deposit of 10% of the sale price, will be required in cash, certified or cashier's check. Settlement within fifteen (15) days of sale, otherwise Trustee may forfeit deposit. Additional terms to be announced at sale. Loan type: Conventional. Reference Number 22-291123.

PROFESSIONAL - FORECLOSURE CORPORATION OF VIRGINIA, Substitute Trustee, C/O LOGS LEGAL GROUP LLP, 10021 Balls Ford Road, Suite 200, Manassas, Virginia 20109 (703) 449-5900, January 23, 2023, February 28, 2023, and March 7, 2023, 7365627

SMITHFIELD TRUSTEE'S SALE OF 20175 HARBOR RDG, SMITHFIELD, VA 23439

In execution of a Deed of Trust for the original principal amount of \$200,000.00, with an annual interest rate of 6.000000% dated May 16, 2006, recorded among the land records of the Circuit Court for the County of Isle of Wight as Deed Instrument Number 060004015, the undersigned appointed Substitute Trustee will offer for sale at public auction all that property located in the County of Isle of Wight, at the front of the Young-Lane Courts Building located at 17500 Joshua Parker Circle, Isle of Wight, Virginia on February 27, 2023 at 3:00 PM, the property with improvements to wit:

L 11 PH 2A GATLING PT SD PLAT 2-0-4

Tax Map No. 23G-04-011

THIS COMMUNICATION IS FROM A DEBT COLLECTOR.

TERMS OF SALE: ALL CASH. A bidder's deposit of 10% of the sale price, will be required in cash, certified or cashier's check. Settlement within fifteen (15) days of sale, otherwise Trustee may forfeit deposit. Additional terms to be announced at sale. Loan type: Conventional. Reference Number 18-258555.

PROFESSIONAL - FORECLOSURE CORPORATION OF VIRGINIA, Substitute Trustee, C/O LOGS LEGAL GROUP LLP, 10021 Balls Ford Road, Suite 200, Manassas, Virginia 20109 (703) 449-5900, December 23, 2022, January 23, 2023, January 30, 2023, February 6, 2023, and February 13, 2023, 7340386

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13101 VAN HANDEL, OF LANDS RES. IN HARDY MASTERS, DISTRICT OF ISLE OF WIGHT COUNTY, VIRGINIA, AS DESCRIBED IN DEED BOOK 201 PAGE 34. TERMS OF SALE: ALL CASH. A bidder's deposit of ten percent (10%) of the sale price or ten percent (10%) of the original principal balance of the subject Deed of Trust, whichever is lower, in the form of cash or certified funds payable to the Substitute Trustee must be present at the time of the sale. The balance of the purchase price will be due within fifteen (15) days of the sale. If the sale is set aside for any reason, the Purchaser at the sale shall be entitled to a return of the deposit paid. The Purchaser may, if provided by the terms of the Trustee's Memorandum of Foreclosure Sale, be entitled to a \$500 cancellation fee from the Mortgagee or the Trustee's attorney. A form copy of the Trustee's memorandum of foreclosure sale and contract to purchase real property is available for viewing at: www.bwvsales.com. Additional terms, if any, to be announced at the sale and the Purchaser may be given the option to execute the contract of sale electronically. This is a communication from a debt collector and any information obtained will be used for that purpose. The sale is subject to seller confirmation. Substitute Trustee: Equity Trustees, LLC, 8100 Three Chopt Road, Suite 240, Richmond, VA 23229. For more information contact: BWV Law Group, LLC, attorneys for Equity Trustees, LLC, 6003 Executive Blvd, Suite 101, Rockville, MD 20852, 301-961-6555, website: www.bwv-sales.com, VA-358443-1, 01/16, 01/23, 01/30/23 7350214

or, the Mortgagee or the Mortgagee's attorney. A form copy of the Trustee's memorandum of foreclosure sale and contract to purchase real property is available for viewing at: www.bwvsales.com. Additional terms, if any, to be announced at the sale and the Purchaser may be given the option to execute the contract of sale electronically. This is a communication from a debt collector and any information obtained will be used for that purpose. The sale is subject to seller confirmation. Substitute Trustee: Equity Trustees, LLC, 8100 Three Chopt Road, Suite 240, Richmond, VA 23229. For more information contact: BWV Law Group, LLC, attorneys for Equity Trustees, LLC, 6003 Executive Blvd, Suite 101, Rockville, MD 20852, 301-961-6555, website: www.bwv-sales.com, VA-358443-1, 01/16, 01/23, 01/30/23 7350214

TRUSTEE'S SALE WILLIAMSBURG, VA 23185 in execution of the Deed of Trust in the original principal amount of \$211,105.00, dated December 28, 2016, and recorded in Deed Book NA, Page NA and an Instrument Number 16024128 in York County land records, the appointed Substitute Trustee will offer for sale at public auction in the front of the Circuit Court building for York County, Virginia, 300 Ballard Street, Yorktown, Virginia 23690-0371 on February 22, 2023 at 4:00 PM, the property described in said deed of trust, located at the above address and more particularly described as follows: ALL THAT CERTAIN LOT, PIECE OR PARCEL OF LAND, SITUATE LYING AND BEING IN THE COUNTY OF YORK, COMMONWEALTH OF VIRGINIA, KNOWN AND DESIGNATED AS LOT EIGHTEEN (18), AS SHOWN ON THAT CERTAIN PLAT ENTITLED, SUBDIVISION PLAT OF PENNIMAN

TERMS OF SALE: A bidder's deposit of 10% of the sale price or 10% of the sale price, whichever is lower, will be required in the form of a certified or cashier's check. Cash will not be accepted as a deposit. Settlement within fifteen (15) days of sale, otherwise Trustee may forfeit deposit. Additional terms to be announced at sale. This is a communication from a debt collector. This notice is an attempt to collect on a debt and any information obtained will be used for that purpose. (Trustee # 22010208) Substitute Trustee: ALG Trustee, LLC, C/O Orlan PC PO Box 2546, Leesburg, VA 20177 (703) 777-7101 website: www.Orlan.com January 16, 2023 and January 23, 2023 7344568



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PUBLIC NOTICE JOINT BASE LANGLEY-EUSTIS (JBLE), VIRGINIA

The Department of the Air Force (AF) is preparing an Environmental Assessment (EA) to analyze the impacts of constructing the proposed Live Mission Operations Capability Master Node Facility (LMO) at Joint Base Langley-Eustis (JBLE-Langley), Virginia. The proposed action identified in the EA is subject to Executive Order (EO) 11988, Floodplain Management.

LMO will support specific mission needs, including administrative functions. The LMO will also be used as a prototype to support the AF throughout the U.S.

The EA, prepared in accordance with the National Environmental Policy Act (NEPA) and AF instructions, evaluates potential environmental impacts of the alternative actions. The proposed action (PA) area is approximately 7.25 acres of which 5.65 acres are in the 100-year floodplain and 1.60 acres are in the 500-year floodplain. The PA area is in a developed area providing minimal flood control for downriver areas. The PA design will reduce the risk of severe damage from flooding. The PA would not contribute to any measurable loss with regard to flood control capacity. The analysis supports a proposed Finding of No Significant Impact (FONSI) and Finding of No Practicable Alternative (FONPA) for LMO construction.

The Draft FONSI, FONPA, and EA are available for public review in the Public Notices section of the JBLE-Langley web page at: <https://www.jble.af.mil/About-Us/Units/Langley-AFB/Langley-Environmental/>.

You are encouraged to submit written comments through **Thursday, March 23**. Written comments should be provided to 633 CES / CEIE, 37 Sweeney Blvd., Langley AFB, VA 23065. Email comments may be sent to: 633CES.CEIE.NEPAPublicComment@us.af.mil Questions? Please contact Ms. Sherry Johnson: 633CES.CEIE.NEPAPublicComment@us.af.mil

FINAL ENVIRONMENTAL ASSESSMENT

Environmental Assessment
Appendix A

LMOC Master Facility Node
JBLE-Langley AFB, VA



COMMONWEALTH of VIRGINIA

Department of Historic Resources

2801 Kensington Avenue, Richmond, Virginia 23221


Travis A. Voyles
*Acting Secretary of Natural and
Historic Resources*

Julie V. Langan
Director
Tel: (804) 482-6446
Fax: (804) 367-2391
www.dhr.virginia.gov

MEMORANDUM

DATE: 15 December 2022 DHR File # 2022-5199

TO: Ms. Sherry Johnson
Air Force

FROM:  Marc E. Holma, Senior Architectural Historian (804) 482-6090
Review and Compliance Division

PROJECT: Live Mission Operations Capacity Master Node Facility
Langley Air Force Base

— This project will have an effect on historic resources. Based on the information provided, the effect will not be adverse.

— This project will have an adverse effect on historic properties. Further consultation with DHR is needed under Section 106 of the NHPA.

— Additional information is needed before we will be able to determine the effect of the project on historic resources. **Please see below.**

☒ No further identification efforts are warranted. No historic properties will be affected by the project. Should unidentified historic properties be discovered during implementation of the project, please notify DHR.

— We have previously reviewed this project. Attached is a copy of our correspondence.

— Other (Please see comments below)

COMMENTS:

Western Region Office
962 Kime Lane
Salem, VA 24153
Tel: (540) 387-5443
Fax: (540) 387-5446

Northern Region Office
5357 Main Street
PO Box 519
Stephens City, VA 22655
Tel: (540) 868-7029
Fax: (540) 868-7033

Eastern Region Office
2801 Kensington Avenue
Richmond, VA 23221
Tel: (804) 367-2323
Fax: (804) 367-2391

APPENDIX B

*U.S. Fish & Wildlife Service, Information for Planning and
Consultation (IPaC)*



United States Department of the Interior

FISH AND WILDLIFE SERVICE
Virginia Ecological Services Field Office
6669 Short Lane
Gloucester, VA 23061-4410
Phone: (804) 693-6694 Fax: (804) 693-9032



In Reply Refer To:
Project Code: 2023-0080134
Project Name: JBLE-Langley LMOC Master Facility Node Construction

May 10, 2023

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project.

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*). Any activity proposed on National Wildlife Refuge lands must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

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A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

<http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF>

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts see <https://www.fws.gov/birds/policies-and-regulations.php>.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures see <https://www.fws.gov/birds/bird-enthusiasts/threats-to-birds.php>.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit <https://www.fws.gov/birds/policies-and-regulations/executive-orders/e0-13186.php>.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Project Code in the header of this

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letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries
- Migratory Birds

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OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Virginia Ecological Services Field Office

6669 Short Lane

Gloucester, VA 23061-4410

(804) 693-6694

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PROJECT SUMMARY

Project Code: 2023-0080134

Project Name: JBLE-Langley LMOC Master Facility Node Construction

Project Type: Military Development

Project Description: Under this project, general construction, infrastructure improvement, and building and park area demolition activities would occur to support the development of the LMOC Master Node Facility. The new building would be constructed to be above the known flood zone in an already built-up area.

Project Location:

The approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@37.07612615,-76.35097077250649,14z>



Counties: Hampton County, Virginia

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ENDANGERED SPECIES ACT SPECIES

There is a total of 3 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

MAMMALS

NAME	STATUS
Northern Long-eared Bat <i>Myotis septentrionalis</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Endangered
Tricolored Bat <i>Perimyotis subflavus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/10515	Proposed Endangered

INSECTS

NAME	STATUS
Monarch Butterfly <i>Danaus plexippus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate

CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

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USFWS NATIONAL WILDLIFE REFUGE LANDS AND FISH HATCHERIES

Any activity proposed on lands managed by the [National Wildlife Refuge](#) system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

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NAME	BREEDING SEASON
Black Skimmer <i>Rynchops niger</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/5234	Breeds May 20 to Sep 15
Black-billed Cuckoo <i>Coccyzus erythrophthalmus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9399	Breeds May 15 to Oct 10
Blue-winged Warbler <i>Vermivora pinus</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds May 1 to Jun 30
Bobolink <i>Dolichonyx oryzivorus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 20 to Jul 31
Canada Warbler <i>Cardellina canadensis</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 20 to Aug 10
Chimney Swift <i>Chaetura pelagica</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Mar 15 to Aug 25
Gull-billed Tern <i>Gelochelidon nilotica</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9501	Breeds May 1 to Jul 31
Hudsonian Godwit <i>Limosa haemastica</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere
Lesser Yellowlegs <i>Tringa flavipes</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9679	Breeds elsewhere
Prairie Warbler <i>Dendroica discolor</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 1 to Jul 31
Prothonotary Warbler <i>Protonotaria citrea</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Apr 1 to Jul 31
Purple Sandpiper <i>Calidris maritima</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere

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2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is $0.25/0.25 = 1$; at week 20 it is $0.05/0.25 = 0.2$.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

Breeding Season (●)

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (h)

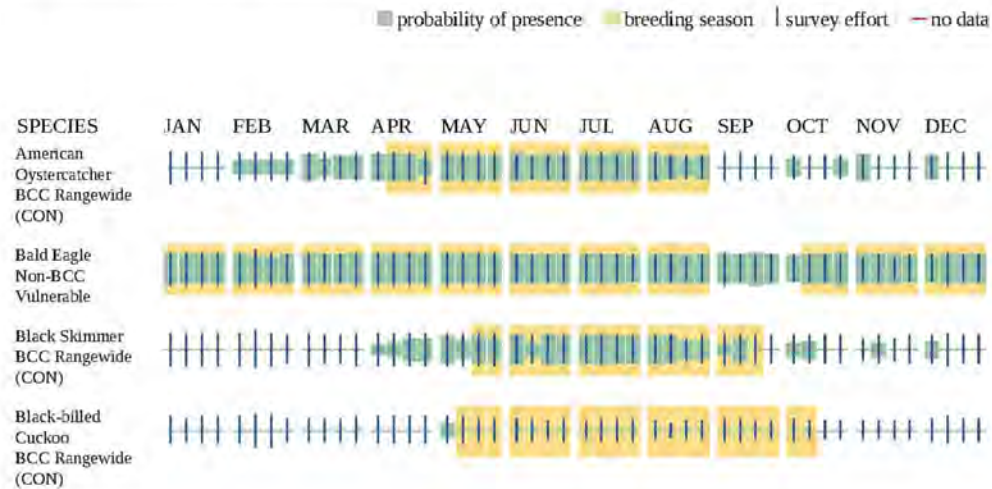
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

No Data (—)

A week is marked as having no data if there were no survey events for that week.

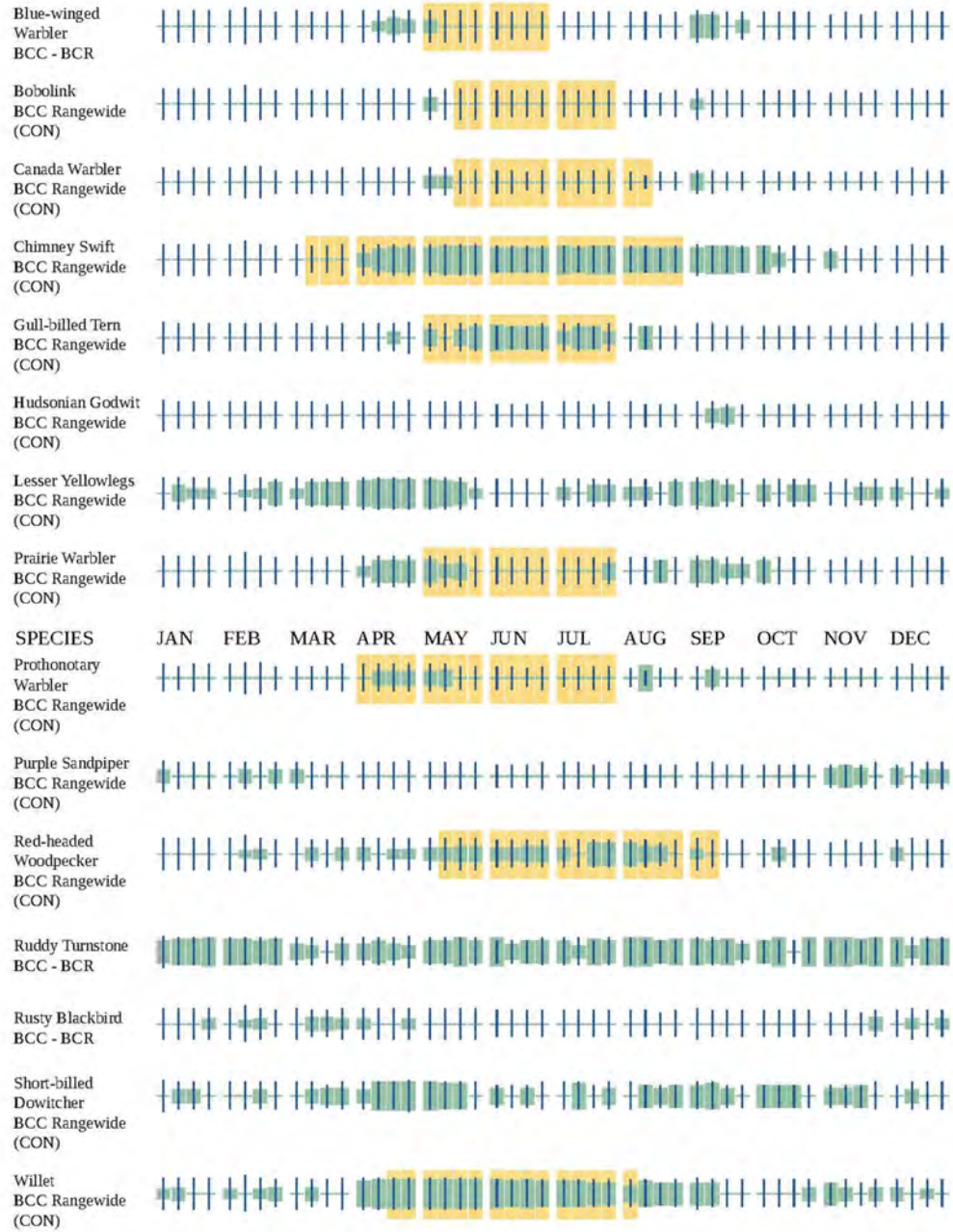
Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



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Wood Thrush
BCC Rangewide
(CON)



Additional information can be found using the following links:

- Birds of Conservation Concern <https://www.fws.gov/program/migratory-birds/species>
- Measures for avoiding and minimizing impacts to birds <https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds>
- Nationwide conservation measures for birds <https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf>

MIGRATORY BIRDS FAQ

Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

[Nationwide Conservation Measures](#) describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. [Additional measures](#) or [permits](#) may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the list of migratory birds that potentially occur in my specified location?

The Migratory Bird Resource List is comprised of USFWS [Birds of Conservation Concern \(BCC\)](#) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle ([Eagle Act](#) requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the [Rapid Avian Information Locator \(RAIL\) Tool](#).

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

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NAME	BREEDING SEASON
Red-headed Woodpecker <i>Melanerpes erythrocephalus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Sep 10
Ruddy Turnstone <i>Arenaria interpres morinella</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds elsewhere
Rusty Blackbird <i>Euphagus carolinus</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds elsewhere
Short-billed Dowitcher <i>Limnodromus griseus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9480	Breeds elsewhere
Willet <i>Tringa semipalmata</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Apr 20 to Aug 5
Wood Thrush <i>Hylocichla mustelina</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Aug 31

PROBABILITY OF PRESENCE SUMMARY

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.

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MIGRATORY BIRDS

Certain birds are protected under the Migratory Bird Treaty Act¹ and the Bald and Golden Eagle Protection Act².

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described [below](#).

1. The [Migratory Birds Treaty Act](#) of 1918.
2. The [Bald and Golden Eagle Protection Act](#) of 1940.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

The birds listed below are birds of particular concern either because they occur on the [USFWS Birds of Conservation Concern \(BCC\)](#) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ [below](#). This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the [E-bird data mapping tool](#) (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found [below](#).

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
American Oystercatcher <i>Haematopus palliatus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8935	Breeds Apr 15 to Aug 31
Bald Eagle <i>Haliaeetus leucocephalus</i> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.	Breeds Oct 15 to Aug 31

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Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the [Diving Bird Study](#) and the [nanotag studies](#) or contact [Caleb Spiegel](#) or [Pam Loring](#).

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to [obtain a permit](#) to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

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The probability of presence graphs associated with your migratory bird list are based on data provided by the [Avian Knowledge Network \(AKN\)](#). This data is derived from a growing collection of [survey, banding, and citizen science datasets](#).

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering or migrating in my area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may query your location using the [RAIL Tool](#) and look at the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are [Birds of Conservation Concern \(BCC\)](#) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the [Eagle Act](#) requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the [Northeast Ocean Data Portal](#). The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the [NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf](#) project webpage.

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IPAC USER CONTACT INFORMATION

Agency: Air Force

Name: Teresa Stephens

Address: 6049 Falls Road

City: Baltimore

State: MD

Zip: 21209

Email: teresa.stephens@envrg.comPhone: 8443749675

APPENDIX C

Air Pollutant Emissions Calculations

C.1 INTRODUCTION

This air analysis provides estimated emissions for the proposed action at JBLE-Langley. Use of the ACAM model was implemented and the demolition, paving, and construction technologies were run. The model parameters were derived by referencing the LMOC Customer Concept Document (CCD) [Urban Collaborative, 2020]. The preferred alternative, alternative 1, was estimated to begin in the short term and was therefore set to a 9-month duration beginning in 2023.

Emissions were calculated for the National Ambient Air Quality Standards within the Hampton Roads Intrastate (HRI) Air Quality Control Region (AQCR) for nitrogen oxides (NO_x), volatile organic compounds (VOCs), carbon monoxide (CO), sulfur dioxide (SO₂), particulate matter measured as less than or equal to 2.5 microns in diameter (PM_{2.5}), and particulate matter measured as less than or equal to 10 microns in diameter (PM₁₀). Estimated Greenhouse Gas (GHG) emissions were also calculated and compared to the Council of Environmental Quality (CEQ) reference point of 25,000 metric tons per year (tpy).

The analysis was performed for construction periods during which paving, demolition, and building construction activities were accounted for concerning the proposed action. It should be noted that these calculations only account for mobile emissions and exclude stationary emissions sources such as boiler and generator equipment as this data was not available during the time of the analysis. Operation emissions were also not calculated because this type of data was not available during the time of the analysis. The paving activity is based on the use of asphalt because that is the technology associated with the ACAM model. The ACAM model version 5.0.17b was used to support this estimate.

The ACAM summary report follows.

AIR CONFORMITY APPLICABILITY MODEL REPORT RECORD OF CONFORMITY ANALYSIS (ROCA)

1. General Information: The Air Force's Air Conformity Applicability Model (ACAM) was used to perform an analysis to assess the potential air quality impact/s associated with the action in accordance with the Air Force Manual 32-7002, Environmental Compliance and Pollution Prevention; the Environmental Impact Analysis Process (EIAP, 32 CFR 989); and the General Conformity Rule (GCR, 40 CFR 93 Subpart B). This report provides a summary of the ACAM analysis.

a. Action Location:

Base: LANGLEY AFB

State: Virginia

County(s): York

Regulatory Area(s): Norfolk-Virginia Beach-Newport News (Hampton Roads), VA

b. Action Title: Live Mission Operations Capability (LMOC) Master Node Facility Construction

c. Project Number/s (if applicable):

d. Projected Action Start Date: 1 / 2023

e. Action Description:

The Proposed Action is to construct an LMOC Master Node Facility. This general construction project evaluates project alternatives separately. This project is based on the anticipated activities as outlined in the LMOC CCD (Urban Collaborative, 2020), which includes initiatives for facility construction; infrastructure improvements and construction; and demolition.

Planning initiatives and site analysis detailed in the JBLE LMOC Customer Concept Document (CCD) (Urban Collaborative, 2020), evaluated 13 separate locations for siting the LMOC. Of the 13 sites evaluated, the flightline-side course of action (COA), Site 4, was selected as the preferred alternative (Urban Collaborative, 2020). The other 12 alternate locations were removed from further consideration. Leaving the Proposed Action (preferred alternative) or the No Action Alternative.

f. Point of Contact:

Name: Teresa A. Stephens

Title: Contractor

Organization: ERG LLC

Email: teresa.stephens@envrg.com

Phone Number: 844-374-9675

2. Analysis: Total combined direct and indirect emissions associated with the action were estimated through ACAM on a calendar-year basis for the "worst-case" and "steady state" (net gain/loss upon action fully implemented) emissions. General Conformity under the Clean Air Act, Section 1.76 has been evaluated for the action described above according to the requirements of 40 CFR 93, Subpart B.

Based on the analysis, the requirements of this rule are: _____ applicable
_____X_____ not applicable

Conformity Analysis Summary:

2023

Pollutant	Action Emissions (ton/yr)	GENERAL CONFORMITY	
		Threshold (ton/yr)	Exceedance (Yes or No)
Norfolk-Virginia Beach-Newport News (Hampton Roads), VA			
VOC	0.525	100	No

AIR CONFORMITY APPLICABILITY MODEL REPORT RECORD OF CONFORMITY ANALYSIS (ROCA)

NOx	3.048	100	No
CO	4.020		
SOx	0.008		
PM 10	0.140		
PM 2.5	0.138		
Pb	0.000		
NH3	0.003		
CO2e	749.7		

2024 - (Steady State)

Pollutant	Action Emissions (ton/yr)	GENERAL CONFORMITY	
		Threshold (ton/yr)	Exceedance (Yes or No)
Norfolk-Virginia Beach-Newport News (Hampton Roads), VA			
VOC	0.000	100	No
NOx	0.000	100	No
CO	0.000		
SOx	0.000		
PM 10	0.000		
PM 2.5	0.000		
Pb	0.000		
NH3	0.000		
CO2e	0.0		

None of estimated emissions associated with this action are above the conformity threshold values established at 40 CFR 93.153 (b); Therefore, the requirements of the General Conformity Rule are not applicable.

Teresa A. Stephens, Contractor

DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

1. General Information

- Action Location

Base: LANGLEY AFB

State: Virginia

County(s): York

Regulatory Area(s): Norfolk-Virginia Beach-Newport News (Hampton Roads), VA

- Action Title: Live Mission Operations Capability (LMOC) Master Node Facility Construction

- Project Number/s (if applicable):

- Projected Action Start Date: 1 / 2023

- Action Purpose and Need:

The purpose of the LMOC Facility is to support exercise mission planning, execution, monitoring, and debriefing, as well as administrative functions.

The need for an LMOC Master Node Facility is because a facility is needed to support JBLE-Langley's Live Mission Operation Capabilities and it can further be used as a prototype for other LMOC Master Node Facilities to support the Air Force throughout the US, since no LMOC facilities currently exist in the US.

- Action Description:

The Proposed Action is to construct an LMOC Master Node Facility. This general construction project evaluates project alternatives separately. This project is based on the anticipated activities as outlined in the LMOC CCD (Urban Collaborative, 2020), which includes initiatives for facility construction; infrastructure improvements and construction; and demolition.

Planning initiatives and site analysis detailed in the JBLE LMOC Customer Concept Document (CCD) (Urban Collaborative, 2020), evaluated 13 separate locations for siting the LMOC. Of the 13 sites evaluated, the flightline-side course of action (COA), Site 4, was selected as the preferred alternative (Urban Collaborative, 2020). The other 12 alternate locations were removed from further consideration. Leaving the Proposed Action (preferred alternative) or the No Action Alternative.

- Point of Contact

Name: Teresa A. Stephens

Title: Contractor

Organization: ERG LLC

Email: teresa.stephens@envrg.com

Phone Number: 844-374-9675

- Activity List:

Activity Type		Activity Title
2.	Construction / Demolition	LMOC Master Node Facility Construction

Emission factors and air emission estimating methods come from the United States Air Force's Air Emissions Guide for Air Force Stationary Sources, Air Emissions Guide for Air Force Mobile Sources, and Air Emissions Guide for Air Force Transitory Sources.

2. Construction / Demolition

2.1 General Information & Timeline Assumptions

DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

- Activity Location

County: York

Regulatory Area(s): Norfolk-Virginia Beach-Newport News (Hampton Roads), VA

- Activity Title: LMOC Master Node Facility Construction

- Activity Description:

To construct the LMOC Master Node Facility, Building 467 will be demolished, the LMOC facility will be constructed, 181 parking spaces will be constructed, and roads within the LMOC facility will be constructed.

- Activity Start Date

Start Month: 1

Start Month: 2023

- Activity End Date

Indefinite: False

End Month: 9

End Month: 2023

- Activity Emissions:

Pollutant	Total Emissions (TONs)
VOC	0.524872
SO _x	0.007702
NO _x	3.047532
CO	4.020080
PM 10	0.140085

Pollutant	Total Emissions (TONs)
PM 2.5	0.138264
Pb	0.000000
NH ₃	0.003010
CO ₂ e	749.7

2.1 Demolition Phase

2.1.1 Demolition Phase Timeline Assumptions

- Phase Start Date

Start Month: 1

Start Quarter: 1

Start Year: 2023

- Phase Duration

Number of Month: 9

Number of Days: 0

2.1.2 Demolition Phase Assumptions

- General Demolition Information

Area of Building to be demolished (ft²): 7285.66

Height of Building to be demolished (ft): 1

- Default Settings Used: Yes

- Average Day(s) worked per week: 5 (default)

- Construction Exhaust (default)

Equipment Name	Number Of Equipment	Hours Per Day
Concrete/Industrial Saws Composite	1	8
Rubber Tired Dozers Composite	1	1

DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

Tractors/Loaders/Backhoes Composite	2	6
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- Vehicle Exhaust

Average Hauling Truck Capacity (yd³): 20 (default)

Average Hauling Truck Round Trip Commute (mile): 20 (default)

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips

Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

2.1.3 Demolition Phase Emission Factor(s)

- Construction Exhaust Emission Factors (lb/hour) (default)

Concrete/Industrial Saws Composite								
	VOC	SO _x	NO _x	CO	PM 10	PM 2.5	CH ₄	CO _{2e}
Emission Factors	0.0382	0.0006	0.2766	0.3728	0.0127	0.0127	0.0034	58.549
Rubber Tired Dozers Composite								
	VOC	SO _x	NO _x	CO	PM 10	PM 2.5	CH ₄	CO _{2e}
Emission Factors	0.1830	0.0024	1.2623	0.7077	0.0494	0.0494	0.0165	239.49
Tractors/Loaders/Backhoes Composite								
	VOC	SO _x	NO _x	CO	PM 10	PM 2.5	CH ₄	CO _{2e}
Emission Factors	0.0364	0.0007	0.2127	0.3593	0.0080	0.0080	0.0032	66.879

- Vehicle Exhaust & Worker Trips Emission Factors (grams/mile)

	VOC	SO _x	NO _x	CO	PM 10	PM 2.5	Pb	NH ₃	CO _{2e}
LDGV	000.282	000.002	000.220	003.283	000.007	000.006		000.023	00323.276
LDGT	000.358	000.003	000.388	004.597	000.009	000.008		000.024	00417.298
HDGV	000.706	000.005	001.021	015.119	000.022	000.019		000.045	00770.239
LDDV	000.112	000.003	000.133	002.524	000.004	000.004		000.008	00313.527
LDDT	000.253	000.004	000.380	004.330	000.007	000.006		000.008	00445.483
HDDV	000.493	000.013	004.921	001.743	000.169	000.155		000.028	01496.485
MC	002.436	000.003	000.747	012.951	000.027	000.024		000.054	00397.607

2.1.4 Demolition Phase Formula(s)

- Fugitive Dust Emissions per Phase

$$PM_{10FD} = (0.00042 * BA * BH) / 2000$$

PM_{10FD}: Fugitive Dust PM 10 Emissions (TONs)

0.00042: Emission Factor (lb/ft³)

BA: Area of Building to be demolished (ft²)

BH: Height of Building to be demolished (ft)

2000: Conversion Factor pounds to tons

- Construction Exhaust Emissions per Phase

$$CEE_{POL} = (NE * WD * H * EF_{POL}) / 2000$$

DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

CEE_{POL}: Construction Exhaust Emissions (TONs)

NE: Number of Equipment

WD: Number of Total Work Days (days)

H: Hours Worked per Day (hours)

EF_{POL}: Emission Factor for Pollutant (lb/hour)

2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase

$$\text{VMT}_{\text{VE}} = \text{BA} * \text{BH} * (1 / 27) * 0.25 * (1 / \text{HC}) * \text{HT}$$

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)

BA: Area of Building being demolish (ft²)

BH: Height of Building being demolish (ft)

(1 / 27): Conversion Factor cubic feet to cubic yards (1 yd³ / 27 ft³)

0.25: Volume reduction factor (material reduced by 75% to account for air space)

HC: Average Hauling Truck Capacity (yd³)

(1 / HC): Conversion Factor cubic yards to trips (1 trip / HC yd³)

HT: Average Hauling Truck Round Trip Commute (mile/trip)

$$\text{V}_{\text{POL}} = (\text{VMT}_{\text{VE}} * 0.002205 * \text{EF}_{\text{POL}} * \text{VM}) / 2000$$

V_{POL}: Vehicle Emissions (TONs)

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)

0.002205: Conversion Factor grams to pounds

EF_{POL}: Emission Factor for Pollutant (grams/mile)

VM: Vehicle Exhaust On Road Vehicle Mixture (%)

2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase

$$\text{VMT}_{\text{WT}} = \text{WD} * \text{WT} * 1.25 * \text{NE}$$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)

WD: Number of Total Work Days (days)

WT: Average Worker Round Trip Commute (mile)

1.25: Conversion Factor Number of Construction Equipment to Number of Works

NE: Number of Construction Equipment

$$\text{V}_{\text{POL}} = (\text{VMT}_{\text{WT}} * 0.002205 * \text{EF}_{\text{POL}} * \text{VM}) / 2000$$

V_{POL}: Vehicle Emissions (TONs)

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)

0.002205: Conversion Factor grams to pounds

EF_{POL}: Emission Factor for Pollutant (grams/mile)

VM: Worker Trips On Road Vehicle Mixture (%)

2000: Conversion Factor pounds to tons

2.2 Building Construction Phase

2.2.1 Building Construction Phase Timeline Assumptions

- Phase Start Date

Start Month: 1

Start Quarter: 1

Start Year: 2023

DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

- Phase Duration

Number of Month: 9

Number of Days: 0

2.2.2 Building Construction Phase Assumptions

- General Building Construction Information

Building Category: Office or Industrial

Area of Building (ft²): 22097.2

Height of Building (ft): 30

Number of Units: N/A

- Building Construction Default Settings

Default Settings Used: Yes

Average Day(s) worked per week: 5 (default)

- Construction Exhaust (default)

Equipment Name	Number Of Equipment	Hours Per Day
Cranes Composite	1	6
Forklifts Composite	2	6
Generator Sets Composite	1	8
Tractors/Loaders/Backhoes Composite	1	8
Welders Composite	3	8

- Vehicle Exhaust

Average Hauling Truck Round Trip Commute (mile): 20 (default)

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips

Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

- Vendor Trips

Average Vendor Round Trip Commute (mile): 40 (default)

- Vendor Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

2.2.3 Building Construction Phase Emission Factor(s)

- Construction Exhaust Emission Factors (lb/hour) (default)

Cranes Composite								
	VOC	SO _x	NO _x	CO	PM 10	PM 2.5	CH ₄	CO _{2e}
Emission Factors	0.0754	0.0013	0.5027	0.3786	0.0181	0.0181	0.0068	128.79
Forklifts Composite								
	VOC	SO _x	NO _x	CO	PM 10	PM 2.5	CH ₄	CO _{2e}

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Emission Factors	0.0258	0.0006	0.1108	0.2145	0.0034	0.0034	0.0023	54.454
Generator Sets Composite								
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	CH₄	CO_{2e}
Emission Factors	0.0320	0.0006	0.2612	0.2683	0.0103	0.0103	0.0028	61.065
Tractors/Loaders/Backhoes Composite								
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	CH₄	CO_{2e}
Emission Factors	0.0364	0.0007	0.2127	0.3593	0.0080	0.0080	0.0032	66.879
Welders Composite								
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	CH₄	CO_{2e}
Emission Factors	0.0242	0.0003	0.1487	0.1761	0.0067	0.0067	0.0021	25.657

- Vehicle Exhaust & Worker Trips Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	Pb	NH₃	CO_{2e}
LDGV	000.282	000.002	000.220	003.283	000.007	000.006		000.023	00323.276
LDGT	000.358	000.003	000.388	004.597	000.009	000.008		000.024	00417.298
HDGV	000.706	000.005	001.021	015.119	000.022	000.019		000.045	00770.239
LDDV	000.112	000.003	000.133	002.524	000.004	000.004		000.008	00313.527
LDDT	000.253	000.004	000.380	004.330	000.007	000.006		000.008	00445.483
HDDV	000.493	000.013	004.921	001.743	000.169	000.155		000.028	01496.485
MC	002.436	000.003	000.747	012.951	000.027	000.024		000.054	00397.607

2.2.4 Building Construction Phase Formula(s)

- Construction Exhaust Emissions per Phase

$$CEE_{POL} = (NE * WD * H * EF_{POL}) / 2000$$

CEE_{POL}: Construction Exhaust Emissions (TONs)

NE: Number of Equipment

WD: Number of Total Work Days (days)

H: Hours Worked per Day (hours)

EF_{POL}: Emission Factor for Pollutant (lb/hour)

2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase

$$VMT_{VE} = BA * BH * (0.42 / 1000) * HT$$

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)

BA: Area of Building (ft²)

BH: Height of Building (ft)

(0.42 / 1000): Conversion Factor ft³ to trips (0.42 trip / 1000 ft³)

HT: Average Hauling Truck Round Trip Commute (mile/trip)

$$V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000$$

V_{POL}: Vehicle Emissions (TONs)

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)

0.002205: Conversion Factor grams to pounds

EF_{POL}: Emission Factor for Pollutant (grams/mile)

VM: Worker Trips On Road Vehicle Mixture (%)

2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase

$$VMT_{WT} = WD * WT * 1.25 * NE$$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)

DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

$$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$$

V_{POL} : Vehicle Emissions (TONs)
 VMT_{WT} : Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
 EF_{POL} : Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Vender Trips Emissions per Phase

$$VMT_{VT} = BA * BH * (0.38 / 1000) * HT$$

VMT_{VT} : Vender Trips Vehicle Miles Travel (miles)
BA: Area of Building (ft²)
BH: Height of Building (ft)
(0.38 / 1000): Conversion Factor ft³ to trips (0.38 trip / 1000 ft³)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

$$V_{POL} = (VMT_{VT} * 0.002205 * EF_{POL} * VM) / 2000$$

V_{POL} : Vehicle Emissions (TONs)
 VMT_{VT} : Vender Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
 EF_{POL} : Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

2.3 Paving Phase

2.3.1 Paving Phase Timeline Assumptions

- Phase Start Date

Start Month: 1
Start Quarter: 1
Start Year: 2023

- Phase Duration

Number of Month: 9
Number of Days: 0

2.3.2 Paving Phase Assumptions

- General Paving Information

Paving Area (ft²): 97353.86

- Paving Default Settings

Default Settings Used: Yes
Average Day(s) worked per week: 5 (default)

- Construction Exhaust (default)

DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

Equipment Name	Number Of Equipment	Hours Per Day
Cement and Mortar Mixers Composite	4	6
Pavers Composite	1	7
Paving Equipment Composite	2	6
Rollers Composite	1	7
Tractors/Loaders/Backhoes Composite	1	7

- Vehicle Exhaust

Average Hauling Truck Round Trip Commute (mile): 20 (default)

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips

Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

2.3.3 Paving Phase Emission Factor(s)

- Construction Exhaust Emission Factors (lb/hour) (default)

- Vehicle Exhaust & Worker Trips Emission Factors (grams/mile)

	VOC	SO _x	NO _x	CO	PM 10	PM 2.5	Pb	NH ₃	CO _{2e}
LDGV	000.634	000.007	000.676	005.626	000.017	000.015		000.033	00364.981
LDGT	000.819	000.010	001.163	008.688	000.019	000.017		000.034	00487.852
HDGV	001.292	000.015	002.999	025.303	000.045	000.040		000.045	00760.330
LDDV	000.265	000.003	000.321	003.488	000.007	000.006		000.008	00370.175
LDDT	000.567	000.005	000.859	007.093	000.008	000.008		000.008	00577.145
HDDV	000.970	000.014	009.604	003.036	000.373	000.343		000.031	01589.614
MC	002.482	000.008	000.828	015.260	000.029	000.026		000.051	00398.308

2.3.4 Paving Phase Formula(s)

- Construction Exhaust Emissions per Phase

$$CEE_{POL} = (NE * WD * H * EF_{POL}) / 2000$$

CEE_{POL}: Construction Exhaust Emissions (TONs)

NE: Number of Equipment

WD: Number of Total Work Days (days)

H: Hours Worked per Day (hours)

EF_{POL}: Emission Factor for Pollutant (lb/hour)

2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase

$$VMT_{VE} = PA * 0.25 * (1 / 27) * (1 / HC) * HT$$

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)

PA: Paving Area (ft²)

0.25: Thickness of Paving Area (ft)

(1 / 27): Conversion Factor cubic feet to cubic yards (1 yd³ / 27 ft³)

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HC: Average Hauling Truck Capacity (yd³)

(1 / HC): Conversion Factor cubic yards to trips (1 trip / HC yd³)

HT: Average Hauling Truck Round Trip Commute (mile/trip)

$$V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000$$

V_{POL} : Vehicle Emissions (TONs)

VMT_{VE} : Vehicle Exhaust Vehicle Miles Travel (miles)

0.002205: Conversion Factor grams to pounds

EF_{POL} : Emission Factor for Pollutant (grams/mile)

VM: Vehicle Exhaust On Road Vehicle Mixture (%)

2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase

$$VMT_{WT} = WD * WT * 1.25 * NE$$

VMT_{WT} : Worker Trips Vehicle Miles Travel (miles)

WD: Number of Total Work Days (days)

WT: Average Worker Round Trip Commute (mile)

1.25: Conversion Factor Number of Construction Equipment to Number of Works

NE: Number of Construction Equipment

$$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$$

V_{POL} : Vehicle Emissions (TONs)

VMT_{VE} : Worker Trips Vehicle Miles Travel (miles)

0.002205: Conversion Factor grams to pounds

EF_{POL} : Emission Factor for Pollutant (grams/mile)

VM: Worker Trips On Road Vehicle Mixture (%)

2000: Conversion Factor pounds to tons

- Off-Gassing Emissions per Phase

$$VOC_P = (2.62 * PA) / 43560$$

VOC_P : Paving VOC Emissions (TONs)

2.62: Emission Factor (lb/acre)

PA: Paving Area (ft²)

43560: Conversion Factor square feet to acre (43560 ft² / acre)² / acre)